STORM WATER MANAGEMENT PROGRAM

City of Kirksville, Missouri

2017

TABLE OF CONTENTS

APPENDICES

APPENDIX A –WATERSHED MAPS

APPENDIX B - SWPPP CHECKLISTS AND FORMS

I. GENERAL

Introduction

The person primary responsible for the Storm Water Management Plan (SWMP) is the Wastewater Superintendent for the City of Kirksville.

Kirksville, Missouri, hereinafter referred to as the "City," is located in Adair County. This document presents the City's Storm Water Management Program (SWMP) designed to reduce discharges of pollutants from urban storm water runoff and comply with the Clean Water Act - Storm Water Phase II requirements. This document provides a detailed set of goals the City has identified to address the six minimum control measures (MCM).

SWMP summarizes the City's intentions to reduce the amount of pollution in its storm water runoff by addressing the six minimum control measures listed on the MS4 General Permit No. MOR040078. These MCMs are as follow:

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 housekeeping

Each MCM in this report addresses the overall purpose of the measure, discusses existing activities related to this measure, proposes goal(s) with frequencies or timelines, and where required, a method of enforcement.

Background

Watersheds

Kirksville is situated on the divide between two major drainage basins. The portion of the City east of Business 63 is in the Upper Mississippi–Salt River Basin. The part of the City west of Business 63 is in the Lower Missouri–Grand–Chariton River Basin.

The City's drainage system is comprised of storm sewers and open, unimproved channels, which drain to one of five creeks listed below. See Figure 1.

- Floyd Creek
- Steer Creek
- Bear Creek
- Rye Creek
- Big Creek

Water Quality

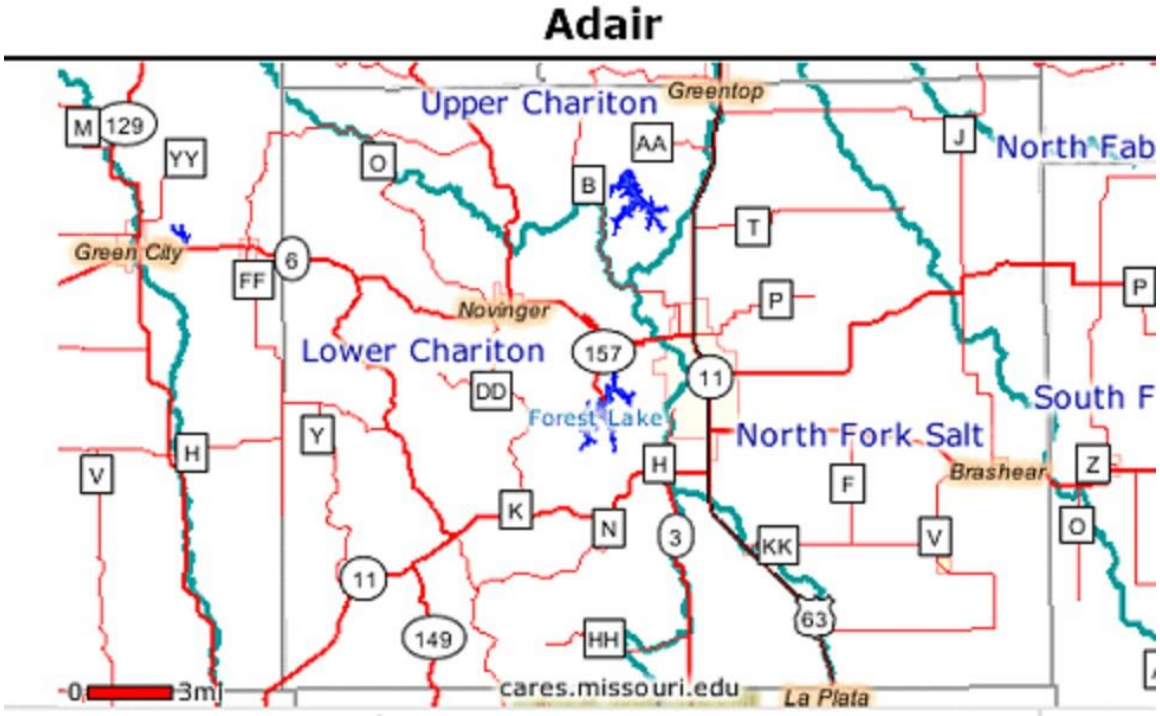
The City has been working aggressively on its sanitary sewer system to prevent sanitary sewer overflows (SSOs).

1. An infiltration/inflow study was completed for the Steer Creek watershed.
2. Recent total reconstruction of the sanitary sewer pumping station in the Big Creek watershed with capability to connect to a portable generator make the probability of a SSO remote. This is extremely important, since a portion of the City's water supply is from the Big Creek watershed.

3. An unclassified segment of Bear Creek is listed on the Missouri 303d list of impaired waters. The segment begins at the headwater of Bear Creek in the City. The study identified the Total Maximum Daily Load (TMDL) for total suspended solids, total nitrogen, and total phosphorus. Bear Creek TMDL was issued by US EPA Region 7 Report MO_0115U-01 December 23, 2010. The City is working with Missouri Department of Natural Resources (MDNR) to develop a variance and implementation plan allowing the City to affordably upgrade the wastewater treatment plan and improve water quality in Bear Creek.

In addition to sanitary sewer studies and improvements, Heinz-Kraft, located in the Floyd Creek watershed, has a wastewater pretreatment facility. Industrial discharge permits have been issued to A.T. Still University of Health Sciences, located in the Big Creek watershed, and Heinz-Kraft.

Figure 1 – Adair County Watershed Map



II. MINIMUM CONTROL MEASURES

Measure 1 – Public Education & Outreach

Public education is a key to any effective storm water management program. The intent of this MCM is to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges. Program material should inform individuals and households about impacts of storm water discharges on water bodies and steps the public may take to reduce pollutants in storm water runoff.

A. Watershed Management Commission

The Watershed Management Commission was established to:

- Make recommendations concerning development of Watershed Management plans. Most recent plans were finalized in 2014. Plans will be updated and revised as necessary.
- Coordinate annual watershed awareness events and volunteer cleanups.
- Serve as a liaison between the community and MDNR.
- Serve as liaison between the community and the Missouri Department of Conservation to ensure compatibility with conservation practices and resource uses.

The Commission is comprised of stakeholders and members from local businesses, Truman State University, community residents at large, and City staff under this measure, the goal is for the City to assist the Commission and promote active participation in Commission events and cleanups.

Public Information

Informational Brochures
The City has and will continue to provide residents with information related to household waste and how it relates to water quality in streams. Under this measure, the goal is for the City engineer and Public Information Officer to prepare brochures for household hazardous waste, grass disposal, and dumping of oil in sewers. The brochures will be made available to the public at City Hall and other public venues. In addition the City will include information in its Kirksville Connection, a monthly publication sent to all water customers throughout the city.

Local Media
Several times a month, the City has a segment on the local radio station KIRX called “Area Scene.” The City plans use this time slot quarterly to keep the public informed on events, request public comments, or discuss a specific aspect of the SWMP when applicable. .

Local Newspapers
Distribute news releases at least semi-annually to local newspapers/print media related to a particular aspect of SWMP for City wide coverage.

Pollutant sources
Pollutant sources include but are not limited to: biochemical oxygen demand, chemical oxygen demand, total dissolved solids, e-coli, total phosphorus and ammonia.

Measure 2 – Public Involvement / Participation

The permit requires the City to include the public in developing, implementing, and reviewing the City's SWMP; and the public participation process should include efforts to engage all economic and ethnic groups. Opportunities should be available for the public to participate in program development and implementation, including citizen service groups, attending public hearings, assisting with other pre-existing programs, and participating in volunteer monitoring efforts.

