Stormwater Pollution Prevention Plan

NPDES/SDS Construction Stormwater permit requirements

This fact sheet provides guidance on writing an adequate Stormwater Pollution Prevention Plan (SWPPP) that will assist in keeping a construction site in compliance with the National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater (CSW) permit. The development of a proper SWPPP is a requirement of the permit and the responsibility of the owner.

What is a Stormwater Pollution Prevention Plan?

A SWPPP is a plan that describes the strategies and steps that will be taken to prevent nonpoint source pollution discharging from a construction site. The SWPPP is a valuable tool and will become the backbone of the entire construction process related to erosion and sediment control and stormwater management, both during construction and post construction. The SWPPP includes a description of all construction activity, temporary and permanent erosion and sediment control BMPs, permanent stormwater management, and other pollution prevention techniques to be implemented throughout the life of the construction project. The SWPPP includes a combination of narrative plans and standard detail sheets that address the foreseeable conditions at any stage of construction.

Why do I need a Stormwater Pollution Prevention Plan?

All construction projects disturbing one acre or more or that are part of a larger common plan of development that ultimately disturbs one acre or more are required to apply for an NPDES/SDS Construction Stormwater permit through the Minnesota Pollution Control Agency (MPCA). The permit states that prior to submitting a permit application, the owner must develop a SWPPP for the construction site. The SWPPP is the plan developed by and for the permittees addressing how they are to meet the requirements and conditions of the CSW general permit specifically for their site. Site conditions, soil types and expected precipitation will be different for each site and the permittee must select the best and cost effective best management practices (BMPs) and installation locations for their particular site. The SWPPP is to be kept at the site for the duration of the project and retained in files for three years after the project is completed. If the construction project disturbs 50 acres or more and discharges to a special or impaired water, the SWPPP must be submitted along with the permit application to the MPCA 30 days prior to the start of any construction activity.

Planning ahead is the most effective way to minimize erosion and sedimentation during construction and reduce project costs.

How is a Stormwater Pollution Prevention Plan helpful to me?

A successful SWPPP identifies the issues of concern before construction begins and is also adaptable for the many unexpected changes that come about with every construction project. Planning ahead is the most effective way to minimize erosion and sedimentation during construction and reduce project costs. A well organized and planned out SWPPP will assist in the prevention of unnecessary permit violations and save the owner and contractor time, money, and effort over the course of the project.

What are the necessary components of a Stormwater Pollution Prevention Plan?

The NPDES/SDS Construction Stormwater permit outlines specific requirements of a SWPPP. In order to develop a truly effective and useful SWPPP, it is important to carefully think about each of these requirements and to clearly document a plan for the construction project.

The Owner must identify a trained individual to oversee implementation of the SWPPP, including inspections and maintenance activities required by the permit. Also, the person preparing the SWPPP must be knowledgeable of the permit requirements and trained in preparation of SWPPPs.

- The SWPPP must include the following components:
- A description of the construction activities and the potential for sediment and other pollutant discharges from the site.
- Maps showing the locations of all surface waters, including wetlands, stormwater ponds or basins within one mile of the site.
- Areas of the site that will drain to a public water the Department of Natural Resources has promulgated "work in water restrictions" for fish spawning timeframes.
- A determination whether surface waters within one mile of the site are special or impaired for one of the construction-related parameters and additional or enhanced BMPs that will be utilized to address the special or impaired waters.
- Stormwater pollution mitigation measures to be utilized as a result of an environmental review.
- Training documentation for all individuals required to be trained in associated duties in regard to the SWPPP.
- A site map showing both the existing and final grades, including direction of flow and pre and post drainage area divides. The site map must also include locations of steep slopes, impervious surfaces, soil types, and pollutant-generating activities (building products, pesticides, fertilizer, treatment chemicals, hazardous materials, solid waste, portable toilets, etc.).
- Estimated quantities of all erosion prevention and sediment control BMPs to be used for the life of the project.
- Stormwater design specifications and calculations for stormwater management systems, including the number of acres of existing and new impervious surfaces.
- The following factors must be accounted for in design of BMPs to be used at the site:
  - the amount, frequency, intensity and duration of precipitation
  - stormwater runoff and run-on and expected flow from impervious surfaces
  - slope lengths and steepness, the site location and drainage features
  - flow rate and volume of channelized flow
  - soil types
- Timing of installation for all erosion prevention and sediment control BMPs and permanent stormwater management systems.
- Location and type of all permanent and temporary erosion prevention and sediment control BMPs to be installed at the site along with procedures to establish additional BMPs as necessary.
- A description of methods to be used for site dewatering and basin draining.
- Areas not to be disturbed on the site, including the location of buffer zones.
- Locations of areas to be phased to minimize duration of exposed soils.
- Methods to minimize soil compaction and preserve top soil at the site.

- Methods used to achieve final stabilization.
- Documentation why certain design requirements or SWPPP components are not feasible and the methods to be substituted as allowable by the permit.
- A description of pollution prevention measures for storage, handling and disposal of hazardous materials, solid waste, concrete and equipment wash water, portable toilets, construction products and materials.
- Plans for proper use of sediment treatment chemicals (polymers, flocculants, etc.).
- A description of inspection and maintenance activities and record keeping.
- Procedures for terminating permit coverage.

Please refer to the NPDES/SDS General Construction Stormwater permit for more complete details on SWPPP content.

Changes and revisions to the Stormwater Pollution Prevention Plan

The NPDES/SDS Construction Stormwater permit requires that the SWPPP be developed prior to the start of a construction project. It is often difficult to fully plan ahead and more often than not, unexpected changes arise throughout the duration of the project. For this reason, the SWPPP is a flexible and amendable document. It is a living document that should be revised as the project changes and should be used to document all project modifications. The SWPPP is also amended whenever:

- Design, construction, operation, maintenance, weather or seasonal conditions will affect the performance of BMPs and potential for discharge of pollutants at the site.

Image Courtesy of Emmons & Olivier Resources, Inc.

The NPDES permit requires that all erosion and sediment BMPS be clearly outlined in a site's SWPPP. Changes made throughout construction should be documented in the SWPPP.

- Site inspections indicate the BMPs are not effective in minimizing discharges.
- An MPCA inspector determines the project discharges have the potential to violate a water quality standard.
- It is determined the SWPPP is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or groundwater or the discharges are causing water quality standard exceedances.

In the case of a change in property ownership, any new owner is required to have an up to date and complete SWPPP. The new owner can modify the original SWPPP or develop a new SWPPP that covers all information required by the permit.

Resources

Minnesota Stormwater Manual

https://stormwater.pca.state.mn.us/index.php/Main_Page

MPCA SWPPP checklist http://www.pca.state.mn.us/index.php/view-document.html?gid=15629

MPCA stormwater compliance assistance tool kit for small construction operators
www.pca.state.mn.us/publications/wq-strm2-09.pdf

MPCA General Construction Stormwater permit for construction activity
http://www.pca.state.mn.us/water/stormwater/stormwater-c.html

MPCA construction SWPPP Template www.pca.state.mn.us/publications/wq-strm2-12.pdf