

# MODERN BUILDER

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**GOLDEN VALLEY  
MEMORIAL HEALTHCARE  
EXPANSION & RENOVATION  
CLINTON, MISSOURI**

OUTPATIENT TREATMENT CENTER

FORMATION

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# MODERN BUILDER

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# Murray Company Completes Major Outpatient Project at Golden Valley Memorial Healthcare

Expansion and Renovation Is Designed to Accommodate Double-Digit Growth in Outpatient Services



— Bob Greenspan photography

*East elevation, Golden Valley Memorial Healthcare. The new outpatient entrance drop-off canopy and facade feature modular brick and aluminum panels, which tie in to the existing building. The cardiac rehab gym, which has a walking track and exercise equipment, is located inside the windows at far left, on the southeast corner of the expansion.*

Murray Company, known foremost as a builder of hospitals and other major medical facilities, has completed the largest expansion and renovation in the history of Golden Valley Memorial Healthcare (GVMH). Located in Clinton, Missouri, the approximately \$30 million project adds 124,000 square feet of space for outpatient services on the east and north sides of the hospital. The renovated portion of the hospital encompasses 93,000 square feet.

Murray Company broke ground in July 2014. Due to an increase in demand for patient services during construction, the last two phases were redesigned, extending the original schedule. The project was completed in November 2017.

Murray Company met the challenge of keeping the hospital open at all times while continuously maintaining public access, ensuring the safety of patients, visitors and employees, and addressing infection control. During the entire course of construction, 200,000 worker hours were completed with no lost-time accidents.

GVMH is a not-for-profit healthcare organization. Prominently located at Highways 7 and 13 on the city's north side, the GVMH campus includes the hospital, which opened its

doors on February 29, 1972; the 63,000 square foot Medical Office Building, which Murray Company built in 2006; and the heliport and new outpatient expansion.

The Medical Office Building, known as GVMH Medical Plaza, is the largest of GVMH's multi-specialty physician clinics and is attached to the west side of the hospital. GVMH's other clinics are located in the Missouri towns of Windsor, Warsaw and Osceola.

Murray Company's first project for GVMH was the CT Room Renovation in Clinton in 1994. Since then, Murray Company has had an ongoing relationship not only with GVMH, but with the Clinton community. Murray Company has been a supporter of the city's Boy Scout Troop 430 and the Olde Glory Days Fourth of July festival. For the past two years, Richie Powell, Murray Company's Project Superintendent, has served as a judge at the Olde Glory Days float contest.

### PROJECT TEAM

Murray Company was hired as Construction Manager by GVMH, the Owner, based upon their history and qualifications. The Murray Company team included Philip Schultze, Principal; Mike Goering, Senior Project Manager; Mike French, Mike Smith, and Richie Powell, Project Superintendents; Mike Walters, Lead Foreman; and Christine Minter, Project Engineer.

HMN Architects, Inc. was the Design Architect and Architect of Record. The HMN team included Larry Ralph, President; Patricia Litty, Principal-in-Charge; Lon Wehr, Project Manager; and Amy Higgins, Director of Interior

*(continued on next page)*

*Cover photo: The two-story atrium at the outpatient entrance features warm materials and a Bistro that help make it an inviting space for the community. Clerestories bring abundant natural light into the space.*

— cover photo by Bob Greenspan photography

# GVMH

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Design. Bob D. Campbell & Co., Inc. was the Structural Engineer. MFEC (now known as RTM Engineering Consultants) was the MEP Engineer.

## ACCOMMODATING OUTPATIENT GROWTH

“The purpose of the expansion was to accommodate double-digit growth in our outpatient services,” said Craig Thompson, CEO of GVMH. “This expansion and renovation will allow us to continue to meet our community’s needs while accommodating future growth in the service lines.” The number of hospital beds remained unchanged at 56.

“The need for additional services has been driven primarily by population growth in certain segments of our market,” he continued. “A majority of that growth is from the retirement community. Retirees are drawn to this area by the lake and other attractions.” The seat of Henry County, Clinton offers a multitude of recreational opportunities. It is the northern gateway to Truman Lake, Missouri’s second-largest, and serves as the trailhead of Katy Trail State Park.

