
BRAMAN
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Rolls-Royce Motor Cars

auto SHOWCASE

A creative precast concrete design was used to construct a new car showroom and car-storage facility for luxury vehicles

— Craig A. Shutt

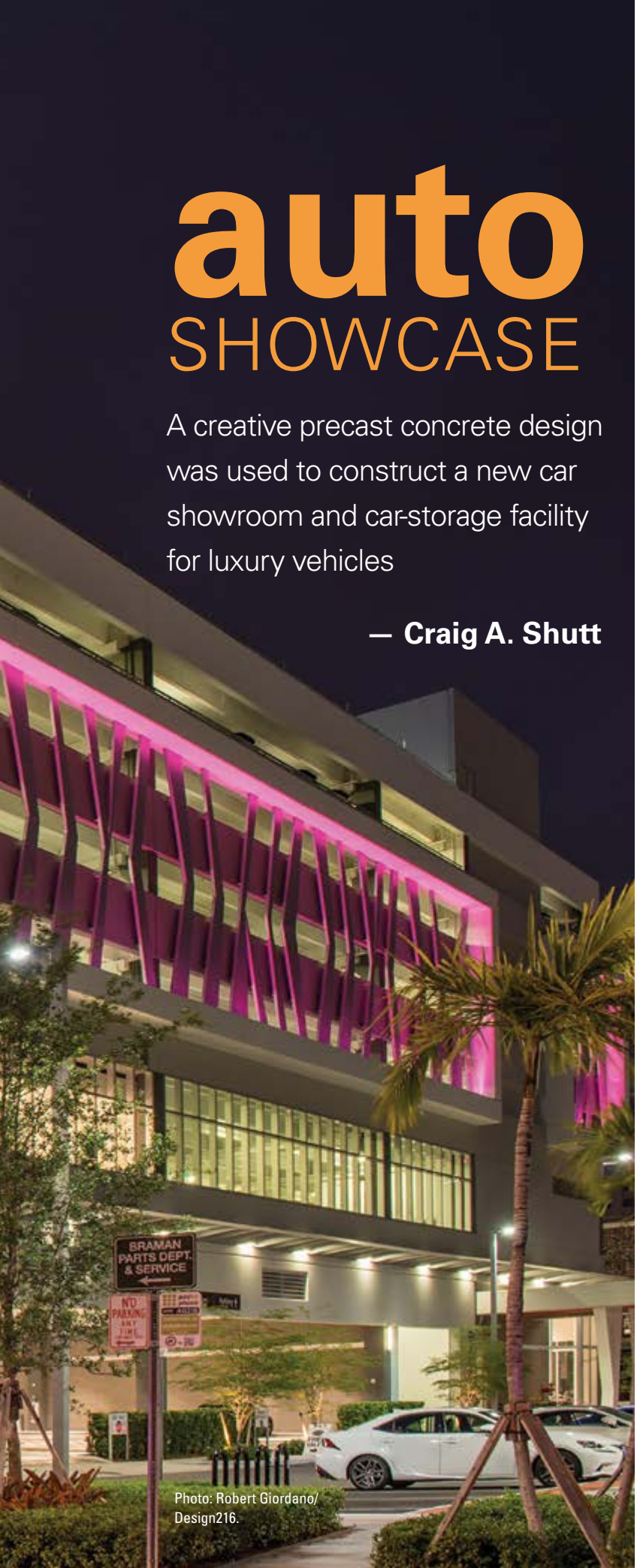

Photo: Robert Giordano/ Design216.

TIGHT FOOTPRINT
Although most of the erection was accomplished with the crane positioned within the footprint, for the last 3 weeks, the crane was positioned in the access road to install the final pieces. Photo: Aerial Photography Inc.

The Braman Auto complex in downtown Miami, Fla., encompasses 9 acres of contiguous space that includes a variety of luxury-car manufacturers, including Rolls Royce, Bentley, Bugatti, BMW, and Cadillac. It also has dealerships on the campus for Mini, Hyundai, and Kia. The company is said to rank in the top tier in sales for many of its brands worldwide, and its dealerships receive high marks for its service and quality. The campus is so extensive that it boasts its own Shell gas station.

To establish a greater presence and set the tone for this interconnected campus, Braman officials wanted to create a 90,000-square-foot luxury showroom with high-end customer amenities and topped by 1600 spaces for car storage and executive suites. The firm retained KVC Constructors Inc. as its construction manager and architect Wolfberg Alvarez & Partners to create a design that could encompass showroom, parking, and offices.