At a minimum, the permit requires the City to:

- Provide at least a 10-day period to allow the public to review the SWMP and renewal application prior to submission to MDNR.
- Provide, if needed, a notice of public meeting regarding the SWMP and renewal application at least 72 hours before the meeting.
- Develop a plan to address potentially affected stakeholder groups (e.g., commercial and industrial businesses, trade associations, environmental groups, homeowners associations, educational organizations, etc.).
- Allow for citizen representation on committees or panels.
- Provide opportunities for citizen volunteers.

A. Public Notice

The City will provide at least a 10-day period to allow the public to review the SWMP and renewal application prior to submission to MDNR. If substantive comments are received during the public notice period, the City will hold a public meeting to address them. The City will provide at least 72 hours public notice before the meeting.

B. Plan to Address Potentially Affected Stakeholders

Parodic updates will be provided to all affected stakeholders. The potential affects and updates will be disseminated through media and web based means, and any business or citizen individually affected will be notified personally for comment/feedback if necessary.

C. Allow for Citizen Representation

Citizens may address the City Council during citizen participation time of all Council meetings, or attend or request membership of the Watershed Management Commission as described in MCM #1.

D. Provide Opportunities for Citizen Volunteers

The City will provide opportunities to work with citizen volunteers and to educate others about the storm water management. Volunteers will be recruited to disseminate information and organize/participate in one or more stream cleanups annually.

Interested citizens and/or organizations will be recruited to work with City staff to stencil "storm water inlet" on designated storm water inlets and manholes. The plan is to stencil the entire City system in a five-year period. The City will obtain stencils and paint needed for this task and determine each year's stenciling areas.

The Adopted a Street program allows volunteers to participate in street and right of way cleanup. This program prevents trash and garbage from making its way into the storm water system.

Measure 3 – Illicit Discharge Detection and Elimination

To develop, implement, and enforce a program to detect and eliminate illicit discharges effectively. Detection of illicit discharges may be accomplished in two ways: citizen reporting and City inspections. Once violations have been confirmed, penalties and fines may be invoked through an ordinance or other regulatory mechanism.

Components of a successful detection and elimination program follow:

- Procedures for locating illicit discharges.
- Procedures for tracing the source and removing the source of the discharge. A storm sewer system map and watershed map is needed for this purpose.
- Ordinance or regulatory mechanism prohibiting illicit discharges into the storm water system with the ability to fine violators.
- A plan for dry weather field screening and monitoring

A. Locating Illicit Discharges

Citizen Reporting

Currently the City's website includes a means for reporting illicit discharges. The request forms for reporting illegal discharge to a stream or lake, and for reporting suspected pollution of a stream or pond were added to simplify citizen input. Citizens may call City offices to report illicit discharges. In either case, the reported problem is placed on a database reporting system called "Citizen Response Tracking." The problem is assigned to the proper department with the generation of a work order. The work order remains open until the problem has been addressed.

This system of locating and in many cases eliminating an illicit discharge has met with success. With additional public education public through items discussed in Measure 1, it is expected citizens reporting illicit discharge will increase.

The goal for this illicit discharge reporting is part of Measure 1 – Public Education and Outreach.

City Staff Inspection

While there are no set operating procedures to inspect the drainage system for illicit discharges, the plan is for City public works staff to inspect 20% of the storm sewer outfalls annually. The inspections will be recorded and maintained on file.

B. Tracing Illicit Discharges

Procedures for tracing the source of the illicit discharge require knowledge of the storm sewer and drainage system. The City has an existing storm sewer map and a watershed map. The maps will allow the City staff to trace the illicit discharge upstream to the source. The required staff will be trained to identify illicit discharges and to trace discharges back to the source.

Storm Sewer Map

The City has developed a storm sewer map overlaid to the City street map with a GIS database. This map identifies locations of pipes, manholes, inlets, and outfalls. The GIS database attached to the storm sewer features identify pipe sizes and pipe material. The map shows the watershed boundaries, streams, and bodies of water along with their names. The GIS database is maintained by the City Engineer or City Planner.

Watershed Map

The Watershed Map shows the watershed boundaries overlaid with the USGS Kirksville Quadrangle. The map shows the main creek systems and the outfalls under the NPDES permit at the City Limits. The map depicts eight (8) outfalls at the City limits.

Dry Weather Inspection Plan

The goal of City's dry weather inspection plan is to inspect 25% of dry weather storm water ditches and low lying areas annually. The results of the inspections will be documented on the annual MS4 report.

Training and Procedures
City staff will be educated of their responsibility to recognize and record potential illicit discharges.

Once an illicit discharge is reported, proper procedures will be followed to determine the source of the discharge, responsible party, and further actions required.

The plan is to conduct annual training with the Codes and Public Works Department staffs.

C. Ordinance to Prohibit Illicit Discharges

City Ordinances
City Code, Chapter 25, Water. Sewer and Storm water, prohibits illicit discharges into the sanitary sewer.

D. Public Education

Through Measures 1 and 2, public education will have a major impact on citizens reporting illicit discharges and educating the public on illegal dumping. The goals for public education are addressed in Measures 1 and 2.

Measure 4 – Construction Site Storm Water Runoff Control

To reduce pollutants in any storm water runoff from construction activities that result in a land disturbance of greater than or equal to one acre:

The owner/developer and contractor must obtain a State of Missouri and (if applicable) City of Kirksville Land Disturbance permits as indicated above.

The owner/developer and contractor must follow steps outlined in the regulatory guidance of the City of Kirksville.

To reduce pollutants in any storm water runoff from construction activities that result in a land disturbance of less than one (1) acre:

The owner/developer and contractor will be required to follow best management practices (BMP) that are site specific to control runoff. Types of BMP's are discussed in the City's regulatory guidance. The required BMP's will be discussed at an onsite preconstruction meeting.

A. Existing Storm water Runoff Control Ordinance

The City's inspection and enforcement of erosion and sediment control for land disturbance greater than or equal to one acre is in the City Ordinance. In addition to the City's municipal code, the Codes Department is responsible for reviewing, approving and inspecting construction plans and construction activities. The Department is responsible for and enforces the subdivision regulations ordinance, water and sewer connection inspections, flood plain management, subdivision platting, and subdivision plan reviews.

Currently, the subdivision regulations identified in the City Ordinance has a storm water pollution prevention plan (SWPPP) submittal requirement for developments one acre and above. Construction inspections of the SWPPP, a checklist for the plan review, inspection forms for compliance with the SWPPP, and monetary and non-monetary penalties for non-compliance are addressed in the Land Disturbance Manual, the Post Construction Storm water Manual, and in the City of Kirksville Municipal Code Section.

B. Plan Review Requirements

Are outlined in the Permitting process.

C. Inspection Requirements

The City of Kirksville Municipal Code describes authority given to the Public Works Department and Codes Department for inspection of erosion and sediment control during and post construction.

D. Checklists and Forms

These checklists are available at the City Codes Department. Checklists are the best way to determine if every aspect of the ordinance has been met. Continued inspections will insure compliance with the SWMP and BMPs.

E. Fees and Enforcement Requirements

Current and future fees will be identified in the Ordinance.

Measure 5 – Post-Construction Storm Water Management

The permit requires the City to develop, implement, and enforce a program to ensure controls are in place to prevent or minimize water quality impacts caused by storm water runoff from new development and redevelopment projects.

1. Develop and implement a combination of structural and/or non-structural best management practices (BMPs).
2. Adopt an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects.
3. Implement methods to ensure adequate long-term operations and maintenance of BMPs.
4. The goal is to protect sensitive areas and develop BMPs to effectively remove storm water pollution.

A. Post Construction BMPs

Establish a program for runoff controls to minimize creek and stream degradation. The program will identify long-term storm water controls, such as detention basins for the control of the discharge of construction runoff of erodible storm water and sediment into the drainage system.

