

**DRAFT**

**Phase II  
Stormwater Management Program**

for the  
City of Stillwater, Oklahoma



Draft Date:  
November 18, 2015

Effective Date:  
February 1, 2016

**SIGNATURE OF RESPONSIBLE OFFICIAL**

**for the City of Stillwater, Oklahoma**

The statements made in this Stormwater Management Program document, and the programs described herein, are hereby declared to be accurate and fulfill the intent of the City of Stillwater to comply with the requirements of the State of Oklahoma's Phase II Stormwater General Permit for municipalities (OKR04).

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 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 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 and imprisonment for knowing violations.

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Norman McNickle, Interim City Manager

Date

## EXECUTIVE SUMMARY

The City of Stillwater has prepared this Stormwater Management Program (SWMP) document which provides descriptions of all activities that will be conducted on behalf of Stillwater to meet its obligations under the Oklahoma Department of Environmental Quality (ODEQ) General Permit for Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma (OKR04) dated November 1, 2015.

A Notice of Intent (NOI) and a summary of this SWMP, that together constitute the application for coverage under the OKR04 General Permit, have been submitted to ODEQ, in accordance with their request. Copies of this SWMP will be kept in-house for review by ODEQ or the public upon request.

All six Minimum Control Measures (MCMs) have been addressed in this SWMP. The City of Stillwater has elected to incorporate the “Optional Permit Requirements for Municipal Construction Activities (OKR04 Part VIII)” into the SWMP.

Each MCM has a number of Best Management Practices (BMPs) that constitute the core activities pertaining to that MCM. Appendices summarize the BMPs and provide Measurable Goals and implementation schedules for each BMP. Further, the City of Stillwater will evaluate the possibility of cooperative efforts with separate government or other entities, such as INCOG, Blue Thumb, and Oklahoma State University, as methods by which to achieve certain of the goals.

Every reasonable effort has been made to comply with all requirements in the State’s OKR04 General Permit for Small Municipal Separate Storm Sewer Systems (SMS4s).

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## I. INTRODUCTION

In 1990 the U.S. Environmental Protection Agency (EPA) promulgated regulations for establishing water quality based municipal stormwater programs to address stormwater runoff from certain industrial and construction activities and from medium and large municipal separate storm sewer systems (MS4s) serving populations of 100,000 or greater. These “Phase I” regulations were incorporated into the existing National Pollutant Discharge Elimination System (NPDES) permit rules that address point source dischargers. As a result, urban nonpoint source runoff became regulated as a point source. On December 8, 1999, EPA published final regulations that address urban stormwater runoff from cities under 100,000 population and counties that lie within the Urbanized Area as defined by the latest US Bureau of Census designation or otherwise designated by the Oklahoma Department of Environmental Quality (ODEQ) as being required to obtain coverage under the State’s Phase II Stormwater program.

As one of these “Phase II” cities, the City of Stillwater must develop a comprehensive Stormwater Management Program (SWMP) that addresses six “Minimum Control Measures” (MCMs). These are:

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post Construction Management in New Development and Re-Development
6. Pollution Prevention and Good Housekeeping

The ODEQ has primary jurisdiction over permitting and enforcement of the Phase II Stormwater Program for Oklahoma. On November 1, 2015, the ODEQ finalized their General Permit (OKR04) for Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma.

The Phase II regulations require that the regulated community submit a Notice of Intent (NOI) to apply for coverage under the Oklahoma Stormwater General Permit (OKR04) along with a Stormwater Management Program document (SWMP) that specifies, for each MCM, what activities will be performed (Best Management Practices - BMPs), along with schedules and measurable goals for each BMP. In accordance with an ODEQ request, the City of Stillwater submitted only a summary of the SWMP with the NOI.

This SWMP document fulfills the OKR04 General Permit requirement to prepare a detailed plan of how the City of Stillwater will address stormwater discharges within its city limits. A map showing Stillwater's City Limits is included in Appendix A.

## II. SWMP PROGRAM OVERVIEW

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq.) as required under Section 122.34(d)(2) of the Storm Water Phase II Rule, and with the provisions under the Oklahoma Pollutant Discharge Elimination System, OAC 252:606-1-3(b)(3) incorporating by reference 40 CFR §122.26 and 122.30 through 122.35, operators of Small Municipal Separate Storm Sewer Systems (SMS4s) are authorized to discharge in accordance with the conditions and requirements set forth in their permit. The Phase II regulations issued by the EPA can be found in FR Vol. 64 No. 235, December 8, 1999, beginning on page 68722, and became effective on February 7, 2000.

The ODEQ's OKR04 General Permit is a new issue with an effective date of November 1, 2015. The general permit and the authorization to discharge shall expire at midnight October 31, 2020. As provided in the permit, operators of SMS4s who submit a Notice of Intent and a Storm Water Management Program (SWMP) in accordance with PART IV of the general permit are authorized to discharge pollutants to waters of the State in accordance with the conditions and requirements set forth in the permit. ODEQ has requested that Phase II cities submit only a summary of the SWMP with the NOI, rather than the entire plan.

The OKR04 permit authorizes discharges of storm water and certain non-storm water discharges from SMS4s, as defined in OAC 252:606-1-3(b)(3) incorporating by reference 40 CFR §122.26(b)(16). This includes MS4s designated under 40 CFR §122.32(a)(1) and 40 CFR §122.32(a)(2) that describes the referenced area with a population of at least 10,000 but not exceeding 100,000, and SMS4s located in urbanized areas (UA). A number of other operators of SMS4s located outside of a UA have also been designated as a regulated MS4.

