



## CONSTRUCTION E-BRIEF

### Building Information Modeling: Understanding The Limitations

The proliferation of Building Information Modeling, or “BIM”, has been one of the most important developments for the construction industry in the last decade. Proponents of BIM state that it greatly reduces the incidence of design errors by allowing design professionals to detect conflicts and resolve them before passing the design on to the contractor. Indeed, we have [noted in a previous e-brief](#) that BIM does have the potential to provide substantial benefits to all the parties involved in a construction project. However, BIM has some practical limitations that design professionals and contractors should be aware of.

#### *BIM's Cost can be Prohibitive in Certain Circumstances*

While BIM can be greatly beneficial on a project, it can also be expensive to implement. Not only must a design professional pay for the software and hardware necessary to implement BIM, it must also pay to train or hire specialized personnel who have BIM expertise. For many design professionals, the cost of BIM can outweigh the potential rewards. In addition, the complexity of BIM models necessitates a substantial amount of time investment in each model. The more time invested in a design, the higher the cost. This can prevent a design professional from being able to utilize BIM when presenting design alternatives to an owner. In addition, it may not be practical to invest the time and expense into the creation of a BIM model for less complex portions when a traditional two-dimensional model would suffice.

#### *Incompatibility with Current Industry Practices*

The construction industry has a few common practices that can often be incompatible with BIM. For example, fast-tracked project schedules may not allow time to integrate

#### About E-Brief

E-Brief is a periodic email newsletter that is sent to our clients and friends to provide information that is important to their success.

#### Comments Welcome

We welcome your comments on our E-Brief. If there are topics you are interested in learning more about, please email us at: [e-brief@woodsaitken.com](mailto:e-brief@woodsaitken.com)

#### About Woods & Aitken LLP

Woods & Aitken has been representing clients in the [construction](#) industry since the firm was founded in 1921. For more information about the firm and our attorneys, please visit our website:

[www.woodsaitken.com](http://www.woodsaitken.com).

new processes or designs into a BIM model. In addition, contractors may be unable or unwilling to utilize BIM models proffered by a design professional due to technological or cost limitations or simply because they are resistant to change. This can also be a problem between design professionals. Even if all parties are willing and able to use BIM, they may have different BIM technologies that are incompatible, thereby preventing them from fully utilizing BIM's value.

#### *Overreliance on BIM can be Costly*

Finally, all the BIM computer calculations in the world are no substitute for a design professional's good common sense. A recent lawsuit over a BIM model illustrates this point.<sup>1</sup> In the lawsuit, a mechanical-electrical-plumbing engineer used BIM to fit the building's MEP systems into the ceiling plenum. While the design was an extremely tight fit, the BIM model showed that—technically speaking—there were no conflicts in the MEP arrangement. As a practical matter, however, the arrangement was so condensed that its actual construction proved to be extremely difficult. The contractor ran out of space by the time it was 70% done with the MEP system. As a result, the contractor, owner, architect, architect's insurance company, and MEP engineer found themselves embroiled in a costly lawsuit.

#### **Rules Before You Sign**

##### ***This issue's Rule –Understand BIM's Limitations***

*Follow our "Rules" before signing the contract to reduce your contract issues and problems.*

BIM can be a valuable tool for building design when used correctly. However, BIM is only as good as the information it receives. Furthermore, depending upon tolerance settings, BIM's representation of the interaction between various project components may reflect theoretical results that cannot be met in the real world. Simply put, BIM is not magic and is subject to real and practical limitations. While it may be tempting for the project participants to completely rely on BIM for all aspects of design, this will almost inevitably lead to problems down the road.

<sup>1</sup> See Nadine M. Post, *A Cautionary Digital Tale*, *Engineering News Record*, May 23, 2011, at 10.

This E-Brief is intended for general information purposes only and should not be construed as legal advice or legal opinions on any specific facts or circumstances. An attorney-client relationship is not created or continued by reading this article.

To unsubscribe please [reply](#) to this email

Woods & Aitken LLP | 301 South 13th Street, Suite 500 | Lincoln | NE | 68508