



April 2017

Reporting Period: January 1, 2016 – December 31, 2016



MS4 Stormwater Annual Report

Kentucky Transportation Cabinet



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Executive Summary

An annual system-wide report for stormwater program activities under permit KYS000003 is required to be completed for the previous calendar year's activities and submitted to the Kentucky Division of Water (KDOW) by April 15th of the following year. The annual report covers a period beginning January 1st through December 31st and is intended to be an overall evaluation of the SWQMP developments and progress, and provide a status update of the program.

KDOW regulated the Kentucky Transportation Cabinet (KYTC) under the general stormwater permit (KYG20) as a co-permittee with other MS4s starting in 2003 until the issuance of KYTC's individual stormwater permit (KYS000003) effective October 1, 2012. Pursuant to KYS000003, KYTC is regulated as a Phase II entity with authorization to discharge stormwater runoff into receiving waters of the Commonwealth. The permit applies to KYTC's MS4 conveyances and outfalls to the Waters of the Commonwealth for KYTC facilities and right-of-ways located within the urbanized boundaries of the MS4s across the Commonwealth of Kentucky.

The primary objective of the permit is the reduction of pollutant discharges to the Maximum Extent Practicable (MEP) from facilities and right-of-ways covered under KYTC's MS4 permit. KYTC is required under their 2012 MS4 Stormwater permit to address the following Minimum Control Measures (MCMs) by developing and implementing Best Management Practices (BMPs) which will provide improvements in runoff water quality and/or decreases in pollutants being discharged. The Annual Report is a valuable tool to document, report and track progress that ultimately helps protect and improve the water quality in our streams. These areas of reporting include the following activities and programs:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping
- Reporting and Records Retention

This Annual Report covers the reporting period from January 1, 2016, through December 31, 2016.



General Information

KPDES Permit No. KYS000003

AI No. 47642

Contact List

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KYTC Statewide MS4 Coordinator – John Drake, PE (502) 562-7250

District MS4 Coordinators and Other MS4 Contacts

| Location | Name | Unit | Position |
|----------------|-------------------|----------------------------------------|-------------------------------|
| Central Office | David Waldner | Division Environmental Analysis | Director |
| Central Office | John Drake | Division Environmental Analysis | MS4 Coordinator |
| Central Office | Ed McCracken | Division Environmental Analysis | Facilities Coordinator |
| Central Office | Dave Harmon | Division Environmental Analysis | Water Quality SME |
| Central Office | Stephanie Teasley | Office of Human Resources | Program Coordinator |
| Central Office | David Cornett | Division Maintenance | Assistant Director |
| Central Office | Ron Matar | Division Highway Design | TEBM Drainage Branch |
| Central Office | Ryan Griffith | Division Construction | TEBM Contract Support Branch |
| Central Office | Keith Buckhout | Office of Public Information | Executive's Staff Advisor |
| Central Office | Brandon Seiter | Division of Right-of-Way and Utilities | KEEN Coordinator |
| Central Office | John Wilcoxson | Division Maintenance | Director |
| Central Office | John Roberts | Office of Human Resources | Assistant Director |
| Central Office | Rachel Mills | Division Construction | TEBM Technical Support Branch |
| Central Office | Bill Gulick | Division Highway Design | Director |
| District 1 | Jessica Herring | Project Development Branch | District MS4 Coordinator |
| District 2 | Charlotte Cotton | Project Development Branch | District MS4 Coordinator |
| District 3 | Renee Slaughter | Project Development Branch | District MS4 Coordinator |
| District 4 | Joseph Ferguson | Project Development Branch | District MS4 Coordinator |
| District 5 | Susan Oatman | Project Development Branch | District MS4 Coordinator |
| District 6 | Sharon Laylock | Project Development Branch | District MS4 Coordinator |
| District 7 | Derek Adams | Project Development Branch | District MS4 Coordinator |
| District 8 | Jeff Dick | Project Development Branch | District MS4 Coordinator |
| District 9 | Karen Mynhier | Project Development Branch | District MS4 Coordinator |
| District 10 | Brandon Baker | Project Development Branch | District MS4 Coordinator |
| District 11 | Robert Perkins | Project Delivery and Preservation | District MS4 Coordinator |
| District 12 | Paul Montgomery | Project Development Branch | District MS4 Coordinator |



Acronyms and Abbreviations

| | |
|----------|----------------------------------------------------------------------------|
| BMP | Best Management Practice |
| EPSC | Erosion Prevention & Sediment Control |
| IDDE | Illicit Discharge Detection and Elimination |
| KDOW | Kentucky Division of Water |
| KEEN | Kentucky Engineering Exposure Network |
| KEPSC | Kentucky Erosion Prevention & Sediment Control |
| KEPSC-RI | Kentucky Erosion Prevention & Sediment Control – Roadway Inspector |
| KPDES | Kentucky Pollutant Discharge Elimination System |
| KSA | Kentucky Stormwater Association |
| KYG50 | KYTC Facilities Stormwater Permit |
| KYR10 | Permit for Stormwater Runoff from a Construction Site |
| KYTC | Kentucky Transportation Cabinet |
| MCM | Minimum Control Measure |
| MEP | Maximum Extent Practicable |
| MS4 | Municipal Separate Storm Sewer System |
| NOI | Notice of Intent |
| NOT | Notice of Termination |
| OHRM | Office of Human Resource Management |
| ROW | Right of Way |
| SPCC | Spill Prevention Control and Countermeasures |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWQMP | Stormwater Quality Management Program |
| TEBM | Transportation Engineer Branch Manager |
| TMDL | Total Maximum Daily Load |
| UKT2 | University of Kentucky Transportation Center – Technology Transfer Program |

Introduction

The KYTC is charged with planning, building and operating the state maintained highway system within the Commonwealth of Kentucky. An integral component of the highway system is the drainage conveyances that manage stormwater runoff. Stormwater management goals include providing safety for the traveling public, maintaining the integrity of the highway system and protecting the water quality of the Commonwealth's streams and water bodies.

The USEPA defined the Municipal Separate Storm Sewer System (MS4) Program in two phases. Large and medium communities were included in Phase I; Kentucky's Phase I communities are Lexington and Louisville. As part of the stormwater MS4 Phase II Final Rule promulgated by the USEPA in 1999, small communities and Departments of Transportation were identified as regulated MS4 entities. This required all state Departments of Transportation to develop management programs addressing stormwater quality impacts from the highway system, road construction and operation and maintenance in conformance with environmental expectations of the Clean Water Act. In 2003, KDOW issued the KPDES General Permit for Small MS4s (KYG20), which initiated KYTC as a stormwater permit holder. KYTC was co-permitted with MS4 communities until the issuance of KYTC's individual stormwater permit, KYS000003. The individual stormwater permit became effective on October 1, 2012 and applies to facilities, conveyances and outfalls within KYTC right-of-way located within the urbanized boundaries of MS4 communities across the Commonwealth.

Although no longer co-permitted, relationships with MS4 communities and recognition of the benefit of KYTC's statewide presence have facilitated ongoing partner relationships with MS4 communities across the Commonwealth. The KYTC is partnered with over forty (40) MS4 communities across the Commonwealth. KYTC communicates with MS4 communities through the Division of Environmental Analysis, located in the central office in Frankfort, Kentucky and through the District MS4 Coordinators. Historically, KYTC has also made materials available to partners on their website and participated in Kentucky Stormwater Association (formerly Kentucky MS4 Workgroup) meetings to communicate with partners.

Over the course of the first permit term, KYTC had numerous accomplishments, including:

- **KEPSC and KEPSC-RI Training Programs.** KYTC succeeded in leading the development of a statewide construction stormwater qualified inspector course and exam, entitled Kentucky Erosion Prevention and Sediment Control (KEPSC) and the specialized KEPSC – Roadway Inspector (KEPSC-RI) course. KYTC's stormwater program was highlighted by attention to erosion prevention and sediment control standards at roadway construction projects as well as in



revisions to their Standard Specifications reflecting these requirements.

- **Internal Training Programs and Continuing Education.** KYTC is proud to have a long-standing tradition of employee training programs related to stormwater quality as well as supporting external continuing education opportunities for staff. The following courses have been regularly taught and attended by KYTC staff: KEPSC-RI, Environmental Awareness, Pesticides, Stormwater Drainage, Facilities Management and Environmental Coordinators' Training. KYTC staff has regularly attended the ACEC-FHWA-KYTC Partnering Conference and other conferences.
- **Stormwater Education Toolkit.** KYTC hired two Environmental Educators in 2007 to develop the MS4 Stormwater Education Toolkit. The Toolkit was published in 2008 and KYTC conducted training sessions to educate local MS4 coordinators and school teachers on the new resource. The Toolkit included education materials developed locally and nationally. The materials identified target industries, pollutants, sectors and localities. In addition, materials were edited so that they could be quickly incorporated into other MS4 programs. Examples of resources that were provided to the communities include school curriculum aligned with Kentucky Education Standards, samples of press releases, news articles, public service announcements, slogans and storm drain stencils, educational videos and DVDs, and PowerPoint training presentations. Toolkits will continue to be made available to MS4 partner communities until supplies are exhausted.
- **Statewide Survey and Evaluation on Public Knowledge of Stormwater.** A telephone survey was conducted in 2008 among the general public in MS4 communities and was designed to measure public knowledge, attitudes and behavior with respect to stormwater issues. The purpose of the survey was to allow KYTC and communities to set benchmarks and monitor the ongoing effectiveness of resources and strategies and thereby improve MS4 Program implementation. The telephone survey was conducted in 26 regions across the state between June 13, 2008 and January 31, 2009. KYTC coordinated with each of the MS4 partner communities to identify additional local questions where communities wished to acquire public data. Results indicated that the respondents were very knowledgeable of stormwater pollution such as oil and trash, but less knowledgeable about pollution such as pet waste, pesticides, and soil from construction sites. The survey identified that half of the population was unaware that storm drains discharge directly to Waters of the Commonwealth without treatment. Comprehensive results of the statewide survey were released in 2009 to MS4 partner communities and continues to be available at <http://transportation.ky.gov/Stormwater/Pages/StormwaterSurvey.aspx>.
- **Media Outreach Campaign.** In response to the results of the statewide stormwater survey, the Cabinet initiated a public education media campaign, with television and radio public service announcements (PSAs) aired throughout the Commonwealth in 2010. KYTC led a committee including representatives from five MS4 communities and KDOW to develop the ads. This included development of one television and six audio PSAs to address the misconception common among



Kentuckians responding to the survey that stormwater is treated at wastewater treatment plants before discharging to local streams. The ads continue to be aired through the Kentucky Broadcasters Association and distributed to 230 stations in 132 communities. The ads are also available at <http://stormwater.ky.gov>.

- **Stormwater Website Development.** In 2009, a new website (<http://stormwater.ky.gov>) was developed by KYTC to compliment the radio and TV ad program used to promote stormwater pollution awareness. The website was designed to address both the public and those involved with the MS4 program either as a permitted community, construction contractor or KYTC. Pages developed included Get Informed, Get Involved, and My Impact. These pages were structured to help the viewer begin to understand and take personal responsibility for their actions and how these actions impact the water quality of local streams and lakes. Technical information was made available on the website to support a library of resources for MS4 co-permittees and included pages for Success Stories, Technical Resources and Links.
- **Involvement in Local MS4 Programs.** KYTC's District MS4 Coordinators are the first point of contact for local MS4 partner communities. During the previous permit term, the District MS4 Coordinators supported communities through attendance at stakeholder meetings and various stormwater related requests.
- **Environmental Handbook Development and Updates.** During the first permit term, KYTC developed the Environmental Handbook, which was most recently revised in 2008. The Handbook includes activities, procedures, information and photos for actions related to highway maintenance and operations, facility-based operations, waste management, spills and emergencies in an easy to read fact sheet format.
- **Stormwater Quality Management Plan and Permit Negotiations.** KYTC prepared a Stormwater Quality Management Plan (SWQMP). The plan focused on continued enhancement of relationships with MS4 co-permittees and partner organizations to cost-effectively improve water quality within the MS4 jurisdictions. The Kentucky Division of Water issued a General Permit for the MS4 Phase II communities in 2010, which did not include KYTC. KYTC continued to work with KDOW and KYTC's Individual MS4 Permit was issued in 2012.
- **Construction Stormwater and Individual Permits.** KYTC's continued efforts in complying with MCM 5 for construction sites includes projects permitted under KYR10 and, if needed, receiving individual construction permit coverage. KYTC met with the Division of Water several times over the previous permit term to shape protocols, especially where Individual Construction Permits were warranted and to discuss numerous stormwater issues including antidegradation, TMDLs, and water quality.



