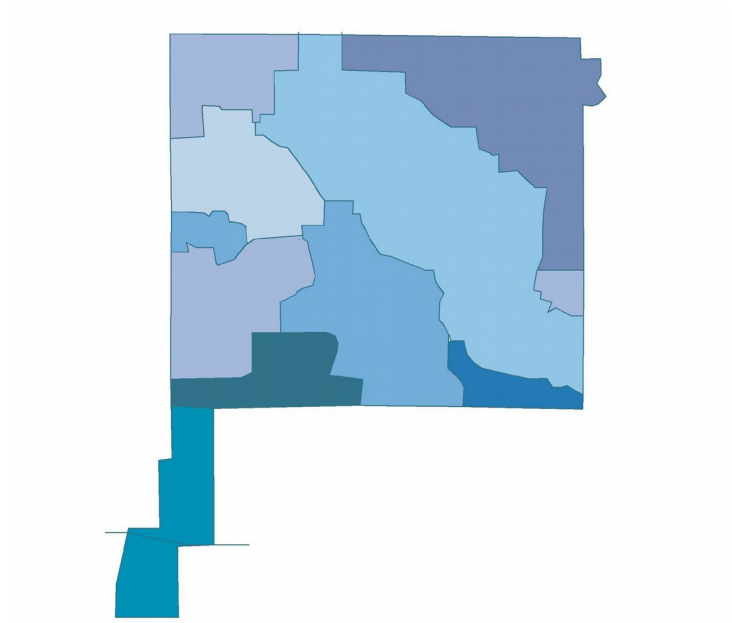




STORM WATER MANAGEMENT PLAN

CITY OF GLADSTONE, MO

April 2018 - September 2021



PART I
CITY OF GLADSTONE
BACKGROUND

City of Gladstone Background

Information on the Permittee:

Name of the Permittee: City of Gladstone, Missouri

Type of Entity: City – Municipality

Total Area (acres): 8.06 sq. miles

Mailing Address: 7010 N. Holmes, Gladstone, MO 64119

Primary Contact: Anthony Sands, P.E. – City Engineer

Phone Number: 816-436-5442

Secondary Contact: Timothy A. Nebergall – Public Works Director

Phone Number: 816-436-5442

Population (2010): 25,410

Information on the Municipal Separate Storm Sewer System:

MS4 System Location: Gladstone, Missouri

Name of Organization: City of Gladstone, Missouri

County Permittee Resides: Clay County

The major receiving waters within the permitted area include: East Creek, Cave Creek, Old Maids Creek, Mill Creek, Rock Creek and Shoal Creek

None of the receiving waters are on the latest CWA's list of impaired waters.

Information on Adjacent Waterways:

The Permittee is within 100 feet of: East Creek, Cave Creek, Old Maids Creek, Mill Creek, Rock Creek and Shoal Creek

The Permittee discharges to waters classified as major reservoirs: None.

The Permittee has some area defined as wetlands as identified by the National Wetland Inventory. See attached map.

Storm water from Gladstone does not discharge to a sinkhole.

PART II
MINIMUM
CONTROL
MEASURES

4.2.1 Public Education & Outreach of Storm water Impacts

4.2.1.1 Control Measure Implementation Program

The City of Gladstone will continue to implement a public education program to distribute educational material to the community or conduct equivalent outreach activities about the impact of storm water discharges on waterbodies.

Primary Responsible Person

The City Engineer will be the primary person responsible for implementation of this control measure with assistance of other City staff from Public Works, Community Development, Parks and Recreation, and Public Safety.

Evaluation

Each Best Management Practice listed for this control measure will be evaluated annually and reviewed in the City's biennial Storm Water Report. Measureable goals listed with each BMP will be evaluated annually and on a basis respectively to each BMP's implementation in order to ensure effectiveness.

4.2.1.1.1 Targeted Audiences

During the development of the proposed education program, Gladstone identified the sources of storm water pollutants that needed to be reduced to improve overall water quality. The target audiences were selected because changing their behavior would have a significant storm water quality impact on the target pollutants. The target audiences for the public education program are:

1. Citizens (Homeowners)
2. Business Owners
3. Children
4. Developers and Home Builders
5. City Staff
6. Elected Officials

4.2.1.1.2 A plan to inform individuals and households of ways to reduce storm water pollution

To help inform individuals and households about steps they can take to reduce storm water pollution, the City of Gladstone will utilize the following BMPs:

- Participate in the Mid-America Regional Council's (MARC) water quality public education programs and integrate them into the City's local SWMP.

