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Issue 31

University of Charleston Parking

Charleston, West Virginia

“Precast was chosen for this project for its speed of construction, long uninterrupted spans and its ability to blend into the campus at an affordable cost.”

Aric L. Margolis, AIA
Associated Architects, Inc.

The University of Charleston needed additional student housing and parking. The solution is the new 530 space parking structure which is wrapped on three sides with a 250 bedroom dormitory. Gate Precast, as the architectural precast producer, and Prestress Services Industries, as the structural precast producer, worked together on this project.

One of the main concerns of the university was matching the exterior façade to all the other buildings on campus. The architectural precast producer, Gate Precast, worked with the architect and brick producer to ensure the exterior panels matched seamlessly with the brick on the dormitory and existing campus buildings. Precast stairs and landings were supplied in the two stair towers to give immediate and safe vertical access to all levels of the parking structure.

The precast parking structure met all the aesthetic, scheduling, financial, and durability needs of the university and the design team.

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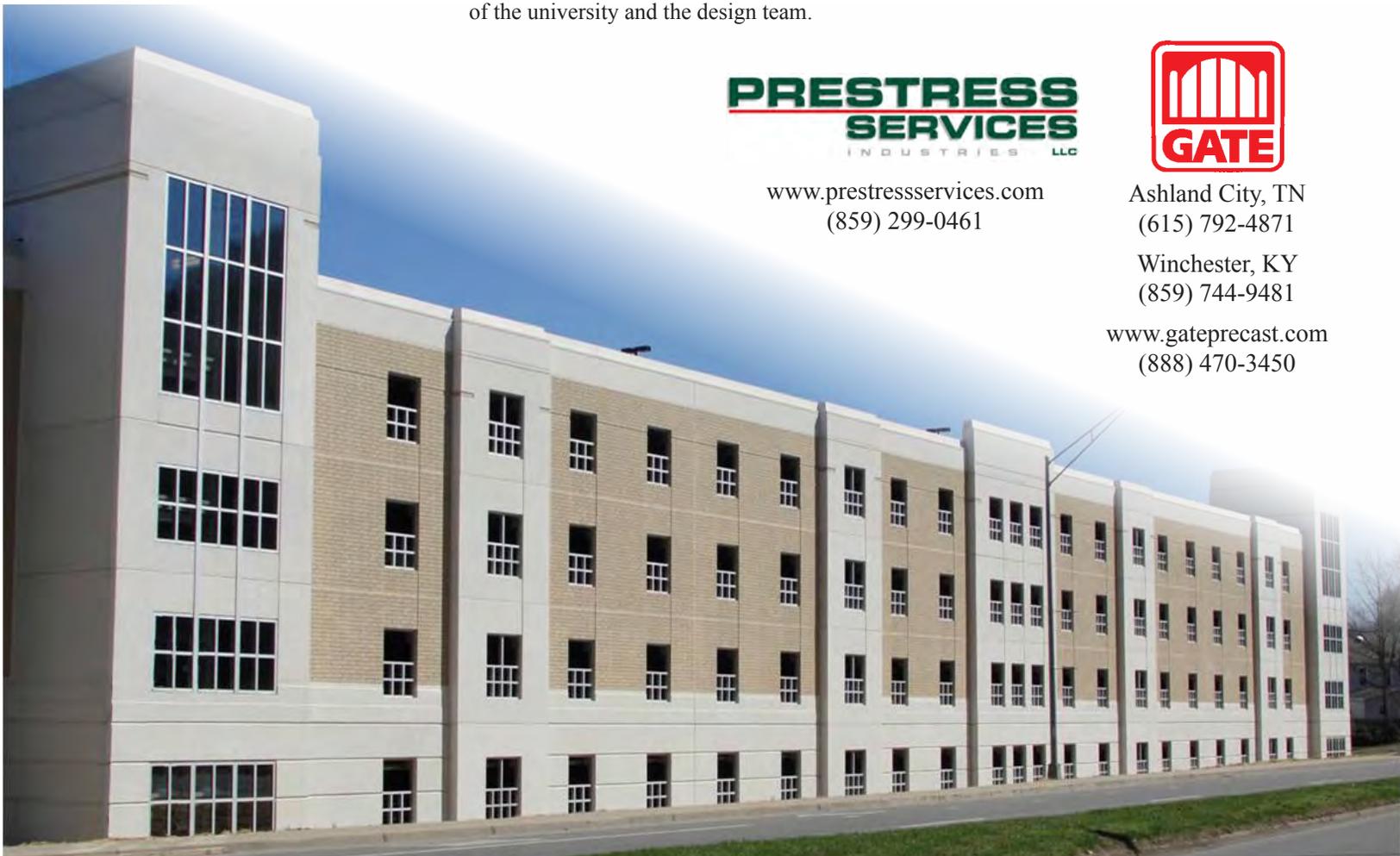
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Architect: Associated Architects

Engineer: Stroud, Pence & Associates

Contractor: BBL Carlton

United States Attorney's Office

Louisville, Kentucky



“As the developer and owner of this structure we had a number of critical needs. The new facility had to work visually with the eighty year old federal building next door, be very secure and be low to no maintenance with a strong resale value years from now. Precast concrete is the material we chose because it met those requirements.”

