

Stormwater Management Program (SWMP)
City of Belton, Missouri



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INTRODUCTION

The City of Belton, Missouri is an operator of a small municipal separate storm sewer system (MS4). As part of the National Pollutant Discharge Elimination System (NPDES) Phase II requirements, the City is required to develop, implement and enforce a stormwater management program designed to reduce the discharge of pollutants from their MS4 to the “maximum extent practicable” to protect water quality requirements of the Clean Water Act. The stormwater management program must include six minimum control measures:

1. Public Education and Outreach of Stormwater Impacts
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The City of Belton is regulated and permitted through the Water Pollution Control Branch of the Missouri Department of Natural Resources. The implementation of the stormwater management program began in March 2003 with a five year permit cycle. The Stormwater Management Plan (SWMP) document was updated in March 2008 at the time of the first permit renewal and again for the five year permit cycle beginning in June 2013. The following report details the City’s approach to stormwater management for the next five year permit cycle starting in March 2018.

CURRENT PROGRESS SUMMARY

The City of Belton has worked hard on implementing the requirements of the NPDES Phase II MS4 Permit. The City remains in support of the Mid-America Regional Council (MARC), whose focus is public education, outreach and involvement, which are Minimum Control Measures (MCM) #1 and #2. The City primarily utilizes educational materials provided by MARC to address these MCMs. Through the City's continued efforts to develop and enhance its public education and outreach initiatives, it has developed and rolled out an Adopt-a-Stream program. In the previous five-year cycle, the City was in the process of a redevelopment program of North Scott Avenue. The program has been completed and approved by council. North Scott Avenue overlay is now an overlay district that enforces redevelopment requirements and beautification which includes adherence to the City's BMP requirements. The City has continued enforcing the illicit discharge ordinance and the program to detect and eliminate illicit discharges that were adopted in 2007. The City adopted the MARC/APWA *Manual of Best Management Practices for Stormwater Quality* in 2014 and has used it to reinforce and improve existing regulatory mechanisms concerning construction runoff control. Belton continues to evaluate the implications of a post-construction runoff program and requires the designation of responsibility for post-construction BMP inspection and maintenance with the submittal of plats and plans. Finally, the City continues to provide employee training and encourage good-housekeeping practices. Efforts include educational presentations to the entire Public Works staff, and the maintenance of Stormwater Pollution Prevention Plans at municipal facilities with a potential for stormwater runoff pollution.

The City continues to conform to the Stormwater Master Plan that was enacted in 2013. This includes a comprehensive inventory of the City's stormwater infrastructure in GIS, an evaluation and condition rating of every structure, and the development of stormwater projects in the City to improve the City's stormwater infrastructure.

Finally, the City continues to implement the Cartegraph electronic work order system. This software is connected with the City's GIS database and streamlines inspections and maintenance activities to the stormwater system. Condition ratings of every stormwater structure are included in Cartegraph, and it is updated based on inspection and maintenance activities.

MCM #1: Public Education and Outreach on Stormwater Impacts

4.2.1.1 Permit Requirement

4.2.1.1.1 Target Audiences

Target audiences who are likely to have significant stormwater impacts have been identified and prioritized in order. The target audiences are:

1. Residents
2. Contractors
3. Developers
4. Elected Officials
5. City Staff
6. Consultants (Design Engineers)

4.2.1.1.2 Plan to Inform Public to Reduce Stormwater Pollution

The City currently informs individuals and households of steps they can take to reduce stormwater pollution through numerous media. Staff has developed a stormwater quality webpage that includes up-to-date brochures from MARC. These brochures discuss Do-It-Yourself Projects, as well as proper approaches to common household activities, such as the use of lawn chemicals, vehicle washing and pet waste disposal. Hard copies of these brochures are available at the front desk of City Hall, and are distributed at public meetings and open houses. The City has also developed its own brochure informing residents about how to handle their yard waste to avoid illicit discharges. This brochure is also available on the website and hard copies are available at the front desk of City Hall.

