Storm Water Management Plan

Missouri Department of Transportation

Permit covers: 2021-2026

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Contents

Introduction

The Missouri Department of Transportation (MoDOT) developed its first Storm Water Management Plan (SWMP) in July 2006.

The SWMP summarizes MoDOT's intentions to reduce the amount of pollution in storm water runoff from MoDOT's road system by addressing the six categories of concern listed in the TS4 General permit. These categories are as follows:

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

As circumstances change, new solutions may be necessary to better control pollution in storm water that flows onto or away from MoDOT's road system. This plan is a continuation in which new and innovative ideas and solutions can be developed in the years to come to protect the water quality of the state's waterways.

MoDOT's TS4 coverage area is a combination of Urbanized Areas, and regulated MS4s not located in Urbanized areas, (Exhibit 1).

Included in this stormwater management plan are actions with measurable goals and iterative process for evaluation of each action and measurable goal, helping MoDOT track and achieve the goals of the SWMP.

Throughout the SWMP are references to MoDOT's policies and procedures with links to those sites. An appendix is available to the SWMP with those documents upon request.

MoDOT Information

Name of Responsible Public Entity:	Missouri Department of Transportation
Name of Person Responsible for the SWMP:	Brian Williams
TS4 coverage area:	In regulated MS4 areas not located in Urbanized Areas as defined by MDNR and Urbanized Areas.

MoDOT is identified as the continuing authority within MoDOT right of way and properties owned by the Missouri Highways and Transportation Department.

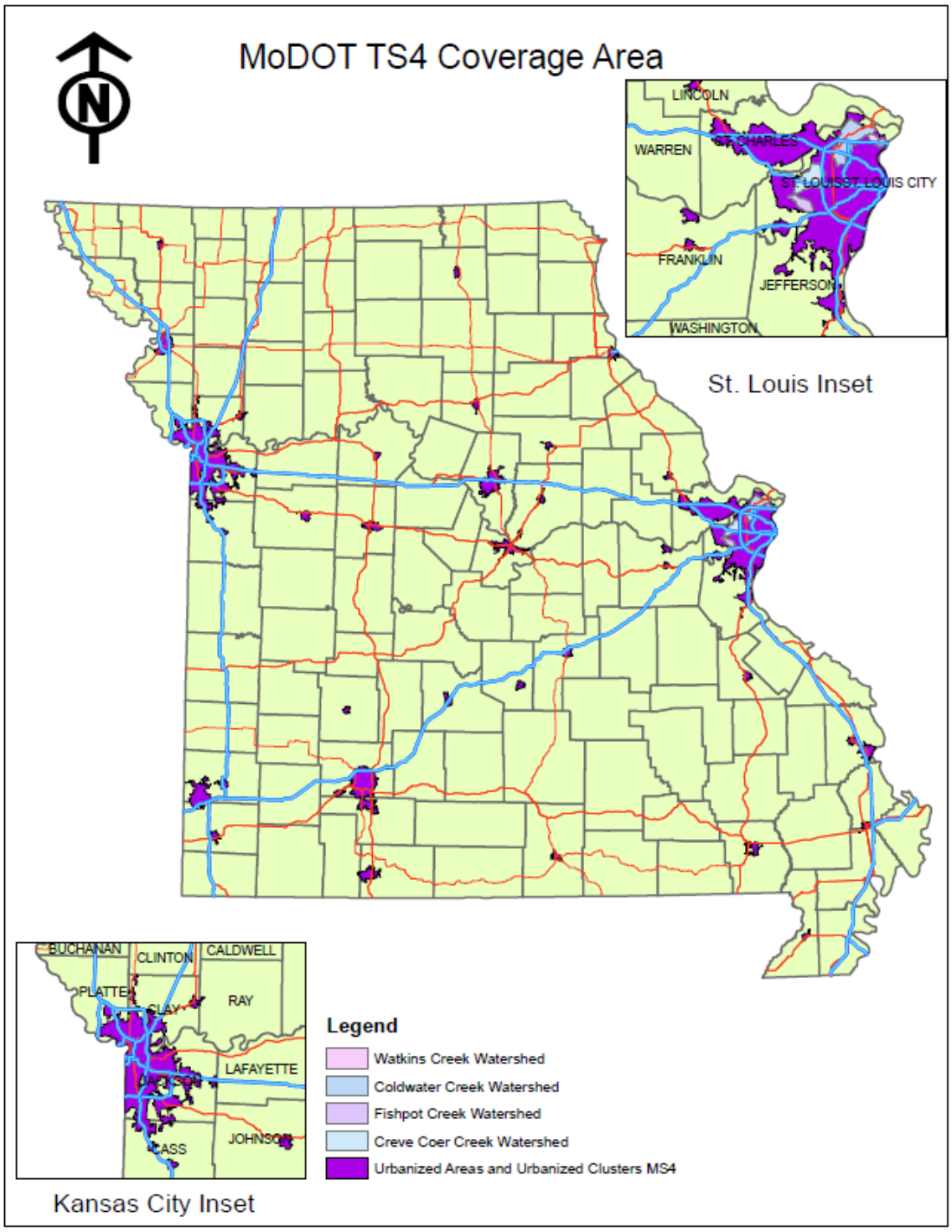


Exhibit 1: Map showing state of Missouri, TS4 area, and major highways.

TOTAL MAXIMUM DAILY LOAD (TMDL) ASSUMPTIONS AND REQUIREMENT ATTAINMENT PLAN (ARAP)

Waters identified as impaired, through an EPA approved TMDL assign a waste load allocation to identified permit holders within the watershed if their operations have the potential to significantly increase the identified pollutant through storm water discharges from their facilities.

MoDOT is currently named in four TMDLs with an applicable waste load allocation:

Coldwater Creek	Fishpot Creek
Creve Coeur	Watkins Creek

Because MoDOT is named in these TMDLs, an ARAP is required to outline best management practices implemented to ensure attainment of the applicable waste load allocations assigned in the TMDL. MoDOT submitted a "No Additional Controls" ARAP (Appendix T) to DNR on January 17, 2017. DNR approve the ARAP on March 9, 2017.

Evaluation of the approved ARAP will be conducted on an annual basis, as obligated by the permit. and documented in the annual report submitted to DNR.

Public Education and Outreach

The purpose of this minimum control measure is to educate the target audience on the importance of eliminating pollutants within our environment that effect water quality. Education is the first step in facilitating cultural change in pollution prevention and overall environmental stewardship. MoDOT uses several different media outlets to promote strategies, called best management practices (BMPs). MoDOT focuses communication efforts toward the target audiences that can affect change by implementation of BMPs within their work environment as well as their personal lives. The internal audience targeted is comprised of those involved with the development and implementation of the BMPs, as well as those who are engaged in the day-to-day operations in the field where BMPs outlined in this SWMP are tested and evaluated on a daily basis. The external audience targeted represents those who do not engage in SWMP implementation but can contribute to pollution prevention and improved water quality through shared information regarding MoDOT facilities as well as self-awareness of personal conduct to promote clean water.

MoDOT's Public Education and Outreach (PEO) strategy is intended to educate, train, and promote public involvement in operations where water quality may be affected. The PEO strategy is accomplished through engagement with the target audience through media outlets identified in the PEO BMP and supported by the PEO measurable goals.

The evaluation of each Measurable Goal (MG) will be documented in a table format for each goal. The tables will follow the same general format shown below:

Measurable Goal:	**Purpose Statement**	**Annual Performance**
Intended Outcome		
Progress		

The systematic evaluation of each measurable goal annually will allow effective assessment of the measurable goal's progress toward meeting the intended outcome.

PEO BMP1:
MoDOT will educate the target audience on storm water issues primarily related to sediment and litter as it relates to the state's highway system through training, public meetings, public events, website, email and use of media and materials. MoDOT will evaluate the effectiveness of the BMP through systematic evaluation of each measurable goal annually.

