

UNIVERSITY OF RHODE ISLAND HILLSIDE HALL

Kingston, Rhode Island

ARCHITECT

Lerner Ladd + Bartels
Architects, Pawtucket, RI

ENGINEER

Odeh Engineers, Inc.
North Providence, RI

CONTRACTOR

KBE Building Corporation
Farmington, CT

PRECASTER

Oldcastle Precast Building Systems
Selkirk, NY

PROJECT FACTS

- **BUILDING:**
 - 120,000 SF
 - 5-STORY BUILDING

PRECAST STRUCTURAL ELEMENTS INCLUDE:

- 103,000SF OF 8" THICK, 4'-0" WIDE HOLLOWCORE PLANK
- 74 PIECES 8" THICK SOLID PRECAST PRESTRESSED SLABS
- 1ST FLOOR THROUGH 5TH FLOOR + ROOF + STAIR TOWER ROOF



Photos courtesy of Oldcastle Precast Building Systems.

University of Rhode Island (URI), Kingston, RI has been growing steadily since its humble beginnings in the late 1800's. The latest enrollment figure is 16,250 students, with about 6,200 living on campus. As with many historic universities, it is out with the old and in with the new. In this instance a 65-year old apartment complex that housed only 54 beds is being replaced with a 5-story, 429 bed residence hall.

New Residence Hall Uses Precast Hollowcore Plank

This isn't your average residence hall, students have noticed the open, airy feeling of the rooms with 9 ft. ceilings and the abundance of operating windows. There are two wings connected in the center with a 4-story glass bridge linking them together. This bridge provides each floor with outstanding views of the campus, its gardens and includes comfortable lounges that promote community for either meetings or studies.

This 120,000 sq.ft. residence hall utilizes 8-in. thick precast concrete hollowcore planks for the floors, ceilings and roof. Oldcastle Precast, Inc. Selkirk, NY manufactured the 1,263 pieces 4 ft. wide 8-in. thick precast prestressed concrete hollowcore planks as well as the 74 pieces of 8-in. thick solid precast prestressed slabs.

One of the latest important criteria in new student housing is design flexibility. Universities and colleges want the ability to modify the buildings internal layout as future needs change. A major plus to design flexibility with precast hollowcore planks is that the plank itself is long and thin, an 8-in. thick hollowcore plank will span 30 ft. with no interrupting columns or beams in the middle of the living area. The strength and design flexibility of precast hollowcore planks permits the use of long spans with high load capacity, which is perfect for large open areas, such as lounges and meeting rooms. Another part of its design flexibility is that precast hollowcore planks can be used with different structural systems. In URI Hillside, hollowcore planks are bearing on both steel structure and masonry.



A Chapter of the
Precast/Prestressed Concrete Institute

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PROJECT TIMELINE

HOLLOWCORE ERECTION TIMELINE:

- STARTED — SEPTEMBER 2011
- COMPLETED — FEBRUARY 2012

Precast Chosen Because It's Versatile, Efficient and Resilient!

Precast hollowcore planks have many benefits over other building materials. One is concrete's mass, which acts as a thermal sink to smooth peak heating and cooling demands, saving both energy and money. This next benefit is one of the reasons the design team chose precast hollowcore planks: fire safety; it provides a non-combustible structure and eliminates the need for additional fireproofing or fire spraying. Precast concrete also provides moisture control to combat mold and mildew, a health issue that's a growing concern. Add to that the benefit of reduced noise and vibration between floors making it an excellent choice for college students, who, at times seem to have more energy than can be contained.

"Using precast hollowcore installation meant less site congestion, and erection is faster, which gave us earlier access for other trades, saving both time and money," says Anthony Maselli, Vice President of Field Operations for the contractor, KBE Building Corporation of Farmington, CT. On average, Oldcastle can erect and place between 70-80 pieces 4 ft. wide plank covering an approximate area of 8,000-10,000 sq.ft. of precast hollowcore plank a day even during the adverse weather conditions.

Precast hollowcore planks provide natural channels for wiring, plumbing, and HVAC. The finished planks can be left exposed or are smooth enough to simply be painted, alleviating the need for suspended ceilings. The floor side requires minimal finishing with gypcrete or concrete self-leveling to be ready for flooring applications.

University campuses prove to be an excellent venue to build sustainable buildings since faculty and students are very engaged in environmental issues. This URI Residence Hall is applying for LEED Silver certification which goes beyond the skeleton of the building and its precast hollowcore planks. The roof includes plantings and solar collectors which will provide 30% of the hot water needs. Windows open to supply natural ventilation and each floor includes recycling centers. The landscaping includes permeable paths and rain gardens that filter water as it travels back to the river.

The new residence hall at URI is environmentally friendly, sustainable, airy, inviting and inspiring. It is an uplifting environment to encourage the education of our most valuable asset, our children.

The project was designed by Lerner Ladds + Bartels and constructed by KBE Building Corporation.