

CHAPTER 13 - CONSTRUCTION DOCUMENTS

1.0 General Information and Formatting

- 1.1. Policies and procedures contained in this chapter apply to all capital improvement projects. Any deviation from any of the requirements in this chapter shall either be negotiated during the fee negotiation phase or requested and approved by OFPM prior to commencing with the work.
- 1.2. The project title shall be written in the following order: agency abbreviation, building name and a title of work. (Example: KDOT Horton Subarea Shop HVAC Upgrade.)
- 1.3. The Construction Document Checklist DCC Form 123, found under "Forms & Documents" at www.da.ks.gov/fp/, will be used to provide a complete set of construction documents.
- 1.4. All drawings shall comply with the current United States National CAD Standard as published by the National Institute of Building Sciences, unless otherwise modified by the requirements in this manual. Additional information is available at <http://www.buildingsmartalliance.org/index.php/ncs>.
- 1.5. Technical specifications shall be project specific and edited from the current edition of a guide specification similar to Arcom's MasterSpec or BSD's SpecLink-E, using the CSI Master Format section, numbering and outline formats for the 49 Division, 6-digit section number format.

2.0 Drawing Formatting

- 2.1. Drawing space on each drawing sheet shall be used efficiently, limiting white or blank spaces.
- 2.2. The size of drawing sheets shall be 24" x 36".
 - 2.2.1 Drawing sheets larger or smaller than 24" x 36" shall be approved by OFPM prior to beginning the drawings.
- 2.3. Text fonts used on drawings should be "sans serif" for readability.
 - 2.3.1 For drawings 24" x 36" or larger, the minimum plotted text size for general notes not associated with a drawing shall be minimum 1/8". All scalable text (text not part of an AutoCAD symbol) on these drawings shall be a minimum of 3/32" plotted at full size.
 - 2.3.2 All text and line weights at full size shall be legible and readable at half size reduction. Lightweight fonts for dimensions are discouraged.
- 2.4. Each drawing sheet, including the cover sheet, will have a title block, as shown on the graphic sample provided at the end of the Construction Document Checklist DCC Form 123.
 - 2.4.1 The title block on the 24" x 36" sheet should be a minimum of 2" wide and contain the information indicated on the Graphic Sample.
 - 2.4.2 The lower 12-inch section of the title block is reserved for the state's project information.
 - 2.4.3 The upper half of the title block shall contain all firm and consultant information, logos and seals. No firm information should be outside the title block.
- 2.5. All floor plans, including demolition, architectural, structural framing, mechanical and electrical plans shall be oriented the same direction, preferably oriented with a north arrow pointing to the top of the page, and shall have both a numeric scale and a graphic scale.

- 2.6. All building floor plans, i.e. architectural, reflected ceiling, roof, structural, mechanical, plumbing, electrical, lighting, fire suppression, shall be drawn to a scale of not less than one-eighth inch per foot. Floor plans of buildings less than 100 feet in length should be drawn at a scale of one-fourth inch per foot. Regardless of scale, all plans shall be the same scale, except site plans, enlarged plans and details.
- 2.7. Each plan, detail and drawing shown on the documents shall be drawn accurately, and have the appropriate title and scale indicated.
- 2.8. Each discipline shall provide a legend, using symbols and notations standard to the industry, indicating each symbol's meaning, and shall be located on the first sheet of each discipline's individual set of plans.

3.0 Technical Specification Formatting

- 3.1. *Technical specifications* shall match OFPM format. Formatting follows.
 - 3.1.1 Each page shall have a single column format with 0.75" margins on both the right and left sides (for conservation of paper).
 - 3.1.2 Each page shall have the OFPM project number, specification section number and a page number.
 - 3.1.3 Top and bottom margins shall be 1/2" maximum.
 - 3.1.4 Fonts shall be Arial or Helvetica fonts at 10pt.
- 3.2. Technical specifications prepared by the project architect/engineer shall be delivered on 8.5 x 11 sheets of white, 20 lb. bond.
 - 3.2.1 Specifications shall be double-sided. The beginning of each specification section shall begin on the right hand or odd page.
 - 3.2.2 Shall **not** be stapled or hole-punched.

4.0 Document Review Submittals and Procedures

- 4.1. Two in-progress reviews of the construction documents are required unless otherwise negotiated, one review at 50% document completion and one review at final document completion, when the documents are "bid-ready". The following items should be provided in all review documents:
 - 4.1.1 Request for Review Form DCC Form 120.
 - 4.1.2 Compliance with applicable codes, standards and laws listed in the firm's contract, and outlined in Chapter 7, including an updated code footprint.
 - 4.1.3 Coordinated structural, architectural, mechanical, plumbing, fire suppression/fire alarm and electrical drawings.
 - 4.1.4 Drawings shall be submitted on bond. Half size drawing sets are preferred if information is readable. Half size sets are required for 30" x 40" or larger original drawing sheets.
 - 4.1.4.1 Drawings e-mailed or posted on an FTP site will not be reviewed.
 - 4.1.5 Technical specifications submitted in .PDF format on a CD/DVD unless otherwise directed.

