Neri Oxman Speaks 49 Sydney Opera at 40 27 Kinetic Products 64 The Next Wave in 3D Printing 70 Strip Mall Savoir-Faire 74

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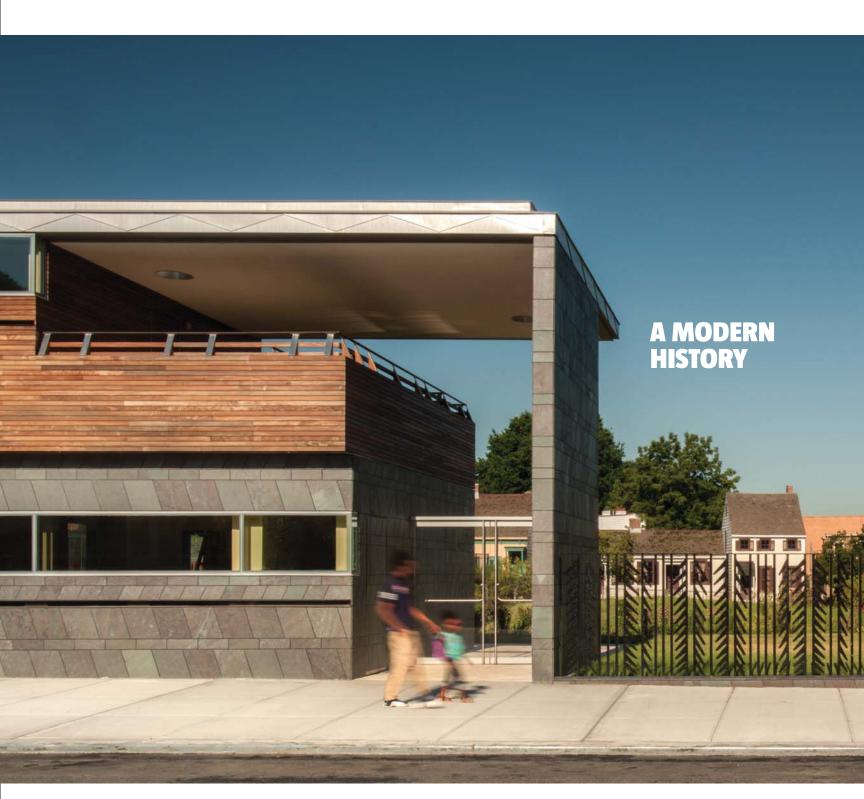
THE MAGAZINE OF THE AMERICAN INSTITUTE OF ARCHITECTS



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Text by **John Morris Dixon, FAIA**

Photos by Nic Lehoux

AN ENHANCED UNDERSTANDING of African-American history and culture in New York City is bound to emanate from the Weeksville Heritage Center just completed by Long Island City, N.Y.—based Caples Jefferson Architects. And the source of this enlightenment is found in four 19th-century structures whose very existence was largely unknown until the late 1960s.

These modest wood-clad houses near the center of present-day Brooklyn are all that remain of the African-American community of Weeksville, which once included hundreds of households, with related churches and schools. In 1968, historian James Hurley was leading a Pratt Neighborhood College team studying old city neighborhoods. Alerted by archival material on Weeksville, he flew over its likely location and spotted the houses—three of them hidden mid-block, sited at an angle to the street grid and surrounded by rowhouses that had engulfed the area as it became urbanized. The fourth and latest of these houses, aligned with the street grid, still had descendants of the original residents living in it.

The houses date from 1838—about a decade after New York's last slaves were freed—to 1883. They were designated New York City landmarks in 1970 and subsequently listed on both the state and national historic registers. An organization, now known as the Weeksville Heritage Center, was established to turn the houses and adjacent property it acquired into a functioning historic site. With funds from private and public sources, the houses were restored in the early 2000s by the architectural firm WASA/StudioA. Today three of them are open for tours, with furnishings tracing domestic life here over the decades up to the 1930s. On the surrounding grounds, school children explore such skills as growing vegetables, keeping bees, and raising ducks.

At the time of the restorations, a master plan by WASA/StudioA proposed a new education building for interpretation of the site and related history. Since the city was supporting the project financially, the commission for the new building was awarded through the Design Excellence process of its Department of Design and Construction. In 2003, Caples Jefferson Architects won the commission.