The City of Gladstone will continue the utilization of the MARC water quality public outreach and education programs for implementation as part of this Storm Water Management Program. This BMP will allow the City to continue leveraging their membership in MARC to better meet SWMP goals. It will be integrated into the local program by posting information on the City web site, making the various informational materials available at City facilities and distribution of informational materials as opportunities arise. Included with the materials will be information about how the public can get involved with the program. This is further discussed in Section 2.

In addition to these more local efforts, MARC is continuing to promote public education on steps that can be taken to reduce storm water pollution through radio PSAs, educational displays at community events, giving away items with a NPS pollution reduction message, hosting workshops and training seminars for businesses and homeowners and provide extensive educational resources via their web site. MARC also performs a water quality attitude survey approximately every other year which provides "measurement" of changes in the metro area. The City of Gladstone will continue to review the results of previous and future surveys to evaluate the progress of this BMP.

- Distribute Educational Materials at Community Events

The City of Gladstone has selected distributing educational materials at community events for implementation as part of this Storm Water Management Program. This will allow the City to distribute to the widest audience possible. Staff will distribute storm water education materials at least twice per year at a community event. This may include "Gladfest" (generally in October) and the Home Show (generally in April). The annual report will indicate at which event(s) staff distributed information,

the approximate number of attendees at the event and the type of information distributed.

- Utility Bill Announcements

The City of Gladstone has selected using utility bill announcements for implementation as part of this Storm Water Management Program. This will allow messages to get out to a wider variety and larger volume of people. The measurable goal for implementation of this BMP is to include information with utility bills at least once per year. Staff may tailor messages to tie into different education and outreach activities.

4.2.1.1.3 A plan to inform individuals and groups of ways to become involved in the SWMP.

- Community Group Activities and Open Houses

The City of Gladstone will continue to work with various community groups to perform implementation of the Storm Water Management Plan. In the past, these groups have included the neighborhood associations, cub scouts, and other civic groups. These groups have worked on storm drain marking, litter pick-up, etc.

Staff will continue to work with these groups to leverage their manpower to implement the storm water program. A summary of the types of activities completed and approximate number of people involved will be provided in the annual report.

- Yard Waste Recycling Program

The City of Gladstone will continue to operate its successful regional yard waste recycling program. Partially funded by the MARC Solid Waste Management District, the City collects trees, brush, leaves and grass clippings which are then turned into mulch for commercial sale. This material might otherwise be disposed of improperly in area waterways

and storm sewers. The public will be able to continue utilizing this recycling program. Staff will report on the approximate number of cubic yards of mulch generated each year.

4.2.1.1.4 Community Outreach Strategies and implementation Mechanisms.

The City of Gladstone will utilize the following BMPs for outreach strategies and implementation mechanisms:

- City Magazine Articles

The City of Gladstone has selected distributing information through its magazine ("Coming Home to Gladstone", circulation ±17,500) for implementation as part of this Storm Water Management Program. This will allow the City to distribute to the widest audience possible.

The City magazine is generated approximately twice each year. Staff will put storm water education information in the magazine as the opportunity arises. The number of storm water articles published will be reported on annually.

- Storm Water Web Page

Maintaining a Storm Water Web Page for implementation as part of this Storm Water Management Program. The website contains information on the NPDES program and how storm water is managed within the City. The website also links to other web based utilities that help educated the public on ways to reduce their impact to water quality. The website is reviewed annually to determine if any additional updates are needed. The number of visits to the site can be reviewed instantly at any time.

- Presentations to Neighborhood Associations

The City of Gladstone has selected using presentations to neighborhood associations for implementation as part of this Storm Water Management Program. The City currently has approximately ten (10) active neighborhood associations. An average of one (1) new neighborhood association is organized each year with assistance of the City. When presentations are made to these neighborhood associations, storm water management education is incorporated into the discussion. The number and frequency of these presentations will be included in the City's annual report.

