

**Cartersville Phase II MS4
MO-R040085**

Storm Water Management Plan (SWMP)

For

City of Cartersville, Missouri



Introduction

This Stormwater Management Program Document constitutes the City of Carterville's 2013 Stormwater Management Program (SWMP) as required by the Missouri Department of Natural Resources Phase II Municipal stormwater permit. The purpose of the document is to detail actions that the City of Carterville will take between May 14th, 2013 to June 12th, 2018 to maintain compliance with conditions in the permit.

The National Pollutant Discharge Elimination System (NPDES) is a program created under the Federal Clean Water Act with the intent of protecting and restoring water quality in lakes and stream so that they can support "beneficial uses" such as fishing and swimming. Governmental and private entities wishing to discharge water or wastewater to surface waters regulated by the Federal Government (Waters of the US) must obtain permits and comply with certain conditions or face fines and other penalties.

A permit allows municipalities to discharge stormwater from municipal systems into "waters of the state" such as rivers, lakes and streams, as long as we implement programs to reduce pollutants in stormwater to "maximum extent possible" by conducting programs and activities in the following program areas:

- **Minimum Control Measure # 1: Public Education and Outreach**
- **Minimum Control Measure # 2: Public Involvement/Participation**
- **Minimum Control Measure # 3: Illicit Discharge Detection and Elimination**
- **Minimum Control Measure # 4: Construction Site Storm Water Runoff Control**
- **Minimum Control Measure # 5: Post-Construction Storm Water Management**
- **Minimum Control Measure # 6: Pollution Prevention/Good Housekeeping Practices for Municipal Operations**

Together, these Minimum Control Measures are expected to achieve significant reductions of pollutants discharged into the receiving water bodies.

For the city of Carterville, the Public Works Department, headed by Mike Smith, Public Works Director, has the main responsibilities for management and implementation of the Storm Water Management Program.

The following subsections outline the Best Management Practices (BMPs), measurable goals, and implementation schedule for each MCM proposed for the city of Carterville's Storm water Management Program.

MINIMUM CONTROL MEASURE # 1 PUBLIC EDUCATION AND OUTREACH

Missouri State Operating Permit No. MO-R040085 requires the city of Carterville to implement a Public Education and Outreach Program to distribute education materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

Carterville's Public Education and Outreach Program will utilize several outlets to inform individuals and households about the steps they can take to reduce storm water pollution and how to become involved in the program. The key elements of this program includes issuing print ads and news releases through the local newspaper, brochures, flyers at community events; and, maintaining a library of storm water literature available to the general public at City Hall.

The pollutant sources the Public Education and Outreach Program is designed to address are motor oil, pet wastes, yard wastes, fertilizers, herbicides, pesticides, sediment, and illicit discharges. The target audiences for the Public Education and Outreach Program and the pollutants that are likely to be utilized by each group include:

- Residential- Fertilizers, pet waste, pesticides, herbicides, motor oil, yard waste
- Developers- Sediment at construction sites and in streets, fertilizers, pesticides, herbicides, motor oil, yard waste
- Commercial- Fertilizers, illicit discharges, improper restaurant practices, motor oil in parking lots, pesticides, herbicides
- Industrial- Fertilizers, illicit discharges, motor oil in parking lots, pesticides, herbicides
- Institutional- Fertilizers, illicit discharges, improper restaurant practices, motor oil in parking lots, pesticides, herbicides

The following table establishes the tasks (BMPs), measurable goals, and implementation schedule proposed for the Public Education and Outreach Program.

Table 1
Public Education and Outreach Program Strategy and Implementation Schedule

BMP/Goal	Tasks Planned to Achieve Goals	Measurability	Implementation Schedule	Responsible Individual
Distribute stormwater brochures around city	Provide brochures, fact sheets, and newsletters to residents and businesses in the city Design "Welcome" information to new utility customers with stormwater education plus common code policies and city information	Brochure displays at Public Works, City Hall. Track number of brochures distributed. "Welcome" booklets distributed to all new utility customers	Ongoing, but displays in place by September 30, 2013. Quarterly checks of brochure displays for resupplying and count of brochures distributed "Welcome" booklets implemented by January 1, 2014	Mike Smith
Distribute Stormwater education activity books to all 3 rd Graders in Cartersville/Webb City School District	Produce activity books annually	Distribute 30 activity books each year the week before Spring Break	March 2013 March 2014 March 2015 March 2016 March 2017 March 2018	Mike Smith
Participate in "Environmental Day" in partnership with the Cartersville School District and provide stormwater education to 4 th graders	Prepare educational display Distribute materials	Speak to 30 students	April 12, 2013 April 2014 April 2015 April 2016 April 2017 April 2018	Mike Smith
Educate certain business owners of stormwater impacts	Use our "Menu" of Best Management Practices for restaurants and gas stations	Make contact with businesses annually	June 30, 2013 June 30, 2014 June 30, 2015 June 30, 2016 June 30, 2017 June 30, 2018	Mike Smith
News Media	Articles, notices, information to be placed in local newspaper	Use 2 times per year	Spring/Fall 2013 Spring/Fall 2014 Spring/Fall 2015 Spring/Fall 2016 Spring/Fall 2017 Spring/Fall 2018	Mike Smith
Partnerships	Continue working with Joplin Metropolitan Statistical Area and the City of Webb City	Annual Education Publications for recycling, stormwater	July 15, 2014 July 15, 2015 July 15, 2016 July 15, 2017 July 15, 2018	Mike Smith

**MINIMUM CONTROL MEASURE # 2
PUBLIC INVOLVEMENT/PARTICIPATION**

Missouri State Operating Permit No. MO-R040085 requires the City of Carterville to implement a Public Involvement/Participation Program that complies with State and local public notice requirements. The intent of the program is to achieve awareness and support from the general public for the Storm Water Management Program and pollution prevention practices.

Carterville's Public Involvement/Participation Program will utilize avenues discussed in the Public Education and Outreach Program to advertise the Public Involvement/Participation activities. Public Involvement/Participation activities planned for the program include an annual city wide clean up and storm drain marking. These events will be advertised by using advertisements and news releases in the local newspaper, and distribution of flyers. The target audiences for these programs include elementary school children, educators, homeowners, businesses, and environmental groups.

The public will also be encouraged to participate in development of the Storm Water Management Plan. A survey will be mailed to all residents with the intent of determining the level of public interest and awareness of storm water management and pollution prevention. The public will be encouraged to review a summary of the plan available on the storm water web page.

The following table establishes the tasks (BMPs), measurable goals, and implementation schedule proposed for the Public Involvement/Participation Program.

