

Phase II Storm Water Management Plan

April 15, 2005

Prepared for:

City of Lawton
103 S.W. 3rd Street
Lawton, Oklahoma
73501

Storm Water Management Plan

011659.010.4.0401



NOT FOR CONSTRUCTION

THIS DOCUMENT IS INTENDED FOR
REVIEW ONLY AND IS NOT INTENDED
FOR BIDDING, PERMIT, OR
CONSTRUCTION PURPOSES.

CARTER & BURGESS, INC.

ENGINEER: WILLIAM BARTON HINES P.E.
OKLAHOMA LICENSE NO: 15977
DATE: APRIL 18, 2005

Carter=Burgess

777 Main Street
Fort Worth, Texas 76102
817-735-6000
817-735-6148 (fax)
© 2005

Table of Contents

1.0	PURPOSE OF PLAN	1
2.0	DESCRIPTION OF AREA PROPOSED FOR PERMIT COVERAGE	2
2.1	Lawton Area Description and Urbanized Area Boundaries	2
2.2	Adjacent/Enclave MS4s	2
2.3	Receiving Waters	2
2.4	Other City Activities Requiring Storm Water Permit Coverage.....	2
3.0	ACTIVITIES CONDUCTED IN SUPPORT OF PLAN DEVELOPMENT	4
3.1	Storm Water Stakeholders Group	4
3.2	City Department Meetings	4
3.3	City Facility Review	4
3.4	No Jeopardy Consultation for Endangered Species.....	4
4.0	SUMMARY OF PHASE II STORM WATER REGULATIONS AND PLAN REQUIREMENTS	6
4.1	Regulatory Chronology	6
4.2	Summary of Regulatory Requirements	6
4.3	Summary of ODEQ Permit OKR04 Requirements	6
4.3.1	Coverage Under this Permit	7
4.3.2	Eligibility Requirements for Endangered Species.....	8
4.3.2	Notice of Intent Requirements	8
4.3.3	Special Conditions.....	8
4.3.4	Storm Water Management Program Requirements	8
4.3.5	Monitoring, Record Keeping and Reporting	9
4.3.6	Standard Permit Conditions.....	10
5.0	LAWTON’S PLAN FOR THE REQUIRED MINIMUM CONTROL MEASURES	12
5.1	Public Education and Outreach	12
5.2	Public Participation and Involvement.....	12
5.3	Illicit Discharge Detection and Elimination.....	12
5.4	Construction Site Storm Water Runoff Control.....	13
5.5	Post-Construction Storm Water Management in Areas of New Development and Redevelopment	13
5.6	Pollution Prevention/Good Housekeeping for Municipal Operations.....	13

APPENDICES

3-A	Lawton, Oklahoma Urbanized Areas
3-B	December 8, 1999 Federal Register Notice of Phase II Permit Requirements
3-C	ODEQ General Permit for Storm Water Discharges from Small MS4s
3-D	Notice of Intent Form
3-E	Proposed Annual Report Outline

1.0 PURPOSE OF PLAN

The objective of this Storm Water Management Plan is to develop a program with which the City of Lawton can reduce the discharge of pollutants to the maximum extent practicable (MEP). This plan was developed with much coordination between the City and community to result in a program for Lawton that not only meets state and federal program requirements but also utilizes current activities, addresses issues that are important to the community, and is economically feasible.

2.0 DESCRIPTION OF AREA PROPOSED FOR PERMIT COVERAGE

2.1 Lawton Area Description and Urbanized Area Boundaries

The Bureau of Census defines urbanized areas as "...a land area comprising one or more places – central place(s) – and the adjacent densely settled surrounding area - urban fringe – that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile". A figure depicting the urbanized area for Lawton, Oklahoma and its surrounding areas was developed by the Environmental Protection Agency (EPA) and is provided in **Appendix 3-A- Lawton, Oklahoma Urbanized Area**.

2.2 Adjacent/Enclave MS4s

There are no adjacent MS4's to the City of Lawton. Additionally, there are no separate MS4s located within the City of Lawton.

