



A Campus Bedrock

Lindenwood University's new Library and Academic Resources Center continues the campus's commitment to masonry construction.

INSIDEMASONRY

A CAMPUS
BEDROCK

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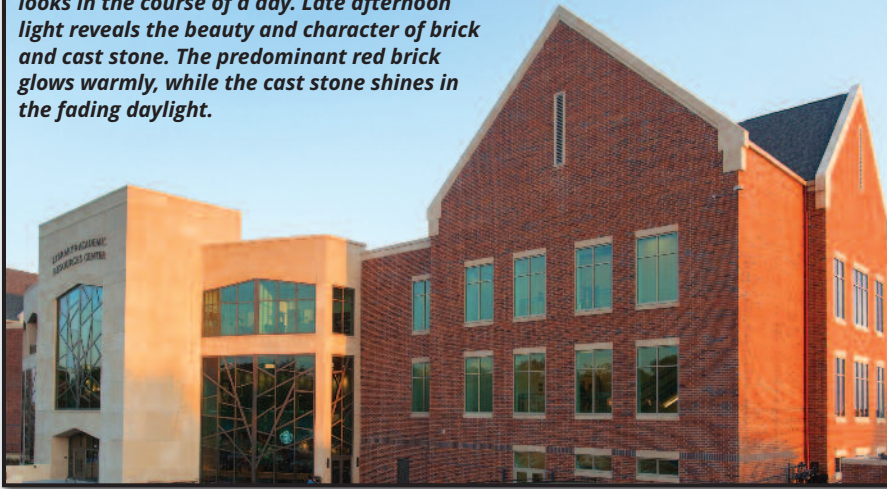


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A few years ago, in a letter to the community, a fundraiser for Lindenwood University's capital campaign, DOORS to the FUTURE, called the planned library "the bedrock of the institution."



Masonry construction provides a variety of looks in the course of a day. Late afternoon light reveals the beauty and character of brick and cast stone. The predominant red brick glows warmly, while the cast stone shines in the fading daylight.



"Lindenwood University used the combination of brick and stone to match the existing buildings throughout the campus," said **Diane Moore**, Vice-President, Operations, for Lindenwood University. "This combination accentuates the ageless beauty of our historic buildings as well as our new, state of the art academic buildings."

Designed to last into the next century, the durability and low maintenance features of masonry construction pay for themselves in avoided costs.

"We took every advantage of using masonry in the design of the new Library and Academic Resources Center," said architect **Dennis Orne**, Principal of **Le Pique and Orne Architects, Inc.** "We hope it is a hundred-year building."

The centerpiece of the building is a sweeping radius wall of cast stone and glass that faces inward to the campus.

"The cast stone ties everything together," said Orne. "The balance between brick and stone, with the trim on

the gables, sills and lintels all reinforce each other."

Swanson Masonry brought the project home with top-notch construction both inside and out. In addition to the beautiful exterior, the mason contractor built critical interior portions of the building, including stair towers, elevator shafts and two fully grouted masonry firewalls.

