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Publisher's version / Version de l'éditeur:

<https://doi.org/10.4224/40001603>

Bibliography (National Research Council of Canada. Division Of Building Research); no. BIBL-9, 1954-04-01

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brick • building • bulkhead • bungalow • caisson • causeway • ceiling • cellar • cement • ceramic • chimney
construction • course • decay • deck • design • dimension • door • dormer • dovetailing • dower • dwelling • ear • e
electrical • elevation • finish • flashing • floor • flue • footing • foundation • frame • furring • gable • grade • grain •
gauge • gutter • gypsum • hardwood • heating • heating • height • housing • insulation • interior • job • joint • knot • laminated
lath • lintel • louver • lumber • masonry • meter • modular • moulder • moulding • mullion • nail • origination • paint • panel
parapet • partition • pediment • pier • pigment • pitch • plan • plaster • plumbing • plywood • prefabricated • quoins • rafter
reinforced • reveal • roof • sand • sheathing • specification • stress • vermiculite • wallboard • weathering • window • wire • wood

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A SELECTED ANNOTATED BIBLIOGRAPHY OF
SOIL MECHANICS LITERATURE

ANALYZED

compiled by

W. J. Eden

Note

This bibliography has been prepared for the guidance of students and engineers who are not familiar with soil mechanics literature. It does not pretend to be in any way a complete bibliography of all soil mechanics literature. Only well known and readily available literature published in English is included.

It is divided into three sections, (a) recent books covering the field of soil mechanics, (b) books dealing with particular aspects of soil mechanics, foundations and soil physics and (c) a list of proceedings and journals in which soil mechanics papers frequently appear.

April, 1954

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DIVISION OF BUILDING RESEARCH • NATIONAL RESEARCH COUNCIL • OTTAWA, CANADA

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No 9

PART A

Books Devoted to Soil Mechanics Exclusively

SOIL MECHANICS IN ROAD CONSTRUCTION

Armstrong, C. F.
Edward Arnold and Co.,
London, 1950.

215 pages. Soil Mechanics as applied to road construction is treated in an elementary manner. Most subjects with the exception of frost action are covered adequately.

THE MECHANICS OF ENGINEERING SOILS

Capper, P. L. and Cassie, W. F.
E. & F.N. Spon Ltd.,
London, 1949.

270 pages, 14 chapters. This book covers the field of soil mechanics in a brief but adequate manner. Some practical examples are given to supplement the discussions on the various theories.

SOIL TESTING FOR ENGINEERS

Lambe, T. W.
John Wiley and Sons,
New York, 1951.

165 pages. This book gives procedures in detail for all the common engineering tests on soils. The interpretation of test results is also included under each procedure.

THE ELEMENTS OF SOIL MECHANICS IN THEORY AND PRACTICE

Nash, K. L.
Constable and Company,
London, 1951.

112 pages. A record of four lectures delivered at King's College, London. The author gives a brief survey of the theory and practice of this subject from its beginning up to the present. There are references to relevant literature. This short book would be a good starting point for an introduction to the subject.

FOUNDATION ENGINEERING

Peck, R. B., Hanson, W. E. and Thornburn, T. H.
John Wiley and Sons,
New York, 1953.

410 pages, 22 chapters. This book is divided into 4 major sections.

- (a) Properties of Subsurface Materials.
- (b) Types of Foundations and Methods of Construction.
- (c) Selection of Foundation Type and Basis for Design.
- (d) Structural Design of Foundation Elements.

The book was written particularly for undergraduate students, and hence is a good elementary source.

INTRODUCTORY SOIL MECHANICS AND FOUNDATIONS

Sowers, G.B. and Sowers, G.F.
The MacMillan Company,
New York, 1951.

284 pages, 10 chapters. As title implies, this is an elementary book written for undergraduate students.

SOIL ENGINEERING

Spangler, M. G.
International Textbook Company,
Scranton, Pa., 1951.

A good elementary text which covers some subjects which are normally omitted in many texts. Practical examples are few, but is adequate for most field-work and undergraduate studies.

FUNDAMENTALS OF SOIL MECHANICS

Taylor, D. W.
John Wiley and Sons,
New York, 1948.

700 pages, 20 chapters. This is a comprehensive book dealing with both elementary and advanced principles. Detailed discussions are presented in such subjects as theory of consolidation, shear strength and slope stability.

THEORETICAL SOIL MECHANICS

Terzaghi, Karl
John Wiley and Sons,
New York, 1943.

510 pages, 19 chapters. As the title implies, this book is written for the most advanced students.

SOIL MECHANICS IN ENGINEERING PRACTICE

Terzaghi, Karl and Peck, R. B.
John Wiley and Sons,
New York, 1948.

566 pages, 10 chapters. This is probably the best known and most widely used soil mechanics reference book. It is divided into three sections.

- (a) Physical Properties of Soils.
- (b) Theoretical Soil Mechanics.
- (c) Problems of Design and Construction.

SOIL MECHANICS, FOUNDATIONS, AND EARTH STRUCTURES

Tschebotarioff, G. P.
McGraw-Hill Book Co.,
New York, 1951.

