

**City of Neosho
Stormwater Management Program**

**DRAFT
January 4, 2010**

MCM I – Public Outreach and Education

Introduction

The City's public education outreach strategy will employ a multi-faceted approach to inform the public about common storm water pollutants, their effects on receiving waters, the extent and magnitude of the problem, and corrective actions the public can take to prevent non-point source (NPS) pollution.

Programs will be implemented by the City to the maximum extent practicable and will consider the needs of minority and disadvantaged communities. The Best Management Practices (BMPs) listed have been selected with regard to: water quality needs; applicability to the City of Neosho; reaching a wide range of target audiences including residential communities, educators, businesses, commercial property owners, the development community and other specific industries; taking advantage of related events and resident interest; and to build on existing and developing programs and partnerships.

The public will have opportunities to recommend changes to the program and provide other feedback as to the overall effectiveness of the Public Outreach and Education program via a Bi-annual SWMP Public Meeting, a customer feedback form on a City stormwater website, the City's Customer Service Tracking System, and the SWMP Advisory Committee as described in MCM II – Public Involvement and Participation.

The City will continue to investigate educational and outreach programs being used or developed by other local, state and federal entities in order to improve upon the current program and/or contribute to regional programs. Potential partners and informational sources include: neighboring MS4 communities such as the Cities of Joplin, Carl Junction, Carthage, Webb City, etc.; Local schools, universities and community college; Local non-governmental entities such as environmental and professional organizations; Missouri Department of Natural Resources; Missouri Department of Conservation; and the EPA.

Best Management Practices (BMPs) for MCM I

I.1. Storm Water Management Web Page

BMP Description

The Storm Water Management Coordinator will create a Storm Water Management page on the City's website. The web page will be maintained and expanded to become the main information source for all aspects of the City's Storm Water Management Program including how to get involved in voluntary activities, information on what citizens can do to address storm water pollution, what an illicit discharge looks like and what to do about it, who to call about stormwater and illicit discharge concerns, upcoming seminars, storm water related regulations, design requirements for storm drainage facilities, erosion and sediment control design requirements, etc.

Target Audience and Pollutant Sources

The Storm Water Management page provides information for anyone with access to the Internet. Free access to the internet is available at Neosho-Newton County Library. The target audience includes residents, educators, businesses, developers, engineers and construction companies. Since these entities already use the City's web site to find information about City

requirements and programs, the Storm Water Management Web Page is a good method to disseminate information to the target audience.

Target pollutant sources include: household activities such as lawn care and improper disposal of household waste such as yard waste, pet waste, used motor oil, etc.; construction activities such as improper erosion and sediment control or improper disposal of construction wastes; industrial and commercial activities such as improper disposal of waste; and illegal dumping and littering.

Measurable Goals

The goal for this permit period is to fully populate and then maintain the Storm Water Management web page. The effectiveness of this BMP will be measured using the following parameters:

- Phased implementation of the Storm Water Management web page.
- Amount of information available on the Storm Water Management web page.
- Number of “hits” and/or downloads on the web page.
- Online comment form to receive feedback from the users of the web page regarding the information and its usefulness.
- Promote website semiannually on water bill announcements
- Comparing web counter spikes to articles and announcements

I.2. Brochures/Fact Sheets

BMP Description

Current fact sheets used by the City of Neosho include a “Trash Collection Service” sheet and a bookmark with information about the City’s Recycling Program. These are included in the City's packet distributed to new utility customers. These items include educational information about trash collection procedures and practices as well as hours and acceptance policies for the recycling program.

The City of Neosho will create new or revise existing brochures/fact sheets to educate and inform the public about:

- Composting and yard waste collection as viable alternatives to yard waste disposal down storm drains or along stream banks.
- Downspout diversion, Rain Barrels and Rain Gardens as effective onsite storm water management tools for residences.

The Storm Water Management Coordinator will investigate other available brochures and fact sheets containing storm water and non-point source pollution information that are applicable to the City. The brochures and/or fact sheets will be made available at Water Billing Office, City Hall, Neosho-Newton County Library, the Newton County Health Department, in the City's packet distributed to new utility customers, and published on the City’s web page and through direct educational programs.

Since the public is accustomed to finding information on various topics at the locations listed above; inclusion of storm water pollution information at these locations will be a successful means to reach the public. Brochures about specific programs with activities will include information for residents to sign up for programs and become involved in the environment around them.

The City's research will rely primarily upon existing storm water educational resources provided by other small MS4 communities, the Department of Natural Resources, EPA, Soil and Water Conservation District, and local universities or community colleges.

Target Audience and Pollutant Sources

The target audience includes residents, educators and businesses.

Target pollutant sources include: household activities such as lawn care and improper disposal of household waste such as yard waste, pet waste, used motor oil, etc.; construction activities such as improper erosion and sediment control or improper disposal of construction wastes; industrial and commercial activities such as improper disposal of waste; and illegal dumping and littering.

