

City of Tuscaloosa

COUNCIL
BOBBY E. HOWARD
District 1
HARRISON TAYLOR
District 2
President Pro Tem
CYNTHIA LEE ALMOND
District 3



WALTER MADDOX
Mayor

COUNCIL
LEE GARRISON
District 4
KIP TYNER
District 5
BOB LUNDELL
District 6
WILLIAM TINKER
District 7

July 21, 2011

Ms. Marla Smith
Alabama Department of Environmental Management
1400 Coliseum Blvd.
Montgomery, AL 36130

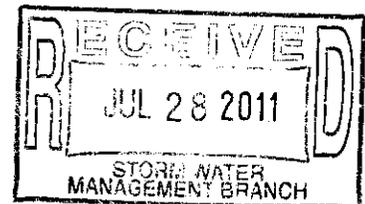
Dear Ms Smith:

It is a pleasure to submit the City of Tuscaloosa's Storm Water Management Plan for 2011. The Plan is similar to the 2010 Plan. As you know, a major EF4 tornado struck Tuscaloosa on April 27. Over 5,000 businesses and homes were either damaged or destroyed. Our staff is discussing a later amendment to the Plan; however, due to budget constraints, we will need another year to review and/or amend the current plan.

Sincerely,

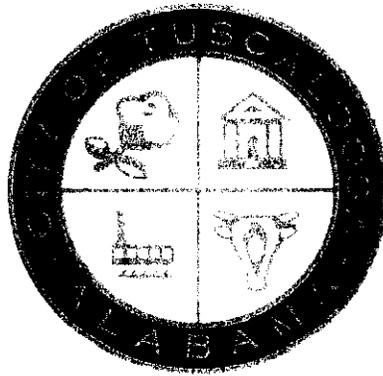
A handwritten signature in black ink, appearing to read "Walt", written over a horizontal line.

Walter Maddox
Mayor



CITY OF TUSCALOOSA

Storm Water Management Plan 2011



August 2011

1.0 INTRODUCTION

1.1 Permit History

In response to the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Regulations, the City of Tuscaloosa (City) applied for and received a NPDES permit for stormwater discharges from the Alabama Department of Environmental Management (ADEM) on April 1, 2003. This five-year permit expired on March 9, 2008. The City submitted the renewal permit on September 27, 2007.

On September 10, 2009, ADEM released the proposed NPDES Phase II Stormwater Permit to Municipal Separate Storm Sewer System (MS4) permittees in draft form for review and comment. ADEM, realizing that significant changes were going to occur with the new Phase II permit, elected to host a series of public involvement workshops and hearings for the Phase II permittees beginning in October 2009. These workshops and hearings provided an opportunity for ADEM to go through the changes in the new permit with the permittees and provided an opportunity for permittees to ask questions of ADEM regarding the permit. Formal comments provided by the permittees were reviewed and addressed in the draft Phase II Stormwater General Permit for MS4s released for public comment on January 14, 2010. Additional comments were received on the January 2010 draft permit during the public comment period. ADEM issued a revised draft permit addressing these comments in May 2010. The United States Environmental Protection Agency (EPA) filed a formal objection to the May 2010 draft permit issued by ADEM in August 2010. ADEM addressed EPA's additional comments in a draft permit issued in November 2010 and EPA approved the November 2010 draft permit in December 2010. ADEM issued the final permit to the Phase II permittees, including the City, effective February 1, 2011. This permit requires that the City submit an updated Stormwater Management Plan (SWMP) to ADEM by August 1, 2011.

1.2 Site Description

The City of Tuscaloosa is located in west central Alabama and is blessed with an abundant supply of water. A map of the City is provided in Appendix A. The city limits encompasses an area of approximately 70 square miles as of January 2011. The population of the City of Tuscaloosa is approximately 92,000 as of January 2011. Lake Tuscaloosa is a 5,885 acre lake in north Tuscaloosa with 177 miles of shoreline that serves as the main water supply for the City. On its 178 mile journey from the Appalachian foothills to the Tombigbee River, ten miles of water of the Black Warrior River flow through the center of the City. There are approximately 110 more miles of creeks and streams flowing through Tuscaloosa. From the most recent City

estimate, the storm drainage system contains approximately 120 miles of storm pipe with 6,000 inlets and 4,000 stormwater manholes/junction boxes.

1.3 Known or Suspected Water Quality Concerns

The Geological Survey of Alabama has identified portions of Cypress Creek as areas of concern for excessive sedimentation.