Table 2

Public Involvement/Participation Program Strategy and Implementation Schedule

BMP/Goal	Tasks Planned to Achieve Goals	Measurability	Implementation Schedule	Responsible Individual
Annual City Clean Up	Provide stations for residents to drop off *Metal Waste *Cardboard/Paper *Plastics *Furniture/Appliances *Paints, Solvents, Chemicals *Yard Waste	Track at least 45 residential vehicles who participate in the clean up.	May 11, 2013 May 2014 May 2015 May 2016 May 2017 May 2018	Mike Smith
Leaf Pick Up	City crews run routes to pick up leaves residents place at curbside. Advertise for resident participation	Routes run through town two times	Nov-Dec 2013 Nov-Dec 2014 Nov-Dec 2015 Nov-Dec 2016 Nov-Dec 2017 Nov-Dec 2018	Mike Smith
Storm Drain Marking	Get volunteers or City personnel to mark all the drains by December 31, 2013	Get all storm drains marked	June 30, 2014	Mike Smith
Residential Environmental Projects	Provide educational materials for rain barrels, rain gardens, Citizens Guides to stormwater pollution	Educational pieces produced	June 30, 2014	Mike Smith
SWMP review and survey of City residences	Mail stormwater survey to residents in conjunction with the SWMP	Receive 75 responses from city survey by residents	June 30, 2014	Mike Smith
Illicit Connections and Illegal Dumping Notification system via calls and emails	Document all messages, Calls returned, investigated, and acted upon if actionable	Document all calls and state how calls were handled for the Annual report	June 2013 June 2014 June 2015 June 2016 June 2017 June 2018	Mike Smith

MINIMUM CONTROL MEASURE # 3 ILLCIT DISCHARGE DETECTION AND ELIMINATION

Missouri State Operating Permit No. MO-Ro40085 requires the City of Carterville to:

- Develop, implement and enforce a program to detect and eliminate illicit discharges;
- Develop a storm sewer system map;
- Prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions;
- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

A Center Creek has a TMDL for zinc, but the MS4 is not the source and has not been assigned a WLA or an LA.

A storm sewer map showing the location of all outlets and the names and location of all receiving waters has been developed. Sources of information used to assemble the storm sewer locations include historic sewer maps and interviews with City employees, verified by field survey. Verification of outlet locations will be achieved by field surveys. The map will be regularly updated by the City of Carterville when changes are made to the storm sewer system and/or outfall locations.

Illicit discharges into the MS4 will be prohibited by storm water Ordinance #,2795 and 2796 already in place. A copy of the relevant section is attached, which includes the provisions for enforcement and penalties.

An illicit discharge detection and elimination plan will be developed. Items addressed in the plan will include:

- Procedures for locating priority areas which includes areas with higher likelihood of illicit connections (older sanitary sewer lines) or ambient sampling to locate impacted reaches
- Procedures for tracing the source of an illicit discharge including the specific techniques that will be used
- Procedures for removing the source of the illicit discharge
- Procedures for program evaluation and assessment

Once the plan has been developed, dry weather field surveys will be conducted to ascertain locations of possible illicit discharges that should be followed up by testing to confirm pollutants and their sources.

Public employees, businesses, and the general public will be informed of the hazards associated with illegal discharges and improper disposal of waste by development of Illicit Discharge and Improper Waste Disposal information on the city website, advertisement of the City's recycling program through print ads and website, distribution of pamphlets, flyers, and brochures at community events.

The following table establishes the tasks (BMPs), measurable goals, and implantation schedule proposed for the Illicit Discharge and Detection Program.

Table 3
Illicit Discharge and Detection Program Strategy and Implementation Schedule

BMP/Goal	Tasks Planned to Achieve Goals	Measurability	Implementation Schedule	Responsible Individual
Illicit Discharge Ordinance	Already in place and adopted Continued enforcement of non-stormwater discharges into the MS4	All illicit discharges documented and corrected	June 15, 2013 June 15, 2014 June 15, 2016 June 15, 2017 June 15, 2018	Mike Smith
Advertise Recycling Program	News release,	Two newspaper notices per year	Fall/Spring 2013 Fall/Spring 2014 Fall/Spring 2015 Fall/Spring 2016 Fall/Spring 2017 Fall/Spring 2018	Mike Smith
Develop Storm Sewer Map	Field verify locations of outfalls and complete map with updates	Map completed	August 31, 2013	Mike Smith
Outfall Inspections	Conduct dry condition inspections on a monthly basis Conduct wet condition inspections after every major rain event	Documented inspection sheets will be kept on file	Monthly and after major rain events. Inspection forms to be included in Annual Report paperwork	Mike Smith
Brochures for dealing with household waste, pesticides, etc	Provide Illicit Discharge information to residents	Number of brochures to be tracked	January 31, 2014	Mike Smith

MINIMUM CONTROL MEASURE # 4 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

Missouri State Operating Permit No. MO-R040085 requires the city of Carterville to develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the storm sewer system from construction activities that result in a land disturbance greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Elements of the program shall include:

- An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance;
- Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
- Requirements for construction site operators to control waste that may cause adverse impacts to water quality;
- Procedures for site plan review which incorporate consideration of potential water quality impacts;
- Procedures for receipt and consideration of information submitted by the public; and,
- Procedures for site inspection and enforcement control measures.

The City of Carterville has regulatory mechanisms in place that cover many of Missouri State Operating Permit No. MO-R040085 regulatory requirements. These mechanisms include Carterville's City Ordinances 2795 and 2796, already in place, as well as storm water BMP's the city requires for construction activities that disturb one acre of dirt or more.

Carterville will draft more specific construction site stormwater management ordinance.

Erosion and sediment controls at construction sites are required by the Building City Hall prior to the "signing off" of the issuing of the Building Permit, though more regulatory steps need to be taken, via ordinance.

Requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites that may cause adverse impacts to water quality are loosely addressed in city code ordinance 2795 and 2796, though the language of the code does not specifically address construction activities and will need to be addressed. Currently, all developments must have an erosion control and clean up plan that is given during the permitting process, but it is more of a check from the Building Department rather than a written, codified requirement. In all cases, the developer is encouraged to select the best method of erosion control for the project.

A storm water management plan is required for all developments. All plans are reviewed by city staff.

All construction sites will be inspected during each project phase. Enforcement of the erosion control measures includes written notices, stop-work orders, revocation of approval, appeal, and monetary penalties.

The following table establishes the tasks (BMPs), measurable goals, and implementation schedule proposed for the Construction Site Storm Water Runoff Control Program.

Table 4

Construction Site Storm Water Runoff Control Program Strategy and Implementation Schedule

BMP/Goal	Tasks Planned to Achieve Goal	Measurability	Implementation Schedule	Responsible Individual
Adopt Construction Site Stormwater Management Ordinance	Write ordinance City Council approval	Ordinance adopted	July 31, 2013	Mike Smith
Adopt Carterville BMP Manual for Erosion Prevention and Sediment Control Guidelines	City Council approval	Manual adopted	July 31, 2013	Mike Smith
Review site plans and permits for construction projects greater than one acre that are not reviewed by other government agencies	Review 100% of plans	Document meetings held	May 31, 2013	Mike Smith, Neil Snyder
Review SWPPP from construction projects within jurisdiction that have the potential to discharge into the MS4	Periodic checks to be done	Document inspection of SWPPP	Ongoing, June 15, 2013 June 15, 2014 June 15, 2015 June 15, 2016 June 15, 2017 June 15, 2018	Mike Smith
Pre-Construction Meetings	Checklist for Developers of what is required	Checklist developed	February, 28, 2014	Mike Smith
Modify Building Inspection Forms	Include checks for Erosion Prevention and Sediment Control	Forms Modified	August 31, 2013	Mike Smith
Enforce penalties in accordance with ordinance for construction activities	Use methods such as verbal warnings, written warnings, stop work orders, and/or issue citations	Document enforcement actions and include in annual report	June 15, 2013 June 15, 2014 June 15, 2015 June 15, 2016 June 15, 2017 June 15, 2018	Mike Smith
Citizen's Reporting	Advertise means for citizens to report complaints/concerns for improper stormwater runoff control from construction sites	Content advertised	December 31, 2013	Mike Smith

MINIMUM CONTROL MEASURE # 5 POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

Missouri State Operating Permit No. MO-R040085 requires the City of Carterville to:

- Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre,

including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the storm water system;

- Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the community;
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects; and,
- Ensure adequate long-term operation and maintenance of BMPs.

