

RESOLUTION 2023-3340

A RESOLUTION RESCINDING AND REPLACING RESOLUTION 115-17, ADOPTING A PHASE II STORMWATER MANAGEMENT PLAN FOR THE UNINCORPORATED AREAS OF OKLAHOMA COUNTY, PURSUANT TO THE FEDERAL CLEAN WATER ACT AND ODEQ'S GENERAL PERMIT OKR04.

WHEREAS, the Oklahoma Department of Environmental Quality reissued General Permit OKR04 and it became effective on June 1, 2021.

WHEREAS, to fulfill the requirements of the Phase II General Permit OKR04, Oklahoma County is adopting this Stormwater Management Plan to be in accordance with ODEQ's Permit.

WHEREAS, Oklahoma County has filed a Notice of Intent with the ODEQ to comply with the Phase II General Permit OKR04.

WHEREAS, the Board of County Commissioners hereby approves the Stormwater Management Plan for Oklahoma County.

NOW, THEREFORE, BE IT RESOLVED that the Board of County Commissioners hereby approves the adoption of the Stormwater Management Plan for Oklahoma County.

BOARD OF COUNTY COMMISSIONERS
OKLAHOMA COUNTY, OKLAHOMA

Brian Mangham Chairman
Carrie Blumert Member
Steph De Member

APPROVED

Stacey Trumbo
Stacey Trumbo, P.E., County Engineer

ATTEST:

Maressa Treat 
Maressa Treat, County Clerk

APPROVED as to form and legality this 14 day of June, 2023.

Don E. [Signature]
Assistant District Attorney



***Oklahoma County
Stormwater
Management Plan
2022***





SIGNATURES OF RESPONSIBLE OFFICIALS

The statements made in this Stormwater Management Plan document and the programs described herein, are hereby declared to be accurate and fulfill the intent of Oklahoma County to comply with the requirements of the State of Oklahoma's Phase II Stormwater General Permit for Small 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 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.


Carrie Blumett 08-03-2023
County Commissioner District #1

Date
Brian Maughan
County Commissioner District #2 Date

Steph De
County Commissioner District #3 Date

Steve T. Bo
County Engineer Date

ATTEST:

Manina Just 
County Clerk
Date



EXECUTIVE SUMMARY

Oklahoma County has prepared this Stormwater Management Plan (SWMP) document, which provides descriptions of all activities that will be conducted on behalf of Oklahoma County to meet its obligations under the Oklahoma Department of Environmental Quality (ODEQ) General Permit for Phase II Municipal Separate Storm Sewer System Discharges for cities and counties within the State of Oklahoma (OKR04), having an effective date of June 1, 2021.

All six Minimum Control Measures (MCMs) have been addressed in this SWMP.

Each MCM has a number of Best Management Practices (BMPs) that constitute the core activities pertaining to each MCM. Appendices summarize the BMPs and provide measurable goals for each BMP, along with activity descriptions and schedules. In addition, the SWMP text provides additional information about the MCMs.

Every reasonable effort has been made to comply with all requirements in the State's OKR04 General Permit for Phase II Municipal Separate Storm Sewer Systems (MS4s). This SWMP document will be amended as needed to reflect program and implementation changes per requirements of ODEQ and the OKR04 permit.



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Introduction

In 1987, Congress amended the Clean Water Act (CWA) to require implementation, in two phases, of a comprehensive national program for addressing stormwater discharges. The first phase of the program, commonly referred to as “Phase I”, was promulgated on November 16, 1990, and addresses Municipal Separate Storm Sewer Systems (MS4s), active construction and industrial facilities. Phase I requires National Pollutant Discharge Elimination System (NPDES) permits for stormwater discharges from a large number of priority sources including medium and large MS4s generally serving populations of 100,000 or more, and several categories of industrial activity, including construction activity that disturbs five or more acres of land.

The operators of construction activities disturbing greater than 5 acres have been required to obtain NPDES permit coverage since 1992. General permits for large construction activities require construction operators to develop and implement a stormwater pollution prevention plan (SWPPP) to control erosion, sediment and other wastes on the site.

The Phase I Industrial Stormwater Program regulates eleven industrial categories, which the Environmental Protection Agency (EPA) has further broken out into 30 sectors. Similar to construction activities, these industrial facilities have been required to obtain NPDES permit coverage since 1992. General permits require regulated industries to develop and implement a stormwater pollution prevention plan, including monitoring for some industries.

The second phase of the stormwater program, promulgated on December 8, 1999, amends existing Phase I regulations dealing with MS4s, active construction and industrial facilities. The final regulations address urban stormwater runoff from cities under 100,000 population and counties that lie within the urbanized area as defined by the latest U.S. Bureau of Census designation.

The Phase II regulations require NPDES permits for stormwater discharges from certain small municipal separate storm sewer systems and construction activity generally disturbing between 1 and 5 acres. The construction requirements essentially extended the Phase I threshold for construction activities from 5 acres down to 1 acre.

Under the Phase II MS4 stormwater program, operators of regulated small MS4s are required to:

- Apply for NPDES permit coverage.
- Develop a Stormwater Management Plan (SWMP) that addresses six minimum control measures:
 - Public Education and Outreach on Stormwater Impacts
 - Public Involvement and Participation
 - Illicit Discharge Detection and Elimination
 - Construction Site Runoff Control
 - Post-Construction Stormwater Management



- Pollution Prevention/Good Housekeeping for Municipal Operations
 - Implement the SWMP using appropriate stormwater management controls.
 - Develop measurable goals for the SWMP.
 - Evaluate the effectiveness of the SWMP.
 - Provide yearly reports on program activities.

Unincorporated Oklahoma County was designated a MS4 by the Oklahoma Department of Environmental Quality in 2005 and created its first Stormwater Management Plan to meet its obligations under ODEQ's general permit for Phase II Municipal Separate Storm Sewer System Discharges within the State of Oklahoma (OKR04). Oklahoma County had a five-year timetable to develop and implement the six minimum control measures that were stated above. The Oklahoma Department of Environmental Quality reissued OKR04 and it became effective on June 1, 2021, and will expire May 31, 2026. This document describes the County's stormwater management program to protect water quality from stormwater runoff in the urbanized areas of Unincorporated Oklahoma County and serves as the County's documentation of intended compliance with the current OKR04 small MS4 general permit.

This program documents the best management practices (BMPs) that the County has implemented and the BMPs that will be implemented over the next permit period. The County has identified these BMPs as being cost-effective approaches to protect water quality and recognizing the importance of protecting our natural and financial resources. A five-year implementation, maintenance, and documentation approach is contained within this SWMP.

Background

Stormwater affects the quality of water in urban lakes, rivers, and neighborhood creeks. Pollutants (e.g., pesticides, oil, detergents, and bacteria) present on urban land and impermeable surfaces (e.g., streets and parking lots) can be transported by stormwater runoff into stormwater drainage systems. These drainage systems, both natural and man-made, convey the stormwater runoff away from urban areas into nearby water bodies. In order to protect water quality, it is necessary to identify the types and sources of pollution and implement plans to safeguard the County's water resources. Historically, waters have been protected through state and federal regulation of "point-sources" or end-of-pipe sources of pollution. Over time, it has become more evident that overland runoff sources of pollution, such as urban stormwater runoff, can create serious problems in waterways and impact the community's quality of life.

Stormwater Regulations

Under the requirements of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) is required to protect water quality for natural waters throughout the United States. The EPA established the National Pollutant Discharge Elimination System (NPDES) program to identify sources of water pollution and work to reduce or eliminate the pollutants from waters



of the United States. The EPA has delegated responsibility for the NPDES program in Oklahoma to the Oklahoma Department of Environmental Quality (ODEQ), who administers the Oklahoma Pollutant Discharge Elimination System. In addition to issuing discharge permits to traditional “point sources,” such as municipal wastewater treatment plants and industrial wastewater discharges, the ODEQ is also responsible for minimizing pollution from other sources, such as stormwater runoff from construction sites, industrial facilities, and some stormwater drainage systems. For construction sites and industrial facilities, the ODEQ issued requirements for minimizing stormwater pollution within general permits specific to those industries, which typically require development and implementation of site-specific stormwater pollution prevention plans.

Small Municipal Separate Storm Sewer Systems (MS4) General Permit

In most areas of the country, storm drainage systems are separate from sanitary sewer systems and are thereby classified as “separate storm sewer systems.” Separate storm sewer systems include ditches, curbs, gutters, storm sewers, and similar means of collecting or conveying runoff that do not connect with a wastewater collection system or treatment facility before discharging into water bodies. A “municipal separate storm sewer system” (MS4) is a system owned or operated by a public agency like a city, flood control district, county or state agency. The ODEQ, who was delegated the responsibility of implementing the stormwater quality regulations finalized the initial small MS4 general permit in 2005. Oklahoma County received authorization to discharge from ODEQ on December 8, 2005. The renewed small MS4 general permit became effective on June 1, 2021, and has a five-year permit term.

Stormwater General Permit for Construction Activity

The ODEQ regulates stormwater discharges from most construction activity through ODEQ General Permit OKR04. For construction sites generally disturbing one acre or more, a stormwater pollution prevention plan (SWPPP) must be developed, and site controls must be installed, such as silt fence, inlet protection, and a stabilized construction site entrance, to minimize the discharge of sediment and other pollutants from the construction site. When construction is complete and the site is revegetated or otherwise stabilized, the control measures may be removed.

Oklahoma County, as designated by resolution, inspects and enforces construction sites for compliance according to the requirements of the ODEQ construction general permit, including inspection for properly installed and maintained erosion-controlled measures. Many small MS4s reference the ODEQ construction general permit in their ordinance or regulation for compliance consistency.



Permit Applicability and Coverage

Currently, there are 40 cities, 7 counties, and 5 nontraditional MS4s that are affected by OKR04. With the renewal of the MS4 general permit 2 cities will now be required to comply with OKR04 requirements. The U.S. Census Bureau defines the urbanized areas based on a population density of 1,000 people per square mile and a total population of at least 50,000, irrespective of political boundaries. Urbanized areas represent densely developed areas and encompass residential, commercial, and other non-residential urban land uses. The County is located within the Oklahoma City and Harrah 2010 U.S. Census Urbanized Areas.

Oklahoma County

Located in the State's geographic center, Oklahoma County has a total of 720 square miles. Of the 720 total square miles in Oklahoma County, 578 square miles are located within incorporated cities and 140 square miles are unincorporated. The population for unincorporated Oklahoma County in 2000 was 13,318, 2010 was 19,345 and 2020 was 19,830. When the initial stormwater management program was established six square miles were in the urbanized area of unincorporated Oklahoma County. Once the 2010 Census was complete the urbanized area in unincorporated Oklahoma County increased to eleven square miles.

Storm Drain System

The Oklahoma County stormwater system consists of mostly swales and ditches with some small sections of curb with gutter in subdivisions. The majority of the stormwater flows through swales and ditches which allow most of the water to infiltrate into the ground. Water that doesn't infiltrate eventually ends up in a creek, tributary, or a pond. A large portion of unincorporated Oklahoma County remains rural so the majority of water flows over fields. As the County continues to develop the natural environment will turn into a suburban environment that will bring more stormwater pollutants.

Oklahoma County's system is integrated with other communities. The county boundaries are adjacent to Oklahoma City, Edmond, Luther, Jones, Choctaw, Harrah, Nicoma Park, Forest Park, and Arcadia.

