

MO Form 780-1846 (Stormwater Annual Report – Small MS4s Permits)

Table of Contents

Executive Summary

MCM #1 – Public Education

Public Education Efforts

Overall Compliance with Permit Conditions

Stormwater Activities Planned for Next Reporting Cycle

MCM #2 – Public Participation/Involvement

Public Involvement Efforts

Overall Compliance with Permit Conditions

Stormwater Activities Planned for Next Reporting Cycle

MCM #3 – Illicit Discharge Detection and Elimination

Illicit Discharge Detection and Elimination Efforts

Overall Compliance with Permit Conditions

Results of Information Collected and Analyzed During Reporting Cycle

Stormwater Activities Planned for Next Reporting Cycle

MCM #4 – Construction Site Stormwater Runoff Control

Construction Site Runoff Control Efforts

Overall Compliance with Permit Conditions

Stormwater Activities Planned for Next Reporting Cycle

Summary of the Number of Inspections

MCM #5 – Post Construction

Post-Construction Runoff Control Efforts

Overall Compliance with Permit Conditions

Stormwater Activities Planned for Next Reporting Cycle

MCM #6 – Good Housekeeping for Municipal Operations

Good Housekeeping Efforts

Overall Compliance with Permit Conditions

Results of Information Collected and Analyzed During Reporting Period

Stormwater Activities Planned for Next Reporting Cycle

MO Form 780-2049 (Stormwater Annual Report – Small MS4s Permits Addendum – Water Quality Program Assessment)

Executive Summary:

The City of Branson received its MS4 Permit in November of 2016. We are currently in our fifth year of this permit. The Stormwater Coordinator is responsible for implementing and maintaining the MS-4 program here in Branson. At this time, the City's stormwater program is primarily funded through the transportation fund.

The fifth year of our permit has included many advances towards improving the water quality within the boundaries of our city. We have completed our Stormwater Master Plan being by MECO Consulting Engineers. This included an online public survey as well as two live public meetings to discuss stormwater issues, and our Land Disturbance and Erosion and Sediment Control Ordinance. The ordinance includes the utilization of an inspection program for all construction sites over 3000 sq. ft. of land disturbance. Staff has seen an increase in use of the necessary BMP's during construction.

The purpose of this report is to provide information related to the efforts of the City of Branson to reduce non-point source pollution through public education and participation, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control and good housekeeping in municipal operations. It is the City's intent to be compliant to the Maximum Extent Possible with the state and federal requirements set forth under NPDES Phase II. A summary matrix is enclosed which outlines the MCM's completed this fifth year of the permit.

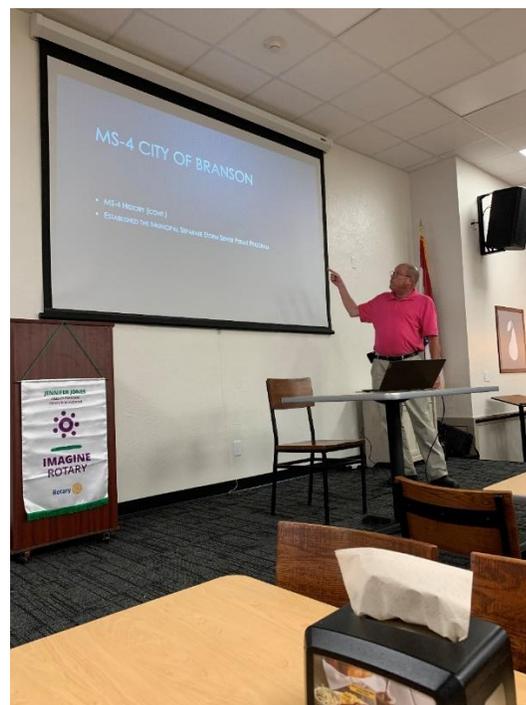
The City of Branson views the stormwater management plan as an opportunity to expand on a vision for clean water within our jurisdiction. We recognize that this stormwater management plan is a starting point for effective non-point source pollution reduction and our residents and community leaders are committed to being proactive in protecting our water resources as we place great value on the water resources in our care.