2.3 Receiving Waters

There are several water bodies that receive discharges from the City of Lawton's MS4. These receiving waters are listed below:

- Squaw Creek
- Wolf Creek
- East Branch Wolf Creek
- Middle Branch Wolf Creek
- West Branch Wolf Creek
- Unnamed Tributary to Wolf Creek
- East Cache Creek
- Wratton Creek
- Tributary A of East Cache Creek
- Tributary B of East Cache Creek
- Mission Creek
- Ninemile Creek
- Goodyear Creek
- Goodyear Creek Tributary

2.4 Other City Activities Requiring Storm Water Permit Coverage

A Storm Water Pollution Prevention Plan (SWPPP) has been prepared for industrial activities at the Lawton Public Works Complex located at 2100 SW 6th Street in Lawton, Comanche County, Oklahoma as required for compliance with the requirements of the Oklahoma Pollutant Discharge Elimination System (OPDES) Storm Water General Permit number GP-00-01 relating to storm water discharge associated with Industrial Activity.

The City of Lawton is also required to obtain a construction general permit for any city construction activity, which disturbs one or more acres of land in accordance with conditions of the general permit (OPDES General Permit No. OKR10) for Construction Storm Water Runoff covering eligible storm water and certain types of non-storm water discharges to surface water in the state.

3.0 ACTIVITIES CONDUCTED IN SUPPORT OF PLAN DEVELOPMENT

Many activities were performed to support the Storm Water Management Plan Development for the City of Lawton and are provided below:

- Review of existing storm water program information provided by the City
- Review of the City's existing storm water mapping information
- Performed Water Quality Data Review
- Conducted 4 meetings of the Storm Water Stakeholders Group
- Facilitated meetings with City departments
- Reviewed City facilities

Some of the more significant activities are described in detail as follows:

3.1 Storm Water Stakeholders Group

The Storm Water Stakeholders Group for the City of Lawton consists of 15 citizens who represent a broad cross section of the City's constituency. The stakeholders included a City Council member and representatives from Fort Sill, Oklahoma Department of Transportation (ODOT), Goodyear Tire and Rubber Company, OSU Extension Center, Republic Paperboard, Landmark Engineering, Richards Construction.

Four meetings were conducted at the City of Lawton Carnegie Town Hall. The meetings typically began with a brief PowerPoint presentation, followed by a review of the BMP summary notebook for each minimum control measure and a discussion of the applicability of each BMP to Lawton. Each meeting concluded with the stakeholders voting on their "top five" BMPs for each minimum control measure.

3.2 City Department Meetings

Three days of meetings with various City Departments were held on October 8, 15, and 16, 2002. The meetings were grouped into four sessions. Each session began with a brief PowerPoint presentation, followed by an interview of the staff from each department that was represented.

3.3 City Facility Review

A review of City facilities was conducted. The following facilities were visited:

- Lawton Public Works Complex
Includes salt storage facilities, vehicle services maintenance garage, vehicle services car wash, fuel dispensing area as well as other city services buildings.
- Wastewater Treatment Plant

3.4 No Jeopardy Consultation for Endangered Species

The Fish and Wildlife Service was requested to concur with the City of Lawton that storm water discharges, allowable non-storm water discharges, and discharge related activities are not likely to adversely affect listed species or critical habitat. The Oklahoma

Department of Wildlife Conservation responded on March 24, 2005 and stated that no state specific listed species exist in Comanche County. Therefore, the City of Lawton meets the Endangered Species eligibility under Criterion D, which states "Based on the evaluation, the permittee has determined that there is no reason to believe the discharge and discharge related activities are likely to adversely affect any listed species or result in the adverse modification or destruction of critical habitat".

4.0 SUMMARY OF PHASE II STORM WATER REGULATIONS AND PLAN REQUIREMENTS

4.1 Regulatory Chronology

The current effort to improve the water quality in our streams started in 1977 with the passage of the Clean Water Act. The main emphasis of this legislation was to establish a system to control pollution from point sources, with the goal of reducing pollutants so that the water in our lakes and streams is both fishable and swimmable. To achieve this goal, the CWA established the National Pollutant Discharge Elimination System (NPDES). The NPDES requires that anyone discharging a pollutant from a municipal wastewater or industrial point source must obtain an NPDES permit, which specifies effluent limits, monitoring requirements, and enforcement mechanisms.