Sewer System

The county currently does not have sanitary sewer service hookups. The majority of sewage in unincorporated Oklahoma County is treated in septic tanks or aerobic systems. There are instances in the northwest part of the County where property owners are connected to Oklahoma City's sewage treatment facility.



Local Water Quality Concerns

The water quality in unincorporated Oklahoma County is relatively good. Some waterways in Oklahoma County have been identified as impaired under Section 303(d) of the Clean Water Act. The list of waterbodies in unincorporated Oklahoma County that are impaired includes Bluff Creek, Deer Creek, Chisholm Creek, Coon Creek, Opossum Creek, Deep Fork, West Captain Creek, North Canadian River, and Choctaw Creek. The hope and intent of this Stormwater Management program is to make citizens aware of the impaired waterbodies and to improve the current water quality of unincorporated Oklahoma County.

For waterbodies on the 303(d) list, the Clean Water Act requires that a pollutant load reduction plan or Total Maximum Daily Load (TMDL) be developed to correct each cause of impairment. TMDLs are developed by ODEQ to determine the maximum amount of a pollutant which can be discharged and still meet standards and identify allowable loads from the contributing sources. The elements of a TMDL include a problem statement, description of the desired future condition, pollutant source analysis, load allocations, description of how allocations relate to meeting targets, and margin of safety.

Table 1: Creeks Impaired and their impairment in unincorporated Oklahoma County

Waterbody	Impairment
Bluff Creek	Bacteria
Deer Creek	Bacteria & Turbidity
Chisholm Creek	Nitrates
Opossum Creek	Turbidity
Deep Fork	Fish Bioassessments – Fish Health
West Captain Creek	Fish Bioassessments – Fish Health
North Canadian River	Bacteria, Turbidity, Dissolved Oxygen
Choctaw Creek	Dissolved Oxygen

Oklahoma County’s SWMP has been geared toward small rural applications, targeting unincorporated Oklahoma County. The focus of this plan is meeting the requirements of the Phase II Small Municipal Separate Storm Sewer Systems (MS4) permit within the county; trying to stay in harmony with the rural nature and act within the existing budget structure.

Chisholm Creek is in the urbanized area of Oklahoma County; therefore, Oklahoma County is required to take additional action in reducing the pollutant of concern. A TMDL has not been determined for Chisholm Creek at this time. According to the 2020 Integrated Report, a TMDL could be established for Chisholm Creek between 2023-2025. Oklahoma County will keep this document up-to-date and in-line with future OKR04 permit requirements in regard to this creek.



Goals

The goal of this stormwater management plan is to:

- Minimize, to the extent practical, any increase in stormwater runoff from any development.
- Reduce soil erosion from any development or construction project.
- Prevent, to the greatest extent feasible, an increase in nonpoint pollution.
- Maintain the integrity of stream channels for their biological functions, as well as for drainage.
- Minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the county, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, recreational, industrial, and other uses of water.



Minimum Control Measure #1: Public Education and Involvement

The goal of public education and involvement is to distribute information and educational materials to the community or conduct equivalent outreach activities to promote behavior change by the public to reduce pollutants in stormwater runoff and eliminate illicit discharges.

Program Goals and Objectives

The goals of the Public Education and Involvement program are as follows:

1. Change public behaviors to reduce sources of water pollution and improve water quality.
2. Promote participation in activities aimed at restoring water quality conditions.

Nonpoint source pollution is the issue that is being addressed. Nonpoint source pollution generally results from land runoff, precipitation, atmosphere deposition, drainage seepage or hydrologic modification. Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal water and ground waters.

The objectives of the Public Education and Involvement Program are as follows:

1. Develop and distribute educational materials to the community and conduct outreach activities to inform the public of the negative impacts that stormwater discharges have on water quality by promoting the following concepts:
 - All stormwater conveyances flow directly to creeks and lakes without treatment.
 - Anything other than rain that enters a stormwater conveyance becomes stormwater pollution.
 - Buffers around streams and lakes act to filter pollutants and are important for protecting water quality.
2. Develop and distribute public education and outreach materials to inform the public of the steps they can take to reduce the negative impacts from stormwater discharges and restore water quality conditions by promoting the following concepts:
 - Do not pour anything into a stormwater conveyance or in a creek or lake.
 - Educate the general public of hazards associated with illegal discharges and improper disposal of waste and about the impact that stormwater discharges can have on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater.



Program Activities

1. Develop and distribute pollution prevention brochures and educational materials.
 - a. Include information regarding the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollution.
 - i. Oklahoma County will utilize EPA's "After the Storm" brochure.
 - ii. Oklahoma County will utilize EPA's "The Solution to Stormwater Pollution" brochure.
 - iii. Oklahoma County will utilize a brochure that is provided by Midwest City's Household Hazardous Waste recycling center.
 - iv. Oklahoma County will utilize an ODEQ brochure "How to Handle Household Hazardous Waste".
 - v. Oklahoma County will utilize an ODEQ brochure "Caring for your On-site Septic System".
 - vi. Oklahoma County will promote and maintain an informational web page at www.oklahomacounty.org/Departments/Planning-Commission under the "Stormwater Information" quick links tab. Oklahoma County will utilize the website to disseminate information on current water quality conditions, stormwater pollutants and ways to minimize them, and provide contacts for reporting problems/concerns.
2. Oklahoma County will provide the above-mentioned information each and every year and will evaluate the effectiveness of the information and will make the necessary changes to transmit new or updated information about stormwater issues.

Public Education and Involvement with MCM #2

Under the current OKR04 permit, Oklahoma County is not required to conduct public education and involvement in industrial stormwater runoff for industrial activities.

Oklahoma County did not have any active OKR05, industrial sites, in unincorporated Oklahoma County at the time this plan was updated and published.

There are active OKR05 sites that are regulated by the State of Oklahoma in unincorporated Oklahoma County and those sites are listed below:

Deer Creek Wastewater Treatment Plant
Redbud Power Plant
Horseshoe Lake Power Plant



Public Education and Involvement with MCM #3

Targeted Pollutants and Pollutant Sources

Table 2 provides the targeted pollutants, their associated sources and the issues contributing to these sources as well as the audiences targeted for addressing these issues. This table serves as a guide for the development and implementation of the Public Education and Involvement Program. Oklahoma County is only responsible for the impaired waterways that are located in the urbanized area in unincorporated Oklahoma County.

Table 2: Water Body, Targeted Pollutant, Targeted Pollutant Source, Targeted Audience, Contributing Issues

Water Body	Pollutant	Pollutant Source	Targeted Audience	Contributing Issues
Chisholm Creek	Nitrates	Fertilizers, Failing Septic Systems, Wastewater Treatment Plant, Pet Waste, Livestock and Farm Animals	Residential, Agricultural, and Wastewater Treatment Plant	Failure to Collect and properly dispose of pet waste, Improper application, handling and storage of lawn care products, Improper disposal of grass clippings and leaves, poorly maintained septic systems

Targeted Audiences

Provided below is a description of the targeted audiences selected for the Public Education and Involvement Program followed by an explanation as to why they were selected. The process for selecting these targeted audiences began with the identification of the problem pollutants in Oklahoma County based on an analysis of water quality. Secondly, staff identified the major sources of these pollutants. Thirdly, the issues contributing to these pollutant sources were identified.

Residential: This is a large targeted audience composed of many subsets, including but not limited to homeowners, renters, pet owners, and community groups. Oklahoma County has developed educational materials for reaching the different groups and will develop and implement outreach initiatives on an as needed basis to address specific water quality issues.



Agricultural: This group is much smaller and continues to dwindle in size as unincorporated Oklahoma County continues to urbanize. However, agricultural activities do occur on a small scale and Oklahoma County has developed educational materials to reach out to this group to educate them on the above-described issue.

Public Education and Involvement with MCM #4

Targeted Pollutants and Pollutant Sources

Sediment is the product of erosion and a major factor affecting the overall use support of the rivers and streams of the State. Construction and other earth disturbing activities contribute large quantities of sediment to streams and rivers. The EPA estimates that a one-acre construction site can lose as much as 20 to 150 tons of soil every year due to erosion and stormwater runoff.

Sediment negatively impacts water quality by degrading the habitat of aquatic organisms and fish, impeding recreational opportunities, and degrading overall water quality. Sediment accumulation in ditches, streams, and lakes reduces their capacity, thereby increasing the chance of frequent flooding.

As a result of State and Federal mandates, Oklahoma County must regulate construction sites to ensure all sediment remains onsite. Whether or not a site development permit is required, all property owners are required to comply with the provisions outlined in Oklahoma County's Subdivision Regulation. The property owner is ultimately responsible if the proper erosion control measures are not in place.

Oklahoma County has created a brochure that provides abbreviated versions of Best Management Practices (BMPs) for individual lot construction to ensure that all necessary measures are taken to prevent erosion and prevent sediment from leaving the site and entering stormwater conveyances.

Targeted Audiences

The targeted audience for this information is developers and builders conducting an activity that is disturbing land that falls under the requirements of the State's OKR04 permit and Oklahoma County's stormwater regulation. The goal of the information is to educate and inform the public on important water resource management issues and increase the public's participation in pollution prevention activities.



Public Education and Involvement with MCM #5

Targeted Pollutants and Pollutant Sources

Low Impact Development (LID) includes a variety of practices that mimic or preserve natural drainage processes to manage stormwater. Low Impact Development practices typically retain rainwater and encourage it to soak into the ground rather than allowing it to run off into ditches and storm drains where it would otherwise contribute to flooding and pollution problems.

LID techniques can be applied at any development stage. In undeveloped areas, a holistic LID design can be incorporated in the early planning stages. Typical new construction LID techniques include protecting open spaces and natural areas such as wetlands, installing bioretention areas and reducing the amount of pavement. In developed areas, communities can add LID practices to provide benefits and solve problems. Typical post-development LID practices range from directing roof drainage to an attractive rain garden to completely retrofitting streets with features that capture and infiltrate rainwater.

As a community grows, so does the amount of surface area covered by parking lots, roads and rooftops. Rainfall cannot soak through these hard surfaces, instead, the rainwater flows quickly across them, picking up pollutants, and enters ditches or storm drains, which empty directly and without treatment into local waterways. Local streams in urban areas are overwhelmed by frequent urban flash flooding and stream habitats are smothered by sediments carried by these excessive flows.

Contrast this to an undeveloped watershed, where vegetation covered soil soaks up rainfall rather than allowing it to run off the land. Water filters through the soil before reaching the groundwater table or being released slowly into streams. An undeveloped watershed provides clean safe water. Fortunately, by adding LID solutions, communities can help their watersheds act more like undeveloped watersheds, despite the ever-expanding numbers of roads and rooftops. LID practices such as natural or man-made swales, depressions and vegetated areas capture and retain water onsite, allowing time for water to soak into the soil where it is naturally filtered.

Targeted Audiences

The targeted audience for this information is developers, builders and local property owners conducting development or redevelopment of property. The goal of the information is to educate and inform the public on important water resource management issues and increase the public's participation in pollution prevention activities. Oklahoma County would like residents and developers to incorporate low impact development principles into their designs to help minimize water quality impacts.



Public Education and Involvement with MCM #6

Targeted Pollutants and Pollutant Sources

Oklahoma County will work in conjunction to implement and enforce an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from MS4 operations such as maintenance and storage yards, fueling areas, fleet or maintenance shops, salt/sand storage locations and snow disposal areas. The goal of the Pollution Prevention/Good Housekeeping Program is to reduce pollutants in stormwater runoff from county operations.