The goal is to establish performance standards for runoff controls, and the required long-term BMPs that need to be built during the construction of new developments and redevelopments. These performance standards should limit runoff volumes and rates by the use of BMPs.

B. Storm Water Ordinance

The ordinance will address the performance standards and associated penalties. The goal is to prepare the ordinance that will identify City and private contractor/developer responsibilities. In conjunction with the Storm water Ordinance, the inspection checklist will ensure all aspects of the SWMP document are followed.

C. Inspection of Structural Storm Water Controls

The goal is to have an inspection of the structural post construction BMPs to ensure compliance. In order to do this, a listing of BMPs throughout the City will be identified that could affect potential water quality impacts. All inspection check list will be maintained on file.

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Measure 6 - Pollution Prevention/Good Housekeeping for Municipal Operations

Under this measure, the City will develop and implement an operation and maintenance program, which will include:

- An educational component with the ultimate goal of preventing or reducing pollutant runoff from municipal operations that includes employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, and storm water system maintenance.
- Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, and snow disposal areas operated by the City.
- Procedures for properly disposing of waste removed from the storm sewers and areas listed above, such as accumulated sediments, floatables, and other debris.
- Components included training and inspections of the City's operations, policies and procedures to insure good internal storm water management practices are implemented and adhered to by the City's workforce.
- The City will use the Storm Water Pollution Prevention Plan checklist located in Appendix B as a guideline to insure BMPs are implemented in all projects.

A. Staff Training

Annual training for the Parks Department, Public Works Department, Fire Department, Police Department and the Airport will be held to discuss the standard operating procedures that could introduce pollutants to the drainage system. The areas of emphasis would be on the proper use of fertilizers, use of chemicals, salt/brine for snow and ice removal, disposal of sludge and other solid waste from the water treatment and wastewater treatment plants, pollutants from accident/incidents, and public works activities.

The Storm Water Pollution Prevention Plan checklist located in Appendix B will be reviewed annually and prior to construction to insure BMPs are adhered to during all projects conducted by the City.

B. Review of Chemical Handling

All chemicals handled and used by the City will be reviewed for prevention of spills and the possible reduction of chemical discharges into the drainage system. Proper procedures for handling chemicals will be addressed with Staff once a year in conjunction with the Staff Training identified above.

C. Spill Prevention Plan

Spill prevention and containment will also be addressed during annual training. Hazardous chemicals emergency response is the responsibility of the Kirksville Fire Department. The emergency plan includes all notification procedures for City, State, and Federal authorities if required. The MS4 Coordinator will contact the appropriate state offices if the spill effects the storm water system.

E. Chemical Storage

All paints, solvents, petroleum products, and petroleum waste products (except fuels) under the control of the City shall be stored so these materials are not directly exposed to storm water. Containment systems used will be compatible with the substance contained and shall also prevent the contamination of groundwater or storm water.

III.MEASURABLE GOALS AND SCHEDULES

This section summarizes the goals for each minimum control measure described in the report in a table with the timeline for implementation.

MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE

Minimum Control Measure Goal	Description	Implementation Schedule
Measure 1 - Public Education & Outreach		
Watershed Commission Liaison	Continue as a member of the Commission, assisting the Commission, and promoting active participation	Ongoing
Informational Brochures	Prepare brochures for household hazardous waste, grass disposal, and dumping of oil in sewers. Brochures will be made available to the public at City Hall, and other local venues.	2018
Local Media	Quarterly use the City's segment on radio station KIRX "Area Scene" to keep the public informed on events and to discuss specific aspects of SWMP	2018
Local Newspaper	Once a year have a news release in the local media related to a particular aspect of the SWMP	2018
Measure 2 - Public Involvement/Participation		
Stream Cleanups	Organize two stream cleanups a year	On-going
Stencil Sewer Manholes / Inlets	Involve local schools, organizations, and clubs to participate in stenciling sewer inlets and manholes. The goal is to stencil the entire City system in a 5-year period. The City will create the stencils needed for this task, and determine each year's stenciling areas.	Re-Implement in 2018
WQ Monitoring Assistance with Truman State	City will perform stream monitoring and water quality sampling. City will identify sampling locations, and keep all sampling results on file. The City will solicit local schools to participate in this program.	On-going with annual project identification
Measure 3 - Illicit Discharge Detection and Elimination		
Citizen Reporting	The City currently has a method for citizens to report illicit discharges called "Citizen Service Request Tracker". This system allows for the tracking of a problem until it is abated.	2016

MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE

Minimum Control Measure Goal	Description	Implementation Schedule
Plan Review Checklist	Create checklist to be used for reviewing and approving plans in order to issue a Land Disturbance permit	2018
City Staff Inspection	Inspect 25% of the storm sewer outfalls annually. Develop an inspection checklist and maintain on file for review.	2018
Storm Sewer Map & Watershed Map	Have a map that shows the storm sewer system in order to trace the source of an illicit discharge.	Continuous updates
Training & Procedures	Conduct annual training to appropriate City staffs on recognizing illicit discharges as they perform their normal duties. Establish administrative procedures to follow up and find the source of the discharge and the responsible party.	2018
City Ordinance	The city will update ordinances as required to keep the SWMP effective and enforceable.	Ongoing

Measure 4 - Construction Site Storm Water Runoff Control

Citizen Reporting City Ordinances	The city will update ordinances as required to keep the SWMP effective and enforceable.	Ongoing
Inspection Forms	Updated inspection forms to be used for inspecting land disturbance sites for ordinance compliance	2018
Other Forms and Checklists	Make other forms and checklists that will be used in conjunction with the ordinance	Continuous updates

Measure 5 - Post-Construction Storm Water Management

Ordinance Modifications for permanent BMPs	Update the Ordinance as required to insure compliance of runoff controls, and the required long-term BMPs for new developments and redevelopments	Ongoing
Plan Review Checklist for Permanent BMPs	The checklist and inspection process will be reviewed during the permitting process with the City Codes Department.	2018
BMP Inspection Checklist	The Codes Department will be responsible to inspecting BMPs indicated in the SWMP.	2018

MEASURABLE GOALS AND IMPLEMENTATION SCHEDULE

Minimum Control Measure Goal	Description	Implementation Schedule
Measure 6 - Pollution Prevention/Good Housekeeping for Municipal Operations		
Staff Training	Conduct annual training for the Parks Department and Public Works Department (and other as required) to discuss operating procedures that could introduce pollutants to the storm water management system.	2018
Chemical Handling Procedures	Proper procedures for the handling of chemicals by Staff will be discussed at the annual training event.	2018
Spill Prevention Plan	Spill prevention training will be conducted to identify procedures and responsibilities for spill containment, proper handling, and reporting of chemicals spills.	2018

IV. FUNDING ABILITY

Many of the goals identified are on-going activities, which are covered in the current City budget. Most of the SWMP is performed by City Staff by reallocating their time to inforce the plan.

New goals may be funded from one of three sources.

A. Capital Improvement Sales Tax

The revenue from this tax can be used for any storm water related cost but competes with other capital improvement projects.

B. Storm Water Fee

A storm water fee was established to pay for structural improvements to the storm water/drainage systems.

C. Transportation Sales Tax

BMP will be applied within public right of way during construction street storm water projects. .

