

# New Permit & EPG Updates for Design

State Operating Permit MO-0137910

# New Permit & EPG Updates for Design

- New Stacked Permit
  - Section I – Transportation Separate Storm Sewer System (TS4) Permit Conditions
    - Regulatory Requirement
    - Stormwater Management Plan
    - Minimum Control Measures (MCMs)
      - MCM 1 - MoDOT Community & Public Outreach and Education on Stormwater Impacts
      - MCM 2 - MoDOT Community & Public Involvement/Participation Program
      - MCM 3 - Illicit Discharge Detection and Elimination
      - MCM 4 - Construction Stormwater Runoff Control
      - MCM 5 – Post-Construction Stormwater Management in New Development & Redevelopment
      - MCM 6 – Pollution Prevention /Good Housekeeping
    - Annual Report
- Break

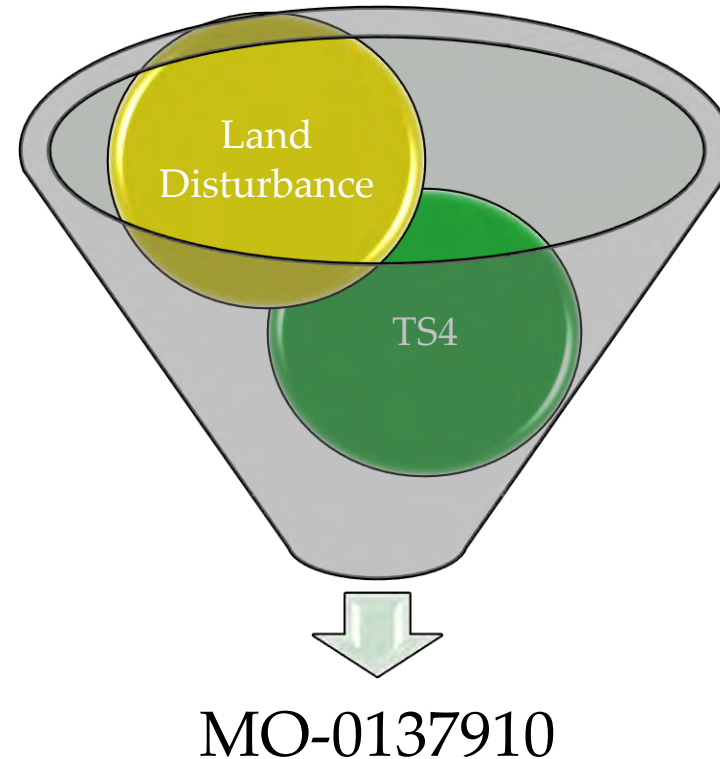


# New Permit & EPG Updates for Design cont.

- Section II – Area Wide Land Disturbance Stormwater Permit Conditions
  - Area-wide Land Disturbance Permit Program
    - What is covered
    - Program Requirements
  - Support Activities
  - Storm Water Pollution Prevention Plan (SWPPP) Requirements
- EPG Updates
  - Article 237.2
  - Article 237.4
  - Article 806.1-806.8

# New Stacked Permit MO-0137910

- Incorporated TS4 and Land Disturbance under one individual permit;
- Saves MoDOT money;
- Allowed customization;
- Helps align National Pollution Discharge Elimination System (NPDES) requirements.



# Regulatory Requirement

- MS4 –Municipal Separate Storm Sewer System (40 CFR 122.26(b)(8))– a conveyance or a system of conveyances (*Including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains*):
  - Owned or operated by a state, city, town, county, or other public body that discharges into water of the United States.
  - Design or used for collecting or conveying stormwater;
  - Which is not a combined sewer, and;
  - Which is not part of a publicly owned treatment works (POTW)
- TS4 is an MS4 for Transportation Agencies

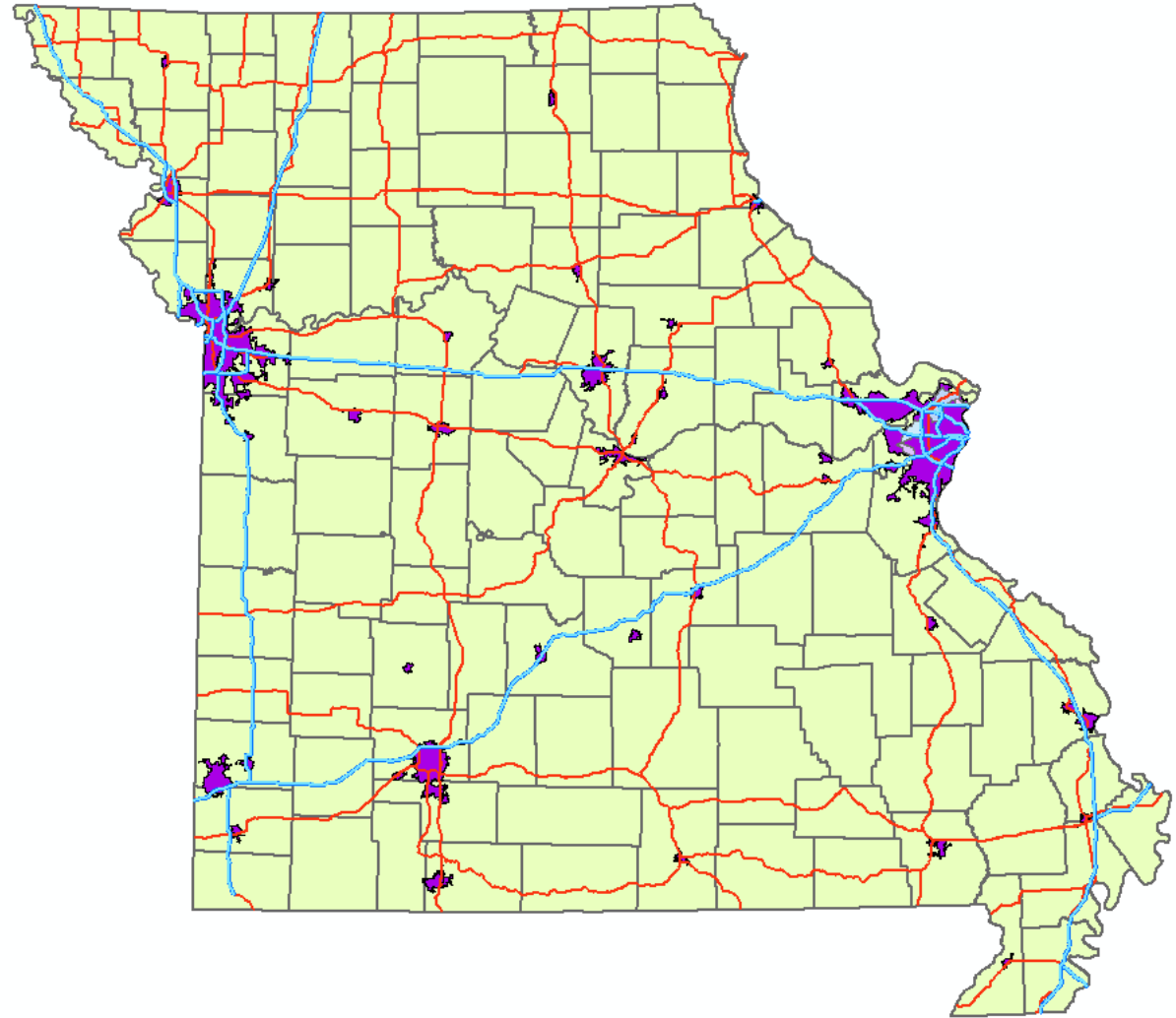


# Regulatory Requirement cont.

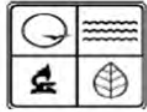
- Large, Medium, & Small MS4s
  - Large – Urbanized areas with population  $\geq 250,000$
  - Medium - Urbanized areas with population between 100,000 - 250,000;
  - Small – Urbanized areas with population of at least 50,000 or an unurbanized area with population of 10,000 or more and a population density of at least 1,000 people per sq. mile.



