

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

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July 29, 2022

Melissa Scheperle
Environmental & Historic Preservation Manager
Missouri Department of Transportation
P.O. Box 270
Jefferson City, MO 65102
Melissa.scheperle@modot.mo.gov

FINDING OF COMPLIANCE

Dear Melissa Scheperle:

Staff from the Missouri Department of Natural Resources conducted an audit from April 12 through May 5, 2022, of the Missouri Department of Transportation Separate Storm Sewer System and Area Wide Land disturbance program. These programs operate under the authority of Missouri State Operating Permit (permit) MO-0137910.

Compliance with Missouri Clean Water Law, the Missouri Clean Water Commission Regulations, and permit MO-0137910 was evaluated. The entity was found to be in compliance based upon the observations made at the time of the evaluation.

The enclosed report describes the findings and may provide important recommendations to ensure continued compliance. Your cooperation in implementing those recommendations will be appreciated.

If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Sarah Wright by mail at Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102; by phone at 573-526-1139; or by email at Sarah.Wright@dnr.mo.gov.

Sincerely,

WATER PROTECTION PROGRAM

Chris Wieberg
Director

c: Brian Williams, MoDOT Stormwater Compliance Coordinator
brian.williams@modot.mo.gov



**Missouri Department of Natural Resources
Water Protection Program
Report of Inspection
Missouri Department of Transportation
P.O. Box 270, Jefferson City, MO 65102
Cole County, MO
July 29, 2022**

Introduction

Pursuant to Section 644.026.1 of the Missouri Clean Water Law, Sarah Wright and Erin Heidolph of the Missouri Department of Natural Resources' (Department) conducted a routine audit of the Missouri Department of Transportation's (MoDOT's) Transportation Separate Storm Sewer System (TS4) program on multiple days from April 12th- May 5th, 2022. We conducted the audit to determine the entity's compliance with Missouri State Operating Permit MO0137910, Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents our findings and the observations made during the audit.

Commonly used Abbreviations used this report:

Missouri Department of Natural Resources	Department
Best Management Practices	BMPs
Central Field Operations	CFO
Engineering Policy Guide	EPG
Environmental Emergency Response	EER
Facility Runoff Control Plan	FRCP
Illicit Discharge Detection and Elimination	IDDE
Kansas City Regional Office	KCRO
Maintenance Management System	MMS
Minimum Control Measures	MCMs
Missouri Department of Transportation	MoDOT
Missouri State Operating Permit MO0137910	Permit
Municipal Separate Storm Sewer System	MS4
Northeast Regional Office	NERO
Resident Engineer	RE
Southeast Regional Office	SERO
Southwest Regional Office	SWRO
Spill Prevention, Control, and Countermeasure	SPCC
St. Louis Regional Office	SLRO
Stormwater Management Plan	SWMP
Stormwater Pollution Prevention Plan	SWPPP
Transportation Separate Storm Sewer System	TS4

Principal Participants:

Missouri Department of Transportation

Brian Williams	Stormwater Compliance Coordinator	brian.williams@modot.mo.gov
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Missouri Department of Natural Resources

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Facility Description and History

We reviewed the files for the MoDOT stormwater program, including the permit conditions of Missouri State Operating Permit MO0137910 (Permit), to familiarize ourselves with the requirements specific to this facility. We also reviewed the past Annual Reports and 2021 Stormwater Management Plan (SWMP) for MoDOT.

MoDOT is the transportation agency for the State of Missouri. The Permit authorizes stormwater discharge from the MoDOT TS4 in regulated areas and area-wide land disturbance activities statewide. The regulated TS4 area is defined as MoDOT properties owned and operated by MoDOT that are located in: a) Urbanized Areas as determined by the latest Decennial Census by the Bureau of Census and b) Regulated municipal separate storm sewer systems not located in an Urbanized Area per 10 CSR 20-6.200(5)(C) 24.B. The Permit, MO0137910, was last issued on November 1, 2021, and expires on October 31, 2026. This Permit sets forth permit conditions, both standard and specific, that the permittee is to follow. We found no records for previous TS4 audits.

Discussion of Inspection and Observations

Information presented below that we obtained regarding MoDOT's MS4 program was gathered at various times. Some of the information was gathered during the records review process prior to the audit, during the audit interviews, during the site visits, following the audit during review of documents obtained during the audit, and during review of the Department's records. The audit was conducted during normal business hours. We provided prior notification of the audit to allow MoDOT time to gather the information requested. During the initial contact we outlined the purpose and scope of the audit.

MoDOT maintains an Engineering Policy Guide (EPG) as an official repository of guidance. This is available online and was reviewed throughout the file review and report writing. MoDOT also manages Maintenance Management System (MMS) which is an internal system and was reviewed during the interview portion of the audit. These are both robust best management practices (BMPs) for the stormwater program.

There are six Minimum Control Measures (MCMs) defined in the TS4 portion of the Permit as follows:

MCM#1 *MoDOT Community and Public Education and Outreach on Stormwater Impacts*

MCM#2 *MoDOT Community and Public Involvement/Participation in Program Development*

MCM#3 *Illicit Discharge Detection and Elimination (IDDE)*

MCM#4 *Construction Site Stormwater Runoff Control*

MCM#5 *Post-Construction Stormwater Management in New Development and Redevelopment*

MCM#6 *Pollution Prevention/Good Housekeeping for MoDOT Operations*

Stormwater Management Plan

Section I.D of the Permit requires MS4 permittees to implement and enforce a Stormwater Management Program. As part of the Stormwater Management Program, the permittee must update and implement a Stormwater Management Plan (SWMP), with appropriate appendices and/or supplemental attachments, explaining the Stormwater Management Program.

On June 26, 2020, MoDOT's SWMP for the previous permit cycle (2016 - 2021) was reviewed and determined sufficient to meet permit requirements.

Permit condition I.D.2 states within 128 days of the permit renewal, the permittee shall update their SWMP. The most recently updated SWMP is dated January 2022. MoDOT has their SWMP available online, linked from their dedicated stormwater page. As a part of this audit the SWMP was reviewed and was found to be sufficient.

MCM #1: Public Education and Outreach

Section I.E.1 of the operating permit requires the permittee to implement a community education program that focuses on the impacts of stormwater discharges on waterbodies and steps that the MoDOT Community and the general public can take to reduce pollutants in stormwater runoff.

