

**ANSI/ASHRAE/ICC/USGBC/IES Addendum p to
ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2023**

Standard for the Design of High-Performance Green Buildings

**Except Low-Rise
Residential Buildings**

The Complete Technical Content of the International Green Construction Code®

Approved by ASHRAE and the American National Standards Institute on September 30, 2026; by the International Code Council on August 25, 2026; by the U.S. Green Building Council on September 4, 2026; and by the Illuminating Engineering Society on August 28, 2026.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (www.ashrae.org/continuous-maintenance).

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Cognizant TC: 2.8, Building Environmental Impacts and Sustainability

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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

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FOREWORD

Addendum p updates and clarifies requirements for water consumption management, including submetering and data storage and retrieval. Most significantly, data are required to be captured at one-minute intervals and provide alerts to operators of leaks or unusual flow conditions. By placing submeters in the right places and capturing measured data over short time intervals, systems can present information to building operators that allows for repairs to be made earlier, minimizing wasted water and potential equipment damage. An informative note is added to provide examples of unusual flow conditions.

Informative Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striking through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum p to Standard 189.1-2023

Revise Section 6.3.5 as shown.

6.3.5 Water Consumption Measurement

6.3.5.1 Consumption Management. Measurement devices with remote communication capability shall be provided to collect water consumption data for each the domestic water supply of potable water, municipally reclaimed water, or alternate sources of water to all the buildings in the building project and. Both ~~potable and reclaimed water~~ entering the ~~building project~~ shall be monitored or submetered. In addition, for individual leased, rented, or other tenant or subtenant ~~space~~ within any building totaling in excess of 50,000 ft² (5000 m²), separate submeters shall be provided. For subsystems with multiple similar units, such as multicell cooling towers, only one measurement device is required for the subsystem. Any project or building, or tenant or subtenant ~~space~~ within a project or building, such as a commercial car wash or aquarium, shall be submetered where consumption is projected to exceed 1000 gal/day (3800 L/day).

Measurement devices with remote capability shall be provided to collect water use data for each water supply source (**Informative Note:** e.g., *potable water, reclaimed water, rainwater*) to the ~~building project~~ that exceeds the thresholds listed in Table 6.3.5.1A. Utility company service entrance/interval meters are allowed to be used.

Provide submetering with remote communication measurement to collect water use data for each of the building subsystems if such subsystems are sized above a the threshold level levels listed in Table 6.3.5.1B.

Where multiple heating or cooling units of the same subsystem type are served by a single water supply, and the total capacity of such units is greater than the applicable threshold specified in Table 6.3.5.1, a measurement device shall be required only on the common supply.

Exceptions to 6.3.5.1:

1. Pipes that are fully monitored by downstream meters.
2. Applications where approved calculations show daily water consumption not greater than 500 gal/day (1900 L/day).

~~**6.3.5.2 Leak Detection.** An electronic device capable of using flow, acoustic, or pressure data to detect a leak or unusual flow condition and communicating an alert shall be installed in the building project water supply and, where submeters are required per Table 6.3.5.1B, in distribution systems.~~

~~**6.3.5.2 6.3.5.3 [JO] Consumption Data Collection.** All building measurement devices, monitoring systems, and submeters installed to comply with the threshold limits in Section 6.3.5.1 shall be configured to communicate water consumption data to a meter data management system. At a minimum, meters Meters shall be capable of providing data at a one-minute interval or shorter. provide daily data and shall record hourly consumption of water.~~

~~**6.3.5.3 6.3.5.4 [JO] Data Storage and Retrieval.** The meter data management system shall be capable of the following:~~

- a. ~~e~~Electronically storing water meter, monitoring systems, and submeter data for a period of not less than three years and
- b. ~~e~~Creating user reports showing calculated hourly, daily, monthly, and annual water consumption for each measurement device ~~and submeter and~~

- c. ~~Providing alert alarm-notifications for leaks and unusual flow conditions capabilities as needed to support the requirements of the water user efficiency plan for operation in Section 10.9.2.~~
- d. Presenting plots of minute-by-minute consumption data for each measurement device in any system where an alert has been triggered.

Informative Note: Examples of unusual flow conditions include, but are not limited to the following:

1. Constant water use when there should be no water use (e.g., nighttime).
2. High water use for too long.
3. For evaporative cooling applications, water inflow falls below the normal base inflow rate for too long.
4. For landscape irrigation, continuous water use when system should not be using water.
5. For landscape irrigation, system is off longer than expected.

Delete Table 6.3.5.1A, and revise Table 6.3.5.1B as shown.

Table 6.3.5.1A Water Supply Source Measurement Thresholds

Water Source	Main Measurement Threshold
<u>Potable water</u>	<u>1000 gal/day (3800 L/day)</u>
<u>Municipally reclaimed water</u>	<u>1000 gal/day (3800 L/day)</u>
<u>Alternate sources of water</u>	<u>500 gal/day (1900 L/day)</u>

Table 6.3.5.1B Subsystem Water Measurement Thresholds

Subsystem	Submetering Threshold
<u>Cooling towers makeup water (meter on makeup water and blowdown)</u>	<u>Cooling capacity tower flow through tower > 150 tons (525 kW) 500 gpm (30 L/s)</u>
<u>Cooling tower blowdown</u>	<u>Cooling capacity > 150 tons (525 kW)</u>
<u>Evaporative or adiabatic condenser makeup water</u>	<u>Cooling capacity > 150 tons (525 kW)</u>
<u>Evaporative condenser blowdown</u>	<u>Cooling capacity > 150 tons (525 kW)</u>
<u>Evaporative coolers</u>	<u>Makeup water > 0.6 gpm (0.04 L/s)</u>
<u>Steam and hot-water boilers</u>	<u>Heating capacity > 500,000 Btu/h (150 kW) input</u>
<u>Irrigation systems Total irrigated landscape area with controllers</u>	<u>Irrigated area > 5000 ft² (500 m²) 25,000 ft² (2500 m²)</u>
<u>Separate campus or project buildings within a campus or project</u>	<u>Consumption > 1000 gal/day (3800 L/day)</u>
<u>Separately leased or rental space</u>	<u>Consumption > 1000 gal/day (3800 L/day)</u>
<u>Water system distribution branch Any large water using process</u>	<u>Supply pipe diameter ≥ 2.0 in. (50 mm) and Consumption > 6500 gal/day (24,600 L/day) 1000 gal/day (3800 L/day)</u>

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ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

Standard 189.1 and the International Green Construction Code

Standard 189.1 serves as the complete technical content of the International Green Construction Code® (IgCC). The IgCC creates a regulatory framework for new and existing buildings, establishing minimum green requirements for buildings and complementing voluntary rating systems. For more information, visit www.iccsafe.org.

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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