4.2.1.1.5 Pollutant Sources Education is designed to Address.

The following is a list of the leading pollutants, experienced in the permitted area, that are carried by storm water runoff into water bodies:

1. Litter/Trash
2. Bacteria/Nutrients/Oxygen-depleting substances
3. Pesticides/Herbicides
4. Habitat alterations

4.2.2 Public Involvement & Participation

4.2.2.1 Control Measure Implementation Program

The City of Gladstone will continue to implement a public involvement/participation program that provides opportunities for public involvement in the development of the permittee's SWMP. The City of Gladstone will comply with state and local public notice requirements when implementing the public involvement/participation program. The public will be included in reviewing and implementing the storm water management program as much as possible. The target audiences for the public involvement program are the same as those listed in Section 4.2.1.1.1.

Primary Responsible Person

The City Engineer will be the primary person responsible for implementation of this control measure with assistance of other City staff of the public works and Community Development Department.

Evaluation

Each Best Management Practice listed for this control measure will be evaluated annually and reviewed in the City's biennial Storm Water Report. Measureable goals listed with each BMP will be evaluated annually and on a basis respectively to each BMP's implementation in order to ensure effectiveness. Additionally, the City will continue to leverage its knowledge gained through participation in the Mid-American Regional Council's Water Quality Program to continuously compare BMPs effectiveness to regional information on public perception and quality rating measures.

4.2.2.1.1 Public Review of the SWMP

- The SWMP was presented at the March 26, 2018 City of Gladstone Council meeting. There is an open public comment period at each City Council meeting where citizens are allowed input on any City issue. Additionally, development and redevelopment issues as they relate to storm water are discussed at the Planning and Zoning hearings. The City Council typically has meetings twice a month and the Planning and Zoning hearings are typically held monthly (as needed). The number of meetings where storm water input is received will be reported annually as a measurable goal.
- This BMP allows for direct public involvement and participation in the development and implementation of the SWMP. The SWMP will be presented to the Environmental Management Advisory Committee (EMAC) for comment. In addition, the SWMP will be posted to the City website. A summary of input received, if any, will be included in the annual report as a measureable goal.

4.2.2.1.2 Notice of Public Meeting

- The SWMP was presented to Gladstone City Council Meeting on March 26, 2018. City Council Meetings following regular public meeting notice criteria.

4.2.2.1.3 Targeting Stakeholders

- Social Media

The City of Gladstone has selected the use of social media for implementation as part of this Storm Water Management Program. This will allow the City to distribute to the widest audience possible. The City currently maintains a presence on various social media (Facebook, Twitter). As social media continues to evolve, the City will leverage the various technologies to distribute education information to its citizens. As a measureable goal, all requests from social media are transferred into the City's work order system. The amount of storm water requests from the work order system will be included in the biennial report.

- Storm Water Web Page

The City's storm water website allows individuals to submit requests and notify the City of storm water issues. These requests are then routed to the responsible party for investigation. As a measurable goal the request for the website will be included in the City's annual report.

4.2.2.1.4 Environmental Management Advisory Committee

- Storm water issues are discussed in the City of Gladstone’s Environmental Management Advisory Committee. This committee meets quarterly. As a measurable goal, discussions and programs implemented by the committee will be reported in the annual report.

4.2.2.1.5 Volunteer Cleanup Activities

- The City of Gladstone will continue to work with various community groups to perform implementation of the Storm Water Management Plan. In the past, these groups have included the neighborhood associations, cub scouts, and other civic groups. These groups have worked on storm drain marking, litter pick-up, etc. Staff will continue to work with these groups to leverage their manpower to implement the storm water program. A summary of the types of activities completed and approximate number of people involved will be provided in the annual report.

4.2.2.1.6 Provided opportunities to help Volunteers educate others

The City of Gladstone actively participates in the Water Quality Education committee within the Mid-American Regional Council (MARC). Gladstone encourages residents to engage in MARCs education programs and volunteer options.

4.2.3 Illicit Discharge Detection and Elimination

4.2.3.1 Control Measure Implementation Program

The City of Gladstone will continue to develop, implement, and enforce a program to detect and eliminate illicit discharges, as defined in 10 CSR 20-6.200 and 40 CFR122.34(b)(3), into the City’s storm water system.

Primary Responsible Person

The City Engineer will be the primary person responsible for implementation of this control measure with assistance of other City staff from Public Works, Community Development, Parks and Recreation, and Public Safety.

