KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MANUAL

GENERAL INFORMATION

Version	Version Date	Notes
1	9/12/2023	

Kansas Department of Transportation

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
BMPs	best management practices
Drainage Design Manual	Design manual Volume I (Part C) Bureau of Road Design, Elements of Drainage and Culvert Design
EPA	Environmental Protection Agency
General Permit	KDHE General Permit No. S-MCST-2208-1
HECPs	Hydraulic Erosion Control Products
KART	KDOTs Authentication and Resource Tracking
KDHE	Kansas Department of Health and Environment
KDOT	Kansas Department of Transportation
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
Standard Specifications	Standard Specifications for State Road & Bridge Construction – 2015
SWP2	Stormwater Pollution Prevention Plan
TSD	Triangular Silt Dike

NPDES PERMITS

In an effort to limit the pollution of the nation's streams, rivers, and lakes, the Environmental Protection Agency (EPA), directed by Congress, enacted Section 402 of the Clean Water Act. Section 402 established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants from point sources. The EPA requires a NPDES Permit for stormwater discharges from construction activities that disturb one (1) or more acres of land or from smaller sites that are part of a larger, common plan of development or sale which will disturb a cumulative total of one (1) or more acres. For the purposes of the NPDES program, construction activities are defined as clearing, grubbing, grading, and excavation.

In the State of Kansas, the NPDES program has been delegated to the Kansas Department of Health and Environment (KDHE). Construction projects that will disturb one (1) or more acres of land are issued a certificate of coverage under KDHE General Permit No. S-MCST-2208-1 (General Permit), which authorizes the discharge of stormwater associated with construction activities into State waters. KDHE administers two types of NPDES Permits: general and individual. To apply for a general permit, a site owner (in this case, the Kansas Department of Transportation (KDOT)) must file a Notice of Intent (NOI). The NOI application requires basic information about the site's location, existing condition, future use, and stormwater pollution control measures. The general permit will apply to most projects. An individual permit is only required when certain pre-existing site conditions are encountered. These conditions concern proximity to one or more of the following: Indian Lands, contaminated soils, drinking water intakes, historical or archeological sites, and threatened or endangered species. Sites within one-half mile of a Critical Water Quality Management Area, Special Aquatic Life Use Waters, or an Outstanding Water Quality Management Area are also included. If any one of these site conditions is met, KDHE will investigate potential impacts and determine whether coverage under an individual permit is needed.

The core of the stormwater permit process is the Stormwater Pollution Prevention Plan (SWP2). A SWP2 is a listing of all planned erosion and sediment control practices on site. The SWP2 also addresses inspection and maintenance procedures. The SWP2 is not a required attachment to the NOI; however, it is necessary to have the SWP2 developed prior to NOI submission and to have a copy onsite at all times. Currently, the KDOT Environmental Services Section files the NOI for most projects. In addition to the NOI, the general contractor must complete and sign the Contractor's Certification Form. By signing this form, the contractor signifies that they understand the terms and conditions of the General Permit. This form should be kept on site with the SWP2. KDOT has a standard SWP2 policy for all its projects. This policy requires the contractor to develop a SWP2 which includes or references special provisions, standard drawings and specifications, inspection and maintenance report forms, the contractor's erosion control site plan, the KDOT policy on stormwater discharges, and a memorandum for design and field engineers.

Upon completion of the project and final stabilization of all disturbed areas, the owner files the Notice of Termination (NOT). A disturbed area achieves final stabilization when a uniform perennial vegetative cover with a density of 70% of the cover which is typical of undisturbed areas for that area has been established. Filing the NOT signifies that coverage under the General Permit is no longer needed.

If further information is needed, consult the KDHE Construction Stormwater General Permit 2022 and the KDHE CSGP Definitions and Acronyms packages.

DESIGN OBJECTIVES

This document is to be used as guidance for temporary erosion and sediment control practices on construction sites carried out by KDOT. The Best Management Practice (BMP) devices listed in this resource are to be taken as a recommendation and do not replace any project plan, specification, special provision, SWP2, or other specific project commitments. These BMPs have been approved by KDOT for use on projects; other means and methods can be proposed as long as it meets the same end goal.

