Organizing Construction Documents

Excerpted and adapted from *The Architect's Handbook of Professional Practice, 13th edition*

October 2005

SUMMARY

The development of the construction documents is an extension of the design process. Design decisions, once documented, reinforce the design concept and begin to translate it into reality.

Of all the project phases, document preparation typically takes the most time and resources. Therefore, the process of producing them strives for efficiency, comprehensiveness, and quality. Several independent efforts have aimed to bring industrywide order to the production and organization of construction documents, and the major ones are described below.

METHODS OF SEQUENCING

ConDoc. Developed by Onkal "Duke" Guzey, AIA, and James Freehof, AIA, ConDoc was one of the first efforts to develop an industry standard. Based on a simple, uniform arrangement of drawings, a standard sheet format, a sheet identification system, and a keynote system that linked drawings and specifications, ConDoc improved quality control, information management, productivity, and bidding results. The ConDoc system organized drawings by group, as the following chart illustrates:

DRAWING SEQUENCE: THE CONDOC® SYSTEM

Most architects—and some owners—develop their own preferences for sequencing and numbering drawings. The ConDoc system offers the following format. Each discipline is subdivided into groups (only architecture is illustrated).

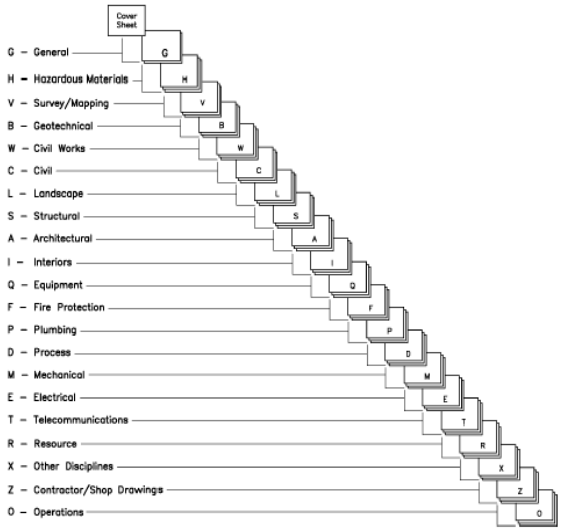
G General project requirements	
Sitework	
TS Topographic survey	
SB Soil borings data	
SD Site demolition	
C Civil	
L Landscaping	
Major disciplines	
A Architecture A000, A001, etc.	Schedules, master keynote legend, general notes
A100, A101, etc.	Plans
A200, A201, etc.	Exterior elevations, transverse building sections
A300, A301, etc.	Vertical circulation, core plan and details
A400, A401, etc.	Reflected ceiling plans, details
A500, A501, etc.	Exterior envelope, details
A600, A601, etc.	Architecture interiors
S Structural	
M Mechanical	
P Plumbing	
FP Fire protection	
E Electrical	
Special elements	
ID Interior design	
FS Food service	
SG Signage/graphics	
FF Furniture/furnishings	
AA Asbestos abatement	
Etc.	

The U.S. National CAD Standard (NCS). The National Institute of Building Sciences (NIBS) also recognized a need for a single, comprehensive national standard for electronically produced construction documents. Created in partnership with the AIA and the Construction Specifications Institute (CSI), the NCS integrated the AIA CAD Layer Guidelines, the CSI Uniform Drawing System (UDS), and the Tri-Service Plotting Guidelines—becoming the industry standard for compilation and organization of construction documents.

In the area of drawing set organization, the UDS component of the NCS built upon concepts of ConDoc and provides CAD users the methodology to organize drawing sets. Guiding principles include the following:

- Segregating information by discipline (both design and construction) to form subsets of the total drawing package
- Ordering the subsets to correspond to the natural sequence of construction, closely associating disciplines where topics are similar
- Collecting and presenting each drawing (plan, elevation, section) on a sheet dedicated to that drawing type (though different drawing types may be combined for small projects)
- Presenting information within each subset from general to specific

Following the cover sheet, sheets should be organized into discipline-specific subsets in the order illustrated below. All of the subsets may not apply, or a project may require more categories depending on its size, scope, and complexity. These subset letters are to be used as discipline designators in designators in standard sheet identification.

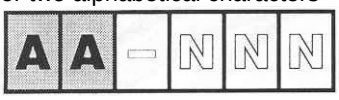


The UDS also outlines methodologies for sheet organization and identification within each discipline subset. Drawings are organized from general to specific. The chart below illustrates numbers used as sheet type designators in standard sheet identification within each subset.

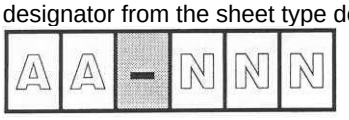
SHEET TYPE DESIGNATORS	
0	**General** (symbols legend, notes, etc.)
1	**Plans** (horizontal views)
2	**Elevations** (vertical views)
3	**Sections** (sectional views, wall sections)
4	**Large-Scale Views** (plans, elevations, stair sections, or sections that are not details)
5	**Details**
6	**Schedules and Diagrams**
7	**User Defined** (for types that do not fall in other categories, including typical detail sheets)
8	**User Defined** (for types that do not fall in other categories)
9	**3D Representations** (isometrics, perspectives, photographs)

Sheet identification within the drawing set has four components:

- The discipline designator, consisting of one or two alphabetical characters

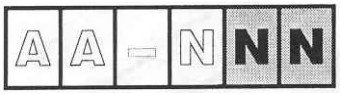


- The hyphen, which separates the discipline designator from the sheet type designator



- The sheet type designator, consisting of one numerical character

- The sheet sequence number, consisting of two numerical characters



This system is scalable and allows for considerable flexibility depending on the complexity and scope of the particular project. For instance, on an average project, A-102 would refer to the second-floor plan in the architectural subset. In a more complex project, EP-102 would refer to the second-floor electrical power plan. In a simple project, A-1 would refer to the first sheet in the architectural subset.

RESOURCES

More Best Practices

The following AIA Best Practices provide additional information related to this topic:

11.02.02 Quality Control: A Working Drawings Preparation Checklist

11.02.05 Quality Control: A Specifications Preparation Checklist

For More Information on This Topic

See also "Construction Documents Production" by Susan Greenwald, FAIA, CSI; Kenneth C. Crocco, FAIA; and Kristine K. Fallon, FAIA, *The Architect's Handbook of Professional Practice,* 13th edition, Chapter 13, page 400.

See also the 14th edition of the *Handbook*, which can be ordered from the AIA Bookstore by calling 800-242-3837 (option 4) or by email at bookstore@aia.org.

Feedback

The AIA welcomes member feedback on Best Practice articles. To provide feedback on this article, please contact: bestpractices@aia.org.

Key Terms

- Design
- Construction documents
- Construction drawings