

# **ANNUAL REPORT**

**OCTOBER 1, 2013 – SEPTEMBER 30, 2014**

City of Madison Municipal Separate Storm Sewer System  
Madison, Madison County, Alabama  
NPDES Permit ALS000005

March 2015

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## 1. INTRODUCTION

S&ME, Inc. has prepared this Annual Report for the City of Madison Municipal Separate Storm Sewer System in accordance S&ME Proposal No. 44-1400603, dated December 30, 2014 and authorized by Purchase Order 2015-00000535 on January 12, 2015.

The Annual Report is required by Part V.B of the Alabama Department of Environmental Management (ADEM) National Pollutant Discharge Elimination System (NPDES) Permit ALS000005 for discharges from the Huntsville Area Municipal Separate Storm Sewer System (MS4). Annual reports are required to be submitted to ADEM each year by March 28 and must cover the previous fiscal year (October 1 through September 30). Specific requirements as to the content of the Annual Report are listed in Part V.B.

### 1.1 Permit History

The Storm Water Phase I Final Rule issued by the United States Environmental Protection Agency (USEPA) in 1990 requires coverage of all operators of “medium” and “large” MS4s serving populations of 100,000 or greater. The Phase I NPDES Permit ALS000005 for storm water discharges from the Huntsville Area Medium MS4 was issued to the City of Madison, the City of Huntsville, and the Alabama Department of Transportation (ALDOT) with an effective date of October 1, 2001. The five-year permit expired on September 30, 2006 and permit coverage was administratively extended. A copy of the NPDES Permit is included in **Appendix B**.

NPDES Permit ALS000005 currently covers all areas within the corporate boundaries of the City of Madison and the City of Huntsville served by, or contributing to discharges from, MS4s owned or operated by the Permittees. A map showing the Huntsville and Madison city limits, Limestone and Madison County boundaries, major roads, and waterbodies is included as **Figure 1** in **Appendix A**.

From 2001 to 2013, the City of Madison, the City of Huntsville, and ALDOT operated as co-permittees under the joint MS4 Permit. In April of 2013, ALDOT was issued an individual NPDES MS4 permit and ALDOT’s coverage under the permit with Madison and Huntsville was terminated.

### 1.2 Enforcement History

On August 12-13, 2013, ADEM representatives conducted an audit of the City of Madison’s MS4 Program. As a result of the audit findings, a Notice of Violation (NOV) was issued to the City on December 19, 2013 citing deficiencies in their implementation of the permit requirements. The NOV required that the City submit a Storm Water Management Program (SWMP) Plan to ADEM by March 19, 2014.

On March 26, 2014, a Consent Order was issued requiring the City to prepare and submit a SWMP by April 30, 2014.

### 1.3 Madison MS4 Area

The City of Madison Municipal Separate Storm Sewer System (Madison MS4) is currently defined as the area within the Madison city limits. The City of Madison encompasses approximately 30 square miles. A map outlining the approximate boundary of the Madison MS4 is included in **Appendix A** as **Figure 2**.

According to the 2010 Census, the City of Madison had a total estimated population of 42,938.

### 1.4 Hydrologic Units in the MS4 Area

The Tennessee River is ultimate receiving water for the Madison MS4.

**Table 1. Hydrologic Hierarchy**

REGION	06	Tennessee
SUBREGION	06-03	Middle Tennessee-Elk
BASIN	06-03-00	Middle Tennessee-Elk
SUBBASIN	06-03-00-02	Wheeler Lake

**Table 2. Watersheds in the MS4 Area**

WATERSHED	10 DIGIT HUC
Indian Creek	06030002-05
Limestone Creek	06030002-07
Tennessee River-Wheeler Lake	06030002-09

**Table 3. Subwatersheds in the MS4 Area**

SUBWATERSHED	12 DIGIT HUC	PORTION OF CITY IN SUBWATERSHED (SQ MI)	% OF CITY IN SUBWATERSHED
Barren Fork Creek	06030002-05-04	17.79	58.89
Beaverdam Creek	06030002-09-05	5.58	18.48
Lower Indian Creek	06030002-05-05	3.99	13.20
Middle Limestone Creek	06030002-07-02	1.44	4.74
Lower Limestone Creek	06030002-07-03	0.71	2.36
Upper Indian Creek	06030002-05-01	0.71	2.33

A map showing the subwatersheds in relation to the Madison corporate limits is included as **Figure 3** in **Appendix A**.

## 1.5 Water Quality Concerns

Section 303(d) of the Clean Water Act (CWA), as amended by the Water Quality Act of 1987, and the USEPA Water Quality Planning and Management Regulations (40 CFR 130) require states to identify waterbodies not in compliance with the water quality standards applicable to their designated use classifications. Section 303(d) then requires that total maximum daily loads (TMDLs) be determined for all pollutants causing violation of applicable water quality standards in each identified segment.

The Madison city limits currently encompass portions of two subwatersheds for waterbodies with TMDLs. Limestone Creek north of Highway 72 (segment AL06030002-0703-102) and Indian Creek north of Highway 72 (segment AL06030002-0501-100) are identified as impaired waterbodies. TMDLs were established for both segments in February of 2002.

None of the City's outfalls discharge directly to an impaired waterbody; however, construction sites within the Middle Limestone Creek and Upper Indian Creek watersheds are considered Priority Construction Sites, as defined in Part IV.T.31 of the Alabama Construction General Permit.

A map showing the impaired waterbodies in relation to the Madison city limits is included as **Figure 4** in **Appendix A**. A map showing the portions of the City located within the TMDL watersheds is included as **Figure 5** in **Appendix A**.

## 1.6 Storm Water Management Program

Part II of the NPDES Permit requires that the Permittee develop and implement a Storm Water Management Program. Part II.A of the permit details the eleven required program elements:

1. Structural Controls and Storm Water Collection System
2. Areas of New Development and Significant Redevelopment
3. Roadways
4. Flood Control Projects
5. Pesticide, Herbicide, and Fertilizer Application
6. Illicit Discharges and Improper Disposal
7. Spill Prevention and Response
8. Industrial and High Risk Runoff
9. Construction Site Runoff
10. Public Education
11. Monitoring Programs

A revised SWMP was prepared for the City of Madison by Hydro Engineering Solutions and Southeast Engineering & Consulting in April of 2014. The City adopted the revised SWMP on April 30, 2014. The revised SWMP incorporates the requirements of the 2001 Phase I permit, but reflect Madison's new autonomy in implementation and reporting.

## **1.7 Annual Review and Updates to the SWMP**

The Storm Water Management Program will be reviewed annually by the City of Madison ADEM Compliance Administrator in preparation for the Annual Report. If changes are needed, the SWMP may be updated following the procedures listed in Part II.G of the NPDES Permit. Changes that add components, controls, or requirements to the SWMP may be made at any time, provided ADEM is notified in writing. The changes must also be documented in the Annual Report.

Permission to make changes to the SWMP to remove or replace components, controls, or requirements must be requested from ADEM a minimum of 60 days prior to making the change. The written request must include:

1. An analysis of why the BMP is ineffective or infeasible,
2. Expectations on the effectiveness of the replacement BMP, and
3. An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

If the request is denied, ADEM will provide a written response giving the reason for the decision.

Modification requests and/or notifications shall be signed in accordance with Part VI.H of the permit.

## **1.8 Annual Report Components**

Part V.B of the NPDES Permit requires that the Madison MS4 prepare and submit annual reports to ADEM each year by March 28. This annual report covers October 1, 2013 through September 30, 2014 and includes:

1. List of contacts and responsible parties
2. Overall evaluation of the Storm Water Management Program
3. Summary tables of SWMP elements
4. Narrative report of all SWMP elements
5. Summary of proposed SWMP modifications
6. A complete fiscal analysis for the 2014 fiscal year and the 2015 fiscal year
7. Monitoring data summary
8. Summary of enforcement actions, inspections, and public education programs

## **1.9 Responsible Party**

The ADEM Compliance Administrator and the City Engineering Department are responsible for the coordination and implementation of the Storm Water Management Plan. Coordination between departments is established in each section of the 2014 SWMP.



## **2. CONTACTS LIST**

Part V.B.1 of the NPDES Permit requires that the City of Madison provide a list of contacts and responsible parties involved in the preparation of the Annual Report. The following personnel were directly responsible for the preparation of the 2013-2014 Annual Report:

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Questions concerning the 2013-2014 Annual Report should be directed to the ADEM Compliance Administrator.

### **3. PROGRAM EVALUATION**

#### **3.1 Objective of the Program**

The City of Madison's SWMP is a comprehensive program developed to accomplish the following objectives:

- Generally comply with the requirements of NPDES Permit ALS000005;
- Reduce discharge of pollutants from the Madison MS4 to the Maximum Extent Practicable (MEP);
- Operate storm water structural controls in a manner to reduce the discharge of pollutants to the MEP;
- Minimize the discharge of pollutants from post-construction storm water discharges from new development and redevelopment projects;
- Operate and maintain public streets, roads, and highways in a manner to minimize the discharge of pollutants;
- Evaluate flood control projects for incorporation of additional water quality protection devices and practices to help improve water quality;
- Prevent the pollution of storm water due to the application, storage, or disposal of pesticides, herbicides, or fertilizers;
- Locate, identify, and correct illicit discharges to the MS4;
- Prevent, contain, and respond to spills which might discharge pollutants to the MS4;
- Monitor and control pollutants in storm water discharges from industrial and high risk facilities;
- Monitor and control pollutants associated with land disturbing activities;
- Educate the community about the impacts of storm water runoff, identify steps the community can take to help reduce pollutants, and provide opportunities for public involvement; and,
- Implement a monitoring program to assess the effectiveness of implemented BMPs.

#### **3.2 Major Findings**

None of the waterbodies located within the Madison corporate limits were identified on the 2014 303(d) list. All assessed waterbodies within the City of Madison are in compliance with the water quality standards applicable to their designated use classifications.