This SWMP document specifies all of the actions that the City of Stillwater will take to comply with the stormwater regulations and address the six "Minimum Control Measures" required by EPA for a successful stormwater program.

All information contained in this SWMP represents a good faith effort on the part of the City of Stillwater to comply with all requirements of the ODEQ's Phase II General Permit for Small MS4s (OKR04). This SWMP will be reviewed periodically by local administrative staff and amended, as needed, to provide greater efficiency or meet additional requirements that may be forthcoming under OKR04 or other regulatory changes.

This SWMP addresses all elements of the ODEQ's General Permit for MS4s (OKR04). The six Minimum Control Measures are addressed in the same sequence as the OKR04 text, and supporting tables and summary forms are included. Table III-1 contains a summary table of all BMPs to be used in City of Stillwater's program. Appendix B has one page summaries of each BMP.

### III. MINIMUM CONTROL MEASURES

For each of the following Minimum Control Measures (MCMs), the City of Stillwater will implement Best Management Practices (BMPs), develop implementation schedules, and establish Measurable Goals for each BMP. An annual report will be submitted to the ODEQ that documents implementation and BMP effectiveness under each of the six MCMs.

This SWMP provides information on the BMPs and other activities that will be implemented to address each of the MCMs. Table III-1 summarizes all BMPs that will be used for this MCM. Appendix B provides a one-page description of each BMP, along with measurable goals and schedule of implementation.

#### A. MCM 1: PUBLIC EDUCATION AND OUTREACH:

OKR04 requires Phase II cities to develop and implement a public education program to distribute education materials and to develop and document a stormwater public outreach program that addresses BMPs and measurable goals of the education program. The City of Stillwater will use a number of public education Best Management Practices (BMPs) to inform individuals and groups about the steps they can take to reduce stormwater pollution and become involved in the stormwater program.

##### Applicable Best Management Practices:

- Brochures - Develop Web Based
- Training
  - City Staff
  - Development Community
    - Builders
    - Developers
    - Engineers
  - Contractors
- Public Awareness Signs
- City Council Annual Presentation
- Planning Commission Annual Presentation
- Public Awareness Signs
- Pollutant Collection Facility and Events
- Promote and Utilize Recycling Centers
- Distribute promotional logo items to schools and non-profits

- Develop outreach programs to area public schools

## **B. MCM 2: PUBLIC PARTICIPATION AND INVOLVEMENT:**

Some of the activities under the Public Education and Outreach MCM will also apply to the Public Participation and Involvement MCM. The Public Participation MCM is different from the Public Education MCM in that the citizens of City of Stillwater will actively participate in a program component such as stream cleanups or stormdrain marking. By participating, citizens not only learn about the urban stormwater quality issues but contribute towards improving water quality in their community.

### Applicable Best Management Practices:

- Brochures - Develop Web Based
  - Stormwater quality impacts from urban runoff
  - How to become involved in Stormwater quality program
  - Recycling
- Public Meetings - Phase II Discussion
  - City Council Annually
  - City Planning Commission - Annually
  - Builders Relations Meetings - Annually
- Sponsorship of Public Clean up Events
  - Streams
  - Parks
  - Roadway
- Sponsorship of recycling events
  - Household Hazardous Waste
  - Electronic Waste Collection

## **C. MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION:**

The City of Stillwater will implement a comprehensive program to detect and eliminate illicit discharges in accordance with the requirements in the OKR04 General Permit. The program will rely upon a number of methods of pollutant detection, including complaints from the public and inspections. The sources and responsible parties of the pollution may or may not be identifiable.

The City of Stillwater will use a number of Best Management Practices (BMPs) to implement an effective detection and elimination program for illicit discharges. Some of the brochure from the Educational Materials BMP program will be useful for this MCM as well.

### Applicable Best Management Practices:

- Brochures - Develop Web Based
  - Household chemical disposal options

- Business chemical storage and disposal options
- Recycling and Reuse
- Public Meetings - Phase II Discussion
  - City Council Annually
  - City Planning Commission - Annually
  - Builders Relations Meetings - Annually
- Sponsorship of Public Clean up Events
  - Streams
  - Parks
  - Roadway
- Sponsorship of recycling events
  - Household Hazardous Waste
  - Electronic Waste Collection

**D. MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL:**

The City of Stillwater will implement a comprehensive inspection and enforcement program, utilizing a number of BMPs, to implement an effective erosion and pollutant control program for active construction sites. The City will review/revise existing ordinances and develop new ordinances, if deemed necessary, prohibiting the discharge of pollutants and sediment from construction sites, and require the deployment of adequate erosion control measures. City inspectors will perform periodic construction site inspections for compliance with local stormwater codes.

Applicable Best Management Practices:

- Standardized Construction Plan
  - Develop Standard Erosion Control Plan Sheet
  - Develop minimum standard Erosion Control Construction Notes
  - Develop Localized Construction BMP manual
- Policies - Ordinances
  - Issue permit jointly to Owner and Operator
  - Adopt ordinance and inspection procedures to address chronic violators
- Training
  - City Staff
    - Construction Inspectors
    - Operations Staff
    - Development services staff
  - Builders Relations Meetings - Annually
  - Design Workshops

#### **E. MCM 5: POST-CONSTRUCTION RUNOFF CONTROL:**

Post-construction stormwater management in new development and redevelopment focuses on implementation of controls and practices that will try to maintain good water quality conditions after an area has been developed and after construction activities have been completed. The BMPs should be appropriate for the local site conditions and should be selected to minimize water quality impacts. The City will develop methods to address the long-term operation and maintenance of the BMPs.

