



Existing Building Code Essentials

Based on the 2018 International Existing Building Code®

International Code Council

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ISBN: 978-1-60983-785-3

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First Printing: December 2018

PRINTED IN THE USA

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Preface



Building construction has progressed over the centuries from stone to steel and concrete monuments to the industrial revolution and technology today. People have an expectation that when they enter a building, it has been constructed in such a manner that if an emergency situation occurs, they will be protected. As new building practices improve and new technologies are developed, the complexity of buildings has increased, and building regulations must keep up with the technology. The codes adopted by governmental agencies should not prohibit or limit the use of new materials or technologies. However, buildings must be constructed to be safe for the occupants. Therefore, the building code for both new construction and existing buildings has had to keep up with complex building practices and has become a complex document in itself. The codes and standards used to regulate the construction of buildings can overwhelm the casual user of the code. Navigating the intricacies and detailed provisions of the code can be daunting as not all of the provisions apply to every building.

This book has been written to provide an easy-to-read overview of the *International Existing Building Code*® (IEBC®). It is an illustrated look at the most common code provisions. It is presented in a user-friendly manner in clear noncode language with emphasis on technical accuracy. This book targets readers who have a basic understanding of architecture and construction but a limited knowledge of the code requirements.

Anyone involved in the design, construction or regulatory aspects of building construction, and all levels of experience, can benefit from the information provided in this book. It can be used for learning the fundamental provisions and intent of the 2018 IEBC, as the most common provisions have been addressed.

The information in *Existing Building Code Essentials* has been organized by the different purposes of the code. It discusses the administrative provisions that building departments use to enforce the building code. Provisions related to various approaches in the design, construction and evaluation of construction work in existing buildings is provided in parts and chapters organized for easy comprehension. The three specific compliance methods of Prescriptive, Work Area and Performance are addressed in various chapters. The discussion of life safety issues includes the meth-

ods used in design and construction to ensure that occupants are provided with a safe means of evacuating a building in an emergency. It also provides the provisions that allow people with physical disabilities to access buildings. Health safety provisions regarding weather protection and interior environment have been provided. Finally, the structural provisions of the code have been put into easy-to-understand language.

This book is not intended to cover all of the provisions of the existing building code or all of the acceptable materials and methods of construction. This is not to say that the information *not* included in this book is not important. This book should be used with the 2018 *International Existing Building Code*, which should be referenced for more details and information.

Existing Building Code Essentials includes full-color photos and illustrations to help the reader understand the provisions and application of the code. It provides examples, simplified tables and highlights to explain the fundamental requirements of the *International Existing Building Code* and to gain compliance with its regulations. References to the applicable sections or standards have been provided to assist the reader in locating more detailed and complete information in the code. A glossary of code and construction terms clarifies the meaning of the technical provisions.

ABOUT THE INTERNATIONAL EXISTING BUILDING CODE

The IEBC covers all existing buildings, both commercial and residential, except that detached one- and two-family dwellings and townhouses not more than 3 stories in height may comply with the *International Residential Code*® (IRC®) instead. This comprehensive code applies to the repair, alteration, change of occupancy, addition to and relocation of existing buildings and features time-tested safety concepts; structural, fire and life safety provisions covering means of egress; interior finish requirements; comprehensive roof provisions; seismic engineering provisions; innovative construction technology; occupancy classifications and the latest industry standards in material design. It is founded on broad-based principles that make possible the use of new materials and new building designs.

The IEBC is one of the codes in the family of International Codes published by the International Code Council® (ICC). All of these codes are maintained and updated through an open code-development process and are available internationally for adoption by the governing authority to provide consistent enforceable regulations for the built environment. The IEBC and all of the 2018 codes and commentaries in the family of ICC Codes are available in various print and digital formats including premiumACCESS, the state of the art online platform, with powerful features of search, highlighting, annotations, collaboration, and other

premium features. Various lengths of subscription for premiumACCESS are available to fit the individual needs of projects and activities.

ACKNOWLEDGMENTS

As noted in the book, the *International Existing Building Code*® (IEBC®) represents a paradigm shift from traditional code requirements addressing new work in existing buildings. As such, I would like to first thank those who helped spearhead this change in philosophy. They include, but are not limited to: Bill Connelly, Mel Green, and David Hattis, along with those who served on the ICC Existing Building Code Drafting Committee and later Code Development Committee, initially chaired by John Terry.

Secondly, I need to acknowledge the contribution by my co-author Clay Aler, P.E., who made a major contribution to the book. His contribution was not solely based on his knowledge of the IEBC but also his experience as a consultant on numerous rehabilitation projects. Without his assistance it would have been far more challenging to complete this project and we would not have benefited from his experience.

Tim Ryan, a national building code consultant, formerly on the ICC Board of Directors and Code Administrator for the City of Overland Park, Kansas, supported the project by his review and contribution of technical content as well as photographs and artwork. His contributions are greatly appreciated.

The assistance provided by ICC Staff, including Sandra Hyde, Senior Staff Engineer; Cindy Rodriguez, Manager of Product Development and staff of the ICC Publications Department with respect to editing and producing the document, along with collecting many of the photographs, also needs to be acknowledged.

Last, but certainly not least, I would like to thank my family. Thank you to my wife Lynn for her support and patience throughout the development of this book. I am sure the book also took some time away from my two grandsons: Dyson and Holt.

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William “Bill” Koffel is president and founder of Koffel Associates, Inc. He is recognized as an expert in the fire protection, life safety and existing building aspects of codes and standards.

Mr. Koffel graduated in 1979 with a bachelor of science in Fire Protection Engineering from the University of Maryland, earned his Professional Engineering license in the specialty of fire protection engineering in 1983 and worked in private industry as well as in the Maryland State Fire Marshal’s office. He has served on numerous national panels and committees, including ICC’s International Existing

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In 1986, Bill founded Koffel Associates and has presided over its national and international growth to its current staff of 40 people, with offices in Maryland, Connecticut and Massachusetts. He is a past president of the Society of Fire Protection Engineers and past member of the Department of Veterans' Affairs Advisory Committee on Structural Safety. He has co-authored important manuals, including "Fire Warning and Safety Systems," American Hospital Association's manual that is the industry's guide to selecting, testing and maintaining fire suppression, fire alarm and smoke control systems.

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ABOUT THE INTERNATIONAL CODE COUNCIL

The International Code Council is a member-focused association. It is dedicated to developing model codes and standards used in the design, build and compliance process to construct safe, sustainable, affordable and resilient structures. Most US communities and many global markets choose the International Codes. ICC Evaluation Service (ICC-ES) is the industry leader in performing technical evaluations for code compliance fostering safe and sustainable design and construction.

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