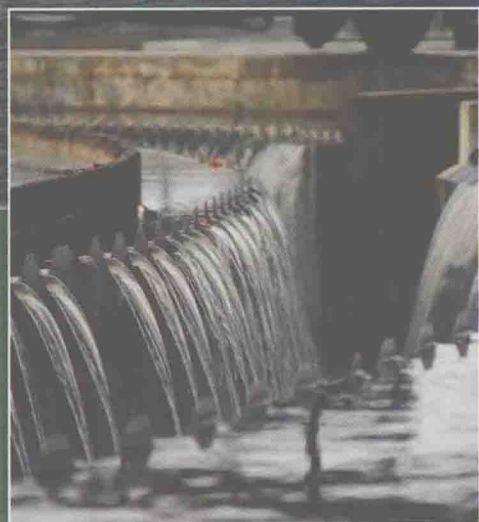


Second Edition

Water and Wastewater Treatment

*A Guide for the
Nonengineering Professional*



Joanne E. Drinan
Frank R. Spellman

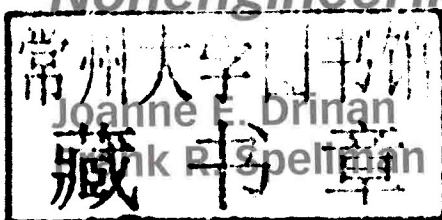


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Summary: "Designed to meet the information needs of professionals without an engineering background, this book describes and explains in simple, non-mathematical terms the unit processes used to treat both drinking water and wastewater. The text presents each unit process, states what function(s) it performs, illustrates what equipment it uses, and explains its role in the process of purifying or cleaning water. Now featuring summary sections, each chapter in this second edition has been fully updated and revised to present the latest regulatory and technological advancements as well as new drinking and wastewater regulatory requirements"-- Provided by publisher.

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Preface

An industry-wide best-seller hailed on its first publication as a masterly account written in an engaging, highly readable style, *Water and Wastewater Treatment: A Guide for the Nonengineering Professional*, 2nd edition, is ideal for municipal managers, departmental and administrative assistants, equipment sales or marketing personnel, and customer services representatives, as well as those serving on utility municipality boards and those professionals and general readers with little or no science background.

This standard synthesis has been completely revised and expanded for the second edition. For example, we begin with a comprehensive discussion of updated current issues facing the water and wastewater industries. Then, the text presents all the basic unit processes involved in drinking water and wastewater treatment, step-by-step, in jargon-free language. It describes each unit process, what function the process provides in water or wastewater treatment, and the basic equipment each process uses. It details how the processes fit together within a drinking water or wastewater treatment system, and surveys the fundamental concepts that make up water/wastewater treatment processes as a whole.

By design, this text does not include mathematics, engineering, chemistry, or biology. However, it does include numerous illustrations, as well as an extensive glossary of terms and abbreviations for easy comprehension of concepts and processes, and for quick reference.

Joanne E. Drinan
Treadwell, New York

Frank R. Spellman
Norfolk, Virginia

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Our thanks go to the City of Oneonta, New York, for allowing me (J.D.) to visit and photograph the Roger G. Hughes Water Treatment Plant and the City of Oneonta Wastewater Treatment Plant. Thank you to Stanley Shaffer, water treatment plant chief operator, and Steve Kruh, wastewater treatment plant chief operator, and his staff for taking the time to show me around their plants. And to Matt Stevens—he braved the rainstorm to show me all areas of the Wastewater Treatment Plant. I couldn't have asked for a better escort. A special thanks to you, Matt.

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Joanne E. Drinan is a retired U.S. Navy chief petty officer with 20 years of active duty. She worked for 13 years as an administrative coordinator for a large wastewater treatment sanitation district in Virginia Beach, Virginia. Currently, Drinan lives in New York State and works for a nonprofit organization in Oneonta, New York. She is the author/coauthor of more than 12 environmental science books. She holds a BS in business administration from St. Leo University.

Frank R. Spellman is a retired U.S. Navy officer with 26 years of active duty, a retired environmental safety and health manager for a large wastewater sanitation district in Virginia, and a retired assistant professor of environmental health at Old Dominion University in Norfolk, Virginia. Spellman is the author/coauthor of 76 books. He consults on environmental matters with the U.S. Department of Justice and various law firms and environmental entities throughout the globe. Spellman holds a BA in public administration, a BS in business management, an MBA, and an MS/PhD in environmental engineering. In 2011, he traced and documented the ancient water distribution system at Machu Pichu, Peru, and surveyed several drinking water resources in Coco Amazonia, Ecuador. He also surveyed numerous oil drilling sites in Ecuador where American firms had polluted surrounding jungle areas.

On the cover: Pepacton Reservoir

The New York City Watershed covers approximately 2,000 square miles in the southeastern part of New York State. The watershed encompasses 19 reservoirs that provide water to nearly 9 million people in and around New York City.

One of the 19 reservoirs is the Pepacton Reservoir. Located in southern Delaware County of New York, it is the largest, by volume, of four reservoirs in the Delaware Water Supply System of the watershed. The reservoir is more than 100 miles northwest of the city, near Catskills Park. Placed into service in 1955, the Pepacton is 15 miles long, contains 140 billion gallons of water at full capacity, and provides about 25% of the over 1 billion gallon total daily flow into New York City.

New York City Department of Environmental Protection (DEP) is tasked with managing and conserving the city's water supply. DEP implemented the Long-Term Watershed Protection Program to ensure that water in the New York City Watershed remains of a high quality. Water that is transferred to New York City is disinfected with chlorine. The treated water then enters the water distribution system and is delivered directly to the consumers. Due to DEP's efforts in land acquisition and management within the watershed, the water obtained is of such a high quality that New York City is not required to filter its drinking water.

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Nonengineering Professional***

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