OPERATING THROUGH CONSTRUCTION

A key challenge was that the site houses all of the Braman operation, including sales operations, customer parking, and corporate headquarters. As such, it had to remain operational during construction despite the new construction encompassing about two-thirds of the entire site. The design also had to complement the surrounding neighborhood, which included the historic Bacardi buildings adjacent to the north.

To satisfy these diverse and challenging goals, Wolfberg Alvarez developed a concept for the seven-story, 500,000-square-foot building which features a precast concrete structural system as well as precast spandrel panels with metal ornamental elements that were randomly configured to contrast with the concrete façade. The ornaments are attached within a "picture frame" of precast concrete framing on the upper parking levels, creating a sense of design sophistication while providing required visual screening for the cars.

PANEL DISGUISES
The decorative panels attached inside a precast concrete framing device help disguise the parking levels, an element required by a recent code addition. Photo: Robert Giordano/Design216.

The screening was necessary due to the city's recently adopted Miami 21 Zoning Code, which dictated that parking structures conceal their function from the street in the downtown area, explains Vick Crespin, vice president and co-owner at KVC. "We needed to create a liner that wrapped around the outside of the building to disguise the parking levels without seeming out of place."

The picture-frame design wraps the upper three levels of the building, with the cornice along the top of the building that hides roof-top parking. Wide precast columns at key locations break through the framing, with precast columns at the corners serving as supports. The framing features a gray finish, which contrasts with the white cornice and darker gray horizontal framing pieces and columns at the base. The gradient coloring provides visual enhancement as the building rises.

BRAMAN AUTO SHOWROOM

LOCATION
Miami, Fla.

PROJECT TYPE
Auto showroom and parking structure

SIZE
492,220 square feet (including 90,000-square-foot showroom)

COST
$35.5 million

DESIGNER
Wolfberg Alvarez & Partners, Miami, Fla.

OWNER
Braman Motors, Miami, Fla.

STRUCTURAL ENGINEER
Hershell Gill Consulting Engineers, Coral Gables, Fla.

CONSTRUCTION MANAGER
KVC Constructors Inc., Miami Shores, Fla.

PCI-CERTIFIED PRECASTER
Coreslab Structures (MIAMI) Inc., Miami, Fla.

PCI-CERTIFIED ERECTOR
Coreslab Structures (MIAMI) Inc., Miami, Fla.

PRECAST COMPONENTS
1567 pieces, comprising columns, beams, double tees, spandrels, wall panels, and trellis components

PRECAST STRUCTURAL SYSTEM

The structural system consists of precast concrete columns, beams, double tees, spandrels, wall panels, and trellis components. The tees were field-topped to provide more cohesive interaction for the car loads on each floor, Crespin explains. "We didn't want the tees to flex due to the length we were using and the loading they supported. The structural system provides a more substantial feel for customers."

Creating the design for the tees and connections for the first-floor showroom roof took more consideration, he added. Designers had to create a high-performance waterproofing system to ensure no moisture penetration into the showrooms below. "With the heavier topping and waterproofing, we used a deeper tee on that level to provide the support."

Both the second and third floors also received the high-performance waterproofing, which consisted of the field topping followed by the waterproof membrane, topped with approximately 5 inches of topping that resulted in a flat surface that offset any camber.

After the membrane was installed, each portion was dammed off and filled with water.

The effectiveness of the waterproofing system was critical, resulting in it being actively tested. After the membrane was installed, each portion was dammed off and filled with water. After 48 hours, it was checked for any leakage or weak spots, then it was drained and the topping was

applied. This was done for each area of the floor. "It limited access around ramps during the test, which required more coordination," he says. "But we had to ensure the waterproofing was perfect."

A dedicated speed ramp connects the auto parking area and storage to the ground floor to ensure no disruption to the showroom space. Customer parking likewise is segregated from the storage facility and was created in a horseshoe-shaped configuration, with elaborate detailing and finishes.

HIGH-QUALITY AESTHETICS

The aesthetic design of the façade, including the framing structure, posed its own challenges. "The key challenge was keeping the quality of the façade consistent and ensuring that it projected the state-of-the-art vehicles it represented over the life of the building," Crespin said. It also had to blend into the neighborhood's look. The design team considered a steel frame, as well as plywood and stucco finishes, he notes. "Ultimately, we decided the precast concrete design provided a more attractive and efficient appearance."

Operating costs also were a consideration, he adds. "This building will be used for the next 50 years, and the owners wanted to minimize long-term maintenance costs as much as possible. Precast concrete provides that with its large piece sizes and its durable consistency."

> 'The owners wanted to minimize long-term maintenance costs as much as possible.'