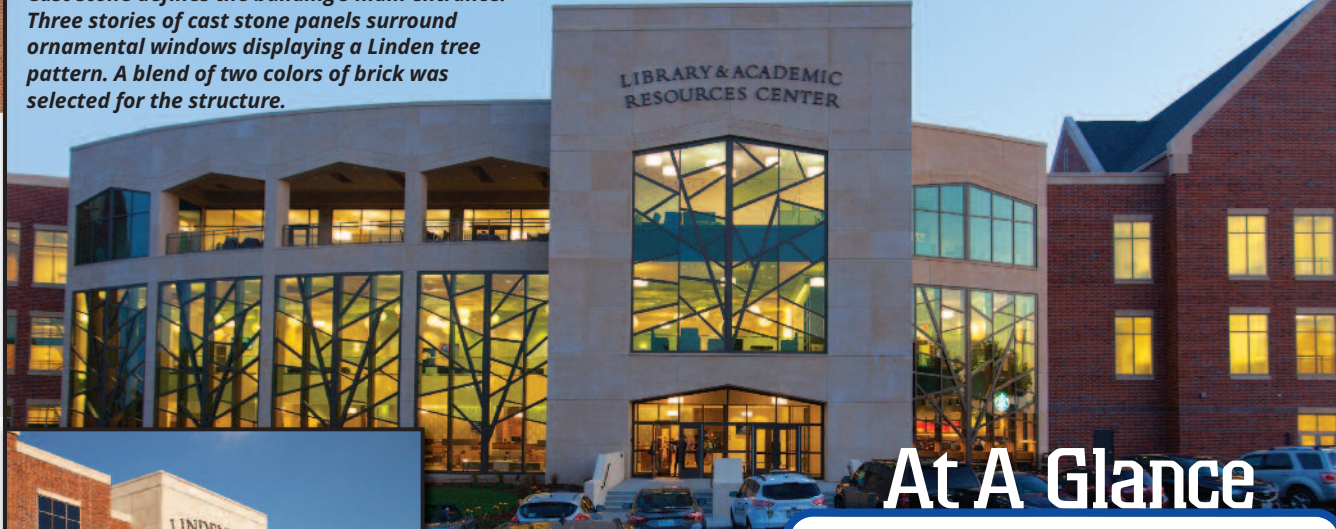
"This was a good project for us – it looks tremendous," said **Kevin Freeman**, Estimator for Swanson Masonry. "Some of the cast stone panels weighed 4,800 pounds. All the stone had to be specially fitted to accommodate the heights of the building."

The full masonry exterior projects an image of strength, stability and tradition. The structure maintains its warmth and inviting aesthetic.

"The building is well detailed and well put together. It fits into the campus while maintaining its own character and identity, thanks to the use of masonry," said Orne. "The craftsmen were helpful

Lindenwood University selected a smart combination of brick and cast stone for the 100,000 square foot "bedrock of the institution" that frames the campus border on First Capitol Drive in St. Charles, MO.

Cast stone defines the building's main entrance. Three stories of cast stone panels surround ornamental windows displaying a Linden tree pattern. A blend of two colors of brick was selected for the structure.



The timeless strength and beauty of masonry helped the architect solve the challenge of designing a building whose front faced inward to campus, while its rear fronted a busy municipal road.

in making this project a success. The masons take pride in their workmanship, craftsmanship and trade. They were in the forefront of making sure the project was built correctly."

Masonry construction suits the requirements of any campus – academic, corporate or institutional.

"Higher education campuses are always evolving," said Lindenwood's Moore. "Masonry construction provides a timeless campus that enables future opportunities to renovate or build new facilities to carefully match the older buildings on campus."

At A Glance

Owner | Lindenwood University
Architect | LePique and Orne
General Contractor | Blanton Construction
Mason Contractor | Swanson Masonry
Structural Engineer | Aedifica Engineering
Craft Workers |
 - Bricklayers' Union Local #1 of Missouri
 - Eastern Missouri Laborers' District Council
Cast Stone | Midwest Cast Stone
Accessories | Irwin Products, Inc.
Mortar | Raineri Building Materials
Brick, Block | Midwest Block & Brick

Brick Halls of Justice

O'Fallon, MO Rules in Favor of Masonry for its Justice Center



Justice may be blind, but the beautiful masonry construction of the new **Justice Center** in **O'Fallon, MO** is a real eye opener. The city selected a classic combination of brick, block and cast stone for the exterior to ensure the new headquarters for the police department and courts last well into this century and beyond.

The verdict is in – masonry construction puts the “block” in cellblock. The Justice Center’s detention area holding cells, restrooms, corridors and commons are built from concrete masonry. Strength and solidity are essential in a building material, especially one serving a long stretch in the walls of high security areas, including the evidence locker, vehicle sally port and a firing range wall.

“The long lasting durability of fully grouted concrete masonry units (CMU) provides good acoustics for the cells,” said **Bernard Burtch**, Senior Project Manager, **McCarthy Building Companies, Inc.** “Sealed and painted block walls provide surfaces that are not only secure, but also easy to clean and maintain.”

