Master Plan with Milestones

MCM Plan   1 Public Education and Outreach

The permittee (primary recipient of the KPDES permit) must maintain a public education program and conduct public outreach activities in the community that focuses on impacts from stormwater discharges to water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

Six (6) Best Management Practices (BMPs) and their associated milestones have been incorporated in this Stormwater Quality Management Plan (SWQMP) to meet the requirements for MCM 1.

BMP   **1.A. Maintain public education program**

BMP Description   The permittee shall maintain a public education program that focuses on impacts from SW discharges to water bodies and steps that the public can take to reduce pollutants in SW runoff.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
1.A.1. Establish funding	Establish resources to fund public education activities	Meet with Stormwater Advisory Council (SWAC) to determine an appropriate Percentage of the annual Budget to delegate to MCM 1.	X	X	X	X	X
1.A.2. Determine Annual Activity	What are the planned activities for the permit year to reach target audiences and address target pollutants?	Review fiscal and human resources to establish a workable schedule of activities outlined for the given plan year. Target three (3) activities per year.	X	X	X	X	X
1.A.3. Coordinate with KYTC	Incorporate assistance provided by KYTC/KEEC into public outreach strategy document as a cost savings method and to present a unified message for education the public	Gain familiarity with the media outlets and messages being delivered. Establish a plan for collecting data related to message delivery. Create means to raise awareness of KYTC activities.	X	X	X	X	X
1.A.4. Conduct annual review and evaluation of program	The permittee will evaluate the Public Education efforts from the previous year as part of the outreach strategy.	Evaluate the ability to complete the previous year's activity given the staffing and financial resources. Evaluate the effectiveness of activities. Adjust strategy as needed.	X	X	X	X	X

			YR1	YR2	YR3	YR4	YR5
1.A.5. Identify parties involved and/or responsible for P.E.	Determine people involved and Level of involvement	Review all potential sources of assistance. Identify person(s) responsible for managing the tracking and reporting to establish the methods of communicating activities among involved parties	X	X	X	X	X
1.A.6. Select topics and distribution locations	Select methods of distributing Public Education materials, select public education topics and assign responsible parties for development and distribution. Determine the locations that will be most beneficial to each activity.	Through discussion with SWAC, BRASS, KSA, etc., develop a priority list of target pollutants and audiences, then select the preferred or available delivery methods and locations.	X	X	X	X	X

BMP   **1.B. Conduct public outreach activities**

BMP Description   The permittee shall conduct public outreach activities in the community that focuses on impacts from SW discharges to water bodies and the steps that the public can take to reduce pollutants in SW runoff.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
1.B.1. Conduct SWAC meetings	Maintain a SWAC to assist with development, implementation and status of SWQMP.	Hold regular SWAC meetings (minimum of two (2) times per year).	X	X	X	X	X
1.B.2. Participate in the KY Stormwater Association (KSA)	Take advantage of opportunities for training and exchange of ideas to enhance MCM 1.	Attend regular and/or subcommittee meetings for SW program material development, educational benefit and MS4 community collaboration.	X	X	X	X	X
1.B.3. Implement public outreach strategy	Conduct activities outlined in the outreach strategy for the given plan year.	Schedule public education activities to minimize bunching and work overload. Choose times to conduct activities to coincide with events associated with the theme if possible (i.e. – recycling during earth week).	X	X	X	X	X
1.B.4. Community officials activity	Conduct at least one activity focused on updating or educating community officials to increase awareness and gain momentum for the stormwater program.	Presentation, printed material handouts, quarterly reports or emails, invitations to KSA or other MS4 events.	X	X	X	X	X

			YR1	YR2	YR3	YR4	YR5
1.B.5. Activity related to target audience or target pollutant	Conduct at least one theme oriented activity specifically related to the target audience or target pollutant.	Special events, invitation only workshops or presentations, focused materials printed for individuals, businesses, etc. that addresses an identified priority area. Determine annually the target audience and pollutant.	X	X	X	X	X
1.B.6. General public activity	Conduct at least one activity associated with a mass distribution to all individuals in the jurisdictional limits.	Through discussion with SWAC, BRASS, KSA, etc., develop a priority list of target pollutants and audiences, then select the preferred or available delivery methods and locations.	X	X	X	X	X

BMP **1.C. Guidance materials**

BMP Description Utilize the Stormwater Education Toolkit developed by KYTC or alternative outreach materials that provide an effective equivalent.

