



HEALTHCARE DESIGN

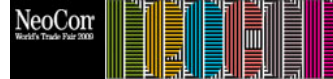
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Design Issue



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Issue Date: March 2009, Posted On: 3/1/2009

Rehab by design

St. Joseph's Hospital-Patient Tower, St. Paul, Minnesota
by Todd Hutlock, Editor-in-Chief

Project Summary

Completion Date: November 2008

Owner: HealthEast/St. Joseph's Hospital, St. Paul, MN
Owner's Representative: Boldt Consulting Services, Milwaukee, WI

Executive Architect (Architect-of-Record): BWBR Architects, St. Paul, MN

Design Architect: Hellmuth, Obata + Kassabaum, Inc. (HOK), Chicago

Civil Engineering and Landscape Design: Loucks Associates, Minneapolis, MN

Structural Engineering: Ericksen Roed & Associates, St. Paul, MN

Contracting: McGough Construction, St. Paul, MN

Mechanical Engineering (Design/Build): Harris Companies, St. Paul, MN

Electrical Engineering (Design/Build): Parsons Electric, Minneapolis, MN
Photography: Paul Rivera, Archphoto

Total Building Area (sq. ft.): 181,000

Total Construction Cost (excluding land): \$52,422,500

Total Construction Cost per Square Foot: \$289



St. Joseph's Hospital was the first hospital in Minnesota and is the oldest institution in St. Paul. An independent Catholic hospital was slated to be closed about a decade ago, but with strong community support behind it, it instead became part of the HealthEast network. In the spirit of the ongoing effort to revitalize downtown St. Paul, block by block, HealthEast then decided to turn the hospital into its Centers of Excellence for both Cardiovascular and Neuroscience, as well as remain a community hospital for the people it had always supported in the heart of downtown St. Paul. The first stage of redevelopment was a new patient tower that spans 86 feet across a city street, captures views of the northern edge of downtown, and repositions future hospital

expansion westward. The tower allows for a continuum of inpatient care where patients from critical care to medical/surgical status remain on one floor and perhaps one room for their length of stay. Each 45-bed floor is self-contained with its own associated therapy and rehab spaces to decrease patient movement. HEALTHCARE DESIGN Editor-in-Chief Todd Hutlock spoke with Principal-in-Charge and Senior Medical Planner Sheila F. Cahman, AIA, ACHA, LEED AP, and Design Principal Erik Andersen, AIA, LEED AP, of Design Architect Hellmuth, Obata + Kassabaum, Inc. (HOK), as well as Phyllis Novitskie, executive lead of facility planning and management at St. Joseph's Hospital, about the project.



Poll Question:

Is the regulatory environment keeping up with design innovation?

- No, not quickly enough
- Yes, but slowly
- Regulations are way behind what's happening in design

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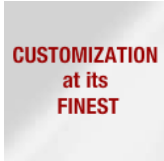
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Background and goals



Phyllis Novitskie: Our overall objective was to begin to build a healing environment that would reflect the level and quality of care that we deliver. That said, getting more private rooms on the campus was one of our main goals. Our guiding principles revolved around patient and staff safety.

After consulting our end users, particularly physicians, we were encouraged to expand vertically rather than horizontally. We decided to remove our old loading dock and surface parking area and build there. We came up with a concept to span the road on the upper floors to connect with the existing hospital and capitalize on the spectacular sight lines to the capitol. This allowed us to keep some of the critical adjacencies and to access all of the new rooms via vertical lift rather than to build horizontally. The development of the patient tower also led to the development of an overall site plan for future expansion, where we will now build across the street and expand onto this new building.



Erik Andersen, AIA, LEED AP: This building fit in with the city's master plan to create a series of "pocket parks." Our pocket park, visible on the northernmost end of the courtyard, defines a new front door for the hospital.

Exteriors

Sheila F. Cahnman, AIA, ACHA, LEED AP: The front door of the hospital had previously faced a side street. We took over a vacant lot that contained parking and some utilities that we moved off-site and basically turned the entire building so that the new façade faces St. Peter Street, which is the main thoroughfare downtown. Behind what is now the front of the building is a very large parking garage, which is what people see from the passing highway. The idea behind the new building is that in the future, the parking garage will

come down and the building will expand in that direction. In the meantime, we have the building in front of the garage, and most of the rooms have spectacular views.

Andersen: This location allowed for a unique opportunity to orient views toward the state capitol building, which is north of the hospital.



Cahnman: The goal was to fit 45 beds per floor on two different floors, with one being the Cardiology Center of Excellence and the other being the Neuroscience Center of Excellence, with all acuity levels for each contained on one floor. Because it was a tight site, it was a challenge to get enough perimeter space to put all 45 rooms around without having them staring directly into the parking garage.

Andersen: There was a general guiding principle to create rooms with views. In addition to providing patients with great views of the downtown area, we provided views from the family lounges, as well.

The building forms are intersecting arcs; the patient tower defines one arc, and the lobby below defines another. The arcs intersect and create a unique urban plaza and focus visitors toward the dramatic views to the north.



Interior spaces





Cahnman: The first floor contains the main lobby, registration, cafeteria, and shelled space for a future outpatient unit. The surgery waiting area, pre- and postsurgery, and a new PACU are on the first floor on the south side of the street. There were some gymnastics there to add to the surgery program on the south side of the street and create the new entrance on the north side of the street at two different levels because of the grade change.