##### Applicable Best Management Practices:

- Develop Permanent Post Construction Policies
  - Improved owner maintained facilities
- Policies - Ordinances
  - Develop policies to encourage Low Impact Development
  - Complete Streets Design standards
  - Encourage Form Based Codes Design
- Training
  - City Staff
    - Construction Inspectors
    - Operations Staff
    - Development services staff
  - Builders Relations Meetings - Annually
  - Homeowners/Property owner association meetings
- Continue Stream monitoring
  - Coordinate with stream volunteers
  - Continue Dry Weather Observation and assessment

#### **F. MCM 6: POLLUTION PREVENTION / GOOD HOUSEKEEPING:**

Pollution prevention/good housekeeping for municipal operations is a minimum control measure designed to emphasize the operation and maintenance (O&M) of the MS4 and proper training of municipal employees. Performing municipal activities in a careful and proper manner prevents or reduces pollutant runoff. Municipal operations include parks and open space maintenance, vehicle fleet and building maintenance, new construction and land disturbances, building oversight, and stormwater system maintenance.

##### Applicable Best Management Practices:

- Review and Develop Policies - Ordinances
  - Develop greater utilization of GIS and Mapping of MS4 Outfalls
  - Develop GPS based tracking monitoring of events
- Training
  - City Staff
    - Construction Inspectors

- Public Infrastructure Operations Staff
  - Building Maintenance staff
  - Development Community - Annually
- Continue Stream monitoring
  - Coordinate with stream volunteers
  - Continue Dry Weather Observation and assessment
- Maintain Hazardous Spill Kits

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## BMP Summary Table

BEST MANAGEMENT PRACTICES	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	COMMENTS
<b>ADMINISTRATIVE</b>						
Adopt illicit discharge ordinance	Complete	review/mod	review/mod	review/mod	review/mod	
Adopt construction ordinance	Complete	review/mod	review/mod	review/mod	review/mod	
Adopt post-construction ordinance	Complete	review/mod	review/mod	review/mod	review/mod	
Comply with State and Local public notification	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	
Program to receive information from the public	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	
Site Plan review to include water quality	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	As ordinance is approved.
Support regional agency-sponsored seminars	Plan	Plan	Plan	Plan	Plan	Once/Permit Cycle
Discuss Phase II in city council meetings	Once/Year	Once/Year	Once/Year	Once/Year	Once/Year	
Collect local pollution data	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	
Develop stormwater web site	Review/Mod	Completed	review/mod	review/mod	review/mod	
<b>COMMUNITY INVOLVEMENT</b>						
Sponsor local clean-up events	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Minimum of once/year
Create display board for public meetings	Develop	review/mod	review/mod	review/mod	review/mod	
Create signs for community education	Develop	review/mod	review/mod	review/mod	review/mod	
Create signs for city work areas		Develop	review/mod	review/mod	review/mod	
Conduct school presentations	5 Hours	5 Hours	5 Hours	5 Hours	5 Hours	
Conduct storm drain marking	Plan	Once/Year	Once/Year	Once/Year	Once/Year	Target neighborhoods
Conduct household pollutant collection event	Once/Year	Once/Year	Once/Year	Once/Year	Once/Year	
<b>INSPECTIONS</b>						
Investigate MS4 system complaints	100% action	100% action	100% action	100% action	100% action	
Illicit discharge tracking in MS4 system	100% action	100% action	100% action	100% action	100% action	
Inspections of construction sites and activities	*	All sites	All sites	All sites	All sites	* As ordinance is approved.
Good housekeeping inspections of city property	*	*	*	*	*	* Once/Permit Cycle
<b>BROCHURES -BROADEN TO USE WITH SOCIAL MEDIA</b>						
Convert Paper Brochures to Electronic Media	Review/Mod	Review/Mod	* Distribute	* Distribute	* Distribute	* >100 to general public.
ID Social Media Platforms	Develop 3	Dev 1/Apply	Apply	Apply	Apply	
Water quality impacts from urban stormwater	Review/Mod	Review/Mod	* Distribute	* Distribute	* Distribute	* >100 to general public.
Household chemical disposal options	Review/Mod	Review/Mod	* Distribute	* Distribute	* Distribute	* >100 to general public.
Construction/erosion control BMPs	Review/Mod	Review/Mod	* Distribute	* Distribute	* Distribute	* As needed developers/contr.
Post-construction/erosion control BMPs	Review/Mod	Review/Mod	* Distribute	* Distribute	* Distribute	* As needed developers/contr.
<b>TRAINING MODULES</b>						
Storage and disposal of chemicals at city facilities	*	*	*	*	*	* Training will be provided
Water quality impact and regulations	*	*	*	*	*	once a permit cycle
How to conduct effective stormwater inspections	*	*	*	*	*	to applicable City of Stillwater
Stormwater and city house-keeping activities	*	*	*	*	*	employees.
<b>MS4 MAPPING</b>						
Local MS4 maps	Review/Mod	review/mod	review/mod	review/mod	review/mod	
Add GPS inspection Monitoring	Develop	review/update	review/update	review/update	review/update	

## IV. IMPAIRED WATERS

The OKR04 general permit requires that if any of the MS4 receiving waters are on the latest Clean Water Act (CWA) §303(d) list of impaired waters, then the MS4 must include all necessary BMPs that will ensure the impairment caused by the identified pollutants in the receiving waters will; not cause, have the reasonable potential to cause, or contribute to an in-stream exceedance of water quality standards. The following receiving water bodies are classified as impaired waters in the MS4:

<u>Name</u>	<u>WB ID</u>	<u>Cause(s) of Impairment</u>
Boomer Lake	OK620900040190-00	Mercury, Chlorophyll-a, Dissolved Oxygen, Turbidity
Stillwater Creek	OK620900040270-10	Escherichia Coli, Dissolved Oxygen Turbidity

None of the impaired waters have established TMDLs for any of the impairments. All of the impaired waters have a 2019 TMDL establishment priority.