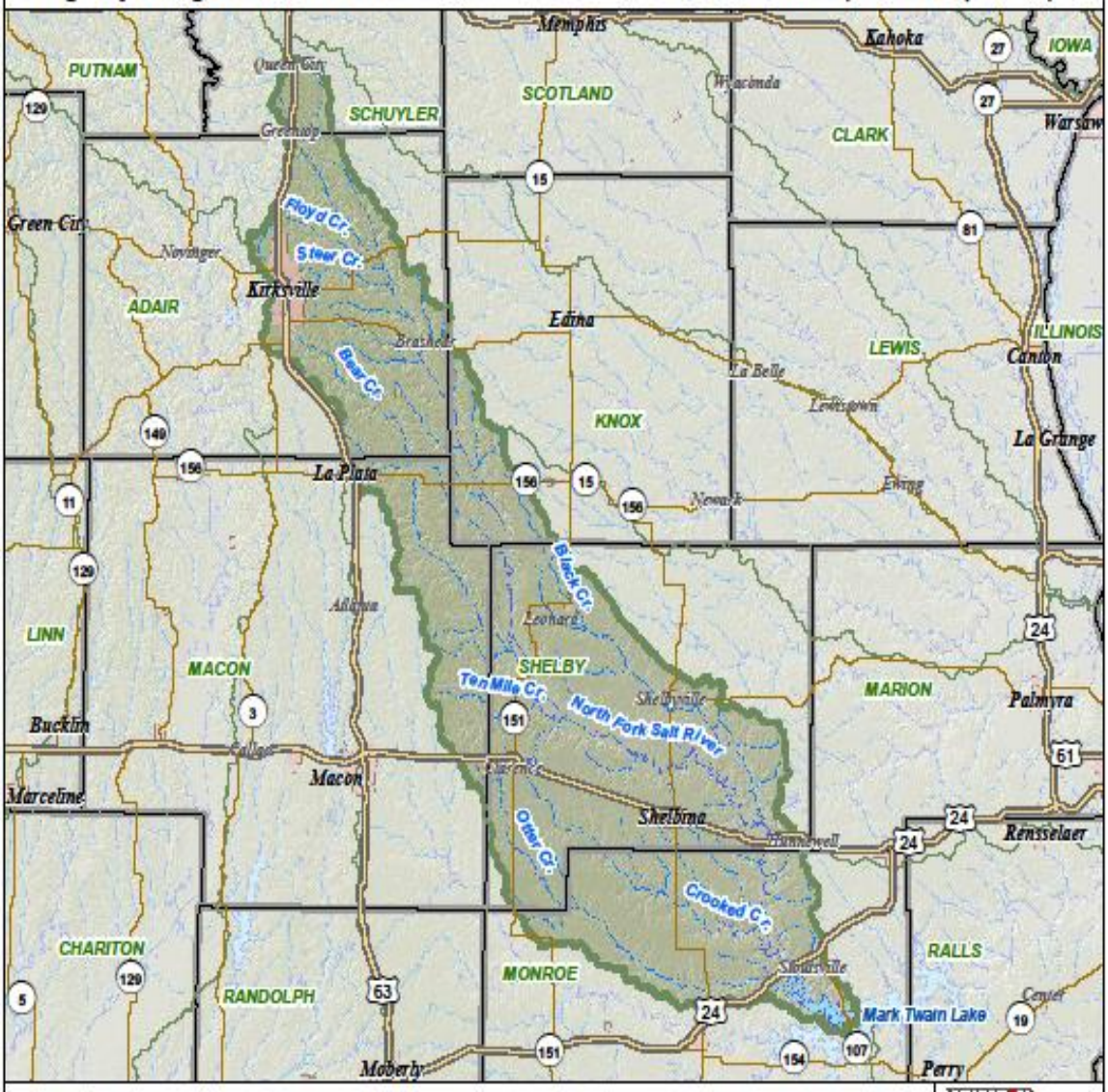
APPENDIX A

WATERSHED MAPS

North Fork Salt

8-Digit Hydrologic Unit: 07110005

571,543 Acres (893.04 Sq. Miles)



Hydrologic Unit Boundary
Streams
Water
Cities and Towns
County Boundary

Highways
Interstate
U.S. Highway
Missouri Highway

Map Date: Jan 26, 2010

0 8 16 Miles

Sources: 8-Digit Hydrologic Units - NRCS, 2009; Streams, Water - USGS NHD, 2009; Cities, Counties - U.S. Census Bureau, 2008; Highways - MoDOT, 2009.

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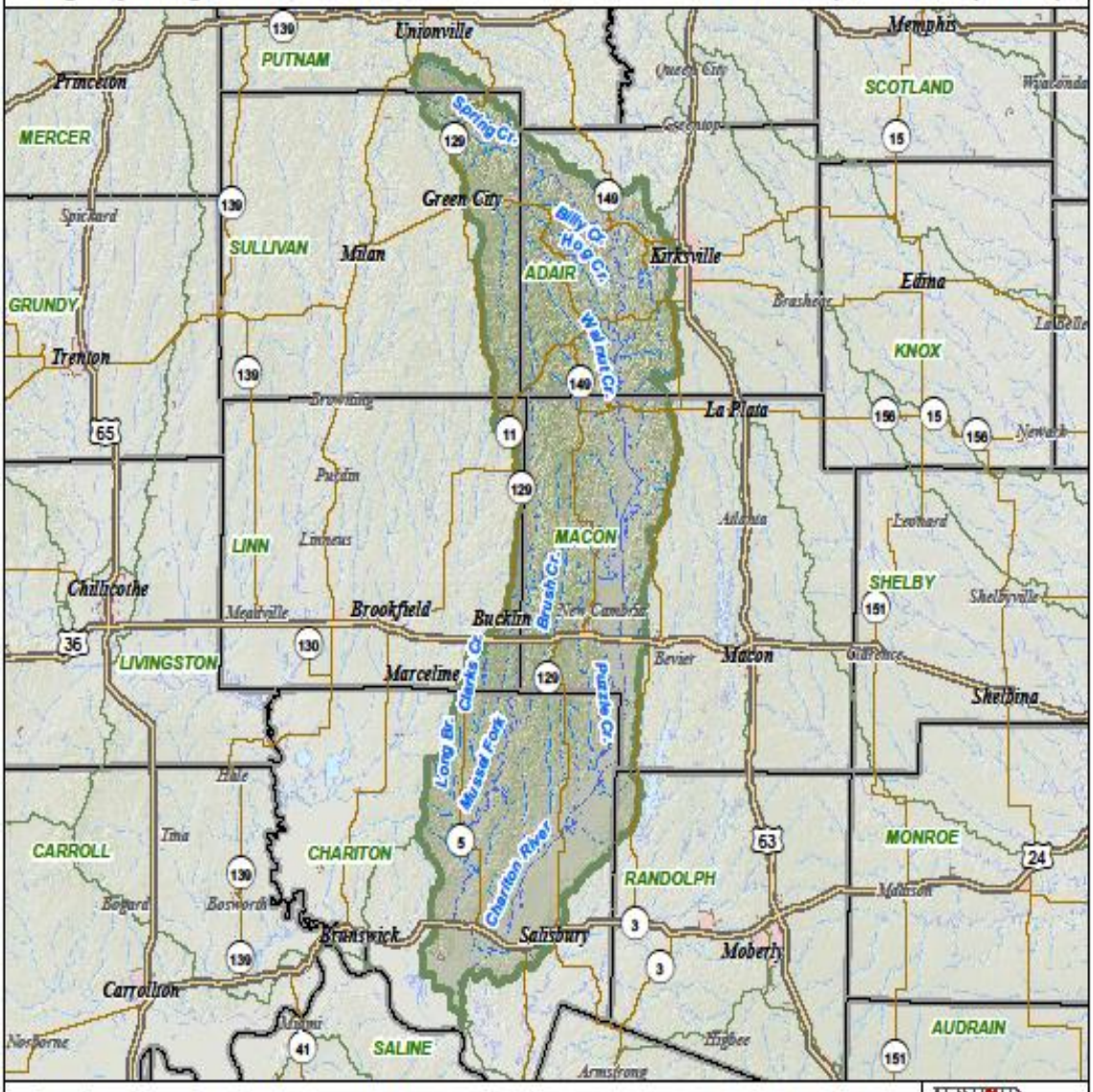
Lower Chariton