- **Kentucky Stormwater Association Support.** KYTC has routinely supported meetings and presentations through the Kentucky Stormwater Association (KSA), formerly the Kentucky MS4 Workgroup. During the previous permit term, this was one of the primary venues for disseminating information to KYTC's co-permittees.
- **Encroachment Permits.** The KYTC Encroachment Permit Memorandum, effective September 1, 2007, implemented the following procedure for applicants requesting encroachment permits on KYTC right-of-way. When encroachment permit applicants disturb more than one acre of land, they are informed of their obligation to comply with the KPDES permit for construction. Implementation of this process results in applicants being aware of KYR10 permit requirements.
- **KYTC References.** KYTC has a library of numerous reference materials, many of which were developed in response to MS4 program requirements in the first permit term. A complete list of reference materials is given in the SWQMP.



Program Evaluation

The overall objective of the KYTC's SMS4 program is to maintain or improve the quality of the Waters of the Commonwealth of Kentucky to the Maximum Extent Practicable (MEP) in cooperation with partner local MS4 operators. To accomplish this objective, several goals were established to serve as a fundamental basis for the stormwater management programs. The goals include:

- Develop and maintain a program understanding to provide focus and facilitate the optimal use of the Commonwealth's stormwater resources;
- Emphasize public and staff education to increase awareness of actions needed to improve stormwater quality;
- Increase formal and informal cooperative efforts with partner MS4 operators;
- Gain a greater knowledge of potential stormwater quality problems at KYTC facilities;
- Provide a strong emphasis on erosion prevention and sediment control practices and programs that are effective throughout a project's life;
- Promote innovative and effective use of appropriate structural and non-structural management practices, when needed, throughout the Commonwealth;
- Maintain stormwater program assessment of KYTC's internal operations and partnerships with local MS4s to gauge efficacy;
- Engage in a collaborative effort with MS4 partners to create resources and programs with measurable outcomes to support the MS4 program across the state.

KYTC is now in its second permit term and has an individual MS4 permit, KYS000003, which became effective on October 1, 2012. This annual report evaluates the permit activities for each of the following Program Elements or Minimum Control Measures (MCMs).

1. Public Education and Outreach. KYTC focuses activities for MCM 1 Public Education and Outreach on programs for which KYTC has direct responsibility and also by providing resources for use by partners for delivery of a consistent message statewide.

2. Public Involvement and Participation. KYTC initiated and continues to maintain partnerships with other regulated MS4 communities to achieve the goal of building community capital to improve stormwater quality. KYTC complies with public notice requirements whenever conducting public involvement/participation program activities.

3. Illicit Discharge Detection and Elimination. KYTC has entered into partnerships with all but a few permitted MS4 communities in Kentucky to address IDDE. KYTC defers the mapping and



inspection component to its partner communities. KYTC will address the location and inspection of major outfalls within KYTC rights-of-way in the communities where no partnership exists. KYTC's IDDE Program Document was developed to define this protocol.

4. Construction Site Stormwater Runoff Control. The KYTC stormwater construction program involves the Division of Construction, the Division of Highway Design, the Division of Environmental Analysis and the District Offices and is comprised of the following elements: a review for water quality impacts and a determination whether an individual stormwater construction permit is needed or coverage by the KYR10 General Stormwater construction permit is sufficient; development of an erosion protection and sediment control (EPSC) BMP plan; site inspections; corrective actions and penalties, if needed; quality assurance inspections; project final inspections; documentation utilizing inspection forms, daily work reports and Site Manager; and training.

5. Post-Construction in New Development and Redevelopment. KYTC has established design practices and specifications for road construction for new and redevelopment projects disturbing one acre or more of land. KYTC's post-construction approach is detailed in the Post-Construction Program Document.

6. Pollution Prevention/Good Housekeeping. KYTC developed facility BMP Plans with the ultimate goal to reduce/limit the release of pollutants to the environment from the work area. Facility personnel conduct quarterly audits and the District Office staff conducts annual audits. This program is complemented by existing facility permit efforts for the KYG50 permit program. KYTC's pollution prevention approach is detailed in the Pollution Prevention/Good Housekeeping Program Document.

7. Reporting and Records Retention. KYTC developed training to facilitate documentation and records retention for the MS4 stormwater program. The training also identifies KYTC personnel and their responsibilities for implementing the stormwater program activities.

Program Highlights

This annual report details the activities as prescribed in KYTC's MS4 permit. Highlights of the program during 2016 are provided below. Several activities have been completed ahead of schedule, as noted in the permit activity fact sheets.

- **KYTC Statewide Survey.** KYTC developed a scope of work with the University of Kentucky Survey Research Center (UKSRC) for a statewide survey. UKSRC has completed several areas of the State. The survey will be similar to the survey done in 2009 with a comparative analysis.

- **Public Education.** As the only statewide MS4 permit holder in the Commonwealth, KYTC has the capacity to deliver a consistent statewide message based on the outcomes of the statewide stormwater survey it conducts. KYTC has encouraged input and involvement from MS4 community stakeholders to shape its media outreach campaign strategy. KYTC built on the media outreach campaign established during the previous permit term, publishing television and radio advertisements that educate residents across the Commonwealth on their personal impact to stormwater quality. The radio and television public service announcements have reached countless Kentucky residents. In addition, the advertisements are supported by the stormwater website, <http://stormwater.ky.gov>, which encourages individuals to take personal responsibility for their actions and to learn how they can improve stormwater quality. A new video was produced in 2012 in cooperation with the KSA and KDOW. KYTC will begin airing the original video in 2017. The contract with KBA was renewed for 2017.
- **Stormwater Presentation.** KYTC made two presentations at the annual Partnering conference in Louisville. The presentation was “Not Your Typical Construction Site Stormwater Management.”
- **Construction Program Training: Kentucky Erosion Prevention and Sediment Control (KEPSC).** KYTC continues to support KEPSC, including the KEPSC-RI training course for roadway inspectors, designed specifically for KYTC staff and contractors. Over the current and previous permit terms, KEPSC courses have made a significant impact educating inspectors on the importance of construction site stabilization. The KEPSC – RI course builds on the basic requirements of the KYR10 construction stormwater permit and focuses on linear projects specific to KYTC needs. The course covers project development, KYR10 overview, pre-construction meetings, pre-disturbance inspections, inspector responsibilities, best management practices, and individual permits.
- **Construction Program.** KYTC continued compliance with KYR10 and individual construction permits. The construction sites are inspected per the permit requirements. Enforcement actions are taken by issuance of five day letters. Liquidated damages are imposed if measures are not taken to address deficiencies. Two Liquidated Damages were assessed during 2016.
- **KEEN Program.** The Kentucky Engineering Exposure Network gave 22 presentations at 21 locations on the Enviroscope.





Program Element: 1. Public Education and Outreach Activities

Phase II MS4s are required to educate their community on the pollution potential of common activities and increase awareness of the direct links between land activities, rainfall-runoff, storm drains, and their local water resources. Most importantly the requirement is to give the public clear guidance on steps and specific actions that they can take to reduce their stormwater pollution-potential.

Educating the public is an ongoing challenge in establishing a link between an individual's actions and their impact on local streams, rivers and lakes. The goal of this minimum control measure is to foster understanding of stormwater quality in the community, and thereby enhance personal responsibility and stewardship in the community as a whole. KYTC has a history of robust public education campaigns and will continue implementation strategies as well as partnerships with local MS4 communities to comply with the permit.

KYTC focuses activities for MCM 1 Public Education and Outreach on programs for which KYTC has direct responsibility and also by providing resources for use by partners for delivery of a consistent message statewide.

For KYTC direct programs, the education and outreach initiatives include, but are not limited to:

- Web-based information for persons involved in KYTC programs and projects (www.transportation.ky.gov);
- Media Outreach Program airing radio and TV spots statewide;
- The annual partnering conference for highway design personnel;
- Road Master and Road Scholar training administered through the University of Kentucky Transportation Center (www.kyt2.com);
- Kentucky Erosion Prevention and Sediment Control – Roadway Inspectors (KEPSC-RI) training administered through the University of Kentucky Transportation Center (<http://www.kyt2.com/training/program/ky-erosion-prevention-sediment-control-kepsc>);
- Annual resident and construction crew training;
- Maintenance crew specific environmental training addressed within the KYTC Environmental Handbook for Management of Highways and Transportation Facilities (<http://transportation.ky.gov/Environmental-Analysis/Pages/KYTC-Environmental-Handbook.aspx>);
- Supplemental training provided by the DEA to district personnel; and



- Kentucky Engineering Exposure Network (KEEN) (<http://transportation.ky.gov/education/pages/keen.aspx>), a volunteer group of KYTC employees, gives presentations to schools throughout the state.

For our partnering MS4s, KYTC has recognized its ability to effectively bring educational resources together and make them available for broader education initiatives. In doing so, KYTC has developed a body of educational resources that have been delivered to the communities in the form of physical toolkits, electronic files and web based materials (<http://transportation.ky.gov/stormwater>). These resources have been delivered through workshops and one-on-one meetings. These resources address the EPA target audiences as outlined in the guidance “Getting in Step with MS4”.

This MCM also encompasses education and training of KYTC staff on stormwater management along KYTC rights-of-way and facilities. The current in-house education program utilizes the KYTC Environmental Handbook. This Handbook was developed to be used by KYTC, local agencies and contractors (<http://transportation.ky.gov/Environmental-Analysis/Pages/KYTC-Environmental-Handbook.aspx>).

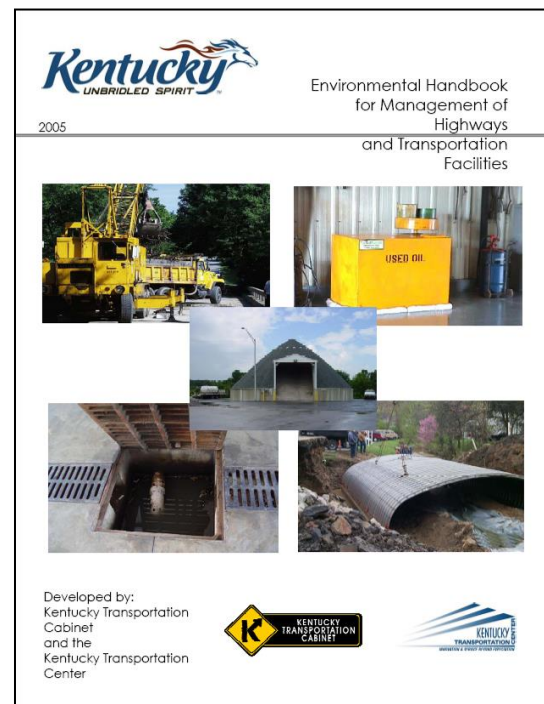
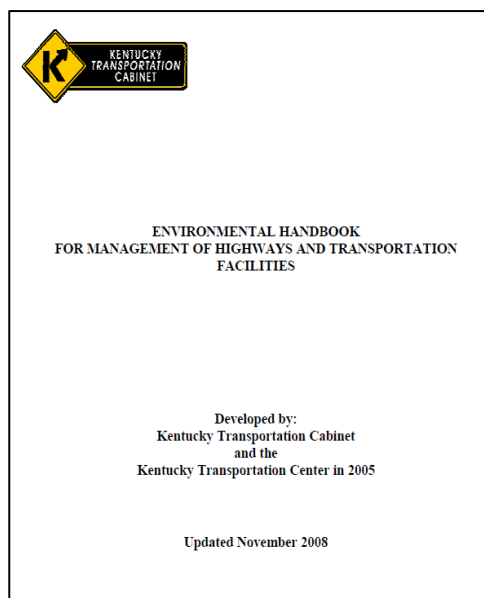
Permit element activity details for MCM 1 Public Education and Outreach are provided in the activity fact sheets that follow.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1.a | Education | Beginning Permit Year Three (3), evaluate every other year and revise if necessary | The permittee shall revise the Environmental Handbook to reflect changes in the policies, staff, contact information, permitting processes, and standard operations and procedures. The permittee shall make this revised Environmental Handbook available in an editable format for its partnering entities. The permittee shall update the KYTC's website to include the revised Environmental Handbook. |

Element Task Summary

The KYTC Environmental Handbook for Management of Highways and Transportation Facilities was developed by the KYTC and was most recently revised in 2008. The handbook includes activities, procedures, information and photos for actions related to highway maintenance and operations, facility-based operations, waste management, spills and emergencies in an easy to read fact sheet format.

