

Implementation of Building Information Modeling (BIM) on the Renovation of the Art Gallery of Alberta in Edmonton, Alberta

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Abstract

Named a “Revit Early Adopter” in 2001, DeSimone has provided feedback and performed beta testing on the leading Building Information Modeling (BIM) software for over six years. The most complicated project for which we have implemented Revit began in March 2006 with the renovation of the Art Gallery of Alberta in Edmonton, Alberta. This \$68 million project includes demolition and major renovation to an existing two-story concrete structure currently housing the museum, the construction of two new levels of steel construction above the existing building and the addition of a new steel-framed atrium space on one side of the building. This new atrium space, which provides the visual focus of the building, is to be clad entirely in glass and adorned with flowing and continuous, curved metal surfaces flying in and out of the glass enclosure envelope.

The implementation of BIM on this project started at the beginning of the Design Development phase after a thorough survey of the existing building was completed. The accurate modeling of existing conditions, as well as the significant geometrical complications created by the new atrium posed significant challenges to the use of BIM on the project. An additional challenge is also presented by the fact that the design team consists of four architectural and engineering firms located in Los Angeles, San Francisco, and Edmonton.

This paper describes the advantages and disadvantages of the implementation of BIM, challenges faced by the design team, the software's limitation and potential, management and control of the model, and release of information to the construction team.

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Topic

Emergent Computing Technology: AutoCAD Revit Architecture & Rhinoceros were used as part of the documentation process.