4.2.1.1.3 Plan to Inform Public to Become Involved in SWMP

The City is continuously looking for new initiatives to engage the public in stormwater quality activities. The City has worked hard on developing an Adopt-a-Stream program and held the kickoff event on April 13th, 2019. The City is also looking into the feasibility of replacing old, faded stormwater stencils with either plastic or metal “no dumping, drains to stream” markers. When these programs are fully developed, staff will provide information on the City’s website, provide presentations at City Council meetings, and invite volunteers to participate in these programs.

4.2.1.1.4 Outreach Strategy

The City currently informs individuals and households about steps they can take to reduce stormwater pollution through numerous media. Staff has developed a stormwater quality webpage that includes brochures from MARC. These brochures discuss Do-It-Yourself Projects, as well as proper approaches to common household activities, such as the use of lawn chemicals, vehicle washing and pet waste disposal.

4.2.1.1.5 Target Pollutant Sources

The target pollutant sources for the public education are illicit discharges from residential and commercial properties, including motor oil, lawn chemicals, domestic sewage, garbage and yard wastes. In addition, the public education program incorporates requirements of MCM #4 and MCM #5. Target pollutant sources to address these MCMs are sediment from exposed land during construction (MCM #4) and pollutants from rooftops, sidewalks, driveways, parking lots and roadways (MCM #5).

4.2.1.1.6 Plan to Evaluate Success

The Adopt-A-Stream program includes a tracking component to measure the participation level in the program of residents. Attendance at public events and activities will also be measured and tracked annually to evaluate the growth of the program and its effectiveness.

MCM #2: Public Involvement and Participation

4.2.2.1 Permit Requirement

4.2.2.1.1 Involving the Public in Developing the Submittal

A presentation was given to City Council and the public, then comments are received and reviewed before the final submittal of the SWMP. The public review period is at least 10 (ten) business days after the presentation is given.

4.2.2.1.2 Notice of Public Meetings

To promote public involvement in the development of the SWMP, the City will give notice of any public meetings regarding the SWMP at least 72 hours prior to any meetings.

4.2.2.1.3 Target Audiences to Involve in Program

The City has composed a list of target audiences who are likely to have significant stormwater impacts have been identified and prioritized in order. The target audiences are:

- Residents
- Contractors
- Developers
- Elected Officials
- City Staff
- Consultants (Design Engineers)

4.2.2.1.4 Types of Public Involvement Activities

The City meets with the Public Works Committee (PWC) to discuss the development of the SWMP and its implementation over each five year permit cycle. The PWC includes members of the public. The City will consult with this group as it continues to grow the Adopt-a-Stream program and as it develops the “no dumping” marker program. Identifying and working with citizen volunteers will be a major component of these two programs.

4.2.2.1.5 Stream Clean-Up Activities

The City recently implemented an Adopt-a-Stream program. This program encourages public involvement in clean water endeavors. It also provides the opportunity to educate the public about clean stormwater practices they can incorporate into their daily lives.

4.2.2.1.6 Provide Opportunities for Citizen Volunteers to Educate Others

The City will consult with the PWC as it grows the Adopt-a-Stream program over the five-year cycle. The City will also encourage the PWC and other civic and public volunteer organizations to hold events to educate other members of the public about clean stormwater practices, the City’s volunteer programs and where to find information to further engage in the SWMP.

4.2.2.1.7 Method for Evaluating Success

The Adopt-a-Stream program includes a tracking component that measures the participation level in the program. Attendance at public events and activities will be measured and tracked annually to evaluate the growth of the program and its effectiveness.

MCM #3: Illicit Discharge Detection and Elimination

4.2.3.1 Permit Requirement

4.2.3.1.1 Map

A storm sewer map showing the location of all constructed outfalls and the names and location of all receiving waters of the state that receive discharges from those outfalls is available upon request. The City's GIS database of the storm sewer network was used to develop the map. Locations of outfalls have been verified with field surveys. The map will be reviewed annually by Engineering and GIS staff and will be updated as needed.