Oklahoma County staff conducts a bi-annual training seminar for the employees involved in implementing pollution prevention and good housekeeping practices at each district maintenance yard.

Staff utilizes a video that covers several topics including:

- Best Management Practices for Good Housekeeping & Spill Prevention
- Best Management Practices for Vehicle & Equipment Washing
- Best Management Practices for Vehicle & Equipment Maintenance
- Best Management Practices for Spill Reporting & Response
- Best Management Practices for Street Maintenance
- Best Management Practices for Outdoor Storage of Materials & Wastes
- Best Management Practices for Landscaping & Lawn Care

Oklahoma Staff will bring up additional issues at these meetings if warranted based on activities in unincorporated Oklahoma County over the previous year.

Targeted Audiences

This training will be for County employees that work at one of the three County Road Maintenance Yards. This training will help County employees reduce pollutants in stormwater runoff from County maintenance yards and from County projects that are being constructed out in the field.



Printed Brochures

Brochures are the outreach mechanism that Oklahoma County will rely on the most. This outreach includes general water quality messages regarding pollution prevention and messages associated with specific pollution sources. Printed brochures will be handed out to individuals who apply for building permits. Brochures are also posted on Oklahoma County's Planning Commission website. Oklahoma County will also create environmental notices containing specific information for protection of water quality specifically for the urbanized area around Chisholm Creek. These brochures will be sent to a group of property owners at a minimum of once every two years.

Oklahoma County Web Page

This outreach mechanism involves the use of web pages focused on specific water quality topics maintained on Oklahoma County's Planning Commission website located at www.oklahomacounty.org/planningcommission under the "Environmental Programs" tab. These web pages describe the specific actions necessary to prevent water pollution. In addition, the web pages include a description of all the actions that Oklahoma County has taken in regard to stormwater activities. The goal of the web page is to disseminate information and focus on specific pollutants as well as general water quality issues that apply county wide.

Program Evaluation

On an annual basis, Oklahoma County staff will evaluate the BMPs for this program and assess progress toward achieving the measurable goals for the program. Recommendations for improvement will be made as necessary. During the following fiscal year, program activities and BMPs will be modified as necessary based on the results of this evaluation in order to ensure that the specific goals and objectives of the Public Education and Outreach Program and Stormwater Plan are being effectively and efficiently fulfilled. Oklahoma County will do the majority of this evaluation with the authoring of the annual report that is due to ODEQ April 30th of each year.



The goal of the Public Education and Involvement program is to create opportunities for the public to participate in the Phase II program development and implementation, as well as to get involved in activities aimed at protecting and restoring water quality.

Program Goals and Objectives

The objectives of the Public Education and Involvement program are as follows:

1. Continue to develop and inform residents of unincorporated Oklahoma County about the partnership that Oklahoma County has with the City of Midwest City for the use of their Household Hazardous Waste Center for recycling waste.

Program Activities

1. Staff will make a minimum of one (1) presentation annually to the Oklahoma County Planning Commission to describe the activities performed to comply with Phase II permit requirements. All Planning Commission meetings are open to the public. Any comments that are made will be taken under advisement and evaluated.
2. Oklahoma County will promote its cooperative household hazardous waste recycling program. Midwest City and Oklahoma County have a memorandum of understanding that allows residents of unincorporated Oklahoma County to utilize Midwest City's recycling facility. Oklahoma County, in the past, did not actively advertise that program. Oklahoma County is now going to take a more active approach to notify citizens in unincorporated Oklahoma County that they can recycle household hazardous waste at that facility.

Targeted Audiences

The targeted audience for the Public Education and Involvement program includes everyone in unincorporated Oklahoma County. Participation in the program will be promoted through the Public Education and Outreach program.

Public Meetings

Oklahoma County will hold one (1) meeting per year before the submittal of the County's annual report to ODEQ. The purpose of this meeting is to provide the public with an opportunity to review and provide comments regarding Oklahoma County's Storm Water Plan and the actions that have been taken over the year. Oklahoma County will invite public input regarding storm water issues and the stormwater program.



Household Hazardous Waste Recycling Program

Oklahoma County will take an active approach to the household hazardous waste recycling program. In the past, the recycling program was a program that worked based on word-of-mouth. Oklahoma County has put a brochure on our website at www.oklahomacounty.org/planningcommission letting citizens know about the facility and what type of materials can and cannot be recycled at the facility. Oklahoma County will also send letters to a select subdivision once a year to inform citizens of the program. The number of citizens informed each year will be dependent on the budget the program has to utilize since Oklahoma County incurs all costs involved with household waste recycling.

Decision Process

Oklahoma County's public education and involvement program focuses on the use of a few mechanisms for getting the public involved in efforts to restore the quality of surface water resources. The rationale for additional development of this program is that multiple approaches are needed in order to involve various groups across the County. Some individuals will prefer more passive involvement through participation in public meetings whereas others may elect to become more actively involved through participation. Oklahoma County hopes to expand upon its list of offerings as time and the budget for this program allows.

Program Evaluation

Oklahoma County will evaluate each BMP yearly to measure the success for the Public Participation and Involvement program.

1. Public Meetings and Public Participation – Oklahoma County will keep records of public participation and public involvement at Planning Commission meetings that occur and the comments and concerns that were raised at the meeting.
2. Household Hazardous Waste Recycling Program – Oklahoma County will track the number of households that participate and the amount of waste that has been dropped off at Midwest City's recycling facility. Oklahoma County tracks this activity now, but staff will track to see if more people are participating since Oklahoma County will take a more active approach in notifying the public of this program.

On an annual basis, Oklahoma County staff will evaluate the programs and assess progress toward achieving the goals to measure success. Recommendations for improvement will be made as necessary. During the authoring of the County's annual report, program activities and BMPs will be modified as necessary based on the results of this evaluation in order to ensure that the specific goals and objectives of the Public Participation and Involvement program are being effectively and efficiently fulfilled.



The goal of the Public Participation and Involvement program is to create opportunities for the public to participate in the Phase II program development and implementation, as well as to get involved in activities aimed at protecting and restoring water quality.

Program Goals and Objectives

The objectives of the Public Participation and Involvement program are as follows:

1. Continue to develop and inform residents of unincorporated Oklahoma County about the partnership that Oklahoma County has with the City of Midwest City for the use of their Household Hazardous Waste Center for recycling waste.

Program Activities

1. Staff will make a minimum of one (1) presentation annually to the Oklahoma County Planning Commission to describe the activities performed to comply with Phase II permit requirements. All Planning Commission meetings are open to the public. Any comments that are made will be taken under advisement and evaluated.
2. Oklahoma County will start to promote its cooperative household hazardous waste recycling program. Midwest City and Oklahoma County have a memorandum of understanding that allows residents of unincorporated Oklahoma County to utilize Midwest City's recycling facility. Oklahoma County, in the past, did not actively advertise that program. Oklahoma County is now going to take a more active approach to notify citizens in unincorporated Oklahoma County that they can recycle household hazardous waste at that facility.

Targeted Audiences

The targeted audience for the Public Participation and Involvement program includes everyone in unincorporated Oklahoma County. Participation in the program will be promoted through the Public Education and Outreach program.

Public Meetings

Oklahoma County will hold one (1) meeting per year before the submittal of the County's annual report to ODEQ. The purpose of this meeting is to provide the public with an opportunity to review and provide comments regarding Oklahoma County's Storm Water Plan and the actions that have been taken over the year. Oklahoma County will invite public input regarding storm water issues and the stormwater program.



Household Hazardous Waste Recycling Program

Oklahoma County will take an active approach to the household hazardous waste recycling program. In the past, the recycling program was a program that worked based on word-of-mouth. Oklahoma County has put a brochure on our website at www.oklahomacounty.org/planningcommission letting citizens know about the facility and what type of materials can and cannot be recycled at the facility. Oklahoma County will also send letters to a select subdivision once a year to inform citizens of the program. The number of citizens informed each year will be dependent on the budget the program has to utilize since Oklahoma County incurs all costs involved with household waste recycling.

Decision Process

Oklahoma County's public education and involvement program focuses on the use of a few mechanisms for getting the public involved in efforts to restore the quality of surface water resources. The rationale for additional development of this program is that multiple approaches are needed in order to involve various groups across the County. Some individuals will prefer more passive involvement through participation in public meetings whereas others may elect to become more actively involved through participation. Oklahoma County hopes to expand upon its list of offerings as time and the budget for this program allows.

Program Evaluation

Oklahoma County will evaluate each BMP yearly to measure the success for the Public Participation and Involvement program.

1. Public Meetings and Public Participation – Oklahoma County will keep records of public participation and public involvement at Planning Commission meetings that occur and the comments and concerns that were raised at the meeting.
2. Household Hazardous Waste Recycling Program – Oklahoma County will track the number of households that participate and the amount of waste that has been dropped off at Midwest City's recycling facility. Oklahoma County tracks this activity now, but staff will track to see if more people are participating since Oklahoma County will take a more active approach in notifying the public of this program.

On an annual basis, Oklahoma County staff will evaluate the programs and assess progress toward achieving the goals to measure success. Recommendations for improvement will be made as necessary. During the authoring of the County's annual report, program activities and BMPs will be modified as necessary based on the results of this evaluation in order to ensure that the specific goals and objectives of the Public Participation and Involvement program are being effectively and efficiently fulfilled.



Minimum Control Measure #2: Industrial Stormwater Runoff Control

Category 3 MS4s shall implement and enforce a program to prevent or reduce pollutants in any stormwater runoff to their MS4 from independently owned activities that discharge into their MS4. At a minimum, the program requirements shall be consistent with OKR05 General Permit for Stormwater Discharges from Industrial Activities.

Oklahoma County, under the new OKR04 permit, is considered a Category 1 MS4. Oklahoma County meets the Category 1 criteria, and we serve a population less than (<) 10,000 within the urbanized area, unless otherwise specified.

Oklahoma County is not required to conduct any action for MCM 2 under the OKR04 permit.



Minimum Control Measure #3: Illicit Discharge Detection and Elimination

Oklahoma County has developed and is currently implementing and enforcing an Illicit Discharge Detection and Elimination (IDDE) program. The following sections provide a description of Oklahoma County's program.

Program Goals and Objectives

The goal of the IDDE Program is to detect and eliminate illicit discharges into the MS4, which are defined in 40 CFR 122.26(b)(2) as discharges that are not composed entirely of stormwater except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities as well as incidental non-storm water discharges or flows that are not significant contributors of pollutants. The objectives of the program are as follows:

1. Enforce Oklahoma County's Stormwater Quality and Erosion Control Regulation (Resolution 231-09).
2. Oklahoma County will develop and regularly update a storm sewer system map, showing outfalls, receiving waters, catch basins, pipes, ditches, public stormwater facilities and private stormwater facilities. This map will also depict the names and locations of all waters of the State that receive discharges from the system.
3. Prohibit, through resolution, or other regulatory mechanisms, non-stormwater discharges except incidental non-stormwater discharges or flows that are not significant contributors of pollutants and implement appropriate enforcement procedures and actions.
4. Oklahoma County will continue to implement a dry weather field screening plan to detect, investigate, and eliminate illicit discharges. Oklahoma County currently has twenty-four (24) sites that are inspected using Oklahoma County's Dry Weather Screening Field Sheet. Oklahoma County relies on visual indicators when completing these sheets to determine if there is a problem. Oklahoma County will inspect 20% of the twenty-four identified outfalls each year and inspect the high priority area along Chisholm Creek every year.
5. Oklahoma County will develop a sampling program to begin sampling Chisholm Creek, in the northwest part of Oklahoma County, since it is impaired and in the urbanized area. Chisholm Creek is impaired for nitrates and the goal of this sampling program is to reduce the pollutant of concern.