As discussed in section 1.5, the Madison corporate limits currently encompass portions of two subwatersheds for waterbodies with TMDLs. Approximately 1.44 square miles of the City discharge indirectly to Limestone Creek north of Highway 72 (segment AL06030002-0703-102). Approximately 0.71 square miles of the City discharge indirectly to Indian Creek north of Highway 72 (segment AL06030002-0501-100).

TMDLs for siltation were established for both the Indian Creek and Limestone Creek segments in February of 2002. The TMDL document identified the primary sources of impairment as row cropping practices and roadways. The target percent reduction in sediment loading for the Indian Creek and Limestone Creek watersheds was 67% and 64%, respectively.

TMDLs for organic enrichment and dissolved oxygen were established for the Indian Creek segment in February of 2002. Table 4s and 5 summarize the allowable pollutant loads for ultimate carbonaceous biochemical oxygen demand (CBOD<sub>u</sub>) and nitrogenous biochemical oxygen demand (NBOD) in the summer and winter seasons.

**Table 4. Indian Creek Maximum Allowable Pollutant Loads - Summer**

POLLUTANT	POINT SOURCE LOADS (lbs/day)	NON-POINT SOURCE LOADS (lbs/day)
CBOD <sub>u</sub>	13.3	236.0
NBOD	16.2	85.5
<b>Total</b>	<b>29.5</b>	<b>321.5</b>

**Table 5. Indian Creek Maximum Allowable Pollutant Loads - Winter**

POLLUTANT	POINT SOURCE LOADS (lbs/day)	NON-POINT SOURCE LOADS (lbs/day)
CBOD <sub>u</sub>	20.5	1962.1
NBOD	25.0	673.2
<b>Total</b>	<b>45.5</b>	<b>2635.3</b>

The definition of a priority construction site under the Alabama Construction General Permit includes any site that discharges to a waterbody for which a TMDL has been finalized or approved by EPA for turbidity, siltation, or sedimentation. Construction sites located within the watersheds for the impaired segments of Indian Creek and Limestone Creek will be considered priority construction sites by ADEM. A map showing the portions of the City located within the priority watersheds is included as **Figure 5** in **Appendix A**.

### **3.3 Major Accomplishments**

The City of Madison made several changes during the 2013-2014 reporting period to strengthen, organize, and consolidate the Storm Water Management Program.

#### **1. Revised the Storm Water Management Program Plan**

In response to the December 2013 Notice of Violation and the March 2014 Consent Order, the City contracted Hydro Engineering Solutions and Southeast Engineering & Consulting to

prepare a revised Storm Water Management Program Plan specific to the City of Madison. The revised SWMP was submitted to ADEM and adopted by the City on April 30, 2014.

## **2. Developed and revised ordinances for legal authority**

In order to fully administer the revised storm water program, the City took steps during the reporting period to obtain the legal authority to compel compliance with the provisions of the SWMP. The Zoning Ordinances were revised during the reporting period to include new requirements for storm water management, drainage, and erosion control. An Illicit Discharge Detection and Elimination ordinance and an Erosion and Sedimentation ordinance were developed during the 2013-2014 reporting period, and are scheduled for adoption during the 2014-2015 reporting period.

## **3. Created the position of ADEM Compliance Administrator**

In June of 2014, the City created the position of ADEM Compliance Administrator and hired Ms. Gina Romine as a member of the Engineering Department to oversee implementation of the revised SWMP. The inclusion of the ADEM Compliance Administrator role helped consolidate and organize the storm water program.

## **4. Took steps to provide program funding**

To address funding issues for storm water activities, the City developed an ordinance to create a Stormwater User Fee. The ordinance will levy an annual fee of \$0.005 per square foot of commercial space on properties with a Class II land use classification and \$10 on properties with a Class III land use classification. The Madison County Tax Assessor and the Limestone County Revenue Commissioners Office will assign the land use classifications.

Ordinance 2014-213 was adopted in October 2014, following the end of the 2013-2014 reporting period. The City expects to receive revenue from the Stormwater User Fee beginning in January of 2016.

## **5. Continued to implement flood control projects**

The City of Madison remained active in flood abatement projects, which also help to filter storm water runoff.

## **6. Implemented a program to detect and address illicit discharges**

The City of Madison initiated outfall reconnaissance activities at four (4) outfalls. Dry weather screening was conducted at three (3) of the outfalls. No illicit discharges were observed and no samples were collected.

## **7. Identified industrial facilities and reviewed monitoring data**

Four (4) facilities within the City limits were identified as holding industrial NPDES permits. Discharge monitoring reports from three (3) of the facilities were reviewed. The City also developed a list of commercial facilities and is in the process of evaluating each one to determine which facilities have the potential to discharge pollutants. The collected data will be used to target inspection efforts.

## **8. Performed inspections of construction sites**

The City of Madison implemented a program to conduct inspections of construction sites at the start of construction, a minimum of once every two months during construction, and when all construction activity is complete. One City employee obtained Qualified Credentialed Inspector certification during the reporting period.

### **3.4 Overall Program Strengths / Weaknesses**

The City of Madison Storm Water Management Program is considerably stronger and more effective following the 2013-2014 reporting period.

A main strength of the current program is the inclusion of the ADEM Compliance Administrator position. Providing a municipal position solely for environmental compliance helps to reduce the oversights and miscommunications that come with spreading compliance duties out to several individuals. The ADEM Compliance Administrator serves as a focal point for the storm water program efforts and is the main point of contact for communication with ADEM, City departments, consultants, and community stakeholders.

Another strength of the program is the City's commitment to flood control projects. The City of Madison is a rapidly growing community, and the majority of new development is residential. This development is occurring under a planned subdivision process in which flood zones are protected, wetlands are identified and protected, and post-development storm water discharges are controlled to mimic pre-development hydrology, mainly through the use of detention/retention ponds.

The main weakness of the program during the 2013-2014 reporting period was limited funding. Historically, the City has only budgeted \$5,000 to \$6,000 for implementation of the storm water program. Following receipt of the Consent Order in March of 2014, program expenditures rose to approximately \$60,000. The City has addressed the funding issue with a proposed budget of \$117,500 for the 2015 fiscal year.

Another weakness of the program during the 2013-2014 reporting period was the lack of legal authority to regulate or inspect illicit discharges. The City has addressed this weakness by developing an Illicit Discharge Detection and Elimination ordinance and an Erosion and Sediment Control ordinance. The ordinances are expected to be adopted in April of 2015.

A current weakness of the program is the limited number of public education and outreach efforts in which the City has participated. The City intends to address this weakness by developing a storm water webpage, distributing brochures at City Hall, and participating in public events, such as the 2015 Madison County Drinking Water Festival. The City will also evaluate additional partnerships with non-profit organizations such as the Alabama Cooperative Extension System or the Alabama Clean Water Partnership.

### **3.5 Future Direction of Program**

As of the date of this report, the City of Madison is working with ADEM to develop an individual Phase II permit to replace the existing Phase I permit. The proposed individual Phase II permit will cover only the City of Madison, as the City of Huntsville will continue coverage under a re-issued Phase I MS4 permit.

The existing Phase I permit covers all areas and waterbodies within the Madison corporate limits. The proposed Phase II permit would only cover urbanized areas of the City of Madison (defined as those areas within both the City limits and the boundary of the *Huntsville, Alabama Urbanized Area*), for total of approximately 26 square miles. A map showing the proposed Phase II area is included as **Figure 6** in **Appendix A**.

The proposed Phase II permit differs from the existing Phase I permit in that separate program elements will no longer be required for roadway maintenance; pesticide, herbicides, and fertilizers; spill prevention and response; or industrial and high-risk runoff. Instead, these control measures will be included under other elements such as the Illicit Discharge Detection and Elimination program or the Municipal Operations program. Some of the strategies included in the 2014 SWMP may no longer be necessary to meet the objectives of the Phase II permit. Following issuance of the Phase II permit, the City will address the various program changes in a revised SWMP.

The City is currently transitioning to the Phase II requirements, while maintaining compliance with the provisions of the 2001 Phase I permit to the maximum extent practicable.

## **4. SUMMARY TABLES**

As required by Part V.B.3, the City of Madison has developed summary tables outlining the activities proposed in the 2014 SWMP and the City's current implementation status for each element. The tables are provided in **Appendix C**.

Activities conducted during the 2013 to 2014 reporting period are discussed in more detail in Section 5 of this report.

## 5. NARRATIVE REPORT

### 5.1 Structural Controls

#### 5.1.1 Objective

The objective of the Structural Controls Program is to operate storm water structural controls in a manner to reduce the discharge of pollutants to the maximum extent practicable.

A summary table identifying each Structural Controls strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

#### 5.1.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on eight (8) of the nine (9) Structural Controls strategies identified in the 2014 SWMP.

A structural control inventory and map were developed in April of 2014 for the 2014 SWMP. Both the inventory and map were updated in September of 2014.

Standard operating procedure #SC-01 for the inspection of structural controls was developed in April of 2014 and included in the 2014 SWMP. A Structural Control Inspection Form was also developed and included in the SWMP.

During the reporting period, the City conducted inspections on the two (2) City-owned detention ponds at Dublin Park. Four (4) inspections were conducted on private detention ponds.

No maintenance was conducted by the City on City-owned or privately-owned structural controls during the reporting period. If maintenance had been conducted, it would have been recorded on the Public Works construction log. The City has developed a new log specifically for maintenance and cleaning of controls during the 2014-2015 reporting period.

#### 5.1.3 General Discussion

During the October 1, 2013 to September 30, 2014 reporting period, the City did not accomplish one (1) of the nine (9) objectives identified in the 2014 SWMP.

Cleaning of City-owned structural controls was conducted during the reporting period, but was not tracked. Future cleaning activities will be tracked and reported in the subsequent Annual Report.



Maintenance of structural controls was tracked during the reporting period using the Public Works construction log. A new log has since been developed for the maintenance and cleaning of City-owned structural controls and is currently in use by the Parks and Recreation Department.

