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of Final Water Content Profiles For Design 7.4 Challenges in Water Migration Modeling for Expansive Soils Chapter 8. Computation of Predicted Heave 8.1 Oedometer Methods 8.2 Soil Suction Methods 8.3 Empirical Methods 8.4 Progression of Heave with Time 8.5 Free-Field Surface Movement for Shrink-Swell Soils 8.6 Discussion of Heave Prediction Chapter 9. General Considerations for Foundation and Floor Design 9.1 Risk and Life Cycle Costs 9.2 Foundation Alternatives 9.3 Factors Influencing Design of Structures on Expansive Soils 9.4 Remedial Measures Chapter 10. Soil Treatment and Moisture Control 10.1 Overexcavation and Replacement 10.2 Prewetting Method 10.3 Chemical Admixtures 10.4 Moisture Control Alternatives 10.5 Summary of Soil Treatment Methods Chapter 11. Design Methods for Shallow Foundations 11.1 Spread Footing Foundations 11.2 Stiffened Slab Foundations 11.3 Remedial Measures for Shallow Foundations Chapter 12. Design Methods for Deep Foundations 12.1 Pier and Grade Beam Foundation 12.2 Patented Piers 12.3 Deep Foundation Design Examples 12.4 Remedial Measures for Deep Foundations Chapter 13. Floors and Exterior Flatwork 13.1 Slabs-on-Grade 13.2 Stiffened Slabs 13.3 Structural Floors 13.4 Exterior Slabs and Flatwork 13.5 Remediation Techniques Chapter 14. Lateral Pressure on Earth Retaining Structures 14.1 Computation of Lateral Pressure from Expansive Soils 14.2 Testing for Measuring Lateral Swelling Pressure 14.3 Reduction of Lateral Swelling Pressure 14.4 Design for Lateral Earth Pressure References Symbols Abbreviations Index .

Sommario/riassunto

"Your guide to the design and construction of foundations on expansive soils Foundation Engineering for Expansive Soils fills a significant gap in the current literature by presenting coverage of the design and construction of foundations for expansive soils. Written by an expert author team with nearly 70 years of combined industry experience, this important new work is the only modern guide to the subject, describing proven methods for identifying and analyzing expansive soils and developing foundation designs appropriate for specific locations. Expansive soils are found worldwide and are the leading cause of damage to structural roads. The primary problem that arises with regard to expansive soils is that deformations are significantly greater than in non-expansive soils and the size and direction of the deformations are difficult to predict. Now, Foundation Engineering for Expansive Soils gives engineers and contractors coverage of this subject from a design perspective, rather than a theoretical one. Plus, they'll have access to case studies covering the design and construction of foundations on expansive salts from both commercial and residential projects. Provides a succinct introduction to the basics of expansive soils and their threats Includes information on both shallow and deep foundation design Profiles soil remediation techniques, backed-up with numerous case studies Covers the most commonly used laboratory tests and site investigation techniques used for establishing the physical properties of expansive soils If you're a practicing civil engineer, geotechnical engineer or contractor, geologist, structural engineer, or an upper-level undergraduate or graduate student of one of these disciplines, Foundation Engineering for Expansive Soils is a must-have addition to your library of resources"--

"Provides a succinct introduction to the basics of expansive soils and their threats; includes information on both shallow and deep foundation design; profiles soil remediation techniques, backed-up with numerous case studies; and covers the most commonly used laboratory tests and site investigation techniques used for establishing the physical properties of expansive soils"--