Storm Sewer System Map

Oklahoma County has completed a simple overview map and sampling location map for unincorporated Oklahoma County. Oklahoma County will complete a detailed system map. Oklahoma County will review aerial photography in GIS software. Once the office review takes place staff will conduct field inspections to locate all storm sewer system conveyances. Other field data will also be collected during the inspections including the name of the receiving stream and whether dry weather flow or other potential pollution problems were observed. Following the field inspections, the digital data will be downloaded by staff and stored in the GIS.

As new development occurs, the storm sewer system map will be updated with new information. This data will be input into the GIS when the final inspection of the subdivision is complete.

Regulatory Mechanism

On August 3, 2009, Oklahoma County adopted Oklahoma County's Stormwater Quality and Erosion Control Regulation that prohibits illicit discharges and improper disposal to surface waters within unincorporated Oklahoma County. This regulatory mechanism was chosen for prohibiting illicit discharges to surface waters in the Phase II area due to the success of similar ordinances in adjacent Phase II communities.

Oklahoma County reviews the above-described surface water pollution control regulation each fiscal year and modifies them as necessary to ensure that adequate legal authority is maintained to prohibit illicit connections and discharges, and to properly enforce the provisions of the IDDE program.

Enforcement

Enforcement guidance and procedures were developed and became effective at the same time as the regulation described in "Regulatory Mechanism". These procedures include guidelines on when a notice of violation is to be issued.

- **Stop-Work Order – Revocation of Permit**

In the event that any person holding a site development permit pursuant to this regulation violates the terms of the permit or this regulation the Oklahoma County Engineer may suspend or revoke the site development permit and any associated building or development permits.



- **Violation and Penalties**

No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, without first having obtained a Stormwater Site Development Plan permit; or construct, enlarge, alter, repair or maintain any grading, excavation, or fill, or cause the same to be done in violation of any term or terms of these regulation or the Oklahoma County Floodplain Regulations.

Any person who shall fail to obtain a Stormwater Site Development Plan permit or violate any of the provisions of these regulations shall be subject to the provisions set forth in 19 O.S. §868.11 A. Any person who fails to correct a violation may be assessed a fine or penalty for each ensuing day during which such failure or violation continues. Other appropriate legal action may be instituted to abate a violation, including injunctive relief or proceedings to prevent or remove a violation or for failure to obtain a Stormwater Site Development Plan permit. In addition to any penalty or legal relief, any person, partnership, corporation or other legal entity violating any of the provisions of these regulations shall be required to bear the expense of restoration.

Dry Weather Screening

Oklahoma County has nine (9) dry weather screening sites in northwest Oklahoma County, five (5) dry weather screening sites in the north part of the County, four (4) dry weather screening sites in the central part of the County, and six (6) dry weather screening sites in the southeast part of the County. Oklahoma County staff will investigate 20% of these locations once per year.

Dry weather screening involves inspecting a small section of creek after a minimum of 72 hours of no measurable rainfall and identifying dry weather flows. Oklahoma County's Dry Weather Screening Field Sheet is utilized to investigate the twenty-four (24) sites and staff relies on visual indicators when completing these sheets to determine if there is a problem.

Oklahoma County has not encountered an illicit discharge since the dry weather screening program was started in 2009. Staff have encountered solid waste in various creek locations and have received assistance from Oklahoma City and County staff to clean up these locations. Staff will continue to monitor these areas and take whatever action is necessary to return the creek to its natural state.

Water Quality Sampling

Oklahoma County has decided to sample Chisholm Creek at one or two locations. Oklahoma County feels that stormwater sampling provides a means for evaluating the environmental risk of the stormwater discharge by identifying the types and amounts of pollutants present. Oklahoma County feels that evaluating this data helps to determine the relative potential for



the stormwater discharge to contribute to water quality impacts. Stormwater sampling can also be used to identify potential sources of pollutants. Oklahoma County is going to begin the sampling program with Chisholm Creek due to it being impaired for nitrates and its location in the urbanized area of unincorporated Oklahoma County. Oklahoma County is going to focus on nitrate impairment at this time as it has been questioned by local jurisdictions if the creek is actually impaired by nitrates.

Oklahoma County will sample for pH, temperature, nitrates and conductivity. Oklahoma County will add parameters as required and as necessary to collect essential information to help make informed decisions about stormwater issues.

Background Water Quality Parameters

Temperature

Water temperature is a standard water parameter collected because it is the most critical factor influencing biological and chemical conditions in water. The solubility of oxygen, other gases and some compounds change with water temperature thus changing their effects on aquatic organisms. Colder water holds more oxygen and as water temperature increases, the capacity of water to hold dissolved oxygen becomes lower. If water is too warm it will not hold enough oxygen for aquatic organisms to survive. Increasing water temperature not only increases the solubility of toxic compounds such as heavy metals, but it can also influence an organism's tolerance limits. Water temperature also affects the metabolic rates and biological activity of aquatic organisms and influences their chosen habitats as well as behavioral choices, such as moving to warmer or colder water after feeding.

Water temperature can be affected by many environmental conditions such as sunlight/solar radiation, heat transfer from the atmosphere, stream habitat, and turbidity. Shallow surface waters are more easily influenced by these factors than deep water. Man-made influences on water temperature include runoff, riparian habitat alterations (e.g., building structures, removing/altering vegetation), large wood removal, thermal pollution, and impoundments.

Dissolved Oxygen

Dissolved Oxygen (DO) is a very important parameter in assessing water quality because of its influence on the organisms living within a body of water. DO is the amount of oxygen that is dissolved in water at a given temperature. Oxygen concentrations are much higher in air (about 21%) than in water (>1%). This difference in concentration causes oxygen molecules in the air to dissolve into the water. More oxygen dissolves more quickly through aeration caused by wind, rapids, waterfalls, ground water discharge or other forms of running water. Dissolved oxygen also enters water through plant photosynthesis.



There are many different factors that affect the amount of dissolved oxygen in water; the main one being temperature. Cold water can hold more oxygen than warm water. Warm water becomes “saturated” more easily with oxygen but, it actually holds less oxygen. For example, if water becomes too warm in the summer months, the dissolved oxygen levels become suboptimal for fish even if the water is 100% saturated with oxygen. Rivers and streams tend to stay near or slightly above 100 percent air saturation due to relatively large surface areas, aeration from rapids, and groundwater discharge. While groundwater usually has low DO levels, groundwater fed streams can hold more oxygen due to the influx of colder water and the mixing it causes. Also, as the salinity of water increases its ability to dissolve oxygen decreases, so saltwater holds less oxygen than freshwater.

Dissolved oxygen is necessary for many forms of aquatic life including fish, invertebrates, bacteria and plants. These organisms use oxygen in respiration, similar to organisms on land. The amount of dissolved oxygen needed varies from creature to creature with most fish needing higher levels between 4-15 mg/L.

pH

The pH of a stream determines the solubility of nutrients and chemicals in the water thus affecting the aquatic organism in the water. pH is the measure of the hydrogen ion concentration in water with 7 being neutral. Solutions with a pH above 7.0 are considered basic or alkaline, and solutions with a pH below 7.0 are considered acidic. Acidic water (low pH) dissolves nutrients and chemicals at a greater rate thereby making them more available for uptake by plants and animals, while a high pH can make nutrients insoluble and therefore unavailable to plants and animals. However, a very low pH (very acidic) can dissolve heavy metals and make pollutants bio-available.

There are many factors that can affect pH in water, both natural and man-made. Most natural changes occur due to interactions with surrounding rock (particularly carbonate forms) and other materials. The pH of water can be affected by rain which is slightly acidic (pH 5.6) because rainfall naturally interacts with carbon dioxide molecules in the atmosphere creating carbonic acid in the raindrops, thus lowering the rain’s pH value. Carbon dioxide concentrations can also affect pH; although carbon dioxide exists in water in a dissolved state, it can also react with water to form carbonic acid and reduce pH.

Conductivity

Conductivity is a measure of water’s ability to pass an electrical current. This ability is directly related to the concentration of ions in the water. These conductive ions come from dissolved salts and inorganic materials such as alkalis, chlorides, sulfides and carbonate compounds. The more ions that are present, the higher the conductivity of water. Likewise, the fewer ions that are in water, the less conductive it is.



Types of Authorized Discharges

You are authorized to discharge the following non-stormwater sources provided that these sources are not substantial contributors of pollutants to Oklahoma County. The list of non-stormwater discharges or flows are not significant contributors of pollutants and will not be regulated by Oklahoma County:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Residential building wash water without detergents
- Uncontaminated pumped ground water
- Uncontaminated ground water 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 flushing
- Non-commercial or charity car washes
- Discharges from riparian areas and wetlands

Oklahoma County will evaluate these discharges every year and determine if these discharges are substantial contributors and modify this list if necessary.

Locating Priority Areas

Oklahoma County staff will examine maps of the MS4 area to locate sites with high potential for pollutant discharges. Staff will focus on watersheds that have creeks with 303(d) listed waterbodies and identify high priority areas that have sources most likely to cause or have the potential to contribute to the 303(d) pollutants of concern to the 303(d) listed waterbody. Once areas that contribute to the 303(d) pollutants have been identified, Dry Weather Field Screening inspections will be reviewed to indicate potential pollutants being discharged. Once the information has been compiled staff will generate a map of the area having the greatest potential to discharge pollutants.



Program Evaluation

On an annual basis, Oklahoma County staff will evaluate the effectiveness of this program and measure the success of what has been implemented and what parts of the Illicit Discharge Detection and Elimination program need to be modified. Recommendations for improvement will be made as necessary. During the following calendar year, program activities and BMPs will be modified as necessary based on the results of the evaluation of the program in order to ensure that the specific goals and objectives of the Illicit Discharge Detection and Elimination program and stormwater plan are being effectively fulfilled.



Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Oklahoma County has developed and is currently implementing and enforcing a Construction Site Stormwater Runoff Control program for addressing the discharge of sediment and other pollutants from construction sites in Oklahoma County's Phase II jurisdiction. The program is administered by Oklahoma County's Planning and Engineering department as described in the following sections.

Program Goals and Objectives

The goal of the Construction Site Stormwater Runoff Control program is to reduce pollutants in stormwater runoff from construction activities that result in a land disturbance of one acre or greater and less than five acres. Construction activities disturbing less than one acre are included in the program if they are part of a larger common plan of development or sale that would disturb one acre or more. The objectives of the program are:

1. Enforce a program to ensure the proper permitting, installation and maintenance of erosion control measures in compliance with Oklahoma County's Stormwater Quality and Erosion Control Regulation (Resolution #231-09) and the Oklahoma Environmental Quality Act (Title 27A OS §1-1-101 et seq.). Oklahoma County may rely on ODEQ for assistance in enforcement of this provision of the OKR04 permit, if needed.
2. Enforce requirements for construction site operators to select and implement appropriate erosion and sediment control measures to reduce or eliminate the impacts to receiving waters, and control waste at the construction site that may cause adverse impacts to water quality.
3. Provide a means for the public to notify the Oklahoma County Planning and Engineering Department of observed erosion and sedimentation problems.
4. Educate permit applicants engaged in land disturbing activities in the proper methods for installing and maintaining erosion control measures and preventing pollutants from discharging from construction sites.