The Environmental Handbook is used to educate KYTC staff, agencies and contractors. Environmental Awareness Training is offered to KYTC staff and contractors through the University of Kentucky Transportation Center Technology Transfer Program (UKT2). The number attending training is provided in 1.1.c. Starting in Permit Year 3 (PY3), the handbook will be updated by the DEA and Division of Maintenance to incorporate new permitting processes and standard operating procedures. As the handbook is updated, addendums will be communicated to staff and contractors through annual training. The handbook is currently available on KYTC's website.





| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1.b | Education | Effective upon permit issuance, the number of crew that receives training as outlined in KYTC's Environmental Handbook | The permittee shall have an in-house education program for KYTC employees regarding stormwater management for the existing highway system and its maintenance. The permittee shall manage training of employees at the crew level as outlined in KYTC's Environmental Handbook. |

Element Task Summary

KYTC conducts Environmental Awareness annual training through the DEA and Office of Human Resources Management (OHRM). These are tracked by DEA Facilities Coordinator and OHRM annually. For this reporting period, there were a total of 223 crews trained through the University of Kentucky Transportation Center (UK-TC) and at various facilities throughout the districts.

The UK-TC conducts training for KYTC and local government employees. A description and schedule of courses offered is available at the Technology Transfer website, www.kyt2.com.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1.c | Education | Effective upon permit issuance, the number of individuals participating in training course | The permittee shall offer external courses to educate KYTC employees and contractors regarding stormwater management for the existing highway system and its maintenance. The permittee shall continue to require training through the Transportation Center at the University of Kentucky or an effective equivalent. The Road Master and Road Scholar programs shall include training in Environmental Awareness, Pesticide Operator Training and Certification, Erosion Prevention and Sediment Control and Snow and Ice Operations. |

Element Task Summary

KYTC conducts annual training through the DEA and Office of Human Resources Management (OHRM). These are tracked by DEA Facilities Coordinator and OHRM annually. There was a total of 1033 staff trained in 2016.

The University of Kentucky Transportation Center (UK-TC) conducts training for KYTC and local government employees. A description and schedule of courses offered is available at the Technology Transfer website, www.kyt2.com.

In 2009, KYTC began development of the Kentucky Erosion Prevention & Sediment Control – Roadway Inspector (KEPSC-RI) which is specific to transportation projects. The pilot class was held in November 2010 and the first formal class was held in January 2011. The KEPSC-RI class was developed to comply with the MS4 permit, be specific to KYTC construction methods and satisfy the national EPSC training module.

KYTC staff and contractors are trained in the Road Master and Road Scholar course on a variety of topics, including Drainage, Environmental Awareness, Pesticide Operator Training and Certification, Erosion Prevention and Sediment Control and Snow and Ice Operations through the Transportation Center at the University of Kentucky. During the 2016 report year 87 people completed Drainage training, 95 people completed Environmental Awareness training, 446 people were trained for Pesticide Operator, 93 people were trained for snow and ice operations and 137 people were trained for KESPC-RI. The number of individuals trained is tracked by OHRM and submitted annually to the DEA MS4 Coordinator. The DEA Facilities Coordinator trained 175 crew members at various facilities throughout the districts.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1.d | Education | Effective upon permit issuance, the number of contractors trained, number of preconstruction meetings held | The permittee shall educate highway contractors by continuing to require contractor education through the Kentucky Erosion and Sediment Control classes offered by the Transportation Center at the University of Kentucky or an effective equivalent. The permittee shall include stormwater management in preconstruction meetings. |

Element Task Summary

KYTC adopted Kentucky Erosion Prevention & Sediment Control – Roadway Inspector (KEPSC-RI) training in 2011. This course is designed for individuals inspecting highway construction projects to adhere to compliance requirements with KYR10 and individual construction stormwater permits.

KYTC employees and contractors performing erosion prevention and sediment control inspections under the KYR10 permit or an individual construction stormwater permit are trained in KEPSC-RI class. KEPSC-RI training is offered to KYTC staff and contractors through the University of Kentucky Transportation Center Technology Transfer Program (UKT2). There were 137 people trained in the KEPSC-RI course during 2016. There were 13 preconstruction meetings held in 2016 that included stormwater management.

Course material consists primarily of KYTC standard specification, drawings, and KYR10. Course modules include:

- Project Development
- KYR10 Overview
- Pre-Construction Meeting
- Pre-Disturbance Inspection
- Inspector Responsibilities
- Best Management Practices
- Post Construction BMPs
- Individual Permits



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1.e | Education | The number of conferences attended with stormwater management related information and the number of individuals trained | The permittee shall educate highway design professionals through participation in partnering conferences; conduct training for design professionals through American Council of Engineering Companies (ACEC), Transportation Center at the University of Kentucky, or an effective equivalent. The permittee shall maintain design information on the KYTC website. |

Element Task Summary

KYTC educates highway design professionals through presentations at their annual Partnering Conference, trainings sponsored through ACEC, UKT2 and other stormwater related conferences and trainings. During the 2016 report year

| Training Course Title | Location | Training Date | No. in Attendance |
|----------------------------------------------------------|----------------------------------|---------------|-------------------|
| Not Your Typical Stormwater Construction Management Site | Louisville Partnering Conference | 9/7/16 | 65 |
| FMECs Annual Training | Frankfort | 7/27 | 25 |
| | | | |
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During 2016, KYTC staff participated in the following stormwater management related conferences:

| Conference Name | Location | Date |
|---------------------------------------------|----------------|---------|
| Partnering Conference | Louisville, KY | 9/7/16 |
| Floodplains, Stream and Wetlands | Louisville | 11/2 |
| USGS IN-KY Cooperative | Louisville | 10/6 |
| MEC EH&S Symposium Environmental Compliance | Cincinnati | 3/22-23 |
| | | |
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| | | |

The Drainage Manual and Standard Specifications are made available on the KYTC website for design reference. (<http://transportation.ky.gov/highway-design/pages/drainage.aspx>)



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|---------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.2 | Kentucky Stormwater Association (KSA) | The number of meetings | The permittee shall support the KSA by making facilities available for meetings to discuss the MS4 program and make program information available for the MS4s via the KYTC website and/or an effective equivalent. |

Element Task Summary

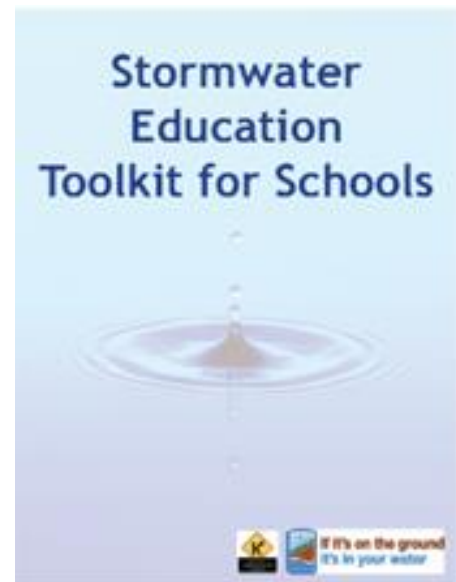
In 2016, the KYTC continued the visibility of the co-permittee relationship through attendance and announcements at KSA meetings, communication with communities via mail and email, website materials and other means as shown in MCM 1 and 2 of this report. Although the responsibility for communicating and enforcing construction site runoff control regulations is with local MS4 communities, KYTC is committed as a partner to abide by local MS4 regulations as requested by the local community.

KYTC supported the Kentucky Stormwater Association (KSA) during 2016. As scheduling permits, KYTC staff attends quarterly KSA meetings and the KSA annual conference and make program information available to the group as requested. In addition, the DEA MS4 Coordinator makes program information available on the KYTC Stormwater webpage. KYTC also makes its facilities available for quarterly meetings in support of KSA. KYTC representatives did not attend any KSA meetings/events. However, KYTC coordinated with KSA on providing a meeting facility.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|----------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.3 | Support MS4 programs in program development and implementation | Resources made available to the MS4 entities | The permittee shall make the KYTC Education Toolkits available for use by partners that were developed for partners in the last permit cycle, while existing supplies last. |

Element Task Summary

In 2008, KYTC produced and distributed Educational Toolkits to MS4 stormwater coordinators. The goal was to develop a multiple audience toolkit to compile and organize a variety of state and national resources for the MS4 communities to use for public education and outreach efforts. The resources included in the toolkit were selected based on the target audiences recommended by the EPA and permit requirements related to MCM 1 and 2 metrics. The toolkits included resources for educating members of the community and school teachers on learning modules that met core curriculum requirements as well as about stormwater using TV and radio spots, websites, videos, PowerPoint presentations, exhibit panels, press releases, and utility bill inserts. KYTC continues to distribute available education toolkits to partnered MS4s while there are still toolkits available. In 2016, no additional toolkits were requested by partnered MS4s.

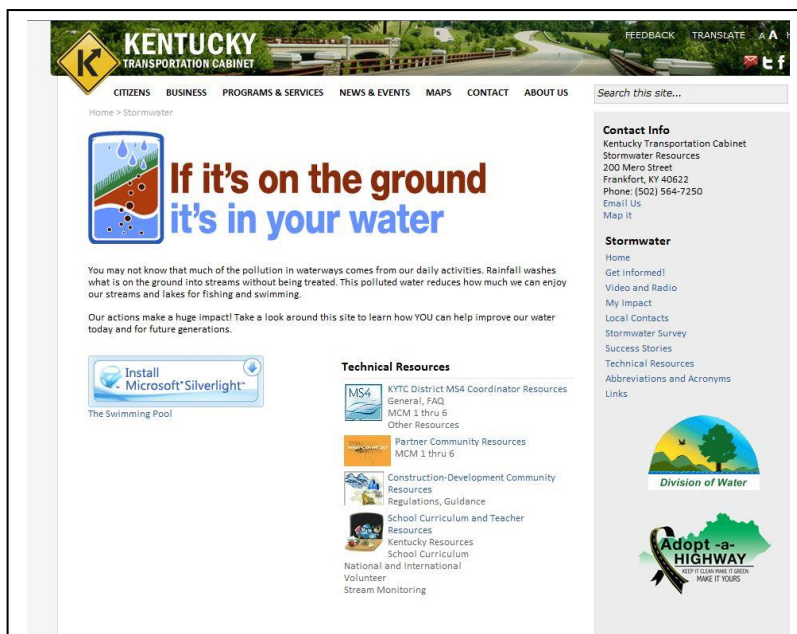


| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.4 | Support MS4 program in Education Outreach | Beginning in Permit Year Two (2), the permittee shall report the number of television and radio ads aired and the number of hits the webpage received, reported annually to the partnering MS4s and included in the Annual Report to the Division of Water. | The permittee shall continue to provide television and radio ads or an effective equivalent which educates the citizens of the Commonwealth on stormwater pollution prevention or an effective equivalent. The permittee shall track and report the number of airings of these ads and report the numbers to their partnering MS4s and in the annual report. |

Element Task Summary

During 2009 several radio and TV ads were prepared to further educate the public on stormwater and stormwater pollution. TV and radio ads, developed by other states, were selected and then edited to apply to Kentucky. These ads were a supplement to the educational toolkits. Instruction was provided about how to effectively use the ads/PSAs during the Citizens Workshop conducted on August 19, 2009.