Minimum Control Measure #1 – Public Education

Summary: The City of Branson has continued to build its public education program through distribution of educational materials to the community, the city website, and conducting outreach activities. The focus of these efforts is to educate the public with activities discussing the impact of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

Public Education Efforts

- Distributed educational brochures to the public at City Hall, Public Works and Utilities Department.
- Updated links to the city’s stormwater web page that is available to public, contractors, developers and builders. Now includes the city’s MS4 plan and MS4 annual report, and a map of the Table Rock watershed. **See Exhibit 1.1**
- Stormwater webpage received 55 visits in the reporting period.
- Staff presented to H2Ozarks and the Rotary Club regarding our MS-4 Permit. We explained the history of the program and its origins. We are on our fifth permit period and we discussed its impact and its future for the City of Branson. In attendance was the staff of H2Ozarks, White River Electric, James River Cooperative, City of Branson Utilities, City of Branson Engineering and the Missouri Department of Natural Resources.



- Continued to monitor our webpage regarding Branson's Adopt-A-Street program, to reduce floatables. Informative information is available on our website. In this reporting period there were 43 total pick-ups and 139 bags of trash were collected and disposed at a local waste facility. There are 27 organizations or groups that participate in this program.
- Most of our new storm sewers are being installed with manufacture lids that display drains to lakes and streams' imprinted at the factory.



Sediment is a Pollutant?

The answer is unequivocally YES!

Sediment robs the water of oxygen, it fills the habitat for macroinvertebrates, sediment covers up nesting areas and the eggs that fish lay, it absorbs heat which increases water temperature, and it blocks sunlight from penetrating into the water, this impedes and prevents photosynthesis.

This water is going directly to a curb inlet away from the construction site. The storm pipe that it is draining into will end up discharging in a natural watercourse.



Inlet protection would be required for this site. The City of Branson has a Best Management Practices manual for Erosion and Sediment Control which explains the proper use and installation available online at : www.bransonmo.gov.

Minor Land Disturbance Permit

Any land disturbance that is over 3,000 square feet and under an acre will need to have a Minor Land Disturbance Permit from the City.

A site plan or sketch of the work to be done will need to be submitted with the application. A SWPPP (stormwater pollution prevention plan) is required along with the site plan submittal.

An inspection checklist is available covering the erosion and sediment control measures on the SWPPP will need to be initiated and then the permit can be issued.



This site needs to have the proper construction exit installed. The sediment that accumulates on the wheels of vehicles on the site will be deposited on the road if this is not addressed.

Land Disturbance Permit

If the project is over 1 acre of land disturbance a Land Disturbance Permit will be required. The necessary permits from other involved agencies will need to be presented to the City before the LDP can be issued.

The project will also have to be designed and sealed by a licensed professional engineer in the state of Missouri. Design for the engineer can be found on the City's website.



The design engineer will develop a SWPPP for the project and it will usually include the following:

- Temporary and permanent soil stabilization
- Protection of all slopes and channels
- Perimeter protection
- Pollution prevention measures

Branson Stormwater

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No SWMP elements have been changed or refined since permit application. All measurable goals have been met.

Overall Compliance with Permit Conditions:

The Best Management Practices (BMP's) in the City's Stormwater Management Plan (SWMP) seem to be effective for local population. The City continues to make progress towards achieving the goal of reducing the discharge pollutants to the Maximum Extent Practicable (MEP). We have begun to make the public more aware of stormwater quality issues.

Stormwater Activities Planned During Next Reporting Cycle:

- Continue to compile and distribute the appropriate erosion control materials for contractors/developers during Open for Business process for developments.
- Promote and participate in Lake Taneycomo Clean Up by utilizing partnership with Ozarks Water Watch.



Minimum Control Measure #2 – Public Participation & Involvement

Summary: The City of Branson has actively involved the public in the development and implementation of the stormwater program.

The Stormwater Division of the Public Works/Engineering Department has a strong relationship with the Public Relations Department as well as local newspapers and radio stations. In the past, we have had individuals, families and groups such as the Boy Scouts take on specific tasks of laying permeable pavers and storm drain markers.

Public Involvement Efforts:

- No changes are proposed to MCM #2's BMP's or measurable goals.
- Continuing to encourage participation through online training with the Adopt-a-Street program. We currently have 27 organizations that participate in the program.
- Maintained ten pet waste stations in city parks and at Branson Landing. Pet waste pick up signs have been posted throughout all of the City parks and trails reminding residents and visitors to pick up after their pets.