Regulatory Mechanism

Oklahoma County has a delegated Stormwater Management Program and is therefore responsible for compliance with the Oklahoma Department of Environmental Quality's OKR04 General Permit. The delegated Stormwater Management Program effectively meets the maximum extent practicable (MEP) standard for Construction Site Stormwater Runoff Controls by permitting and controlling development activities disturbing one or more acres and less than five acres of land surface and those activities less than one acre that are part of a larger common plan of development. Oklahoma County's Stormwater Quality and Erosion Control regulation is enforced by the Oklahoma County Planning and Engineering Department. These regulations require an approved stormwater permit for construction activities that result in the



disturbance of greater than or equal to one acre of land. The regulation further requires that all construction site operators implement appropriate erosion and sediment control BMPs, including those sites that disturb less than an acre. Pollutants other than sediment that are generated from construction sites and have the potential to negatively impact water quality such as discarded building material, concrete truck washout, chemicals and litter are regulated by the County's regulation.

Stormwater Permit Reviews and Inspections

The Oklahoma County Engineer and staff will review each application for a Stormwater permit to determine its conformance with the provisions of Oklahoma County's Stormwater Regulation.

The Stormwater Control Plan shall include the following:

- A natural resources map identifying streams, wetlands, and other waterbodies, soils and tree cover.
- A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.
- All erosion and sediment control measures necessary to meet the objectives of this local regulation throughout all phases of construction through project completion (permanent erosion control/stormwater facilities). Depending upon the complexity of the project, the drafting of intermediate plans may be required at the close of each season.
- Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and type and quantity of mulching for both temporary and permanent vegetative control measures.
- Provisions for maintenance of control facilities, including easements, sediment removal, and estimates of the cost of maintenance.

Grading, erosion control practices, sediment control practices, and waterway crossings shall meet the Best Management Practices (BMP) identified by the U.S. Environmental Protection Agency and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the Oklahoma County Engineer. Cut and Fill slopes shall be no greater than 3:1 except as approved by the County Engineer to meet other community or environmental objectives.



Clearing and grading of natural resources, such as forests and wetlands, shall not be permitted, except when in compliance with all other chapters of this regulation and state and federal law. Site grading must meet the following requirements:

- The site must drain away from all buildings and toward the street or a dedicated drainage ditch (bar ditch).
- The site should be graded to provide a maximum of 6" of fall and 10 feet away from building foundations.
- Drainage should be directed away from adjacent lots to the maximum extent possible.
- Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed and stabilized according to the requirements of the site development permit.
- Phasing shall be required on all sites disturbing greater than 30 acres, with the size of each phase to be established at plan review. Phasing shall be in accordance with the Oklahoma County Subdivision Regulations Section 3.6, and as approved by the County Engineer.

Erosion control requirements shall include the following:

- Soil stabilization shall be completed within one (1) week of clearing or inactivity in construction.
- If seeding or another vegetative erosion control method is used, it shall become established within two weeks, or the Oklahoma County Engineer may require the site to be reseeded or a non-vegetative option employed.
- Special techniques that meet the design criteria outlined by the Oklahoma County Engineer, on steep slopes or in drainage ways shall be used to ensure stabilization.
- Soil stockpiles must be stabilized or covered at the end of each workday.
- The entire site must be stabilized, using a heavy mulch layer or another method that does not require germination to control erosion, at the close of the construction season.
- Techniques that meet the Best Management Practices (BMP) identified by the U.S. Environmental Protection Agency will be employed to prevent the blowing of dust or sediment from the site.
- Techniques that divert upland runoff past disturbed slopes shall be employed.

Sediment control requirements shall include:

- Settling basins, sediment traps, tanks and perimeter controls.
- Settling basins that are designed in a manner that allows adaptation to provide long term stormwater management, if required by the Oklahoma County Engineer.
- Protection for adjacent properties by the use of a vegetated buffer strip in combination with perimeter controls.



Waterway and watercourse protection requirements shall include:

- A temporary stream crossing if a wet watercourse will be crossed regularly during construction.
- Stabilization of the watercourse channel before, during, and after any in-channel work.
- All on-site stormwater conveyance channels designed according to the criteria outlined by the Oklahoma County Engineer.
- Stabilization adequate to prevent erosion located at the outlets of all pipes and paved channels.
- Construction site access requirements shall include a graveled, temporary access road provided at all sites.
- Other measures required by the Oklahoma County Engineer in order to ensure that sediment is not tracked onto public streets by construction vehicles or washed into storm drains.

County personnel or their designated agent shall have full access to the site for inspections to ensure compliance with the approved Erosion and Sediment Control Plan. A copy of the site development permit and approved Erosion and Sediment Control Plan shall be maintained at the site throughout site development.

The permit holder or his/her representative shall make regular inspections of all control measures to ensure compliance with the approved Erosion and Sediment Control Plan(s). The purpose of such inspections will be to determine the overall effectiveness of the control plan and the need for additional control measures. All inspections and inspection dates shall be documented in written form and available on site for review.

Oklahoma County will inspect sites that are greater than forty acres, sites that discharge to a waterbody that is impaired, sites that have been identified as a threat to water quality and other significant sites once per quarter. The majority of sites that fit the aforementioned criteria are subdivisions that are under construction and subdivisions that are completed, and home building is underway.

Enforcement

Stop-Work Order, Revocation of Permit

In the event that any person holding a site development permit pursuant to this regulation violates the terms of the permit or this regulation the Oklahoma County Engineer may suspend or revoke the site development permit and any associated building or development permits.

Violation and Penalties

No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, without first having obtained a Stormwater Site Development Plan



permit; or construct, enlarge, alter, repair or maintain any grading, excavation, or fill, or cause the same to be done in violation of any term or terms of these regulations or the Oklahoma County Floodplain Regulations.

Any person who fails to obtain a Stormwater Site Development Plan permit or violates any of the provisions of these regulations shall be subject to the provisions set forth in 19 O.S. §868.11A. Any person who fails to correct a violation may be assessed a fine or penalty for each ensuing day during which such failure or violation continues. Other appropriate legal action may be instituted to abate a violation, including injunctive relief or proceedings to prevent or remove a violation or for failure to obtain a Stormwater Site Development Plan permit. In addition to any penalty or legal relief, any person, partnership, corporation or other legal entity violating any of the provisions of these regulations shall be required to bear the expense of restoration.

Program Evaluation

On an annual basis, the Oklahoma County Planning and Engineering Department will evaluate the BMPs assigned to this program and assess progress toward achieving the measurable goals of the program. Recommendations for improvement will be made as necessary. During the following fiscal year, program activities and BMPs will be modified as necessary based on the results of this evaluation in order to ensure that specific goals and objectives of the Construction Site Stormwater Runoff Control Program are being effectively fulfilled.

- **Documentation of Stormwater Program Activities:** As a baseline measure of success, staff will document completion of program activities annually that demonstrate successful fulfillment of BMPs associated with this program element. All activities will be documented and be made a part of Oklahoma County's annual stormwater report.
- **Improved Compliance:** Oklahoma County will track the number of notices of violation issued compared to the number of inspections conducted as a measure of success and where the program needs improvement.



Minimum Control Measure #5: Post-Construction Stormwater Management in New Development and Redevelopment

Program Goals and Objectives

The goal of the Post-Construction Stormwater Management program is to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one (1) acre that are part of a larger common plan of development or sale that discharge into Unincorporated Oklahoma County. The intent of this MCM (Minimum Control Measure) is to maintain post-construction runoff conditions to those of pre-construction runoff. Water quality impacts from urban runoff can be significant. Many streams, ponds, and creeks in urban areas are impaired due to urban runoff. Impervious surfaces, disturbed soils, and managed turf associated with urban development can have multiple impacts on water quality. Urban development can also impact the post-development hydrograph discharging to urban streams. Compared to the pre-development condition, post-development stormwater discharges can increase the runoff volume, increase the peak discharge, and decrease the infiltration of stormwater, which thereby decreases baseflow in headwater streams. These changes to stream hydrology result in negative impacts on channel stability and the health of aquatic biological communities. The objectives of this program:

1. Maintain pre-development runoff conditions.
2. Ensure that controls are in place to minimize water quality impacts.
3. BMP Operation and Maintenance.

Regulatory Mechanism

Oklahoma County has adopted a Stormwater Regulation to deal with Construction Stormwater runoff and Post-Construction Stormwater runoff. The County will evaluate its current regulation and compare it to the new State OKR04 permit and add what is necessary to be in compliance. Planning and Engineering staff will have to consult with County Road Maintenance and Construction offices to determine what issues need to be addressed and how to address those issues based on OKR04 requirements.

Post-Construction and Redevelopment

Under Oklahoma County's current regulations, each development shall provide for the on-site retention or detention of excess stormwater runoff resulting from that new development or redevelopment. As for detention, the existing release rate for all storm events should be maintained. Stormwater velocities shall be kept to a minimum using rip rap or other channel protection to minimize the erosion of the existing watercourse.



Onsite stormwater detention is required when the critical storm frequency is equal or greater to five years. Detention/retention basins must be designed to limit the critical storm flow from the basin to the two-year pre-developed rate. Basins must also have the capacity to store all storm frequencies greater than the critical value up to the 100-year storm under post-development conditions and release the outflows at the predeveloped rate for like years. The SCS methodology should be used for detention pond sizing.

All culverts and open channels should be designed and constructed to adequately manage velocities and discharges for the 2-year, 24-hour storm event up to the 100-year, 24-hour storm event.

BMP Operation and Maintenance

Oklahoma County is responsible for the maintenance of BMPs in public right-of-ways and on other public lands. Oklahoma County is responsible for administration and enforcement of stormwater regulations and associated inspections.

Private property owners are responsible for stormwater management facilities and/or BMPs and shall ensure the proper operation of that stormwater system. The owner must further maintain all facilities, system components, and all BMPs in such a manner as to maintain the full functionality of the facility, component, or BMP. Maintenance of privately-owned facilities and BMPs shall be performed at the sole cost and expense of the owner(s) of such facilities or BMPs.

Oklahoma County requires all new projects to provide detention/retention and those drainage calculations are reviewed by the County Engineer to verify post development stormwater runoff rates do not exceed predevelopment runoff rates.

Oklahoma County does not have the statutory authority to regulate the long-term operation and maintenance of BMPs that are installed during the construction of a private project, such as residential neighborhoods. However, Oklahoma County is beginning to collaborate with developers on new subdivisions to create an operations and maintenance manual that the homeowner's association can utilize to maintain stormwater detention and permanent erosion control facilities. It is unforeseen at this time if Oklahoma County will ever be able to enforce BMP maintenance but the goal at this time is to have documentation in place for neighborhoods to utilize for preservation purposes.

Oklahoma County deals with long-term operation and maintenance of subdivisions on a complaint driven basis. Oklahoma County can only maintain subdivisions that are dedicated and accepted by the County. Oklahoma County can only maintain areas within the right-of-way. Oklahoma County will clean and maintain stormwater conveyances in public subdivisions, but retention/detention facilities are not maintained by Oklahoma County. Oklahoma County does not have the ability to maintain private subdivisions. Post-development and



redevelopment activities are difficult for the County to be actively a part of because Oklahoma County's State statute does not expressly give Oklahoma County the ability to do these types of maintenance activities.