8-Digit Hydrologic Unit: 10280202

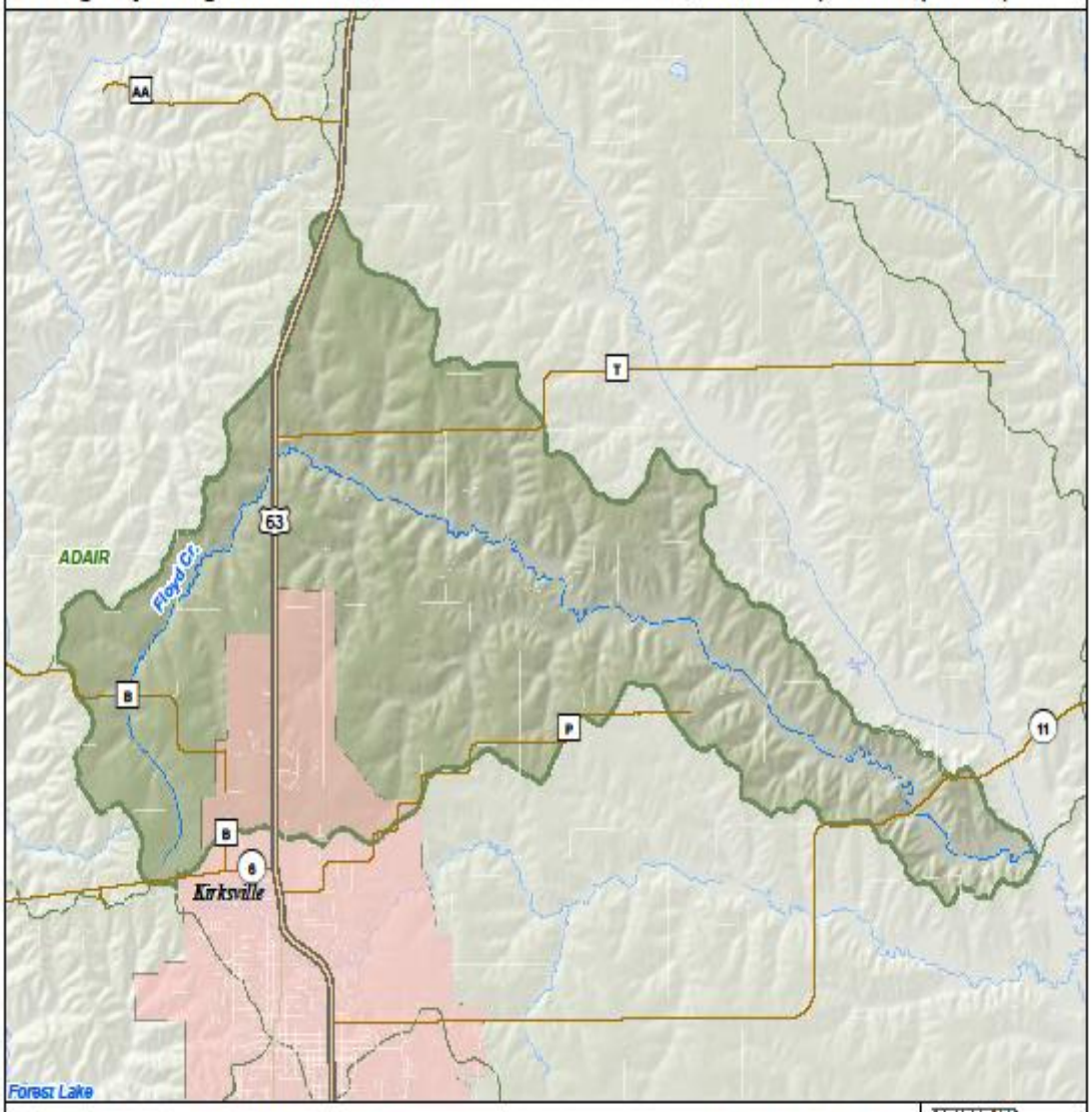
652,049 Acres (1,018.83 Sq. Miles)



Floyd Creek

12-Digit Hydrologic Unit: 071100050101

15,963 Acres (24.94 Sq. Miles)



Hydrologic Unit Boundary
Streams
Water
Cities and Towns
County Boundary

Interstate
U.S. Highway
State Highway
Missouri Lettered Route
Other Principle Route

Map Date: Jan 27, 2010

0 1 2 Miles

Sources: 12-Digit Hydrologic Units - NRCS, 2009; Streams, Water - USGS NHD, 2009; Cities, Counties - U.S. Census Bureau, 2008; Highways - MoDOT, 2009.

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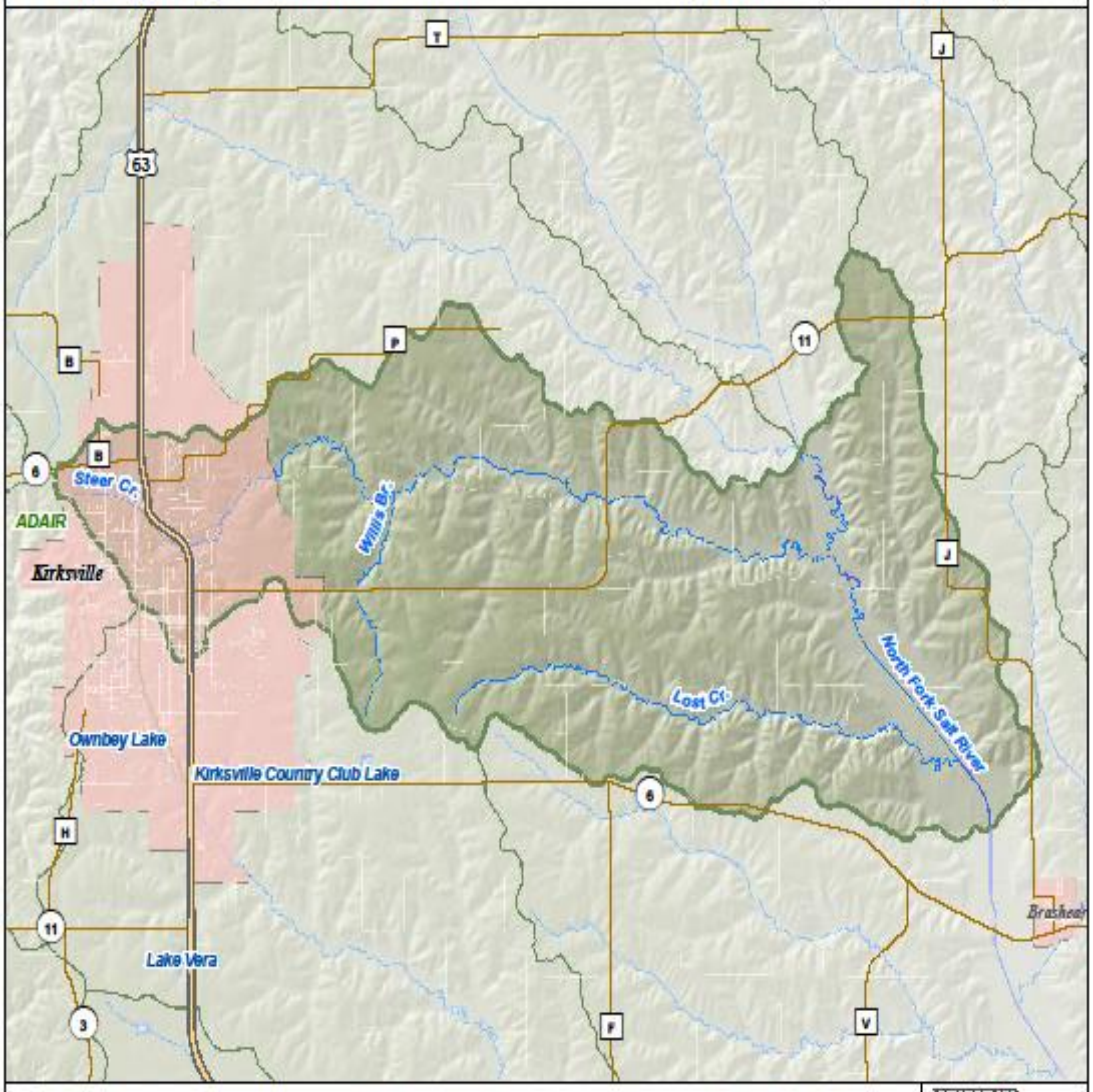
UNIVERSITY OF MISSOURI