The audit of this MCM was conducted as a desktop interview with no field observations. MoDOT has a well-developed Education and Outreach Program. The BMPs, Measurable Goals, and evaluation/iterative process of each BMP were discussed in depth. MoDOT has two primary target audience groups, the MoDOT Community and the General Public. Within each of these groups are sub-groups of target audiences. The MoDOT Community includes MoDOT staff and external partners, including contractors and consultants; the General Public is users of MoDOT's facilities or services that are not defined as members of the MoDOT Community. Within the General Public target audience group, MoDOT focuses education and outreach efforts on children and adults but has also recently begun taking steps for consideration of areas of higher risk with a more proactive, focused, or targeted approach in their Education and Outreach Program.

MoDOT utilizes the following BMPs in their Education and Outreach Program: maintains a stormwater webpage, stormwater brochures, and fact sheets; participates in education and outreach public events, such as Earth Day and State Fair events; coordinates outreach participation programs, such as No More Trash Bash, Adopt-A-Highway, and Sponsor-A-Highway programs;

and maintains awareness campaigns through social media outlets such as the MoDOT website, Facebook, and Twitter.

Each of the BMPs have quantitative measurable goals evaluated on an annual basis to determine the success of the BMPs performance or the need for modification or replacement of the BMP. MoDOT successfully met each BMP's Measurable Goal(s) within this MCM, except for two. The goal of a positive trend for stormwater concern reports received through the "Report a Stormwater Concern" form available on MoDOT's webpage was not met. The Measurable Goal for number of stormwater educational brochures distributed did not meet the established goal of 400 brochures disseminated each year. The failure to meet the established Measurable Goals was discussed in MoDOT's 2021 Annual Report and during the audit. As part of MoDOT's annual evaluation of each BMP's performance, MoDOT takes social, environmental, and circumstantial factors into consideration for each BMP. In this instance, MoDOT suspects' complications from the COVID-19 pandemic were the cause for these BMPs to not meet their established Measurable Goals. MoDOT does not consider this a failure of the BMPs which would result in replacement of the BMPs, but MoDOT has elected to monitor these BMPs over the next year or two to determine if the BMPs' performance recovers to what was initially expected. If performance remains static or shows a declining trend, MoDOT will evaluate the BMP for modification or replacement. This is an excellent representation of the iterative process and adaptive management of MoDOT's Education and Outreach Program.

MoDOT is constantly re-evaluating and modifying their Education and Outreach Program with new iterations in content in an effort to ensure the educational message is fresh and focused on MoDOT's areas of concern and target audiences. For example, one of MoDOT's educational tools utilized during outreach events, such as the State Fair and Earth Day, is a beanbag toss game with the holes in the board located on scenes depicting areas of stormwater pollution sources. The first iteration of this beanbag game board was focused on general stormwater. The second iteration focused more on the TS4 pollution sources. This is also an excellent example of the iterative process and adaptive management of MoDOT's Education and Outreach Program. MoDOT does not currently track the utilization of interstate billboards or Dynamic Message Boards in their Education and Outreach Program. However, they are investigating the ability to track educational messages on billboards/message boards as a BMP for their Education and Outreach Program. They are also looking into the possibility of utilizing Public Service Message videos or educational brochures at locations, such as Department of Motor Vehicle offices and interstate rest areas with video capabilities and/or dedicated public information displays/repositories. (Photo #01)

MCM #2: Public Involvement and Participation

Section I.E.2 of the Permit requires the permittee to implement a public involvement/participation program that provides opportunities for both public and MoDOT community involvement in the development and oversight of the permittee's Stormwater Management Program.

The audit of this MCM was conducted as a desktop interview with no field observations. Many of MoDOT's requirements for this MCM overlap with MCM 1. The BMPs, Measurable Goals, and evaluation/iterative process of each BMP were discussed in depth. Like with MCM 1, MoDOT has

two primary target audience groups which they focus on in their Public Involvement and Participation efforts, the MoDOT Community and the General Public.

MoDOT utilizes the following BMPs for Public Involvement and Participation: maintaining a stormwater email address for public comments/concerns, offering an online “Report a Stormwater Concern” form, and tracking of all spill prevention control and countermeasures (SPCC) reports. MoDOT makes coordination with other MS4 communities, when appropriate, a standard requirement on all projects identified to be within a regulated MS4. And during periods of permit renewal or SWMP updates, MoDOT ensures a public notice period of at least 10 business days is adhered to and announces the public notice period through their “E Updates” email system contact list (comprised of a variety from both target audience groups), MoDOT connection publications, and the MoDOT website.

During the 2021 permit renewal, MoDOT adhered to the Permit application, renewal, and public notice policies in place in MoDOT’s EPG document. Public notice was advertised through the “E Updates” email system, and records are retained beyond 5 years.

MoDOT also has procedures in place to ensure coordination/collaboration occurs with other MS4 communities, especially during construction projects. Coordination initiation is intended to occur very early in the project life during the project development stage. Coordination and collaboration include meetings, phone calls, emails, and stakeholder meetings.

Each of MoDOT’s BMPs have quantitative measurable goals evaluated on an annual basis to determine the success of the BMPs performance or the need for modification or replacement of the BMP. MoDOT successfully met each BMP’s Measurable Goal(s) within this MCM except for the Measurable Goal of seeing a positive trend for stormwater concern reports received through the “Report a Stormwater Concern” form, as previously mentioned under MCM 1. The remainder of MoDOT’s BMPs performed as expected. MoDOT did note some BMPs such as the No More Trash Bash, the Adopt-A-Highway and the Sponsor-A-Highway Programs exceeded expectations despite complications from the COVID-19 pandemic. (Photo #002)

In addition to MoDOT’s outreach events as part of their efforts for Public Involvement and Participation, MoDOT also continually monitors their BMPs for the public to provide input about MoDOTs Stormwater Program (the Stormwater Email BMP) and report concerns about stormwater (the “Report a Stormwater Concern” form). As part of MoDOT’s iterative process, MoDOT annually evaluates the performance of all BMPs under MCM 2. MoDOT also looks for areas to improve on the BMPs that are already part of their Public Involvement and Participation efforts and adds new BMPs to promote greater participation and involvement from their target audience groups. For example, MoDOT calls for volunteer participation from all Divisions of the MoDOT Community throughout the state to promote participation by a larger number of staff. MoDOT also has regular, paid-time, team-building days where all staff are encouraged to go outside and pick up trash for an hour.