Measurable Goals

The goal for this permit period is to implement storm water specific materials in the City's packet distributed to new utility customers. Also, brochures and fact sheets will be made available at the locations listed above. The effectiveness of this BMP will be measured using the following parameters:

- Update the "Trash Collection Service" sheet to a more comprehensive solid waste management brochure
- Inclusion of additional storm water materials in the City's packet distributed to new utility customers, rename packet – "Welcome to Neosho"
- Number of "Welcome to Neosho" packets distributed
- Number of locations containing brochures/fact sheets
- Number of brochures/fact sheets distributed to each location
- Qualitative observation of a decreased amounts of litter, debris and yard waste in storm sewers or on stream banks during informal staff field observations and Voluntary Water Quality Monitoring by Stream Teams as discussed in MCM II – Public Involvement and Participation

I.3. School-Aged Educational Programs

BMP Description

The Storm Water Management Coordinator will develop and implement educational programs for school-aged children for the Neosho R-V School District Schools and Private/Parochial Schools in the Neosho MS4 area. Other stakeholders, such as the Newton County Soil and Water Conservation District, NRCS, and Missouri Departments of Conservation and Natural Resources, will be invited to participate in the education programs.

Educational programs will provide information to children in a format they can understand, and will give them a chance to ask questions. This BMP enables the educational institutions in the Neosho MS4 area to participate in the public education process.

The Storm Water Management Coordinator will investigate potential existing programs to determine what's available and discuss options with area teachers and locally led watershed organizations. A "Storm Water Awareness and Action" program will be made available to the Neosho R-V middle school. Eventually, the programs will be made available to all schools in the Neosho MS4 area as well as other youth groups.

Additional educational programs may be added as practicable such as a lecture list of available professionals that could talk with classrooms, schools or youth groups about storm water issues.

Target Audience and Pollutant Sources

The target audience includes students, educators, and parents.

Target pollutant sources include: household activities such as lawn care and improper disposal of household waste such as yard waste, pet waste, used motor oil, etc.; and illegal dumping and littering.

Measurable Goals

The goal for this permit period is to implement an educational program for at least one grade level made available in the Neosho MS4 area. The effectiveness of this BMP will be measured using the following parameters:

- Implementation of the school-aged educational program
- Number of schools included in the school-aged education program
- Number of school-aged children and educators included in the school-aged educational program
- Surveys to teachers and school administrators to receive feedback for the school-aged educational program

I.4. Storm Water Related Articles

BMP Description

The Storm Water Management Coordinator will write articles related to storm water pollution control in the City's employee newsletter and local newspapers. Information will include how to get involved in voluntary activities, what citizens can do to address storm water pollution and how to report illegal dumping or other storm water concerns. The City will include a minimum of 4 storm water related articles per year in local newspapers.

Target Audience and Pollutant Sources

The target audience includes residents, educators and businesses.

Target pollutant sources include: household activities such improper disposal of household waste such as yard waste, pet waste, used motor oil, etc.; industrial and commercial activities such as improper disposal of waste; and illegal dumping and littering.

Measurable Goals

The goal for this permit period is to continue write articles for the local newspapers with a minimum of 4 articles per year, as well as periodic articles in the City's employee newsletter. The effectiveness of this BMP will be measured using the following parameters:

- Number of storm water related articles per year in employee newsletter or local newspapers
- Circulation of the local newspapers in the Neosho MS4 area, number of employee newsletters distributed

I.5. Targeted Seminars and Training

BMP Description

The Storm Water Management Coordinator in cooperation with the Public Works Director will determine specific seminars and training needs to be implemented as practicable. The seminars will be in coordination with other MCM's in this SWMP and will take advantage of regional seminars and training opportunities when possible. Potential seminar topics for this permit period include:

- Water quality monitoring for volunteers through the Stream Team program in coordination with MCM II – Public Involvement and Participation.
- Erosion and sediment control design in coordination with MCM IV – Construction Site Storm Water Runoff Control.
- Erosion and sediment control inspection and maintenance in coordination with MCM IV – Construction Site Storm Water Runoff Control.
- Design of Storm Drainage Facilities with new engineering design criteria as described in MCM V – Post Construction Storm Water Management.
- Storm water quality BMP operation and maintenance for neighborhood associations and property owners in coordination with MCM V – Post Construction Storm Water Management.
- Facility Operations and Maintenance (O&M) training for City employees in coordination with MCM VI – Pollution Prevention and Good Housekeeping.

Target Audience and Pollutant Sources

Target audiences will be determined for each seminar. Potential audiences include volunteers, engineers, construction companies, neighborhood associations, property owners, and City employees, among others.

Target pollutant sources include: household activities such as lawn care and improper disposal of household waste such as yard waste, pet waste, used motor oil, etc.; construction activities such as improper erosion and sediment control or improper disposal of construction wastes; industrial, commercial and municipal activities such as improper disposal of waste; and illegal dumping and littering.

Measurable Goals

The goal for this permit period is to determine needs and priorities for seminar topics and investigate existing and/or regional seminars and training opportunities for those topics. Additional seminars and training will be developed as needed and as practicable. The effectiveness of this BMP will be measured using the following parameters:

- Number of seminars and training sessions conducted, recommended or advertised by the City
- Breadth of target audiences for the seminars and training sessions
- Number of seminars and training sessions attended by City employees
- Feedback from comment cards filled out after seminars and training sessions

MCM II – Public Involvement and Participation

Introduction

The City will strive to achieve demographic representation and an increased level of community involvement in the SWMP development and implementation. The BMPs selected will address the viewpoints and concerns of a variety of audiences and communities. The Best Management Practices (BMPs) listed have been selected with regard to: water quality needs; applicability to the City of Neosho; reaching a wide range of target audiences including residential communities,

educators, businesses, commercial property owners, the development community and other specific industries; taking advantage of related events and resident interest; and to build on existing and developing programs and partnerships.