The City of Carterville will place regulatory mechanisms to cover many of the Missouri State Operating Permit No. MO-R040085 regulatory requirements. These mechanisms will be included in the creation of a Post Construction Stormwater Runoff Control Ordinance and an amendment of Carterville's Building Permit Application Form.

In particular, the following regulations will be put in place to comply with the requirements of Missouri State Operating Permit No. MO-R040085:

- Require submittal and approval of preliminary and final storm water management plans for all developments.
- Require a final storm water management plan that must include runoff calculations showing attempts to maintain pre-construction conditions and water quality impacts.
- Address post construction runoff from new developments and redevelopments in city ordinance.
- Address long term operation and maintenance (O&M) of selected BMPs.

The City of Carterville will encourage appropriate non-structural and structural BMPs when reviewing storm water management plans. The City will review current planning and zoning policies, review existing drainage areas and inventory existing BMPs to determine where additional BMPs could be incorporated to improve water quality.

The following table establishes the tasks (BMPs), measurable goals, and implementation schedule for the proposed Post-Construction Storm Water Management in New Development and Redevelopment Program.

Table 5
 Post-Construction Storm Water Management in New Development and Redevelopment Program
 Strategy and Implementation Schedule

BMP/Goal	Tasks Planned to Achieve Goal	Measurability	Implementation Schedule	Responsible Individual
Adopt Post-Construction Stormwater Runoff Control Ordinance	Write ordinance	Ordinance adopted	July 31, 2013	Mike Smith
Review site plans and permits for construction projects greater than one acre not reviewed by other government entities	Review all BMPs contractors present for post-construction, maintenance plans, detention water quality	100% of plans reviewed and document on annual report	June 15, 2014 June 15, 2015 June 15, 2016 June 15, 2017 June 15, 2018	Mike Smith Neil Snyder
Review existing drainage to determine additional areas for BMP implementation	Identify existing BMPs and plot on drainage map	BMPs plotted on map, documentation	April 30, 2014	Mike Smith

**MINIMUM CONTROL MEASURE #6
POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

Missouri State Operating Permit No. MO-R040085 requires the city of Carterville to:

- Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and,
- Using training materials that are available from EPA, State, or other organizations, develop training to prevent and reduce storm water pollution from municipal maintenance activities.

The city of Carterville will continue developing a Pollution Prevention/Good Housekeeping Program. The program will address the following elements:

- An inventory of the operation and maintenance programs targeted to prevent or reduce pollutant runoff from municipal operations based on an inspection of municipal facilities;
- Maintenance activities and schedules, and long-term inspection procedures for controls to reduce pollutants to the storm sewer system from identified facilities;
- Controls for reducing or eliminating the discharge of pollutants from municipal operations including streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet and maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas;
- Procedures for the proper disposal of waste removed from the storm sewer system; and,
- Procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices.

The City of Carterville will also develop a list of government employee training programs used to prevent and reduce storm water pollution from municipal activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. An annual training session for City employees will be conducted to reinforce pollution prevention/good housekeeping practices.

The following table establishes the tasks (BMPs), measurable goals, and implementation schedule proposed for the Pollution Prevention/Good Housekeeping Program.

Table 6

Pollution Prevention/Good Housekeeping Program Strategy and Implementation Schedule

BMP/Goal	Tasks Planned to Accomplish Goals	Measurability	Implementation Schedule	Responsible Individual
Identify and Inspect Municipal Operations subject to pollution prevention operations	<p>Create and adopt O & M Manual for Municipal Operations</p> <p>Identify all of Public Works, Street Department, and Parks and Recreation operations and develop maintenance schedules</p>	<p>Manual adopted</p> <p>Maintenance Schedule created</p>	<p>September 30, 2013</p> <p>March 31, 2014</p>	Mike Smith
Perform scheduled long term maintenance activities developed during municipal operation identification	<p>Maintenance tasks accomplished and documented</p> <p>Municipal Stormwater infrastructure inspected and maintained</p>	<p>Maintenance documentation done</p> <p>20% of infrastructure inspected and maintained each year for five years</p>	<p>September 30, 2013 and then quarterly inspections to be documented</p> <p>20% -July 2014 20%- July 2015 20%- July 2016 20%- July 2017 20%- July 2018</p>	Mike Smith
Street Sweeping	Sweep roads downtown weekly, weather permitting, and other areas on a rotating basis	Track debris/sediment removed	Monthly	Mike Smith
Design Standards	Adopt APWA 5600 for Stormwater Infrastructure	APWA 5600 adopted	July 31, 2013	Mike Smith
Employee Training	Training sessions for all Public Works employees on proper disposal of waste removed from the MS4, signs of Illicit Discharges, and Good Housekeeping practices	Training sessions will be held and documented	<p>Winter/Summer 2014</p> <p>Winter/Summer 2015</p> <p>Winter/Summer 2016</p> <p>Winter/Summer 2017</p> <p>Winter/Summer 2018</p>	Mike Smith

Cartersville, Missouri

Stormwater- Operations and Maintenance Plan

**As required by:
Phase II Municipal Stormwater Permit # MO-R040085**



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Section 1. Introduction

Carterville is currently subject to the requirements of the State of Missouri's Department of Natural Resources Phase II Municipal Stormwater Permit (Phase II Permit). The Phase II Permit is based on the Federal Clean Water Act which is implemented under the National Pollutant Discharge Elimination System (NPDES). The Environmental Protection Agency (EPA) has an agreement with the State of Missouri to administer the Phase II Permit to local jurisdictions.

Under the Phase II Permit, Carterville is required to develop and implement a municipal Operations and Maintenance (O&M) Plan to protect water quality and reduce the discharge of pollutants into receiving waters of the state from municipal operations. Those waters include surface waters, groundwater, and the stormwater collection and conveyance system.

Section 2. O&M Plan Primary Components

The following five (5) primary components must be addressed by the Operations and Maintenance Plan.

- Develop a Schedule of Municipal Operations and Maintenance Activities.
- Pollution prevention and good housekeeping Best Management Practices (BMPs).
- Schedule of inspections and requirements for record keeping.
- Identify the department responsible for each activity.
- Provide training for employees with primary construction, operations, or maintenance job functions.

Section 3. O&M Plan Facilities and/or Activities

Carterville's employees engage in a number of activities that may impact water quality. This O&M Plan addresses stormwater pollution prevention and good housekeeping practices for the ten (10) facilities and/or activities listed below.

1. Stormwater Collection and Conveyance System
2. Roads, Highways, and Parking Lots
3. Vehicle Fleets
4. Municipal Buildings
5. Parks and Open Space
6. Construction Projects
7. Industrial Activities
8. Material Storage Areas, Heavy Equipment Storage Areas and Maintenance Areas
9. Flood Management Projects
10. Other Facilities

Below are detailed descriptions and compliance plans for the ten (10) O&M Plan facilities and/or activities.

3.1 Stormwater Collection and Conveyance System

Catch basin and roadside ditch inspections are scheduled based on priority areas. High priority areas will be inspected annually and low priority areas will be inspected every three years on a rotating schedule. Table 3-1 shows the proposed maintenance schedule and inspection frequencies for the Stormwater Collection and Conveyance System.

**Table 3-1
Stormwater Collection and Conveyance-
Schedule and Inspection Frequencies**

Catch Basins: High priority facilities	Annually	Summer
1/3 of low priority areas	Year A	Summer
1/3 of low priority areas	Year B	Summer
1/3 of low priority areas	Year C	Summer
Roadside Ditches: High priority areas	Annually	Summer
1/3 of low priority areas	Year A	Summer
1/3 of low priority areas	Year B	Summer
1/3 of low priority areas	Year C	Summer
Culverts: High priority areas	Annually	Summer
1/3 of low priority areas	Year A	Summer
1/3 of low priority areas	Year B	Summer
1/3 of low priority areas	Year C	Summer

3.1.a Responsible Departments

All Carterville Departments that have stormwater collection and conveyance system within their jurisdictional properties are responsible for performing all activities as stated herein.

3.1.b Vegetation Management

Vegetation management includes maintaining landscaping within swales, infiltration areas, ponds, controlling noxious weeds, pests, and unwanted vegetation growth, etc.

3.1.c Major Storm Event Inspections

Spot checks for potentially damaged stormwater treatment and flow control facilities will be conducted after major storm events (greater than 10-year recurrence interval rainfall or snowmelt).

3.1.d Field Inspections

During field inspections, inspectors should utilize the inspection checklists in Appendix A to document the condition of each facility and identify any required maintenance activities. Any identified maintenance needs should be reported to the responsible department, so that work orders can be developed to complete the repair or cleaning.

The “Inspection and Maintenance Checklist- Stormwater Collection and Conveyance System” (checklist) form in Appendix A should be used during regular inspections to indicate when cleaning or repairs are needed.

3.1.e Waste Disposal

Waste generated from cleaning of catch basins and other stormwater management and treatment facilities must be disposed of according to the requirements of local and state regulations. In cases where dangerous or hazardous contamination are suspected, the waste material must be tested to determine the proper disposal method. Material in catch basins with obvious contamination (unusual color, staining, corrosion, unusual odors, fumes, and oily sheen) should be left in place or segregated from other wastes until testing results can identify the nature of the contaminants. Contaminated materials must be disposed of at a properly licensed facility.

3.2 Roads, Highways, and Parking Lots

Carterville is responsible for maintaining city jurisdictional roads., with the exception of roads maintained by the Missouri Department of Transportation. See Table 3-2 for details. Pollutants accumulate on roadway surfaces and parking lots from pavement and vehicle wear, atmospheric deposition, and littering. Hydrocarbons, copper, and other heavy metals are deposited on roads from clutch and break wear, vehicle exhaust, and leaking motor fluids. Degrading road surfaces, litter, and trash, also add pollutants to stormwater runoff. Anti-icing chemicals that include acetate can deplete dissolved oxygen, increase conductivity, and increase pH of receiving waters. Sand used for winter traction can accumulate in the stormwater collection and conveyance system, carrying pollutants into receiving waters. If properly managed, regular municipal street maintenance activities can have a positive impact on the health of local aquatic resources.

**Table 3-2
Roads, Highways, and Parking Lots-
Activity, Frequency and Responsibility**

Potential Pollutants: Sediment, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter

Activity	Current Activity	Meets Phase II Requirements	Frequency	Responsibility
Sweeping major arteries	X	X	Annually	Street Department
Sweeping/Cleaning Parking Lots	X	X	Annually	Street Department
Sweeping all residential streets	X	X	Annually	Street Department
Designated snow disposal areas	X	X	N/A	Street Department
Storage of De-icing Liquids	X	X	N/A	Public Works Department
Storage of sanding materials	X	X	N/A	Public Works Department

3.2.a Street Repair and Maintenance

Street repair and maintenance activities include road surfacing (repairing potholes, sealing cracks, overlaying roads, and paving shoulders), pavement marking, signage and signal repairs, and small construction projects. The BMPs related to these activities are described below.

3.2.b Vegetation Management

Vegetation management includes maintaining landscaping for roadway right-of-ways and medians and controlling noxious weeds, pests, and unwanted vegetation growth.

3.3 Vehicle Fleets

Carterville is responsible for maintaining city owned vehicles and equipment in proper working order. Vehicle maintenance activities have the potential to spill or leak fluids, fuel, or other polluting liquids. Vehicle washing can also contribute soap, debris, and pollutants into the stormwater collection and conveyance system. Table 3-3 shows the proposed activity, inspection frequency and responsibility for vehicle fleet areas.

**Table 3-3
Vehicle Fleets-
Activity, Frequency and Responsibility**

Potential Pollutants: Sediment, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter

	Current Activity	Frequency	Responsibility
Maintain spill kit onsite at all times	X	Continually	Public Works Department
Conduct all vehicle washing indoors/or qualified wash areas	X	Continually	Public Works Department

3.3.a Vehicle Storage

When vehicles and equipment are parked or stored outside without cover they have the potential to leak or drip hazardous fluids that can be carried to the stormwater system during a rain or snow melt event. Vehicle storage areas shall be maintained according to the Storm Water Management Plan (SWMP) to prevent polluted stormwater discharge to surface waters of the state.

3.3.b Vehicle Maintenance

Vehicle and equipment maintenance and repair conducted by Carterville may include vehicle fluid removal, engine repair, engine and parts cleaning, and various general maintenance activities. All vehicle maintenance activities shall be conducted indoors or at a qualified outdoor facility to reduce potential polluted stormwater discharges to surface waters of the state.

3.3.c Vehicle Washing

In accordance with Carterville's Illicit Discharge Ordinance, vehicle wash water is prohibited from entering any part of the stormwater system that discharges to surface waters of the state.

3.4 Municipal Buildings

Carterville is responsible for the maintenance of City owned municipal buildings. Municipal building maintenance includes cleaning, washing, painting, and landscape maintenance. Potential pollutants from these activities include organic compounds, oil and grease, soap, heavy metals, and particulate matter. All municipal building maintenance activities shall be conducted indoors, when possible, to reduce potential pollutant

discharges into the stormwater system. Table 3-4 shows the proposed activity, inspection frequency and responsibility for the municipal buildings.