- The biennial Business and Community Survey was updated in 2022 to include questions regarding stormwater issues.
- Participated in Taneycomo Cleanup with a total of 14 volunteers who picked up a full roll off dumpster of trash, this included tires, appliances, paper products and various other debris. A total of 35 miles of Lake Taneycomo was cleaned, which included the shoreline within the city limits.



No SWMP elements have been changed or refined since permit application. All measurable goals have been met.

Overall Compliance with Permit Conditions:

The City of Branson is complying with permit conditions relating to Public Participation and Involvement. Residents can utilize the Report an Issue on the city's website.

Whenever a development is proposed in the City, public hearings are held at the Planning & Zoning meetings. The Planning and Zoning Commission is a volunteer board who are appointed by City Council. They review and approve all developments coming into the city and include in their discussion stormwater and other issues prior to approval of the development. Once approved by Planning & Zoning, their recommendation is forwarded to City Council for final approval where residents have another opportunity to provide questions or comments.

Stormwater Activities Planned During Next Reporting Cycle:

- Encourage groups and citizens to participate in the Adopt-a-Street program through the city website and social media.
- Continue maintaining pet waste stations.
- Continue to Co-Sponsor a community-wide lake cleanup with Ozarks Water Watch and Liberty Utilities.



Minimum Control Measure #3 – Illicit Discharge Detection and Elimination

Summary: The City of Branson is striving to develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4.

Illicit Discharge Detection and Elimination Efforts:

- The GIS mapping division continues to map all recently constructed stormwater piping and continues mapping of the city storm sewer system. Currently, Branson has approximately 204,016.77 feet or 45.46 miles of storm sewer infrastructure mapped throughout the City limits.
- Training of employees in proper handling of materials is provided via departmental Safety Meetings.
- Established a web-based reporting tool for illegal discharges/stormwater reporting and developed a response and reporting system to track incidents. Incident information is recorded by Police Dispatch and reported to Stormwater Coordinator.
- Outfall mapping of Roark Creek proper and its tertiary channels is utilized for the Outfall Monitoring and Dry Weather Screening Plan.
- Developed an Outfall Monitoring and Dry Weather Screening Plan to be used for inspections twice annually. This utilizes the outfall maps created by the GIS division. In 2022 an inspection sheet was created to assist with inspections.

No SWMP elements have been changed or refined since permit application. All measurable goals were met. No changes are proposed for MCM #3 BMP's or its measurable goals.

Overall Compliance with Permit Conditions:

Branson is complying with permit conditions relating to Illicit Discharge Detection and Elimination. Our GIS stormwater map is being updated continuously to show stormwater discharge points. This map currently shows all developments within the city limits. Construction sites are monitored more closely by Construction Project Managers in the Engineering Department and Building Inspectors.

Stormwater Activities Planned During Next Reporting Cycle:

- Continue mapping of storm sewer system.
- Continue to improve the web-based reporting tool for illegal discharges/stormwater.
- Implement the Outfall Monitoring and Dry Weather Screening Plan.
- Continue stormwater education and training city employees.

Minimum Control Measure #4 – Construction Site Stormwater Runoff Control

Summary: Branson is striving to develop, implement and enforce a program to reduce pollutants in stormwater runoff from construction activities that result in disturbance of greater than one acre.

Construction Site Runoff Control Efforts:

- 24 Commercial Construction plan sets and 13 residential construction plan sets were reviewed in this reporting cycle.
- Staff inspected all construction sites and enforced construction site runoff control.
- The City uses Citizenserve to track, review, and inspect all construction which allows for better monitoring of construction sites within the city limits.

No SWMP elements have been changed or refined since permit application. All measurable goals were met.

Overall Compliance with Permit Conditions:

Branson has been compliant with the continued implementation of construction site runoff controls by means of regulatory requirements and on-site inspections. There are also measures in place that require developers to submit a site improvement plan which addresses sediment and erosion control. The ordinance that was passed in 2018 requires that any land disturbance of over 3000 sq. ft. require a Land Disturbance Permit. We also reference the MDNR Protecting Water Quality Manual as a guide for site runoff control to engineers, developers and contractors.

On individual lots and developments the developer/builder must submit their plans to the Public Works/Engineering Department for review and approval of the stormwater aspects of their project. Every building permit receives a stormwater review. Public Infrastructure plans show regional detention for large developments. Subdivisions have a PI/Stormwater plan that is approved on a preliminary basis and are verified on the final plat process. The project cannot be accepted until the Public Works/Engineering Department gives final approval for construction.