Evaluation

Each Best Management Practice listed for this control measure will be evaluated annually and reviewed in the City's biennial Storm Water Report. Measureable goals listed with each BMP will be evaluated annually and on a basis respectively to each BMP's implementation in order to ensure effectiveness. Additionally, the City will continue to leverage its knowledge gained through participation in the Mid-American Regional Council's Water Quality Program to continuously compare BMPs effectiveness to regional information on public perception and quality rating measures.

4.2.3.1.1 Storm Sewer System Mapping

- The City of Gladstone has developed a storm sewer system map as part of its Geographic Information System (GIS) development. Mapping data was originally collected by Black and Veatch and mapped into GIS in 1999 and is updated on a continuous basis. The GIS system contains the location of all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls. The map will continue to be updated as the system expands or as discrepancies with field information are discovered. The GIS mapping system is maintained on an online platform that can be accessed by City Staff on desktop computers or tablet computers in the field.

4.2.3.1.2 Illicit Discharge and Elimination Ordinance

- The City of Gladstone passed an illicit discharge detection and elimination ordinance on October 26, 2009. This ordinance can be found in Chapter 120 of Title VI in the City Code (available on the City web site). As a measurable goal the ordinance will be reviewed once each permit cycle to determine if any updates are needed. A copy of the ordinance is included in the appendix.

4.2.3.1.3 Plan to Detect and Address Illicit Discharges and Connections

- The City of Gladstone has developed a map of all major outfalls within the jurisdiction (defined as 36" diameter or larger). All outfalls in the city have been mapped in the GIS database. The major outfalls (36" or larger) have been identified as the priority locations for screening. The outfall locations will be reviewed over the course of the permit cycle. The City will inspect 25% of these outfalls annually. The city has included inspections of these outfalls with the same schedule as sanitary sewer

cleanings. The conditions found at each large outfall will be used to determine if any additional screening locations are needed due to changes within the watersheds. Screening records will also be reviewed to determine if the monitoring frequency of any of the locations needs to change (more or less frequent).

4.2.3.1.4 Dry Weather Screening

- The City of Gladstone will conduct dry weather field screenings at the frequency identified in Section 4.2.3.1.3. The City's Public Works field crew routinely maintains and inspects the City of Gladstone's storm water system. Creeks and conveyance systems are routinely checked and concerns and system abnormalities are documented in the Excalibur Work Order system. Entries into the work order system can be inputted from the field crew leaders tablet on site using a cellular connection. The work order also accepts photographs taken from the tablet's camera.

4.2.3.1.5 Identifying Illicit Connections

- The City of Gladstone will continue to investigate cross-connections to the sanitary sewer system (e.g. sump pumps) through CCTV inspection and education. This work will be coordinated with the City's wastewater inflow and infiltration (I&I) reduction program. The lineal feet of sanitary and/or storm sewer lines inspected will be reported annually.
- Through the GIS mapping system and the Excalibur Work Order System; problem areas are located and documented by either field crew inspections, resident placed work orders, or GIS based map overlaying considering developed land use. As a measurable goal, all storm water requests are documented in the Excalibur Work Order system and tracked until resolved. The amount of storm water requests from the work order system will be included in the biennial report.

4.2.3.1.6 Procedures for Tracing Illicit Discharge Sources

- GIS Mapping and Excalibur Work Orders

The City of Gladstone will continue to utilize GIS mapping and the Excalibur Work Order system for tracing illicit discharge sources. City staff performs many types of inspections and regular maintenance activities throughout the year. Capital and maintenance projects regularly include CCTV inspections of both the sanitary and storm sewer systems. When an illicit discharge is identified, the incident is

documented in the Excalibur Work Order System. City Staff utilizes the GIS mapping to trace the discharge through the system to the source. As measurable goal, the amount of CCTV sanitary sewer and storm water inspections will be documented in the biennial report.

4.2.3.1.7 Procedures for Removing Illicit Discharges

- The City of Gladstone will utilize the enforcement mechanisms within its adopted ordinance to remove the source of any illicit discharges discovered where the responsible party can be identified. The City will remove the source of any illicit discharges discovered where the responsible party cannot be identified. As a measurable goal of this BMP, the quantity of illicit discharges identified and eliminated will be documented in the biennial report.