1.4 Responsible Party

The City's SWMP is composed of several programs operating under various departments within the City's organization. Components of the SWMP are as follows:

- Office of the City Engineer – Manages overall SWMP and compliance with Phase II Stormwater Permit; Monitors residential and commercial site construction and conducts erosion and sediment control inspections; Manages public education and outreach program;
- Tuscaloosa Department of Transportation – Performs maintenance of stormwater infrastructure; operates the street sweeping program; responsible for Pollution Prevention/Good Housekeeping for Municipal Operations.
- Environmental Services Department –Operates the recycling and composting program; Coordinates the annual Household Hazardous Waste Collection Day and recycling event.
- Planning and Inspection Department – Responsible for managing the Landscape Ordinance and residential and commercial building inspections.
- Water and Sewer Department – Responsible for inspections and repairs of water and sewer lines; conducts an annual Clean Our Lake event; operates private sewer lateral inspection program

The person responsible for the coordination and implementation of the individual SWMP is as follows:

Chad P. Christian, PE, CFM
Storm Drainage Engineer
City of Tuscaloosa
P.O. Box 2089
Tuscaloosa, AL 35403
(205) 248-5384
cchristian@tuscaloosa.com

Public Education and Outreach

Descriptive Text:

To satisfy this minimum control measure, the operator of a regulated small MS4 needs to:

1. Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and
2. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

An informed and knowledgeable community is crucial to the success of a storm water management program since it helps to ensure the following:

1. Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators Of small MS4s attempt to institute new funding initiatives for the program to seek volunteers to help implement the program; and
2. Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

Number of BMPs associated with control measure: 5

Important Dates:

Earliest Start Date: 3/10/2003
End Date 3/10/2007

Details of BMPs and Work Performed for Them

Advertise Stormwater Hotline

BMP Description:

Advertise the Stormwater Hotline once established. This will promote citizen interest and participation in the stormwater management plan and establish a direct link from the community and stakeholders to the program.

Date: 3/11/2005 – 3rd Year Distribution of Phase II Brochure

Approximately 500 copies of existing Phase II brochure distributed during permit year 3 at various small public meetings and speaking engagements

Date: 3/11/2006 – 4th Year Advertisement of Hotline

Distributed Countywide brochure containing Stormwater Hotline information to 77,727 households.

Date: 8/3/2007 – 5th Year Advertisement of Hotline

The Stormwater Hotline was advertised via the 2007 Stormwater Phase II Media Campaign.

Date: 7/28/2008 – 6th Year Advertisement of Hotline

The Stormwater Hotline was advertised via the 2008 Stormwater Phase II Media Campaign.

Date: 8/1/2009 – 7th Year Advertisement of Hotline

The Stormwater Hotline was advertised via the 2009 Stormwater Phase II Media Campaign.

Date: 3/11/2004 – Continued Distribution of Phase II Brochure

Approximately 1,000 additional copies of existing Phase II Brochure distributed during permit year 2 at various small public meetings and speaking arrangements.

Date: 7/2/2003 – Started Distribution of Phase II Brochure

Began Distribution of Tuscaloosa stormwater brochure with contact information and telephone number. Approximately 1000 copies distributed at numerous small public meetings and speaking arrangements as well as the major presentations listed.

Conduct Public Education

BMP Description:

Speak at seminars and public meetings to raise awareness of the City's Phase II Program and begin education of the public concerning BMP's. Distribute brochures and other educational materials.

Date: 3/9/2005 – "Our Great Lake" Media Campaign Initiated

A multiyear media campaign has been funded during permit year two to raise awareness about watershed issues and to protect Lake Tuscaloosa, our local drinking water source. The campaign has entailed radio, newspaper, and billboard advertisement and watershed signs within the lake Tuscaloosa Watershed. In addition, the website www.ourgreatlake.org was established.

Date: 8/3/2007 – 2007 Stormwater Media Campaign

Public Education was achieved via the 2007 Stormwater Phase II Media Campaign.

Date: 7/28/2008 – 2008 Stormwater Media Campaign
Public Education was achieved via the 2008 Stormwater Phase II Media Campaign.

Date: 8/1/2009 – 2009 Stormwater Media Campaign
Public Education was achieved via the 2008 Stormwater Phase II Media Campaign.

Date 3/11/2005 – Continue “Our Great Lake” Media Campaign
A multiyear media campaign has been funded during Permit Year Two to raise public awareness about watershed issues and to protect Lake Tuscaloosa, our local drinking water source. The campaign has entailed radio, newspaper, and billboard advertisement and watershed signs within the lake Tuscaloosa Watershed. In addition, the website www.ourgreatlake.org was established.

Date 3/11/2005 – Continue Stormwater Media Campaign
An \$18,000 “Stormwater Media Campaign” contract was authorized by the Tuscaloosa City Council on 9/23/2004. This contract led to the creation and running of stormwater education print, radio, and television advertisement. This contract was completed in Permit Year 3. A new larger campaign will be initiated in year four to increase media exposure.