**Table 3-4
Municipal Buildings-
Activity, Frequency and Responsibility**

Potential Pollutants: Sediment, Nutrients, Hydrocarbons, Heavy Materials, Toxic Chemicals, Debris/Litter

	Current Activity	Frequency	Responsibility
Maintain a spill kit onsite at all times	X	Continually	Custodial Supervisor at each location
Cover storm drain inlets prior to pressure washing (where required)	X	As Needed	Custodial Supervisor at each location
Properly clean maintenance equipment	X	Annually	Custodial Supervisor at each location
Properly clean painting equipment	X	Every Occurrence	Custodial Supervisor at each location

3.4.a Cleaning and Washing

Municipal building cleaning and washing activities may include washing of carpet and other interior items and/or conducting pressure washing of buildings, rooftops, and other large structures associated with a municipal building. Wash water from municipal building washing practices has the potential to be contaminated with pollutants harmful to stormwater such as sediment and chemicals.

3.4.b Painting

Painting activities associated with interior or exterior municipal buildings include surface preparation and application of paints, stains, finishes and other coatings. Paints, stains, and finishes contain harsh chemicals and can contaminate stormwater.

3.4.c Winter Activities

Winter activities around municipal buildings include deicing, sanding, and snow removal on sidewalks. These activities protect public safety during inclement winter weather.

3.5 Parks and Open Space

Carterville is responsible for the maintenance of City owned parks and open space. The maintenance of parks and open space areas frequently include fertilization, mowing, pesticide application, and supplemental irrigation. Potential pollutants from these activities include nutrients, chemicals, organic debris, and sediment. Improving the way park and open space maintenance activities are conducted can reduce the amount of stormwater pollution that is conveyed to local aquatic resources. Table 3-5 shows the proposed activity, inspection frequency and responsibility for the parks and open space.

**Table 3-5
Parks and Open Space-
Activity, Frequency, and Responsibility**

Potential Pollutants: Sediment, Nutrients, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter

	Current Activity	Frequency	Responsibility
Properly apply pesticides, herbicides and fertilizers	X	Continually	Parks Director, Public Works Department
Manage trash on a regular basis	X	Continually	Parks Director, Public Works Department
Properly manage sediment and erosion during maintenance activities	X	Continually	Parks Director, Street Construction Supervisor
Follow proper landscape maintenance procedures and vegetation disposal	X	Continually	Parks Director, Street Construction Supervisor

3.5.a Vegetation Management

Proper turf management and landscape maintenance practices have the potential to reduce the amount of stormwater runoff and the amount of pollutants that drain to receiving waters. Vegetated spaces provide an excellent opportunity to infiltrate precipitation as it falls and filter pollutants before they can be washed into the stormwater system. Vegetation

management includes maintaining landscaping throughout park and open space areas, erosion and sediment control, proper vegetation disposal, proper fertilization, pesticide and herbicide application, and controlling noxious weeds, pests, and unwanted vegetation growth.

3.5.b Trash Management

Trash and debris removal helps prevent garbage and leachate from entering the stormwater conveyance system polluting receiving waters.

3.5.c Storage Areas

Maintenance vehicles, equipment, and uncovered stockpiles have the potential to leak or contribute pollutants to the stormwater system during rain or snow melt events. Vehicle, equipment, and material storage should be maintained according to the Storm Water Management Plan (SWMP).

3.6 Construction Projects

During construction, proper erosion and sediment controls should be used to prevent sediment-laden stormwater from flowing away from the site and into the stormwater collection and conveyance system. The Missouri Department of Natural Resources (DNR) requires construction sites greater than one acre (or that are part of a common plan of development that accumulatively is greater than one acre) to document their planned sediment and erosion control techniques and to obtain an NPDES Construction Stormwater General Permit from DNR.

The following construction projects are required to have a NPDES Construction Stormwater General Permit:

- Clearing, grading and/or excavation (including forest practices) that results in the disturbance of one or more acres and discharges stormwater to surface waters of the State; or
- Clearing, grading and/or excavation on sites smaller than one or more acres that are part of a larger common plan of development or sale that will ultimately disturb one acre or more, and discharge stormwater to surface waters of the State; or
- Any size construction activity discharging stormwater to waters of the State that DNR determines to be a significant contributor of pollutants to waters of the State of Missouri or that DNR reasonably expects to cause a violation of any water quality standard.

The following construction activities are **exempt** from NPDES permit coverage:

- Construction activities that discharge all stormwater and non-stormwater to ground water, and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.
- Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Municipal projects that are subject to the NPDES Construction Stormwater Permit should refer to the Carterville Storm Water Management Plan (SWMP) for information regarding required construction and erosion and sediment control design criteria and best management practices (BMPs).

3.7 Industrial Activities

Industrial activities require proper erosion and sediment controls to be used to prevent sediment-laden stormwater from flowing away from the site and into the stormwater collection and conveyance system. Industrial activities are typically subject to the DNR issued Industrial Stormwater *General Permit* (Industrial Permit) that authorizes stormwater discharges associated with industrial activities. The Industrial Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and a sampling plan to the permitted facility.

3.8 Material Storage Areas, Heavy Equipment Storage Areas and Maintenance Areas

The Phase II Permit requires all material storage areas, heavy equipment storage areas, and maintenance areas to develop and implement a SWPPP to protect water quality and prevent the discharge of contaminated stormwater to surface or groundwater. The SWPPP describes both operational and structural BMPs that will be implemented at each facility.

The following Carterville properties are covered by the SWPPP

- Public Works Department (310 S Tennessee)
- City Hall (1200 E 1st)
- Carterville Parks and Park Buildings
- Police Department

A copy of the SWPPP must also be kept on hand at each of the facilities listed above.

The “Operations and Maintenance Site Visit Assessment Form” shall be used during the assessment of material storage, heavy equipment storage areas and maintenance areas.

3.9 Flood Management Projects

Carterville is responsible for the design and review of proposed flood management projects. During the design of all new flood management projects, Carterville will require the use of engineers to assess the water quality impacts of the proposed project and consider the use of controls to minimize impacts to site hydrology.

3.9 Other Facilities

Carterville also conducts other maintenance activities that have the potential to impact waters of the State and stormwater runoff, such as;

- Sanitary Sewer System Maintenance

Section 4. Best Management Practices (BMPs)

Please refer to Carterville’s Storm Water Management Plan (SWMP) for the list of BMPs that are to be used in municipal operations of the City.

Section 5. Department Responsibility Summary

Individual Carterville Departments are responsible for facilities and activities that fall under their jurisdiction as follows described in Table 5-1.

**Table 5-1
Department Responsibility**

Facilities and Activities	Responsible Department(s)	Facility/Activities (including but not limited to)
Stormwater Collection and Conveyance System	Street Department, Parks Department, Maintenance	Catch basins, storm sewer pipes, open channels, ditches, culverts, swales, structural stormwater controls, and structural runoff treatment and/or flow control facilities, etc.
Roads, Highways, and/or Parking Lots	Street Department	Deicing, anti-icing, snow removal practices, snow disposal areas, material storage areas (e.g. salt, sand or other chemical), street and parking lot cleaning
Vehicle Fleets	Public Works Maintenance Department	Storage, washing, and maintenance of vehicle fleets

Municipal Buildings	Public Works,, City Hall, Police, Water, and Sewer Departments	Cleaning, washing, painting and other building maintenance activities
Parks and Open Space	Public Works	Application of fertilizer, pesticides, and herbicides; sediment and erosion control; landscape maintenance; vegetation disposal, trash management, building exterior cleaning and maintenance
Construction Projects	City Inspector, Public Works	Construction activities that disturb 1 acre or more, or are less than 1 acre but are part of an overall development plan over 1 acre
Industrial Activities	Subject to NPDES Industrial Stormwater Permit and/or an NPDES Construction Permit	N/A
Material Storage Areas, Heavy Equipment Storage Areas and Maintenance Areas	Public Works	Material storage- all departments; heavy equipment storage and maintenance
Flood Management Projects	Public Works (with Engineering Assistance)	Review of flood management projects
Other Facilities	Water Tower and Well House	Maintenance and repair of Water distribution systems

Section 6. Recordkeeping and Reporting

The department conducting the specific operations and maintenance activity is responsible for keeping records of road and parking lot maintenance activities that have the potential to impact stormwater. Recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system.

