

# **CITY** *of* **CAPE** **G I R A R D E A U**

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## **MS4 - STORMWATER MANAGEMENT PLAN**

***Permit # - MOR04C015***

**Oct. 1, 2021 - Sept. 30, 2026**

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## **Background & Introduction**

The City of Cape Girardeau was established in 1806. The 2010 Census reports the City has a population of 37,941. According to the City's GIS information the City of Cape Girardeau covers an area of 30 square miles. The City has a Council – Manager form of government. City Council consists of a mayor (elected city wide) and six council members (one elected from each of six wards), they're all part time. The Council appoints a full time City Manager. The City has mostly residential and commercial retail areas. Southeast Missouri State University is within the city limits. The City is served by two large hospitals and has some light industrial areas.

For the Cape Girardeau MS4 the receiving waters of the state (as shown on the MSDIS map) are:

**Cape La Croix Creek**  
**Walker Branch**  
**Scivally Branch**  
**Sloan Creek**  
**Mississippi River**  
**Ramsey Branch**  
**Veteran's Fork**  
**Breckenridge Branch**  
**Juden Creek**  
**Ranney Creek**  
**Tributary To Veteran's Fork**  
**Williams Creek**  
**Castor River Diversion Channel**

The City has been involved in water quality improvement for over 3 decades. In the early 1990's the City began an effort to separate combined sewers. This had a twofold objective: reducing the impact of wet weather flows at the wastewater treatment plant, and improving water quality in local waterways. In 2003, the City was included in the Phase II Stormwater Program of the MS4 permitting process. Efforts were taken to comply with the MS4 permit requirements during that first 5 year permit period. In 2008 the City renewed the MS4 permit and took a significant step forward in the compliance effort by hiring a full time stormwater coordinator. In 2013, the City submitted a permit renewal application. The 2008 permit was extended until the issuance of the new permit in October 2016. In 2014, the stormwater coordinator position was revised to be a Streets and Stormwater Inspector. Further steps toward improved compliance included creating a city staff Stormwater Team and revision of local ordinances and policies for inclusion of more water quality guidelines and requirements. In 2015, the City

began using the services of a consulting engineering firm for plan review and site inspection work related to MS4 compliance. In 2019, the stormwater coordinator position was re-established.

The City of Cape Girardeau has a Stormwater Ordinance that was adopted in 1989. The last significant revision was in 2012. The Stormwater Ordinance requires that developers:

- Hold pre-design / pre-development meetings with the City Staff to consider opportunities for water quality BMP's to be utilized in the site design.
- Develop effective flood control detention methods that include water quality considerations.
- Develop a reasonable means to mimic pre-development runoff conditions. This will involve filtering surface runoff from small frequent rain events
- Provide as part of the design package a detailed SWPPP for the development site, which is to include information on the planned erosion & sediment controls, pollution prevention practices, and future operation and maintenance practices for onsite water quality BMP's.
- Preserve a 50 foot buffer along stream banks.
- Make graded slopes no steeper than 3:1.
- Make cooperative use of landscaping areas for stormwater quality improvement.

The City's Stormwater Ordinance provides for control of illicit discharges by listing specific allowable non-stormwater discharges and listing specific prohibited non-stormwater discharges; and provides enforcement authority for all the requirements of the MS4 Permit. This ordinance gives city staff authority to perform necessary inspections. It includes a progressive enforcement protocol. The Stormwater Ordinance is enforced within the City limits on all construction sites regardless of size of the area of land disturbed.

The City of Cape Girardeau continues to be committed to reducing the levels of contaminants, silt, sediments, and other pollutants reaching area waterways by means of the stormwater flowing from the City of Cape Girardeau. Any contaminants entering the City from outside city limits will pass through.

The City's Stormwater Management Team (SWMT) oversees the development and implementation of the Stormwater Management Plan (SWMP). The SWMT meets at least on an annual basis to review the status of the SWMP and address issues necessary to properly implement the SWMP. Other meetings with part or all of the SWMT, or other appropriate staff will be held as necessary for proper implementation of the elements of the SWMP. The SWMT is comprised of City staff from Public Works, Development Services (Engineering, Planning, and Inspections),

Parks and Recreation, GIS, and Airport. The Stormwater Coordinator serves as the head of the SWMT, schedules the meetings, prepares the reports, prepares records of the meetings, provides recommendations for updates to the SWMP or the Stormwater Ordinance, and consults the SWMT on stormwater issues and problems. The SWMT also makes recommendations for changes or amendments to existing ordinances. The current members of the SWMT are listed in Appendix 1.

The City of Cape Girardeau's Storm Water Management Plan (SWMP) has specific Best Management Practices (BMP) for each of the six required Minimum Control Measures (MCM). There are measurable goals for BMP's within each MCM, and the responsible party is identified for each BMP.

The SWMP is set up to work in cooperation with the City's Ordinances to provide guidance for review, implementation, oversight, and enforcement of all approved stormwater pollution prevention plans for new development or re-development sites. The SWMP has recommendations for structural and non-structural BMP's. The Site Development plans necessarily include erosion and sediment control plans, water quality improvement BMP's, and other elements in accordance with the City's regulations to comply with the MS4 Permit. The SWMP has emphasis on targeted pollutants of litter, pet waste, and sediment runoff. (4.1.B) The SWMP has identified the following targeted audiences: residents, developers and construction site operators. (4.1.A) This diverse audience is identified as being directly involved in activities that could result in contribution of pollutants to the MS4. The City believes this is the group that would have a vested interest in the development and implementation of the SWMP.

The SWMT will review the SWMP annually in conjunction with the stipulated Reporting requirements, or as required by the director of the U. S. Environmental Protection Agency and / or the Missouri Department of Natural Resources, in accordance with statutory provisions of section 402(p)(3)(B) of the Clean Water Act. Changes to the SWMP shall be approved by the SWMT and be forwarded to MoDNR Water Pollution Control Branch. The SWMT has authority to make changes to the SWMP that do not involve ordinance revisions. Ordinance revisions must be approved through the normal City Council process.

## **Permitting and Reporting**

The MS4 Operating Permit is issued by MoDNR. The current MS4 Permit is referenced in Appendix 2 of the SWMP. This MS4 Permit provides objectives to be met through the SWMP. Generally these objectives are:

- Identify pollutants and their sources
- Use structural and non-structural best management practices to control the discharge of pollutants
- Use Public Education and Participation to reduce pollution discharges
- Use active observation for illicit discharge detection and prevention.
- Ensure construction sites utilize BMP's for erosion and sediment control
- Ensure development sites have long term water quality practices implemented
- Reduce the discharge of pollutants to the "Maximum Extent Practicable"
- Generally protect the integrity and water quality of area waterways

In order to meet these objectives, the City will enforce applicable ordinances and implement BMP's identified in the SWMP.

An annual report will be prepared and submitted according to the terms of the MS4 Permit. This report will detail the status of compliance with the permit conditions. This report will include an assessment of the appropriateness of the selected BMP's and progress toward achieving the measureable goals for each BMP. The report will provide results of any data collected and analyzed. Currently the City has no regularly scheduled data collection. The report will include any recommendations for changes to the BMP's or measureable goals for any of the MCM's. The City's Report to MoDNR will include a summary of that year's activities, and a summary of the stormwater activities planned for the next reporting period.

All records and reports will be maintained for a minimum of three years, and will be accessible to the public. Upon request, copies of records and reports will be submitted to the permitting authority.

## **Additional Information**

The Cape Girardeau Airport has a separate Stormwater Management Plan that includes the Airport Fueling Area SPCC Plan. This airport also has an MS4 permit.

The Fleet Maintenance Area in the Public Works building has a SPCC plan for that area. This SPCC is on the City's website referenced in [Appendix 2](#). The other maintenance areas, such as Parks and the Golf Course, do not store quantities of oil products as to require a SPCC plan.

Standard Operating Procedures (SOP's) are prepared in written form and kept in these areas: Parks Maintenance Shed, Jaycee Golf Course Maintenance Shed, Fleet Maintenance area, Airport Managers Office, Solid Waste Recycle Center, Solid Waste Transfer Station, Sewer and Stormwater Maintenance area, and Streets Maintenance area.

Sanitary sewer system overflows (SSO's) are addressed by city crews and reported to MoDNR. The City has a continuing I&I Flow Reduction Program to reduce the occurrence of SSO's

The City performed a desk top assessment of illicit discharge potential to identify priority areas. The City followed the guidance for this assessment in the Oct. 2004 IDDE Guidance Manual prepared for EPA by the University of Alabama. The results of this desk top assessment were used to identify the areas of most potential for illicit discharges. The result of the desk top assessment was that the Cape La Croix stream basin was the area of highest priority. For the current permit period (Oct. 2021 – Sept. 2026), the initial priority area has been narrowed down to the Cape La Croix Creek from Independence Street to Southern Expressway. This was highly influenced by the light industrial facilities and numerous commercial businesses in the area. (4.3.H)

The City of Cape Girardeau believes this SWMP, City ordinances, and City policies provide reasonable methods and practices to achieve compliance with the MS4 Permit requirements and guidelines.



# **Minimum Control Measures & Best Management Practices**

## **MCM 1: Public Education and Outreach** (4.1)

The City of Cape Girardeau believes that educating the public is important for successful reduction of contamination and pollutants entering area waterways. In order to accomplish the goals for Public Education and Outreach set forth in the Comprehensive General Permit, the City has set the following objectives:

- The City of Cape Girardeau has identified the following target audiences and their corresponding target pollutants:
  - Residents – litter and pet waste
  - Developers and construction site operators – sediment runoff
    - Appendix 9 includes this target audience list
- Sponsor a Clear Choices Clean Water Website - A website to increase awareness about the choices we make and the impact they have on our streams and lakes. Water friendly practices such as using phosphorus-free fertilizer, landscaping with native plants, managing yard and pet wastes, properly maintaining septic systems and using less water all help make clear clean water available to us. By educating individuals on these and other important actions and giving them the tools needed to make behavior changes, we empower everyone to do their part for water quality and conservation.
  - Website reference included in Appendix 5
- Require permanent marking of new storm drains with “No Dumping – Drains to River” message.
  - Appendix 8 shows this requirement in the notes for the City’s Standard Drawing of an Area Inlet.
- Publish two seasonal newsletter inserts for quarterly Parks & Rec Newsletter.
  - Appendix 6 shows a sample newsletter insert.
- Maintain several stormwater quality signs along the Cape La Croix Recreational Trail.
- Implement an Adopt-A-Street program.
- Planning and staffing the Hazardous Waste Collection Day.
  - The City strives to obtain a solid waste grant every two years in order to host a Household Hazardous Waste Collection event. These are only scheduled when grant funds are obtained.
- Evaluate the effectiveness of each BMP through adaptive management.
  - Refer to Appendix 7

The Outreach and Education BMPs and Involvement BMPs are listed in the chart on page 9A. The measurable goals for each BMP are charted on page 9B.

## MCM 1: Public Education and Outreach BMP Chart

Permit Requirement	Permit Section	#	BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	BMP Evaluation
Identifying target audiences of significant pollution	4.1.A	1	Target Audiences List	Identify specific audiences who are likely to have significant stormwater impacts (Residents, Developers, etc...)	Stormwater Team	Address the residents being served by the City and at a minimum one additional audience	Are the target audience lists being kept up-to-date?
Identifying target pollutants and sources of pollutants related to target audiences	4.1.B	2	Target Pollutant List	Identify specific pollutants that are to be incorporated into the City's public education program	Stormwater Team	Identify a minimum of one target pollutant/source per target audience	Has each audience been educated on it's identified pollutant?
Inform target audiences of target pollutants and how they can contribute in reducing pollution	4.1.C	3	Clear Choices Clean Water Website	Engage residents in water quality improvement	Stormwater Coordinator	Increase awareness of litter and pet waste through online pledges.	Has the number of pledges increased?
	4.1.C	4	Permanent "No Dumping - Drains to River" markings on storm inlets	Increase awareness for storm drains in order to reduce litter and illicit discharge	Stormwater Supervisor / City Engineer	Decrease in litter and illicit discharge	Have areas with increased signage had fewer illicit discharges?
	4.1.C	5	Parks & Rec. Newsletter Insert	Raise seasonal awareness to pollutants of concern	Stormwater Coordinator	Produce two newsletter articles to be published in a spring/summer and fall/winter.	How many years were both inserts published in the Parks & Rec. newsletter?
	4.1.C	6	Stormwater Trail Signs	Educate residents on the importance of stormwater quality	Stormwater Team	Maintain 5-6 stormwater quality informational signs along Cape La Croix Recreational Trail	How many people are "checking-in" using the QR code?
Create or support opportunities for activities that improve water quality	4.1.D	7	Adopt-A-Street	Reduce the amount of litter entering waterways within City limits	Public Works	Document a minimum of 2 mi of roadside where litter was collected and record the amount bagged	How many miles and how much litter is being picked up each year?
	4.1.D	8	Household Hazardous Waste Collection Day	Prevent household hazardous wastes from becoming illicit discharges	Public Works	Collect household hazardous wastes	Is the amount of household hazardous waste being collected increasing?
Support given for activities that improve water quality	4.1.E	9	Coordinate the Adopt-A-Street Program	Reduce the amount of litter entering waterways within City limits	Public Works	Community groups/organizations will be able to adopt a street.	Is the Adopt-A-Street program being offered?
	4.1.E	10	Apply for grant to fund a Household Hazardous Waste Collection Day and host the event	Prevent household hazardous wastes from becoming illicit discharges	Public Works	Fund the Household Hazardous Wastes Collection Day	Is the Household Hazardous Waste Collection Day being funded?
Use adaptive management to review and update MCM 1 BMPs annually	4.1.F	11	Annual Review	To keep the BMPs for MCM 1 relevant to the community's willingness to respond/be involved	Stormwater Coordinator	Provide SWMP update suggestions for the Stormwater Team to review	Is an annual review being done?

