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DIGITAL EDITION

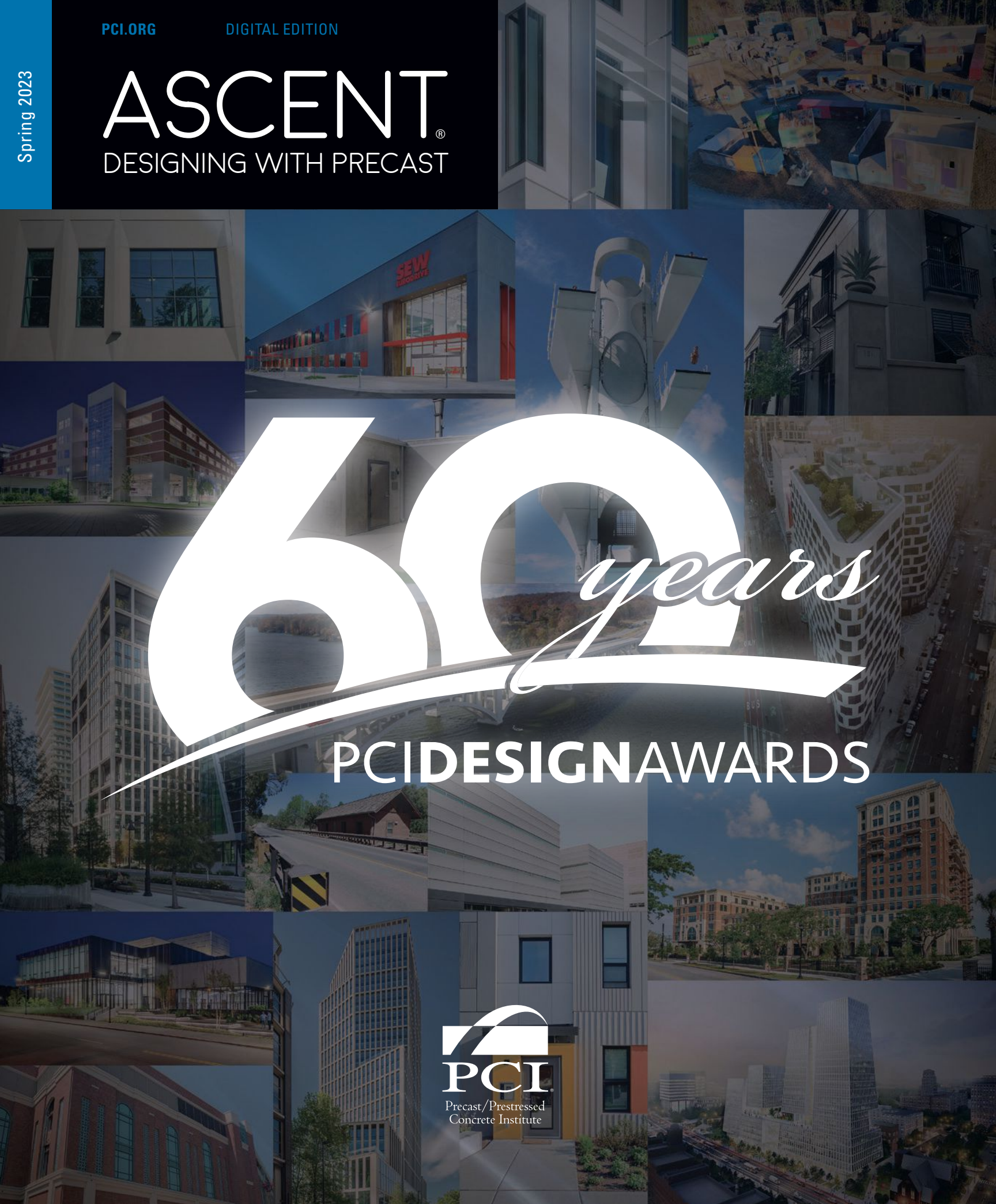
Spring 2023

# ASCENT<sup>®</sup>

DESIGNING WITH PRECAST

# 60 *years*

## PCIDESIGNAWARDS





## Schools (K-12) Building

### PROJECT TEAM:

**Owner:** New York City School Construction Authority, Long Island City, N.Y.

**PCI-Certified Precast Concrete Producer:** High Concrete Group, Denver, Pa.

**Architect:** Perkins Eastman Architects, New York, N.Y.

**Engineer of Record:** Ysrael A. Seinuk, PC, New York, N.Y.

**General Contractor:** Leon D. DeMatteis Construction Corporation, Elmont, N.Y.

**Project Cost:** \$82.82 million

**Project Size:** 122,000 ft<sup>2</sup>



September 13, 2021, marked the first day of school for students in the East New York neighborhood in Brooklyn, N.Y. On that day, the community's first dedicated science, technology, engineering, and mathematics school officially opened as part of PS 667. The new 116,634 ft<sup>2</sup> facility can accommodate 1000 students in kindergarten through 8th grade. The school has state-of-the-art science laboratories, music and art spaces, and a rooftop greenhouse.