“The increase in our outpatient capabilities

*GVMH has utilized Murray Company for several projects in the past and the reason we continue to engage them is because of their focus on both cost and quality. With any building project, especially one that involves retrofitting old space in conjunction with new construction, things don’t always go as planned. Murray Company does an excellent job forecasting potential problems so that there is no delay in project completion and costs are controlled. They keep the best interests of the facility in mind at all times.*

– **Craig Thompson PT, MHA, FACHE**, Chief Executive Officer  
Golden Valley Memorial Healthcare

has in turn led to growth in demand for these services,” added Craig.

Around 16,000 square feet of shell space has been set aside for future growth of services and is located on the second floor of the outpatient expansion. (This space has interior windows that look out over the outpatient entrance atrium. They are in the upper-right of the cover photo, out of view.) Another 2,500 square feet of shell space is on the main floor of the expansion, in the Imaging (Radiology) area.

## PATIENT CONVENIENCE

Prior to the expansion, the hospital entrance was the main port of entry for inpatient and outpatient services. The new outpatient entrance (now the most heavily trafficked) is located on the east side of the expansion.

North of the outpatient entrance is the entrance to the new Emergency Department. (The old Emergency Department entrance, which also served as the entrance to the Admitting area, is now a staff entrance.) Including the existing entrances to the hospital and GVMH Medical Plaza, there are now four main access points for services needed by the public.

“The core of the hospital is now served by multiple public entrance points that are connected on the interior by a logical wayfinding system. Visitors no longer need to navigate their way through the hospital to find

the outpatient services they’re looking for. It is a very efficient design,” stated Phil.

“The design concept for the outpatient entrance was to create a medical mall where all outpatient services would be conveniently located along one main corridor,” stated Lon Wehr. Check-in for outpatient services has been simplified, with many departments now admitting patients in the location where they will receive care.

The outpatient expansion houses cardiology, nephrology, oncology, pulmonology, and other specialty care clinics. A cardiac rehab gym is located on the southeast corner of the expansion.

The outpatient entrance opens into a two-story atrium featuring the “Bistro,” which offers Starbucks products. “People are greeted by the smell of fresh baked rolls and coffee brewing, and it helps them feel good,” said Phil. Near the atrium, a mural depicts Clinton’s history, and framed works of art by local and regional artists are on display. All are indicative of the community’s pride in their new facility.

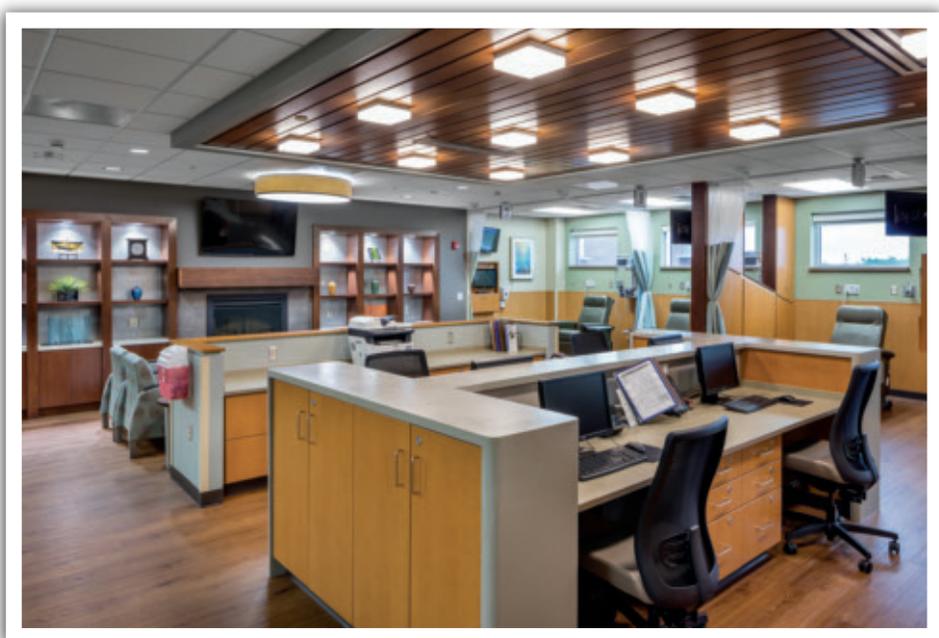
Porcelain tile flooring on the corridor between the outpatient and hospital entrances facilitates wayfinding. Resilient vinyl flooring is used extensively elsewhere.

