

St. John's Providence Park Hospital

In today's growing Healthcare Market the overall feel of modern hospitals is a lot different than in years past. Where once hospitals were built on a standard of proficiency and not comfort, today's hospitals are focusing more on comfort and leisure than proficiency.

"Health parks" instead of hospitals seem to be popping up everywhere you look. Modern hospitals look more like 4 star hotels than medical facilities. A prime example of this growing trend is the new state-of-the-art St. John's Providence Park Hospital that has a 500,000 square foot campus, with a 108-room hotel and retail area along with a 200 bed hospital.

The Project

The project was designed as a design assist project, meaning the detailing was done concurrent with the project design. The project was broken down into a 3 phase approach. The first phase consisted of defining the members such as size, design, etc. The second phase required the design and layout of the connections. The third and last phase was built up of all the architectural requirements.



In order to achieve the level of quality that St. John's Health prides itself on they decided to go with the architectural firm of NBBJ, and consulting engineer KORDA. Barton Malow/White Co. was selected as the prime contractor/construction manager who hired, with the owners blessing, the Prime Steel Construction Company Midwest Steel Inc. Midwest Steel developed a team consisting of a steel detailer and structural fabricator. E&H Steel from Alabama was the selected fabricator along with the StruCAD detailing firm of Structural Systems Engineering. Due to the level and pace of detailing and continuous coordination that was required to keep the project on schedule, Steve Lietz from Structural Systems Engineering decided to break the project up into

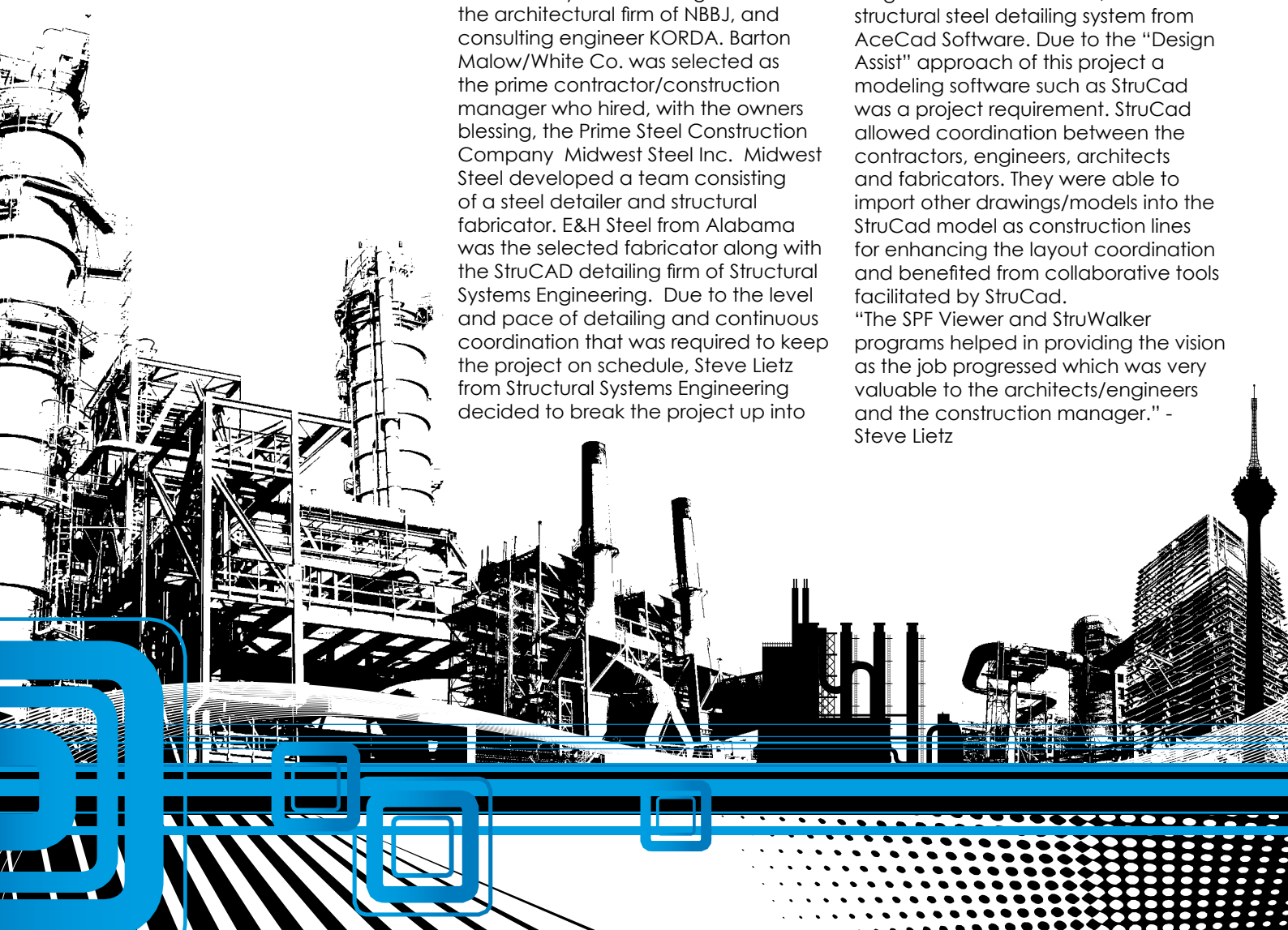
three parts and distribute it between StruCAD partners from the firms ACL Structural Group, & G-Force Drafting. These three companies provided all the detailing for this project.