BMP Milestone	**Description**	**Implementation Notes**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**
1.C.1. Review of available guidance materials	Review available Stormwater Education materials from KYTC, EPA and other available resources for content, cost and potential effectiveness.	Annually select materials and delivery methods that will provide the best opportunity to meet the objective of the annual activities in a cost-effective manner.	X	X	X	X	X
1.C.2. Utilize available guidance materials	Develop the means to utilize the preferred materials (purchase, customization, reproduction, media connection) to assure that the activities will be effectively carried out.	Determine where materials will come from, what needs to be done to make them useful for the MS4, who will do the work to customize (if needed) and distribute the selected materials.	X	X	X	X	X

BMP **1.D. Pollutants in local waterways**

BMP Description Public Education and Outreach efforts shall focus on pollutants impairing or threatening local waterways.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
1.D.1. Pollutant Determination Method	Select method for determining pollution/impairment of streams based on available resources (monetary and human), while keeping in mind a future monitoring program component.	Survey, review of available WQ data from KDOW, and/or sampling. This activity will also assist the MS4 in determining the pollutants of concern.	X				
1.D.2. Assessment of data collected	Assess data collected to make a determination of pollutants threatening and/or impairing local waterways.	A review of data collected and comparison of degree of impact (either through actual data or public perception) will provide the opportunity to develop or adjust the priority list for pollutants of concern.	X				
1.D.3. Distribute Primary Pollutants Data	Distribute data that determines the pollutants impairing and/or threatening local waterways	Present at SWAC meeting to stimulate discussion that will shape how this will work into the outreach strategy. Outputs can be utilized as outreach materials for community officials, target audiences and general public then distribute through a variety of outlets.	X				
1.D.4. Prioritize Public Education Activities	Identify top three methods and/or activities to educate based on the pollutants or impairments threatening the local waterways of the community.	Determine where efforts need to be focused, how best to reach targeted audiences, can methods be incorporated within the available budget, should the top three be modified from previous year(s) etc.	X		X		X

BMP	**1.E. Measure public education and outreach efforts**
BMP Description	Develop self-analysis tools to determine if the educational outreach efforts are reaching the target audiences and creating the behavioral changes desired. Tools may include: - numbers of persons, material counters - surveys pre- and post event - means to trace changes in other MCM back to MCM 1 activities (Ex – Litter calls increase the year the community outreach is on litter reduction and community hotline prompting)

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
1.E.1. Establish means to track educational outreach	Determine methods to measure public education activities	Utilize a data management system to document activities and outcomes to meet compliance and annual reporting needs. Gain familiarity of data management system capabilities with regard to data collection and reporting. Utilize the software to effectively track MCM 1.	X	X	X	X	X

BMP	**1.F. Track MCM 1 activities for permit compliance**

BMP Description   Maintain and manage data management application to reflect all activities. Expand on information input to enhance review and evaluation capabilities.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
1.F.1. Maintain public education activities	Track public education activities by creating "Activity Records"	Utilize data management software to effectively Track MCM 1.	X	X	X	X	X
1.F.2. Utilize available guidance materials	Review activities conducted for completion and benefit to community to determine if the objectives are being met.	Assess whether activities were conducted, was it sufficient, was the message delivered and received successfully, what changes may need to be made, etc.	X	X	X	X	X

MCM Plan   2 Public Involvement and Participation

The small MS4 general permit contains performance measures for public participation and involvement. The permittee must comply with state and local public notice requirements when implementing the public involvement and participation program.

Five (5) Best Management Practices (BMPs) and their associated milestones have been incorporated in this (SWQMP) to meet the requirements for MCM 2.

BMP   2.A. Implement a public involvement/participation program

BMP Description   Activities may include:
- representation on local stormwater management work groups (SWAC or other)
- public notices
- public hearings
- facilitating education volunteers
- assisting with program coordination
- monitoring efforts
  Public Notice must be provided for all program participation opportunities.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
2.A.1. Develop potential list of public involvement activities	Public involvement activities list shall include events in which community groups, individuals, MS4 staff and community officials can participate to address the water quality concerns of the MS4.	List should address target audiences pollutants of concern, availability of volunteer groups, community environmental organizations, local events to piggyback on, etc.	X		X		X
2.A.2. Conduct Annual Public Involvement Activities	From the potential list, determine the annual activities and schedule accordingly.	Evaluate staff, budge, timing of public involvement opportunities and establish a plan to provide opportunities for a least two (2) public involvement activities. Provide public notice for all public involvement activities.	X	X	X	X	X