4.2.3.1.8 Procedures for Enforcement Procedures

- The City of Gladstone will utilize the enforcement mechanisms within its adopted ordinance to ensure enforcement. The number of illicit discharges detected, investigated and eliminated will be reported in the biennial report.

4.2.3.1.9 Plan to Inform Public Employees, Businesses and Hazards of Illicit Discharges

- Public/ Employee Education

The City of Gladstone (utilizing MARC information) has developed a public education effort to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. This BMP also addresses the minimum control measure for public education. See Section 4.2.1.1 for additional details. Presentations on Storm water BMPs are given at neighborhood meetings, City committee and Council meetings, and internal information meetings with city employees. As a measurable goal, information distributed and presentations given will be reported in the biennial report.

- Household Hazardous Waste Program

The City of Gladstone holds a Household Hazardous Waste drop-off event every year in the summer at Happy Rock Park. The program provides a place to dispose of paint, pesticides, oils, antifreeze, and

other products that could otherwise end up in the environment are collected. Quantities of collected material and the number of visitors is recorded and reported in the biennial report.

4.2.3.1.10 Plan to Address Non-Storm water Discharges Identified as Significant

- The City of Gladstone does not currently see the need to address the following non-storm water flows into their MS4: landscape irrigation, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, flows from street wash water, and flows from emergency fire- fighting activities. These flows are not considered significant contributors of pollutants to the MS4.
- The City of Gladstone does not currently see the need to address incidental non-storm water flows into their MS4 (such as non-commercial or charity car washes). These flows are not considered significant contributors of pollutants to the MS4.

4.2.4 Construction Site Storm water Runoff Control

4.2.4.1 Control Measure Implementation Program

The City of Gladstone has and will continue to improve, implement, and enforce a program to reduce pollutants in any storm water runoff to their regulated Small MS4 from construction activities that result in and disturbance of greater than or equal to 200 Square feet. Reduction of storm water discharges from construction activity less than 200 square feet shall be included in the program if that construction activity is part of a larger common plan of development or scale that would disturb and area 200 square feet or greater.

Primary Responsible Person

The City Engineer will be the primary person responsible for implementation of this control measure on Capital Projects and the Community Development Department

will oversee this control measure on new development projects.

Evaluation

Each Best Management Practice listed for this control measure will be evaluated annually and reviewed in the City's biennial Storm Water Report. Measureable goals listed with each BMP will be evaluated annually and on a basis respectively to each BMP's implementation in order to ensure effectiveness. Additionally, the City will continue to leverage its knowledge gained through participation in the Mid-American Regional Council's Water Quality Program to continuously compare BMPs effectiveness to regional information on public perception and quality rating measures.

4.2.4.1.1 Construction Site Runoff Control Ordinance

- Construction Site Runoff Control Ordinance

The City of Gladstone adopted an erosion and sediment control ordinance on December 12, 2005. The ordinance can be found in Chapter 2200 of Title IX of the City Code which is available on the City web site. The ordinance will be reviewed during the permit cycle to determine if any amendments are needed. Additionally, if there are any changes to the federal or state requirements during the term of this permit (ie. numeric limits), the City will make any necessary changes to their codes.

4.2.4.1.2 Requirements for Control of Construction Site Waste

- The City of Gladstone adopted an erosion and sediment control ordinance on December 12, 2005 that includes control measures for construction site waste. This code can be found in Title IX, Chapter 2200 of the City Code which is available on the City web site. The ordinance will be reviewed during the permit cycle to determine if any changes are needed. As a measurable goal the Community Development Department documents all construction and development work and permitting.

4.2.4.1.3 Pre-Construction Site Review

- The City of Gladstone has selected plan review for implementation as part of this Storm Water Management Program. All development and re-development projects disturbing greater than 200 square feet are evaluated for the potential impact to water quality and comments are

provided to minimize the potential for discharge of pollutants from the site. Currently, there is a preliminary/ conceptual discussion of the requirements at a development review meeting prior to preparation of construction documents. Then, the technical details are reviewed when the final plans are submitted in order to obtain permits.

4.2.4.1.4 Receive Public Input on Construction Projects

- The City of Gladstone has selected receiving public input for implementation as part of this Storm Water Management Program. This BMP coordinates with MCM #2 and can be integrated into existing activities through receipt of information from the public at the existing Planning and Zoning hearings and City Council meetings. Additional input can be received less formally through the City web site and at the designated phone number and mailing address.

