TENNESSEE

EROSION & SEDIMENT CONTROL HANDBOOK

A Stormwater Planning and Design Manual
for Construction Activities

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Fourth Edition

AUGUST 2012

Acknowledgements

This handbook has been prepared by the Division of Water Resources, (formerly the Division of Water Pollution Control), of the Tennessee Department of Environment and Conservation (TDEC). Many resources were consulted during the development of this handbook, and when possible, permission has been granted to reproduce the information. Any omission is unintentional, and should be brought to the attention of the Division.

We are very grateful to the following agencies and organizations for their direct and indirect contributions to the development of this handbook:

- TDEC Environmental Field Office staff
- Tennessee Division of Natural Heritage
- University of Tennessee, Tennessee Water Resources Research Center
- University of Tennessee, Department of Biosystems Engineering and Soil Science
- Civil and Environmental Consultants, Inc.
- North Carolina Department of Environment and Natural Resources
- Virginia Department of Conservation and Recreation
- Georgia Department of Natural Resources
- California Stormwater Quality Association

Preface

Disturbed soil, if not managed properly, can be washed off-site during storms. Unless proper erosion prevention and sediment control Best Management Practices (BMP's) are used for construction activities, silt transport to a local waterbody is likely. Excessive silt causes adverse impacts due to biological alterations, reduced passage in rivers and streams, higher drinking water treatment costs for removing the sediment, and the alteration of water's physical/chemical properties, resulting in degradation of its quality. This degradation process is known as "siltation".

Silt is one of the most frequently cited pollutants in Tennessee waterways. The division has experimented with multiple ways to determine if a stream, river, or reservoir is impaired due to silt. The most satisfactory method has been biological surveys that include habitat assessments. For those streams where loss of biological integrity can be documented, the habitat assessment can determine if this loss is due to excessive silt deposits. As reported in the latest 305b Report (http://www.tn.gov/environment/wpc/publications/pdf/2010_305b.pdf), the division has determined that 21% of its assessed rivers and streams, almost 6,000 miles, are polluted due to siltation.

Soil loss from pastureland averages 1.5 tons/acre-year, cropland cultivation can lose 20 tons/acre-year, whereas construction activities can result in 150 to 200 tons/acre-year in the stormwater runoff. Therefore, even a minor uncontrolled construction activity can cause major impairment in the receiving waters. Erosion prevention and sediment control BMP's are the key parameter for successful water quality protection.

This Erosion Prevention and Sediment Control Handbook has been designed to provide standardized and comprehensive erosion prevention and sediment control BMP's for use throughout Tennessee. This handbook serves as the primary reference for the development and implementation of Stormwater Pollution Prevention Plans (SWPPP), as required per the Tennessee General NPDES Permit for Discharges Associated with Construction Activities (http://www.tn.gov/environment/wpc/stormh2o/TNR100000.pdf) and individual NPDES permits. These permits allow the use of innovative or alternative BMPs or other controls, whose performance can be shown to be equivalent or superior to BMPs identified in this manual.

This handbook has been developed in loose-leaf format with the intention of allowing periodic updates. The handbook is available by attending one of the Erosion Prevention and Sediment Control courses offered by the Department (http://www.tnepsc.org/), or by download from the Department's web page (http://www.tn.gov/environment/wpc/sed_ero_controlhandbook/).

Disclaimer

The erosion prevention and sediment control measures presented in this manual represent those that are currently being recommended, however their effectiveness is dependent on proper selection, combination, installation and maintenance. No guarantee is implied by the Tennessee Department of Environment and Conservation either by inclusion in this manual or acceptance of a Stormwater Pollution Prevention Plan (SWPPP) containing these measures. The General Permit for the Discharge of Stormwater from a Construction Activity (CGP) requires that when one of these measures are specified in the SWPPP, it be installed as presented in this manual.

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