BMP Milestone	Description	Implementation Notes					
2.A.3. Establish a Stormwater Advisory Committee (SWAC)	Solicit volunteers from key community stakeholders to serve on a SWAC for the purpose of guiding the stormwater program.	SWAC members should provide input from a variety of perspectives relative to their involvement with the community, which will help the program gain community consensus of the program needs, goals, BMPs and activities.	X				
2.A.4. Hold SWAC meetings	Conduct regular SWAC meetings and provide Public Notice of meetings.	Minimum of two (2) per year.	X	X	X	X	X
2.A.5. Participate in Community Events	Participate in at least one (1) community event per year to highlight water quality and community involvement opportunities.	Set up a booth, speak or provide materials (or all three) at a local festival, field day or clean up day.	X	X	X	X	X

BMP **2.B. Facilitate opportunities for volunteers**

BMP Description What will facilitate opportunities for volunteers?
- SWAC
- arrangements with local environmental groups
- communication with other civic groups (scouts, Kiwanis, HBA, Neighborhood Assoc.)

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
2.B.1. Develop list of possible volunteer activities	Determine what activities could volunteers do that would have the most benefit or be the most benefit to the MS4?	Select actions that may be completed by volunteers based on complexity, safety, cost, available materials, skill sets and staff support.	X	X		X	
2.B.2. Identify potential sources of volunteers	Initiate involvement with local civic groups to cultivate volunteering opportunities.	Establish a list, contact people	X	X		X	

BMP **2.C. Advertising of Public Involvement Activities**

BMP Description

1. Develop a standard for advertising public involvement activities
2. Implement and advertise protocol
3. MUST be developed within sixty (60) days of effective date on KYG20

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
2.C.1. Develop Public Notice Protocol	Develop or identify Standard Operating Procedure (SOP) for Public Notice.	If no official SOP is in place, review KRS requirements and establish SOP to meet or exceed KRS.	X				
2.C.2. Implement Public Notice Protocol	Make all municipal employees participating in public involvement activities aware of the SOP	For all MCM 2 activities, take measures such as utilizing planners, electronic calendars etc. to assure that Public Notice is provided on or before the stated deadline in the SOP.	X				
2.C.3. Provide Public Notice for MCM 3 activities	Utilize a Public Notice SOP for all MCM 2 activities	Schedule MCM 2 activities and establish reminders to post Public Notice. Document activities and date of Public Notice.	X				

BMP **2.D. Measure activities relative to this MCM for permit compliance**

BMP Description

Activities may include:
- identification of activity, date, name and # involved
- message(s) delivered
- documentation of activity and expenses
- personnel involved in implementation activity

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
2.D.1. Establish means to measure Public Involvement activities	Use data management software as a means to provide measurable results that can identify trends and behavioral change	Post surveys, etc. that can identify learning outcomes (improved, neutral or lessened understanding), changes in behavior (less litter, debris, less violations, more volunteers, etc.) and participation/interest in water quality.	X	X	X	X	X

BMP   **2.E. Track activities relative to this MCM for permit compliance**

BMP Description   Include activities in annual report. Maintain and manage data management application to reflect all activities. Expand on information input to enhance and evaluation capabilities.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
2.E.1. Track Public Involvement activities	Use data management software to input data and track activities.	Gain familiarity with data management software capabilities with regard to data collection and reporting. Utilize the software to effectively track MCM 2.	X	X	X	X	X
2.E.2. Implement Public Notice Protocol	Review activities completed and benefit provided to the community. Then determine if objectives are being met.	Assess whether activities were conducted, was it sufficient, was the participation as expected, what changes may need to be made etc.	X	X	X	X	X

MCM Plan   **3 Illicit Discharge Detection and Elimination**

Recognizing the adverse effects illicit discharges can have on receiving waters, the final rule requires an operator of a regulated small MS4 to develop, implement and enforce an illicit discharge detection and elimination program. Therefore, an MS4 operator must develop a map of the MS4 that locates all major MS4 outfalls and names of receiving waters; effectively prohibit discharges of non-stormwater to the MS4 through the use of an ordinance or other regulatory mechanism; and provide for enforcement procedures and actions; and inform public employees, businesses, and the general public of the hazards associated with illegal discharges and improper disposal of waste.

Eight (8) Best Management Practices (BMPs) and their associated milestones have been incorporated in this SWQMP to meet the requirements for MCM 3.

