

**Missouri Department of Transportation**  
*Patrick K. McKenna, Director*

1.888.ASK MODOT (275.6636)

January 12, 2018

Mr. Michael Abbott  
Missouri Department of Natural Resources  
Water Protection Program  
P.O. Box 176  
Jefferson City, Missouri 65102

Dear Mr. Abbott:

Subject: Design – Environmental Section  
State Operating Permit MO-0137910  
TS4 Annual Report

Enclosed is MoDOT's annual report for permit MO-0137910 as required under Part B of the MS4 Stormwater Management Plan (SWMP) Report form 780-1846. The updated SWMP was sent to the department on October 16, 2017. MoDOT received approval on March 9, 2017 that its "No Additional Controls Demonstration for Total Maximum Daily Load Attainment" was appropriate and this annual report continues to support that demonstration.

If you have any questions about the report, please do not hesitate to call me at (573) 526-6676 or Melissa Schepeler at (573) 526-6684.

Sincerely,



Gayle Unruh  
Environmental and Historic Preservation Manager







**Part C – SWMP PROGRESS AND COMPLIANCE**

As an attachment, please provide information for each of the items below. Provide informative data, success stories, and experiences that support the successful implementation of your SWMP.

1. Describe the status of compliance with permit conditions for the permitted MS4.
2. Provide information regarding the progress toward achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practicable to the MS4.
3. ~~If another governmental entity implements any Best Management Practice (BMP) or Minimum Control Measure (MCM), please provide the following:~~
  - a. ~~Name of the government entity;~~
  - b. ~~Name of the primary contact for the government entity;~~
  - c. ~~Contact information (i.e., address, city, ZIP Code, State, and phone number); and~~
  - d. ~~Specific BMP(s) or MCM(s) being implemented by the government entity.~~

(It is the responsibility of the permittee to provide all information under this report regardless if BMP(s) or MCM(s) are being implemented by another governmental entity. If a complete is being implemented by the other governmental entity, then only indicated the MCM rather than each BMP under the MCM.)

4. Provide a summary of any stormwater activities and known construction activities that will be covered under the authority of the MS4 permit that are scheduled to begin during the next reporting period.
5. Provide a description of any changes to the SWMP, BMP(s), measurable goal(s), and the iterative process that have occurred during the covered reporting period.
6. Provide a list of BMPs that were evaluated during the covered reporting period, and provide information on how the BMP was determined effective.
  - a. If any of the BMPs were determined ineffective, provide a summary on how the ineffective BMP was resolved.
7. ~~If any water samples were collected and analyzed during the covered reporting period by the permitted MS4 or on behalf of the permitted MS4, please complete Part D – Water Sample(s) Analysis.~~

**Part D – WATER SAMPLE(S) ANALYSIS**

PARAMETER OR INDICATOR	FREQUENCY	RESULT	DRY WEATHER SAMPLE?	WET WEATHER SAMPLE?
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>
			YES <input type="checkbox"/> ; NO <input type="checkbox"/>	YES <input type="checkbox"/> ; NO <input type="checkbox"/>

1. Are any of the parameters above being sampled due to the MS4 being subject to an established or approved Total Maximum Daily Load? If yes, please indicate the parameter/pollutant.

YES ; NO

2. Does the data support Water Quality attainment or support trend data toward Water Quality attainment? If yes, please describe.

YES ; NO

NA

**Part E – TOTAL MAXIMUM DAILY LOAD (TMDL) ASSUMPTIONS AND REQUIREMENTS ATTAINMENT PLAN (ARAP)**

1. Is your MS4 subject to an established or approved TMDL? If no, please indicate "No" below and do not complete any other portion of the TMDL ARAP portion of this report.

YES ; NO

2. Has your TMDL ARAP been completed and submitted? If no, please provide a summary as an attachment on the progress toward submitting and implementing the TMDL ARAP.

YES ; NO

3. Has your TMDL ARAP received approval from the Department? If yes, please provided a summary of the status of the ARAP and include implementation status of identified BMPs and measurable goals along with any changes to BMPs or measurable goals (if applicable)..

YES ; NO

4. Does the TMDL ARAP incorporate Integrated Planning? If yes, please provide a summary of the status of the Integrated Plan.

