

The AIA 2018 COTE Top Ten Awards: Performing Beautifully

TH515

Thursday, June 21, 10:30 AM - 11:30 AM

1.0 Learning Units

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Session Facilitators

Angela Brooks, FAIA, LEED AP
2018 Chair, COTE Advisory Group
Principal, Brooks + Scarpa

Mary Ann Lazarus, FAIA, LEED AP
2017 Chair, COTE Advisory Group
Cameron MacAllister Group

Julie Snow, FAIA
2018 Top Ten Juror
Founding Principal & CEO, Snow Kreilich Architects,
2018 AIA Architecture Firm Award

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Course / Learning Objectives

- Explore the COTE Top Ten criteria, including soft and hard measures, for awarding projects that excel in an integrated approach to design aesthetics and sustainability performance.
- Learn how to apply the Top Ten measures as a valuable tool in your firm's design processes whether making a submission for the award or not.
- Examine innovative strategies and approaches across diverse building typologies and locations to create a restorative future that addresses the New Urban Agenda through beauty and performance.
- Get firsthand insight from peers about the design process, challenges, opportunities, and technical solutions to create comprehensive, beautiful, high-performance design.

AIA COTE Top Ten Performing Beautifully: a Restorative Future

The AIA Committee on the Environment Top Ten Awards are the profession's foremost recognition for integrated, holistic, beautiful design.

This program celebrates projects that exemplify 10 measures of high-performance design with stories from the winning teams.

AIA COTE 2018 Advisory Group

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ZeroEnergy Design

Thornton Tomasetti

HOK Inc.

Olson Kundig Architects

Mahlum Architects

Lake|Flato Architects

OPN Architects

Top Ten Measures of Sustainable Design



MEASURE 1
DESIGN FOR INTEGRATION



MEASURE 2
DESIGN FOR COMMUNITY



MEASURE 3
DESIGN FOR ECOLOGY



MEASURE 4
DESIGN FOR WATER



MEASURE 5
DESIGN FOR ECONOMY



MEASURE 6
DESIGN FOR ENERGY



MEASURE 7
DESIGN FOR WELLNESS



MEASURE 8
DESIGN FOR RESOURCES



MEASURE 9
DESIGN FOR CHANGE



MEASURE 10
DESIGN FOR DISCOVERY

2018 COTE Top Ten Awards Jury



Michelle Addington Dean, School of Architecture,
University of Texas, Austin



Jennifer Develin-Herbert, FAIA EHDD, San Francisco, CA



Kevin Schorn, AIA Renzo Piano Building Workshop/NY



Julie Snow, FAIA Snow Kreilich, Minneapolis, MN



M. Susan Ubbelohde LOISOS + UBBELOHDE, Alameda CA

2018 Technical Review Team

James Del Monaco, PE, LEED AP, CxA, Associate Principal, P2S Engineering, Inc.

Paul Erickson, LEED AP, Principal, Affiliated Engineers Inc.

Steve Gross PE, Associate/Sr. Energy Analyst/Mechanical Engineer Interface Engineering