The public school, which aims to set students on a path to college and career readiness, occupies a trapezoidal site bounded by Dinsmore Place and Atlantic Avenue and establishes an important street edge along the busy thoroughfare. In that context, the exterior design was developed to provide a sense of scale appropriate to pedestrians and passing traffic.

The New York City School Construction Authority (NYCSA) understands the changing needs of diverse school districts and is in the process of modernizing the current stock of buildings while keeping a sharp eye focused on balancing cost and aesthetics. Many New York public schools were constructed more than 50 years ago, and brand-new facilities are often needed. In a dense

urban location, speed and efficiency of construction are necessary, but a school must also act as a safe haven for the community. Through a collaborative design-build process, the project team for PS 667 constructed one of the first large-scale precast concrete projects taken on by NYCSCA. Precast concrete was specified in lieu of brick and block because it was a better fit for the tight site and because its efficiencies would help NYCSCA meet its goal of having the building ready for the start of the school year.

NYCSCA managed the construction of the five-story school, including the classrooms, staff rooms, cafeteria, and library. The new school is the first to be built in the neighborhood in 30 years and creates a civic presence that will breathe new life into the neighborhood.

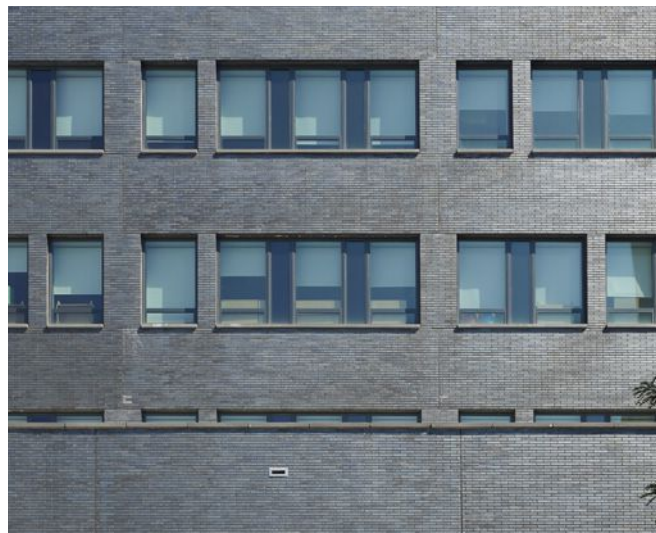
The school looks modern, but the insulated, brick-clad precast concrete panels blend into the architecture of the historic neighborhood. The design for PS 667 also features horizontal panels with intermediate infill pieces to form window openings. These precast concrete panels feature iron-spot thin brick and a charcoal-color precast concrete face mixture that contrasts with areas of exposed precast concrete. Buff-colored accent panels are located at two elevated corners, and both entrances into the school and the tall angular panels received a light acid-wash finish. The gymnasium extension features buff panels with a faceted profile for various shadowing effects.

## FINE-TUNING DESIGN AND CONSTRUCTION

The PS 667 project was part of a larger development, and using a thin-brick precast concrete façade helped expedite the project's completion so that adjacent construction could begin. However, the project team also realized that some operations could have been improved to save time and money. "While the project was a success, this panelization style increased the piece count and added complexity to the exterior envelope. The NYCSCA recognized those challenges, and recent designs utilize more punched window panels for increased production efficiency," says Matt Krebs, senior project manager, High Concrete Group.

Carl Colombo, senior director of construction management, NYCSCA, adds, "Now we better-understand how to optimize panel sizes, and at which point a special permit will be required. We strive to be as repetitive and economical as possible."

Thus, the collaborative effort on this project served as an opportunity to fine-tune the process that will be used going forward. "We learned on PS 667 in Brooklyn that there were too many pieces and we were not optimally efficient," says Colombo. "After that project we were cognizant of piece counts. Now we prefer punched windows, which are simpler to waterproof."



Photos: High Concrete Group.

## KEY PROJECT ATTRIBUTES

- Construct a five-story school on tight urban site in time for the first day of school (September 2021).
- While maximizing the utility of the space allotted, PS 667 demonstrates ingenuity through collaborative design-build project delivery.

## PROJECT AND PRECAST CONCRETE SCOPE

- The project used 933 precast concrete pieces, including 438 sills and copings, 87 exterior wall panels, 75 insulated wall panels, and 333 insulated wall panels with thin brick.
- The project design incorporated NYCSCA's NYC Green Schools Guide building standards for new construction.
- The precast concrete and thin-brick façade offers both modern and traditional aesthetics that seamlessly blend into the community.