<table>
<tr><td>Measurable Goal 1a</td><td colspan="2">MoDOT will track how many visitors have used our storm water webpage (www.modot.org/stormwater) (Appendix A) and content on the webpage each year and continually update the page with the best available information on MoDOT's role as a TS4</td></tr>
<tr><td>Purpose Statement</td><td colspan="2">The world wide web allows for reaching an untold number of audiences by providing a 24-7, 365 days a year platform to educate and receive feedback from the public on stormwater issues.</td></tr>
<tr><td>Intended Outcome</td><td>The intended outcome is to draw visitors to the site for educational purposes as well as provide an avenue for the public to identify stormwater issues they observe in their areas. Assessments will be evaluated on an annual basis with an intended positive trend through the permit cycle. Trends will be used to evaluate the usefulness of material included on the site.</td><td>Annual Performance</td></tr>
<tr><td colspan="2">• Visitors to MoDOT's Stormwater web page
• Stormwater Brochure viewings
• TS4 Permit viewings
• The SMP viewings
• The snow removal fact sheet</td><td></td></tr>
<tr><td>Progress</td><td colspan="2">Satisfied: Yes:☐ No:☐</td></tr>
<tr><td>Explanation</td><td colspan="2"></td></tr>
</table>

Measurable Goal 1b	MoDOT will track how many stormwater brochures (Appendix C) are disseminated each year statewide.	
Purpose Statement	Stormwater brochures provide a tangible item the target audience can read and review at their own leisure. The brochure allows for MoDOT to pack a lot of information into a small area.	
Intended Outcome	The intended outcome is to disseminate as many stormwater brochures as possible statewide. This measure will be evaluated on an annual basis with an intended target to disseminate a minimum of 400 stormwater brochures each year.	**Annual Performance**
• How many brochures were distributed?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 1c	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.	
Purpose Statement	Promotion and educational efforts of the No MOre Trash campaign assist with clean-up, education, and prevention programs in Missouri. This is a multi-agency effort to protect not only clean water but wildlife and forestry resources in the state.	
Intended Outcome	The intended outcome is to get as many people included in the No MOre Trash events as well as continued efforts at the Natural Resource Conference. This measure will be evaluated annually with a target of a minimum of 100 educational events and 10,000 bags of trash collected.	**Annual Performance**
• How many No MOre Trash Bash campaign educational events were conducted and how many bags of trash were picked up. • Natural Resource Conference Booth		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 1d	MoDOT will participate in education and outreach events to promote water quality and environmental compliance. MoDOT will track participation in these events.	
Purpose Statement	Participation in educational events like guest speaking at Mizzou, Earth Day and the State Fair provide a great platform for sharing how the target audience can assist with efforts to improve water quality through their daily actions.	
Intended Outcome	The intended outcome is to staff these events each year. This measurable goal will be evaluated annually for participation in these events.	**Annual Performance**
• What events were attended and how many days?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PEO BMP 2:
MoDOT will continue to promote public awareness campaigns through the website, social media, and other media outlets.

Measurable Goal 2a	MoDOT will report annually the number of media campaigns used to promote public awareness of permit elements.	
Purpose Statement	The purpose of tracking this measurable goal is to document MoDOT's efforts to inform and educate the target audience of the permit elements and how they can assist with efforts to reach the intended goal.	
Intended Outcome	The intended outcome is to utilize available media outlets at least once a year to promote media campaigns.	**Annual Performance**
Media outlets used to promote campaigns: • News Releases • Social Media posts • Internal Publications		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PUBLIC INVOLVEMENT AND PARTICIPATION

The intent of this minimum control measure is to engage the target audience to provide opportunities for community involvement and oversight of permit elements. MoDOT embraces the public involvement concept. Public involvement and participation (PIP) is a key element of the project development process for transportation projects. Engaging the target audience's involvement and participation promotes buy-in of critical concepts that support the end goal.

MoDOT uses various tools and techniques to engage public involvement and participation. These tools and techniques are implemented on statewide and local jurisdictional levels through the department's community relations office located at the Central Office in Jefferson City as well as the department's seven district offices at the local level. MoDOT's policy regarding public involvement and stormwater can be found in the EPG Section 129 (Appendix D).

MoDOT developed a stakeholder notification tool in 2021 to assist with notifications to interested stakeholders regarding public comment opportunities and educational notices for MoDOT's stormwater program. The tool allows users to sign up to receive email notifications about opportunities to interact with MoDOT and allow users to respond back to MoDOT.

PIP BMP 1:
MoDOT will promote public involvement by posting TS4 Stormwater Management Plan (SWMP) changes and permit renewal applications on the Stormwater public web page for a minimum 10-day comment period.

<table>
<tr><td>Measurable Goal 1a</td><td colspan="2">MoDOT will engage the target audience for input regarding changes to the permit SWMP and permit applications.</td></tr>
<tr><td>Purpose Statement</td><td colspan="2">Public involvement in decision making assists the department with understanding existing issues facing the target audience and allows for consideration of those concerns in development of policies and procedures that will affect the end goal.</td></tr>
<tr><td>Intended Outcome</td><td>MoDOT will post changes to the SWMP and any permit applications to the stormwater web page a minimum of 10 days prior to submittal. MoDOT will track each occurrence. This measurable goal will be evaluated on an annual basis with an intended goal to post at least one SWMP change and 4 annual report postings per permit cycle.</td><td>Annual Performance</td></tr>
<tr><td colspan="2">Changes to the SWMP posting.
Annual Report postings</td><td></td></tr>
<tr><td>Progress</td><td colspan="2">Satisfied: Yes:☐ No:☐</td></tr>
</table>

PIP BMP2:
MoDOT will respond to public comments, questions 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 sent to the dedicated email address stormwater@modot.mo.gov.

Measurable Goal 1b	MoDOT will track use of its stormwater email (stormwater@modot.mo.gov).	
Purpose Statement	Email provides a consistently available, portable, cost effective way to communicate with the public. Providing a dedicated email address for stormwater issues provides a dedicated repository for correspondence.	
Intended Outcome	The intended outcome is to communicate any questions or concerns regarding stormwater. Evaluation of this measurable goal will be conducted on a yearly basis with a target of 100 percent response rate to concerns or questions.	**Annual Performance**
• What percent of emails received were responded to through the stormwater@modot.mo.gov address?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PIP BMP 3:
MoDOT will continue a program to facilitate the reporting of SPCC spills, stormwater concerns, and illicit discharges, including dumping, by providing a venue for the public and the MoDOT community to submit concerns to MoDOT.

Measurable Goal 3a	MoDOT will report 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.	
Purpose Statement	Involvement of the public in reporting stormwater related concerns promotes public awareness and engagement in protecting and promoting clean water.	
Intended Outcome	The intended outcome is to encourage as many reports be submitted as possible. This approach allows for improved reporting potential even with the reduced department staff. Assessments will be evaluated on an annual basis with an intended positive trend through the permit cycle.	**Annual Performance**
• How many Report a Stormwater Concern forms were received? • How many submitted reports were related to permit components?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 3b	MoDOT will report how many spill prevention control and countermeasure reports (SPCC) (Appendix E) came from internal personnel or other methods.	
Purpose Statement	The purpose of tracking this measurable goal is to document how well the MoDOT community understands its role related to achieving the intended goal.	
Intended Outcome	The intended outcome is to document reportable SPCC spills, and illicit discharges identified by the MoDOT community. Assessments will be evaluated on an annual basis with an intended outcome of 100% of reportable spills identified at MoDOT facilities.	**Annual Performance**
• How many internal spill prevention control, and countermeasure reports came from internal personnel or other methods were received?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PIP BMP 4:
MoDOT will continue to coordinate with other MS4 communities when appropriate including the Hinkson Creek Collaborative Adaptive Management (CAM) -Action Team, St. Louis MSD, etc.