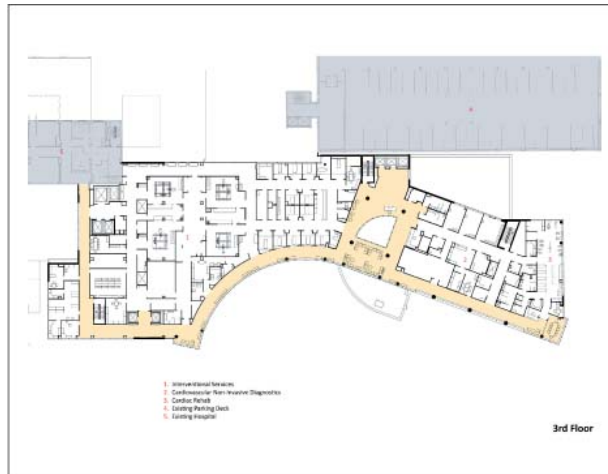
The main lobby is a three-story atrium space. We had to be up at the third-floor level to allow patients access to the diagnostic areas located across the street to connect back to the existing hospital. We created a promenade on the third floor so that when you get to the third floor, you can see down to the lobby. Whether you enter from the main hospital or you are going to the main hospital, you can orient yourself, or, if you are in the new lobby, you can orient yourself by visually locating the third floor promenade above you. That visual connection was important to maintain.

Andersen: The second floor has the chapel, suspended over the lobby, and the conference center. Because it is a Catholic hospital, we thought that having the chapel floating above the lobby would be a nice way to highlight that space. The warmth of the wood really creates an inviting environment.



There is a wall behind the reception desk in the lobby made of limestone, and the chapel is also supported by an arced wall of limestone. The inspiration comes from the foundation of the city of St. Paul, from the stone cliffs of the banks of the Mississippi, and ties into the history of the St. Paul area.

Cahnman: The third floor is the Cardiovascular area for outpatients. Cardiac cath labs are on the south end of the floor, along with interventional rooms for vascular angiography. The north end of the floor is outpatient diagnostics, including stress testing and also the outpatient cardio rehab, which provides beautiful views for patients on stationary bikes. The hospital didn't want to replicate the surgery department, so we created, on the south end of the street, four new operating rooms and new intake and waiting areas, matched up against the existing surgery department. There is also a separate entrance on that level at street side if a patient is coming in for surgery.



Patient spaces



Cahnman: The concept for the patient floors was that when you come off the elevator and are greeted at the main desk, everything needed for inpatient stays would be self-contained on that floor. The center of each floor contains support spaces. On the north end, the floor plate is laid out as a med/surg unit; on the south end, the building curves around and the rooms get bigger, becoming more acute and containing the critical care unit. The rooms are all acuity-adaptable, and the floors are staffed as if it were a whole Center of Excellence rather than chopping it up piecemeal.

The family spaces at the far north end get the most incredible views to support the med/surg families. Embedded in the middle of the critical care unit is another family area, allowing views up and down the street.

The rooms were meant to be as similar as possible. The decision to go with canted single-handed rooms with outboard toilets came from the curve and the shape of the building, as well as the patient benefits that arise from the toilet placement. Because all of the toilet rooms are on exterior walls, we built translucent panels to allow natural light in, providing a more residential feel.

Novitskie: Because the rooms are all-private and therefore larger, the nurses' stations are now mini-stations spaced throughout the racetrack design. All of the patient care areas are on the exterior, with support spaces on the interior. While it took some time for the nurses to get used to the change of not having that "central cave," it does provide better views and ultimately better care for the patients. We're also in the process of transferring to electronic medical records, so the fact that there isn't a central station containing all the files is not an issue.

Interior design elements



Cahnman: The hospital wanted to strike the right tone, that it was revitalizing itself, but not becoming too opulent. We worked very closely with the client groups on the interiors to achieve that balance. It was a very integrated approach.

Andersen: There's a real sense of craftsmanship in the space, as well. The curvilinear geometry known as the "Golden Section" or "Fibonacci Series" defines organic growth patterns found in nature and were used to create a spiraling terrazzo pattern in the center of the lobby. This spiral extends up a curving stair and concludes in the chapel, and the patterns recur throughout the facility, in the patient rooms and hallways. The pattern is even cast into the concrete of the exterior column bases.

Conclusions

Novitskie: The patient rooms have been very well received. The nurses have better observation views to the patients, and the patients love the room and views. It is a bit too early to say whether the location of the toilet rooms has led to fewer falls, but that is data that we will collect.

Andersen: In every project, we strive for the integration of design and medical planning. I think we were particularly successful in this project, especially on the patient floors. Functionally, it works in terms of the acuity levels, and with the shape of the building and arrangement of the rooms, it is, in my mind, the perfect blend of design and medical planning.

Cahnman: The thing that we are most proud of on the project is how we were able to shape the building to not only fulfill all the clinical space planning needs inside the tower, but also how we were able to provide such spectacular views from the patient rooms. We worked a lot on how to shape the building for maximum views and to have the planning fit with that shape. In my career, this has been the most successful execution of that idea. Erik and I worked very closely on this. **HD**

For more information on St. Joseph's Hospital, visit <http://www.healtheast.org/stjosephs/index.cfm>. For more information on HOK, visit <http://www.hok.com>.

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