Part III of OKR04 requires special BMP development and implementation for discharge to any impaired water bodies by the MS4. The following BMPs will be pursued by the MS4 for each of the impairment causes.

### Mercury and Chlorophyll-a Reduction BMPs - Boomer Lake

1. MS4 Mapping - Utilize MS4 outlet feature mapping to identify focused area for investigation of illicit storm drainage discharges.
2. Inspection Program - Focus inspection and investigation into potential sources in tributary area.
3. Investigate cost effective construction BMP standards for pollutant source removals such as the use of bioswales, forebays and wetlands.

### E-coli Reduction BMPs - Stillwater Creek

4. MS4 Mapping - Utilize MS4 outlet feature mapping to identify focused area for investigation of illicit storm drainage discharges.
5. Inspect regional sanitary systems for leakage and overflows.
  - a. Lift Station overflows
  - b. Sewer main capacity and condition.
  - c. Investigate onsite septic systems for failure/replacement
  - d. Consider sewer system expansion.
6. Coordinate with property owners, ranchers, OSU on livestock operation and management to minimize non-point sources.

## Turbidity and Dissolved Oxygen BMPs - Stillwater Creek and Boomer Lake

7. MS4 Mapping - Utilize MS4 outlet feature mapping to identify focused area for investigation of illicit storm drainage discharges with emphasis on identification of potential COD and BOD sources.

## **V. AQUATIC RESOURCES OF CONCERN**

The OKR04 general permit requires that if any portion of the City's MS4 lies within the Aquatic Resources of Concern area designated in Exhibit 1 of OKR04, then the segment should receive special consideration to ensure that the MS4 discharges do not negatively impact any protected species and/or habitat to which the designation applies. Using Exhibit 1, it has been determined that there is an Aquatic Resources of Concern to which the City of Stillwater MS4 can discharge; the Cimarron River Watershed.

As the entire MS4 drains to Stillwater Creek, and ultimately to the Cimarron River, and virtually all BMPs will contribute to efforts to reduce turbidity levels, there are not specific geographic areas that will receive special attention under this criterion.

## **VI. OPTIONAL PERMIT REQUIREMENTS FOR CITY CONSTRUCTION**

The City of Stillwater elects to comply with the alternative provided in Part VIII of OKR04 relating to construction activities on land owned by the City and to activities that are directly controlled by the City. By selecting this option, all municipal construction discharges are herein authorized so long as the City meets all terms and requirements under OKR04. The City of Stillwater will develop, for each City construction project of one acre or greater in size, a Stormwater Pollution Prevention Plan (SWP3) that meets all requirements of OKR04 and applies to all municipal construction activities within the Stillwater city limits. This option applies to all City construction activities where the City meets the definition of "construction site operator" as defined in OKR04.

The City of Stillwater will potentially have several types of construction activities in the future, including: 1) new or renovated buildings, 2) street construction or reconstruction, 3) cleared and/or paved areas such as parking lots or park ball fields, and 4) utility construction and/or maintenance. The City of Stillwater will either hire a contractor to perform the work or use city crews and equipment. Standard construction practices will be used on all projects. Local conditions will vary with topographic and soil conditions, as well as accessibility and the presence of other existing features. Appendix A shows a map of the City of Stillwater boundaries within which City construction may occur.

The City's Project Manager for each project will ensure that the project-specific SWP3 is developed and a copy kept at the construction site for review. When the City hires a contractor to perform the work, the City will either require the contractor to prepare and maintain access to the SWP3, or do so itself. This will be verified by the City construction inspector or other City official. The City will inspect the project site as with

any other construction project within the City's jurisdiction. Part of this inspection process will be to ensure that all SWP3 requirements are being met. The City's SWP3 contents will meet all requirements of OKR04.

## VII. CITY OWNED INDUSTRIAL FACILITIES

The City of Stillwater owns two industrial facilities for which it has submitted an NOI. Those facilities are the Stillwater Municipal Airport (Authorization Number OKGP00326) and the Municipal Waste Water Treatment Plant (Authorization Number OKR052250 ). The City also owns three facilities for which it has submitted a "No Exposure Certificate". Those facilities are Fire Station #1, the Boomer Lake Power Station, and the Parks and Recreation Maintenance Shop.

## VIII. DEFINITIONS

All definitions contained in Section 502 of the Act and 40 CFR §122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the Statute or Regulation takes precedence.

**Best Management Practices (BMPs)** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Construction Site Operator** means the party or parties that meet one or more of the following descriptions:

- (1) Has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications or;
- (2) Has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a Storm Water Pollution Prevention Plan for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

**Control Measure** as used in the permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the State.

**Discharge**, when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2.

**General Permit OKR4** was issued by the state, and under this permit, Phase II cities in compliance with the program are allowed stormwater and certain non-stormwater discharges.

