



Hanover, MD.

Project Description

1.3 million sq. ft mixed-use development connected to an adjacent parking garage.

- 15-Story Apartment Building
- 7-level parking garage
- Pedestrian bridge at level 4
- Structural steel sign spanning 4 levels

Design Features:

- 4' thick PT Transfer mat over auger cast piles
- 4'x5' PT Transfer Girders at level 2
- 12.5ft long cantilever balconies
- 7 ½" PT flat plates

CAPABILITIES

- **Structural Design**
- **Post-tensioning**
- **Formwork**

Developer:

Somerset Construction

Architect:

Architects Collaborative, Inc.

General Contractor:

Whiting-Turner

Project completion:

2017

Industry

**Mixed-Used
(Residential/Commercial)**

Project type:

NEW CONSTRUCTION

- Multifamily
- Parking garage



2018 "Excellence in Concrete" award MD Chapter ACI in the Mid-Rise Buildings category (4-15 stories).

Full Project Description

The Arundel Preserve Town Center is a 1.3 million sq. ft mixed-use development located in Hanover, Maryland that was completed in 2017. The project consisted of a mixed-use residential building connected to an adjacent parking garage through a pedestrian bridge on the fourth floor.

The Residences at Arundel is a 15-story apartment building whose framing consists of post-tensioned flat plate construction with reinforced concrete core walls providing resistance to wind and seismic loads. The building is founded on a system of auger cast piles. The unique feature of this project is that there is an existing stormwater vault under the building that required an elegant solution. Our team designed a PT transfer mat using unbonded tendons supported by piles that allowed us to bridge over the storm concrete vaults.

There are a series of four post-tensioned transfer girders spanning the loading dock at the north side of the building. These girders used bonded PT tendons that were stressed in 3 stages during construction. To complete the project, our team designed a bridge connecting the residential building to an existing garage at the fourth level.

On the other hand, The Arundel's cast-in-place concrete parking structure consists of 7 levels and serves over 200,000 sq. ft of mixed-use space in two adjacent buildings. The structure was designed using one-way post-tensioned slabs, beams, and girders.

KLINE's expertise:

Kline Engineering is the engineer of record responsible for design of the entire structure, including the foundation, columns, slabs, beams, and walls. Our team was also responsible for the structural steel sign that spans four levels of the structure. The sign structure is fabricated with metal grating on a steel tube frame which connects to the concrete columns.

Our expertise in the specialty field of post-tensioned concrete construction and innovative solutions is evident throughout The Arundel, which is the tallest building in Anne Arundel County

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