However, KYTC received feedback from their co-permittees that the educational outreach efforts targeted toward school-age children were not as effective for them, so in the spirit of continuous improvement and based on the MS4 communities input, KYTC began focusing on a mass media outreach. The Media Outreach Program (MOP) included the development of one television PSA and six audio PSAs and the distribution of these PSAs through the Kentucky Broadcasters Association. In 2016 KYTC aired radio and television spots educating Kentucky citizens about stormwater. A considerable level of effort was expended to educate citizens through numerous media sources. In 2016, 74,721 radio spots aired with a total value of \$1,129,745 and 8,638 TV spots were viewed with a total value of \$421,808. The media outreach campaign advertises the website and points the public to <http://transportation.ky.gov/stormwater/Pages/default.aspx> for more information about stormwater and what they can do to help minimize stormwater pollution.



The webpage received 474 visits and 2,466 page views.

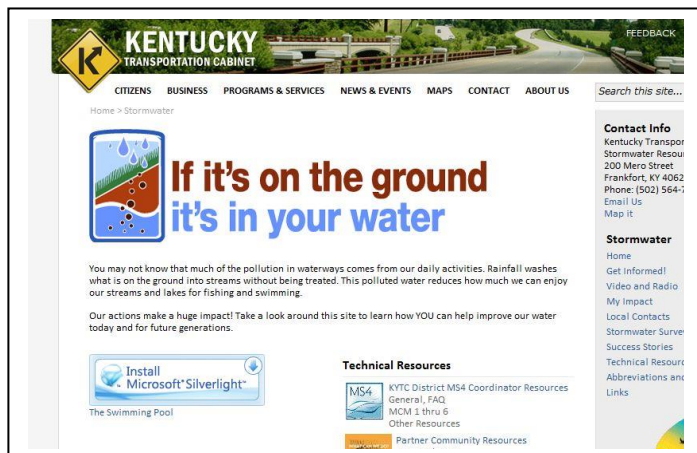
This information was provided to the partner MS4s.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.5 | Maintain KYTC Website | Revise as needed | The permittee shall update the KYTC website to include the accurate contact information for each of the MS4 programs. The KYTC website shall be enhanced to include links to partnering MS4s' websites, the Environmental Handbook, and links to KYTC public education and outreach partner initiatives. The permittee shall also establish a counter for the stormwater website to gage the number of visitors. |

Element Task Summary

A new website URL, <http://transportation.ky.gov/Stormwater/Pages/default.aspx> was secured and a new website prepared to help launch the Media Outreach Campaign and provide a statewide resource for the KYTC and its partner MS4 communities to promote stormwater issues. The website was designed to address both the public and technical needs of those involved with the MS4 program either as a permitted community, construction contractor or KYTC. It provides basic information regarding what is stormwater and stormwater pollution, who to contact if more information is needed or a concern needs to be reported, and technical information for MS4 communities and contractors. The website had 608 visits in 2016 and 2,830 page views in 2016.

KYTC transferred its stormwater website to a new content management system that rolls up under the KYTC home page. The Stormwater Quality Management Plan and the 2015 Annual Report were posted on the website.





| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.6 | Community/public stakeholder task force and watershed public meetings | Requested participation and requests fulfilled | The permittee shall participate in meeting(s) discussing stormwater quality issues of the MS4 community as requested by the MS4 community. The District MS4 Coordinators' requests and participation shall be tracked and reported in the annual report. |

Element Task Summary

KYTC partners with other MS4 communities to participate as a stakeholder in local MS4 activities. At the request of partner communities, KYTC District MS4 Coordinators attend stormwater meetings and events. In 2016, KYTC participated in 7 stakeholder meetings. District 3 participated in the MS4CC semiannual meeting at the Warren County Court House. District 7 personnel participated in 4 meetings with LFUCG SSAC held at either BTC Newtown or the Tate Building. District 6 participated in 2 meetings of the Gunpowder Woolpert Creek Watershed Initiative held at the Boone County Co-op Extension and the SD1 Stormwater Advisory Committee at the SD1 office.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.7 | Outreach Strategy | Beginning in Permit Year Two (2), the permittee shall report the types of outreach mechanisms used to disseminate stormwater quality message shall be provided to the partnering communities and in the annual report. | The permittee shall develop a coordinated campaign to educate the general public on stormwater quality issues. The outreach and educational topics shall be determined through consultation with KYTC's partnering MS4 entities. The education outreach shall be developed by the permittee and submitted for review and approval by KDOW. The permittee may employ various educational outreach mechanisms to distribute information to its partnering MS4 entities and the general public, such as, public service announcements, newspaper inserts, brochures, and recognition programs. The permittee shall apply an iterative approach to advance the KYTC MS4 outreach for the benefit of its partnering MS4 entities. The permittee shall assess the current KYTC outreach initiatives for gaps and modify KYTC strategy and resources to better meet program needs. |

Element Task Summary

KYTC's outreach strategy includes a number of media outreach efforts coordinated with partner communities and the KDOW. KYTC initiated a committee of MS4 and DOW representatives in 2009 to work with our consultant, New West, to develop the campaign ads. The committee included DOW, Campbellsville, MSD, Hardin County, SD1, and the Plum Spring/Warren County Joint Storm Water Sewer Agency.

In 2012, the committee was called together again to develop a new TV advertisement for the stormwater program. The KYTC Media Outreach Program (MOP), in conjunction with our partner MS4 communities, contracted with the Kentucky Broadcasters Association (KBA) to air a video spot and six audio spots in 2016. The new ad began airing in December 2012. The 30 second spots have been aired statewide as a public education initiative to inform the general population about stormwater issues. The TV and radio plays combined totaled 83,359 plays statewide in 2016 for a combined total value of \$1,551,493. The radio and television spots include a note to view KYTC's stormwater website (<http://stormwater.ky.gov>) for further information.

KBA distributes the ads to 230 stations in 132 communities. The KBA receives certified reports from the member stations verifying the number of times the spots are played. Since the inception of the Media Outreach Program there have been 526,781 plays for a total value of \$9,879,321. KYTC also utilizes the Kentucky Engineers Exposure Network to promote stormwater issues in community schools. Media outreach campaign metrics are tracked in Activity 1.4.





Program Element: 2. Public Involvement and Participation Activities

A single regulatory agency or municipal office working alone cannot be as effective in reducing stormwater pollution as if it has the participation, partnership, and combined efforts of other groups in the community all working towards the same goal. The goal of public involvement is to build on community capital—the wealth of interested citizens and groups—to help spread the message on preventing stormwater pollution, to undertake group activities that highlight storm drain pollution, and contribute volunteer community actions to restore and protect local water resources. KYTC initiated and continues to maintain partnerships with other regulated MS4 communities to achieve this goal.

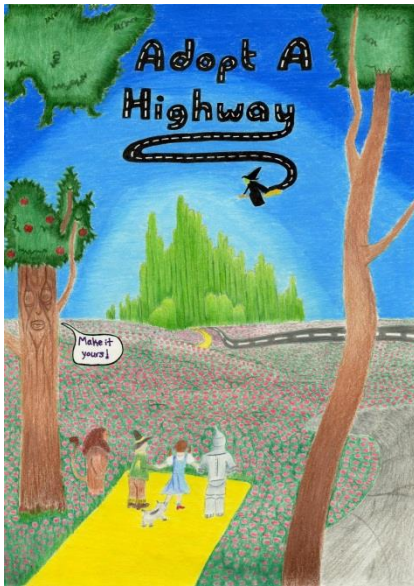
KYTC complies with public notice requirements whenever conducting public involvement/participation program activities. Specific activities may include representation on local stormwater management work groups, public hearings, development of the Six Year Road Plan, legislation enacted by the General Assembly and Governor, KYTC education volunteers via KEEN, utilizing the KYTC website for citizen input and general information, working with other MS4 coordinators, assisting with program coordination and monitoring efforts, per applicable state and federal requirements. Additional activities such as continuing KYTC's statewide public survey provide a mechanism to track educational behavior changes by measuring the public's knowledge of key issues and effectiveness of the program through public response and results analyses.

Permit element activity details for MCM 2 Public Involvement and Participation activities are provided in the fact sheets that follow.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 2.1.a | KYTC Outreach Program | Effective upon permit issuance, the number of KYTC outreach programs | The permittee shall utilize the Adopt-A-Highway public outreach program to include stormwater quality issues. |

Element Task Summary

KYTC, in a combined effort with the MS4 communities, manages the Adopt-A-Highway program. Kentucky has participated in the International Adopt-A-Highway Program since 1988. The Commonwealth has one Statewide Adopt-A-Highway Coordinator in the Central Office and 12 Adopt-A-Highway District Coordinators throughout the



state. The Adopt-A-Highway program involves community groups to organize and pick up litter thereby improving water quality. The Transportation Cabinet participates in Adopt-A-Highway meetings as agreed upon by the Local Community and KYTC. There are 674 groups that manage 1368 miles of roads throughout the state. These groups provided a total of 2,560 hours of service during 2016 with the Adopt-A-Highway program.

KYTC annually awards the top three Adopt-A-Highway Poster contest winners in each category. Awards were presented at a luncheon ceremony at the Thomas D. Clark Center for Kentucky History in Frankfort. The first-place winner in each of four categories received a \$100 gift card, while second-, and third-place winners each received a \$50 gift card. All the winners received framed prints of their posters. In addition, calendars featuring the winners' posters will be provided to all the winners and their classrooms. Documentation of the Adopt-A-Highway materials for this reporting period is provided in **Appendix 1. Adopt-A-Highway.**



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 2.1.b | KYTC Outreach Program | Effective upon permit issuance, the number of KYTC outreach programs | The permittee shall utilize the State Fair public outreach program to include stormwater quality issues. |

Element Task Summary

KYTC utilizes the State Fair program for outreach and incorporates stormwater quality issues as appropriate. The KYTC includes community stormwater quality information through displays and brochures in its booth at the State Fair. In 2016, KYTC participated by staffing a booth where stormwater educational materials were available. KYTC distributed the “Clean Stormwater Everyone’s Business” brochures.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.1.c | KYTC Outreach Program | Beginning in Permit Year Two (2) | The permittee shall assess and append where appropriate the content of educational materials at rest areas and associated public outreach programs to include stormwater quality issues. |

Element Task Summary

The Division of Maintenance and DEA have begun discussions to assess educational materials for rest areas and associated public outreach programs relative to stormwater quality issues.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------|----------------------------------|----------------------------------------------------------------------------------------------------------|
| 2.1.d | KYTC Outreach Program | Beginning in Permit Year Two (2) | The permittee shall assess the utilization of the KEEN program in schools regarding stormwater messages. |

Element Task Summary

The Kentucky Engineering Exposure Network (KEEN) is a unique partnership between the Commonwealth of Kentucky's school system and the Kentucky Transportation Cabinet. KYTC staff educates school children about the benefits of an engineering education, including focusing on stormwater and environmental topics. KYTC is taking steps to further utilize KEEN to integrate stormwater program messages. More information is available on the program website, <http://transportation.ky.gov/education/pages/keen.aspx>.



KEEN is comprised of KYTC staff that visit schools across the Commonwealth to expose students to the engineering profession. As a follow-up to KYTC's 2012 efforts, KYTC purchased Stormwater Envirosapes for each of the twelve Districts in 2013. A two day workshop was held at Barren River State Park to develop age appropriate presentations and train staff on giving talks. Approximately fifty KYTC staff attended the workshop.

