



## A POWER SOURCE FOR CLIENTS



Lawyers should encourage the use of Building Information Modeling

By **DEREK MOGCK**

**B**uilding Information Modeling (BIM) is undeniably one of the most important recent developments in the design and construction arena.

One commonly accepted definition of BIM is a “computer representation of all of the physical and functional characteristics of a facility and its related project/life-cycle information.”

This unified collection of data offers many benefits: three-dimensional visualization of a building; early clash detection; reliable bases for cost estimating and fabrication; schedule and energy modeling; and improved communications among all project participants.

BIM’s value lies in its ability to help architects, engineers and contractors make building projects more successful, for both themselves and owners. Indeed, a recent McGraw-Hill Construction survey revealed that more and more of these professionals are using BIM, and realizing a positive return on investment while doing so.

Construction lawyers should take notice of this survey for two related reasons. First, it confirms that we will increasingly advise clients about BIM-related issues. Second, it should motivate us to understand (or refresh ourselves on) the current standard form BIM agreements.

McGraw-Hill Construction’s September 2009 report, “The Business Value of BIM: Getting Building Information Modeling to the Bottom Line,” presents the results of its third annual BIM-related survey.

It contains a wealth of information about the industry’s BIM use. For example, “Nearly two-thirds (63 percent) of BIM users say they see positive return on investment on

their overall investment in BIM, with 15 percent reporting an return on investment of 50 percent or more.”

Each discipline also reported positive results. Designers reported improved productivity. Engineers realized value through fewer conflicts between building elements and related changes. Contractors also benefited from BIM’s clash detection; 71 percent of contractors using BIM report a positive return on investment. Owners report a similarly positive return on investment at 70 percent.

Overall, the report shows that BIM use is growing rapidly with meaningful benefits to its users.

### Fewer Legal Concerns

This survey also revealed that, in contrast to prior surveys, legal issues were less of an obstacle to firms adopting BIM.

McGraw-Hill Construction’s December 2008 report revealed that architects, engineers and contractors were reluctant to use BIM partly because of legal issues. Although firms were primarily concerned about BIM’s operational issues, these professionals reported concern about liability for contributions to the computerized model and losing intellectual property rights.

The fact that this survey occurred during the summer of 2008 is important because, at that time, the industry had either not yet digested or received the current BIM-related standard form agreements.

Specifically, between June and October 2008, two industry organizations published

BIM contract documents. First, in June 2008, ConsensusDOCS, a group of 22 industry associations offering an alternative to the American Institute of Architects agreements, published the ConsensusDOCS 301 BIM Addendum.

It directly addressed the survey respondents’ concerns in separate sections captioned “Risk Allocation” and “Intellectual Property Rights in Models.”

Section 5 of the BIM Addendum governs risk allocation.

Its key provisions include: making each party responsible for any errors in its and its subcontractors’ or consultants’ contributions to the model; requiring a mutual waiver of consequential damages arising from the parties’ use or access to the model; adopting the standard of care in the parties’ primary contract; requiring each party to obtain insurance for any loss of its contribution to the model; and, in the event of a software disaster not reasonably avoided, allowing a party either more time for its work or excusing its performance.

This comprehensive treatment of liability and risk allocation is valuable because it helps set clear expectations at the start of the



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parties' collaboration.

Section 6 addresses intellectual property concerns.

First, it includes warranties that each party either holds the copyright or a license to its contribution. Second, each party agrees to indemnify the others from any third-party's copyright infringement claims concerning the party's contribution. Third, the addendum grants each party and their subcontractors or consultants a nonexclusive license to every other party's contribution. (The own-

property concerns. Its relatively brief treatment of liability appears in Section 4.1.3.

That section provides that a party's unauthorized use of another party's contribution, which the E202 calls a "model element," is at its own risk and that the parties agree to indemnify each other for any claims arising from such unauthorized use.

Section 2.2 of the E202 protects contributors' intellectual property rights. Specifically, it provides that the contributors' participation does not give up any ownership rights in their model elements and that others' use of the model elements is limited to the current project.

The E202 also includes two valuable and related concepts: a level of development hierarchy and a model element table.

First, the level of development scheme is a five-step series of increasingly

complete models. With each level of development, the parties are required to provide more detailed model elements and, consequently, other parties are increasingly entitled to rely on the models for more detailed analysis, cost estimating and scheduling.

Second, the E202's model element table requires the project participants to identify the level of development that each model element must meet at the end of each project phase and the party responsible for advancing the model element to that level of development.

Together, the E202's level of development scheme and model element table provide

very concrete guidelines for parties' BIM collaboration. Construction lawyers will likely use or adapt these provisions often, particularly considering the 2009 McGraw-Hill Construction survey's finding that 70 percent of BIM users said that having "clearly defined BIM deliverables is highly to very highly important to increasing the value of BIM."

Similarly, 48 percent of respondents said that having a contract that "is supportive of BIM and/or collaboration" impacted BIM's value on a project.

Therefore, construction lawyers should be ready to rely on the best parts of both the ConsensusDOCS' BIM Addendum and AIA's E202 to draft agreements that allow clients to maximize BIM's potential.

### Wider Use

Interestingly, despite BIM's promise, firms in New England are adopting BIM at a slower rate than elsewhere in America.

One solution to this region's lagging BIM use could be persuading more public and private owners of BIM's value. Notably, Wisconsin and Texas have mandated BIM on public projects.

Indeed, increased owner demand is the primary factor in firms' decision to use BIM, according to McGraw Hill Construction's latest survey. In any event, BIM use is growing generally, and construction lawyers need to be prepared to help clients create agreements that allow them to tap BIM's full potential.

Understanding the BIM Addendum and the American Institute of Architects' E202 will ensure that we will be ready to do so when, not if, they call. ■

**The computer modeling's value lies in its ability to help architects, engineers and contractors make building projects more successful, for both themselves and owners.**

er's use of the finalized model is governed by the owner-architect contract.)

The BIM Addendum also provides for a "BIM Execution Plan." This plan's 29-point list is a helpful roadmap for the parties to chart their coordinated work developing the project's BIM.

### Valuable Concepts

The second standard form BIM agreement to appear was the American Institute of Architects' Document E202, entitled, "Building Information Modeling Protocol Exhibit," and published in October 2008. It, too, addresses liability and intellectual