
City of Prattville

101 West Main Street
Prattville, Alabama 36067



Storm Water Management Program (SWMP) Plan

NPDES Permit No. ALS000010

January 2017

Prepared By:

HYDRO
ENGINEERING
SOLUTIONS 

A DIVISION OF HYDRO, LLC

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SECTION 1

Program Administration



1. Program Administration

1.1. Introduction

In 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations establishing Phase I of the National Pollutant Discharge Elimination Systems (NPDES) storm water program. The Phase I program for municipal separate storm sewer systems (MS4s) requires operators of “medium” and “large” MS4s that generally serve populations of 100,000 or greater to implement a storm water management program as a means to control polluted discharges from certain municipal, industrial and construction activities into the MS4.

In 1999, EPA promulgated regulations establishing Phase II of the NPDES storm water program. The Phase II program extends coverage of the NPDES storm water program to regulated “small” MS4s. A regulated “small” MS4 is defined as a MS4 located within an “urbanized area” as defined by the Census Bureau or as designated by the NPDES permitting authority.

The Alabama Department of Environmental Management (ADEM) presently has primary jurisdiction over permitting and enforcement of the Storm Water Program for Alabama. On 17 June 2016, ADEM issued MS4 Phase II Individual Permit (NPDES Number ALS000010) for storm water discharges associated with the City of Prattville’s (City) MS4. The City’s NPDES Permit became effective on 1 July 2016 and will expire on 30 June 2021.

The Storm Water Management Program (SWMP) Plan has been developed to generally describe the City’s efforts to maintain compliance with the requirements of NPDES Permit ALS000010. This document is intended to be a dynamic document and shall be revised as needed to accurately reflect the City’s activities in implementing its SWMP.

1.2. Legal Authority

1.2.1. Zoning Ordinance

The City adopted a Zoning Ordinance (Ordinance No. 1-63) on 21 May 1963. The Zoning Ordinance has been amended several times since initial adoption with the



latest revision occurring on 6 November 2007. Components of the Zoning Ordinance include the following:

- Classification and Establishment of Districts;
- Enforcement;
- Board of Zoning Adjustment;
- Amendment (of the Zoning Ordinance);
- Legal Status Provisions;
- General Provisions;
- District Requirements (including specific information related to Residential, Industrial, Flood Hazard, and Waterfront Recreation Districts);
- Mobile Home Subdivisions, Townhouses, Patio Garden Homes, Planned Unit Development, and Sign articles;
- Site and Off-Street Parking Landscaping Requirements; and
- Temporary Uses.

The latest version of the Zoning Ordinance is incorporated into the SWMP Plan by reference and is available online at:

https://www.municode.com/library/al/prattville/codes/code_of_ordinances.

1.2.2. Flood Damage Prevention Ordinance

On 2 June 2009, the City adopted revisions to the Flood Damage Prevention Ordinance (Ordinance No. 2005-019). The purpose of this ordinance is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas of provisions designed to:

- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion;
- Control filling, grading, dredging and other development which may increase flood damage or erosion;
- Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands; and,
- Control the alteration of natural flood plains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters.



The latest version of the Flood Damage Prevention Ordinance is incorporated into the SWMP Plan by reference and is available online at:

https://www.municode.com/library/al/prattville/codes/code_of_ordinances.

1.2.3. Other Ordinances

The City has adopted several other ordinances that help to minimize the potential of pollutants from being discharged in storm water runoff. A list of the ordinances with an outline of applicable sections are provided below.

Nuisances

- In General – exposed wells and pits, weeds, rubbish, keeping garbage and rubbish, stagnant water;
- Nuisance abatement;
- Litter – prohibition of sweeping or depositing into gutters, sewers, streams, drains, sidewalks, parks, etc.; and,
- Abandoned vehicles.

Streets, Sidewalks, and Other Public Places

- In General – adoption of Public Works Manual;
- Construction in streets – permit and plat required; and,
- Special events.

Utilities

- In General – creation of Water Works Board;
- Water system;
- Solid Waste; and,
- Sewers and Sewage disposal
 - General – Purpose, coordination with ADEM, and inspection;
 - Public Sewers – discharge restrictions and required connections;
 - Private Wastewater Disposal;
 - Building sewers, connections, and permits – specifications and permits;
 - Prohibited Discharges – constituent limits and fats, oils, and grease control;
 - Pretreatment, Accidental Discharges, and Flow Measurement;
 - Monitoring Facilities;
 - Inspection and Reports;



- Enforcement and Penalties; and,
- Charges and Fees.

The latest versions of these ordinances are incorporated into the SWMP Plan by reference and is available online at:

https://www.municode.com/library/al/prattville/codes/code_of_ordinances.

1.2.4. Comprehensive Plan

The vision of the City's Comprehensive Plan is to provide a guide for future conservation and development in the City that balances economic development with preservation of natural resources. The City utilized a planning process that actively incorporated citizen input to develop the plan with a clear vision for the future of the City of Prattville. Public input included a month-long online survey and design workshop using information gleaned from the survey.

The community objectives outlined by the citizens of Prattville provides recommendations for preserving the City's natural resources. To preserve these natural resources, the Comprehensive Plan provides recommendations that address the following:

- Land use policies;
- Development clustering to preserve natural open space;
- Encourage sustainable development;
- Infill development consistent with existing uses;
- Create an interconnected system of parks and trails;
- Actively seek and set aside land for preservation; and,
- Minimize incursion and impact of development on existing greenspace and conservation areas.

On 21 January 2010, the City adopted the Comprehensive Plan. An electronic copy of the Community Objectives and Implementation portions of the plan is provided in Appendix B.

1.2.5. Subdivision Regulations

The City adopted Subdivision Regulations on 16 February 1989. The Subdivision Regulations have been amended several times since initial adoption with the latest revision occurring on 6 March 2008. The Subdivision Regulations address the following:



- Findings, purpose, authority, and jurisdiction;
- Interpretation, tense, number, and definitions;
- Procedures and requirements for plat acceptance;
- Variances and special subdivisions;
- General requirements and minimum design standards;
- Severability and separability;
- Enforcement; and,
- Effective date.

Requirements for drainage and inundation are provided in Article V, Section J. The requirement states that a drainage plan is required for subdivisions considering the ultimate or saturated condition of the drainage area. Also, the City has the option to accept constructed water bodies and associated maintenance (such as wet retention ponds), provided the water body has sufficient land dedicated to be a public recreational area.

The latest version of the Subdivision Regulations is incorporated into the SWMP Plan by reference and is available online at:

https://www.municode.com/library/al/prattville/codes/code_of_ordinances.

1.2.6. Public Works Manual

The City revised their Public Works Manual January 1994. The Public Works Manual addresses design and construction specification and standards for all development projects. Article VII of the Manual relates to Storm Drainage System requirements for projects and has the following requirements.

- Systems for project drainage basins less than 40,000 square feet: 10-year storm confined conveyance, with provisions for routing the 25-year storm.
- Systems for project drainage basins between 40,000 square feet and 25 acres: 25-year storm confined conveyance, with provisions for routing the 100-year storm.
- Systems for project drainage basins greater than 25 acres: 100-year storm confined conveyance.

Special consideration may be given to innovative drainage designs that would not adversely affect the quality of development in an area. The latest version of the Public Works Manual is provided electronically in Appendix B.



1.2.7. Erosion and Sediment Control Ordinance

Since the City is a newly permitted MS4, the NPDES MS4 Permit requires the City to develop and adopt an Erosion and Sediment Control Ordinance within 730 days of the effective date of the NPDES MS4 Permit. Once an ordinance is adopted, the SWMP Plan shall be updated.

1.2.8. Illicit Discharge Detection and Elimination Ordinance

Since the City is a newly permitted MS4, the NPDES MS4 Permit requires the City to develop and adopt an Illicit Discharge Detection and Elimination Ordinance within 730 days of the effective date of the NPDES MS4 Permit. Once an ordinance is adopted, the SWMP Plan shall be updated.

1.3. SWMP Revision

Revisions to the SWMP Plan shall be documented in Table 1-1.

Table 1-1 Program Revision Record

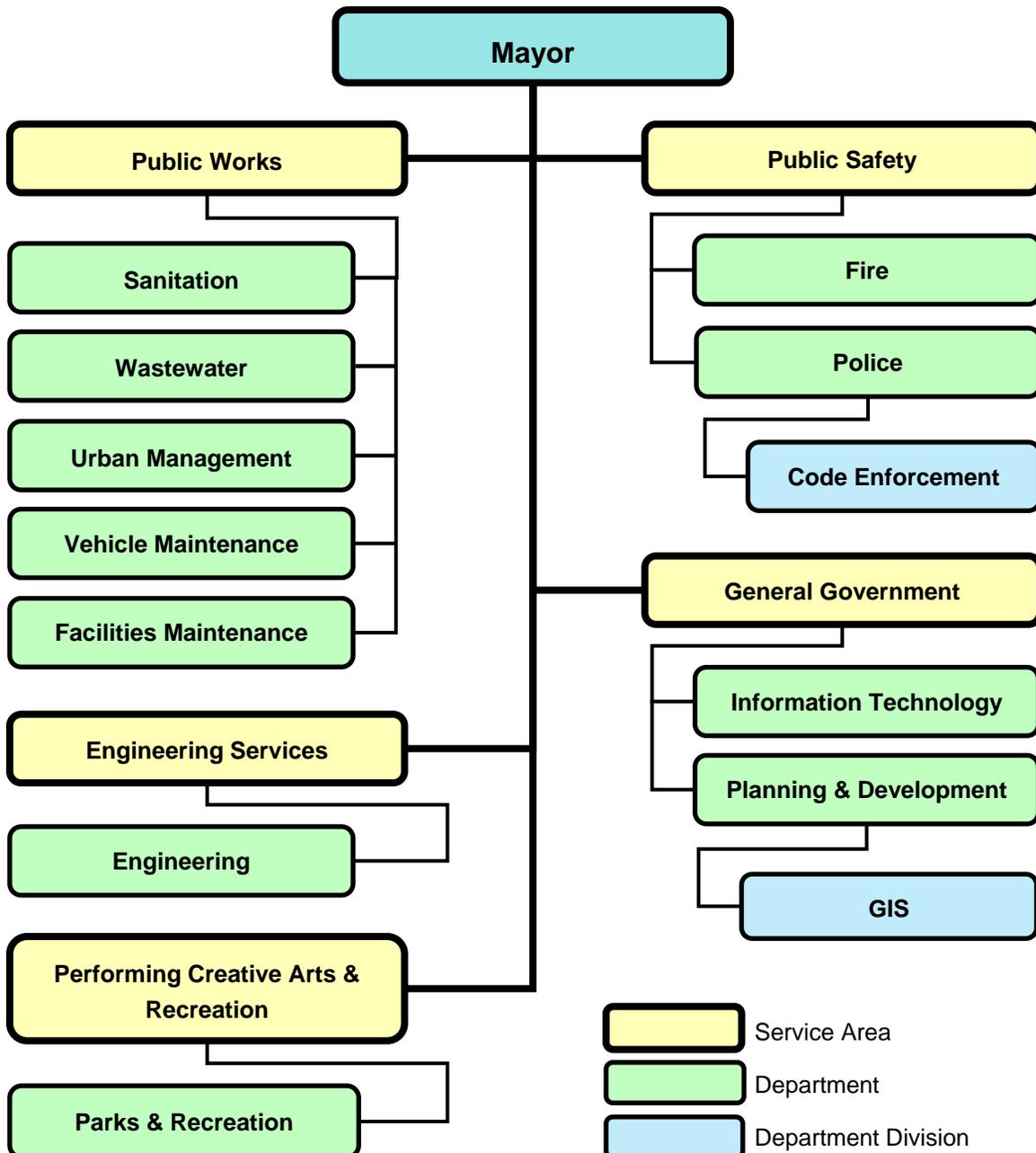
Date:	Revised By:	Description of Revision:
January 2017	Hydro Engineering Solutions	Initial Storm Water Management Program (SWMP) Plan



1.4. Program Administration

The City's organizational structure for administering its SWMP Plan is provided in Figure 1-1.