Best Management Practices (BMPs) for MCM II

II.1. Storm Water Management Program Advisory Committee

BMP Description

The City of Neosho will organize and implement a Storm Water Management Plan Advisory Committee to bring a variety of potentially affected stakeholder groups into the Storm Water Management Program's development and assessment process. The Committee will consist of the sitting Planning and Zoning Commission with at least three additional seats accommodating representation from locally led watershed groups and educational institutions. The Committee will meet semi-annually to discuss the effectiveness of the SWMP, propose changes, review and comment on the Annual Reports, review and comment on the new SWMP at the end of the permit period. The Committee will also help conduct the Bi-annual Storm Water Management Plan Public Meetings.

Meeting agendas, minutes and review comments for the Annual Report and next SWMP will be kept on the Storm Water Management web page until the end of each year and then archived.

Target Audience

The target audience is stakeholder groups potentially affected by the SWMP. Potential stakeholder groups include, but are not limited to: City government, commercial and industrial businesses, trade associations, environmental groups, homeowners associations and educational organizations.

Measurable Goals

The goal for this permit period is to create the advisory committee and begin the semi-annual meetings. The effectiveness of this BMP will be measured using the following parameters:

- Creation of the SWMP Advisory Committee
- Type of stakeholder groups represented
- Number of meetings
- Meeting agendas, minutes and review comments

II.2. Neosho Storm Water Task Force

BMP Description

Volunteers are an integral part of the SWMP for several reasons. Volunteering gives the community a sense of ownership in the program. From a practical standpoint, volunteers are needed to provide the manpower to make the SWMP effective.

The Storm Water Management Coordinator will organize and implement a Neosho Storm Water Task Force made up of applicable City departments and divisions that may include Parks, Public Works, Water and Wastewater, among others. Members of the Storm Water Management Plan Advisory Committee will also be invited. Activities for the group may include organizing stream cleanups, organizing storm drain labeling groups, organizing volunteer water quality monitoring and aiding the Public Works Department in the identification of polluters.

The Storm Water Action Group is intended to assist the City in the organization, recruitment and implementation of volunteer activities. This enables these programs to achieve a higher level of success than possible if solely implemented by the City's staff.

The following methods of soliciting input will be used to generate interest and recruit the public for involvement:

- Advertising on the City website, in newsletters, and at civic meetings
- Postings at municipal buildings, schools, and libraries
- Telephone and e-mail notifications
- Bi-annual Storm Water Management Public Meetings
- Advertisement in Brochures/Fact sheets

The Neosho Storm Water Task Force will meet at least annually to discuss recruitment strategies, organize activities and evaluate the effectiveness of activities.

Target Audience

The target audience is the citizens of Neosho, including: residents, educators, college students, civic leaders, business owners and commercial property owners.

Measurable Goals

The goal of this permit period is to create the Neosho Storm Water Task Force and have it assist the City in organizing and implementing the wide variety of volunteer activities described in the SWMP. The effectiveness of this BMP will be measured using the following parameters:

- Formation of the Task Force
- Number of volunteer activities implemented
- Number of volunteers included in the activities implemented

II.3. Stream Teams

BMP Description

The City of Neosho currently has citizens and stakeholders groups that have formed Stream Teams. The City has cooperated with Stream teams to conduct stream cleanups along Hickory Creek, Big Spring Branch and Hatchery Branch. The Storm Water Management Coordinator, with assistance from the Citizen's Storm Water Task Force, will organize and implement additional Stream Teams with the public and other interested City departments, such as the Parks and Public Works Departments through the Missouri Stream Team program. The activities anticipated to be conducted by the Stream Teams include:

- Litter Pickups
- Storm Drain Labeling
- Volunteer Water Quality Monitoring

The Stream Teams will be encouraged to conduct monitoring activities close to the Neosho municipal boundaries, both the upstream and downstream ends, to help the City evaluate the effectiveness of the overall Storm Water Management Program. The Stream Teams will also be asked to submit to the Storm Water Management Coordinator an annual report documenting dates and types of Stream Team activity, number of volunteers involved, amount of trash collected, number of inlets painted, results of water quality tests and observations of the overall

condition of their reach of stream with such things as vegetative cover and condition, amount of invasive species, amount of yard waste dumping, etc.

Reaches of stream cleaned, the date that each inlet is stenciled, and water quality monitoring data will be recorded by the Storm Water Management Coordinator, potentially in the City's GIS system as described in MCM III – Illicit Discharge Detection and Elimination. This will allow tracking of the program and enable easy use of the data.

Target Audience

The target audience is groups of individuals interested in the quality of our streams. These may include neighborhood associations, scout troops, youth groups, educational institutions, environmental organizations, local businesses, City departments, etc.

Measurable Goals

The goal of this permit period is to have a Stream Team adopt each of Neosho's major streams.

The major streams are: Hickory Creek, Hatchery Branch, Big Spring Branch.

Once the Stream Teams are in place the goal is for each Stream Team to accomplish 2 or more of the following:

- Conduct or participate in at least one litter pickup per year
- Perform water quality monitoring twice a year
- Label storm drains leading to their reach of stream
- Check and maintain storm drain labels every 3 to 5 years

Additional Stream Teams may be organized solely for the purpose of storm drain labeling in order to achieve additional coverage within the Neosho MS4 area.