Although MoDOT’s stormwater management panel/committee was discontinued in 2019, it was replaced with MoDOT’s “E Updates” email BMP as part of MoDOT’s iterative process and adaptive management. This helps MoDOT capture a larger audience from both target audience

groups and allows for more open participation from both groups, especially when items such as Permit renewal and SWMP updates are open for review and comment. Since the “E Updates” email is open to anyone to subscribe, this allows for another avenue of coordination opportunities with other MS4 communities as well. This MoDOT effort toward Participation and Involvement is an excellent example of improving a BMP and making it more effective through the iterative process and adaptive management.

MCM #3: Illicit Discharge Detection and Elimination

Section I.E.3 of the Permit requires the permittee implement, and enforce a program to detect and eliminate illicit discharges, as defined in 10 CSR 20-6.200 and 40 CFR 122.34(b)(3), into the TS4. As part of the program, the permittee must also implement a storm sewer map showing the location of all known outfalls and the names and locations of all receiving waters of the state that receive discharges from those outfalls.

MoDOT utilizes many BMPs for Illicit Discharge Detection and Elimination. They maintain a sophisticated Transportation Management System (TMS) database and mapping system which utilizes GIS data to inventory all known outfalls and post construction BMPs. Additionally they maintain a stormwater email address and online “Report a Stormwater Concern” form for public reporting of issues. For internal discharges, they track all SPCC reports. MoDOT conducts regular trainings on proper materials management and illicit discharge detection. The MoDOT Engineering Policy Guide (EPG) outlines necessary steps for reporting any spills, discharges, or suspicious observations for appropriate investigative actions.).

MoDOT conducts regular dry weather screenings of all known outfalls as part of the routine bridge inspection schedule. They also utilize educational BMPs from MCMs 1 and 2 on illicit discharges as well as their Adopt-A-Highway, Sponsor-A-Highway, and No MOre Trash programs for collecting and reducing litter and fugitive trash along state highways. Providing basic training to volunteers in these programs to identify suspicious observations of potential illicit discharges and how to report them was discussed as an additional element to MCM’s 1, 2, and 3. The Department encourages this expansion of MoDOT’s outreach and education efforts as they relate to MCM 3. **(See Recommendation #1 below)**

Although MoDOT does not have regulatory legal authority to take enforcement action for illicit discharges, MoDOT does have mechanisms in place for taking actions internally for any spills or illicit discharge incidents that may occur on MoDOT job sites or at MoDOT facilities. Additionally, MoDOT has procedures in place to ensure all illicit discharges, illegal dumping, or spills are properly reported; a preliminary investigation is conducted; and the incident is reported to the appropriate local stormwater authority, if applicable, and/or the Department’s Environmental Emergency Response (EER) staff. **(See Recommendation #2 below)**

Currently, MoDOT’s outfall inventory map has all known outfalls identified where they reach classified waters of the state. MoDOT has an ongoing effort to continually update their outfall mapping inventory to also include unclassified waters of the state. MoDOT relies on the Department’s inventory of unclassified waters of the state to update their own mapping system, so as the Department updates their maps, MoDOT will update theirs. The Department encourages

MoDOT to continue in their efforts to continually update their outfall map and outfall inventory as new data becomes available.

Each of MoDOT's BMPs have quantitative measurable goals evaluated on an annual basis to determine the success of the BMPs performance or the need for modification or replacement of the BMP. MoDOT successfully met each BMP's Measurable Goal(s) within this MCM, except for the Measurable Goal of seeing a positive trend for stormwater concern reports received through the "Report a Stormwater Concern" form. The remainder of MoDOT's BMPs performed as expected; however, MoDOT has elected to re-evaluate their SPCC trainings due to some staff not receiving trainings. These missed trainings were due to extended leave or, in the case of bridge crew staff, trainings were not conducted as all current staff have completed training, therefore, there was no prompt to re-train that staff. **(See Recommendation #3 below)** The Department commends MoDOT for approaching their iterative process of internal BMPs with such scrutiny toward self-improvement.

Field visits for this MCM:

Southwest District – On April 26, outfall number 1270 was observed. Rock-lined ditch to box culvert located at N. 22nd St. and W. Jackson Rd (Hwy 14), Ozark, Christian County. Tributary to Finley Creek. Outfall was observed to be dry with no visual concerns present. (Photo #03)

Kansas City District – On April 27, un-numbered outfall, rock-lined ditch outfall located off E. Old Hwy 40 adjacent to Econo Lodge, 410 SE 1st Street, Oak Grove, Lafayette County, was observed. Outfall was observed to be dry with no visual concerns present. No outfall number listed on outfall map. This outfall is on an unclassified, waters-of-the-state tributary. This is an outfall that would be part of MoDOT's ongoing outfall map update efforts to include known outfalls discharging to unclassified waters of the state.

Central District – On May 2, outfalls number 602 and 603 were observed. Ditches to concrete pipe with flared outlet located off of Raptor Rd./Red Eagle adjacent to 5621 Raptor Rd., Jefferson City, Cole County. Tributary to Binder Lake. The area received significant rain over the weekend. Clear, unremarkable water was observed flowing from the outfall. (Photo #04)

On the same day, outfalls number 612 and 613 were observed. Rock-lined ditch outfalls located off Horner Rd. adjacent to 4725 Horner Rd, Jefferson City, Cole County. Tributary to Binder Lake. The area received significant rain over the weekend. Clear, unremarkable water was observed flowing from the outfalls.

On the same day, outfall number 6935 was observed. Concrete pipe outfall located adjacent to E. Elm St. and Marshall St. and Lewis and Clark Trail (Hwy 50/63), Jefferson City, Cole County. Tributary to Wears Creek. The area received significant rain over the weekend. Clear, unremarkable water was observed flowing from the outfall. (Photo #05)

St. Louis District – On May 3, outfalls 1053 (pipe) and 1054 (rock-lined ditch) were observed, located on the east side of Sommers Rd. adjacent to QuikTrip 8334 Hwy N, Lake St. Louis, St. Charles County. Tributary to Dardenne Creek. Outfall was observed to be dry with no visual concerns present. (Photo #06)

On the same day, outfall number 1090 was observed. Rock-lined ditch to pipe outfall located off Hanley Rd and Page Ave (Hwy 364) adjacent to Barfield Early Childhood Center, 2025 MO-364, Dardenne Prairie, St. Charles County. Outfall was observed to be dry with no visual concerns present.