Date: 4/22/2008 – Erosion and Sediment Control Workshops
Michael Mullen was retained by the City of Tuscaloosa to develop training materials and conduct multiple training seminars for local citizens, developers, builders, City employees and interested citizens.

Date: 3/31/2010 – Land Development Planning and BMP Design Seminar
A learning seminar tailored to the local design community was sponsored by the OCE and held on March 31, 2010. Almost 20 local engineers and design professionals attended.

Date: 10/10/2003 – Legal Aspects of Phase II Speech
Speech conducted and paper presented to ABICLE “What Every Real Estate Lawyer Needs to Know” Conference covering all legal aspects of the EPA Phase II Program as it relates to affected municipalities.

Date: 9/23/2004 – Media Campaign Initiated
An \$18,000 “Stormwater Media Campaign” contract was authorized by the Tuscaloosa City Council on 9/23/2004. This contract led to the creation and running of stormwater education print, radio, and television advertisement

Date: 8/27/2003 – NEMO Presentation
Gave NEMO Presentation to Alabama General Contractors Seminar “Employee Training for Inspecting BMPs.”

Date: 6/22/2005 – Presentation at Weeks Bay Nonpoint Pollution Seminar
A presentation detailing the City of Tuscaloosa’s Stormwater Phase II compliance program was given to the 2005 Weeks Bay Nonpoint Source Pollution and Stormwater Workshop at Weeks Bay National Estuarine Reserve.

Date: 5/10/2006 – Produce and Distribute Countywide Brochure
A joint funding agreement was executed with Tuscaloosa County and the City of Northport to produce and distribute an educational brochure to every household within the county. A total of 77,727 brochures were mailed out in January and February 2007.

Date: 3/2/2004 – Speech to Local Realtor’s Meeting
Delivered talk to Tuscaloosa Realtor’s group and distributed ordinance and brochures.

Date: 6/25/2003 – Tuscaloosa Phase II Presentation
Delivered Model Community presentation on details of the City of Tuscaloosa Phase II Program.

Date: 2/11/2004 – WaterQuest Presentation
Conducted presentation on the Tuscaloosa Phase II Program at WaterQuest Nonpoint Source Watershed Forum and distributed ordinance, brochures, legal paper, and outfall mapping requirements.

Develop Educational Resources

BMP Description:

Develop or collect existing brochures, fact sheets, print advertisements, radio and television media, and other educational materials to build a stormwater toolbox. Identify volunteer educators to be used for public education programs.

Date: 10/10/2003 – Created Educational Paper on Legal Aspects of Phase II
Paper written for educational effort covering the legal aspects of the Phase II Program. Presented originally to real estate seminar and subsequently distributed at WaterQuest 2004.

Date: 7/2/2003 – Created Tuscaloosa Phase II Brochure
Printed first run of City of Tuscaloosa Stormwater Brochures. Created based on an EPA Example Brochure.

Date: 4/22/2008 – Erosion and Sediment Control Workshops
Michael Mullen was retained by the City of Tuscaloosa to develop training materials and conduct multiple training seminars for local citizens, developers, builders, City employees and interested citizens.

Date: UNK – Identified Volunteer Educators
Joe Robinson and Chad Christian trained as NEMO trainers.

Date: UNK – Started Stormwater Toolbox
Collected numerous fact sheets and materials for use in education programs. Access gained to Phase II Print and Television media through the ADEM Office of Education and Outreach.

Expand Educational Resources

BMP Description:

Develop a school curricula to educate students about stormwater issues. Create an informational website describing the City of Tuscaloosa’s Stormwater Management Plan.

Date: 9/23/2004 – Developed Additional Print, Radio and TV Ads and Logos
New logos and a series of new radio, print, and television ads were developed as part of a graphic design and media campaign contract with Southern Digital Design. Some ads were based on materials previously obtained from the ADEM OEO and some work was designed specifically for the City of Tuscaloosa. One major television ad was used with the permission of Salt Lake County, Utah, who originated the ad.

Date: 4/22/2008 – Erosion and Sediment Control Workshops

Michael Mullen was retained by the City of Tuscaloosa to develop training materials and conduct multiple training seminars for local citizens, developers, builders, City employees and interested citizens.

Date 6/1/2004 – Obtained Grade School Educational Materials

City Engineer, Joe Robinson obtained Stormwater educational materials for school children through Patti Hurley with the ADEM Office of Education and Outreach.

Storm Drain Stenciling

BMP Description:

Stencil storm drain tops with messages like “Do Not Dump – Drains to River”. Utilize volunteer groups to help accomplish this task.

Date: 3/6/2005 – Storm Drain Lids cast with Permanent “NO DUMPING” Message

Obtained specifications for storm drain lids with “No Dumping – Drains to Waterways” message permanently cast in center. Several City projects have already utilized these new manhole covers. The subdivision regulations will be amended during Permit Year Four to require these inlet/junction box tops on all City projects and possibly all construction projects within the City Planning Jurisdiction.