The following 22 KEEN program activities were held in 2016 and included a stormwater education component:

Enviroscape Presentation – Heritage Elementary in Waddy, KSTA in Lexington, Toastmasters in Frankfort, Glasgow Middle School, 2 presentations at the Foundry in Bowling Green, Southside Elementary in Shelbyville, Campbell Elementary in Alexandria, Villa Madonna Academy in Villa Hills, 2 presentations at Grant County Middle School, St. Henry Elementary in Erlanger, 2 presentations at St. Joseph Academy in Walton, Crossroads Elementary in Cold Spring, Bracken County Middle School, Lloyd Memorial HS in Erlanger, Clearfield Elementary in Morehead, Montgomery County Intermediate, Nicholas County school, Bath County School and Arnett Elementary in Erlanger.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|---------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.2 | Public Survey | Track educational and behavior changes through analysis of survey results during Permit Year Four (4) | The permittee shall measure public knowledge of key issues and effectiveness of program through public response to the survey and results analyses. The permittee shall complete on-going base survey and share results with partner MS4 entities. The permittee shall perform a survey in the 4 th year of the permit term to assess progress and planning for the next permit cycle. |

Element Task Summary

KYTC conducted a statewide survey via the University of Kentucky in 2008 that was designed to measure public knowledge, attitudes and behavior (with respect to stormwater issues) among the general public in the SMS4 communities. The purpose of the survey was for the communities and KYTC to use the results to set benchmarks and to monitor the ongoing effectiveness of resources and strategies they are implementing for public education. An on-going base survey will be conducted in Permit Year Four (PY4). The results will be shared with partner MS4 entities for assessment of progress and planning for the next MS4 permit cycle. DEA will coordinate the survey.

In 2016 KYTC entered a contract with the University of Kentucky Survey Research Center and developed a scope of work for the statewide survey. The survey is scheduled to be completed in 2017.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|----------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 2.3 | Stakeholder/ Partner Involvement | Participation as requested | The permittee's District MS4 Coordinators shall participate and be actively involved as a stakeholder in local MS4 activities upon request. |

Element Task Summary

KYTC partners with MS4 communities to participate as a stakeholder in local MS4 activities and support local stormwater program efforts. As partner communities have established Stormwater Advisory Committees (SWACs) or other stormwater related events and invited KYTC representatives to attend, KYTC District MS4 coordinators have provided support and assistance. District MS4 Coordinators participate in meetings discussing stormwater quality issues as requested by the community's stormwater program contact.

KYTC partners with other MS4 communities to participate as a stakeholder in local MS4 activities. At the request of partner communities, KYTC District MS4 Coordinators attend stormwater meetings and events. In 2016, KYTC participated in 4 stakeholder meetings. District 3 participated in a Watershed Talk with 147 students at Glasgow Elementary and 23 campers at the Foundry Summer Camp. District 7 attended the Stormwater Masterplan Stakeholder Meeting and LFUCG Construction Workshop.



Program Element: 3. Illicit Discharge Detection and Elimination Activities

KYTC will implement and enforce a program for detection and elimination of illicit discharges. Two components of the IDDE program involve the location and continual inspection of outfalls for illicit discharges. KYTC has entered into partnerships with all but a few permitted MS4 communities in Kentucky to address IDDE. KYTC's partnering agreements assigns the mapping and inspection component to its partner communities. KYTC will address the location and inspection of major outfalls within KYTC rights-of-way in the communities where no partnership exists.

Mapping and illicit discharge detection and elimination should be accomplished on a single, locally managed system for consistency. KYTC entered into partnerships with most of the MS4 communities during their first permit term to coordinate its efforts for compliance with the MS4 Program. KYTC and the communities assist one another in meeting the requirements of the EPA MS4 Program in a more feasible and efficient manner to have a greater impact on overall pollutant reduction in stormwater runoff. KYTC works with partner communities, and the partner communities will maintain the mapping and perform inspections. The mapping, intended to be developed in cooperation with MS4 partnering communities wherever possible, is to display the location of all known major outfalls and the names and locations of all Waters of the Commonwealth that receive discharges from those outfalls. The purpose of the map development is to become aware of system conditions and be able to detect and trace illicit discharges to the separate storm sewer system. KYTC is unlike municipalities in that we do not generate industrial waste or have a varying/complex network of storm sewers. There are instances where the storm sewer system from adjoining communities has discharges onto KYTC right-of-way.

In areas where KYTC and the communities do not partner, the District Offices in coordination with the DEA MS4 Coordinator will develop and maintain an IDDE database. KYTC will develop an Illicit Discharge Detection and Elimination Program Document for detection of non-stormwater discharges to the MS4 systems. A critical component of this plan and procedures is education and training of KYTC staff and contractors of the hazards and regulatory concerns associated with illegal discharges and improper waste disposal.

Permit element activity details for MCM 3 Illicit Discharge Detection and Elimination activities are provided in the fact sheets that follow.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.1 | Illicit Discharge Detection and Non-Stormwater Discharges | Beginning in Permit Year Three (PY3) | The permittee shall develop an illicit discharge detection and elimination practice. This practice shall address KYTC's responsibilities to address illicit discharges in partnering communities and non-partnering communities. This material shall be used to address appropriate KYTC staff. |

Element Task Summary

KYTC developed the Illicit Discharge Detection and Elimination (IDDE) Program Document including an IDDE reporting form and outfall dry weather observation form. KYTC collaborates with MS4 communities regarding the identification of illicit discharges. Where KYTC receives calls or maintenance staff identifies illicit discharges, these will be reported and investigated or referred to the MS4 partner community on a case-by-case basis. The IDDE Program Document addresses the following topics:

- Identifying Illicit Discharges
- Responding to Illicit Discharge Report
- Tracing Sources of Illicit Discharges
- Remediating Illicit Discharges

IDDE activities are also occurring at KYTC facilities utilizing the Environmental Handbook fact sheets and inspection forms.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.2 | Illicit Discharges | Beginning in Permit Year Three (PY3), report the number of illicit discharges discovered and eliminated | The permittee shall train KYTC personnel on the identification, reporting, and elimination of illicit discharges at KYTC facilities as part of and as observed during routine maintenance. |

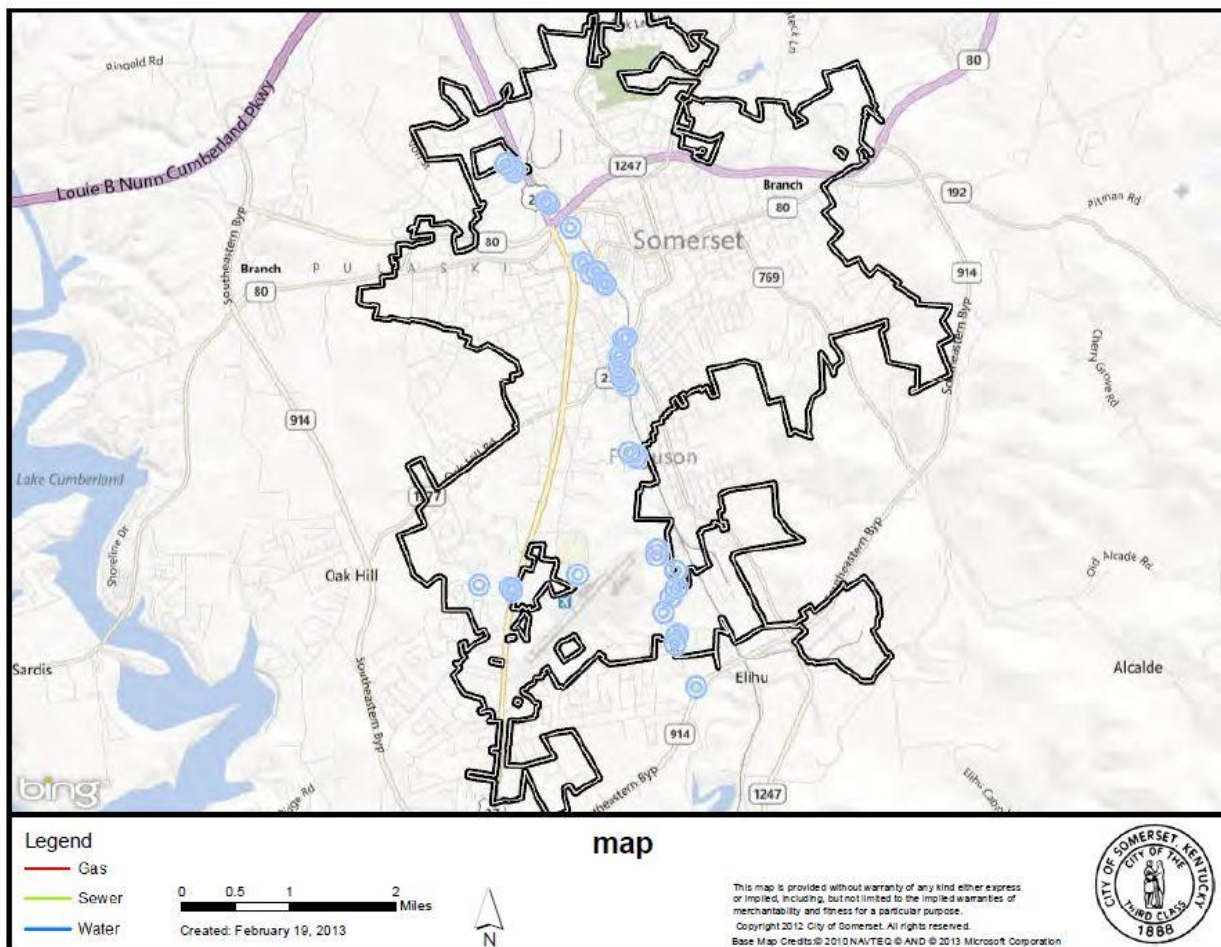
Element Task Summary

Maintenance personnel will continue to be trained annually as a component of the Environmental Awareness class offered through the University of Kentucky Transportation Center training under other elements of the permit. The course includes training on identifying potential illicit discharges and the need to notify District MS4 Coordinators where they are identified. KYTC also held a training program on the new permit during 2014, which included about 50 staff. KYTC IDDE program is included in the SWQMP. Beginning in Year 3 of the permit, KYTC will investigate any illicit discharges during their routine maintenance and eliminate their source. In 2016 there were none reported.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.3 | Separate Storm Sewer Mapping | Beginning in Permit Year Three (3), summarize annually and provide a copy of the map to the Division of Water with the Annual Report | The permittee shall coordinate with partner MS4 entities to map the separate storm sewer system. In the event that a partner MS4 program is not available, the permittee shall perform the mapping of the MS4 within the KYTC's right-of-way in the Urbanized Area. |

Element Task Summary

District MS4 Coordinators have worked with partnered MS4s to assist them in mapping outfalls when requested to do so. The map included in this report depicts mapping activity conducted in 2012 for one of the partnered MS4s. KYTC has located the major outfalls in Paducah, Lexington and Henderson.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.4 | MS4 Partnerships | Number of agreements established/ modified | The permittee shall continue /establish / modify and implement additional agreements, as necessary, with the local MS4 jurisdiction regarding mapping. The permittee shall make data about the KYTC drainage systems available to requesting partner MS4 programs. Otherwise, the permittee shall enable and authorize right-of-entry to MS4s to determine the process for identifying infrastructure owned by KYTC. In the event that the MS4 does not enter into an agreement with the permittee, KYTC shall be responsible for the mapping of the MS4 within KYTC's right-of-way in the Urbanized Area. |

Element Task Summary

KYTC is currently partnered with each of the permitted MS4 communities, with the exception of Paducah, Henderson and Lexington. In non-partnered MS4 communities, KYTC District MS4 Coordinators will coordinate mapping efforts of the KYTC system. As provided in activity 3.3, KYTC has completed mapping major outfalls in Paducah, Lexington and Henderson.

