

**2013 – 2018 NPDES PERMIT
City of St. Charles, Missouri
Stormwater Management Plan**

Introduction

The City of St. Charles, Missouri has developed the following Stormwater Management Plan (SWMP) in conjunction with their permit application to discharge under the Missouri State Operating Permit, General Permit MO-R00400 (General Permit), which covers discharge from Regulated Small Municipal Separate Storm Sewer Systems. This SWMP is written to be in compliance with the General Permit and the City reserves the right to alter the SWMP in accordance with the General Permit.

The City of St. Charles encompasses 24 square miles (15,360 acres) and its population is 60,321 according to the 2000 Census. The City is drained by five main creeks, Sandfort Creek, Boschert Creek, Cole Creek, which convey stormwater generally north to the Mississippi River and Blanchette Creek, and Crystal Spring Creek plus an unnamed tributary which conveys stormwater generally east to the Missouri River. The land use is primarily residential with pockets of commercial and industrial development.

St. Charles is proactive in the management of its stormwater. The City currently practices many of the best management practices included in the six minimum control measures. The City's approach to addressing the six minimum control measures is to build on the City's current successful practices as listed below. Significant changes, particularly within the Post Construction Runoff Control MCM will be facilitated in this permit cycle.

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Public Education and Outreach

Decision Process: The City has well established communication practices with its citizens. Primary means of communication include City newsletters, local newspapers, and a website. There are also two business journals, one a magazine and the other a newspaper, which are used to communicate with citizens of the City. Because the community is accustomed to learning about City activities from these sources, they will be used to provide many of the required education materials.

The target audiences for the program are the residents, school age children, and business owners. These target audiences include the majority of the people living and working in St. Charles including residents, school age children, community groups, and businesses. Education of school age children about pollution prevention will help develop good habits and skills early in their life. They will carry these with them throughout their lives. Also, it is believed their good habits will impact older generations and help them understand the benefits of pollution prevention. The City will continue to identify and work with local groups representing minority populations to deliver education materials developed specifically for those residents.

Primary pollutant sources in the City include the activities of the general population as well as commercial and industrial operations. The focus of the education program will be pollution prevention. The City's education program will help its residents understand the impacts of pollution and how to prevent it from happening.

The measurable goals for the Public Education and Outreach BMPs include the completion of specific tasks. As it is difficult to measure the effectiveness of public education, especially in the early years of implementation, the completion of the proposed SWMP activities related to public education and outreach provide the City a means to track their progress in developing the programs..

BMPs and Measurable Goals

Annual Activities

1. Publish 4 articles in the City newsletter or local newspaper. Subjects will be centered around measures individuals can use to improve stormwater quality through pollution prevention, as well as identify opportunities for the community to participate in the SWMP, the location of additional information, and a City contact person for the program.

Measurement: Number of articles.

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2. Continue to operate and advertise a stormwater telephone hotline that will allow the City to log concerns related to stormwater management.
Measurement: Log of complaints and contacts.

3. Continue to make presentations in the schools, concentrating on grades 3-5; goal of 3 presentations annually.
Measurement: Presentations made

4. Air existing public service announcements on the local access cable channel. Spots will be aired at various times; 5 times per month.
Measurement: Presentation televised.

5. Web page accessed from the City's website to provide links to current articles related to stormwater, Update quarterly
Measurement: Page updated.

6. Distribute inserts in City water bill to provide information about the Phase II program to residents.
Measurement: Inserts distributed.

7. Conduct survey of public awareness of Phase II Outreach Program
Measurement: Survey mailed, responses tabulated

8. Translate stormwater fliers for ethnic or minority groups and distribute
Measurement: Fliers distributed

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Public Involvement/Participation

Decision Process: St. Charles involves its community primarily through volunteer work such as citizen panels, community education, and public area clean-ups. The City's plan for public involvement will include soliciting, collecting, and incorporating public input into the program.

Volunteer groups in the City have participated in cleanup days in the past. These groups have included homeowners associations, church and school groups, scouts, etc. The City will use these successful programs as a basis to expand participation.