If the City modifies a privately-owned structural control or if a complaint is received regarding a private structural control, the City may conduct maintenance. A log to track maintenance by the City of privately-owned structural controls will be developed during the 2014-2015 reporting period.

#### *5.1.4 Status*

The City of Madison met eight (8) of the nine (9) Structural Control goals established in the 2014 SWMP and is currently making progress on the remaining goal. Structural controls within the City limits are being inspected in an organized and effective manner. All inspected structural controls were found to be operating within their design parameters.

#### *5.1.5 Strengths and Weaknesses*

The main strength of the program during the reporting period was the completeness of the inventory of structural controls. The City has located one hundred and forty-five (145) structural controls within the City limits, and is able to quickly identify locations when complaints are received.

The main weakness of the program during the reporting period was the lack of a system for tracking the cleaning of structural controls. A log to track maintenance and cleaning activities has since been developed and is currently in use.

#### *5.1.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Structural Controls program objectives.

#### *5.1.7 Proposed Revisions*

No revisions to the current list of structural controls strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.2 New Development / Redevelopment

### 5.2.1 Objective

The objective of the New Development / Redevelopment program is to minimize the discharge of pollutants from post-construction storm water discharges from new development and redevelopment projects. The program is intended to:

- Ensure that post-construction runoff mimics pre-construction hydrology of the site;
- Remove suspended solids and other pollutants associated with activities occurring during and after development;
- Decrease the erosive potential of increased runoff volumes and velocities associated with development;
- Preserve natural systems including in-stream habitat, riparian areas and wetlands; and,
- Reduce the thermal impacts that result from impervious surfaces and treatment devices with large amounts of surface exposed to sunlight such as wet ponds.

A summary table identifying each New Development / Redevelopment strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.2.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on eleven (11) of the eleven (11) New Development / Redevelopment strategies identified in the 2014 SWMP.

In preparation for the development of the 2014 SWMP, the City revised and recompiled the Zoning Ordinance to include new requirements for storm water management, drainage, and erosion control. The amendments were adopted on July 28, 2014 and the ordinance was recompiled on August 6, 2014. The ordinance was revised again in September of 2014 and the amendments adopted on September 11, 2014.

No updates were required during the reporting period for the Subdivision Regulations, Construction Specifications Manual, or Comprehensive Plan. The 2010 Madison Growth Plan was amended by the addition of the Madison Parks & Recreation Master Plan 2014-2025. The Master Plan was adopted by the Planning Commission on June 19, 2014 and by the City Council of June 23, 2014.

The Site Plan Review checklists were reviewed during the reporting period, and it was determined that post-construction BMPs are not currently included on the checklists. Once

formal post-construction BMP design standards are developed, the City intends to update an existing checklist or create a new checklist to include post-construction BMP requirements.

The City evaluated various potential post-construction BMPs to identify methods that are suitable for the Madison area and are within the City's regulatory control. The structural post-construction BMPs listed in the 2014 SWMP were identified as being under the City's regulatory control. Drainage swales are specifically identified in the updated Zoning Ordinance as being allowed in subdivisions as an alternative to curb and gutter and storm sewers. Suitability will be determined on a case-by-case basis during plan review.

The City evaluated various post-construction BMPs to identify the most appropriate methods to ensure that post-construction runoff from new development or redevelopment mimics pre-construction hydrology to the maximum extent practicable. For redevelopment, the City has determined that modification of existing detention or retention ponds is an appropriate method to address an increase in runoff. For new development, the City will evaluate proposed post-construction BMPs on a case-by-case basis.

The 2014 SWMP required that the City develop post-construction BMP design standards by September 30, 2015. The City has design standards in place for detention and retention basins, but does not currently address other types of post-construction BMPs such as pervious pavement, filter strips, or infiltration trenches. The City intends to develop formal design standards for alternative post-construction BMPs following issuance of the Phase II permit.

The City developed an inventory of projects incorporating post-construction BMPs for new development or redevelopment that were in progress during the reporting period. Seven (7) projects were identified: two (2) ponds at Bakers Farm subdivision, two (2) ponds at Burgreen Place Subdivision, two (2) ponds at West Haven Subdivision, and one (1) pond at Phase III of the Greenbrier Woods Subdivision. The City intends to update the inventory as post-construction BMP plans are reviewed.

### *5.2.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City accomplished or began work on all eleven (11) objectives identified in the 2014 SWMP.

As previously discussed, the City is currently in the process of transitioning from the existing 2001 Phase I permit to an individual Phase II permit. The proposed Phase II permit specifies that a 1.14-inch rainfall over a 24-hour prior, preceded by a 72-hour dry period, shall be the basis for the design and implementation of post-construction BMPs. The existing Phase I permit does not specify a design standard for post-construction BMPs.

The 2014 SWMP requires that the City develop post-construction BMP design standards and a review checklist by September 30, 2015. The City expects the Phase II permit to be issued in

mid-2015, and intends to develop the formal post-construction BMP design standards after the Phase II permit is completed and issued. The City has delayed the development of a Post-Construction BMP Plan Review Checklist until the formal post-construction BMP design standards are adopted.

#### *5.2.4 Status*

The New Development/Redevelopment program element is in compliance with the provisions of the 2014 SWMP.

The proposed Phase II permit contains several requirements for new development and redevelopment that are not included in the current Phase I permit. The City has begun preparations to revise ordinances and other documents as needed and is continuing to work towards establishing and updating formal post-construction BMP design standards and plan review procedures.

#### *5.2.5 Strengths and Weaknesses*

The main strength of the New Development/Redevelopment program is that a plan submittal and review process is already in place, and the City has well-established design standards for detention and retention ponds. Standards for alternative post-construction BMPs can be easily incorporated into the existing plan review system.

The main weakness of the current program is that review of post-construction BMPs is included in the construction documents review. There is currently no separate, formal post-construction BMP plan review procedure in place and no formal design standards to which alternative post-construction BMPs can be held. The City will address this weakness following the issuance of the proposed Phase II permit.

#### *5.2.6 Assessment of Controls*

The controls proposed in the 2014 SWMP are adequate for meeting the objectives of the New Development/Redevelopment program under the current Phase I permit, but will require modification once the Phase II permit is issued and the program is revised.

#### *5.2.7 Proposed Revisions*

No revisions to the current list of New Development/Redevelopment controls are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.3 Roadways

### 5.3.1 Objective

The objective of the Roadway Maintenance program implemented by the City of Madison is to operate and maintain public streets, roads, and highways in a manner to minimize the discharge of pollutants, including those related to de-icing or sanding activities.

A summary table identifying each Roadway Maintenance strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.3.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on nine (9) of the nine (9) Roadway Maintenance strategies identified in the 2014 SWMP.

A Road Inventory was developed for the 2014 SWMP and revised in September of 2014. As of September 30, 2014, the City was responsible for maintaining approximately 269 miles of roadway.

Evaluations using the Pavement Surface Evaluation and Rating (PASER) system were last conducted on 761 roads in Spring of 2009. The City program requires that PASER evaluations be conducted every five (5) years; therefore, re-evaluations will begin in March of 2015.

Bridge inspections within the City are conducted every two (2) years. Five (5) interim bridge inspections were performed in November 2013 and two (2) interim under-bridge (Snooper) inspections were performed in July 2014. Twenty-five (25) inspections were performed in December 2014, after the end of the 2013-2014 reporting period.

The City reviewed the existing De-Icing Event Standard Operating Procedure and the Madison Public Works Emergency Operations Plan. The plans detail the steps to be implemented by the Public Works Department during a De-icing Event and the locations for applying sand and gravel mix or salt. No changes were made to either document.

Right-of-way mowing and litter control activities are performed by the City's landscape contractor. Activities performed during the reporting period were tracked via emails from the landscape contractor to the Public Works Department. An Excel spreadsheet has been developed to more effectively track ROW mowing for the 2014-2015 reporting period.

Street maintenance was performed as needed during the reporting period and included ninety (90) general street repairs, thirty-two (32) utility trench repairs, and twenty-eight (28) maintenance repairs performed in response to citizen complaints.

During the 2013- 2014 reporting period, 40.54 lane miles of roadway were resurfaced within the Madison City limits. The Engineering and Public Works Departments currently track resurfacing projects.

De-icing events are tracked by the Public Works Department. Two de-icing events occurred during the 2013-2014 reporting period, one on January 5-6 and one on February 11-13. Removal of approximately nine (9) tons of sand and gravel mix from the Hughes Road overpass, Madison Boulevard bridge, and the County Line Road overpass occurred on March 13, 2014.

### *5.3.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City accomplished all nine (9) of the Roadway Maintenance strategies identified in the 2014 SWMP.

As demonstrated in the summary table, the City consistently tracked bridge inspections, ROW maintenance, litter control activities, and de-icing events. Although the current system is effective, the City plans to improve the tracking methods for the 2014-2015 reporting period by using Excel spreadsheets to record data as it is reported to the ADEM Compliance Administrator.

### *5.3.4 Status*

The Roadway Maintenance program element is in compliance with the provisions of the 2014 SWMP. The City's roads and bridges are being maintained in accordance with the procedures outlined in the SWMP. Potential pollutants were controlled through litter removal and through the removal of de-icing materials. Roadway surfaces have been maintained to reduce the amount of solids generated from pavement wear.

### *5.3.5 Strengths and Weaknesses*

The main strength of the program is that the City was able to accomplish all strategies identified in the 2014 SWMP on a limited budget. A half-cent sales tax increase went into effect during the reporting period, and one quarter of the half-cent tax increase was earmarked for Neighborhood Resurfacing Projects.

The main weakness of the program was limited funding. The City is continuing to grow at a high rate and major streets cannot be upgraded due to the limited gas tax funding. The revenue from the sales tax increase cannot be applied to major streets projects.

### *5.3.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Roadway Maintenance program objectives.

### *5.3.7 Proposed Revisions*

No revisions to the current list of roadway maintenance controls are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.4 Flood Control Projects

### 5.4.1 Objective

The objective of the Flood Control Projects program implemented by the City of Madison is to evaluate flood control projects for incorporation of additional water quality protection devices and practices to help improve water quality.

A summary table identifying each Flood Control Projects strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.4.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished three (3) of the three (3) Flood Control Projects strategies identified in the 2014 SWMP.

In preparation for the 2014 SWMP, the City reviewed the Flood Damage Prevention Ordinance (Ordinance No. 2010-324) dated November 22, 2010. No changes to the ordinance were required.

An inventory of Flood Control Projects was prepared for the 2014 SWMP and revised in September of 2014. The inventoried projects included:

- Modifications to the outlet structure at the Madison Towne Center pond to reduce the 2-year 24-hour discharge
- Construction of a detention pond in the Rickwood Village Subdivision park to address storm water from improvements to Mose Chapel Road
- Re-evaluation of the Windsor Park subdivision east pond to reduce flooding
- Re-evaluation of the Windsor Park subdivision west pond to reduce flooding
- Evaluation and design of a pond on Portal Lane to reduce flooding and provide detention for a 293-acre drainage basin
- Evaluation of modifications to a retention pond at the YMCA to reduce the 100-year storm discharge
- Evaluation of a retention pond in Biltmore Bend at Heritage Plantation



The Portal Lane, YMCA, and Biltmore Bend projects were evaluated during the 2013 to 2014 reporting period to determine if they could be designed or planned to include water quality considerations. Construction began on the Rickwood Park pond on March 4, 2014 and on the Portal Lane pond on December 15, 2014. All seven (7) projects incorporate features beneficial to water quality.

#### *5.4.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City accomplished all the Flood Control Projects strategies identified in the 2014 SWMP.

As a result of the Flood Control Projects Program, five (5) projects were evaluated during the reporting period.

#### *5.4.4 Status*

The Flood Control Projects program is in full compliance with the provisions of the 2014 SWMP. Flood control projects within the City are being evaluated for water quality considerations and are being implemented to reduce storm water impacts.

#### *5.4.5 Strengths and Weaknesses*

The City of Madison is developing and implementing a program of storm water runoff management with the intent of reducing flooding and improving the quality of storm water runoff. Existing protected flood zones inundate lands that can be used for regional detention facilities that reduce the area of land subject to inundation. The City also has twenty-five (25) existing neighborhood parks that have limited recreational benefit and can be made available for storm water projects.

The main weakness of the Flood Control Projects Program is the limited funding available for storm water projects.

#### *5.4.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Flood Control Projects program objectives.

#### *5.4.7 Proposed Revisions*

No revisions to the current list of Flood Control Projects strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.5 Pesticides, Herbicides, and Fertilizers

### 5.5.1 Objective

The objective of the Pesticides, Herbicides, and Fertilizers (PHF) program is prevent the pollution of storm water due to the application, storage, or disposal of PHF products.

A summary table identifying each Pesticides, Herbicides, and Fertilizers strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.5.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on twelve (12) of the twelve (12) Pesticides, Herbicides, and Fertilizers strategies identified in the 2014 SWMP.

An inventory of PHF applications areas within the City limits was conducted during the reporting period. The City applied PHFs at forty-one (41) neighborhood park and greenway locations. The City also contracted Edko, LLC to apply herbicides in seventy-five (75) drainage ditches. Maps showing the locations of the PHF application areas were prepared and are included in **Appendix D**.

PHFs were stored in three areas within the City: Palmer Park, Dublin Park, and the Public Works building. A map showing the locations of the PHF storage areas was prepared for the 2014 SWMP and is included in **Appendix D**.

During the reporting period, the City employed two (2) individuals certified as Commercial Applicators through the Alabama Department of Agriculture and Industries. To maintain certified status, Commercial Applicators are required to earn thirty (30) Continuing Education Units during the three-year certification period. Both certified City employees attended the 25th Annual Alabama Vector Management Society Meeting on March 6-7, 2014 to receive continuing education. Both employees attended the 26<sup>th</sup> Annual Meeting on March 12-13, 2015 to obtain recertification.

PHF application within the City of Madison is currently performed under NPDES General Permit ALG870034. A Pesticide Discharge Management Plan (PDMP) is currently in place and was updated in September of 2014. Standard Operating Procedures for PHF application, storage, disposal, and equipment maintenance are included in the existing PDMP.

An inventory of PHF chemicals stored at the three (3) City storage facilities was conducted on August 5, 2014. MSDS for each PHF chemical were maintained at the relevant storage facilities during the reporting period.

A summary of PHF chemicals used during the reporting period was prepared, and includes chemicals used by the City and by Edko, LLC.

The SWMP requires that the City perform soil testing at City parks prior to applying fertilizers. No soil testing was conducted during the reporting period, and no fertilizers were applied at City parks.

### *5.5.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City accomplished all twelve (12) strategies listed in the 2014 SWMP.

As previously discussed, both Commercial Applicators employed by the City obtained recertification in March of 2015. The City will also continue to contract with Edko, LLC to apply herbicides in City drainage ditches. Pesticide, herbicide, and fertilizer use and storage within the City is and will continue to be managed and inspected in an effective and organized manner.

### *5.5.4 Status*

The PHF program is currently in compliance with the provisions of the 2014 SWMP.

### *5.5.5 Strengths and Weaknesses*

The main strength of the current PHF program is that the City employs two (2) certified applicators. Pesticide, herbicides, and fertilizer use within the City is well-supervised and is conducted in an organized manner. Policies are in place to ensure that spills are cleaned up, PHF chemicals are properly stored, equipment is maintained, and chemicals are used and disposed of properly. Documentation is maintained by one designated individual in a specific location.

The main weakness of the program is the lack of funding, equipment, and support personnel.

### *5.5.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the PHF program objectives.

### *5.5.7 Proposed Revisions*

No revisions to the current list of PHF strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.6 Illicit Discharge and Improper Disposal

### 5.6.1 Objective

The objective of the Illicit Discharge and Improper Disposal Program is to locate, identify, and correct illicit discharges to the City of Madison MS4.

A summary table identifying each Illicit Discharge and Improper Disposal strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.6.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on twenty (20) of the twenty-one (21) Illicit Discharge and Improper Disposal strategies identified in the 2014 SWMP.

An Illicit Discharge Detection and Elimination (IDDE) Ordinance was developed during the reporting period, although it was not adopted prior to September 30, 2014. The draft ordinance was revised in February of 2015 and again in March of 2015, and is expected to be adopted in April of 2015.

The existing Fats, Oils, and Greases (FOG) Ordinance was reviewed in preparation for the 2014 SWMP. Ordinance No. 2009-145, adopted on July 29, 2009, is intended to prevent blockage of the sanitary sewer system, thereby reducing sanitary sewer overflows (SSOs) that would impact water quality. No changes were made to the FOG ordinance during the reporting period.

Standard Operating Procedures for outfall reconnaissance activities and illicit discharge evaluation were developed for the 2014 SWMP. The SWMP and, by extension, the IDDE program were adopted on April 30, 2014. Following the adoption of the SWMP, the City began implementation of the IDDE program.

An Outfall Inventory and Evaluation Schedule was prepared for the 2014 SWMP and incorporated as Figure 8-1, titled "IDDE Screening Schedule." The schedule divides the area within the City limits into five smaller areas for outfall screening in 2014 through 2018. No updates were made to the screening schedule following adoption of the SWMP.

An Outfall Reconnaissance Inventory Field Sheet, prepared by the Center for Watershed Protection and modified for the City of Madison, was incorporated into the 2014 SWMP. The Field Sheet is intended to record the location, physical characteristics, and condition of the screened outfall, as well as observations of any flow from the outfall. No updates to the form were required during the reporting period.

During the reporting period, outfall reconnaissance activities were conducted at four (4) locations in the 2014 IDDE screening area. On July 30, 2014, City personnel conducted dry weather screening at two (2) outfalls from drainage ditches along Browns Ferry Road to Limestone Creek. On August 8, 2014, City personnel conducted dry weather monitoring at a sinkhole located approximately 160 feet south of Browns Ferry Road and approximately 0.44 mile west of Oakland Spring Branch. No flow was observed and no samples were collected at any of the three (3) outfalls screened. On August 18, 2014, an outfall to Limestone Creek was inventoried, although dry weather screening was not conducted due to rainfall in the previous 72 hours. The Outfall Location Map was updated with the locations of the four (4) inventoried outfalls.

Prior to conducting outfall reconnaissance activities, City personnel studied Chapter 11 of the Illicit Discharge Detection and Elimination Guidance Manual, dated October 2004. The guidance document discusses best practices for ORI activities. Future ORI activities will be conducted by a consultant; therefore, City personnel will not require additional training for outfall inventory or water quality monitoring.

On September 2, 2009, the City's "Let Us Know" program was established. The program consists of a webpage and a hotline for residents to report complaints, including those for illicit discharges. The webpage is linked from the main page of the City website.

The reporting and tracking system was evaluated during the reporting period. No specific category for reporting storm water complaints is included in the current system, as the illicit discharge ordinance has not yet been adopted. Storm water issues are currently reported under drainage, illegal dumping, residential development, or general. The City intends to update the system, following adoption of the IDDE ordinance.

During the reporting period, the system received eight (8) reports of debris dumped in drainage ways. Records are maintained for each report and include information regarding the date, location, information source, and event description.

A Non-Storm Water Discharge Investigation Form was developed in preparation for the 2014 SWMP. The form is intended for use in investigating potential illicit discharges, and records information regarding the inspection type, incident location, observations, and follow-up actions. No suspect illicit discharges were reported to the City during the 2013-2014 reporting period, and the form has not yet been used. No updates to the Non-Storm Water Discharge Investigation Form were required during the reporting period.