Through its partnership with MS4 communities, KYTC offers available mapping data from highway projects. Local communities can inquire about available data through their KYTC District office. To assist with mapping efforts, the KYTC Environmental Viewer is available on the KYTC stormwater website. The Environmental Viewer is a tool that was developed to identify environmentally sensitive features near maintenance projects.

KYTC has initiated contact with Lawrenceburg, Berea and Cold Springs inquiring about partnering. Western Kentucky University contacted KYTC, but has not followed-up. KYTC will continue to work with these communities to develop partnerships.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.5 | Illicit Discharge Detection and Non-Stormwater Discharges and Sanitary Sewer Exfiltration | Beginning in Permit Year Three (3), the number of responses and notifications indicating a potential discharge | The permittee shall establish/modify and implement additional agreements, as necessary, with the local MS4 jurisdiction regarding IDDE protocols. As partnering MS4s identify potential illicit discharges that originate or pass through the KYTC right-of-way, KYTC District Office MS4 Coordinators shall participate in follow-up investigations to determine if source of illicit discharge is KYTC's responsibility. KYTC District MS4 Coordinators shall track reports and investigate results. The KYTC District MS4 Coordinators shall notify the partnering MS4 when information about potential illicit discharges becomes available. KYTC District MS4 Coordinators shall track potential illicit discharge identification and partnering MS4 notification. In the event that the MS4 does not enter into an agreement with the permittee, KYTC shall be responsible for illicit discharge detection, including IDDE plan development that detects and addresses non-storm water discharges including illegal dumping |

Element Task Summary

KYTC is currently partnered with each of the permitted MS4 communities, with the exception of Paducah, Henderson and Lexington. KYTC is working on partnering arrangements with the three newly identified MS4s, Lawrenceburg, Cold Springs and Berea.

As identified in the KYTC IDDE Program Document, reports of illicit discharge received by KYTC are directed to District MS4 Coordinators who contact the DEA MS4 Coordinator if there is a likelihood that they originate on Transportation Cabinet properties, facilities or rights-of-way. The District MS4 Coordinator will work with partnered MS4s for follow-up. KYTC will further investigate IDDE reports in non-partnered MS4s. District MS4 Coordinators follow-up with partnered MS4s to determine resolution of the reported illicit discharge.

In 2016 there were none reported.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.6 | Illicit Discharge Elimination | The number of illicit discharges resolved | The permittee’s District Coordinators shall engage local partner MS4s to determine the process of elimination of illicit discharges when the source of the discharge is determined to originate on KYTC’s right-of-way or result from KYTC activities. The permittee shall enable and authorize right-of-entry to local partner MS4 entities for purposes of illicit discharge compliance activities as necessary. In the event that the MS4 does not enter into an agreement with the permittee, KYTC shall be responsible for illicit discharge elimination within KYTC’s legal authority. |

Element Task Summary

KYTC developed an Illicit Discharge Detection and Elimination (IDDE) Program Document including an IDDE reporting form and outfall dry weather observation form. The IDDE Program Document clarifies how reports of IDDE’s will be received, tracked and resolved. There were none reported in 2016.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.7 | II-2, B.3.c | Prohibit discharges | Effectively prohibit through policy, contract, or other regulatory mechanism, non-stormwater discharges into the separate storm sewer system, define allowable discharges, and implement appropriate enforcement procedures and actions. |

Element Task Summary

KYTC prohibits discharges through contractual requirements with Contractors and service personnel. Enforcement action is also routinely included in construction contracts. Otherwise, KYTC has no jurisdiction over adjoining community MS4 areas, and will defer to the local MS4 or the KDOW, if necessary.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 3.8 | II-2, B.3.e | Develop information | Inform KYTC employees and contractors of hazards associated with illegal discharges and improper disposal of waste. |

Element Task Summary

The Transportation Cabinet informs employees and the public about hazards associated with illegal discharges and improper waste disposal and where to report them. This information is included in Environmental Awareness and KEPSC-RI training and in several of the materials prepared through the Educational Toolkits. This activity includes cooperating with local MS4s as requested.



Program Element: 4. Construction Site Stormwater Runoff Control Activities

KYTC has developed, implemented, and enforced a program to reduce pollutants in stormwater runoff to their MS4 from construction activities that result in a land disturbance greater than or equal to one acre. The KYTC stormwater construction program involves the Division of Construction, the Division of Highway Design, the Division of Environmental Analysis and the District Offices.

The KYTC Construction Site Stormwater Control Program is comprised of the following elements:

- A review for water quality impacts and a determination whether an individual stormwater construction permit is needed or coverage by the KYR10 General Stormwater construction permit is sufficient;
- Development of an erosion prevention and sediment control (EPSC) plan;
- Site inspections;
- Corrective actions and penalties, if needed;
- Quality assurance inspections;
- Project final inspections;
- Documentation utilizing inspection forms, daily work reports and Site Manager; and
- Training.

Permit element activity details for MCM 4 Construction Site Stormwater Runoff Control activities are provided in the fact sheets that follow.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1 | Construction permit implementation | Construction General Permit (KYR10) requirements implementation | The permittee shall implement standards and procedures for management of construction as enumerated in the Construction General Permit (KYR10) or an individual permit for construction. |

Element Task Summary

KYTC complies with the KPDES Stormwater General Permit for Construction (KYR10) or Individual Stormwater Construction permits for construction through a system of standard specifications, manuals, guides, memorandums, policies, training, permitting, reports, contractual obligations, inspections, sanctions and other items. These standards and procedures are used by planning, design and construction professionals to understand and comply with KYR10 or individual construction stormwater permits.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|----------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.2 | Develop and Implement Construction Practices | The number of practices implemented by Permit Year Three (PY3) | The permittee shall develop and implement construction practices which shall require erosion prevention and sediment control practices and sanctions to insure compliance; procedures for site plan review which incorporate consideration of potential water quality impacts; and procedures for site inspections and enforcement. |

Element Task Summary

KYTC continues to incorporate EPSC measures and enforce the proper use of these measures in the design and construction of their projects through implementation of Sections 212 and 213 of the KYTC Standard Specifications, liquidated damages in contractual language with construction contractors, and implementation of numerous design and construction memos; preparation of SWPPPs by inspectors and resident engineers with oversight by the Central Office Construction Division; and site inspection performed by qualified inspectors and resident engineers with oversight by the Central Office Construction Division. The Division of Construction issued Construction Memorandum No. 05-2015 Erosion Control Bid Quantity Establish Rate in 2015. There were not any new practices implemented in 2016.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.3 | Qualify KYTC employees and contractors as inspectors | The number of employees and contractors trained beginning in Permit Year Two (2). | The permittee shall include training for KYTC and contractor inspectors involved in highway construction stormwater inspections. The permittee shall use KYTC-developed training, KEPSC, or an effective equivalent. The contractor will be required to have a qualified inspector (KEPSC or effective equivalent program) to conduct erosion prevention and sediment control inspections per the Construction General Permit (KYR10) or individual permit and the KYTC Standard Specifications. |

Element Task Summary

KYTC staff and a consultant developed the Kentucky Erosion Protection and Sediment Control for Roadway Inspectors (KEPSC-RI) class which (1) complies with the MS4 permit, (2) provides guidance on complying with the KYR10 General Permit or Individual Construction Stormwater Permit, (3) is specific to KYTC construction methods and (4) satisfies the International Erosion Control Association (IECA) training module. The training materials were developed with a pilot class attended by several KYTC personnel and the contractors' group representative. As a result of the pilot class, changes were made and an exam developed. The curriculum includes: project development; KYR10 permit overview; temporary and post-construction BMPs; SWPPP development; Preconstruction Meetings; pre-disturbance inspections; inspector responsibilities; Best Management Practices for projects; and hands on participation in completing inspection reports. KYTC staff and contractors are required to complete the class and pass an exam for certification. KYTC projects require the contractor to employ a certified inspector. In 2016, 137 individuals completed KEPSC-RI training.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.4 | Provide training opportunities for implementation of KPDES permit requirements on highway project and maintenance project plans | The number of employees, contractors or consultants trained beginning in Permit Year Two (PY2). | The permittee shall provide training opportunities through ACEC, Partnering Conference or other venues to train individuals on preparation of properly prepared Stormwater Pollution Prevention Plans (SWPPPs) for erosion prevention and sediment control, including developing drainage sheets, erosion control sheets, and the BMP template. |

Element Task Summary

KYTC has been involved in the development of the most recent SWPPP Preparers Class offered by UKT2. The KEPSC-RI also includes SWPPP development components. Periodically KYTC trains employees, contractors and/or consultants through various venues. In 2016, training sessions were offered to train individuals on proper preparation of Stormwater Pollution Prevention Plans (SWPPPs) for erosion prevention and sediment control, including developing drainage sheets, erosion control sheets, and the BMP template. During the 2016 reporting year, 87 people completed drainage training and 137 people attended KEPSC-RI.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|----------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.5 | Encroachment permits | The number of individuals informed about the Construction General Permit (KYR10) | The permittee shall inform all applicants requesting KYTC encroachment permits of the need to obtain a KPDES Construction General Permit (KYR10) and the possibility of other local EPSC requirements |

Element Task Summary

Per the May 8, 2007 Memorandum “Encroachment, KPDES, and Earth Disturbance Permits”, anyone applying to KYTC for an encroachment permit to use highway right-of-way when their activity will disturb one acre or more of land are informed of their obligation to comply with KYR10. In 2016, there were 5,403 encroachment permits issued as part of this policy.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.6 | Project coordination with MS4s | Number of NOIs | The permittee shall coordinate with local MS4 jurisdictions of KYTC land-disturbing activities that require KYR10 coverage within KYTC jurisdictional areas bordered by another local MS4, when requested. The permittee shall incorporate partnering MS4 jurisdiction's standards in project designs, where feasible and not in conflict with KYTC's design practices. |

Element Task Summary

KYTC coordinates with other MS4s for projects through various means, including development of the Six Year Road Plan, legislative review and notice of projects on our web page. KYTC obtains construction stormwater permits, whether KYR10 or individual, and has developed a dialogue with local MS4s for including their standards. KYTC submitted 13 NOIs and obtained permit coverage during 2016. KYTC also in 2016 submitted NOT's to terminate coverage for 11 permitted sites.



Program Element: 5. Post-Construction in New Development and Redevelopment Activities

Design practices and specifications (<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>) for road construction from new and redevelopment projects disturbing greater than one acre have been established. KYTC has continued to implement and enforce these practices and specifications and ensure that controls are in place that prevent or minimize water quality impacts. Additional appropriate structural and non-structural strategies have all been developed to the Maximum Extent Practicable (MEP). This newly developed menu of BMPs for new highways or existing highway upgrades is planned to be implemented in Permit Year two (PY2).

KYTC has inventoried the post-construction BMPs. KYTC will provide adequate long-term operation of all BMPs implemented. KYTC's post-construction approach is detailed in its Post-Construction Program Document.

Permit element activity details for MCM 5 Post-Construction in New Development and Redevelopment activities are provided in the fact sheets that follow.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.1 | Design Standards and Karst Policy implementation | Continued implementation throughout permit cycle | The permittee shall continue to implement and enforce the design standards and specifications for road construction and the Karst policy to address post-construction stormwater 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. The program must ensure that controls are in place that would prevent or minimize water quality impacts. |

Element Task Summary

The Division of Design and the Division of Construction implements the Karst Policy and Sections 212 and 213 of the Standard Specifications for post-construction water quality management. Under the Karst Policy, KYTC provides guidance on constructing near sinkholes.

The KYTC has evaluated the potential to increase use of structural and non-structural best management practices to benefit long-term water quality as a part of the project design process. It has determined that there is sufficient organization, expertise and regulatory basis for the requirement of structural and non-structural BMPs for new projects. The Division of Design and the Division of Construction implements the Karst Policy and Sections 212 and 213 of the Standard Specifications for post-construction water quality management. This policy, the “Karst Policy”, was established through Design Memorandum No. 12-05 for highway projects that are developed in karst and sensitive water regions of the state. This policy results in the installation of permanent BMPs when stormwater from highways discharges to karst or sensitive waters.