Public Participation/Involvement

Descriptive Text:

To satisfy this minimum control measure, the operator of a regulated small MS4 must:

1. Comply with applicable State, Tribal, and local public notice requirements; and
2. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

EPA believes that the public can provide valuable input and assistance to a regulated small MS4's municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

1. Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;
2. Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;
3. A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
4. A conduit to other programs as citizens involved in the storm water program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA.

Number of BMPs associated with control measure: 6

Important Dates:

Earliest Start Date: 3/10/2003
End Date: 3/10/2008

Details of BMPs and Work Performed for Them

Community Clean-Ups

BMP Description:

Plan and schedule community clean-ups for ordinary citizens to gain hands-on experience while cleaning stream segments of trash and debris. Coordinate through the Citizen Panel.

Date: 6/5/2009 – 1st Annual Lake Tuscaloosa Clean Up

The 1st Annual Lake Tuscaloosa Cleanup Day was held on June, 6th 2009. Over 12,000 pounds of debris was removed from the lake.

Date: 5/1/2010 – 2nd Annual Lake Tuscaloosa Clean Up

The 2nd annual Clean Our Lakes Day has been scheduled for May1, 2010.

Date: 3/11/2007 – Amend NOI to Move Goal to Permit Year Five

We would like to move this goal to permit year five and coordinate cleanups through TDOT rather than by a Citizen Panel.

Date: 3/10/2008 – Amend NOI to Move Goal to Permit Year Six

We would like to move this goal to permit year six and coordinate cleanups through the new Office of the City Engineer rather than TDOT.

Establish Citizen Volunteer Organization

BMP Description:

Create a citizen group to provide input from various viewpoints concerning storm water management policies and BMPs. Use the group to assist with water quality monitoring and location of outfalls, identifying illicit discharges, and stenciling storm drains.

Date: 3/8/2005 – Amend NOI to Move Goal to Permit Year Three

We have not accomplished this task and wish to move this goal to Permit Year Three.

Date: 3/11/2006 – Amend NOI to Remove Goal

We have not gained traction with this effort and believe that focusing on broad advertisement of the Stormwater Hotline and expanding the Public Awareness Media Campaign will achieve acceptable Public Participation and Involvement.

Establish Citizen Watch Groups

BMP Description:

Establish citizen watch groups and/or work with existing groups to monitor watersheds for potential and existing impacts to water quality.

Date: 3/9/2008 – Amend NOI to Move Goal to Permit Year Six

We have established working relationships with active local watershed groups. We will form a broader citizen-based group as we continue our outreach efforts.

Finalize Citizen Panel Recommendations

BMP Description:

Compile the final recommendations of the Citizen Panel and publish the results. Make copies of the report freely available to the citizens.

Date: 3/8/2005 – Amend to Move Goal to Permit Year Three

We have not accomplished this task and wish to move it to Permit Year Three.

Date: 3/11/2006 – Amend NOI to Remove Goal

We have not gained traction with this effort and believe that focusing on broad advertisement of the Stormwater Hotline and expanding the Public Awareness Media Campaign will achieve acceptable Public Participation and Involvement.

Public Awareness – Radio Media/Television

BMP Description:

Radio and Television spots promoting personal responsibility for compliance with the stormwater program and/or informing the public about the construction permit process.

Date: 8/3/2007 – 2007 Stormwater Media Campaign

Public Awareness was increased via the 2007 Stormwater Phase II Media Campaign.

Date: 7/28/2008 – 2008 Stormwater Media Campaign

Public Awareness was increased via the 2008 Stormwater Phase II Media Campaign.

Date: 8/1/2009 – 2009 Stormwater Media Campaign

Public Awareness was increased via the 2009 Stormwater Phase II Media Campaign.

Date: 3/11/2006 – Continue Stormwater Media Campaign

An \$18,000 “Stormwater Media Campaign” contract was authorized by the Tuscaloosa City Council on 9/23/2004. This contract led to the creation and running of stormwater education print, radio, and television advertisement. This contract was completed in Permit Year 3. A new larger campaign will be initiated in year four to increase media exposure.

Date 9/23/2004 – Media Campaign Initiated

An \$18,000 “Stormwater Media Campaign” contract was authorized by the Tuscaloosa City Council on 9/23/2004. This contract led to the creation and running of stormwater education print, radio, and television advertisement.

Public Meetings – Print Media

BMP Description:

Notify citizens of public meetings in several different print media

Date: 3/8/2005 – Amend NOI to Move Goal to Permit Year Three

We have not accomplished this task and wish to move this goal to Permit Year Three.