Stormwater Activities Planned During Next Reporting Cycle:

- Continue to educate public, employees, contractors and developers regarding requirements for construction site runoff control by holding annual meetings which explain the ordinances as well as BMP methods that will help with compliance.

Summary of the Number of Plan Reviews:

- Stormwater coordinator reviewed 686 sets of plans. All plan reviews received comments regarding the protection of the job site from sediment and construction debris migration, as well as SWPPP BMP's being installed per specification.

Summary of the Number of Inspections:

- City staff completed 37 land disturbance inspections to ensure stormwater quality and control was addressed.



Minimum Control Measure #5 – Post-Construction

Summary: Branson is striving to develop, implement and enforce a program to address stormwater runoff from development and redevelopment projects that disturb greater than one acre. Various BMP's are used to control siltation and erosion of development areas until such time as vegetation can be re-established. The City of Branson requires all developments to meet stormwater detention or retention requirements to help minimize the impacts of flooding, post-construction runoff, including runoff from increased impervious areas created by the development.

Post-Construction Runoff Control Efforts:

- The city has a web-based reporting tool for illegal discharges and has developed a response and reporting system to track complaints.
- Reviewed the city's existing zoning ordinance to incorporate appropriate amendments to the zoning code to provide more green space and buffer zones. The amendments will address maximum impervious surface requirements.

No SWMP elements have been changed or refined since permit application.

Overall Compliance with Permit Conditions:

The BMPs in the City's SWMP seem to be effective for local population, appear to address some of the city's larger potential pollution sources and have integrated well with local management procedures. Branson continues to make the public as well as private development more aware of stormwater quality issues as they relate to the post-construction environment. Plan review continues to recommend post construction methods for projects coming into the City as well as for capital improvement projects funded by the City.

Stormwater Activities Planned During Next Reporting Cycle:

- As-builts for any and all detention/retention facility will be required.
- Utilizing the recommendations given by MECO Engineering in the City's Stormwater Masterplan.

No changes are proposed for MCM #5 BMP's or measurable goals.

Minimum Control Measure #6 – Good Housekeeping for Municipal Operations

Summary: Branson is striving to 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.

Good Housekeeping Efforts:

- Continue promotion of Adopt-a-Street program.
- Operation and Maintenance Manual is under review by city staff.
- Continual street sweeping to reduce floatables – 761.45 hours this reporting cycle.
- Continue training city employees concerning stormwater education.
- Used oil recycling – ongoing.
- Utilized Citizenserve software to track stormwater maintenance hours by city staff.
- Continued salt storage under cover.
- Continued removal during mowing operations of trash, salt and gravel debris from city right-of-way by public works staff.
- Continued use and promotion of non-coal tar sealants on parking lots or city streets.



No SWMP elements have been changed or refined since permit application. All measurable goals were met. No changes are proposed for MCM #6 BMP's or measurable goals.

Overall Compliance with Permit Conditions:

Branson's BMP's seem to be effective for local population, and have integrated well with local management procedures. Branson continues to make progress towards reducing the discharge of pollutants and have begun to make staff in all departments more aware of stormwater quality issues as they relate to municipal operations. Our Parks Department uses covers on materials such as mulch and topsoil to prevent unnecessary runoff. We continue to evaluate and improve our salt storage for snow removal operations. We have a covered area and tarps and bins in place over our outside storage which is monitored and maintained on a regular basis. Pollution prevention and good housekeeping measures are one function of each of our employees' job. This is a daily, on-going routine and employees are reminded to be aware of our own operation and maintenance practices to help and ensure a reduction in the amounts and types of wastes that collect on our streets, parking lots and maintenance areas. City staff also maintains compliance with contractors and developers sites by the enforcement of existing codes and ordinances that assist with prevention.

Results of Information Collected and Analyzed During Reporting Period:

- Approximately 706 miles of city streets swept.
- Baysavers were cleaned out and inspected.
- 195.5 bags of trash removed from city right-of-way.



- October 2022 we utilized the vacuum truck to clean out 4 BaySaver units. We hauled over 5 loads of debris and made sure that the units have the capacity to collect debris for another year.



Stormwater Activities Planned During Next Reporting Cycle:

- Formal adoption and implementation of the Operations and Maintenance Manual
- Continued Stormwater BMP Training with city employees.
- Clean out BaySavers

Exhibit 1.1

