



How to Successfully Mark up Drawings

Definition:

A red-line drawings is essentially an intermediate drawing that shows corrections or changes to a previous drawing. The term red line literally comes from the (typically) red pen used to amend the drawings by hand. These changes mark-ups show changes made to the drawing subject matter during the manufacture or construction of the product.

In actual practice marking pens, pencils, and highlighters of many colors are used to markup paper prints and CAD files for editing.

You should also try Autodesk's Design Review and Adobe's PDF writer also use colors other than red for their edit marks and notes.

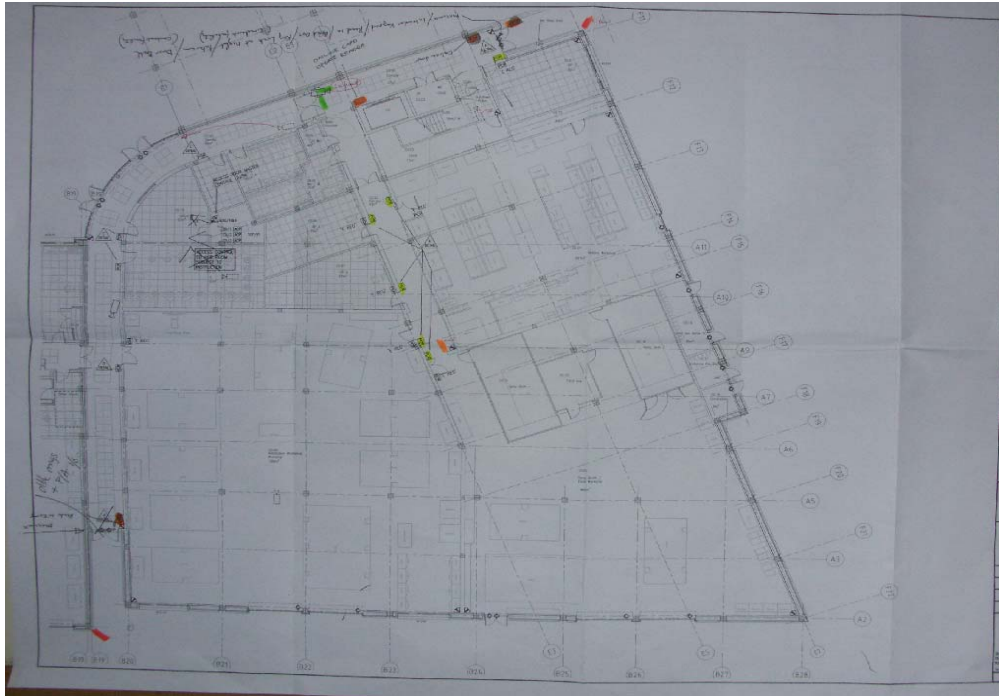
The normal procedure is for the initial design drawings to be marked up and CAD drawings produced for CONSTRUCTION ISSUE Cad drawings to be produced.

As the construction phase continuous any changes are noted on the MASTER Drawings on site and these changes given to the CAD department so that various Revisions can be produced.

Too many as-builts are an afterthought at the end of a contract when the builder or installer learns that final payments will not be made until proper as-built drawings are submitted and approved. PANIC! Everyone rushes around searching for CAD files, finding the Engineer or installer to do the MARKED-UP DRAWINGS.



HOW NOT TO PRODUCE A MARKED UP DRAWING



MARK-UP GUIDELINES:

The following is provided to try and help produce meaningful Mark-Up Drawings in order to make a CAD operatives life a little easier.

The most important guideline is that the marked-up changes on the prints shall be complete and understandable.

Where possible use three base colors in marking up the hard copy of the working as-builts. If the base colors are deviated from, provide a legend indicating any special purpose of the colors used. Traditional base colors:

Deletions (Red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.

Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.

Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

Use a key for colors used or symbols.



Frequently use written explanations on as-built drawings to describe changes - do not rely totally on graphic means to convey the revision.

Legibility of lettering and digit values shall be precise and clear when marking prints, and clarify ambiguities concerning the nature and application of change involved.

When changes are required on small-scale drawings and in restricted areas, suggest large-scale inserts be drawn or sketched, with leaders to the location where applicable.

Be sure to add and denote in legend, any additional equipment or material facilities, service lines, etc., incorporated under as-built Revision if not already shown in legend.

When attached prints (or sketches) are provided with marked-up print, indicate whether:

- Entire drawing shall be added to contract drawings or
- Whether the contract drawings shall be changed to agree, or
- For reference only to further details not required for initial design.

Make the comments on the drawing complete without reference to outside letters or memos.

The markups shall be accomplished on black line prints of the **most current sheet**.