BMP   **3.A. Provide training for municipal field staff**

BMP Description   Provide training opportunities for municipal field staff on the identification and reporting of illicit discharges.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.A.1. Staff Trainings	Provide at least two (2) trainings per year to field associated staff on the components of the IDDE program.	Potential topics include receipt and response to reported spills, outfall investigations, sample acquisition and testing, trace sources, removal mechanisms, use data managements software for data tracking, etc.		X	X	X	

BMP   **3.B. Develop and maintain a storm sewer system map**

BMP Description   Storm sewer map shall include:
- location of all known major outfalls;
- all conveying infrastructure including pipes, ditches, swales, post const. BMP's, etc.
- all name and location of all waters of the Commonwealth that receive discharges from outfalls;
- the MS4 boundary; and
- all mapped infrastructure provided in the specified electronic format.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.B.1. Develop and maintain map in acceptable formats	System maps shall be developed and maintained in electronic ESRI shapefile format. Paper maps may be used in addition.	Electronic GIS format mapping is preferred and can be incorporated into data management software for daily use and reporting needs. Hard copy in the form of a book map is useful tool for field staff and field investigation where laptops or portable GPS/GIS is unavailable.	X	X	X	X	X
3.B.2. MS4 Boundary Layer	Include the MS4 jurisdictional boundary in the base map. Update as needed.	Boundary delineation provides a quick reference to the area of interest and assignment of responsibility.	X	X	X	X	X
3.B.3. Waters of the Commonwealth	Include waters of the Commonwealth in the base map and their contributing watersheds.	Protection of receiving waters is a key component of the MS4 program, so it is essential that the MS4 know the locations and areas contributing to these waters (watershed delineation.)	X	X	X	X	X
3.B.4. Major Outfall Locations	Include the location of major outfalls and their contributing outfall-shed in the base map. Update as needed.	Source tracking and removal is facilitated by good mapping and awareness of the system contributing to an outfall.	X	X	X	X	X
3.B.5. Stormwater Infrastructure	Include all conveyances in each outfall shed. Update as needed.	Source tracking and removal is facilitated by good mapping and awareness of the system contributing to an outfall. Target mapping 20% of the stormwater infrastructure in each plan year. City may utilize aerial topography files for surface conveyances such as creeks, ditches, swales, sinkholes, and other natural structures.	X	X	X	X	X

BMP   **3.C. Dry weather screenings of outfalls**

BMP Description   Utilize IDDE Program Standard Operating Procedures to screen all outfalls during permit term.

       If illicit discharges are detected:
- develop a plan to determine potential source(s)
- eliminate the discharge
- complete any follow-up water quality sampling and/or laboratory analysis
- determine a plan of action

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.C.1. Location of pollutants during outfall inspection	If pollutants/discharges are indicated during screening, develop an action plan to determine the likely source(s).	An action plan should be based on known hot spots, HAZMATS stored within the outfall-shed, past history and characteristics of the discharge indicators	X	X	X	X	X
3.C.2. Visual Inspection of outfalls	Develop a visual inspection checklist for indicators of pollutants including odor, oil sheens, discoloration, high degrees of siltation and excessive aquatic plant growth to use during outfall inspections.	Develop checklist and complete as part of inspection procedure.	X	X	X	X	X
3.C.3. Schedule of screening for major outfalls	All major outfalls shall have a visual screening within the permit cycle.	Target inspecting 20% of outfalls annually and focus attention first on areas deemed priority from the field assessment.	X	X	X	X	X

BMP   **3.D. Public reporting of spill and other discharges**

BMP Description   Develop a mechanism to provide for the public reporting of spills and other Discharges.
Permittee shall keep a record of spill reports received, actions taken and include in annual report.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.D.1. Spill reports received and actions taken	Keep a record of all spill reports received and actions taken	Include spill records and actions taken in annual report.	X	X	X	X	X
3.D.2. Visual Inspection of outfalls	Determine, develop and implement appropriate mechanism for public reporting of spills and other discharges.	The mechanism should be relatively easy to use on both the reporting and receipt of the report and easily recorded for tracking and reporting purposes. Consider available manpower, information technology, systems in place (work order, hotline, web, etc.) in establishing the mechanism.		X			

BMP	**3.E. Community Outreach regarding the Hazards associated with illegal discharges**
BMP Description	In additional to Public Education and Outreach, the permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.E.1. Employee training	Hold one (1) employee training on the hazards associated with illegal discharges and improper disposal of waste.	Obtain or develop presentation and provide training			X		X
3.E.2. Flyer for business	Develop a flyer directed to businesses on the hazards associated with illegal discharges and improper disposal of waste.	Utilize KYTC toolkit or other sources for available materials, then modify or add new material as needed. Vary the content, look and delivery method as needed to keep the material and presentation fresh.		X		X	
3.E.3. Schedule of screening for major outfalls	Develop an advertisement public service announcement or outreach activity (stenciling) that will educate the general public on the hazards associated with illegal discharges and improper disposal of waste.	Utilize KYTC toolkit or other sources for available materials, then modify or add new material as needed. Vary the content, look and delivery method as needed to keep the material and presentation fresh.	X		X		X

