

# Art & Science

THE COMMUNITY TECTONICS QUARTERLY

## *The Unique Perspective Of Medical Facility Design*

**D**esigning medical facilities requires a unique perspective. First, one must understand that medical patients are not there because they want to be. They're there because they're sick or hurting.

That makes them vulnerable. It can magnify problems, but it can also make people grateful for anything that makes their visit more pleasant. Good design definitely makes their visit more pleasant.

### Vertical Integration & Technology Trends

The trend in medical facilities is seamless healthcare, which often means vertically integrated, regional health care systems that offer preventive and primary health care, along with hospitalization when needed. Physicians are merging onto hospital campuses, more space is being allocated to outpatient procedures, and managed care is having a major impact on budgets.

"Designing medical facilities is fascinating because it is so complex and multi-level. In addition, new facility types often parallel exciting medical procedure developments,"

notes Stephen P. Powell, director of Community Tectonics' Nashville office and a veteran of medical facility design.

"For example, as orthoscopic procedures became widespread, facilities were developed that took advantage of the technology while also lowering the cost of the procedure," he recalls.

(Continued inside)



architecture • planning • interior design

# Tectonics: The Art and Science

## Medical Design Architect Heads Up Nashville Office



When Stephen P. Powell joined Community Tectonics to head up its Nashville office in April 1999, he brought with him 20 years of architectural experience. Most recently, he has been busy designing some of the most advanced medical facilities in the country.

Prior to joining Community Tectonics, Powell was a partner in the Nashville architectural firm, Davis Stokes Collaborative. While there, he designed the first specialty surgery hospital in Texas, the world-famous imaging diagnostics center at

Cornell Imaging Center in New York, and a facility to house the world's most powerful imaging research equipment at Columbia Presbyterian Medical Center in New York City.

"Medical facilities are fascinating, because you deal not only with the traditional construction issues like budget, site, and engineering requirements, but also with cutting-edge technology. You also respond to individual patient needs and the broader needs of the market," Powell says. "Many market-driven issues in healthcare need an architectural response."

Don Shell, president of Community Tectonics, says he was lucky to recruit Powell to his firm's growing Nashville office. "We are moving toward total, comprehensive services for many of our clients, and particularly those in the educational and medical arenas," Shell notes. "Steve's leadership enables us to better serve our clients, particularly those in middle and west Tennessee."

As Community Tectonics' Nashville office director, Powell maintains an active role in the management of projects, from early schematic design through completion of construction. He is responsible for managing client relationships and for coordinating a team of architects, interior designers and consultants. His design work encompasses such project types as medical facilities, governmental facilities, educational facilities, community centers, churches, commercial centers, industrial facilities, banks, office buildings, multi-family housing, and housing for the elderly, along with specialty surgery hospitals and research facilities.

A native of the metropolitan Boston area, Powell's first experience with the South was when he went to Georgia Tech, where he received his bachelor's and master's degrees in architecture. "The first time I had grits, I didn't even know what they were!" he says with a chuckle. He's lived in the South ever since.

"I chose Community Tectonics because of the opportunity to expand our presence in Middle Tennessee," Powell concludes. "We have a great staff and a 50-year tradition of stability and excellent client service. The field of medical architecture is especially attractive because it's so complex and multi-layered, just like so many of the quality educational projects on which Community Tectonics has built such a strong reputation."

## CT News

Groundbreaking Held For New Office - Community Tectonics is growing, and we celebrated on September 21 with a groundbreaking ceremony. We're building a new, 17,000-square-foot headquarters just off Pellissippi Parkway near the Pellissippi Corporate Center. Look for our sign, and watch our progress!

The \$2 million, two-story facility will provide more space for the architectural, engineering and interior design staff of Community Tectonics. With our office in Nashville, we've grown to a staff size of 37 people.



We're also developing closer ties with Construction Plus, Inc., the contractor on the project, which will also move its headquarters to this new location on Coward Mill Road. The building is slated for completion in June 2001.

Interior Design Tapped For Tenant Build-Out Work - Community Tectonics is a multi-disciplined architectural, planning and design firm that includes comprehensive in-house interior design services. Our integrated approach to architectural and interior design provides added value to clients. Services include planning space requirements prior to the initiation of building design, interior design that doesn't involve construction, and furniture coordination.

An area that has experienced growth lately is tenant build-out work. We help building owners and developers finish their corporate office lease space by providing space planning, finishes and colors for floors and walls, furniture, and coordination of mechanical, electrical, data and plumbing systems.

Staff News - Dr. Levonn Hubbard, assistant to the president, has been re-appointed for a three-year term to the Volunteer State Community College Foundation Board of Trustees in Gallatin, TN. Dr. Fred Martin, director of planning and business development, is a member of the 2001 Class of Leadership Blount in Blount County, TN.

# of Creating Structures Which Are Both

## Summer Hummer Scramble Winners Announced



Congratulations to Ronny Colvard of Bledsoe County Schools and Robert Greene of Meigs County Schools, who were on the winning team at the Community Tectonics 11th Annual Superintendents Summer Hummer Scramble. The winning foursome also included Gregor Smee and John McRae.