# MS4 Communities in Missouri







Arnold	Country Club, Village of	Jasper County	O'Fallon	Sugar Creek
Ballwin (MSD)	Crestwood (MSD)	Jefferson City	Olivette (MSD)	Sunset Hills (MSD)
Battlefield	Creve Coeur (MSD)	Jefferson County (JeffCo)	Oronogo (Spring River)	Troy
Bellefontaine Neighbors (MSD)	Crystal City (JeffCo)	Jennings (MSD)	Overland (MSD)	Town And Country (MSD)
Bel-Nor, Village Of (MSD)	Dardenne Prairie	Joplin	Ozark	U.S. Medical Center for Federal Prisoners
Bel-Ridge, Village Of (MSD)	Dellwood (MSD)	Kansas City*	Pagedale (MSD)	Union
Belton	Des Peres (MSD)	Kennett	Parkville	University City (MSD)
Berkeley (MSD)	Duquesne	Kirksville	Pevely (JeffCo)	University of Missouri-CoI (CoMo)
Black Jack (MSD)	Eureka	Kirkwood (MSD)	Peculiar	Valley Park (MSD)
Blue Springs	Ellisville (MSD)	Ladue (MSD)	Platte County	Vinita Park (MSD)
Bolivar	Excelsior Springs	Lake Lotawana	Pleasant Valley	Warrensburg
Boone County (CoMo)	Farmington	Lake St. Louis	Poplar Bluff	Warson Woods (MSD)
Branson	Fenton (MSD)	Lake Winnebago	Raymore	Washington
Breckenridge Hills (MSD)	Ferguson (MSD)	Lakeshire (MSD)	Raytown	Weatherby Lake
Brentwood (MSD)	Festus (JeffCo)	Lebanon	Republic	Webb City
Bridgeton (MSD)	Florissant (MSD)	Lee's Summit	Richmond Heights (MSD)	Webster Groves (MSD)
Byrnes Mill (JeffCo)	Fort Leonard Wood	Liberty	Riverside	Weldon Spring
Callaway County	Frontenac (MSD)	Manchester (MSD)	Riverview, Village of (MSD)	Wentzville
Calverton Park, Village of (MSD)	Fulton	Marlborough, Village of (MSD)	Rock Hill (MSD)	West Plains
Cape Girardeau City	Gladstone	Marshall	Rolla	Wildwood (MSD)
Cape Girardeau County	Glendale (MSD)	Maryland Heights (MSD)	Sedalia	Winchester (MSD)
Carl Junction	Grain Valley	Maryville	Shrewsbury (MSD)	Woodson Terrace (MSD)
Cartersville	Grandview	Mexico	Sikeston	
Carthage	Green Park (MSD)	MoDOT	Smithville	162 Total MS4s
Cass County	Greene County	Moberly	Springfield*	94 Total Permits
Charlack (MSD)	Greenwood	Moline Acres (MSD)	St. Charles	
Chesterfield (MSD)	Hanley Hills, Village Of (MSD)	Neosho	St. Ann (MSD)	
Christian County	Hannibal	Newton County	St. Charles County	
Clarkson Valley (MSD)	Harrisonville	Nixa	St. John (MSD)	
Claycomo, Village of	Hazelwood (MSD)	Normandy (MSD)	St. Joseph	
Clayton (MSD)	Herculaneum (JeffCo)	North Kansas City	St. Louis (MSD) (MSD)	
Cole County	Holts Summit	Northwoods (MSD)	St. Louis County (MSD)	
Columbia (CoMo)	Independence*	Norwood Court, Town of (MSD)	St. Martins	
Cool Valley (MSD)	Jackson, City of	Oak Grove	St. Peters	
Cottleville	Jackson County (Salem E)	Oakland (MSD)	Strafford	

Newly designated 10K+ communities based on 2010 Census; Newly designated communities <10K based on 2010 Census and redefined Urbanized Areas.

\*Phase I communities with populations of 100,000+ at time of 1990 census. (MSD) = St. Louis Metropolitan Sewer District Co-Permittees (Total = 61); (JeffCo) Jefferson County Co-Permittees (6); (CoMo) Columbia, MU, Boone County Co-Permittees (3)



## Regulatory Requirement cont.

- MoDOT's TS4 permit authorizes stormwater discharges located in:
  - Urbanized areas;
  - Regulated MS4s not located in urbanized areas;
  - Watersheds subject to an approved and effective Total Maximum Daily Load (TMDL);
  - Outstanding National Resource Waters;
  - Outstanding State Resource Waters and;
  - Statewide as established for illicit discharges and bridge washing.



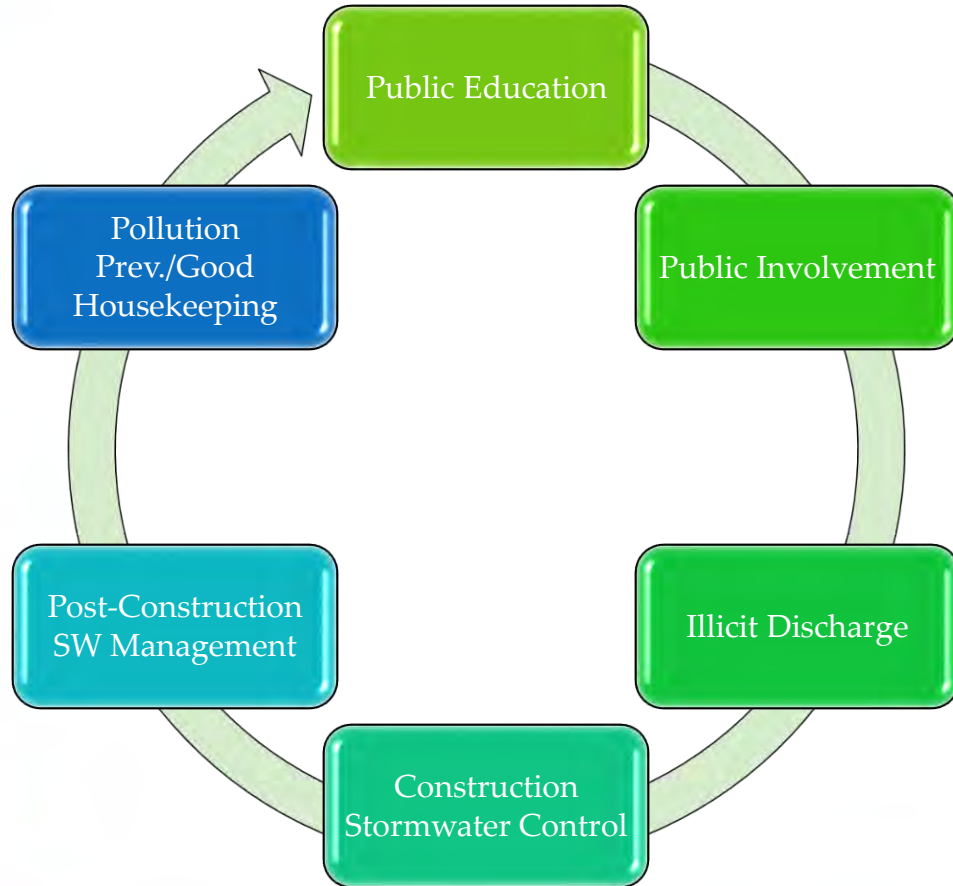
# Storm Water Management Program (SWMP)

- Plan for reducing the discharge of pollutants;
  - Must contain Best Management Practices (BMPs) with purpose of reducing stormwater;
  - Must contain measurable goals for each BMP that are quantifiable;
  - Outline a person responsible for the SWMP;
  - Iterative process must be outlined to determine effectiveness of BMPs.
  - Visit [www.modot.org/stormwater](http://www.modot.org/stormwater)





# Permit Minimum Control Measures (MCMs)



- 6-focus areas
- Programs for each MCM
- Program obligations only apply in areas where TS4 are applicable (Except for Illicit Discharge)

# MCM #1 - Public Education and Outreach

- Educate MoDOT community and public on discharge impacts to waterbodies;
- Steps that MoDOT community can take to reduce pollutants;
- Outreach opportunities MoDOT uses:
  - Earth Day
  - State Fair
  - Other education engagements.





