

# **City of Maryville**

## **Storm water management Plan**

The City of Maryville, Missouri has updated the following Storm water Management plan (SWMP) in conjunction with the permit renewal application to discharge under the State of Missouri State operating permit number MO-R040071. This SWMP is written with the intent of being compliance with the general permit.

The City of Maryville encompasses 3 square miles and its population is 10,581 according to the 2000 Census. The City is drained by 3 main streams, the White Cloud, Peach Creek, and the 102 river. These streams and rivers convey storm water generally south to the Missouri river. The land use is primarily residential with pockets of commercial and industrial development as shown on the enclosed map.

The City's approach to addressing the six minimum control measures is as follows:

### **I. Public Education and outreach**

The City of Maryville shall implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

The City has a well established communication practice with its citizens. Primary means of communication include the city website (<http://www.maryville.org/>), the local newspaper, local radio and the city council meeting which are open to the public. Because the citizenry are accustomed to learning about the City activities from these sources, they will reach well over 50 percent of the 3800 households, businesses and industries in the city.

The target audience for the program is the residents, school age children and business owners. These target audiences include a majority of the people living and working in the Maryville area. Additionally, education of school age children about pollution prevention will help develop good habits and skills early in their life. They will carry these traits with them throughout their lives. Also, their good habits will impact the older generations and help them understand the benefits of pollution prevention.

Primary pollutant sources in the City include the general population and 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 impact 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 tasks related to public education and outreach provide the City a means to track their progress in developing the programs.

*BMPs and Measurable Goals*

The initial step will be to inform the community and local developers that the city is required to manage its storm water and to let them know the requirements of the storm water program.

1. Publish 2 articles in the local printed media. Subjects will include an introduction to the NPDES phase 2 permit, requirements of Phase 2, identify opportunities for the community to participate in the SWMP, and the location of additional information and a contact person.

Schedule: media articles annually.

Measurement: Number of articles in the local newspaper.

2. Develop a web page accessed from the city's main website in regard to the SWMP. This will allow the public easy access from their homes or elsewhere. The website will summarize the SWMP and include other materials generated.

Schedule: Launch the SWMP web page within six (6) months.

Measurement: Post the SWMP web page.

3. Develop a log form to register citizen concerns and city response.

Schedule: Spring 2015.

Measurement: Complete log form.

4. Contact local school district and identify educators interested in developing a one day curriculum on storm water management.

Schedule: Contact the school district during school year 2014-15. If interested develop curricula and hold classes by Spring 2016-19.

Measurement: List of educators interested in developing a one day curriculum.

5. Encompass annual findings in media articles to encourage involvement from community and developers with improving the water quality.

Schedule: 2 articles each year from Spring 2016 – Spring 2019

Measurement: Number of articles in the local media.

6. Continue to update and improve information supplied on the website by posting articles from media and other relevant material on the SWMP web page and providing links to relevant storm water management sites like MDNR and EPA.

Schedule: Post articles and material within 1 month of when published in local media. Provide links to other sites Spring 2016.

Measurement: Number of articles posted. Links to information sites.

7. Distribute brochure and letters to waste haulers and restaurant owners regarding the proper management of waste grease, cleaning of grease traps, and waste disposal.

Schedule: Distribute brochure letter in Spring 2016.

Measurement: Number of brochures and letters distributed.

8. Staff contact with restaurants owners to review their compliance with proper management of waste grease, cleaning of grease traps and waste disposal.

Schedule: Contact restaurant owners Spring 2016 – 2019. Set up annual inspections.

Measurement: number of contacts made.

9. Summary of annual activities at a city council meeting. Notice of the meeting to include an announcement of SWMP presentation.

Schedule: Summary provided annually beginning Spring 2016.

Measurement: Presentation at City Council meeting.

