

# Public Review Draft

Proposed Addendum s to Standard 189.1-2017

# Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings

First Public Review (March 2019)  
(Draft Shows Proposed Changes to Current Standard )

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at [www.ashrae.org/standards-research--technology/public-review-drafts](http://www.ashrae.org/standards-research--technology/public-review-drafts) and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore) or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

The appearance of any technical data or editorial material in this public review document does not constitute endorsement, warranty, or guaranty by ASHRAE of any product, service, process, procedure, or design, and ASHARE expressly disclaims such.

© 2019 ASHRAE. This draft is covered under ASHRAE copyright. Permission to reproduce or redistribute all or any part of this document must be obtained from the ASHRAE Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329. Phone: 404-636-8400, Ext. 1125. Fax: 404-321-5478. E-mail: [standards.section@ashrae.org](mailto:standards.section@ashrae.org).

ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305



© 2019 ASHRAE This is a working draft document intended for review only by the cognizant ASHRAE groups and other designated reviewers and is not for distribution to any private interests, individuals or third parties that are not designated as ASHRAE reviewers for this document.

This document may not be distributed in whole or in part in either paper or electronic form outside of the PC without the express permission of the MOS and shall include a statement indicating such.

The appearance of any technical data or editorial material in this draft document does not constitute endorsement, warranty or guaranty by ASHRAE of any product, service, process, procedure, design, or the like, and ASHRAE expressly disclaims such.

**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

**Foreword:** This addendum modifies Section 6 of Standard 189.1 to identify requirements that are non-core. These requirements are listed in a new Table 4.2 to provide flexibility for local jurisdictions to adopt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. In addition, text changes are included in Section 6.3.1.2 which are intended to clarify the requirements, and some additional text changes intended to correct errors are included.

---

*Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.*

## **Addendum s to 189.1-2017**

---

*Add a new informative Section 4.2 including a new informative Table 4.2, and move Sections 4.1.1 through 4.1.4 to a new Section 4.3:*

---

### **4. ADMINISTRATION AND ENFORCEMENT**

**4.1 General.** *Building projects* shall comply with Sections 4 through 11. Within each of those sections, *building projects* shall comply with all mandatory provisions (x.3) and, where offered, either the

- a. Prescriptive Option (x.4) or
- b. Performance Option (x.5).

**Informative Note – to become normative in IgCC:**

**4.2 Requirements determined by the jurisdiction.** The jurisdiction shall indicate the following information in Informative Table 4.2 for inclusion in its code adopting ordinance:

1. Where “No” boxes are provided, the jurisdiction shall check the box to indicate where that section is not to be enforced as a requirement in the jurisdiction. Where the “No” box is not checked, that section is to be enforced.
2. Where a numerical value is required to specify the level of performance required, the jurisdiction shall indicate the required value. Where a numerical value is not indicated, the value in the text is to be enforced.

***Informative Note:*** *The jurisdictional requirements listed in Table 4.2 are formatted to afford jurisdictions the flexibility to adapt the code in a manner that is best suited to meet their unique environmental and regional goals and needs. Enforcement of these jurisdictional requirements will result in higher performing buildings, but may go beyond the needs of specific jurisdictions. Jurisdictional option provisions are indicated in the body of the standard with the symbol [JO] after the section number.*

**INFORMATIVE TABLE 4.2 – to become normative in IgCC  
REQUIREMENTS DETERMINED BY THE JURISDICTION**

<b><u>SECTION</u></b>	<b><u>SECTION TITLE OR DESCRIPTION AND DIRECTIVES</u></b>	<b><u>Jurisdictional Requirement</u></b>
<u>6.3.1.2.1 a3</u>	<u>Irrigation System Design, Master Valve</u>	<input type="checkbox"/> <u>No</u>
<u>6.3.1.2.1 a4</u>	<u>Irrigation System Design, Flow Sensors</u>	<input type="checkbox"/> <u>No</u>
<u>6.3.3</u>	<u>Special Water Features</u>	<input type="checkbox"/> <u>No</u>
<u>6.3.4.2</u>	<u>Consumption Data Collection</u>	<input type="checkbox"/> <u>No</u>
<u>6.3.4.3</u>	<u>Data Storage and Retrieval</u>	<input type="checkbox"/> <u>No</u>
<u>6.3.8</u>	<u>Dual Water Supply Plumbing</u>	<input type="checkbox"/> <u>No</u>

*Add [JO] following the section number to indicate that Sections 6.3.1.2.1 a3 and 6.3.1.2.1 a4 are jurisdictional options. Modify the language of Section 6.3.1.2 and the exception to 6.3.1.2.3 and add a new item 3 under 6.3.1.2.1(d) as follows:*

**6.3.1.2 Irrigation.** ~~For golf courses and driving ranges, only municipally reclaimed water or alternate on-site sources of water shall be used to irrigate the landscape. For other landscaped areas, not greater than one-third of improved landscape area is allowed to be irrigated with potable water. The area of dedicated athletic fields shall be excluded from the calculation of the improved landscape for schools, residential common areas, and public recreational facilities. All other irrigation shall be provided from alternate on-site sources of water. or municipally reclaimed water.~~

**Exception to 6.3.1.2:**

Potable water is allowed to be temporarily used on such newly installed landscape for the landscape establishment period. The amount of potable water allowed to be applied to the newly planted areas during the temporary-landscape establishment period shall not exceed 70% of ETo for turfgrass and 55% of ETo for other plantings.