# MCM #2 - MoDOT Community & Public Involvement

- Involvement in SWMP development;
- Application renewals;
- Public notice periods,
- Provide Plan to target stakeholders;
- Availability for citizen volunteers to assist with right-of-way clean up efforts



## MCM #3 - Illicit Discharge Detection & Elimination (IDDE)

- Plan to detect and eliminate illicit discharges into the TS4;
- Map all outfalls that receive discharges from the TS4;
- Standard operating procedure for notification to appropriate agencies;
- Detection schedule;
- Report a stormwater concern form;
- Vehicle accidents are not considered illicit discharges unless spill enters waters of the state.





Organizational Assessment and Succession Plan



**Missouri State Highway Fatalities**  
As of 1/14  
2020 - **25** 2019 - **22**



**Cognos Reporting**



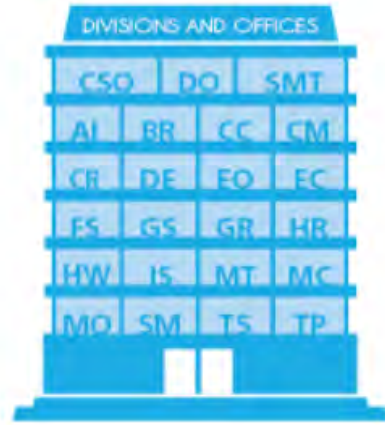
**Connections**



**Directory**



**Emergency Response**



# MoDOT INCIDENT RESPONSE PLAN (IRP)

## PRIVACY STATEMENT

Public disclosure of this document would have a reasonable likelihood of threatening public safety by exposing a vulnerability to terrorist attack. Accordingly, the Department of Transportation (MoDOT) is withholding this document from full public disclosure and is treating it as a confidential document. Note that a public agency that receives a confidential public record from another public agency is required to maintain the confidentiality of the record. For more information, please contact the Director.

### FORWARD

- CHAPTER 1: [Command and Management](#)
- CHAPTER 2: [Preparedness](#)
- CHAPTER 3: [Resource Management](#)
- CHAPTER 4: [Communications and Information Management](#)
- CHAPTER 5: [Supporting Technologies](#)
- CHAPTER 6: [Ongoing Management and Maintenance](#)

### ANNEXES - SUPPLEMENTAL PLANS

- A. [Continuity of Operations Plan \(COOP\)](#)
  - Appendix A - [Leadership Succession](#)
  - Appendix B - [Drive-Away Kits](#)
  - Appendix C - [Implementation Checklist](#)
  - Appendix D1 - [Critical Function Summary](#)
  - Appendix D2 - [Supplemental Critical Functions for Pandemic Influenza](#)
- B. [Severe Weather Response Plan](#)
- C. [Hazardous Materials Response Plan](#)
- D. [Radiological Response Plan](#)
- E. [Terrorism Response Plan](#)
- F. [Pandemic Influenza Response Plan](#)
  - Appendix A - [Federal Government Response Stages](#)
  - Appendix B - [MoDOT's Pandemic Influenza Communications Plan](#)
    - Attachment 1 - [Detailed guidelines for what triggers a media alert in the event roads are closed due to pandemic influenza](#)

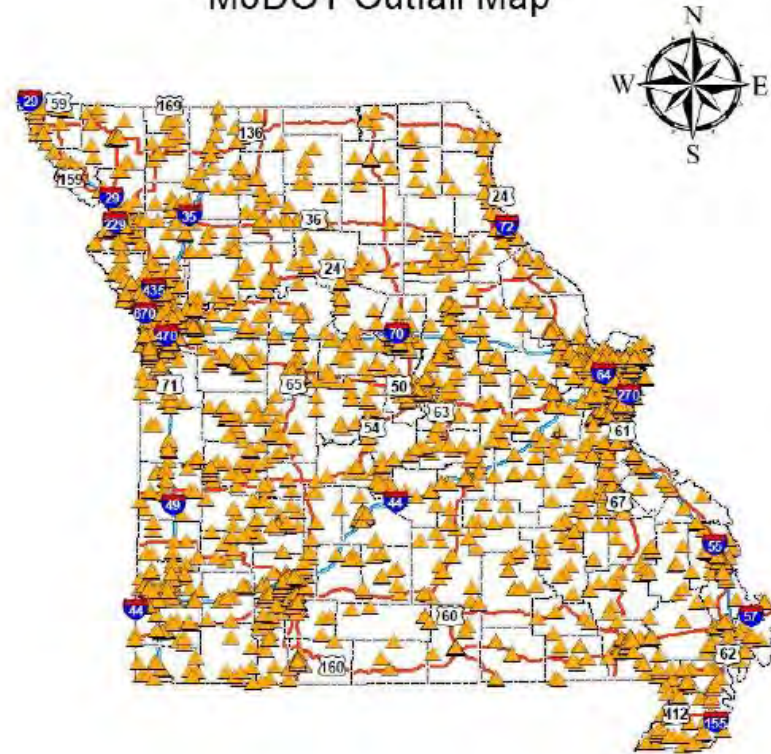
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# Outfalls within MoDOT's TS4 Area

MoDOT Outfall Map



Updated May 2019



# MCM #4 - Construction Stormwater Runoff Control

- Program to reduce pollutants from construction activities one-acre or greater within the TS4 area;
- Program is developed around land disturbance permit requirements;
  - Good housekeeping requirements;
  - Inspection procedures;
  - Plan reviews;
  - Sanctions to insure compliance.
- TS4 program is not any different than what we do for any project.





# MCM #5 - Post-Construction Runoff Control

- Applicable to New Development or Redevelopment projects in TS4 area one-acre or greater;
- New Development – development where transportation facility previously did not exist. (EPG 127.29)
- Redevelopment - non-maintenance work to existing facility which provides an increased through lane of travel. (EPG 127.29)
- Post-construction BMPs must be considered to mimic pre-construction runoff condition in new development



# MCM #5 - Post-Construction Runoff Control

## Land Disturbance / Stormwater:

Will project involve 1 acre of land disturbance:

- Yes  
 No  
 Unknown

*Projects with one acre or greater land disturbance activities must comply with the Land Disturbance Permit requirements.*

Define project type (see definitions below):

- New Development  
 Redevelopment  
 Maintenance

**New Development** - Projects (with land disturbance greater than or equal to 1 acre) that are constructed where there was previously no transportation facility.

**Redevelopment** - Non-maintenance work performed to or on an existing public transportation facility which provides for an increased number of thru lanes of travel unless the work can be accommodated without increasing the width of the existing pavement. Widening of an existing road that does not result in an additional thru lane does not constitute redevelopment. Widening to add shoulders does not constitute a thru lane unless the total widening is greater than or equal to 10 feet.

**Maintenance** - Projects that do not meet the criteria of redevelopment or new development.

## Number of Displacements(do not include partial takes that do not displace):

Residential:  Yes  No

Commercial:  Yes  No

No. of People:

Residences:

No. of Employees:

Businesses:

Public Hearing/Meeting  
Information:

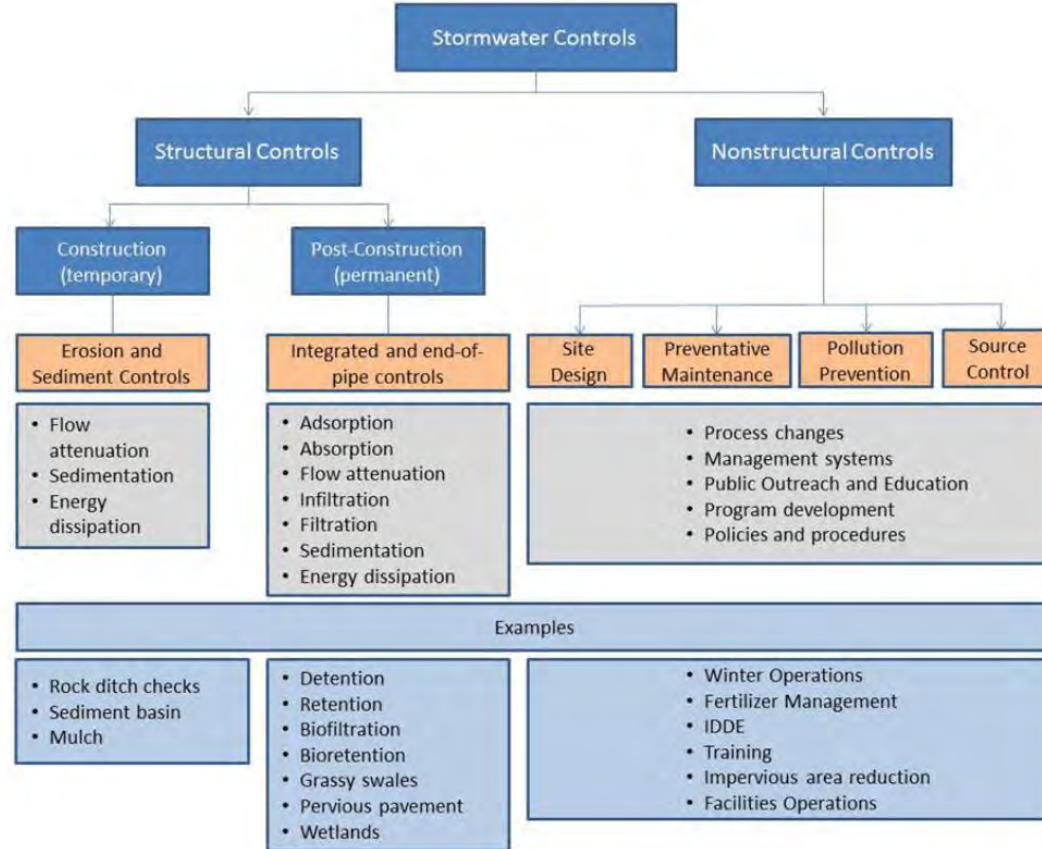


# EPG 127.29.7

## 127.29.7 Flow Chart

### BMP Types

- Detention/Retention
- Infiltration
- Vegetative



# MCM #6 – Pollution Prevention/Good Housekeeping



- Program to address runoff from MoDOT's operations and maintenance areas within the TS4 area.
- Training to reduce or prevent pollution from:
  - Welcome centers, rest areas, & commuter lots;
  - Maintenance buildings;
  - New construction and land disturbance; and
  - Bridge washing/cleaning activities
- Inspection frequencies for structural BMP implementation (FRCP)



# Annual Report

- Submit no later than February 28;
- Outlines BMPs, quantifiable measurable goals, and results of compliance effort for the year, and consideration for each BMP and measurable goal through the iterative process to determine effectiveness for future use.
- Documentation is key – if it is not documented it did not happen.

Stormwater Management Plan	
<b>Measurable Goal 1a</b>	MoDOT will track how many visitors have used our storm water webpage ( <a href="http://www.modot.org/stormwater">www.modot.org/stormwater</a> ) (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
<b>Purpose Statement</b>	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.
<b>Intended Outcome</b>	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.
	<ul style="list-style-type: none"> <li>• Visitors to MoDOT's Stormwater web page</li> <li>• Stormwater Brochure viewings</li> <li>• TS4 Permit viewings</li> <li>• The SMP viewings</li> <li>• The snow removal fact sheet</li> </ul>
<b>Progress</b>	Satisfied: Yes: <input type="checkbox"/> No: <input type="checkbox"/>
<b>Explanation</b>	
<b>Measurable Goal 1b</b>	MoDOT will track use of its stormwater email ( <a href="mailto:stormwater@modot.mo.gov">stormwater@modot.mo.gov</a> ).
<b>Purpose Statement</b>	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.
<b>Intended Outcome</b>	The intended outcome is to get the public to utilize the stormwater email address to communicate any questions or concerns regarding stormwater.
	<ul style="list-style-type: none"> <li>• How many emails were received through the <a href="mailto:stormwater@modot.mo.gov">stormwater@modot.mo.gov</a> address?</li> </ul>
<b>Progress</b>	Satisfied: Yes: <input type="checkbox"/> No: <input type="checkbox"/>
<b>Explanation</b>	

Questions?

Over TS4





# Let's take a Break

Be back in 10 min



## Section II - Area-Wide Land Disturbance Stormwater Permit Conditions

- Land Disturbance Permit – not just a Construction problem;
- Key to success in land disturbance begins with Design;
- Erosion & Sediment control just as important as asphalt, steel, and concrete.





# Area-Wide Land Disturbance Permit Program

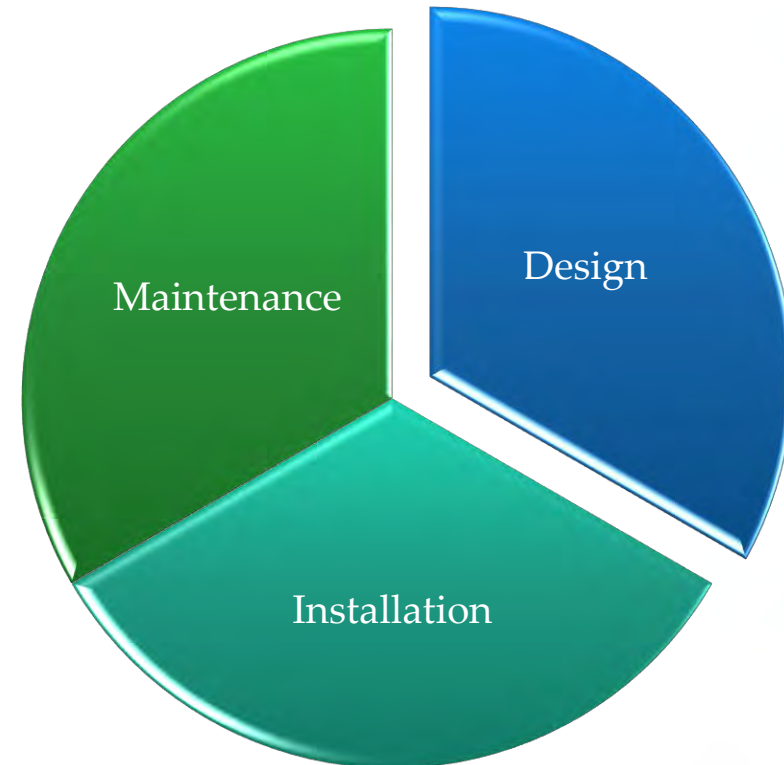
What is covered???

- All projects one-acre or greater;
- Projects less than an acre if they are part of a common plan;
- Permitted site – areas within the site boundary where work is performed or contracted by MoDOT:
  - Area within MoDOT R/W
  - Easements and



# Program Requirements

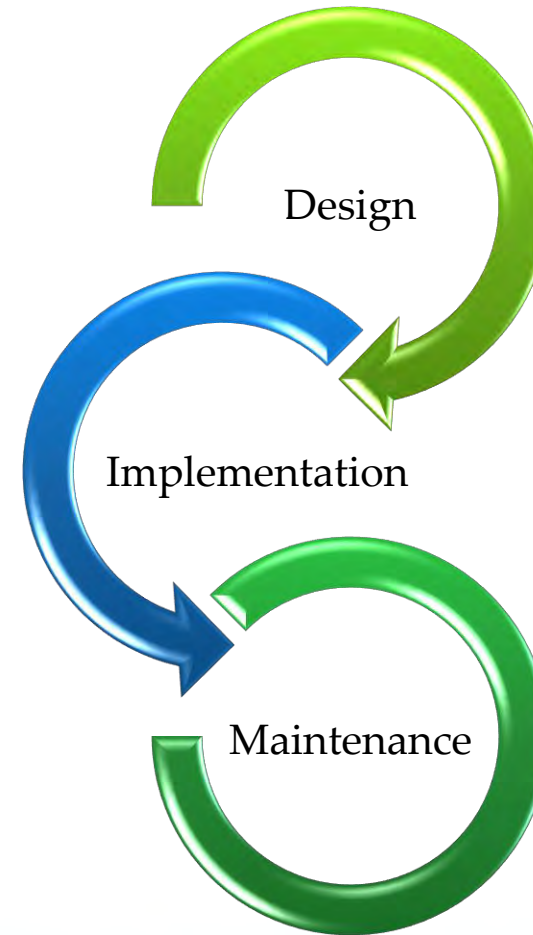
- Ensure the **DESIGN**, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants by:
  - Controlling stormwater volume and velocity within the site;
  - Controlling stormwater discharges, including peak flow rates and total stormwater volume, to minimize erosion at outlets
  - Address factors such as amount, frequency, intensity, and duration of precipitation, to minimize sediment discharges from the site

