

STORMWATER MANAGEMENT PLAN

COUNTY OF COLE, MISSOURI



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WATER PROTECTION PROGRAM

INTRODUCTION

The County of Cole, hereinafter referred to as the County, has a Small Municipal Separate Storm Sewer System (MS4) for the urbanized areas located within the unincorporated portions of the County. Because the areas in and around the City of Jefferson has a population of over 1,000 per square mile, the urbanized areas, as defined by the United States Census Bureau, is a Missouri "regulated MS4" and must obtain a NPDES Stormwater Permit. The County must also develop a Stormwater Management Plan (SMP).

The SMP summarizes the County's intentions to reduce the amount of pollution in it's stormwater runoff in the urbanized areas by addressing the six categories of concern listed in the permit. These categories are as follows:

1. Public Education and Outreach.
2. Public Involvement and Participation.
3. Illicit Discharge Detection and Elimination.
4. Construction Site Runoff Control.
5. Post-construction Site Runoff Control.
6. Pollution Prevention/Good House Keeping.

The County will adapt this plan to its own unique situation and will attempt to improve the plan each year. As circumstances change, new solutions may be necessary to better control pollution in stormwater. This plan is a foundation on which new and innovative ideas and solutions can be developed in the years to come to protect the water quality of our local streams.

COUNTY INFORMATION

Name of County: County of Cole

Urbanized Population: 8,796

Area of Urbanized Area: 5,346 Acres (8.35 Square Miles)

Total Population of County: 72,757

Total Area of County: 250,240 Acres (391 Square Miles)

Water Supply: Missouri-American Water Company – Missouri River; Cole County Public Water Supply District 1 – Wells; Cole County Public Water Supply District 2 – Wells; Cole County Water Supply District 3 – Wells; and Privately Owned Wells

Waste Water Treatment: City of Jefferson – Treatment Plant; Aqua-Missouri – Lagoons and Small Treatment Plants; and Individual On-Site Septic Systems

Water Shed: North Moreau Creek to Moreau River to Missouri River; Grays Creek to Missouri River; and Wears Creek to Missouri River

Geologic Setting: Northern Edge of the Ozark Plateau – Bedrock is shallow bedded consisting of Ordovician carbonates

Average Rainfall: 39.59 inches per year

The County is located in central Missouri with the Missouri River forming the northern boundary of the County. The rainfall runoff from the urbanized area flows north to the Missouri River.

The County has the following manufacturing plants located with the urbanized areas:

1. Capital Quarries – Limestone Quarry Operations
2. Menu Maker Foods, Inc. – Food Packaging
3. Wren Enterprises – Security Hardware
4. J C Mattress Factory – Bedding Manufacturing

The County has stormwater drains located within the urbanized areas. At this time, the County does not have an accurate accounting of the total length installed in these areas.

DEFINITIONS

Best Management Practice: A type of management, habit, action, practice, type of construction or other ways of doing things that accomplishes the best result – given the circumstances (size, budget, other factors) an entity must work under. Each entity must look at its own particular situation and determine what Best Management Practices work best to implement the six Minimum Control Measures.

BMP: An abbreviated term for “Best Management Practice”.

Minimum Control Measure: One of the six categories, that at a “minimum,” must be addressed in the stormwater management plan. The six categories include the following: Public Information, Public Participation, Illicit Discharges, Construction Site Runoff, Post-construction Runoff, and Pollution Prevention/Good House Keeping. Each of these categories is a Minimum Control Measure.

MCM: An abbreviated term for “Minimum Control Measure”.

Maximum Extent Practicable: Doing your best to the maximum extent that is practical – given your county’s abilities and needs.

MEP: An abbreviated term for “Maximum Extent Practicable”

Municipal Separate Storm Sewer System: A stormwater sewer (drainage) system that is “separate” from the regular domestic sewage system. The stormwater sewer system discharges directly to a stream without treatment of the rainwater.

MS4: An abbreviated term for the phrase “Municipal Separate Storm Sewer System”. (One “M” and four “S’s”.)

Regulated MS4: A Municipal Separate Storm Sewer System that is required to obtain an NPDES Permit and comply with the Missouri stormwater regulations.

Stormwater: The rain water that flows off parking lots, roads, paved driveway, yards, and other properties into roadside ditches, storm drains, and streams during a rainstorm.

Urbanized Areas: Areas within the unincorporated portions of the County as defined by the U.S. Census Bureau which contains a population of 1,000 residents per 1 square mile.

PUBLIC EDUCATION AND OUTREACH

The County has a goal of significantly increasing awareness among its citizens of stormwater pollution. The strategy for accomplishing the goal will include several measurable efforts to raise public awareness of how stormwater is contaminated and ways each individual can help minimize the problem. Outreach will seek to inform people about the following subjects:

1. The proper handling and disposal of solid wastes.
2. The proper handling and disposal of hazardous wastes.
3. The proper handling and application of fertilizers and pesticides on lawns within the urbanized areas.
4. The elimination of illegal dumping of oil and other chemicals into storm drains within the urbanized areas.
5. The importance of erosion control structures on construction sites to prevent sediment from eroding into storm drains within the urbanized areas.
6. The importance of detention basins and other post-construction structures to prevent erosion down stream of new development within the urbanized areas.