The KYTC also applies its regulatory authority on its construction projects through implementation of requirements in the *Standard Specifications for Road and Bridge Construction*. Division 200 – *Earthwork* contains several sections, including 212 – *Erosion Control* and 213 – *Water Pollution Control*, that are used by planning, design and construction professionals to understand and comply with the intentions of KYTC.

The KYTC utilizes the 2006 KYTC/FHWA joint process review to document and evaluate environmental commitments made during the design process, evaluate whether they were completed during construction, and improve the KYTC environmental commitment process.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 5.2 | KYTC staff and project delivery team post-construction training/outreach | The number of individuals participating in training or number of sessions conducted | The permittee shall include post-construction stormwater quality and quantity discussions in training KYTC staff and contract staff. |

Element Task Summary

The KYTC continued attendance in the KEPSC Qualified Inspector program, KEPSC-RI (Kentucky Erosion Prevention and Sediment Control- Road Inspector) for inspecting construction sites in accordance with the KYR10 General Permit. The KEPSC-RI class includes post-construction BMP training as does the Environmental Awareness Class. Other venues of training are conducted by the Division of Design and the DEA. KYTC provided training in 2016 with an attendance turnout of 232 individuals.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|---------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.3 | Operate and maintain existing KYTC post-construction strategy | Summarize annually and include in annual report | The permittee shall utilize maintenance crews at its District offices to operate and maintain post-construction BMPs. The permittee may also utilize maintenance agreements with local MS4 programs or other entities to operate and maintain post-construction BMPs, as deemed appropriate. |

Element Task Summary

The current practice for maintaining post-construction BMPs is included in KYTC’s standard practice of maintaining all road facilities. KYTC has refined this practice by developing an inventory of its post-construction BMPs across the state. The DEA, in conjunction with the District MS4 Coordinators, Division of Highway Design, Division of Construction and the Division of Maintenance, will update the inventory as new bmps are implemented. KYTC’s Post-Construction Program document is included in the SWQMP.

KYTC has maintenance agreements with most of the MS4 jurisdictions and implements maintenance practices according to these agreements. Where feasible and applicable, and in the absence of a maintenance agreement, KYTC cooperates with local MS4 operators that request assistance to ensure that structural BMPs are operated and maintained over the long-term. This includes controls that are shared as real property, cooperative development or other maintenance agreements.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.4 | Develop and Implement post-construction strategy | Summary of changes made to Operation and Maintenance, BMPs, Fact Sheets, and related documents shall be included in annual report | The permittee shall annually assess whether changes in the Environmental Handbook are necessary to facilitate implementation of long-term maintenance activities for highway BMPs; update manuals to allow operation and maintenance activities to be communicated and enabled at the staff level. The permittee shall update KYTC Drainage Design Manual to include post-construction design requirements |

Element Task Summary

KYTC has evaluated the potential to increase use of structural and non-structural best management practices to benefit long-term water quality as a part of the project design process. It has determined that there is sufficient organization, expertise and regulatory basis for the requirement of structural and non-structural BMPs for new projects. KYTC recognizes that a number of structural and non-structural management strategies will be identified over time with the local MS4 operators. It is KYTC's intent to cooperate with the local MS4 operators to implement those controls determined to be feasible as they are identified and as requested by the local MS4 operator.

KYTC's post-construction BMP protocol is summarized in the Post-construction Program document. The Environment Handbook will continue to be assessed by the DEA for inclusion of any new requirements in KYTC's Post-Construction Program Document. The Division of Design regularly assesses their Drainage Design Manual for updates and will consider post-construction modifications as warranted. Modifications may come in the form of Design Memos. There were no changes to the Summary documents during 2016.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.5 | Post-construction strategy communication | The number and type of BMPs installed through cooperative efforts with MS4s | The permittee shall communicate KYTC's post-construction policy to local MS4 programs through presentations at the MS4 Workgroup and availability via the website. The policy reflects KYTC's post-construction standards and its role in the project delivery process. The permittee shall consider incorporating partnering MS4 jurisdiction's standards for post-construction BMPs, where feasible and not in conflict with KYTC's design practices. |

Element Task Summary

The Division of Design and District Office TEBMs discuss Post-Construction Protocols with local partnering MS4s and incorporate their local requirements into the design, where feasible and not in conflict with KYTC's design practices.

KYTC also works to install BMPs through cooperative efforts in MS4 partner communities. During 2016, there were several projects reported. Louisville Metro-MSD on East Market Street, fifty-three BMPs are listed including rain gardens, rock infiltration basins and permeable pavers. Five detention basins were reported by District 6 with SD1. District 4 projects with 31 swales and 21 basins. Another is still in a preliminary phase with SD1-Northern KY. It is a detention BMP on KY 338.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.6 | FS-4, 7.F | Non-structural & Structural BMPs | <p>Non-Structural BMPs</p> <ul style="list-style-type: none"> Standards and Practices Review - The permittee is required to review its design practices to promote and encourage the implementation of non-structural BMP's including green infrastructure, low impact and cluster developments and disconnection of impervious areas from riparian zones, where applicable. <p>Structural BMPs</p> <ul style="list-style-type: none"> The permittee is required to develop and/or adopt structural BMP selection and design guidelines to aid in the planning and design of an appropriate BMP relative to its intended water-quality protection function, ease of maintenance and overall community acceptance. |

Element Task Summary

KYTC considers structural and non-structural BMPs in areas where highway construction impacts sensitive waterways through the individual construction stormwater permit process. KYTC utilizes its Drainage Design Manual for selection of BMPs.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 5.7 | II-3, B.5.b | BMP strategies | Develop and implement strategies, which include a combination of structural and non-structural BMPs appropriate for the area. |

Element Task Summary

KYTC developed a Post-Construction Program document. The Program Document identifies ways that KYTC will develop and implement post-construction. One of these approaches will be the evaluation and necessary modification of the various BMP documents, including the Environmental Handbook and Drainage Design Manual.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.8 | II-3, B.5.c | Regulatory authority | Use a policy, contract, and standards and practices or other mechanisms to address erosion and sediment control, buffer zones, riparian areas, and other water-quality related activities from new development and redevelopment projects. |

Element Task Summary

Through project specifications, Standard Specifications and contractual language, the Division of Highway Design and the Division of Construction will establish and enforce post-construction requirements. Any policy modifications developed by the Division of Highway Design or the Division of Construction via memorandums or other means are reported to the DEA MS4 Coordinator.

KYTC incorporates BMPs and buffer zones through contractual requirements with Contractors and service personnel and their Drainage Design Manual. Enforcement action is also routinely included in construction contracts. Otherwise, KYTC has no jurisdiction over adjoining community MS4 areas, and will defer to the local MS4 or the KDOW, if necessary.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.9 | II-3, B.5.d | Update design practices | Develop a menu of structural and non-structural BMPs that can be applied to new highways or upgrades of existing highways. Update design practices to reflect the menu of implemented structural post-construction BMPs in permit year two (2). |

Element Task Summary

KYTC developed a sixty-five page best management practices menu for designers. The BMPs typically have several sections including a description, purpose, construction considerations, design criteria, maintenance and cost considerations. The menu has been forwarded to the KYTC Division of Design for promulgation.



Program Element: 6. Pollution Prevention / Good Housekeeping Activities

The Pollution Prevention/Good Housekeeping minimum control measure is a key element of the small MS4 stormwater management program. This measure requires the MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that collects on roads, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways.

For KYTC facilities, there are a number of programs with similar goals. It is the intent of KYTC to use these existing programs as the basis for most of the activities in this MCM. The related programs include the:

- KPDES permit program for Highway Maintenance Facilities (KYG50);
- Spill Prevention Control and Countermeasures (SPCC) permit program;
- Groundwater Protection Plans;
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) program and KDOW permit;
- Superfund Amendments and Reauthorization Act (SARA) Title III; and
- Resource Conservation and Recovery Act (RCRA).

These programs operate under similar programmatic goals, but under different schedules and reporting requirements, ranging from implementation of plans made available upon request to quarterly monitoring reports. KYTC's Pollution Prevention/Good Housekeeping Program Document summarizes how KYTC will implement MCM 6.

KYTC is committed to cooperating with local MS4 operators who request assistance in training their staff to reduce stormwater pollution, as some of the municipal operations are similar to KYTC's facilities and maintenance operations. KYTC is addressing Environmental Awareness Program training for its employees by continuing to have new maintenance employees attend the UKT2 class as well as having the DEA Facility Coordinator make presentations each year across the state at the maintenance facilities.

KYTC has developed "BMP Plans" for each of its facilities in accordance with the KPDES Permit for Highway Maintenance Facilities (KYG50). The ultimate goal and resulting audits is to reduce/limit the release of pollutants to the environment from the work area. Facility personnel conduct quarterly audits, while District Office staff conducts annual audits. The DEA Facility Coordinator makes several inspections across the Commonwealth during the year. These plans address the location and potential discharge of pollutants to the stormwater drainage system. The permit program that requires the plan's development also requires monitoring and reviewing the program's effectiveness to determine if further controls are needed or if existing controls are adequate.

Permit element activity details for MCM 6 Pollution Prevention / Good Housekeeping activities are provided in the fact sheets that follow.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.1 | Facility Inventory and Inspection | Submit in the annual report at the end of Permit Year Two (PY2) | The permittee shall inventory and inspect KYTC-owned and operated facilities to determine whether activities and materials at these facilities may be contributing to pollutants to stormwater runoff. Facilities that could contribute to polluting stormwater include, but are not limited to: welcome centers, rest areas, and District KYTC offices, and other areas not covered by the KPDES Permit KYG50. |

Element Task Summary

KYTC inventories owned and operated facilities that are covered under the KYG50 permit as well as facilities not covered by the KYG50 permit. There are 51 facilities not included under the KYG50 permit including 12 District offices, 25 Welcome Center/Rest Areas, 14 truck weighing/inspection stations. During 2015 KYTC completed inspecting all 51 facilities. The Pollution Prevention/Good Housekeeping Inspection Form is used for these purposes.

KYTC contracts out the Rest Area operations, which include requirements for stormwater pollution control at these facilities. Rest area BMPs typically include: litter control; pet waste stations; oil spill remedial measures; maintaining a supply of oil absorbent; proper storage of deicing materials; providing trash cans; and general grounds maintenance.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.2 | Implementation of BMP plans | Beginning in Permit Year Two (PY2), the permittee shall summarize the BMP activities outlined in the Environmental Handbook and submit annually. | The permittee shall implement the BMP plans in the Environmental Handbook that includes inspections, trainings, and reports. The permittee shall assess implementation effectiveness and modify as needed. |

Element Task Summary

The Environmental Handbook includes a number of activities under Highway Maintenance and Operations; Facility Based Operations; Waste Management; and Spills and Emergencies. Refer to the Environmental Handbook Table of Contents for the BMPs. A summary is included in Appendix 2. The DEA Facilities Coordinator will summarize the BMP activities outlined in the Environmental Handbook and submit the report annually to the DEA MS4 Coordinator.