Measurable Goal 4a	MoDOT will report annually how many times MoDOT collaborated with other MS4s.	
Purpose Statement	Collaboration with other MS4 entities encourages coordination and cooperation between adjacent communities with like goals.	
Intended Outcome	The intended outcome is to continue to collaborate with other MS4 communities. Evaluation of this goal will be conducted on an annual basis with and intended goal of at least 4 contacts per year	**Annual Performance**
Collaboration instances: • CAM MS4 • St Louis MSD • Project Specific Coordination (Through RES Process)		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

The intent of this minimum control measure is to develop a program to identify and remove illicit discharges that occur statewide on MoDOT's system. Within this program, detection and elimination requires an element of training to educate MoDOT employees on proper

management and disposal of toxic materials or illicit discharges discovered on the right of way. The training is conducted annually for maintenance employees either as full training or refresher training.

Outfalls

As a minimum requirement of the permit, MoDOT maintains a stormwater outfall database, with mapping capabilities, to document all outfalls locations of all receiving waters that receive discharges from the TS4 area. These mapped locations vary from drainage ditches, to bridge or culvert outfalls, as well as bridge drains that allow runoff directly into the receiving water body.

MoDOT's database utilizes GIS data to provide a UTM point where outfalls intersect a Water of the State. Waters of the State are determined to be those streams within the state or forming a boundary of the state which are not entirely confined and located completely upon lands controlled by one or more persons. Where bridges cross Waters of the State and have more than one bridge drain constructed in the deck surface, one location in the center of the bridge is taken to account for the many. If other outfalls are located at the bridge in the form of ditches, those are taken as separate outfalls. UTM locations as well as a map with outfalls and receiving waters can be provided upon request.

MoDOT outfalls are inspected as part of normal activities and routine bridge inspections. Location and inspection information is maintained in MoDOT's Transportation Management System (TMS) database.

Website

MoDOT developed and launched an illicit discharge web page in February of 2021. The webpage is an education and resource component for MoDOT's MCM 3, Illicit Discharge Detection and Elimination program. It outlines the definition of an illicit discharge, it provides a link to the "Report a Stormwater Concern Form," it contains an interactive map of MoDOT's outfalls, as well as a link to MoDOT's illicit discharge pamphlet and county health department contacts by district. The web page can be found at www.modot.org/illicit-discharge-detection-and-elimination.

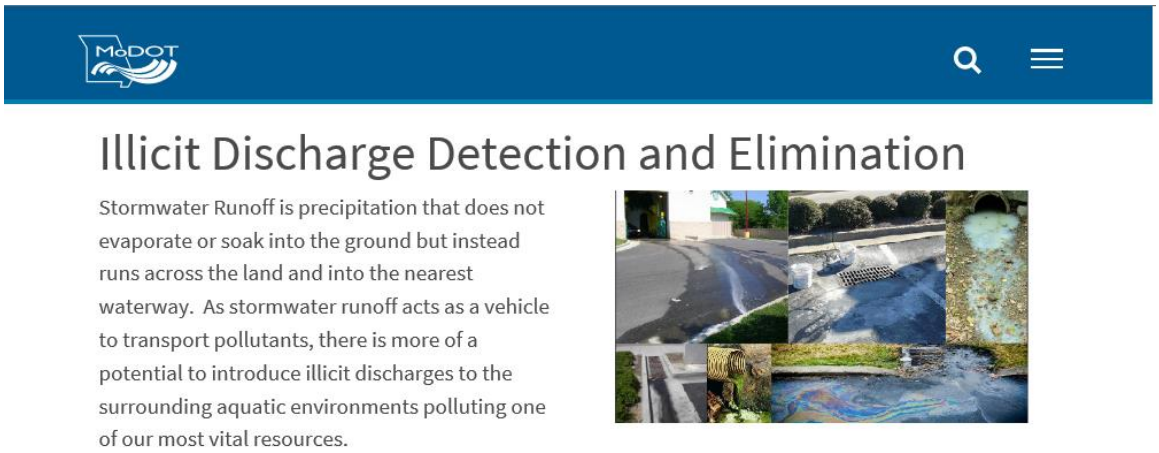


Figure 2: MoDOT's Illicit Discharge Detection and Elimination web page.

Discovery of IDDE's

MoDOT currently has a process in place to detect and eliminate illicit discharges but does not possess the legal authority under state law to prevent illicit discharges and improper disposal of waste or wastewater. Case law has, in fact, established precedent in this area. Therefore, as part of that process, an unpermitted discharge is referred to the appropriate regulatory authority for follow-up. MoDOT will perform a preliminary investigation of any illicit discharges, to the extent allowed by MoDOT's authority, prior to notifying the existing regulatory authority.

MoDOT's policy, under the Engineering Policy Guide (EPG) 127.25.8.3, (Appendix F) outlines how discoveries of illegal effluents will be handled. MoDOT will contact the local departments of health when the presence of wastewater is present or the Missouri Department of Natural Resources for all other discharges.

Public reporting of the presence of illicit discharges or water quality impacts associated with storm water discharges is possible by contacting any of MoDOT's seven Customer Service Centers, Central Office, or MoDOT's website including the Report a Stormwater Concern form.

Trash as an IDDE

MoDOT has an Adopt-A-Highway program, where volunteer groups periodically pick up the trash and debris along the sides of state highways. See MCM 1, MoDOT Community and Public Education and Outreach on Stormwater Impacts, for details.

Other Occasional, Non-Stormwater Discharges

Bridge washing, cleaning and flushing is a relatively common non-stormwater discharge that occurs when necessary as a maintenance activity. Preventative maintenance extends the life of a bridge by retarding the rate of deterioration of bridge components.

All state and federal requirements are met when accomplishing this task (EPG: 771.2 Bridge Cleaning and Flushing) (Appendix G).

Figure 2: Street sweeping and bridge washing.

IDDE BMP1:

MoDOT will provide a venue to allow the public to report illicit discharges, including dumping, through an online reporting form that will submit concerns to MoDOT. Confirmed instances of illicit discharges will be reported 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 1a	MoDOT will report how many stormwater concern forms are received identifying potential illicit discharges through the website reporting form.	
Purpose Statement	Tracking the number of stormwater concern forms identifying potential illicit discharges by the public, allows the department to cover a larger area of the state with reduced resources. This promotes maximum efficiency as well as substantiates the public education and outreach efforts in MCM No. 1.	
Intended Outcome	To be informed of as many potential illicit discharge instances as possible to facilitate their elimination. Assessments will be evaluated on an annual basis with an intended positive trend through the permit cycle.	**Annual Performance**
Number of stormwater concern forms received from the public?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 1b	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.	
Purpose Statement	Promotion and educational efforts of the No MOre Trash campaign assist with clean-up, education and prevention programs in Missouri. This is a multi-agency effort to protect not only clean water but wildlife and forestry resources in the state.	
Intended Outcome	The intended outcome is to get as many people included in the No MOre Trash events as well as continued efforts at the Natural Resource Conference. This measure will be evaluated annually with a target of a minimum of 100 educational events and 10,000 bags of trash collected.	**Annual Performance**
• How many No MOre Trash Bash campaign educational events were conducted and how many bags of trash were picked up.		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

IDDE BMP 2:
MoDOT will educate and cross-train maintenance staff to assist with identification of illicit discharges on MoDOT right of way.

Measurable Goal 2a	MoDOT will report the number staff educated on identification of illicit discharges and spill reporting that discharge into the MoDOT drainage system at least once every other year for illicit discharge and every year for SPCC through regular training or the refresher training.	
Purpose Statement	Training is a key element to identify illicit discharges to insure adequate measures are taken to protect public health and safety.	
Intended Outcome	The intended outcome is to educate 100% of the field staff every other year on illicit discharge and annually for SPCC spill reporting. This measure will be evaluated on an annual basis.	**Annual Performance**
• What percent of MoDOT staff were trained on illicit discharge? • What percent of MoDOT staff were trained on SPCC spill reporting?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

IDDE BMP 3:
MoDOT will continually inspect, through daily work and routine maintenance, the outfalls on MoDOT's system.