A total of 90 golfers turned out for the afternoon of golf and fellowship during the Superintendents Study Council held in Gatlinburg. School superintendents from across Tennessee participate in this annual event, along with former superintendents, state department of education personnel and representatives from sponsoring companies.

Community Tectonics hosted an awards dinner immediately following the tournament at Walters State Community College Sevier County campus, where

Community Tectonics has developed an educational facilities master plan and designed the initial building.

The second place team in the Summer Hummer Scramble included Bill Emerson of Bells City Schools; Jerome Ellis, formerly with Robertson County Schools; Bill Darnell and Mike Eidson.

Third place winners included Keith Brewer of Manchester City Schools, Randy McCoy of Oak Ridge City Schools, Joe Moore and Dewitt Day.



## Medical Facility

Fort Sanders Sevier Medical Center -  
Sevierville, TN  
Dolly Parton Women's Center & Physicians'  
Offices - 1998  
Building Area: 15,000 square feet  
Total Cost of Project: \$1.15 million  
Cost per Square Foot: \$76.67



This addition at Fort Sanders Sevier Medical Center adds five birthing rooms, five patient rooms, nurseries and the associated physicians on-call areas, nurses lounges, locker areas, staff offices and other support spaces. In addition, the project added a 3,000-square-foot OB/GYN physicians' office area with examination and treatment rooms, reception and records area and a laboratory.

## Current Projects

### K-12 Schools:

- Bearden High School Renovations
- Bledsoe County Elementary
- Brookmeade Elementary School Additions/  
Renovations, Nashville
- Coffee County Master Planning
- Claiborne County High Schools (2)
- Cleveland High School Additions/Renovations
- Cleveland Middle School
- Dickson County High School
- Dickson County High School Renovations
- Grace Christian Academy Addition
- Goodlettsville Elementary School Additions/  
Renovations, Nashville
- Houston County High School
- Jasper Elementary School, Marion County
- Lobelville Elementary School Additions/  
Renovations, Perry County

# Functional and Visually Pleasing.

## Facility Projects

Fort Sanders Sevier Medical Center - Sevierville, TN  
Additions and Renovations - 1994  
Building Area:  
New - 56,000 square feet  
Renovated - 20,000 square feet  
Total Cost of Project: \$9 million  
Cost per Square Foot: \$118.42

The primary thrust of this project was to provide a new surgery suite to meet the expanded demands of an increasing outpatient surgery load. The old surgery suite was reworked for nursing services, and a new radiological suite was added. An old patient wing was renovated for cardiopulmonary services, the lab was upgraded, and approximately 15,000 square feet of shell space was designed for future patient areas.

Roane Medical Center -  
Harriman, TN  
Intensive Care Unit and  
Step-Down Floor - 1997  
Building Area: 9,000 square feet  
Total Cost of Project: \$900,000  
Cost per Square Foot: \$100

This shell build-out program provided a new, state-of-the-art ICU area with six patient beds, nurses station and support spaces. Additional space on the floor was developed as a nursing area with ten beds for step-down patients.

Roane Medical Center -  
Harriman, TN  
Additions and Renovations - 1992  
Building Area: 38,000 square feet  
Total Cost of Project: \$4.1 million  
Cost per Square Foot: \$106.47

This four-story addition provided a new emergency room suite with treatment areas, a trauma unit and a coronary care room, a new operating suite, admissions offices, a new nursing floor and a new physical therapy suite. The radiological suite and hospital lab were renovated, and approximately 9,000 square feet of shell space was designed for future patient areas. Site work included special provisions for a mobile MRI unit.

Gambro Healthcare -  
Edison, New Jersey  
Dialysis Clinic - 2001 (projected)  
Building Area: 10,325 square feet

Total Cost of Project: \$877,625  
Cost per Square Foot: \$85

This renovation converted an existing one-story, steel-framed structure into a 20-station dialysis clinic. The facility includes exam rooms, home training rooms, offices, a conference room and other special use and auxiliary spaces.

## Projects – November 2000

Maryville Intermediate School  
Perry County High School  
Richard Hardy School Addition/Renovations,  
Richard City

Sevier County Schools Additions  
Sumner County High School  
Sweetwater City Master Planning  
Trigg County, KY Middle School  
Trigg County, KY Renovations  
Tullahoma Middle School

Walker Valley High School, Bradley County  
Waterville Elementary School, Bradley County  
Whitwell Elementary School, Marion County

### Higher Education:

Johnson Bible College Dorm Addition  
Johnson Bible College Global Technology Center  
Roane State Community College Infrastructure  
Improvements

Pellissippi State Technical Community College,  
Magnolia Campus Career Center  
U.T Masonry Repair, Ph. II

### Religious:

Beaver Ridge United Methodist Church  
Central Baptist Church Bearden Additions/  
Renovations

Clearwater Baptist Church Master Plan  
Eastanallee Baptist Church  
First Baptist Church, Kingston Addition  
Springhill Baptist Church Master Plan