655 pages, 19 chapters. This book is intended to be a reference book both for the student and the field man. It is well illustrated and has many practical examples.

SOIL MECHANICS FOR ROAD ENGINEERS

Her Majesty's Stationery Office,
London, 1952.

This book, containing 541 pages, was written by the staff of the Road Research Laboratory of the Dept. of Scientific and Industrial Research, Great Britain. It includes sections on soil physics, compaction, pavement designs, soil stabilization, stability of slopes and foundations of roads and procedures for a great variety of soil tests. It is written as a reference book.

CONTRIBUTIONS TO SOIL MECHANICS A25-1940

Boston Soc. of Civil Engineers,
Boston, Mass., 1940.

A book containing the following papers presented to the Boston Society of Civil Engineers.

1. Terzaghi, K. Modern Conceptions Concerning Foundation Engineering (1925).
2. Terzaghi, K. Concrete Roads - A Problem in Foundation Engineering (1927).
3. Terzaghi, K. Wellpoint Method for Handling Excavation of Foundation Pit at New Sewage Pumping Station, Lynn, Mass. (1927).
4. Casagrande, A. The Structure of Clay and Its Importance in Foundation Engineering (1932).
5. Gilboy, G. Mechanics of Hydraulic-Fill Dams (1934).

6. Jurgenson, L. The Application of Theories of Elasticity and Plasticity to Foundation Problems (1934).
7. Jurgenson, L. The Shearing Resistance of Soils (1934).
8. Rutledge, P.C. Recent Developments in Soil Testing Apparatus (1935).
9. Casagrande, A. Characteristics of Cohesionless Soils Affecting the Stability of Slopes and Earth Fills (1936).
10. Terzaghi, K. A Fundamental Fallacy in Earth Pressure Computations (1936).
11. Casagrande, A. Seepage Through Dams (1937)..
12. Taylor, D. W. Stability of Earth Slopes (1937).
13. Westergaard, H. M. Plastic State of Stress Around a Deep Well (1940).
14. Cummings, A. E. Dynamic Pile Driving Formulas (1940).

CONTRIBUTIONS TO SOIL MECHANICS 1941-53
Boston Soc. of Civil Engineers,
Boston, Mass., 1953.

A book containing the following papers presented to the Boston Society of Civil Engineers.

1. Brown, F. S. Foundation Investigations for Franklin Falls Dam.
2. Fahlquist, F. E. New Methods and Technique in Subsurface Explorations.
3. Terzaghi, K. Undisturbed Clay Samples and Undisturbed Clays.
4. Terzaghi, K. Shield Tunnels of the Chicago Subway.
5. Casagrande, A., Carillo, N. Shear Failure of Anisotropic Materials.
6. Taylor, D. W. An Unusual Foundation Problem, the Alumni Pool Building.
7. Casagrande, A. The Pile Foundation for the John Hancock Building in Boston.
8. Casagrande, A. Soil Mechanics in the Design and Construction of the Logan Airport.
9. Crandell, F. J. Ground Vibration Due to Blasting and Its Effect Upon Structures.

10. Casagrande, A. Notes on the Design of Earth Dams.
11. Lambe, T. W. Stabilization of Soils with Calcium Acrylate.
12. Casagrande, L. Electro-Osmotic Stabilization of Soils.
13. Terzaghi, K. Permafrost.
14. Aldrich, H. P. Importance of the Net Load to the Settlement of Buildings in Boston.
15. Wilson, S. D. Control of Foundation Settlements by Pre-loading.

PART B

Books on Subjects Allied to Soil Mechanics

SOIL PHYSICS

Baver, L. D.
John Wiley and Sons,
New York, 1940.

This book is written primarily for the agricultural soil scientists. It covers such details as the structure of soil, the means with which it retains water and clay minerals and colloids. In its restricted fields, it will serve as a supplement to the regular books on soil mechanics.

MANUAL OF SEDIMENTARY PETROGRAPHY

Krumbein, W. C. and F. J. Pettijohn
Appleton-Century Co.,
New York, 1938.

This book has a detailed discussion on the theory and various methods of the determination of soil particle size and grain size distribution curves.

GEOLOGY AND ENGINEERING

Legget, R. F.
McGraw-Hill Book Co.,
New York, 1939.

This book, through the use of many examples, demonstrates the application of geology to civil engineering work.

CLAY MINERALOGY

Grim, R. E.
McGraw-Hill Book Co.,
New York, 1953.

This book gives much fundamental information on clays and clay minerals, from the mineralogical viewpoint.

LOW DAMS
National Resources Committee
Washington, D. C., 1938.

This is a handbook published by the U.S. Dept. of Interior. It gives design criteria for small dams. A short section is devoted to an elementary treatment of soil mechanics.

ENGINEERING FOR DAMS
Creager, W. P., J. D. Justin, and J. Hinds
John Wiley and Sons,
New York, 1945.

