

**SUMMARY**  
**Surface Water Management Plan**  
MS4 Permit No:

**Part 1 – Facility Information**

Information on the Permittee:

Name: Cass County, Missouri  
Type of Entity: County Administration  
Total Area: 682 square miles more or less. Permit Area approximately 5 to 7 square miles of non contiguous parcels lying in Township 46, Ranges 33 and 32W.  
Mailing Address: 102 East Wall Street, Harrisonville, MO. 64701  
Primary Contact: Lee Morris, Director, Planning and Zoning  
Secondary Contact: Gary Mallory, Presiding County Commissioner

Information on the Municipal Separate Storm Sewer System Facility:

MS4 System Location: non contiguous parcels within County jurisdiction and outside of municipal jurisdiction of the cities of Loch Lloyd, Kansas City, Belton and Raymore lying within Cass County. Land use is generally low density single family residential.  
Facility Description: System consists of surface and ditch, non-piped storm water runoff. There are no physical facilities of the Permittee in the area and no point sources of discharge.  
Name of Organization: Cass County, no other organization involved  
County Permittee Resides: County is permittee, SIC class 9511

**Part II - Outfalls**

Information on Adjacent Waterways and Critical Areas

The scattered Permit Areas lie within watersheds of tributary streams of the Grand River Watershed basin. The Permit Areas generally include parcels at the head waters of these tributaries.

There are no bodies of water used for sources of potable water adjacent to or contained within the Permit Areas.

There are no bodies of water classified as major reservoirs adjacent to or contained within the Permit Areas. The nearby regional reservoirs include Loch Lloyd on Mill Creek and Silver Lake in Raymore, each body of water contained within the municipal boundaries.

Areas defined as wetlands or critical habitat are not adjacent to or contained within the Permit Areas.

Areas defined as potential historic sites, or containing historic structures are not included within the Permit Areas.

#### Outfall 01

Location Description: Along the North line of the Northeast Quadrant of Section 26, Township 46N, Range 33W, more particularly at the midpoint of the bridge of the West Fork branch of the East Fork of the Grand River along 187<sup>th</sup> Street, USGS Belton 7.5 Quadrangle.

#### Outfall 02

Location Description: Along the North line of the Northwest Quadrant of Section 31, Township 46N, Range 32W, more particularly at the midpoint of the bridge of the West Branch of the tributary of East Creek of the Grand River, along 195<sup>th</sup> Street, USGS Raymore 7.5 Quadrangle

#### Outfall 03

Location Description: Along the North line of the Northeast Quadrant of Section 31, Township 46N, Range 32W, more particularly at the midpoint of the bridge of the East Branch of the tributary of East Creek of the Grand River, along 195<sup>th</sup> Street USGS Raymore 7.5 Quadrangle

#### Outfall 04

Location Description: Along the South line of the Southwest Quadrant of Section 36, Township 46N, Range 32W, more particularly at the midpoint of the bridge of the East Branch tributary of the South Grand River, along 203rd Street, USGS Raymore 7.5 Quadrangle.

### **Minimum Control Measures**

#### 4.2.1 MCM 1: Public Education and Outreach on Storm Water Impacts

##### 4.2.1.1 Permit Requirements

Cass County maintains a library of literature relating to storm water and flood plain management, as supplied by the State and Federal authorities and local watershed and environmental groups. In addition a public education program utilizing distributed educational materials to the community has been in service since the beginning of the previous MS4 Permit period. During the period of this Permit, additional outreach activities, including more recent approaches to pollution prevention, will be developed. The focus of these efforts will be to further educate the public regarding the impact of storm water discharges on land and water bodies. They will include steps to reduce the potential for pollution in such discharges that are effective for individual and business uses to apply.

### SubPart .1 Target Pollutant Sources

Identified as potential pollutants, in order of likely impact, and their most common sources are the following:

- Nutrients, primarily commercial fertilizer for agricultural and residential uses.
- Pesticides common for agricultural and residential use
- Oil and grease as waste resulting from equipment use and storage
  
- Bacteria, in particular resulting from lack of maintenance and repair of septic systems
- Toxic Organic and Inorganic chemicals primarily as waste from commercial and residential uses
  
- Floatable solid waste, generally from illicit dumping
- Suspended solids, primarily as suspended eroded soil from construction and agriculture operations and stream bank deterioration
- Salinity, generally a result of street ice treatments

### SubPart .2 Target Audience for Permit Program

The Outreach aspects of the Permit will address the following target audience as the most effective recipient of information. These targets, arranged in a priority of the group most likely to affect positive results, were selected because Cass County has determined that changing their behavior has both an immediate and a longer term benefit in affecting control of the potential for pollutants

Citizen homeowners on individual parcels  
Construction contractors and builders  
Home owner associations and religious associations  
Business and institutional owners and operators  
Children  
Public Officials  
County Staff

### SubPart .3 Target Information Approach

The existing methods for reaching citizens with technical information regarding methods and procedures for improving prevention methods will be reviewed and revised under this Permit.