Measurable Goal 3a	MoDOT will report how many bridges have been inspected annually.	
Purpose Statement	Dry weather screenings of MoDOT's bridge structures provides an opportunity to identify potential illicit connections and discharges at outfalls within the TS4 area.	
Intended Outcome	MoDOT maintains 10,400 bridges and culvert structures statewide. The intended outcome is to inspect each bridge structure in accordance with the National Bridge Inventory Rating System interval of once every 24 months.	**Annual Performance**
• How many dry weather screenings were conducted annually?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Stormwater Permits

Provisions of the federal Clean Water Act and related Missouri Clean Water Law (Section 644.051) require storm water permits where construction activities disturb one acre or more, and on projects less than one acre if they are part of a greater common plan or sale. MoDOT has a general land disturbance permit, obtained from the Missouri Department of Natural Resources (MDNR), which authorizes the discharge of stormwater and certain non-stormwater discharges from land disturbance sites from its road construction activities. The permit requires the development of a storm water pollution prevention plan (SWPPP) which outlines best management practices that will be used to reduce erosion, sedimentation and the discharge of pollutants. MoDOT's Standard Specifications requires those contracts that will be administered under the general land disturbance permit to comply with the MoDOT's SWPPP. Cities, counties and other government entities must obtain their own National Pollutant Discharge Elimination System (NPDES) land disturbance permit and, in that case, must comply with their own SWPPP.

Design Considerations

MoDOT's design division in each district is responsible for project plan development including the erosion and sediment control plan for each project. Project erosion control plans take into account topographic features, sensitive areas, site runoff, and project phasing to outline best management practices necessary to comply with MoDOT's general operating permit for land disturbance and SWPPP.

To comply with land disturbance permit requirements, as well as storm water control measures, MoDOT requires the contractor shall take certain management measures into consideration when preparing a work schedule. Such contractor measures include, but are not limited to:

- Install appropriate perimeter erosion control measures prior to grading.
- Sequence and stage construction so that disturbed areas are minimized, and no area remains exposed for unnecessarily long periods of time without proper temporary stabilization as outlined in the general operating permit and SWPPP.
- Stabilization Best Management Practices (BMPs) are to be implemented at the earliest practical time.
- Develop and carry out a regular maintenance schedule for erosion and sediment control practices.
- Utilize spill prevention and containment measures at storage sites.
- Develop and follow a plan for regular collection and disposal of waste material as well as designate a site for disposal.
- Designate the responsibility for implementing and maintaining the erosion and sediment control measures to one person.

Erosion, sediment and pollution control, and storm water management is a priority discussion point at all pre-activity meetings held out on the project site prior to any land disturbance operations beginning. Monitoring and inspection of the features of the erosion control plans is carried out and documented by the resident engineer for the construction

project. Any item of concern regarding BMPs is brought to the attention of the contractor for correction.

Control Measures (SWPPP)

As a requirement of the general operating permit for land disturbance, MoDOT maintains a Storm Water Pollution Prevention Plan (SWPPP) that outlines how requirements of the permit will be addressed to ensure compliance. This document has been memorialized in MoDOT's EPG Article 806.8 (Appendix H) for use by both the MoDOT community and MoDOT's contracting community. The SWPPP describes which BMPs may be used to control runoff from land disturbance activities of one acre or more on MoDOT projects. The following BMPs may be used together or separately to ensure compliance with the general operating permit.

Temporary Controls

Temporary Berms (Type A, Type B, Type C)
Temporary Slope Drains
Ditch Checks (Rock or Alternate)
Sediment Traps
Temporary Seeding and Mulch
Silt Fence
Surface Roughening
Mulching and Crimping
Brush Piles/Barriers
Sediment Basins
Erosion control blankets
Inlet protection devices

Permanent Controls

Sediment Basins
Sediment traps
Permanent Seed and Mulch
Sodding
Energy Dissipaters
Rock Blanket
Rock Ditch Checks
Interception Ditches

The MoDOT community, contracting community, and Federal Highway Administration partners have the opportunity to comment and provide input on MoDOT stormwater runoff control plan/SWPPP through the Engineering policy ballot procedure MoDOT uses for approving all engineering policies. This procedure requires policy developers to gather input from stakeholders prior to finalizing policy changes. Once submitted to the EPG group for balloting, MoDOT senior leadership has the opportunity to provide input on the proposals, and finally, FHWA reviews the change proposals prior to incorporation into MoDOT guidance.

Construction Administration

All construction projects administered under MoDOT's general operating permit for land disturbance are overseen by MoDOT's Construction Division with project offices located statewide in each of MoDOT's seven districts. It is the responsibility of the resident engineer (RE) assigned to the project to ensure compliance with the SWPPP and the general operating permit as well as other elements of the project. Each project is assigned an inspector who is trained in land disturbance compliance, acting as an extension of the resident engineer. Quality control of permit compliance rests with the project inspector.

Alterations to the project specific SWPPPs to address stormwater runoff control are presented to the RE for consideration. Contractors have the opportunity to propose improvements to a project SWPPP during the pre-construction conference and the pre-activity meeting conducted in the field prior to land disturbance operations beginning. It is the RE's responsibility to determine compliance with MoDOT's Statewide SWPPP, and the proposals benefit to the project.

Erosion and Sediment Inspections

Erosion control inspections are required for all projects engaged in land disturbance of one acre or more. Records are entered and stored in MoDOT's electronic Stormwater Database. The Stormwater Database tracks and documents all elements of permit compliance from inspection frequency, deficiency identification and correction, time extensions due to weather, and final stabilization documentation.

Inspection frequency is mandated by the general operating permit for land disturbance and tracked accordingly. Inspection records outline:

1) Contract/Job identification number;
2) County and Route location;
3) Receiving waters near the project;
4) Name of MoDOT inspector completing report;
5) RE responsible for the project,
6) Date of inspection;
7) Evaluation of potential areas of concern regarding site runoff, dewatering operations, outfall protection, good housekeeping, etc.;
8) Outline corrective actions necessary to address maintenance of BMPs;

The contractor's Water Pollution Control Manager (WPCM) receives a copy of each week's report for prompt corrective action, if necessary.

Audits and Training

As outlined in the Construction Requirements section above, MoDOT's project inspectors are responsible for first-line quality control audits of land disturbance operations. Inspectors review field conditions and conduct land disturbance inspections for compliance with MoDOT's land disturbance permit at the frequency outlined by the permit and MoDOT's SWPPP. MoDOT REs are responsible for all aspects of contract administration, including enforcement of land disturbance requirements outlined in MoDOT's SWPPP and general operating permit. REs conduct field evaluations and

review and approve each inspection report for accuracy and compliance with field conditions.

MoDOT's Construction Division is responsible for reviewing the Stormwater Database for compliance with inspection report frequency, deficiency corrections, and overall project compliance. The Construction Division will also be responsible for quality assurance audits at a frequency of not less than 60 percent of the projects administered under MoDOT's land disturbance permit for projects within the TS4 area.

MoDOT's Design/Environmental Section will continue to administer the land disturbance permit for the department. The Environmental Section will be responsible for Stormwater Database administration and all land disturbance training. They will also provide overall program audits of construction projects at a frequency of not less than 20 percent the projects administered under MoDOT's land disturbance permit within the TS4 area.

MoDOT requires all inspectors, REs, designers, and contractor's Water Pollution Control Managers receive land disturbance training at least once every four years. Training may also occur more frequently on a less formal basis as deemed necessary by MoDOT.

Contractor Compliance

MoDOT has the authority to stop work on any construction job when the contractor does not perform work in compliance with contract provisions. In cases where the contractor is causing water quality problems or creates conditions with the potential to contaminate waters of the state, the engineer has the authority to take appropriate disciplinary action to ensure proper control measures are in place. Actions possible include: issuance of an Order Record (this is a non-compliance notification that negatively affects a contractor's performance rating; a poor rating could result in removal from the list of MoDOT approved contractors), suspension of payments to the contractor, or suspension of work on the project. Liquidated damages are included in the Stormwater Database for failure to complete a deficiency within seven (7) days.

Contractors are evaluated on project performance each year. One of the elements of the Performance Rating system involves erosion control compliance. Low ratings may cause disciplinary action to be taken against poorly performing contractors. Disciplinary actions range from being placed in a probationary status to disqualification from bidding on MoDOT construction contracts for a period of three years.