BMP   **3.F. Inform KDOW of any illicit discharges**

BMP Description   If an illicit discharge is determined to be a sanitary sewer line failure or defect is a source to the MS4, the permittee shall inform the entity and KDOW's Regional Office.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.F.1. Inform KDOW of any IDDEs	If an illicit discharge is detected contact KDOW.	Know contact information at KDOW relating to any illicit charges.	X	X	X	X	X
3.F.2. Develop remediation activities	Remediation activities shall be initiated ASAP, according to the magnitude of the illicit discharge.	Be familiar with remediation activities and procedures such as spill response, cleanup, public notification, evacuation routes traffic control, available equipment and response agencies.	X	X	X	X	X
3.F.3. Schedule of screening for major outfalls	Evaluate the cause of the discharge for potential prevention and the response plan for potential areas of improvement.	Perform post-response and remediation review to determine if issues were preventable, if response was effective, where improvements could be made etc. (review local Sanitary Overflow Plan as a potential model to follow).	X	X	X	X	X

BMP   **3.G. Procedures for Illicit Discharge program evaluation and assessment**

BMP Description   The permittee shall adopt and implement procedures for Illicit Discharge program evaluation and assessment.
Illicit Discharge program must include:
- tracking the number and type of spills or illicit discharges identified;
- inspections made; and
- any feedback received from public education efforts.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
3.G.1. Develop procedural review process for IDDE program	Use data management system as a means to provide measurable results that can identify trends and behavioral change.	Review the components of the IDDE program for compliance with SWQMP, effectiveness and ability to complete the BMP's.	X	X	X	X	X

| **3.G.2. Revise and Implement updated IDDE program** | Based on any areas of deficiency in the program review, revise the IDDE program and implement the new procedures. | Consider educating staff and associated parties of new changes in the training for the following year. Document the need for change and potential need for additional resources to manage the revised program and the impacts that may result from doing nothing. | | X | X | X | X |

BMP　　　　　　　　　　　**3.H. Track MCM measures to meet permit and annual reporting**

BMP Description　　　　　The permittee shall track activities relative to this MCM measure and provide measures in the annual report.

BMP Milestone	**Description**	**Implementation Notes**	YR1	YR2	YR3	YR4	YR5
3.H.1. Track annual activities	Maintain a record of all activities in a data management software related to this MCM to track activities.	Input MS4 activities into a data management software for tracking and reporting.	X	X	X	X	X
3.H.2. Evaluate effectiveness of program for MCM 3	Review activities conducted for completion and benefit to community. Then determine if objectives are being met.	Assess whether activities were conducted was it sufficient, was the participation as expected, what changes may need to be made, etc.	X	X	X	X	X

MCM Plan   4   Construction Site Stormwater Runoff

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement and enforce a program to reduce pollutants in storm water runoff to their MS4 from construction activities that result in a land disturbance of greater than or equal to one acre

Three (3) Best Management Practices (BMPs) and their associated milestones have been incorporated in this SWQMP to meet the requirements for MCM 4.

BMP   **4.A.   Construction Site SW Runoff Program Elements**

BMP Description   Numerous elements are required as part of a Construction Site SW Runoff Program.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
4.A.1. Training – MS4 Staff	Implement a training program for MS4 staff in the fundamentals of erosion prevention and sediment control and how to review erosion and sediment control plans or Storm Water Pollution Prevention Plan (SWPPP).	Piggyback erosion prevention and sediment control training with training for MCM 6 as applicable. Consider sending staff to training course (KEPSC, CPESC, other) to obtain qualification/certification.	X	X	X	X	X
4.A.2. Training - Operators	Establish procedures for providing educational and training measures for construction-site operators.	Identify approved courses (KEPSC, CPESC, other) and/or require attendance at local educational workshop to provide the information and training necessary to conduct construction operations within the MS4 jurisdiction. Consider pre-construction meetings on-site as a means to train operators on MS4 expectations.	X	X	X	X	X
4.A.3. Site Inspections	Perform monthly inspections of construction sites that disturb 1 acre or more. for periodic inspections of all known permitted construction sites during construction to verify proper installation and maintenance of required E&SC measures.	Base procedures on approved training, developed inspection checklists and past experience. Document all inspections using a data management software.	X	X	X	X	X