MCM #4 Construction Site Stormwater Runoff Control

Section 1.E.4 of the Permit requires the permittee to develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to their TS4 from construction activities on areas owned by MoDOT that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activities disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

Area-wide Land Disturbance Stormwater

The area-wide land disturbance program is for land disturbance projects performed by MoDOT or land disturbance projects under contract by MoDOT within a permitted site. The area-wide program was previously covered under MSOP MOR100007. This portion of the Permit covers land disturbance activities across the entire State of Missouri, including land disturbance projects in areas listed in the legal description section of this Permit. For the purposes of the Permit, a permitted site is defined as, at a minimum, the area within a site boundary where work is performed or contracted by MoDOT within MoDOT's temporary or permanent right-of-way. While this portion of the Permit covers land disturbance activities across the entire State of Missouri regardless of TS4 area, for purposes of this audit and the report, the area-wide conditions will be reviewed in conjunction with MCM 4.

Sites under this previous general permit were inspected state-wide by Department Regional Office inspectors as needed. The US Environmental Protection Agency (EPA) also conducted inspections of construction sites under this MOR100007 permit in 2010 and 2011. As a result of the violations found, the EPA filed a Consent Decree.

MoDOT's Design/Environmental Section administers the MoDOT land disturbance permit. The Environmental Section is responsible for Stormwater Database administration and all land disturbance training.

MoDOT maintains a SWPPP template. EPG 806.8, MoDOT SWPPP, is contained in the SWMP as Appendix H. This section thoroughly lays out stormwater requirements, housekeeping items, inspection requirements, and BMPs. There is a printable version of the SWPPP available on the EPG site. MoDOT also maintains a project-specific SWPPP template for land disturbance projects that has blank lines and states the location of construction standards are maintained in the EPG. This template covers the permit requirements plus other items specific to MoDOT.

MoDOT maintains a land disturbance webpage, www.modot.org/land-disturbance. This page includes many "how-to's" covering many topics such as setting up projects, BMP guides, training

slides, and inspection record instructions. The page also holds a WPC manager list, permit public notification sign, SWPPP form, and links to other useful resources.

Erosion control inspections are conducted on all projects with land disturbance activity 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.

MoDOT's project inspectors are responsible for inspections of land disturbance sites. The MoDOT Resident Engineers (REs) are responsible for all aspects of contract administration, which includes enforcement of land disturbance requirements. REs conduct field evaluations and review and approve inspection report for accuracy and compliance. Each site has a minimum of two inspectors per site along with two WPCM's.

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. This training is available in MoDOT's online training database, MoDOT U.

MoDOT maintains metrics on how many MoDOT employees and how many non-MoDOT employees have been trained in land disturbance training classes. MoDOT assesses these records 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. MoDOT also tracks outside training and conferences that cover new land disturbance processes, procedures, and products. The 2021 annual report clearly shows how many MoDOT employees and non-MoDOT attendees took the training, along with a running total of active users in the MoDOT U database.

The MoDOT Stormwater Database, or Stormwater compliance System, has an assurance measure that a person must have completed land disturbance training before gaining access. Roles lock in privileges, such as only inspectors can inspect. Each role can only perform the duties they are assigned, maintaining internal controls for oversight.

While this Stormwater Database was created as a result of the past consent decree, it is a strong tool for project management and internal oversight. The database maintains all projects with information, such as acres, RE, location, date disturbed, final stabilization date (if), last certified inspection, and contract ID. The database can also provide a project view showing primary contractor, receiving waters, type of inspection (post-runoff, regular), precipitation inches, and precipitation duration. Additionally, the database provides the site-specific 2-year 2-hour rain event for each site, which is a great benefit for site management.

This database allows for the documentation and tracking of regularly scheduled and post runoff inspections, deficiencies, and instances of delay when weather conditions prevent correcting deficiencies within 7 days. The system also has the ability to send automatic email notifications, for required actions, such as an inspection coming due. Once an inspection is entered and certified by an inspector, the RE is notified via email, and the applicable database element changes colors to

let the RE know attention is needed. The RE will receive one email daily until that action is completed. Willie Johnson and Brian Williams also receive emails and maintain database oversight to ensure permit obligations are being completed as required.

The data remains in the database as a repository of info. When compiling the quarterly report for area-wide portion of the Permit, MoDOT is able to search closed out projects in the database to ensure they are 100% complete. Each quarterly report is verified against the previous quarterly report.

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 is also responsible for quality assurance audits at project sites for projects within the TS4 area. These oversight audits are conducted by Willie Johnson, who visits a minimum of 60 percent of the projects in the TS4 annually.

Once certified, the report cannot be changed or altered, and everything is time stamped. REs can reject an inspection only once. Even changes to the system are documented regarding when and why changes were made. MoDOT U sends daily notifications to Brian Williams informing him who has completed training. Brian then adds the people trained the previous day and lets them know their info was updated.

MoDOT maintains the authority to stop work on any construction job when the contractor does not perform work in compliance with contract provisions. If a contractor is causing water quality violations, the RE has the authority to take appropriate enforcement action. One enforcement action is an Order Record. This is a notification that negatively impacts a contractor's performance rating, which could ultimately lead to removal from the list of MoDOT approved contractors. Other enforcement actions include suspension of payments to the contractor or suspension of work on the project. Liquidated damages are also included in the Stormwater Database for failure to complete a deficiency within seven days. MoDOT evaluates contractors over their project performance on an annual basis.

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. These disciplinary actions range from being placed in a probationary status to disqualification from bidding on MoDOT construction contracts for a period of three years.

Field visits for this MCM & Area Wide Land disturbance:

Area-wide Land Disturbance inspection, St. Louis District – On April 11, 2022 two projects were inspected, Project Contract I210521-F01, a pavement, ADA, signal, and drainage improvements project along Manchester Road and Project Contract ID 180518-F01, a grading, paving, and new bridge construction project at I-44 and the Meramec River, both in St. Louis County. Both sites were inspected by Jenna Adkisson and were found to be in compliance with the conditions of the permit. A full report was issued by the SLRO.