YES ; NO

**PART F – SUBMIT REPORT TO:**

Missouri Department of Natural Resources  
Water Protection Program  
MS4 Program Coordinator  
P.O. Box 176  
Jefferson City, MO 65102-0176

**PART G - CERTIFICATION**

I certify under penalty of law this document and all attachments were prepared under my direction or supervision in accordance with a system designated to ensure qualified personnel properly gather and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OR PERMITTEE (LEGALLY RESPONSIBLE PERSON)



DATE SIGNED

1/12/18

NAME (PRINTED OR TYPED)

Gayle Unruh

TITLE

Environmental and Historic Preservation Manager



# 2017 Annual Report

Missouri Department of Transportation



January 12, 2018

# Stormwater Management Plan

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## INTRODUCTION

The Missouri Department of Transportation (MoDOT) submitted a revised Storm Water Management Plan (SWMP) in October 2017. This annual report outlines the implementation status of each control measure, measurable goals, and a summary of activities that were achieved in the 2017 reporting cycle for each of the measures.

*Public Education and Outreach*

*Public Involvement and Participation*

*Illicit Discharge Detection and Elimination*

*Construction Site Runoff Control*

*Post-Construction Site Runoff Control*

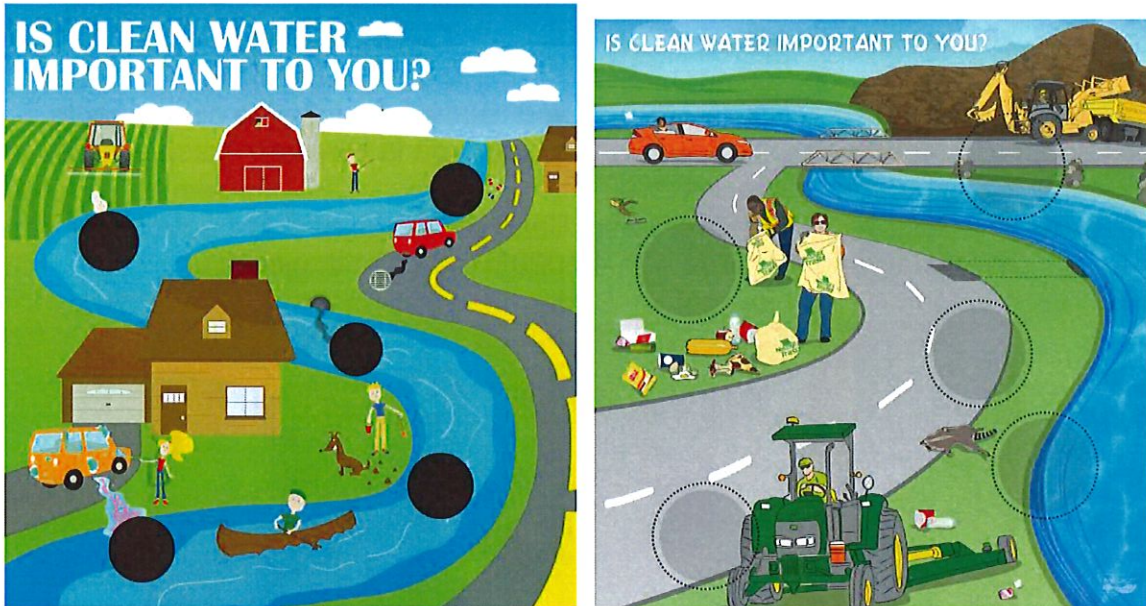
*Pollution Prevention/Good House Keeping*



## *Measure 1: Public Education and Outreach*

**Action:** MoDOT will educate the general public and MoDOT community on storm water issues primarily related to sediment and litter as it relates to the state's highway system through public meetings, public events, website, email and use of media and materials. MoDOT will continue the same level of effort to reach as many persons as in the previous year through all of the above mechanisms, and will use outreach tools to explain storm water quality issues.

A general modification to the bean bag toss was done in 2017 changing the picture on the game to one more focused on MoDOT activities and incorporating diversity into the picture.



**Measurable Goal** - MoDOT will track how many external visitors have used our storm water webpage ([www.modot.org/stormwater](http://www.modot.org/stormwater)) and content on the webpage each year and continually update the page with the best available information on MoDOT's role as a TS4.

- ⇒ The Stormwater webpage had 308 unique visitors during this permit year (2017). <http://www.modot.org/stormwater/>.
- ⇒ From this webpage:
  - The stormwater concern form was viewed 243 unique times.
  - The stormwater brochure was viewed 0 unique times.
  - The stormwater snow removal fact sheet was viewed 0 unique times.
  - The Permit was viewed 0 unique times.
  - The SWMP was viewed 0 unique times.

## Stormwater Management Plan

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**Measurable Goal** – MoDOT will track use of its stormwater email ([stormwater@modot.mo.gov](mailto:stormwater@modot.mo.gov)).