Edward Magness
JDL Castle Corp.



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The United States Attorney's Office building is a six story 128,994 sf government building located in a high profile city district. The facility required a blast resistant design with an appearance that complimented the look of an adjacent historic federal building, constructed of natural stone.

Precast/Prestressed cladding erected directly from the delivery trucks decreased the need for lay-down areas and congestion on this tight downtown site.

Two stories of secure indoor parking underneath the four story office building were constructed using precast concrete columns and beams along with hollowcore plank, reducing overall building height.

Field applied textured coatings matching the color of the stone on the adjacent federal building provided the desired appearance within this project's competitive Design-Build procurement.



Design Build by: Bristol Group

Charlotte Light Rail (CATS)

Charlotte, NC

“From the engineering to delivery, the precast railroad tie system worked to meet all our needs and scheduling deadlines. Even when the project was fast tracked and the schedule became tight you adjusted with us and helped us finish on time.”

Larry F. Laurello
President
Delta Railroad Construction

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Precast/Prestressed concrete is a highly adaptable material that is ideal for many uses requiring detailed engineering for strength and durability. In the railroad industry, precast/prestressed concrete offers a number of cost effective solutions for the building and repair of rail lines. KSA, a PCI Certified manufacturer, produces standard 8 foot 6 inch prestressed concrete crossties that are designed for heavy-haul mainlines, mass transit or industrial sidings and meet all requirements for heavy or light loads, meeting or exceeding the current specifications in the AREMA Manual CH 30. Reduced track maintenance, less assembly time and superior operating reliability are three significant benefits resulting from the prestressed concrete design of individual ties used in this switch tie system. This capability greatly improves product quality and reduces lead times to better serve the customer.



Contractor: Delta Railroad Construction

Security Forces Headquarters - WPAFB

Fairborn, Ohio



“Durability was a primary reason for choosing precast. It’s the police station for the base, so it needs to be secure, not just for detainees, but for employees who can be rough on the facility, and who need anti-terrorism and force protection.”

John Roll
Project Architect
Roll & Associates

Located at the front entrance to Wright Patterson Air Force Base in Fairborn, Ohio, the Security Forces building is a two-thirds exposed “L” shape, with one leg occupied by 23,000 sf of space over two stories for the office, jail, dispatch, and locker/shower and assembly areas for over 400 base security officers. The armory consists of 1,500 sf of weapons storage area surrounded by 8 inch thick concrete vault construction. The other leg of the “L” is a warehouse consisting of 16,000 sf of high bay storage area allowing rack systems up to 24 feet high. The thermally efficient sandwich panels are fully structurally composite, encapsulating two inches of XPS foam insulation for continuous insulation (“ci”) and an average R-10.

“Precast is a versatile material that allowed us to create a vocabulary that’s appropriate for the headquarters, the firing range and warehouse,” says Jim Cheng, project architect for Emersion Design, the design architect for the project. “The contemporary classicist language emphasizes the important civic role of the facility.”

The exterior walls are highly articulated to match the precast of the adjacent CATB building. In order to create the visual of two anchors framing a main courtyard, the office tower mirrors the entry tower of the adjacent building. Reveals in the precast formwork combine with false and real panel joints to create a block-like image that suggests limestone. The blocks are scaled to give the illusion of height to the first floor of the two-story section. The second story is set back, enhancing this effect. Both stories have regular panel details that suggest columns with pedestals; a bullnose and cornice create a strong horizontal line above the column images to bring a human scale to the façade.

“With a constrained site, allocating all the program that recognized the formal area and the service side of the warehouse, we were able to create a unified complex around the courtyard and address those issues in a rectilinear building that is efficient,” says Cheng. “The building incorporates a fairly high level of detail, and conveys the kind of character that might be associated with more of an institutional building.”

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Architect: Emersion Design
Architect of Record: Roll & Associates

Engineer: Woolpert, Inc
Contractor: Wilcon Construction

Ozark Parks Recreation Center

Ozark, Missouri

“Precast concrete was the obvious choice for the Ozark Parks Recreation Center due to the complex set of structural, interior environment and durability considerations required for an indoor pool. We chose not only precast wall panels, but a precast roof system as well for the economic and energy efficient advantages that this type of structural system would offer for such a large volume, long-span structure exposed to the corrosive environment of an indoor chlorinated pool.”

