GEOTECHNICAL PRACTICE PUBLICATION NO. 5

GEO-VELOPMENT

THE ROLE OF GEOLOGICAL AND GEOTECHNICAL ENGINEERING IN NEW AND REDEVELOPMENT PROJECTS

Edited by
Christoph M. Goss, Ph.D., P.E.
Richard L. Wiltshire, P.E.
Joels C. Malama, P.E.
Minal L. Parekh, P.E.

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PROCEEDINGS OF THE 2008 BIENNIAL GEOTECHNICAL SEMINAR

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of the American Society of Civil Engineers

Rocky Mountain Section of the Association of Environmental
and Engineering Geologists

Colorado Association of Geotechnical Engineers

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Preface

Across all lands and time, engineers have developed their environment to obtain housing, water, transportation, mineral resources, and protection. As structures wore out or societal needs changed, the environment would be redeveloped. Inevitably, the development would start from the ground up, in the realm of the geotechnical engineer, who would make the foundation of the dam, building, or canal strong and clean. Geotechnical engineering in Colorado began around the 8th Century A.D. at Mesa Verde, when the first reservoir was constructed by the Ancestral Puebloans. In the 19th Century, geotechnical engineering was focused on mining and irrigation. As cities grew in the 20th Century, the development focus shifted to large buildings, roads, airports, bridges, and dams. Today, Colorado's geo-community continues its work to develop new areas and re-develop the old. We hope that this collection of seminar papers, presenting Colorado's geotechnical practice and experience related development and re-development, will be of value to others worldwide.

Since 1984, the ASCE Colorado Section's Geotechnical Group, in collaboration with the Rocky Mountain Section of the Association of Environmental and Engineering Geologists and the Colorado Association of Geotechnical Engineers, has organized a biennial series of geotechnical seminars on a wide variety of themes that have been attended by as many as 270 civil/geotechnical engineers, geologists, and other geo-professionals. The geotechnical seminars have been held at area universities or hotels and have offered the opportunity for sharing ideas and experiences among Colorado's diverse geo-disciplines. Since 2004, ASCE's Geo-Institute has published the papers of these seminars in Geotechnical Practice Publications, allowing the experiences to be shared with a worldwide audience.

The GEO-velopment Steering Committee convened in August 2007 and held monthly meetings to plan for the 2008 Biennial Geotechnical Seminar. The Steering Committee members included Joels Malama (Conference Chair), Dr. Christoph Goss, Mark Brooks, Dr. Bill McCarron, Minal Parekh, Becky Roland, Mark Vessely, Leslie Jansen, Steve Bryant, Jere Strickland, Keith Seaton, Melanie Longi, Joe Kerrigan, Chris Wienecke, and Richard Wiltshire.

Christoph Goss, Richard Wiltshire, Joels Malama, and Minal Parekh

Acknowledgements

The GEO-velopment Steering Committee wishes to take this opportunity to thank all of the authors and reviewers of our papers, which are herein presented as Geotechnical Practice Publication No. 5. The authors have spent many hours in preparing and finalizing their papers, which will be presented at the 2008 Biennial Geotechnical Seminar on November 7, 2008. These papers have been reviewed by a volunteer group of Denver area geo-professionals who put in their valuable time and helped make these papers even better. The Geo-Institute's Committee on Technical Publications completed its review of our GEO-velopment papers in a very timely manner and their adherence to our aggressive publication schedule is greatly appreciated. We would also like to acknowledge the assistance of Donna Dickert of ASCE's Book Production Department for putting this publication together.

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