Heitkamp Masonry, Inc., spent the better part of a year constructing their portion of this project—from the erection of block elevator shafts and stairwells in the fall of 2016 to the finishing touches in the summer of 2017.

“This building is as large as three football fields stacked on top of each other,” said **Matt Veasman**, Project Manager for **Police Facility Design Group**. “It has a basement parking garage and a first and second floor.”

The 97,000 square foot facility’s masonry veneer provides strong evidence that the case for masonry as an exterior building envelope is solid.

The architect used a combination of material choices and design. A subtle base of buff colored, split face block not only serves to define the elevated patios of the building’s front entrance, but also wraps around the entire structure, separating the darker brick from the mulched planting beds along the south facing wall of the public parking lot.

The building’s front entrance conveys an institutional dignity through the judicious application of masonry materials. Cast stone panels inscribed with the words “Observant” “Professional” “Dedicated,” crown a concave arched single story brick wall that is inset on the center of two multi-story wings. This defines the building’s main entrance and establishes a sense of respect for the public servants who uphold the law and dispense justice.

“We took a lot of liberty of playing with the brick and stone to punch up the entrance to the building,” says Veasman. “We use brick on the exterior of many of our buildings because of the timelessness of brick and its durability.”

The defense of masonry must enter into the record a mention of the long-term value of brick and CMU construction as a cost saving material.

“Masonry provides long term savings not only because of its durability but also because it requires minimal maintenance,” added Burtch.

We rest our case that masonry can be judged as the superior building material for a number of reasons as evidenced in the example of the new O’Fallon Justice Center.

The City of O'Fallon's selection of masonry for the exterior veneer of their new 97,000 square foot Justice Center was based on both respect for community aesthetics and the need for a building designed to last well into the century and beyond.



At A Glance

- Owner** | City of O'Fallon
- Architect** | Police Facilities Design Group
- General Contractor** | McCarthy Building Companies, Inc.
- Mason Contractor** | Heitkamp Masonry
- Structural Engineer** | Bob D. Campbell & Company
- Craft Workers** |
 - Bricklayers' Union Local #1 of Missouri
 - Eastern Missouri Laborers' District Council
- Block, Brick, Mortar** | Midwest Block & Brick
- Accessories** | Irwin Products, Inc.



Words inscribed in the cast stonework crowning the concave radius wall of the Justice Center's main entrance reinforce the message of institutional dignity established by the building's full masonry veneer.



Multiple colors of brick as well as split face and ground face block combine to create a pleasing presentation for this massive structure.



The highest security areas of the building are constructed of CMU for security, durability, low maintenance and acoustics.

Multiplication by Addition

A historic home in Ladue doubles its size thanks to a stunning addition by Frisch Masonry



The new owner of this historic home in Ladue, MO loved the look and feel of the masonry structure designed by **Jamieson and Spearl Architects** in 1924. The owners wanted to expand and modernize the structure. They commissioned **Brian Smith of Gunn and Smith Architects** to design an addition that would double the home's size. The view directly above, shows both the original home and the new addition. **Frisch Masonry, Inc.**, began work on the project before the plans were drawn with the construction of a new fireplace in the study on the west side of the original home.

This stone wall around the new pool provides an innovative solution to meeting the safety and security requirements of an in-ground pool while maintaining the high aesthetic standards of the home's owner. Landscape architects **Moynihan & Associates, Inc.**, and architect Brian Smith designed the walls. They are seven feet tall at the base, eliminating the need for a fence around the pool area. A structural wall of 12-inch concrete masonry units (CMU) fully grouted solid with rebar provides the support for the limestone veneer.

The original house is constructed of a native Missouri limestone. Frisch Masonry presented the owner with a variety of samples in order to find a match. Earthworks and Brentwood Supply provided the Lannon Sussex stone, which is quarried in Wisconsin. Frisch used a variety of trade secrets when preparing the new stone for installation that helped further match its color and texture to the original.