"The aesthetic goal for the precast was to help reduce the visual mass of what is a relatively large building and to provide a high-quality, dominating presence," says Allen Witt, sales manager for Coreslab Structures (MIAMI) Inc., which fabricated and erected the precast concrete components.

STRATEGIC ERECTION
Two cranes were used at some strategic times to speed erection through key points as space on the site became constrained near completion. Photo: Robert Giordano/Design216.

The picture framing helps visually separate the upper parking levels from the showroom space without drawing attention to its function, allowing the showroom portion to have its own architectural identity. "The configuration of these elements was incorporated into other parts of the campus," Witt notes. These included column supports for a porte-cochere, which unites the building elements and provides cohesion to other buildings on the site.

The design for the parking levels allows the spandrels to act as collision rails while providing low-maintenance finishes. "The design is pretty impressive for the number of functions that could be incorporated, including providing a distinct architectural appearance," says Crespin.

The key part of the disguise consists of aluminum-finished, boomerang-shaped vertical panels angled in either direction that attach to the top and bottom of the precast concrete frame. The panels are highly visible from all vantage points both day and night thanks to illumination from programmable LED fixtures. They change the lighting's intensity and color as desired. Colors often are used in concert with special events, such as Breast Cancer Awareness Month, Independence Day, and to celebrate local sports teams.

COLORFUL DISPLAY
The building's metal panels can be illuminated with programmable LED fixtures that can change the lighting's intensity and color as desired. Photo: Robert Giordano/Design216.

Erection of the structure encountered no issues, progressing from east to west along the site. "The work moved very quickly," Crespin says. Although the site was large, it was active throughout construction, so components were stored at the nearby plant and delivered on a just-in-time basis.

Two cranes were used at strategic times to speed erection through key points as space on the site became constrained near completion, he adds. Although most of the erection was accomplished with the crane positioned within the footprint, for the last 3 weeks, the crane was positioned in the access road to install the final pieces.

FLEXIBLE SPACES
The long double tees used in the building provided open spans that aided layout flexibility on the car levels. Photo: Robert Giordano/ Design216.

DETAILED INTERIORS

Once the frame was in place, interior work could begin. A key element of that was a monumental steel staircase with a stainless-steel and glass finish, which serves as a focal point. "We had to frame the opening for the staircase in the precast concrete floor and ensure it matched up precisely," Crespin says. "It's a very cool element that gives the interior a unique appearance. It's an impressive construction."

The showroom floor is finished with an intricate pattern in porcelain tile that relates to the full-height tiled walls. To accentuate the main entrance to the customer lounge, the ceiling has a series of changes in elevation that draw the visitor to the entrance, which is further enhanced by an entry portico with the Braman brand name in stainless-steel letters. Excess cool air from the showroom is discharged into the arrival area to provide better ambience.

The site offered an elevation difference of approximately 3 feet, dropping off to the west. This posed a challenge due to the city's requirement that access be provided to retail space (in this case, the showroom) every 75 feet. It also required significant landscaping requirements to enhance the pedestrian experience.

To resolve these issues, the designers introduced an elevated pedestrian walkway to transition between the sidewalk changes in elevation and the consistent elevation of the showroom. Strategically positioned stairs and ramps satisfied ADA requirements, with planter boxes integrated throughout the design to provide a cohesive look.

"The raised showroom floor resulted in a vantage point from the street that gives the appearance that the automobiles are on a display platform," Witt notes.

The showroom and parking design received unanimous support from the city's planning and zoning board and the endorsement of the National YoungArts Foundation. The group, which works with art students in the city, has contributed large fabric murals that were integrated into the precast concrete framing between the showroom level and upper parking levels. The murals will be rotated as new student designs are created, helping connect the building to the local arts community.

ADDED RIGIDITY
The double tees were field-topped to provide more rigidity for the car loads on each floor. Photo: Robert Giordano/Design216.

The showroom has been visited by executives from many luxury-automobile manufacturers, and it plays host to a number of major automobile unveilings for car makers. It's also scheduled to be the venue for numerous upcoming events both auto and non-auto related.

The owner was pleased with the design, saying the facility "exemplifies efficiency in storage as well as energy consumption. It is designed to enhance the vehicle-user experience as well as be an asset to the surrounding community."

Witt agrees that the design shows off the beauty and functionality of precast concrete to the best advantage. "The showroom responds to the neighborhood buildings and provides the contemporary image the owner was looking for." Industry peers agree. The project received the 2015 Florida Parking Association Award of Merit for Architecture and the Award of Excellence for Structure.