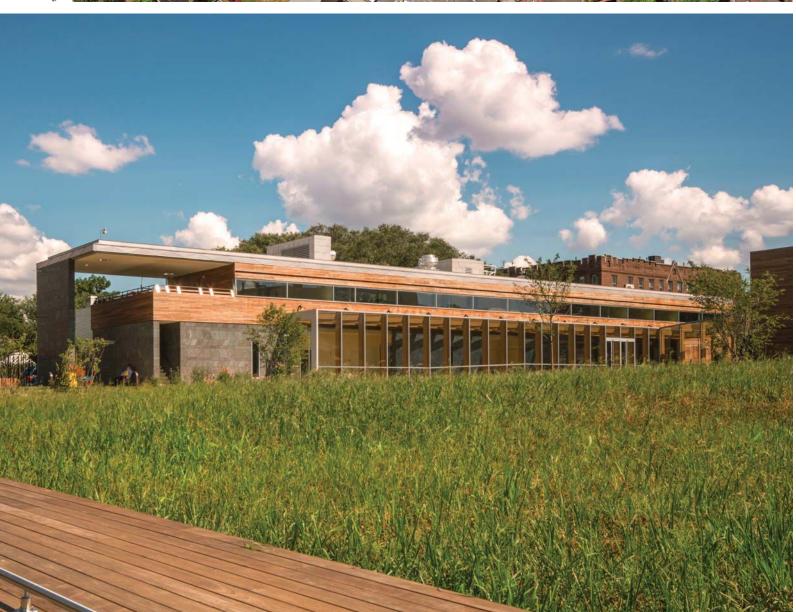
From the outset, it was agreed that the new construction was to be at the southern and eastern edges of the site, farthest from the historic houses, leaving a swath of open landscape to represent their original rural

Previous spread:

Wherever possible, the architects incorporated West African-inspired patterning into the Weeksville Heritage Center, as in the Vermont Structural Slate wall panels. Opposite: An aerial view shows how the new center frames the four historic houses (at upper right) on the 1.5-acre site. Where not bounded by buildings, the perimeter is enclosed by a cast-iron fence from Allen Architectural Metals. Below: A wooden bridge connects the historic Weeksville homes to the new structure.







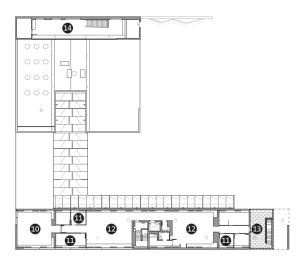




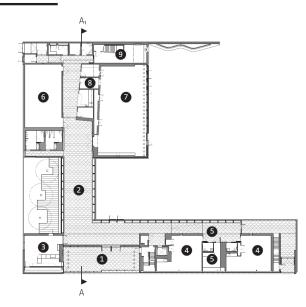
Section A-A₁



Second-Floor Plan



First-Floor Plan



- Main entrance
- Glass Link
- Gift shop
- Workshop
- Media center
- 1. 2. 3. 4. 5. 6. 7. Gallery
- Performance space
- Control room Library
- 9. Library 10. Conference
- Office 11.
- Open office
- 13. Porch
- 14. Library mezzanine



setting. This had the added benefit of allowing the new building to define the site's boundary, and to adopt the streetfront configuration common to its modern day, gridded, urban context. The project's planning also took into account a historic route, Hunterfly Road, that once crossed the site at an angle to the current grid and toward which the community's houses were oriented. The approximate path of this road is only known from historical maps—traces of it through this property had been erased by later dense construction. The architects placed the entrance to the new building approximately on this road's path, so that the initial viewline of the houses through the center's glazed walls roughly follows that of the historic throughway. But lacking archaeological evidence, the old route has been treated as a "ghost road," acknowledged by a cut through a low mound in the new landscaping and emerging as a footpath near the houses.

Caples Jefferson's initial building design proposed a series of volumes with subtly convex walls and roofs, intended as "an evocation of traditional building forms from West Africa," says principal Everardo Jefferson, AIA. These volumes were separated by transparent links that allowed views into the site from the street. The scheme received an award from a National Organization of Minority Architects jury, but it did not please the city's Art Commission (since renamed the Public Design Commission), whose approval was required for public funding. One of the commissioners protested that "he thought we had gone beyond such cultural evocations," recalls principal Sara Caples, AIA.

While not fully agreeing, the architects and their clients set to work on a scheme that is more clearly of its own place and time. And the crisply geometrical design they developed not only suited the client, but was warmly endorsed by that same commission. Once it accepted the final scheme, the commission became, say the architects, "the guardians of the design," countering challenges by the other reviewing groups.