4.2.3.1.2 Enforcement

An illicit discharge ordinance was approved by the Belton City Council in December 2012 and represents the regulatory mechanism used to prohibit illicit discharges into the MS4. The ordinance was adopted as Article V in Chapter 11 – Health and Sanitation, of the City's Code of Ordinances. This article is provided in the Appendices.

4.2.3.1.3 Methods to Detect Illicit Discharges

Sections 4.2.3.1.4 through 4.2.3.1.9 detail the methods the City uses to detect and address non-stormwater discharges, including discharges from illegal dumping and spills into the City's stormwater system.

4.2.3.1.4 Dry Weather Screening Plan for Non-Stormwater Flows

The City's outfall inspections include non-stormwater flow monitoring. During dry weather screenings, the inspectors are required to note the following in regards to non-stormwater flow:

- Presence of Flow
- Unusual Odor
- Unusual Color
- Pollutants in Nearby Upland Area
- Obstructions
- Overall Condition

A copy of the Outfall Inspection Form can be found in the Appendix.

4.2.3.1.5 Identify Priority Areas

The City remains vigilant in its approach to identifying and removing illicit connections to the City's MS4. After numerous construction inspections of public improvement and private development projects, as well as building inspections of redevelopment and renovation, no known illicit connections to the City's MS4 have been discovered.

In addition, the City has developed an Infiltration/Inflow (I/I) abatement program for sanitary sewer connections, which will identify and eliminate illicit connections to the City's sanitary sewers, such as sump drains. This will prevent the risk of sanitary sewer overflows in significant storm events. The I/I abatement program will also aid in identifying any private illicit connections to the City's MS4.

4.2.3.1.6 Trace the Source

In cases of illicit discharge detection in flow discharges, visual tracing and/or dye testing will be used to trace the source. In cases of non-flowing discharges, storm drain access points upstream of the illicit discharge will be inspected for staining or other evidence of contamination, as well as dye testing to identify those storm drain access points that drain to the location of the illicit discharge.

In addition, previous inspections of the structure or outfall will be consulted to establish a history of any contamination. The stormwater infrastructure in GIS will also be used to identify tributary areas to the location of the illicit discharge.

4.2.3.1.7 Removal

Removal of the illicit discharge requires several steps. The first is to identify who is financially responsible for removal. This is typically either a private property owner or the City. In cases of imminent and substantial danger due to the illicit discharge, access to the storm drain will be suspended.

If it is determined that the City is financially responsible for removing the illicit discharge, the City will repair and correct the cause of the discharge. If a private property owner is responsible, the illicit discharge ordinance identifies this act as a nuisance, and penalties and procedures under the Chapter 14 – Nuisances in the City’s Code of Ordinances will be followed.

4.2.3.1.8 Ensure Appropriate Enforcement Procedures

Appropriate enforcement procedures are in place through the City’s illicit discharge ordinance and through Chapter 14 – Nuisance. Both are included in the City’s Code Ordinances. The Penalties section of Chapter 14 (Section 14-2) identifies fines and other penalties for discharging prohibited substances into the City’s MS4.

The provisions of the illicit discharge ordinance apply to all individuals, companies and corporations in the City’s boundaries. As defined in the illicit discharge ordinance, the ordinance applies to any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns, including all federal, state, and local governmental entities. If the source of an illicit discharge is found to be from an industry or commercial enterprise, the City has the authority to inspect and enforce the violation on these properties.

4.2.3.1.9 Plan to Inform Public of Hazards

Information on the City’s policy for illicit discharges is incorporated into the Public Education (MCM #1) and Public Involvement (MCM #2) programs. Information provided to the public through brochures, public meetings and the City’s stormwater quality web page include information specifically concerning illicit discharges and improper disposal of waste.

