REIMAGINING MOTT

AFTER MANY DECADES, CHILDREN'S AND WOMEN'S MEDICINE IS GETTING A NEW FACILITY WORTHY OF ITS TOP-RANKED CARE

by James Tobin / illustrations courtesy of HKS Inc.

In the age of computerized design, Douglas Compton — a principal architect and senior vice president of HKS Inc., of Dallas, Texas, one of the leading architecture firms in the U.S. — still likes to draw with pencil and paper. He uses a flimsy vellum called trash paper.

Compton, a quiet Texan in his mid-50s, had been appointed lead architect for the new C.S. Mott Children's Hospital and Women's Hospital. Early in 2005, the time had come to draw the structure's essential shape.

His first aim as a designer of hospitals is to maximize patient health and safety. Then, he says, "I go beyond functional to aesthetic — to make sure people inside have good things to look at and that it looks good from the outside."

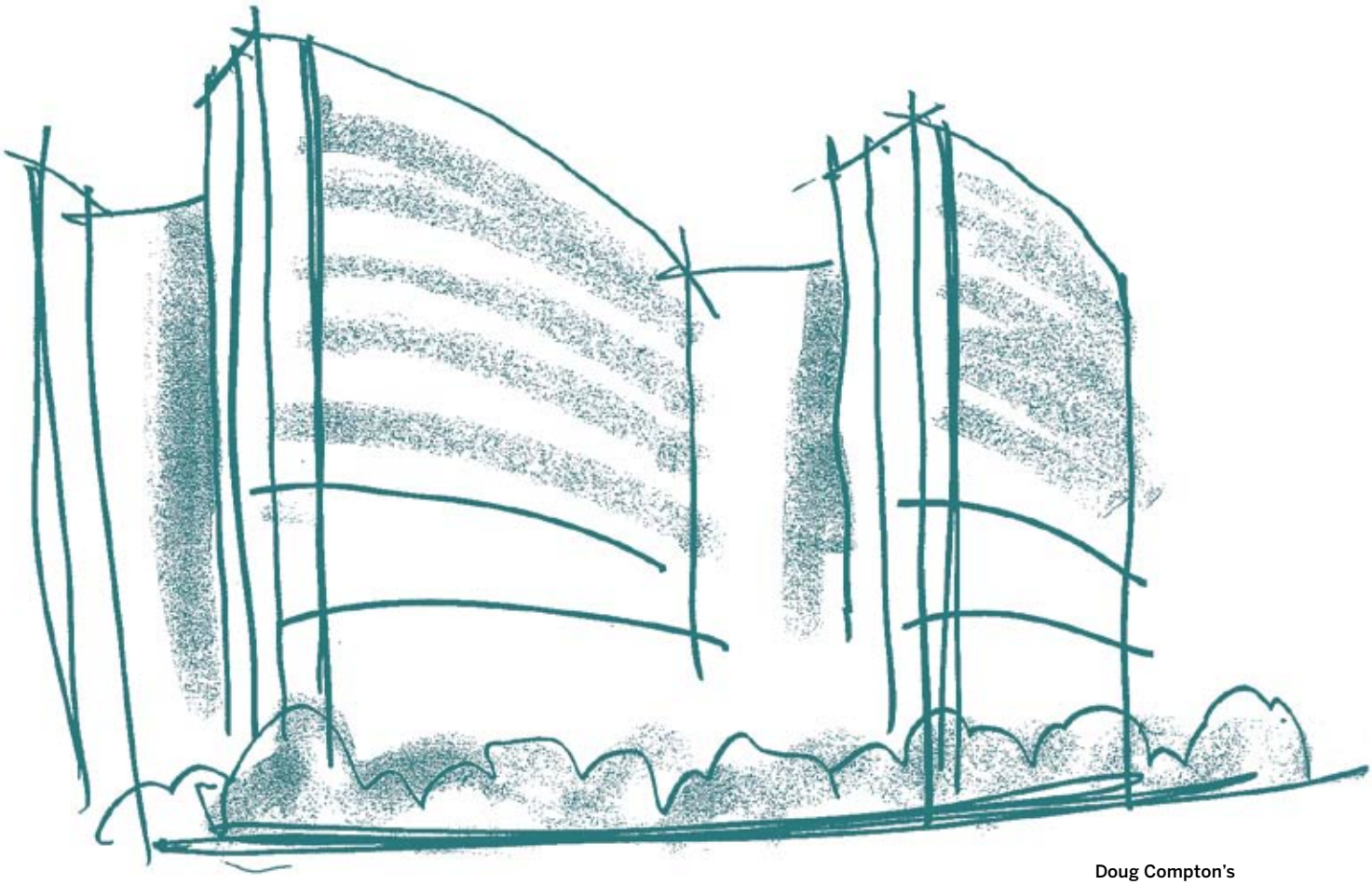
The hospital was to be very big. Compton didn't want it to look daunting. So, on a sheet of trash paper, his pencil traced two sweeping curves.