**Illicit Discharge** is any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an OPDES or NPDES permit and discharges resulting from fire fighting activities.

**MEP** is an acronym for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA §402(p).

**Municipal Separate Storm Sewer System (MS4)** means conveyances (including streets, curbs, gutters, storm sewers, culverts, catch basins, ditches, channels, or storm drains) that function as part of a city's stormwater collection and conveyance system. This means storm and sanitary sewers are not combined.

**National Pollution Discharge Elimination System (NPDES)** is a body of EPA rules regarding stormwater quality. Phase I regulated cities with populations over 100,000 and construction sites greater than 5 acres. Phase II regulates certain smaller cities with populations over 10,000 and construction sites greater than 1 acre.

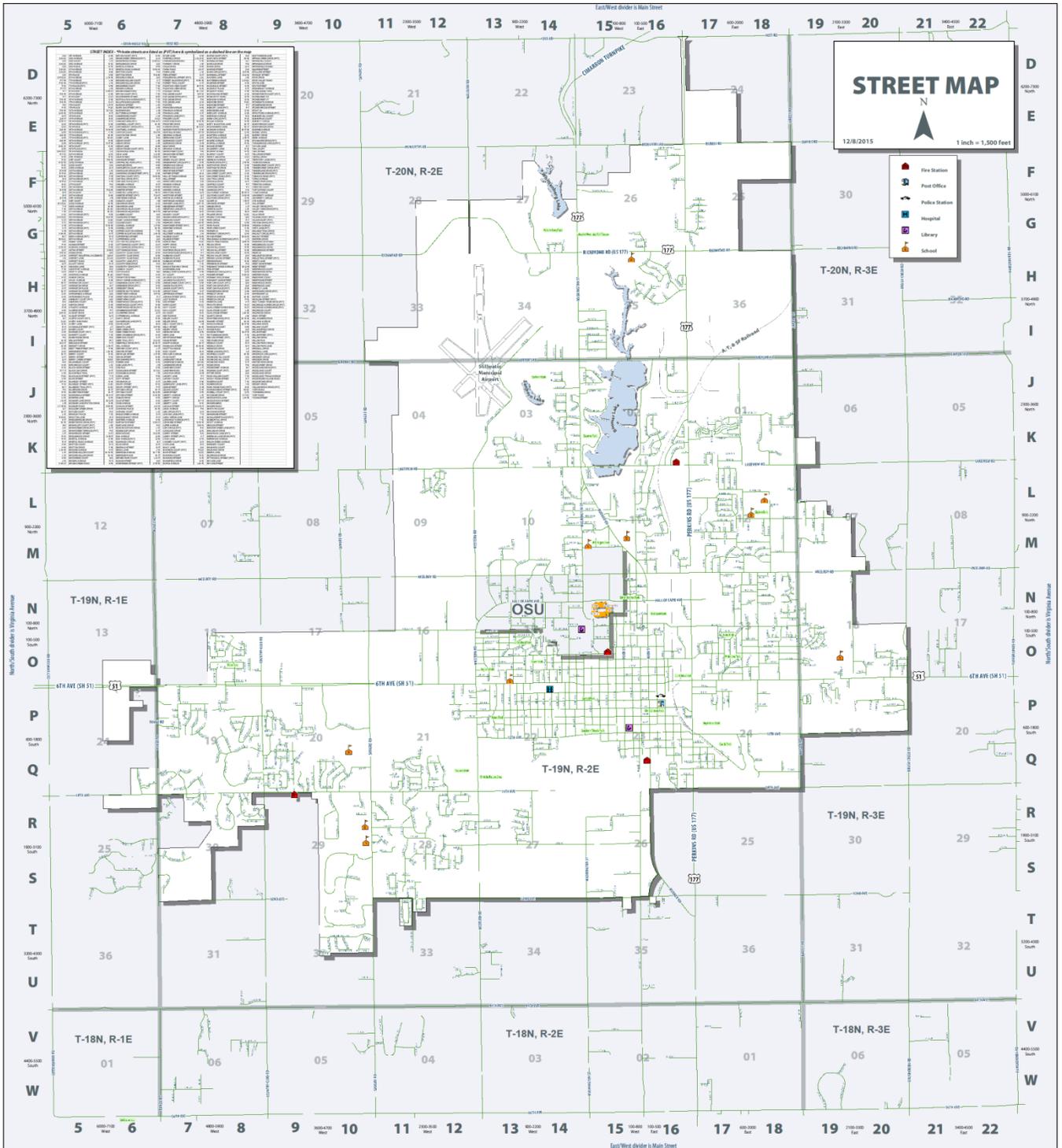
**Notice of Intent (NOI)** must be submitted, and accepted by ODEQ, to be covered by the permit and is the mechanism used to "register" for coverage under a general permit.

**Stormwater** is defined as stormwater runoff, snow melt runoff, and surface runoff and drainage.

**Stormwater Management Program (SWMP)** refers to a comprehensive program (and document) to manage the quality of storm water discharged from the municipal separate storm sewer system.

# APPENDIX A: Map of City Limits of City of Stillwater

The following is a map showing the City Limits of the City of Stillwater.



