



Organizing Record Drawings & Contract Specifications

When it comes to facility management of a commercial building, parish church, school, etc. a property manager or building manager should have the building(s) record drawings readily available at one's fingertips. For those not familiar with "record drawings" these are the original construction documents created by a design team that were used to solicit contractor bids to build the facility followed by their use as the construction documents to build the building. When the construction is completed, and the facility is occupied, the contractor and the sub-contractors who completed the work were required to update these contract documents incorporating changes that were made during the construction phase resulting in the drawings becoming the owner's record drawings.



A standard set of record drawings will usually include:

- Site plan locating the building on the property
- Site plan utilities including electrical service, city water service, sewer main(s), drainage pipes, and other pertinent design documents and details
- Architectural drawings including plan views, building elevations, room finish schedule, and other pertinent design documents and details
- Heating, ventilating, and air-conditioning (HVAC), plumbing, electrical, fire protection drawings including system distribution, fixture schedule, and other pertinent design documents and details
- Structural drawings including plan views, building elevations, room finish schedule, and other pertinent design documents and details

Other drawings could include furniture layout, kitchen equipment, and laboratory layouts to mention 3-categories that may be included in the project's record drawings. Along with these drawings will be the building project's contract specification covering all the above along with other pertinent contract requirements such as the design team approved equipment submittals indicating the equipment that would be furnished and

installed for the project.

Why the need for maintaining a facility's record documents? There are several reasons beginning with a building being renovated years later. This is quite often a common occurrence for commercial buildings and the renovation project design team will need to have access to the original drawings and specification, as well as other record documents e.g., equipment approved submittal to begin their re-design.

Other reasons for having easy access to record drawings and specification are:

- Scheduled review for current code compliance
- Potential energy conservation initiatives focused on lighting, HVAC, etc.
- Tenant leasing of specific areas of the building
- Equipment locations above ceilings for routine maintenance
- Location and quick reference for location of water shutoff valves in case of an emergency or for

- servicing certain equipment
- Fire and smoke zones including location of 1-hour, 2-hour, and 3-hour rated walls and smoke barrier walls
- Emergency egress planning
- Trouble-shooting building system problems

It is important to preserve these documents for future use so maintaining them is critical to the preservation process. Often, building management will want to keep a printed copy of the record drawings readily available. If so, one can lay the drawings flat in a drawing file cabinet or these drawings can be hung vertically on a drawing rack. Either way, care must be taken as the printed drawings will most likely be paper and the sheets can become brittle over time and ripping of the paper can occur. It is suggested the perimeter of each sheet receive a strip of heavy duty, 1-inch wide tape added along all 4-sides of each drawing.

The contract specifications will already be compiled and secured in a binder so placing them on a shelf, convenient for those who need to reference a section of the specification e.g., HVAC equipment specification doesn't require any additional cost when compared to the drawing storage options.

Storing away the original contract drawings or investing in a complete, additional set of contract drawings should be considered. The storage space should be in a secured room where the room environment is comfortable but more importantly has a reasonable space humidity maintained between 30% to 60% relative humidity to preserve the drawings.

In the past 20-plus years all construction design drawings have probably been produced using computer-aided drawing (CAD) software along with the design specification being produced using other software. While these drawings and specifications can most likely be electronically uploaded to the building manager, facility manager, and maintenance technician's computers and/or computer tablets many of these individuals prefer to have a set of printed documents available for their needs.

When it comes to this easy access to drawings and specifications the building manager may invest in having a printed set of drawings but not necessarily all the drawings. The management group will prioritize a list of

specific drawings to be printed out and located for quick reference and may include:

- Utility site plans
- Architectural floor plans
- HVAC system distribution along the perimeter of the building and above ceilings
- Electrical lighting and electrical power distribution drawings
- Plumbing system distribution
- Fire protection drawings

Most of the other drawings, such as structural drawings, reflected ceiling plans, cabinet details, door schedule etc. may never need to be referenced during the year whereas the drawings noted above may be referenced routinely for a variety of work related reasons throughout the year(s).

If the drawings and specification are digitized then the information is easier to preserve, access, and share. At the same time making sure these electronic documents are backed up is very important. Computer files such as CAD drawings and specification should always be backed up to have a second source for the information. Multiple forms of backup will minimize the risk of ever losing valuable documents and so there is another means to backup these computerized documents: "The Cloud" which places the backup information outside the building in a secured Internet location.

Whatever the backup method chosen, organizing record drawings and contract specifications, as well as other record documents is a critical part of property management for use on any given day, use when planning building alterations, use for operation and maintenance, use for regulatory compliance, and other facility management activities and planning.

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