The estimated cost of this project is close to \$224,000,000. This project consisted of 500,000 square feet and a total structural tonnage of 3,600 tons.

Steve Lietz from Structural Systems Engineering (SSE) was the main coordinator on most of the major aspects through the designing phase of the project. With the help of Cory LePage from ACL Structural Group and Geoff Wake from G-Force Drafting, they were able to complete the "Design Assist and Detailing" phase of this project 4 weeks ahead of schedule. Midwest Steel Inc. as the Steel Erector along with the fabricator E&H Steel were able to maintain that schedule savings for the remainder of the structural steel phase of the project.

SSE, ACL and G-Force have all been long time users of StruCad, the 3-D structural steel detailing system from AceCad Software. Due to the "Design Assist" approach of this project a modeling software such as StruCad was a project requirement. StruCad allowed coordination between the contractors, engineers, architects and fabricators. They were able to import other drawings/models into the StruCad model as construction lines for enhancing the layout coordination and benefited from collaborative tools facilitated by StruCad.

"The SPF Viewer and StruWalker programs helped in providing the vision as the job progressed which was very valuable to the architects/engineers and the construction manager." - Steve Lietz





StruCad was not only able to help with coordination but it also saved time and overall project design costs. By using StruCad they were able to use graphical examples as the design progressed and they were able to answer all detailing questions that arose.

When asked why he went with StruCad as the detailing system for this project Steve Lietz replied, "It is the only detailing software that SSE uses. This is the program we trust to do what is required and to provide us with outstanding drawings far superior to other programs out there."



Along with the challenge of this project being a fast-track project that involved a large amount of coordination, there were also design aspects of this project that were quite complicated.

The atrium area of the hospital presented itself as being challenging part of this hospital to complete due to the curved tube steel that hung from the supporting structure.

Overall the project allowed SSE, ACL and G-Force the opportunity to use innovative design techniques and work with a project that would provide the community of Novi, Michigan with a healthcare facility unlike any they have ever seen.

"No project is too big if we work together." - Geoff Wake
StruCad - 3D detailing system

SSE, ACL, and G-Force were able to split the project into three parts and then come together in the end to provide a whole and complete project. Communication between the architects, engineers, contracts, fabricators, and detailers wouldn't have run nearly as smoothly without the help of StruCad.

StruWalker (freeware from AceCad Software) allowed anyone who was interested to view the project in its current phase. This proved to be invaluable when it came to providing up to the minute reports on where the project was, clarifying complex issues and overcoming geographic distance.

When it was time to assemble the three parts of the project, the clash detection feature in this software was a tremendous help. This feature allowed the detailers to see where the members overlapped or where there were gaps. This saved a remarkable amount of time when it came to checking the project for errors.

All three detailing companies have been quoted as saying, "We love this product and wouldn't consider using anything else."