The CWA also contains regulations to address pollution from non-point sources. The EPA defines non-point source pollution as “any pollution associated with diffuse land use activities that cumulatively results in water quality degradation.” Phase I of the NPDES regulations required municipalities with populations over 100,000 to classify their storm water runoff and develop plans to reduce the pollutants in their runoff.

4.2 Summary of Regulatory Requirements

The draft Phase II NPDES regulations were published on January 9, 1998, and the final Phase II regulations were published on December 8, 1999. A copy of these regulations is provided in **Appendix 3-B - December 8, 1999 Federal Register Notice of Phase II Permit Requirements**. Based on a survey of the successful Phase I municipal programs, the EPA recognized that successful storm water quality programs have several things in common. They:

- Educate the public on storm water impacts
- Involve the public in the development and operation of the program
- Establish procedures to detect and eliminate pollutant discharges
- Control storm water runoff from construction sites
- Require permanent controls for post-construction storm water runoff
- Include good housekeeping practices for municipal operations

The EPA refers to these items as “minimum control measures”, and the Phase II regulations require the City of Lawton to “develop, implement, and enforce a storm water program to reduce the discharge of pollutants to the Maximum Extent Practicable, to protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act.”

4.3 Summary of ODEQ Permit OKR04 Requirements

The Oklahoma Department of Environmental Quality (ODEQ) has prepared the OPDES General Permit (OKR04) to authorize discharges of storm water from small municipal separate storm systems located in the state of Oklahoma to surface water in the State. This permit is briefly summarized below and a complete copy is located in **Appendix 3-C - ODEQ General Permit for Storm Water Discharges from Small MS4s**.

4.3.1 Coverage Under this Permit

This section of the General Permit states that an MS4 that is fully or partially within urbanized areas is eligible for this permit and must obtain authorization for the discharge of non-storm water runoff. Any small MS4 that the Executive Director may require to submit an application for authorization to discharge storm water from the system is eligible for coverage under this permit.

The General Permit provides that certain non-storm water sources may be discharged from the Small MS4 and are not required to be addressed in the Small MS4 operator's minimum control measures, specifically the provisions of the SWMP addressing the Illicit Discharge and Detection minimum control measure, provided that these non-storm water sources have *not* been determined by the operator of the Small MS4 to be substantial sources of pollutants to the Small MS4. These allowable non-storm water discharges are provided below:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Residential building wash water without detergents.
- Uncontaminated pumped ground water
- Uncontaminated groundwater infiltration
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- De-chlorinated swimming pool discharges
- Street wash water
- Fire hydrant flushings
- Non-commercial or charity car washes
- Discharges from riparian areas and wetlands
- Discharges in compliance with a separate Oklahoma Pollutant Discharge Elimination System (OPDES) or National Pollutant Discharge Elimination System (NPDES) NPDES permit.
- Discharges or flows from emergency fire fighting activities provided procedures are in place for the Incident Commander, Fire Chief or other on-scene fire fighting official in charge to make an evaluation regarding

potential releases of pollutants from the scene. Measures must be taken to reduce any such pollutant releases to the maximum extent practicable subject to all appropriate actions necessary to ensure public health and safety. These procedures must be documented in the SWMP. Discharges or flows from fire fighting activities are not authorized by this permit.

4.3.2 Eligibility Requirements for Endangered Species

Activities authorized under this permit must avoid unacceptable effects to Federally and State listed endangered or threatened ("listed") species or designated critical habitats. Small MS4s must certify that they have met the eligibility criteria for protection of threatened or endangered species and their critical habitat. The signed Notice of Intent ("NOI") will constitute certification of eligibility and must provide statement of which criterion will be relied upon for meeting the Endangered Species eligibility.

4.3.3 Notice of Intent Requirements

Small MS4s seeking to obtain coverage pursuant to the General Permit are required to submit a completed NOI with a SWMP. The operators of the Small MS4 must submit an NOI by May 8, 2005. A copy of the NOI is provided in **Appendix 3-D - Notice of Intent Form**. After a review of the submittal, the ODEQ will issue an authorization certificate accompanied by a letter of notification and a statement for payment of the annual fee.