One of the specific substances identified as an illicit discharge in the City’s ordinance is “any garbage, rubbish, or other waste.” Therefore, the City’s development of an Adopt-a-Stream program, discussed in MCM #2, ties in directly to requirements of the illicit discharge ordinance by informing and engaging the public into the removal of illicit discharges in City streams and creeks.

In addition, illicit discharges are incorporated into the City's employee training program. Information is provided to Public Works Employees at periodic department meetings to refresh staff on the illicit discharge ordinance and the policies and procedures to trace, remove and enforce illicit discharges.

4.2.3.1.10 Addressing Non-stormwater Discharges

Non-stormwater discharges provided in the permit have specifically been identified as acceptable and not a violation of the illicit discharge ordinance. The non-stormwater discharge section provides a list of 23 acceptable discharges, with the following provision: "unless identified by the city or MDNR as a significant source of pollutants to surface water."

4.2.3.1.3.6 Program Evaluation

Illicit discharges will be tracked through Cartegraph using annual outfall inspections and inspections of public structures and pipes. The number of illicit discharges discovered each year will be tracked to identify the effectiveness of public education and enforcement of the illicit discharge ordinance.

MCM #4: Construction Site Stormwater Runoff Control

4.2.4.1 Permit Requirement

4.2.4.1.1 Regulatory Mechanism

The ordinance to reduce pollutants in any stormwater runoff from construction activities to the City's MS4 has been adopted and implemented as Section 36-110.j of the City's Unified Development Code (UDC). This section, which is attached in the Appendix, discusses requiring operators to implement erosion and sediment control BMPs at construction sites and it includes sanctions designed to ensure compliance.

4.2.4.1.2 Requirements for Construction Site Operators

Requirements for construction site operators to control construction-site waste that may cause adverse impacts to water quality is addressed in the City's general prohibition against dumping, Section 11-203 of the City Code of Ordinances. This section is attached in the Appendix.

4.2.4.1.3 Site Plan Review

Engineering staff reviews development plans at all stages of design prior to issuance of a building permit. Best Management Practices, including an erosion and sediment control plan, are required to be included in the pre-construction site plans. The plans are reviewed to ensure this requirement is met.

4.2.4.1.4 Receipt & Consideration of Public Comment

Several resources are available for the City to receive public concerns related to stormwater pollution control on active construction sites. These concerns can be received via written correspondence, phone, e-mail or the Citizen Tracker feature on the City's website. Information on construction site runoff control and the resources available for the City to receive public comment will be provided to the public through open houses, public meetings and similar venues.

In addition, preliminary and final plats are required to be presented at Planning Commission meetings for approval. These meetings are open to the public and feedback on the plats can be provided to staff after they are presented. Final plats are also required to be presented at City Council meetings, which are also open to the public.

4.2.4.1.5 Site Inspection

The City continues to inspect sites and enforce control measures. Inspections follow DNR guidelines for storm water management and inspection compliance. The City's land disturbance permit also requires contractors to follow DNR guidelines regarding regular inspections of their projects.

The City's Engineering Division's Construction Inspection Staff is responsible for active construction site inspection for public and private construction. Contractors are required to fill out stormwater pollution prevention inspection forms every week or after every 0.5 inch of rainfall, and submit the completed inspection form to the Construction Inspector. For capital improvement projects, the contractor also submits this form to the City's Project Manager. Electronic copies of the inspection forms are stored in the project folder and organized by date for tracking purposes. The forms include a specific section that asks if issues identified from the previous week's inspection have been resolved.

The City's Construction Inspection Staff have received education on construction site runoff control through sediment and erosion control workshops over the last permitting cycle. Names, dates and locations of the workshops are provided below:

- Public Works Stormwater Summit Day One: Flooding & Resiliency: August 27, 2018 – Kansas City, Missouri
- Public Works Stormwater Summit Day Two: Operations & Maintenance: August 28, 2018 – Kansas City, Missouri
- NPDES: Good Housekeeping: September 28, 2018 – Online
- Permeable Paver Streets Are Not Parking Lots – Successes and Challenges with Permeable Pavers: November 28, 2018 – Online
- Design, Construction and Maintenance of Pervious Concrete Pavement: November 29, 2018 – Online

The City's Construction Inspection Staff will continue to receive training and attend education workshops over the next five year permit cycle.

