Caltrans

Project Development
STORM WATER QUALITY BULLETIN

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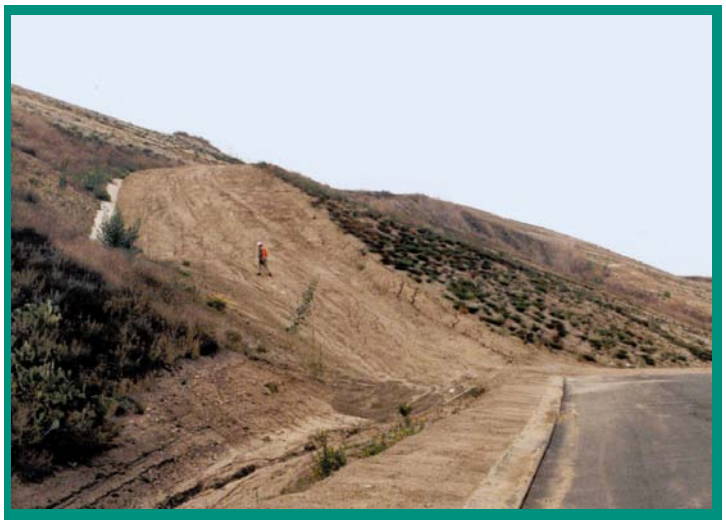
Planning Phase Considerations

Last month's issue discussed design goals for storm water quality controls and introduced Handbook Figure 2-1, a flow chart that provides step-by-step guidance for evaluating which types of controls may be needed on a particular project. Figure 2-1 appears early in the Handbook, and in this series of bulletins, because it should be used frequently during project planning and design. This month's issue follows Figure 2-1 into the project planning phase and discusses the major activities that need to be accomplished. Future issues will take a closer look at these activities and provide more detailed guidance.



Design can provide construction support when problems are identified in the field.

The key is to identify and incorporate significant storm water related costs into the overall project budget during programming.

Planning Phase Objectives

From a storm water quality standpoint, the main objective during the planning phase is to identify site conditions, storm water impacts, and control measures that might affect project alignment, right-of-way requirements, and ultimately, cost. The key is to identify and incorporate significant storm water related costs into the overall project budget during programming. Once the project is programmed, it could be very difficult to incorporate additional controls or mitigation measures and stay within the project budget.

Step 1: Look at the Big Picture

Before working through Figure 2-1 and considering specific control measures, it is important to step back and look at the big picture. What are the likely storm water impacts from the project and what can be done to mitigate them or avoid them altogether? Section 3.2 of the Handbook outlines several considerations that deserve attention and research, including:

- Receiving water impacts
- Increased runoff and erosion
- Topographical features and soil types (slope stability)
- Seasonal construction requirements

Sometimes, storm water quality impacts can be minimized by relocating or realigning the project to avoid sensitive receiving waters and hard-to-stabilize soils and by changing grades to minimize slope length and steepness. Consult with other functional units and disciplines such as Maintenance, Landscape Architecture, Environmental, District Materials, and ESC Roadway Geotechnical Branch and where possible, consider long-term maintenance costs when evaluating project alternatives.

Step 2: Look at Specific Control Measures

Armed with the information gathered in Step 1, work through the flow chart in Figure 2-1to determine what controls are likely to be necessary. Of particular concern are controls and design features, such as flatter slopes and retention/detention basins, that would likely affect project right-of-way or alignment. Section 3 of the Handbook provides guidance for estimating sizes and developing preliminary costs for the required control measures.

Step 3: Do It Again

As the project proceeds through the planning milestones, more and more detailed information about site conditions, design features, potential impacts, and mitigation alternatives will become available. Re-visit steps one and two as necessary to maintain an up-to-date cost estimate.

This bulletin is prepared monthly as an information resource on storm water quality issues related to the planning and design of transportation infrastructure.

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