Protection of Streams, Lakes, Ponds, and Reservoirs

In compliance with the Missouri Clean Water Law, neither MoDOT nor MoDOT's contractors shall pollute any waters of the state, or place, cause, or permit to be placed any water contaminant in a location where it is reasonably certain to cause pollution of any waters of the state. Also, they shall not discharge water contaminants into any waters of the state, which reduce the quality of these waters below the state's water quality standards. These water quality standards include the following (MO10 CSR 20-7):

> *(a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.*

(b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.

(c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

(d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.

(e) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

(f) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200–260.247.

MoDOT personnel or contractors performing work for MoDOT shall comply with these and any other federal, state and local laws and regulations that serve to control pollution of the environment. To ensure that these general criteria are met, the following guidelines from the MOU with MDNR dated September 8, 2009, will be observed:

1) *During construction, clearing of vegetation will be kept to the minimum necessary to accomplish the project.*

2) *Petroleum products, hazardous chemicals, hazardous wastes, equipment and solid waste will not be stored after construction working hours below the ordinary high-water mark.*

3) *Equipment will not be operated· in wetlands areas, except where permitted, expressed by the project plans or the engineer in writing. Petroleum products will not be stored in wetlands.*

4) *Riparian areas and stream banks will be restored to a stable condition as soon as possible after final contouring.*

5) *Work done in streams shall be conducted during low flows whenever that is reasonably possible.*

6) *Petroleum products spilled into any stream or body of water or in areas where those materials could enter a stream or body of water will be cleaned up immediately and the collected petroleum products shall be disposed of properly.*

7) *The following materials will not be used for stream bank stabilization: earthen fill, gravel, fragmented asphalt, broken concrete with exposed rebar, large slabs of unbroken concrete, tires, vehicle bodies, liquid concrete, including grouted riprap.*

CSSWROC BMP 1:
Continue training of MoDOT personnel and contractors through Land Disturbance Training to ensure implementation of the SWPPP and compliance with the Land Disturbance Permit every four years or earlier if deemed necessary by MoDOT. Land Disturbance training is available in MoDOT U (MoDOT's online training database) for all MoDOT employees, contractors and consultants. Training records are maintained and evaluated for compliance with MoDOT's training policy for land disturbance. In person training is available upon request.

Measurable Goal 1a	MoDOT will report how many MoDOT employees and how many non-MoDOT employees have been trained in Land Disturbance Training classes.	
Purpose Statement	Training is a key element of insuring compliance with MoDOT's SWPPP and general operating permit. Providing training educated the target audience and assists in obtaining compliance.	
Intended Outcome	To provide training to those required to insure MoDOT staff, consultants, and contractors are educated in land disturbance requirements. MoDOT will assess this measure on an annual basis with an intended goal that 100% of the land disturbance projects have trained inspectors and contractors in responsible control of land disturbance operations.	**Annual Performance**
Number of MoDOT employees took the land disturbance training?		
Number of Non-MoDOT employees took the land disturbance training?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

CSSWROC BMP 2:
Continued utilization of the electronic Stormwater Database for land disturbance inspection tracking and documentation. This BMP allows for project tracking of erosion and sediment control inspections, deficiencies, and corrective actions for non-compliant BMPs. Automatic email notifications are incorporated to keep inspectors and RE's informed of upcoming milestones such as inspections or deficiency correction dates to maintain compliance with the general operating permit and SWPPP.

Measurable Goal 2a	MoDOT will track the number of projects that are administered through the Stormwater Database that fall within the TS4 area through the calendar year.	
Purpose Statement	An important element of compliance is documentation. This BMP allows for superior documentation, tracking, and notification of project concerns regarding erosion and sediment control.	
Intended Outcome	100% of the projects that are constructed under the general operating permit for land disturbance within the TS4 area are incorporated in the Stormwater Database.	**Annual Performance**
Number of projects within the TS4 area administered through the Stormwater Database?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

CSSWROC BMP 3:
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 will conduct quality assurance audits of projects covered by the Land Disturbance permit by the Stormwater Compliance Coordinator.

Measurable Goal 3a	Evaluate erosion control elements of land disturbance sites that involve one acre or more of land disturbance through oversight audits by central office Construction Division on 60% of the projects within the TS4 area, and overall program oversight inspections by the Design's Environmental Section on 20% of the projects within the TS4 area conducted annually.	
Purpose Statement	Evaluation of actual field conditions will allow for an independent check of compliance.	
Intended Outcome	The intended outcome is to ensure compliance with permit regulations and further assist in reducing erosion and pollution. This measure will be evaluated annually with 60% and 20% oversight inspection thresholds.	**Annual Performance**
Number of statewide quality assurance oversight reviews conducted by Construction Division?		
Number of statewide oversight inspections by the Design/Environmental Section?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

POST-CONSTRUCTION SITE RUNOFF CONTROL

The intent of this MCM is to develop, implement and enforce a program to reduce pollutants and reduce water quality impacts from site improvements on MoDOT's system.

Figure 1: Permanent detention basin on Route 141 and Big Bend Rd.

MoDOT will consider additional New Development and Redevelopment Program requirements as MoDOT projects are initiated. Project evaluations will consider comprehensive planning procedures and controls to reduce the discharge of pollutants from areas of new highway development and significant redevelopment and associated drainages. The program will consider non-highway facilities that would prevent or minimize water quality impacts. This program does not apply to normal maintenance activities.

MoDOT will continue to implement a program that ensures that new highway projects and significant highway modifications are reviewed for the need to include permanent storm water BMPs, and the results from that review implemented. As part of the program, MoDOT will define as "significant," highway modifications that disturb greater than or equal to one acre, are inside the TS4 coverage area, and fall under the definition of either new development or redevelopment that MoDOT has developed.

MoDOT will put preference on types of BMPs whenever projects have the potential to discharge to watersheds where a total maximum daily load (TMDL) has been developed and includes a waste load allocation (WLA) for MoDOT.
MoDOT evaluates the hydrologic and hydraulic impacts to the roadway and surrounding properties as outlined under EPG 748.1.2 Hydraulic Impacts of Roadway (Appendix I). MoDOT is better able to mimic the pre-construction runoff quality in new development and to the MEP in redevelopment projects by evaluating how significant an increase is for a project regarding peak flows and therefore mitigation through detention storage or other various measures.

MoDOT will ensure long-term maintenance and operation of permanent BMPs through field evaluations conducted by environmental staff or designated district staff. Field inspections evaluate BMP function, vegetative condition, and litter control. BMP conditions are documented in MoDOT's TMS Stormwater application. This application allows for inspection documentation, tracking, and mapping of the BMPS. Necessary maintenance is conducted by MoDOT's Maintenance Division.

748.1.2 Hydrologic Impacts of Roadway

Development such as a highway project can affect the hydrologic characteristics of a watershed. Such development typically increases the amount of impervious area within the watershed, and may also decrease the time of concentration of the watershed. Both of these effects tend to increase both the volume and peak rate of runoff from the watershed. The magnitude of this increase is generally dependent on the ratio of the developed area (pavement and right of way in the case of highway projects) to the total watershed drainage area. When the developed area is a large percentage of the total drainage area, the impacts can be significant. The degree of hydrologic impact shall be subjectively evaluated for all highway projects; when the impacts are estimated to be of concern, a detailed analysis shall be performed. Significant increases in peak flow rates shall be mitigated through the use of detention storage or other appropriate measures.

Figure 2: EPG 748.1.2

PCSRC BMP 1:

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 at least once a permit cycle. They are inspected regularly during routine maintenance activities.