**APPENDIX B**  
One Page Summaries of BMPs

BMP Title:	<b>Brochures / Flyers / Social Media</b>					
Minimum Control Measure Applications	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X	X	X	X
BMP Description:	Expand use of existing and develop new brochures or flyers for the following and distribute in print and via social media: Water quality impacts from urban stormwater, household chemical disposal options, proper use of fertilizers and pesticides, recycling and re-use benefits, how to become involved in the stormwater program, motor oil pollution prevention, responsible pet ownership, construction / erosion / sediment control BMPs, post-construction stormwater management BMPs, chemical storage and disposal at City facilities, City good housekeeping options, and various other program-related topics. Details: Will be distributed continuously at City building, Will be distributed to City schools once per permit year, Every permit year one selected brochure / flyer will be mailed as a utility bill stuffer “Construction / erosion / sediment control BMPs” also will be distributed with building permit issuance, “Chemical storage and disposal at City facilities” and “City good housekeeping options” also will be distributed at City staff training events offered various times during the permit cycle.					
Target Audience:	General public – adults, schools (5th-12th), business owners, contractors, developers, builders, consulting engineers, City staff					
Measurable Goals:	2016: Minimum: Identify 3 social media platforms for electronic media distribution. 2017: Minimum of having electronic versions of 50% of printed brochures. 2018: Minimum 100% electronic versions. 2019: Review and update brochures.					
Implementation Schedule:	2016: Develop media platforms by end of year. 2017: Develop/convert new material, Modify, update, and distribute during year. 2018: Develop/convert, Modify, update, and distribute during year. 2019: Modify and update, distribute during year.					

BMP Title:	<b>MS4 Mapping</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
			X	X	X	X
BMP Description:	<p>The City of Stillwater will develop a GIS-based storm sewer system map that shows the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls. Priority areas for the above-referenced MCM will be determined utilizing this GIS database. Details: This map will be created by utilizing existing records at the City, public-domain GIS data, contract-acquired GIS data such as aerial photographs and radar-generated topography, USGS 7.5 Minute Quadrangles, and FEMA Flood Insurance Rate Maps (used as a reference for labeling USGS unnamed tributaries), and spot field verifications using Global Positioning System (GPS) MS4 storm sewer map will be revised once every permit year to incorporate all corrections and updates from compiled data</p> <p>Map will also be used to develop prioritized inspection areas for illicit discharges to impaired water bodies.</p>					
Suitable For:	City staff					
Measurable Goals:	<p>Develop priority inspection zones for investigation of illicit discharges to all impaired waters by end of first year.</p> <p>Update Map for entire MS4 by the end of each year</p>					
Implementation Schedule*: * Permit Year	Annually - Compile corrections and updates; revise map					

BMP Title:	<b>Public Meetings</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X				
BMP Description:	Discuss the Phase II Program once every permit year at the City Council Meeting. Details: These are public meetings that comply with State and local public notice requirements					
Suitable For:	General public					
Measurable Goals:	Number of times Phase II Program was discussed at City Council Meeting per permit year Number of contacts made by the public due to the public meetings per permit year.					
Implementation Schedule*: * Permit Year	None					

BMP Title:	<b>Ordinance</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
			X	X	X	
BMP Description:	The City of Stillwater will review and modify existing ordinances for the above-referenced MCM Details: Ordinance effectiveness will be periodically reviewed and changes made as appropriate					
Suitable For:	City staff and administration					
Measurable Goals:	City of Stillwater will develop and review ordinances the first year of the program. The City of Stillwater will adopt the ordinances by the middle of the second year. Update and changes in the ordinances will be made as needed.					
Implementation Schedule*: * Permit Year	Year 1 – Develop and review ordinances for MCM #3, 4, 5. Year 2 – Adopt ordinances for MCM #3,4,5 Year 4 - Review and modify existing ordinances if needed Year 5 - Evaluate effectiveness of the above ordinances; begin administrative process to make any needed modifications					

BMP Title:	<b>Site Plan Review</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
				X	X	
BMP Description:	Modification of the current pre-construction site plan review process to incorporate the review of erosion and sediment control BMPs and post-construction BMPs that address stormwater quality. Details: Current site plan review process and minimum design standards will be reviewed; modifications to the process and standards will be implemented to ensure required elements pertaining to the above MCM are present on the plans and/or addressed in some other manner. Site plan review will incorporate the updated sediment and erosion control manual BMP.					
Suitable For:	City staff					
Measurable Goals:	Site plan review process reviewed and modified to address MCM # 4 within the second year of the permit. Site plan review process reviewed and modified to address MCM #5 within the first four years of the permit. Number and type of BMPs for MCM #4 and #5 shown on the final approved plans and/or addressed in some other manner per permit year. Effectiveness of the site plan review process evaluated during the fifth year of the permit and modified if needed					
Implementation Schedule*: * Permit Year	Year 1 - Review and modification of site plan review process for MCM #4 Year 2 – Implement updated process and standards for MCM #4 Year 3 - Review and modification of site plan review process and design standards for MCM #5. Implement process by end of year. Year 5 - Evaluate effectiveness of the site plan review process; make needed modifications					

BMP Title:	<b>Public Information Receipt</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X	X	X	X
BMP Description:	Review existing, development new procedures in the first year of the permit to receive, record, and consider information / input from the public. Details: Procedures needed due to the anticipated volume of public contact Staff will be educated on how to document public input from email, letters, faxes, phone calls, social media and personal contacts. Response actions tied to each request will be documented Response actions will be evaluated as to whether they were successful or not Follow-up action on unresolved problems will be ensured. Success of these procedures will be evaluated and the procedures modified as needed					
Suitable For:	City staff					
Measurable Goals:	Development of procedures and their implementation in the first permit year. Total number of contacts made by the public, method of contact, and associated data such as MCM every permit year.					
Implementation Schedule*: * Permit Year	Year 1 - Develop and implement procedures Year 2, 3, 4 & 5 - Continue program					