Alejandra Menchaca, Senior Associate, Thornton Tomasetti

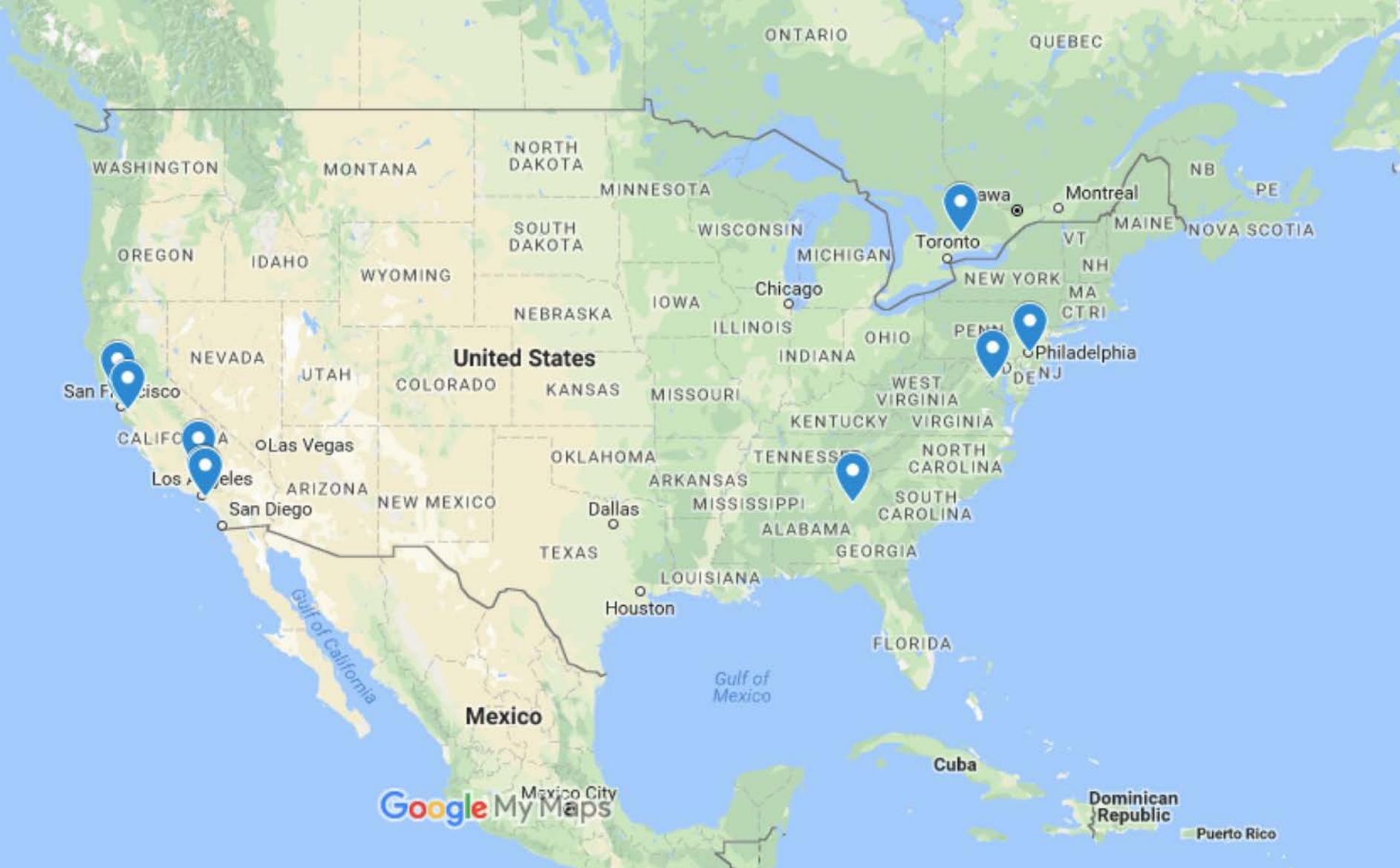
David Mead, Building Performance Specialist, PAE

Jose Rodriguez, Senior Associate, WSP|Built Ecology

Jared Siegel, Intern Architect, Assoc. AIA, OPN Architects

Thomas Zakrzewski, BEMP, CEM, CMVP, LEED AP, Director of Integrative Energy Engineering,
HKS

Helene Zambrano, Architect, Overland Partners



2018 COTE Top Ten Project Locations



Ortlieb's Bottling House

Client: KTRE, LLP

Use: Office

Location: Philadelphia, PA

Architect: KieranTimberlake

COTE Top Ten PLUS

Area: 66,000 sf
(46,000 sf conditioned)

pEUI: 59 kBtu/sf/yr

Actual EUI: 38 kBtu/sf/yr

Better than Baseline: 35% actual 58%

“The design is restrained, adding to the historic structure only what is necessary. At the same time, it conveys the creativity and energy of the design investigations undertaken.”