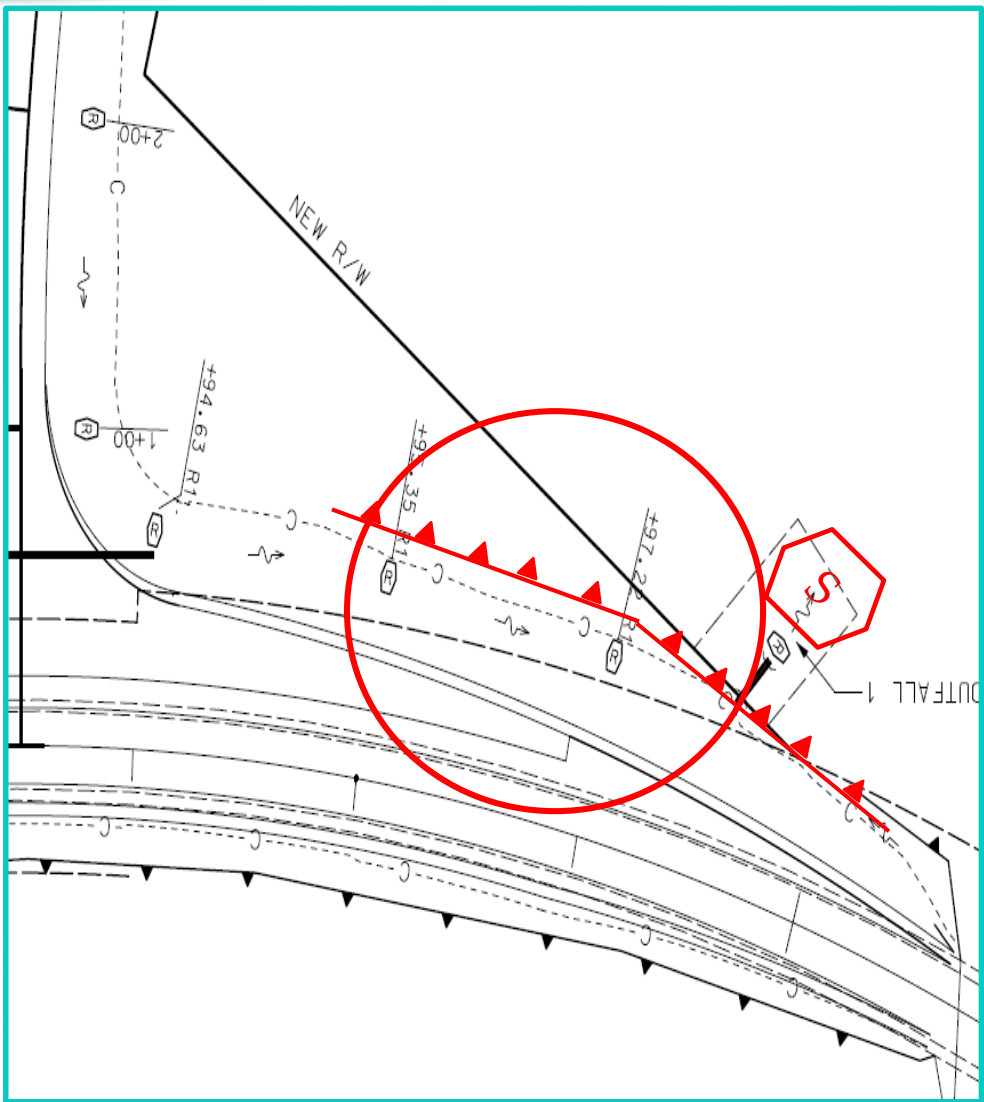




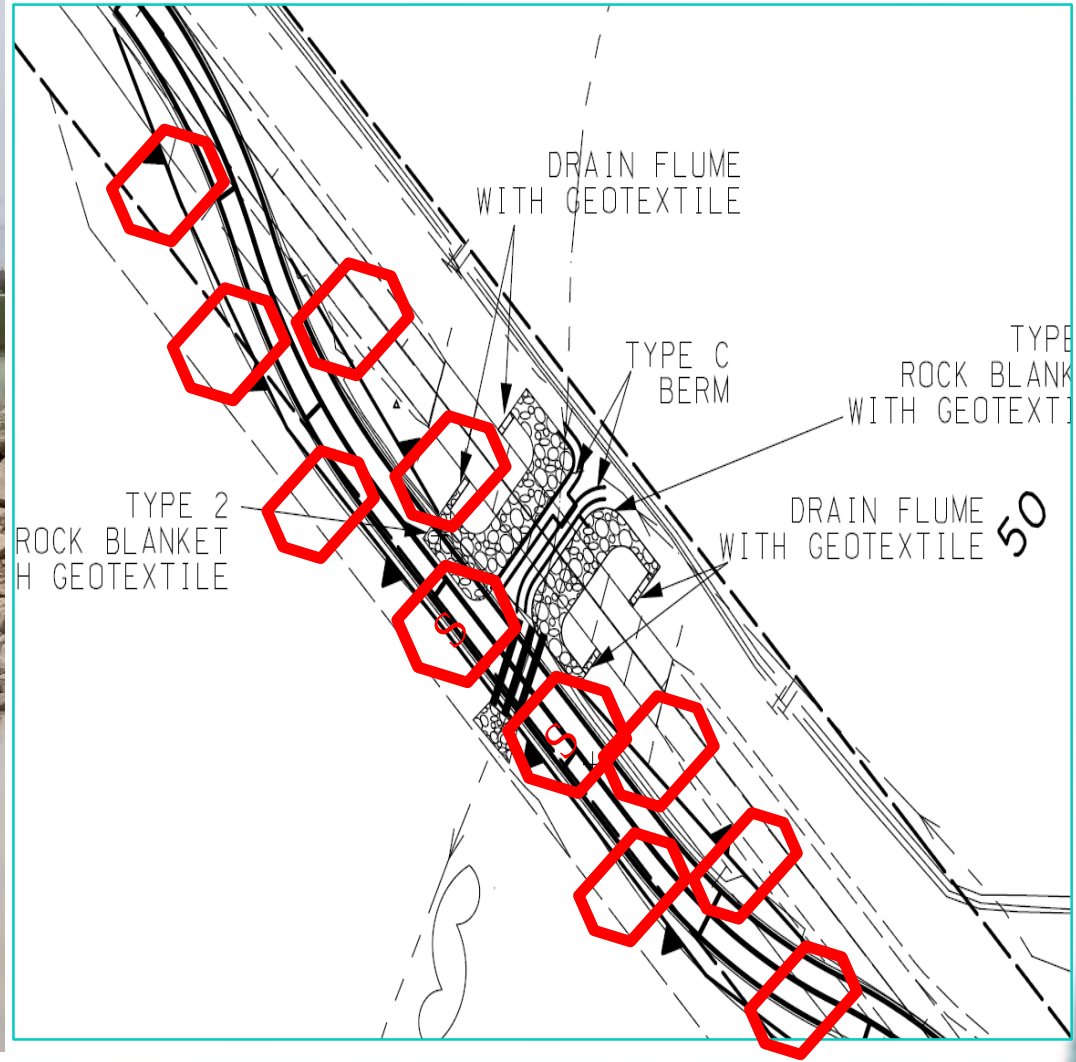
## Program Requirements cont.

- Provide and maintain 50 ft. natural buffers around surface waters or provide BMPs to provide equal protection;
- Direct stormwater to vegetated areas to maximize infiltration and filtering;
- Minimize soil compaction, preserve topsoil; and
- Install sediment controls along any perimeter of the permitted site where stormwater has the potential to leave the site.

