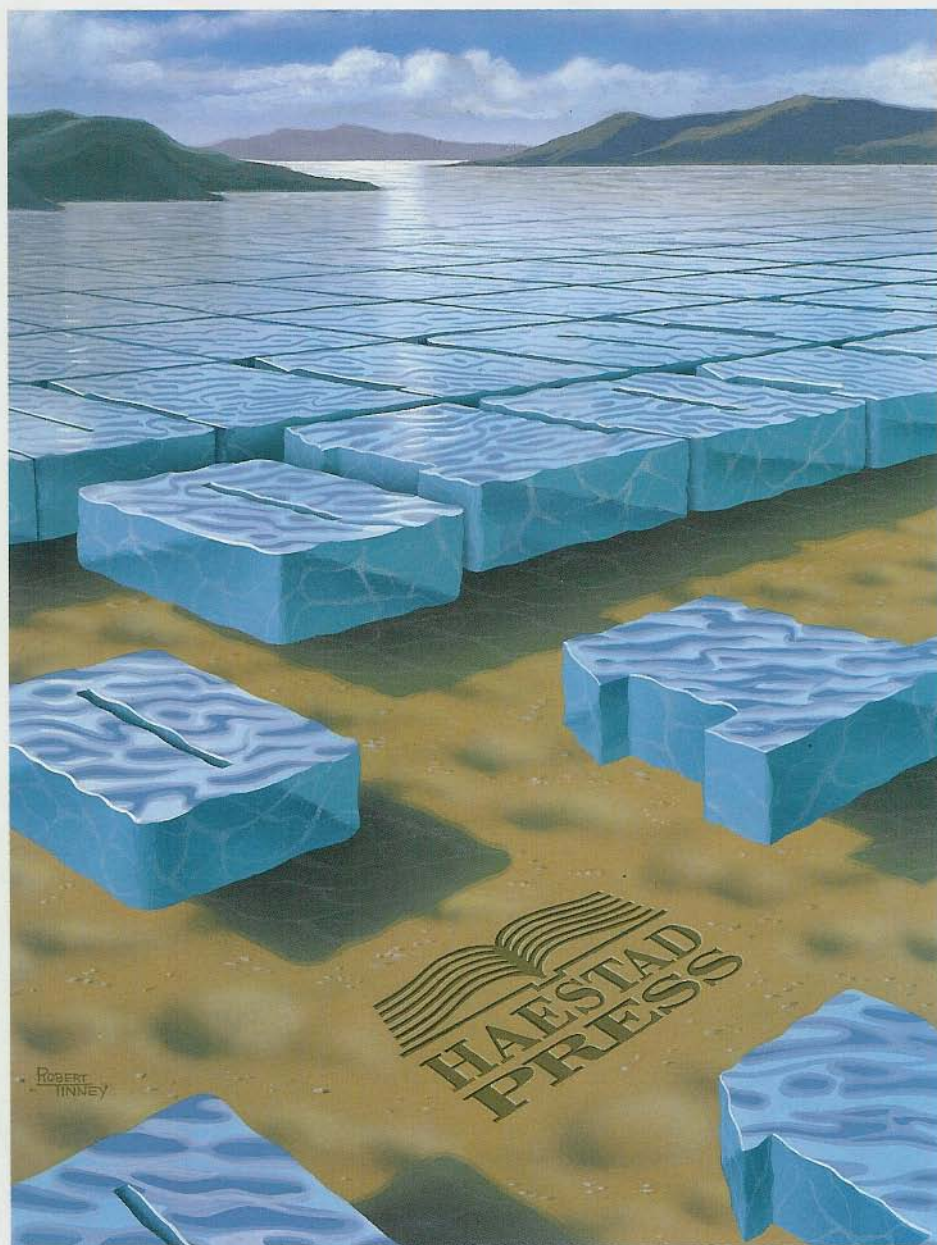


ESSENTIAL



HYDRAULICS & HYDROLOGY

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Preface

Haestad Press evolved out of what the engineers at Haestad Methods saw as the necessity for affordable, quality reference and textbooks dedicated to the practical application of engineering theory to hydraulics and hydrology. In civil engineering education, scientific methods tend to be emphasized over practical and technological approaches to problem-solving, creating a gap between theoretical knowledge and the ability to apply that knowledge in real-world situations. This presents a serious problem, especially in the area of hydraulics and hydrology since the entire world depends on civil engineers every day for safe drinking water, reliable sewer systems and protection from floods.