Figure 1-1 Organizational Chart





1.5. Signatory Requirements

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

Bill Gillespie, Jr.
Name

Mayor
Title

Signature

Date

Address: 101 West Main Street
Prattville, Alabama 36067

Phone: (334) 595-0101



SECTION 2

MS4 Area



2. MS4 Area

2.1. MS4 Area

The City of Prattville is located in the central part of the state along the Alabama River in Autauga and Elmore Counties. The City occupies approximately 34.25 square miles and is bordered on the east by the City of Millbrook. Approximately 17.79 square miles (51.9%) of the City is located within Montgomery, Alabama Urbanized Area as defined by 2010 Census. Areas of the City located within the Urbanized Area is the City's regulated MS4 area.

The Alabama Department of Transportation (ALDOT) MS4 extends through the City's MS4 Area. As a result, ALDOT is responsible for activities within their MS4.

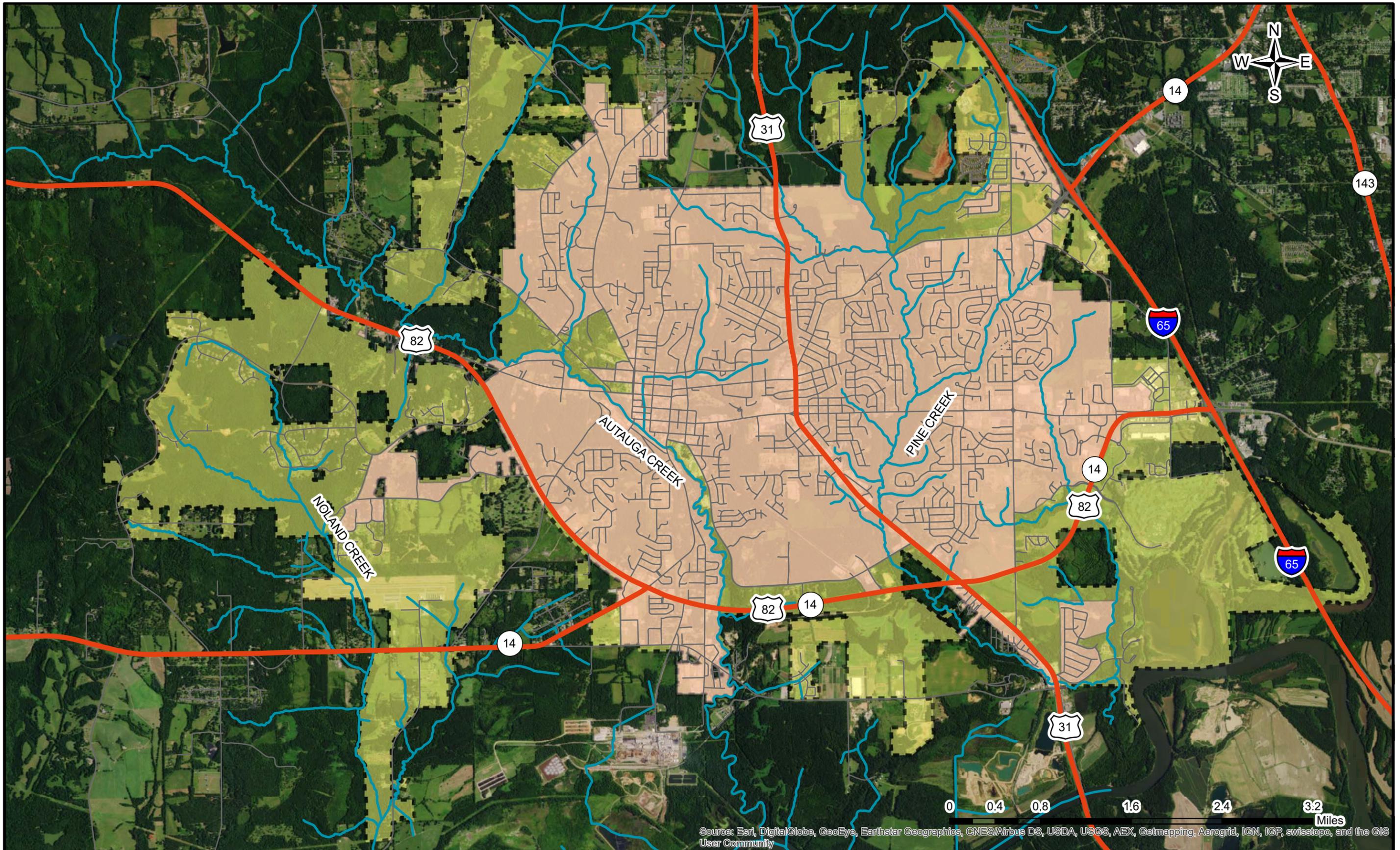
The City's corporate limits, MS4 Area, Autauga and Elmore City boundaries, major roads, major streams, and surrounding communities are presented in Figure 2-1.

2.1.1. Climate

The City has a humid subtropical climate, with short mild winters, warm springs and autumns, and long hot humid summers. Winter temperatures average 47.9°F in January with lows rarely dipping below 20°F. Summer temperatures average 80.4°F in July with highs exceeding 90°F for more than 72 days per year. The City receives approximately 53.6 inches of rainfall annually. Rainfall tends to be evenly distributed throughout the year with dryer periods occurring during late summer and early fall. Light snowfall occurs in some winters. Average monthly rainfall and temperature are summarized in Figure 2-2. Significant snow fall events are rare in the City.

2.1.2. Population

Since the City was incorporated in 1839, the City experienced a small increase in population until 1960. From 1960 to 2010, the City has experienced a significant population growth. Figure 2-3 provides a graph showing the historical population of the City since 1900.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



	Prattville City Limits		Streets		ALDOT Roads
	Prattville MS4 Area		Streams		

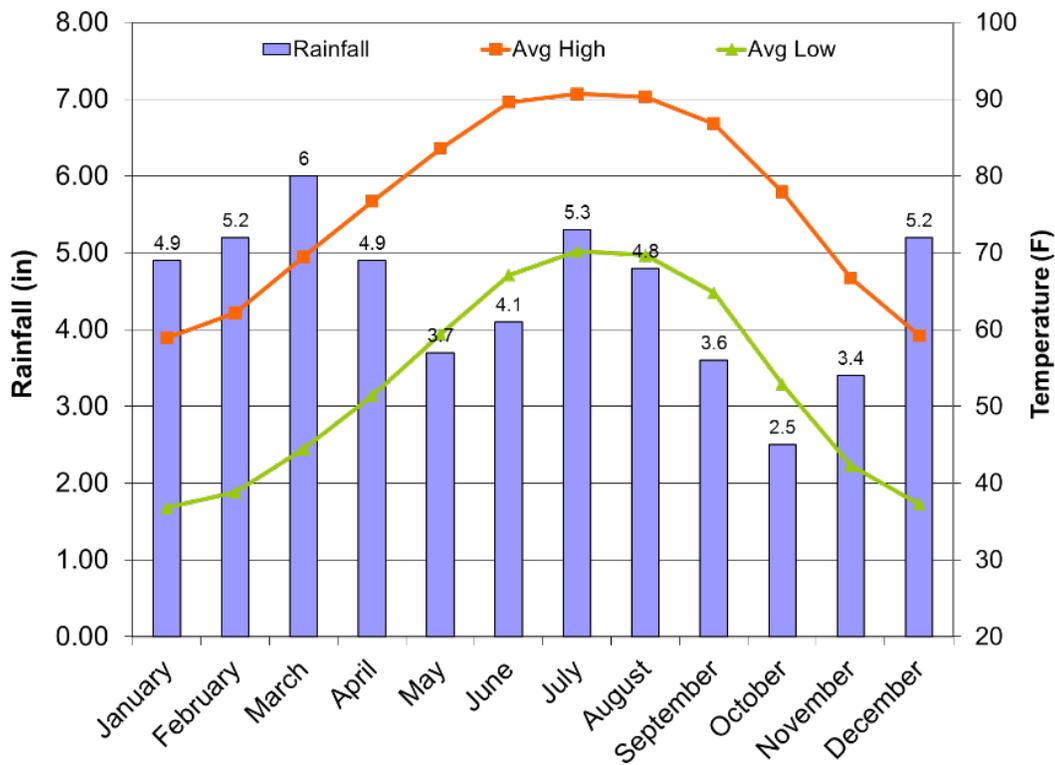


CITY OF PRATTVILLE
City of Prattville MS4

Figure 2-2
January 2017

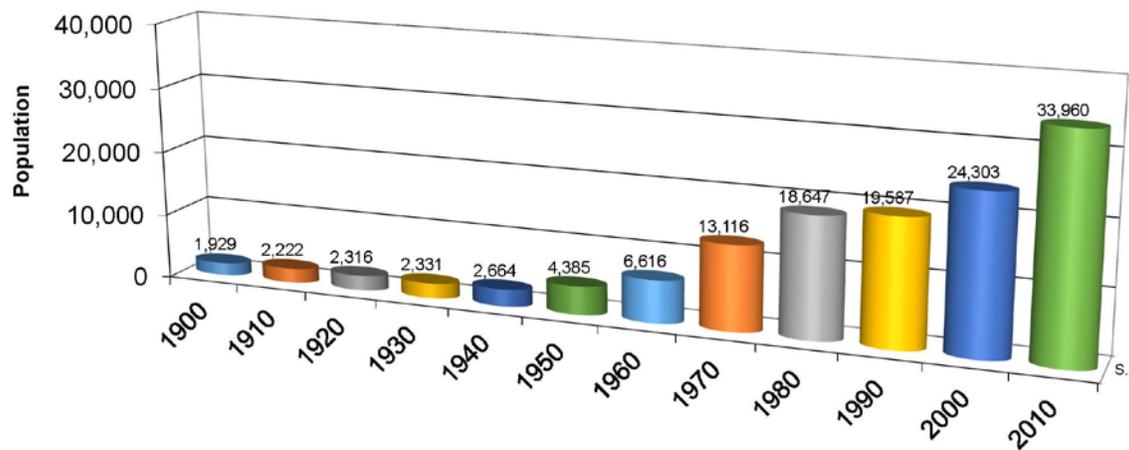


Figure 2-2 Average Rainfall and Temperatures



The 2010 Census estimated the total population of the City of Prattville to be 33,960. As compared to the population in 2000 of 24,303, the City has experienced a population increase of 9,657 (approximately 39.7%) over the past 10 years.

Figure 2-3 Historical Population





2.1.3. Land Use

The City utilizes various zoning categories for the development of land within the City. These zoning categories have been generalized into residential, redevelopment, business, manufacturing, office, planned unit development and agricultural districts. A summary of the zoning districts is summarized in Table 2-1 and shown in Figure 2-4.