County Regulations for Low Impact Development (LID) Barriers

Staff has reviewed local regulations and removed any legal or regulatory barriers to low impact development. Oklahoma County, with the assistance of Freese & Nichols, completed a three-year project with the overhaul of Oklahoma County's Zoning and Subdivision regulations. Oklahoma County has added language to its zoning regulation and subdivision regulation to encourage the use of low impact development (LID). Low impact development is encouraged in commercial type of settings, such as parking lots, but it can be applied beyond that setting. Oklahoma County does not require the use of LID, but LID is encouraged in residential, commercial, and industrial development.

Protection of Sensitive and/or Impaired Water Bodies

To assist in the effective review of post-construction BMPs to be implemented on development and/or redevelopment projects, a review of the potential impacts to sensitive water bodies and impaired stream segments will be conducted during the plan review process for all development and redevelopment projects within the MS4. To ensure complete and accurate review and consideration of sensitive or impaired water bodies relative to development or redevelopment projects, Oklahoma County will:

1. During the project planning and design stage, conduct a review of the most current 303(d) listing of impaired streams to determine potential post-construction impacts to water bodies with existing environmental concerns.
2. Oklahoma County will look towards OKR04's Buffer Guidance to help guide staff and developers. (Page 77 of OKR04)

In Oklahoma County's Zoning and Subdivision Regulation a conservation easement or setback was added along waterways. The Conservation Easement or Setback is intended to limit physical disturbance of the land along waterways to prevent erosion and protect water quality. The Conservation Easement or Setback is required for all development near rivers, major streams, and minor streams. The following Conservation Easement or Setback shall be provided, measured from the waterway centerline, and as designated by the Oklahoma Water Resources Board:

**Rivers: One hundred fifty (150) feet,
Major Streams: One hundred (100) feet, and
Minor Streams: Fifty (50) feet.**



The Conservation Easement or Setback shall be recorded on all plats and site plans. Conservation Easement or Setback may be used for low-impact activities, such as recreation and entertainment purposes, which do not disturb the natural environment. Conservation Easement or Setback shall remain free of construction, development, tree removal, or other alterations except for utility and roadway crossings, parks, and stormwater detention structures. The number of crossings through a Conservation Easement or Setback shall be minimized. Stormwater treatment facilities, agricultural uses, golf courses, septic systems, or wastewater irrigation shall not be located in the Conservation Easement or Setback. This provision was added to the zoning and subdivision regulations to provide an additional buffer to rivers, streams, and tributaries across unincorporated Oklahoma County to improve water quality.

Program Evaluation

On an annual basis, the Oklahoma County Planning and Engineering Department will evaluate the BMPs assigned to this program and assess progress toward achieving the measurable goals of the program. Recommendations for improvement will be made, as necessary. During the following fiscal year, program activities and BMPs will be modified as necessary based on the results of this evaluation to ensure that specific goals and objectives of the program are being effectively fulfilled.

- **Documentation of Stormwater Program Activities:** As a baseline measure of success, staff will document completion of program activities annually that demonstrate successful fulfillment of BMPs associated with this program element. All activities will be documented and be made a part of Oklahoma County's annual stormwater report.



Minimum Control Measure #6: Pollution Prevention/Good Housekeeping for County Operations

The intent of the Pollution Prevention/Good Housekeeping control measure is to maintain and construct County owned facilities in such a way to prevent pollutants from entering the stormwater system.

Program Goals and Objectives

The goal of the Pollution Prevention/Good Housekeeping Program is to reduce pollutants in stormwater runoff from county operations. The objectives of the programs are as follows:

1. Develop and implement an operation and maintenance program for facilities and operations owned and/or operated by the County that have a significant potential for generating polluted stormwater runoff.
2. Train the employees at these facilities and operations to prevent and reduce stormwater pollution from activities such as fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

Inventory of County Owned or Operated Facilities

During the first permit term, Oklahoma County completed an inventory of facilities owned and operated by Oklahoma County and operations that should be covered by the Pollution Prevention and Good Housekeeping requirements of the Phase II permit. The table below includes a list of facilities owned and operated by Oklahoma County.

Facility	Physical Address
Oklahoma County Annex Building	320 Robert S. Kerr Ave.
Oklahoma County Courthouse	315 Park Ave.
Investors Capital Building	217 Harvey Ave.
Oklahoma County Parking Garage – Metro I	321 Robert S. Kerr Ave.
Oklahoma County Parking Garage – Metro II	320 Dean A. McGee Ave.
Oklahoma County Jail	201 Shartel Ave.
Sheriff Eastern County Substation	8601 Main St.
Sheriff Communications Building	8029 SE 29 th St.
Oklahoma County Juvenile Center	5905 Classen Blvd.
Oklahoma County Election Board	4201 Lincoln Boulevard
District One Road Maintenance Yard	7321 NE 23 rd St.
Treasurer’s Resale & Maintenance Building	7367 NE 23 rd St.
Training & General Assistance Building	7401 NE 23 rd St.
District Two Road Maintenance Yard	7105 S. Anderson Rd.



District Three Road Maintenance Yard	11500 N. Hudson Ave.
Oklahoma County Radio & Cell Tower	10600 NE 71 st St.
Oklahoma County OSU Extension	2500 NE 63 rd St.
Krowse Army Reserve Building	2415 NE 36 th St.
Oklahoma County/Newalla Fire Station	5500 S. Harrah Rd.

Jurisdictionally, all of Oklahoma County’s owned and operated properties are not in Oklahoma County’s area of control. The only facilities that have the potential for generating polluted stormwater runoff are listed below.

- District One Road Maintenance Yard 7321 NE 23rd St.
- District Two Road Maintenance Yard 7105 S. Anderson Rd.
- District Three Road Maintenance Yard 11500 N. Hudson Ave.

District Two and District Three Maintenance Yards are located in the city limits of Oklahoma City and District One’s Maintenance Yard is located in the city limits of Midwest City.

Operation and Maintenance Programs for District Maintenance Yards

Below is a list of activities that each District Maintenance Yard utilizes for preventative maintenance and good housekeeping.

- Each district maintenance yard has a spill prevention and response plan that identifies the specific actions to be taken to prevent and respond to spills. Each facility has spill kits that are readily available in case a spill occurs.
- Each district maintenance yard has a specific area in the yard for fleet service and that area also captures all runoff from truck washing.
- Each district maintenance yard reviews their property once a year to make sure that no significant erosion has taken place; no culverts are blocked by debris and to verify that no incidental spills are occurring on the premises.
- Each district maintenance yard stores all materials that are potential stormwater contaminants under cover or in secondary containment. All hazardous materials are properly labeled and stored to prevent exposure to stormwater runoff.

Road Maintenance Activities

Public streets in Oklahoma County make up a significant percentage of the urban infrastructure and require regular maintenance to keep them in good condition. County street repair and maintenance activities, such as pavement marking, repair, patching, resurfacing, sealing and right-of-way maintenance, can generate a range of stormwater pollutants. If not properly managed, these activities can negatively impact water quality.



Below is a list of activities that each District Maintenance Yard utilizes to minimize stormwater effects during county road maintenance activities.

- Each district implements BMPs by keeping drainage ditches clean by mowing and repairing erosion with TRM and sod.
- District Three provides trash cans in the right-of-way for citizens to utilize for the disposal of trash.
- Each district utilizes different BMPs for roadway construction projects to reduce erosion and sedimentation. The BMPs that are used are silt fencing, straw wattles, sandbag dikes, temporary sediment ponds, etc.
- Each district removes dead animals from the roadway. Road kill has the potential for leaching of biologic contaminants to receiving waters.

Flood Management Projects

Oklahoma County currently does not have any flood management structures that it currently owns or operates. If Oklahoma County decides to implement a new flood management structure it will assess the project for impacts on water quality.

Training

Oklahoma County staff conducts an annual training seminar for the employees involved in implementing pollution prevention and good housekeeping practices at each district maintenance yard.

Staff utilizes a video that covers several topics including:

- Best Management Practices for Good Housekeeping & Spill Prevention
- Best Management Practices for Vehicle & Equipment Washing
- Best Management Practices for Vehicle & Equipment Maintenance
- Best Management Practices for Spill Reporting & Response
- Best Management Practices for Street Maintenance
- Best Management Practices for Outdoor Storage of Materials & Wastes
- Best Management Practices for Landscaping & Lawn Care

Oklahoma Staff will bring up additional issues at these meetings if warranted based on activities in unincorporated Oklahoma County over the previous year.

General Maintenance Activities

In order for stormwater BMPs to be effective, proper maintenance is essential. Maintenance includes both routinely scheduled activities, as well as non-routine repairs that may be required after large storms, or as a result of other unforeseen problems. Maintenance is the



responsibility of Oklahoma County for public facilities and privately owned facilities must be maintained by property owners, homeowner's associations or property managers.

Oklahoma County has the following responsibilities when it comes to the stormwater management system for unincorporated Oklahoma County:

- Maintenance of the components that make up the stormwater system located in public right-of-ways and on other public lands.
- Administration and enforcement of stormwater management regulations and associated inspections.
- Administration and enforcement of floodplain management regulations and associated inspections, in accordance with the requirements of the National Flood Insurance Program (NFIP).
- Administration and enforcement of Oklahoma County's Stormwater Regulation for stormwater facilities located on private property.

Oklahoma County inspects the majority of the County's system over the course of a month and takes the appropriate action to fix or maintain the stormwater system in public right-of-ways and on public lands.

Program Evaluation

Measurable goals for this BMP are described below:

- **Documentation of Stormwater Program Activities:** As a baseline measure of success, staff will document completion of annual activities that demonstrate successful fulfillment of BMPs associated with this program element.
- **Facility Inspection Findings:** If the program is successful, the number of findings related to stormwater pollution should decrease each year following employee training and facility inspections.

On an annual basis, staff will evaluate the BMPs assigned to this program and assess progress toward achieving the goals for the program. Recommendations for improvement will be made as necessary. During the following year, the program activities and BMPs will be modified as necessary based on the results of this evaluation in order to ensure that the goals and objectives of the Pollution Prevention and Good Housekeeping Program and Stormwater Plan are being effectively and efficiently fulfilled.



Minimum Control Measure #7: Oklahoma County Operations

The development of this optional provision for county construction activities is an alternative for the small MS4 operator seeking coverage under this permit. Additionally, contractors working for the small MS4 operator are not required to obtain separate authorization as long as the contractor does not meet the definition of “construction site operator” but does remain compliant with the conditions of this permit. Small MS4s that choose to develop this option will be authorized by this permit to discharge stormwater and certain non-stormwater from construction activities where the small MS4s are the “construction site operators.” For small MS4s that choose to develop this measure, it shall be part of the SWMP submitted with the initial NOI.

1. If this optional provision is elected, you must comply as follows:
 - a. Maintain compliance with the terms and conditions of the most recent OKR10 General Permit for Stormwater Discharges from Construction Activities (OKR10), excluding NOI, NOT, and permit fee submittal requirements.
 - b. Update your SWMP to provide
 - i. a description of how construction activities will generally be conducted by the small MS4 including local conditions and other site-specific considerations,
 - ii. a description of how the small MS4 will implement the technology-based requirements to comply with Part III of the OKR10 permit,
 - iii. a description of how the small MS4 will ensure that the SWP3 requirements are properly implemented and maintained at the construction site or how the small MS4 will ensure that the contractors obtain a separate authorization for stormwater discharges from DEQ for each project, and
 - iv. the general SWP3 conditions and a procedure to include site-specific BMPs to account for local considerations.