## **II. Public Participation/Involvement**

Maryville shall implement a public involvement & participation program that complies with the state and local public notice requirement. Maryville involves its community primarily through assembly of citizens panels to help staff develop long range plans to manage growth and significant public improvement projects. The City's plan for public involvement will include development of a citizen panel to provide input and direction

for long term storm water management and to help publicize the changes that will be required.

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

It is difficult for the City to predict, or accurately evaluate a level of participation in many specific programs or activities related to the Public Participation/Involvement BMPs. Therefore, the City has developed goals that include measurement of the number of activities or events completed.

#### *BMPs and Measurable Goals*

1. Conduct a public meeting outlining SWMP, the resources required, and a schedule of activities. Identify volunteers willing to participate in a citizen's panel to help direct the SWMP. Advertisement of the meeting will be according to the City's normal procedures.

Schedule: Select citizen panel by Spring 2015.

Measurement: Public meeting held. Volunteers identified.

2. Train City personnel to identify and report potential dry weather illicit discharges.

Schedule: Begin annual City personnel training by Spring 2015. Continue training annually through 2019.

Measurement: Training program completed.

1. Schedule and conduct 2 meetings per year.

Schedule: Begin meetings by Summer 2015. Hold meetings semi-annually through 2019.

Measurement: Number of meetings held.

2. Train interested citizens to identify and report potential dry weather illicit discharges.

Schedule: Spring of 2017 Begin training of interested citizens.

Measurement: Training meeting conducted.

3. Adjust SWMP based on citizen's panel input.

Schedule: Spring of 2017 review input from citizen panel and adjust SWMP accordingly. Plan annual review of SWMP.

Measurement: Number of ideas included in the SWMP and SWMP updated.

Responsible person: Public Works Director

### **III. Illicit Discharge Detection and Elimination**

Maryville will develop, implement, and enforce a program to detect and eliminate illicit discharge in the MS4. Develop or submit a storm sewer system map showing the location of all outlets and the names and location of all waters of the State that receive discharges from the MS4. Prohibit through ordinance, or other regulatory mechanism, non-storm water discharges into the mMS4 and implement appropriate enforcement procedures and actions. Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the MS4. Inform public employees, businesses, and the general public of hazards of illegal discharges and improper disposal of waste. Include a provision prohibiting any individual non-storm water discharge that is contributing significant amounts of pollutants to the MS4.

Maryville minimizes illicit discharges through several existing mechanisms. An existing ordinance, copy attached, is the legal mechanism used to prevent illicit discharges. The attached MS4 map is under development and is updated periodically, and will be updated as part of the SWMP. An attached map indicating the known outfalls of the MS4 will be updated as the City completes dry weather field screening. City streams are not on the 303(d) list nor do they have TMDLs which indicates the City's streams are in relatively good condition. 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 field tested by our waste water department for the presence of typical pollutants found in storm water or traced to their origin, and appropriate measures undertaken to eliminate them if found to be illicit.

The measurable goals for Illicit Discharge Detection and Elimination include phased completion of mapping, inspection, investigations, and resolution. The City has completed mapping, continues to update it as needed. The City staff also inspects the system each year and follows up with investigations and resolution. The City staff will continue to inspect the outfall areas twice yearly.

#### *BMPs and Measurable Goals*

1. Conduct field investigation of the open channel system in the City. Field investigation will include walking the waters of the State, inspecting outfalls, and noting whether a dry weather discharge was occurring.

Schedule: Beginning Spring 2015

Measurement: Fill out documentation on areas walked and inspected.

2. Conduct an annual update of the storm sewer system map with field located outfalls and any new drainage systems constructed.

Schedule: From Spring 2015 through 2019.

Measurement: Updated map that includes newly constructed and field located outfalls.

3. Pursue grants for household hazardous waste pick up day. Encourage residents to attend and dispose of those wastes properly. Conduct the pick-up day if grant obtained.

Schedule: Submit grant application Spring 2015 and conduct pick up day if grant obtained. The grant will be applied for annually if available.

Measurement: Grant application submitted.

4. Promote collection of used motor oil for residents through the collection program at local collection stations and track the usage.