### SubPart .4 Program Involvement

In conjunction with the development of the County Master Plan, a program of potential citizen volunteer opportunities will be explored.

### SubPart . 5 Outreach Strategy

The Surface Water Management Program will develop expanded outreach efforts in a variety of approaches that will best reach each of the targeted groups utilizing available resources and communication methods. Individual parcel owners are most reachable by means of mass communication using web based notices. Contractors, owner associations and business owners require more targeted contact, with specific training components. Children are best reached through their school venue by means of materials for distribution and information posters and competitions. Public officials in the Permit Areas all have existing regulatory roles under separate permitting, and the County maintains interaction with them for all property and road issues.

### SubPart .6 Evaluation

During Year 2 of this Permit, the County will develop and begin to report measurable standards of performance for the key elements of each of the six Control Measures

#### 4.2.2 MCM 2: Public Involvement and Participation

##### 4.2.2.1 Permit Requirements

As a County Administration, public notice requirements under RSMO standards are maintained for all administrative and ordinance action. During the Permit period, and concurrently with the goals of the 5 year County Master Plan under development, opportunities for public involvement with administrative approaches, on an individual level and as participants in group information outreach and interactive focus groups, will be developed and implemented.

##### SubPart .1 Public Involvement in the Application

The County has not involved the public in the Application for this Permit because there is not an actual inventory of individual properties or owners who are located within the Permit Areas. It is estimated that there are perhaps 5 to 7 square miles of discontinuous parcels involved, with a population estimated at something approaching 800 people due to the low density residential uses. As the survey data used in the EPA model is now 8 years out of date, and does not account for the expansion of the city boundaries of Loch Lloyd, Kansas City, Belton and Raymore, the County determined that there was not an effective means to gain such involvement. Should survey data be developed as part of the census, the County will investigate utilizing it for this Permit.

In conjunction with the development of the County Master Plan, a program of potential citizen individual and group volunteer opportunities will be explored.

##### SubPart .2 Target Audience

Due to the conditions noted above, the County has targeted audiences for involvement from the larger population of the area, beyond the limited Permit Areas. Ethnic diversity

is very low in Cass County, and economic diversity is also largely grouped around lower to middle class working families living in single family detached housing. As with all County outreach programs, audiences are not differentiated by sex, age, ethnicity or economic measures, but rather by the methods most likely to be effective in reaching them and obtaining their involvement. Plans for the Master Plan outreach effort will follow those same approaches.

#### SubPart .3 Potential Program Involvement Methods

Individual involvement methods to be considered in the SWMP may be as presenters for information outreach, such as school or home owner association presentations. Participation in field observation procedures for regional streams and environmental conditions and illicit dumping issues may also be possible.

#### SubPart 4 Potential Active Involvement Methods

Group involvement methods to be developed during the period of this Permit may include task force and focus group activities to bring public involvement into the regulatory process, for stream conditions, environmental focus for designated areas, and solid waste management. Cooperation with local and regional environmental organizations will be investigated to determine involvement opportunities within those organizations as well.

#### SubPart 5 Evaluation

During Year 2 of this Permit, the County will develop and begin to report measurable standards of performance for the key elements of each of the six Control Measures

### 4.2.3 MCM 3: Illicit Discharge Detection and Elimination

#### 4.2.3.1 Permit Requirements

As part of the development of an expanded County Surface Water Management Plan, under this Permit, a procedural approach to provide for routine site observation of the conditions of watersheds within the Permit Areas will be developed. These adjacent parcels which are receiving storm water from the Permit Areas themselves, as well as coming out of the adjacent communities of Belton and Raymore will be considered in the development process. Procedures to be developed include methods for recording of observations of outflow conditions, scheduling and training opportunities.