The addition of 155 parking spaces on the campus also adds to patient convenience.

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## Member Companies of The Builders' Association Who Worked on Golden Valley Memorial Healthcare Expansion & Renovation

Allen’s Mechanical  
Atkins Weatherproofing  
The Carter Waters, LLC  
Century Fire Sprinklers, Inc.  
Combo Inc.  
Commercial Openings, Inc.  
Control Service Company, Inc.  
Doherty Steel, Inc.  
Epoxy Coatings Specialists, Inc.  
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Missouri Builders Service  
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S&W Waterproofing, Inc.  
Seal-O-Matic Paving Company, Inc.  
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The oncology infusion area (with infusion bays at right), part of outpatient services, is on the southeast portion of the first floor. A wood slat ceiling and soffit help define the staff area. Extensive custom millwork includes built-in shelving and storage. A fireplace is visible in the background.

– Bob Greenspan photography

HMN Architects worked with Murray Company on the multi-phased expansion and renovation of the Golden Valley Hospital. Murray Company provided valuable expertise in project costs and constructability during the design phases, from schematics through final documents. During construction, their attention to detail, knowledge of healthcare requirements, and overall project management was excellent.

– Larry Ralph, President  
HMN Architects, Inc.

“Parking is nearby and is all on grade,” said Craig. “The end result is efficient and easy access for the comfort of patients and their families.”

**PROJECT OVERVIEW**

The initial design called for extending the facility to the east. The extension was later rotated 90 degrees to the north to accommodate additional space and increase public access. Staying open and operational during the construction process was critical. If a portion of the hospital had to be shut down, it would be difficult for patients to go to another hospital as the nearest hospital is over 30 miles away. The hospital was able to remain fully operational throughout the entire course of construction.

Phil Schultze credited GVMH, HMN Architects, and the other project team members for “working very well together to minimize disruption to the facility, maintain patient flow, and schedule the work so we could transition smoothly from one phase to the next.”

He added, “Keeping the Surgical Department up and running was a key challenge. After analyzing the configuration, we came up with a phasing plan that we were able to execute with only relatively minor changes, most of which were necessitated by design modifications due to patient demand for services.”

The five phases for the overall project may be summarized as follows:

Phase I included the relocation of existing utilities and the addition of new utilities such as storm drainage, sanitary sewer lines, electrical, water, and fiber optics; building of a temporary two-bay ambulance garage and demolition of the existing garage; and additional parking for visitors and staff. The original service road for the hospital loading dock was relocated, and a temporary helipad was created on the existing parking lot. (The helipad was formerly southeast of the hospital near the old Emergency Department, and is now northeast of the expansion, closer to the new Emergency Department.)

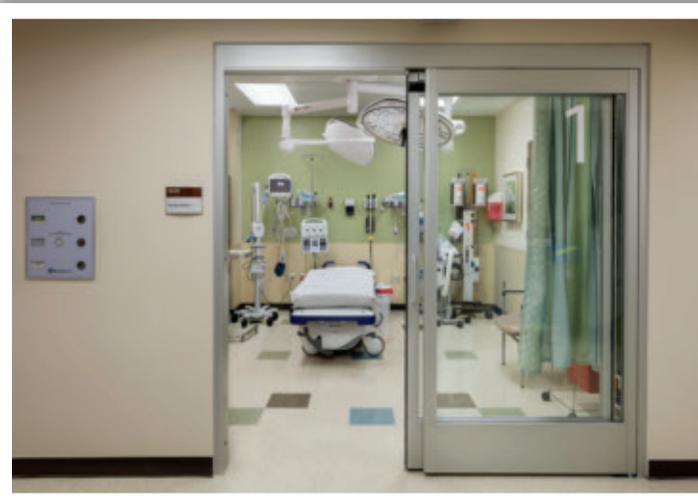
Phase II included building the shell for the

– Bob Greenspan photography



The hospital formerly had four ORs, each 400 square feet. There are now six larger (640 square foot) ORs, including the one at left, all of which are located on the first floor of the new addition.