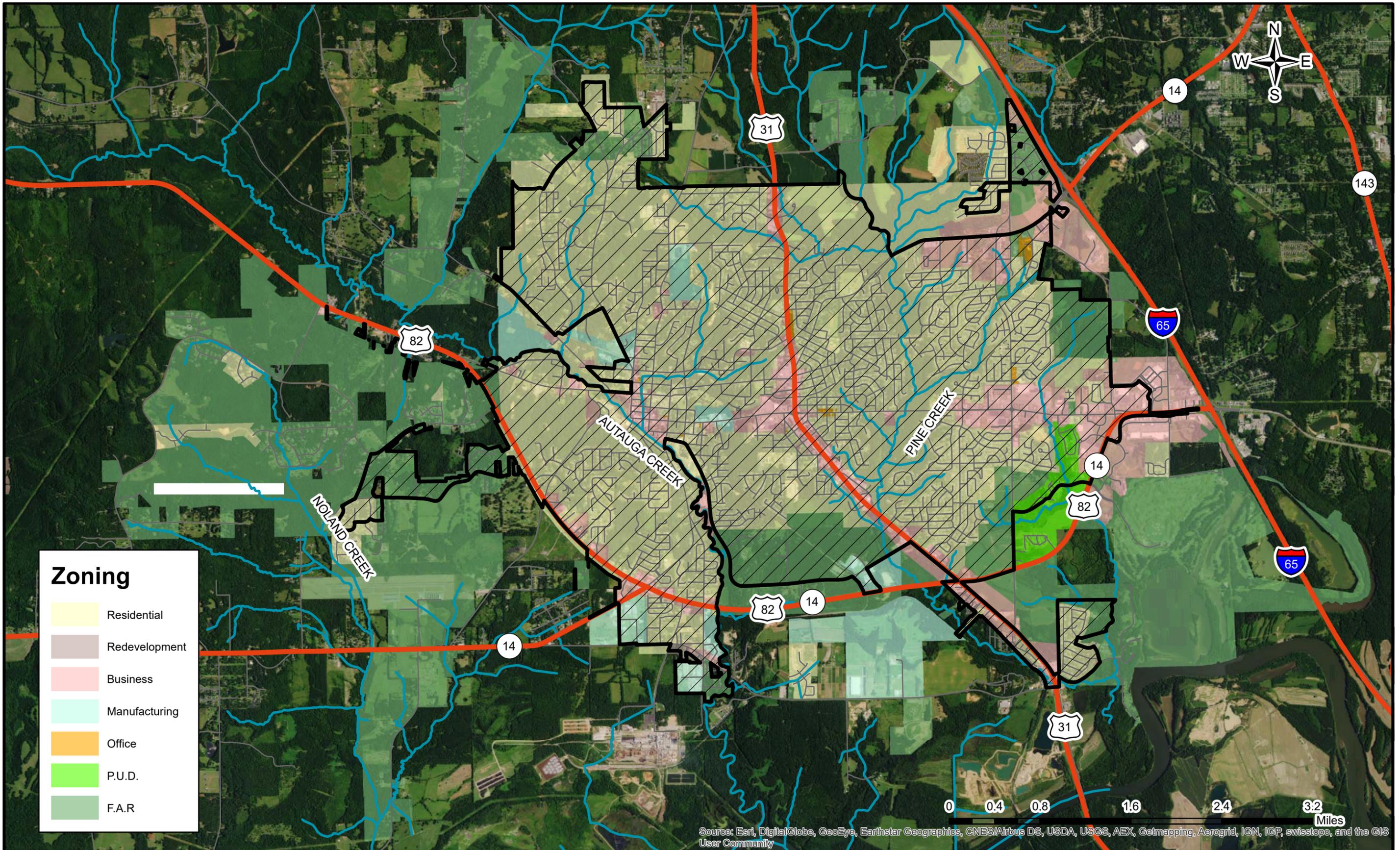
Table 2-1 Zoning Districts

District	City		MS4 Area	
	Area (mi ²)	Area (%)	Area (mi ²)	Area (%)
Residential	14.625	42.3	12.615	70.9
Redevelopment	0.028	0.1	0.022	0.1
Business	3.492	10.1	2.199	12.4
Manufacturing	1.566	4.5	0.465	2.6
Office	0.058	0.2	0.058	0.3
Planned Unit Development	0.448	1.3	0.170	1.0
Agriculture	14.351	41.5	2.251	12.7
Total	34.568	100.0	17.781	100.0

Overlapping the land use with watershed boundaries help the City to identify and implement Best Management Practices (BMPs) targeted to improve water quality.

2.2. Known Problems

According to ADEM's 2016 303(d) list, there are no streams within the City that have been designated as impaired. Additionally, there are no streams with EPA approved Total Maximum Daily Loads (TMDLs) located within the City.



Zoning

- Residential
- Redevelopment
- Business
- Manufacturing
- Office
- P.U.D.
- F.A.R.

- Prattville MS4 Area
- Streets
- ALDOT Roads
- Streams



CITY OF PRATTVILLE
Land Use Summary

Figure 2-4
January 2017

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



SECTION 3

Regulatory Requirements



3. Regulatory Requirements

3.1. U.S. Environmental Protection Agency

3.1.1. Phase II MS4 Requirements

U.S. EPA defines the requirements for a SWMP Plan designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act in Title 40, Part 122, Sections 30 through 37 of the Code of Federal Regulations (40 CFR Parts 122.30 through 122.37). These regulations are incorporated into the SWMP Plan by reference.

3.1.2. Effluent Limitation Guidelines

40 CFR 450 Construction and Development Point Source Categories establishes effluent limitation requirements for construction sites and is incorporated into the SWMP Plan by reference. An outline of 40 CFR 450 is provided below.

Part 450 – Construction and Development Point Source Category

Subpart A – General Provisions

450.10 Applicability

450.11 General Definitions

3.2. Alabama Department of Environmental Management

The City's MS4 Program is currently operating under the requirements of the National Pollutant Discharge Elimination Systems (NPDES) Permit No. ALS000010 that became effective on 1 July 2016. Part II of the NPDES permit defines the requirements of the SWMP Plan and the requirements of the five (5) minimum control measures.

A copy of NPDES Permit ALS000010 is provided in Appendix A.



SECTION 4

Public Education and
Public Involvement



4. Public Education and Public Involvement

4.1. Introduction

The NPDES permit requires the City to develop, implement and evaluate a public education and public involvement program. Goals of the program are to:

- Educate the community about the impacts of storm water discharges into streams, rivers, lakes, and ponds;
- Identify steps that the community can take to help reduce pollutants in storm water runoff;
- Provide opportunities for public input and feedback;
- Engage the public to actively participate; and,
- Facilitate opportunities to provide public education.

As the public gains a greater understanding of the benefits of a storm water program, the City is likely to gain more support for the SWMP and increased compliance with the NPDES permit requirements. Public education and involvement provides a mechanism to help the public understand how their actions can potentially impact storm water quality. Public participation can also help reduce the amount of pollution generated and identify potential pollution causing activities and/or sources.

4.2. Target Audiences

Development within the City's MS4 areas primarily consists of residential, commercial and manufacturing uses. Audiences typically associated with this type of development and land use may include:

- Home owners;
- Renters;
- Schools;
- Business owners and employees;
- Professionals;
- Developers;



- Contractors; and/or,
- Elected officials.

Educational materials shall be specifically tailored to communicate a specific topic to a targeted audience.

4.3. Target Pollutant Sources

There are several sources of pollution that need to be targeted in a public education program. Target pollutant sources may include:

- Illegal dumping;
- Improper disposal;
- Failing septic systems;
- Impacts of development;
- Construction site erosion;
- Litter, floatables, and debris; or,
- Improper application of fertilizers, herbicides and pesticides.

Educational materials shall be developed to describe BMPs that are effective in reducing the impacts of development on storm water runoff. Topics may include but are not limited to the following:

- General impacts of storm water runoff;
- Rain water reuse;
- Low impact development practices; or,
- Impacts of development.

Educational materials shall be specifically tailored for the targeted pollutant source of concern and/or pollution prevention practices.

4.4. Public Education

The City may utilize a variety of techniques to implement its public education and outreach program. Mechanisms and activities that have proven to be effective in educating the public include:

- Local Partnerships;
- Website;
- Brochures;
- Workshops; or,
- Training.



The City shall perform public participation activities for a minimum of one of the above listed categories. A description of how the City is using these activities is described in more detail in the following sections.

4.4.1. Local Partnerships

To capitalize on education materials and programs that have been developed, the City has formed partnerships with several state and local organizations including:

- Alabama Clean Water Partnership;
- Autauga Creek Improvement Committee; and,
- Alabama Cooperative Extension System;

The City may provide financial support or resources to help the organization. Using the Alabama Clean Water Partnership as an example, the City not only provides financial support but also serves as one of the Board of Directors for the organization. As the City's MS4 program continues to evolve, the City may seek partnerships with other agencies and organizations to facilitate the public education program.

4.4.2. Website

The internet provides a very accessible mechanism for making information and data available to City residents. The City's website (www.prattvilleal.gov) may be expanded to incorporate storm water related topics as well as provide information regarding the City's storm water related activities.

4.4.3. Social Media

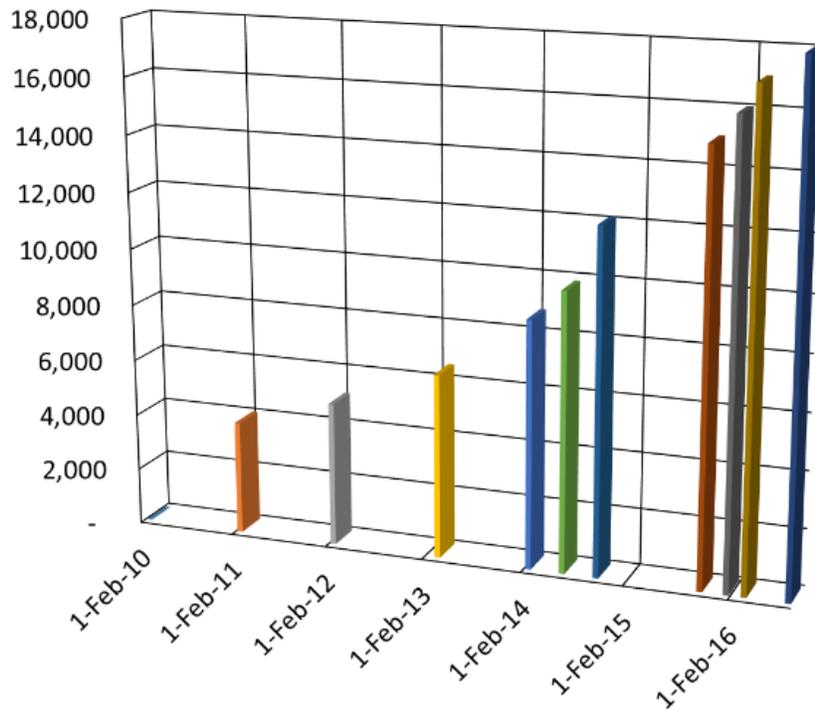
The City has embraced the growing popularity of social media like Facebook, Twitter, YouTube, Instagram and Pinterest to help inform citizens about activities occurring within the City. Social media accounts setup by the City for the primary purpose of communicating with the public include the following:

Facebook	www.facebook.com/PrattvilleALgov
Twitter	www.twitter.com/PrattvilleALgov
YouTube	www.youtube.com/PrattvilleALgov
Instagram	www.instagram.com/PrattvilleALgov

To show the effectiveness of social media in communicating with the public, Figure 4-1 provides a chart depicting the steady growth in the number of people following the City's Facebook page.



Figure 4-1 Facebook Followers



4.4.4. Public Service Announcements

Several public service announcements (PSA) were developed to help educate citizens on reoccurring problems with pollution that impacts the City’s MS4. A summary of the PSAs available include the following:

- Public Works created a PSA titled “Why Litter” targeted to the general public to help reduce litter in the City.
- Sanitation created a PSA titled “Garbage Can Tips” targeted to the general public for the proper use and placement of the City’s new garbage cans.

PSAs are available on the City’s website.

4.4.5. Brochures

The City may develop brochures to provide general information about storm water related issues. Some brochures can be developed to address either a specific storm water related issue or to a particular audience. Brochures can be made available to the public by the City’s website, displays or during City sponsored events.



Due to the large amount of brochures currently available from regulators, other MS4s and partnerships, the City may evaluate the availability of existing brochures that may be applicable to the City's MS4 program.

4.4.6. Workshops

Workshops are useful in educating a specific target audience about a specific topic or issue. Capitalizing on existing training programs, the City will work with its partners to sponsor workshops in a variety of topics. Workshops may include but are not limited to the following:

- Nonpoint Education for Municipal Officials (NEMO);
- Erosion and Sediment Control;
- Low Impact Development; or,
- Post Construction Storm Water Management.

As the City's MS4 program continues to evolve, the types and frequency of workshops may be modified to address the changing needs of the City.

4.4.7. Training

City departments that provide assistance in implementing the City's SWMP include the Mayor's Office, Public Works, Engineering, Planning, Code Enforcement, Police and Fire and Rescue. The City will evaluate potential training programs, activities and/or materials that can be used to educate the City's staff in storm water related issues.

4.5. Public Involvement

The City may utilize a variety of mechanisms to implement its public involvement program. Mechanisms and activities that have proven to be effective in educating the public include:

- Public Input;
- Autauga Creek Improvement Committee;
- Autauga County Water Festival; or,
- Public Involvement Opportunities.

The City shall perform public involvement activities for a minimum of one of the above listed categories or subcategories as described in this section. A description of how the City is using these activities is provided in more detail in the following sections.



