

Wave-Inspired High-Rise Channels Coastal Spirit

Doka formwork helps to create new addition to the Miami skyline



Amidst the dynamic landscape of the South Brickell neighborhood in Miami, FL, USA, Una Residences rises from the shore of Biscayne Bay. Each aspect of the building's design has been meticulously crafted to elevate the concept of urban living. From expansive floor-to-ceiling windows that flood each residence with natural light to spacious balconies that offer panoramic views of the city and bay, every detail serves to enhance the living experience for residents.

From a distance, the iconic tower is recognizable by its smooth, light-metallic surface and striking silhouette that recalls the natural shape of a wave. Drawing inspiration from the fluidity of the nearby bay and ocean, the building's graceful curves and sleek lines create a visually striking silhouette that commands attention against the Miami skyline.

With 135 waterfront residences spanning 47 floors, Una is just as dramatic up close as it is from a distance. A driveway leads to a grand canopy, introducing the sleek porte cochère whose graceful lines seamlessly transition into a double-height, open lobby. The building's modern curves are complemented by the expertly landscaped gardens designed by Enea Landscape Architecture.

Inside the tower, occupants are met with striking views of the water at every turn. Bedrooms and living areas are set along the waterfront, allowing residents to enjoy sweeping, unobstructed vistas from their condominiums. Daylight floods into each open-plan space, while extra-wide terraces are carefully integrated into the great rooms and bedrooms. Sliding doors create an open connection to the main living spaces and a sense of flow that leads residents to the remarkable views. Floor-to-ceiling windows are set against the warmth of natural materials. Each of the building's finishes are inspired by the interior of a yacht, bringing a sense of elegance and comfort to the rooms while celebrating the pleasures of life on the bay.

The luxury residential tower was developed by Cain International and the OKO Group and designed by Adrian Smith + Gordon Gill Architecture (AS+GG), a team known for a holistic, integrated design approach that explores symbiotic relationships with the natural environment.

Engineering for the Foundational Challenges of a Coastal Site

Behind the awe-inspiring façade of Una Residences lies a testament to precision engineering and meticulous construction. The building's structural integrity was ensured through the use of state-of-the-art materials and cutting-edge construction techniques, allowing it to withstand the rigors of both time and its coastal location.

Engineering this impressive structure was not without its challenges. For example, the building features a three-level, below-grade reinforced concrete parking garage, which necessitated one of the deepest foundations in South Florida. The high water table on the building site added to the complexity of constructing the foundation.

New York-based Moore Group was responsible for the concrete work on the project. To support an efficient and effective forming process, the team turned to engineering support from Doka, a global leader in formwork and scaffolding. Doka Frami formwork and D22 support brackets were selected for the foundation perimeter's single-sided walls.

"The Frami system was the right choice for the Una foundation because these forms needed to be hand-set and stripped under poured slabs," said Daniel Maderthaner, Engineering Manager for the Northern Region of Doka USA. "Since the location had limited access, it's also helpful that the Frami system is designed to be placed with or without crane support."

Forming the Wave-Inspired Tower

As the structure climbs to its 579 ft (176 m) height, the Una tower gradually cantilevers out from the base on the west side to allow for larger residences. Doka's engineering team also provided detailed installation drawings and engineering services to support the complex formwork installation for the cantilevered section. The Doka Framax framed formwork system was used for the core walls. The system's universal panels made the columns tie-less, so they were quick to setup and strip. Effective partnering throughout the planning and implementation phases made it possible to form the foundation walls, main pile cap, and shear walls quickly and easily.

"Una Residences was a really interesting project to work on," Maderthaner said. "There were some unique challenges



Una Residences has topped out at 47 stories, with a completion date of 2025 (photo credit: Golden Dusk Photography)

which we were able to overcome together with the contractor and the reshoring engineer. The cantilever design is visually striking, and the result is quite impressive."

By collaborating to engineer viable solutions to the structural complexities of this project, the team delivered on the visionary concept from the design and development groups. From its striking architectural form to its lifestyle-enhancing amenities, every aspect of the building reflects a passion for pushing the boundaries of what is possible in urban living.

Selected for reader interest by the editors.

Project Credits

Developer: Cain International and the OKO Group

Architect: Adrian Smith + Gordon Gill Architecture

Structural Engineer: DeSimone Consulting Engineers

Civil Engineer: VSN Engineering Inc.

General Contractor: Civic Construction & Ant Yapi Joint Ventures

Concrete Contractor: Moore Group

Landscape Architecture: Enea Landscape Architecture