⇒ The stormwater email address received 2 emails during the reporting timeframe. [stormwater@modot.mo.gov](mailto:stormwater@modot.mo.gov).

**Measurable Goal** - MoDOT will track how many visitors have used/submitted the Report a Stormwater Concern form and how many of those were related to permit measures.

⇒ There were 62 forms submitted in the reporting cycle. Of those, 20 were applicable to IDDE measure.

**Measurable Goal** - MoDOT will track how many stormwater brochures are disseminated each year in each district.

⇒ The brochure is on the stormwater webpage and also available at public meetings. Approximately 150 hard copies were distributed in 2017 in NE and NW.

**Measurable Goal** – MoDOT will track and report on education components related to litter prevention through its participation in No More Trash events statewide and other media outlets.

⇒ The April 2017 No More Trash! Bash campaign had 114 education events around the state with 43,000 bags of trash picked up.

⇒ Missouri Natural Resources Conference 2017 booth (photo below).



⇒ Signage is used to communicate with the general public. There are 654 No More Trash signs in place across the state. These are primarily used in roadside parks, rest areas, welcome centers, truck parking areas, commuter lots and areas of targeted issues. There are 80 Littering signs across the state. There are 24 No Dumping signs across the state. There are used for targeted location issues. The signage numbers remain stable from year to year since signs can last 10-15 years.

⇒ Missouri State Fair 2017 and Earth Day. The stormwater bean bag toss was run all 7 days of the fair.

## Stormwater Management Plan

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**Measurable Goal** - MoDOT will continue to participate in events such as Earth Day and the State Fair. MoDOT will track participation in these events.

- ⇒ Earth Day at the State Capitol and the Missouri State Fair were attended in 2017 employing the bean bag toss and litter pledge.

### *Measure 2: Public Involvement and Participation*

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**Action:** Through the above mechanisms, MoDOT will collect and respond to public comments and concerns on water quality issues related to storm water management as it relates to expansion or operation and maintenance of the state's highway system.

**Measurable Goal:** MoDOT will report how many individuals are involved in programs MoDOT offers related to the TS4 permit including events like No More Trash Bash, Trees for Tomorrow, adopt a highway and sponsor a highway programs.

- ⇒ Adopt-A-Highway program. Volunteers pick up litter a minimum of four times a year. There are 5,273 volunteer groups who cover 6,549 miles of roadway.
- ⇒ Sponsor-A-Highway program. Approximately 66 miles of roadway are sponsored.
- ⇒ "Trees for Tomorrow" program. 2014-2019. MoDOT committed to purchasing up to 250,000 seedlings each year, over a five-year period and MDC distributes the trees to youth groups throughout the state. Total seedlings purchased in 2017 amounted to 282,280.
- ⇒ No More Trash Bash. There were 114 educational events and 43,000 bags of trash collected.

**Action:** MoDOT will continue a program to facilitate the public reporting of illicit discharges, including dumping, by providing a venue for the public to submit concerns to MoDOT.

**Measurable Goals:** MoDOT will report yearly how many visitors have submitted the Report a Stormwater Concern form and how many of those were related to permit components on MoDOT right-of-way or facilities.

- ⇒ Report a Stormwater Concern (See Measure 1 for numbers).

**Measurable Goal:** Additionally, MoDOT will report how many reports came from internal personnel or other methods.

- ⇒ Internal reports (See Measure 3 for numbers).

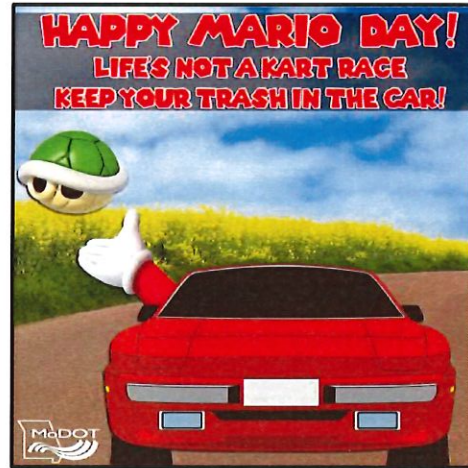
**Action:** MoDOT will continue to promote public awareness campaigns through the website and other media outlets.

## Stormwater Management Plan

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**Measurable Goal:** MoDOT will report annually how many of these types of events were carried out.

- ⇒ Facebook posts on 1/30, 3/10 (see inset), 4/1, 4/13, 4/20, 4/22, 7/13, 7/21, 11/29, and 12/30.
- ⇒ Express Lane publication on 4/13, 4/27, 11/22, and 12/7.
- ⇒ News Releases on 4/10, 4/20, 5/4, and 7/14.
- ⇒ MoDOT Connections on 4/20, and 5/4.
- ⇒ MoDOT NOW on 4/12.
- ⇒ Beanbag Toss on Earth Day and the State Fair.



**Measurable Goal:** MoDOT will report how many times it used media to promote awareness of stormwater issues.

- ⇒ MoDOT used media in at least 23 separate times to promote awareness of stormwater issues.

**Action:** MoDOT will continue to participate in watershed activities and coordination with other MS4 communities when appropriate including the Hinkson Creek Collaborative Adaptive Management (CAM) -Action Team.

**Measurable Goal -** MoDOT will report annually how many times MoDOT collaborated with other MS4s.

- ⇒ MoDOT staff attended three MS4 MDNR-sponsored workshops (Springfield, Lee's Summit and Kirksville).
- ⇒ Hinkson Creek Collaborative Adaptive Management – MoDOT is an on-going participant on the Action Committee. The action committee meets monthly.
- ⇒ General Conferences for Outreach:
  - IECA Great Rivers Chapter 2017 fall conference.
  - Missouri Water Seminar 2017.
- ⇒ MSD SWMP Planning Committee Meeting, March 2, 2017.
- ⇒ MoDOT held a meeting in April regarding the draft SWMP and invited stakeholders to participate. Cities of Kansas City, Springfield, Columbia, Boone County and MSD attended.

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

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**Action:** MoDOT will continue a program to facilitate the public reporting of illicit discharges, including dumping, by providing a venue for the public to submit concerns to MoDOT and then forwarding confirmed instances to the proper authorities. Hazardous material spills will be reported within 24 hours upon discovery and will be made to the Missouri Department of Natural Resources (MDNR) Environmental Emergency Response (EER) – 573-634-2436 – in accordance with MoDOT procedures and Missouri [RSMo 260.500 through 260.555](#).

**Measurable Goal:** MoDOT will report how many illicit discharge reports are received and investigated using information obtained through the website reporting form and by MoDOT staff.

- ⇒ MoDOT investigated a total of 90 instances of reports of illicit discharges, stormwater concerns, drainage issues, and/or illegal dumping; a majority of which were received through the website links (see Measure 1) and another 18 were through contacts with our Hazardous Waste specialists, other internal employees or other reports (MDNR/MSD/etc.).

**Measurable Goal:** MoDOT will report how many spills on right of way were reported to MDNR's EER System, including vehicular accidents. Cleanup is generally directed by MDNR, MoDOT, or Highway Patrol.

- ⇒ Approximately 168 spills were also reported on MoDOT ROW, as reported to MDNR's EER system, including vehicular accidents. Vehicular accidents were included because it is impossible to determine from the EER reports whether the spill reached a waterway. Cleanup is generally directed by MDNR, MoDOT, private entity or Highway Patrol.

**Action:** MoDOT will educate and cross-train maintenance staff to assist with identification of illicit discharges on MoDOT right of way.

**Measurable Goal:** MoDOT will report how many staff was educated on identification of illicit discharges that discharge into the MoDOT drainage system at least once annually through regular training or the refresher training.

- ⇒ A total of 140 employees were trained in the IDDE online training.
- ⇒ A total of 169 employees were trained in the IDDE refresher training.

**Action:** MoDOT will continually inspect, through daily work and routine maintenance, the outfalls on MoDOT's system.

## Stormwater Management Plan

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**Measurable Goal:** MoDOT will report how many bridges/outfalls have been inspected annually.

- ⇒ MoDOT inspected a total of 925 outfalls in 2017. There were 42 outfalls that failed inspection due to smell, color and flow.
- ⇒ 2 outfalls reported to MSD's call line on 8/1/17 and 4/6/17 for sewer odor and flow issues.

### *Measure 4: Construction Site Runoff Control*

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**Action:** Continue training of MoDOT personnel through an annual Consent Decree training and Erosion and Sediment Control Training. MoDOT continues to conduct annual training of its design, construction and maintenance employees and contractors and consultants to ensure implementation of the SWPPP and compliance with the Land Disturbance permit.

- ⇒ MoDOT has training material (2014 Land Disturbance Refresher Course as well as the 2012 Land Disturbance Full Course) posted in three locations for ease of use to employees and contractor/consultants. The 2014 Land Disturbance Full Course is available in these same locations as well.
  - EPG: [806.8 Storm Water Pollution Prevention Plan \(SWPPP\)](#) - In the box on the right, under "Additional Information".
  - Construction and Materials (CM) Intranet, under "Erosion Control".
  - MoDOT Internet:  
[http://www.modot.org/business/contractor\\_resources/LandDisturbanceItems.htm](http://www.modot.org/business/contractor_resources/LandDisturbanceItems.htm) - for MoDOT land disturbance items as a resource for contractors and consultants.