4.5.1. Public Input

The City's storm water website shall be used as the primary mechanism of providing information to the public and receiving input from the public regarding the City's SWMP. The City shall make available the SWMP Plan and annual reports to the public by posting them on their website. If someone would like to provide comments, that individual will be directed to the appropriate City personnel.

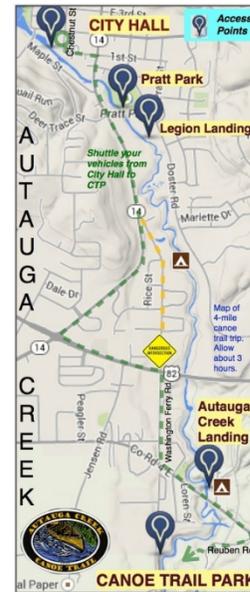
4.5.2. Autauga Creek Improvement Committee (ACIC)

In July 2011, the Mayor formed the Autauga Creek Improvement Committee (ACIC) to help protect one of the City's most iconic natural resources, Autauga Creek. A core group of citizens jumped on board and quickly began the process of removing debris and trash from Autauga Creek. As the ACIC continued to evolve, it obtained status as a nonprofit 501(c)(3) organization and developed the following mission statement:

"To provide a natural, scenic, and educational recreation experience through ecological conservation and preservation of quality public access to Autauga Creek Canoe Trail"

In the past couple of years, ACIC has not only secured a spot for Autauga Creek on the Alabama Scenic River Trail, but also acquired the designation as a National Recreational Trail. Signs have been posted along the 14 mile blueway trail to help provide visitors with information about the trail. The sign installed at Doster Well Park and a map of the four (4) mile section of the blueway trail are provided in Figure 4-2. ACIC provides educational opportunities and materials as well as supports cleanup activities along the blueway trail. Information about ACIC is provided at www.ataugacreek.org. Selected brochures developed and distributed by ACIC are provided in Appendix C.

Figure 4-2 Autauga Creek Blueway Trail



4.5.3. Autauga County Water Festival

The mission of the Autauga County Water Festival is to educate students about all aspects of surface water and groundwater and other related natural resources (such as wetlands, forestry, wildlife, and much more) and to instill in them a general environmental awareness and stewardship ethic. Students and their teachers go home with an increased knowledge and awareness of the importance of our precious water resources and on becoming good environmental stewards of these resources. All 4th Grade students in Autauga County including, public, private and home schooled students are invited to participate. Over recent years, the festival has had an annual participation level of over 800 participants. The City has been a long time sponsor of the festival, which is typically held in April of each year.

This is an excellent opportunity to help shape the environmental behaviors of the City's 4th grade students. It is well documented that educating school age children help in improving the environmental behaviors of their parents.

4.5.4. Public Involvement Opportunities

There are a variety of BMPs available that actively incorporates public involvement into the City's MS4 Program. BMPs being considered by the City may include but are not limited to the following:



- Hotline;
- Adopt-a-stream;
- Adopt-a-highway;
- Stream clean-up events;
- Stream bank planting / staking;
- Stream signage;
- Storm drain marking;
- Volunteer monitoring;
- Household hazardous waste day; or,
- Recycling.

The City shall evaluate and determine the most appropriate BMPs to implement within its MS4 boundary. The type and frequency of BMPs implemented may be dependent upon funding, public interest, volunteer availability, and effectiveness.

The City has developed and implemented a Report a Problem feature on their website. This feature allows citizens to report problems at specific locations. The City then distributes the request to the appropriate department. A copy of the Citizen Request webpage is provided in Appendix C.

4.6. Program Goals and Evaluation

The City has developed realistic, achievable and measurable goals and performance milestones to measure the progress in implementing a public education and outreach program. Program goals are summarized in Table 4-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City shall evaluate the program goals and overall effectiveness in educating the public on storm water related issues. Results of the program evaluation will be summarized in the Annual Report.



**Table 4-1
Public Education and Public Involvement Goals**

Program Component	BMP		Schedule	Responsible Department
	Description	Frequency		
Public Education (Minimum of one / year)	Local Partnerships	Track	30 September 2017	
	Website	Develop	30 September 2017	
	Social Media	Track	30 September 2017	
	Public Service Announcements	Track	30 September 2017	
	Brochures	1 / year	30 September 2017	
	Workshops	Track	30 September 2017	
	Training	Track	30 September 2017	
Public Involvement (Minimum of one / year)	Citizen Reporting Tools	Track	30 September 2017	
	Recycling	Track	30 September 2017	
	Pet Waste Stations	Track	30 September 2017	
	Clean-up Events	Track	30 September 2017	
	Storm Drain Marking	Develop / Track	30 September 2017	
	Public Events	Track	30 September 2017	
Program Evaluation	Evaluate Program Effectiveness	1 / year	30 September 2017	



SECTION 5

Illicit Discharge
Detection and Elimination



5. Illicit Discharge Detection and Elimination

5.1. Introduction

This Illicit Discharge Detection and Elimination (IDDE) program has been developed using the following guidance materials.

- NPDES Permit ALS000010;
- 40 CFR 122.26; and,
- Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, October 2004.

These documents are incorporated into the SWMP Plan by reference.

5.2. Authorized Discharges

In accordance with Part I, Section B.2 of the NPDES permit and 40 CFR 122.26(d)(2)(iv)(B)(1), the following non-storm water sources are allowed. The City has determined that these non-storm water discharges are not substantial contributors of pollutants to the MS4:

1. Water line flushing;
2. Landscape irrigation (not consisting of treated or untreated wastewater unless authorized by ADEM);
3. Diverted stream flows;
4. Uncontaminated ground water infiltration;
5. Uncontaminated pumped ground water;
6. Discharges from potable water sources;
7. Foundation and footing drains;
8. Air conditioning drains;
9. Irrigation water (not consisting of treated or untreated wastewater unless authorized by ADEM);
10. Rising ground water;
11. Natural springs;



12. Water from crawl space pumps;
13. Lawn watering runoff;
14. Individual residential car washing, to include charitable carwashes;
15. Residual street wash water;
16. Discharge or flows from firefighting activities (including fire hydrant flushing);
17. Flows from riparian habitats and wetlands;
18. Dechlorinated swimming pool discharges; and,
19. Discharges authorized by and in compliance with a separate NPDES permit.

5.3. Legal Authority

Since the City is a newly permitted MS4, the NPDES MS4 Permit requires the City to develop and adopt an Illicit Discharge Detection and Elimination Ordinance within 730 days of the effective date of the NPDES MS4 Permit. Once an ordinance is adopted, the SWMP Plan shall be updated.

5.4. Preventing Illicit Discharges

The IDDE program identifies key behaviors of the public, facilities and municipal operations that produce intermittent and/or transitory discharges. These key behaviors are targeted to improve pollution prevention practices and prevent or reduce the risk of discharge. The City may develop a wide variety of education and enforcement tools to promote pollution prevention practices.

5.4.1. Public Education

The City may use the following types of activities when informing the public and City employees about the hazards associated with illegal discharges and improper disposal of waste:

- Distribute brochures to encourage proper use and disposal of household chemicals, maintenance of on-site sewage disposal systems, and recycling;
- Discuss the storm water program in a City Council meeting and/or other meetings open to the public;
- Provide information on the City website about pollutant reduction;



- Support local stream clean-up events conducted by non-profits, organizations or State / Federal agencies and programs;
- Support local volunteer monitoring and public education programs;
- Support local storm drain marking program;
- Support regional household pollutant collection events; and
- Support local and regional recycling of wastes.

Public education activities associated with the IDDE program are described in Section 4 of the SWMP Plan.

5.4.2. Public Reporting

The City has developed and implemented a Report a Problem feature on their website. This feature allows citizens to report problems at specific locations. The City then distributes the request to the appropriate department. A copy of the Citizen Request webpage is provided in Appendix C.

5.4.1. Grease Control Program

In order to minimize the disposal of used grease into the sanitary sewer system, the City has implemented a fats, oils and grease control program. This program requires a food service establishment to install, operate and maintain a grease interceptor or trap. A food service establishment is required to submit an annual report summarizing any maintenance activities performed on the grease interceptor or trap. Periodic inspections of the food service establishment are performed by the City.

5.5. Searching for Illicit Discharges

The City shall develop and implement a comprehensive program to detect and eliminate illicit discharges. There are two categories of pollutants that will be addressed in different ways.

1. The first category is pollutants introduced into the MS4 from individuals in a one-time distinct episode at a discrete point of entry. Examples of these are dumping of yard waste, motor oil, antifreeze, or trash into a creek or storm drain. These types of pollutants, when discovered in the MS4 or local streams, cannot be effectively investigated as to the source (i.e. the individual causing the pollution). Also they are not normally discovered using a City-wide MS4 inspection program of monitoring fixed stations with



scheduled work-day inspections. One of the best means of discovery will be through input from citizens, City crews, Police and Fire departments, businesses, and area agency field crews. Prevention of future isolated pollution episodes will rely upon implementation of the Public Education and Public Involvement programs.

2. The second category is pollutants from sources that have a chronic or frequently repeating discharge that can be traced through stream channels and the MS4 system using visual inspections, chemical field test kits, and/or laboratory monitoring. Pollutants from these sources will be dispersed downstream as a detectable odor, visual color, increased turbidity, excessive algae growth, or changes in water chemistry (e.g. pH or conductivity) when compared to uncontaminated water in the stream or MS4. These chronic pollutants are amenable to “source tracking” inspections, and the sources are more likely to be found and mitigated.

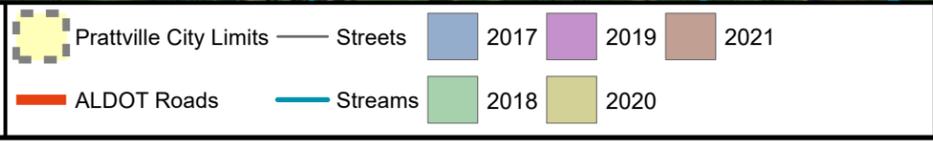
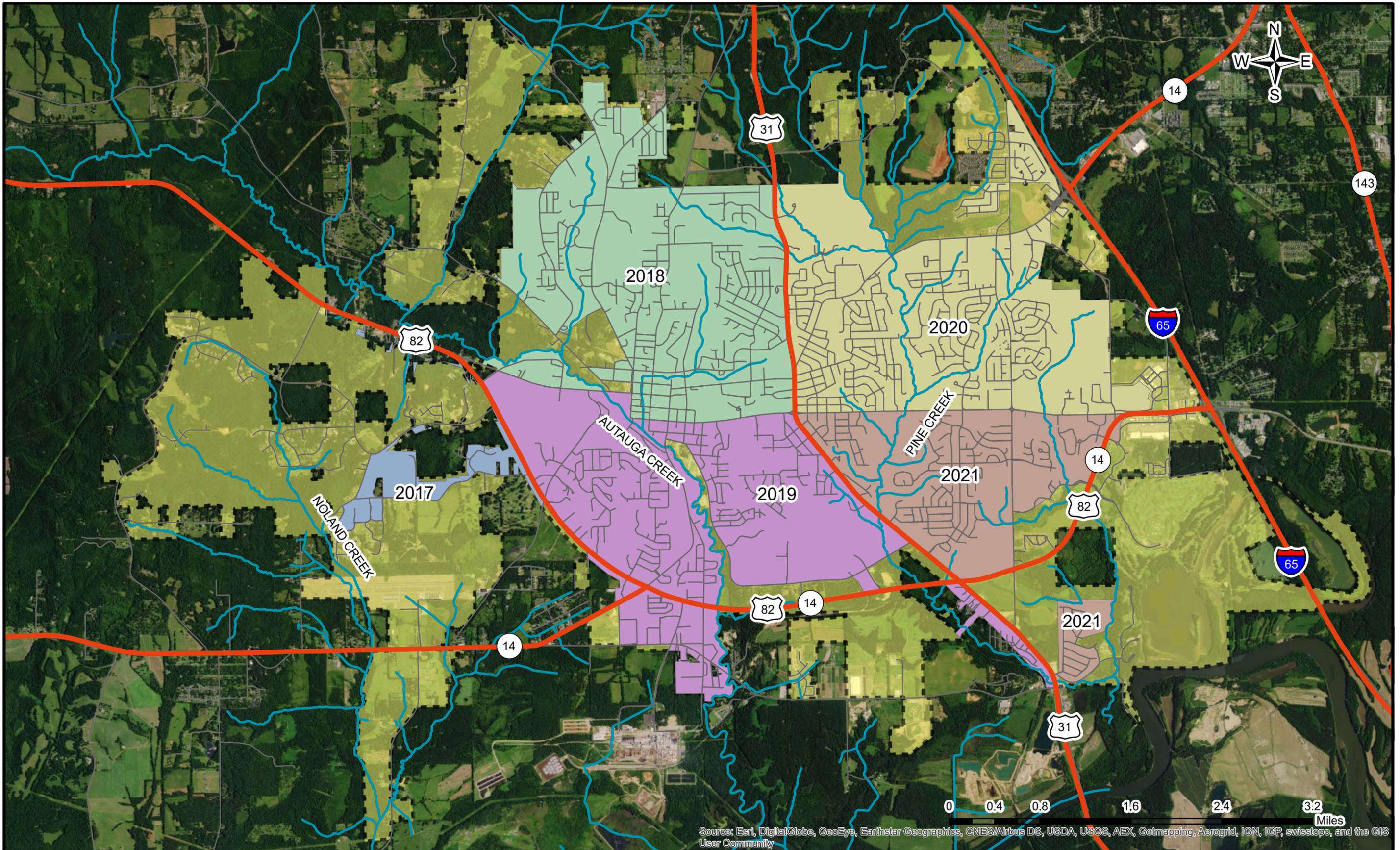
Searching for illicit discharge problems consists of detective work, and involves field screening of sub-watersheds to locate outfalls and identify suspect illicit discharges. The primary field screening tool that will be used is the Outfall Reconnaissance Inventory (ORI). This recommended method is very effective for finding illicit discharge problems and developing an outfall inventory of the MS4. If suspect discharges are encountered during the field screening, the ORI may be supplemented with indicator monitoring methods to test suspect discharges.

