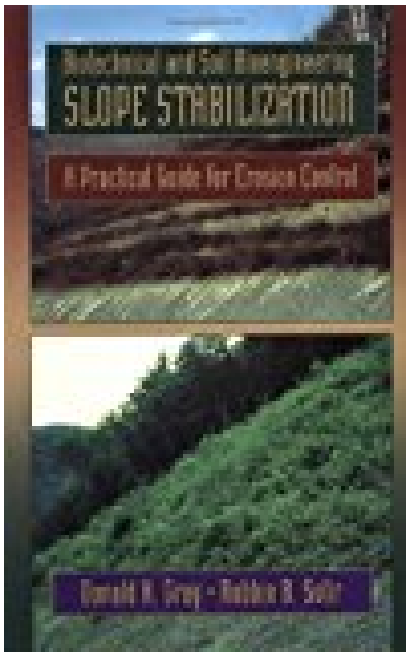
Biotechnical and Soil Bioengineering Slope Stabilization A Practical Guide for Erosion Control



BOOK DETAILS

- Author : Donald H. Gray
- Pages : 400 Pages
- Publisher : Wiley-Interscience
- Language : English
- ISBN : 0471049786

BOOK SYNOPSIS

The first comprehensive, practical guide to the selection, construction, and installation of soil bioengineering and biotechnical slope protection Here is the ultimate guide to physically attractive, environmentally compatible, and cost-effective methods of protecting slopes from erosion and mass wasting. Lavishly illustrated with more than 150 photographs and supplemented with scores of charts and tables, this book covers the entire subject from general principles and background on the nature of soil erosion and mass movement to detailed information on root strengths, treatment selection, unit costs, critical tractive stresses, methods for harvesting and handling live cuttings, and more. Four illustrated case studies, each addressing a different set of problems and solutions, demonstrate both the application of particular technologies and the site investigation, planning, scheduling, and organization required to complete these projects successfully. This unique reference handbook * Reviews the horticultural and engineering underpinnings for biotechnical and soil engineering treatments * Documents and explains the role of woody plants in stabilizing slopes against both surficial erosion and mass movement * Provides details on a broad range of soil bioengineering methods, including live staking, live fascines, brushlayering, live crib walls, branchpacking, and live slope gratings * Describes various biotechnical methods and materials, including the incorporation of vegetation in erosion control blankets, flexible mats, cellular revetments (geocells), rock armor (rip rap), and gabion and open-front crib walls * Summarizes the findings of the National Science Foundation-sponsored workshop to assess the state of the art and determine research needs For practicing professionals, researchers, and students in geotechnical engineering, geology, soil science, forestry and forest engineering, landscape architecture, environmental horticulture, and restoration ecology, this book offers thorough, up-to-date coverage that is not available from any other single source.