Spills should be reported to Public Works, and in the case of a hazardous chemical spill, 911 should be called immediately. All paperwork related to the spill and cleanup activities should be reported to Public Works for stormwater reporting purposes and to the City's Emergency Management Department for their recordkeeping efforts.

Section 7. Training

Target employees shall include the following; all employees that perform maintenance or construction activities in areas subject to stormwater discharge to the municipal separate storm sewer system (MS4) that connect to surface waters of the state. Examples include, but may not be limited to: maintenance or construction work on public buildings; and maintenance or construction work on parks or open spaces.

Section 8. Common Pollutants, Sources, and Impacts

Stormwater runoff contains pollutants that can harm human health, degrade water quality and habitat, and impair ecosystem functions. These pollutants originate from vehicles, businesses, residential activities, and municipal activities, and include oil, hydrocarbons, heavy metals, deicers, sediment, household products, pesticides/herbicides, fertilizer, and bacteria. During rain and snow melt events, stormwater runoff may accumulate these pollutants which are then washed into receiving waters. Table 8-1 shows the sources of common stormwater pollutants and their potential impacts.

**Table 8-1
Common Stormwater Pollutants, Sources, and Impacts**

<i>Pollutant</i>	<i>Sources</i>	<i>Impacts</i>
Sediment	Construction sites; eroding stream banks; winter sand and salt application; vehicle/boat washing; agricultural sites	Destruction of plant & fish habitat; transportation of attached oils, nutrients & other pollutants; increased maintenance costs; plugged conveyance systems; flooding
Nutrients (phosphorus nitrogen)	Fertilizers, malfunctioning septic systems, livestock, bird & pet waste, vehicle/boat washing; grey water, decaying grass and leaves; sewer overflows; leaking trash containers, leaking sewer lines	Increased potential for nuisance or toxic algal blooms; increased potential for hypoxia/anoxia (low levels of dissolved oxygen which can kill aquatic organisms)
Hydrocarbons (petroleum compounds)	Vehicle and equipment leaks and emissions; pesticides; fuel spills; equipment cleaning; improper fuel storage & disposal	Toxic to humans and aquatic life at low levels
Heavy Metals	Vehicle brake and tire wear; vehicle/equipment exhaust; batteries; galvanized metal; paint and wood preservatives; fuels; pesticides; cleaners	Toxic to humans and aquatic life at low levels, drinking water contamination
Pathogens (bacteria)	Livestock, bird and pest wastes; malfunctioning septic systems; sewer overflows; damaged sanitary lines	Risk to human health leading to closure of swimming areas; drinking water contamination
Toxic Chemicals	Pesticides; dioxins; Polychlorinated Biphenyls (PCBs); spills, illegal discharges and leaks	Toxic to human and aquatic life at low levels
Debris/Litter	Improper waste disposal & storage; leaking rubbish containers, cigarette butts; littering	Potential risk to human & aquatic life, can clog conveyance systems; can cause flooding

Appendix A

Inspection and Maintenance Checklist Stormwater- Operations and Maintenance

Inspection and Maintenance Checklist Stormwater Collection and Conveyance System

Date of Inspection: _____

Field Inspector(s): _____

Reason for Inspection: _____

Rain: In Last 48 hrs: yes/no

Major Storm Event Inspection: yes/no

Facility Type	Location	Code	Action Needed	Date Completed	Completed By

Facility Types:

CB- Catch Basin	DR- Drywell	DET- Detention Facility	DP- Dry Pond
EV- Evaporation Pond	WP- Wet Pond	M- Manhole	C- Culvert
RP- Retention Pond	IP- Infiltration Pond	RD- Roadside Ditch	S- Swale
IS- Infiltration Strip	O- Other		

Maintenance Codes:

1. Accumulated Sediment
2. Trash & Debris
3. Vegetation Concerns
4. Water Quality Concerns
5. Impeded Water Flow
6. Erosion
7. Structural Repairs
8. Cover/Frame/Grate
9. Damaged Pipes
10. Mosquito/Vector Breeding
11. Other
12. Could Not Locate

Appendix B

Site Visit Assessment Form

Stormwater- Operations and Maintenance

Stormwater Operations and Maintenance Site Visit Assessment Form

Inspector: _____ Date: _____
Facility: _____ Contact: _____
Parcel #: _____ Lat: _____ Long: _____

1. Waste Management: N/A? *Sketch location of dumpsters and used oil containers on site map.*

Dumpsters: Yes No **BMPs** **Condition:** Good Fair Poor

Trash Compactors: Yes No **BMPs** **Condition:** Good Fair Poor

Recycling Cont.: Yes No **BMPs** **Condition:** Good Fair Poor

Petroleum Products Yes No **BMPs** **Condition:** Good Fair Poor

Photos: _____

Notes _____

Photos: _____

2. Cleaning and Washing: N/A? **Vehicles** **Heavy/Light Equipment**
Tools **Indoors** **Outdoors**

Sketch the drainage characteristics of the wash area on site map.

Wash water drains to: Catch Basin Drywell Swale Dirt Street

Existing BMPs: Yes No **Condition:** Good Fair Poor

Photos: _____

Notes: _____

3. Transfer of Solids and Liquids: N/A?

Containers: Barrels Bags Bottles Boxes Other _____

Secondary Containment: Yes No

Material Safety Data Sheets accessible: Yes No

Spill Clean-Up Kits: Yes No

Existing BMPs: Yes No **Condition:** Good Fair Poor

Photos: _____

Notes: _____

4. Production and Application Activities: N/A? **Painting** **Coating** **Spraying** **Other**

Sketch location of production/application activities and drainage characteristics on site map.

Designated Locations Yes No **Indoors** **Outdoors**

Drainage Characteristics _____

Existing BMPs: Yes No **Condition:** Good Fair Poor

Photos: _____

Notes: _____

5. Material Storage: N/A? *Sketch storage area locations and drainage characteristics on site map.*

Type of Materials Stored: _____

Indoors Outdoors **Drainage Characteristics:** _____

Existing BMPs: Yes No **Condition:** Good Fair Poor

Photos: _____

Notes: _____

6. Vehicles and Equipment: N/A? **Maintenance** **Parking** **Repair** **Storage**

Sketch locations of storage and parking areas, structures, surfaces, floor drains, drainage characteristics, and location of clean-up kits on site map.