ACTIONS AND MEASURABLE GOALS:

ACTION: Establish a stormwater section on the County's website that discusses the six subjects listed above.

Measurable Goal: Complete Action 1 by one (1) year after the date of issuance of the permit.

ACTION: Place informational brochures available to the public at the office of the County Commission located in the County Courthouse Annex and the office of the Department of Public Works discussing the six subjects listed above. The brochures will consist of the following:

General Information Brochure: This will contain general information about the Phase II storm water requirements for the urbanized areas and discuss the six minimum control measures.

Developer Brochure: This will contain the specific information about the Phase II storm water requirements as they pertain to developers doing work in urbanized areas of the County.

Contractor Brochure: This will contain the specific information about the Phase II storm water requirements as they pertain to contractors doing work in urbanized areas of the County.

Measurable Goal: Have brochures in place by one (1) year after the date of issuance of the permit.

ACTION: Contact local radio and television stations to discuss possible public service announcements (PSA) through cooperative agreements with the City of Jefferson and/or other entities.

Measurable Goal: Make contact with the City of Jefferson and/or other entities regarding within one (1) year of the date of issuance of permit and set a goal for the first PSA within two (2) years of the issuance of the permit.

ACTION: Make storm water presentations to the public through cooperative agreements with the City of Jefferson and/or other entities. These presentations will be in the form of workshops, festivals, public hearings and/or meetings. The presentations will cover one, some or all of the six minimum control measures in the in the storm water management program.

Measurable Goal: Make one (1) presentation per year to various civic groups. (Possible cooperative agreement with City of Jefferson and/or other entities)

PUBLIC INVOLVEMENT AND PARTICIPATION

ACTION: The Cole County Department of Public Works will form a Storm Water Management Program committee for the purpose of establishing guidelines for implementing a storm water ordinance within the urbanized areas of the County. The committee will be comprised of employees of Public Works, local developers, local contractors, commissioners, and/or concerned citizens. Once an ordinance is passed for the urbanized areas, the committee will continue to meet on a semi-annual basis to discuss issues involving the ordinance.

Measurable Goals: The Storm Water Management Program committee will begin meeting within six (6) months of the issuance of the permit.

ACTION: The Cole County Commission will implement a public forum for discussing stormwater issues for the urbanized areas.

Measurable Goals: The Commission will hold a public meeting to discuss stormwater issues at least two (2) times per year.

ACTION: The County will support volunteer groups that clean up local streams.

Measurable Goals: If requested by volunteer groups, the County will support at least one (1) stream cleanup per year by disposing of the refuse collected and providing public service announcements.

ACTION: The County will coordinate with local groups to promote special events that relate to stormwater issues through cooperative agreements with the City of Jefferson and/or other entities. These events may include, but are not limited to, The Water Festival, Healthy Yards for Clear Streams workshops, and Stream Team Cleanups

Measurable Goals: The County will support and coordinate with local groups when events are being planned with a goal of at least one (1) time per year.

ACTION: The County will discuss the possibility of forming a Stormwater Committee with other public entities to guide the development of stormwater requirements and standardization among the entities.

Measurable Goals: The County will contact the other entities within one (1) year of the issuance of the permit.

ACTION: The County will conduct a waste tire disposal day through cooperative agreements with other entities. Citizens in the community will be able to drop off waste tires for a small fee. The purpose of this event is to minimize the amount of waste tires that end up being discarded in landfills and streams.

Measurable Goals: The County will conduct this pickup day one (1) time each year.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

The County will implement measures to reduce and eliminate unauthorized discharges to its storm sewer system.

ACTION: The Cole County Department of Public Works will form a Storm Water Management Program committee for the purpose of establishing guidelines for implementing a storm water ordinance for the urbanized areas of the County. This ordinance will include provisions for illicit discharge occurrences within these areas.

Measurable Goals: The Storm Water Management Program committee will begin meeting within six (6) months of the issuance of the permit.

ACTION: The County will implement a program to inspect storm water outlets in the urbanized areas of the County for illicit discharge. The program will include the following:

1. Defined inspection methods and procedures
2. Employee inspection training
3. Developing and maintaining a storm sewer system map
4. Remediation guidelines in the event of a detection
5. Tracking complaint calls and department responses

Measurable Goals: Development of the program will be completed and in operation within one (1) year of the issuance of the permit.

ACTION: The County will conduct visual inspections of stormwater outlets during the year to detect illegal discharges to storm sewers within the urbanized areas of the County. The inspection will be documented with charts and photos.

Measurable Actions: The County will visually inspect at least 25% of all stormwater outlets located within the urbanized areas of the County each year and record the inspection date and result.

ACTION: The County will establish a phone number that citizens can call to report illegal discharges.

Measurable Actions: The County will place a phone number on it's web site within six (6) months of the issuance of the permit.