He moved to his computer. In a design program called SketchUp, he converted the curved shapes he had created into graceful three-dimensional forms. Then, stack upon stack, he began to draw patient towers with curved facades facing southeast. "I think those curved forms help de-institutionalize it some, to where it's not so rigid a building," Compton says.

SketchUp showed that natural light would flow into every patient room and into long, curved corridors on the lower floors. And there would be long vistas over Nichols Arboretum, the lush, treed expanse which begins just across the street.

Building on that form, Compton and his colleagues at HKS worked through dozens of meetings with hospital staff. Floor by floor, the planners talked over the layouts of departments and how one department would connect to another.

"We created the plans," Compton says, "and they kept getting refined and refined and refined. It's kind of like an incredible puzzle. You move one piece and it ripples through the entire order of things."



Doug Compton's early sketch of the new Mott facility.

The sweep of Compton's pencil may have given the new Mott Children's Hospital and Women's Hospital — now under construction — its signature form, but that was only one small moment in an extraordinary process of planning and design. It has drawn upon the collective thinking of some 450 University of Michigan faculty, staff and students; dozens of architects, designers and engineers; and more than 40 patient families and other members of the community.

The planning had begun two years earlier, in 2003, with the widespread recognition, as Chris J. Dickinson, M.D., chief of pediatric gastroenterology, put it, that "We just need a better space." For years, the medical staff had been making do in facilities designed in the 1940s and '60s. But so much had changed in children's and women's medicine that new quarters had become essential.

Early on, architects held "visioning sessions" with staff, students, patients, patients' parents, and people from around Ann Arbor. They asked: How do you want this hospital to look? When people come inside, how do you want them to *feel*? And they requested answers in the form of photographs. So Patricia Warner, Mott's chief administrative officer, drove to Sam's Club and bought 250 disposable cameras for the visioning groups. They came back with thousands of photos symbolizing concepts such as comfort, calm, tranquility, spirit and environment. Architects sorted the photos, chose a bunch, and pasted them into eight big collages filled with images of trees, waterways, forest paths, flowers, reeds and woods.

Those images were very much in sync with what Timothy R.B. Johnson, M.D., chair of obstetrics and gynecology, had been saying to hospital leaders. As often as he can, Johnson walks to work through Nichols Arboretum, winding his way along twisting valleys carved by glaciers some 18,000 years ago.

"I'm an obstetrician," he says. "I don't know much about trees and glades and prairies and different kinds of ecosystems. But I sure do love to walk through the Arb — to meditate and just think about things."

Discussion of several possible sites led to an agreement: The new Mott Children's Hospital and Women's Hospital would be built next to the old Mott, on East Medical Center Drive. Johnson liked that site. He'd heard people say hospitals should have special spaces for contemplation and healing, inside and out. He agreed and thought: How many hospitals have 140 acres of space like Nichols Arboretum right across the street?

"It seemed to me that making the Arb part of this hospital and this hospital part of the Arb was just a natural evolution," he said. He didn't know what form that connection might take, but he was sure the idea made sense — and he said so at every opportunity.

Johnson's idea, supplemented by the images supplied by the visioning groups, led Compton to face those curving walls of windows toward the Arboretum. It also deeply influenced the thinking of John O'Rear, HKS's lead interior designer for the project.