The DEA Facilities Coordinator will review twelve or more facilities annually to assess implementation effectiveness of the BMP Plans and make modifications as needed. A list of the lots visited during 2016 is included in Appendix 2.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 6.3 | Train staff and implement BMP plans at KYTC facilities | Beginning in Permit Year Two (PY2), the permittee shall summarize the number of stormwater management requirements implemented and submit annually | The permittee shall implement facility specific BMP plans and modify as necessary per the KYTC Environmental Handbook. |

Element Task Summary

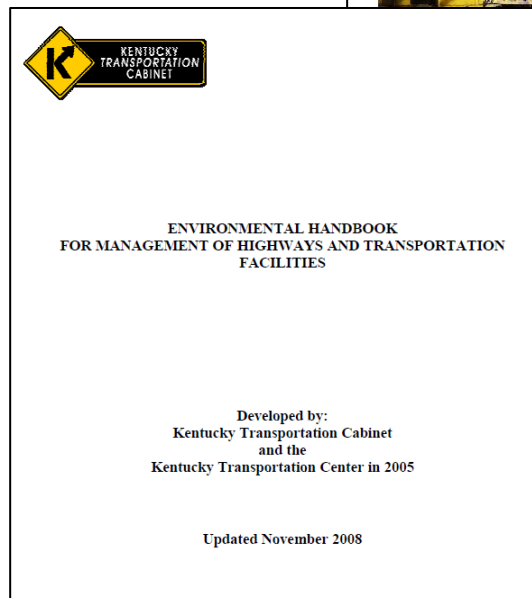
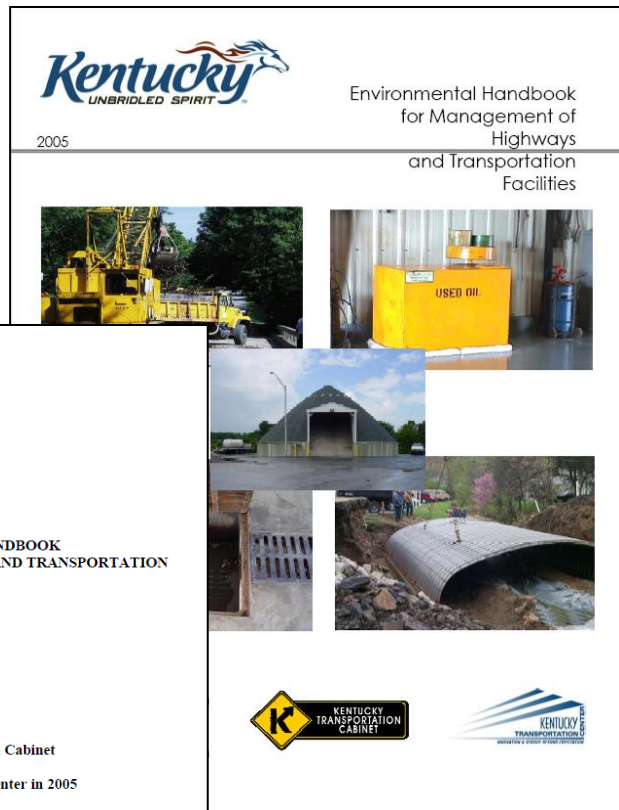
Facilities are divided between the twelve District Offices. Each facility has an individually tailored Best Management Practices (BMP) Plan that is kept at the Facility. This activity overlaps with the KPDES Permit for Highway Maintenance Facilities (KYG50). BMP Plans are also required in accordance with KYG50. The ultimate goal of the BMP Plan and regular inspections is to reduce/limit the release of pollutants to the environment from the work area. BMP Plans address the location and potential discharge of pollutants to the stormwater drainage system. This includes maintaining conveyance, source control, water quality treatment infrastructure, and devices that limit or eliminate pollutants (including sediment, automotive waste fluids, deicing and anti-icing chemicals, herbicides, pesticides, fertilizers and other debris) from being released to the environment.

A comprehensive inspection by KYTC personnel is conducted on an annual basis. Each District Office designates someone to conduct the Facility Annual Environmental Inspection (FAEI). The FAEI is a review of the BMP Plan for the facility utilizing a FAEI Form. Any needed modifications to the BMP Plan are included on the form and/or site plan consistent with Environmental Handbook guidance. The modifications are then confirmed upon subsequent inspections. The review documents the number of stormwater management practices implemented at the facility. In 2016, 128 facilities reported an average of 45 stormwater practices implemented at each facility.

| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.4 | Facility staff training materials: Environmental Handbook | Beginning in Permit Year Two (PY2) KYTC's Environmental Handbook will be available on the website | The permittee shall make the updated Environmental Handbook available for the partner MS4 entities via the KYTC website. The permittee shall continue to offer Environmental Awareness Training to staff and the county maintenance |

Element Task Summary

The KYTC Environmental Handbook for Management of Highways and Transportation Facilities was developed by the KYTC and was most recently revised in 2008. The handbook includes activities, procedures, information and photos for actions related to highway maintenance and operations, facility-based operations, waste management, spills and emergencies in an easy to read fact sheet format. The Environmental Handbook was updated in 2008 and is available on KYTC's website: www.transportation.ky.gov. As discussed in MCM 1, Environmental Awareness Training continues to be conducted on a regular basis. The class is available to non-KYTC employees.





Program Element: 7. Reporting and Records Retention Activities

An annual system-wide report is completed for the previous calendar year's activities and submitted to KDOW by April 15th of the following year. The annual report covers a period beginning January 1st through December 31st and is intended to be an overall evaluation of the SWQMP developments and progress and provide a status update of each of the program elements. The report also includes any proposed changes to the SWQMP or controls, summary of inspections and enforcement actions as well as status update on education and outreach efforts. The annual report will be posted on the KYTC Stormwater website.

KYTC staff identified in the General Information of this Annual Report is responsible for collecting data throughout the year and reporting their respective information. The KYTC SWQMP includes each permit activity and lists the information to be reported to the DEA MS4 Coordinator.

Permit element activity details for MCM 7 Reporting and Records Retention are provided in the activity fact sheets that follow.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.1 | Reporting | The permittee shall submit an annual Report to KDOW by April 15th of the following year. | The permittee shall submit a report to the Division of Water as requested or required by the MS4 permit. The permittee shall make the most current annual report available via their website. |

Element Task Summary

KYTC staff including District MS4 Coordinators and Division staff collects MS4 data for reporting purposes throughout the calendar year for their respective information. The DEA MS4 Coordinator assembles the data and prepares the annual report by April 15th of the following year for submittal to the Kentucky Division of Water. The 2016 Annual Report was submitted prior to April 15, 2017.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|----------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 7.2 | Retain reports and other records | Maintain supporting document for annual report | The permittee shall make records available to the public and regulators for a period of at least three years. |

Element Task Summary

The DEA MS4 Coordinator saves the annual reporting forms used to prepare an annual report for a period of three years. At such time, the records will be purged by the DEA MS4 Coordinator in accordance with KYTC policy.

| SWQMP ID | Element Task | Measure of Success/ Frequency | Activity Required |
|----------|------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.3 | FS-2/II-5, 6/D.1 | BMPs and Approved TMDLs | <p>For waters within KYTC-jurisdictional areas with an approved or established TMDL, the permittee shall evaluate its BMPs in the SWQMP with respect to MS4 discharges for pollutants of concern related to KYTC-specific activities to impaired waterbodies listed in the Division of Water publication entitled, "2010 Integrated Report to Congress on the Condition of Water Resources in Kentucky Volume I. 305(b) Report", and subsequent publications, found at www.water.ky.gov/sw/swmonitor/305b, to assess their effectiveness in achieving pollutant reductions in impaired water bodies in KYTC-jurisdictional areas only.</p> <p>The requirements of this section apply only to receiving waters within KYTC-jurisdictional areas within the urbanized boundary of the MS4 with adopted or established TMDLs and associated allocations that receive the permittee's MS4 discharges. It is the intent of this section to ensure that pollutant discharges for those parameters listed in the TMDL are reduced to the MEP through the implementation of the permittee's SWQMP. Adequate progress toward achieving assigned wasteload allocations (WLAs) will be demonstrated through the implementation of structural and nonstructural BMPs and other program activities that result in TMDL-related pollutants from KYTC-specific activities within watersheds that contain KYTC jurisdictional areas within the urbanized boundary of the MS4.</p> |

Element Task Summary

When an approved or established TMDL is developed for waters within a KYTC-jurisdictional area, the DEA evaluates the BMPs in the SWQMP to assess their effectiveness for addressing the pollutant of concern and makes any necessary modifications to the SWQMP. The current SWQMP is effective in meeting pollutants of concern for the approved or established TMDL waters. The list of waters is included in Appendix 3.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|----------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.4 | II-1, Introduction/B | Stormwater Quality Management Program (SWQMP) | Develop, implement and enforce a Stormwater Quality Management Program (SWQMP) using best management practices (BMPs). Within 180 days of the effective date of this permit, the permittee shall submit a revised SWQMP that is more reflective of the issued permit, including any necessary compliance schedules. |

Element Task Summary

The KYTC SWQMP has been revised and submitted to KDOW to reflect the permit issued October 1, 2012.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|---------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.5 | II-4, C.1 & 2 | Annual SWQMP review and modification | Perform annual SWQMP review and update in conjunction with the annual report and address any necessary modifications to BMPs, schedules or control. Modifications must be made per permit procedure. Permittee shall implement the SWQMP on all new areas added to their portion of the MS4. |

Element Task Summary

The KYTC SWQMP was revised and submitted to KDOW during 2013 to reflect the permit issued October 1, 2012. All new areas fall under the SWQMP. There are no modifications for 2016.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.6 | II-5, D.2 | Identification of impaired stream segment (s) and/or tributaries to stream segments | After establishment of an approved TMDL for a pollutant of concern during the permit term, the permittee shall identify impaired stream segment (s) and/or tributaries to stream segments and the location of all known MS4 major outfalls discharging a pollutant of concern under the TMDL. |

Element Task Summary

Once KYTC is notified of the establishment of an approved TMDL within their jurisdictional area, the DEA Water Quality SME will coordinate with the local MS4 and the District MS4 Coordinators to determine if KYTC discharges the pollutant of concern from any of their facilities and operations.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.7 | II-5, D.3 | Impaired water bodies | For impaired water bodies that lack a TMDL, the permittee shall evaluate BMPs in the SWQMP with respect to any new or expanded MS4 discharges for pollutants of concern that substantially change the discharge to impaired waterbodies listed on the 303(d) list. |

Element Task Summary

Within a year after a new 305b report is prepared by the KDOW, the DEA Water Quality SME, in conjunction with the District MS4 Coordinators, will review the list of impaired waterbodies and determine if any operational modifications have occurred to facilities that drain to these impaired waters. If operational modifications have occurred, the DEA Water Quality SME and the District MS4 Coordinator will determine if these modifications could be contributing more of the pollutant of concern than previously discharged. If the operational modifications are contributing more of a pollutant of concern, then the SWQMP will be modified accordingly. The DEA Water Quality SME will report any needed modifications to the DEA MS4 Coordinator.

For this reporting period, the DEA Water Quality SME, in conjunction with the District MS4 Coordinators, reviewed the list of impaired waterbodies to determine if any operational modifications have occurred to facilities draining to these impaired waters. There were no operational changes made at KYTC facilities requiring modifications to the SWQMP based on the 305b Report.



| SWQMP ID | Element Task | Measure of Success/Frequency | Activity Required |
|----------|--------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.8 | III-1, B | Annual Reporting Requirements | <p>The annual report shall cover the period beginning on January 1st through December 31st, and annually thereafter, submitted no later than April 15th of the following year. The annual report shall include:</p> <ol style="list-style-type: none"> 1. An overall evaluation of the SWQMP developments and progress including: major accomplishments, overall program strengths/weaknesses; and future direction of program. The permittee will make an overall determination of the effectiveness of the SWQMP taking into account water quality/watershed improvements. 2. Brief discussion of the program elements listed in Tables 1-7 following applicable SWQMP elements. 3. Status of the implementation and proposed changes to the SWQMP to include assessment of controls and specific improvements or degradation to water quality. 4. Summary of inspections and enforcement actions for regulatory programs. 5. Implementation status of the public education programs. 6. The permittee shall submit the original annual report to: Kentucky Division of Water Surface Water Permits Branch 200 Fair Oaks Lane, 4th Floor Frankfort, Kentucky 40601. |

Element Task Summary

KYTC staff collects data for reporting purposes throughout the year for their respective information. Each permit activity lists the specific information that is to be reported to the DEA MS4 Coordinator. The information is submitted to the DEA MS4 Coordinator by January 31st for the previous calendar year and the DEA MS4 Coordinator assembles the data and prepares the annual report by April 15th of the following year.