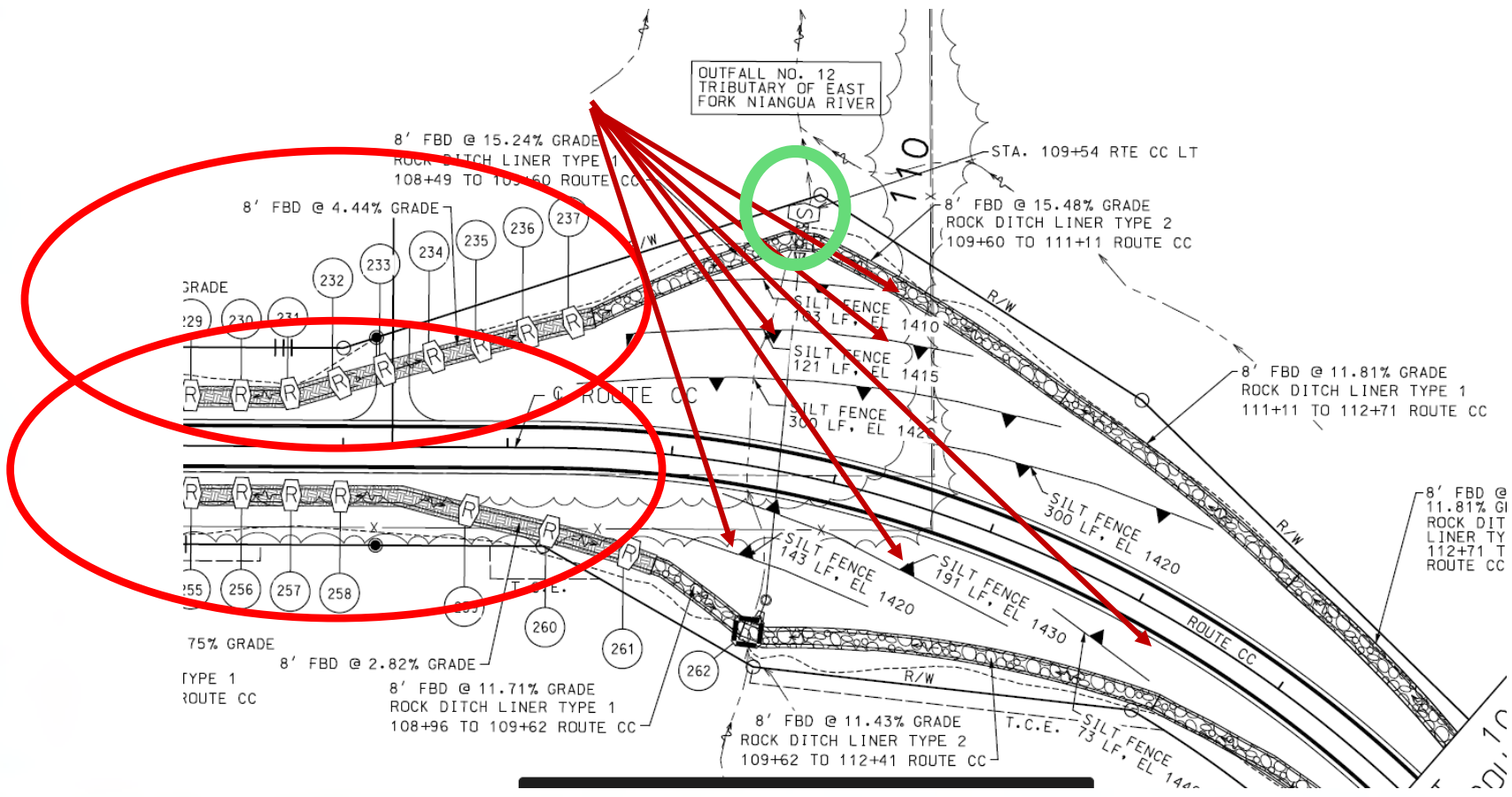














# Items To Consider When Developing E&S Plans

- Are you controlling stormwater volume and velocity
- Phases of Construction;
- Design for the pre-construction topography as well as the final design template ;
- Where will water go during each phase;
- Where are the outfalls or where does water exit MoDOT R/W and are those areas protected;
- Does the plan address runoff control during each phase.



# Support Activities (Borrow, Waste, Staging Areas)

## Inside MoDOT Right-of-Way

- MoDOT's State Operating Permit applies to all disturbed areas one-acre and greater;
- MoDOT will address all clearances;
- BMPs must be designed, installed, maintained;
- Inspections must be conducted until final stabilization.

## Out-Side MoDOT Right-of-Way

- Contractor will be required to obtain their own land disturbance permit for areas one-acre or greater and areas less than one-acre when those areas and MoDOT's permitted site equal one-acre or more;
- Contractor will be responsible for all clearances;
- Contractor responsible for their SWPPP development and implementation;
- Contractor is responsible for support activity area inspections.



# Stormwater Pollution Prevention Plan Requirements (SWPPP)

- SWPPP is required for each site;
- Shall incorporate site-specific practices to best minimize soil exposure, soil erosion, and the discharge of pollutants;
- Shall be specific to the land disturbance site and be developed prior to conducting land disturbance activities;
- SWPPP contains all information, location, and practices to be used at the site to protect the waters of the state and comply with the permit.



# Stormwater Pollution Prevention Plan Requirements (SWPPP) cont.

- SWPPP is composed of multiple page document describing:
  - Location of the project;
  - List of Prime and sub-contractor responsible for erosion & sediment control;
  - Estimated acres to be disturbed;
  - Off-site support activity permits;
  - 2-year, 24-hour storm event totals;
  - List of BMPs & description;
  - And more.....
- General map
  - Map with sufficient detail to show project location and all waters of the state within a mile of the site.

MISSOURI DEPARTMENT OF TRANSPORTATION  
Project-Specific SWPPP Information Form 806.8.2

Project Number:	County:	Route:
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Project Description: \_\_\_\_\_

Estimated Project Start Date: \_\_\_\_\_

Estimated Project Completion Date: \_\_\_\_\_

RE Name: \_\_\_\_\_

Erosion and Sediment Control Inspector(s) Name(s): \_\_\_\_\_

Primary Contractor(s) Name(s): \_\_\_\_\_

Erosion and Sediment Control Contractor(s) Name(s): \_\_\_\_\_

Seed and Mulch Contractor(s) Name(s): \_\_\_\_\_

Anticipated Disturbed Acreage for the Project (Permitted Site): \_\_\_\_\_

Offsite Borrow or Staging Area Obtained for this Project:  Yes  No

If yes, Estimated Area of Offsite Borrow and/or Staging Areas: \_\_\_\_\_

Permit Number for Offsite Borrow or Staging Area: \_\_\_\_\_

2 year/24hr Storm Event Totals for Project Location: \_\_\_\_\_  
[https://hdsc.nws.noaa.gov/hdsc/pfdi/pfdi\\_map\\_cont.html?skunk=mo](https://hdsc.nws.noaa.gov/hdsc/pfdi/pfdi_map_cont.html?skunk=mo)

Primary Receiving Water(s) for the Project: \_\_\_\_\_

Location of Public Notification Sign(s) (Note: Must be Viewable to the Public): \_\_\_\_\_

Location where Inspections will be Stored: **MoDOT Electronic Stormwater Database**

Describe the Good Housekeeping BMPs that will be used to manage solid and hazardous waste: \_\_\_\_\_

Describe the BMP selection implementation and maintenance plan for the project. For physical description, site conditions for use, and maintenance procedures for each BMP, see EPG Article 806.8

For installation /construction procedures/typical drawings see Standard Plan 806.10. All BMPs are temporary unless indicated on the site plans.

Final Stabilization must be achieved prior to removal of all interim stabilization BMPs unless BMP is being replaced with another interim stabilization BMP.



# Stormwater Pollution Prevention Plan Requirements (SWPPP) cont.

- Site maps (Erosion & Sediment Control Sheets)
  - Legible
  - Must show permitted site boundary
  - Points of discharge to receiving waters
  - Direction of stormwater flows and approximate slopes for all phase of construction;
  - Areas of non-disturbance;
  - Location of all structural and non-structural BMPs;
  - Locations where stabilization is expected to occur;
  - Locations of all waters of the state and wetlands;
  - Locations where stormwater discharge to another regulated MS4.