Recordkeeping and Reporting

Recordkeeping

The County will maintain all records, a copy of the small MS4 general permit and all data used to complete the Notice of Intent (NOI) for this permit. A current, up-to-date copy of the SWMP and a copy of the general permit requirements will be maintained at the Planning and Engineering Department.

The County will make the compiled records, including the NOI and SWMP, available for public viewing at the Planning and Engineering Department. The SWMP will be available for viewing during normal office hours, and available supporting documents will be able to be viewed within ten working days following the request from the public.

Annual Reports

Oklahoma County will submit an annual report for each permit year to ODEQ. Oklahoma County implements its SWMP on a calendar year basis and staff will submit the County's annual report by April 30th of the calendar year. Each report will contain information regarding activities of the previous permit year. Each report will include:

1. The status of the County's compliance with permit conditions, an assessment of the appropriateness of the identified best management practices, progress towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable (MEP), and progress toward achieving the measurable goals for each of the MCMs.
2. Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the SWMP at reducing the discharge of pollutants to the MEP.
3. A summary of the stormwater activities you plan to undertake during the next reporting cycle (including an implementation schedule).
4. Proposed changes to the County's SWMP, including changes to any BMPs or any identified measurable goals that apply to the SWMP elements.
5. Description and schedule for implementation of any additional BMPs or monitoring that may be necessary to reduce/eliminate the discharges of the pollutant of concern into impaired waters on the 303(d) list.



6. Description and schedule for implementation of any additional BMPs or monitoring that may be necessary to ensure compliance with any applicable TMDL or watershed plan in lieu of a TMDL.



Definitions

1. **Best Management Practices (BMPs)** – Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.
2. **Clean Water Act (CWA)** – The Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500, as amended Pub. L.95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et. seq.
3. **Construction Site Operator** – Means the party or parties that meet one or more of the following descriptions:
 - a. Has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications or
 - b. Has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a Stormwater Pollution Prevention Plan (SWP3) 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).

In addition, “owner” refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., landowner whose property is being disturbed by construction of a gas pipeline or a landowner who allows a mining company to remove dirt, shale, clay, sand, gravel, etc. form a portion of his property).

This definition is provided to inform permittees of DEQ’s interpretation of how the regulatory definitions of “operator” are applied to discharges of stormwater associated with construction activity.

4. **Construction Activity** – Soil disturbance, including clearing, grading, and excavating; and not including routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site (e.g., the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities). Regulated construction activity is defined in terms of small and large construction activity.



5. **Discharge** – When used without a qualifier, refers to the discharge of stormwater runoff or certain non-stormwater discharges as allowed under the authorization of this general permit.
6. **Impaired Water (Water Quality Impaired Water)** – Identified by a State, or EPA pursuant to Section 303(d) or the Clean Water Act as not meeting applicable State water quality standards. Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.
7. **Illicit Discharge** – Defined at 40 CFR §122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an OPDES or NPDES permit (other than the OPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.
8. **LID** – Acronym for “Low Impact Development,” an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product.
9. **MEP** – Acronym for “Maximum Extent Practicable,” the technology-based discharge standard for Municipal Separate Storm Sewer Systems (MS4s) to reduce pollutants in stormwater discharges that was established by CWA §402(p). A discussion of MEP as it applies to MS4s is found at 40 CFR §122.34.
10. **Municipal Separate Storm Sewer System** – 40 CFR §122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
 - a. Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
 - b. Designed or used for collecting or conveying stormwater;
 - c. Which is not a combined sewer; and
 - d. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.



11. **NOI** – Acronym for “Notice of Intent” to be covered by this permit and is the mechanism used to “register” for coverage under a general permit.
12. **Nonpoint Source** – Any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.
13. **Outfall** – A point source at the point where a small MS4 discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other waters of the United States. For the purpose of this permit, sheet flow leaving a linear transportation system without channelization is not considered an outfall. Point sources such as curb cuts; traffic or right-of-way barriers with drainage slots that drain into open culverts, open swales or an adjacent property, or otherwise not actually discharging into waters of the United States are not considered an outfall.
14. **Point Source** – (from 40 CFR §122.22) any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
15. **Pollutant** – including but not limited to any sewage, sewage sludge, dredged spoil, solid waste, oil, grease, garbage, biological materials, radioactive materials, chemical wastes, heat, wrecked and/or discarded equipment, rock, sand, loose soil, sediment from construction sites and graded areas, any characteristics of wastewater (i.e., acidity or alkalinity (pH), temperature, total suspended solids (TSS), turbidity, color, biological oxygen demand (BOD), chemical oxygen demand (COD), toxicity, odor, and industrial and agricultural waste discharged into water.
16. **Small Municipal Separate Storm Sewer System** – Defined at 40 CFR §122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the State, but is not defined as a “large” or “medium” municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in



municipalities, such as systems at military bases, large hospitals or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

17. **Stabilization** – The process of covering exposed ground surfaces with vegetative or non-vegetative practices that reduce erosion and prevent sediment discharge from occurring.
- a. Temporary stabilization – refers to the stabilization of exposed portions of the site in order to provide temporary cover (1) during the establishment and growth of vegetation, and/or (2) in areas where earth-disturbing activities will occur again in the future.
 - b. Final stabilization – refers to the stabilization of exposed portions of the site using practices that provide permanent cover and qualify the permittee for permit termination.

All soil disturbing activities at the site have been completed and either of the following criteria is met:

- a. A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
- b. Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

When background native vegetation covers less than 100% of the ground (e.g., arid areas, and beaches), establishing at least 70% of the natural cover of the native vegetation meets the vegetative cover criteria for final stabilization (e.g., if the native vegetation covers 50% of the ground, 70% of 50% would require total cover for final stabilization. On a beach with no natural vegetation, no vegetation is required.

18. **Stormwater and Stormwater Runoff** – Rainfall runoff, snow melt runoff and surface runoff and drainage.
19. **Stormwater Management Program (SWMP)** – A comprehensive program to manage the quality of discharges from the municipal separate storm sewer system.
20. **Total Maximum Daily Load (TMDL)** – The sum of the individual waste load allocations (WLAs) for point sources, safety, reserves, and loads from nonpoint sources and natural background.



21. **Urbanized Area (UA)** – Land area comprising of one or more places (core and fringe) with urban limits defined by a population density of 1,000 people per square mile and its contiguous census tracts of 500 people per square mile – that together have a residential population of at least 50,000.

22. **Waters of the State** – All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, storm sewers and all other bodies or accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon this state or any portion thereof, and shall include under all circumstances the waters of the United States which are contained within the boundaries of, flow through, or border upon this state or any portion thereof. Provided waste treatment systems, including treatment ponds or lagoons designed to meet federal and state requirement other than cooling ponds as defined in the Clean Water Act or rules promulgated thereto, and prior converted cropland are not waters of the State (27A O.S. §1-1-201).



APPENDIX A

DEQ FORM
605-R04

April 30, 2021



Oklahoma Department of Environmental Quality
Notice of Intent (NOI)
for Stormwater Discharges from Small Municipal Separate
Storm Sewer Systems (MS4s) under the OPDES General
Permit OKR04

Submission of this NOI constitutes notice that the parties identified in Sections I and II of this form intend to be authorized by DEQ for stormwater discharges associated with MS4s. Becoming a permittee obligates such dischargers to comply with the terms and conditions of the OKR04 permit. To obtain an authorization from DEQ, this form must be complete with all the pertinent information.

All necessary information must be provided on this form. See instructions for completing the NOI on page 3 of this form. All associated fees must be submitted with this NOI.

-NEW APPLICATION -MODIFICATION or -RENEWAL of current permit, authorization number: OKR04 _____

I. MS4 Information

Your MS4 jurisdiction shall cover the entire area within the corporate boundaries of the municipality if your city is not located entirely within an Urbanized Area.

Name of MS4: _____ Legal status of the operator of MS4:
-Federal -State -Private
Address: _____ -Municipal (public other than federal or state)
City: _____ State: _____ Zip Code: _____ County: _____
Latitude: _____ Longitude: _____ Approximate area (sq. miles) of MS4: _____

II. MS4 Contact Information

Responsible Party: _____ Phone: _____
Title: _____ Email: _____
Address: _____ City: _____ State: _____ Zip Code: _____
Stormwater Program Manager: _____ Phone: _____
Title: _____ Email: _____
Address: _____ City: _____ State: _____ Zip Code: _____
Permit Fee Billing Contact: _____ Phone: _____
Title: _____ Email: _____
Address: _____ City: _____ State: _____ Zip Code: _____

III. Co-Permittee Information

Are you co-permitting with another entity? -No -Yes, complete the following:
Co-Permittee: _____ Legal status of the operator of co-permittee:
-Federal -State -Private
Mailing Address: _____ -Municipal (public other than federal or state)
City: _____ State: _____ Zip Code: _____ County: _____
Latitude: _____ Longitude: _____ **Certification by the co-permittee is required in Section IX.**
Stormwater Program Manager: _____ Phone: _____
Title: _____ Email: _____

IV. Receiving Water Information Use additional sheets of paper as needed

Name of Receiving Waterbody	Is this waterbody impaired? If so, what are its impairments?	Is there a TMDL for that impairment?
	<input type="checkbox"/> -Yes <input type="checkbox"/> -No	<input type="checkbox"/> -Yes <input type="checkbox"/> -No
	<input type="checkbox"/> -Yes <input type="checkbox"/> -No	<input type="checkbox"/> -Yes <input type="checkbox"/> -No
	<input type="checkbox"/> -Yes <input type="checkbox"/> -No	<input type="checkbox"/> -Yes <input type="checkbox"/> -No

Do you discharge into an Outstanding Resource Water? -Yes -No

V. Endangered Species Eligibility

- a. -My MS4 is not located within any of the corridors of federal- and state-identified Aquatic Resources of Concern (ARC).
- b. - Informal consultation with the USFWS, or a separate federal action, has addressed the effects of stormwater discharges from my MS4, or has resulted in a “no jeopardy” opinion or written concurrence that discharges are not likely to adversely affect any listed species or critical habitat.
- c. -My MS4 is authorized under section 10 of the Endangered Species Act (ESA) and a copy of the authorization is attached.
- d. -The discharges from my MS4 are not likely to adversely affect any listed species or critical habitat.
- e. -My MS4 is relying on another permittee’s certification of eligibility and agrees to comply with the conditions of that certification.

VI. Optional Minimum Control Measure (MCM) 7

Will your MS4 utilize MCM 7 for municipal construction activities? -No -Yes

VII. Required Attachments

- An updated map showing your MS4 boundaries
- Authorization under section 10 of the ESA or -NA
- Application and permit fee or -Invoice is needed for application and permit fee

VIII. Reporting Period for Annual Report

Will your MS4 report based on: -Calendar year (January-December) or -Fiscal year (July-June)

IX. Certification

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, 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.