5.5.1. Field Activities

Field activities associated with the ORI shall be performed when there has been a prolonged dry period with a minimum of 72 hours from the previous measurable (greater than 0.10 inch rainfall) storm event.

5.5.2. Outfall Inventory Schedule

At a minimum, the City shall screen twenty percent (20%) of the outfalls once per year with all (100 percent) of the outfalls screened at least once per five years. Because the City is a new MS4, the City does not yet have an inventory of outfalls. Therefore, the City has developed an outfall mapping and screening schedule based on geographical areas of the City’s MS4 area. The anticipated mapping and screening schedule is shown in Figure 5-1. Depending on the number of outfalls located within the City’s MS4 area, the City may complete the screening activities in a shorter time period. If all outfalls are screened in a shorter time period, the City may not perform any subsequent screening activities until the next permit cycle.



CITY OF PRATTVILLE
Outfall Mapping and Screening Schedule

Figure 5-1
January 2017



5.6. Outfall Reconnaissance Inventory (ORI)

The ORI is designed to locate and record basic characteristics of each outfall. During the inventory process, each outfall shall be screened for the presence of illicit discharge(s). The City's ORI methodology and procedures have been developed in accordance with Chapter 11 of the Illicit Discharge Detection and Elimination Guidance Manual.

5.6.1. Field Sheets

The City may utilize the Outfall Reconnaissance Inventory / Sample Collection Field Sheet provided with the Illicit Discharge Detection and Elimination guidance manual to collect and document each outfall located and screened. A copy of the Outfall Reconnaissance Inventory / Sample Collection Field Sheet is provided in Appendix D.

The City's may use of best available technology for completing an ORI to identify and screen outfalls by converting the ORI form into an electronic format. This may provide field crews with the following enhanced capabilities:

- GPS mapping to facilitate outfall location;
- Standardize data collection workflows;
- Minimize the types of equipment needed for field work;
- Ability to report a problem immediately when it is discovered;
- Ability to automatically create an outfall screening report; and,
- Data collected is easily converted to a format for ArcGIS.

Data collected during the ORI may be maintained in the City's GIS dataset for illicit discharges.

5.6.2. Screening Data

Information and data that will be collected for each outfall shall include the following:

Section 1 – Background Data

- Coordinates
- Photograph

Section 2 – Outfall Description

- Location
- Material
- Shape



- Dimensions
- Submerged

Section 3 – Quantitative Characterization

- Parameter
- Result
- Unit
- Equipment

Section 4 – Physical Indicators for flowing outfalls only

- Indicator
- Description
- Relative Severity Index

Section 5 – Physical Indicators for both flow and non-flowing outfalls

- Indicator
- Description

Chapter 11 of the Outfall Reconnaissance Inventory of the Illicit Discharge Detection and Elimination Guidance Manual provides direction in completing the Outfall Reconnaissance Inventory / Sample Collection Field Sheet information.

5.7. Suspect Illicit Discharges

If dry weather flow and other physical indicators are encountered at an outfall during the ORI, field personnel shall take the following steps to identify and locate a suspect illicit discharge.

- Evaluate physical indicators of the suspect illicit discharge;
- Conduct field screening of the suspect illicit discharge;
- Try to identify the source of the suspect illicit discharge; and/or,
- Collect a sample of the suspect illicit discharge.

When episodic incidental pollution is reported to the City (e.g. motor oil dumped into a storm drain), the City shall record the date, location, information source, and description of the event. If necessary, field personnel shall be sent to investigate and to determine if the site should be cleaned (e.g. removal of yard waste, containment of oil, etc.). After inspection and/or cleanup, the City shall keep a record of all actions taken regarding the incident.



5.7.1. Physical Indicators

If dry weather flow is present at an outfall, field personnel will evaluate various physical indicators to determine if a potential illicit discharge is present. Physical indicators that may be evaluated are summarized in Table 5-1.

Table 5-1 Physical Indicators

Physical Indicator	Description
Odor	Sewage, Rancid/Sour, Petroleum/Gas, Sulfide, Other
Color	Clear, Brown, Gray, Yellow, Green, Orange, Red, Other
Turbidity	Clear or Turbid
Floatables	Toilet Paper, Suds, Oil Sheet, Other.

If physical indicators are present, field personnel shall document observations on an ORI Field Sheet.

5.7.2. Field Screening

If physical indicators are present and field personnel cannot determine the type or source of the suspect illicit discharge, field personnel may perform field screening to characterize the suspect illicit discharge. Field personnel may evaluate the suspect illicit discharge using a field screening kit to evaluate the indicator parameters listed in Table 5-2.

Table 5-2 Field Screening Parameters

Parameters		
Ammonia	Chlorine	Phosphate
Potassium	Conductivity	Detergents
Nitrate	Nitrite	Temperature
Conductivity	TDS	pH



Results of field screening parameters shall be recorded on the ORI form. If the physical indicators and/or field screening parameters indicate a suspect illicit discharge, field personnel may proceed in locating the source of the suspect illicit discharge.

5.7.3. Sample Collection

If a dry weather flow from an outfall exhibits a physical indicator of a suspect illicit discharge and the field screening evaluation results are inconclusive, field personnel may collect a grab sample of the dry weather flow. The sample shall be shipped to an independent laboratory and analyzed for the parameters listed in Table 5-3.

Table 5-3 Sample Parameters

Parameters		
Ammonia	Chlorine	Surfactants
Turbidity	Conductivity	Detergents
E. Coli	Total Coliform	Fluoride
Hardness	Potassium	

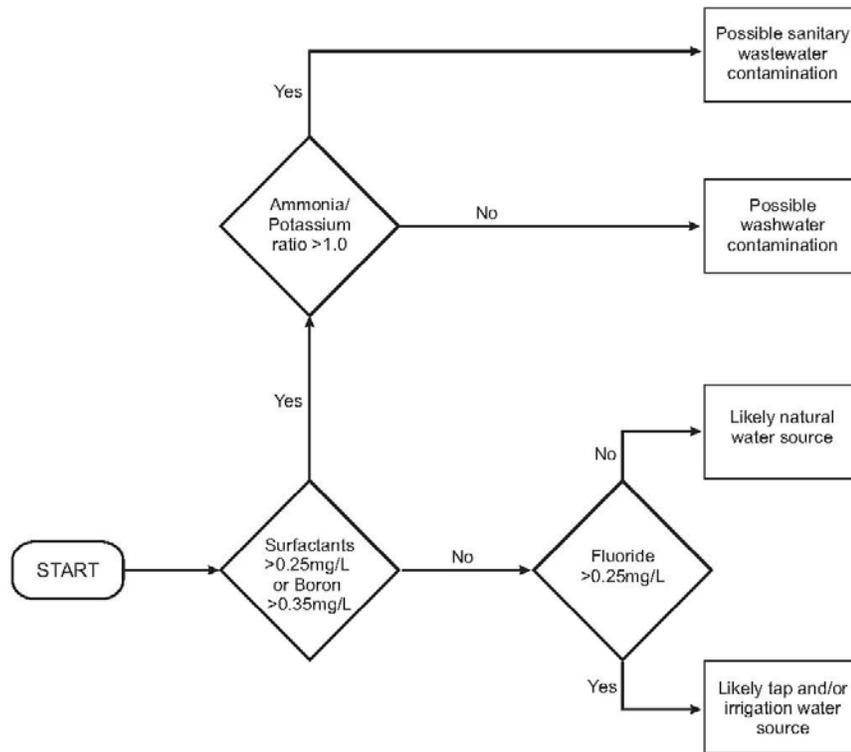
The City shall use the sample collection protocol provided in Appendix G of the Illicit Discharge Detection and Elimination Guidance Manual. Analytical methods for samples submitted to an independent laboratory shall be in accordance with 40 CFR 136.

5.7.4. Evaluation of Results

The Illicit Discharge Detection and Elimination Guidance Manual recommends the use of the Flow Chart Method for identifying the type of illicit discharge. The Flow Chart Method is recommended because it is a relatively simple technique that analyzes four or five indicator parameters that are safe, reliable and inexpensive to measure. The basic decision points involved in the Flow Chart Method for a residential area are shown in Figure 5-2.



Figure 5-2 Flow Chart to Identify Suspect Illicit Discharges



5.7.1. Locating Suspect Illicit Discharges

If a suspect illicit discharge is identified during the outfall reconnaissance inventory, field personnel shall try to locate the source of the illicit discharge before proceeding to the next outfall. Field personnel shall employ the following techniques to identify the source of the suspect illicit discharge.

- Storm Sewer System Evaluation – Field personnel shall attempt to follow the suspect illicit discharge up the storm sewer system to identify its source.
- Drainage Area Evaluation – Field personnel shall conduct a “windshield” survey of the drainage area to identify its source.
- If the source of an illicit discharge is located, field personnel shall report the location and source of the illicit discharge to the Public Works Department.

If the source of a suspect illicit discharge cannot be easily located by field personnel, the location of the suspect illicit discharge will be reported to the Storm Water Program Coordinator.



5.7.2. Eliminating Illicit Discharges

After the source of an illicit discharge has been identified, the Public Works Department shall take appropriate actions to abate the illicit discharge. If the City cannot eliminate the illicit discharge, the City shall report the suspect violator to ADEM or other appropriate regulatory agencies.

5.8. Spill Response

The City's Fire Department is responsible for responding to any type of spill that may occur within the City's MS4 Area. If a spill enters the MS4, the Fire Department shall notify the Public Works Department. The Public Works Department may evaluate the impacts of the spill on the MS4 and ensure appropriate corrective measures are taken to abate the spill. Follow up inspections of the affected area may be performed as needed.

5.9. Sanitary Sewer System

A majority of the City's MS4 area is serviced by the City's sanitary sewer system. The City owns and operates the sanitary sewer collection system and two (2) Wastewater Treatment Plants. If any problems with the sanitary sewer system are encountered, they are reported to the Public Works Wastewater Department.

5.10. Enforcement

Development of the IDDE Ordinance shall incorporate escalating enforcement procedures and actions. Upon adoption of an IDDE Ordinance, the SWMP Plan shall be updated to incorporate the enforcement actions provided in the ordinance.

