

# CHAPTER 16

## EROSION AND SEDIMENT CONTROL

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## 16.1 INTRODUCTION

Erosion and sedimentation are natural processes whereby soil materials are detached and transported from one location and deposited in another, due to rainfall and runoff, or wind.

Highway construction may involve the disturbance of land areas, leading to an accelerated erosion and sedimentation process. This accelerated process can result in significant impacts such as safety hazards, expensive maintenance problems, unsightly conditions, instability of slopes, disruptions of ecosystems, and air and water quality problems. A commitment to erosion and sediment control and minimization during all phases of highway design, construction, and maintenance is essential.



Photo 16.1

Compliance with state and federal laws requires improved erosion and sediment control during the planning, design, and construction phases of CDOT construction projects. For this reason, CDOT will prepare a Stormwater Management Plan (SWMP) for all CDOT construction projects. The SWMP must include Best Management Practices (BMPs) for erosion and sediment control, and must be prepared during the design phase of projects. The SWMP will be part of the project's bid documents.

## 16.2 GUIDANCE

Guidelines for the preparation of the SWMP and for the application, use limitations, design, construction, and maintenance of BMPs are given in CDOT's "Erosion Control and Stormwater Quality Guide." This guide was prepared to effectively address erosion and sediment control, and is intended to aid designers, field and maintenance personnel, consultants, and contractors in designing and implementing measures that will protect water quality.

### 16.3 OTHER RESOURCES

The following are important legislation that affect the construction activities in regard to erosion and sediment control. The designer shall be familiar with the following Federal and State legislation while performing hydraulic design for CDOT projects:

#### **Federal**

- The National Environmental Policy Act (NEPA) of 1969.
- The Cleanwater Act - Section 401, Section 402, and Section 404
- EPA- National Pollutant Discharge Elimination System (NPDES) Phase I and II

#### Phase I

Under Phase I, EPA required Municipal Separate Stormwater Sewer System (MS4) permits for medium and large municipalities with population of 100,000 and more, for sites that disturb 5 acres or more.

#### Phase II

Under Phase II, EPA required Municipal Separate Stormwater Sewer System (MS4) permits for smaller municipalities with population of 50,000 or more and in some cases for populations less than 50,000, for sites that disturb 1 acre or more.

#### **State of Colorado**

- The Senate Bill 40 (SB40) Wildlife Certification - Title 33, Article 5, CRS
- The Colorado Water Quality Control Act – Title 25, Article 8, CRS