The focus of the involvement/participation program will be to increase participation in established, successful programs and identify potential new programs. The target audiences will be expanded from the education program to include the development community and businesses.

BMPs and Measurable Goals

Annual Activities

1. Schedule and conduct at least one clean-up event
Measurement: Event held
2. Solicit public participation in the Phase II program through public announcements and newsletter/newspaper articles
Measurement: Organizations willing to participate identified.
3. Promote participation in the existing adopt-a-highway clean-up program.
Measurement: Adopt-a-highway clean-up promoted
4. Promote participation in and support "River Relief" program for Missouri River clean-up.
Measurement: River Relief promoted, supported,.
5. Encourage resident's use of Recycle Works, the county's recycling center
Measurement: Fliers mailed, ads posted on web.
6. Promote existing used oil drop-off locations within the City for use by residents.
Measurement: Locations publicized.

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7. Sponsor an essay/poster contest for school children to promote education on stormwater pollution prevention and management.

Measurement: Contest conducted.

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Illicit Discharge Detection and Elimination

Decision Process: St. Charles minimizes illicit discharges through several existing mechanisms. An existing ordinance, copy attached, is the legal mechanism used to prevent illicit discharges. City streams are not on the 303(d) list nor do they currently have TMDLs. Therefore, the focus of the program is to identify during field inspections and through community involvement the presence of dry weather discharges. These dry weather discharges will be investigated to determine if they are illicit discharges, and if so, the City will work to eliminate them.

BMPs and Measurable Goals

Annual Activities

1. Update maps to reflect recent development
Measurement: Maps updated
2. Conduct training for City staff regarding dry weather discharge detection, illicit discharge determination, tracing, and elimination procedures
Measurement: Training conducted
3. Conduct field investigations of 25% of the stream system in the City. Field investigation will include walking the waters of the City, survey of outfalls, and noting whether a dry weather illicit discharge was occurring.
Measurement: 25% of streams walked, outfalls surveyed, and dry weather discharges noted.
4. Promote locations for sanitary dumpsites for RV's in order to increase public awareness of the effect of improper dumping on water quality.
Measurement: Sanitary dumpsite locations posted on website.
5. Field screen all dry weather discharges identified. If the discharge appears to be an illicit discharge, identify source using maps and field investigations of the storm drainage system. Contact owner of source to determine type of discharge. If illicit, work with owner to eliminate discharge using the enforcement provisions of the ordinance.
Measurement: All dry weather discharges identified field screened. Investigations initiated and contacts made. Enforcement procedures implemented where necessary.

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Construction Site Storm Water Runoff Control

Decision Process: St. Charles minimizes pollutants in storm water runoff from construction activities through several existing mechanisms. A recently revised existing ordinance, copy attached, is the legal mechanism used to require erosion and sediment controls at construction sites. Other ordinances, copies also attached, are the mechanisms used to require submittal of a stormwater management plan for each site which construction is being contemplated and to define documents to be submitted to the City Engineer for review. The existing ordinances will be reviewed with regard to water quality and amended to reflect the requirements of this stormwater master plan. The focus of this program will be to develop procedures for site inspection and enforcement of measures set to control construction site storm water. The City will develop a construction site erosion control inspection policy which will include a standard form and documentation of inspection and enforcement activities.

The measurable goals for the Construction Site Stormwater Runoff Control include the completion of ordinance revisions, inspections, and enforcement activities. The number of inspections and enforcement actions will depend on the amount of development being undertaken within the City and may vary significantly from year to year.

BMPs and Measurable Goals

Annual Activities

1. Continue performing site inspections according to existing ordinance and procedures at all sites.
Measurement: Number of inspections performed. Inspections and enforcement documented.
2. Continue to review all pre-construction site plans to consider potential water quality impacts.
Measurement: Pre-construction plans reviewed.
3. Train construction site inspection staff on inspection procedures.
Measurement: Training complete.
4. Implement and enforce the new policies and procedures for construction site inspection.
Measurement: Log of inspections and enforcement actions.