At A Glance

Architect | Original House –
Jamieson and Spear Architects
Architect | Addition –
Gunn and Smith Architects
Landscape Architect | Moynihan &
Associates, Inc.
General Contractor | PK Construction
Mason Contractor | Frisch Masonry, Inc.
Craft Workers |
- Bricklayers' Union Local #1 of Missouri
- Eastern Missouri Laborers' District Council
Stone | Earthworks and Brentwood Supply
Mortar, Block, Accessories | Brentwood Supply



Maintenance, repair and demolition of portions of the historic structure produced an inventory of stone blocks that were reused in the new addition. By blending original and new stone, Frisch Masonry was able to make a seamless visual transition merger of the structures. The balustrades on the porch were salvaged from the home's front parking area and reused here. The Newel posts are made of Indiana limestone.



Stone salvaged from the original house that was not high enough quality to use in the addition was repurposed for the other landscape walls on the grounds. As with the pool area, a structural wall of CMU provides backing for the beautiful limestone veneer.

Two Alarm Success Stories

Masonry Responds to Communities in Need of New Firehouses

Wentzville

Wentzville, MO sought sustainability and longevity when it considered designs for a new fire station and headquarters.

"We told the taxpayers we were building a 50 to 70 year building," said Fire Marshall **Chris Cuddihee**. "The best way to achieve our goals is to use masonry."

This building includes the Fire District headquarters, engine house and living quarters. Masonry suits not only the building's many functions, but also its location.

"The warmth and familiarity of a brick veneer will fit into the vernacular of the surrounding neighborhood and be timeless enough in appearance to evolve with changing construction trends," said Brennan Hartin.

Load bearing concrete masonry units (CMU) construction provide the backbone of the station's apparatus bays.

"We were able to achieve structural support and durable wall material in one product," noted Hartin. "Utilizing a single

The municipalities of Wentzville and Maryland Heights recently completed two new fire stations. Masonry materials provide efficient, durable and safe work environments in the high bay interior space while wrapping the buildings' exteriors in beautiful combinations of brick and cast stone.

These structures' apparatus bays are built to withstand punishment from the most severe elements. Seismic activity from below, tornado force winds and driving rain from above and infernal blazes from within or without are thwarted by the strength and reliability of masonry construction.

"The masonry block construction gives an inherent fire resistance and allows for fire separation from the garage areas to the building residential areas," said Brennan Hartin, Project Architect, FGM Architects.



The apparatus bays display the beautiful combination of brick, cultured stone wainscoting and cast stone arches.

trade for construction is advantageous in both cost savings and construction time savings."

The expert craftsmen of **JDS Masonry** built a long lasting fire station that will stand up to earthquakes, handle the daily demands of operation and provide welcoming, comfortable living quarters to its crew.

At A Glance

Owner | Wentzville Fire Protection District

Architect | FGM Architects

General Contractor | Lamb Construction

Mason Contractor | JDS Masonry

Structural Engineer | Kreher Engineering

Craft Workers |

- Bricklayers' Union Local #1 of Missouri

- Eastern Missouri Laborers' District Council

Block, Brick, Mortar, Grout | Midwest

Block & Brick

Cast Stone | Caliber Cast Stone

Accessories | Irwin Products, Inc.



Load bearing masonry block walls in the apparatus bays allows for the construction of high ceilings necessary to accommodate the department's trucks while providing a structure able to withstand earthquakes.

For the Maryland Heights project, a creative masonry solution helped the building’s designer visually scale the facility to fit the neighborhood.

“We used a Norman brick face, which is longer than a standard brick face,” said **Dan Matchett**, Project Architect, **FGM Architects**. “This slight change helps the eye see a more elongated building.”

Steve Olshwanger, Fire Chief for the **Maryland Heights Fire Protection District** added “On the exterior, masonry allowed us to fit in the neighborhood, but still be recognizable as a firehouse and on the interior, we were able to erect solid walls that stand up to the rigors of fire service.”

The capabilities of 12” CMU as loadbearing elements allowed for the construction of clear, open spaces free of supports in the apparatus bays.