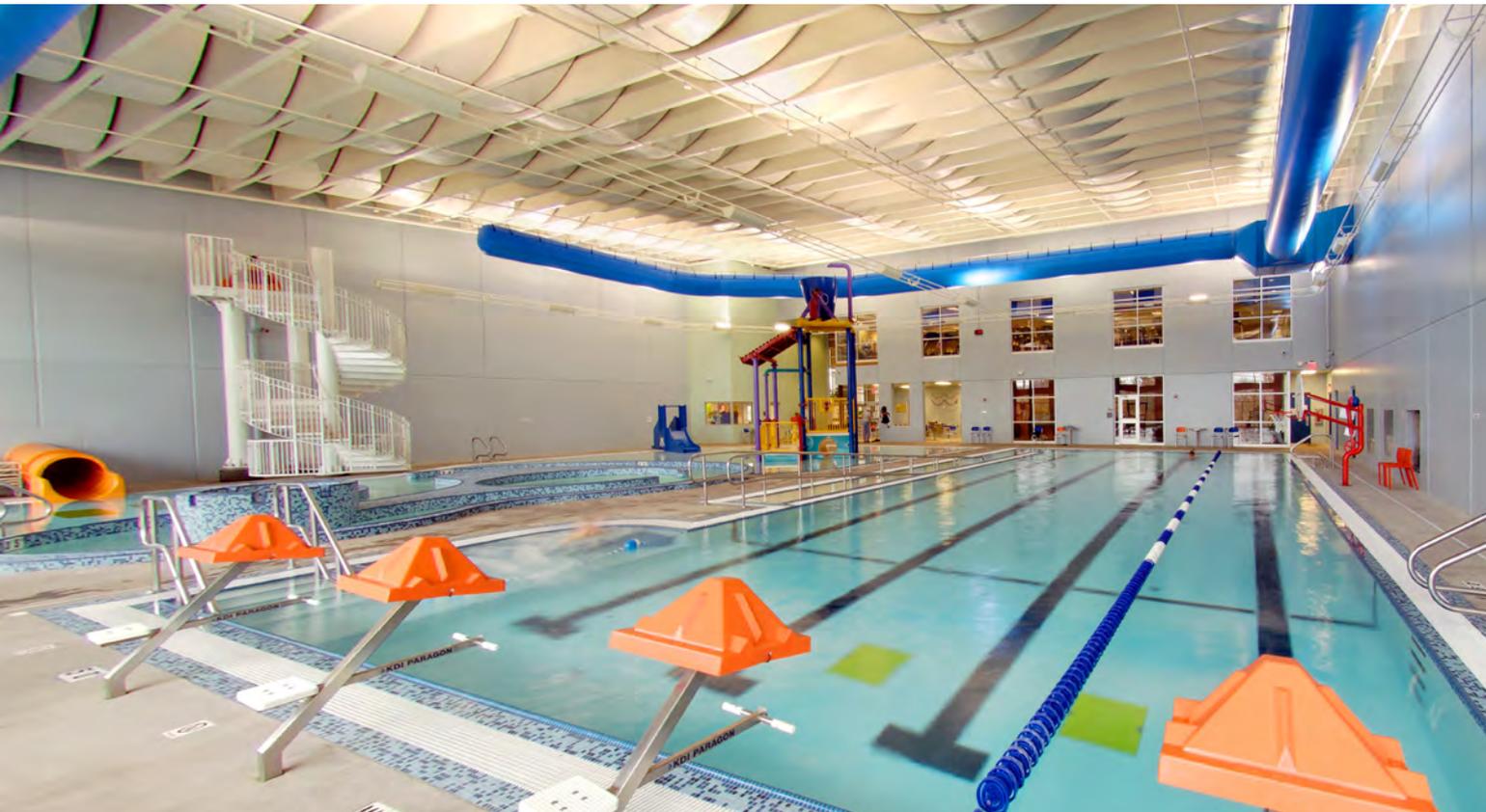
Eric J. McCune
Project Manager
Sapp Design Associates



www.prestressedcasting.com
(417) 869-7350

When the city of Ozark, Missouri set out to develop a new community center, it was important the project be state of the art in terms of facilities and programs, while meeting the budget requirements of the project. Precast concrete was selected as the primary construction material for the heavily utilized areas such as the natatorium, gymnasium, and the safe room. Precast insulated wall panels and double tee roof panels were utilized in the natatorium, with the double tees providing a 108 foot clear span. Concrete roof and wall systems insured that the structure would perform for many years in this caustic environment with minimal maintenance and maximum durability.

The owner was awarded a FEMA 361 matching grant to construct a safe room at the site and chose to incorporate precast concrete walls and double tee roof panels for the FEMA structure. The safe room is located at basement level, which presented an opportunity to use the roof as additional square footage. The high load capacity of the precast roof structure allowed the designers to add a green roof courtyard accessible from the main floor of the community center, further expanding usable public space.



Architect: Sapp Design Associates

General Contractor: Branco Enterprises



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