Print Name: _____ Date: _____

Signature: *Brian Maughan* Title: _____

Certification of Co-Permittee (if applicable)

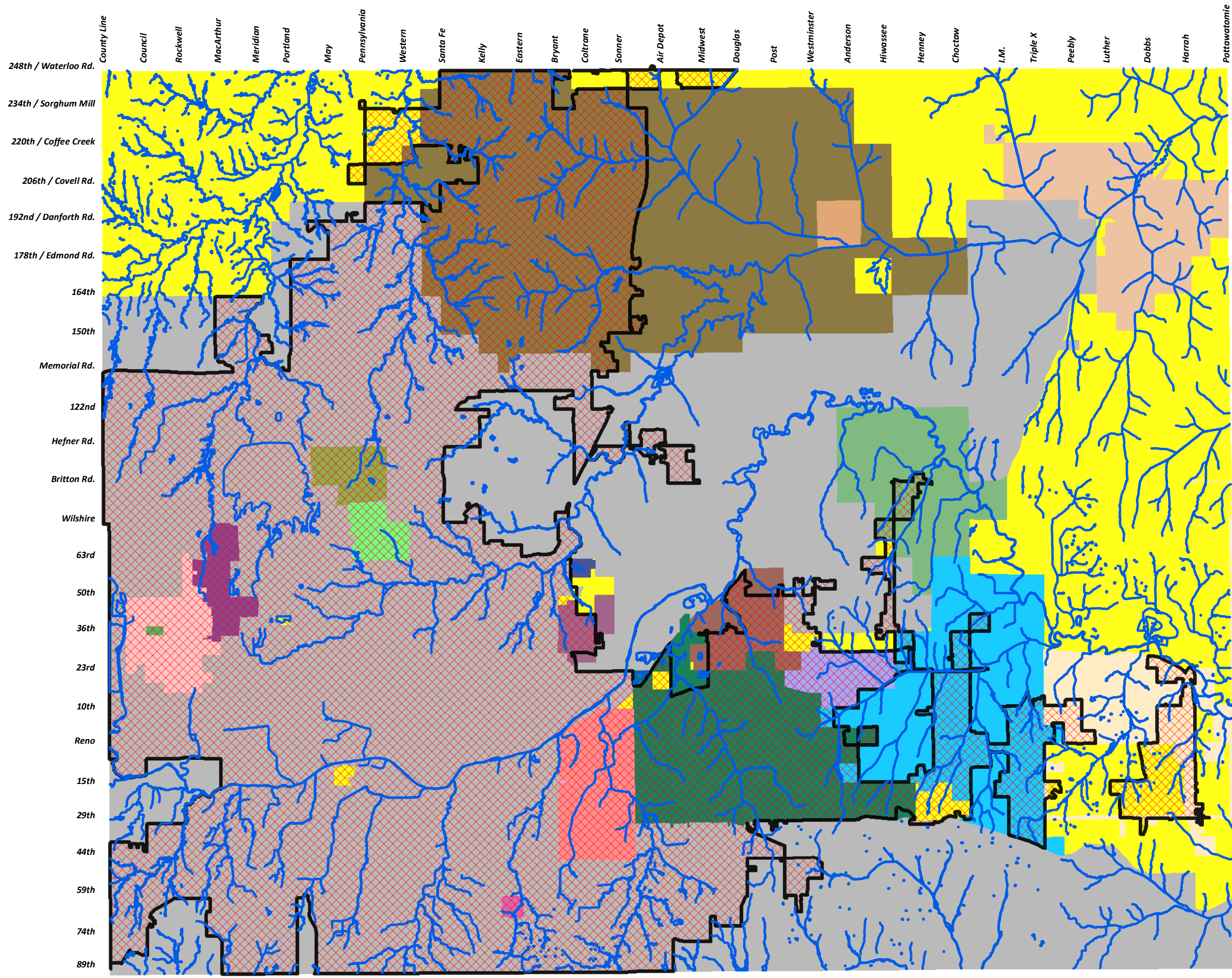
Print Name: _____ Date: _____

Signature: _____ Title: _____

Receiving Waters for Discharges from Oklahoma County

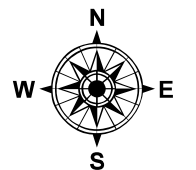
Name of Waterbodies	Impaired?	Impairment	Source of Impairment
Bloody Rush Creek	No		
Dorf Creek	No		
Soldier Creek Tributary to Deer Creek	No		
Deer Creek	No		
Walnut Creek	No		
Bluff Creek	No		
Whistler Creek	No		
Oak Creek	No		
Mill Creek	No		
Hunters Creek	No		
Chisholm Creek	Yes	Nitrates	Undetermined
Cowbell Creek	No		
Peavine Creek	No		
Opossum Creek	No		
Coon Creek	No		
Deep Fork River	No		
Smith Creek	No		
West Fork to Wildhorse Creek	No		
Wildhorse Creek	No		
East Fork to Wildhorse Creek	No		
West Captain Creek	No		
North Canadian River	No		
Choctaw Creek Tributary	No		
N. Canadian Tributary	No		

Oklahoma County Stormwater Map



Legend

- 2010 Urbanized Area
- Oklahoma County Cities**
 - Arcadia
 - Bethany
 - Choctaw
 - Del City
 - Edmond
 - Forest Park
 - Harrah
 - Jones
 - Lake Aluma
 - Luther
 - Midwest City
 - Nichols Hills
 - Nicoma Park
 - Oklahoma City
 - Smith Village
 - Spencer
 - The Village
 - Unincorporated
 - Valley Brook
 - Warr Acres
 - Woodlawn Park



BMP Description	Measurable Goals	Schedule (Years)					Responsible Staff	Phone #	Fax #	Email Address
		2022	2023	2024	2025	2026				
Numbers for each year represent quarters in which the BMP will be completed: 1st = Jan. - Mar. 2nd = Apr. - Jun. 3rd = Jul. - Sep. 4th = Oct. - Dec.										
Public Education and Involvement										
Distribute Pollution Prevention Brochures and Educational Materials.	Distribute educational materials at Oklahoma County's Planning and Engineering Department at the time of building permit issuance. The goal is to distribute a total of 50 brochures over the course of one year.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Promote and Maintain Informational webpage at www.oklahomacounty.org/planningcommission under "Stormwater Information".	Oklahoma County wants to promote and maintain stormwater information on Oklahoma County's website that contains information on stormwater pollutants and ways to minimize them. The website will provide information about activities that the County is currently conducting. The website will have access to all the educational materials that are available at the County Annex Building. The goal is to have 100 visits to the website each year.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Phase II Stormwater Public Meeting.	Meet with the Oklahoma County Planning Commission and/or the Board of County Commissioners in a public forum to provide information regarding activities performed to comply with Phase II requirements and to receive input from the public regarding stormwater issues and the stormwater program. The goal is to discuss stormwater information in one public meeting.	4 th	4 th	4 th	4 th	4 th	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Promoting Oklahoma County's cooperative Household Hazardous Waste recycling program.	Oklahoma County will put a brochure about the program on the County website and we will also send letters to one select subdivision once a year informing citizens of the program. The goal is to send information to 50 households per year.	3 rd	3 rd	3 rd	3 rd	3 rd	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Household Hazardous Waste Recycling Program	The goal is to have 30 households utilize Midwest City's recycling facility each year. Oklahoma County's goal is to recycle at least 2,000 pounds of waste each calendar year.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Educate Local Developers	Oklahoma County has created a special brochure for local developers for erosion and sediment control. The goal is to educate developers on what is required during construction of a home or a subdivision. The goal is to send information to 25 active builders each year.	4 th	4 th	4 th	4 th	4 th	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Educate Local Developers and Engineers	Oklahoma County has created a special brochure for local developers for erosion and sediment control. The goal is to educate developers on what is required during construction of a home or a subdivision. The goal is to distribute the information during a pre-application meeting before the design of the project. The goal is to distribute 10 brochures over a course of a year.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Oklahoma County Road Maintenance Yard Staff Training	Oklahoma County will train three district yards a year to prevent and reduce stormwater pollution from activities such as good housekeeping and spill prevention, vehicle and equipment washing, vehicle and equipment maintenance, spill reporting and response, street maintenance, and outdoor storage of materials and wastes.	3 rd	3 rd	3 rd	3 rd	3 rd	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org

BMP Description	Measurable Goals	Schedule (Years)					Responsible Staff	Phone #	Fax #	Email Address
Numbers for each year represent quarters in which the BMP will be completed: 1 st = Jan. - Mar. 2 nd = Apr. - Jun. 3 rd = Jul. - Sep. 4 th = Oct. - Dec.										
		2022	2023	2024	2025	2026				
Illicit Discharge Detection and Elimination										
Conduct Dry Weather Screening to detect, investigate, and eliminate illicit discharges.	Oklahoma County will conduct Dry Weather Field Screening at 20% of its identified outfalls per year. At this time, 20% is 5 outfalls that will be inspected per year.	3 rd	3 rd	3 rd	3 rd	3 rd	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Oklahoma County has identified a high priority area along Chisholm Creek.	Oklahoma County will conduct Dry Weather Field Screening along Chisholm Creek once per year. The pollutant of concern at this time is nitrates.	3 rd	3 rd	3 rd	3 rd	3 rd	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Construction Site Stormwater Runoff Control										
Oklahoma County Construction Site Inspections	Oklahoma County will inspect construction sites that are greater than 40 acres once per quarter.	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Oklahoma County Construction Site Inspections	Oklahoma County will inspect construction sites that discharge to a waterbody that has been identified as impaired for sediment or turbidity.	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	1 st , 2 nd , 3 rd , 4 th	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Oklahoma County Construction Site Inspections	Oklahoma County will inspect all active construction sites at least once during active construction to verify that OKR10 permit conditions are being met.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org

BMP Description	Measurable Goals	Schedule (Years)					Responsible Staff	Phone #	Fax #	Email Address
Numbers for each year represent quarters in which the BMP will be completed: 1st = Jan. - Mar. 2nd = Apr. - Jun. 3rd = Jul. - Sep. 4th = Oct. - Dec.										
		2022	2023	2024	2025	2026				
Post-Construction Stormwater Management in New Development and Redevelopment										
Protection of Sensitive and/or Impaired Water Bodies	In Oklahoma County's Zoning and Subdivision Regulation a conservation easement or setback was added along waterways. The Conservation Easement or Setback is intended to limit physical disturbance of the land along waterways to prevent erosion and protect water quality. The Conservation Easement or Setback is required for all development near rivers, major streams, and minor streams. The following Conservation Easement or Setback shall be provided, measured from the waterway centerline, and as designated by the Oklahoma Water Resources Board: 150 feet rivers, 100 feet major streams, and 50 feet minor streams.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
BMP Operation and Maintenance	Oklahoma County is requiring all new subdivisions to provide an operations and maintenance manual for stormwater detention and permanent erosion control facilities. These manuals will provided to HOAs to maintain these facilities within subdivisions.	All Year	All Year	All Year	All Year	All Year	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Pollution Prevention/Good Housekeeping for County Operations										
Employee Training Program	Oklahoma County will train all three district yards once a year to prevent and reduce stormwater pollution from activities such as good housekeeping and spill prevention, vehicle and equipment washing, vehicle and equipment maintenance, spill reporting and response, street maintenance, and outdoor storage of materials and wastes.	3 rd	3 rd	3 rd	3 rd	3 rd	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org
Site Inspection of Oklahoma County Road Maintenance Yards	Oklahoma County will inspect its road maintenance yards once per year to prevent runoff from yard operations affecting surface water quality.	4 th	4 th	4 th	4 th	4 th	Erik Brandt	(405) 713-7146	(405) 713-1850	eneribra@oklahomacounty.org