“Masonry works very complementary as a product strong enough to meet storm shelter code requirements without adding extreme cost to the project,” said Matchett.

John J. Smith Masonry Company erected a facility with increased capacity in the apparatus bays, improved operational areas, additional disaster storage areas and improved living quarters over the previous firehouse it replaced.

“This is a durable, long lasting building built to handle a high traffic operation,” said **Brian Smith**, Riding Superintendent for John J. Smith Masonry. “Its exterior is easy on the eye, while its critical areas have a Seismic Design Category D rating, thanks to masonry.”

M

Maryland Heights



At A Glance

- Owner** | Maryland Heights Fire District
- Architect** | FGM Architects
- General Contractor** | ICS Construction
- Mason Contractor** | John J. Smith Masonry
- Structural Engineer** | Kreher Engineering
- Craft Workers** |
 - Bricklayers’ Union Local #1 of Missouri
 - Eastern Missouri Laborers’ District Council
- Block, Brick, Mortar** | Midwest Block & Brick

The warmth and familiarity of the brick veneer on the new Maryland Heights fire station fits into the vernacular of the surrounding neighborhood.



Updating the Red Brick Schoolhouse

Bright Ideas for
Masonry Construction
at Dressel Elementary



The apple, the chalkboard and the red brick schoolhouse are iconic symbols of American education. Today, Apple is a computer and the chalkboard is a smart board. Yet, the red brick schoolhouse still stands as the best physical environment for teaching and learning.

The **Lindbergh School District** built **Dressel Elementary**—the new 99,000 square foot red brick schoolhouse—to address current overcrowding, while accommodating growth for future generations.

“**Ittner Architects** has a 120-year history of designing striking masonry schools,” said **Todd Powers**, AIA, Vice President, Ittner Architects. “We think Dressel is a continuation of our belief in masonry as one of the best material choices schools can make. Brick is a versatile design material, capable of enhancing any look from traditional to contemporary.”

A durable and long lasting masonry veneer defines the classroom wings of the school. Skillful application of a light red mortar to complement the red bricks further warms and brightens the building’s exterior.

“Bricklayers from **Local #1** installed over 280,000 bricks on this school,” said **Brad Grant**, Vice President, **Grant Contracting Co., Inc.** “The brick supplied was an eye-popping blend of brick with red mortar. It is very beautiful.”

The architect selected a rich three-color blend of Belden red bricks that is unique to any other school in the district.

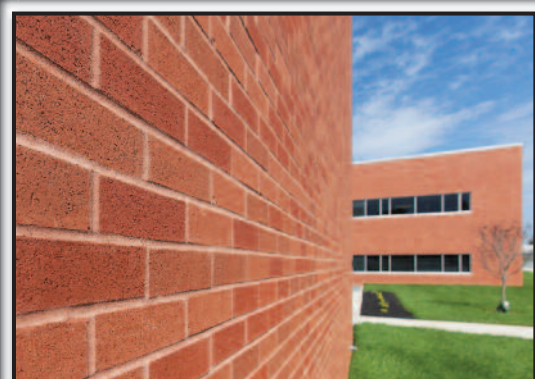
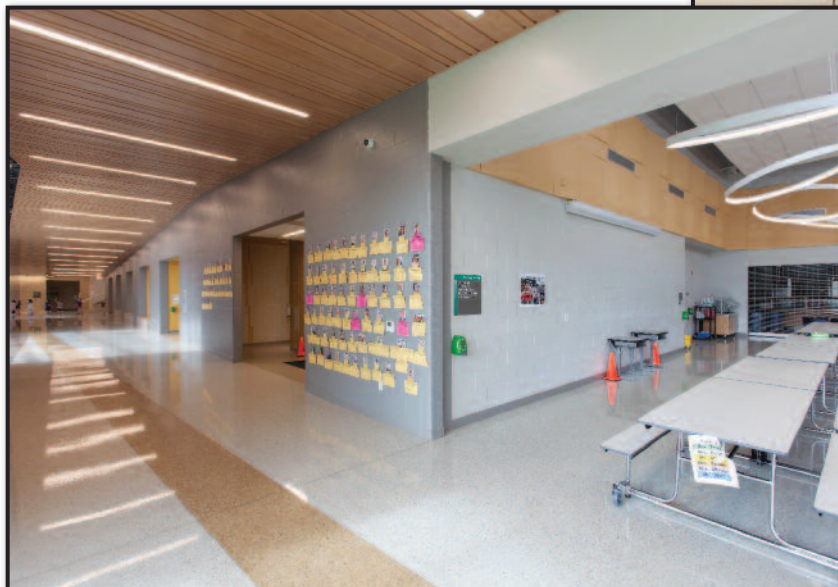
“We hope this color blend will come to be known as “Dressel Red”” said Powers.