			YR1	YR2	YR3	YR4	YR5
4.A.4. NOI Submittal	Incorporate plan review in the permitting process to affirm compliance with local ordinances, inspection and enforcement capability. Review shall consider water-quality impacts for both private and public facilities.	Utilize checklists and/or data management software.	X	X	X	X	X
4.A.5. Inventory of Construction Sites	Inventory projects and prioritize sites for inspection. The inventory shall track results of inspections, enforcement procedures taken and include an summary of actions in the annual report.	Utilize a data management software to document sites and activities.	X	X	X	X	X
4.A.6. Enforcement Protocol	Implement enforcement strategy that includes escalating enforcement remedies to respond to the issues of non-compliance.	Document all actions, including verbal and maintain consistency with enforcement actions.	X	X	X	X	X

BMP	**4.B. Measure activities related to this MCM**
BMP Description	Measure activities to document compliance with this MCM.

BMP Milestone	**Description**	**Implementation Notes**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**
4.B.1. Procedural review process – construction site SW runoff	Evaluate the work flow from the previous year(s) and identify areas of deficiency to develop review process for construction site	Review components of the MCM 4 program for compliance with the SWQMP, effectiveness and ability to complete the BMP's.	X	X	X	X	X

4.B.2. Revise & implement Construction Site SW runoff program	Based on any areas of deficiency in the program review and revise the program then implement the new procedures.	Consider educating staff and associated parties of new changes in the training for the following year. Document the need for change and potential need for additional resources to manage the revised program and the impacts that may result from doing nothing.	X	X	X	X	X

BMP   **4.C. Track activities related to the MCM to meet permit and annual reporting requirements**

BMP Description   Measure activities to document compliance with this MCM.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
4.C.1. Track activities for MCM4	Use a data management software to input data and track activities.	Input MS4 activities into a data management software for tracking and reporting.	X	X	X	X	X
4.C.2. Evaluate effectiveness of program for MCM 4	Review activities conducted for completion and benefit to community. Then determine if objectives are being met.	Assess whether activities were conducted was it sufficient, was the participation as expected, what changes may need to be made, etc.	X	X	X	X	X

MCM Plan   **5   Post-Construction Stormwater Management**

Post-Construction Stormwater Management refers to the activities that take place after construction occurs and includes structural and non-structural controls to obtain permanent stormwater management over the life of the property's use. This is the key element of the MS4 permit and the strategy of the Nation and the Commonwealth for achieving the goals of the Clean Water Act.

Stormwater BMPs incorporate planning practices and site improvements in a manner that promotes groundwater recharge, reduces the volume of, reduces the peak discharge rates of and removes pollutants from runoff.

Two types of BMPS include:
Non-Structural – incorporate site planning and design techniques including the use of open space, vegetated conveyance and buffers, natural infiltration, stream buffers, green buffers infrastructure and use of low-impact development.

Structural – management of SW runoff through water-quality control structures.

Six (6) Best Management Practices (BMPs) and their associated milestones have been incorporated in this SWQMP to meet the requirements for MCM 5.

BMP   **5.A.   Evaluation of municipal policies**

BMP Description   Review and evaluate current policies in order to identify regulatory and/or policy impediments to the installations of green infrastructure.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.A.1. Review municipal policies	Review existing local policies that may impede the use of green infrastructure within development and new development areas.	Find policies and review. Potential sources may include the subdivision regulations, zoning ordinances, comprehensive plans or building codes. Determine the rationale behind the impediments (purposeful or inadvertent0>		X			

5.A.2. Summarize findings	Summarize findings of review of policy impediments to the use of green infrastructure. Present findings to SWAC and appropriate governmental bodies (P&Z, elected officials) for consideration of revision.	Support from elected officials, P&Z, SWAC is essential to gain buy in for policy revision. SWAC must provide convincing argument justifying the need to revise long standing policies and/or conventional methods.		X			
5.A.3. Revise Policies	Revise and adopt the policies that have been approved by SWAC and local officials for modification.	Consider a phased approach to revisions and adoption. Utilize the outreach program to disseminate information of the changes and opportunities the revisions provide.	X	X			

BMP	**5.B. Project review, approval and enforcement procedures**
BMP Description	Develop and implement project review, approval and enforcement procedures for new and re-development projects