Location: Indoors Outdoors **Structures:** Yes No **Shop Floor Clean:** Yes No

Surface Type: Asphalt Concrete Dirt/Gravel **Floor Drains:** Yes No

Drainage Characteristics: _____

Solid Wastes Disposed Properly: Yes No **Leaks:** Yes No

Spill Clean Up Kits Easily Accessible: Yes No

Photos: _____

Notes: _____

7. Dust, Erosion, Sediment, and Landscape Maintenance: N/A?

Sketch erosion, sediment, and landscape maintenance on site map.

Dust Producing Activities: Yes No

Exposed or Eroded Soils: Yes No

Deposited Sediment: Yes No

Pesticides/Herbicides Used: Yes No

Stored in Lockable Cabinet: Yes No

Applied By Licensed Operators: Yes No

Photos: _____

Notes: _____

8. Stormwater Drainage System: N/A? *Sketch flow directions and storm drains on site map.*

Type of system: _____

Does stormwater have ability to flow offsite: Yes No

Does stormwater flow into storm drain outlets: Yes No

MS4 Connection: Yes No

Does stormwater come into contact with pollutants before leaving the site: Yes No

List Potential Pollutants: _____

Existing Structural BMPs: Yes No **Condition:** Good Fair Poor

Photos: _____

Notes: _____

SECTION C - PROGRAM AREAS

Public Education and Outreach

1. Implementation Status

a. General Summary

There is minimal need for the City of Carterville to implement measures for Public Education and Outreach because Carterville is a part of the larger Joplin Metropolitan Statistical Area. The City of Joplin continues to provide support in the nature of training, materials, public outreach and educational programs.

The City of Carterville, Missouri has implemented or is planning the following items which provide educational opportunities for the public and provide an outreach for the citizens of Carterville.

b. Program Elements Changed or Refined Since Previous Report

No elements of the public education and outreach program have been refined or changed during this reporting period.

c. Status of Measurable Goals

Goal 1: Distribute Brochures-Ongoing

The Carterville City Hall maintains public educational brochures and technical information relating to stormwater. Three brochures were made available this year entitled "Recommended Methods (Best Management Practices) for Storm Water Protection and Water Pollution Prevention", "Household Hazardous Waste Satellite Collection Facility" and "Recycling & Waste Disposal Guide 2012". Scanned copies of these brochures are included in this report

Goal 2: Send Out Newsletters - Ongoing

Later this year, the City of Carterville will send out newsletters containing information on stormwater quality issues and notification of educational opportunities provided by the City of Joplin.

2. Overall Compliance with Permit Conditions

The City of Carterville continues to work towards compliance with its Public Education and Outreach with a public education program which will continue to distribute educational materials and conduct outreach activities. Educational resources are being reviewed and updated as new information arises and expansion of those resources has continued with development and publishing of more brochures and increased efforts to educate the public.

3. Results of Information Collected and Analyzed

None Collected

4. Brief Summary of Activities Next Reporting Period

During the next reporting period, continued expansion of education will occur. City personnel will attend training to increase their knowledge of NPDES regulations, BMPs, and stormwater pollution awareness. Stormwater-related literature will continue to be made available at City Hall. Newsletters will be sent out containing information on stormwater quality issues and notification of educational opportunities provided by the City of Joplin.

5. Proposed Changes to Public Education and Outreach Program

We will continue to update our materials as necessary. No further changes to BMPs are planned.

Public Participation/Involvement

1. Implementation Status

a. General Summary

The City of Cartersville plans to involve the public through a series of public meetings or open houses and continued use of the community hotline. The hotline, which is administered by the City of Joplin, is currently available for residents to report any stormwater or illicit discharge concerns they may have.

b. Program Elements Changed or Refined Since Previous Report

Storm water open house meetings and more frequent literature in the form of newsletters have been added.

c. Status of Measurable Goals

Goal 1: Community Hotline - Ongoing

The City of Cartersville continues to monitor and address any calls to the Joplin area community stormwater hotline that pertain to Cartersville. No calls were received during this reporting period.

Goal 2: Public Meetings/Open House - Ongoing

The City of Cartersville will reschedule its first stormwater open house in the next 90 days. The City will distribute stormwater-related literature, discuss ways to promote the Stormwater Management Plan and address any concerns of participating citizens.

2. Overall Compliance with Permit Conditions

The City of Carterville, Missouri is complying with permit conditions relating to Public Participation and Involvement. Carterville has continued to work with citizens on the Stormwater Management Plan.

3. Results of Information Collected and Analyzed, if any

None Collected.

4. Brief Summary of Activities for next Reporting Period

During the next reporting period, the City of Carterville will continue holding stormwater open house meetings. The community hotline will continue to be made available.

5. Proposed Changes to this Public Participation/Involvement Program Area

No changes to BMPs have been planned for the next reporting period.

Illicit Discharge Detection and Elimination

1. Implementation Status

a. General Summary

The City of Carterville has developed and implemented an Illicit Discharge Detection and Elimination Program. A comprehensive ordinance was passed in the 2009/2010 reporting period prohibiting non-storm water discharge into City's small MS4. The inspection portion of the program is still in its infancy and will continue to grow until a systematic and thorough process has been achieved. At this time routine inspections are made and any issues addressed at that time, however better tracking systems are desired.

b. The City of Carterville has developed and implemented an Illicit Discharge Detection and Elimination Program.

c. Status of Measurable Goals

Goal 1: Illicit Discharge Ordinance - COMPLETED

A comprehensive ordinance has been passed which prohibits non-storm water discharge into City's small MS4. A copy of the Illicit Discharge Ordinance has been attached to this report.

Goal 2: Inspection - Ongoing

The inspection portion of the Illicit Discharge Program is active. Dry weather and wet weather field screening will be performed every six months and as needed. Sources of illicit discharge will be identified and enforcement actions taken, if necessary.

Goal 3: Update Storm Sewer Map - Ongoing

No updates were needed during this reporting period.

Goal 4: Community Hotline - Ongoing

The City of Carterville continues to monitor and address any calls to the Joplin area community stormwater hotline that pertain to Carterville. No calls were received during this reporting period.

Goal 5: Household Hazardous Waste Collection/Recycling - Ongoing

The city now offers a recycle collection trailer for the citizens of Carterville and we plan to broaden this project as stated into 2012.

2. Overall Compliance with Permit Conditions

The City of Carterville, Missouri is complying with permit conditions relating to Illicit Discharge Detection and Elimination. The City had no illicit discharge reported during this reporting period.

3. Results of Information Collected and Analyzed, if any

During this reporting period, there were no inquiries or reports of illicit discharge.

4. Brief Summary of Activities for Next Reporting Period

Inspection and enforcement will continue. Dry weather and wet weather field screening will be performed every six months and as needed. Sources of illicit discharge will be identified and enforcement actions taken, if necessary. The Storm Sewer Map will be updated as necessary and the community stormwater hotline will continue to be monitored for calls pertaining to Carterville.

5. Proposed Changes to this Public Participation/Involvement Program Area

No changes to BMPs have been planned for the next reporting period.

6. Inspection Summary and Formal Enforcement Actions

No illicit discharges were reported during this reporting period.