If an illicit discharge is investigated and found to be the result of a leaking sanitary sewer or an on-site sewage system, the 2014 SWMP requires that the City report the problem to the appropriate system owner. No illicit discharges were identified during the reporting period, and

no reports were made to Madison Utilities, the Limestone County Water and Sewer Authority, or the County Health Departments.

The Madison Fire Department is responsible for responding to spills that occur within the City. The SWMP requires that the Fire Department notify the City Engineer if a spill enters the MS4. During the reporting period, no spills were reported as entering the MS4.

In order to inform the public and City employees about the hazards associated with illegal discharges and improper disposal of waste, the City added a section titled “Stormwater Affects Our Environment” to the Public Works webpage. An educational slide on the effects of residential dumping of trees or grass clippings into storm drains was aired on Channel 42.

During the reporting period, the City developed and adopted an ordinance prohibiting the obstruction of ditches, drainage pipes, or waterways. Ordinance 2014-106 was adopted on July 14, 2014.

### *5.6.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City did not accomplish one (1) of the twenty-one (21) Illicit Discharge and Improper Disposal objectives identified in the 2014 SWMP.

As previously discussed, the IDDE Ordinance was not adopted prior to September 30, 2014. The draft ordinance was revised in February and March of 2015 and is expected to be adopted in April of 2015.

As a result of the evaluation of the “Let Us Know” tracking system, the City plans to update the “Let Us Know” complaint form following adoption of the IDDE ordinance. Currently, the code violation drop-down menu does not contain a reference to illicit discharges and there is no specific complaint category for storm water-related issues. Instead, complaints regarding storm water issues may be reported under drainage, illegal dumping, residential development, or general. Following the adoption of the IDDE ordinance, the City will provide a separate complaint category specifically for storm water.

During the 2013-2014 reporting period, the City received eight (8) reports of debris dumped into drainage ways. The complaints were all addressed and the date each complaint was closed was noted in the complaint log.

The City has contracted a consultant to perform the outfall inventory and dry weather screening activities for the 2014-2015 reporting period. The consultant’s scope of work includes stream-walking to identify outfalls from the MS4 to waterbodies located within the 2015 screening area, as well as dry weather discharge screening and sampling.

#### *5.6.4 Status*

The City of Madison is in compliance with all but one (1) of the Illicit Discharge and Improper Disposal objectives established in the 2014 SWMP. The City is continuing to work towards adoption of an IDDE ordinance that will give the City legal authority to regulate illicit discharges and connections, inspect properties, require corrective actions from property owners or operators, and enforce the provisions of the ordinance.

#### *5.6.5 Strengths and Weaknesses*

The main strength of the Illicit Discharge and Improper Disposal program is the systematic approach to outfall inventory and screening. The City has a clear plan to identify outfalls to waterbodies within the MS4 boundary according to a set schedule. Funding for outfall reconnaissance activities and dry weather screening has been added to the 2014-2015 storm water program budget, and the City has the resources in place to map outfalls as they are identified.

The main weakness of the IDDE program is that during the reporting period, the City did not have the legal authority to regulate or inspect illicit discharges and connections, and did not have the legal authority to pursue enforcement actions against alleged illicit dischargers. The ordinance providing the required legal authority is expected to be adopted in April of 2015.

#### *5.6.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Illicit Discharge and Improper Disposal program objectives. Once the IDDE ordinance is adopted, the City will be able to fully implement the provisions of the 2014 SWMP.

#### *5.6.7 Proposed Revisions*

No revisions to the current list of Illicit Discharge and Improper Disposal strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.7 Spill Prevention and Response

### 5.7.1 Objective

The objective of the Spill Prevention and Response Program is to prevent, contain, and respond to spills which might discharge pollutants to the MS4.

A summary table identifying each Spill Prevention and Response strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.7.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on eight (8) of the eight (8) Spill Prevention and Response strategies identified in the 2014 SWMP.

The 2014 SWMP requires that the City maintain an inventory of municipal facilities that use and/or store petroleum products. While the City does not maintain a separate list of facilities that store petroleum, each municipal facility annually inventories its chemicals storage and provides the list to the ADEM Compliance Administrator. Petroleum products are included on the individual facility inventories.

The SWMP requires that the City develop an inventory of industrial and municipal facilities that have a potential to contribute pollutants to storm water runoff. During the reporting period, three (3) commercial facilities and one (1) municipal facility were identified as holding industrial NPDES general permits. The City also developed a list of commercial properties within the City limits. The City is in the process of evaluating the properties on the list to develop an inventory of facilities that have potential to contribute pollutants but that may not be permitted (e.g., carwashes, mechanics shops, etc.).

City personnel evaluated ten (10) commercial facilities and twelve (12) municipal facilities using the Site Evaluation Form developed for the 2014 SWMP. Additionally, the City of Madison Fire Department conducts inspections of all commercial facilities at least once per year for fire and spill hazards.

The City employee performing the property evaluations attended training for construction storm water and is QCI certified, although specific training for industrial inspections was not given during the reporting period. The Fire Department conducts annual training on facility inspections.

The Madison Fire Department is responsible for responding to and controlling spills. The 2014 SWMP requires that the City track the number of spill responses. During the reporting period,



the Fire Department responded to five (5) spills of hazardous material. No spills of non-hazardous material or spills into the MS4 were reported by the Fire Department.

All Fire Department personnel have a minimum of Hazardous Materials Awareness and Operations Certification training, and all personnel are required to attend annual training. Two (2) Fire Department employees attended the HAZMAT Awareness and Operations course on February 24, 2014 and another five (5) attended the course on September 29, 2014. Four (4) Fire Department employees attended the HAZMAT Technician course on March 24, 2014.

### *5.7.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on all eight (8) of the Spill Prevention and Response strategies identified in the 2014 SWMP.

During the reporting period, the City developed a list of fifty-eight (58) commercial properties and twelve (12) municipal properties. City personnel evaluated ten (10) commercial properties and all twelve (12) municipal facilities to determine which locations have a potential to contribute pollutants to storm water runoff. The Fire Department inspected all fifty-eight (58) commercial properties for fire and spill hazards. No facilities were reported to the Engineering Department as requiring further action. The City is in the process of evaluating the properties on the list to develop an inventory of facilities that have potential to contribute pollutants but that may not be permitted (e.g., carwashes, mechanics shops, etc.).

No additional training was provided during the reporting period for the City employee who performed the twenty-two (22) property evaluations. For the 2014-2015 reporting period, the City intends to provide training specific to spill control and industrial best management practices for City personnel tasked with performing inspections of industrial or commercial facilities. Training of spill response personnel will continue to be addressed by the Fire Department.

### *5.7.4 Status*

The Spill Prevention and Response program is currently in compliance with the provisions of the 2014 SWMP. The City has developed a list of properties to be evaluated, and will work to identify which of the properties actually have a potential for spills in order to focus spill prevention efforts. The Fire Department continues to implement an effective spill response program.

### *5.7.5 Strengths and Weaknesses*

The main weakness of the Spill Prevention and Response program is the lack of legal authority to enter and inspect commercial facilities. Another current weakness of the program is the incomplete inventory of commercial or industrial sites. Fifty-eight (58) commercial properties and twelve (12) City properties were identified for evaluation, but only a portion of the inventory

of commercial facilities was completed during the reporting period. To effectively target the inspection program, the City is in the process of evaluating each of the facilities to determine which ones have a greater risk for spills.

The main strength of the program is the existing spill response resources available to the City of Madison. In addition to the support provided by the Madison Fire Department, the City has also signed a Mutual Aid Agreement with local Federal agencies, the City of Huntsville, Madison County, and the local Emergency Management Agency.

#### *5.7.6 Assessment of Controls*

The controls identified in the 2014 SWMP are adequate to respond to spills of hazardous and non-hazardous materials that might otherwise enter the MS4.

#### *5.7.7 Proposed Revisions*

No revisions to the current list of Spill Prevention and Response strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.8 Industrial and High-Risk Runoff

### 5.8.1 Objective

The objective of the Industrial and High-Risk Runoff Program is to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities.

A summary table identifying each Industrial and High-Risk Runoff Program strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.8.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on eleven (11) of the twelve (12) Industrial and High-Risk Runoff strategies identified in the 2014 SWMP.

An Illicit Discharge Detection and Elimination (IDDE) Ordinance was developed during the reporting period, although it was not adopted prior to September 30, 2014. The draft ordinance was revised in February of 2015 and again in March of 2015, and is expected to be adopted in April of 2015.

During the reporting period, three (3) commercial facilities and one (1) City facility were identified as holding industrial NPDES general permits. Two (2) facilities were identified as being subject to SARA Title III, Section 313 (Emergency Planning and Community Right-to-Know Act).

The City developed a list of municipal facilities in preparation for the 2014 SWMP. Eleven (11) non-permitted municipal facilities and one (1) permitted facility were identified for evaluation. City personnel evaluated all twelve (12) municipal facilities using the Site Evaluation Form developed for the 2014 SWMP.

To comply with Section 10.4.4 of the 2014 SWMP, the City developed a list of fifty-five (55) non-permitted commercial properties within the City limits. The City is in the process of evaluating the properties on the list to create an inventory of facilities that have the potential to contribute pollutants in storm water runoff.

During the reporting period, the City did not have the right to enter and inspect commercial or industrial facilities. City personnel evaluated the exterior of ten (10) commercial facilities using the Site Evaluation Form developed for the 2014 SWMP.

Section 10.5.1 of the 2014 SWMP requires that NPDES-permitted facilities be inspected once every five years. In response, the City conducted an inspection of the Public Works facility

located at 400 Celtic Drive on September 2, 2014. The facility is currently permitted under NPDES General Permit ALG870034.

Section 10.5.2 of the 2014 SWMP requires that SARA Title III facilities be inspected once every five (5) years. The two (2) identified Title III facilities were not inspected for storm water concerns during the 2013 to 2014 reporting period, although the Fire Department did conduct inspections for fire and spill hazards. The City intends to conduct inspections of the storm water BMPs at both facilities by September 30, 2015.