## MCM 1: Public Education and Outreach BMP Chart

Permit Section	#	BMP Description	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones
			Permit Year 1	Permit Year 2	Permit Year 3	Permit Year 4	Permit Year 5
4.1.A	1	Target Audiences List	Establish list of key members within the City's development community, such as developers and construction site operators	Review and update development audience list	Form new target audience from list of pretreatment operators within the City limits	Review and update audience lists (developers & pretreatment operators)	Evaluate relevance of each audience list for the next permit cycle
4.1.B	2	Target Pollutant List	Target residents with litter and pet waste educational information	Target development group with sediment runoff educational information	Target pretreatment operators with fats, oils, & grease educational information	Review and update educational information	Target established audiences with established educational information about their target pollutant
4.1.C	3	Clear Choices Clean Water Website	Maintain site for the entire year, and update links once a year	Maintain site for the entire year, and update links once a year	Maintain site for the entire year, and update links once a year	Maintain site for the entire year, and update links once a year	Maintain site for the entire year, and update links once a year
4.1.C	4	Permanent "No Dumping - Drains to River" markings on storm inlets	Collect data on all previously marked inlets.	Analyze data from dry weather screenings to create a baseline for BMP effectiveness	Review and update data base for marked inlets	Compare data from dry weather screenings with baseline data to determine if areas with increased signage has decreased litter and illicit discharges	Update database and determine if certain areas need targeted with additional signage
4.1.C	5	Parks & Rec. Newsletter Insert	Collect educational information to include in a spring/summer insert	Create and publish spring/summer insert to include in newsletter	Collect educational information to include in a fall/winter insert	Create and publish fall/winter insert to include in newsletter	Publish both inserts in newsletter
4.1.C	6	Stormwater Trail Signs	Create QR code as a "check in" mechanism to include with signage	Check signage for indications of vandalism or maintenance needs	Evaluate QR code data to determine the effectiveness of signage placement	Check signage for indications of vandalism or maintenance needs	Review signage information to determine relevance of water quality information
4.1.D	7	Adopt-A-Street	Promote the Adopt-A-Street Program to local service organizations	Organize 1-2 days for Public Works employees to participate in clean-up along their adopted street.	Promote the Adopt-A-Street Program to local service organizations	Organize 1-2 days for Public Works employees to participate in clean-up along their adopted street.	Promote the Adopt-A-Street Program to local service organizations
4.1.D	8	Household Hazardous Waste Collection Day	Apply for Solid Waste Grant	Hold Household Hazardous Waste Collection Day	Apply for Solid Waste Grant	Hold Household Hazardous Waste Collection Day	Apply for Solid Waste Grant
4.1.E	9	Coordinate the Adopt-A-Street Program	Offer equipment/materials required for the Adopt-A-Street program	Offer equipment/materials required for the Adopt-A-Street program	Offer equipment/materials required for the Adopt-A-Street program	Offer equipment/materials required for the Adopt-A-Street program	Offer equipment/materials required for the Adopt-A-Street program
4.1.E	10	Apply for grant to fund a Household Hazardous Waste Collection Day and host the event	Apply for Solid Waste Grant	Hold Household Hazardous Waste Collection Day	Apply for Solid Waste Grant	Hold Household Hazardous Waste Collection Day	Apply for Solid Waste Grant
4.1.F	11	Annual Review	Review MCM 1 BMPs	Review MCM 1 BMPs	Review MCM 1 BMPs	Review MCM 1 BMPs	Review MCM 1 BMPs

## **MCM 2: Public Participation (4.2)**

The City of Cape Girardeau will strive to engage public participation in the implementation of the SWMP. In order to accomplish the goals for Public Participation set forth in the Comprehensive General Permit, the City has set the following objectives for this Minimum Control Measure:

- Renewal for the proposed SWMP and significant future updates will be presented through a public review process. This process shall include:
  - A public review period held for a minimum of 30 days.
    - Any public comments received will be given a response and will be held for public record.
  - A public informational meeting held in order for additional public input to be offered.
    - A public notice of 30 days shall be given prior to any public informational meeting.
- Public input is encouraged through email and the City's website.
  - Email - MS4@cityofcape.org
- Qualified residents will be encouraged to request for the opportunity to serve on the SWMT.
- The members of the SWMT are also engaged for input on the SWMP.
  - Please refer to Appendix 1 for a list of current Team members.
- City Council shall receive an annual update on the SWMP.
- Set measurable goals for the practices in the SWMP.
- Evaluate the effectiveness of the BMPs through adaptive management.
  - Refer to Appendix 7

The BMPs for Public Participation are listed in the chart on page 10A. The measurable goals for each BMP are charted on page 10B.

## MCM 2: Public Participation BMP Charts

Permit Requirement	Permit Section	#	BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	BMP Evaluation
Hold public notice period for public to review SWMP	4.2.A	1	Public Notice Period	Allow public review of the SWMP	Stormwater Coordinator	Notify public 30 days or more prior to renewal application	Was the public notice held for 30 days?
Provide webpage with required items and comment information	4.2.B, C	2	MS4 Webpage	Serve as a reference point for pertinent information	Public Information Officer	Post copy of draft permit and draft SWMP	Is the current SWMP posted on this site?
Provide public meeting for public to review SWMP and voice comments.	4.2.C	3	Public Informational Meeting	Create an opportunity for the public to engage with the SWMT	Stormwater Coordinator	Host a 2 hr meeting to provide additional information to the public	Did anyone from the public attend the meeting?
Provide publicly available method to accept comments from public.	4.2.D	4	Public Comment Email	Collect feedback and concerns from the public	Stormwater Coordinator	Receive input and concerns from the public in regards to permit renewal and MS4 concerns	Have all comments received a response?
Stormwater Management Committee - provide opportunities for citizen representatives	4.2.E	5	Stormwater Management Team	Engage City staff in the management of the SWMP and provide an opportunity for public participation	Stormwater Coordinator	Hold an annual meeting to review SWMP and offer participation to the public	Was a meeting held annually?
Annual update for governing body	4.2.F	6	Annual City Council Update	Inform Council of the importance of MS4 compliance and update on the progress made through the SWMP	Stormwater Coordinator	Present at a Council meeting at least once a year	Was A presentation made annually?
Evaluate program for permit compliance	4.2.G	7	Annual Review	To ensure the current BMPs are compliant with the permit	Stormwater Coordinator	Permit Compliance	Is MCM 2 compliant with the permit?
Use adaptive management to review and update MCM 2 BMPs annually	4.2.I	8		To keep the BMPs for MCM 2 relevant to the community's willingness to respond/be involved	Stormwater Coordinator	Provide SWMP update suggestions for the Stormwater Team to review	Is an annual review being done?

## MCM 2: Public Participation BMP Charts

Permit Section	#	BMP Description	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones
			Permit Year 1	Permit Year 2	Permit Year 3	Permit Year 4	Permit Year 5
4.2.A	1	Public Notice Period	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP or during permit renewal.)
4.2.B, C	2	MS4 Webpage	Ensure the most up-to-date SWMP is posted	Ensure the most up-to-date SWMP is posted	Ensure the most up-to-date SWMP is posted	Ensure the most up-to-date SWMP is posted	Ensure the most up-to-date SWMP is posted
4.2.C	3	Public Informational Meeting	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP)	(Only necessary for significant changes to the SMWP or during permit renewal.)
4.2.D	4	Public Comment Email	Respond to any comments/ concerns	Respond to any comments/ concerns	Respond to any comments/ concerns	Respond to any comments/ concerns	Respond to any comments/ concerns
4.2.E	5	Stormwater Management Team	Meet annually and review SWMP	Meet annually and review SWMP	Meet annually and review SWMP	Meet annually and review SWMP	Meet annually and review SWMP
4.2.F	6	Annual City Council Update	Present to City Council during a Council Meeting	Present to City Council during a Council Meeting	Present to City Council during a Council Meeting	Present to City Council during a Council Meeting	Present to City Council during a Council Meeting
4.2.G	7	Annual Review	Review MCM 2 BMPs	Review MCM 2 BMPs	Review MCM 2 BMPs	Review MCM 2 BMPs	Review MCM 2 BMPs
4.2.I	8						

### **MCM 3: Illicit Discharge Detection and Elimination (IDDE) (4.3)**

The City of Cape Girardeau continues efforts to reduce the occurrence of illicit discharges. Additionally, illicit discharges have been identified in the City's Code of Ordinances (Sec. 23-13). In order to accomplish the goals for Illicit Discharge Detection and Elimination set forth in the Comprehensive General Permit, the City has set the following objectives for this Measure:

- Maintain stormwater infrastructure information within the City's GIS mapping system and this SWMP.
  - Outfall mapping information included in [Appendix 5](#).
- Enforce the following City codes related to illicit discharge:
  - Maintain list of allowable non-stormwater discharges. (Sec. 23-13: 2)
  - Identify and keep updated list of common pollutants. (Sec. 23-13: 1b)
  - Fats, Oils & Grease ordinance (Sec. 29-5)
  - City regulations will be enforced to ensure identified violators comply with code requirements (Sec. 23-15: 1a-d)
  - For references, please see [Appendix 3](#).
- Perform inspections on 60% of all outfalls through dry weather screenings
- Illicit discharges will be traced upstream on foot or by vehicle, using visual observations and pipeline TV cameras as necessary.
- Identify priority areas requiring increased monitoring.
- Enforce policies and perform procedures as outlined in the Illicit Discharge Policy and Procedures Manual ([Appendix 10](#)).
- Maintain database of any illicit discharges.
- Host a Household Hazardous Waste Collection Day when funding is available.
- Continue Pollution Prevention and IDDE training for city staff in Public Works, Engineering, Parks, Airport, and Building Inspections.
  - List of Training materials included in [Appendix 12](#).
- Confirm city emergency response staff is trained for vehicle accident liquid waste containment or capture
- Evaluate IDDE program effectiveness using adaptive management.
  - Refer to [Appendix 7](#)

The BMPs selected for the Illicit Discharge Detection and Elimination Measure are listed in the chart on page 11A. The measurable goals for each BMP are charted on page 11B.

### MCM 3: Illicit Discharge Detection and Elimination BMP Chart

Permit Requirement	Permit Section	#	BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	BMP Evaluation
Maintain storm sewer system map	4.3.A	1	City GIS map	Maintain and update graphical and data information for stormwater system components in the GIS mapping system.	GIS Coordinator	Up-to-date GIS map for the stormwater system	Is information being added/updated within the stormwater layer?
Record outfall data	4.3.B	2	Constructed Outfalls List	Maintain records	Stormwater/GIS Coordinators	Up-to-date outfalls list	Has the outfalls list been updated?
Illicit Discharge Ordinance	4.3.C	3	Stormwater Ordinance	Provide enforcement for illicit discharge violations	Development Services	Provide enforcement for illicit discharge violations	Is the ordinance being enforced?
Dry weather field screening strategy	4.3.D	4	Dry Weather Screening Process	Proactively monitor outlets for illicit discharge	Stormwater Coordinator	Perform periodic inspections of outfalls	Are screenings on track to meet the 60% of all outfalls requirement?
Diagnostic monitoring procedures	4.3.E	5		Set diagnostic standards for samples collected	Stormwater Team	Identify potential sources of a non-stormwater flow.	Are potential sources of illicit discharge being identified?
Procedures for tracing illicit discharge	4.3.F	6	Illicit Discharge Tracing Procedure	Establish the actions required when tracing illicit discharge	Stormwater Team	Maintain consistency throughout every illicit discharge investigation.	Are illicit discharge sources being effectively identified?
Procedures for removing the source of an illicit discharge	4.3.G	7		Establish policy for enforcement actions	Stormwater Team	Maintain consistency through remediations of illicit discharge.	Are sources of illicit discharge being eliminated?
Procedures to identify priority areas likely to have illicit discharges	4.3.H	8	Priority Areas List	Monitor areas most likely to have sources of illicit discharge	Stormwater Team	Provide guidance for selecting areas that require increased monitoring.	Are the majority of illicit discharges being detected within priority areas?
Written procedures for implementing the IDDE program	4.3.I	9	Illicit Discharge Policy and Procedures Manual	Ensure consistency within the IDDE program	Stormwater Team	Consistent practices for screening, tracing and removing illicit discharge.	Are the written procedures being followed?
Conduct investigations in response to field screening discoveries	4.3.J	10		Investigate Illicit Discharge	Stormwater Coordinator	Identify sources of a non-stormwater flow.	Are illicit discharge sources being identified?
Procedures to ensure illicit discharge ordinance is implemented... enforcement, fines, actions	4.3.K	11		Enforce Illicit Discharge Violations	Stormwater Team	Perform enforcement on illicit discharge violations	Have known illicit discharge sources been remediated?
Maintain an illicit discharge database	4.3.L	12	IDDE Database (file folder)	To maintain records for all dry weather screenings, illicit discharge investigations, and enforcement actions	Stormwater Coordinator	Organize records of illicit discharge for tracking and reference purposes.	Is relevant information being retained after each illicit discharge report/investigation?
Inform public employees, businesses, general public of hazards of illegal discharges and improper waste disposal	4.3.M	13	Household Hazardous Waste Collection Day	Prevent household hazardous wastes from becoming illicit discharges	Public Works	Collect household hazardous wastes	Is the amount of household hazardous waste being collected increasing?
Review IDDE Program and update as necessary	4.3.N	14	Annual Review	To maintain an updated IDDE program for permit compliance	Stormwater Coordinator	Up-to-date IDDE Program	Is the IDDE Program up-to-date?
Evaluate program for permit compliance	4.3.O	15		To ensure the current BMPs are compliant with the permit	Stormwater Coordinator	Permit Compliance	Is MCM 3 compliant with the permit?
Maintain a training program for field staff	4.3.Q	16	Staff MS4 Trainings	Provide training to City employees for pollution prevention & good housekeeping practices.	Stormwater Team	To have trained staff that can identify and prevent stormwater pollution.	Are crews being trained on a yearly basis?
Use adaptive management to review and update MCM 3 BMPs annually	4.3.R	17	Annual Review	To maintain permit compliance with the BMPs selected for MCM 3	Stormwater Coordinator	Provide SWMP update suggestions for the Stormwater Team to review	Is an annual review being done?



## MCM 3: Illicit Discharge Detection and Elimination BMP Chart

Permit Section	#	BMP Description	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones
			Permit Year 1	Permit Year 2	Permit Year 3	Permit Year 4	Permit Year 5
4.3.A	1	City GIS map	Add/update shapfiles to the stormwater system layer	Add/update shapfiles to the stormwater system layer	Add/update shapfiles to the stormwater system layer	Add/update shapfiles to the stormwater system layer	Add/update shapfiles to the stormwater system layer
4.3.B	2	Constructed Outfalls List	Update the outfalls list	Update the outfalls list	Update the outfalls list	Update the outfalls list	Update the outfalls list
4.3.C	3	Stormwater Ordinance	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed
4.3.D	4	Dry Weather Screening Process	Perform dry weather screenings on 15% of all outfalls	Perform dry weather screenings on 15% of all outfalls	Perform dry weather screenings on 15% of all outfalls	Perform dry weather screenings on 15% of all outfalls	Re-evaluate Priority Areas
4.3.E	5		Collect all necessary samples for analysis	Collect all necessary samples for analysis	Collect all necessary samples for analysis	Collect all necessary samples for analysis	Collect all necessary samples for analysis
4.3.F	6	Illicit Discharge Tracing Procedure	Record Illicit Discharge Investigations	Record Illicit Discharge Investigations	Record Illicit Discharge Investigations	Record Illicit Discharge Investigations	Audit Illicit Discharge records for consistency
4.3.G	7		Eliminate all sources of Illicit Discharge within the City's Jurisdiction	Eliminate all sources of Illicit Discharge within the City's Jurisdiction	Eliminate all sources of Illicit Discharge within the City's Jurisdiction	Eliminate all sources of Illicit Discharge within the City's Jurisdiction	Eliminate all sources of Illicit Discharge within the City's Jurisdiction
4.3.H	8	Priority Areas List	Re-evaluate Priority Areas	Re-evaluate Priority Areas	Re-evaluate Priority Areas	Re-evaluate Priority Areas	Re-evaluate Priority Areas
4.3.I	9	Illicit Discharge Policy and Procedures Manual	Review written procedures to ensure program compliance	Review written procedures to ensure program compliance	Review written procedures to ensure program compliance	Review written procedures to ensure program compliance	Review written procedures to ensure program compliance
4.3.J	10		Investigate and record all illicit discharge concerns	Investigate and record all illicit discharge concerns	Investigate and record all illicit discharge concerns	Investigate and record all illicit discharge concerns	Investigate and record all illicit discharge concerns
4.3.K	11		Enforce and record all illicit discharge violations	Enforce all illicit discharge violations	Enforce all illicit discharge violations	Enforce all illicit discharge violations	Enforce all illicit discharge violations
4.3.L	12	IDDE Database (file folder)	Review files to include pertenant data in the Annual Report	Review files to include pertenant data in the Annual Report	Review files to include pertenant data in the Annual Report	Review files to include pertenant data in the Annual Report	Review files to include pertenant data in the Annual Report
4.3.M	13	Household Hazardous Waste Collection Day	Apply for Solid Waste Grant	Hold Household Hazardous Waste Collection Day	Apply for Solid Waste Grant	Hold Household Hazardous Waste Collection Day	Apply for Solid Waste Grant
4.3.N	14	Annual Review	Review MCM 3 BMPs	Review MCM 3 BMPs	Review MCM 3 BMPs	Review MCM 3 BMPs	Review MCM 3 BMPs
4.3.O	15						
4.3.Q	16	Staff MS4 Trainings	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year
4.3.R	17	Annual Review	Review MCM 3 BMPs	Review MCM 3 BMPs	Review MCM 3 BMPs	Review MCM 3 BMPs	Review MCM 3 BMPs

## **MCM 4: Construction Site Stormwater Runoff Control (4.4)**

The City of Cape Girardeau continues to enforce the Stormwater Ordinance for control of construction site runoff to protect area waterways from pollutants associated with development or re-development sites. The Stormwater Ordinance requires developers to meet with City staff prior to commencing site design for a development or re-development site (Sec. 23-5:3). The Stormwater Ordinance requires developers to provide a Storm Water Pollution Prevention Plan for construction sites of any size (Sec. 23-6:8-9). This SWPPP will include BMP's for erosion and sediment control on construction sites. The SWPPP will include BMPs for long term water quality concerns (Sec. 23-8:10, Sec. 23-10:17). The City has provisions for review of all site development plans prior to issuance of a building or grading permit (Sec. 23-5 & 6). The City is using an MS4 consultant for stormwater plan review and site inspections services. The Stormwater Ordinance gives the City staff authority to inspect and enforce the regulations for control of pollutant sources, most notably erosion and sediment controls, at a construction site (Sec. 23-14:1a-d). Inspections are planned to be performed weekly by persons competent to perform that function. In order to accomplish the goals for Construction Site Runoff Control set forth in the Comprehensive General Permit, the City has set the following objectives for this Measure:

- Review the stormwater ordinance annually and update as needed.
  - Refer to Appendix 3 for the City's Code of Ordinances
- Perform site plan reviews with focus on water quality issues (Sec. 23-5 & 6)
  - For the stormwater plan review checklist refer to Appendix 2.
  - Refer to Appendix 4 for policies and procedures
- Perform construction site inspections (Sec. 23-15)
  - For the construction site inspection checklist refer to Appendix 2.
  - Refer to Appendix 4 for policies and procedures
- Utilize enforcement protocols to ensure compliance with required erosion and sediment controls, and other pollutant controls. (Sec. 23-15)
- SWPPP required to be at the development site (Sec. 23-6:14)
- Maintain a list of active land disturbance sites and a database for site inspection records.
- Receive information from the public through email or the City's website.
- Provide training and written procedures to inspectors to ensure consistent and proficient construction site inspections.
  - For inspection procedures refer to Appendix 5.
- Evaluate the effectiveness of the Construction Site Stormwater Runoff Control BMPs using adaptive management.
  - Refer to Appendix 7

The BMPs selected for the Construction Site Runoff Control Measure are listed in the chart on page 12 A. The measurable goals for each BMP are charted on page 12 B.

## MCM 4: Construction Site Stormwater Runoff Control BMP Charts

Permit Requirement	Permit Section	#	BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	BMP Evaluation
Land Disturbance and Sediment Control Ordinance	4.4.A	1	Stormwater Ordinance	Regulate construction sites by requiring the implementation of runoff control BMPs	Community Development Department	Provide regulation in order to allow the enforcement of runoff control BMP implementation	Does the ordinance ensure compliance?
Procedures for review of all pre-construction site plans...consideration of potential WQ impacts	4.4.B	2	Pre-Construction Plan Reviews	Ensure construction sites are implementing runoff control BMP's	Stormwater Coordinator	Implementation of runoff control BMPs on construction sites	Are runoff control BMPs being implemented?
Procedures for site inspection and enforcement of control measures, including site inspection prioritization	4.4.C	3	Site Inspections		MS4 Inspector		
Plan to ensure compliance with land disturbance ordinance	4.4.D	4	Stormwater Ordinance (Enforcement)		Stormwater Coordinator		
Construction site operator requirements for implementing BMPs and controlling site waste	4.4.E	5	SWPPP Enforcement (Site Inspections)	Ensure construction sites are maintaining runoff control BMPs	MS4 Inspector	Continued effective implementation of runoff control BMPs	Are runoff control BMPs being properly maintained?
Maintain an inventory of active land disturbance sites	4.4.F	6	Stormwater Management Permits	Maintain a list of active land disturbance sites	Community Development Department	Provide a reference of active land disturbance sites	Is the list of active permits up-to-date?
Land disturbance site BMP inspections	4.4.G	7	Site Inspections Database	To organize records from all Site Inspections	MS4 Inspector	Maintained database with records of Site Inspection Checklists and resulting correspondence	Are Site Inspection records readily available?
Review the current SWMP for permit compliance	4.4.H	8	SWMP Review	Ensure permit compliance	Stormwater Coordinator	A compliant SWMP	Is the new SWMP compliant with the new permit?
Mechanisms for receipt and consideration of info. submitted by the public	4.4.J	9	Public Comment Email	Collect feedback and concerns from the public	Stormwater Coordinator	Receive input and concerns from the public in regards to construction site runoff	Have all comments received been addressed and a response provided?
Provide construction site runoff control training	4.4.K	10	MS4 Staff Training	Provide inspectors with the knowledge required to perform inspections	Development Services Director	Trained MS4 Staff	Have all the current staff received training?
Provide written procedures for inspectors	4.4.L	11	Procedures & Policies Manual	Ensure consistency of site inspections	Stormwater Team	Consistent inspection evaluations	Are expectations consistent between each inspection?
Use adaptive management to review and update MCM 4 BMPs annually	4.4.M	12	Annual Review	To maintain permit compliance with the BMPs selected for MCM 4	Stormwater Coordinator	Provide SWMP update suggestions for the Stormwater Team to review	Is an annual review being done?

## MCM 4: Construction Site Stormwater Runoff Control BMP Charts

Permit Section	#	BMP Description	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones
			Permit Year 1	Permit Year 2	Permit Year 3	Permit Year 4	Permit Year 5
4.4.A	1	Stormwater Ordinance	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed
4.4.B	2	Pre-Construction Plan Reviews	Perform plan reviews on all stormwater management permit applications	Perform plan reviews on all stormwater management permit applications	Perform plan reviews on all stormwater management permit applications	Perform plan reviews on all stormwater management permit applications	Perform plan reviews on all stormwater management permit applications
4.4.C	3	Site Inspections	Perform oversight inspections on all active stormwater management permits bi-weekly	Perform oversight inspections on all active stormwater management permits bi-weekly	Perform oversight inspections on all active stormwater management permits bi-weekly	Perform oversight inspections on all active stormwater management permits bi-weekly	Perform oversight inspections on all active stormwater management permits bi-weekly
4.4.D	4	Stormwater Ordinance (Enforcement)	Enforce the implementation of runoff control BMP's on any non-compliant construction site	Enforce the implementation of runoff control BMP's on any non-compliant construction site	Enforce the implementation of runoff control BMP's on any non-compliant construction site	Enforce the implementation of runoff control BMP's on any non-compliant construction site	Enforce the implementation of runoff control BMP's on any non-compliant construction site
4.4.E	5	SWPPP Enforcement (Site Inspections)	Check for operator SWPPP inspections during every site inspection	Check for operator SWPPP inspections during every site inspection	Check for operator SWPPP inspections during every site inspection	Check for operator SWPPP inspections during every site inspection	Check for operator SWPPP inspections during every site inspection
4.4.F	6	Stormwater Management Permits	Review list of active permits on a quarterly basis	Review list of active permits on a quarterly basis	Review list of active permits on a quarterly basis	Review list of active permits on a quarterly basis	Review list of active permits on a quarterly basis
4.4.G	7	Site Inspection Database	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report
4.4.H	8	SWMP Review	Achieve compliance of the SWMP with the new MS4 Permit	Refer to Annual Review	Refer to Annual Review	Refer to Annual Review	Refer to Annual Review
4.4.J	9	Public Comment Email	Investigate all reports and respond to any comments/concerns	Investigate all reports and respond to any comments/concerns	Investigate all reports and respond to any comments/concerns	Investigate all reports and respond to any comments/concerns	Investigate all reports and respond to any comments/concerns
4.4.K	10	MS4 Staff Training	Provide training for any new MS4 Staff member	Provide training for any new MS4 Staff member	Provide training for any new MS4 Staff member	Provide training for any new MS4 Staff member	Provide training for any new MS4 Staff member
4.4.L	11	Procedures & Policies Manual	Review Policies and Procedures manual to ensure alignment with everyday practices	Review Policies and Procedures manual to ensure alignment with everyday practices	Review Policies and Procedures manual to ensure alignment with everyday practices	Review Policies and Procedures manual to ensure alignment with everyday practices	Review Policies and Procedures manual to ensure alignment with everyday practices
4.4.M	12	Annual Review	Review MCM 4 BMPs	Review MCM 4 BMPs	Review MCM 4 BMPs	Review MCM 4 BMPs	Review MCM 4 BMPs

## **MCM 5: Post-Construction Stormwater Management (4.5)**

The City of Cape Girardeau continues to promote the use of structural and non-structural design and management practices to reduce the post construction runoff of pollutants into the MS4. To accomplish the goals for Post Construction Stormwater Management set forth in the Comprehensive General Permit, the City has set the objectives listed below for this Measure.

- Evaluate local ordinances & policies to ensure implementation of structural and non-structural BMPs for post-construction runoff controls and water quality improvements.
  - Code of Ordinances referenced in Appendix 3.
- Hold pre-design / pre-development meetings with the City Staff to consider opportunities for water quality BMPs to be utilized in the site design.
  - (Sec. 23-5:3)
  - Refer to Appendix 4 for procedures.
- Ensure adequate and proper long-term operation and maintenance of onsite water quality and pollution controls.
  - Require a Stormwater Management/BMP Facility Deed Restriction be recorded with the Plat. (Sec. 25-1107:b)
- Perform inspections & enforce repairs or maintenance on post-construction BMPs in order to ensure their proper operation and maintenance.
  - Procedures and policies for inspections are included in Appendix 4.
- Maintain a database of post-construction BMPs within the City's GIS mapping system.
- Develop a database of post-construction BMP inspections.
- Provide training to inspectors to ensure proficient post-construction site inspections.
- Evaluate the effectiveness of the BMPs.
  - Refer to Appendix 7

The BMP's selected for the Post-Construction Stormwater Management Measure are listed in the chart on page 14A. The measurable goals for each BMP are charted on page 14B.

The City's Code of Ordinances require developers to:

- Utilize early discussion and review procedures for incorporating water quality elements into site designs.
  - Sec. 23-6, Sec. 23-8:1, & Sec. 23-5:3
- Identify structural and non-structural BMPs for long term control of water runoff and pollutants from development and re-development sites.
  - Sec. 23-6, Sec. 23-8:1, & Sec. 23-8:16
- Post-construction BMPs required to be included in site development plans.
  - Sec. 23-8
- Preserve a 50 foot buffer along stream banks.
  - Sec. 23-8:14
- Maintain development controls within floodplain areas.
  - Sec. 12-11, Sec. 12-14, & Sec. 12-15
- Control direct connections of onsite runoff water to the public conveyance system or street.
  - Sec. 25-804:a
- Encourage use of porous pavement techniques for parking areas.
  - Sec. 25-908 & Sec. 25-205:C1
- Continue to responsibly enforce procedures and implementation of water quality improvement elements in the design, construction, and operations phases of a development.
  - Sec. 23-6 & Sec. 23-8:1
- Provide as part of the design package a detailed SWPPP for the development site, which is to include information on the planned erosion & sediment controls, pollution prevention practices, and future operation and maintenance practices for long term onsite water quality BMPs
  - Sec. 23-6 & Sec. 23-8:1
- Recommend use of native plants in landscaping areas.
  - Sec. 23-8:11
- Post construction water quality BMP's to be properly maintained.
  - Sec. 23-6:10-11 & Sec. 23-12
- Large sites required to address stormwater management as one site, not as small pieces.
  - Sec. 23-8:8
- Incorporate use of landscaping areas for stormwater quality improvement.
  - Sec. 23-8:4d & Sec. 23-10:17h
- Maximum slope allowed on disturbed areas is 3:1.
  - Sec. 23-8:9
- Post Construction BMPs required to be inspected annually by owner and reported to City.
  - Sec. 23-12:3
- Require 15% landscape area.
  - Sec. 25-803
- Large parking areas have landscape requirements.
  - Sec. 25-804
- Cluster developments.
  - Sec. 25-1252

## MCM 5: Post-Construction Stormwater Management BMP Charts

Permit Requirement	Permit Section	#	BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	BMP Evaluation
Post-Construction Stormwater Ordinance	4.5.A	1	Stormwater Ordinance	Regulate construction sites by requiring the implementation of runoff control BMPs	Community Development Department	Provide regulation in order to allow the enforcement of runoff control BMP implementation	Does the ordinance ensure compliance?
Strategy to to minimize water quality impacts through structural & non-structural BMPs	4.5.B	2		Regulate new development by requiring water quality improvements		Improved water quality runoff from developed properties	Are water quality improvements being provided?
Strategies to ensure adequate planning for compliance... maintain predevelopment runoff conditions	4.5.C	3	Pre-Construction Plan Reviews	Ensure adequate planning for stormwater ordinance compliance	Stormwater Coordinator	Construction plans that are compliant with the stormwater ordinance	Are permitted plans compliant with the stormwater ordinance?
Plan to ensure adequate long-term operation and maintenance of Post-Construction BMPs	4.5.D	4	Stormwater Management / BMP Facility Deed Restriction	Increase awareness of the post-construction BMPs and their long-term operation and maintenance requirements	Stormwater Coordinator	Future property owners will be aware that they are required to ensure the long-term operation and maintenance of the post-construction BMPs	Are post-construction BMPs being maintained and kept operational?
Inspection plan with implementation schedules for post-construction BMPs	4.5.E	5	Post-Construction BMP Inspections	Ensure long-term operation and maintenance of post-construction BMPs	Stormwater Coordinator	Effective post-construction BMP's that are properly maintained	Are post-construction BMP inspections being performed in accordance with the schedule
Ensure water quality compliance for post-construction	4.5.F	6	Stormwater Ordinance (Enforcement)	Provide enforcement for post-construction BMPs that are not effective or properly maintained	Stormwater Coordinator		Are post-construction BMPs being maintained and kept operational?
Timely Enforcement	4.5.G	7					
Maintain an inventory tracking the water quality post-construction BMPs	4.5.H	8	City GIS map	Maintain and update an inventory of all post-construction water quality BMPs	GIS Coordinator	Up-to-date inventory of all the post-construction water quality BMPs	Is information being added/updated to the stormwater system layer?
Post-construction stormwater BMP inspections	4.5.I	9	Annual BMP Inspections Database	To maintain records for all post-construction BMP inspections	Stormwater Coordinator	Organized records of post-construction BMP inspections for tracking and reference purposes.	Is relevant information being retained after each post-construction BMP inspection?
Review the current SWMP for permit compliance	4.5.J	10	SWMP Review	Ensure permit compliance	Stormwater Coordinator	A compliant SWMP	Is the new SWMP compliant with the new permit?
Provide training for MS4 Inspectors	4.5.L	11	Inspector Trainings	Provide inspectors with the knowledge required to perform inspections	Development Services Director	Trained MS4 Inspectors	Have all the current staff received training?
Use adaptive management to review and update MCM 4 BMPs annually	4.5.M	12	Annual Review	To maintain permit compliance with the BMPs selected for MCM 5	Stormwater Coordinator	Provide SWMP update suggestions for the Stormwater Team to review	Is an annual review being done?

## MCM 5: Post-Construction Stormwater Management BMP Charts

Permit Section	#	BMP Description	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones
			Permit Year 1	Permit Year 2	Permit Year 3	Permit Year 4	Permit Year 5
4.5.A	1	Stormwater Ordinance	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed	Review/update the stormwater ordinance as needed
4.5.B	2						
4.5.C	3	Pre-Construction Plan Reviews	Review plans for all Stormwater Management Permit Applications	Review plans for all Stormwater Management Permit Applications	Review plans for all Stormwater Management Permit Applications	Review plans for all Stormwater Management Permit Applications	Review plans for all Stormwater Management Permit Applications
4.5.D	4	Stormwater Management / BMP Facility Deed Restriction	Review deed restriction for all Stormwater Management Permit Applications	Review deed restriction for all Stormwater Management Permit Applications	Review deed restriction for all Stormwater Management Permit Applications	Review deed restriction for all Stormwater Management Permit Applications	Review deed restriction for all Stormwater Management Permit Applications
4.5.E	5	Post-Construction BMP Inspections	Perform post-construction BMP inspections on 15% of all water quality BMPs	Perform post-construction BMP inspections on 15% of all water quality BMPs	Perform post-construction BMP inspections on 15% of all water quality BMPs	Perform post-construction BMP inspections on 15% of all water quality BMPs	Perform any remaining post-construction BMP inspections required to achieve a total of 60%
4.5.F	6	Stormwater Ordinance (Enforcement)	Enforce the implementation of runoff control BMP's on any non-compliant development site	Enforce the implementation of runoff control BMP's on any non-compliant development site	Enforce the implementation of runoff control BMP's on any non-compliant development site	Enforce the implementation of runoff control BMP's on any non-compliant development site	Enforce the implementation of runoff control BMP's on any non-compliant development site
4.5.G	7						
4.5.H	8	City GIS map	Update field in the stormwater system layer	Update field in the stormwater system layer	Update field in the stormwater system layer	Update field in the stormwater system layer	Update field in the stormwater system layer
4.5.I	9	Annual BMP Inspections Database	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report	Review files to include pertinent data in the Annual Report
4.5.J	10	SWMP Review	Achieve compliance of the SWMP with the new MS4 Permit	Achieve compliance of the SWMP with the new MS4 Permit	Refer to Annual Review	Refer to Annual Review	Refer to Annual Review
4.5.L	11	Inspector Trainings	Provide training for any new MS4 Inspector	Provide training for any new MS4 Inspector	Provide training for any new MS4 Inspector	Provide training for any new MS4 Inspector	Provide training for any new MS4 Inspector
4.5.M	12	Annual Review	Review MCM 5 BMPs	Review MCM 5 BMPs	Review MCM 5 BMPs	Review MCM 5 BMPs	Review MCM 5 BMPs



## **MCM 6: Pollution Prevention / Good Housekeeping (4.6)**

The City of Cape Girardeau continues a thorough program for pollution prevention through good housekeeping practices. To accomplish the goals set forth in this SWMP for Pollution Prevention & Good Housekeeping the City will continue numerous established procedures. In order to accomplish the goals for Pollution Prevention & Good Housekeeping set forth in the Comprehensive General Permit, the City has set the following objectives for this Measure:

- Continue training of City staff for Pollution Prevention, Spill Control & Response, and Illicit Discharges.
  - Training materials are listed in Appendix 12.
- Maintain lists of municipal operations/facilities impacted by this plan and of City owned facilities subject to other NPDES permits.
  - Refer to Appendix 13
- Maintain Standard Operating Procedures and update as necessary.
  - Included in Appendix 11.
  - Maintain and review MSDS information for each work area.
  - Conduct periodic inspections of work areas.
  - Maintain and update SPCC plans.
    - Refer to Appendix 2
  - Continue use of calibrated meters for salt spreading, and brine applications.
    - Controls included in Appendix 4.
  - Maintain the salt dome storage structure in good condition.
  - Maintain the vehicle wash bay.
- Continue proper removal and disposal of collected stormwater debris
  - Refer to Appendix 4
- Perform annual evaluation to improve pollution prevention efforts.
  - Adaptive management evaluation included in Appendix 7.

The BMP's selected for the Pollution Prevention & Good Housekeeping Measure are listed in the chart on page 15A. The measurable goals for each BMP are Charted on page 15B.

## MCM 6: Pollution Prevention/Good Housekeeping BMP Charts

Permit Requirement	Permit Section	#	BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	BMP Evaluation	
Employee training program for staff who work with material handling or at municipal maintenance or storage facilities	4.6.A	1	Staff MS4 Trainings	Provide training to City employees for pollution prevention & good housekeeping practices.	Stormwater Team	Ensure staff are trained to identify and prevent stormwater pollution.	Are crews being trained on a yearly basis?	
Training shall prevent and reduce stormwater pollution.	4.6.B	2	Training Videos	Train Staff in order to prevent and reduce stormwater pollution	Public Works		Have the proper training videos been used for training?	
Maintain material, written procedures, and schedule of employee training	4.6.C	3	Training Records	Kepp an official record of trained staff.	Stormwater Coordinator	Provide documentation of employee training	Is employee training documentation available?	
Maintain a list of all municipal ops/facilities impacted by operation and maintenance program	4.6.D	4	Municipal Operations Impacted by MS4 O&M Program Lists	Identify municipal operations & facilities impacted by MS4	Stormwater Coordinator	Maintain an updated facilities list	Is list up-to date?	
Maintain a list of permittee owned or operated industrial facilities subject to NPDES permits... that discharge to the MS4	4.6.E	5		Be familiar with NPDES permittees within the MS4 permittee's jurisdictional limits	Stormwater Coordinator	Maintain list of facilities with NPDES permits	Has any of the facility information changed?	
Controls for reducing or eliminating the discharge of floatables and pollutants from permittee owned or operated municipal sites	4.6.F	6	Good Housekeeping Procedures & Policies; Public Works Fleet SPCC; & Fleet Maintenance - Standard Operating Procedures	Prevent floatables and pollutants from leaving permittee sites	Public Works	Prevent/reduce illicit discharge from municiply operated facilities.	Did each facility pass MS4 Inspections?	
Procedures for the proper disposal of waste removed from separate storm sewers and areas of jurisdiction	4.6.G	7		Stormwater Debris Disposal Policy	Ensure proper disposal of any collected waste	Public Works		Maintain established disposal procedures
Procedures for the washing of municipal vehicles and equipment	4.6.H	8		Fleet Maintenance - Standard Operating Procedures	Ensure proper washing of municipal vehicles and equipment	Public Works		Maintain established washing procedures
Maintenance procedures and schedules, and long-term inspection schedules for controls to reduce floatables and pollutants	4.6.I	9	MS4 Facility Inspections	Ensure munipcle facilities are following pollution prvention procedures and poicies	Stormwater Coordinator	Compliant facility operations	Are there any non-compliant facilities	
Procedures to assess all flood management projects for impacts of WQ, incorporating WQ protection devices/practices	4.6.J	10	Stormwater Reviews	Improve water quality of stormwater discharge from new developments	Community Development Department	For new developments to provide water quality treatment	Is the water quality portion of the Stormwater Ordinance being enforced?	
Evaluate curenrt policies and procedures for permit compliance	4.6.K	11	Annual Review	To maintain permit compliance with the BMPs selected for MCM 6	Stormwater Coordinator	Provide SWMP update suggestions for the Stormwater Team to review	Are the current BMP's in compliance?	
Use adaptive management to review and update MCM 6 BMPs annually	4.6.M	12					Is an annual review being done?	