O'Rear does a lot of his best thinking on his back porch on Saturday mornings. Like Compton, he likes to sketch on paper. He started by writing a simple list of words, "everything I could think of that went with that arboretum" — trees, leaves, flowers, glaciers, reeds, streams, children, tree house. He says: "As interior designers, we can't really copy nature, because we're going to lose that battle every time. We can't make it look like the Arboretum. But we can allude to things about the Arboretum." He winnowed his list of words, then sketched and sketched and sketched. He shared his sketches with colleagues, who then did their own sketches.

The basic shape of a flower or leaf shifted into a symbolic ellipse, which will appear as a shape in the ceiling or floor pattern at every nurse's station and welcome desk. Reeds and trees on O'Rear's pad evolved into abstract shapes in floor-to-ceiling art glass panels. Trees became towering columns in the main lobby. An overhanging space in the lobby, with windows looking into the floor above, will conjure thoughts of a tree house.

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O'Rear read everything he could find about the Arboretum: its trees and plants, its seasonal weather patterns, the geological forces that sculpted its slopes. By the time he got a chance to see the Arb for himself, he probably knew more about it than all but a few Ann Arborites. "I thought it was beautiful," he says. "It was even more hilly than I thought it was going to be."

You wouldn't call it hilly where O'Rear comes from. He grew up in the Texas Panhandle. He went to work in construction at 17, finishing out office complexes on flat, hot building sites in towns like Amarillo. No touchy-feely design stuff for him, not then.

"I just knew that anything creative was a one-way ticket to starving to death in the dark," O'Rear says in a textbook Texas drawl. "But the funny thing is, I ended up going over to the architecture building at the University of Texas at Arlington and thinking, 'Boy, this all just looks so fun.' And here I am."

O'Rear noticed the rolling cloudbanks over Ann Arbor, and how the light is always changing. So those column-trees will end in cavities in the ceiling, where colored shafts of light will appear and disappear, as if through the canopy of a Michigan forest. A suggestion of glaciers in ice-colored terrazzo tile will melt into warmer-colored rings hinting at the Arb's hills and streams. The same glacier theme will appear in wall panels with "incredibly bright apple-green swirly-metal laminate" in the cracks between them.

"Kids are gonna be immediately over there touching those," O'Rear predicts. "I know it, 'cause I'm basically a big kid myself. They're going to be running all over the place. Their parents will probably be mad at me."

O'Rear likely will be in Dallas when the first kids run into that lobby. But he got to see Warner's face light up when she saw the plans for the interior design.

"A lot of hands touched the design," he says. "You could never nail it down to just one person. The ideas came from everywhere, and I think that was one of the great things about it — that it was such a coming together of minds and people to make that all happen. To see clients light up, and see they're going to be proud of their space — that's what makes it worth doing what we do."

