Soils, Earthwork, and Foundations: A Practical Approach:
Based on the 2024 IRC® and IBC®

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PREFACE to the 4th EDITION

The subjects in this book (and previous editions) provide insights into the design, plan review, construction, and inspection of soils, earthwork, and foundations. This book is intended to fill a void in technical publishing that has long existed between textbooks intended for use by professional engineers and knowledge gained by experience and on the job training. The contents of this book are based on sound principles and up-to-date technology sharpened by the authors' extensive construction exposure and forensic studies of failures. The first three editions contained frequent references and coordination with the applicable chapters of the 2006 *International Residential Code*® and 2006 *International Building Code*®, the 2012 *International Residential Code*® and 2012 *International Building Code*®, the 2015 *International Residential Code* and 2015 *International Building Code,* respectively. This edition has been reorganized to better align it with the investigation of soils and the design and construction of earthwork and foundations for buildings and structures. It has also been expanded to include even more references to the 2024 *International Residential Code*® (IRC®) and the 2024 *International Building Code*® (IBC®). This is a unique feature rarely found in any similar textbook on the subject.

Studying the book will not make the reader an expert professional but will benefit those who do code enforcement, plan reviews, construction inspections, laboratory testing, and construction related to foundations and earthwork. Design professionals will benefit from the information on design and field applications while engineering students and graduate engineers who are starting to work as professionals will find it helpful in bringing together coursework topics and practical applications. This book will also benefit those who plan to participate in a certification exam on the subject of soils, earthwork, and foundations through gained knowledge on the most important issues relevant to the subjects.

While it is labeled a practical book, many of the topics are not thoroughly understood by all design professionals. One difficulty is that geotechnical engineers understand their discipline but may not be familiar with the work of structural engineers; the opposite is also true. Due to the interaction between the soil and foundations, some crossover knowledge between the geotechnical and structural disciplines is important. The authors hope that this book will help bridge that gap.

Test questions are included at the end of each chapter to evaluate the reader's understanding of the presented concepts. An Answer Key follows the Glossary.

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The International Code Council is the leading global source of model codes and standards and building safety solutions that include product evaluation, accreditation, technology, codification, consulting, training and certification. The International Code Council's codes, standards and solutions are used to ensure safe, affordable and sustainable communities and buildings worldwide.

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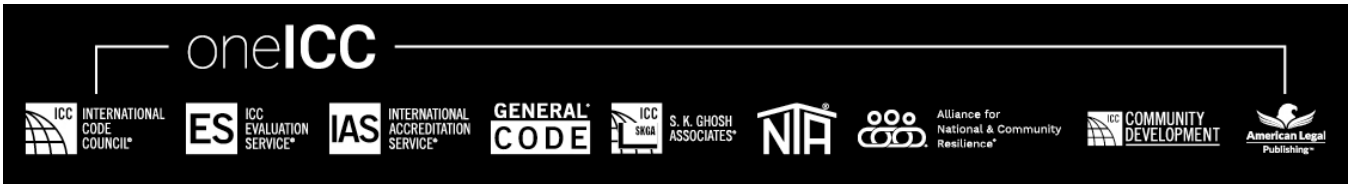

ABOUT THE AUTHORS

William Bracken (the current author-updating the 2015 I-Codes-based edition to the 2024 I-Codes-based edition) is a Professional Engineer licensed in 50 US jurisdictions and has a Bachelor of Science in Civil/Structural Engineering and a Master of Science in Civil/Structural Engineering from the University of South Florida. He has over 35 years of experience in the subjects of this book and is a Fellow of the Structural Engineering Institute, a Fellow of the American Society of Civil Engineers and a Board-Certified Diplomate and Fellow of the National Academe of Forensic Engineers.

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This book is dedicated to the memory of Kirby T. Meyer, its original author.

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