
SPECIFIERS INSTRUCTIONS: Include the following section if Design Coordination deliverables are required in Design or Design-Build contracts. This section should be included with as a requirement of the Design or Design-Build contract Quality Control section.

Coordination View Information Exchange

The Contractor shall provide the Coordination View Information Exchange (CVIE), as specified below. The Contractor shall submit this deliverable to partially demonstrate their fulfillment of the requirements to fully coordinate design disciplines into a single cohesive design, as part of their approved Quality Control plan.

The CVIE is based upon the International Alliance for Interoperability Industry Foundation Class 2x3 Coordination View format. The specification of the Coordination View may be found at the buildingSMART International technical website (<http://www.iai-tech.org/>). CVIE deliverables, described below, are comprised of: (1) the IFC Coordination View and (2) BIM model collision detection reports.

a. Four (4) copies of the CVIE data set shall be provided.

(1) The technology used for the data transmission shall be selected to ensure that the data is provided on one single "disk" or "drive." The contractor shall provide data on either disk-based (CD or DVD) or portable hard drive media. The selection of disk-based or drive-based media shall be made by the government.

(2) If disk-based media is provided, a printed label on the data disk shall list the name of the project, project location, contract number, prime contractor name, title of submission, and security classification. To insure that any problems with the data or media can be easily resolved the label shall also include the name and contact information of the individual who produced the final data disk.

(3) If drive-based media is provided, the drive shall be legibly hand labeled with a permanent marker. The label shall include the phrase "CVIE DATA" and the appropriate contract or task order number.

(4) An ASCII file named "readme.txt" shall be provided in the same directory as the DCIE file. The "readme.txt" file shall list the name of the project, project location, contract number, prime contractor name, title of submission, and security classification. To insure that any problems with the data can be easily resolved, the "readme.txt" file shall also include the name and contact information of the individual who produced the data disk.

SPECIFIER INSTRUCTION: Include the following paragraph if appropriate for the sponsoring agency

(5) Encryption of all data on the CVIE disk is required per [provide reference for data encryption standard].

SPECIFIER INSTRUCTION: Select one or the other of the following paragraphs based on the contract type: either design or construction (including design-build).

b. Failure of the contractor to provide an approved CVIE data set will result in \$10,000 retainage held from the Contractor until the CVIE data set is approved.

b. Failure of the designer to provide an approved CVIE data set will result in a performance review level of "poor" in the category of quality management.

c. In accordance with the Contractors' Quality Control plan, the Contractor shall use the CVIE deliverable to demonstrate that they have evaluated each collision identified by the BIM and or Model Checking software and documented if the collision. The Contractor shall provide their report with each CVIE Deliverable.

d. The Contractor shall produce and submit CVIE reports directly from Building Information Model or Model Checking software.

(1) The CVIE report shall be provided in PDF or XML Format. If provided in XML, a Cascading Style Sheet

allowing review of the XML data in a web browser shall also be provided.

(2) The collision detection report shall identify the GUID and human-readable name of each object involved in each collision.

(3) The collision detection report shall provide a graphic image for each collision highlighting those objects involved in the error. Images may be provided within the PDF report, or as separate .jpg files referenced in the XML report.

f. CVIE deliverables shall be included with all required design submissions that require review.

g. The BIM model(s) used to meet the CVIE requirements shall meet the following minimum requirements.

(1) The Contractor shall create the Building Information Model to at least an accuracy of at least 3mm (approximately 1/8 inch).

(2) The Contractor shall utilize the native objects provided in the BIM to create the models upon which the CVIE is based. Geometric-only representations of required Coordination View entities shall not be allowed.

(3) The Contractor shall maintain a Globally Unique Identifier (GUID) for each BIM objects, physical room, and functional spaces.

(4) The Contractor shall not change GUID's for objects and spaces that are submitted in subsequent deliverables.

(5) Multiple BIM files may be used to create the CVIE. If this is the case, then the Contractor shall provide each of these individual files with each CVIE deliverable.

(6) The Contractor shall utilize a common registration point for all design disciplines included in the CVIE even if this model is provided in multiple files.

h. The Contractor shall configure collision detection software, either embedded in their BIM software or separate software, to identify collisions as follows:

(1) All physical overlaps of BIM objects shall be identified.

SPECIFIER INSTRUCTION: The following paragraph shall be included in all contracts for FY 2010 and later.

(2) The model checking program shall add sufficient allowance beyond the physical placement of structure steel to verify that steel fire protection will not be effected by the placement of other entitles.

(3) The model checking program shall ensure sufficient allowance beyond the physical placement of elements requiring thermal insulation of mechanical components to allow the installation of the required thermal insulation, jackets, etc..

SPECIFIER INSTRUCTION: The following paragraph shall be included in all contracts for FY 2012 and later.

(4) Sufficient allowances beyond the physical placement of mechanical components to allow detection of the following error conditions:

(a) Clearance around each mechanical and plumbing system valve to allow Operations and Maintenance access to that value.

(b) Clearance around each mechanical system filter, trap, and strainer to allow Operations and Maintenance personnel access to clean those items.

(c) Sufficient clearance to allow the adequate operation of mechanical systems doors, panels, ports, and other operational components of mechanical, electrical, and plumbing systems

i. The Contractor shall submit the following IFC Model View files, for the disciplines noted, and collision detection reports shall be provided with each deliverable as noted below.

Design Coordination Specification Section (version 1.0)

(1) Schematic Design Set. This set shall include the architectural discipline only.

(2) Design Development Set. This set shall include the architectural and structural disciplines.

(3) Construction Documents Set. This set shall include the architectural and structural disciplines.

(2) Design Development Set. This set shall include the architectural, structural, and mechanical disciplines.

(3) Construction Documents Set. This set shall include the architectural, structural, mechanical, electrical, and plumbing disciplines.

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