The effectiveness of this BMP will be measured using the following parameters:

- Number of Stream Teams
- Number of streams with Stream Teams in place
- Number of stream miles cleaned
- Number of litter pickups
- Tons of trash collected
- Number of volunteers involved in Stream Clean activities
- Number of storm water inlets stenciled
- Percentage of storm water inlets stenciled
- Average number of years before storm water inlets are checked for maintenance of labels
- Frequency of water quality monitoring events
- Amount of water quality data collected
- Ability to track and use water quality data

In addition to meeting the objectives of MCM II, the volunteer water quality monitoring will give the citizens of Neosho and the City a means of assessing the success of the entire SWMP. Water quality data can be used to track improvements in water quality due to the SWMP or pinpoint potential illicit discharges or other pollutant sources that require attention.

II.4. Concerns Hotline

BMP Description

The City of Neosho will advertise a phone number for citizens to use for any concerns that they may have regarding stormwater and illicit discharge concerns. The program will include a tracking component to categorize the concerns and to ensure concerns are addressed in a timely manner. The number will be advertised on the City's web page, in the City's revised and renamed "Welcome to Neosho" packet for new utility customers, in the various storm water related brochures/fact sheets, and in storm water articles.

Target Audience

The target audience is people living, working or driving through Neosho.

Measurable Goals

The goal of this permit is to receive calls for storm water concerns and implement response time for concerns to an initial call back within 24 hours after a concern is received to determine action required and priority. The effectiveness of this BMP will be measured using the following parameters:

- Evaluate the effectiveness of the "Concerns" customer service program and update as necessary
- Number of storm water related concerns
- Response time for initial callback

II.5. Bi-annual Storm Water Management Program Public Meeting

BMP Description

The Storm Water Management Coordinator with assistance from the SWMP Advisory Committee, as described above, will conduct a bi-annual public meeting for the purpose of informing the public about the SWMP and receiving input on storm water concerns and the effectiveness of the SWMP. The meetings will comply with State and local public notice requirements and may be held in conjunction with a SWMP Advisory Committee Meeting or other public meeting to increase attendance.

Target Audience

The target audience is the citizens and other stakeholders of the SWMP, including residents, neighborhood associations, business owners, commercial property owners, trade organizations and environmental groups, among others.

Measurable Goals

The goal of this permit period is to implement the SWMP Public Meetings and to conduct meetings in 2010 and 2012. The effectiveness of this BMP will be measured using the following parameters:

- Number of SWMP Public Meetings
- Number of attendees at the SWMP Public Meetings
- Number of comments generated as a result of the SWMP Public Meetings

MCM III – Illicit Discharge Detection and Elimination

Introduction

The purpose of this MCM is to develop, implement and enforce a program to detect and eliminate illicit discharges into the City of Neosho's municipal separate storm sewer systems (MS4s). An illicit discharge is defined as any discharge that is not composed entirely of storm water, except for discharges permitted under other state operation permits or directly from fire fighting activities.

Best Management Practices (BMPs) for MCM III

III.1. Storm Sewer Mapping

BMP Description

The City began mapping the storm sewer system 2008 by collecting GPS point data on stream outfalls, and on storm drain inlets during training conducted with staff on the City's GIS system and field data collection equipment. The City will incorporate the storm sewer data into the City's GIS system for ease of analysis and updating. The City is in the process planning further data collection for calendar year 2010. In addition to verifying outfall locations and data collection for additional storm drain inlets, paper map collections will be reviewed for information on constructed storm sewer infrastructure that can be added to the City's GIS system.

A GIS-based system was selected to make the map interactive for inspectors and other involved parties. Inspectors will verify outlet locations with field surveys and have access to a mapping grade GPS unit to check and document storm water structures.

Measurable Goals

The goal for this permit period is to continue data collection to verify and update the City's data for creation of a storm sewer GIS map and to complete the GPS survey of all storm outfalls into Neosho's major streams.

Additional information may be added to track the storm drains that will be labeled as part of the Stream Team BMP described in MCM II – Public Involvement and Participation.

The effectiveness of this BMP will be measured using the following parameters:

- Number of storm structures added to the GIS map
- Number of storm sewer outfalls identified with GPS survey
- Additional information added as practicable
- How the storm sewer map is being used

III.2. Illicit Discharge Ordinance and Inspections

BMP Description

The City has existing ordinances addressing various forms of illicit discharges including:

- Title II Public Health safety and Welfare
 - Chapter 215 – Offenses and Miscellaneous Provisions
 - Section 215.390 Throwing litter, trash and other articles upon streets or private property or from a motor vehicle
 - Section 215.570 Draining, depositing, etc., slops, wastewater, filth, on street, etc.
 - Chapter 220: Nuisances