- 4.1.5.1 Technical specifications e-mailed or posted on an internet file transfer protocol (ftp) site will not be reviewed.
 - 4.1.6 Updated construction costs at each phase.
 - 4.1.6.1 When the project architect's or project engineer's construction estimate exceeds the agency's programmed construction budget, approved at the initial fee negotiation, it is the responsibility of the agency to assist the firm in identifying options and means (including a decrease in scope, material selection and/or alternates, etc) to bring the firm's estimate within the programmed budget.
 - 4.1.7 Updated project schedule.
- 5.0 50% Document Review Submittal
 - 5.1. Refinement of all design development requirements from Chapter 12.
 - 5.2. Submittal shall follow requirements listed in Section 4.0 of this chapter.
 - 5.3. Drawings shall include, but not be limited to, the following information:
 - 5.3.1 Details showing construction of walls, doors and other components that are related to building code and accessibility standards.
 - 5.3.2 Detail dimensions.
 - 5.3.3 Locate and detail all fire-rated devices, dampers, assemblies, partitions, structural protections, etc. to sufficiently explain fire-rating requirements and shall be shown coordinated throughout the drawings. Each fire-rated assembly shall be identified by its Underwriters Laboratory (UL) design number or shall be an approved assembly by the IBC.
 - 5.3.4 A structural plan for each level showing basic information as it relates to the structural components of the building.
 - 5.3.5 Exterior elevations showing finish and existing grades.
 - 5.3.6 Building sections, wall sections and critical details shall be identified.
 - 5.3.7 Refinement of proposed building systems including sprinkler and fire alarm systems.
 - 5.3.8 Preliminary finish schedule.
 - 5.4. Outline technical specifications and material cut sheets to adequately describe equipment, materials and special requirements, including data on major materials, building systems and fire-resistive assemblies. .
- 6.0 Final Document Review Submittal
 - 6.1. Submittal shall follow the requirements listed in Section 4.0.
 - 6.2. Coordinated structural, architectural, mechanical, electrical, plumbing, and fire suppression/fire alarm, "bid ready" drawings.

- 6.3. Coordinated “bid ready” technical specifications including Front End Data Form DCC 305.
- 6.4. The updated estimate of all construction costs is to include alternates if required to demonstrate the base bid is within the agency’s programmed budget.
 - 6.4.1 Alternates and unit prices shall be designated with whole numbers, without subsets. (Example: Alt. 1, Alt. 2, Alt. 3, etc.)
- 7.0 Bid Document Deliverables
 - 7.1. Reference the Bid Document Deliverable Checklist DCC Form 300 at www.da.ks.gov/fp/.
 - 7.2. Deliverables shall be submitted both CD/DVD and on vellum or Mylar®.
 - 7.2.1 All deliverables shall be on one CD/DVD for use with the electronic plan room and archiving at OFPM.
 - 7.3. An approved code footprint, signed by all parties on file at OFPM.
 - 7.4. Final drawings on shall be vellum or Mylar®.
 - 7.4.1 Title blocks as described at the end of the Construction Document Checklist DCC Form 123, shall contain the appropriate discipline’s seal, signed and dated across the seal.
 - 7.4.2 Each drawing sheet shall be its own file in .PDF format at 300 dpi minimum resolution and include:
 - 7.4.3 Drawing file titles with a 3-digit numerical prefix (beginning with 001), the sheet number and a brief description of the sheet content. Drawing files are to be titled in the numerical order that the project architect/engineer intends the drawing set to be displayed.
 - 7.4.4 The following is an example of the titles for drawing files.
 - 001-1.0-Cover-Sheet
 - 002-C.1-Civil-Site-Plan
 - 003-A.1-Floor-Plan
 - 005-Etc.
 - 7.4.5 File titles shall not contain blank spaces or symbols. Hyphen or underscore shall be used to separate individual words in the titles.
 - 7.4.6 A professional seal with signature and date shall be readable at the intended size of the drawing.
 - 7.4.6.1 Electronic signatures are recognized by the Kansas State Board of Technical Professions. Specific regulations and standards are available at <http://www.kansas.gov/ksbtp/seals.html>.
 - 7.5. Technical specifications and all other information listed below shall be submitted on a CD/DVD in *.PDF format and white, 20 lb. bond paper*. This section has been rearranged.
 - 7.5.1 Each technical specification Division with applicable Sections shall be bundled as one (1) .PDF file per specification Division.
 - 7.5.2 Each specification file, and all other information files, titles shall include a 3-digit numerical prefix and title.