Note that this manual was prepared using the KDOT Standard Specifications for State Road & Bridge Construction – 2015 (Standard Specifications) as of October 1st, 2022. Any updates to the KDOT Standard Specifications would supersede references/links provided in this manual. KDOT Standard Specifications can be found on the KDOT website (https://ksdot.org/).

When developing a temporary erosion control plan (as part of the SWP2) at a site, decide which of the following three design objectives is most feasible:

- **Keep the soil *at* its original location.**
  Keeping the soil at its original location is the preferred objective. This option causes the least amount of harm to the environment. Not only does this option protect the surrounding land and water, but it also prevents costly regrading and redressing of slopes and ditches. However, keeping the soil at its original location is not always feasible due to challenging topography and other site variables.
- **Keep the soil *close* to its original location.**
  If the soil cannot remain at its original location, every attempt should be made to use the soil at adjacent locations to keep it close. This option will require some regrading and redressing of slopes and ditches.
- **Keep the soil *on site*.**
  Finally, if site conditions are such that neither of the first two objectives can be met, efforts should be made to prevent the soil from leaving the site. Soil transported offsite can cause far-reaching damage to the downstream environment. Loss of soil from the site should be avoided to the extent practicable.

BMP SELECTION TABLE

The following table provides general guidance for the selection of the most appropriate temporary erosion and sediment control measures known as BMP's. The table progression is generalized and does not represent every condition that may be encountered in the field. The selection of temporary erosion and sediment control measures for some situations must be based on good judgment and experience with similar conditions. When first selecting BMPs, emphasis should be placed on implementing stabilization measures to minimize the amount of erosion occurring on a site. If erosion cannot be prevented, then temporary sediment control BMPs should be implemented to control the resulting sedimentation.

BMP Category	Condition	BMP Type
Ditches	Grade Less Than or Equal to 6%?	Erosion Control Blankets/Mulch
		Biodegradable Log Ditch Check
	Grade Greater Than 6%?	Rock Ditch Check
		Erosion Control Blankets
		Aggregate Ditch Lining
	High Flows Expected?	Erosion Control Blankets/Geotextiles
		Aggregate Ditch Lining
		Rock Ditch Check
Slopes	Erosion Control?	Temporary and/or Permanent Seeding
		Erosion Control Blankets/Mulch
		Geotextiles
		Hydraulic Erosion Control Products
		Rock Slope Protection
	Sediment Control?	Biodegradable Log Slope Interruptions
		Silt Fence Slope Interruptions
		Hydraulic Erosion Control Products
		Rock Slope Protection
Inlet Protection	(No Decision Needed)	Biodegradable Log and Filter Sock Drop Inlet Protection
		Silt Fence Sediment Barrier
		TSD Inlet Sediment Barrier
		Curb Inlet Protection
Sediment Basin	>=10 acres	Sediment Basin

Erosion and Sediment Control BMP Selection Table

REFERENCES & ADDITIONAL RESOURCES

1. City of Omaha Environmental Quality Control Division. *Omaha Reginal Stormwater Design Manual – Chapter 9 Erosion and Sediment Control*, 2014.
2. Environmental Protection Agency. *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites, 2007*.
3. Iowa Department of Transportation. *Erosion and Sediment Control Field Guide*, 2020.
4. Kansas City Metropolitan Chapter of the American Public Works Association. *Erosion and Sediment Control*, American Public Works Association Division V Section 5100, September 2010.
5. Kansas Department of Transportation. *Design Manual Volume I (Part C) Bureau of Road Design, Elements of Drainage and Culvert Design*, 2016.
6. Kansas Department of Health and Environment. General Construction Stormwater Program, 2022.
7. Kansas Department of Transportation. *KDOT Authentication & Resource Tracking*, September 2022.
8. Kansas Department of Transportation. *KDOT Temporary Erosion-Control Manual*, January 2007.
9. Kansas Department of Transportation. *Standard Specifications for State Road & Bridge Construction*, 2015.
10. Missouri Department of Natural Resources. *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri*, 2011
11. Nebraska Department of Transportation. *Construction Stormwater Best Management Practices Pocket Guide*.
12. Nebraska Department of Transportation. *Drainage Design and Erosion Control Manual, 2006*.
13. Ohio Department of Natural Resources, Division of Soil and Water Conservation. *Rainwater and Land Development, Third Edition*, 2006.