Measurable Goal 1a	MoDOT will train design staff in the post construction stormwater program at least once every other year and report how many were trained in the reporting cycle.	
Purpose Statement	Training staff produces a well-educated and competent staff that will be designing projects where post-construction BMPs will be utilized. Training reduces project evaluation time during the project development phase because designers will already be aware of the requirements of the TS4 permit before the submittal of their Request for Environmental Services (RES).	
Intended Outcome	The intended outcome is to train 100% of the design staff every other year.	**Annual Performance**
What percent of Design staff were trained in the post construction stormwater program during the reporting cycle?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 1b	MoDOT will report the number of projects evaluated within the TS4 area for post-construction BMPs in the reporting cycle.	
Purpose Statement	Tracking the number of projects evaluated for post-construction BMPs provides an understanding of the types of projects MoDOT is letting and how MoDOT's program for post construction BMPs is being applied.	
Intended Outcome	The intended outcome is to identify the number of projects that are evaluated for post-construction BMPs. This goal will be evaluated on an annual basis with an intended outcome of 100% of the projects within the TS4 area are evaluated for post-construction BMPs.	**Annual Performance**
How many projects were evaluated for post-construction BMPs? Potential New Developments Potential Redevelopments Maintenance Less than the one-acre threshold Other projects {describe}		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 1c	MoDOT will track the number of post-construction BMPs constructed during the reporting cycle.	
Purpose Statement	Tracking the number of post-construction BMPs provides an understanding of the types of projects MoDOT is letting and how MoDOT's program for post construction BMPs is being applied.	
Intended Outcome	The intended outcome is to identify the number of post-construction BMPs constructed in a given year. This goal will be evaluated on an annual basis with an intended goal of BMPs being constructed for 60% of the new development or redevelopment projects evaluated within the reporting cycle.	**Annual Performance**
How many post-construction BMPs were constructed during the reporting cycle? {Number of BMPs & type & job number}		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

Measurable Goal 1d	MoDOT will track how many BMPs are inspected during the reporting cycle.	
Purpose Statement	Tracking the number of BMPs inspected promotes the active maintenance aspect of the program. Maintenance is a critical aspect of the success of the BMPs.	
Intended Outcome	The intended outcome of the measure is to show positive progress toward completing a minimum of one inspection per BMP during the permit term.	**Annual Performance**
How many post-construction BMPs were inspected during the reporting cycle?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PCSRC BMP 2:
MoDOT's system crosses other regulated MS4s. Coordination and partnering with other MS4 communities provides opportunties to work together to facilitate compliance with like goals.

Measurable Goal 2a	MoDOT will report what types and how many coordination events are occurring as well as coordinating opportunities through the project development process.	
Purpose Statement	MoDOT's efforts to produce a world class transportation system impacts almost every MS4 community in the state. Promoting good stewardship through coordination and cooperation with other MS4s to affect a common goal is an effective use of resources.	
Intended Outcome	The intended outcome is to coordinate with as many other entities as necessary during the reporting cycle. This goal will be evaluated on an annual basis with an intended positive trend through the permit cycle.	**Annual Performance**
How many coordination events were attended during the reporting cycle? {Type of event and how many were attended}		
How many coordinating opportunities with other MS4 communities occurred through the project development process?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

POLLUTION PREVENTION/GOOD HOUSE KEEPING

The intent of this minimum control measure is to promote the development of an operation and maintenance program to reduce or eliminate pollution runoff from MoDOT operations and facilities within the regulated TS4 area. Operation activities conducted by MoDOT maintenance forces, that impact storm water quality include: snow and ice control on state and interstate highways, roadway surface maintenance, roadside facility maintenance, roadway appearance, and tunnel maintenance.

The following publications are to be used for maintenance of roadway facilities. Most of the publications can be found in the Engineering Policy Guide:

1. Maintenance Division Policy – EPG 171: Maintenance Policy and Operations (Appendix J).
2. Roadside Vegetation Management – EPG 171.6.4: Vegetation Management (Appendix K)..
3. Herbicide Management – EPG 821: Herbicides and Roadsides (Appendix L).
4. Maintenance Function Planning Guidelines – EPG 822: Maintenance Planning Guidelines for Mowing Operations (Appendix M)..
5. Preventive Maintenance Guidelines for Bridges – EPG 171.7 Bridge Maintenance (Appendix N)..
6. Operator's Guide for Anti-Icing – EPG 133: Snow and Ice Control (Appendix O)..
7. Missouri Standard Specifications for Highway Construction.

Structure Maintenance

MoDOT permanent drainage facilities such as detention ponds, storm drains, inlets and catch basins are inspected on an as-needed basis. Problematic storm drain inlets (select inlets known to flood) are monitored and inspected during rainstorms or if complaints are received to ensure proper operation. Documentation pertaining to inspections are limited and may normally contain only the date and time of the inspection. Each district currently inspects water drainage facilities (retention ponds and other structures) on an as-needed basis to ensure that the facility operates as designed. The frequency of inspection can vary depending on the design of the structures.

Location of major structural controls (primarily large detention basins) and formal permit-based inspections are stored in the Transportation Management System (TMS) database.

Ditches

All open ditches are to be maintained to preserve their full depth and cross section. Surplus material from ditch cleaning is used in other tasks such as widening shoulders and fills, repairing erosion and filling wash outs. Where appropriate or necessary, maintenance occurs on ditches and waterways as needed.

Street Sweeping

Mechanical sweeping of sand, dirt and debris from paved surfaces, shoulders, curbs and gutters and median barriers is performed to assure roadway drainage. Sweeping maintains the environmental and aesthetic quality of the roadway and is accomplished to

eliminate safety concerns. Sweeping is MoDOT's responsibility on Interstate Highways, National Highway System Routes and Commission-owned roadways within the state highway system unless covered by a maintenance agreement (EPG 127.25.1.4) (Appendix P). Street sweepings may either be disposed of in a permitted sanitary landfill or can be reused as established by MDNR. To be reused, the sweepings are processed or screened to remove trash, litter and other debris. The sweepings then must be tested as required by MDNR. Protocol for sampling and guidance is provided in the EPG link above.

Snow and Ice Control

One of MoDOT's high priorities is the removal of snow and ice from state's highway system. Anti-icing operations to prevent the formation or development of packed and bonded snow or bonded ice to the pavement surface is the first priority on continuous treatment routes during a winter weather event. Snow and ice control operations begin as soon as weather conditions warrant and continue on a 24-hour-per-day basis until all objectives outlined in the Snow and Ice Control Operations policy (EPG 133.4) (Appendix Q) are achieved. The removal of snow and ice from the roadway and the application of abrasives or de-icing products take precedence over all other maintenance work. MoDOT's Operator's Guide For Anti-icing (EPG 133.5) (Appendix R).and the snow-and-ice section of the Maintenance Policy Manual are both used to clarify the department's official procedure (EPG 133: Snow and Ice Control).

All abrasives and de-icers are applied in accordance with the Operator's Guide for Anti-icing and the snow-and-ice section of the Maintenance Policy. These directives include the following:

- Chemicals and stockpiles of treated abrasives are to be stored in a manner to prevent loss of material and minimize damage to state or private property.
- All bulk salt shall be stored inside covered storage structures.
- Asphalt pads are installed under and in front of storage facilities.
- Mixed materials shall be covered when not in use and between storm events.
- No treatment of paved shoulders anti-icing or de-icing chemicals.

Required maintenance practices which have a side benefit to water quality include:

- Application of only the amount of salt or salt/abrasive mix material necessary to provide safe driving.
- Use of clean snow and ice control abrasives (sand or 3/8 crushed aggregate) that contain only 0-10 percent passing a No. 10 sieve.
- Use of snow and ice control chips only when needed to provide traction.
- Sweeping or flushing of bridges as soon as possible after a storm event.

MoDOT uses a database to track information on how much winter abrasives, calcium chloride, or sodium chloride was applied in the different maintenance areas during a snowfall event. This information is contained in the Winter Events Database Report.

Roadside Management

MoDOT's roadside management program keeps the roadsides safe and attractive. The program establishes and maintains appropriate vegetation to control erosion and limits

undesirable vegetation. Specific guidance updated in 2012 is provided in the Roadside Vegetation Management Article (EPG 822). This is accomplished through several methods including an effective herbicide program, fertilization, mowing, brush control and litter removal.