Of note, Senior Inspector, Mike Litzau on the Meramec Bridge project did an exemplary job of not only knowing the practices and issues on the site but also maintaining a binder of educational

items for contractors on site. They use pictures and descriptions to show the proper installation or maintenance of BMPs (Photo #07). This shows a strong commitment to education and MoDOT's commitment to the sediment and erosion control practices on their projects.

MCM 4 oversight inspection, Southwest District – April 26, 2022 an oversight inspection was conducted on Project Contract ID 201120-G10, the Highway 65 interchange reconfiguration project. This oversight inspection was conducted by Ashley McDaniel and Chris Miller. The inspector and inspection procedures were found to be in compliance with the conditions of the Permit. (Photo #08). A full report was issued by the SWRO.

MCM 4 Kansas City District – April 27, 2022 an oversight inspection of Project Contract ID 201218-C04 Jackson County bridge replacement on Highway 24 was conducted. This oversight inspection was conducted by Sarah Wright and Adria Palmer. The inspector and inspection procedures were found to be in compliance with the conditions of the Permit. (Photo #09)

Area-wide Land Disturbance inspection, Southeast District – May 5, 2022 an inspection of Project Contract ID 211119-H10, Route A, west of Wittenberg, in Perry County was conducted by Crosley Welch and Elizabeth Stephens. The site was found to be in compliance with the conditions of the Permit. (Photo #10) A full report was issued by the SERO.

MoDOT projects under the Area-Wide portion is continuously inspected as needed by Department Regional Office staff. Overall, the MoDOT construction site control program, both MCM 4 and Area-wide land disturbance, is robust with a solid amount of checks and balances. The internal mechanisms of tracking, inspections, and oversight of those inspections are strong methods to ensure compliance.

MCM #5: Post Construction Storm Water Management in New Development and Redevelopment

Section I.E.5 of the Permit requires the permittee to develop, implement, and enforce a program to address the quality of stormwater runoff from new development and redevelopment projects on areas owned and operated by MoDOT that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale that discharge to the TS4.

MoDOT evaluates their projects for the hydrologic and hydraulic impacts to the roadway and neighboring properties. This is all outlined in the EPG 748.1.2. Projects are evaluated through the project development process and tracked through the Request for Environmental Services (RES) system. Projects are categorized as new development, redevelopment, or maintenance based on project specific criteria and project location in respect to the TS4 area. The system documents stormwater and land disturbance obligations as well as project specific design considerations for post-construction BMPs. The final plans will not be available until the final design. While the designer knows one is needed, there will not be a design at the conceptual design phase.

The outfall is documented in the outfall map of TMS. Staff are trained on post-construction BMPs and the requirements of the Permit. When a site is identified as one that will have a post-construction BMP(s), a specialist puts a marker in the system to ensure the post-construction BMP

information is captured. In this system, a BMP installation date is not added until the project is finalized.

Each post-construction BMP has a unique identification number, along with a deactivation date, which allows for changes in the future. Items are tracked and maintained, such as travel way name, route, location, year of install, what MS4 overlaps, who maintains the post-construction BMP, a short description, and inspection record. There is also a link to map with a shape file. These maps show basic information about the post-construction BMP. This information can be exported to a spreadsheet to determine the previous inspection dates and determine which structures need an inspection. The system also maintains the history of inspections and allows photos, along with the original plans, to be added for each BMP. This information is also kept on a Sharepoint page with a folder of the information, with new folders added as new post-construction BMPs are built.

MoDOT has two staff to inspect these structures. When inspections are conducted and the structure needs maintenance, the inspector will email the district with photos and instructions of what needs to be done. The district will follow up with pictures showing they did the work.

Field visits for this MCM:

April 11, 2022 St. Louis District, I-44 and Meramec Bridge Project. (Photo #11) This structure has not been accepted into the MoDOT system as a final Post-Construction BMP. This site contained a large detention basin supplemented with rock checks before and after the basin. This basin was not at final installation but was operational. Because it had rained the day before, I saw stormwater being discharged out of the basin. This stormwater traveled through a series of rock checks before entering a pipe and discharging to an outfall at the Meramec River. The stormwater showed a noticeable reduction in turbidity after each check dam, showing this rock check/ basin combination was effective. Because a local municipality is adding a trail to this section of the site, the basin is going to have an additional inlet pipe and is not considered complete.

May 2, 2022, Central District, ramp to Lafayette St. off of Highway 50 eastbound in Jefferson City, Cole County. (Photo #12) This structure is a proprietary BMP known as the Focal Point. It uses a bio filter underdrain and check dams with a clean out structure. On site Brian Williams explained what issues he would report back if this were an inspection of the structure. This is a well-maintained structure with a bit of accumulated litter. MoDOT had many constraints with space on this location. The use of this propriety BMP shows great flexibility and ingenuity on the part of MoDOT, especially in light that it took extra steps for approval of such a structure.

May 2, 2022, Central District in Columbia, Boone County, at Old 63 & Stadium Boulevard. (Photo #13) There were two separate post-construction BMPs at this intersection. Both are maintained by the City of Columbia. These were both bio-retention with native plants.

May 2, 2022, Central District, the MoDOT Columbia Project Office on Paris Road in Boone County. (Photo #14) This was a basin with rock check-dams. This structure was well maintained.

May 3, 2022, St. Charles City, St. Charles County, northwest quadrant at the ramp to Interstate 70 westbound. (Photo #15) This was large basin capturing a large amount of runoff from the roadways. It was a well maintained structure.

May 3, 2022, Wentzville, St. Charles County, MoDOT maintenance yard. (Photo #16) This was a large rock swale, fore-bay, and retention basin. Because of recent rain, I saw stormwater being discharged out of the basin. The water was being released through a pipe with a grate at the opening. The basin also had a high-riser structure for discharge when there is a higher water level. The discharge flowed through a rock swale. This water was clear with no sediment or other visible impacts. (Photo #17)

May 3, 2022, Lake St. Louis, St. Charles County, West of Interstate 64 at the Route 364 and Highway N intersection. (Photo #18) This was a large swale with rock checks. It wrapped around part of a gas station, giving it the capacity to capture the runoff from the surrounding roadways. Some accumulated litter was present; however, the structure was in good condition.