- Section 220.020 – which prohibits deposition or accumulation of offensive substances such as animal or vegetable matter that has become putrid, offensive or unhealthy, filth, garbage, ashes, foul, nauseous or unclean water, etc.
 - Chapter 230: Garbage, Trash and Refuse
 - Section 230.100 Littering Prohibited
 - Section 230.110 Unlawful Deposits, including deposits of dirt, grass, leaves, and offensive substances in public streets, alleys or ditches.
 - Section 230.120 Vehicle wheels depositing mud, etc. on streets – prohibiting deposit of mud, dirt, sticky substances, litter or foreign matter of any kind on city streets or any public place.
- Title VII Utilities
 - Chapter 700 Water, Sewers, and Sewage Disposal
 - Section 705.070 Unlawful Deposits Generally – addresses deposition of human or animal excrement, garbage, or objectionable waste.
 - Section 705.370 Discharges to Natural Outlets – prohibits discharge from cesspool or septic tank to any natural outlet
 - Section 705.550 Unlawful Discharge to Natural Outlets or Areas Under City Jurisdiction – prohibits discharge of any sewage or other polluted waters into natural outlets

Neosho City staff has drafted a more comprehensive Illicit Discharge Detection and Elimination (IDDE) code within a revised storm water management ordinance. This ordinance was presented to the City’s Planning and Zoning Commission on January 11, 2010, and will be published for a subsequent public review and comment period. Following this period comments will be addressed and the ordinance will be submitted to the Planning and Zoning Commission for a recommendation for approval.

The IDDE Ordinance will directly prohibit illicit discharges into municipal separate storm sewers and will include powers of entry for identification of illicit discharge sources, enforcement measures, remediation recovery, and response procedures.

The City will conduct visual field screenings of at least 20% of all outfalls per year. In addition, potential illicit discharges may be reported through: Stream Teams, the volunteer water quality monitoring will include visual field screenings for illicit discharges; the Storm Water Management Web Page, the web page will include information on what an illicit discharge looks like and have an online reporting form; and the Concerns Hotline.

If the City is alerted to a potential illicit discharge, an inspector from the Public Works Department will investigate, as needed, to verify the existence of the illicit discharge. Methods available for the inspection program include visual inspection, smoke and dye tests and closed circuit television. Investigations will include documentation of visible evidence and use of physical or chemical tests to document contamination. Once the illicit discharge is located, a detailed field survey with testing will take place, working upstream until the source of origin is located. During the inspection process, the City will seek permission and access private property to the extent allowable by law.

The City will work with the source of the illicit discharge to remedy the situation. The discharge shall be removed by the party responsible for the violation, at no expense to the City. The

violator will submit the proposed removal process to the City for approval. The process will then be monitored by the City for proper methodology. Should the party responsible for the illicit discharge refuse to cooperate; the penalty provisions included in the IDDE Ordinance, such as referral to municipal court or utility disconnection, will be enforced.

Should the source of a violation not be identified, the City will remediate and curtail the violation to the extent practicable, taking into account cost, manpower requirements and the availability of state and federal funding.

City staff will identify land use patterns and infrastructure weaknesses to establish priority areas with a higher likelihood of illicit connections or discharges. Visual screenings, and where possible, chemical testing of water samples, will be made a priority in these areas.

Measurable Goals

The goal for this permit period is submit the Stormwater Management Ordinance, including the Illicit Discharge section, to the City Council for passage by April 2010 and implement those requirements upon passage. The effectiveness of this BMP will be measured using the following parameters:

The effectiveness of this BMP will be measured using the following parameters:

- IDDE Ordinance submitted for approval by June 2010
- Percentage of outfalls visually inspected
- Number of illicit discharge alerts
- Number of investigations performed
- Number of illicit discharges located
- Enforcement and remediation actions taken under the ordinance
- Discharges identified through the Concerns Hotline

III.3. Voluntary Litter Pickup Programs

BMP Description

Stream Teams, as described in MCM II – Public Involvement and Participation are also applicable to MCM III in that they directly remove illicit discharges in the form of floatables and debris from streams and the adjacent floodway. These activities also provide opportunities for volunteers to be in areas where they may detect and report other illicit discharges.

MCM IV – Construction Site Storm Water Runoff Control

Introduction

The target audience for MCM IV includes developers, contractors, and the City of Neosho. As stated in the introduction, the Neosho area is poised to experience extensive growth. Construction site pollutants are a significant contributor to storm water runoff pollution.

The main targeted pollutant is sediment, but construction site waste and debris, construction chemicals and concrete truck washout are targeted as well.

Best Management Practices (BMPs) for MCM IV

IV.1. Grading and Erosion/Sediment Control Ordinance and Plan Review

BMP Description

The City Planning Department has drafted a revised Stormwater Management Ordinance to be submitted to City Council following review by the Planning and Zoning Commission and period of public comment. The draft ordinance contains new requirements for land disturbance activities and erosion and sediment control for all land disturbance activity affecting an area greater than or equal to one acre, including any land disturbance that is part of a larger common plan of development or sale that would disturb one acre or more throughout the duration of the development, as well as any land disturbance that is less than one acre where there is significant potential for deposition of sediment that is in violation of the ordinance or the land disturbance activity is within close proximity to valuable resource waters. Regardless of land disturbance size, a land disturbance permit would be required if the land disturbance is located 25 feet or less from the boundary of a spring, rim of a sinkhole, cave entrance, wetland, watercourse, stream buffer or 100-year floodplain. See Appendix A for a copy of the ordinance.