Steer Creek-North Fork Salt River

12-Digit Hydrologic Unit: 071100050103 23,500 Acres (36.72 Sq. Miles)



Hydrologic Unit Boundary
Streams
Water
Cities and Towns
County Boundary

Interstate
U.S. Highway
State Highway
Missouri Lettered Route
Other Principle Route

0 1 2 Miles

Map Date: Jan 27, 2010

Sources: 12-Digit Hydrologic Units - NRCS, 2009; Streams, Water - USGS NHD, 2009; Cities, Counties - U.S. Census Bureau, 2008; Highways - MoDOT, 2009.

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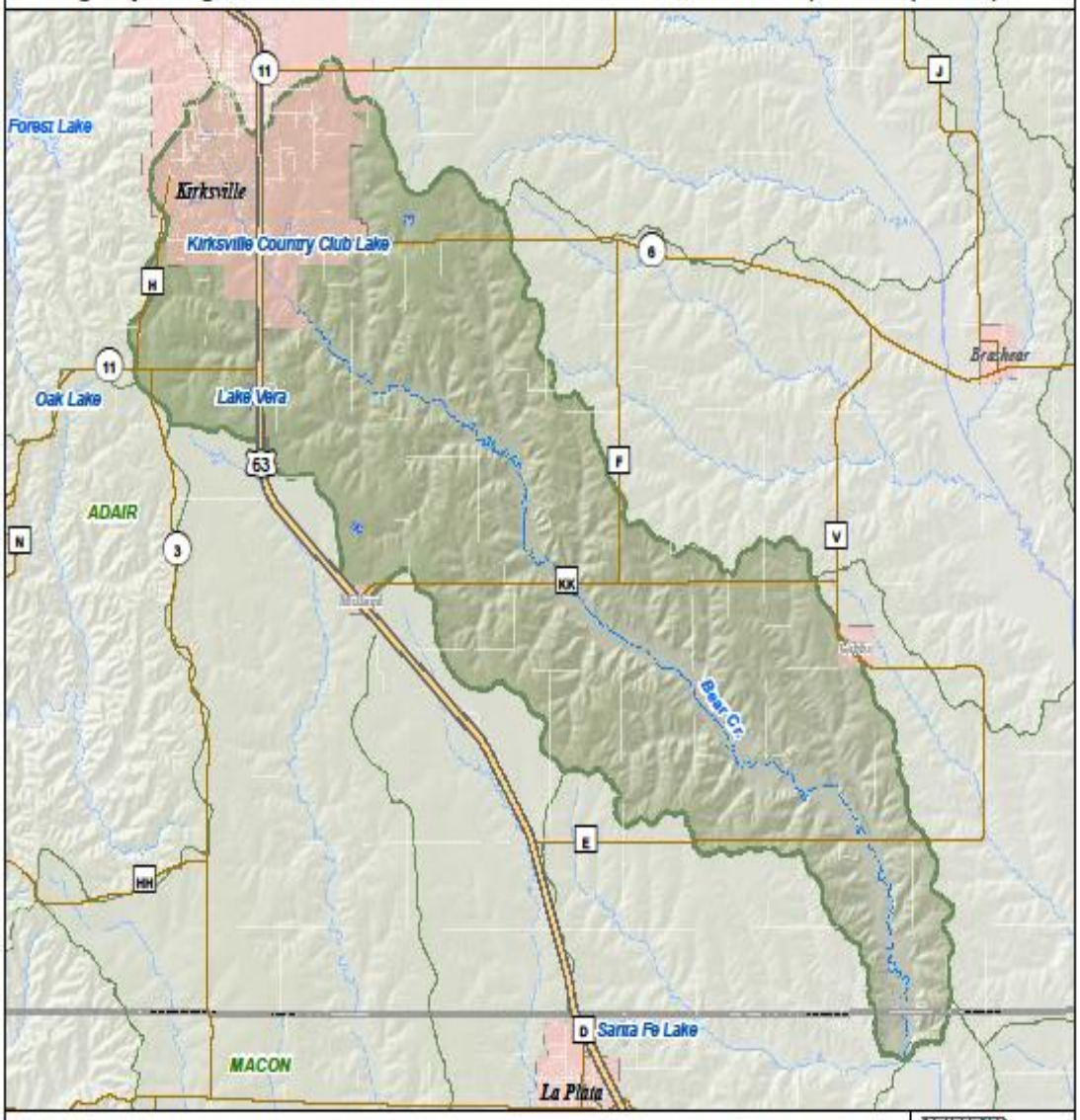
Upper Bear Creek

12-Digit Hydrologic Unit: 071100050108

28,890 Acres (45.14 Sq. Miles)



Hydrologic Unit Boundary
Streams
Water
Cities and Towns
County Boundary

Interstate
U.S. Highway
State Highway
Missouri Lettered Route
Other Principle Route

0 1 2 Miles

Map Date: Jan 27, 2010

Sources: 12-Digit Hydrologic Units - NRCS, 2009; Streams, Water - USGS NHD, 2009; Cities, Counties - U.S. Census Bureau, 2008; Highways - MoDOT, 2009.

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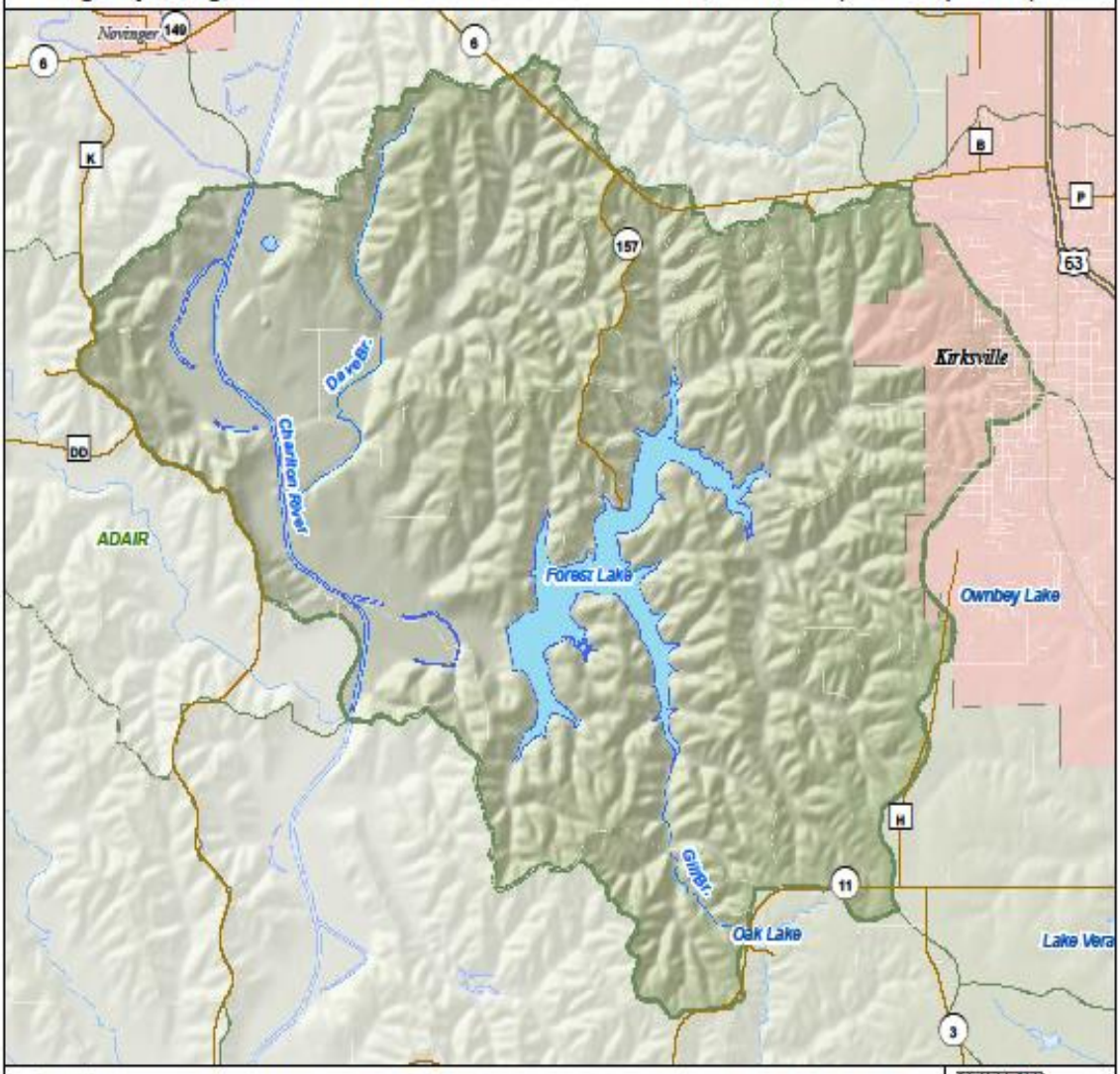
Dave Branch-Chariton River