If the City receives a complaint regarding a non-storm water discharge from a commercial facility, City personnel will conduct an inspection to investigate the reported discharge. No complaints were received during the 2013-2014 reporting period.

Section 10.6 of the 2014 SWMP requires that City personnel tasked with conducting inspections of industrial facilities will receive training once every two years. The City intends to provide the required training to appropriate personnel by September 30, 2015.

### *5.8.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on all twelve (12) of the Industrial and High-Risk Runoff strategies identified in the 2014 SWMP.

As previously discussed, the IDDE Ordinance was not adopted prior to September 30, 2014. The draft ordinance was revised in February and March of 2015 and is expected to be adopted in April of 2015.

During the reporting period, the City developed a list of fifty-eight (58) commercial properties and twelve (12) City properties. City personnel evaluated ten (10) commercial properties and twelve (12) municipal facilities to determine which locations have a potential to contribute pollutants to storm water runoff. The Fire Department inspected the fifty-eight (58) commercial properties for fire and spill hazards. No facilities were reported to the Engineering Department as requiring further action.

During the reporting period, three (3) commercial facilities and one (1) City facility were identified as holding industrial NPDES general permits. The 2014 SWMP requires that the City conduct inspections of the storm water BMPs at the facilities once every five (5) years. Storm water BMPs were not inspected at the commercial facilities during the reporting period, as the City does not currently have the legal authority to conduct inspections. Following adoption of the IDDE Ordinance, the City will initiate inspections of the NPDES-permitted facilities. An inspection of the Wilson Lumber facility on Lanier Road will be conducted by September 30, 2015.

Storm water BMPs at the two (2) SARA Title III facilities were not inspected during the reporting period, although the Fire Department performed inspections for fire and spill hazards. The 2014 SWMP requires that the City conduct inspections at the facilities once every five (5) years. The City intends to conduct inspections of the storm water BMPs at both facilities prior to September 30, 2015.

#### *5.8.4 Status*

With the exception of adopting the IDDE ordinance, the Industrial and High-Risk Runoff program element is in compliance with the provisions of the 2014 SWMP.

The City is continuing to work towards adoption of an IDDE ordinance that will give the City legal authority to regulate illicit discharges and connections, inspect properties, require corrective actions from property owners or operators, and enforce the provisions of the ordinance.

The City is continuing to work to identify which facilities within the City have a greater risk for discharging pollutants to storm water.

#### *5.8.5 Strengths and Weaknesses*

The main strength of the Industrial and High-Risk Runoff program is that the low number of industrial sites within the MS4 boundary allows the City to effectively target the program's resources. As industrial or high-risk sites are identified, the City will be able to thoroughly inspect each site and address the needs of the facilities. Having fewer facilities allows City personnel the time to establish working relationships with facility operators.

The main weakness of the program is the lack of legal authority to enter and inspect industrial facilities. Another weakness is the incomplete inventory of commercial sites. Fifty-eight (58) commercial properties were identified for evaluation and/or inspection, but only a portion of the inventory was completed during the reporting period. The City will continue to work to identify which commercial facilities have a greater risk for discharging pollutants to storm water.

#### *5.8.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Industrial and High-Risk Runoff program objectives. The controls are adequate to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities, when fully implemented.

#### *5.8.7 Proposed Revisions*

No revisions to the current list of Industrial and High-Risk Runoff strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.9 Construction Site Runoff

### 5.9.1 Objective

The objective of the Construction Site Runoff program is to monitor and control pollutants associated with land disturbing activities.

A summary table identifying each Construction Site Runoff strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.9.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on twenty-two (22) of the twenty-six (26) Construction Site Runoff strategies identified in the 2014 SWMP.

An Erosion and Sediment Control (ESC) Ordinance was developed during the reporting period, although it was not adopted prior to September 30, 2014. The draft ordinance was revised in February of 2015 and again in March of 2015, and is expected to be adopted in April of 2015.

The City currently regulates erosion control under Article V, Section 5-9 “Erosion and Washing” of the existing Subdivision Regulations. The Subdivision Regulations were last revised on June 16, 2006 and were reviewed in preparation for the 2014 SWMP. Following adoption of the ESC ordinance, the City will make the necessary revisions to the Subdivision Regulations.

The existing *Construction Specifications Manual for Public Improvements* was adopted under Ordinance 96-76 on June 28, 1996, and was last amended in October of 2001. The manual was reviewed in preparation for the 2014 SWMP. Since the adoption of the manual, the NPDES construction permit program has been revised from a permit-by-rule program to a general permit, ALR100000. The *Alabama Handbook for Erosion Control, Sediment Control, and Stormwater Management on Construction Sites and Urban Areas*, has also undergone several revisions and was most recently re-issued in September of 2014. Following adoption of the ESC ordinance, the City will make the necessary revisions to the Construction Specifications Manual, including adoption of the current Handbook.

The Building Department’s *Inspections Division Procedural Handbook* covers permitting, plan review, and inspections and includes standard operating procedures. The 2014 SWMP included a flow chart diagramming the current standard operating procedures for issuing a grading or building permit to an owner or operator of a construction site with the City limits. Following adoption of the ESC ordinance, the City will make the necessary revisions to the standard operating procedures for issuing Land Disturbance Permits.

The City currently requires submittal of a Building Permit Application. The existing application form was reviewed in preparation for the 2014 SWMP and revised on July 28, 2014. Following adoption of the ESC ordinance, the City will re-evaluate the application and make changes if necessary.

The Land Disturbance Permit was developed as part of the ESC ordinance to replace the existing Grading Permit. The existing Grading Permit does not require submittal of an erosion control plan prior to approval; therefore, the Grading Permit will be replaced by the proposed Land Disturbance Permit following adoption of the proposed ESC ordinance.

The 2014 SWMP requires that the City track all inspections and activities associated with a project by the permit number. The City currently tracks all permitting and inspection actions using the New World Systems (NWS) public administration software. Additionally, BMP inspections are also tracked in a log book by the individual conducting the inspections.

During the reporting period, the Engineering Department determined that the NWS database is not currently able to isolate records where follow-up actions were identified. There is not currently a way to pull a summary report listing all sites where corrective actions were logged.

The existing Permit Review Checklists were reviewed in preparation for the 2014 SWMP, and no changes were required at the time. Following adoption of the ESC ordinance, the City will re-evaluate the checklists and make changes if necessary.

During the reporting period, Engineering Department personnel reviewed thirty-three (33) Erosion Control Plans. Twenty-six (26) of the reviewed plans required revisions due to incomplete or inadequate erosion control provisions.

The Engineering Department continuously maintains an updated inventory of all active construction sites within the MS4 area. During the 2013 to 2014 reporting period, there were a total of forty-nine (49) active construction sites permitted under the ALR100000 Construction General Permit, five (5) of which were City projects. For the Annual Report, the City developed a map of the ADEM-permitted construction sites active during the reporting period.

Section 11.9 of the 2014 SWMP details standard operating procedures for the inspection of construction sites, from the initial inspection through the final inspection. A Construction Site Inspection Form was also developed and incorporated into the 2014 SWMP.

Thirty-three (33) initial inspections were performed during the reporting period. The count includes multiple single-family residences within larger ADEM-permitted sites, and does not correlate to the number of ADEM construction permits issued within the City.

Between October 1, 2013 and September 30, 2014, there were no construction sites within the City limits that met the definition of a Priority Construction Site as defined in Part IV.T.31 of the Alabama Construction General Permit. No inspections of Priority Construction Sites were conducted during the reporting period.

Inspections were performed at all forty-nine (49) ADEM-permitted non-priority construction sites a minimum of once every two months during the reporting period.

The 2014 SWMP requires that a final inspection be performed on each construction site prior to providing a certificate of occupancy. During the reporting period, three hundred and seventeen (317) final inspections were conducted. The count includes final inspections on individual residences within ADEM-permitted subdivisions, as well as commercial sites, and does not correlate to the number of ADEM permits that were terminated.

The City of Madison currently does not have an ordinance in place granting specific legal authority to require abatement of erosion and sediment control violations; however, the City did use the Subdivision Regulations to enforce construction site erosion and runoff during the reporting period. Seventeen (17) verbal notifications for non-compliant BMPs were issued during the reporting period.

The 2014 SWMP requires that all inspectors maintain current certification as a Qualified Credentialed Inspector. Mr. Darryl Ahonen obtained his QCI certification on April 17, 2014.

To promote public education on the appropriate application and maintenance of erosion and sediment controls, the City maintained links to the ADEM's Construction General Permit webpage and the Alabama Soil and Water Conservation Committee's Erosion and Sediment Control Program webpage. The links are provided on the Engineering webpage under the Quick Links section.

### *5.9.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City did not accomplish four (4) of the twenty-six (26) objectives identified in the 2014 SWMP.

An Erosion and Sediment Control Ordinance was developed during the reporting period, although it was not adopted prior to September 30, 2014. The draft ESC ordinance was revised in February of 2015 and again in March of 2015, and is expected to be adopted in April of 2015.

The City delayed the development of the standard operating procedures for the review of Construction Best Management Practices Plans until after the ESC ordinance is adopted. The development of CBMPP requirements and a review checklist were also delayed. The ordinance was still being revised as of September 30, 2014, and the City wanted to ensure that the SOPs and checklist reflect the full requirements of the ordinance and the proposed Phase II permit.



The 2014 SWMP requires that the City incorporate links on the City website to provide information to developers, engineers, and operators on the application and maintenance of erosion and sediment controls. During the 2013-2014 reporting period, the City maintained links on the Engineering Quick Links page, but intends to create a separate page on the website for storm water information during the 2014-2015 reporting period.