Vibrant color is the most visible benefit of brick, but its value runs deep below the surface.

Right: The walls of the school's storm shelters are built from strong, reliable fully grouted concrete masonry units. These spaces serve as multipurpose activity rooms on a daily basis.

Below left: Masonry block corridors allow teachers and administrators to decorate and communicate without damage from taping classwork, schedules and notices to the walls.

Below right: The combination of light red mortar with a three-color red brick blend creates a vibrant palette for the modern red brick schoolhouse.



"When you consider the total life cycle cost of brick—and masonry in general—it is well below most other material choices a designer could consider," said Powers.

Masonry delivers inside the school's construction by creating safe, durable, quiet, low maintenance common areas and learning environments. Designed with disaster preparation in mind, the school features three multipurpose rooms that double as tornado shelters.

"Each of the three storm shelter multipurpose rooms were constructed of reinforced concrete masonry units walls with concrete plank lids," said Powers.

Concrete masonry units not only protects the school's 650 students during extreme weather events, it also muffles and dampens the daily distractions of ambient noise generated by boisterous students in the halls, cafeteria, gymnasium and music room. Masonry even plays a role in student recognition and school wide communication. Unlike drywall, taping classwork and notifications to a corridor's block wall causes no surface damage.

The educated applications of brick and block at Dressel Elementary School are lessons to anyone evaluating building materials for their next project. Economically constructing a beautiful, long lasting brick structure with safe, clean, quiet, efficient interior space for a variety of uses is so easy it could be called "elementary."



At A Glance

- Owner** | Lindbergh School District
- Architect** | Wm. B. Ittner, Inc.
- General Contractor** | Tri-Co, Inc.
- Mason Contractor** | Grant Masonry Contracting, Inc.
- Structural Engineer** | Kreher Engineering
- Craft Workers** |
 - Bricklayers' Union Local #1 of Missouri
 - Eastern Missouri Laborers' District Council
- Block** | Midwest Block and Brick
- Cast Stone** | Caliber Cast Stone
- Accessories** | Irwin Products, Inc.

The Lindbergh School District advances the concept of the red brick schoolhouse with the construction of Dressel Elementary School.





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Building Relationships

MAV Masonry volunteers at SIUE

A good way to develop new customers is to train them before they even enter the industry.

Mark Vasquez, owner of **MAV Masonry, Inc.**, of Marissa, IL, volunteered his services to students in the Applied Preservation Technology class at **Southern Illinois University Edwardsville** during an arch construction competition sponsored by the **Association of Preservation Technology**.

The students were tasked with building a brick arch 8' wide, 3' high and 12" thick. The competition guidelines were strict. Mortar could not include Portland cement or any admixtures introduced to the masonry industry in the last 100 years.

PHOTO COURTESY SIUE



"I shared some of my theories and best practices of building arches with the students," said Vasquez, a mason with forty years of experience.

Vasquez's participation made an impact. As a result, he was invited to share his expertise with a construction materials class a few months later.

"Mark really did a great job of showing the students the ropes and I know they learned a lot," said **Brad**

Cross, Chair and Professor of Civil Engineering, SIUE.

After graduation, many of these students will become decision makers in the construction industry. Part of their job could include picking a mason contractor for a project. Mark Vasquez has already made a good first impression. **M**

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