An Emergency Department Treatment Room on the first floor of the new addition. The ICU sliding doors swing open to allow greater access for equipment. The trackless system eliminates the need for a raised threshold that could disturb patient beds or sensitive equipment as they are being transported through the doorway. Medical gas shut-off valves are located on the wall at left.



– Bob Greenspan photography

new addition.

About one-third of the addition has basement space (also referred to as ground floor space) for storage of patient care and hospital supplies. There is also space for Engineering Department supplies as well as mechanical plant items such as heating, cooling, water supply, and electrical equipment. This space was created by taking advantage of the natural grade, which slopes downward to the north.

Phase III included finish work in the expansion (MEP systems and architectural finishes). This was followed by construction (in the new addition) of six Operating Rooms (ORs), Decontamination, Sterile Processing, and Men’s and Women’s Locker Rooms. The Outpatient Treatment Center, Imaging, and the Emergency Department relocated from the hospital to the new addition during this phase. The vacated spaces were then available for temporary use by other departments.

During Phases II and III, MRI/PET Scan trailers were temporarily placed in the parking lot to allow these services to continue without interruption.

Phase IV (Part I) included the expansion of Surgery followed by renovation of the existing space for Pre-Op (holding rooms), the Post-Anesthesia Care Unit (PACU) and recovery rooms, and the Endoscopy Department. During

this process, the construction team built temporary dust partitions and curtains, and used High Efficiency Particulate Air Filters (HEPA) and negative air machines to meet infection control guidelines. HEPA filters remove more than 99 percent of contaminants from the air during construction. Negative air machines use ducting to remove contaminants from closed controlled areas. The filtered air is then exhausted outside, creating negative air pressure, explained Phil.

Phase IV (Part II): When the Emergency Department moved into the new addition during Phase II, the existing space became available for temporary occupancy by the Laboratory and Pharmacy. The existing Laboratory and Pharmacy areas were then renovated, as well as the spaces for Respiratory Therapy and the Sleep Lab.

Phase V: During the final phase of the project, Surgery Waiting was relocated to a temporary space. Also, Pre- and Post-Op and Endoscopy were relocated to their newly-renovated space built during Phase IV (Part I). Additionally, final renovations were completed for the Pain Clinic, Surgery Waiting, and Pre- and Post-Op.

“When the expansion was complete, a number of services and departments moved into

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# GVMH

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the new square footage,” said Craig. “Murray Company then renovated the vacated areas for additional services for departments to move into. Their onsite personnel were key to keeping everyone in tune with what was going on. They also did a great job catching problems early and heading them off at the pass.”

Some services were added midway through the project, including a Cystology Room to accommodate a new urology provider on GVMH’s medical staff, said Craig. Murray Company created the Cystology Room in the hospital’s surgical core (on the first floor) by modifying and building out a former supply room. The Pain Clinic was also added midway through the project. It is located on the first floor, also in the surgical area.

One of the challenges faced by the construction team was to tie the expansion floor line to the existing hospital floor line, which was not totally level. “We shot the elevation at every door and created concrete ramps at various locations as needed to create a seamless transition,” said Phil.

## MAJOR UPGRADES

The hospital formerly had four operating rooms (ORs), each 400 square feet. While the expansion called for construction of six larger (640 square foot) ORs on the first floor of the new addition (along with a decontamination room and a sterile processing room), initial plans called for outfitting only four of the six ORs.

“Service line growth during construction required that we outfit all six ORs, and all six were up and running as soon as they were complete,” said Craig.

The new, larger ORs meet the requirements of an orthopedic operating room and accommodate total hip and knee replacements, arthroscopy, and bone fractures.

Upgrades to GVMH’s diagnostic imaging services are a point of pride. “Our diagnostic imaging capability is now state-of-the-art and on par with any facility regardless of size,” said Craig. “It is comparable to any tertiary facility you would find in the Kansas City or Springfield markets.”