4.3.3 Special Conditions

4.3.4 Storm Water Management Program Requirements

This section of the General Permit again states that the SWMP must be developed and implemented to reduce the discharges of pollutants from your MS4 "to the maximum extent practicable". The "maximum extent practicable" ("MEP") standard is common in EPA's storm water regulations and permits, but it is not defined,¹ so it is a very subjective standard for the operator of the Small MS4 to meet. EPA has stated: "Compliance with the conditions of the general permit and the series of steps associated with identification and implementation of the minimum control measures will satisfy the MEP standard." 64 Fed. Reg. at 68,754.

The SWMP must include the following information for each one of the six minimum control measures described below.

- Best management practices
- The measurable goals for each BMP
- The responsible person or persons
- Rationale and measurable goals

¹ EPA even notes in one guidance document: "There is no regulatory definition of MEP in order to allow the permitting authority and regulated MS4s maximum flexibility in their interpretation of it as appropriate." EPA, Office of Water, "Storm Water Phase II Compliance Assistance Guidance" at 4-17 (Mar. 2000).

The General Permit identified six minimum control measures, which are as follows:

- Public Education and Outreach for Storm Water Impacts
- Public Involvement/ Participation
- Illicit Discharge Detection and Elimination
- Pollution Prevention/Good Housekeeping for Municipal Operations
- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management in New Development and Redevelopment

As part of the general requirements for the SWMP, the permittee must provide documentation, implementation, and evaluation of the SWMP. This information is provided in detail in section **5.0 Lawton's Plan for the Required Minimum Control Measures**.

4.3.5 Monitoring, Record Keeping and Reporting

The General Permit requires the operator of the Small MS4 to retain all records, a copy of the General Permit, and records of all data to complete the NOI for a period of at least three years or for the term of the permit, "whichever is longer." . Because the permit term is five years, it appears that the minimum period of time to maintain such information will be five years.

The General Permit also contains provisions regarding how records related to the SWMP are to be made available to the public. Currently, the General Permit requires the operator of the Small MS4 to make the records, including the NOI and the SWMP, available to the public during normal business hours.

A concise annual report must be submitted by the City of Lawton to the Director of the ODEQ within 60 days after the anniversary date of your permit. Subsequent annual reports will be required regarding the previous permit year. Each annual report must contain a number of elements including:

- Status of compliance with permit conditions
- A summary of the results of the information collected and analyzed
- A summary of the storm water activities you plan to undertake during the next reporting cycle.
- Proposed changes to the storm water management program
- Notice that you are relying on another government entity to satisfy some of your permit obligations (if applicable)

A proposed report format is provided in **Appendix 3-E - Proposed Annual Report Outline**.

4.3.6 Standard Permit Conditions

The General Permit OKR04 identifies standard permit conditions, which are summarized below:

- The permittee has a duty to comply with all permit conditions and failure to so is a violation of the permit.
- If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect.
- The fact that compliance with the permit conditions may require the permitted activity to be halted or reduced is not a defense for a discharger in an enforcement action.
- The permittee has the duty to take all reasonable steps to minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment.
- The permittee must furnish to the Director any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating this permit or to determine compliance with this permit.
- If any relevant facts are omitted from the NOI or submitted incorrectly, the permittee must promptly submit such facts or information.
- All Notices of Intent shall be signed by either a principal executive officer or ranking elected official. All reports required by the permit and other information shall be signed by a person described above or by a duly authorized representative of that person.
- Authorization under this general permit does not convey property or water rights of any sort and does not grant any exclusive privilege.
- The permittee must at all times properly operate and maintain all facilities and systems of treatment and control to achieve compliance with the conditions of this permit.
- The permittee must allow the Director or an authorized representative upon the presentation of credentials and other documents to enter the premises, have access to records, inspect the facility, or sample or monitor any parameters for permit compliance.
- This permit may be modified, revoked and reissued, or terminated for cause.
- This permit is not transferable to any person except after notice to the Director.

