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ANSI/ASHRAE/NIBS Standard 224-2023
Standard for the Application of Building Information Modeling

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Preview

NOTE

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FOREWORD

Standard 224 was developed through a Joint Standards Agreement between ASHRAE and the National Institute of Building Sciences (NIBS) entered into in 2017. It is based on NIBS' National BIM Guide for Owners*.*

The intended audience for this standard is the building owner. The standard defines an approach to creating and fulfilling building information modeling (BIM) requirements for a typical project from the owner's standpoint. Owners should reference this standard to provide minimum requirements for the application of BIM to their facility projects.

Merely requiring BIM on a project does not equate to success if the owner's goals for the project are not clearly set and BIM requirements do not correlate to achieving those goals. BIM must be well planned and properly executed, aligning the right amount and types of resources to achieve the desired results.

This standard builds on the premise that BIM, in and of itself, is not the end but rather the means to several potentially valuable project delivery outcomes for the owner. It offers a tool set that covers three broad areas the owner should understand in order to direct the project team to address process, infrastructure and standards, and execution.

The process for using BIM effectively on a project begins with defining BIM requirements in the owner's contracts with service providers (to plan, design, construct, and operate the building) and with other stakeholders based on the project delivery method (design-bid-build, design-build, integrated project delivery, etc.). Early on, a successful BIM process includes identifying the roles and responsibilities of key project stakeholders with respect to information modeling as well as creating a project BIM execution plan (BEP), an outcome-driven BIM roadmap that details how the project will be completed. Process also includes managing the project for compliance with the BEP and contract requirements, including the project deliverables.

Infrastructure and standards acknowledge the high degree of human collaboration and software interoperability needed for successful project information modeling, particularly as the project moves from one phase to the next. To achieve the necessary level of interactivity, the owner must require all members of the project BIM team to adhere to a framework of standards and structures from the project's onset.

Execution encompasses creating a project BIM execution plan (BEP), a master plan for how information modeling will be performed and managed, at the inception of a project. The BEP documents the owner's and the project BIM team's mutual agreement on how, by whom, when, why, to what level, and for what project outcomes (called "BIM uses") information modeling will be used.

While the standard highlights the essential requirements for BIM, it also offers options for owners who wish to go beyond minimum requirements. While "building" is used generically in the standard, the term also applies to site elements and facilities in addition buildings.

1. PURPOSE

1.1 This standard provides minimum requirements for the application of building information modeling (BIM) to the planning, design, construction, and operation of facilities, including both buildings and infrastructure. This standard defines how to incorporate BIM requirements in design, construction, and operations services contracts.

2. SCOPE

2.1 This standard applies to new facilities or the renovation of, or additions to existing facilities using building information modeling (BIM) for planning, design, construction, and operations.

3. DEFINITIONS AND SYMBOLS

3.1 Definitions

Informative Notes:

1. References to "model" and any related requirements refer to individual models, such as a particular discipline/trade model, as well as to composite or federated models.
2. These terms are taken from the *National BIM Guide for Owners* except where noted.

as-built model: the model(s) capturing conditions at the completion of construction. It should be initially based on the design intent model and increasingly incorporate project information as construction progresses.