#### SubPart .1 Mapping

As there are no point sources or sewer piping systems within the Permit Areas, the County relies on our GIS based mapping with aerial photography dating to 2008. Within the County GIS system, there is a parcel overlay layer which also describes the property boundaries for the private ownership of these areas, none of which are owned by the County.

#### SubPart .2 Regulatory Authority

All new development within the Permit Areas is regulated by the County Zoning Order, which includes specific regulation in the Articles describing the ordinance structure for Flood Plain Management and for Surface Water Management Plans. Compliance with NPDES regulatory requirements are a part of the structure of the Zoning Order.

Construction projects by individuals within the Permit Areas are regulated by the national building Codes currently in use by the County Codes Enforcement Department. Non compliance with these regulatory approaches are classified as misdemeanors and enforced through legal action.

#### SubPart .3 Identification of Potential and Actual Sources of Discharges

As part of the development of this requirement, the County will investigate the procedures and record keeping methods described above. The County Health Department currently provides enforcement of discharges from on-site individual septic systems resulting from system failure or inadequate maintenance.

Procedures for identifying priority areas within the Permit Areas will be established, including monitoring of existing systems currently permitted by MoDNR. In addition, a methodology for identifying potential causes and sources within the Permit Areas will be developed later in the Permit cycle, along with procedures to trace and locate a specific contamination event. Policy or ordinance structure will be explored such that blocking, removing a source and effecting a clean up process, as allowed under RSMO standards, might be implemented.

Results of this effort will be correlated to the public education and outreach approaches of the Permit to inform the owner and adjacent property owners of the potential source of the risks of pollution and benefits of reducing the risk factors by regular observation and maintenance.

The development of these procedures will contain a record keeping component which will allow for program evaluation based on identified problem areas.

#### SubPart 4 Non Storm Water Discharge Sources

The County has not determined that any of the sources described in the Permit component have potential to be a significant contributor within the scattered Permit areas. Local control of sources lies within the adjacent municipalities.

#### SubPart 5 Occasional and Random Non Storm Water Discharge Sources

The County has not determined that any of the random sources described in the Permit component have potential to be a significant contributor within the scattered Permit areas. Local control of sources lies within the adjacent municipalities.

## SubPart 6 Inventory, Inspection and Enforcement of Industry and Commerce

The County does not have regulatory authority under RSMO standards to enforce mandatory inventory measures or inspections of existing industrial or commercial or residential uses, all contained within private property, within its jurisdiction, or within the Permit Areas. Currently such new uses which are proposed under the County Zoning Order are regulated in terms of surface water management issues, but there is no authority to interfere with, inspect or inventory their internal operations, or to effect similar conditions on existing facilities.

### 4.2.4 MCM 4: Construction Site Storm Water Runoff Controls

#### 4.2.4.1 Permit Requirements

The County Surface Water Management Plan requirements of the Zoning Order currently require the use of American Public Works Association Best Management Practices for surface water control. These requirements are reviewed on site during the construction life of a project as part of the Code Enforcement process of the County. In addition, larger developments comprised of multiple parcels, under the same Zoning Order, are required to prepare and execute a Surface Water Management Plan for the common areas contained within the project. This SWMP addresses requirements for portion of the site for which there may not be an individual building project, such as public recreational areas or drainage landscape controls.

These regulations apply to construction proposed for sites of greater than one acre, for projects with aggregate sites of greater than one acre, and for individual sites of any size where erosion concerns are a priority due to circumstances of the site or the surrounding area.

#### SubPart .1 Ordinance

The ordinance structure in use is the Zoning Order. Enforcement is pursued as a non compliance misdemeanor through the normal legal system. Currently in use are APWA BMP methods which require erosion control measures and structures. The County, under this Permit, will expand these BMP methods in two stages of development. As ordinances, compliance is enforceable under misdemeanor criminal action as allowed under RSMO standards.

#### SubPart .2 Construction Site Waste Materials

During the time period of this Permit, the ordinance structure in use, the Zoning Order, will be revised to include BMP methods for prevention and containment of wastes generated by normal construction methods, including solid and liquid waste materials.

### SubPart .3 Construction Site Plan Reviews

Currently County requirements for site plans for projects involving more than one structure or more than one acre in size are required by the Zoning Order. Detailing is required to indicate how the construction has been designed, the BMPs intended for use, with the expected storm water impacts established as part of that plan. Site construction features that are part of the BMP methods are included in the plan.