BMP Title:	<b>Enforcement</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
			X	X	X	X
BMP Description:	Conduct enforcement specific to appropriate MCM. Detail: Increasingly more strict enforcement actions will be used with continued noncompliance at a site, including stop work orders, fines and referral to the ODEQ and EPA in situations where the City's series of enforcement actions have failed to abate the pollutant source.					
Suitable For:	City-wide, all sources					
Measurable Goals:	Record total number of sites requiring enforcement action every permit year. Record total number of enforcement actions and type every permit year and per MCM every year. Record total number of sites requiring enforcement action beyond the first contact every permit year and per MCM every permit year. Record total number of sites referred to the ODEQ / EPA due to noncompliance every permit year and per MCM every permit year. Number of pollution sources abated due to enforcement action every permit year and per MCM every permit year					
Implementation Schedule*: * Permit Year	Year 1, 2, 3, 4 & 5 - Conduct enforcement as necessary; record data					

BMP Title:	<b>Stormwater Website</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X	X	X	
BMP Description:	Review the existing stormwater website by the end of the first permit year. Add new elements as they are developed. Details: The Stormwater website will contain information on each BMP. It will contain information on what citizens can do to help improve water quality. The site will also have information on the upcoming events.					
Suitable For:	General public					
Measurable Goals:	Update stormwater website by the end of the first permit year. Report the number of times the website was updated every permit year. Report the number of contacts made by the public due to accessing the website every permit year					
Implementation Schedule*: * Permit Year	Year 1 - Establish website Year 2, 3, 4 & 5 – Update					

BMP Title:	<b>Digital Media Public Service Announcement</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X					
BMP Description:	Develop digital media public service announcements on water quality impacts from urban stormwater by the end of the second permit year. Details: The City of Stillwater will incorporate EPA videos as well as material developed by the City. Distribute to local tv, cable, internet outlets and on social media.					
Suitable For:	General public					
Measurable Goals:	Develop and distribute public service announcement by the end of the second permit year. Record number of times or length of time announcement ran on local cable per permit year. Record number of contacts made by the public due to viewing announcement per permit year					
Implementation Schedule*: * Permit Year	Year 2 – Air announcement Year 3, 4 & 5-develop new announcement and run it on local cable channels and via social media.					

BMP Title:	<b>Newsletter (Utility Bill)</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X					
BMP Description:	Place one article about stormwater quality and/or public participation events in this publication once every permit year. Details: This is a City-generated newsletter sent at least annually to all utility customers in the City of Stillwater.					
Suitable For:	General public					
Measurable Goals:	Place one article about stormwater quality and/or public participation events once every permit year. Record the number of contacts made by the public due to reading this article every permit year.					
Implementation Schedule*: * Permit Year	Year 1 - Create article Year 2, 3, 4 & 5 –Create new article if necessary and Send in utility bill at least once a year					

BMP Title:	<b>Posters</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X					X
BMP Description:	Develop or obtain posters for public awareness about stormwater. Details: It will be posted at City Hall quarterly, and when special events are coming up.					
Suitable For:	General public, City staff					
Measurable Goals:	Number of posters posted at City buildings per permit year Number of contacts made by the public attributable to viewing the poster per permit year					
Implementation Schedule*: * Permit Year	Year 1 - Develop / obtain poster and post at City buildings Year 2, 3, 4 &5 - Repeat					

BMP Title:	<b>School Program</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X				
BMP Description:	Obtain / provide a stormwater education program for the schools. Details: The City of Stillwater will give presentations to the 8 <sup>th</sup> grade classes twice a year. The Stormwater Program will also give the teachers education material to give the students.					
Suitable For:	Schools (8th graders)					
Measurable Goals:	Develop / obtain stormwater education material the second permit year of permit. Report the number of children every permit year receiving this instruction					
Implementation Schedule*: * Permit Year	Year 2 - Develop / obtain stormwater education program Year 3, 4 & 5 - Continuously available					

BMP Title:	<b>Clean-Up Events / Programs</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X			X
BMP Description:	Sponsor Adopt A Street program events every year. Details: This is an ongoing program currently sponsored by the City. "Adopt-a-Street" Program is continuously available; "Adopt-a-Street" Program requires clean-ups at least annually.					
Suitable For:	General public, City staff					
Measurable Goals:	Miles of streets under adoption every permit year. Number of clean-up events every permit year. Number of participants in each particular event. Miles of streets cleaned every permit year by these events. Number of bags of trash collected or other quantifiable data on what was collected to demonstrate the success of the particular event.					
Implementation Schedule*: * Permit Year	None					

BMP Title:	<b>Household Pollutant Collection Event</b>					
Minimum Control Measure Addressed:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X			X
BMP Description:	Support the household pollutant collection event that is already in place. Details: The Environmental Programs Division put this event on. The Stormwater Management Program will support and help promote this event.					
Suitable For:	General public, City staff					
Measurable Goals:	Hold one household pollution collection event every permit year and provide permanent disposal sites. Types of pollutants collected and associated quantifiable data such as pounds, containers, gallons, etc. to demonstrate the success of the event.					
Implementation Schedule*: * Permit Year	None					