Construction Site Runoff Control

1. Implementation Status

a. General Summary

The City of Carterville is in the process of developing, implementing and enforcing a program to reduce pollutants in any stormwater runoff from construction activities that result in disturbance of greater than or equal to one acre. Projects that disturb less than one acre are also regulated if the site is part of a larger common plan of development or sale. The City of Carterville has adopted stormwater regulations that require the use of erosion and sediment controls on construction projects.

b. Program Elements Changed or Refined Since Previous Report

No elements of the construction site runoff control program have been refined or changed during this reporting period.

c. Status of Measurable Goals

Goal 1: Adoption of Stormwater Regulations - COMPLETED

The city of Carterville has adopted stormwater regulations, entitled “Stormwater Management Criteria,” that include construction specifications and design standards and require construction site operators to implement appropriate erosion and sediment control BMPs. The new regulations also outline the requirements for designers and employees before, during and after the construction activities and provide enforcement measures for those designers and employees who do not follow the regulations. A copy of the Stormwater Management Ordinance adopting the Criteria has been attached to this report.

Goal 2: Pre-Construction Plan Review – Ongoing

Under Carterville’s new stormwater regulations, pre-construction review of plans is required in order to ensure compliance with the regulations. All plan submittals must incorporate a Sediment and Erosion Control Plan. Construction may not begin until plans are approved.

No plan reviews were necessary during this reporting period.

Goal 3: Site Inspections-Ongoing

Once plans have been reviewed and approved and construction has begun, City personnel perform site inspections, both randomly and scheduled, to ensure compliance with the BMPs included in the approved construction plans.

No site inspections were necessary during this reporting period.

2. Overall Compliance with Permit Conditions

Carterville is in general compliance with permit conditions relating to construction site runoff controls. We continue to enforce the stormwater regulations, through inspection and fines, in order to improve the water quality of runoff from construction sites.

Cartersville maintains inspection procedures and maintains these records in an orderly manner. City personnel make random and scheduled inspections of construction sites to determine overall compliance with the City's stormwater regulations.

3. Results of Information Collected and Analyzed

Nothing to report at this time.

4. Brief Summary of Activities for Next Reporting Period

The City of Cartersville will continue to address water quality during construction by continuing to enforce its stormwater regulations through plan review, inspections and fines. City personnel will attend training to increase their knowledge of NPDES regulations, BMPs, and stormwater pollution awareness. The City is also in the process of developing a website on which they plan to post City codes and regulations, including those for stormwater.

5. Proposed Changes to Construction Site Runoff

No changes to BMPs have been planned for the next reporting period.

6. Summary of Inspections and Formal Enforcement Actions

Nothing to report at this time.

Post-Construction Runoff Control

1. Implementation Status

a. General Summary

Carterville has adopted stormwater regulations that include structural and non-structural BMPs to improve water quality and control post-construction runoff from sites that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. Plans are reviewed prior to construction to ensure compliance with the stormwater regulations.

b. Program Elements Changed or Refined Since Previous Report

No elements of the post-construction runoff control program have been refined or changed during this reporting period.

c. Status of Measurable Goals

Goal 1: Adoption of Stormwater Regulations - COMPLETED

Carterville has adopted stormwater regulations, entitled “Stormwater Management Criteria,” that include structural and non-structural BMPs to improve water quality and control post-construction runoff from sites that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale

Goal 2: Pre-Construction Plan Review - Ongoing

Under Carterville’s new stormwater regulations, pre-construction review of plans is required in order to ensure compliance with the regulations. All plan submittals must incorporate a Drainage Plan and a Sediment and Erosion Control Plan. The Drainage plan includes designs, with calculations, for all stormwater conduits and detention/retention structures. The Sediment and Erosion Control Plan includes both temporary and permanent water quality BMPs. Construction may not begin until plans are approved. No plan reviews were necessary during this reporting period.

2. Overall Compliance with Permit Conditions

The City of Carterville has regulatory requirements in place to help ensure a reduction of pollutants associated with the post-construction stormwater runoffs and has identified BMP’s to help reduce siltation and erosion. A full site plan review is conducted as part of the performance bond procedure to ensure that vegetation is established prior to the performance bond being released. We also require monitoring of detention/retention basins to ensure proper function and maintenance.

3. Results of Information Collected and Analyzed

Nothing to report at this time.

4. Brief Summary of Activities for Next Reporting Period

The City of Carterville will continue to address post-construction runoff control by continuing to enforce its stormwater regulations through plan review, inspections and fines. City personnel will attend training to increase their knowledge of NPDES regulations, BMPs, and stormwater pollution awareness. The City is also in the process of developing a website on which they plan to post City codes and regulations, including those for stormwater.

5. Proposed Changes to Post-Construction Runoff

No changes to BMPs have been planned for the next reporting period.

6. Summary of Inspections and Formal Enforcement Actions

Nothing to report at this time.

Pollution Prevention and Good Housekeeping

1. Implementation Status

a. General Summary

There is minimal need for the City of Carterville to implement measures for Pollution Prevention and Good housekeeping for Municipal Operations. The City Departments are responsible for their individual areas of operation

The City of Carterville has developed a Water Quality Plan that includes BMPs to be followed by all City Departments The BMPs are to be implemented by the employee in order to prevent and reduce stormwater pollution.

b. Program Elements

No elements of the pollution prevention and good housekeeping program have been refined or changed during this reporting period.

c. Status of Measurable Goals

Goal 1: Develop Water Quality Plan - COMPLETED

The City of Carterville has developed a Water Quality Plan that includes BMPs to be followed by all employees for city services. The BMPs are to be implemented by the employee in order to prevent and reduce stormwater pollution. A copy of the Water Quality Plan has been included with this report.

Goal 2: Pass Ordinance Adopting Water Quality Plan - COMPLETED

The Illicit Discharge Ordinance contains a provision that requires all employees for city services to sign a statement saying they will follow all applicable BMPs included in the Water Quality Plan. A copy of the Illicit Discharge Ordinance has been included with this report.

Goal 3: Send Out Newsletters - Ongoing

The City of Carterville currently requires property owners to maintain their own right-of-way. Newsletters included in the Public Education/Outreach and Public Involvement/Participation programs, as previously mentioned, will remind owners of this responsibility and encourage frequent litter pick-up to reduce floatables and improve water quality.

2. Overall compliance with Permit Conditions

The City of Carterville is complying with permit conditions by developing and implementing programs to reduce and prevent pollutant runoff from municipal operations. Training materials have been obtained and made available to employees to use for reference and keep them abreast of BMP control measures and procedures for proper disposal of waste products.

3. Results of Information Collected and Analyzed

Nothing to report at this time.

4. Brief Summary of Activities for Next Reporting Period

We will continue to require all employees to adhere to the Stormwater Quality Plan and we will send out newsletters for public education as mentioned above.

5. Proposed changes to Pollution Prevention/Good Housekeeping

No changes to BMPs have been planned for the next reporting period.

City of Annapolis
1200 E 1st
Annapolis, MD. 44835



7009 3410 0001 7315 2500



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Missouri Department of Natural Resources
Water Protection Program, WTE Pollution Branch
P. O. Box 176
Jefferson City, Mo. 65102

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Ruth
Nancy