**Measurable Goal:** MoDOT will report how many MoDOT employees and how many non-MoDOT employees have taken the training classes.

- ⇒ MoDOT conducted 25 training sessions in which a total of 1,002 MoDOT employees were trained in construction erosion and sediment control techniques and practices and the stormwater consent decree.
- ⇒ Additionally, 360 individuals from contracting or consulting firms, FHWA and some city and county officials attended MoDOT's training.

**Action:** Perform statewide audits of construction sites to ensure that specifications and SWPPP are being followed. In addition to site inspections conducted weekly and following significant rainfall events, MoDOT continues to conduct quality control audits of each project covered by the Land Disturbance permit. These audits are generally conducted at a minimum once a year per construction site to ensure consistent inspections and implementation of the SWPPP.

## Stormwater Management Plan

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**Measurable Goal:** Evaluate erosion control elements of 90% of all land disturbance sites that involve 1 acre or more of land disturbance and report how many were done annually.

⇒ MoDOT conducted 82 audits on 88 construction sites that were subject to Land Disturbance permit requirements (statewide).

**Action:** Continue Contractor Performance Rating System for project to measure or recognize contractors' outstanding performance as well as those being disciplined for less than satisfactory performance. Disciplinary action results from unacceptable rating in the categories of quality, prosecution & progress, contract compliance, and overall. The contractor performance questionnaire (see attached) includes a section of six questions related to Section 800, Roadside Development to rate the contractor on items such as seeding, erosion inspection reports, correction of deficiencies within the 7-day requirement, etc. For more information refer to [EPG 102.2](#)

**Measurable Goal:** Utilize the existing performance rating system to notify contractors when erosion control elements of the project are less than desirable as determined by elements of the SWPPP yearly per project. A numeric goal is not desirable for this action due to the sensitive nature of the process of evaluating contractors. From [EPG 102.2.1](#)-The reporting period for the annual performance project evaluation is the calendar year, January 1 through December 31 with the report for each active project due on February 1 of the following year. Final reports on projects completed during the calendar year are due 30 days after project acceptance. From [EPG 102.2.7](#)-The resident engineer must discuss performance with the contractor. If performance deficiencies exist, the contractor needs the time during the remainder of the season to provide the opportunity to improve their ratings for the year. The department does not want a contractor disciplined at the end of a construction season without assurances efforts were made to timely communicate any poor performance. It is not MoDOT's intent or desire to disqualify contractors but we must insist on quality construction and timely completion of projects.

**Action:** MoDOT will continue to advance personnel knowledge of state of the art practices and policies by attending events and conferences.

**Measurable Goal:** At least one annually.

⇒ Three MoDOT personnel attended the IECA Great River Chapter Conference in Kansas City in October 2017.

### ***Measure 5: Post-Construction Site Runoff Control***

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## Stormwater Management Plan

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**Action:** Create a Stormwater Team to assist in development of policy regarding post-construction bmps and other MCMs. MoDOT's stormwater team is made up of construction, maintenance, design, and environmental personnel to assist in development of policies.

**Measurable Goal:** Report policy changes or additions in the reporting cycle.

⇒ The public involvement portion required in the permit was added to the EPG.

**Action:** Train MoDOT personnel to consider post-construction BMPs where required by policy definitions of new development and redevelopment in the STIP process. Proceed through the process of tracking and officially inspecting permanent BMPs on an every other year basis. They are inspected regularly during routine maintenance activities.

**Measurable Goal:** Report how many projects were evaluated in the reporting cycle. An particular project may have multiple RES's that have the same response.

⇒ In 2017, staff reviewed 1,008 individual RES's.

- 396 of those were in regulated TS4 areas.
  - 0 of those were potentially new development
  - 114 of those were potentially redevelopment
  - 276 of those were maintenance
  - 6 of those needed more information for a decision

**Measurable Goal:** The number of post-construction bmps constructed during the reporting cycle.

⇒ In 2017 MoDOT constructed 6 BMPs within the TS4 area.

- Bioretention under job no. 5S3092 (Boone County, Old 63 and Stadium Blvd) that the City of Columbia will maintain and inspect.
- Grassy swales under job no. 1P3035 (Buchanan County) that will not be inspected.
- Basin under job no. 6S3100 (St. Charles County at Hawks Ridge Trail and Route N).
- Focal Point system under job no. 5P0820D (Cole County, Route 50 at Lafayette Interchange).
- Large flat, bottomed ditches under job no. 4P2233 (Jackson County, Blackwell Road) that will not be inspected.

