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Precast/Prestressed Concrete Institute

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Project Profile

The Tapestry Apartments Parking Structure

Precast Raises the Roof...for Rooftop Amenity Parking Structures

Today's precast parking structures offer much more than just an open, well-lit space to park your car. As the multi-family residential and student housing markets continue to grow, the demand for parking structures with green roofs or rooftop amenities such as pools, lounge space, and even fitness facilities is on the rise as well. Residents want comfortable and attractive places to gather, and green roofs and rooftop amenity levels offer all residents the opportunity to enjoy fantastic views not typically available for residents on lower floors. With the cost of land at a premium, developers are looking to the rooftops of their parking structures to give residents the lifestyle experience that's become a "must have" for potential tenants. Green roofs not only beautify the environment, but also contribute to storm water management, improve air quality, and contribute to increased energy efficiency. Green roofs can also help to reduce noise and increase a building's marketability – making it easier for multi-family communities to attract and retain renters.

AT-A-GLANCE

Location: Annapolis, MD

Owner: Lennar Multifamily Communities

Architect: Penney Design Group

General Contractor:
Lennar Multifamily Construction

Precaster: Shockey Precast,
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Rooftop amenity parking structures allow multi-family housing communities, colleges, and universities to maximize the use of available space while creating functional and welcoming common areas where residents can gather to relax, stay healthy, and have fun. Rooftop amenities are the new hot item on residents' wish lists, and developers are taking a cue from the resort industry as they seek to create versatile and attractive spaces where residents can enjoy everything from outdoor dining to yoga studios to swimming pools and lounge areas. And while amenity level parking decks typically come with a higher price tag, it's an investment that can lead to increased revenue opportunities through renters who are more likely to renew.

As a leader in the precast parking structure industry, Shockey Precast is experienced in the design and construction of green roofs and rooftop amenity parking structures in the Mid-Atlantic region. The 1919 Market Street Parking Structure and the Lincoln Square Parking Structure in Philadelphia are both examples of green roof parking structures that feature planters. The Tapestry Apartments parking structure in Annapolis, Maryland, showcases how the use of precast can create a beautiful and inviting space that enhances the lives of community residents.

The Tapestry Apartments parking structure is a seven-level, 392-space, 206,390 SF precast garage with a rooftop amenity level that features a workout area,

PROJECT SCOPE:

Total Precast Pieces: 613

SF of Double Tees: 130,741

Total Cubic Yards: 4,758 CY

Precast Components: Double Tees, Precast Flat Slabs, Wall Panels, Wall Panels w/Architectural Finish, Stairs, Columns, Beams, Inverted T-Beams, Spandrels, Spandrels w/Architectural Finish, Horizontal Rampwalls, Prestressed Wall Panels w/Architectural Finish, Shear Walls

Precast Erection:

October 18 – December 30, 2016

yoga area, showers, and a 20'x40' swimming pool sunk into the parking deck so that the top of the pool is level with the walking surface of the deck. Shockey Precast served as a design-assist partner to Lennar Multifamily Communities, providing engineering guidance in the overall design of the structure, but with additional attention given to the two below-grade precast levels (precast retaining walls) and the rooftop amenity level with built-in swimming pool.

Rooftop amenity level parking decks come with their own design and engineering considerations as well. For the Tapestry Apartments parking structure, product design demanded in-depth engineering for the bracing of walls, stair towers, and three double tee ramps per

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level to transfer the soil load from the two below-grade levels to the other side of the garage using the CIP topping slab and heavy connections. Transfer of load was a significant design concern, and Shockey Precast used a combination of transfer beams and heavily loaded spandrels to support the additional loads imposed on the deck from both the amenity level and the two below-grade levels.

It's not unusual for multi-family residences and their parking structures to be erected either simultaneously or within a relatively short construction schedule. Such was the case for the Tapestry Apartments parking structure. Tight site conditions created challenges in terms of site access for erection of the precast. The site confinements required us to use a large crane and counterweight wagon so the entire parking structure could be erected from one crane set-up. Ongoing communication and coordination by our Field Services department ensured smooth progression of precast erection and an overall successful project and satisfied owner.

To stay ahead of the increasing demand for luxury amenities and fantastic views, multi-family housing developers are taking advantage of the versatility and potential offered by rooftop amenity precast parking structures. Partnering with Shockey Precast can help you provide the functionality, amenities, and luxury living your residents demand while maximizing your return on investment for years to come.



Shockey Precast, a Metromont Company

is a manufacturer and provider of structural and architectural precast concrete located in Winchester, Virginia. A regional leader in parking structures, data centers, design-build, and wall panel projects for nearly 60 years, Shockey Precast has completed nearly 4,000 precast projects in the Mid-Atlantic region, including more than 400 parking structures and more than 5 million SF of data centers. A charter member of the Precast/Prestressed Concrete Institute, Shockey Precast is a PCI-Certified Plant and a PCI-Certified Erector. The company was acquired in February 2018 by Metromont Corporation, a precast manufacturer with headquarters in Greenville, South Carolina and now operates as a division of Metromont. For more information, visit www.shockeyprecast.com and www.metromont.com.