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Circular's NYC Corona 3K Public Preschool Sets New Bar for Design, Sustainability and Turnover Speed.

Passive House principles guide the adaptive reuse of an existing commercial building to rapidly deliver high performance results to an under-served community.

Corona, New York – May 01, 2024 - Circular's award-winning Corona 3K Center exemplifies equitable sustainability through its architectural design and construction methodology, delivering a multitude of benefits to occupants, the community, and the environment.

Working under the New York City School Construction Authority's fast-track 3K Capacity Program, Circular created a new preschool for the community by taking over a partially constructed commercial building and quickly revising the design to incorporate high performance infrastructure, facades, and nurturing learning spaces.

Through a commitment to high performance sustainability rooted in Passive House principles, the adaptive reuse project significantly reduces energy consumption and embodied carbon, thereby lessening its environmental impact, lowering operational costs and quickly providing badly needed pre-school seats to a rapidly growing neighborhood.

Program & Site

Seven classrooms on two floors are supported by a medical room, general office, staff room, and parent's lounge. The upper floor is home to a bright and cheerful padded playroom, while the cellar contains the school's kitchen, technical, and utility spaces.

Corona 3K is located in Corona, Queens, one of the fastest growing neighborhoods in the city with more than 30% of its residents under 18 years old. As an under-served area with a large population of newly arrived families, quality public childcare is in high demand.

The Roosevelt Avenue corner site is on a busy commercial corridor fronted by an elevated subway train and heavy vehicular traffic. The design and engineering prioritized creating excellent indoor air quality, ensuring that occupants are shielded from outdoor pollutants, while also providing mitigation of outside noise.

Approach

In order to reduce waste and meet an aggressive time schedule, the adaptive reuse of the partially completed building preserved the vast majority of the structure and infill materials already in place.

Circular reworked the design for the under-construction spec building to develop an updated exterior, core and interior layouts to meet stringent school standards and enhanced energy performance targets.

As described by Circular's Principal Jordan Parnass, "The firm embraces a cradle-to-cradle systems-based approach to all aspects of design that leverages lifecycle, societal benefit and environmental regeneration as forces for positive change."

Design

The building's colorful exteriors stand out as a beacon within the surrounding streetscape to attract local parents and children to the services offered within. Playful custom geometric wall tiles and an illuminated oculus overhead anchor the lobby's welcome desk and set the stage for the school's color-coded corridors and classrooms.

Recessed tile bands become a continuous strip of tackboards creating linear galleries showcasing student artworks in the hallways. Each classroom is identifiable by a signature color used for doors, frames, accent floor tiles, millwork and interior elements, echoing the building's polychromic exterior palette.

The classrooms, offices and support spaces were all designed by Circular to meet stringent school health, durability and functionality requirements while incorporating fixtures and finishes from a short list of pre-approved manufacturers to reduce lead times. All entrances, classrooms and support spaces meet strict standards for both adult and child accessibility, including accommodating toddler-sized fixtures and hardware.

Performance

Circular achieved considerable enhancements to sustainability and comfort in this project by incorporating Passive House principles in design and construction.

Passive House is a set of design strategies and efficiency standards that strictly regulate the amount of energy a building can use, and when implemented correctly, guarantees a very high level of comfort for the people inside.

Circular developed a hybrid wall assembly that improved the existing infill materials with a continuous air barrier, significant amounts of additional wall and roof insulation to dramatically boost thermal performance.

The mass of the existing concrete block infill was leveraged to act in concert with the new insulation layers, assembly air gaps and new locally-produced triple pane windows to mitigate the noise of the elevated subway train, which passes less than ten feet from the upper windows.

A rooftop Dedicated Outdoor Air mechanical system efficiently preconditions, dehumidifies and filters fresh air to provide extremely high levels of indoor air quality and comfort in every room.

Achievements

This educational project has brought about transformative change with far-reaching impacts for the neighborhood. Not only does the facility alleviate strain on existing school infrastructure, but also becomes a symbol of enhanced opportunity for the local population.

Circular's design focused on providing a warm and uplifting atmosphere for children, parents and staff at the 3K center. The project stands as a cheerful, welcoming addition to a dynamic and growing neighborhood.

"Preschools are foundational for our neighborhoods, allowing children to learn, parents to work and communities to thrive," notes Circular Principal Jordan Parnass. "The Corona 3K Center demonstrates that New York City can deliver public facilities that meet the highest standards for design, quality and health and do it sustainably and on an accelerated timeline."

Award Recognition

AIA New York State Excelsior Award
Society of American Registered Architects Award

Technical Sheet

Project Name: Corona 3K Center

Design Team

Circular, Brooklyn NY, Architecture and Interior Design
- Jordan Parnass AIA CPHD, Principal
- Alex Truica NCARB CPHD, Project Manager

Melanie Freundlich Lighting Design, New York NY, Lighting Design
- Melanie Freundlich, Principal
- Anne Cheney, Senior Designer

DM Engineers, Queens NY, MEP/FP Engineering
- Mario Mendoza PE, Principal
- Ronald Diaz PE, Principal

GSE Structural Engineering, Brooklyn, NY, Structural Engineering
- Tom Gasbarro PE, Principal

Metropolis, New York NY, Code Consulting

Construction Team

Ashnu International, Queens NY, General Contractor

STV, New York NY, Construction Manager

Project Data

Location: 104-72 Roosevelt Ave, Corona, NY 11368
Client: New York City School Construction Authority
Size: 18,000 gross sf floor area
Completion Date: September 2023
Photography: Frank Oudeman, Circular

Drawings and high-resolution images for print publication available on request

About Circular

Circular is an award-winning multidisciplinary practice combining sustainable architecture, interiors, and experience design. Founded in 1999 as Jordan Parnass Digital Architecture (JPDA) the firm has been at the forefront of research and design into innovative typologies for high performance Passive House and other sustainable buildings for over 25 years. Circular designs with empathy and integrity to create solutions that make the world a better place to live, capturing value for clients, society and the environment. A recipient of numerous accolades including “Project of the Year” from AIA Brooklyn, Circular has also received awards from the Passive House Institute, PHIUS, AIA local, state and national chapters, Brooklyn Chamber of Commerce, NYCxDesign, Architizer, CODAawards and others. For more information visit circular.cx.

For More Information

https://circular.cx

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