**Measurable Goal:** How many BMPs are inspected during the reporting cycle and if any fail inspection.

⇒ All were inspected in 2016 and the typical routine is once per permit cycle or at the most, every other year.

⇒ 6 BMPs in St. Louis were re-worked after 2016 inspections.



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**Measureable Goal:** Train design staff at least every other year and report how many were trained in the reporting cycle.

⇒ Staff were trained in 2016 and will be trained again in 2018.

**Action:** MoDOT's system crosses other regulated MS4s. Coordination and partnering with other MS4 communities provides opportunities to work together to facilitate compliance with like goals.

**Measureable Goal:** MoDOT will report what types and how many coordination events are occurring.

⇒ MoDOT has been in contact with the following MS4s during this reporting cycle:

- City of Kansas City – Good Housekeeping Inspections by city staff.
- City of Columbia – Hinkson CAM meetings.
- City of Springfield – Good Housekeeping tour and runoff issues.
- Metropolitan St. Louis Sewer District – outfall IDDE reporting and SWMP drafts.
- City of Arnold – desire to share outfall information.

### *Measure 6: Pollution Prevention/Good House Keeping*

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**Action:** Continue to educate maintenance staff and MoDOT general staff on SPCC and NEPA. Evaluate the effectiveness of housekeeping activities and identify those processes and/or procedures that are impacting waters of the state using semi-annual inspections of all MoDOT facilities to assess compliance.

**Measurable Goal:** SPCC, IDDE, MCM6, and various other trainings at least every other year.

- ⇒ Winter Operations Training – November 2, 2017. This training focuses on a refresher for personnel who operate snow plows and other winter equipment. Any new policies or guidance on salt, sand or brine applications are reviewed.
- ⇒ SPCC Training
  - A total of 474 maintenance and 20 non-maintenance employees were trained in SPCC Spill Drill.
  - A total of 697 maintenance and 19 non-maintenance employees were trained in Spill Drill refresher training.
- ⇒ IDDE Training
  - A total of 74 maintenance and 66 non-maintenance employees were trained in the IDDE online training.
  - A total of 94 maintenance and 75 non-maintenance employees were trained in the IDDE refresher training.
- ⇒ Good Housekeeping Training

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- A total of 3 maintenance and 2 non-maintenance employees were trained in the Good Housekeeping training.
- ⇒ FRCP inspections
- All facilities (Table 1) that have FRCPs were inspected in 2017.

**Action:** Continue dialogue with the Environmental Steering Committee (ESC) to evaluate the effectiveness of housekeeping processes and procedures. Formed in 2007, the ESC continues to meet quarterly. The ESC discusses storm water issues as they come up for the department. The ESC has additionally provided guidance on issues concerning compliance with the consent decree with EPA and DOJ action regarding NOV's, and wastewater facility permits and compliance. Ongoing inspections of maintenance facilities found that not only storm water control has improved but all aspects of environmental compliance over the last several inspection cycles. Under direction of the ESC, MoDOT will continue to evaluate existing maintenance operation policies that have potential to impact water quality. Many of the implemented and proposed changes in MoDOT's winter operations have had, or may have, a positive impact on water quality:

**Measurable Goal:** Document how many times and what topics regarding the TS4 are discussed at the quarterly ESC meetings.

- ⇒ There were two meetings in 2017 of the ESC. Various topics were discussed concerning this MCM including updating our Being Green website (<http://modot.mo.gov/beinggreen/>) and discussing erosion and sediment control items under our Consent Decree.



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**Action:** MoDOT uses chemicals and abrasives during winter operations to facilitate the safe travel of motorists using state roads. Depending on the type of event, MoDOT uses its Winter Operations Manual to dictate methods of snow and ice removal.

**Measurable Goal:** Report materials used for winter operations.

- ⇒ Beet Juice usage: In October 2016 to March 2017 MoDOT used 505,746 gallons of Beet Juice.
- ⇒ Salt Usage (statewide totals October 2016 to March 2017):
  - Calcium chloride, dry flake and pellet – 497,867 lbs and 164,081 lbs, respectively
  - Liquid calcium chloride – 82,089 gallons
  - Salt brine – 2,908,066 gallon
  - Salt, sodium chloride – 95,715 tons
- ⇒ Other types of materials include aggregate chips, aggregate sand, etc. October 2016 to March 2017.
  - Aggregate sand – 26,892 tons
  - Aggregate clean cinders – 6,089 tons
  - Aggregate limestone chips – 9,813 tons
  - Aggregate snow & ice abrasives – 14,617 tons

**Action:** Develop and test new housekeeping processes and procedures to add to current available resources and techniques including ways to minimize or prevent the spread of exotic/invasive plants, or pollutants.