## MCM 6: Pollution Prevention/Good Housekeeping BMP Charts

Permit Section	#	BMP Description	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones	Measurable Goals and Milestones
			Permit Year 1	Permit Year 2	Permit Year 3	Permit Year 4	Permit Year 5
4.6.A	1	Staff MS4 Trainings	Have training once every year for Fleet, Parks, Stormwater, Streets, Sewer, and Solid Waste crews	Have training once every year for Fleet, Parks, Stormwater, Streets, Sewer, and Solid Waste crews	Have training once every year for Fleet, Parks, Stormwater, Streets, Sewer, and Solid Waste crews	Have training once every year for Fleet, Parks, Stormwater, Streets, Sewer, and Solid Waste crews	Have training once every year for Fleet, Parks, Stormwater, Streets, Sewer, and Solid Waste crews
4.6.B	2	Training Videos	Use MS4 Stormwater Education Videos listed in the Stormwater Management Plan	Use MS4 Stormwater Education Videos listed in the Stormwater Management Plan	Use MS4 Stormwater Education Videos listed in the Stormwater Management Plan	Use MS4 Stormwater Education Videos listed in the Stormwater Management Plan	Use MS4 Stormwater Education Videos listed in the Stormwater Management Plan
4.6.C	3	Training Records	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year	Train Public Works and Parks Crews as well as Engineering and Inspections Staff once a year
4.6.D	4	Municipal Operations Impacted by MS4 O&M Program Lists	Update list yearly in conjunction with Annual Review process	Update list yearly in conjunction with Annual Review process	Update list yearly in conjunction with Annual Review process	Update list yearly in conjunction with Annual Review process	Update list yearly in conjunction with Annual Review process
4.6.E	5						
4.6.F	6	Good Housekeeping Procedures & Policies; Public Works Fleet SPCC; & Fleet Maintenance - Standard Operating Procedures	Review MS4 Facility Inspections to ensure compliance with control documents	Review MS4 Facility Inspections to ensure compliance with control documents	Review MS4 Facility Inspections to ensure compliance with control documents	Review MS4 Facility Inspections to ensure compliance with control documents	Review MS4 Facility Inspections to ensure compliance with control documents
4.6.G	7	Stormwater Debris Disposal Policy					
4.6.H	8	Fleet Maintenance - Standard Operating Procedures					
4.6.I	9	MS4 Facility Inspections	Inspect each MS4 applicable facility	Inspect each MS4 applicable facility	Inspect each MS4 applicable facility	Inspect each MS4 applicable facility	Inspect each MS4 applicable facility
4.6.J	10	Stormwater Reviews	Review water quality improvements for all Stormwater Management Permits	Review water quality improvements for all Stormwater Management Permits	Review water quality improvements for all Stormwater Management Permits	Review water quality improvements for all Stormwater Management Permits	Review water quality improvements for all Stormwater Management Permits
4.6.K	11	Annual Review	Review MCM 6 BMPs	Review MCM 6 BMPs	Review MCM 6 BMPs	Review MCM 6 BMPs	Review MCM 6 BMPs
4.3.M	12						

# **Appendix 1**

## **MS4 Stormwater Team**

Stan Polivick	Public Works Director
Casey Brunke	Assistant Public Works Director
Gary Middleton	Stormwater Maintenance Supervisor
Amy Ferris	City Engineer
Teresa Heifner	GIS Division
Erica Bogenpohl	Alliance Water / GIS
Brock Davis	Division Manager Parks & Recreation
Nicolette Brennan	Public Information Office
Ryan Shrimplin	Planner
Katrina Amos	Airport Manager
Doug Weisbrod	Building Code Enforcement Manager
Anna Kangas	Development Services Director
Andrew Maurer	Stormwater Coordinator
Curtis Moore	MS4 Inspector

## **Appendix 2**

*The following documents can be found on this webpage:*

**<https://www.cityofcape.org/MS4>**

### **Stormwater Management Website Documents:**

- Comprehensive General Permit
- SWPPP Template (4.4.A)
- SWPPP Review Check List (4.4.B)
- Stormwater Plan Review Check List (4.4.B)
- Construction Site Inspection Check List (4.4.E)
- Stormwater Management Permit (4.4.F)
- Floodplain Development Permit (4.4.F)
- Public Works Fleet SPCC (4.6.F)

# **Appendix 3**

## **City Code Chapters**

(4.3.C; 4.4.A; 4.4.D; 4.5.A)

Chapter 12: Floodplain Management

Chapter 22: Solid Waste & Weeds

Chapter 23: Storm Water

Chapter 25: Development Code

Chapter 29: Sewer Ordinance

### **City Ordinances may be read at this website:**

[https://www.municode.com/library/mo/cape\\_girardeau/codes/code\\_of\\_ordinances](https://www.municode.com/library/mo/cape_girardeau/codes/code_of_ordinances)

# Appendix 4

## Procedures & Policies Manual

January 2021

### Stormwater Plan Review Procedures (4.4.B & 4.5.C)

The City code requires developers to have a pre-design / pre-development meeting with City staff for purposes of review of the site. Discussion points include, but are not limited to:

- Sensitive areas of the site to be protected, such as streams and undisturbed timber areas
- Code requirements for water quality considerations
  - Applicable BMP's
  - SWPPP preparation
  - Flood control detention requirements
  - Sediment and erosion controls during construction phases
- Post Construction elements for long term runoff water quality
- Limitation of clearing and soil disturbance
- Necessary operation and maintenance considerations for stormwater elements of the site plan

The developer then prepares the site plans and submits them for review by City staff.

The City is using the services of a qualified engineering consultant for plan review. In the event City staff does the review at least two staff members are involved in the plan review. Plans are checked for compliance with the various code requirements.

Any questions or deficiencies are noted and communicated back to the developer / designer.

Plans are revised and resubmitted until the plan meets the necessary goals and requirements

The stormwater permit is then issued to the developer.

## **Construction Inspections Procedures (4.4.C)**

When a stormwater permit is issued the appropriate party is notified and given copies of the approved site plans. This would be the Streets and Stormwater inspector, the Engineering Department inspector, or the Inspections Division inspector. The Engineering Department does the inspections for developments that include infrastructure that will become property of the City. The Inspections Division performs inspections on any residential developments (single family or multi-family). The Streets and Stormwater inspector performs inspections on commercial development sites.

The City inspector adds the site to list of sites to be checked.

The City inspector then watches the site to insure the perimeter controls and other BMP's are properly set prior to construction starting.

The City inspector performs the periodic inspections for the site using the checklist as a guide. The inspection is properly documented.

Any concerns or deficiencies are reported to the contractor verbally or in writing.

These are noted for attention in follow-up inspections.

Inspection records are kept in paper form and in a computer database in each division. The engineering consultant has developed a share point site for storage of all construction site inspection records. This share point site is accessible by all the staff involved with the MS4 compliance matters.

Should the contractor fail to comply with the necessary corrective actions the City inspector is to follow the enforcement protocol included in the City code in Ch. 23. This calls for verbal warning, then a written warning with a specific compliance date and time indicated, then a stop work order can be issued, and then a summons to court can be issued. For the last two steps in the enforcement process the Nuisance Abatement officials are included in the process.

Once the site work is complete and any open soils are properly covered or protected by vegetation the site is noted as being closed and no more construction inspections are required.

Before the certificate of occupancy for the site issued the developer is required to have his designer provide to the City written confirmation that all stormwater elements are installed per the approved plans. The developer is



also required to provide Record Drawings to the City Engineering Department for the stormwater elements on the site.

## **Post Construction Inspection Procedures & Policies**

(4.5.E & 4.5.D)

Most sites will have Post Construction BMP's or elements as part of the site development plan. These are to be inspected during the construction phase by the site construction inspector. Part of that process is to insure the elements are properly installed.

The City is to have a database of the post construction elements for tracking purposes.

City code requires that the owner perform an annual inspection of their post construction water quality elements to determine proper function and to see if any repairs or maintenance actions are necessary. The owner is to file the inspection report with the City MS4 manager for record purposes.

The City inspectors are to perform periodic inspections of the post construction water quality elements within the 5 year period of the active MS4 permit. Any deficiencies are to be reported to the owner for corrective actions.

When site development includes new drainage inlets the City code requires developers to use frames with the "Do Not Dump... Drains To River" message cast into the frame.

## **Good Housekeeping Procedures & Policies (4.6.F)**

### Used Oil Program

The City has an authorized Used Oil Do It Yourself Collection program. Documentation is on file from the MO DNR dated 6-24-09.

The City uses oil from its own maintenance operations to be burned in used oil heaters for the maintenance shop area in the recycling center building.

The City also accepts used oil from citizens who bring used oil from their do it yourself activities. The citizen may bring their oil to the maintenance shop where it will be turned over to a shop employee to be dumped. The citizen must sign a log sheet listing the date, their name, what the product is and the estimated quantity.

The used oil storage tanks are included in the SPCC for the fleet maintenance area. The tanks are either double wall or have outer containment. The tanks are inside the building.

Monthly inspections are conducted and documented as required by the SPCC for the fleet maintenance area.

#### Used Materials Recycling

The Public Works Department recycles many products that result from maintenance operations. Tires, batteries, and used oil are recycled.

The City has a very successful solid waste recycling program. This program takes the usual "garbage type" recyclables. It also accepts old appliances.

#### Snow and Ice Controls (4.6.F)

The City has a salt dome for protected storage of salt year round. The salt spreaders used are calibrated to the vehicle speed to minimize over spreading salt onto the roadways. The City also uses brine solution as much as possible to reduce the pollution effect of snow and ice controls.

#### **Stormwater Debris Disposal (4.6.G)**

The City Stormwater Crew cleans grated inlets around the City following moderate to heavy rain events. When necessary this crew also removes trees limbs, tree trunks, and other debris that washes up in the streams and creeks. All of this material is then stored at the City's old solid waste transfer station facility (now inactive for solid waste operations). This material is combined with leaves collected in the leaf pick up program. Once each year the City hires a contractor to mulch all the material for use by City departments or the public.

## **Appendix 5**

### **Clear Choices Clean Water Website**

4.1.C

<https://capegirardeau.clearchoicescleanwater.org>

### **Outfall Map Website**

4.3.A

<https://cocg.maps.arcgis.com/home/index.html>

Username and Password available upon request

### **MS4 Construction Site information**

4.4.C: 5

Share Point:

<https://sites.bfaeng.com/projects/3241-5>

This is a password protected access site.

BFA and City staff has access to it.

This houses the inspection reports from site inspections.

# **Appendix 6**

## **Parks Dept. Newsletter Insert**

4.1.C

For Parks newsletter

### **Storm Water Notes: Water Pollution Prevention**

As we go about the everyday activities of summer, the Cape Public Works Department would encourage citizens to be mindful of water pollution prevention. There are many simple ways to help reduce water pollution levels in our creeks and waterways.

**Do Not Over Fertilize The Lawn** -Use only the amount needed, which is usually far less than you think. Most lawns would be quite healthy by just leaving the clippings from mowing in place to decay into the soil.

**Do Not Dump Fluids In The Drains** – Properly dispose of used oil and other fluids. Do not dump these in the ditches or drains. That causes the oil to run into the creeks and to the river leaving pollution effects along the way.

**Do Not Sweep Grass Clippings Into The Drain** – This can clog the drain causing local flooding. If the grass washes away it ends up in the creeks. This increases the amount of nitrogen and organic matter in the stream which is bad for plants and animals living in the water. Composting is a great way to handle yard waste to avoid polluting the waterways.

**Direct Roof Drains To Flow Over The Lawn** – Flow from roof drains should not be set to flow over paved areas but rather to flow over land through grassy areas. This allows the water to soak into the ground, water the plants, and filter pollutants from the water.

**Repair Leaks On Vehicles** – The oils and other fluids that drip on pavement will get washed in to the creeks. Even a small amount of these fluids can cause a big pollution effect in the stream.

**Do Not Litter** – In addition to being unsightly, litter clogs drains and is a pollutant. Plastics, Styrofoam, metal, and paper products end up in streams or along the banks. These pollutants cause harm to the plants and animals living in and around the waterways.

**Pick Up A Little Trash When You Visit A Park Or River** - Others will see your actions and perhaps hesitate to litter next time. Every small action makes a difference.

**Properly Dispose Of Pet / Animal Waste** - Animal waste can be a major source of water pollution. The waste washes in to the creeks overloading the nutrient levels causing low oxygen levels. This is bad for the plants and animals in the water.

**Be Careful With Use Of Lawn And Household Chemical Products** – Misuse or improper application of lawn and household chemicals can pollute the waterways. Only use these products according to the directions.

# **Appendix 7**

## **Adaptive Management for BMP Evaluation (3.1.B)**

The City of Cape Girardeau will use the protocol described below to evaluate and assess the various Best Management Practices (BMP) identified in the City's SWMP.

Each year the City will evaluate all of the BMP's in each MCM category as required by the permit. The annual review of BMP's will be performed by the Stormwater Coordinator. If significant updates are recommended to the SWMP then a Public Hearing process will be initiated.