Haestad Methods has long recognized this problem which consequently divides our interests. As a software company, we are committed to the development of quality computer applications and technical support that provide civil engineers with effective and efficient solutions for complex engineering design, analysis and modeling tasks. On the other hand, because of the lack of resources addressing the practical application of technical knowledge, we also feel the responsibility to play a mentor role - to teach, educate and inform others about the practical use of existing and developing civil engineering computer technologies.

As a way to combine our interests in both software development and education, Haestad Methods began organizing workshops on the use and application of popular civil engineering design software packages including our own. We have since earned the highest attainable level of accreditation for continuing education through the IACET¹ and NSPE PDRES-certifications². In 1997, Haestad Press debuted with the *1997 Practical Guide to Hydraulics and Hydrology* and both student and professional versions of our *Computer Applications in Hydraulic Engineering* textbook and academic CD-ROM. These books were followed in 1998 by the second edition of *Computer Applications* which contained several enhancements based on feedback from adopters of the original version.

Although the publications released by Haestad Press were gaining popularity, the promotion of Haestad Methods' products within the pages of the *Practical Guide* and in the marketing for both *Computer Applications* detracted from the urgency and importance of these texts. All three books, as promised, delivered vital information about the application of civil engineering theory to computer technology, but it was difficult to distinguish between Haestad Press, the publisher and Haestad Methods, the software developer.

I came to Haestad Methods from a civil engineering consulting firm. Like my new found colleagues who had started Haestad Press, I recognized that few civil engineers fully capitalize on the automation capabilities of existing computer technologies. This phenomenon - as my prior experience with engineering firms and municipalities around the United States lead me to conclude - was caused by the disturbing distance between the growth of civil engineering software and the availability of resources discussing the practical application of these tools to solve real-world engineering problems.

After reading and reviewing previous Haestad Press publications, I realized that in order to successfully embody the ideals on which it began, Haestad Press must exist as a separate entity from Haestad Methods. My time at Haestad has since been dedicated to developing Haestad Press as an independent company providing civil engineering professionals and students valuable resources necessary to bridge the gaps in their own understanding of how fundamental civil engineering theory can be applied to computer technology in practical, real-world situations.

Divided into four sections, *Essential Hydraulics and Hydrology* addresses topics from calibration with tracer studies and inlet design with the new FHWA standards to system optimization with genetic algorithms and the use of multimedia for product evaluation and continuing education. By combining discussions of both traditional theory and cutting-edge technology, *Essential Hydraulics and Hydrology* delivers the knowledge all civil engineers and engineering students must access in order to make sense of the diverse and rapid technological advances in their profession. In the next year, expect Haestad Press to be building momentum with further textbooks such as *Computer Assisted Water Distribution Modeling*.

Achieving the world-renowned quality of our computer applications and continuing education programs would be difficult without Haestad Methods' genuine interest in and dedication to the progress of civil engineering technology. Our engineers regularly engage and immerse themselves in discussion and debate about trends in civil engineering computer technology and education. Haestad Press was created as a logical extension of this passion for hydrology and hydraulics, providing a forum for our engineers and clients to share their ideas, theoretical and technical knowledge, and real-world experiences with the global civil engineering community. Anyone who loves their job and what they do as much as we do will certainly understand the need and desire for such an outlet.

In any discipline, progress can not be made without a forum for sharing ideas and debating vital issues and new approaches to solving age-old problems. Civil engineering periodicals, books, websites, Internet newsgroups and academic institutions all afford this opportunity but many often fail to address topics from a practical or technological standpoint. In the absence of such discussion, the gap between the rapid development of civil engineering design software and the civil engineers' ability to effectively utilize these tools increases at an dramatic rate. Haestad Press promises to bridge this gap by providing civil engineers with the knowledge and resources necessary to understand and master hydraulic and hydrologic engineering computer technology. *Essential Hydraulics and Hydrology* is only a taste of what's to come.

Adam Strafaci, Editor in Chief
November 1998

¹International Association for Continuing Education and Training (www.iaacet.org).

²Professional Development Registry for Engineers and Surveyors is a continuing education registry sponsored by the National Society of Professional Engineers (www.nspe.org/pdres).

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