

Part IV

THE STRENGTH OF SOILS

by

Robert V. Whitman

Associate Professor of Soil Engineering

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List of chapters

- A. Introduction to strength considerations
- B. Fundamentals of limiting equilibrium mechanics
- C. Strength behavior of dry granular soil
- D. Strength behavior of saturated soils
- E. Strength behavior of partially saturated soils
- F. Some applications to practical problems

PREFACE

The following notes have been prepared for use in a new undergraduate course (1.06 - Particulate Mechanics) because no suitable text was available. The chapters will be incorporated into a book covering the basic principles of soil mechanics, being prepared under the joint authorship of the writer and his colleague, Professor T. William Lambe.

No aspect of soil mechanics has undergone greater development in recent years than has the subject of shear strength. These notes represent a new approach to the teaching of this subject matter. First the key and enduring ideas are identified and are presented from a scientific standpoint in some detail and depth. The presentation of engineering approximation and concepts is reserved until the final chapter.

These notes are still incomplete, and the portions which have been completed are sketchy in form. Because the eventual composition of the book is not yet fixed, the chapters have been designated by letters. Even the composition of the chapters is not fixed, and hence all figures, tables, equations, etc. have been keyed to their sections (e.g. Example B-4-2 occurs in section B-4) rather than being numbered sequentially.

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Chapter B

FUNDAMENTALS OF LIMITING EQUILIBRIUM ANALYSIS

EARTH PRESSURE

- B.1 Active thrust from cohesionless soil
- B.2 Effect of surcharge upon active thrust
- B.3 Active thrust from saturated cohesionless soil
- B.4 Passive thrust against cohesionless soil
- B.5 General view of earth pressures from cohesionless soils
- B.6 Active thrust from cohesive soil
- B.7 Active thrust with cohesion and friction
- B.8 Passive thrust with cohesion and friction

STABILITY OF INFINITE SLOPE

- B.9 Cohesionless soil without seepage
- B.10 Cohesionless soil with seepage
- B.11 Infinite slope in cohesive soil
- B.12 Perspective upon slope stability analysis

BEARING CAPACITY

- B.13 Approximate solution using Coulomb wedges

SUMMARY