The adaptive management process will generally be:

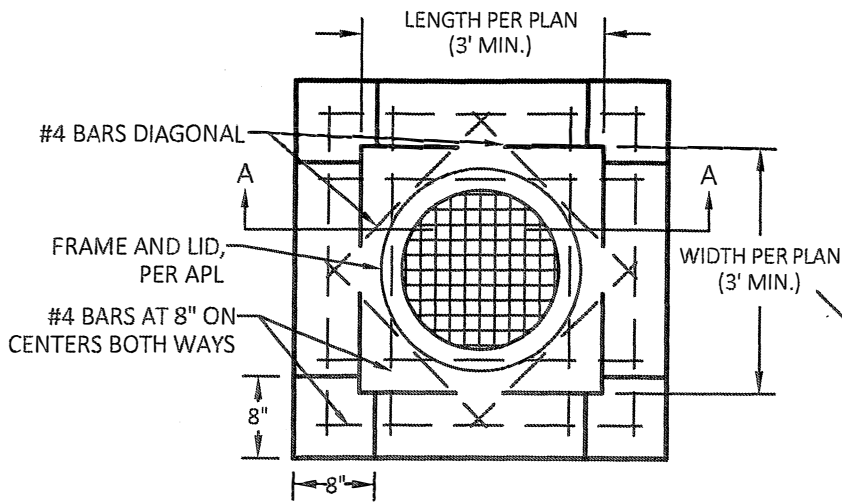
- City staff will prepare a list of the BMP's describing the BMP, its function, how its effectiveness is to be determined, its measureable goal, which MCM it applies to, and any assessment criteria.
- A comment period of not less than 14 days will be set to receive comments from City staff.
- All comments received will be reviewed and any credible or reasonable changes will be proposed in a draft SWMP revision report.
- If there are no changes to the SWMP necessary, City staff will document the review process and include that information in the annual report to Mo DNR.
- If significant changes to the SWMP are proposed the public review process as defined in the permit will be followed.

The City may occasionally choose to use additional elements to receive public comment. Such additional elements could be use of online surveys, public meetings called for discussion of given topics, or mailings to selected resident groups. The City will not use these every year, but may choose to use such additional elements at their discretion in a given year.

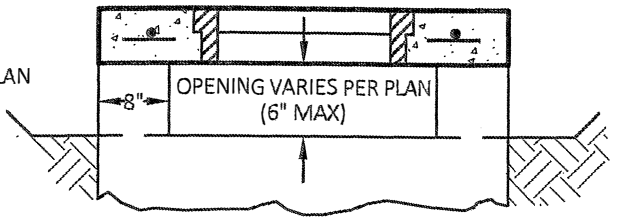
# **Appendix 8**

## **Permanent Storm Drain Marking**

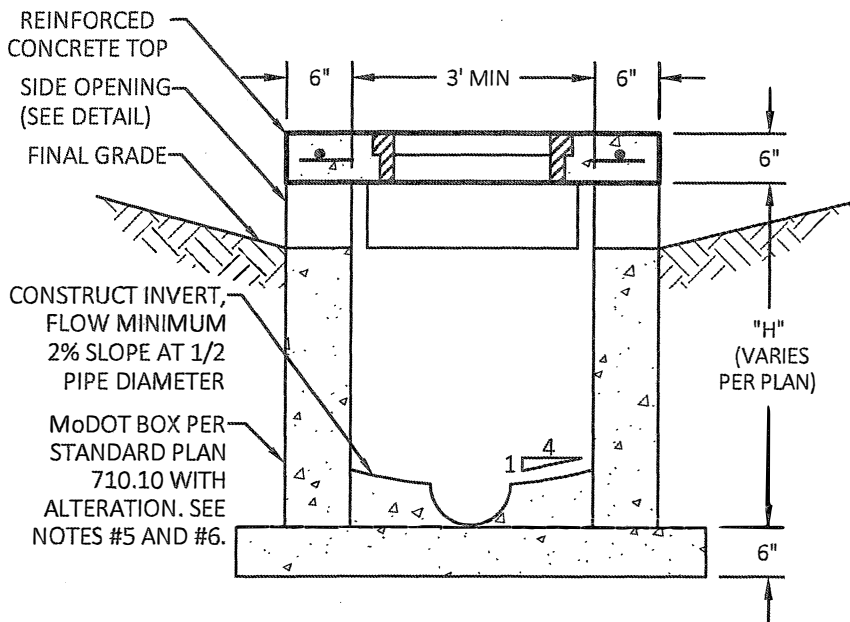
4.1.C



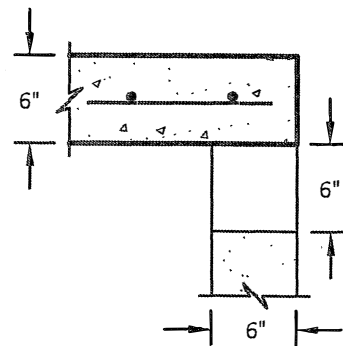
PLAN VIEW



SIDE OPENING DETAIL



SECTION A-A



OPENINGS 6"

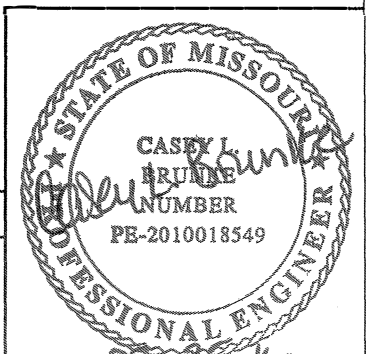
Notes:

1. All work shall be done in accordance with the latest edition of the City of Cape Girardeau Standard Specifications.
2. Concrete shall have 28 day minimum strength of 4000 PSI.
3. Structures where "H" is greater than eight feet shall be reinforced concrete (#4 bars at 12" centers, both ways and #4 bars diagonal at pipe openings).
4. Other than details shown above, the barrel and base sections are to be constructed according to MoDOT Standard Drawing No. 731.10.
5. Side openings shall be on all four sides per dimensions shown unless noted otherwise on the plan.
6. Steps shall be omitted. Shaped concrete invert shall be added.
7. All box lids shall have the language "Do Not Dump, Drains to River" or similar language located on a plaque on the lid. See the APL for approved plaques.

Area Inlet - Weir Opening

Prepared By: JH	Scale: NTS	Revisions:
Checked By: TR - DW - JL		
Date: 02-25-2016	Page 32	

**CITY of CAPE GIRARDEAU**  
 DEVELOPMENT SERVICES  
City Standard Details





# **Appendix 9**

## **Cape Girardeau MS4 Target Audience List** 4.1.A

**MS4 Target Audience**  
**Developers and Construction Site Operators**

	Group	Company	Contact Person	
1	<b>Developers</b>	Drury SW	Dennis Volnick	
		Drury SW	Larry Westrich	
2		Mid-America Motels	Melanie Cantrell	
3		Mayson Capital Partners, LLC	Jeff Maurer	
4		Rhodes Group	Scott Rhodes	
5		R. Hetzel Properties	Rick Hetzel	
6				
8	<b>Engineer / Arch</b>	Koehler Engeering	Chris Koehler	
9		Bowen Engineering	Chirs Bowen	
10		KLG Engineering	Kelly Green	
11		Phillip Smith Architect, LLC	Phillip Smith	
12				
13	<b>Contractors</b>	Fronabarger Concreters	David McMullin	
14		Boulder Construction	Gabe Wunderlich	
15		Nip Kelley	Vince Kelley	
16		Zoellner	Matt Zoellner	
17		Columbia Construction	John Jansen	
18		Kiefner Bro's	Tom Kiefner	
19		Penzel Construction	Philip Penzel	
20				

# Appendix 10

## **Illicit Discharge Policy & Procedures Manual (4.3.I)**

### **Dry Weather Screening Strategy (4.3.D)**

The City will identify the constructed outfalls in the MS4. These are provided in a list with this Appendix.

Dry weather screenings will be performed on at least 12% of the total outfalls each year. This will accomplish the screening of 60% of all outfalls during the permit period. All outfalls in priority areas will be screened each year. The total outfalls and priority area outfalls are listed as attachments to this appendix.

The attached form will be used for the dry weather screening.

This dry weather screening inspection will include getting a photo of the outfall with its unique ID information and making a visual assessment of the condition of the outfall. Specific attention will be given to:

observe the structure for any stains that would indicate a previous illicit discharge  
observation of the receiving stream conditions

logging in the exact location with GPS equipment for Lat / Lon data

If any flows are observed record:

Flow rate

Temperature, pH, conductivity, and turbidity

Any odors, colors, floatables present

If water samples are determined to be necessary said samples will be grabbed and taken to a local lab for processing. The parameters to be tested will be determined based on the nature of the observations at the site. For example, if a gasoline or diesel odor is observed, then the lab tests will probably be a TPH or BTEX testing. If sanitary sewer odor is observed, the E.coli testing would be done. If a chemical contamination is expected, then testing for that type of element would be done.

Any irregularities will be reported to the Public Works Director and appropriate investigation steps will be undertaken.

The data will be recorded on the inspection form, and that information will be stored with the GIS data for each of the representative outfalls

Any signs of illicit discharges will be investigated to determine if a source can be identified. Appropriate actions will be followed as described in the Illicit Discharge Tracking information. Appropriate enforcement actions will be taken as described in the City Codes.

### **Illicit Discharge Tracing Procedure (4.3.F)**

Once an illicit discharge is discovered the City sewer or stormwater crew will begin the process to track the evidence upstream to determine a source. The City crew will track the evidence by various means as necessary. This could be on foot or by vehicle. When conveyance structures are underground, the crew will use pipeline tv apparatus to track the evidence.

Once the upstream limit of the discharge is determined the crew will study the area to see what the possible sources may be. This will include an assessment of area businesses and residential locations. Consideration of the evidence's nature will be used to narrow the possible sources search.

Proper actions to correct or clean the impacted areas will be implemented as quickly as possible. Should the discharge be sufficiently large to threaten aquatic life or the well-being of residents in the area of the stream, or prove to be difficult in tracking, the MoDNR office in Poplar Bluff will be notified to request their assistance.

Once the source of the discharge is determined the owner will be notified of the findings. If any charges for clean up or corrections are in order the owner will be notified promptly. If any legal actions are necessary the proper authorities will be contacted to perform those duties. The owner will be advised to determine how the discharge occurred and to take proper educational and preventative actions to prevent any future occurrences.

### **Septic Tank Policy (4.3.C)**

The City of Cape Girardeau is updating the information for septic tank locations. This work is combining paper records from Cape Girardeau County data and City GIS mapping data. The City is updating the sewer wye location data in the GIS mapping system using record drawings. This work will provide a more accurate data set for the septic tank locations.

When the City is made aware of a problem with a septic tank city staff will do an inspection to examine the conditions. Then the matter is referred to Cape Girardeau County Health Department for their action.

### **Outfalls Map (4.3.A) – Appendix 5**

### **Total Constructed Outfall List (4.3.B)**

### **Priority Areas Outfall List (4.3.H)**

Facility ID	Ownership	Outfall	Receiving Stream	Latitude	Longitude	Type
93	City	Yes	WALKER BRANCH	37.305404	-89.551389	RIP RAP AREA
99	City	Yes	WALKER BRANCH	37.306606	-89.551209	PIPE OUTLET
2248	City	Yes	WALKER BRANCH	37.308971	-89.551448	PIPE OUTLET
2646	City	Yes	CAPE LA CROIX CREEK	37.307149	-89.555832	PIPE OUTLET
3221	City	Yes	SLOAN CREEK	37.326598	-89.526780	PIPE OUTLET
3222	City	Yes	SLOAN CREEK	37.326718	-89.526918	PIPE OUTLET
1826	City	Yes	SLOAN CREEK	37.315425	-89.518325	PIPE OUTLET
1827	City	Yes	SLOAN CREEK	37.315432	-89.518202	PIPE OUTLET
2269	MODOT	Yes	CAPE LA CROIX CREEK	37.301382	-89.553154	RIP RAP AREA
14288	City	Yes	unnamed tributary	37.318176	-89.576711	PIPE OUTLET
3201	City	Yes	SLOAN CREEK	37.321958	-89.523582	PIPE OUTLET
2652	City	Yes	CAPE LA CROIX CREEK	37.307353	-89.555593	PIPE OUTLET
15036	MODOT	Yes	WALKER BRANCH	37.303647	-89.552119	PIPE OUTLET
3220	City	Yes	SLOAN CREEK	37.326630	-89.526849	PIPE OUTLET
4305	City	Yes	CAPE LA CROIX CREEK	37.290493	-89.546208	PIPE OUTLET
3836	Private	Yes	WALKER BRANCH	37.314060	-89.551607	PIPE OUTLET
3907	City	Yes	WALKER BRANCH	37.313243	-89.551371	PIPE OUTLET
3979	City	Yes	WALKER BRANCH	37.323905	-89.546554	RIP RAP AREA
3980	City	Yes	WALKER BRANCH	37.321847	-89.547732	RIP RAP AREA
3989	City	Yes	WALKER BRANCH	37.313828	-89.551461	PIPE OUTLET
3994	Private	Yes	WALKER BRANCH	37.312969	-89.551474	PIPE OUTLET
15100	City	Yes	RANNEY CREEK	37.262694	-89.595833	PIPE OUTLET
3998	City	Yes	WALKER BRANCH	37.311695	-89.551400	PIPE OUTLET
3999	City	Yes	WALKER BRANCH	37.311589	-89.551416	PIPE OUTLET
17501	City	Yes	WALKER BRANCH	37.308683	-89.551404	PIPE OUTLET
17502	City	Yes	WALKER BRANCH	37.308288	-89.551335	PIPE OUTLET
17503	MODOT	Yes	WALKER BRANCH	37.307072	-89.551343	PIPE OUTLET
17419	City	Yes	WALKER BRANCH	37.306849	-89.551188	PIPE OUTLET
17420	MODOT	Yes	WALKER BRANCH	37.305633	-89.551584	PIPE OUTLET
17422	City	Yes	WALKER BRANCH	37.305015	-89.551578	PIPE OUTLET
17518	City	Yes	WALKER BRANCH	37.303944	-89.551844	PIPE OUTLET
17428	City	Yes	CAPE LA CROIX CREEK	37.301025	-89.554489	PIPE OUTLET
14729	City	Yes	CAPE LA CROIX CREEK	37.301111	-89.554682	PIPE OUTLET
14730	City	Yes	CAPE LA CROIX CREEK	37.301305	-89.555006	PIPE OUTLET
4031	City	Yes	CAPE LA CROIX CREEK	37.301198	-89.554856	PIPE OUTLET
4243	City	Yes	CAPE LA CROIX CREEK	37.288299	-89.542012	PIPE OUTLET
4832	City	Yes	RAMSEY BRANCH	37.285163	-89.575225	PIPE OUTLET
4807	City	Yes	RAMSEY BRANCH	37.285412	-89.577998	PIPE OUTLET
4809	City	Yes	RAMSEY BRANCH	37.285687	-89.577400	PIPE OUTLET
4813	City	Yes	RAMSEY BRANCH	37.285356	-89.576910	PIPE OUTLET
5652	Private	Yes	BANNISTER BRANCH	37.298217	-89.565011	PIPE OUTLET
5966	City	Yes	CAPE LA CROIX CREEK	37.303760	-89.555147	PIPE OUTLET
5968	City	Yes	CAPE LA CROIX CREEK	37.304008	-89.555191	PIPE OUTLET
5970	City	Yes	CAPE LA CROIX CREEK	37.304490	-89.555114	PIPE OUTLET
5973	City	Yes	CAPE LA CROIX CREEK	37.305276	-89.554811	PIPE OUTLET
5974	City	Yes	CAPE LA CROIX CREEK	37.305698	-89.554800	PIPE OUTLET
5978	MODOT	Yes	CAPE LA CROIX CREEK	37.303707	-89.554705	PIPE OUTLET
6018	City	Yes	VETERAN'S FORK	37.317691	-89.600250	PIPE OUTLET
6024	City	Yes	VETERAN'S FORK	37.316662	-89.600026	PIPE OUTLET
6099	Private	Yes	TRIBUTARY TO VETERAN'S FORK	37.320882	-89.599818	PIPE OUTLET
6107	City	Yes	TRIBUTARY TO VETERAN'S FORK	37.321030	-89.598135	PIPE OUTLET
6177	City	Yes	CAPE LA CROIX CREEK	37.311272	-89.560227	PIPE OUTLET
6186	City	Yes	CAPE LA CROIX CREEK	37.311024	-89.560106	PIPE OUTLET
6197	Parks	Yes	CAPE LA CROIX CREEK	37.309934	-89.557875	PIPE OUTLET
6317	MODOT	Yes	WALKER BRANCH	37.308662	-89.551567	PIPE OUTLET
6325	City	Yes	CAPE LA CROIX CREEK	37.307561	-89.555615	PIPE OUTLET
6425	City	Yes	CAPE LA CROIX CREEK	37.311382	-89.560882	PIPE OUTLET
6428	City	Yes	CAPE LA CROIX CREEK	37.311353	-89.559810	PIPE OUTLET
6431	City	Yes	CAPE LA CROIX CREEK	37.311091	-89.559826	PIPE OUTLET
6466	City	Yes	CAPE LA CROIX CREEK	37.313193	-89.563790	PIPE OUTLET
6476	City	Yes	CAPE LA CROIX CREEK	37.308303	-89.557927	PIPE OUTLET
15130	City	Yes		37.277936	-89.589473	FLARED END SECTION
6842	City	Yes	CAPE LA CROIX CREEK	37.332110	-89.571134	PIPE OUTLET

6843	City	Yes	CAPE LA CROIX CREEK	37.331906	-89.571166	RIP RAP AREA
6845	City	Yes	CAPE LA CROIX CREEK	37.330167	-89.572097	PIPE OUTLET
6848	City	Yes	CAPE LA CROIX CREEK	37.329330	-89.571892	PIPE OUTLET
6851	City	Yes	CAPE LA CROIX CREEK	37.327361	-89.571504	PIPE OUTLET
6856	City	Yes	CAPE LA CROIX CREEK	37.321850	-89.570708	PIPE OUTLET
6858	City	Yes	CAPE LA CROIX CREEK	37.321735	-89.571238	PIPE OUTLET
6860	City	Yes	CAPE LA CROIX CREEK	37.321579	-89.571241	PIPE OUTLET
6864	City	Yes	CAPE LA CROIX CREEK	37.321500	-89.570882	PIPE OUTLET
6866	City	Yes	CAPE LA CROIX CREEK	37.320148	-89.569568	PIPE OUTLET
6875	City	Yes	CAPE LA CROIX CREEK	37.319233	-89.568690	PIPE OUTLET
6879	City	Yes	CAPE LA CROIX CREEK	37.314899	-89.566143	PIPE OUTLET
6883	City	Yes	CAPE LA CROIX CREEK	37.313070	-89.562999	PIPE OUTLET
6888	City	Yes	CAPE LA CROIX CREEK	37.314020	-89.564841	PIPE OUTLET
6898	City	Yes	CAPE LA CROIX CREEK	37.312293	-89.562031	PIPE OUTLET
7181	City	Yes	CAPE LA CROIX CREEK	37.324413	-89.567877	PIPE OUTLET
7281	MODOT	Yes	VETERAN'S FORK	37.308579	-89.599749	PIPE OUTLET
7643	City	Yes	CAPE LA CROIX CREEK	37.315177	-89.567008	PIPE OUTLET
7807	City	Yes	CAPE LA CROIX CREEK	37.316495	-89.568683	PIPE OUTLET
7813	City	Yes	CAPE LA CROIX CREEK	37.318451	-89.569263	PIPE OUTLET
7931	City	Yes	BRECKENRIDGE BRANCH	37.331619	-89.584877	PIPE OUTLET
8233	City	Yes	VETERAN'S FORK	37.338551	-89.593538	PIPE OUTLET
8235	City	Yes	VETERAN'S FORK	37.338553	-89.593482	PIPE OUTLET
8317	City	Yes	CAPE LA CROIX CREEK	37.330813	-89.572363	PIPE OUTLET
8318	City	Yes	CAPE LA CROIX CREEK	37.330864	-89.572340	PIPE OUTLET
8322	City	Yes	CAPE LA CROIX CREEK	37.329883	-89.572474	PIPE OUTLET
8391	County	Yes	VETERAN'S FORK	37.338719	-89.593470	PIPE OUTLET
8429	City	Yes	CAPE LA CROIX CREEK	37.331251	-89.572209	PIPE OUTLET
8553	City	Yes	CAPE LA CROIX CREEK	37.340496	-89.574688	PIPE OUTLET
8564	City	Yes	CAPE LA CROIX CREEK	37.340944	-89.575111	RIP RAP AREA
8836	City	Yes	CAPE LA CROIX CREEK	37.335049	-89.572627	PIPE OUTLET
8869	City	Yes	CAPE LA CROIX CREEK	37.356419	-89.563052	PIPE OUTLET
8969	City	Yes	CAPE LA CROIX CREEK	37.350377	-89.566243	PIPE OUTLET
8971	City	Yes	CAPE LA CROIX CREEK	37.349891	-89.568322	PIPE OUTLET
9079	City	Yes	CAPE LA CROIX CREEK	37.352023	-89.565140	PIPE OUTLET
9083	City	Yes	CAPE LA CROIX CREEK	37.352736	-89.565124	PIPE OUTLET
9439	Private	Yes	SLOAN CREEK	37.326493	-89.526936	PIPE OUTLET
9874	City	Yes	CAPE LA CROIX CREEK	37.277992	-89.534001	PIPE OUTLET
10410	City	Yes	VETERAN'S FORK	37.325056	-89.600254	PIPE OUTLET
10557	Private	Yes	BRECKENRIDGE BRANCH	37.326634	-89.573514	PIPE OUTLET
10622	Private	Yes	BANNISTER BRANCH	37.297877	-89.564352	PIPE OUTLET
10955	City	Yes	RAMSEY BRANCH	37.265571	-89.564828	PIPE OUTLET
14194	City	Yes	BRECKENRIDGE BRANCH	37.328305	-89.584150	PIPE OUTLET
12302	Private	Yes	MISSISSIPPI RIVER	37.329749	-89.494819	PIPE OUTLET
12303	Private	Yes	MISSISSIPPI RIVER	37.329579	-89.494784	PIPE OUTLET
11559	City	Yes	SCIVALLY BRANCH	37.330548	-89.549613	PIPE OUTLET
11561	City	Yes	SCIVALLY BRANCH	37.330651	-89.549628	PIPE OUTLET
11571	City	Yes	SCIVALLY BRANCH	37.328860	-89.550357	PIPE OUTLET
11617	City	Yes	SCIVALLY BRANCH	37.327501	-89.549574	PIPE OUTLET
11618	City	Yes	SCIVALLY BRANCH	37.327500	-89.549482	PIPE OUTLET
11614	City	Yes	SCIVALLY BRANCH	37.329013	-89.550183	PIPE OUTLET
11623	City	Yes	SCIVALLY BRANCH	37.327359	-89.549531	PIPE OUTLET
11624	City	Yes	SCIVALLY BRANCH	37.327378	-89.549444	PIPE OUTLET
11659	City	Yes	WALKER BRANCH	37.323036	-89.547334	PIPE OUTLET
11680	City	Yes	WALKER BRANCH	37.321306	-89.548095	PIPE OUTLET
11684	City	Yes	WALKER BRANCH	37.316498	-89.550344	PIPE OUTLET
11687	City	Yes	WALKER BRANCH	37.320133	-89.548402	PIPE OUTLET
11691	City	Yes	WALKER BRANCH	37.321871	-89.547985	RIP RAP AREA
11761	City	Yes	WALKER BRANCH	37.317643	-89.549033	PIPE OUTLET
11866	City	Yes	WALKER BRANCH	37.322296	-89.547736	PIPE OUTLET
12035	City	Yes	SCIVALLY BRANCH	37.336783	-89.549420	PIPE OUTLET
12036	City	Yes	SCIVALLY BRANCH	37.335417	-89.547898	PIPE OUTLET
12037	City	Yes	SCIVALLY BRANCH	37.335294	-89.547873	PIPE OUTLET
12056	City	Yes	SCIVALLY BRANCH	37.342961	-89.550779	PIPE OUTLET
12059	City	Yes	SCIVALLY BRANCH	37.341764	-89.550542	PIPE OUTLET

12079	City	Yes	SCIVALLY BRANCH	37.338367	-89.549925	PIPE OUTLET
12229	City	Yes	SCIVALLY BRANCH	37.344466	-89.550719	PIPE OUTLET
12284	City	Yes	CAPE LA CROIX CREEK	37.354959	-89.562806	PIPE OUTLET
12315	MODOT	Yes	JUDEN CREEK	37.341615	-89.507471	PIPE OUTLET
12594	City	Yes	CAPE LA CROIX CREEK	37.342433	-89.576635	PIPE OUTLET
12619	City	Yes	CAPE LA CROIX CREEK	37.336563	-89.573840	PIPE OUTLET
12622	City	Yes	CAPE LA CROIX CREEK	37.333980	-89.572160	PIPE OUTLET
12767	City	Yes	SLOAN CREEK	37.315672	-89.516144	PIPE OUTLET
12838	Private	Yes	SLOAN CREEK	37.324267	-89.524939	PIPE OUTLET
12840	Private	Yes	SLOAN CREEK	37.324664	-89.525254	PIPE OUTLET
12842	Private	Yes	SLOAN CREEK	37.324876	-89.525615	PIPE OUTLET
12843	Private	Yes	SLOAN CREEK	37.326292	-89.526573	PIPE OUTLET
12844	City	Yes	SLOAN CREEK	37.326516	-89.526590	PIPE OUTLET
13005	Private	Yes	CAPE LA CROIX CREEK	37.304488	-89.554757	PIPE OUTLET
13367	City	Yes	RAMSEY BRANCH	37.264602	-89.565529	PIPE OUTLET
13318	City	Yes	WALKER BRANCH	37.315487	-89.551148	PIPE OUTLET
13365	City	Yes	RAMSEY BRANCH	37.264707	-89.565558	PIPE OUTLET
13460	City	Yes	CAPE LA CROIX CREEK	37.320166	-89.570704	PIPE OUTLET
13472	Private	Yes	WALKER BRANCH	37.307273	-89.551122	RIP RAP AREA
13418	City	Yes	WALKER BRANCH	37.310627	-89.551393	PIPE OUTLET
13422	City	Yes	WALKER BRANCH	37.311605	-89.551432	PIPE OUTLET
13535	Private	Yes	JUDEN CREEK	37.340190	-89.504384	PIPE OUTLET
13579	City	Yes	CAPE LA CROIX CREEK	37.299042	-89.551767	PIPE OUTLET
13616	City	Yes	CAPE LA CROIX CREEK	37.296930	-89.551403	PIPE OUTLET
13627	City	Yes	CAPE LA CROIX CREEK	37.300550	-89.552348	PIPE OUTLET
13633	City	Yes	WALKER BRANCH	37.301588	-89.552427	PIPE OUTLET
13638	City	Yes	WALKER BRANCH	37.301834	-89.552413	PIPE OUTLET
13641	City	Yes	CAPE LA CROIX CREEK	37.296482	-89.551539	PIPE OUTLET
14230	City	Yes	BRECKENRIDGE BRANCH	37.326860	-89.575180	PIPE OUTLET
14231	City	Yes	BRECKENRIDGE BRANCH	37.326741	-89.574179	PIPE OUTLET
14232	City	Yes	BRECKENRIDGE BRANCH	37.326753	-89.574179	PIPE OUTLET
14605	City	Yes	unnamed tributary	37.318182	-89.576702	PIPE OUTLET
14633	City	Yes	WALKER BRANCH	37.315392	-89.551343	PIPE OUTLET
14637	City	Yes	WALKER BRANCH	37.313064	-89.551311	PIPE OUTLET
14638	City	Yes	WALKER BRANCH	37.310413	-89.551645	PIPE OUTLET
15001	City	Yes	RANNEY CREEK	37.262543	-89.595922	PIPE OUTLET
15617	City	Yes	MISSISSIPPI RIVER	37.311764	-89.515977	PIPE OUTLET
15622	City	Yes	MISSISSIPPI RIVER	37.301823	-89.518068	PIPE OUTLET
15634	City	Yes	MISSISSIPPI RIVER	37.292719	-89.520975	PIPE OUTLET
16343	City	Yes	MISSISSIPPI RIVER	37.305819	-89.517287	PIPE OUTLET
16392	City	Yes	MISSISSIPPI RIVER	37.309467	-89.517048	PIPE OUTLET
16068	City	Yes	MISSISSIPPI RIVER	37.293269	-89.520773	PIPE OUTLET
16077	City	Yes	MISSISSIPPI RIVER	37.298766	-89.518704	PIPE OUTLET
16703	City	Yes	WALKER BRANCH	37.321431	-89.547886	PIPE OUTLET
16759	City	Yes	CAPE LA CROIX CREEK	37.343653	-89.576192	FLARED END SECTION
16786	Private	Yes	CAPE LA CROIX CREEK	37.353213	-89.564764	PIPE OUTLET
16785	Private	Yes	CAPE LA CROIX CREEK	37.353153	-89.564537	PIPE OUTLET
17277	City	Yes	CAPE LA CROIX CREEK	37.341227	-89.577034	FLARED END SECTION
17310	City	Yes	CAPE LA CROIX CREEK	37.281331	-89.543739	PIPE OUTLET
17575	City	Yes	WILLIAMS CREEK	37.380553	-89.612625	PIPE OUTLET
17623	Private	Yes	unnamed tributary	37.318350	-89.576649	FLARED END SECTION
17624	Private	Yes	unnamed tributary	37.318338	-89.576654	FLARED END SECTION
17671	City	Yes	CAPE LA CROIX CREEK	37.330669	-89.571981	PIPE OUTLET
17875	City	Yes	CAPE LA CROIX CREEK	37.278259	-89.533697	PIPE OUTLET
17952	Private	Yes		37.304398	-89.579730	RIP RAP AREA
18001	City	Yes	Williams	37.383915	-89.610614	PIPE OUTLET
18178	City	Yes	MISSISSIPPI RIVER	37.301856	-89.518323	BOX CULVERT
18583	City	Yes		37.277648	-89.589662	FLARED END SECTION
18593	City	Yes		37.274792	-89.590153	FLARED END SECTION
18599	City	Yes		37.274195	-89.590334	PIPE OUTLET
18607	City	Yes		37.269517	-89.592236	FLARED END SECTION
18608	City	Yes		37.269417	-89.592303	PIPE OUTLET
18614	City	Yes		37.271663	-89.591078	FLARED END SECTION
18621	City	Yes		37.271846	-89.590995	FLARED END SECTION