Information about construction site runoff control will be integrated into the public education program as feasible. This may increase the input received from the public on construction projects.

A summary of the input from the public on construction projects will be included in the annual report.

4.2.4.1.5 Construction Site Inspections

- The City of Gladstone has selected construction site inspections for implementation as part of this Storm Water Management Program. Inspection procedures were developed during the previous permit cycle. All development and re-development projects disturbing greater than 200 square feet will be inspected regularly when active. The number of construction site inspections completed will be reported annually. As a measureable goal the city inspects construction site activities and BMP implementation weekly.

4.2.4.1.5 Ensuring Compliance (Enforcement)

- The City of Gladstone's storm water ordinance outlines the process that will be followed for enforcement including escalation as necessary. It includes the use of verbal and written notifications, stop work orders, permit revocations, and correction by City (paid by deposit) if necessary. The number of construction site runoff control enforcement actions taken will be reported on annually.

4.2.5 Post – Construction Storm water Management in New Development & Redevelopment

4.2.5.1 Control Measure Implementation Program

The City of Gladstone considers any area that may be developed or re-developed a “priority area” for the post-construction storm water management program.

The City of Gladstone performs plan reviews on all new development/redevelopment projects that include storm water management. In 2007, the City of Gladstone endorsed the Mayor’s Climate Protection Agreement and since that time, sustainability and green initiatives, including storm water management, have been primary City Council goals. Plan reviews include BMP recommendations such as rain gardens, bio-swales, and other strategies to minimize water quality impacts of new and redevelopment (disturbing greater than one acre) by mimicking pre-development conditions.

Primary Responsible Person

The City Engineer will be the primary person responsible for implementation of this control measure with assistance of other City staff from Public Works, Community Development, Parks and Recreation, and Public Safety.

Evaluation

Each Best Management Practice listed for this control measure will be evaluated annually and reviewed in the City’s biennial Storm Water Report. Measureable goals listed with each BMP will be evaluated annually and on a basis respectively to each BMP’s implementation in order to ensure effectiveness. Additionally, the City will continue to leverage its knowledge gained through participation in the Mid-American Regional Council’s Water Quality Program to continuously compare BMPs effectiveness to regional information on public perception and quality rating measures.

4.2.5.1.1 Ordinance to address post-construction management

- The City of Gladstone has adopted the Kansas City American Public Works Association (APWA) Section 5600 and continues to hold development to standards outlined in the APWA/MARC Manual for Best Management Practices for Water Quality, or similar standards. The City will formally

adopt portions of the APWA/MARC BMP Manual within the first year of this budget cycle.

4.2.5.1.2 Plan for Long Term Operation and Maintenance of Post-Construction BMPs

The City of Gladstone works to facilitate operation and maintenance of several post construction BMPs. As Gladstone is 98% developed and landlocked, many permanent storm water BMPs are already established and mapped. Much of the existing residential and commercial development stormwater is directed through local or regional detention. New residential and commercial development must include additional post construction BMPs with the development or redevelopment plan. The Public Works and Parks & Recreation Departments maintain regional storm water detention structures within the limits of the Gladstone. Maintenance activities, frequency and quantities, will be included in the biennial report.

4.2.5.1.3 Non-structural BMPs & Structural BMPs

- The City of Gladstone will utilize its planning and development codes to direct growth to identified areas, maintain or increase open space, minimize impervious surfaces, minimize soil/vegetation disturbance, encourage infill development, encourage the redevelopment of brownfield and grayfield sites, and improve site design for overall water quality impact. The number of new and redevelopments submitted for review utilizing these non-structural BMPs will be reported in the biennial report. The public education and outreach program will include elements of post-construction storm water management and source control/good housekeeping where feasible. Any specific educational efforts will be reported on annually.

4.2.5.1.4 -4.2.5.1.5 Inspection Plan of Post-Construction BMPs

- The City of Gladstone will continue to inspect post construction storm water BMPs. Storm water BMPs concerns or deficiencies can be identified by city staff, residents, and commercial users. All parties can alert the City of Gladstone through phone or online methods. City maintenance crews routinely inspect and investigate reported deficiencies of storm water BMPs reported to the city and documented in the web based Excalibur Work Order system that is available on city tablets and computer workstations. Problems are recorded by address and trends are tracked in order to locate

larger problems. The frequency and quantity of BMP inspections and documented corrections will be noted in the annual report.