4.2.4.1.6 Plan to Ensure Compliance

The City ensures compliance with the requirements of the erosion and sediment control ordinance through frequent site inspections, vigilant tracking and follow up on inspections. Stop work orders, revocation of the site development permits, fines and penalties are all enforcement mechanisms used by the City to ensure adherence to the ordinance.

4.2.4.1.7 Method for Evaluating Success

The City will continue to evaluate the effectiveness of the inspection program by quantifying the frequency of issues identified on inspection forms and the promptness of contractors' responses to correct those issues. The number and frequency of public comments and concerns will also be tracked to evaluate the success of the City's approach to construction site runoff control. Under the current aggressive approach to construction site runoff control, the City had few difficulties in effectively implementing this program.

MCM #5: Post-Construction Stormwater Management in New Development and Redevelopment

4.2.5.1 Permit Requirement

4.2.5.1.1 Ordinance

In 2014, the City adopted an ordinance that requires that all detention facilities and stormwater BMPs will be designed in accordance with the MARC/APWA *Manual of Best Management Practices for Stormwater Quality*. A copy of the manual can be found in the Appendix.

4.2.5.1.2 Long-Term Operation & Maintenance

The MARC/APWA *Manual of Best Management Practices for Stormwater Quality* provides guidance for planning and implementing BMPs and includes long-term operation and maintenance processes for selected BMPs. The City requires a designation of responsibility for long-term maintenance in the submittal of new development and redevelopment plats or plans. Existing language in the City's Unified Development Code details maintenance and inspection requirements for owners of private detention facilities. While this code only currently applies to detention facilities, the language will be expanded to apply to all stormwater facilities, including water quality BMPs. These code changes will be incorporated into the development of the post-construction ordinance.

4.2.5.1.3 Strategies to Minimize Water Quality Impacts

With the adoption of the MARC/APWA BMP Manual, the City refers development and redevelopment projects to the non-structural and structural BMPs covered in the manual. Section 7 discusses non-structural BMPs and section 8 discusses structural BMPs. The manual and all of its entirety can be found in the appendix.

4.2.5.1.4 Priority Areas

There are no areas currently identified as a priority for the post-construction water quality program. Priority areas will be considered in the development of this program.

4.2.5.1.7 Method for Evaluating Success

An inventory of private stormwater quality facilities will be maintained and tracked by the Public Works Department. Structural and non-structural BMPs for each development project will be tracked and reviewed routinely to evaluate the effectiveness of the post-construction stormwater quality program. Feedback and input from developers and engineers involved with the development process will be taken into consideration while making adjustments and refinements to the program.

MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations

4.2.6.1 Permit Requirement

4.2.6.1.1 Employee Training Program

The City is working on the development of an Operation and Maintenance Clean Stormwater Plan (O&M CSP). This plan will provide guidance to all of the City's municipal operations facilities. A heavy component of the plan will be a training program for the staff at the affected facilities. The training will cover how to prevent and reduce stormwater pollution from the following sources:

- Park and open space maintenance
- Fleet and building maintenance
- New construction and land disturbances
- Stormwater system maintenance
- Inspection and maintenance of BMPs

The City hopes to have the O&M CSP developed and operational by the next permit cycle.

Training programs for City's municipal operations facilities will be included in the City's O&M CSP. The Wastewater Treatment Facility and Water Services and Transportation Maintenance Facility currently hold weekly training meetings that include discussion of spill prevention and response, good housekeeping and materials management practices. These weekly meetings will be specified in the O&M CSP.

