



**BSR/ASHRAE Addendum g to
ANSI/ASHRAE Standard 209-2024**

First Public Review Draft

Proposed Addendum g to Standard 209-2024, Energy Simulation Aided Design for Buildings except Low- Rise Residential Buildings

**First Public Review Draft (May 2026)
(Draft shows Proposed Changes to Current Standard)**

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ASHRAE, 180 Technology Parkway, Peachtree Corners, GA 30092

Foreword: The changes shown below attempt to make the timing, goal, and intent of this analysis clearer to modelers and design teams, to expand the site information analyzed, and to allow projects to determine which parameters to gather based on what is relevant/important for their specific project. To analyze climate, software is expected to be used that is capable of generating graphs, and this type of software is widely available either as standalone software or integrated with building performance software. The modeler is responsible for reviewing graphs generated by the software and selecting the most relevant ones to provide to the design team. Providing a deep understanding of the site and local climate is key to determining which measures make sense for a specific building.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard 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 changes.]

Revised Language Markup

5.3 Climate and Site Analysis

Before beginning energy modeling cycles, gather and review local climate information and site parameters to identify design strategies and influence design decisions that affect building energy consumption and demand.

~~5.3.1 Prior to Modeling Cycle #2, if Modeling Cycle #2 is used for compliance, or prior to Modeling Cycle #3, review local climate information. Record the minimum following information for the project site:~~

- ~~a. Dry-bulb temperatures (monthly minimum, maximum, and mean)~~
- ~~b. Relative humidity or wet-bulb temperature (monthly minimum, maximum, and mean)~~
- ~~c. Wind speed and direction (monthly average and maximum)~~
- ~~d. Insolation (average daily per month)~~
- ~~e. Cloud cover (monthly minimum, maximum, and mean)~~
- ~~f. Ground temperature (monthly average)~~
- ~~g. Precipitation (monthly total)~~
- ~~h. Heating and cooling degree days, including base temperature for each (monthly total)~~

~~Informative Note: See Informative Appendix A for resources on climate information.~~

5.3.1 Analyze Climate

Use software to generate summaries of:

- a. Monthly means of temperature, humidity, wind speed and direction, and solar radiation
- b. Monthly conditions in the comfort range (based on ASHRAE 55 standard or adaptive)
- c. Sun and shading charts
- d. Psychrometric charts of climate, including design strategies and percent of time in ranges for different strategies
- e. Wind roses

Informative Note: See informative Appendix A for resources on climate information. Where predictive analysis is one of the modeling purposes for a project, refer to Informative Appendix F, Future Climate Analysis, for additional guidance.

~~5.3.2 Assess site characteristics to determine their impact on building energy performance.~~

5.3.2 Select and Present Graphs

The energy modeler shall review graphs created by the software and formulate recommendations for the building based on selected graphs. The energy modeler shall be prepared to discuss all graphs generated by the software and to explain the rationale for selecting certain graphs. The energy modeler shall present the selected graphs and the conclusions to be drawn from them to the design team during or prior to the charrette described in Section 5.5.

~~5.3.3 In collaboration with relevant project stakeholders, document a list of building design strategies that are adapted to the local climate and site conditions.~~

5.3.3 Analyze Site

Before starting the energy modeling cycles, gather and review site parameters that will influence design decisions and/or impact energy consumption and demand in the building. A list of example parameters is shown below:

- a. Shading from surrounding buildings and terrain
- b. Heat sources and sinks, including ponds, lakes, wastewater, and groundwater sources
- c. Existing utilities, including but not limited to district energy sources and renewable energy sources
- d. Constraints caused by existing structures or natural elements (e.g., ponds, hills, rocks, trees, etc.)
- e. Local air quality

5.3.4 Identify and Prioritize Design Strategies

In collaboration with relevant project stakeholders, the energy modeler shall document:

- a. A list of conclusions from the climate and site analyses, each based on a graph.
- b. A prioritized list of building design strategies that are adapted to, and capitalize on, the local climate and site conditions.

Informative Notes:

1. The goals of this step are to identify and prioritize opportunities attuned to the site and climate conditions, and to eliminate or deprioritize design strategies that are ill-suited to these conditions. For example, the modeler should consider strategies such as the following that may be appropriate based on the climate and site conditions:
 - a. Eliminating or deprioritizing assessing the fenestration solar heat gain coefficient (SHGC) if adjacent buildings closely surround a building on three of its four orientations because the number of windows will be limited on three of these orientations.
 - b. Building precooling/nighttime flushing based on diurnal temperature changes, natural ventilation, mixed-mode ventilation, high internal mass, and other strategies, which may be appropriate depending on the climate and ambient air quality.
 - c. The window overhang length that minimizes heat from the sun during cooling and maximizes solar heat during heating.
 - d. Evaporative cooling strategies that are appropriate, assuming that droughts do not preclude their use.
 - e. The fractions of the year that the building may be cooled primarily by the economizer, may primarily need dehumidification, or may primarily need humidification.
2. A list of climate-specific design strategies may be found in the ASHRAE Advanced Energy Design Guides (<https://www.ashrae.org/technical-resources/aedgs>).