Herbicide Program

MoDOT uses a variety of techniques to manage roadside vegetation. Herbicides provide effective and efficient vegetation control. Specific guidance for herbicide use is provided in MoDOT's EPG 821 Herbicides and Roadsides. Operators and their supervisors are required to read and follow the label for application rates. Only non-restricted herbicides are used. Employees are encouraged to obtain and maintain a public operator's license certified by the Missouri Department of Agriculture. Detailed recordkeeping is required. Spray equipment is clean, in good operating order and properly maintained. Operators are instructed to not apply herbicides to standing, running or open water. Only approved aquatic herbicides are used to control undesirable vegetation in or near water. Care is taken to avoid drift, run-off, leaching and spills.

Mowing Operations

Mechanical and chemical vegetation management is done to maintain sight distance, improve aesthetics and control undesirable vegetation. At a minimum, mowing occurs to a distance of at least one mower width from the edge of the traveled way per the guidance contained in the Roadside Vegetation Article (EPG 822).

Roadside Facilities

Drainage facilities within the rights of way owned by MoDOT include cattle passes, collection ditches, shoulder drains, side ditches, under drains, outlet ditches, contour ditches and culverts (includes structures that span 20 feet or less). These facilities are maintained to be able to handle runoff from rainfall events. Maintenance includes removing trash, debris and sediment that has collected in the facility. All drainage facilities statewide are inspected periodically; minor defects are repaired as necessary; and major defects are reported to the Maintenance Superintendent responsible for that geographic area. Natural watercourses and streams that pass within the right of way are kept clean, so water can flow freely. Maintenance policies and operations can be found in the EPG Article 171. This includes water management, roadsides, vegetation management, snow and ice control, and many others.

Procedures to Prevent, Contain and Respond to Spills

Procedures to prevent, contain and respond to spills are found in MoDOT's Hazardous Material Response Plan (Appendix S). to assure the material is handled properly. All vehicles carrying hazardous materials must be identified by the distinct diamond shaped symbol. The following are guidelines taken from MoDOT's Guide to Hazardous Material Spill Response on State Highways:

- Avoid contact with and breathing vapors of the spilled material.
- No smoking allowed in the spill area.
- If a state waterway is involved in the spill the Missouri Department of Natural Resources must be contacted along with the MoDOT District Hazardous Materials Spill Coordinator.

- Obtain facts and information on the spill for the emergency team and maintenance supervisor.
- Call the Missouri State Highway Patrol for help and notify the maintenance supervisor.
- Coordinate with emergency response personnel.
- An “Incident Commander” should coordinate with other agencies and handle direct reporting of the spill.
- Use appropriate traffic control to isolate the spill area from public contact.
- Wait for instructions and do not clean up the spill or contaminated area.
- If private property or waterways are threatened, containment of spill should be coordinated with Missouri Department of Natural Resources, Missouri State Highway Patrol and the appropriate maintenance supervisor.

Spill Prevention and Response Procedures at Maintenance Facilities

MoDOT has implemented Spill Prevention Control and Countermeasure (SPCC) plans at maintenance facilities to prevent oil spills from occurring, and to perform safe, efficient and timely response in the event of a spill or leak. In accordance with United States Environmental Protection Agency (EPA) regulations (40 CFR 112), MoDOT must prepare and implement an SPCC plan for facilities that could reasonably be expected to discharge petroleum or hazardous material into or upon navigable waters or adjoining shorelines; that meet one of the following conditions:
Above-ground oil storage capacity exceeds 1,320 gallons; or underground oil storage capacity exceeds 42,000 gallons, unless the underground tanks are subject to all of the technical requirements of 40 CFR 280 or a state program approved under 40 CFR 281. (Missouri’s approved program is 319.100 – 319.139, RSMo and 10 CSR26-1 thru 10 CSR26-5 Rules for Underground Storage Facilities.)

As defined by 40 CFR Part 112, oil includes all grades of motor oil, hydraulic oil, lube oil, fuel oil, gasoline and diesel, automatic transmission fluid (ATF), used oil and transformer mineral oil. The definition also includes non-petroleum oils such as animal or vegetable oils and synthetic oils.

Facility Runoff Control Plan

MoDOT-owned operations and maintenance facilities within the TS4 coverage area are required to have a Facility Runoff Control Plan (FRCP) (Table 1). The plan requires, at a minimum, bi-yearly (every 6 months) inspections of the property for implementing Good Housekeeping/Pollution Prevention measures, to identify potential target pollutants and sources, and take action for managing those sources.

Target pollutants are generated through the day-to-day operation and maintenance activities conducted within maintenance facilities. There are five groups of target pollution categories including a range of pollution sources that can be managed to reduce the risk of stormwater pollution by minimizing the exposure of target pollutants to the environment. Problems identified during the inspection should be addressed or resolved before the next rain event and no later than the next inspection.

The FRCP is kept on MoDOT's SharePoint site and at the facility location along with the SPCC plan.

Figure 3: Maintenance facility in SW District.

PPGHK BMP 1:
Continue to educate maintenance staff and MoDOT general staff on SPCC and FRCP. 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 1a	MoDOT will provide training to promote Pollution Prevention and Good House Keeping through internal training opportunities throughout the reporting period.	
Purpose Statement	Continuous training and education efforts produce a competent staff that can foster a safe work environment while protecting the environment.	
Intended Outcome	The intended outcome is to train 100% of the applicable staff every other year on good housekeeping and pollution prevention.	**Annual Performance**
What percent of MoDOT staff attended training or a refresher and what training class was attended?		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PPGHK BMP 2:
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 Guidelines to dictate methods of snow and ice removal.

Measurable Goal 2a	MoDOT will report annually total materials used for winter operations.	
Purpose Statement	The purpose of this Measurable goal is to identify the amount of material being used on Missouri's system for snow and ice control. MoDOT recognizes the importance of conservation of these items but must insure the safety of the traveling public.	
Intended Outcome	Identify the amount of materials used. MoDOT will evaluate this measure on an annual basis with an intended downward trend. Winter conditions will drive this measure.	**Annual Performance**
• Beat Juice usage?		
Salt Usage:		
• Calcium Chloride Dry Flake • Calcium Chloride Pellet		
• Liquid Calcium Chloride		
• Salt Brine		
• Salt, Sodium Chloride		
Aggregate, chips, sand etc.		
• Ice Ban (magnesium chloride)		
• Aggregate Sand		
• Aggregate Clean Cinders		
• Aggregate Limestone Chips		
• Aggregate Snow & Ice Abrasives		
Progress	Satisfied: Yes:☐ No:☐	
Explanation		

PPGHK BMP 3:
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.

Measurable Goal 3a	MoDOT will report approximately how many bridges are flushed/cleaned in a reporting cycle.	
Purpose Statement	Tracking the number of bridges washed provides a better understanding of the potential discharges and brings heightened awareness to the operation.	
Intended Outcome	The intended outcome is to report the number of bridges being washed in a reporting cycle. This measure will be evaluated on an annual basis with an intended target average of not more than 7220 bridges per year over the term of the permit cycle.	**Annual Performance**
How many bridges were flushed or cleaned in the reporting cycle?		
Progress	Satisfied: Yes:☐ No:☐	