Date: 3/11/2006 – Amend NOI to remove Goal

We have not gained traction with this effort and believe that focusing on broad advertisement of the Stormwater Hotline and expanding the Public Awareness Media Campaign will achieve acceptable Public Participation and Involvement.

Illicit Discharge Detection and Elimination

Descriptive Text:

Recognizing the adverse effects illicit discharges can have on receiving waters, the final rule requires an operator of a regulated small MS4 to develop, implement and enforce an illicit discharge detection and elimination program. This program must include the following:

1. A storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
2. Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, Tribal, or local law) on non-storm water discharges into the MS4, and appropriate enforcement procedures and actions;
3. A plan to detect and address non-storm water discharges, including illegal dumping, into the MS4;
4. The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste; and
5. The determination of appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Discharges from MS4s often include wastes and wastewater from non-storm water sources. A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary sewer systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Number of BMPs associated with control measure: 6

Important Dates:

Earliest Start Date: 3/10/2003
End Date: 3/10/2008

Details of BMPs and Work Performed for Them

Illicit Discharge Detection and Elimination

BMP Description:

Utilizing the System Map and Illicit Discharge Information Management System, begin systematic inspection of outfall lines to identify potential problems. After identifying actual illicit connections, take steps to eliminate them and report the action taken and results.

Date: 3/10/2005 – Continued Inspection and Enforcement

Inspection and Enforcement efforts were increased during Permit Year Three.

Date: 3/11/2006 – Continued Inspection and Enforcement Increased

Inspection and enforcement efforts were ramped up again in Permit Year Four. At this point most builders and contractors are aware of BMP requirements and are actively complying.

Date: 3/11/2004 – Inspection and Enforcement Activities Increased

A core group of TDOT employees were trained during Permit Year Two to increase our inspection and enforcement activities. Subdivision, homebuilding, and site development activities are monitored and the correction of BMP deficiencies is required as identified. Tips or complaints received through the stormwater hotline are acted on accordingly. We plan to train additional employees and continue to ramp up inspection and enforcement activity during Permit Year Three.

Date: 3/10/2007 – Inspection and Enforcement Increased

Inspection and enforcement efforts were ramped up again in Permit Year Five. Unfortunately, we experienced numerous lapses in compliance by local developers and builders. We are currently ramping Education efforts for City staff and the private sector and are making changes to the City code to make enforcement easier, more punitive, and more rapid.

Date: 2/5/2010 – Stormwater Committee Established

A City of Tuscaloosa Stormwater Committee was formed to study the Draft NPDES Phase II Permit and recommend measures to ensure compliance with new regulations.

Illicit Discharge Employee Training

BMP Description:

Design and administer a training program for employees to teach them to recognize and document potential illicit discharges.

Date: 1/3/2005 – Initiated Employee Training

A core group of employees have been trained and consequently our inspection and enforcement activities have been ramped up during Permit Year Two. Additional employees were trained during Permit Year Three and Four to expand these efforts. We will continue this training throughout Permit Year Five and therefore need to amend our NOI to reflect this continued training activity. A need for more technical training as well as training of our members of the private sector has become evident. To better achieve this goal we will hire an outside consultant.

Implement Illicit Discharge Tracking System

BMP Description:

Implement an information management system to gather and document all information concerning illicit discharge detention and elimination. Summarize results including outfalls screened, number of illicit discharges discovered through screening or complaints, and illicit discharges resolved.

Date: 1/1/2003 – ASIST Software Implemented
ASIST Software Suite purchased and implemented.

Ordinance/Regulatory Mechanism Evaluation

BMP Description:

March 2004

Evaluate existing ordinances/regulations

Prepare draft of revised ordinances/regulations

March 2005

Gather stakeholder comments and other input

March 2006

Revise and enact new ordinances and regulations

Date: 2/3/2004 – Ordinance Adopted

A new ordinance was written with input from various stakeholder groups. It evolved over 9 drafts and assimilated concerns of the stakeholders. The final version of the Tuscaloosa Phase II ordinance was adopted by the City Council on February 3, 2004.

Recycling Program

BMP Description:

Initiate or publicize an existing recycling program to collect commonly dumped waste such as antifreeze, motor oil, paint, and pesticides.

Date: 3/11/2004 – Continued Growth of Recycling Program

The Environmental Services Department of the City of Tuscaloosa has expanded the Recycling Program during Permit Year Two as follows:

The program currently serves 6000 residences and will add another 2000 in April 2005. To promote recycling, three different radio and television ads are run throughout the year and an educational brochure is distributed. Additional outreach is performed by speaking at public meetings and an educational program is presented to grades K-12 in local schools.

Date: UNK – Recycling Program Expanded

The City of Tuscaloosa Curbside Recycling Program has been expanded to now cover 20 neighborhoods and serve 2400 households. There are also 8 fixed drop-off sites and 1 major industry participating with on-site recycling collection. In the forthcoming permit year this program will be expanded to include 20+ additional neighborhoods and serve 2000+ additional households.

