

1. Record Nr.	UNINA9910465401403321
Autore	Duncan J. M (James Michael)
Titolo	Soil strength and slope stability / / J. Michael Duncan, Stephen G. Wright, Thomas L. Brandon
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-5231-1054-6 1-118-91796-0
Edizione	[Second edition.]
Descrizione fisica	1 online resource (334 p.)
Disciplina	624.1/51363
Soggetti	Slopes (Soil mechanics) Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title Page; Copyright; Contents; Foreword; Preface; Chapter 1 Introduction; Summary; Chapter 2 Examples and Causes of Slope Failures; 2.1 Introduction; 2.2 Examples of Slope Failure; 2.2.1 The London Road and Highway 24 Landslides; 2.2.2 The Landslide at Tuve, Sweden; 2.2.3 The National Highway No. 3 Landslide, Taiwan; 2.2.4 Slope Failures in Highway, Dam, and Levee Embankments; 2.3 The Olmsted Landslide; 2.4 Panama Canal Landslides; 2.5 The Rio Mantaro Landslide; 2.6 Kettleman Hills Landfill Failure; 2.7 Causes of Slope Failure; 2.7.1 Decrease in Shear Strength 2.7.2 Increase in Shear Stress 2.8 Summary; Chapter 3 Soil Mechanics Principles; 3.1 Introduction; 3.1.1 Drained and Undrained Conditions; 3.2 Total and Effective Stresses; 3.3 Drained and Undrained Shear Strengths; 3.3.1 Sources of Shear Strength; 3.3.2 Drained Strength; 3.3.3 Volume Changes During Drained Shear; 3.3.4 Pore Pressure Changes During Undrained Shear; 3.3.5 Undrained Strength; 3.3.6 Strength Envelopes; 3.4 Basic Requirements for Slope Stability Analyses; 3.4.1 Analyses of Drained Conditions; 3.4.2 Analyses of Undrained Conditions; 3.4.3 How Long Does Drainage Take? 3.4.4 Short-Term Analyses 3.4.5 Long-Term Analyses; 3.4.6 Progressive Failure; Chapter 4 Stability Conditions for Analysis; 4.1 Introduction; 4.2 End-of-Construction Stability; 4.3 Long-Term

Stability; 4.4 Rapid (Sudden) Drawdown; 4.5 Earthquake; 4.6 Partial Consolidation and Staged Construction; 4.7 Other Loading Conditions; 4.7.1 Rapid Flood Loading; 4.7.2 Surcharge Loading; 4.7.3 Partial Submergence and Intermediate Water Levels; 4.8 Analysis Cases for Earth and Rockfill Dams; Chapter 5 Shear Strength; 5.1 Introduction; 5.2 Behavior of Granular Materials-Sand, Gravel, and Rockfill 5.2.1 Effects of Confining Pressure 5.2.2 Effects of Density; 5.2.3 Effects of Gradation; 5.2.4 Plane Strain Effects; 5.2.5 Triaxial Tests on Granular Materials; 5.2.6 Field Control of Fill Density; 5.2.7 Strength Correlations for Granular Materials; 5.2.8 Typical Values of  $\phi$  for Sands, Gravels, and Rockfills; 5.3 Silts; 5.3.1 Behavior of Silts; 5.3.2 In Situ Testing of Low-Plasticity Silts; 5.3.3 Effects of Sample Disturbance; 5.3.5 Effects of Cavitation During Strength Tests; 5.3.6 Rate of Drainage of Silt Deposits; 5.3.7 Unconsolidated-Undrained Triaxial Tests on Low-Plasticity Silts 5.3.8 Consolidated-Undrained Triaxial Tests on Low-Plasticity Silts 5.3.9 Effective Stress Strength Envelopes; 5.3.10 Strengths of Compacted Silts; 5.3.11 Undrained Strength Ratios for Silts; 5.3.12 Typical Values of  $\phi$  for Silts; 5.4 Clays; 5.4.1 Factors Affecting Clay Strength; 5.4.2 Methods of Evaluating Undrained Strengths of Intact Clays; 5.4.3 Comparison of Laboratory and Field Methods for Undrained Strength Assessment; 5.4.4 Use of Correlations for Estimating Undrained Shear Strength; 5.4.5 Typical Peak Effective Stress Friction Angles for Intact Clays; 5.4.6 Stiff-Fissured Clays 5.4.7 Compacted Clays

---

#### Sommario/riassunto

The definitive guide to the critical issue of slope stability and safety Soil Strength and Slope Stability, Second Edition presents the latest thinking and techniques in the assessment of natural and man-made slopes, and the factors that cause them to survive or crumble. Using clear, concise language and practical examples, the book explains the practical aspects of geotechnical engineering as applied to slopes and embankments. The new second edition includes a thorough discussion on the use of analysis software, providing the background to understand what the software is doing, along with sev

---

2. Record Nr.	UNINA9910137541703321
Titolo	Knowledge and Systems Engineering (KSE), 2015 Seventh International Conference on
Pubbl/distr/stampa	IEEE
ISBN	1-4673-8013-X
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia