

New Mecklenburg County morgue built to satisfy stiff standards

Charlotte Business Journal - by [Bea Quirk](#) contributing writer

Mecklenburg County's medical examiner's office may not be as flashy as the ones in *Crime Scene Investigation*, but it can boast about being green. The 17,000-square-foot facility has been built for gold-level certification from Leadership in Energy and Environmental Design. It also quadruples the space of the former facility on North College Street, features cutting-edge technology such as a digital X-ray machine, and has been built to last 50 years with room for expansion. Plus it came in \$200,000 under budget.

Located in an industrial area off Rozzelles Ferry Road, the \$8 million facility becomes operational this month. The 14-employee office performs up to 750 autopsies a year for Mecklenburg and seven surrounding counties. Mecklenburg accounts for about half the cases and paid for the building's construction, but splits operating costs with the state. It has been an ambitious project, having to satisfy the technical and logistical needs of the office's work and the stringent requirements of LEED gold certification. County policy requires all construction projects valued at more than \$2 million to meet LEED standards. Gold is the second-highest of four levels.

"Going after LEED certification with a significantly complex project and a large amount of medical equipment that had to be installed by a special contractor required very close coordination," says Dave Pofahl, project manager at Edison Foard Inc., the building's contractor.

"The electrical, plumbing, HVAC and ventilation systems all had to be in the right place behind the walls so when the medical equipment got installed and hooked up, everything was where it was supposed to be," he says.

To meet technical and energy-efficiency requirements, highly sophisticated HVAC and mechanical systems were installed. Some air ducts are 40 inches wide. The building is on one level, but it's nearly two stories high to accommodate the mechanical systems. Energy-recovery systems were installed to cut down on utility bills in a facility that will run from 7 a.m. to 11 p.m., six days a week. The building will consume large amounts of energy for refrigeration, but that means the additional costs for boosting efficiency will be recovered quickly. Consultants took three months to conduct a needs assessment and create a 100-page booklet describing functions and work flow. Architect Russ Angelo used it as a guide for the design.

"He (Angelo) took that and massaged the puzzle pieces to create a footprint and floor plan of how the functions relate to each other," says Bryan Turner, senior project manager for the county.

Angelo designed a facility with two distinct components. Two small rooms called biovestibules, acting like hallways, connect the administrative and public areas with the autopsy area, where bodies are brought in, stored and examined. An outside courtyard with covered tables provides a place for employees to gather. The reasons for this design approach are practical as well as aesthetic. The space for handling corpses needs to be segregated from other areas because of biohazard concerns. Airborne pathogens and odors mandate separate ventilation systems for the two areas.

The office areas feature a soft palette of blues and earth tones to provide some comfort for family members who go to the morgue to identify their loved ones. The decor is also meant to create a soothing environment for employees. Design features should maintain staff morale while contributing to the building's energy efficiency. The building is sited on a north-south axis to take full advantage of daylight. The office walls feature large windows with solar shades and light shelves to prevent glare for maximum comfort. Sensors automatically dim or brighten ceiling lights depending on the amount of natural light.

"Daylighting makes it a nice place to work," Turner says. Even the autopsy area features natural light, although the windows are placed near the ceiling to deter curious onlookers and to minimize glare. Surgical lamps create bright light, but are energy-saving and don't create much heat. "We worked hard to get natural light in every space," says Angelo, principal at Angelo Architects in Charlotte.

The interior was built to be durable and easily cleaned, with epoxy floors, Corian walls and stainless steel work surfaces. It looks and functions like a surgical suite. The medical examiner's former facility could accommodate only two simultaneous autopsies. The new facility has space for four routine procedures, plus additional space for two autopsies requiring special precautions because of decomposition or the chance of contamination.

MEDICAL EXAMINER'S OFFICE

Owner: Mecklenburg County

Architect: Angelo Architects, PLLC

Contractor: Edison Foard Inc.

Engineers: Allied Consulting Engineers, mechanical

Cost: \$8 million

Start date: October 2007

End date: December 2008