Sewer System Map

BMP Description:

20% of system mapped March 2004

50% of system mapped March 2005

80% of system mapped March 2006

100% of system mapped November 2006

Date: 3/10/2007 – Additional Mapping in Permit Year Five

Additional GPS Outfall mapping was performed in Permit Year Five and is reflected in the Electronic Outfall Map reviewed during the Compliance Visit on 7/12/2007. The newly formed Office of the City Engineer will complete our outfall mapping with the City surveying crew.

Date: 3/11/2006 – Additional Mapping in Permit Year Four

Additional GPS outfall mapping was performed in Permit Year Four and is reflected in the System Map Submitted at the end of 2006. We will continue mapping in Permit Year Five to gather all Outfall data as required.

Date: 3/10/2010 – Additional Mapping in Permit Year Seven

Some additional GPS outfall mapping was performed in Permit Year Seven using the new survey-quality GPS Unit. The Office of the City Engineer will complete our outfall mapping with the City surveying Crew.

Date: 8/5/2003 – Began Outfall Mapping

Tuscaloosa City Council authorizes contract with local engineering firm to undertake GPS mapping of outfalls. 275 outfalls have been surveyed to date; this represents approximately 20% of the total number of outfalls that will eventually be identified. The contract will be amended to continue in the 2004 permit year.

Date: 3/11/2004 – Continued System Mapping

The existing Engineering Contract was extended to continue mapping efforts in Permit Year Two and beyond. During Permit Year Three we plan to generate the first map for showing outfall locations.

Date: 3/10/2005 – Further System Mapping

During Permit Year Three mapping was continued. For Permit Year Four we plan to add GIS functionality for our outfall maps.

Date: 1/1/2008 – New Surveying Equipment Purchased in Permit Year Six

Some additional GPS outfall mapping was performed in Permit Year Six and a new survey-quality GPS unit was purchased to enhance these efforts. The Office of the City Engineer will complete our outfall mapping with the City surveying crew.

Construction Site Runoff Control

Descriptive Text:

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in storm water runoff to their MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.

The small MS4 operator is required to:

1. Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites;
2. Have procedures for site plan review of construction plans that consider potential water quality impacts;
3. Have procedures for site inspection and enforcement of control measures;
4. Have sanctions to ensure compliance (established in the ordinance or other regulatory mechanism);
5. Establish procedures for the receipt and consideration of information submitted by the public; and
6. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Polluted storm water runoff from construction sites often flows to MS4s and ultimately is discharged into local rivers and streams. Of the pollutants listed in Table 1, sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters. For example, excess sediment can quickly fill rivers and lakes, requiring dredging and destroying aquatic habitats.

Table 1

Pollutants Commonly Discharged From Construction Sites

Sediment
Solid and sanitary wastes
Phosphorous (fertilizer)
Nitrogen (fertilizer)
Pesticides
Oil and grease
Concrete truck washout

Number of BMPs associated with control measure: 2

Important Dates:

Earliest Start Date: 7/29/2008

End Date: 12/31/2012

Details of BMPs and Work Performed for Them

Land Development Permit Jurisdiction Enhanced

BMP Description:

All developments within not only the City Limits but the Police Jurisdiction are now required to obtain a land development Permit from the Office of the City Engineer. This will enhance our ability to police violations and enforce compliance with stormwater requirements.

Date: 7/29/2008 – Accomplished

Statewide Program Established

BMP Description:

ADEM Administrative Code Ch. 335-6-12 implements a State-wide construction storm water regulatory program consistent with NPDES requirements for construction activities.

Date: UNK – Accomplished

Post-Construction Runoff Control

Descriptive Text:

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in post-construction runoff to their MS4 from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. The small MS4 operator is required to:

1. Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs);
2. Have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State, Tribal or local law,
3. Ensure adequate long-term operation and maintenance of controls;
4. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Post construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly affect receiving waterbodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the waterbody during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include streambank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

Number of BMPs associated with control measure: 5

Important Dates:

Earliest Start Date: 3/10/2003
End Date: 12/30/2012

Details of BMPs and Work Performed for Them

Identification of BMP's

BMP Description:

Identify and catalog a mix of effective BMPs tailored to the geography and rainfall patterns of Tuscaloosa. Utilize existing manuals or guidance available from regulatory bodies when possible.

Date: 2/3/2004 – BMP Manual Adopted

Tuscaloosa City Council adopted Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas.

Land Development Permit Jurisdiction Enhanced

BMP Description:

All developments within not only the City Limits but the Police Jurisdiction are now required to obtain a land development Permit from the Office of the City Engineer. This will enhance our ability to police violations and enforce compliance with stormwater requirements.