5.11. Staff Training

The City may outsource the ORI of outfalls to a consultant. If the ORI effort is outsourced, the consultant selected shall have adequate training and experience to perform the ORI. If the City elects to utilize internal staff, staff selected to perform the ORI shall receive the following initial training:

- Outfall reconnaissance inventory;
- Water quality monitoring procedures;
- Outfall reconnaissance inventory field procedures; and,
- Illicit discharge tracking procedures.



Refresher training shall be provided on an as needed basis. Any new staff incorporated into the outfall reconnaissance inventory shall receive the initial training described above and refresher training, as applicable.

5.12. Program Goals and Evaluation

The City has developed realistic, achievable and measurable goals and performance milestones to measure the progress in implementing the illicit discharge detection and elimination program. Program goals are summarized in Table 5-4.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of illicit discharge detection and elimination program. The results of the program evaluation will be summarized in the Annual Report.



**Table 5-4
Illicit Discharge Detection and Elimination Goals**

Program Component	BMP		Schedule	Responsible Department
	Description	Frequency		
Legal Authority	Illicit Discharge Detection and Elimination (IDDE) Ordinance	Develop	1 January 2018	
		Adopt	1 July 2018	
Outfall Inventory	Mapping and Screening Schedule	Update as needed	30 September 2017	
	Outfall Screening Inspection Form	Update as needed	30 September 2017	
	Outfall Map	Annually	30 September 2017	
	Outfall Mapping and Screening	Each Outfall 1 / 5 years	30 September 2021	
Illicit Discharges	Citizen Reporting Tools	Develop	1 July 2017	
	Inspection Form	Update as needed	30 September 2017	
	Source Tracing Procedures	Update as needed	30 September 2017	
	ADEM Notification Procedures	Develop	1 July 2017	
	Mitigation Procedures	Develop	1 January 2018	
	Training		Develop	1 July 2017
Implement			1 January 2017	
Program Evaluation	Evaluate Program Effectiveness	Annually	30 September 2017	



SECTION 6

Construction Site Runoff



6. Construction Site Runoff

6.1. Introduction

The variety of pollutants present at a construction site and the severity of their potential effects to receiving waters are dependent upon several factors.

- Nature of construction activity – During clearing and grading activities, the primary pollutant of concern is sediment. As the construction activity progresses in the building phase, other potential pollutants of concern include concrete wash, paints, stucco, pesticides, herbicides, fertilizers, cleaning solvents, asphalt products, scrap wood, metal, glass, trash debris, etc.
- Physical characteristics of the construction site – Potential pollutants at a construction site are carried off in storm water runoff. Construction sites can potentially increase the intensity and volume of storm water runoff resulting in an increase of pollutant loadings.
- Proximity of surface waters – The closer the construction activity is to a surface water increase the potential impacts to surface waters.

The City shall develop and implement a Construction Site Runoff Program to monitor and control pollutants in storm water discharges to the City's MS4 area from the following land disturbing activities.

- Land disturbance equal to or greater than one (1) acre; and,
- Land disturbance involving less than one (1) acre that is part of a larger common plan of development.

This Construction Site Runoff Program shall be developed using the following guidance materials.

- Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee, September 2014; and,



- Developing Your Storm Water Pollution Prevention Plan, A Guide for Construction Sites, Environmental Protection Agency, EPA 833-R-06-004, May 2007.

These documents are incorporated into the Construction Site Runoff Program by reference.

6.2. Legal Authority

Since the City is a newly permitted MS4, the NPDES MS4 Permit requires the City to develop and adopt an Erosion and Sediment Control Ordinance within 730 days of the effective date of the NPDES MS4 Permit. Once an ordinance is adopted, the SWMP Plan shall be updated.

6.3. Requirements and Control Measures

As provided by 40 CFR Part 122.35(b), the City may rely on ADEM for the setting of standards for appropriate erosion controls and sediment controls for qualifying construction sites and for enforcement of such controls. The City's Construction Site Runoff Program will require owners and/or operators of construction sites to select, design, install, implement, inspect and maintain effective Best Management Practices (BMPs) to minimize the discharge of pollutants into the City's MS4 area to the maximum extent practicable (MEP).

6.3.1. Erosion and Sediment Controls

The owner and/or operator shall select, design, install, implement, inspect, and maintain BMPs appropriate to specific site conditions to, at a minimum:

1. Control storm water discharges to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
2. Minimize the disturbance of steep slopes;
3. Minimize sediment discharges from the site;
4. Minimize the generation of dust and off-site tracking of sediment from vehicles;
5. Stabilize all construction entrances and exits; and,



6. Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible.

6.3.2. Soil Stabilization

Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 13 calendar days.

6.3.3. Dewatering

Discharges from dewatering activities, including discharges from dewatering of trenches and excavations are prohibited unless managed by appropriate BMPs.

6.3.4. Pollution Prevention Measures

The owner and/or operator shall select, design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, concrete washout, and other wash waters. Wash waters must be treated in a sediment control structure, basin or alternative control that provides equivalent or better treatment prior to discharge;
2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and storm water runoff;
3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures; and,
4. Use of polymers, flocculants or other treatment chemicals at the site may only be applied where treated storm water is directed to a sediment control structure or basin prior to discharge.

6.3.5. Prohibited Discharges

The following discharges are prohibited:



1. Wastewater from washout of concrete, unless managed by an appropriate BMP;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and,
4. Soaps or solvents used in vehicle and equipment washing.

6.3.6. Surface Outlets

When discharging from a sediment control structure, basins or impoundments the owner and/or operator shall utilize outlet structures that withdraw water from the surface, unless infeasible.

6.4. Permitting

The City currently has a permitting process for commercial and residential developments. The existing process for reviewing and approving commercial developments is provided in Figure 6-1. During the development of the Construction Site Runoff Program, the City shall review and update its permitting process to incorporate construction site runoff requirements. After the permitting process has been updated, the SWMP Plan shall be revised to describe any updates.

6.5. Plan Review

BMPs selected for a site and/or development shall be designed, sized, and/or maintained in accordance with the following references.

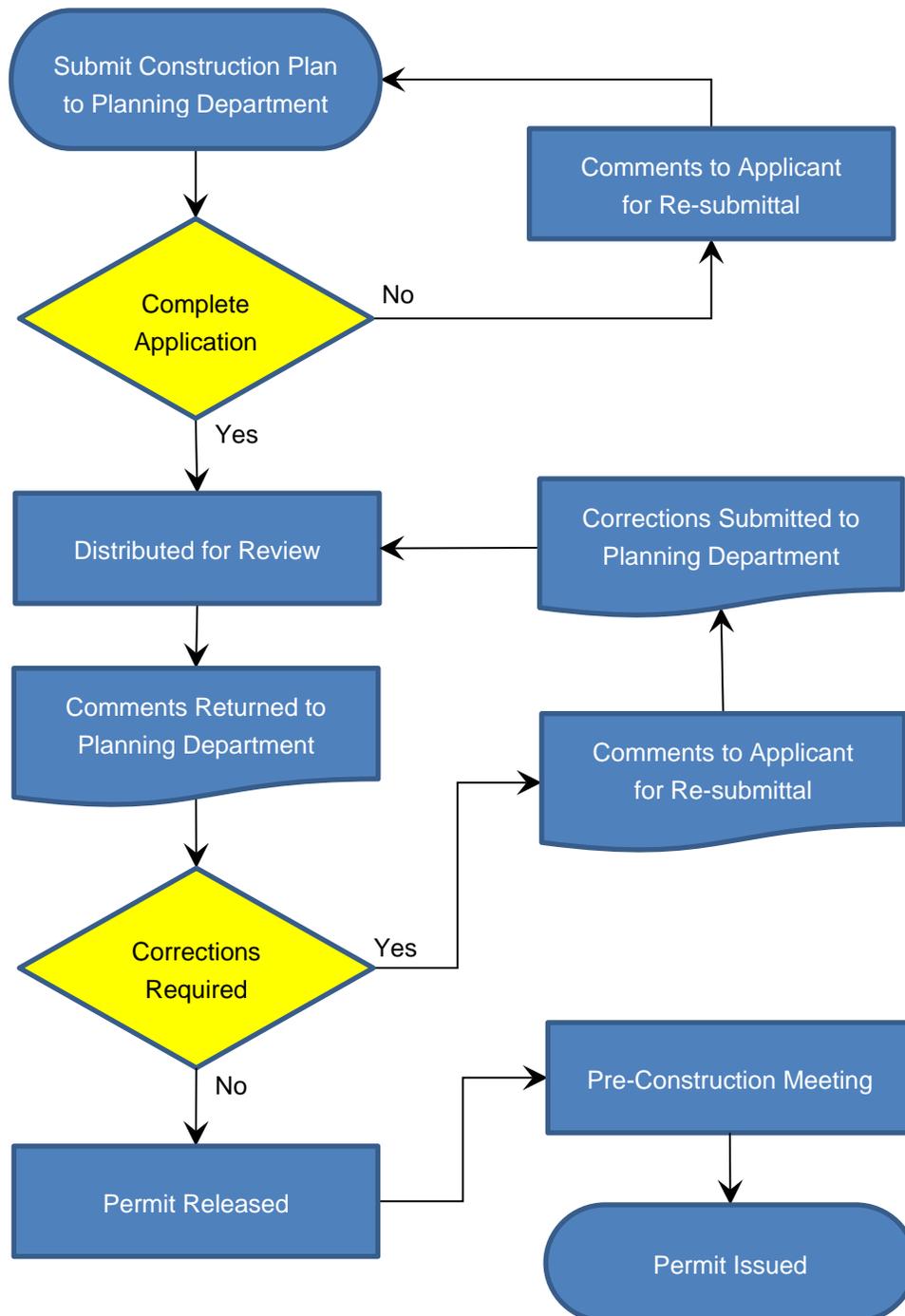
- Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee, September 2014; and,
- Developing Your Storm Water Pollution Prevention Plan, A Guide for Construction Sites, Environmental Protection Agency, EPA 833-R-06-004, May 2007.

During the development of the Construction Site Runoff Program, the City shall identify the appropriate Departments and personnel to review CBMP Plans. Personnel shall be knowledgeable in the many facets of design, storm water



management, erosion and sediment control, and construction. A CBMP Plan Review Checklist shall be developed to ensure consistency with the Erosion and Sediment Control Ordinance. Once CBMP Plan Review Checklist is developed, it shall be included in Appendix E.

Figure 6-1 Permitting and Plan Review Flow Chart





6.6. Training

During the development of the Construction Site Runoff program, the City shall identify appropriate staff that should maintain a Qualified Credentialed Inspector (QCI) certification.

Selected staff shall receive initial training and annual refresher training. When staff become a QCI, copies of the QCI training certificates shall be included in Appendix E.

6.7. Inspections

During the development of the Construction Site Runoff program, the City shall define requirements for inspecting construction sites. At a minimum, priority construction sites shall be inspected monthly. After the inspection requirements have been developed, the SWMP Plan shall be revised to describe the inspection requirements.

6.8. Enforcement

Development of the Erosion and Sediment Control Ordinance shall incorporate escalating enforcement procedures and actions. Escalating enforcement actions may include the following:

- Verbal Warning;
- Notice of Violation;
- Stop Work Order; or
- Municipal Offense Ticket.

In accordance with 40 CFR Part 122.35(b), the City may rely upon ADEM for enforcement. Upon adoption of an Erosion and Sediment Control Ordinance, the SWMP Plan shall be updated to incorporate the enforcement actions provided in the ordinance.

6.9. Public Reporting

The City has developed and implemented a Report a Problem feature on their website. This feature allows citizens to report problems at specific locations. The City then distributes the request to the appropriate department. A copy of the Citizen Request webpage is provided in Appendix C.



6.10. Non Permitted Construction Activities

If City personnel encounter qualifying construction activities that have not obtained an ADEM permit for construction, the City shall notify ADEM. At a minimum, the City shall provide the following information:

- Specific location of the construction project;
- Name and contact information of the owner or operator, if available; and,
- Summary of concerns or permit status.

The City may utilize the Complaints link on ADEM's website to provide this notification.