- The permittee must give advance notice to the Director of any planned changes in the permitted small MS4 or activity that may result in noncompliance with this permit.
- This permit does not release the permittee from any responsibility or requirements of other environmental statutes or regulations.
- The provisions of this permit are severable.
- Permit modification or revocation shall be conducted according to OAC 252.606-1-3(b)(3) and (4) adopting and incorporating by reference 40 CFR 122.62, 122.63, 122.64, and 124.5.
- The DEQ may require any person seeking authority under or authorized by this permit to apply for and/or obtain either an individual OPDES permit or an alternative OPDES general permit.

5.0 LAWTON'S PLAN FOR THE REQUIRED MINIMUM CONTROL MEASURES

5.1 Public Education and Outreach

An effective public education program can significantly reduce other program costs, such as inspection and enforcement costs for the illicit discharge program. Informed citizens and business owners will usually take steps to reduce potential pollution from their own activities. The following list of BMPs has been developed to modify the method and message on a regular basis in order to keep the program fresh and effective.

- Classroom Education
- Signs and Billboards
- Utility Bill Messages
- Public Service Announcements

5.2 Public Participation and Involvement

In order for any regulatory program to be successful, especially a program dealing with storm water runoff where program benefits may not be readily apparent, public "buy in" to the regulatory process must be obtained. The following BMPs have been developed to easily allow the public to become involved in this storm water program.

- Storm Water Hotline
- Storm Drain Stenciling
- Stream Cleanup Projects

5.3 Illicit Discharge Detection and Elimination

This program element is designed to ensure the elimination of illegal plumbing connections and discharges to the City of Lawton's storm water system. The regulatory language for this program element is very prescriptive, and leaves little latitude for regulatory interpretation. However, the City is already performing some of the requirements of this program. The following list of BMPs includes current and new activities that meet regulatory requirements and will aid Lawton in the elimination of illicit discharges.

- Household Chemical Disposal
- Storm Water Hotline
- Illicit Discharge Detection Investigations
- Storm Drain System Mapping
- Illicit Discharge Ordinance
- Reduce Illegal Dumping

5.4 Construction Site Storm Water Runoff Control

To date, control of construction site runoff has been the most publicly visible element of the storm water program. During a short period of time, construction sites can contribute to more sediment to stream than can be deposited naturally during several decades. Therefore, this program may generate more enforcement activity than all other storm water program elements combined. The following BMPs will enable the City of Lawton to promote and monitor compliance with this program element.

- Developer's Stakeholder Committee
- Plan Review Procedures
- Construction Inspection

5.5 Post-Construction Storm Water Management in Areas of New Development and Redevelopment

Numerous studies have documented that storm water runoff from developed sites contributes significant pollutant loads to receiving waters. To address this issue and comply with the regulatory requirements for this program element, the following BMPs have been selected by the City of Lawton.

- Developer's Stakeholder Committee
- Post Construction Ordinance
- Long Term Operation and Maintenance of BMPs

5.6 Pollution Prevention/Good Housekeeping for Municipal Operations

It is difficult to convince citizens of the need for storm water pollution prevention if the municipality is not "practicing what it preaches". Therefore, an effective municipal storm water program must be founded on an effective pollution prevention program for city facilities and field operations. Below is a list of currently performed and new BMPs, which are necessary to meet regulatory requirements for this program element.

- Spill Response and Prevention
- Storm Drain System Cleaning
- Municipal Litter Control
- Roadway Cleaning
- Vehicle Washing
- Vehicle Fueling
- Hazardous Material Storage and Disposal
- Salt Storage
- Used Oil Collection & Recycling
- Vehicle Maintenance
- Storm Water Pollution Prevention Training

Each previously listed BMPs is described on individual sheets as follows.

Appendix 3-A
Lawton, Oklahoma Urbanized Area

Appendix 3-B

December 8, 1999 Federal Register Notice of Phase II Permit Requirements

Appendix 3-C

ODEQ General Permit for Storm Water Discharges from Small MS4s (OKR04)

Appendix 3-D
Notice of Intent Form

Appendix 3-E
Proposed Annual Report Outline