Date: 7/29/2008 – Accomplished

Ordinance Evaluation

BMP Description:

March 2004

Evaluate existing ordinances/regulations

Prepare draft of revised ordinances/regulations

March 2005

Gather stakeholder comments and other input

March 2006

Revise and enact new ordinances and regulations

Date: 2/3/2004 – Ordinance Adopted

A new ordinance was written with input from various stakeholder groups. It evolved over 9 drafts and assimilated concerns of the stakeholders. The final version of the Tuscaloosa Phase II ordinance was adopted by the City Council on February 3, 2004.

Publication of BMP's

BMP Description: Dispute the previously developed BMP Manual to developers, municipal staff and interested citizens.

Date: 1/3/2005 – Adopted BMP Manual Made Available

Two hard copies of the adopted BMP manual (Alabama Handbook) were made available for public inspection and use at the Tuscaloosa Department of Transportation office.

Statewide Program Established

BMP Description:

ADEM Administrative Code Ch. 335-6-12 implements a State-wide construction storm water regulatory program consistent with NPDES requirements for construction activities.

Date: UNK – Accomplished

Pollution Prevention/Good Housekeeping

Descriptive Text:

Recognizing the benefits of pollution prevention practices, the rule requires an operator of a regulated small MS4 to:

1. Develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system;
2. Include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. To minimize duplication of effort and conserve resources, the MS4 operator can use training materials that are available from EPA, their State or Tribe, or relevant organizations;
3. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

The Pollution Prevention/Good Housekeeping for municipal operations minimum control measure is a key element of the small MS4 storm water management program. This measure requires the small MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems. While this measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations, it also can result in a cost savings for the small MS4 operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

Number of BMPs associated with control measure: 6

Important Dates:

Earliest Start Date: 3/10/2003
End Date: 12/30/2012

Details of BMPs and Work Performed for Them

Develop Pollution Prevention Plan

BMP Description:

Develop a comprehensive Pollution Prevention Plan that identifies the following: BMP's, Management Practices and Maintenance Schedules, Recycling Efforts, Waste Disposal Guidelines, and Areas of Concern.

Date: 2/3/2004 – BMPs Identified

BMP menu identified with the adoption of the Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas.

Date: 1/13/2004 – City of Tuscaloosa Comprehensive Plan Input

The City of Tuscaloosa Comprehensive Plan is being updated currently. A Stormwater/Watershed Task Force was formed from members of the Comprehensive Plan Natural Resources Subcommittee to submit goals and guidelines for inclusion in the new Comprehensive Plan.

Date: 3/11/2004 – Continued Development of Plan

An additional street sweeping route has been started to focus on residential neighborhoods. We now have three street sweeping routes in regular implementation. No additional work was done on the plan in Year Six and therefore our NOI needs to be amended to reflect the completion of our Pollution Prevention Plan in Permit Year Seven.

Date: UNK – Rough Draft of Plan Initiated

A preliminary plan has been formulated including some of the necessary aspects. A regular schedule has been established for street sweeping activities and the recycling program is now serving 20 neighborhoods.

Date: 3/10/2009 – Street Sweeping 2009

We have numerous Citywide street sweeping routes in regular operation. No additional work was done on the plan in Year Seven and therefore our NOI needs to be amended to reflect the completion of our Pollution Prevention Plan in Permit Year Eight.

Employee Training Materials

BMP Description:

Develop and collect training materials to educate staff about pollution prevention and good housekeeping. Some items will need to be specifically tailored to Tuscaloosa while others are available from EPA and other external sources.

Date: 4/22/2008 – Erosion and Sediment Control Workshops

Michael Mullen was retained by the City of Tuscaloosa to develop training materials and conduct multiple training seminars for local citizens, developers, builders, City employees and interested citizens.

Date: UNK – Training Materials Collected

Over the first permit year numerous educational materials have been collected from EPA, ADEM, and NEMO that will be utilized in the forthcoming employee training.

Implement Information Management System

BMP Description:

Implement an information management system to track the inventory of stormwater facilities and outfalls. Use system to schedule and perform inspections and document and report any actions taken.

Date: 1/1/2003 – ASIST Software Implemented

ASIST Software Suite purchased and implemented.

Landscaping Ordinance Enacted

BMP Description:

A comprehensive Landscaping Ordinance was enacted to address new development and redevelopment. The landscaped areas of any development are now required to be part of the storm drainage system and achieve water quality improvement.

Date: 3/24/2009 – Accomplished

Pollution Prevention/Housekeeping Effectiveness

BMP Description:

Generate reports that summarize the following: estimate of the quantity of floatables and other pollutants intercepted, list of facilities and stormwater system components maintained, report of overall compliance and explanation of discrepancies.