Erosion and sediment control plans and proposed phasing of the site development are required for grading land areas as described above. Provisions are required to accommodate increased runoff caused by changed soil and surface conditions during and after grading activities. Requiring the use of erosion and sediment Best Management Practices (BMPs) will prevent runoff from the site into storm water systems and natural watercourses. If required to have a Land Disturbance Permit issued by the Missouri Department of Natural Resources, a copy of the permit shall be required prior to issuance of a grading permit. City engineers review all plans to determine the site conditions before, during and after construction. This includes the phasing of construction, the use of BMPs to protect the site, and a listing of the responsible parties involved with the construction site. Responsible parties are required to post a Performance Guarantee with the City to ensure that all BMPs are working and the site is protected against sediment runoff.

Grading operations one acre or larger, as described in the land disturbance permit requirements, conducted by the City of Neosho will also include an storm water pollution prevention plan, will go through the review process and will meet all local, state and federal requirements.

Measurable Goals

The goal for this permit period is submit the Stormwater Management Ordinance, including the Land Disturbance and Erosion and Sediment Control sections, to the City Council for passage. The effectiveness of this BMP will be measured using the following parameters:

- Passage of the Stormwater Management Ordinance, including the Land Disturbance and Erosion and Sediment Control sections
- Average number of plan submittal/review cycles prior to site plan approval
- Feedback from inspectors as to improvements in erosion and sediment control measures on construction sites
- Number of sediment related complaints via the Concerns Hotline
- Qualitative observation of water quality during outfall visual field screenings

IV.2. Erosion and Sediment Control Design Requirements

BMP Description

Requirements and design guidance for erosion and sediment control plans can be found in Section 114 of the revised Neosho Stormwater Design Criteria, entitled Erosion and Sediment Control.

This section constitutes an erosion and sediment control design manual. In addition to erosion and sediment control requirements and design guidance for BMPs, this section of the design criteria manual will be updated as practicable to include: contractor requirements during construction such as inspection and maintenance procedures, record keeping, etc.; proper handling requirements for construction waste such as discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste; and disposal requirements of dredged material, accumulated sediments, floatables and other debris from temporary silt basins.

Municipal construction projects will also be required to follow the requirements in the Erosion and Sediment Control Design Manual.

Measurable Goals

The goal for this permit period is to adopt the Stormwater Design Criteria including Section 114 Erosion and Sediment Control, with requirements tied to land disturbance activities and design guidance for erosion and sediment control BMPs. The effectiveness of this BMP will be measured using the following parameters:

- Feedback from inspectors as to improvements in erosion and sediment control measures on construction sites
- Feedback from the development community via meetings with the local Home Builder's Association and an annual builder's meeting
- Qualitative observation of water quality during outfall visual field screenings
- Number of sediment related complaints via the Concerns Hotline

IV.3. Plan Review Process and Checklist Procedures

BMP Description

The Planning and Building Inspections departments will create and implement a checklist for reviewing site plans and storm water pollution prevention plans for compliance. The checklist tool will provide applicants and staff with a clear and concise list of compliance items that will require attention in order for plans to be approved.

Measurable Goals

- Implementation of the checklist in plan reviews
- Average number of plan submittal/review cycles prior to site plan approval
- Feedback from inspectors as to improvements in erosion and sediment control measures on construction sites
- Feedback from the site developers and designers during the plan review and submittal process

IV.4. Erosion and Sediment Control Inspection and Training for City Staff

BMP Description

The City will require its building and code enforcement inspectors to be trained in erosion and sediment control inspection. Additional training will be conducted for new inspectors and periodic refresher courses as needed.

Inspections will usually be conducted after major rain events or on a complaint-driven basis. General inspections of sediment/erosion control measures will routinely be performed during site inspections for other infrastructure. Contractors shall be required to keep on site and make available upon request the following items:

- A copy of the grading permit and the most current erosion and sediment control plan
- Inspection and maintenance logs from routine and heavy rain event inspections
- A copy of the Land Disturbance Permit issued by the Missouri Department of Natural Resources, if required

The Building and Inspections Department's measures for compliance will include inspections, notice to correct, stop work orders, fines, and use of a Performance Guarantee. Inspections provide enforcement of the erosion and sediment control BMPs employed on each site. If the BMPs are not being followed or are not working as intended, a notice of violation will be issued. This notice of violation requires a 7 -day compliance period. If compliance is not met within the allocated time, a Stop Work Order is issued. At this point fines can be issued to the violator. Fines not to exceed five hundred dollars (\$500.00) per violation per day could be levied against the violator. If the fines are ignored and compliance is not met, the monies provided by the performance guarantee will be used to correct the violation and return the site to compliance.

Measurable Goals

The goal of this permit period is to implement the erosion and sediment control inspection and inspector training programs. The effectiveness of this BMP will be measured using the following parameters:

- Number of inspectors employed by the City
- Number of inspections performed
- Number and frequency of formal inspector training sessions attended by city staff
- Average number of inspections per acre of land disturbance activity
- Number of violation notifications and enforcement procedures used, including number of stop work orders given.
- Qualitative feedback from inspectors
- Qualitative observation of water quality during outfall visual field screenings
- Number of sediment related complaints via the Concerns Hotline

IV.5. Erosion and Sediment Control Developer/Engineer/Contractor Training

BMP Description

This BMP is in coordination with the Targeted Seminars and Training BMP as described in MCM I – Public Outreach and Education. The City of Neosho will seek to cooperate with other MS4's in the region to conduct at least one meeting annually to be used as a training vehicle on erosion and sediment control topics such as: design, installation, inspection and maintenance.