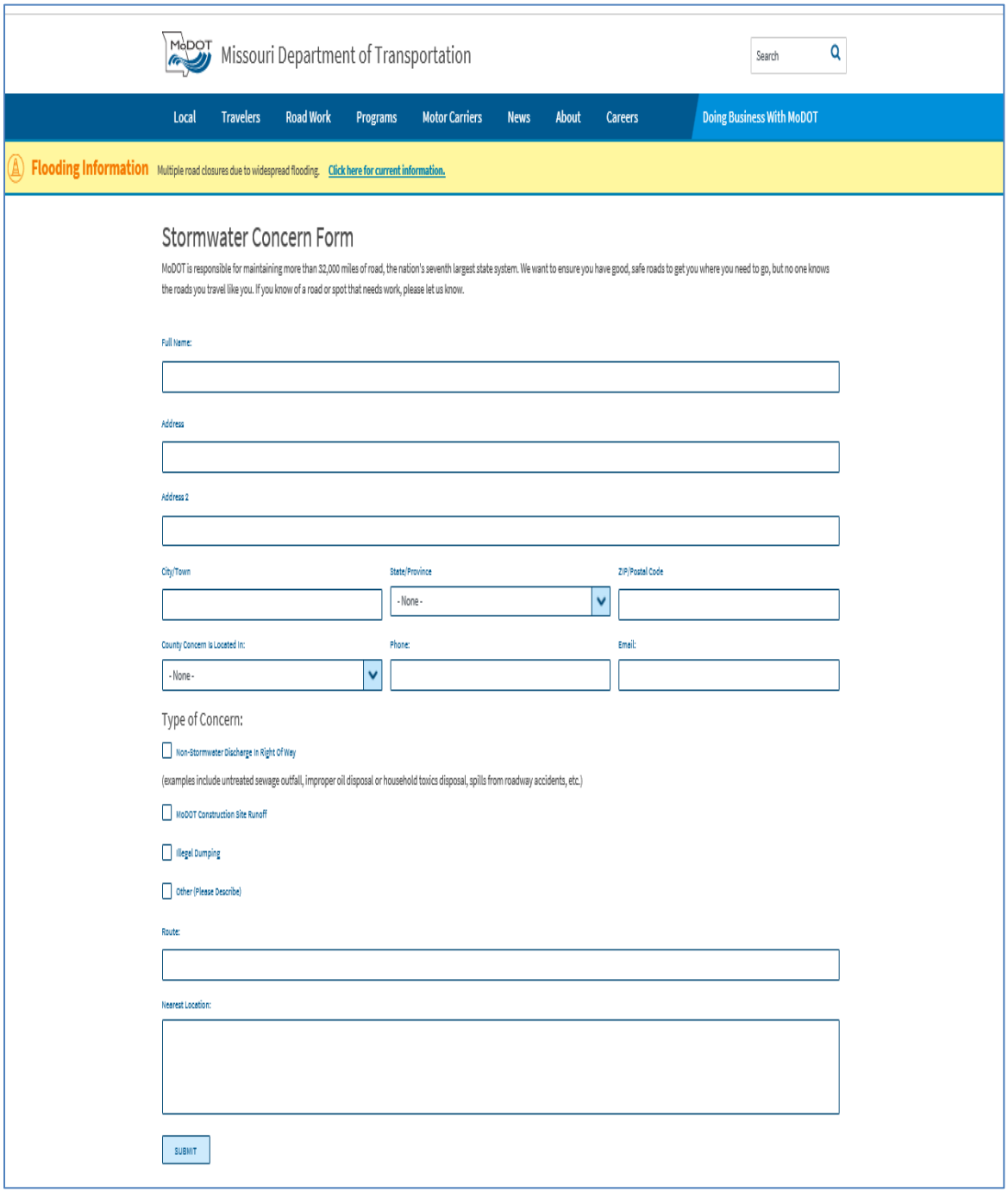
FID	NAME	DISTRICT	COUNTY NAME	TYPE	Address	Adjacent MS4 Operator	Receiving Water
1	ST. JOSEPH COMMUTER LOT	1	BUCHANAN	Commuter Lot	IS 29 AND US 169 (S)	St. Joseph	Trib. Candy Creek
2	ST JOSEPH South	1	BUCHANAN	Shed	1/4 mile East of I-29 at the South US 169 exit	St. Joseph	Trib. Candy Creek
3	ST. JOSEPH 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
6	18TH AND INDIANA	3	JACKSON	Shed	18TH AND INDIANA (Motorist Assist)	Kansas City UA	Kansas City sewer system to treatment facility
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
11	MULBERRY	3	JACKSON	Shed	650 Mulberry St, Kansas City	Kansas City UA	Kansas City sewer system to treatment facility
12	NORTHMOOR	3	PLATTE	Shed	take Riverside exit to 69 go left to Rt AA then left, building on westside of road	Kansas City UA	Line Creek
13	SEDALIA	3	PETTIS	Shed	2200 South Limit, off 65 South by Mo State Fairgrounds	Sedalia	Trib. Flat Creek
14	SKILES	3	CLAY	Shed		Kansas City UA	Trib. Missouri River
15	STADIUM	3	JACKSON	Shed	SE outer rd of I-70 and Blue Ridge Cutoff Behind Holiday Inn	Kansas City UA	Little Blue River
	GRAIN VALLEY	3	JACKSON	SHED	5390 s Barr Rd	Kansas City UA	Trib. Blue Branch
16	JEFFERSON CITY DISTRICT 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. Stinson 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-M	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 take 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

FID	NAME	DISTRICT	COUNTY NAME	TYPE	Address	Adjacent MS4 Operator	Receiving Water
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	Southwest corner of I-70 at Bermuda Road	Normandy-MSD	Marlene Creek
30	BARRETT STATION	5	ST. LOUIS	Shed	BARRETT STATION	St. Louis UA	
31	SPECIAL-MOTORIST ASSIST-CHESTERFIELD	5	ST LOUIS	Shed	CHESTERFIELD	Town & Country-M	Trib. Creve Coeur Creek
32	ST CHARLES	5	ST. CHARLES	Shed	Old 94 and Muegge 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
36	SPRINGFIELD COMPLEX	6	GREENE	Complex	off Mo 744, .4 mile west of 65, then .2 mile north on 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	Boliver	Branch Creek
38	CARTHAGE	6	JASPER	Shed	Corner of 171 & 96 one mile West of town	Carthage	Trib. Spring River
39	JOPLIN	6	JASPER	Complex	.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 to 2nd stoplight, right 300 yards	Springfield	Trib. Elk Valley
42	KENNETT	7	DUNKLIN	Shed	412 West ti Rt O, Right on O, 1 mile on right (white fence)	Kennett	Ragland Slough
43	POPLAR BLUFF	7	BUTLER	Shed	Outer road of US 60 @ North end of Poplar Bluff	Poplar Bluff	Trib. Black River and Trib. Pike Creek
44	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
45	CAPE GIRARDEAU STORAGE LOT	7	CAPE GIRARDEAU	Lot	SOUTHEAST CORNER OF IS 55 AND RT 74	Cape Girerdeau	Trib. Cape La Croix Creek

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

APPENDIX A – Storm Water Webpage

APPENDIX B – Report a Stormwater Concern Form



Missouri Department of Transportation

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Flooding Information Multiple road closures due to widespread flooding. Click here for current information.

Stormwater Concern Form

MoDOT is responsible for maintaining more than 32,000 miles of road, the nation's seventh largest state system. We want to ensure you have good, safe roads to get you where you need to go, but no one knows the roads you travel like you. If you know of a road or spot that needs work, please let us know.

Full Name:

Address

Address 2

City/Town | State/Province | ZIP/Postal Code

- None -

County Concern is Located In: | Phone: | Email:

- None -

Type of Concern:

- [ ] Non-Stormwater Discharge in Right Of Way

(examples include untreated sewage outfall, improper oil disposal or household toxics disposal, spills from roadway accidents, etc.)

- [ ] MoDOT Construction Site Runoff
- [ ] Illegal Dumping
- [ ] Other (Please Describe)

Route:

Nearest Location:

SUBMIT

APPENDIX C – Stormwater Brochure

APPENDIX D – EPG Section 129

APPENDIX E – SPCC Report

APPENDIX F – EPG 127.25.8.3

APPENDIX G – EPG 771.2 Bridge Cleaning and Flushing

APPENDIX H – EPG 806.8 MoDOT SWPPP

APPENDIX I – EPG 748.1.2 Hydraulic Impacts to Roadway

APPENDIX J – EPG 171 Maintenance Policy and Operations

APPENDIX K – EPG 171.6.4 Vegetation Management

APPENDIX L – EPG 821 Herbicides and Roadsides

APPENDIX M – EPG 822 Maintenance Planning Guidelines for Mowing Operations

APPENDIX N – EPG 171.7 Bridge Maintenance

APPENDIX O – EPG 133 Snow and Ice Control

APPENDIX P - EPG 127.25.1.4

APPENDIX Q - EPG 133.4

APPENDIX R – EPG 133.5 Operator's Guide for Anti-icing

APPENDIX S – Hazardous Material Response Plan

APPENDIX T – No Additional Controls ARAP