The proposed ESC ordinance would require a Land Disturbance Permit for construction or alteration of ground improvements and structures for the control of erosion, runoff, and grading. Activities resulting in the disturbance of 10,000 or more square feet would require the submittal and approval of an Erosion and Sediment Control Plan. The existing Grading Permit does not require that plans be submitted for review. The proposed Land Disturbance Permit will replace the Grading Permit, following adoption of the ESC ordinance.

Although the City tracks all permitting and inspection actions using the NWS software, the system is not currently able to isolate specific types of comments for reporting purposes. An inspector may document that corrective actions are required at a site, but the database is not designed to sort based on that type of input. Since the NWS reporting function is currently unable to meet the needs of the Construction Site Runoff Program, the City is seeking an alternative tracking method.

#### *5.9.4 Status*

The Construction Site Runoff Program is working towards compliance with the provisions of the 2014 SWMP. The proposed ESC ordinance specifically provides for escalating enforcement action by the City Engineer or his/her designee. Proposed enforcement actions include a verbal warning, written notice of violation, issuance of a stop work order, and reporting to ADEM.

Engineering Department personnel are conducting regular BMP inspections at construction sites within the City limits. Ms. Romine obtained her QCI certification on November 11, 2014. Mr. Ahonen will attend a refresher course prior to April 17, 2015.

#### *5.9.5 Strengths and Weaknesses*

The main strength of the Construction Site Runoff program is that a robust plan review and site inspection process is already in place, and requirements for CBMPPs and erosion and sediment controls can be easily incorporated into the existing system.

The main weakness of the program is that the City does not currently have the legal authority to initiate enforcement actions to abate construction site erosion and runoff. The proposed ESC ordinance will provide that authority and is expected to be adopted in April of 2015.

### *5.9.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Construction Site Runoff program objectives. The controls are adequate to monitor and control pollutants associated with land disturbing activities, when fully implemented.

### *5.9.7 Proposed Revisions*

No revisions to the current list of Construction Site Runoff strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.10 Public Education

### 5.10.1 Objective

The objective of the Public Education program is to educate the community about the impacts of storm water runoff, identify steps the community can take to help reduce pollutants, and provide opportunities for public involvement.

A summary table identifying each Public Education strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.10.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on thirteen (13) of the sixteen (16) Public Education strategies identified in the 2014 SWMP, and completed three (3) more activities not included in the SWMP.

Prior to the reporting period, the City of Madison formed partnerships with the Huntsville Solid Waste Disposal Authority (SWDA) and Madison Utilities to conduct Public Education activities. The City has continued to maintain these existing partnerships. During the reporting period, SWDA held collection days the first Saturday of every month at the SWDA facility in Huntsville. The SWDA's "Handle with Care" program encourages residents to dispose of hazardous materials properly.

During the reporting period, the City identified a new partnership opportunity in the Madison County Drinking Water Festival. The mission of the festival is "To educate students and their families about how groundwater and surface water, as well as other associated natural resources (i.e. wetlands, forestry, wildlife, etc.), relate to drinking water and to instill in them a general environmental awareness and stewardship ethic." The festival is typically held in May and is open to fourth grade students from schools in Madison County.

The 2014 SWMP requires that the City develop at least one (1) brochure each year. During the reporting period, the City chose to target homeowners with two (2) brochures. One brochure was tailored to address the pollution of storm water runoff due to lawn care, litter, automobiles, pet waste, and erosion. The second brochure was tailored to address pollution of groundwater due to pesticides, septic systems, improper use of chemicals, landfills, and atmospheric contaminants.

The City has made arrangements for access to cable Channel 42. During the reporting period, an educational side on residential dumping was aired. City Council and Planning Commission meetings were also televised.

In order to inform the public and City employees about the hazards associated with illegal discharges and improper disposal of waste, the City added a section titled “Stormwater Affects Our Environment” to the Public Works webpage. To promote public education on the appropriate application and maintenance of erosion and sediment controls, the City maintained links to the ADEM’s Construction General Permit webpage and the Alabama Soil and Water Conservation Committee’s Erosion and Sediment Control Program webpage. The links are provided on the Engineering webpage under the Quick Links section.

During the reporting period, the City encouraged public involvement through public meetings with local stakeholders. A public meeting was held for the construction of a detention pond in the Rickwood Village Subdivision park to address storm water from improvements to Mose Chapel Road. The meeting was held on March 11, 2014 and had thirty-two (32) attendees from the public. An additional public meeting on the Rickwood pond was held on August 19, 2013, prior to the reporting period, and had twenty-five (25) attendees.

On September 2, 2009, the City’s “Let Us Know” program was established. The program consists of a webpage and a hotline for residents to report complaints, including those for illicit discharges. The webpage is linked from the main page of the City website. During the reporting period, the system received eight (8) reports of debris dumped in drainage ways.

Recycling within the City of Madison is currently accomplished through a weekly residential curbside program operated by SWDA. The 2014 SWMP requires that the City track recycling efforts; however, SWDA currently tracks the City of Madison and Madison County together, and could not provide numbers for just the City of Madison. An estimate of 14,300 households reached by the recycling program was obtained from the City’s trash fee collections, but does not include commercial buildings, non-profit organizations, or most apartment complexes. The City is currently investigating more accurate methods to track recycling efforts.

During the reporting period, the City researched the development of a storm drain marking program; however, due to limited time and resources, a program could not be developed and implemented prior to September 30, 2014. The City intends to conduct further research into a storm drain marking program during the 2014-2015 reporting period.

The 2014 SWMP stated that the City would explore providing staff and/or resources to support the Madison County Water Festival. The 2014 festival was held May 13 and 14, shortly after the adoption of the 2014 SWMP; however, the City did not have the funding or staff available to participate in the festival at that time. The City intends to support the 2015 Madison County Drinking Water Festival.

In addition to the requirements of the 2014 SWMP, the City also partnered with the Bob Jones High School Engineering for Tomorrow Academy to offer an intern position with the

Engineering Department. Two high school seniors participated: Ben Kendall from September 2013 to December 2013, and Olivia Zuvanich from February 2014 to May 2014.

Mr. Kendall assisted the City in developing the informational brochures. Mr. Kendall also identified the Mose Chapel Road improvements project as one that would benefit from the use of a detention pond, as opposed to the planned drainage pipes. The proposed pond is an economically and environmentally beneficial alternative, and construction began in March of 2014.

The Madison Police Department held two drug take back days during the reporting period. The first, held April 27, 2014, collected approximately 600 pounds of medications. The second, held on September 27, 2014, collected approximately 260 pounds.

A total of fifty-five (55) pet waste stations were maintained at City and neighborhood parks during the reporting period.

### *5.10.3 General Discussion*

During the October 1, 2013 to September 30, 2014 reporting period, the City did not accomplish three (3) of the sixteen (16) Public Education objectives identified in the 2014 SWMP.

The 2014 SWMP indicated the City would begin distributing the developed brochures using the City website; however, the City's storm water webpage was not developed prior to September 30, 2014 and the brochures were not posted. The City intends to create a separate page on the website for storm water information by September 30, 2015. Hardcopy brochures will also be distributed during the 2014-2015 reporting period using a brochure holder placed at City Hall.

The 2014 SWMP requires that the most recent version of the SWMP and annual reports be posted on the City website and updated as needed. The SWMP and 2012-2013 Annual Report were not posted during the 2013-2014 reporting period. The City intends to create a separate page on the website for storm water information and post the SWMP, annual reports, and educational information there. The webpage is expected to be online by September 30, 2015.

### *5.10.4 Status*

The Public Education program is still in development, but is in compliance with the objectives of the 2014 SWMP, with the exception of the City storm water webpage. Public Education materials have been developed and will be distributed during the 2014-2015 reporting period. A storm water webpage is planned for the City website, and will include educational information, the SWMP, and the annual report. The City intends to participate with the 2015 Madison County Drinking Water Festival.

As the Public Education program continues to develop, the City will also evaluate partnership opportunities with the Alabama Cooperative Extension System, Clean Water Partnership, or

other environmental organizations. The City will also consider hosting a storm water booth at City events such as the Madison Street Festival.

#### *5.10.5 Strengths and Weaknesses*

The main strength of the Public Education program is the infrastructure for distributing educational information is already in place. Channel 42 is available, and has been used to share limited storm water information. The City website is well-organized and only requires the addition of an easily-accessible storm water page. The Madison Street Festival is a well-advertised annual event with large attendance. As the Public Education program develops, the City will be able to use the existing outreach methods and activities.

The main weakness of the program during the reporting period was distribution of educational materials. Due to the lack of a storm water webpage, there is not currently a central location to post information on storm water projects, events, or issues. Finding information on storm water on the existing City website requires prior knowledge of which departments are involved, and the current information is limited. This will be addressed through the development of the storm water webpage.

#### *5.10.6 Assessment of Controls*

The controls identified in the 2014 SWMP appear to be effective in meeting the Public Education program objectives. When fully implemented, the controls will be adequate to educate the community about the impacts of storm water runoff, identify steps the community can take to help reduce pollutants, and provide opportunities for public involvement.

#### *5.10.7 Proposed Revisions*

No revisions to the current list of Public Education strategies are proposed at this time. Revisions are expected during implementation of the Phase II permit, and will be incorporated into a revised SWMP.

## 5.11 Monitoring and Screening

### 5.11.1 Objective

The objective of the Monitoring and Screening program implemented by the City of Madison is to evaluate the effectiveness of the BMPs implemented under the SWMP.

A summary table identifying each Monitoring and Screening strategy planned for the 2013-2014 reporting period, a description of actions taken by the City of Madison, and a brief description of activities planned for the next reporting period is provided in **Appendix C**. Supporting documentation is included in **Appendix D**.

### 5.11.2 Activities Completed / In Progress

During the October 1, 2013 to September 30, 2014 reporting period, the City of Madison accomplished or began work on ten (10) of the ten (10) Monitoring and Screening strategies identified in the 2014 SWMP.

City personnel conducted dry weather screening on July 30, 2014 at two (2) outfalls from drainage ditches along Browns Ferry Road to Limestone Creek and on August 8, 2014 at one (1) sinkhole. No flow was observed and no samples were collected.

