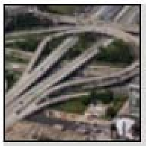

February - April 2007

DC CADD focus

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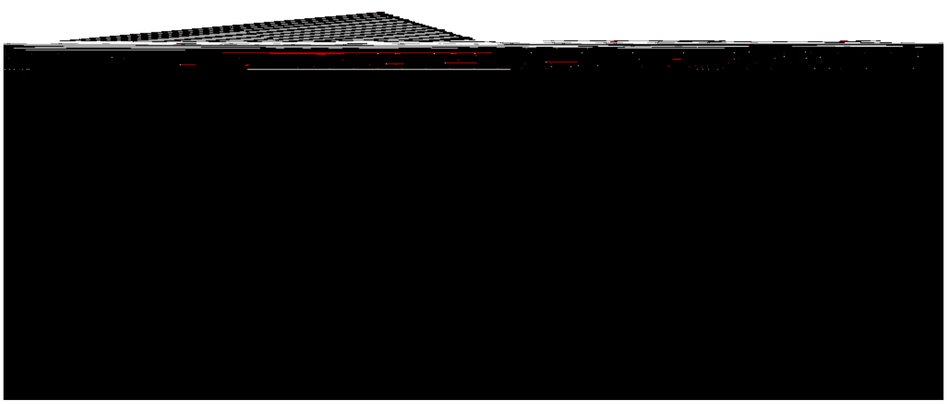
Why The Transition to BIM & EDI Is Now

by Will Ikerd, P.E.,C.W.I.

The time has come for designers to pay attention to Building Information Modeling (BIM), i.e. parameter, object-based 3D model (parametric modeling) software applications, like Revit. These models have intelligent building objects capable of facilitating Electronic Data Interchange (EDI) with other BIMs and analysis applications. BIM and EDI reflect a paradigm shift unlike anything ever seen by our profession.



Revit Structure model by INTERTECH Design, Inc., utilizing EDI with analysis and design software.

While parametric modeling is new to building design and construction, there is significant history in other professions. For many years, the aerospace, automotive, and manufacturing industries have employed parametric modeling. My interest in this topic began a decade ago, when my graduate work entailed parametric computer modeling of a 15- story building for lateral analysis to feed separate structural design applications via EDI. After many long nights with the parametric models (over 12-hours per run) and analysis, I came to some basic conclusions about the BIM concept. First, our profession would not fully embrace BIM until three important criteria were in place: (1) computer power, (2) internet bandwidth, and (3) a common platform for the models to exchange data with each other. Secondly, I realized the industries that had already transitioned to parametric modeling never went back to CAD or board drafting.

Our profession is poised for BIM products, like Revit, because the identified criteria are available - and finally considered economically "within reach" by the building design community. In 1974, the CRAY mainframe computer cost over $10 million dollars; today, a PC-based computer deemed BIM-capable (much more powerful than the CRAY-1) is readily purchased for less than $2 thousand dollars. In terms of internet bandwidth,