18798	Private	Yes	Unnamed Tributary of Cape LaCroix Creek	37.346241	-89.556979	FLARED END SECTION
18870	City	Yes	CAPE LA CROIX CREEK	37.315162	-89.565913	PIPE OUTLET
18872	City	Yes	CAPE LA CROIX CREEK	37.314677	-89.565870	PIPE OUTLET
18883	Parks	Yes	CAPE LA CROIX CREEK	37.310238	-89.558301	PIPE OUTLET



## Priority Area Outfall List

Facility ID	Ownership	Outfall	Receiving Stream	Latitude	Longitude	Type	Material	Size
2646	City	Yes	CAPE LA CROIX CREEK	37.307149	-89.555832	PIPE OUTLET	RCP	24
2269	MODOT	Yes	CAPE LA CROIX CREEK	37.301382	-89.553154	RIP RAP AREA	Rip Rap	20' x 40'
17428	City	Yes	CAPE LA CROIX CREEK	37.301025	-89.554489	PIPE OUTLET	RCP	24
14729	City	Yes	CAPE LA CROIX CREEK	37.301111	-89.554682	PIPE OUTLET	RCP	24
14730	City	Yes	CAPE LA CROIX CREEK	37.301305	-89.555006	PIPE OUTLET	RCP	24
4031	City	Yes	CAPE LA CROIX CREEK	37.301198	-89.554856	PIPE OUTLET	RCP	24
5966	City	Yes	CAPE LA CROIX CREEK	37.303760	-89.555147	PIPE OUTLET	RCP	
5968	City	Yes	CAPE LA CROIX CREEK	37.304008	-89.555191	PIPE OUTLET		5' x 4.58'
5970	City	Yes	CAPE LA CROIX CREEK	37.304490	-89.555114	PIPE OUTLET	RCP	18
5973	City	Yes	CAPE LA CROIX CREEK	37.305276	-89.554811	PIPE OUTLET	RCP	18
5974	City	Yes	CAPE LA CROIX CREEK	37.305698	-89.554800	PIPE OUTLET	RCP	18
5978	MODOT	Yes	CAPE LA CROIX CREEK	37.303707	-89.554705	PIPE OUTLET	RCP	42
13005	Private	Yes	CAPE LA CROIX CREEK	37.304488	-89.554757	PIPE OUTLET	PVC	4
13579	City	Yes	CAPE LA CROIX CREEK	37.299042	-89.551767	PIPE OUTLET	RCP	18
13616	City	Yes	CAPE LA CROIX CREEK	37.296930	-89.551403	PIPE OUTLET	RCP	30
13627	City	Yes	CAPE LA CROIX CREEK	37.300550	-89.552348	PIPE OUTLET	RCP	48
13641	City	Yes	CAPE LA CROIX CREEK	37.296482	-89.551539	PIPE OUTLET	RCP	

# **Appendix 11**

## **Fleet Maintenance - Standard Operating Procedures**

4.6.F

# **STANDARD OPERATING PROCEDURES** **FOR** **POLLUTION PREVENTION**

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### **Standard Operations Procedures Binder**

The Standard Operating Procedures (SOP's) will be kept in a binder clearly marked and available to the workers in the work area. Each Division will have an SOP binder with the general and site specific information for that work area. SOP's will be updated as necessary for each area. Each Division employee is to be aware of the location of the SOP binder, the organization of the information in it, and the general content.

## **Accidents & Injuries**

Accidents and injuries are to be handled according to the procedures adopted by the City and as described in the City Personnel Manual

## **Material Safety Data Sheets**

MSDS sheets will be received from each vendor with the product when it is initially delivered to Public Works. The MSDS sheets will be kept in an organized binder in the Division area where the product is used or stored. Each Division will keep an MSDS binder with information for that work area. The MSDS binder will be clearly labeled on the outside for quick recognition. The MSDS binder will be kept in a location where it is visible and quickly accessible to the workers in the area. The MSDS binder will be updated / checked at least once per year to clean out sheets for products no longer used, and to make sure sheets are present for the products in use. Each Division employee is to be aware of the location of the MSDS binder, how it is organized, and how to use the MSDS sheets.

## **Fluid Storage**

All fluids are to be stored in containers suitable for the product. Containers should be smaller than 55 gallons capacity when possible or feasible. All containers whether portable or fixed will have secondary containment for spill and leak control.

Outdoor containment areas will be protected from rain fall to the extent possible. Outdoor containment areas shall have a drain to release clean water. This drain is to be normally closed or plugged. It should only be opened to release water that has been confirmed as clean and then closed. The log sheet in the SPCC should be filled out each time an outdoor containment area is drained.

Indoor containment will be accomplished by containment pallets or interior containment walls.

Oil absorbent products made for the purpose of capturing and containing spills will be staged at various locations around the maintenance work areas. These products will be in containers that are clearly marked. The container shall have the absorbent product and a scoop or other means of transferring the product into a smaller container. These containers should be placed in close proximity to areas where oil, vehicle fluids, or solvent spills are likely to occur. All Division employees in the work area are to be advised of the location of the absorbent products and the use of them. The absorbent containers are to be checked weekly and refilled as necessary.

## Spill Response

When a fluid spill occurs, the worker nearest the spill should take immediate action to contain the fluid. This will usually be to spread the oil absorbent material over the spill. Another action would be to take the absorbent rolls and place them around the spill area to capture the fluid. There may also be absorbent pads that could be placed over the spill. The absorbent materials or kits will be placed in a few locations around the maintenance area for quick access. These containers will be clearly marked. The SPCC has specific guidance on response actions, and contact information for emergency response staff. It also has guidance for notification of proper officials, when necessary. Once the spill is contained, the supervisor should be notified of the spill including the type of fluid and the amount. Proper steps for disposal of the absorbent materials should be taken. The MSDS information may provide guidance for this. Proper protective gear should be used when handling the spill materials. Recommended response action for a spill should be covered in safety meetings with employees at least once per year.

For spills of dry materials, the material should be swept up completely. If it can still be used it should be placed back in a proper container. If the material cannot be used, it should be disposed of in a proper manner. **In no situation should spilled dry material be washed away. Dry material spills should not be swept into grass or paved areas to be washed away by rain water.**

## Used Oil

Oil taken from vehicles and equipment shall be placed in storage container(s) at Public Works. Used oil received from the public will be stored in the same container(s). This storage shall have secondary containment. The oil will be used for fuel in the waste oil heaters for the Public Works buildings. The Fleet Division will keep records of the amount of oil used as fuel for the heaters.

## Used Anti-Freeze

Used Anti-Freeze taken from vehicles and equipment shall be placed in suitable storage container(s) at Public Works. This storage shall have secondary containment. The anti-freeze will be disposed of by delivery to a commercial agent. They will properly dispose of the used anti-freeze. The Fleet Division will keep records of the amount of Anti-Freeze that is disposed of and the method of disposal

## **Used Tires**

When new tires are purchased for a unit direct from the vendor the vendor will take the old tires and be responsible for disposal. When tires are replaced out of inventory the old tires are to be collected and stored until they are picked up for disposal. The Fleet Division will keep records of the total number of tires sent for disposal.

## **Battery Disposal**

When new batteries are purchased direct from the vendor the vendor will take the old battery and be responsible for disposal. When batteries are replaced out of inventory stock the old batteries are to be collected and stored until they are delivered to Sides Scrap Metal for disposal. The Fleet Division will keep records of the total number of batteries sent for disposal

## **Salt & Ice Control Products**

The bulk salt will be stored in a covered area or salt dome on the Public Works site. This storage will protect the salt from rain. Salt application equipment shall be calibrated to the vehicle speed for control of the amount of salt spread. Equipment used to spread the salt shall be cleaned at the end of a snow / ice event. That salt will be properly disposed of by placing it back into storage or placing in a disposal container that will protect the salt from rain until it is hauled away.

Bagged ice melt products will be stored in a dry place protected from stormwater. Bagged ice melt products will be used according to the manufacturer's directions. Care will be taken to not over apply ice melt products.

## **Spraying Operations**

All employees involved with the application of spray applied products shall be properly trained and hold any necessary certifications or licenses accordingly. This applies for pesticides used for vector control, and for herbicides used for plant or weed control. If required, a written plan for the spraying program shall be kept on file in the appropriate office. If required, field reports or summary reports on the spraying program shall be properly kept in the appropriate office.

All chemicals and products used in such spraying programs shall be properly stored. All chemicals and products used in such spraying programs shall be properly handled by authorized personnel. Disposal of unused or aged products shall be through proper methods.

# **Appendix 12**

## **MS4 Training Videos**

4.6.A & 4.6.B

Each of these videos is from Excal Visual, a nationally recognized professional training video company, and is 15 to 20 minutes in length. The Public Works Dept. provides the following videos for training:

### **A Drop In the Bucket**

This 16 minute program shows employees at industrial and industrial-type government facilities the latest Stormwater Pollution Prevention techniques. Good housekeeping, Materials management, Spill prevention. Maintenance, and small spill clean-up are discussed.

### **Storm Warnings**

This video provides general awareness training to employees and contractors about stormwater pollution prevention. It describes Best Management Practices (BMPs) that are useful and important at a wide range of regulated facilities. It covers good housekeeping and other BMPs that help protect stormwater run-off.

### **Rain Check**

This program shows employees how to practice good housekeeping, spill response, materials management, vehicle fueling and washing and the other BMPs.

### **Ground Control Construction Site Controls**

This video shows employees how erosion, sediments and other potential surface water pollutants are controlled at construction sites. The program focuses on Best Management Practices (BMPs) that are widely used at most construction sites including: silt fence, stabilized entrances/exits, drop inlet protectors and others. The program illustrates how these BMPs work and how they can fail.

### **SPCC Controlling Oil**

This 16 minute video instructs employees on first response measures to take when a discharge is discovered. The video also addresses site security: measures to take to protect oil handling facilities against vandalism and terrorism. This 'SOV' version is specifically tailored for facilities that store modest amounts of oil in smaller containers.

### **IDDE A Grate Concern**

This video focuses on the hazards of illicit discharges and shows employees how to spot them.

# **Appendix 13**

## **Municipal Operations Impacted by MS4 O&M Program**

4.6.D & 4.6.E

The following Departments and Divisions of the City of Cape Girardeau participate in the MS4 Good Housekeeping MCM:

**Public Works:**

Streets & Traffic

Stormwater

Sanitary Sewer

Wastewater Treatment

Solid Waste

Fleet Maintenance

Alliance Water - contract operator for Water Division

Parks Department

Fire Department

The following City owned and operated facilities have NPDES permits:

Wastewater Treatment	MO 0136328
Solid Waste Transfer Station	MOR80H165
Airport	MOR80F020
Water Plant 1	General Permit. MOG640100
Water Plant 2	General Permit. MOG640100