MISSOURI DEPARTMENT OF TRANSPORTATION  
Project-Specific SWPPP Information Form 506.8.2

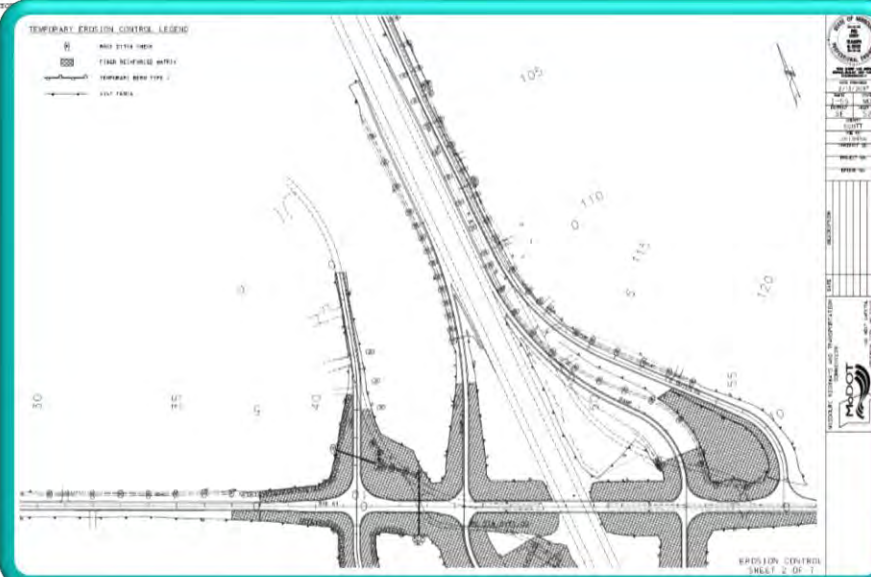
Project Number: \_\_\_\_\_ County: \_\_\_\_\_ Route: \_\_\_\_\_

Project Description: \_\_\_\_\_  
Estimated Project Start Date: \_\_\_\_\_  
Estimated Project Completion Date: \_\_\_\_\_  
RE Name: \_\_\_\_\_  
Erosion and Sediment Control Inspector(s) Name(s): \_\_\_\_\_  
Primary Contractor(s) Name(s): \_\_\_\_\_  
Erosion and Sediment Control Contractor(s) Name(s): \_\_\_\_\_  
Seed and Mulch Contractor(s) Name(s): \_\_\_\_\_  
Anticipated Disturbed Acreage for the Project (Permitted Site): \_\_\_\_\_

Offsite Discharge: \_\_\_\_\_  
If yes, \_\_\_\_\_  
Permitted \_\_\_\_\_  
2 year 24hr \_\_\_\_\_  
Primary Erosion Control \_\_\_\_\_  
Location of \_\_\_\_\_  
Location of \_\_\_\_\_  
Describe the \_\_\_\_\_  
Describe the \_\_\_\_\_  
EPG Article \_\_\_\_\_  
For installation \_\_\_\_\_  
All BMPs \_\_\_\_\_  
Final Stop \_\_\_\_\_  
unless B \_\_\_\_\_

TEMPERARY EROSION CONTROL LEGEND

PERMANENT EROSION CONTROL  
TEMPORARY EROSION CONTROL  
TEMPORARY EROSION CONTROL  
TEMPORARY EROSION CONTROL  
TEMPORARY EROSION CONTROL



EROSION CONTROL SHEET 2 OF 7

# Surface Water Buffers

- Must provide and maintain 50-foot undisturbed natural buffer; or
- If infeasible, maintain some amount of natural buffer and supplement with BMPs to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.





# Sediment Basins

- Must be provided for each drainage area with 10 or more acres disturbed at one time;
- Basins shall be sized to the local 2-year, 24-hour storm for the project location; (*see NOAA Atlas 14 for storm frequency accounts*)
- Discharges from basins shall not cause scouring of banks or bottom of receiving streams.



# Roadway and Inlet Protection

- Stormwater inlets susceptible to receiving sediment shall have curb inlet protection;
- Where stormwater flows off the end of where a road terminates, a sediment catching BMP such as a berm, or silt fence shall be provided;
- Permit requires cleaning of BMPs weekly following a precipitation event (*set up sediment removal*).





# Stabilization of Disturbed Areas

- **Interim Stabilization** – well established and maintained BMPs that are reasonably certain to protect waters of the State from Sediment pollution over an extended period of time.
- **Temporary Stabilization** – when BMPs have been installed with the intent to prevent erosion in areas of a project that may or are intended to be disturbed before the whole project has achieved final stabilization.
- **Final Stabilization** – when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed and all support activities, which are not intended to be permanent, have been removed.



# Questions Over Permit Requirements






# EPG Updates

## Article 237.2 – Title Sheet

- More projects will fall under the Permit requirements and common plan definition;
- Bidders need to know how large MoDOT's permitted site is prior to bid;
- If permitted site and contractor's support activity sites combine to be one-acre or more, permitting is required.

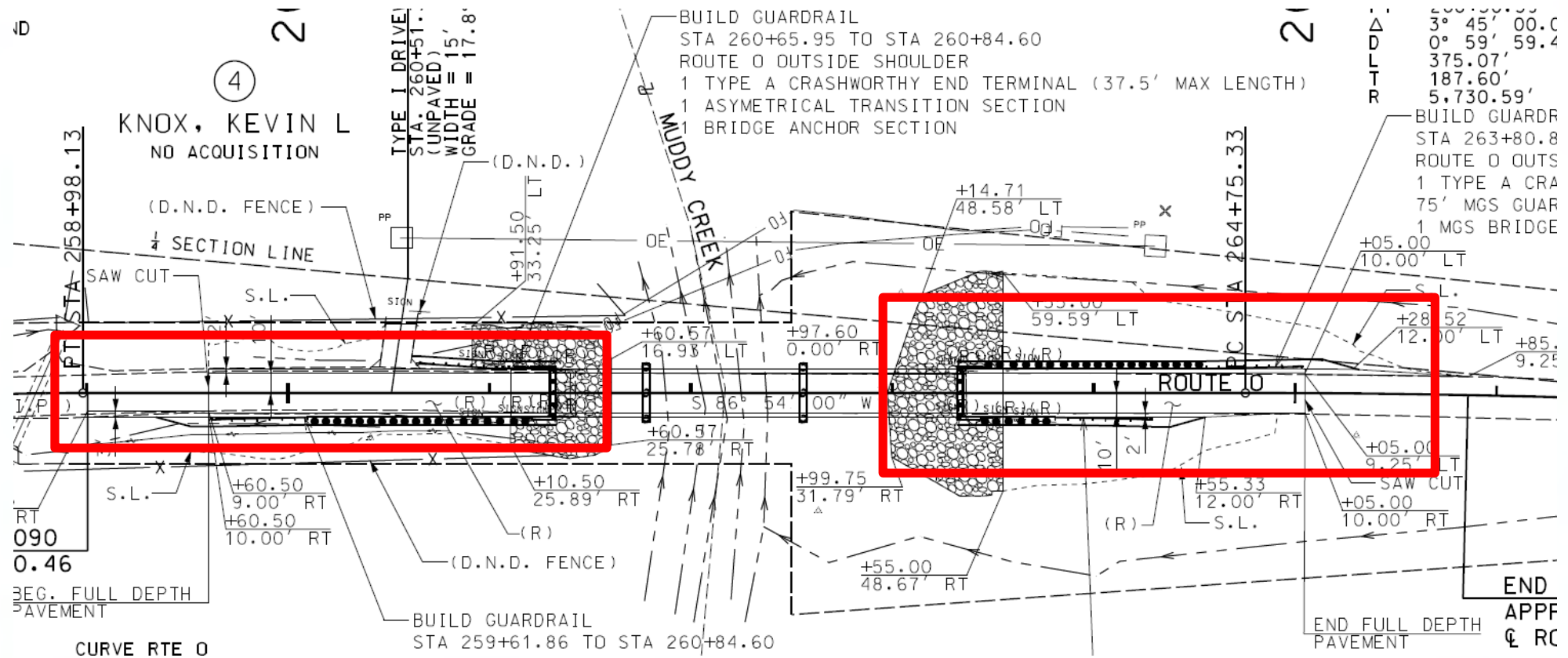
LENGTH OF PROJECT	
BEGINNING OF PROJECT	STA. XXX + XX.XX
END OF PROJECT	STA. XXX + XX.XX
APPARENT LENGTH	XXXXX.XX FEET
EQUATIONS AND EXCEPTIONS:	
TOTAL CORRECTIONS	XXXXX.XX FEET
NET LENGTH OF PROJECT	XXXXX.XX FEET
STATE LENGTH	XX.XXX MILES
ESTIMATED DISTURBED ACRES	XX ACRES