May 3, 2022, St. Charles County, between North Outer Forty Road and westbound Interstate 64. (Photo #19). This was a small ditch with rock checks. It is located off the interstate near a commuter lot. It had some accumulated litter, but the structure was in good condition.

Because of constraints due to the small size, or unique shape of the right of way, MoDOT often needs to use post-construction BMPs with small footprints that are low profile and easy to maintain. **(See Recommendation #4 below)** The structures visited during this audit were all appropriate to the areas they served, and all were well maintained. At all the sites, Brian Williams was able to explain how the structures functioned and pointed out any issues he saw. All issues were reported to the applicable district office. The online map had all the structures mapped properly.

MCM#6 Pollution Prevention/ Good Housekeeping for Municipal Operation

Section I.E.6 of the Permit requires the permittee to develop and implement an operation and maintenance program with the goal of preventing or reducing pollutant runoff from MoDOT operations and maintenance facilities located in the regulated TS4 area. The MoDOT Stormwater webpage has a list of TS4 facilities.

MoDOT manages multiple publications used for maintenance of their facilities. The majority of these publications are housed in the EPG. Some examples of these policies include Roadside Vegetation Management, EPG 171.6.4; Preventive Maintenance Guidelines for Bridges, EPG 171.7; and Operator's Guide for Anti-Icing, EPG 133. MoDOT also maintains schedules and procedures for street sweeping, structural maintenance, and ditch maintenance.

MoDOT facilities within the regulated TS4 area have a Facility Runoff Control Plan (FRCP). These plans requires, at a minimum, bi-yearly inspections of the facility to ensure there is implementation of Good Housekeeping/Pollution Prevention measures, identify potential pollutants and sources, and ensure action is taken to control those sources. At these facilities, pollutants are generated by daily operations and normal activities. The MoDOT Stormwater Management Program focuses on managing the facilities to reduce the risk of stormwater pollution by minimizing the exposure of target pollutants to the environment. Issues identified during facility inspections are to be addressed or resolved prior to the next rain event.

MoDOT also has implemented SPCC plans at applicable maintenance facilities for prevention of oil spills or for timely, effective response in the event of a spill or leak. Both the FRCP and any SPCC plans are kept on MoDOT's SharePoint site and at the applicable facility.

MoDOT provides internal training to promote Good Housekeeping/Pollution Prevention throughout the reporting period. The measurable goal is to train 100% of the applicable staff every other year on good housekeeping and pollution prevention. According to the Annual Reports, MoDOT has maintained this measurable goal with the exception of 2020 when the pandemic caused the trained staff number to fall to 94%. Considering the issues and limitations of the pandemic, training 94% of staff is a strong showing and clearly work was done on the part of MoDOT to earn that percentage.

Field visits for this MCM:

The following sites were inspected by Sarah Wright. Additionally, the site FRCPs, applicable SPCCs, and inspection records were reviewed at each site.

April 26, 2022, Southwest District, Springfield Complex, Greene County. (Photo #20) This was a well-maintained facility. This facility had great BMPs near inlets and outfalls to increase the pollution prevention. They showed us the location of laptops for team members to use to access the MMS system. Overall this a very well-maintained site, the team members showed a strong commitment to education and training.

April 27, 2022, Kansas City District, Lee's Summit facilities (East and West), Jackson County. (Photo #21) This location houses two entities. Ample spill kits were available, and the yard was maintained well. With two entities in one location, this site shows strong teamwork and commitment to MoDOT policies and procedures.

May 2, 2022, Central District, Jefferson City facility, Cole County. (Photo #22) This was an extremely clean site. The very large covered garage structure is a great asset. It is clear site management is a strong element at this location.

May 3, 2022, St. Louis District, Wentzville facility, St. Charles County. (Photo #23) This is a large facility with a post-construction BMP on site with a gate valve to shut off any spills. This was a well-maintained facility. Having a post-construction BMP on site is great asset, especially when the team members on site have knowledge of the structure, like the staff at this facility.

May 4, 2022, St. Louis District, Normandy, St. Louis County. (Photo #24) This facility is smaller but still maintains a very high level of activity. The facility was maintained well. Upon our arrival, staff was seen cleaning the fence line litter that accumulates from Interstate 70 blow off. This is commendable and shows the strong commitment of the team members.

May 4, 2022, St. Louis District, Sunset Hills, St. Louis County. (Photo #25) This was a large facility. The facility was very well kept, and the records were nicely organized. There were no issues found at this location.

May 4, 2022, St. Louis District, Lemay, St. Louis County. (Photo #26) This was a smaller lot, but it still maintains a very high level of activity. There was strong organization to this site. I also saw an active project on site to help control stormwater flows. This is a worthy project for stormwater management.

Every location was in compliance with permit conditions. Overall the organization of these sites was impressive. These yards are constantly operating, with large equipment and large quantities of materials. To see the overall attention to pollution prevention and material management was remarkable.

The FRCP plans and inspection reports were all well-kept, and showed the consideration to good housekeeping each facility maintains. Overall each facility had a strong understanding of appropriate BMPs, maintained proper procedures for equipment washing and storage, and maintained their yards to the best of their ability. There were some issues with the condition of the pavement at a few of the yards. (Photo #27) **(See Recommendations #5-#6 below)**

Other TS4 requirements

Annual Reports

Section I.F of the Permit requires the annual submission of a MS4 Stormwater Management Program Report.

As part of the file review in preparation for this audit, MoDOT's past Annual Reports were reviewed. MoDOT has submitted timely annual reports to date. Each report provides clear detail on progress made toward achieving their measurable goals. They include valuable details on their evaluations of each BMP's performance and steps proposed and/or taken to modify any BMPs they've determined are in need of modification.

MoDOT's use of tables for their BMPs in the SWMP and Annual Reports to detail progress toward achieving their Measurable Goals is an excellent representation of describing their iterative process and adaptive management in effect. The Department encourages MoDOT to continue to use this format for the SWMP and Annual Reports going forward.

Total Maximum Daily Load (TMDL)

The permittee shall develop and maintain a TMDL Assumptions and Requirement Attainment Plan (ARAP) if any area of the TS4 is identified in an EPA approved or established TMDL with an applicable Wasteload Allocation (WLA).

MoDOT maintains procedures to ensure there is preference on types of BMPs whenever projects have the potential to discharge to watersheds where a TMDL has been developed and includes a waste load allocation (WLA) for MoDOT.