Despite the rejection of large-scale references to West African design, Jefferson "refused to give up on references to African origins," he says. Into the building's otherwise crisply geometrical volumes, the firm introduced patterns adapted from those sources. He was determined that none of these patterns were to be literal copies or superficially applied, but rather "embedded in the construction process." Examples of such treatment are seen in the layout of slate slabs on the exterior walls, the woven bronze security screen at the entrance, and the cast-iron fencing around much of the property. Frit designs on the glazing over circulation spaces project their patterns—which change with light conditions—onto other surfaces. The subtlety of these patterns is proven "when visitors don't notice them till they're pointed out," says Jefferson with pleasure.

Within the 19,000-square-foot structure, all of the public facilities—which include classrooms, workshops, a 700-square-foot skylit gallery, and a 200-seat performance space—are located on the ground floor. These are





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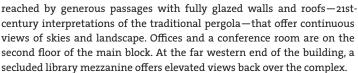




Above: The primary form of circulation through the facility is a pergola enclosed by a curtainwall system from Schüco.

Left: An open-air staircase grants access from a covered porch on the second floor down to the core of the historic site. The porch overlooks the historic Weeksville homes on the far side of the site.





The building is sustainably designed with a goal of LEED Gold, and careful consideration was given to systems and materials. Geothermal wells provide sources for heating and cooling. All of the glazing is insulated, and most is low-E-coated to reduce heat gain and glare—except where it is left clear to maximize views through the building into the site. The architects specified sustainably harvested wood, such as the ipe wood siding and the Douglas fir in the exposed roof decking over upper-floor spaces. Much of the steel in the framing and ceiling systems has recycled content.

Summing up the product of her firm's decade-long effort, Caples is pleased that this is a building that people can love "whether or not they are sophisticated about design," she says. And given the essential support of the project "by people's donations and public funds," she's satisfied that, in the end, the result meets an imperative "to give back value."

Above: The multipurpose performance space in the western portion of the building seats up to 200. Its exposed steel beams are coated in a crimson red Sherwin Williams paint.

Right: Much of the pergola glazing, which was sourced from fabricator JE Berkowitz, is clear vision glass. To minimize glare and heatgain, a frit was applied to the ceiling panes.





ARCHITECT OCTOBER 2013

Forum at the Eckenberg Gymnasium, Page 108

Project Forum at the Eckenberg Gymnasium,

Adelsheim, Germany

Client Baden-Württemberg Department of Property and Construction, Heilbronn Office

Architect Ecker Architekten, Buchen, Germany—

Dea Ecker, Robert Piotrowski (partners); Joachim Schuhmacher, John Ruffolo, Peter Borek, Tom Jin, Sophie

Hartmann, Mariana Martins, Shaique Uddin, Joshua Chan, Aref Nezami, Karolina Bieniek, Ankur Manchanda,

Michael Fung, Stephanie Polochowitz (project team)

Structural Engineer Rehle Engineers

M/E Engineer Carpus+Partner

Structural Analysis and Inspection Kist Engineering

Lighting Design Belzner Holmes

Acoustic Engineering and Building Physics Krämer-Evers

Size 1,000 square meters (10,764 square feet)

Cost Withheld

Material and Sources

Acoustics Heraklith *heraklith.com*; Offecct *offecct.se*

Acrylic Skylights JET; Börner teppichschutz.com Aluminum Rainscreen Kalzip kalzip.com

Carpet Forbo forbo-flooring.com; Tretford tretford.com

Columns Europoles europoles.com

Concrete Formwork Max Frank maxfrank.com

Curtainwall Schüco schueco.com

Exterior Shading Clauss Markisen clauss-markisen.de

Fabric Gabriel gabriel.dk

Finishes Formica formica.com

Flooring Nora nora.com

Free-standing Kiosk Knauf knauf.com

Furniture Brunner brunner-group.com; Bruynzeel

bruynzeel-storage.nl

Hardware FSB fsb.de

Lighting Ludwig Leuchten *ludwig-leuchten.de*; Planlicht *planlicht.com*; RSL Lichttechnik *rsl.de*; Selux *selux.com*

Lighting Controls GIRA gira.com

Roofing Alwitra alwitra.de; Loro loro.de

Metalsa Center for Manufacturing Innovation, Page 118

Project Center for Manufacturing Innovation Metalsa Cidevec, Apodaca, Mexico

Client The Proeza Group—Abraham Tijerina-Priego (director of innovation management)

Architect Brooks + Scarpa, Los Angeles — Lawrence Scarpa, FAIA (designer, principal-in-charge); Silke Clemens, Daniel Poei, Abby Katcher, Oliver Liao, Darien Williams, Jordan