12-Digit Hydrologic Unit: 102802020203 16,054 Acres (25.09 Sq. Miles)



Hydrologic Unit Boundary
Streams
Water
Cities and Towns
County Boundary

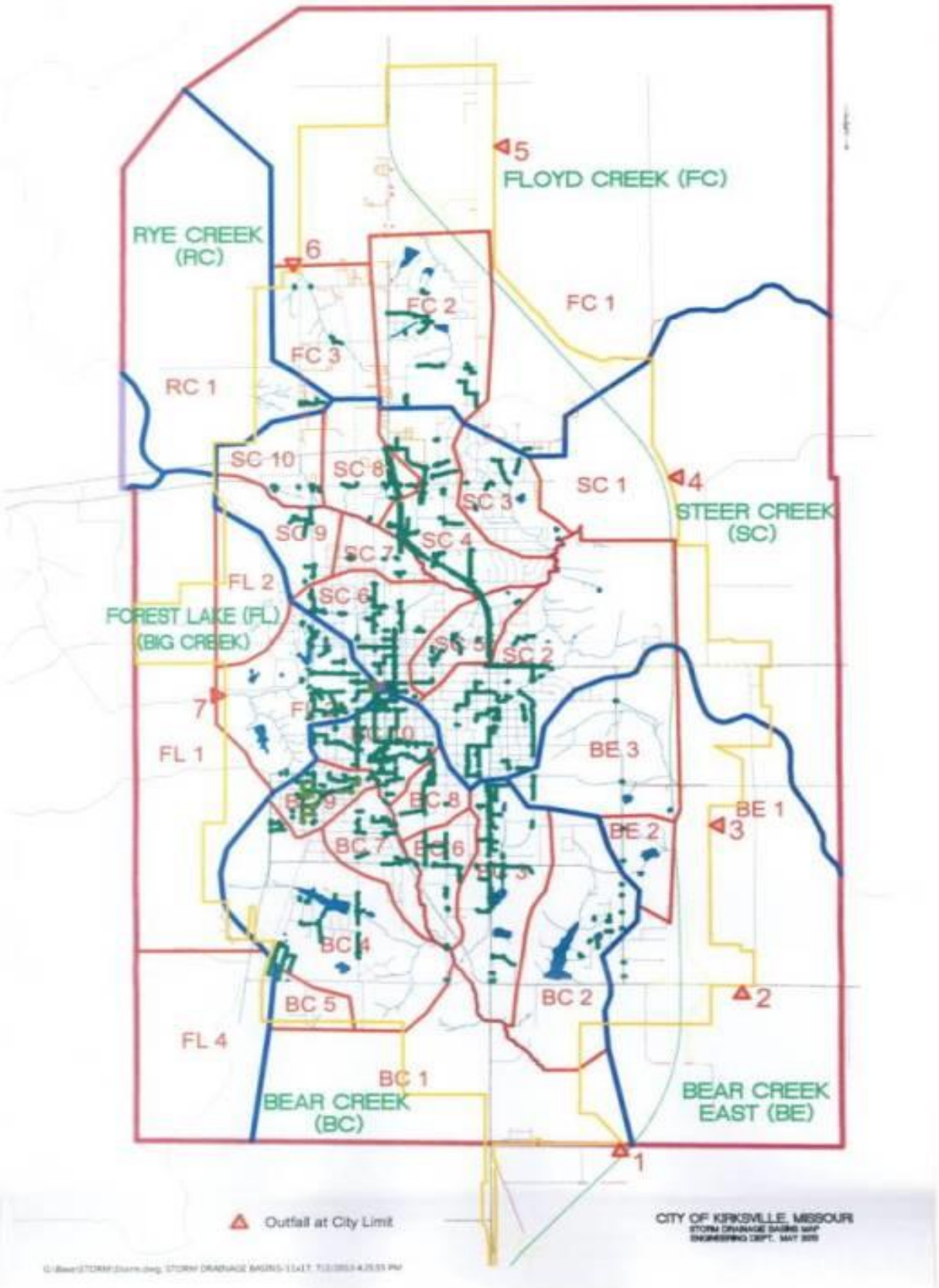
Interstate
U.S. Highway
State Highway
Missouri Lettered Route
Other Principle Route

Map Date: Jan 27, 2010

0 0.8 1.6 Miles

Sources: 12-Digit Hydrologic Units - NRCS, 2009; Streams, Water - USGS NHD, 2009; Cities, Counties - U.S. Census Bureau, 2008; Highways - MoDOT, 2009.

CENTER FOR APPLIED RESEARCH AND ENVIRONMENTAL SYSTEMS
UNIVERSITY OF MISSOURI


5
FLOYD CREEK (FC)
RYE CREEK
(RC)
6
FC 2
FC 1
FC 3
RC 1
SC 10
SC 8
SC 1
4
SC 3
STEER CREEK
(SC)
SC 9
SC 7
SC 4
FL 2
SC 6
FOREST LAKE (FL)
(BIG CREEK)
SC 5
SC 2
7
FL 1
BE 3
BC 9
BC 8
BE 1
3
BE 2
BC 7
BC 6
BC 4
BC 5
BC 2
2
FL 4
BC 1
BEAR CREEK
(BC)
BEAR CREEK
EAST (BE)
1
Outfall at City Limit
CITY OF KIRKSVILLE, MISSOURI
STORM DRAINAGE BASINS MAP
ENGINEERING DEPT. MAY 2015

APPENDIX B

SWPPP CHECKLISTS AND FORMS

SWPPP PLAN REVIEW CHECKLIST

GENERAL

☐ Owner's name, address & phone no.

☐ Developer's name, address & phone no.

☐ Developer's contact name & phone no.

☐ Emergency contact name & phone no.

☐ Engineer's name, address & phone no.