MoDOT is currently named in four TMDLs with an applicable waste load allocation: Coldwater Creek, Fishpot Creek, Creve Coeur Creek, and Watkins Creek. Because MoDOT is named in these TMDLs, an ARAP is required to outline BMPs implemented to ensure attainment of the applicable waste load allocations assigned in the TMDL. MoDOT submitted a "No Additional Controls"

ARAP to the Department on January 17, 2017. The Department approved the ARAP on March 9, 2017. Evaluation of the approved ARAP is conducted on an annual basis by MoDOT, and documented in the annual report submitted to the Department.

Sampling and Monitoring

No samples are required by this Permit, and no samples were taken on the Audit.

Compliance Determination, Violations, and Required Actions

The facility was found to be in compliance with the Missouri Clean Water Law, the Missouri Clear Water Commission regulations, and MSOP MO0137910 based upon observations made during the audit.

Recommendations

- 1) Consider working with organizations to find more education outlets. MoDOT right of ways cover many watersheds. Working with existing organizations can give MoDOT the access to an audience and help the organizations with access to educational tools. Adding more anti-litter education to places such as rest-stops and commuter lots could reach target audiences and use property owned by MoDOT.
- 2) Consider mechanisms to communicate IDDE issues to the regional offices of the Department. MoDOT and the Department already have good communication in the construction program, and this should be continued and expanded to MCM #3. Because MoDOT has limited enforcement, consideration should be given to work out stronger mechanisms with the Department. Please work with the Department's Water Protection Program staff to find ways of communicating and codifying mechanisms for IDDE enforcement.
- 3) Because of turnover, or lack thereof in some cases, some staff on the bridge crews did not receive the IDDE training, or refresher training, required as part of MoDOT's measurable goals. Increased frequency of this training or requiring the training within a determined amount of hire date (such as within 60 days of hire date) will help ensure all bridge staff are properly trained and receive their refresher trainings on IDDE.
- 4) Continue to explore new technology or methods for post-construction BMPs specific to transportation departments. With more attention to stormwater quality, new technology and more research is available. With the possible addition of new TS4 regulated areas, MoDOT may also want to consider more staff trained in post-construction BMP inspections. These structures are a strong mechanism for water protection when they function as designed, and inspections are the front line for determining the function.
- 5) Ensure facility inspections look at dumpsters used for roadkill carcass disposal. Any leaks from those structures should be handled with applicable BMPs until a suitable replacement dumpster can be obtained.

6) Consider re-paving of already paved areas in MoDOT facility yards. Often gravel is a more suitable surface as it absorbs more runoff and any potential spills or leaks. However, it is understood that is not always the preferred surface. For facilities that have been paved, it is important to maintain that surface. When pavement breaks down, it breaks into sediment which is a pollutant that easily leaves the site. This pavement sediment is a large contributor to stream sediment. Asphalt sediment often contains metals and polycyclic aromatic hydrocarbons (PAHs). By maintaining the pavement, the amount of sediment being washed off the site due to broken pavement will be reduced.

Additional Comments/Conclusions

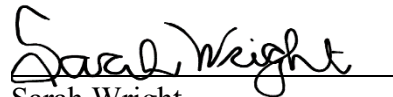
The focus on training and internal education permeates the entire TS4 and Area Wide Land Disturbance program. This self-education is apparent in all parts of the MoDOT stormwater program. Using education is the pillar of this TS4 Program, makes the program strong, and was apparent throughout the audit. Accountability is upheld from the Stormwater Coordinator to the District Maintenance areas, to the District Engineers. The use of tracking with internal reminders, electronic databases, and the online EPG are incredibly strong BMPs, and MoDOT is commended for their use. These elements all make MoDOT's sediment and erosion control program strong. Many of the elements MoDOT employs in their stormwater program can be used as examples for other MS4s in Missouri to look to for guidance.

We thank the MoDOT staff for their dedication to this audit. The time and attention they gave during the file reviews, interview portions, and the field portions was appreciated. Every MoDOT team member we encountered was professional, knowledgeable, and gave us the time we needed to learn about their systems and procedures. The time and attention we were given at every visit shows MoDOT's commitment to their compliance with this Permit. We look forward to continued coordination between our agencies.

Any questions regarding this report should be directed to Sarah Wright by phone at 573-526-1139; or by email at sarah.wright@dnr.mo.gov.

Signatures

SUBMITTED BY:



Sarah Wright
Land Disturbance & MS4 Permit Coordinator
Water Protection Program

REVIEWED BY:



Mike Irwin
Environmental Supervisor
Water Protection Program

Attachments

- Attachment 1: Photographs (#1 through #27)
- Attachment 2: Aerial Map #1



Photograph: #01
Taken By: Erin Heidolph
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Interstate 44 westbound, Webster County, MO

Description: Dynamic Message Board showing anti-litter message.



Photograph: #02
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Stadium Blvd, Columbia, MO

Description: No MOre Trash bags from clean up, MoDOT picks up the bags after the cleanup.



Photograph: #03
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPC Unit

Entity: MoDOT
Permit: MO0137910
Location: 22nd St. and W. Jackson Rd (Hwy 14), Ozark, MO

Description: Outfall to Tributary to Finley Creek.



Photograph: #04
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Raptor Rd./Red Eagle adjacent to 5621 Raptor Rd, Jefferson City, MO

Description: Outfall to Tributary to Binder Lake.



Photograph: #05
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Under Hwy 50/63, Jefferson City, MO

Description: Outfall to Tributary to Wears Creek.



Photograph: #06
Taken By: Jessie Yates
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: East side of Sommers Rd. adjacent to 8334 Hwy N, Lake St. Louis, MO

Description: Rock-lined ditch outfall to Tributary to Dardenne Creek.



Photograph: #07
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: I-44 at the Meramec River, Fenton, MO

Description: Binder showing proper installation or maintenance of BMPs



Photograph: #08
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Highway 65, Springfield, MO

Description: Edge of disturbance top of slope.



Photograph: #09
Taken By: Sarah Wright
Date Taken: April 27, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Highway 24, Buckner, MO

Description: Looking over disturbance.



Photograph: #10
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Route A, west of Wittenberg, Perry County, MO

Description: Facing Disturbance.



