

Summary of Proposed Updates to the Massachusetts Water Conservation Standards February 2018

Over the past four years, Water Resources Commission staff has worked to update the Water Conservation Standards to reflect current best management practices in the water industry, updates in technology and national efficiency standards, a better understanding of climate change and drought impacts, and updated state policies and regulations that bear on the Standards. A panel of stakeholders and industry experts played a key advisory role on much of the content. Substantive changes to the Standards are summarized below.

General

The document was made more readable and user-friendly by:

- Numbering all recommendations for easier cross-reference.
- More clearly directing content to the appropriate audience.
- Adding important resources and appendices at the end of most chapters.
- Adding graphic elements to reinforce messages.
- Reorganizing, improving, and adding helpful content to the appendices.

Additionally, links and references were updated as needed, and some elements were consolidated or reorganized for clarity and to highlight core concepts.

Introduction

The introduction was reorganized to improve focus and clarity and to stress the importance of water conservation in the face of new understanding of climate change and drought.

Chapter 1, Comprehensive Planning and Drought Management Planning

Chapter 1 received minor updates to reference the recent drought and better reflect current sources of planning guidance, including state-developed guidance. Additionally, information on new resources for innovative water banking and water-neutral community growth were added.

Chapter 2, Water Loss Control

Chapter 2 Water Loss Control was renamed from its previous title (System Water Audits and Leak Detection) to highlight a more comprehensive approach to water loss control. Substantive changes aligned the chapter more closely with recent changes in industry guidance and best management practices of the International Water Association (IWA), American Water Works Association (AWWA), Environmental Protection Agency, (EPA) and the Water Research Foundation (WRF). The Introduction was changed to include terminology of the IWA Water Balance, outline the steps of EPA Water Loss Control Program, and summarize real loss intervention strategies. Standards were reworked to emphasize the importance of implementing a comprehensive water loss control program, performing an AWWA M36 Water Audit, and performing leak detection as part of a program rather than stand-alone. New recommendations were added for water loss control programs, pressure management, service leakage, and automated leak detection.

Chapter 3, Metering

Chapter 3 Metering was updated to incorporate new AWWA guidance and to present information related to the practicality of some of the existing standards and recommendations. A new standard was added for metering water sources and a new standard was added requiring annual calibration of source, raw, treatment, and finished master meters. Two standards were combined to clarify calibration requirements for other meters, including large customer meters. There were also updates to the

standards relating to meter replacement/repair policies, meter sizing, and billing frequency. Updates to the recommendations included new billing recommendations and an expanded remote reading recommendation to include technical developments in “smart” metering (e.g. Automated Meter Reading and Advanced Metering Infrastructure).

Chapter 4, Pricing

Chapter 4 was updated to place more emphasis on the importance of, and means to, balance the competing goals of water supply budgeting and rate setting. In particular, the chapter focuses on how to send strong water conservation price signals while achieving necessary cost recovery, stable revenue streams, and affordability. The chapter Standards received minor updates, for clarity and precision. The recommendations were substantially augmented to provide new guidance on innovative conservation-oriented rate structures; long-term planning and budgeting; pricing tools to improve equity and affordability of customer costs and utility revenue stability; billing practices and positive messaging that support conservation price signals; and robust public engagement practices. The chapter also lists many available tools to help suppliers meet the standards and implement the recommendations.

Chapter 5, Residential Water Use

The Chapter 5 update highlights EPA’s nationwide Water Sense program, which launched in 2006, after the last substantive update of the Water Conservation Standards. In particular, the update calls attention to the program’s higher efficiency standards that have changed the marketplace for water-using fixtures and appliances. Standard 1, “Install water-efficient plumbing fixtures,” was eliminated as unnecessary, since it essentially directed readers to follow the plumbing code. Many of the concepts on incentives were moved to Standard 3, which addresses comprehensive water conservation programs. Standard 2 was rewritten and divided into two parts:

- New Standard 1 is directed to the public and states the residential per capita consumption standard simply and clearly for all water users.
- Standard 2 is directed to communities and states the 65 gallons per capita consumption standard as a performance standard for communities and water suppliers.

Recommendations were consolidated to twelve and reorganized by audience. Recommendations related to lawn and landscape water use were moved to Chapter 9, Outdoor Water Use.

Chapters 6, Public Sector

Chapter 6 remains the same as before with no additional changes. The standards and recommendations in this chapter help emphasize and implement water conservation and efficiency in government buildings, facilities, and landscapes. They also help to accurately account for water use and serve as demonstrations of water saving techniques and concepts to the public.

Chapter 7, Industrial, Commercial and Institutional

Chapter 7 underwent minor edits clarifying existing language. The standards and recommendations in this chapter increase the efficiency of water use in these sectors through the use of best available technologies. Water is crucial for the functioning of industrial, commercial, and institutional (ICI) facilities (including hospitals, schools, prisons, universities, and colleges) and may be used for heating, cooling, and processing, and includes an appreciable sanitary and landscaping component. In many communities, ICI facilities can use more gallons per day than any other individual water user. Instituting water conservation measures will help reduce the overall community water use significantly and result in appreciable monetary savings.

Chapter 8, Agricultural Water Use

Chapter 8 includes standards and recommendations reflecting general agricultural water conservation approaches that growers are encouraged to adopt. This chapter was updated by staff from Department of Agricultural resources with input from agricultural stakeholder. New standards and recommendations were added and existing ones further refined. Agricultural water conservation practices frequently change as new technologies are developed and as efficiencies are improved. Agricultural entities should adopt practices that are environmentally and economically appropriate for their specific operation and site conditions.

- A new Standard 2 was added to address soil health management
- The old recommendations were reworked into a new set of recommendations to advance and encourage: maintaining industry-specific best management practices (#1), developing and implementing a conservation plan (#2), use of micro-irrigation as a supplement (#3), uniform application of water from sprinkler systems (#4), periodically evaluating irrigation system efficiency (#5), maintaining adequate soil moisture (#6), adding organic matter to soil (#7), and covering production soils throughout the year (#8).
- New recommendations were added and existing ones further refined

Chapter 9, Outdoor Water Use

The title of this chapter was changed from “Lawn and Landscape” to “Outdoor Water Use” and content was added to reflect the broadened focus and incorporate language and concepts from the Water Resources Commission’s Lawn and Landscape Policy. The standards were rewritten and consolidated to clarify focus on three core principles. Two new standards were added: #2, addressing efficiency of irrigation systems, and #3, addressing actions during drought conditions. The recommendations were consolidated and reorganized and several new recommendations were added:

- #1, related to planning landscapes to reduce watering needs
- #2 – 5, related to other outdoor uses of water besides landscape watering
- #7 and #10, targeting municipal government actions

Lastly, a case study highlighting a success story by one municipality was added.

Chapter 10, Public Education and Outreach

This chapter received only minor updates and improvements for clarity, although the recommendation to establish a State Water Conservation Coordinator at EEA was eliminated.