# Wexler Associates' use of BIM saves time in project delivery of The Crescent Club

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The Crescent Club is an 18-story high-end residential building with 180,000 s/f of space, 119 apartments and is located north of the Queens Borough Bridge in Long Island City, Queens. The club is designed by renowned architect Karl Fisher, noted interior designer Andres Escobar and landscape architect Thomas Balsley. The site was the home for the 90 year old Greek language newspaper Ethnikos Kirix. The building design includes a contemporary patio, pool and putting green, state of art health club and a residents club featuring a 65 inch screen TV with surrounds sound and plush seating. A roof top terrace and clubroom with wet bar, flat screen TV and a vista of the Manhattan skyline top out the building.

The structure consists of steel framing with composite metal decking and concrete floors supported on a pile foundation. Its lateral system is a combination of vertical steel braces and moment frames. The building is located 27 feet from a NYC Subway tunnel and required the NYC Transit Authority approval.

The structural design and construction was based on a state of art project delivery method - BIM. In BIM, the project drafting, structural design and detailing were executed from a 3D Model. With in house BIM abilities, Wexler Associates' structural engineers were able to design and detail the structure, thus facilitating the entire construction process and eliminating mistakes. Not only did quality control improve when compared to a standard project delivery method, but also collaboration and communications were enhanced resulting in reduced delivery time.

The advanced programming skills and engineering design skills required from personnel using BIM are the single largest obstacle for its use. At Wexler Associates, BIM has been in use for the last 5 years and its success is largely attributed to the special training programs developed in-house.

Wexler Associates services for the Crescent Club project included the following:

* Structural design of the new building.
* Preparation of design options for cost estimating purposes.
* 3D Modeling, 3D Detailing and preparation of Shop Drawings for Steel Fabrication.
* Support of excavation design and special pile design for NYC Transit Authority.

Our experience has proven that these BIM-enabled analyses significantly improve the efficiency of the design, planning and building processes. Prior to using BIM, problems that were identified during the erection or construction phase were relayed back to the engineer for resolution. Unfortunately, solutions at this stage are sub-optimal and these revisions are a typical source of contract claims and disputes.â€¯ Many times, the cost of field changes includes a significant non-value added component that far exceeds the improved value for the revised scope of work.â€¯ These non-value added costs include change orders, schedule delays, impact on other trades and the effort required to coordinate and manage changes during the construction phase. With the use of BIM, the

conflicts are identified and resolved in the virtual construction phase of the project when changes are still inexpensive to make.â€¯