

From PDFs to IPD to BIM

Today's Technology Driven Construction Project

By
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With improved technologies, construction companies can perform their jobs quicker, more efficiently, less costly, and safer than ever before. Whether you are now using email to communicate with your project team, whether you have implemented building information modeling (BIM) into the design and construction process, or whether you have gone entirely paperless with PDF drawings and contract documents, there are a few lessons to keep in mind to ensure success when using new technologies.



BENEFITS OF A PAPERLESS PROJECT

Paperless success involves more than simply scanning every project document and putting it into a digital file cabinet. That would be nothing more than moving the archived documents from Building A to Building B. The successful protocol will involve using new technologies, such as project management software and other web-based programs to consolidate project documentation; to increase efficiency in project communications; to establish a good audit trail; and (if necessary) to prove liability and damages in the event of a dispute.

The new tools available to improve record management are limitless. Web-based systems allow the entire project team access to the same pool

of construction documents, including design drawings, photos, schedules, change orders, requests for information, and numerous other reports. Document control can be enhanced by tracking revisions, storing the master files, and streamlining the review process.

A REAL DISPUTE

Construction disputes can often find themselves in the public eye even if there is not a lawsuit filed in the courthouse. The design and construction of a life-sciences building at a major university recently highlighted some of the legal issues on a technology driven project. According to an ENR report, this is the first known claim related to the use of BIM by an architect. On the project, the architect and its MEP engineer used BIM to fit the

MEP systems into the ceiling plenum. When the contractor was about 70 percent through assembly, it ran out of space in the plenum. Apparently, the design team failed to inform the contractor that the extremely tight fit of components depended on a specific installation sequence. In the end, everyone sued: the contractor sued the owner, the owner sued the architect, and the insurance carrier sued the MEP engineer.

LESSONS LEARNED

The settlement was confidential and there is little information about the identity of the parties, the amount of settlement, and the terms of the agreement. But, based upon growing trends in the use of technology on construction projects, as well as best

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practices generally, here are some lessons learned when using BIM:

- **Communication within your own team.** As a construction lawyer, I find that most construction disputes are 90 percent fact-driven and 10 percent law-driven. This may be a generalization, but lawsuits are about losses and responsibility for those losses. The parties' contract or the applicable law may allocate the risk to one particular entity, but often the dispute is fueled by the facts of the case. Here, it becomes imperative that your own project team members (from estimating, to scheduling, to field conditions, to contract management) regularly talk with each other to avoid miscommunication.
- **Communication among the project team.** According to the ENR report on the life-sciences building, the "design team never discussed the installation sequence with the contractor, and the contractor wasn't sophisticated enough to understand the importance of assembling the components in a certain order." As you would suspect with integrated projects, clear and regular communication among all project team members can help avoid problems stemming from design to construction.
- **Communication per the contract documents.** If you follow construction industry trends related to contract documents, you know that both the AIA and ConsensusDOCS have a working set of documents focused on integrated project delivery. You can find a comparison of the two groups documents related to IPD by simply *Googling* the following terms: "ConsensusDOCS AIA IPD." In the end, you should make sure your written agreements conform to your understanding and expectation of how the parties will communicate, what information will be communicated, and what happens in the event of lack of communication ... or a dispute.

The technologies available to today's construction project make it easier and more affordable to process, collect, refine, store, and review the project's data. However, this is only one part of the solution. The real lesson is to use these technologies to communicate expectations, intentions, and conditions to help ensure success. ■

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