4.2.6 Pollution Prevention/ Good House Keeping for Municipal Operations

4.2.6.1 Control Measure Implementation Program

Per the permit requirement, the City of Gladstone is implementing Good Housekeeping practices in all municipal operations that can reasonably be expected to impact water quality.

Primary Responsible Person

The City Engineer will be the primary person responsible for implementation of this control measure with assistance of other City staff from Public Works, Community Development, Parks and Recreation, and Public Safety.

Evaluation

Each Best Management Practice listed for this control measure will be evaluated annually and reviewed in the City's biennial Storm Water Report. Measureable goals listed with each BMP will be evaluated annually and on a basis respectively to each BMP's implementation in order to ensure effectiveness. Additionally, the City will continue to leverage its knowledge gained through participation in the Mid-American Regional Council's Water Quality Program to continuously compare BMPs effectiveness to regional information on public perception and quality rating measures.

4.2.6.1.1 Employee Training

- The City of Gladstone will provide training to employees related to Good Housekeeping in Municipal Operations at least once each year. A summary of the number of employees trained and the topics discussed will be included in the annual report.

4.2.6.1.2 Municipal Operations impacted by Gladstone's Storm Water Program

- The City of Gladstone's municipal operations as they relate to the MS4 permit and program include the management and maintenance of:
 - ❖ Parks and Open Space
 - ❖ Roads and Streets

- ❖ Municipal Fleet (Vehicles and Equipment)
- ❖ Vehicle and Equipment Yards
- ❖ Municipal Buildings
- ❖ Municipal Parking Lots
- ❖ Storm Sewer System
- ❖ Salt/Sand Storage Areas
- ❖ Wastewater Collection

Additionally, any construction or land disturbance undertaken by City crews or by contractors to the City would be considered “municipal operations”.

4.2.6.1.3 Maintenance BMPs for Municipal Operations

- MS4 Maintenance (including proper management of waste removed from MS4)

The City of Gladstone will operate and maintain its municipal separate storm sewer system (MS4) in order to reduce pollutants discharged from the MS4 to the maximum extent practicable. Public Works staff will inspect storm sewers and inlets/catch basins as they conduct their other routine duties. They will clean out pipes and structures from debris and any other pollutants discovered during these inspections.

Metrics related to the operation and maintenance of the MS4 will be collected (ie. Number of catch basins, storm sewers or ditches inspected and/or cleaned, etc.) and will be included in the biennial report.

4.2.6.1.4 Eliminating Discharge from Streets/roads, municipal parking lots, & Storage Yards

- Streets/Parking Lot Pollution Control

The City of Gladstone will operate and maintain its street system and municipally owned parking lots in a manner to reduce pollutants discharged to the MS4 to the maximum extent practicable. Public Works staff will regularly perform street and parking lot sweeping. Generally, major collectors and arterials are swept biweekly during the sweeping season while lower traffic volume roads are swept at least once in the spring and once in the fall. Parking lots are swept as needed (typically before large events). Litter will be picked up as staff and volunteer resources are available.

Metrics related to the streets/parking lot pollution control will be collected (ie. Number of lane miles swept, number of times parking lots are cleaned, number of man hours spent picking up litter, etc) and reported in the biennial report.

- Pollution Control for Maintenance/Storage Yards

The City of Gladstone will operate and maintain its municipal maintenance and storage yard in a manner to prevent and/or reduce pollutants discharged from the site to the MS4 to the maximum extent practicable.

The Public Works maintenance facility is located at 4000 NE 76th Street. This facility is home to the streets and parks maintenance. Other departments use this facility for fleet maintenance as well.

The site will follow general Good Housekeeping practices related to outdoor storage. It will be inspected annually to review the need for additional site specific BMPs. The results of these inspections will be included in the biennial report.

- Pollution Control for waste transfer stations

The City of Gladstone does not provide solid waste collection and disposal. There is no waste transfer station within the MS4 jurisdictional boundary.

- Pollution Control for Fleet and Maintenance Shops

The City of Gladstone will operate and maintain its municipal fleet and maintenance shop in a manner to prevent and/or reduce pollutants discharged from these sites to the MS4 to the maximum extent practicable.