“The continued collection of data, occupancy engagement, and implementation of the lessons learned elevated this project to the COTE Top Ten Plus award”



Team:

Architect: KieranTimberlake

Contractor: AJ Lewis

Lighting Consultant: Fisher Marantz
Stone

MEP/FP: Elliott-Lewis

Surveyor: SSM Group

Historic Preservation : Jon Milner,
Architectural Research and Cultural
History

Photographer: Michael Moran,
Christopher Leaman

“An exceptional example of passive strategies used in adaptive reuse of an historic urban building.”



Albion District Library

Client: Toronto Public Library

Use: Library

Location: Toronto, ON

Architect: Perkins+Will Canada

Area: 29,000 sf

pEUI: 67.9 kBtu/sf/yr

Better than Baseline: 40%



“This project clearly demonstrates the immediate positive impact of good design.”

“A district library that serves a diverse and newly-immigrant community, the library has a dramatically increased visitorship over the old facility”

“Perhaps the most compelling story of the Albion District Library is its performance within a diverse and high-need community. The library acts as a walled garden, providing a safe-yet-inclusive, welcoming presence”



Team:

Architect: Perkins+Will
Canada

Civil: WSP Engineer

M/P: Hidi Rae

Electrical: Mulvey
Bananni

Structural: Blackwell
Engineering

General Contractor:
Acquicon Construction
Ltd.

Landscape Architect:

DTAH

San Francisco Art Institute

Fort Mason Center Pier 2

Client: San Francisco Art Institute

Use: College/University and Refrigerated warehouse

Location: San Francisco, CA

Architect: Leddy Maytum Stacy Architects

Area: 69,422 sf

pEUI: 62.3 kBtu/sf/yr

Actual EUI: 14.5 ktu/sf/yr

Better than Baseline: 53% actual: 83%





“The team’s resourceful use of a modest budget maximized the improvement of an historic pier building in this retrofit project”



“The design team recognized the assets of the existing structure and created a great, low-energy building with a healthy interior environment”

Team:

Architect: Leddy Maytum
Stacy Architects

Property

Manager/Landlord: Golden
Gate National Recreation
Area (GGNRA)

Owner Project Manager:
Mack

Structural: Rutherford &
Chekene Structural
Engineers

MEP and Fire Protection:
Integral Group Engineers

Acoustical: Charles M.
Salter Associates

Lighting : Architectural
Lighting Design

Civil: Moffatt & Nichol
Theater Design: Auerbach
Pollock Friedlander

General Contractor: Oliver
and Company

“If a single-family dwelling is to be built in a desert climate, this is how to do it.”

Sawmill

Client: Bruce Shafer
Use: Single family house
Location: Tehachapi, CA
Architect: Olson Kundig



Area: 4,266 sf
(3,458 sf conditioned)
pEUI: 00 kBtu/sf/yr
Better than Baseline: 96%



“This house captures the phenomenology of living in the desert with the use of simple, frugal, reclaimed materials.”

“The house is completely off grid with a light environmental footprint”

DESIGN FOR ECONOMY

SAWMILL

Sawmill's design approach was driven by a scavenger mentality, utilizing salvaged materials to do more with less.



\$0

WHEEL AND GEAR SALVAGED FROM SITE

(THE SLIDING WINDOW WALL IS OPERATED BY A GEAR FROM A 1950'S WATER PUMP FOUND ON SITE)

\$1,000

AVERAGE COST OF STEEL WHEEL

\$40,000

SAVINGS USING STEEL SALVAGED FROM DECOMMISSIONED CEMENT PLANT NEAR SITE

\$80,000

UNFINISHED CMU INSTEAD OF CAST-IN-PLACE CONCRETE

\$150,000

AVERAGE COST OF CAST-IN-PLACE CONCRETE

\$0

TIMBER SALVAGED FROM BARN ON SITE

(STAIR TREADS, SLIDING DOORS, DINING TABLE)