6.11. Program Goals and Evaluation

The City has developed realistic, achievable and measurable goals and performance milestones to measure the progress in implementing a construction site runoff program. Program goals are summarized in Table 6-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness in educating the public on storm water related issues. The results of the program evaluation will be summarized in the Annual Report.



**Table 6-1
Construction Site Runoff Goals**

Program Component	BMP		Schedule	Responsible Department
	Description	Frequency		
Legal Authority	Erosion and Sediment Control (ESC) Ordinance	Develop	1 January 2018	
		Adopt	1 July 2018	
Permitting	Permit Application Requirements	Develop	1 January 2018	
	Permits Issued	Track	1 July 2018	
Plan Review	Construction Best Management Practices Plan (CBMPP) Requirements	Develop	1 January 2018	
	CBMPP Review Checklist and Procedures	Develop	1 January 2018	
	CBMPPs Reviewed	Track	1 July 2018	
Inspections	Inspection Requirements	Develop	1 January 2018	
	Inspections	Track	1 July 2018	
Enforcement Actions	Enforcement Strategy	Develop	1 January 2018	
	Enforcement Tracking System	Develop	1 January 2018	
	Enforcement Actions	Track	1 July 2018	
	Citizen Reporting Tools	Develop	1 July 2017	
	ADEM Notification Procedures	Develop	1 July 2017	
Training	QCI Training	1 / year	1 July 2017	
Program Evaluation	Evaluate Program Effectiveness	1 / year	30 September 2017	



SECTION 7

Post Construction
Storm Water Management



7. Post Construction Storm Water Management

7.1. Introduction

The NPDES permit requires the City to develop, implement and enforce a program to address storm water discharges from new development and redevelopment projects that disturb greater than one acre, and projects less than one acre that are part of a larger common plan of development. Since the City is a new MS4, the permit provides the City 730 days from the permit effective date to develop and implement this program.

Post construction runoff generally has two types of impacts. First, developed areas may increase the type and quantity of pollutants in storm water runoff. When storm water flows over areas altered by development it has a potential to pick up a variety of pollutants including but not limited to trash, debris, sediment, oil, grease, pesticides, heavy metals and/or nutrients, and carry these pollutants to the streams and lakes. Second, development increases the impervious surfaces of an area resulting in a quantity increase of storm water runoff. Increased impervious surfaces like buildings and parking lots interrupt the natural cycle of gradual percolation of storm water through the vegetation and soil. Instead, storm water is collected on the impervious surface and conveyed to drainage systems where increase volumes of storm water runoff enter the stream quickly. As a result, stream banks are more susceptible to scouring and the downstream areas have a higher potential of flooding.

The NPDES permit requires the City to develop, implement and enforce a program to address storm water discharges from new development and redevelopment projects. Goals of this program should be to:

- Retain the pre-disturbance hydrological conditions of both surface and groundwater;
- Remove suspended solids and associated pollutants entrained in stormwater runoff that result from 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.

7.2. Legal Authority

Since the City is a newly permitted MS4, the NPDES MS4 Permit requires the City to develop or modify an ordinance within 730 days of the effective date of the NPDES MS4 Permit to address post construction storm water management. Once an ordinance is adopted, the SWMP Plan shall be updated.

7.3. Program Components

There are a variety of structural BMPs capable of not only mimicking pre development hydrology, but also, provide very effective treatment of storm water runoff. Structural BMPs may include but are not limited to the following:

- Storm water retention / detention basins;
- Infiltration basins / trenches;
- Proprietary structural devices;
- Pervious pavement;
- Grass swales;
- Filter strips;
- Constructed wetlands;
- Rain barrels; and,
- Rain gardens.

As the City's post construction storm water management program develops, the City shall evaluate and identify the most appropriate BMPs to ensure, to the MEP, that post construction runoff mimics pre-construction hydrology. A 1.14 inch rainfall over a 24-hour period preceded by a 72-hour antecedent dry period shall be the basis for the design and implementation of post-construction BMPs.

7.3.1. Low Impact Development

Where feasible, the City shall encourage landowners and developers to incorporate the use of low impact development (LID) into development plans. The



City shall review and consider adoption of the latest version of the *Low Impact Development (LID) Handbook for the State of Alabama*.

7.3.1. Post Construction BMP Plan Review

The City already has a permitting and plan review process that is shown in Figure 6-1. During the development of the Post-Construction Storm Water Management Program, the City shall incorporate the post construction BMP plan review into the existing process. Once the permitting and plan review process has been revised, the SWMP Plan shall be updated.

7.3.1. Post-Construction BMP Inspection

During the development of the Post-Construction Storm Water Management Program, the City shall develop post-construction inspection requirements. Once the post-construction inspection requirements are developed, the SWMP Plan shall be updated.

7.3.2. As-built Certification

During the development of the Post-Construction Storm Water Management Program, the City shall develop as-built certification requirements. Once the as-built certification requirements are developed, the SWMP Plan shall be updated.

7.3.3. Long Term Operation and Maintenance

During the development of the Post-Construction Storm Water Management Program, the City shall develop long term operation and maintenance requirements. Once the long term operation and maintenance requirements are developed, the SWMP Plan shall be updated.

7.4. Program Goals and Evaluation

The City has developed realistic, achievable and measurable goals and performance milestones to measure the progress in implementing a post construction storm water management program. Program goals are summarized in Table 7-1.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of post construction



storm water controls to improve storm water quality. The results of the program evaluation will be summarized in the Annual Report.



**Table 7-1
Post Construction Storm Water Management Goals**

Program Component	BMP		Schedule	Responsible Department
	Description	Frequency		
Legal Authority	Post Construction Stormwater Management New Ordinance or Modify Existing Ordinances	Develop	1 January 2018	
		Adopt	1 July 2018	
Permitting	Low Impact Development	Encourage	1 July 2018	
	Permit Application Requirements	Develop	1 January 2018	
	Permits Issued	Track	1 July 2018	
Plan Review	Post Construction Stormwater Management Requirements	Develop	1 January 2018	
	Plan Review Checklist and Procedures	Develop	1 January 2018	
	Plans Reviewed	Track	1 July 2018	
Post Construction BMPs	As-Built Certification Requirements	Develop	1 January 2018	
	As-Built Certifications	Track	1 July 2018	
	Post Construction BMP Inventory	Track	1 July 2018	
Maintenance	Maintenance Requirements	Develop	1 January 2018	
	Maintenance Activities	Track	1 July 2018	
Program Evaluation	Evaluate Program Effectiveness	Annually	30 September 2017	



SECTION 8

Pollution Prevention and
Good Housekeeping



8. Pollution Prevention and Good Housekeeping

8.1. Introduction

Pollution prevention / good housekeeping for municipal operations is a control measure designed to emphasize the operation and maintenance of the MS4 and proper training of City employees. Performing municipal activities in a careful and proper manner prevents and/or reduces the potential of polluting storm water runoff. City operations may include the following:

- Park and open space;
- Fleet and building maintenance;
- New construction and land disturbances;
- Storm sewer system maintenance;
- Roads and highways;
- Municipal parking lots;
- Maintenance and storage yards;
- Waste transfer stations; and,
- Recycling centers.

8.2. Program Components

The pollution prevention / good housekeeping program is a key element to help the MS4 to reduce potential pollutants from entering storm water runoff. This control measure requires the City to evaluate existing facilities and operations to identify areas of improvement that will help ensure a reduction in the amount and type of potential pollutants.

8.3. Municipal Facilities

The City provides a wide range of services to its citizens by various City Departments and facilities located throughout the City. The City maintains approximately 117 properties that consist of support facilities, parks, ball fields and building grounds that occupy approximately 1,314 acres (2.0531 square miles).



8.3.1. Facility Inventory

The City shall complete an inventory of City facilities and areas that have a potential to interact with storm water runoff. The location of City Facilities are shown in Figure 8-1. A comprehensive list and map of City facilities will help City employees build a better awareness of their locations within the MS4 and their potential to contribute pollutants in storm water runoff.

8.3.2. Facility Inspections

The majority of municipal properties consist of parks and athletic fields which are actively utilized by the public throughout the year. Maintenance and upkeep of these facilities are performed on a routine basis. Routine inspections of parks and athletic fields will not be performed.

The City has identified six (6) facilities where operational activities occur to support City services. Maintenance and upkeep of these facilities are performed on a routine basis. After the City develops a Good Housekeeping Checklist, annual inspections shall be performed for the support facilities listed in Table 8-1.

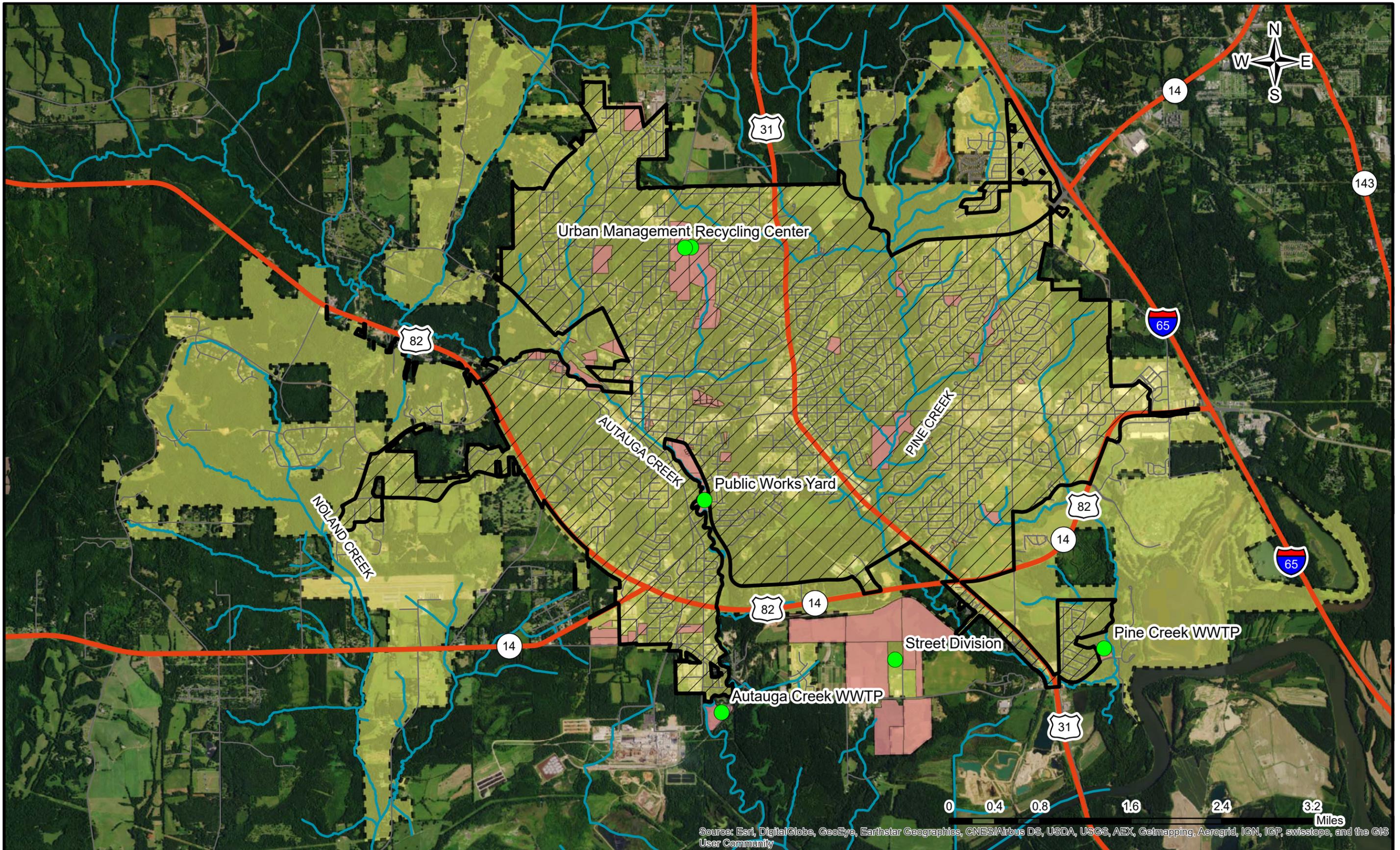
Table 8-1 Municipal Support Facilities

Facility Name	Department	Division
Public Works Yard	Public Works	Public Works
Urban Management		Urban Management
Recycling		Sanitation
Pine Creek WWTP		Wastewater
Autauga Creek WWTP		Wastewater
Street Division	Engineering	Engineering

8.3.3. Standard Operating Procedures

The City shall develop Standard Operating Procedures (SOPs) for the various activities required in implementing the Pollution Prevention and Good Housekeeping Program. SOPs may include but are not limited to the following:

- Equipment washing;
- Street sweeping;
- Road maintenance;
- Vegetation control;



 Prattville City Limits	 ALDOT Roads	 Streams	 City Property
 Prattville MS4 Area	 Streets	 Municipal Facility	



CITY OF PRATTVILLE
Municipal Facility Inventory

Figure 8-1
January 2017



- Vehicle / equipment maintenance;
- External Building maintenance; and,
- Material storage facilities and yard.

