

Chapter 2

Plans for Erosion Control, Sediment Control and Stormwater Management (An Overview)

The purpose of this chapter is to provide an overview of erosion control, sediment control and stormwater management (ESC) plans. Plans and practice specifications should be referred to throughout a construction project and are, therefore, important to contractors and inspectors.

Construction plans for site development should include sound plans for erosion control, sediment control and stormwater management. Because of its significance as an indicator of water quality, turbidity should be included in the thought process during planning for erosion and sediment control. Although they may sometimes be discussed separately, erosion control, sediment control and stormwater management are interrelated and when planning occurs the process must conceive a system of practices and measures that consider all three together.

Property owners or operators are responsible for providing sound ESC plans. This is accomplished by using qualified professionals for ESC plan preparation. ESC plan preparation should be an integral part of the facility plan development. Those involved in ESC construction can benefit by understanding some of the basic planning concepts which should be embedded in ESC plans. Such an understanding makes schedules, sequence of installation and maintenance more supportable. These concepts include the following items.

1. Minimize the area disturbed by leaving existing vegetation that does not have to be removed.
2. Minimize the period of bare ground by shortening construction periods and staging a project (dividing the project into sectors that will be done independently of other sectors) when possible.
3. Install practices in a sequence that supports shortened construction periods and permits the use of temporary and permanent seeding when the practices can be most effective.

4. Use perimeter and interior sediment control measures that minimize sediment transport off of the disturbed site.
5. Plan erosion control for all kinds of erosion that may occur depending upon specific site conditions.
6. Give special attention to cut and fill slopes because these are the most difficult to establish effective vegetation.
7. Give special attention to sites that are transected by streams or are in close proximity to streams and wetlands because close proximity to these areas increase the importance of effective erosion and sediment control.
8. Make erosion control plantings at every opportunity.
9. Prevent sediment from leaving a construction site at entrance/exits during muddy periods.
10. Maintain practices to ensure their effectiveness. This includes regular inspections of the practices, the site, adjacent off-site areas and receiving streams.

There are typically two components of an ESC plan: a site plan map showing locations of the planned practices, referred to by most persons as best management practices or BMPs, and a written narrative. It is common to see the written narrative recorded on the site plan map.

ESC plans should contain enough information to ensure that the party responsible for development of a site can install the measures in the correct sequence at the appropriate season of the year. Sufficient information should be included to provide for maintaining the practices and measures during construction and after installation has been completed. A schedule of regular inspections should be set forth to ensure that repairs and maintenance receive appropriate attention and is accomplished.

Associated with ESC plans are designs that show details of the practices. Designs include essential information such as size, shape, elevations and materials for the practices. Designs should be made available at all times for use by contractors during construction.

It is important to recognize that most ESC plans need revising periodically because of a number of reasons such as (a) interruptions by weather or contractual reasons alter the construction schedule, (b) a determination after construction begins that a different combination of practices is needed, and (c) design specifications cannot be met because of unavailability of materials.

For more details on planning concepts and plan preparation, additional information can be found in Volume I (Chapter 2 General Planning Concepts, and Chapter 3 Plan Preparation).