Consists of 3 volumes. Vol. 1 contains chapters on investigation of dam sites, erosion, model studies and flood condition design. Vol. 2 treats design of arched and gravity concrete dams. Vol. 3 includes design of earth dams including foundation conditions, soil tests and their utilization, and also rock fill, steel and timber dams.

The following list of books are devoted to the design of foundations for buildings, bridges and other special cases.

1. SUBSTRUCTURE ANALYSIS AND DESIGN
Anderson, Paul
Ronald Press Co.,
New York, 1948.
2. PILE FOUNDATIONS -- THEORY - DESIGN - PRACTICE
Chellis, R. D.
McGraw-Hill Book Co.,
New York, 1951.
3. FOUNDATIONS OF STRUCTURES
Dunham, C. W.
McGraw-Hill Book Co.,
New York, 1950.
4. FOUNDATIONS FOR HOUSES AND OTHER SMALL STRUCTURES
Elgar, W. H.
Architectural Press,
London, 1951.
5. FOUNDATIONS, ABUTMENTS AND FOOTINGS
Hool, S. B. and B. S. Kinne
McGraw-Hill Book Co.,
New York, 1943.
6. FOUNDATIONS OF BRIDGES AND BUILDINGS
Jacoby, H. S. and R. P. Davis
McGraw-Hill Book Co.,
New York, 1931.

7. STRUCTURAL FOUNDATIONS
Minikin, R. R.
Crosby Lockwood and Sons, Ltd.
London, 1948.
8. COFFERDAMS
White, L. and E. A. Prentis
Columbia University Press,
New York, 1940.

SUBSURFACE EXPLORATION AND SAMPLING OF SOILS FOR CIVIL ENGINEERING PURPOSES

Hvorslev, M. J.
Waterways Experiment Station,
Vicksburg, Miss., 1949.

519 pages. Contains details of many sampling procedures and equipment. This is the best known reference on subsurface exploration for civil engineering purposes.

PROCEDURE FOR TESTING SOILS
American Society for Testing Materials,
July, 1950.

A manual listing the A.S.T.M. procedures for testing soils for engineering purposes.

FROST ACTION IN ROADS AND AIRFIELDS: A REVIEW OF LITERATURE 1765-1951
Johnson, A. W.
Special Report No. 1,
Highway Research Board,
Washington, 1952.

A comprehensive review of literature on frost action, with discussions on the theories of frost heaving, and preventive measures.

PART C

Proceedings and Journals Which May Serve as Source Material on
Soil Mechanics Literature

1. GEOTECHNIQUE
Published by the Institution of Civil Engineers,
Great George Street, London S.W.1.

A quarterly journal devoted exclusively to soil mechanics. This journal is strongly recommended. Subscription rate £1 per annum.

2. Proceedings of First International Conference on Soil Mechanics and Foundation Engineering (3 Volumes)
Cambridge, Mass.,
1936.
3. Proceedings of Second International Conference on Soil Mechanics and Foundation Engineering (7 Volumes)
Rotterdam, 1948.
4. Proceedings of Third International Conference on Soil Mechanics and Foundation Engineering (3 Volumes)
Zurich, 1953.
5. Proceedings of the Purdue Conference on Soil Mechanics and its Applications
Purdue University
Lafayette, Indiana, 1940.
6. Proceedings of the Conference on Soil Stabilization
Mass. Institute of Technology,
Cambridge, Mass., 1952.

7. Royal Swedish Geotechnical Institute Proceedings
Stockholm, Sweden.

These proceedings are published from time to time, each one dealing with a particular subject. A list of the first six follows:

- No. 1 "Soil Sampler with Metal Foils. Device for Taking Undisturbed Samples of Very Great Length (1950)",
Kjellman, W., T. Kallstenius and O. Wager.
 - No. 2 "The Vane Borer. An Apparatus for Determining the Shear Strength of Clay Soils Directly in the Ground (1950)",
Cadling, L. and S. Odenstad.
 - No. 3 "Device and Procedure for Loading Tests on Piles (1951)",
Kjellman, W. and Y. Liljedahl.
 - No. 4 "The Landslide at Skottorp on the Lidan River Feb. 2, 1946 (1951)",
S. Odenstad.
 - No. 5 "The Landslide at Surte on the Gota River, Sept. 29, 1950 (1952)",
B. Jakobson.
 - No. 6 "A New Geotechnical Classification System (1953)",
Kjellman, W., L. Cadling and N. Flodin.
8. Proceedings of the American Society of Civil Engineers.
 9. Proceedings of the American Society for Testing Materials.
 10. Proceedings of the Highway Research Board.
 11. Journal of the Institution of Civil Engineers.

12. Engineering Journal - Journal of Engineering Institute of Canada.

A source of Canadian papers on foundation and soil mechanics literature.

For literature on one particular aspect of soil mechanics literature, it is suggested that the "Bibliography on Soil Mechanics" published by the Institution of Civil Engineers, Great Britain, be consulted. This bibliography was published in 1950 and covered literature published from 1920 to 1946. Three supplements covering the years 1947-48, 1949-50 and 1951 have since been published. Copies may be obtained from Institution of Civil Engineers, Great George Street, London S.W.1.

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