

Clay Product-Faced Precast Concrete

Clay product-faced precast concrete has become the favorite of designers because of its unlimited aesthetic options on all types of structures. It gives the architect the best of both worlds – the flexibility to combine the beauty of traditional clay products with the strength, versatility and economy of precast concrete. Brick, ceramic tile, porcelain, and architectural terra cotta can all be embedded in precast concrete, covering the exposed panel surface in its entirety or covering only part of the concrete face as accents.

Benefits and Advantages

The combination of precast concrete and clay products offers several important benefits and advantages over site-laid-up masonry.

- During the life cycle maintenance of these systems, the need for tuckpointing is eliminated.
- Clay product-faced precast concrete units act as a rain barrier and not a rain screen.
- Precasting techniques allow complex and intricate details such as arches, radii, ornate corbels, and numerous bonding patterns to be incorporated into the finished panel. This freedom of aesthetic expression could not be accommodated economically with site-laid-up masonry.
- Precasting allows a high level of dimensional precision and quality control. Concrete mixtures and batching, together with curing conditions, can be tightly controlled, whereas site-laid masonry may have variable curing and mortar qualities.
- Plant production provides for year-round work under controlled environmental conditions, negating any on-site delays due to inclement weather or incurring the expense of on-site weather protection. It also allows the building enclosure, with floor topping and finishing trades, to continue without any weather delays.
- Clay product-faced precast concrete can eliminate the need for costly on-site scaffolding, material storage, equipment, and manpower and can greatly reduce the duration of masonry cladding time.
- Site disturbance, construction debris, and use of toxic cleaners are reduced.
- Clay product-faced precast concrete panels can eliminate many items necessary for traditional masonry such as dovetail anchors, flashing, and weep holes.
- Panel configurations include a



multitude of shapes and sizes: flat panels, C-shaped spandrels, soffits, arches, and U-shaped column covers. Repetitive use of any particular shape lowers costs dramatically.

- Returns on spandrels or column covers may be produced by the sequential (two-stage) casting method or as a single cast, depending on the height of the return. Panels may serve as cladding or may be load-bearing, supporting floor and roof loads, and can even function as lateral load resisting elements (shearwalls).

Augsburg College

The urban Minneapolis school Norman and Evangeline Hagfors Center for Science, Business and Religion is a \$73 million, 135,000-square-foot multidisciplinary complex. The integrated-discipline collaborative learning space includes 24 labs and 6,000 square feet of student-faculty research facilities such as biology, business, chemistry, computer science, physics, psychology, math and statistics, and religion.

The intention behind Hagfors is to encourage mixing among branches of academia. "First, the building is student-centered. Everything about the Hagfors Center is meant to support learning experiences from the formal to informal spaces," Augsburg spokesperson Stephanie Weiss said, "It's meant to encourage collaboration among disciplines."

Augsburg broke ground on the project in April 2016 and was opened in January 2018. The project was on budget and on schedule. The center was the focus of a successful fundraising campaign, which met and exceeded its goal of \$50 million by last May.



Owner: **Augsburg College** • Contractor: **McGough Construction** • Architect / Engineer: **HGA** • Location: **Minneapolis, MN**

The exterior façade features Endicott thin brick embedded in precast concrete to provide the visual appeal of traditional masonry with the durability and economy of precast. Wells Concrete provided 294 pieces of 10 1/2" insulated precast panels with cast in Versa-Brix® 3D thin brick inlay system from Architectural Polymers.

The compact campus is located across Riverside Avenue, across from the West Bank of the University of Minnesota

in the Cedar-Riverside neighborhood. Augsburg, founded as a Lutheran seminary in 1869, cites its strengths as its urban location, diversity, and being a small institution with strong ties to the community and around the globe. It also sponsors the annual Nobel Peace Prize Forum in America.



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Mill Street Parking Structure

The City of Wayzata built a 385-stall, 93,700 square foot public parking structure at Mill Street East and Broadway Avenue to provide for current and future parking needs in the downtown area. The first phase of the ramp opened on July 1, 2017 (upper deck) and final completion was mid-August 2017.

Work consisted of a cast-in-place

concrete with a post-tensioned cable 2nd floor deck. Exterior façade consisted of precast panels with a thin-brick facing, factory finished metal wall panels and decorative ipe wood cladding. The project came together on schedule and under budget.

Wells Concrete provided 203 pieces of architectural precast concrete with acid etch and thin brick finishes to create the façade.



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Contractor: **Adolfson & Peterson Construction** • Architect: **HGA** • Engineer: **Walker Consultants** • Owner: **City of Wayzata** • Location: **Wayzata, MN**

NextGen Dorms at Northern State University

Northern State University was challenged recently to create residential facilities for students arriving at college with a different set of privacy boundaries and lifestyle preferences than any generation before. The university also wanted to lure current students back from off-campus housing. To meet the needs and expectations of the next generation of college students, NSU has introduced three new, modern residence halls on campus: Wolves Memorial Suites, which opened in fall 2017; and Great Plains West and Great Plains East, set to open this fall.

The plan is working—housing applications are up 20 percent from last spring. As of March 1, 157 new students had applied to live at Northern this fall, according to NSU Director of Residence Life Marty Sabolo. Sabolo said the uptick in housing requests is a direct result of NSU's new

dynamic living communities. Students are embracing these new on-campus housing options that mirror today's diverse society and provide the foundation for academic success.

In designing Great Plains East and West, a key ingredient was simply more space. Privacy is becoming a highly desired amenity, with the majority of freshmen coming to campus never having shared a bedroom. The appeal of suites reflects how living situations have changed over the years. Sharing space isn't something today's youth are used to. "I think it's what today's students really want, especially the suite-style rooms," Sabolo added.

Similarly, they're used to modern amenities. Air-conditioning is the number one question NSU is asked about by potential students. That sort of feature, along with conference rooms and study rooms offered in the new halls, has essentially caught Northern up with trends shaping student housing. But NSU is also including more unique offerings in Great Plains East and West – including

a Papa John's Pizza, convenience store and game-cleaning room – which set the university apart. "I really believe that regionally, Northern is going to be the one that people are keeping up with," Sabolo said.

The Precast Advantage

The combination of exposed precast concrete in an acid-etched and sandblasted textures and thin bricks replicates the look of stone-and-brick for Great Plains West and Great Plains East.

Five colors of brick in three different sizing were used for the twin residence halls. Two main field colors consisted of medium iron spot red modular size brick for the majority portion of building and autumn sands utility size brick with a brownish hue for courtyard portion of the buildings. A Desert Iron Spot Dark and Bordeaux Blend velour were used for banding to add horizontal lines and to create the top coursings of the modular brick, while roman size autumn sands brick with a velour texture provides accents to the utility brick panels in the courtyard.

Standard brick sizes were used to emulate conventionally laid brick, with L-shaped bricks at corners and windows openings. The panels significantly reduced enclosure time compared to conventionally laid brick.

"The use of thin brick as a precast veneer allows the design team limitless options, from color and texture, to sizes and locations, to achieve the correct design aesthetic for each individual project," said Steve Miller, project manager with CO-OP Architecture. He added, "This allows us to achieve individuality from building to building while still benefiting from the ease of building erection that precast provides."



Architect: **CO-OP Architecture** • Engineer: **PTAC Consulting Engineers** • Contractor: **Journey Construction** • Erector: **Midwest Precast Services** • Photo Credit: **Gage Brothers & Northern State University** • Location: **Aberdeen, SD**



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Creighton University School of Dentistry

The new Creighton University Dental College Building will position the school to recruit talented faculty members and offer a high ranking, clinically excellent education to students. Other advantages the new building will provide include enhanced functionality and efficiency in the clinic, and the ability to serve

additional patients, especially the area's underserved population. The building will also serve to enhance the school's re-search core of excellence.

The exterior of the building features architectural precast concrete wall panels to help meet the program requirements. The dominant portion of the façade is a thin clay brick embedded into the precast concrete, allowing for the character and beauty of masonry to be integral with the added benefits of precast concrete.

Additionally, Silver Shadow Alabama Limestone was also incorporated into the panels to provide a beautiful compliment to the blended Endicott Brick. This finish strategy allowed the designers to use a single precast panel to mimic the look of several interfacing materials all while reducing the amount of trades, materials and detailing.



www.coreslab.com



Owner: **Creighton University (Omaha, NE)** • Architect: **RDG Planning and Design (Omaha, NE)** • Structural Engineer: **Thompson Dreesen & Dorner, Inc. (Omaha, NE)** • Contractor: **MCL Construction (Omaha, NE)** • Location: **Omaha, NE**

Oxbow Animal Health

“Ideas are like rabbits. You get a couple and learn to handle them and pretty soon you have a dozen.” – John Steinbeck.

Back in 1980, Oxbow’s founder, John Miller, had plenty of ideas on his family’s hay production farm. He took one of those ideas, making premium rabbit food, and morphed it into a global business

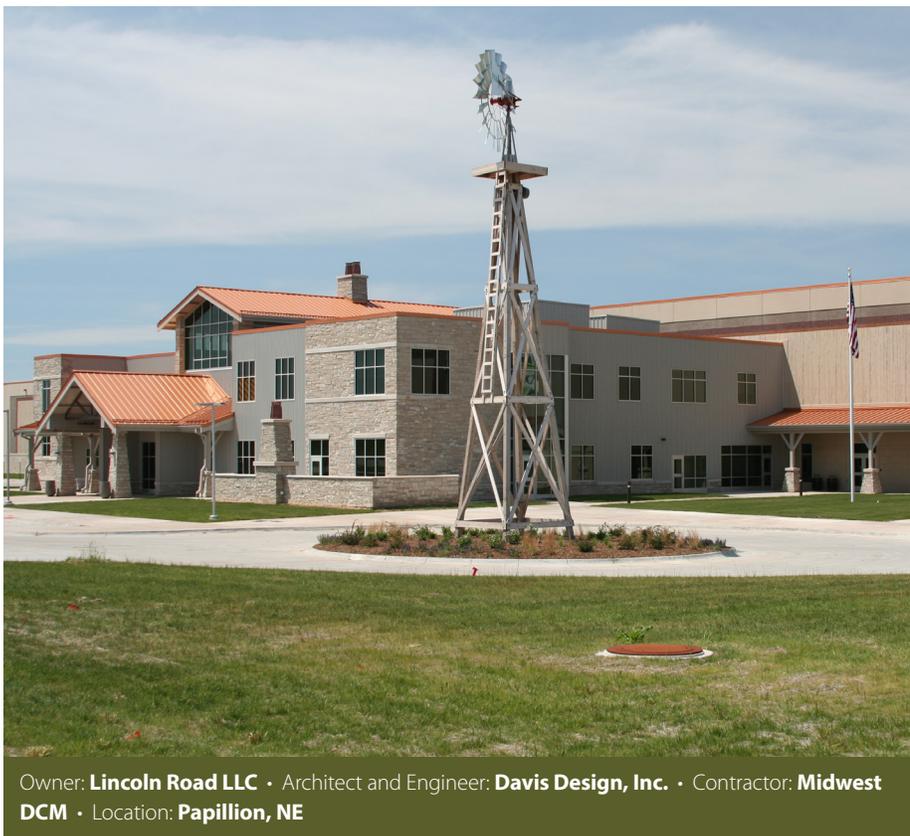
that produces and distributes ultra-premium hays, fortified pet foods, pet supplements and treats. The business was multiplying like rabbits so they decided to hop down the road about 25 miles from where it all began in Murdock and build their new 240,000 square foot facility in Papillion.

The new facility offers more than twice the space compared to the old which will allow Oxbow to better manage their rapid annual growth of about 20 percent in the last five years. Oxbow employs around 150 personnel and

hope to raise that figure to around 200 over the next three to five years.

Oxbow holds itself to the highest standards of product quality. Commitment to that quality was reflected in their choice of using precast concrete to house their operations. Precast concrete was incorporated into three distinct areas of the complex that encompassed the production facilities, the warehousing operation and the hay barn. Nearly 800 pieces of precast, consisting of both insulated and solid wall panels, columns, beams, twin tees, hollowcore, stairs and landings were incorporated into the facility.

The architect blended a mixture of architectural finishes on the insulated wall panels. A weathered barn board form liner pays homage to the humble beginnings of Oxbow on the family farm. Another form liner that mimics large stones or blocks was integrated to produce the wainscoting on the main building and the hay barn. The precast also features changes in relief to emulate a capstone on the wainscoting. Various colors of integral cast-in thin brick were merged using different coursings. An integral buff color fused all the elements to provide the structure with a cohesive earthen tone.



Owner: **Lincoln Road LLC** • Architect and Engineer: **Davis Design, Inc.** • Contractor: **Midwest DCM** • Location: **Papillion, NE**



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