



ConsensusDocs®
BUILDING A BETTER WAY

ConsensusDocs Guidebook

ConsensusDocs 301 – Building Information Modeling (BIM) Addendum

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by

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Introduction to the ConsensusDocs Guidebook

ConsensusDocs is the product of leading construction associations, dedicated to identifying and utilizing best practices in the construction industry for standard construction contracts. The 40+ participating associations represent Design Professionals, Owners, Constructors, Subcontractors, and Sureties that literally spell the Docs in ConsensusDocs. ConsensusDocs contracts and forms attempt to fairly and appropriately allocate risks to the Party in the position to manage and control the risk. The practices articulated in the documents are forward-thinking, and may not always represent the status quo, but rather a better path forward to achieve project results. The goal of the multi-disciplined drafters was to create documents that best place the Parties to a construction contract in a position to complete a project on time and on budget with the highest possibility of avoiding claims.

By starting with better standard documents that possess buy-in from all stakeholders in the design and construction industry, you reduce your transaction time and costs in reaching a final Agreement. By using fairer contracts helps eliminate unnecessary risk contingencies and thereby better pricing. In addition, “fill-in-the-blanks” are intended to lead to productive discussions about how particular risks should be allocated on specific projects before a contract is finalized.

In this Guidebook you will find comments by individual associations regarding particular contract documents. These comments are organized by numeric sequence of the ConsensusDocs contract documents. The overview sections highlight issues and innovative features of the documents generally. Association comments are expressions by an association to its association membership. These comments highlight provisions or alert their membership to consider possible project-specific modifications to a consensus standard Agreement or form.

Lastly, the ConsensusDocs coalition organizations and ConsensusDocs staff are deeply indebted to the hard work of the many the seasoned professionals who contributed countless hours in the creation of the ConsensusDocs contracts as well as this Guidebook. Their collective experience represents hundreds of years of practical experience in the construction field. Contributor names can be found at the conclusion of this Guidebook.



Comments regarding ConsensusDocs 301* Building Information Modeling (BIM) Addendum

Overview:

The Building Information Modeling (BIM) addendum is intended for use on Projects on which the Project Owner and other major Project Participants have made a commitment very early in the Project planning process to utilize BIM or virtual design and construction.

The 301 BIM Addendum should be used where the Owner, lead design professional, lead construction professional, and major subcontractors and suppliers are willing to commit to model the Project design and construction media using three-dimensional design or modeling software with demonstrated interoperability, so as to eliminate the need for conversion of two-dimensional design and construction documents into three-dimensional virtual models.

The 301 BIM Addendum should be used when the Parties are prepared to involve all essential participants, including key subcontractors, subconsultants, and suppliers, early in the design, procurement, and construction planning process.

The 301 BIM Addendum is envisioned to be used with traditional project delivery methods, especially where construction is to be priced by means of a negotiated guaranteed maximum price (GMP) with significant preconstruction services. For the 301 BIM Addendum to be of value, it is not necessary for the Parties to agree to mutually shared cost-saving bonus arrangements for all Participants (as anticipated in, for instance, the ConsensusDocs 300 Standard Form of Tri-Party Agreement for Collaborative Project Delivery involving three-Party collaboration).

The 301 BIM Addendum can be used whether or not any Design Model is considered a Contract Document.

* This publication is designed to provide information in regard to the subject matter covered. It is published with the understanding that the publisher, endorsers of ConsensusDocs and contributors to this Guidebook are not engaged in rendering legal, accounting, or other professional services. If legal advice or other professional advice is required, the services of a competent professional person should be sought.



The 301 BIM Addendum can be used when the Owner has determined that a three-dimensional, digital building model is to be used as the primary means of communicating specified geometric, quantity, and other metric and representational data required for the design, procurement, and construction processes of a construction project.

The 301 BIM Addendum can be used when Models and Drawings co-exist on a project (for example, details such as waterproofing a parapet wall may more conveniently be drawn, not modeled, in some circumstances).