\$19/SF

AVERAGE COST OF TIMBER

Team:

Architect: Olson Kundig

Contractor: Bruce Shafer

Corrugated Metal Roofing: SteeLogic

Energy Engineer: WSP Flack + Kurtz

Gizmo Engineer: Phil Turner

Master Welder: James Riddle

Structural : Monte Clark Engineering



New United States Courthouse

Client: United States General Services Administration (GSA)

Use: Courthouse

Location: Los Angeles, CA

Architect: Skidmore, Owings & Merrill LLP

Area: 633,000 sf
(515,862 sf conditioned)
pEUI: 32.26 kBtu/sf/yr
Actual EUI: 31 ktu/sf/yr
(PV not included!)
Better than Baseline: 53%
actual 54%

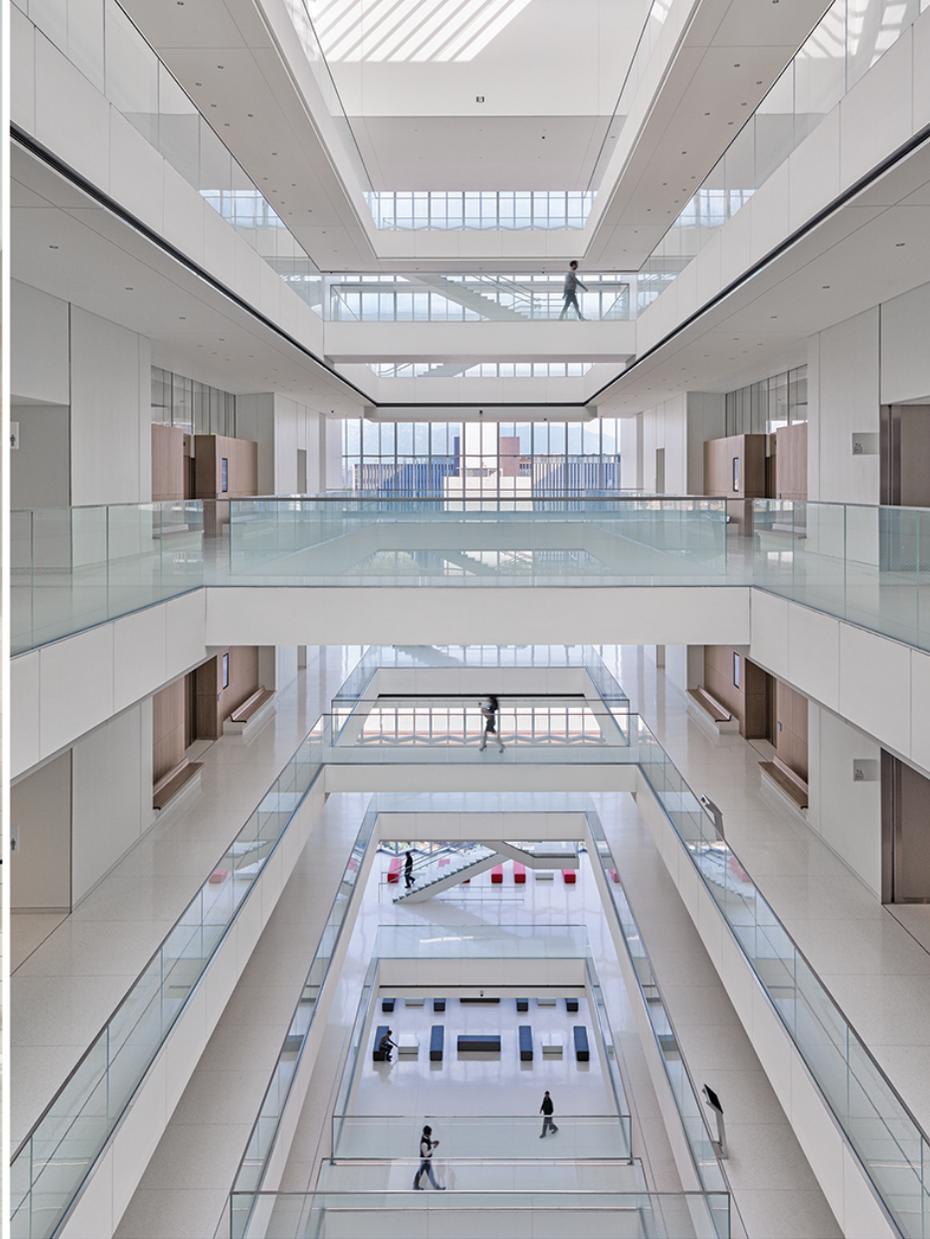
This new civic space gives voice to our democratic ideals of free and open speech.”