Measurable Goals

The goal for this permit period is to conduct or promote at least one erosion and sediment control training session annually for developers, engineers, and contractors . The effectiveness of this BMP will be measured using the following parameters:

- Number of training sessions conducted, recommended, or advertised
- Number of participants
- Qualitative feedback from participants
- Qualitative feedback from inspectors as to improvements in erosion and sediment control measures on construction sites
- Number of sediment related complaints via the Concerns Hotline

MCM V – Post-Construction Storm Water Management

Introduction

The City will implement guidelines for Best Management Practices (BMPs) 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 City's regulated small MS4. The BMPs are designed to ensure that controls are in place that would prevent or minimize water quality impacts by requiring water quality treatment and hydrology that mimicks pre-developed conditions.

Best Management Practices (BMPs) for MCM V

V.1. Storm Water Design Criteria

BMP Description

The new design criteria meet the requirements of the General State Operating Permit for Small MS4s by including the following measures to minimize or prevent water quality impacts:

- Requires mimicking of predevelopment hydrology, including storm water detention and water quality features, for all new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than 1 acre that are part of a larger common parcel or project that is greater than one acre, or where total impervious area exceeds 15 percent of the total land area of the development.
- Requires water quality structural BMPs to capture and treat the runoff from 90% of the recorded daily rainfall events.
- In addition to flood protection by maintaining the pre-developed 100-year peak flow rate, the new criteria requires extended detention of the water quality capture volume, assumed to be the runoff volume generated by the 1-year, 24-hour storm event.
- Requires grade controls to be built in receiving streams at crossings and pipe outfalls to reduce or eliminate sediment generation and stream degradation as a result of these designs.
- Requires developers to ensure ownership and maintenance of facilities via sufficient easements and covenants approved by the City of Neosho City Attorney. The subdivision homeowners or private property owners must complete any required maintenance or repair. The City may correct violations and costs will be assessed against the property owner or subdivision homeowners if the owners fail to comply.

- Municipal Capital Improvement Projects such as roadway widening and new municipal buildings and parking lots that trigger the requirements for storm water management will also be designed in accordance with the new design requirements.

Measurable Goals

The goal of this permit period is to implement the new Stormwater Design Criteria and review new and re-development project plans within the City of Neosho using these criteria. The effectiveness of this BMP will be measured using the following parameters:

- Approval of the new Stormwater Design Criteria
- Number of new and re-development projects reviewed under the new criteria
- Average number of plan submittal/review cycles prior to site plan approval
- Feedback from the City plan review panel
- Feedback from the development community, neighborhood associations and the residents via the Bi-annual SWMP Public Meetings and training seminars
- Qualitative observation of water quality during outfall visual field screenings

V.2. Riparian Buffer Protection

BMP Description

Requirements and guidance for stream buffers can be found in Section 105 of the newly revised Neosho Stormwater Design Criteria, entitled Stream Buffers. This section implements a riparian setback requirement for all land and new development not currently covered by a currently approved or permitted plan or plat of development.

This section designates a streamside corridor of 75' from the top of a designated stream bank, and may be expanded to include the floodplain or land having a slope greater than 15%. No development may occur in this zone without a floodplain development permit, which may only be issued for uses and activities permitted in the Stream Buffer requirements and Flood Damage Prevention ordinance.

Measurable Goals

The goal for this permit period is to adopt the Stormwater Design Criteria including Section 105 Stream Buffers, including a map designating the streams for which buffers will be observed. The effectiveness of this BMP will be measured using the following parameters:

- Passage of the Stormwater Design Criteria including Section 105 Stream Buffers
- Number of acres of riparian area preserved in development plans implementing the requirements of Section 105 Stream Buffers

V.3. Structural BMP Inventory

BMP Description

The City of Public Works Department will inventory existing structural BMP's with data sufficient to include in the City's GIS when practicable. This information will provide a basis for planning and implementing inspection of structural BMP's.

Measurable Goals

The goal for this permit period is to inventory and inspect all known structural BMP's by June 2012. The Effectiveness of this BMP will be measured using the following parameters:

- The frequency of inventory and inspection activities
- The number of structural BMP's identified and inventoried
- The number of problems identified and remedied
- Changes in water quality effluent from BMP's, either from visual or chemical analysis

MCM VI - Pollution Prevention/Good Housekeeping for Municipal Operations

Introduction

The City will implement new pollution prevention/good housekeeping BMPs to prevent or reduce pollutant runoff from municipal operations. The program includes training of City employees and will eventually encompass all departments/divisions of municipal operations. Municipal Capital Improvement Projects such as roadway widening and new municipal buildings and parking lots will be designed in accordance with new municipal design requirements for erosion and sediment control and storm water management. Municipal projects will go through the design review process and receive construction inspections.

The targeted pollutants for this MCM are those generated by municipal operations including: sediment, sodium chloride, fertilizers, pesticides, petroleum hydrocarbons, solid and hazardous wastes, nutrients, organic materials, litter and debris, and bacteria.