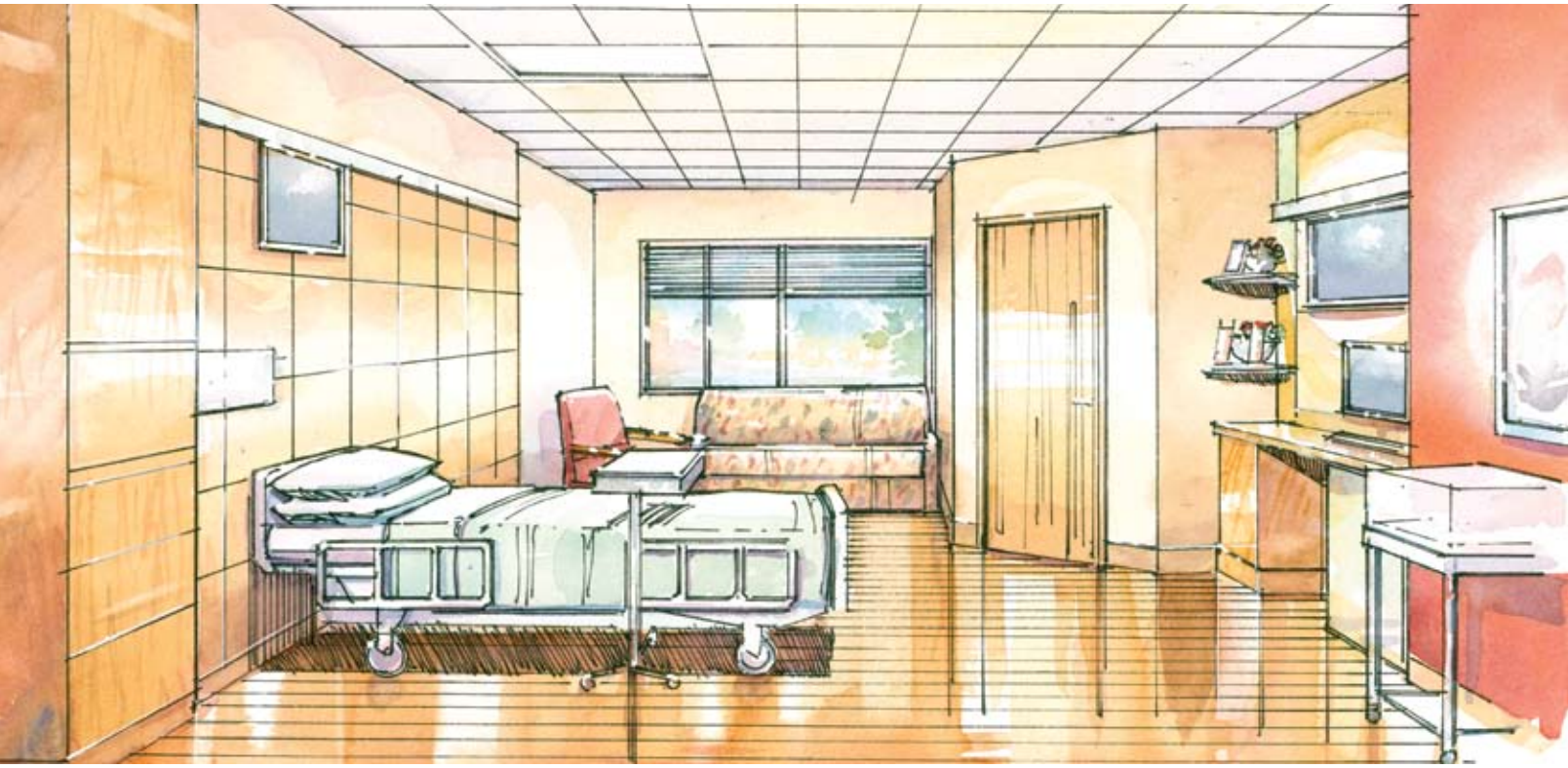
Warner herself played a key role in a small but important design feature. She says it was Kathy Ballew's idea. Ballew says it was Warner's. In any case, one day, one of them said: "There should be Pewabic tiles!"

The century-old Pewabic Pottery, a landmark in downtown Detroit, was a hub in the turn-of-the-century Arts and Crafts Movement, which merged factory production with the aesthetic of handmade artifacts. Surviving and thriving, Pewabic became a nonprofit center for education and crafts. Its beautiful ceramic tiles, with iridescent glaze over distinctive colors and shapes, have become widely known symbols of Michigan.

Ballew, senior interior designer for the hospital project, had worked with Pewabic before. She conceived a Mott program that would serve several needs at once. Mott patients, while visiting the hospital, would be invited to make tiles with help from Pewabic potters. Those tiles would be used as way-finding symbols throughout the hospital. So the signature symbols greeting visitors to the new Mott will be clay designs made by kids themselves — kids making art as they wage their battles against disease.

TOP: A View from the southeast shows the sweeping, curved walls facing Nichols Arboretum. BOTTOM: Tree-like columns in the main lobby

"In those clinics, it isn't always good news," Ballew says. "What we find is that when children make the tiles, more times than not, the families say, 'Thank you, this has been just what we needed today.'"



THE NEW MOTT HOSPITAL HAS DRAWN ON THE COLLECTIVE THINKING OF SOME 450 UNIVERSITY OF MICHIGAN FACULTY, STAFF AND STUDENTS; DOZENS OF ARCHITECTS, DESIGNERS AND ENGINEERS; AND MORE THAN 40 PATIENT FAMILIES AND OTHER MEMBERS OF THE COMMUNITY.