In this urban project, the design team delivered mostly day-lit spaces in spite of climate and security demands that typically result in more opaque building envelopes and a highly complex program.”



*Women's March
downtown Los Angeles*



Team:

Architecture/Structural/Interior
Design/Graphics: Skidmore,
Owings & Merrill LLP

General Contractor: Clark
Construction Group, LLC

ME: Syska Hennessey Group

Plumbing: South Coast
Engineering Group

Courts Planning/Security/
LEED:AECOM

Landscape: Mia Lehrer +
Associates

Civil: PSOMAS

Blast Consulting: Applied
Research Associates

Fire/Life Safety: Jensen

Hughes Lighting: Horton Lees

Brogden Lighting Design

Vertical Transportation: Lerch

Bates Inc

Acoustics: Newson Brown

Acoustics

Accessibility: AA Architecture,

Signage: Page/Dyal



Georgia Tech Engineered Biosystems Building

Client: Georgia Institute of
Technology

Use: Laboratory

Location: Atlanta, GA

Architect: Cooper Carry
& Lake|Flato Architects

Area: 212,466 sf
(207,790 sf conditioned)

pEUI: 134.3 kBtu/sf/yr

Actual EUI: 180.1 kBtu/sf/yr

Better than Baseline: actual 58%

“Laboratory buildings are typically heavy water and energy users, yet the design team managed to show that vast improvements can be achieved through ingenuity and integrated design.”



“Thoughtful organization allows for an abundance of daylight to reach the laboratory spaces as well as the offices.”