☐ Property address or Tract

☐ Location map

☐ Site area (Acres)

BEST MANAGEMENT PRACTICES (BMPS)

☐ Location of BMP installation

☐ Physical description/detail of BMP

☐ BMP installation/construction procedures

☐ O&M procedures for each BMP
At least bi week and after a substantial rainfall event. Erosion and siltation control devices shall be inspected for damage and amount of sedimentation accumulated and corrective actions taken. Reports of these inspections and corrective actions shall will be maintained on file at the City Codes Department.

GENERAL SWPPP REQUIREMENTS

☐ Key map dividing site into phased Work Areas

☐ Overall sequencing of the work by Work Area and estimated duration for:
Clearing
Rough grading
Construction of public improvements - Roads, sewers, retaining walls, & utilities
Final grading
Landscaping

☐ Individual Work Area Plan(s)

☐ Delineation of land disturbance

☐ Estimated grading quantity per Work Area

☐ Itemized list construction activities per Work Area

☐ Sequence of BMPs to be installed or removed

☐ Drainage plan designed to control surface water during the design storm

☐ Location of utilities within 50’ of area to be disturbed

☐ Contours (2’ interval max.)
- Existing grades
- Interim grades
- Final grades

☐ 100-year floodplain and floodway delineated

☐ Plan for handling sediment removed during maintenance of BMPs

☐ Proposed truck and equipment access ways to/within the work site

☐ Location of downstream impoundments which could be affected by the proposed land disturbance

☐ Plan for responding to any loss of sediment off-site

☐ Non-sediment pollution control
- Waste Management BMPs
- Hazmat BMPs
- Spill prevention and control BMPs

<u>GENERAL NOTES ON SWPPP</u>

☐ Notify the Codes Department 48 hours prior to the commencement of grading and/or prior to the commencement of construction.

☐ Erosion and siltation control shall be installed prior to any grading and be maintained throughout the project until adequate vegetative growth insures no further erosion of the soil and work is acceptable to the owner and/or controlling regulatory agency.

☐ Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.

☐ Where natural vegetation is removed during grading, vegetation shall be reestablished as soon as possible in such a density as to prevent erosion.

☐ When grading operations are completed or will be suspended for more than 5 days in any area, the disturbed area shall be seeded or otherwise stabilized. Protective measures may include a combination of seeding, sodding, mulching or other suitable means to protect the ground surface from erosion.

☐ If cut and fill operations occur during a season not favorable for immediate establishment of permanent ground cover, a fast germinating annual seed such as rye grasses shall be utilized to retard erosion, if adequate storm water detention and erosion control devices have not been established.

☐ All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate shown in the design manual, and seeded as soon as possible after final placement.

☐ Storm water pipes, outlets and channels shall be protected by silt barriers and kept free of waste and silt at all times prior to final surface stabilization and/or paving.

☐ Parking on non-surfaced areas is prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driving conditions.

☐ The streets surrounding this development and any street used for construction access thereto shall be kept free from mud and construction debris and shall be cleaned throughout the day.

☐ Soft soils from the bottom and banks of any existing or former pond sites or tributaries or any sediment basins or traps shall not be placed in proposed public right-of-way locations or in any storm sewer location.

☐ All trash and debris on-site, either existing or from construction, must be removed and properly disposed of off-site.

☐ Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be properly disposed of off-site.

☐ All excavations, grading or filling shall have a finished grade not to exceed a 3:1 slope (33%), unless specifically approved otherwise.

☐ No excavation shall be made so close to the property line as to endanger any adjoining property of any public or private street without supporting and protecting such public or private street or property from settling, cracking or other damage.

☐ Property Owner/Developer's executed certification:

"The Property Owner/Developer hereby certifies that he is familiar with the SWPPP and assumes full responsibility for the performance and maintenance of the SWPPP as stated on the approved plans. He will ensure that all contractors

understand and are familiar with the SWPPP for the site and that each contractor agrees to implement and protect elements of the SWPPP as they relate to his work. The Property Owner's/Developer's onsite representative shall be responsible for the performance and maintenance of the SWPPP. In addition, the undersigned Owner/Developer assures that all City property or roads will be adequately protected."

SWPPP INSPECTION REQUIREMENTS & CHECKLIST

GENERAL REQUIREMENTS

Inspect the site to ensure proper installation, operation and maintenance of BMPs
Perform inspections bi-weekly and after a substantial rainfall event
Determine the overall effectiveness of the SWPPP
Determine the need for additional control measures
Revise the SWPPP as needed and submit a copy to City
Promptly notifying the developer and the site contractors responsible for operation and maintenance of BMPs of the deficiencies found during an inspection.
Notifying the developer, site contractors and the City immediately of any situation requiring immediate action
Note corrective actions taken
Forwarding report of inspections to Department of Public Works (MS4 Coordinator) within 5 days of inspection

ITEMS TO INSPECT

BMPs installed in timely fashion
BMPs installed/performing correctly
Is the BMP still effective or need maintenance
Any damage to BMP
Note areas where grading activities have started/stopped
Areas stabilized within 5 days of work being halted
Removal of BMPs that is no longer required
Evaluate need for revision to SWPPP

AREAS TO INSPECT

All disturbed areas
All recently stabilized areas
All locations where an erosion/silt control device is installed
Off-site areas/outfall points – including adjacent roadways
Operational storm sewer inlets
Material storage areas
Trash collection areas
Concrete washout areas
Temporary toilets on site

INSPECTOR'S REPORT
STORM WATER POLLUTION PREVENTION PLAN

Site Name _____
Permit No. _____
Inspector _____

☐ Bi-Weekly Inspection Inspection Date _____
☐ Storm Event

Items Inspected	Inspection Results
☐ Sediment leaving the project site.	☐ Site in accordance with SWPPP and operating properly. ☐ Correction of deficiencies required. See attached comments/descriptions Deficiencies from last report: ☐ Corrected ☐ Not Corrected – See Attachment
☐ Mud tracked onto roadways by vehicles exiting the site. Installation, maintenance and protection of vehicle wash down areas	☐ Site in accordance with SWPPP and operating properly. ☐ Correction of deficiencies required. See attached comments/descriptions Deficiencies from last report: ☐ Corrected ☐ Not Corrected – See Attachment
☐ BMPs installed in accordance with the approved plans/permit conditions	☐ Site in accordance with SWPPP and operating properly. ☐ Correction of deficiencies required. See attached comments/descriptions Deficiencies from last report: ☐ Corrected ☐ Not Corrected – See Attachment
☐ BMPs maintained in accordance with the approved plans/permit conditions	☐ Site in accordance with SWPPP and operating properly. ☐ Correction of deficiencies required. See attached comments/descriptions Deficiencies from last report: ☐ Corrected ☐ Not Corrected – See Attachment
☐ Grading/construction activities proceeding in general accordance with the approved plans	☐ Site in accordance with SWPPP and operating properly. ☐ Correction of deficiencies required. See attached comments/descriptions Deficiencies from last report: ☐ Corrected ☐ Not Corrected – See Attachment
☐ Stabilization of areas that have been or are to be inactive for longer than five days	☐ Site in accordance with SWPPP and operating properly. ☐ Correction of deficiencies required. See attached comments/descriptions Deficiencies from last report: ☐ Corrected ☐ Not Corrected – See Attachment

Modifications Needed to SWPPP: ☐ Yes ☐ No
Attachments to this report: ☐ Yes ☐ No

The grading and other construction activities being conducted, except as specifically identified above and attached, comply with the approved plans and current SWPPP.

Signature of Inspector _____

INSPECTOR'S REPORT- ATTACHMENT
STORM WATER POLLUTION PREVENTION PLAN

Site Name _____
Permit No. _____
Inspector _____

☐ Bi-Weekly Inspection Inspection Date _____
☐ Storm Event

Location/BMP	Action Needed to Correct Deficiencies	Corrected

Areas Where Land Disturbance Activities Have Started, Stopped or Been Suspended	Date

Attach supplemental sketches and other information to identify items described in the tables above.

Inspectors Signature _____