~~Where municipally reclaimed water is available at a water main within 200 ft (60 m) of the project site, such water shall be used instead of potable water during the landscape establishment period. After the landscape establishment period has expired, all irrigation water use shall comply with the requirements established elsewhere in this standard.~~

**6.3.1.2.1 Irrigation System Design.** The design of the irrigation system shall be performed by an

accredited or certified irrigation professional and shall be in accordance with the following:

- a. Irrigation systems
  1. shall be based on *hydrozones*. *Turfgrass* areas shall be on their own *irrigation stations*.
  2. shall have backflow prevention in accordance with the plumbing code.
  3. [JO] shall have a master valve on municipally supplied water sources that allows pressurization of the irrigation mainline only when irrigation is scheduled.
  4. [JO] shall have a flow sensor and monitoring equipment that will shut off the control valve if the flow exceeds normal flow from an *irrigation station*.
  5. shall prevent piping from draining between irrigation events.
- b. Irrigation emission devices shall comply with ASABE/ICC 802, *Landscape Irrigation Sprinkler and Emitter Standard*.
- c. Irrigation sprinklers
  1. shall not spray water directly on buildings or *hardscape* area.
  2. shall have matched precipitation rate nozzles within an *irrigation station*.
  3. shall be prohibited on landscape areas having any dimension less than 4 ft (~~1220 mm~~)(1.2 m).
  4. shall have an application rate less than or equal to 0.75 in. (19 mm) per hour on slopes greater than 1 unit vertical in 4 units horizontal.
  5. shall be limited to use with *turfgrass* or *ground cover* areas with vegetation maintained at 8 in. (~~203200~~ mm) or less in height.
  6. where of the pop-up configuration, shall have a pop-up height of not less than 4 in (100 mm).
- d. Microirrigation zones
  1. shall be equipped with pressure regulators, filters, and flush assemblies.
  2. shall have indicators that allow confirmation of operation by visual inspection.
  3. drip emitters shall be of pressure compensating type.

**6.3.1.2.3 Irrigation of Rainfall-ET<sub>c</sub> Compatible Plants.** The use of *potable water* or *reclaimed water* for irrigation of *adapted plants* is prohibited after the *landscape establishment period*. In-ground irrigation systems for *rainfall-ET<sub>c</sub> compatible plants* using potable or off-site treated *reclaimed water* are prohibited. After the *landscape establishment period* of *adapted plants*, the irrigation system using *potable water* or *reclaimed water* shall be permanently disabled or removed from *site*.

**Exception to 6.3.1.2.3:** *Plants* deemed equivalent to *rainfall-ET<sub>c</sub> compatible plants* by Section 6.3.1.1, Exception 3, shall be exempt from the requirements of Section ~~6.3.1.2.3~~6.3.1.3.

---

*Add [JO] following the section number to indicate that Section 6.3.3 is a jurisdictional option:*

---

**6.3.3 [JO] Special Water Features.** Water use shall comply with the following:

- a. Ornamental fountains and other ornamental water features shall be supplied either by *alternate on-site sources of water* or by municipally reclaimed water delivered by the local water utility acceptable to the *AHJ*. Fountains and other features equipped with *automatic* water refilling valves shall be equipped with (1) makeup water meters (2) leak detection devices that shut off water flow if a leak of more than 1.0 gal/h (3.8 L/h) is detected, and (3) equipment to recirculate, filter, and treat all water for reuse within the system.

**Exception to 6.3.3(a):** Where *alternate on-site sources of water* or municipally reclaimed water are not available within 500 ft (150 m) of the *building project site*, *potable water* is allowed to be used for water features with less than 10,000 gal (38,000 L) capacity.

b. Pools and spas:

1. Recover filter backwash water for reuse on landscaping or other applications, or treat and reuse backwash water within the system.
2. For filters with removable cartridges, only reusable cartridges and systems shall be used. For filters with backwash capability, use only pool filter equipment that includes a pressure drop gage to determine when the filter needs to be backwashed and a sight glass enabling the operator to determine when to stop the backwash cycle.
3. Pool splash troughs, if provided, shall drain back into the pool system.

---

*Add [JO] following the section number to indicate that Section 6.3.4.2 is a jurisdictional option:*

---

**6.3.4.2 [JO] Consumption Data Collection.** All building measurement devices, monitoring systems, and submeters installed to comply with the threshold limits in Section 6.3.4.1 shall be configured to communicate water consumption data to a meter data management system. At a minimum, meters shall provide daily data and shall record hourly consumption of water.

---

*Add [JO] following the section number to indicate that Section 6.3.4.3 is a jurisdictional option:*

---

**6.3.4.3 [JO] Data Storage and Retrieval.** The meter data management system shall be capable of electronically storing water meter, monitoring systems, and submeter data and creating user reports showing calculated hourly, daily, monthly, and annual water consumption for each measurement device and submeter and provide alarm notification capabilities as needed to support the requirements of the water user efficiency plan for operation in Section 10.3.2.1.2.

---

*Add [JO] following the section number to indicate that Section 6.3.8 is a jurisdictional option:*

---

### **6.3.8 [JO] Dual Water Supply Plumbing**

**6.3.8.1** Where sufficient supply of *reclaimed water* or *alternate on-site sources of water* is available, or planned to be available, within five years of completed building construction, the

water supply system within the building shall be installed to allow the supply of reclaimed or alternative water to all urinals and water closets.

**Exceptions to 6.3.8.1:**

1. Existing buildings under renovation, where the water supply to the urinals and water closets within the building is to remain intact, shall not be required to supply *nonpotable water* to urinals and water closets.
2. Urinals and water closets designed to operate without the use of water shall not be required to have alternate or reclaimed water supply to the fixture.