During the reporting period, three (3) commercial facilities and one (1) City facility were identified as holding industrial NPDES general permits. To assist with identifying additional industrial facilities, the City developed a list of fifty-five (55) non-permitted commercial properties within the City limits. The City is in the process of evaluating the properties on the list to create an inventory of facilities that have potential to contribute pollutants in storm water runoff. City personnel evaluated the exterior of ten (10) commercial facilities using the Site Evaluation Form developed for the 2014 SWMP.

The NPDES permits issued to the three (3) commercial facilities require discharge monitoring and reporting. As part of the Monitoring and Screening program, the City reviewed the discharge monitoring reports provided to ADEM by each facility during the 2013-2014 reporting period.

The 2014 SWMP required that the City identify a monitoring location in either the Bradford Creek or Mill Creek watershed. Prior to adoption of the revised SWMP in April of 2014, the City conducted wet weather monitoring at an outfall designated under the previous SWMP as outfall 005. Outfall 005 is located in Mill Creek Park.

To develop a budget for the purchase of monitoring equipment, the City evaluated the system purchased by the City of Montgomery. Based on this evaluation, a budget of \$40,000 was established for the purchase of a remote monitoring station.

### 5.11.3 General Discussion

During the October 1, 2013 to September 30, 2014 reporting period, the City accomplished all ten (10) of the objectives identified in the 2014 SWMP.

As previously discussed, the City of Madison is working with ADEM to develop an individual Phase II permit to replace the existing Phase I permit. Part III of the draft Phase II permit requires monitoring if a waterbody within the MS4 jurisdiction is 303(d) listed, designated as impaired, or has a TMDL established. While a portion of the regulated MS4 area under the Phase II permit discharges to two watersheds for impaired waterbodies, the MS4 does not and will not discharge directly to the impaired stream segments and no impaired waterbodies are located within the MS4 area. It appears that monitoring will not be required under the proposed Phase II permit or will be limited to the Upper Indian Creek and Middle Limestone Creek watersheds.

The monitoring equipment proposed in the 2014 SWMP is expected to cost the City approximately \$40,000. Given the high expense of the equipment and the changes in the monitoring requirements under the proposed Phase II permit, the City of Madison chose to delay implementation of the wet weather monitoring program outlined in the 2014 SWMP. Implementation was initially scheduled for September of 2015.

Prior to the adoption of the SWMP, the city conducted wet weather screening on March 12, 2014 at Mill Creek from Outfall 005. The following table summarizes the monitoring results for Outfall 005.

**Table 6. Wet Weather Monitoring Results March 12, 2014**

PARAMETER	RESULTS	DETECTION LIMIT
Rainfall Amount	0.4 inch	N/A
pH	7.2 su	N/A
Flow	<0.5 cf/s	N/A
Nitrate	ND	0.50 mg/L
Nitrite	ND	0.50 mg/L
Chemical Oxygen Demand	29 mg/L	10 mg/L
Biochemical Oxygen Demand	ND	2.4 mg/L
Oil and Grease	ND	2.1 mg/L
Total Dissolved Solids	140 mg/L	10 mg/L
Total Suspended Solids	31 mg/L	5.0 mg/L
Total Kjeldahl Nitrogen	ND	0.55 mg/L
Ammonia	0.55 mg/L	0.55 mg/L
Phosphorus	0.41 mg/L	0.10 mg/L



**Table 6. Wet Weather Monitoring Results March 12, 2014**

PARAMETER	RESULTS	DETECTION LIMIT
Dissolved Phosphorus	0.14 mg/L	0.10 mg/L

As part of the monitoring program, the City reviewed the discharge monitoring reports produced by the three (3) NPDES-permitted industrial facilities for the 2013-2014 reporting period. None of the facilities reported an exceedance of their permit limits; however, the Wilson Lumber facility located at 300 Lanier Road reported a Total Suspended Solids measurement of 250 mg/L from outfall DSN001-2 for the July 2014 to December 2014 reporting period. Outfall DSN001-2 discharges to an unnamed tributary of Bradford Creek. The City intends to conduct an inspection of the facility by September 30, 2015 to determine if additional BMPs are needed to address particulates in runoff from the facility.

**5.11.4 Status**

The monitoring program is still in development, but is in compliance with the objectives of the 2014 SWMP.

The City conducted dry weather screening during the 2013-2014 reporting period, and has contracted a consultant to perform outfall reconnaissance and dry weather screening for the 2014-2015 reporting period. NPDES-permitted facilities located within the City were identified and the City is using data from the Discharge Monitoring Reports to determine which facilities will be prioritized for inspection.

The wet weather monitoring program will be redeveloped following issuance of the Phase II permit.

**5.11.5 Strengths and Weaknesses**

The main strength of the current Monitoring and Screening program is that the three (3) NPDES-permitted facilities are submitting the required Discharge Monitoring Reports and the data is readily available for review. The City will utilize the monitoring results reported by each facility to target the inspection program in an effective and organized manner.

The main weakness of the program is the lack of personnel to perform outfall reconnaissance activities to identify outfalls from the MS4. To address this weakness, the City has contracted a consultant to perform an Outfall Reconnaissance Inventory and dry weather screening for the 2015 IDDE screening area during the 2014-2015 reporting period.

**5.11.6 Assessment of Controls**

The controls identified in the 2014 SWMP that pertain to dry weather screening and monitoring of NPDES-permitted sites are effective in addressing the Monitoring and Screening program

objectives. Facilities holding industrial permits within the City are now evaluated to target inspection efforts. Outfalls from the MS4 are being screened to identify possible illicit discharges.

The wet weather monitoring controls identified in the 2014 SWMP were written for the existing Phase I permit, and will not be applicable once the Phase II permit is issued.

#### *5.11.7 Proposed Revisions*

No revisions to the current list of Monitoring and Screening strategies are proposed at this time. Significant revisions are expected during the implementation of the Phase II permit, and will be incorporated into a revised SWMP.

**6. SUMMARY OF PROPOSED PROGRAM MODIFICATIONS**

The proposed Phase II permit differs from the existing Phase I permit in that separate program elements will no longer be required for some of the existing programs. The roadway maintenance; pesticide, herbicides, and fertilizers; spill prevention and response; and industrial and high-risk runoff programs are expected to be included under other elements such as the Illicit Discharge Detection and Elimination program or the Municipal Operations program.

While many of the strategies listed in the 2014 SWMP will continue to be implemented under the Phase II permit, some of the strategies may not be necessary to meet the objectives of the new permit. Following issuance of the Phase II permit, the City will address the various program changes in a revised SWMP.

**7. FISCAL ANALYSIS**

For the 2014 fiscal year (FY2014), the City of Madison budgeted approximately \$5,000 for the implementation of the storm water program. The budgets amount was approximately the same as the amount budgeted during previous years. Following the issuance of the Consent Order in March of 2014, approximately \$60,000 was spent prior to September 30, 2014 to develop and implement the revised SWMP.

The City is currently transitioning to the Phase II requirements, which maintaining compliance with the provisions of the 2001 Phase I permit to the maximum extent practicable. For the 2015 fiscal year, the City has developed a budget that addresses implementation of the revised SWMP.

**FY2014 Budget**

Engineering Departmental Budget – General Fund.....**\$5,000**

**FY2015 Budget Info**

Engineering Departmental Budget – General Fund  
 MS4 Storm Water Budget.....**\$117,500**

Consultant Fees	\$45,000
Street Sweeping	\$25,000
Flood Improvement Projects	\$27,500
Modification of detention ponds	\$20,000

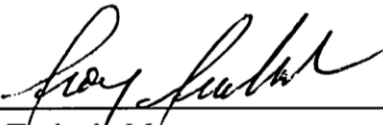
½ cent Sales Tax – Infrastructure Repair Fund

Capital Outlay – Improvement Other Than Building  
 Continuous Water Quality Monitoring Station.....**\$40,000**

If the water quality monitoring station will not be required under the Phase II permit, the funds allocated for its purchase will be removed during the mid-year budget review. Since this item is a Capital Outlay item, it cannot be considered for reallocation to the General Fund for the MS4 Storm Water Budget.

**8. AGENCY CERTIFICATION**

I certify under penalty of law that this Annual Report and all attachments pertaining to the City of Madison Municipal Separate Storm Sewer System were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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 submitted 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 or imprisonment for knowing violations.

  
\_\_\_\_\_  
Troy Trulock, Mayor  
City of Madison, Alabama

  
\_\_\_\_\_  
Date

**CITY OF MADISON**  
**2013-2014 ANNUAL REPORT**  
NPDES Permit No. ALS000005

**APPENDIX A – FIGURES**

Figure 1 – ALS000005 Permit Area

Figure 2 – City of Madison Corporate Boundary

Figure 3 – Subwatersheds within the Madison MS4

Figure 4 – Impaired Waterbodies

Figure 5 – TMDL Watersheds

Figure 6 – Proposed Phase II Permit Area

**CITY OF MADISON**  
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**APPENDIX B – PERMIT DOCUMENTATION**

**CITY OF MADISON**  
**2013-2014 ANNUAL REPORT**  
NPDES Permit No. ALS000005

**APPENDIX C – SUMMARY TABLES**

- 5.1- Structural Controls
- 5.2 - New Development / Redevelopment
- 5.3 - Roadways
- 5.4 - Flood Control Projects
- 5.5 - Pesticides, Herbicides, and Fertilizers
- 5.6 - Illicit Discharge and Improper Disposal
- 5.7 - Spill Prevention and Response
- 5.8 - Industrial and High-Risk Runoff
- 5.9 - Construction Site Runoff
- 5.10 - Public Education
- 5.11 - Monitoring and Screening

**CITY OF MADISON**  
**2013-2014 ANNUAL REPORT**  
NPDES Permit No. ALS000005

**APPENDIX D – SUPPORTING DOCUMENTATION**