### SubPart .4 Construction Site Plan Reviews, Public Input

Currently County requirements for the zoning actions required to develop sites for projects include a public notice and comment requirement. During the Period of this Permit, a method to incorporate these requirements with public education and involvement procedures will be explored.

### SubPart .5 Construction Site Reviews

Currently County requirements for projects involving more than one structure or more than one acre in size are required by the Zoning Order to present project scheduling. It is used so that site reviews of construction activities which have the highest potential to impact surface water management issues may be inspected in a timely fashion.

### SubPart .6 Enforcement of Construction Site SWMP Issues

County requirements for SWMP for projects are required by the Zoning Order. Failure to comply is enforceable as a misdemeanor through legal action as with any other ordinance.

### SubPart .7 Evaluation

During Year 2 of this Permit, the County will develop and begin to report measurable standards of performance for the key elements of each of the six Control Measures

## 4.2.5 MCM 5: Post Construction Site Storm Water Management

### 4.2.5.1 Permit Requirements

The County Surface Water Management Plan requirements of the Zoning Order currently require the use of American Public Works Association Best Management Practices for surface water control. For new projects with multiple parcels, or a single parcel with greater than 1 acre, these requirements are applied to the Project prior to and during general construction, as noted in MCM4.

In addition, the Zoning Order requires a demonstration by the developer that the property covenants and restrictions that run with the land define the role of either the resulting home owners association, or the individual owners. The purpose is that any surface water management structures installed as BMPs during construction are maintained regularly. Typically this is a responsibility of the association, as most such structures

occur on the common ground. The requirements are to demonstrate that the association has the authority and funding to undertake such long term maintenance.

#### SubPart .1 Strategy

Currently the County SWMP required as part of the development preliminary process has the goal of maintenance of pre development conditions where possible, and the installation of new measures to control storm water impacts where some modifications which change those existing conditions are required.

#### SubPart .2 Regulatory Authority

As noted above, these requirements are in place as ordinance and enforceable as such.

#### SubPart .3 Long Term Operation and Maintenance

As noted above, these requirements are part of the initial development process and are conveyed to the responsibility party for long term property interests.

#### SubPart .4 Priority Areas

These regulations apply to the Permit Areas, as well as the remainder of the County area.

#### SubPart .5 Non-Structural Best Management Practices

The County is in the process of developing a revised Master Plan. One of it's components will be the focusing of protection, education and outreach activities on environmentally sensitive areas. Such areas will be identified as part of that MPlan and included in a defined category, and Environmental Focus Tier. In addition, sustainable design and smart design practices will be identified as targeted approaches preferred under County policy.

As such a Tier, development that is not compatible with long term viability of environmental aspects of these sensitive areas will be encouraged to locate in more favorable areas, including higher density areas adjacent to municipalities, and areas where previous development may offer infrastructure advantages.

Also included in the same Master Plan will be a formal focus policy of the County administration to target citizen and business interests with a combination of educational information, training opportunities and involvement opportunities, along the same lines as described in MCM 1 and 2.

Current County policy is to minimize impervious surfacing wherever project requirements may allow it, stressing instead pervious methods, reduction in surfacing to minimums and on site methods of processing water exiting such areas.

#### SubPart .6 Structural Best Management Plans

As noted in MCM above, the County will introduce two new groups of BMPs Among these will be on site practices and structures to provide first intercept filtration, force reduction, evaporation and containment.

## SubPart .7 Evaluation

During Year 2 of this Permit, the County will develop and begin to report measurable standards of performance for the key elements of each of the six Control Measures

### 4.2.6 MCM 6: Municipal Operations

#### 4.2.6.1 Permit Requirements

The County does not have operational facilities within the Permit Areas and therefore does not contribute to surface water issues from their facilities. As a part of County services, road maintenance operations throughout the County follow procedures that limit the impact of surface water in gravel road grading operations, and in the maintenance of the equipment used.

#### SubPart .1 Municipal Operations

There are none in the Permit Areas

#### SubPart .2 Maintenance Practices

The County current uses the standards of the American Public Works Association Best Management Practices for surface water control.

#### SubPart .3 Management Controls for Municipal Operations

There are currently no facilities, parking areas, storage areas, waste transfer areas, maintenance shops, salt or sand storage areas owned or operated by the County within the Permit Areas. Roads in the area are maintained by the County, in co-operation with the Mount Pleasant Road District in Township 46N, Range 33W. Under this Permit, the County will explore establishing measures for the control of accidental spills not already under the jurisdiction of the municipal hazmat groups.