Train Employees

BMP Description:

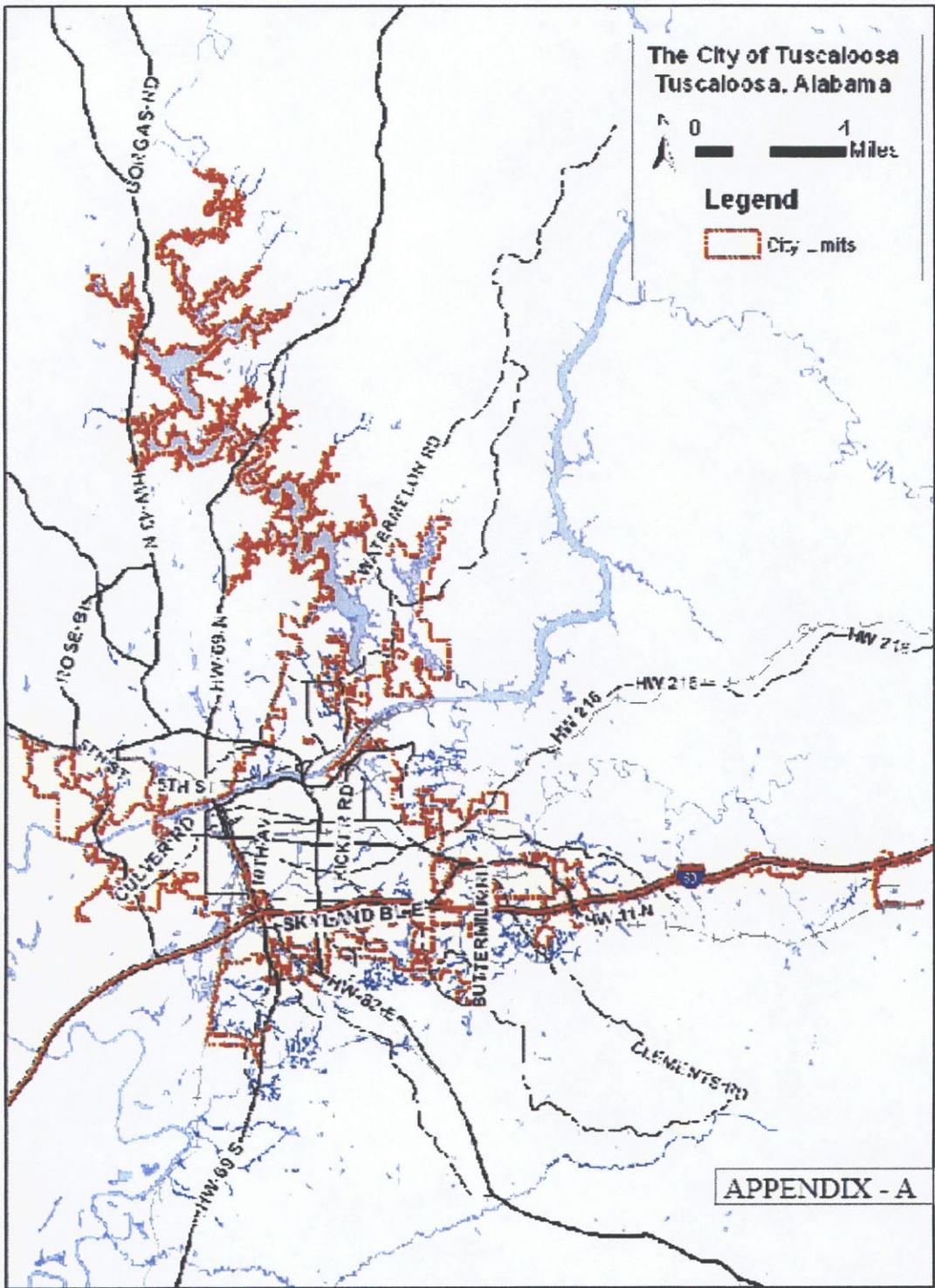
Utilizing the Employee Training Toolbox previously created, train staff on pollution prevention and good housekeeping measures.

Date 3/11/2004 – Core Group of Employees Trained

A core group of employees have been trained and consequently our inspection and enforcement activities have been ramped up during Permit Year Two. Additional employees were trained during Permit Year Three and Four to expand these efforts. We will continue this training throughout Permit Year Five and therefore need to amend our NOI to reflect this continued training activity. A need for more technical training as well as training of our members of the private sector has become evident. To better achieve this goal we will hire an outside consultant.

Date: 4/22/2008 – Erosion and Sediment Control Workshops

Michael Mullen was retained by the City of Tuscaloosa to develop training materials and conduct multiple training seminars for local citizens, developers, builders, City employees and interested citizens.



APPENDIX - A