Best Management Practices (BMPs) for MCM VI

VI.1. Operations and Maintenance (O&M) Program and Training

BMP Description

O&M Program:

The City will design and implement O&M Programs for various departments/facilities to prevent or reduce pollutant runoff from municipal operations. The programs will contain but not necessarily be restricted to the following municipal operations and categories:

Building Maintenance

- Material storage and control
- Proper use and application of materials

Garden and Landscaping Operations

- Proper operation of irrigation systems
- Material storage and control
- Proper use and application of materials

Parking Lots and Storm Water System Maintenance

- Inspection and cleaning of storm water systems on a complaint-driven basis

Park/Open Space Maintenance

- Use of native and low-maintenance plant species
- Material storage and control
- Proper use and application of materials

Licensed Vehicle Maintenance

- Maintenance performed within a protected facility
- Routine operator inspections before use
- Vehicle wash-out procedures

Off-Road Equipment Maintenance

- Maintenance performed within a protected facility
- Weekly operator inspections before use
- Remove equipment from service when fluid leaks are significant
- Vehicle wash-out procedures

Outdoor Bulk Material Storage

- Covered material storage areas
- Short-term uncovered storage areas

Land Disturbance

- Plan/Design projects for minimum disturbance
- Procedures for self-performed construction activities

Illicit Discharge Detection

- Periodic inspection of City-sites for illicit discharges

Waste Disposal

- All wastes disposed per federal, state, and local regulations
- Provide recycling alternatives to reduce conventional waste disposal

Spill Prevention, Control and Countermeasure (SPCC)

- Safe handling procedures
- Spill containment procedures
- All spills handled per federal, state, and local regulations

Maintenance Schedules and Inspection Procedures

- Routine maintenance
- Non-routine maintenance
- Inspection schedule and checklists
- Record-keeping

The following departments will be responsible to evaluate their current O&M programs, or having none, develop a specific O&M Program for that department's operations and facilities such that storm water pollutants are minimized:

- Public Works, including:
 - Street Division
 - Water Distribution and Maintenance Division
 - Wastewater Treatment Division
 - Vehicle Maintenance Division
- Parks and Recreation

- City Government

In the development or evaluation of O&M programs, each applicable department will assess their municipal operations for associated storm water impacts, including the categories listed above. The assessment will identify existing and potential pollutant sources and methods of reduction or elimination of identified pollutants. The following decision process will be used to change existing municipal operations to meet this objective:

1. Review current operation methods, associated pollutants, and possible alternatives
2. Determine feasibility of operational changes
3. Estimate probable cost of implementation
4. Departmental review of Cost/Benefit Analysis
5. Implement changes if budget allows
6. Request additional funds if necessary
7. Financial appropriation if necessary

The various O&M Programs will be collected and reviewed by the Public Works Department for adherence to the details of this BMP and for consistency and overlap.

Training:

Each department will create and implement a training program tailored for their operations. The training program shall consist of new staff orientation and retainer/refreshers components. The training will include written feedback from employees regarding the applicability and effectiveness of the O&M Program and training.

The Public Works Department will assist the individual departments by compiling training resources from EPA, Missouri Department of Natural Resources, and other applicable authorities and coordinating inter-departmental training opportunities.

The Storm Water Management Coordinator will seek opportunities to coordinate the training programs with the outreach programs developed for MCM I – Public Education and Outreach and MCM III – Illicit Discharge Detection and Elimination.

Measurable Goals

The goal of this BMP is to prevent or reduce pollutant runoff from municipal operations through the use of O&M Programs and training tailored to specific City departments and facilities. The effectiveness of this BMP will be measured using the following parameters:

- Number of departments with new or revised O&M Programs
- Progress/status of O&M operations and categories
- Number of training sessions
- Number of participants in training sessions
- Number of training sessions coordinated with MCM I and MCM III education and outreach programs
- Feedback from City employees regarding the applicability and effectiveness of the O&M Programs and training

VI.2. Public Works Facility Structural BMP

BMP Description

The City of Neosho Public Works Department will design and construct a structural water quality BMP to treat runoff generated on the new Public Works Facility under construction. The City has a 5-acre drainage area associated with the public works facility. The area has a single point discharge for the storage yard, maintenance facility, etc.

The Streets Division will test the existing effluent for the targeted pollutants: sediment, sodium chloride, petroleum hydrocarbons, litter and debris, then test again after construction. Effluent testing will continue bi-annually to check for BMP effectiveness and to determine if additional maintenance is required.

Measurable Goals

The goal for this permit period is to construct the public works facility BMP to reduce the targeted pollutants. The effectiveness of the BMP will be measured using the following parameters:

- Construction of the public works facility BMP
- Amount of targeted pollutants as measured from pre and post construction tests
- Number of recorded inspection and maintenance logs for the BMP

VI.3. Flood Management Projects

BMP Description

The Public Works Department will review all flood management projects that require a floodplain development permit for water quality impacts and will recommend necessary water quality protection device(s) or practice(s). The Public Works Department will also acquire any necessary permits and develop a Storm Water Pollution Prevention Plan (SWPPP) as required by Missouri Department of Natural Resources. The SWPPP will include inspection and maintenance procedures for erosion and sediment control devices.

Measurable Goals

The goal of this BMP is to implement the practice of reviewing flood management projects for water quality impacts and the applicability of NPDES Land Disturbance permits for each project. The effectiveness of this BMP will be measured based on the following parameters:

- Approval of individual NPDES Land Disturbance Permits
- Implementation of SWPPP including inspection and maintenance logs of erosion and sediment control devices