In addition to four ultrasound rooms (there were two prior to construction), Imaging houses a 128-slice CT scanner, a powerful MRI scanner, two nuclear medicine imaging cameras, and an ultrasound system.

The Pharmacy now has a clean area that houses hoods for preparing chemotherapy and IVs. Technical air exchanges were installed to ensure the safety of the staff.

“There are two types of pharmacies in a hospital – non-compounding and compounding – and in the latter case hazardous drugs are mixed onsite,” said Phil. “The United States Pharmacopeia (USP), a nongovernmental organization, has developed standards for handling hazardous drugs to minimize the risk to public health. A new standard, one to protect workers, is evolving, and it isn’t expected to be published until December 2019, so the project team was also tasked with designing and

– Bob Greenspan photography



The new mechanical equipment (including the chillers at left) resides on the lower (ground floor) level on the north end of the building, where the existing energy plants and engineering services are located.

building to new codes that have not yet been adopted. As a result, we installed better exhaust and ventilation, and created pressure differentials between different rooms.

“In some rooms you want positive pressure so nothing will migrate into them,” he continued. “In others, where hazardous drugs are being mixed, negative pressure is required so the hazardous drug cannot migrate outside the room but will instead be exhausted up through the roof – in this case in a stainless steel rather than galvanized metal duct. Where most exhaust fans on the roof are low rise and mushroom-shaped, this fan is 10-foot tall to ensure safe dispersion,” he added.

The Emergency Department now has 15 patient rooms, an increase from the previous 10. It formerly contained one big room for trauma (with three beds separated by cubicle tracks and curtains) and six treatment bays. It now contains two trauma units and 13 treatment bays.

## FOCUSING ON THE CONCEPT

Although value engineering services are often associated with cost reduction, Phil defined the services they provide differently. “True value engineering begins the day you start design,” he stated. “The way it is often applied is post design, when a project is over budget. We prefer to sit down with the Owner and the Architect before drawings are started in order to focus on the concept, on delivering what they need. It is more effective to start at the beginning than at the end.”

As an example of value engineering, said Phil, Murray Company helped verify the location and capacities of the public utilities, and assisted with the design of several of the systems as well.

After evaluating significant grade changes across the site, Murray Company also helped determine that the addition of a basement level under

the north part of the building for materials management and expansion of the mechanical plant would be optimal in terms of cost and functionality.

Additionally, said Phil, “The key to the building expansion was determining how to phase the work to minimize disruption to the Surgical Department. Working with the Hospital, Architect, and Engineers, we developed a design solution for doubling the size of the department through both expansion and renovation. The phasing plan addressed the flow of patients, staff and public.”

## A SPECIAL POINT OF PRIDE

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) accredits and certifies healthcare organizations every three to four years. During the final phase of construction at GVMH, the JCAHO evaluated operations in the existing hospital as well as the newly-renovated and expanded areas. At the conclusion of an inspection, the JCAHO issues a report of items that need to be corrected in order to maintain certification.

Their only recommendation was to relocate the emergency shut-off button for the generator from inside the generator box to either outside the generator box or inside the hospital. Murray Company relocated it inside the hospital. That there was only one item in the JCAHO’s findings is an achievement of which Murray Company is especially proud. ▲

An advertisement for George I. Shaw Construction Co. The top part features the text "SERVING KANSAS CITY SINCE 1928" in a bold, sans-serif font. Below this is the company logo, which consists of the name "George I. Shaw" in a large, stylized, cursive script, with "CONSTRUCTION CO." in a smaller, bold, sans-serif font underneath. The logo is set against a dark background with a yellow border. Below the logo, there are two columns of text: "EXCAVATING WRECKING" and "GRADING CONCRETE", both in bold, sans-serif font. At the bottom, the phone number "(816) 231-8200" is displayed in a large, bold, sans-serif font. The very bottom of the advertisement contains the address "1601 Bellefontaine • Kansas City, MO 64127 • FAX (816) 231-8203" in a smaller, sans-serif font.