BMP Title:	<b>Recycling Opportunities</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X			X
BMP Description:	Offer recycling opportunities. Details: These are opportunities currently offered by the City of Stillwater.					
Suitable For:	General public, City staff					
Measurable Goals:	Number or percentage of households participating in curbside recycling every permit year					
Implementation Schedule*: * Permit Year	None					

BMP Title:	<b>Storm drain Marking</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X	X	X			X
BMP Description:	A stock of storm drain marking kits will be obtained the first permit year and offered continuously thereafter. Details: The Environmental Programs has been providing stormdrain marking kits and training to volunteer who want to participate in the stormdrain marking program.					
Suitable For:	General public, schools, non-profits					
Measurable Goals:	Number of stormdrains marked every permit year.					
Implementation Schedule*: * Permit Year	Year 1 – Maintain stock of kits and provide training needed to train volunteers on how to safely install stormdrain markers. Year 2, 3, 4 & 5 - Continuously available					

BMP Title:	<b>Free Promotional Items</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X					
BMP Description:	Purchase and distribute items with stormwater quality message to promote the stormwater program. Details: To be distributed free at public events when brochures are distributed and/or when public education booths are set up at events.					
Suitable For:	General public, schools, non-profits					
Measurable Goals:	Select one item type and purchase by the end of the second permit year. Number of items distributed every permit year. Number of contacts made by the public due to item every permit year					
Implementation Schedule*: * Permit Year	Year 1 - Select item type and acquire Year 2, 3, 4 & 5 – Distribute					

BMP Title:	<b>Inspections</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
			X	X	X	X
BMP Description:	<p>Conduct inspections specific to appropriate MCM Detail: Investigations under MCM #3 and #6 of the MS4 and waterways primarily will be complaint-driven, except for areas tributary to Boomer Lake and Stillwater Creek.</p> <p>Investigations under #4 and #6 for both MS4 impaired water bodies will focus on identification of all potential pollutant load sources contributing to the impairments.</p> <p>Investigations under #4 and #5 will be both regularly scheduled as well as complaint-driven. Good Housekeeping investigations under #6 of the City-owned facilities will be regularly scheduled. Trigger mechanism, pertinent data, and applicable MCM for every investigation will be recorded.</p>					
Suitable For:	City-wide					
Measurable Goals:	<p>Total number of sites inspected every permit year and per MCM every permit year. Total number of investigations conducted every permit year and per MCM every permit year. Routine inspections for MCM #4 begun by the end of the first permit year. Good Housekeeping inspections for MCM #6 begun by the end of the second permit year. Number of investigations conducted for pollutant source tracking every permit year with breakdown of number by City staff and number by contract professionals. Total number of inspections requiring follow-up action(s) and type(s) of follow-up action(s) every permit year and per MCM every permit year. Total number of pollution sources abated due to an inspection every permit year and per MCM every permit year.</p>					
Implementation Schedule*: * Permit Year	Year 1, 2, 3, 4 & 5 – Conduct inspections; record data					

BMP Title:	<b>Erosion and Sediment Control Manual</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
	X			X	X	
BMP Description:	The Stormwater Program will develop an erosion and sediment control manual for construction contractors and developers that address proper erosion and sediment control measures.					
Suitable For:	All construction activities within the city-wide MS4 system.					
Suggested Measurable Goals*: * by permit Year	2016 - Develop draft erosion and sediment control plan standards 2017 – Finalize manual and distribute manuals to all active construction sites, developers and design engineers. 2018 – Distribute manuals to Stormwater Permit (currently earth change permit) applicants. 2019 – Update if necessary and continue to distribute. 2020 – Continue to distribute manuals.					
Implementation Schedule*: * by Permit Year	Same as Measurable Goals.					

BMP Title:	<b>Illicit Discharge Investigation and Monitoring</b>					
Minimum Control Measure Application:	Public Ed.	Public Part.	Illicit Det.	Constr.	Post Const.	Houskeep.
			<b>X</b>			<b>X</b>
BMP Description:	<p>The City of Stillwater will develop policies and procedures to investigate and conduct enforcement, as necessary, for suspected illicit discharges.</p> <p>Increasingly more strict enforcement actions will be used with continued noncompliance at a site, including referral to the ODEQ and EPA in situations where the City's sequence of enforcement actions have failed to abate the pollutant source.</p> <p>The City will develop and implement a dry weather screening program, which may include checking for water flows in excess of expected base flows during low rainfall periods and chemical monitoring. The City of will also develop an Optical Brightener Monitoring program that will help find and eliminate illicit discharges.</p>					
Measurable Goals:	<p>Number of complaints received, and number validated.</p> <p>Number of possible violations investigated and number confirmed.</p> <p>Number of sites requiring enforcement action beyond first identification, and type of action.</p> <p>Number of pollution sources abated due to enforcement action.</p>					
Implementation Schedule:	<p>Year 1: Investigate all complaints, start choosing monitoring sites, and determine what equipment will need to be purchased.</p> <p>Year 2: Investigate all complaints, Purchase monitoring equipment, and begin monitoring.</p> <p>Year 3: Investigate all complaints. Continue dry weather monitoring program, begin choosing sites for the optical brightener program.</p> <p>Year 4: Investigate all complaints. Continue dry weather monitoring program, start the optical brightener program.</p> <p>Year 5: Investigate all complaints. Continue dry weather monitoring and optical brightener monitoring program.</p>					