Fleet maintenance for most City equipment and vehicles is performed at the Public Works maintenance facility (4000 NE 76th Street). Some maintenance of public safety vehicles (fire trucks and ambulances) is completed by private contractors.

The maintenance shop will follow general Good Housekeeping practices. It will be inspected annually to review the need for additional site specific BMPs related to fleet maintenance. The results of these inspections will be included in the biennial report.

- Pollution Control for Salt/Sand Storage

The City of Gladstone will operate and maintain its salt/sand storage areas in a manner to prevent and/or reduce pollutants discharged from these sites to the MS4 to the maximum extent practicable. Deicing materials are kept under cover at the Public Works maintenance facility (4000 NE 76th Street). There is also a small covered stockpile at the water treatment plant (913 NW 44th Terrace).

These sites will follow general Good Housekeeping practices throughout the year. Additionally cleanup and inspections of the storage areas will be conducted after snow events. These sites will be reviewed annually to determine the need for additional site specific BMPs. The results of these inspections will be included in the biennial report.

- Pollution Control for Fueling Operations

The City of Gladstone will operate and maintain its municipal fueling facility in a manner to prevent and/or reduce pollutants discharged from this site to the MS4 to the maximum extent practicable. A 2,000 gallon diesel storage tank and a 2,000 gallon gasoline storage tank are located at the Public Works maintenance facility (4000 NE 76th Street).

The fuel storage tanks are leak tested every week by the Veeder Root system. The system is also equipped with a leak alarm, which includes visual and audible alerts. The pumps are controlled by a FuelMaster system, which will shut down the pumps if the fuel dispensed volume indicates a leak. Employees are trained regularly on spill prevention, control and countermeasure procedures.

City staff will follow general Good Housekeeping practices as they relate to storage and dispensing of fuel. Fuel storage and dispensing locations will be inspected annually to determine if any additional BMPs are necessary. The results of these inspections will be included in the biennial report.

4.2.6.1.5 Solid Waste Control

- The City of Gladstone will manage solid waste on and within municipally owned facilities to prevent and/or reduce pollutants discharged from these sites to the MS4 to the maximum extent practicable. This will include trash removal from City buildings, open space, and rights-of-way (as resources permit). Solid waste will be properly stored in dumpsters with lids until it can be disposed of by the solid waste management contractor.
- RCRA/CERCLA Substance Management
The City of Gladstone will manage hazardous substances that fall under the RCRA/CERCLA regulations.

4.2.6.1.6 Water Quality Impacts of Flood Control Projects

- The City of Gladstone will ensure new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. New flood management projects completed by private developers must contain BMPs to address the treatment of the water quality storm. The City of Gladstone rarely completes new flood management projects. However, in the event that one is scheduled on the capital projects list, the City Engineer will review the plans to determine if the water quality storm has been effectively treated. Any information related to new or retrofitted flood management projects will be included in the biennial report.

4.2.6.2 Paints, Solvents, & Petroleum Products

- Paints & Solvents

The City of Gladstone will manage paints and solvents in a manner to prevent and/or reduce pollutants discharged to the MS4 to the maximum extent practicable. This will apply to any area where these products are stored or used.

City staff will follow general Good Housekeeping practices in the storage and use of these products. Paint and solvent storage areas will be inspected annually to determine if any additional BMPs are necessary. The results of these inspections will be included in the biennial report.

- Petroleum/Petroleum Waste Products Management

The City of Gladstone will manage petroleum and petroleum waste products in a manner to prevent and/or reduce pollutants discharged to the MS4 to the maximum extent practicable. This will apply to any area where these products are stored or used.

City staff will follow general Good Housekeeping practices in the storage and use of petroleum and petroleum waste products. Storage areas will be inspected annually to determine if any additional BMPs are necessary. The results of these inspections will be included in the annual report. Quantities of used oil that is recycled will also be in the biennial report.

The City of Gladstone will report biennially to the Missouri Department of Natural Resources on the facilitation of the Storm Water Management Plan. Where applicable, all quantities of measurable goals will be included in the report.

Biennial reports are due February 28th of odd years. The first report of the new reporting cycle will include program goals and facilitation from January 1, 2017 to December 31, 2018.