Photograph: #11
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: I-44 at the Meramec River, Fenton, MO

Description: Not yet completed basin, construction not finalized.



Photograph: #12
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Ramp to Lafayette St. Jefferson City, MO

Description: Focal Point post-construction BMP.



Photograph: #13
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Old 63 & Stadium Boulevard, Columbia, MO

Description: Bio-retention, maintained by the City of Columbia.



Photograph: #14
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: MoDOT Columbia Project Office, Paris Road, Boone County MO

Description: Check dam into large basin.



Photograph: #15
Taken By: Sarah Wright
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Ramp to Interstate 70 westbound, St. Charles, MO

Description: Large basin. Uses the space, and the depression to collect a large amount of runoff from the surrounding roadways.



Photograph: #16
Taken By: Sarah Wright
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: MoDOT maintenance yard, Wentzville, MO

Description: Forebay with riprap to separate from basin. Outlet at the far end.



Photograph: #17
Taken By: Sarah Wright
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: MoDOT maintenance yard, Wentzville, MO

Description: Outfall of the basin, water discharging to swale of rock.



Photograph: #18
Taken By: Sarah Wright
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: West of Interstate 64 at the Route 364 and Highway N intersection, Lake St. Louis, MO

Description: This was a large swale with rock checks.



Photograph: #19
Taken By: Sarah Wright
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: North Outer Forty Road and westbound Interstate 64, St. Charles County, MO

Description: Rock swale, near commuter lot.



Photograph: #20
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Springfield Complex, Greene County, MO

Description: Area inlet properly protected with riprap and gravel. Note organized lot, no issues found.



Photograph: #21
Taken By: Sarah Wright
Date Taken: April 27, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Lee's Summit facility, Jackson County, MO

Description: Clean lot, substantial BMPs. No issues found.



Photograph: #22
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Jefferson City facility, Cole County, MO

Description: Substantial permanent cover for equipment. Exceptionally organized facility, no issues found.



Photograph: #23
Taken By: Sarah Wright
Date Taken: May 3, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Wentzville facility, St. Charles County, MO

Description: Dumpster for road kill carcasses. No issues found at facility.



Photograph: #24
Taken By: Sarah Wright
Date Taken:
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Normandy Facility, St. Louis County, MO

Description: Well-maintained facility, no issues found.



Photograph: #25
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Sunset Hills facility, St. Louis County, MO

Description: Large open facility, well maintained. No issues found.



Photograph: #26
Taken By: Sarah Wright
Date Taken: May 2, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Lemay facility, St. Louis County, MO

Description: Clean organized facility. No issues found.

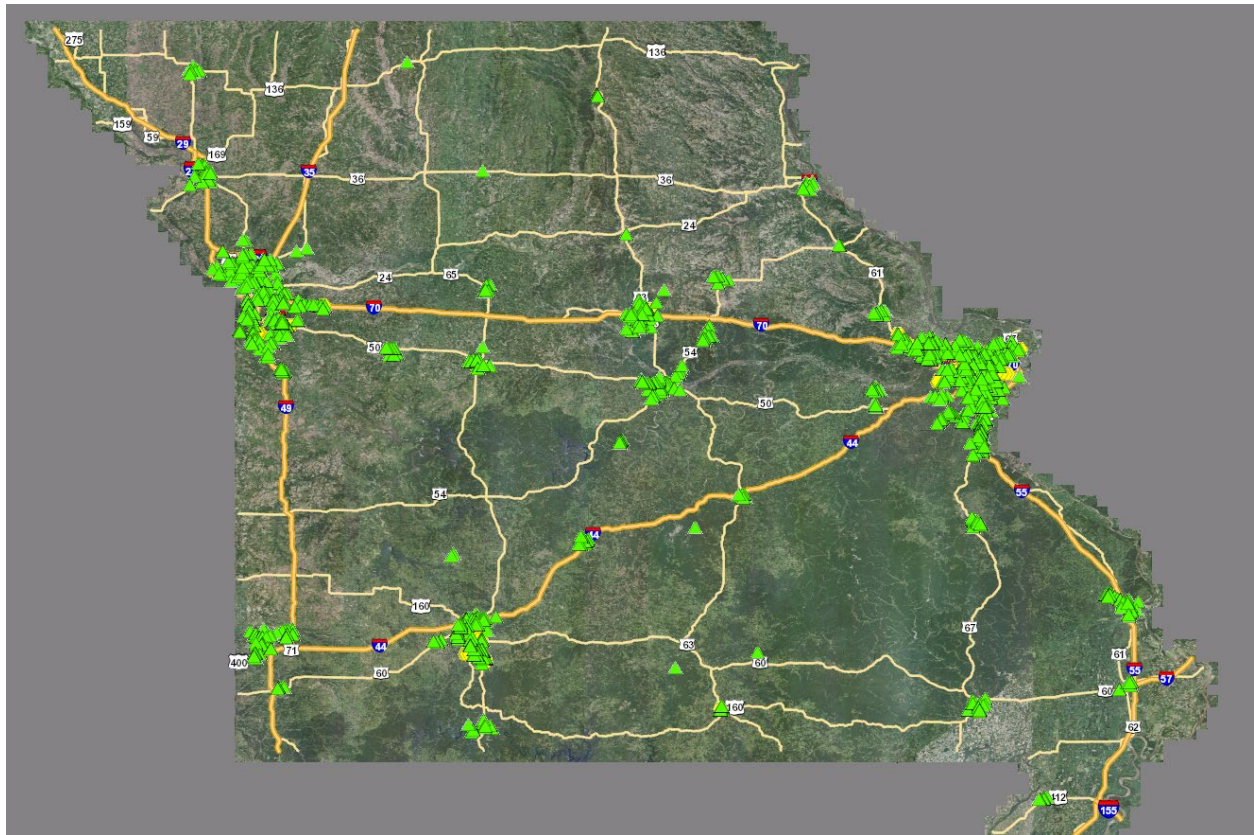


Photograph: #27
Taken By: Sarah Wright
Date Taken: April 26, 2022
Program: WPP

Entity: MoDOT
Permit: MO0137910
Location: Sunset Hills facility, St. Louis County, MO

Description: Note the asphalt crumbling. This was seen at a more than this facility.

DATE



Map 1. Aerial map with known TS4 outfalls and post-construction BMPs.