The 301 BIM Addendum is intended to incorporate a consensus of what many observers believe to be the current best practices in the use of BIM techniques and technology. Currently, many, if not all, BIM technologies and methodologies rely on a Federated Model. The 301 BIM Addendum assumes that the Project Model and some other models, such as the Full Design Model, will be Federated Models.

As-Built Construction Model (section 2.5): This may include including related deliverables that include non-graphical information.

“CIM” or civil information modeling (section 2.9): Information Management means implementation of measures that protect BIM project information and systems availability, integrity, authentication, confidentiality, and nonrepudiation, including providing for restoration of project information systems by incorporating protection, detection, and reaction capabilities.

LOD Specification (section 2.33): See example of the BIMForum LOD Specification, <https://bimforum.org/lof/>, and United States Army Corps of Engineers Minimum Modeling Matrix (M3), <https://cabim.usace.army.mil/BIMContractRequirements>.

The LOD specification definition will reflect the current published BIM Forum definition. This will help ensure the definition is current best practice. Note that LOD does not conflict with the concept “LOG” or Level of Granularity.

Uniformat (section 2.43) More info at <http://www.csinet.org/uniformat>.

Identify and prioritize desired goals and objectives for BIM (section 4.3.1): Users should take into consideration the specific Project Delivery System that will be used.

Geometric modeling (section 4.3.3): See sections 4.4 and 4.5.



Responsible Party for a Model(section 4.3.3.2): Identify the party responsible for each model deliverable. This includes all needed Design Models, Construction Models, and any Federated Models or Record Models.

Furniture Fixtures & Equipment (FF&E) (section 4.4.5.3): RFID, or Radio-Frequency Identification, means the use of an electronic chip or tag to identify materials, tools, and equipment used in construction, readable by remote antenna.

Data collection protocols (section 4.5.4): See http://www.nibs.org/?page=bas_cobie. Construction Operations Building Information Exchange or “COBie” means a data format for the publication of a subset of BIM-derived data, and may include equipment lists, product data sheets, warranties, spare parts lists, and preventive maintenance schedules to support operation, maintenance, and asset management of the completed Work. COBie formats may include spreadsheet, STEP-Part 21 (also called IFC file format), ifcXML, or COBieLite.

Other Related Deliverables (section 4.5.6): .pdf or portable document format means the open standard data format created for exchange of digital information that is independent of the software used to create that information; see <http://get.adobe.com/reader/>

Model sharing and networking infrastructure (section 4.6.5): This may include – databases, iRoom/.ftp/cloud or other websites, email, hyperlinking, project management platforms; use of open data exchange tools and Model Element classification standards and property sets (e.g., IFC, CIS/2, OmniClass™, UniFormat™, GUID, and other proprietary codes); storage locations; other transfer protocols, permitted file exchange and review types, and interoperability measures that will be used to ensure exchanged Model data integrity. Relevant definitions for this include the following:

“GUID” means a globally or universally unique identifier; a 128-bit integer assigned to identify and track session use of an Element. IFC, or Industry Foundation Classes, means the vendor-neutral, object-oriented, open data exchange specification in a compatible format for reading and exchanging BIM Elements within shared Models found at www.iai-tech.org, as may be revised and in effect when the Addendum is created.

“OmniClass™” means the OmniClass Construction Classification System developed to organize building Elements into specific groups; see 2010 OmniClass Tables, <http://www.omniclass.org>.



File and element-Protocols (section 4.6.7.2): See, e.g., BSI Standards PAS 1192-2:2013 Specification for Information Management, Section 9, Information Delivery – Production, status codes and file and layer naming conventions, <http://shop.bsigroup.com/Navigate-by/PAS/PAS-1192-22013/>, EC (UK) BIM Protocol v. 2, Section 8, Folder Structure and Naming Conventions and Section 9, Presentation Styles, <http://aecuk.files.wordpress.com/2012/09/aecukbimprotocol-v2-0.pdf>, and ANZRS_C1_Minimum Compliance Checklist, rev. 3, <http://www.anzrs.org>.

Model partitioning (section 4.6.7.7): This may include division of Model data by building, floor, zone, work area, design or shop discipline, etc.