Schedule: Spring 2015. This will be done annually through 2019.

Measurement: number of drop offs, or gallons recycled.

5. Review existing ordinance prohibiting illicit discharges and recommend modifications to ordinance as required.

Schedule: Annually beginning Spring 2015.

Measurement: Ordinance reviewed and recommendations presented to City Council Committee if needed.

Responsible person: Public Works Director

#### **IV. Construction Site Storm Water Runoff Control**

Maryville shall implement a program to reduce pollutants in any storm water runoff to their small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water discharges associated with small construction activity in accordance with 10 CSR 20-6.200, Maryville will not be required to implement a program to reduce pollutant discharges from such sites.

Maryville minimizes pollutants in storm water runoff from construction activities through several existing mechanisms. Existing ordinance, copy attached, is the legal mechanism used to require erosion and sediment controls at construction sites. Existing ordinances, copies also attached describe the review process of pre-construction development plans and subdivision improvement plans. These existing ordinances will be reviewed with regard to water quality and amended to reflect the requirements of this storm water master plan.

1. Review existing storm water related ordinances.

Schedule: Fall of 2014, annually through 2019.

Measurement: review of ordinance complete.

2. Perform site inspections prior to and during construction as well as final inspection.

Schedule: Continue this effort Fall 2014 through 2019.

Measurement: Number of inspections performed. Documented.

3. Propose specific sanctions and action to be used to ensure compliance with erosion control and water quality ordinance requirements to City Council for discussion.

Schedule: Begin Spring 2015.

Measurement: Enforcement measures developed and submitted to City Council.

4. Develop/review an ordinance, according to permit requirements, for a site plan review procedure for pre-construction site plans to consider potential water quality impacts. All sites will be reviewed.

Schedule: Continue this effort in Fall 2014 through 2019.

Measurement: Ordinance written.

5. Develop log form to register citizen complaints, specific to construction site activity. This will be set up in conjunction with the log developed under the public outreach section of the permit.

Schedule: Begin Spring 2015.

Measurement: Complete log form.

6. Develop a construction site erosion control inspection policy including a checklist or similar standard inspection report form to document procedures for site inspection and enforcement of control measures.

Schedule: Begin Spring 2015.

Measurement: Standard form complete.

7. Develop/Review/Implement ordinance requiring construction site operators to implement appropriate erosion and sediment control practices and control waste at construction sites that may cause adverse impacts to water quality.

Schedule: Fall 2015 through 2019.

Measurement: Ordinance written.

8. Revise ordinances to implement proposed/developed enforcement sanctions on violations.

Schedule: Begin Fall 2015 through 2019.

Measurement: Ordinances revised.

Responsible person: Public Works Director

## **V. Post Construction Storm Water Management in New Construction and Redevelopment**

The city will develop, implement and enforce a program to address the quality of long-term stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permittee's regulated Small MS4. The city will strive to ensure that controls are in place that are designed and implemented to prevent or minimize water quality impacts:

1. The city will modify its stormwater ordinance to protect post-construction runoff quality from new development and redevelopment projects. The ordinance will include:
  - a. Performance criteria for new development projects as a means to require new projects be designed to reasonably mimic pre-construction runoff conditions, including all urban pollutants of concern;
  - b. Performance criteria for redevelopment projects as a means to require effective water quality strategies and technologies on all affected redevelopment projects to the maximum extent practicable, including all urban pollutants of concern;
  - c. Requirements for assessment of site characteristics at the beginning of the site concept design phase to ensure adequate site design and planning for stormwater program compliance and effective stormwater quality management features also known as best management practices, stormwater control measures or SCMs;
  - d. Adoption of a new or adapted stormwater manual that identifies a menu of appropriate SCMs for all urban pollutants of concern (including as appropriate structural SCMs such as those described in Section 4.2.5.1.6), their specifications, and their operation and maintenance requirements;
  - e. Requirements for long-term operation and maintenance of SCMs;

- f. Provisions for adequate enforcement mechanisms such as stop work orders, penalties or others as appropriate; and
- g. Removal of criteria roadblocks from current ordinances and policies;

Target date: Spring 2015.

