6.5   Modeling Requirements

The purpose of this section is to define the minimum precision of the modeling efforts. During schematic design, modeled assemblies are expected to convey the Design Team product intent. As designs progress through development, all generic content shall be replaced with specific content dimensioned and assembled by the correct constituent elements.

Revit Model Precision:

All dimension strings generated through Revit must be live dimensions. Manual overrides are prohibited except when the override is descriptive (i.e. VERIFY, CLEAR). The following chart outlines the required minimum dimensional rounding settings.

Length		Area		Volume		Angles		Slope	
Rounding	Units	Rounding	Units	Rounding	Units	Rounding	Units	Rounding	Units
1/8"	Feet and Fractional Inches	0 Decimal Places	Square Feet	0 Decimal Places	Cubic Feet	1 Decimal Place	Decimal Degrees	1/4"	Rise/12"

Table 1 Revit Model Precision

Any project-specific deviation of these precision standards needs to be documented in the BIM Execution Plan.

The following chart indicates what elements need to be modeled and to what level of precision organized by Uniformat section:

UNIFORMAT SECTION	DESCRIPTION
B20 Exterior Vertical Enclosures C10 Interior Construction	Although standard wall and ceiling individual framing members are not modeled, any atypical framing features required for tiered ceilings, soffits, curved walls, arched ceilings, etc. should be modeled to ensure there is enough available space for all the additional framing/bracing for these components. Walls are to be modeled to the correct height and extend to the inter-ceiling space as needed for coordination.
D20 Plumbing D30 HVAC	All Equipment shall be modeled to show required clearances for maintenance, safety and operations.

D40 Fire Protection D50 Electrical	This 3D clearance envelope should be modeled so that it will appear in clash detection
D30 HVAC	All ducts and air handling equipment shall be modeled to the outside face dimension adding insulation as its own entity where applicable.
D20 Plumbing D30 HVAC D40 Fire Protection	All piping 3/4" or larger shall be modeled to the outside diameter of the pipe, adding insulation as its own entity where applicable.
D50 Electrical	Conduits 3/4" or larger and large groups of conduits 3/4" or less in a particular location shall be modeled to reflect the overall space requirements.
D60 Communications	For telecommunications systems, at a minimum, all cable tray, wire management hooks, conduit 3/4" or larger and communication racks and cabinets shall be modeled. Large groups of conduits 3/4" or less in a particular location shall be modeled to reflect the overall space requirements.
D70 Electronic Safety & Security	All components of the fire alarm system shall be modeled including all panels and devices with access zones and conduit 3/4" or larger. Large groups of conduits 3/4" or less in a particular location shall be modeled to reflect the overall space requirements.

Table 2 Uniformat Sections