#### SubPart .4 Management Controls Relating to Permit Sections 4.1.5 through 4.1.8

Regarding 4.1.5 and 4.1.6, see above.

Regarding 4.1.7, the handling of materials used for paving surfacing within the Permit Areas follow the requirements and standards of the APWA for substances subject to RCRA or CERCLA requirements.

#### SubPart .5 Disposal Methods

Regarding waste materials from dredging operations, the County has no jurisdiction in the Permit Areas for dredging operations on any streamways.

#### SubPart .6 Flood Management Projects

Under the current Zoning Order, projects occurring in contact with managed flood plain areas follow NFIP and FEMA requirements.

SubPart .7 Training Programs

During the period of this permit, the County will develop training opportunities for operational employees of the road maintenance departments in conjunction with the procedures to be developed and as described in MCM 1 and MCM 2.

SubPart .8 Evaluation

During Year 2 of this Permit, the County will develop and report measurable standards of performance for the key elements of each of the six Control Measures

Summary and Scheduling

The goals of the implementation of the components of the MS4 Permit are linked with the development and adoption of a revised Master Plan for Cass County. As described above, to a great extent, the sub components of the Permit are in practice in the normal policies and procedures of the administration of the County, resulting from the environmental focus demonstrated by the County Commission and, in part, from involvement in the previous MS4 Permit in the 2003-2007 period. In conjunction with the Master Plan, the County is developing a policy of enhanced and facilitated involvement by the community of its citizens. New educational, outreach and involvement approaches will be explored and developed where they are deemed workable and cost effective as part of the Plan and this Permit.

The Schedule for modifications to these existing practices, and development of the new ones is outlined below, described according to each of the Control Measures.

4.2.1 MCM 1: Public Education and Outreach on Storm Water Impacts

Task	2009	2010	2011	2012	2013
Expand educ. Material and Library		implement	>	>	review
.1 target sources	in place	>	>	>	>
.2 audience	in place	>	>	>	>
.5 outreach	develop	implement	revise	>	>
.6 evaluation	develop	implement	>	>	>

4.2.2 MCM 2: Public Involvement and Participation

Task	2009	2010	2011	2012	2013
.1 involvement	in place				
.2 target audience	in place				
.3 individual Involvement	develop with MPlan	implement with MPlan	>	revise	>
.4 active involvement	develop with MPlan	implement with MPlan	>	revise	>
.5 evaluation	develop	implement	>	>	>

4.2.3 MCM 3: Illicit Discharge Detection and Elimination

Task	2009	2010	2011	2012	2013	
Identify Obser. Points	implement	>	>	>	>	
.1 mapping	revise	implement	revise	>	>	
Obser. Procedures	develop	implement	>	>	>	>
.2 regulation	in place					
.3 identification	in place					
.4 sources, non storm	in place					
.5 random sources	in place					
.6 inventory	n.a.					
evaluaton	develop	implement	>	>	>	

4.2.4 MCM 4: Construction Site Storm Water Runoff Controls

Task	2009	2010	2011	2012	2013
Ordinance	in place	new BMP	>	Add new BMP	>
.2 site waste	in place	improve	implement	>	>
.3 plan review	in place	improve	implement	>	>
.4 plan and public involvement	n.a.				
.5 site review	in place	improve	implement	>	>
.6 enforcement	in place	implement	>	>	>
.7 evaluation	develop	implement	>	>	>

4.2.5 MCM 5: Post Construction Site Storm Water Management

Task	2009	2010	2011	2012	2013
.1 strategy	in place	improve	implement	>	>
.2 regulation	in place	implement	review	>	>
.3 long term	in place	implement	review	>	>
.4 priorities	in place	review	implement	>	>
.5 BMP, non structural	develop	adopt	implement	expand	>
Connect to citizen	develop	implement	expand	implement	>
.6 BMP, structural	adopt	implement	expand	implement	>
Connect to outreach and training	develop	implement	expand	implement	>
.7 evaluation in place	improve	implement	>	>	

4.2.6 MCM 6: Municipal Operations

Task	2009	2010	2011	2012	2013
.1 municipal	n.a.				
.2 maintenance	n.a.				
.3 management	n.a.				
Controls for review road maintenance	develop	implement	review	implement	>
.5 disposal	n.a.				
.6 flood	n.a.				
.7 training	develop	implement	>	>	>
.8 evaluation develop	implement				