Gearhart, Ching Luk, Mark Buckland, Angela Brooks, AIA, Emily Hodgdon, Daniel Safarik (project design team)

Architect of Record Centro de Diseño—Homero Fuentes **Landscape** PEG Office

Structural Engineering Carl W. Howe Partners

M/E/P Engineering Cobalt Engineering

Engineers of Record SPID Ingenieros (structural and civil); SENSA (mechanical); DINELEC (electrical)

LEED Consultant Zinner Consultants

Project Management Araltec—Alex Ruiz Cruz,

Evelia Garcia

Size 55,000 square feet

Cost Withheld

Material and Sources

Concrete LM Scofield Co. scofield.com

Doors Anemostat anemostat.com; McKeon Door Co. mckeondoor.com; Nationwide Industries nationwide industries.com; Ingersoll Rand ingersollrand.com; Timely Industries timelyframes.com; TM Cobb tmcobb.com;

Total Door Systems totaldoor.com

Flashing APOC apoc.com; Celotex celotex.co.uk;

GAF gaf.com; Grefco

Glazing PPG ppg.com

HVAC Runtal Radiators runtalnorthamerica.com

Insulation Johns Manville jm.com

Lighting Bega-US *bega-us.com*; Prudential Ltg. *prulite.com*; Belfer *belfer.com*; DelRay Lighting *delraylighting.com*;

Eaton's Cooper Lighting/Shaper cooperindustries.com; Philips Stonco stonco.com

Lighting Controls Lutron Electronics Co. *lutron.com* **Masonry** Angelus Block Co. *angelusblock.com*

Paints AFM Safecoat afmsafecoat.com

Plumbing Toto totousa.com; Hansgrohe hansgrohe.com

Roofing CertainTeed Corp. certainteed.com

Skylights Bristolite *bristolite.com*; Solatube International

Stormwater System Stormwater360.com;

Contech Engineered Solutions contech-inc.com
Windows Fleetwood fleetwoodusa.com; US Aluminum
Corp. usalum.com

Weeksville Heritage Center, Page 126

Project Weeksville Heritage Center, Brooklyn, N.Y.

Client NYC Department of Design & Construction—

David Burney, FAIA (director of design & capital improvement); NYC Department of Cultural Affairs—

Victor Metoyer (deputy director of capital projects unit); Weeksville Heritage Center—Pamela Green (executive director)

Architect Caples Jefferson Architects, Long Island City, N.Y.—Sara Caples, AIA, Everardo Jefferson, AIA (principals);

Michael Behrman (associate principal)

M/E Engineer Loring Consulting Engineers

Structural Engineer Severud Associates

Civil and Geotechnical Engineer P.W. Grosser Consulting

Construction Manager Hill International General Contractor Brickens Construction

Landscape Architect Elizabeth Kennedy Landscape

Architects

Lighting Designer Berg-Howland Associates

Theatrical Lighting Cline Bettridge Bernstein Lighting

Design

 $\textbf{Cost Estimating} \ \ \mathsf{Faithful} \ \& \ \mathsf{Gould}$

Building Department Metropolis

Specifications Heller + Metzger

Curtainwall Gordon Smith Construction

Sustainable Design & Commissioning Viridian

Security Ducibella Venter & Santore

Museum Programming Dial Associates

Size 23,000 square feet (building);

41,000 square feet (landscape)

Cost \$26 million

Material and Sources

Building Management Systems Johnson Controls

johns on controls. com

Carpet Bigelow themohawkgroup.com

Ceilings Decoustics decoustics.com; Techstyle

hunter douglas contract.com

Exterior Wall Systems General Woodcraft

generalwoodcraftinc.com

Flooring Oregon Lumber Co. oregonlumber.com

Furniture Steelcase steelcase.com

Glass JE Berkowitz jeberkowitz.com

HVAC AWL Industries

Masonry and Stone Vermont Structural Slate

vermontstructuralslate.com

Metal Allen Architectural Metals allenmetals.com

Millwork Mitchell's Restoration & Millwork; ACGI acgiwood.com

Paints and Finishes Art-in-Construction artinconstruction

.com; Sherwin Williams sherwin-williams.com
Roofing Revere Copper reverecopper.com

.com; Schüco/S&C Products schueco.com

Windows and Doors Door Engineering doorengineering

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Canada Post Registration #40612608/G.S.T. number R-120931738. Canadian return address: Pitney Bowes Inc., P.O. Box 25542, London, ON N6C 6B2.