MISSOURI HIGHWAYS AND TRANS  
COMMISSION



105 W  
JEFFERSON C.T.  
1-888-ASK-MODOT (1-88

# Estimated Acres (For Information Only)



Area 1+Area 2 = Estimated Disturbed area (for Information Only)



# EPG Updates

## Article 237.4 Plan-Profile Sheets

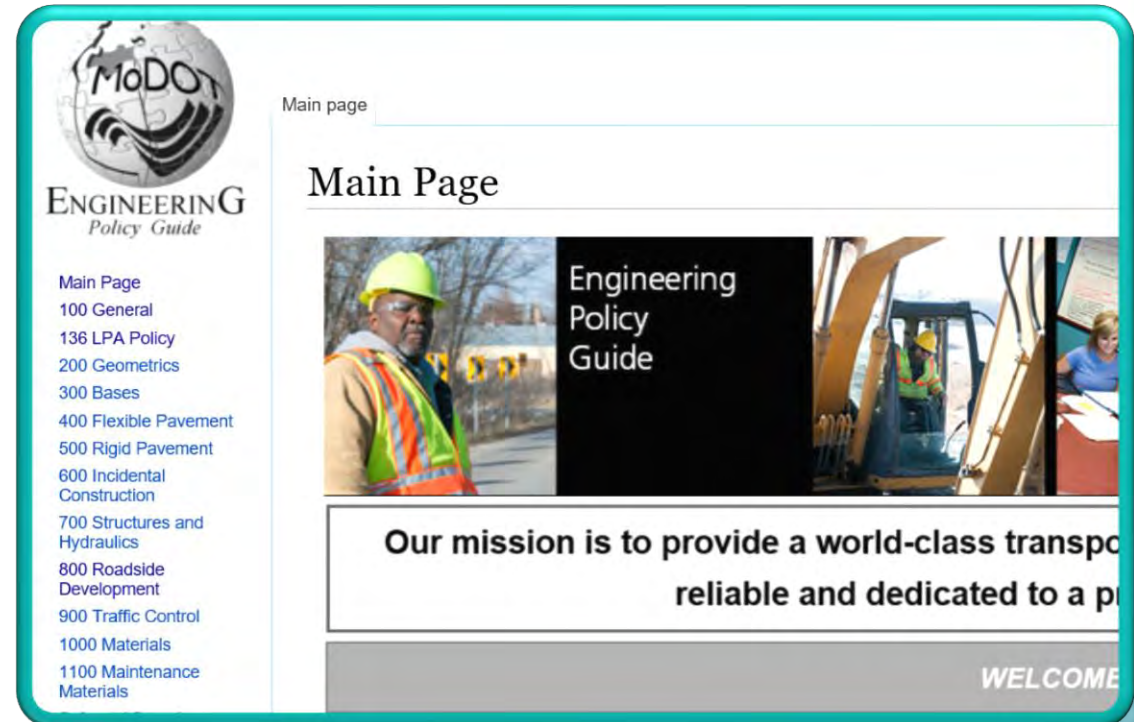
- Added new Section 237.4.12 Erosion & Sediment Control Plans;
- Added permit obligations to MoDOT guidance;
- Erosion and sediment control plans should be provided for all phases/stages of construction;
- Controlling stormwater is similar to traffic control.



# EPG Updates

## Articles 806 through 806.8

- Reconstructed Article 806 to be consistent with article/sub-article concept;
- Sub-articles for erosion control BMPs (*Article 806.1*) and sediment control BMPs (*Article 806.2*);
  - Design considerations;
  - Construction considerations;
- Guidance items moved out of SWPPP (*Article 806.8*)





# 806.1 and 806.2 Changes

## 806.2.2 Sediment Trap

A sediment trap is a temporary sediment collection structure constructed of rock or other non-earthen material used to detain runoff so that sediments are allowed to drop out. The trap may also be excavated in lieu of rock construction.

### 806.2.2.1 Design Considerations ←

The location of sediment traps will be shown on the plans. The length and height of the sediment trap depends on the volume of water that flows through the drainage structure and the width of the drainage channel. Sediment traps will be utilized at every outfall and may be used downgrade of drainage structures to control sediment. Sediment traps are not appropriate where impounded sediment and gravel could accumulate inside of the culvert. Estimated quantities for each trap located on the project will be shown to the nearest cubic yard. See [Standard Plan 806.10](#) for sediment trap details.

Sediment traps are not typically appropriate in streams that are regulated by the US Army Corps of Engineers under Section 404 of the Clean Water Act. However, certain construction within the regulated channel may necessitate their use. The design of a sediment trap in this situation must be approved by the Design Division's Environmental and Historic Preservation section prior to inclusion in the plans.

### 806.2.2.2 Construction Considerations ←

Sediment traps need to be in place prior to clearing and grubbing operations and will remain in place until the site has achieved final stabilization.

Sediment traps will be constructed of rock or other non-erodible material sufficient to impound water in accordance with [Standard Plan 806.10](#) and [Standard Specification 806.60](#). Estimated quantities for each trap located on the project will be shown to the nearest cubic yard. Sediment traps may be dewatered through a single riser pipe, over a stabilized spillway (rock-lined, lined with erosion control blanket or turf reinforcement matting, vegetated), or, where applicable, allowed to filter through the interstices of a constructed rock barrier.

Maintenance of the trap must be completed once the sediment deposits accumulate to  $\frac{1}{2}$  the height of the trap. In situations where long-term maintenance issues are absent, and permanent vegetation has established, sediment traps may be left in place as a permanent structure as long as there is no threat to the natural or human environment.



# 806.8 Shouldering Project Guidance

## 806.8.3.1 Shoulder Addition Project Plan Development and Implementation

Shoulder addition projects involving land disturbance of an acre or more can be particularly challenging to design, bid and implement BMPs. Design and construction personnel should collaborate to establish typical, desired BMP layouts for outfall and perimeter protection. These layouts should then be illustrated on a "Typical" erosion and sediment control plan as detailed plan sheets are not usually developed for these projects (There are a few exceptions to this when right of way acquisition or extensive grading is required).

Like other land disturbance projects of an acre or more, shoulder addition projects are required by permit to have a site map depicting the location of all installed BMPs. If a full set of plan sheets is not developed, an acceptable alternative is to develop an aerial photography site map of the project corridor at a scale of 1" = 200', labeling named bodies of water, intersecting routes and county roads, and labeling log miles every 0.5 mile for the project (depicting tick marks every 0.1 mile is recommended for better accuracy). If full survey data was collected for the project, the log mile stationing may be set up precisely based on survey data. Full surveys are not typical for shoulder addition projects, so a "rough" log mile stationing may be set up. The aerial map shall identify approximate BMP locations to enhance communication, illustration and documentation for inspectors and contractors. The aerial sheets will not be included as part of the contract documents but will be provided as electronic deliverables.

In addition to the "typical" erosion control detail in the contract plans, designers shall provide an estimated quantity of BMPs necessary to construct the project. The estimated quantity and location of each type of BMP shall be expressed in a table on the quantity sheet included in the contract plans for contractors.

It is important to be aware that all designed BMP quantities may have to be adjusted depending on the contractor's selected method of shoulder construction. Any expected adjustment in BMP quantities or implementation should be expressed to the prime and subcontractor, if applicable, during the erosion and sediment control discussion at the project preconstruction conference.



Any Questions????



Thank you!!



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