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Post-Construction Storm Water Management in New Development and Redevelopment

Decision Process: St. Charles minimizes pollutants in stormwater runoff after construction completion through existing ordinances, copies attached. The ordinances contain buffer strips and landscape requirements to minimize water pollution and requirements for maintaining ecological balance. Another ordinance, which is also used to control runoff during construction, contains requirements for delegation of the maintenance responsibility of the site once construction is completed.

The focus of this program will be to develop procedures to prevent pollution of natural waters and control stormwater runoff from a site once it is no longer under construction. The audience the City will educate about the impacts of stormwater discharges on water bodies will be expanded to include developers along with public education required by a previous BMP. Developers will be informed of the steps that they can take to minimize the impact their actions have on the environment and to reduce pollutants in stormwater runoff and ordinances will be revised to encourage use of these.

The measurable goals for Post-Construction Stormwater Management in New Development and Redevelopment include the creation of a comprehensive Post Construction ordinance that will allow low impact development, utilize water quality enhancing detention practices, and reduce impervious area. This will include design standards and a list of acceptable BMP's

BMPs and Measurable Goals

Annual Activities

1. Inspect 25% of existing BMP's (primarily basins and ponds) for functionality
Measurement: Log of basins inspected, deficiencies noted, corrective action required by owner
2. Monitor complaints, track and log existing problems relative to stormwater management.
Measurement: Problems noted and analyzed for cause and solution or possible retrofit
3. Perform follow-up inspections of 10% of sites completed in the previous year.
Measurement: Follow-up inspections completed and documented.

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4. Create a comprehensive Post Construction ordinance that will allow low impact development, utilize water quality enhancing detention practices, and reduce impervious area.

Measurement: Ordinance created

5. Modify existing creekbank setback ordinance to include a riparian buffer component and possibly a conservation easement overlay.

Measurement: Ordinance created

6. Create an ordinance to specifically address water quality and quantity concerns as related to redevelopment of existing sites. Items to include will be micro/bio detention, porous pavement, turf pavement for overflow parking and other low impact elements.

Measurement: Ordinance created

7. Review existing detention ordinance and recommend changes to include water quality requirements such as forebays, extended detention and pre vs. post development hydrologic emulation.

Measurement: Ordinance reviewed, changes recommended

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Pollution Prevention/Good Housekeeping for Municipal Operations

Decision Process: St. Charles addresses many aspects of this section under the previous five minimum control measures. The City currently has street sweeping procedures established, and the process will be continued along with additional pollution prevention measures.

The focus of this program will be pollution prevention within municipal operations. The City will identify all municipal operations impacted by this operation and maintenance requirement and develop site specific stormwater pollution prevention plans. The City will train its staff to understand the impacts of pollution and how to prevent it from happening, and implement plans to minimize pollution resulting from City operations.

The measurable goals for Pollution Prevention/Good Housekeeping include completion of training, planning, and cleaning activities and ongoing pollution prevention/good housekeeping procedures.

BMPs and Measurable Goals

Annual Activities

1. Continue existing State-provided training of City staff on herbicide/pesticide application procedures and ensure certifications are current.
Measurement: Training provided to staff per state requirements
2. The City Street Department will continue following the existing street sweeping schedule.
Measurement: Sweeping schedule maintained
3. Continue training of City staff in pollution prevention procedures and good housekeeping measures through quarterly tool box meetings or similar training exercises.
Measurement: Training meetings conducted.
4. Continue training of employees in pollution prevention and good housekeeping procedures with added topics such as proper application of fertilizers and herbicides for Street Division and Parks Department employees, or used oil recycling for maintenance garage employees, or road salt application and storage for city salt crews, and runoff control for city construction crews.
Measurement: Yearly training sessions conducted.

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5. Continue training of employees in pollution prevention and good housekeeping procedures.
Measurement: Training sessions conducted.

6. Continue updating pollution prevention plans.
Measurement: Plans up to date with current environmental regulations and municipal operations.

7. Continue to perform inspections to monitor compliance with plan requirements.
Measurement: Documentation of compliance activities.

Responsible person: Project Manager for Regulatory Compliance