### Community/Commercial:

Alexander Chevrolet Dealership, Dickson  
Coca-Cola Addition/Renovations  
Community Tectonics New Office  
Harpeth Ford Additions, Franklin

Storage Archives, Dickson County  
U. S. Post Office Renovations  
White Pine City Hall

### Travel Plazas:

American Eagle Garage, KY  
Angelton Travel Plaza, TX  
Gold Coast Travel Center, FL

### Medical:

Fort Sanders Sevier Medical Center MRI  
Gambro Healthcare, NJ, Renovations  
Roane Medical Center Geriatric/  
Psychiatric Unit  
Surgery Center, Columbia, TN,  
Renovations



(Continued from front)

### Market Demand & Facility Development

In addition to technological advances, Powell notes that medical facilities are increasingly driven by market demand. As prime examples, he cites a new orthopedic center at the base of the ski slopes near Lake Tahoe and a women's birthing hospital in south Texas in an area that's experiencing a surge in population.

Community Tectonics has been helping health care facilities in Tennessee deal with such market demands and shifting demographics for many years. At Fort Sanders Sevier Medical Center, they responded to changing demographics when they designed the Dolly Parton Birthing Center.

Butch Robertson is a director at Community Tectonics where he has worked as a project principal on numerous health care projects. He explains that the Sevier County area was experiencing a population growth surge and a greater number of young families. Their new birthing facility was created to fill the market demand, and its updated design reflects a trend toward

keeping the mother and newborn in one room throughout the labor-delivery-recovery-postpartum period.

### Competition & Flexibility

Robertson says he's seen other shifts in medical facility market demands, such as an increasing need for walk-in clinics, intensive care units, and geriatric facilities. "Most

significantly, medical facilities are facing increased competition. Their customers now have more choices."

Effective architecture and interior design combine to create a facility that will reassure patients while also creating a pleasing, functional environment for physicians and staff, Robertson notes. He says that dealing with architectural details early avoids costly additions after a building is complete.

However, medical technologies change so rapidly that flexibility is the most important keyword, according to Robertson. For example, he recently worked with Fort Sanders Sevier when they added a magnetic resonance imaging (MRI) suite for equipment that didn't exist when the building was constructed in 1964. Because of the way the building had grown, the only place for the equipment was in the older building, which

required reinforced floors for this seven-ton machine. In addition, they had to set the equipment in place via a crane through a hole in the roof, because the floors were not strong enough to support the machine in transport.

At Roane Medical Center, Robertson worked with administrators to revise original plans for a floor left unfinished for future growth. The fourth floor was initially scheduled for additional patient beds, but market demand called for construction of an intensive care unit.

"The challenge was that the initial layout for a patient floor focused on privacy, whereas the final layout for the ICU focused on visibility and accessibility. We had to open up the space," Robertson reports.

### Relationships Are Key

Community Tectonics has worked with Roane Medical Center in Harriman for many years. Jim Gann, administrator at Roane Medical Center, says that the architects at Community Tectonics provide his organization with ongoing expertise to draw on during a period of constant change.

"When you consider an architectural firm, it comes down to the individual architect you deal with. At Community Tectonics, Butch Robertson brings knowledge and a valuable degree of reasonableness to every situation. He's willing to give and take to make things work," Gann says. "Community Tectonics is a firm that is capable of designing comprehensive facilities, a firm that understands the flow of medical facilities, and a firm that is helping us retrofit and redesign our facilities as we deal with rapid change."



# CT Submits Discovery School and Hardin County High School at TSBA

Once again, Community Tectonics played an active role at the Tennessee School Boards Association's annual meeting. This fall, we submitted two school designs for the TSBA School of the Year Award. In the past, Community Tectonics has won School of the Year Awards for seven schools and merit awards for three schools.



Dickson County Discovery School

## Two schools submitted:

Dickson County Year-Round School - This innovative project converted the educational and sanctuary space of an existing Baptist church into educational space for the Discovery School, Dickson County's new school that incorporates a

year-round schedule. The 40,778-square-foot facility was designed to accommodate 260 students, grades K-5. Twelve classrooms, art and music spaces were provided, along with support spaces.

Hardin County High School - This high school originally opened in the 1960's. The Hardin County School Board recently invested more than \$15 million in the first significant renovation or addition project undertaken at the facility since it first opened.

The project provided general renovation throughout the 131,000-square-foot facility, bringing it into compliance with all current building codes, including life safety and ADA requirements. In addition, new construction of 79,000 square feet includes new food service, an auxiliary gym and band facilities.

The number one priority of the Hardin County High School project was to provide new programmed instructional spaces as prioritized by the board. The combination of additions and renovations

provide a total of 15 English classrooms, 10 math classrooms, five science classrooms, seven science labs, 13 social science classrooms and four special education classrooms.

"Every year, we enjoy our time at TSBA," says Don Shell, president of Community Tectonics. "We have many friends that gather there. I look forward every year to spending time with the



Hardin County High School

leaders in the field, discussing the impact of school design on education. Like me, they're interested in creating the learning environments of tomorrow - today."

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