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.B.1. Site plan review for Post-Construction BMPs	Develop procedures for Site Plan review and approval process. Also, develop a required re-approval process when changes to stormwater management measures are required.	Develop a standard Site Plan Review checklist. Determine approval process for Site Plan review. Determine re-approval process.		X			
5.B.2. Develop enforcement procedures	Develop enforcement procedures for failure to follow the established site-plan review and approval process and proper installation and protection of BMPs.	Enforcement procedures should be related to issues associated with proper design, construction, protection during construction and final stabilization of post-construction BMPs. Procedures may be requiring re-design, re-installation, or the typical escalating enforcement process in order to bring non-compliant projects into compliance.		X			
5.B.3. Implement review, approval & enforcement procedures	Once developed, implement the program for post-construction review, approval and enforcement	Procedures and authority should be incorporated into the ordinance.		X	X	X	X

| 5.B.4. Post-construction inspection | Develop procedures post-construction inspections that demonstrate and document installation of BMPs. | Define a HQW and determine if any are within the MS4 permit area. Determine what would be appropriate standards to sufficiently protect existing in-stream water uses. Implement into ordinance as needed. | X | |

| **BMP** | **5.C. Maintenance of BMPs** |

BMP Description   All new development or redevelopment areas shall establish and enter into a long-term maintenance agreement with the permittee for all structural and non-structural BMPs.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.C.1. Establish long-term Maintenance Agreements	Establish long-term maintenance requirements for all structural and non-structural BMPs. Agreement shall allow permittee to perform necessary maintenance due to neglect of the owner/operator at the expense of the owner/operator.	Agreements shall identify responsible parties, carry responsibility with the deed and require maintenance program and/or the location and history of the BMP.	X	X	X	X	X

| **BMP** | **5.D. BMP Inspection Program** |

BMP Description   Establish program for regular inspection of post-construction BMPs.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.D.1. Inspection Frequency	Establish inspection frequency of post-construction BMPs and implement the program.	Annual inspections unless otherwise dictated by the BMP recommended maintenance program and/or the location and history of the BMP.	X	X	X	X	X

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.D.2. Notice of Deficiencies and Corrective Actions	Develop and implement a procedure for notifying the BMP owner or operator of deficiencies discovered during maintenance inspections and the intent of the MS4 to apply corrective actions if the responsible party fails to address deficiencies in the allotted time.	Utilize email other methods (US mail, phone) to communicate deficiencies. Notice needs to be documented	X	X	X	X	X

BMP   **5.E. Measure Effectiveness of MCM 5**

BMP Description   Establish means to measure Post-Construction Stormwater management activities.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.E.1. Inspection Frequency	Develop review process to evaluate the work flow from the previous year(s) and identify areas of deficiency.	Review components of the MCM 5 program for compliance with SWQMP, effectiveness and ability to complete the BMPs.		X	X	X	X
5.E.2. Notice of Deficiencies and Corrective Actions	Based on any area of deficiency in the program, review and revise the program to implement the new procedures.	Consider educating staff and associated parties of the new changes in training for the following year. Document the need for change and potential need for additional resources to manage the revised program and the impacts that may result from doing nothing.		X	X	X	X

BMP   **5.F. Track MCM measures for annual reporting**

BMP Description   Provide mechanism for documentation and reporting of activities and compliance with MCM 5

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
5.F.1. Track maintenance inspections	Use a data management software to track activities.	Input MS4 activities into data management software for tracking and reporting (number of inspections, maintenance reports received, enforcement actions, corrective actions, etc.)	X	X	X	X	X

5.F.2. Changes made to accommodate green infrastructure alt.	Provide a summary of changes made to local ordinances to accommodate green infrastructure alternatives.	Submit in annual report.		X	X			
5.F.3 Track Annual Activities related to MCM	Maintain a record of all activities related to this MCM and established BMPs and milestones.	Utilize data management software to document sites and activities.	X	X	X	X	X	

MCM Plan   6 Pollution Prevention & Good Housekeeping

Recognizing the benefits of pollution prevention practices, the rule requires the permittee to implement an operation and maintenance program to prevent or reduce polluted runoff from activities conducted by the municipality. This measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations to consider water quality. It may also result in a cost savings for the permittee, as proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect. This MCM is also a tool for the MS4 to gage program progress through the permit cycle.

Five (5) Best Management Practices (BMPs) and their associated milestones have been incorporated in this SWQMP to meet the requirements for MCM 6.