4.2.6.1.2 Impacted Municipal Operations

The Public Works Department is working on developing an O&M CSP to prevent and reduce pollutant runoff from municipal operations. This program impacts municipal operations at the following facility sites:

- 1) Water Services and Transportation Divisions Maintenance Facility
- 2) Wastewater Treatment Facility

The Wastewater Treatment Facility is the only facility in the City that is owned and/or operated by the City and is subject to an NPDES permit for discharges. The permit number for this facility is MO-0117412.

4.2.6.1.3 Maintenance BMPs, Schedule and Inspection

The O&M CSP the City is working on producing will discuss BMPs pertinent to each and all of the aforementioned facilities. It will also include maintenance schedules and long-term inspection procedures for the BMPs. The ultimate goal will be to reduce floatable and other pollutants to the City's stormwater system.

4.2.6.1.4 Controls for Reducing Discharge of Pollutants

The Public Works Department has adopted a street sweeping policy to address the discharge of pollutants from streets, roads and highways. The Transportation Division assumes basic responsibility for sweeping public streets owned by the City. Street sweeping is completed in spring, summer and fall months and is targeted to clean streets of snow and ice control aggregate

(sand), debris and leaves. In addition, controls for reducing the discharge of pollutants from streets, roads and highways are also discussed in MCM #3.

Potential sources of pollution and the associated controls for them at each facility will be identified in the O&M CSP. BMPs, including spill containment tanks, sediment traps and berms are currently implemented to prevent the discharge of pollutants from maintenance and storage yards, maintenance shops, and salt/sand storage locations.

4.2.6.1.5 Procedures for Proper Disposal of Waste Removed

Dredged material such as accumulated sediments, garbage and debris removed from the MS4 are transported to a dumpster at the Water Services and Transportation Maintenance Facility. The dumpster is periodically emptied as needed by a contracted garbage removal service.

4.2.6.1.6 Procedures for New Flood Management Projects

During the design phase of new flood management projects, water quality impacts are assessed for conditions during construction of the project as well as for conditions after completion of construction (long-term). These requirements are included in the scope of new flood management projects in Requests for Qualifications for design engineer services. The same design guidelines as addressed in MCM #5 apply to stormwater improvement projects.

4.2.6.1.7 Method for Evaluating Success

Maintenance, inspection and spill prevention logs are included in each facility SWPPP. These logs will be evaluated annually to measure success of BMPs currently implemented at each facility. Facility managers will perform periodic reviews to ensure that good housekeeping practices are being implemented.

4.2.6.2 Paints, Solvents, Petroleum Products, and Petroleum Waste Products (Except Fuels)

Good housekeeping practices, including the identification of potential sources of pollution, implementation of structural and non-structural BMPs, and frequent maintenance and inspection to prevent solid waste from entry into waters of the state are discussed in each facility's SWPPP. These practices include:

Fueling operations, limited to equipment, occur at both the Transportation Maintenance Facility and the Wastewater Treatment Facility. Spill prevention measures are in place at each municipal facility and are itemized in the facility SWPPPs.

Paint, solvents and petroleum products are identified in the facility SWPPPs and are stored indoors so that these materials are not exposed to stormwater. A comprehensive list of these materials at each facility is provided in the SWPPPs.

Appendices

- 1) City of Belton, Missouri – Code of Ordinances, Chapter 11: Health and Sanitation, Article V: Stormwater Pollution Prevention Illicit Discharges
- 2) Outfall Inspection Form
- 3) City of Belton, Missouri – Unified Development Code, Chapter 36: Subdivision Regulations, Article V: Public Improvements, Section 110.j: Soil erosion and sediment control
- 4) City of Belton, Missouri – Code of Ordinances, Chapter 11: Health and Sanitation, Article IV: Solid Waste, Recyclable Materials and Yard Waste, Section 203: Additional prohibited practices
- 5) *MARC/APWA Manual of Best Management Practices for Stormwater Quality*