CONSTRUCTION SITE RUNOFF CONTROL

The County will establish procedures and policies to promote the control of sediment erosion on construction sites located within the urbanized areas. The following actions will be taken:

ACTION: Attach an informational brochure geared towards contractors on proper erosion control measures to every building permit issued by the County for the urbanized areas.

Measurable Goal: Attach the informational brochures to the building permits within six (6) months of the issuance of the NPDES Permit.

ACTION: Require an erosion control plan to be submitted to the County for every construction site of one (1) acre or more located within the urbanized area.

Measurable Goal: Require the submittal of an erosion control plan for all construction sites of one (1) acre or more located within the urbanized area by one (1) year after the issuance of the NPDES Permit.

ACTION: The Cole County Department of Public Works will form a Storm Water Management Program committee for the purpose of establishing guidelines for implementing a storm water ordinance within the urbanized areas. This ordinance will include provisions for illicit construction site runoff control within the urbanized areas.

Measurable Goals: The Storm Water Management Program committee will begin meeting within six (6) months of the issuance of the permit.

ACTION: The County will implement a program to inspect all construction sites located within the urbanized areas of the County for storm water runoff control. The program will include the following:

1. Defined inspection methods and procedures
2. Frequency of inspections
3. Employee inspection training
4. Defined acceptable best management practices (BMP's)
5. Guidelines for enforcement

Measurable Goals: Development of the program will be completed and in operation within one (1) year of the issuance of the permit. Regular inspections of the sites located within the urbanized areas of the County will begin at this time.

POST CONSTRUCTION SITE RUNOFF CONTROL

The County will establish policies and procedures to control post-construction site runoff for areas located within the urbanized areas. The County will implement the following actions.

ACTION: The Cole County Department of Public Works will form a Storm Water Management Program committee for the purpose of establishing guidelines for implementing a storm water ordinance within the urbanized areas of the County. This ordinance will include provisions for post construction runoff control within these areas.

Measurable Goals: The Storm Water Management Program committee will begin meeting within six (6) months of the issuance of the permit.

ACTION: The County will implement stormwater management and water quality assurance in the review and approval process of all developments located within urbanized areas of the County. Water quality measures will be required on all stormwater outlets from these developments. The County will encourage the use of alternate methods of water runoff structures.

Measurable Goal: Implementation of stormwater management and water quality in the review and approval process for developments located within the urbanized areas will begin within three (3) months after the issuance of the permit.

ACTION: The County will implement a program to inspect completed construction sites located within the urbanized areas of the County for post construction water quality. The program will include the following:

1. Defined inspection methods and procedures
2. Employee inspection training
3. Remediation guidelines in the event of a substandard condition
4. Promotion of alternative water quality practices

Measurable Goals: Development of the program will be completed and in operation within one (1) year of the issuance of the permit.

ACTION: The County will encourage the large shopping centers located within the urbanized areas to pick up litter on a daily basis.

Measurable Goal: The County will encourage the large shopping centers located within the urbanized areas to pick up litter within six (6) months of the issuance of the NPDES Permit.

POLLUTION PREVENTION / GOOD HOUSE KEEPING

The County will establish policies and procedures to reduce the potential for pollution of stormwater by county operations. The following actions will be implemented.

ACTION: Have a training session with all Cole County Department of Public Works employees to discuss good house keeping. The training will include proper handling and disposal of solid wastes and hazardous wastes.

Measurable Goal: Have training with all Cole County Department of Public Works employees to discuss good house keeping within six (6) months of issuance of NPDES Permit. The training will be held one (1) time a year to refresh personnel on environmental regulations.

ACTION: Street sweeping will be conducted on a regular basis. The sweepings will be disposed of in a sanitary landfill unless the sweepings can be reused for other purposes.

Measurable Goal: Street sweepings will be disposed of in a sanitary landfill immediately upon issuance of the NPDES Permit unless the sweepings can be reused for other purposes.

ACTION: Cole County Department of Public Works employees will be instructed in the proper handling and application of pesticides.

Measurable Goal: Cole County Department of Public Works employees will be instructed in the proper handling and application of pesticides within six (6) months of the issuance of the permit. Employees will be instructed in the proper handling and application of pesticides one (1) time per year.

ACTION: Cole County Department of Public Works employees will be trained in the proper use of BMPs on County operated construction sites.

Measurable Goal: Public Works employees will be trained in the proper use of BMPs on County operated construction sites within six (6) months of the issuance of the NPDES Permit. Employees will be trained in the proper use of BMP's on an annual basis there after.

ACTION: Cole County Department of Public Works will implement an operations inspection plan and inspection training for all employees involved in building inspection and road and bridge construction inspection.

Measurable Goal: The operations inspection plan and training will be implemented within six (6) months of the issuance of the NPDES Permit. Employees will be offered refresher training on an annual basis there after.

ACTION: The County will install storm drain markers on all new drop inlets constructed in the county and implement a plan to install storm drain markers on existing drop inlets.

Measurable Goal: Public Works will purchase markers and furnish them to contractors for installation on all new inlets immediately. Public works will purchase markers and implement a plan to install them on existing drop inlets within six (6) months of the issuance of the NPDES Permit.