- 7.5.3 Each specification file created by the project architect/engineer shall be numbered in the order the project architect/engineer intends the information to be displayed. 001, 004, 005 are reserved for OFPM use.
- 7.5.4 The following is an example of the titles for specification files.
- 001-Cover (reserved for OFPM & not required in A/E electronic files)
 - 002-Professional-Seal(s) (if multiple pages, then number sequentially or save as one .PDF document)
 - 003-Table-of-Contents (project architect/engineer creates in .DOC/.DOCX, OFPM to complete and convert to .PDF)
 - 004-Frontend-Documents-A-I (reserved for OFPM & not required in A/E electronic files)
 - 005-Division-01-General-Requirement Project architect/engineer Division 01 sections shall be submitted in .PDF format and will supplement OFPM Division 01 section. OFPM will merge project architect/engineer's with the OFPM section. Reference Front End Data Form DCC 305 for information regarding project architect/engineer responsibilities.)
 - 006-Division-XX (Divisions & Sections as applicable to the project)
 - 007-Etc.
- 7.5.5 File titles shall not contain blank spaces or symbols. Hyphen or underscore shall be used to separate individual words in the titles.
- 7.5.6 A completed Specification Front-End Data DCC Form 305.
- 7.5.7 Alternates and Unit Prices shall be summarized by the project architect/engineer for use on Document C – Form of Bid. Descriptions for the alternates on the bid form shall match the descriptions provided by the project architect/engineer in Division 1.
- 7.5.7.1 When used, full descriptions of alternates, unit prices and allowances shall be included in the project architect/engineer's Division 1 section.
 - 7.5.7.2 Alternates and unit prices shall be designated with whole numbers, without subsets. (Example: Alt. 1, Alt. 2, Alt. 3, etc.)
- 7.5.8 When a project's funding source (i.e. federal funds) requires additional or non-standard procedures and/or forms beyond State of Kansas requirements, the agency shall identify and specify the procedures on a separate sheet attached to the Front End Data DCC Form 305. This information shall be provided to OFPM in both CD/DVD and paper formats for publishing.
- 7.5.9 Division 1 sections, edited and formatted as supplements to OFPM Documents A-I and OFPM Division 1, shall be submitted in .DOC/.DOCX format.
- 7.5.10 One 8.5 x 11 sheet (or separate pages) of white 20 lb. bond with the project title, OFPM project number, agency name and each professional's seal, signed and dated.
- 7.5.11 A completed Table of Contents prepared in .DOC/.DOCX format, using the OFPM template located at www.da.ks.gov/fp/. The Table of Contents template shall not be reformatted by project architect/engineer.
- 7.5.11.1 OFPM documents A-I (already listed on the template).
 - 7.5.11.2 OFPM Division I General Requirements.
 - 7.5.11.3 Project architect/engineer Division 1 supplemental sections.
 - 7.5.11.4 Project architect/engineer technical specifications.
 - 7.5.11.5 Any specification Divisions not used shall be formatted as "DIVISION 6 & 7 NOT USED."

7.5.11.6 Page numbers formatted as shown on the template.

7.5.12 All technical reports, legal descriptions, documents, records and/or papers prepared by the design team for the project shall be:

7.5.12.1 Sealed, signed and dated unless otherwise approved by OFPM.

7.5.12.2 Added to the specifications as an attachment.

8.0 Delays in Issuing Bid Documents

8.1. Issuance of bid documents for Capital improvement projects are delayed when OFPM receives bid documents that are not "bid ready".

8.2. To aid the project architect/engineer in producing accurate bid documents please refer to the Bid Document Deliverable Checklist DCC Form 300 at www.da.ks.gov/fp/.

8.3. OFPM will notify each project architect/engineer that their bid documents are not "bid-ready". A list of incorrect items will not be given, but in general the following factors are the most common problems preventing release of the documents for bidding.

8.3.1 NOT using the latest Front End Data Form DCC 305.

8.3.2 NOT using proper font styles & formats, margin settings and headers/footers for Division one and technical specifications

8.3.3 NOT editing the Division 01 specifications.

8.3.4 NOT coordinating Division 01 specifications with OFPM's front end specifications.

8.3.5 OFPM project number missing from the drawing sheet(s).

8.3.6 Alternates not provided in whole numbers.

9.0 End of Construction Document Phase

9.1. When the agency and OFPM concur that the above requirements are met, the Construction Document Phase is complete.

END OF CHAPTER 13