Designing the set general guidelines for drawings

DESIGN GOAL

These steps will help you organize the drawings so that information "flows" better.

REMEMBER, the steps in this process are guidelines; you can modify them at any time during the design process to adapt them to the project conditions.

IDENTIFY THE DELIVERABLES AND THE TASKS

Use the project schedule to identify the deliverables at each stage of the design process and complete the list of Drawings required at each state.

SCHEDULING

Begin scheduling the tasks necessary to produce the set as soon as you have enough information to start. These are things to remember:

- Identify which architectural drawings will be will be required by the consultants and when.

- Schedule your deliverables in the Project Schedule for each phase. Schedule tech-checking time and assign a person to do it. Notify the tech-checker.

- List the information you need in order to produce these drawings and from whom you need it. Schedule the task of collecting that information. Coordinate with the consultants' schedules.

- Check code and constructibility issues as soon as possible and as you go. Do not allow unknowns to accumulate and later become a big problem.

- Note in your schedule when and with whom you need to coordinate (for example, when to send the base drawings to the consultants, when do you need the consultants' drawings, etc.)

A "LEAN SET" is a set of drawings where **information** is complete, accurate, organized, easy to find, visually designed, and flows smoothly, and where **waste** is controlled.

DESIGN RECOMMENDATIONS

- Identify and manage repeated information. Do not repeat information unnecessarily.

- Avoid crowding the drawings with information that belongs elsewhere, for example, extensive product descriptions belong in the specs or in a schedule.

- Place the information where it belongs. For example, notation that describes the components of the building envelope should be in the elevations, not in the plans.

- Identify details which are available in RMW either in the Detail Library or in similar projects which have been tech-checked.

- Use the RMW template sheets. Modify them only as required for the project. Indicate the modifications done so tech-checker is aware.

  •Review the graphics standards with the **project team** so they are consistent.

  •Implement protocols with the design team to transmit and receive information on the drawings.

- Select the scale according to the information you intent to illustrate, for example, do not enlarge a plan that only repeats information given before. Plan ahead which areas to enlarge, and how much. Do a quick check with someone else.

- Share mistakes and errors (QC) with the team and the firm to diminish the chance that will occur again in a different project.

- Identify the processes and tasks necessary to produce the architectural drawings and coordinate with the consultant drawings.

Implement protocols with the design team to transmit and receive the information on the Drawings.

WHAT THE DRAWINGS DO

- The Construction Documents are not intended to be a complete set of instructions on how to construct a building, just to show the "design intent" of the Architect.

- Construction means, methods, techniques, sequences, procedures and site safety precautions, are customarily assigned as responsibilities of the Contractor to give the Contractor latitude in preparing bids and carrying out the construction phase. The Contractor determines the assignment of work to specific trades and subcontractors. The Contractor also manages the logistical matters such as the sequence of operations, scheduling, design of temporary supports and facilities, selection of appropriate equipment, and project safety."

"Construction Documentation" by Fallon and Crocco, 14th edition.

WHO DO WE ADDRESS

- The Construction Documents are part of the Contract for Construction. This contract is between the Owner and the Contractor, therefore **all the notation in the Drawings and the Specifications is addressed to the Contractor** - NOT to the subcontractors, or to the vendors, or to the providers, or to anyone else.

- Notation should not include instructions on who does what part of the Work. Do not use (and if found, delete) notation which addresses division of the work by trades. For example:

  - Some details have notation such as "*Provided by Clark Pacific*" or "*Provided by vendor*". Delete this type of notation which indicates who does what.

  - Notes like "*Painter shall paint this before installing*" which delegates a portion of the work to a trade, should be avoided. Again, who does what and when is the Contractor's determination.

RISK MANAGEMENT

- **THIS IS VERY IMPORTANT:** Avoid text or graphics on the Drawings that show items that are "ways and means" and MOST IMPORTANTLY, items that relate to job safety issues.

- "Ways and means" are the methods and tools used for doing something. So, for example, we do not tell the Contractor to use scaffolding or where to put it; however, we make sure that in the Contract for Construction there is language that states that scaffolding is the **sole responsibility** of the Contractor

WASTE CONTROL

- "Waste" includes time and resources inaccurate or not needed, and added liability.

- Identify the processes and tasks that contribute value and eliminate the ones that do not.

GRAPHIC DENSITY is the visible line work and text on a Drawing. It includes building components (walls, doors, etc.), dimensions, notation, symbols, schedules, etc.

- Drawings become difficult to read and visually confusion when GRAPHIC DENSITY is too