**Measurable Goal:** Report any new processes' or procedures that are adopted.

- ⇒ *WeedSeeker* spot spray system was purchased in Central District for trial to efficiently control weeds. The system senses a weed by targeting the chlorophyll in the plant and delivers a precise amount of chemical – spraying only the weed and not bare ground. Some of the benefits of the system are reduced herbicide costs, reduced herbicide resistance potential, reduced drift, and reduced chemical load on the environment.

**Action:** Bridge cleaning and flushing are used to remove de-icing chemicals from the bridge deck, drains, expansion device drains, piers, abutments, and lower truss chords; thereby prolonging the life of the structure. Bridge cleaning activities use dry methods and equipment (scraping, sweeping, and vacuuming), to prevent debris, sediment, and other substances from entering waters of the State. Bridge flushing and cleaning shall adhere to the process and procedures outlined in the [EPG 771.2](#) and the beneficial use requirements outlined in [EPG 127.25.1.4](#).

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**Measurable Goal:** MoDOT will ensure the appropriate BMPs are being implemented prior to and during such activities and report approximately how many bridges are flushed/cleaned in a reporting cycle.

⇒ 8,146 bridges flushed/cleaned in 2017.

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FID	NAME	DISTRICT	COUNTY_NAM	TYPE	TEXT_DIREC	Adjacent MS4 Operator	Name of Receiving Water Body
1	ST. JOSEPH COMMUTER LOT	1	BUCHANAN	Commuter Lot	IS 29 AND US 169 (S)	St Joseph	Trib. Candy Creek
2	ST JOSEPH	1	BUCHANAN	Shed	1/4 mile East of I-29 at the South US 169 exit	St Joseph	Trib. Candy Creek
3	ST. JOSEPH DISTRICT OFFICE	1	BUCHANAN	Complex	3602 N. Belt hwy	St Joseph	Trib. Missouri River
4	HANNIBAL COMPLEX	2	MARION	Complex	US 61 S, 1 Mile south of Rt MM 1.2 miles	Hannibal	Trib. Bear Creek
5	LEES SUMMIT DISTRICT COMPLEX	3	JACKSON	Complex	Exit 10A from IS-470 S turn right, turn right on first road right 1 mile up Independence Ave, Shed on right	Lee's Summit	Trib. Unity Lake #2 Kansas City sewer system to treatment facility
6	18TH AND INDIANA	3	JACKSON	Shed	18TH AND INDIANA (Motorist Assist)	Kansas City UA	
7	BELTON	3	CASS	Shed	West Outer road South of US 71 and south of MO 58 interchange	Kansas City UA	East Creek
8	INDEPENDENCE	3	JACKSON	Shed	West Outer Rd of MO 291 1/2 mile N of US 24	Kansas City UA	Trib. Mill Creek
9	LEES SUMMIT STROTHER RD	3	JACKSON	Shed	West of 291 and south of Strother Rd	Lee's Summit	Trib. Lakewood Lakes
10	MARSHALL	3	SALINE	Shed	.25 miles West of Hwy 65 on Hwy 20	Marshall	Trib. North Fork Finney Creek Kansas City sewer system to treatment facility
11	MULBERRY	3	JACKSON	Shed	650 Mulberry St, Kansas City take Riverside exit to 69 go left to Rt AA then left, building on westside of road	Kansas City UA	
12	NORTHMOOR	3	PLATTE	Shed	2200 South Limit, off 65 South by Mo State Fairgrounds	Kansas City UA	Line Creek
13	SEDALIA	3	PETTIS	Shed		Sedalia	Trib. Flat Creek
14	SKILES	3	CLAY	Shed		Kansas City UA	Trib. Missouri River
15	STADIUM JEFFERSON CITY DISTRICT COMPLEX	3	JACKSON	Shed	SE outer rd of I-70 and Blue Ridge Cutoff Behind Holiday Inn	Kansas City UA	Little Blue River