TOP: The new labor-delivery-recovery-post-partum rooms provide ample room at the foot of the bed. BOTTOM: Interactive elements like this "swirl tube" will entertain energetic children.

Of course, the design of a new hospital is less about art than it is about medicine. So the ideas of dozens of clinical staff, in months of meetings, had a direct bearing on the configuration of every floor.

Planning participants were assembled in groups representing every medical service. Then, says Valerie Castle, M.D. (Fellowship 1990), chair of the Department of Pediatrics and Communicable Diseases and a member of the steering committee, "We said to them, 'What does your unit have to look like so you can provide the kind of care you want to provide?' Then these working groups, whether it was the bone marrow transplant team, or the gastrointestinal clinic team — you name the service — were given the latitude to help us understand, very intimately, how they felt the design of the building needed to be."

One of those staff members was Sue Kofflin, clinical nurse manager of the Women's Hospital Birth Center, which will occupy the ninth floor in the new facility. Kofflin helped with layouts for rooms, including the rooms called LDRPs — for labor, delivery, recovery and postpartum. Kofflin suggested the planning team visit a new children's hospital in Gastonia, North Carolina. She'd seen it written up in a hospital journal.

Staff of that hospital said one of the smart things they did was to mock up a prototype room to see what worked best. So the U-M team reserved a lobby in the Towsley Center and went to work with masking tape. They taped off new shapes for LDRPs; rolled all the furniture and equipment right in; then brought in obstetricians, nurses, pediatricians, neonatologists, nurse-midwives and family practitioners.

"We had to make sure we were meeting the needs of all of those disciplines at the same time that we were trying to design a room that would meet the patient's need for safety and comfort," Kofflin says. "Our biggest concern was putting together a layout that accommodated the equipment and supplies that all of those caregivers would need at the point of birth in order to keep Mom and Baby safe."

They realized an awful lot of people and equipment have to be accommodated at the foot of the mother's bed: a physician to receive the baby, a nurse for the mother, a nurse for the baby, a resident or two plus an attending, sometimes a neonatologist or a pediatrician, and a baby warmer and supplies. And mothers' significant others need room at the head of the bed.

So as they kept moving the masking tape, an architectural principle emerged: LDRPs should be long, not wide. "It's tough when you're looking at a piece of paper," Kofflin says. "You can think, 'Oh, this should work fine.' But what we learned was that until you try it, until you push a bed in and out of the room, and take a bed apart as you would during delivery, and think about all the various people that are in a room at the time of delivery, and all the different functions they have to perform — until you have that space mocked up, and you try it out, it's tough to know how it's going to work."

Ground was broken in October 2006. In 2011, the University will open the new hospital, a landmark facility comprising a nine-story clinic tower and a 12-story inpatient tower, 1.1 million square feet in all, with 264 patient beds, 12 operating rooms, a pediatric emergency department, the Michigan Congenital Heart Center, the Women's Hospital Birth Center and extra space that can be quickly fitted out to accommodate possible future pandemics.

These days, Chris Dickinson, an early advocate for a new hospital, sometimes goes up to the top of the parking structure to watch the towering cranes. Since the beginning, he has served as physician lead for the project.

"I pretend like I know which piece of steel should go where, to make sure they get it right," he says. "And then I lie in bed at night and I think, 'We put the dialysis unit up near the ICUs. Was that a good idea? Did we build the orthopaedics clinic big enough?'

"I don't have a great architectural sense. I mean, I would have been happy had we built a box. But I wanted the building to work. And I'm very excited about how this building's going to work." [M]

Construction of the new C.S. Mott Children's Hospital and Women's Hospital has been supported by the generosity of the C.S. Mott Foundation, Carls Foundation, former U-M Regent David Brandon and wife Jan, Mike and Helen Vlasic, and Lloyd and Laurie Carr.

MORE ON THE WEB

- Take a virtual tour of the new facility
- "Fly around" a 3-D computer model of the building
- View additional illustrations of the interior
- Link to the Mott Tile Project, Women's Health Program, HKS Inc., and more