

Chapter 14 Unstable Rockslope Analysis and Mitigation

14.1 Overview

This chapter addresses the assessment of unstable rock slopes and the development of the mitigating measures needed to stabilize the rock slope or to safely prevent the rockfall from reaching the traveled way.

14.2 Development of Design Parameters and Other Input Data for Unstable Rockslope Analysis

In addition to the site reconnaissance and geotechnical investigation requirements described in [Chapter 2](#), assessment of unstable rock slopes heavily relies upon surface mapping of rock structure to assess fracture/joint patterns and conditions, as rock fractures and joints strongly control rock slope stability, and observations from past rockfall events. The detailed requirements for investigation of unstable rock slopes provided in FHWA manual No. FHWA SA-93-085, “Rockfall Hazard Mitigation Methods” (Brawner, 1994).

14.3 Design Requirements

The design requirement specified in [Chapter 12](#) for Rock cut design are applicable to assessment and stabilization of unstable rock slopes. In addition, to address the prediction of rockfall and its mitigation, the design requirements provided in FHWA manual No. FHWA SA-93-085, “Rockfall Hazard Mitigation Methods” (Brawner, 1994) shall be used.

14.4 References

Brawner, C.O., 1994, *Rockfall Hazard Mitigation Methods*, Federal Highway Administration, FHWA SA-93-085.