During rainy days, crews for the Urban Management Department cannot perform their routine activities or duties. To utilize these resources, the Urban Management department has created SOPs for activities to be performed by each crew on rainy days.

Copies of SOPs developed by the Urban Management Department are provided in Appendix G. As new SOPs are developed, they shall be included in Appendix G.

8.3.4. Facility Maintenance

Maintenance activities are performed by either the Parks and Recreation Department or the Urban Management Department. A summary of the responsibilities for each department is provided below:

The Parks and Recreation Department is responsible for maintenance of the playing fields and recreational facilities. The Parks and Recreation Department has three (3) crews with each crew assigned specific facilities. Activities performed at each facility is tracked on a on a Parks Checklist. An example of the Parks Checklist is provided in Appendix G.

The Urban Management Department is responsible for the perimeter areas of parks, grounds maintenance, mowing, litter patrol, and ditch maintenance. Resources allocated for each activity includes:

- Parks – Three (3) crews with each crew assigned to specific facilities. Activities performed are tracked on an Urban Management Parks Checklist.
- Grounds Maintenance – Two (2) crews that utilize an Urban Management Daily Checklist to track activities performed.
- Mowing – Two (2) crews that utilize an Urban Management Grounds Crew Cut Log to track activities performed.
- Ditch Maintenance – Two (2) crews that utilize an Urban Management Ditch Crew Work Log to track activities performed. For ditch maintenance, the City has been divided into nine (9) separate sections. Within each section, ditches maintained by the City have been identified with a unique alpha-numeric code. Maps for each section are provided in Appendix G.



Examples of checklists and logs used by the Urban Management Department are provided in Appendix G.

8.3.5. Training

The City shall develop a training program to help facility personnel become familiar with good housekeeping practices. Training may include a discussion on the following topics, as applicable:

- SPCC Plans;
- Good Housekeeping and Spill Prevention;
- Spill Control and Response;
- Vehicle Fueling;
- Vehicle and Equipment Maintenance;
- Vehicle and Equipment Washing;
- Materials Management;
- Waste Management; and,
- Municipal Facility Maintenance.

To minimize the cost and resources associated with training, the City may utilize training programs and materials that have already been developed by EPA, ADEM and/or other readily available sources.

A sign-in sheet shall be used to document City employees that have been trained and the training received. After the training materials are developed, they shall be included in Appendix G. An example sign-in sheet is provided in Appendix G.

8.4. Roads

Motor vehicles can generate runoff pollutants through emissions, deposition of exhaust, discharges of fluids and solid particles while traveling and braking. Although the runoff constituents and concentration levels vary with highway type and location, the sources of roadway runoff pollutants typically fall into one of three basic categories:

1. Vehicle traffic;
2. Deicing activities; and,
3. Vegetation management.

Potential pollutant sources from roadways that can affect water quality include:



- Solids generated from pavement wear, tire wear, engine and brake wear can increase turbidity and transport other pollutants that adhere to the particle surfaces;
- Heavy metals from lubricating oil and grease, bearing wear, tire wear, vehicle wear, break lining wear and moving engine parts;
- Nutrients from roadside fertilizer application can expedite algae growth and lower dissolved oxygen levels in streams, rivers and lakes;
- Polycyclic aromatic hydrocarbons (PAHs) such as petroleum and ethylene glycol, resulting from spills and leaks of oil, gas, antifreeze, and hydraulic fluids; and,
- Litter and trash from vehicle traffic.

The City has implemented and maintained BMPs to provide a means of mitigating the negative impacts of various pollutants that can be carried off by rainfall and receiving waters. A description of the BMPs being implemented by the City for its road infrastructure is described in the following sections.

8.4.1. Road Inventory

The City is approximately over 34.25 square miles in size and has over 236.24 miles of roads that range from interstates to local roads. Interstates and State Roads are the responsibility of the Alabama Department of Transportation (ALDOT). The City is responsible for City owned or maintained local roads. An approximate inventory of the roads by classification is summarized in Table 8-2.

Table 8-2 Road Inventory

Operator	Classification	Length (mi)
Alabama Department of Transportation	Interstate / State Roads	12.99
County	County Roads	3.79
City of Prattville	Local Roads	219.46



8.4.2. Road Maintenance

Maintenance of the City's road network is performed by the Public Works Department. Routine maintenance activities may include:

- Road inspection;
- Road repairs, resurfacing, and pothole repairs;
- Curb and gutter repairs and replacement;
- Gutter line cleaning;
- Right-of-way maintenance; and,
- Sidewalk maintenance.

The City shall develop a method of tracking road maintenance activities.

8.4.3. Street Sweeping

The Public Works Department has two (2) street sweepers dedicated for street sweeping. Curbed streets are swept monthly. Streets scheduled for resurfacing are swept and cleaned prior to resurfacing. Routine sweeping schedules have been developed to maximize the use of street sweepers. Maps showing the streets swept are included in Appendix G.

The City shall develop a method of tracking street sweeping activities.

8.4.4. Litter Control

Roadside litter control BMPs implemented by the City to address health and aesthetic concerns also improve the quality of storm water runoff by limiting trash in runoff conveyance systems. Public Works Department crews routinely collect and dispose of litter, trash and debris.

The City shall develop a method of tracking litter collection activities.

8.4.5. Deicing Activities

Based upon the City's location, winter weather is infrequent. The City spreads sand on roads with snow or ice cover. After winter weather has subsided, the City removes the sand using a small front end loader and a street sweeper. Salt is not used for any deicing activities.



8.5. Pesticides, Herbicides and Fertilizers

The City is continuously implementing a very effective pesticide, herbicide and fertilizer (PHF) program to prevent potential pollutants from entering the storm sewer system.

8.5.1. PHF General NPDES Permit

The City shall review ADEM's General NPDES Permit for discharges associated with the application of pesticides to determine if the City meets the requirements to obtain coverage under this permit.

8.5.2. PHF Standard Operating Procedures

Application, storage and disposal of pesticides, herbicides and fertilizers shall be performed in accordance with Federal and State regulations and in accordance with the manufacturer's recommendations. The City has developed the following Standard Operating Procedures (SOPs) for mixing, application, clean up, storage, training and record keeping:

- SOP PHF-01 – Mixing, application, clean-up, and chemical calculations

A copy of the SOP is provided in Appendix G.

8.5.3. Facility Inventory

The City shall evaluate land under the control of the City to determine where pesticides, herbicides and/or fertilizers are being used. Areas of interest within the MS4 Area may include but are not limited the following:

- Public parks;
- Sports complexes;
- Green space around City facilities; and,
- City right-of-ways.

The City is continuously implementing a very effective pesticide, herbicide and fertilizer program to prevent potential pollutants from entering the storm sewer system. The City maintains approximately 117 properties that consist of support facilities, parks, ball fields and building grounds that occupy approximately 1,314 acres (2.0531 square miles). The locations of City Property are shown in Figure 8-1.



8.5.4. PHF Storage Facilities

The City tries to optimize the use of pesticides, herbicides and fertilizers as well as minimize the quantity of chemicals stored. Chemical storage facilities are summarized in Table 8-3 and shown in Figure 8-1.

Table 8-3 PHF Storage Facilities

Facility	Address

The City shall develop a PHF Storage Facility Inspection Checklist and inspect each PHF storage facility on an annual basis. After the PHF Storage Facility Inspection Checklist is developed, a copy of the checklist shall be provided in Appendix G.

8.5.5. Certification and Licensing

Commercial and non-commercial application of pesticides is regulated in the State of Alabama by the Department of Agriculture and Industries (DAI). In order to maintain a pest control license, applicators are required to obtain routine training that covers the following topics:

- Pests;
- Pests control and pesticides;
- Labels and labeling;
- The environment;
- Applicator safety;
- Laws and regulations;
- Pesticide storage and disposal;
- Record keeping;
- Application equipment and calibration; and,
- Weed control.

City staff and contractors involved with the application, storage and/or disposal of pesticides, herbicides, and fertilizers on City areas shall maintain current certification and training as required by DAI. The City currently has one (1) staff that maintain an applicator's certification. Their applicator's certification documentation is provided in Appendix G.



8.5.6. Chemical Inventory

The City may use a variety of pesticides, herbicide and fertilizer chemicals on road right-of-ways and City Areas. An inventory of pesticides, herbicides and fertilizers stored at each City facility shall be maintained. The City shall develop a method of tracking its chemical inventory.

Material Safety Data Sheets (MSDS) for pesticides, herbicides and fertilizers used by City staff shall be maintained at each individual storage location. The MSDS will provide information about the chemical to include, but not limited to, the following:

- Chemical constituents;
- Product use;
- Dilution requirements;
- Mixing requirements;
- Storage instructions; and,
- Health and safety precautions.

8.5.7. Chemical Use

PHF applications by City staff and contractors shall be tracked on daily application log. An example daily application log is provided in Appendix G.

8.5.8. Soil Testing

The City may collect soil samples to determine the optimum fertilizer and application rate for a particular facility. If results of the soil sample indicate that phosphorus is not needed, the City will use a non-phosphorous fertilizer.

8.6. Program Goals and Evaluation

The City has developed realistic, achievable and measurable goals and performance milestones to measure the progress in implementing a pollution prevention / good housekeeping program. Program goals are summarized in Table 8-4.

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the City will evaluate the program goals and overall effectiveness of the program to help reduce pollutants in storm water runoff. The results of the program evaluation will be summarized in the Annual Report.



**Table 8-4
Pollution Prevention / Good Housekeeping – Program Goals**

Program Component	BMP		Schedule	Responsible Department
	Description	Frequency		
Municipal Facilities	Inventory	Develop	1 July 2017	
	Inspection Requirements	Develop	1 July 2017	
	Standard Operating Procedures (SOPs)	Develop	1 July 2017	
	Training Requirements	Develop	1 July 2017	
Roads	Inventory	Develop	1 July 2017	
	Maintenance	Track	30 September 2017	
	Litter Control	Track	30 September 2017	
	Street Sweeping	Track	30 September 2017	
	Deicing Events	Track	30 September 2017	
Pesticides, Herbicides and Fertilizers (PHF)	PHF Storage Facility Inventory	Develop	1 July 2017	
	Training	Develop	1 July 2017	
	Standard Operating Procedures (SOPs)	Develop	1 July 2017	
	Chemical Inventory	Track	30 September 2017	
	Chemical Application	Track	30 September 2017	
Program Evaluation	Evaluate Program Effectiveness	Annual	30 September 2017	



SECTION 9

Monitoring Program



9. Monitoring Program

There are no 303(d) listed or TMDL waters located within the City's MS4 Area. In accordance with Part III.1 of the City's NPDES MS4 Permit, the City is not required to develop and implement a monitoring program.

If waters within the City's MS4 Area become listed on the 303(d) list, the City shall develop a monitoring program to evaluate the pollutants of concern.



Appendix A

NPDES Permit ALS000010



Appendix B

Legal Authority



Appendix C

Public Education and
Public Involvement



Appendix D

Illicit Discharge
Detection and Elimination



Appendix E

Construction Site Runoff



Appendix F

Post Construction
Storm Water Management



Appendix G

Pollution Prevention and
Good Housekeeping



Appendix H

Monitoring