BMP   6.A. Develop and Implement an O & M program

BMP Description   O&M program must include a training component with the goal or preventing or reducing pollutant runoff from municipal operations.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
6.A.1. Designate and Train MS4 Coordinator	The City will maintain at least one designated employee to coordinate the MS4 Program. That employee or employees will receive a minimum of 12 hours of documented training per year	Education is the key to maintaining a good MS4 program. In general, the designated City employee(s) will attend all KSA and/or KY DOW meetings or conferences to gather needed information to facilitate compliance with new or existing regulations. The employee(s) must document at least 12 hours of MS4 stormwater specific training per permit year.	X	X	X	X	X
6.A.2. Develop an O & M program for Municipal Facilities	Develop an O&M program that incorporates activities associated with municipal facilities, municipal operations and employee training.	An Operations and Maintenance program for municipal facilities and staff will be developed that will include training for municipal employees. A manual developed as part of the program will incorporate procedures for properly disposing of wastes and an inventory of municipal facilities and associated management practices to be undertaken to minimize generation of pollutants being discharged into the MS4.	X	X	X	X	X

	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
6.A.3. Implement the O&M program	Once developed, put the procedures and practices into effect and document activity.	Provide copies of the manual and related policy to municipal employees and local officials ad inform them that the manual and program elements defined within are the new SOPs.	X	X	X	X	X
6.A.4. Develop training topics & materials for municipal employ	Determine the most effective means to train employees of proper SOPs to protect water quality.	Evaluate locations where employees work (field, office, garage etc.) and tailor messages and delivery methods for maximum effectiveness (i.e. – field staff may be best suited for hands on training in the field regarding EPSC and pollutant management during infrastructure repair and maintenance activities).	X	X	X	X	X

BMP   **6.B. O&M Employee training**

BMP Description   Include employee training to prevent and reduce stormwater pollution resulting from activities such as parks and open space, fleet and building maintenance, new construction and land disturbances, stormwater system maintenance and green infrastructure maintenance.

BMP Milestone	**Description**	**Implementation Notes**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**
6.B.1. Employee training schedule	Schedule annual training dates and attendance requirements.	From the topics identified, select dates and employees required to attend the identified sessions.	X	X	X	X	X
6.B.2. Implement the O&M program	Conduct training session such that employees involved in MS4 activities receive a minimum of one training per year.	Rotate attendees as needed, provide new topics annually, conduct pre- and post training surveys to gage effectiveness and understanding of content.	X	X	X	X	X

BMP   **6.C. O&M Inventory**

BMP Description   Include an inventory of municipal facilities, maintenance activities, maintenance schedules and ongoing inspection schedules for structural and non-structural BMPs.
Incorporate procedures for properly disposing of waste removed from separate storm sewer areas.
Include methods to ensure that new flood-management projects assess the impacts of water quality protection devices or practices.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
6.C.1. Municipal Facility Inventory	Inventory and conduct an inspection of municipal facilities and operations to identify risks associated with pollutant exposure or introduction into the storm sewer system.	In the manual, include the results of the inspection including site description, materials stored on site, pollutant exposure or introduction risks, maintenance actions, corrective measures and ongoing inspection schedules for structural and non-structural BMPs locate within the facilities of within MS4 owned property. Record findings in data management software.		X			X

BMP   **6.D. Review and Implementation of O&M Program**

BMP Description   Complete the tasks to review and implement the new or revised O&M Program.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
6.D.1. Develop procedural review process for the O&M program	Evaluate the work flow from the previous year(s) and identify areas of deficiency.	Review components of the MCM 6 program for compliance with SWQMP, effectiveness and ability to complete the BMPs.		X	X	X	X
6.D.2. Implement the O&M program	Based on any areas of deficiency in the program, review and revise the program, then implement the new procedures.	Educate staff and associated parties of new changes in the training for the following year. Document need for change and potential need for additional resources to manage the revised program and the impacts that may result from doing nothing.		X	X	X	X

BMP   **6.E. Track MCM measures to meet permit and annual reporting**

BMP Description   The permittee shall track activities relative to this MCM measure and provide measures in the annual report.

BMP Milestone	Description	Implementation Notes	YR1	YR2	YR3	YR4	YR5
6.E.1. Track Annual Activities	Maintain a record of all activities related to this MCM and established BMPs and milestones.	Utilize data management software to document sites and activities.	X	X	X	X	X

6.E.2. BRASS Participation	Active involvement with this ad hoc group of MS4s, BRASS, utilizing CDP as the consultant to set direction and schedule of activities.	Attend regular meetings with BRASS partners to discuss strategies for meeting SWQMP goals and objectives.	X	X	X	X	X	