Measurable goals: The completion of ordinance and all aspects from 1.a through 1.g above will be reported as complete or incomplete and a summary of the interim steps taken, including public meetings and interim process steps, will be included in the annual report.

- 2. The city will develop strategies to minimize water quality impacts, which include a combination of structural SCMs as described above and including non-structural SCMs as appropriate and described in Section 4.2.5.1.5 of the permit. These strategies will be reflected in ordinance criteria, the stormwater manual, operation and maintenance agreements, applicable checklists, city policies, staff training and developer training as appropriate.

Target date: Spring 2015.

Measurable goals: The completion of this milestone will be reported as complete or incomplete and a summary of interim process steps will be included in the annual report.

- 3. The city will develop a plan designed to ensure adequate long-term operation and maintenance of selected stormwater control practices, including, as appropriate, types of agreements between the city and other parties such as post-development landowners or regional authorities.

Target date: Spring 2015.

Measurable goals: The completion of this milestone will be reported as complete or incomplete and a summary of interim process steps will be included in the annual report.

- 4. The city will require assessment of site characteristics at the beginning of the construction site concept design phase to ensure adequate planning for stormwater program compliance.

- a. The city will require pre-site design consultation with the developers in order to communicate performance criteria and up-front site-design opportunities for features that provide most effective water quality treatment through infiltration, flow rates, reuse and similar site-design opportunities.

- b. The city will develop a pre-site design checklist of items to be considered in site designs that best protect water quality. The checklist will include possible site characteristics, designs and practices for most effective water quality treatment through infiltration, flow rates, re-use and similar site-design opportunities.

- c. The city will revise the plan review and approval process (procedures and protocol) for city staff in a manner to ensure projects are designed to meet performance criteria, including ensuring site-design water quality aspects are carried through to the final design and implementation phases.

Target date: Spring 2015.

Measurable goals: The completion of these milestones will be reported as complete or

incomplete and a summary of interim process steps will be included in the annual report.

5. In conjunction with public education and outreach requirements of the MS4 permit, the city will provide training for developers and city staff to address the requirements of the city's revised post-construction runoff control program in response to permit requirements.

a. The city will provide training for the development community.

b. The city will provide training for plan review and approval staff and the planning commission as appropriate to ensure compliance with the post-construction runoff control requirements of the permit.

c. The city will provide training for staff on long-term operations and maintenance of post-construction SCMs and inspection for both private and municipal SCMs.

**Target date:** Semi-annually (Spring and Fall) until it is determined less frequent training is necessary.

Responsible person: Public Works Director

#### **VI. Pollution Prevention/Good Housekeeping for Municipal Operations.**

Maryville shall develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, State, or other organizations. Maryville shall include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

Maryville addresses many aspects of this section under the previous five minimum control measures. The City has a street sweeping procedure 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 list of municipal operations that are impacted by this operation and maintenance program is attached. The City will help its staff understand the impacts of pollution and how to prevent it from happening.

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*

1. Maintenance, Develop/Review pollution prevention plans for facilities such as the public works garage and yard. This plan will include housekeeping issues such as

proper storage of chemicals, proper disposal, spill control/containment and clean-up procedures, and proper equipment maintenance practices to prevent fluid spills.

Schedule: Spring 2015 through 2019.

Measurement: Plans developed.

2. Gather or develop training materials to address with staff the pollution prevention plans and other good housekeeping requirements.

Schedule: Spring 2015. Ongoing through 2019.

Measurement: Training materials collected and dispersed.

3. Develop/review procedures for items such as inlet cleaning designed to reduce sediments and debris entering streams through the storm sewers.

Schedule: Spring 2015.

Measurement: Inlet cleaning procedures developed.

Responsible person: Public Works Director