16	COMPLEX	4	COLE	Complex	DISTRICT 5 COMPLEX	Jefferson City	Wears Creek
17	COLUMBIA	4	BOONE	Shed	Paris Rd - Rt B North of US 63 1/4 miles north, on the northside of the road	Columbia	Trib. Hinkson Creek
18	FULTON	4	CALLAWAY	Shed	.2 off US 54, Rt F exit Over overhead to 1st st on left, 1st on drive rt	Fulton	Trib. Slinson Creek
19	JEFFERSON CITY	4	COLE	Shed	Off Big Horn and 50 West next to CDL site	Jefferson City	Trib. Binder Lake
20	LEBANON	4	LACLEDE	Shed	Off 127 exit. From LP44(Elm St) across from Case knife Outlet	Lebanon	Trib. Goodwin Hollow
21	BALLAS	5	ST. LOUIS	Shed	Northeast corner of I-64/40 & Ballas road (Call Ahead)	Town & Country-MSD	Trib. Deer Creek
22	BELLEFONTAINE	5	ST. LOUIS	Shed	1/2 mile S of 270 off 367. Turn off S367 to R go up hill by CDL site	St. Louis UA	Trib. Maline Creek
23	BROADWAY	5	ST. LOUIS CITY	Shed	from 55 take Park Ave or 7th street exit turn east on Park lake it to Broadway go north 2 blocks	St. Louis UA	
24	CEDAR HILL	5	JEFFERSON	Shed	Off of MO 30 on Local Hillsboro Road	St. Louis UA	Trib. Big River
25	EUREKA	5	ST. LOUIS	Shed	On North Outer Rd, take 109 from I-44, turn left 1 mile down on right	Eureka	Flat Creek
26	FESTUS	5	JEFFERSON	Shed	1000 Airport Rd. Take U.S. 61 approximately 0.5 miles south of U.S 67 to Airport Rd.	St. Louis UA	Plattin Creek
27	HAMPTON	5	ST. LOUIS CITY	Shed	HAMPTON	St. Louis UA	River Des Peres
28	LEMAY	5	ST. LOUIS	Shed	Near I-55 & Bayless. From I-55 go W on Bayless to Union, left on Union cross I-55 go left on Hoffmeister until you reach shed	St. Louis UA	Gravois Creek
29	NORMANDY	5	ST. LOUIS	Shed		Normandy-MSD	Marlene Creek
30	BARRETT STATION SPECIAL-MOTORIST ASSIST-	5	ST. LOUIS	Shed	BARRETT STATION	St. Louis UA	
31	CHESTERFIELD	5	ST LOUIS	Shed	CHESTERFIELD	Town & Country-MSD	Trib. Creve Coeur Creek
32	ST CHARLES	5	ST. CHARLES	Shed	Old 94 and Mueggge Rd. Hwy 94 to Pralle, left on old 94	St. Louis UA	Dry Creek
33	SUNSET HILLS	5	ST. LOUIS	Shed	on Rt 30 between 270 and 141 on Rahning Rd, 1/4 on left	Sunset Hills-MSD	Trib. Meramec River
34	WENTZVILLE	5	ST. CHARLES	Shed	0.75 miles North of Rt. A	St. Louis UA	Trib. Dry Branch Creek
35	BARNHART	5	JEFFERSON	Shed	Barnhart	St. Louis UA	Glaize Creek
36	SPRINGFIELD COMPLEX	6	GREENE	Complex	Fairview west side of road	Springfield	Trib. South Dry Sac River
37	BOLIVAR	6	POLK	Shed	Rt 32, 1/2 mile East of Rt 13	Bolivar	Branch Creek
38	CARTHAGE	6	JASPER	Shed	Corner of 171 & 96 one mile West of town	Carthage	Trib. Spring River
39	JOPLIN	6	JASPER	Shed	.8 mile East of Bus 71 off Rt FF	Joplin	Trib. Silver Creek
40	NEOSHO	6	NEWTON	Shed	From Jct 60 & 59 Go N on Bus 60 1 mile on left next to Meeks	Neosho	Trib. Hickory Creek
41	OZARK	6	CHRISTIAN	Shed	Rt F exit off 65, East to 2nd stoplight, right 300 yards	Springfield	Trib. Elk Valley
42	STRAFFORD INMATE LOT	6	GREENE	Shed	Strafford	Springfield	Pearson Creek
43	KENNETT	7	DUNKLIN	Shed	412 West to Rt O, right on O, 1 mile on right (white fence)	Kennett	Ragland Slough Trib. Black River and Trib. Pike Creek
44	POPLAR BLUFF	7	BUTLER	Shed	Outer road of US 60 @ North end of Poplar Bluff	Poplar Bluff	
45	SIKESTON	7	SCOTT	Shed	I-55 S to exit 67, left, East on E Malone 1.5 miles, N side Edwards	Sikeston	Trib. St. Johns Ditch

Table 1: MoDOT facilities within the TS4 coverage area that have operations activities and are required to have a FRCP.