EXTERNAL SHADING

IMPROVES VISUAL AND THERMAL COMFORT

SOLAR ARRAY

PV PANELS FOR ELECTRICAL PRODUCTION AND SOLAR WATER HEATING SYSTEM

HEAT RECOVERY

FRESH, COOL AIR IN, AND HOT EXHAUST AIR OUT FROM PENTHOUSE

LIGHTING CONTROLS

NATURAL DAYLIGHT FROM NORTH FACING GLAZING, AND LIGHTING CONTROL SYSTEM

CHILLED BEAMS

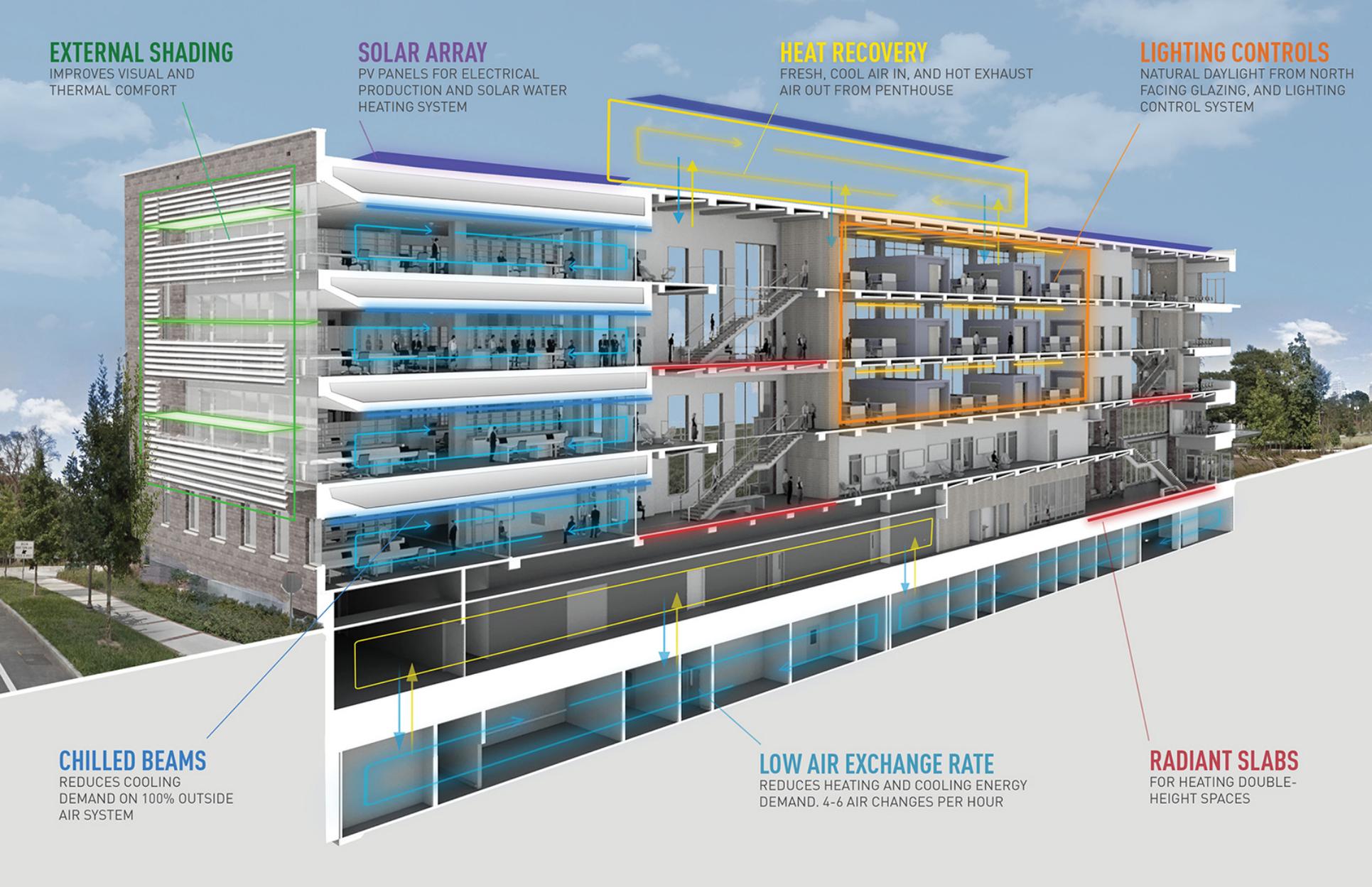
REDUCES COOLING DEMAND ON 100% OUTSIDE AIR SYSTEM

LOW AIR EXCHANGE RATE

REDUCES HEATING AND COOLING ENERGY DEMAND. 4-6 AIR CHANGES PER HOUR

RADIANT SLABS

FOR HEATING DOUBLE-HEIGHT SPACES



Team:

Architect: Cooper Carry & Lake|Flato Architects

Civil: Long Associates

MEP: Newcomb & Boyd

Structural: Uzun + Case

General Contractor: McCarthy Building Co.

Landscape Architect:

Nelson

Byrd Woltz; jB+a

Lab Planning: RFD

Daylighting:

Integrated Design Lab

Energy Performance: TLC Engineering for Architecture

Ecological Services: Biohabitats



Nancy and Stephen Grand Family House

Client: Family House Inc.

Use: Lodging

Location: San Francisco CA

Architect: Leddy Maytum

Stacy Architects

Area: 89,200 sf
(73,057 sf conditioned)

pEUI: 34.1 kBtu/sf/yr

Actual EUI: 30.6 kBtu/sf/yr

Better than Baseline: actual 49%



“The technical and spatial solutions are both impressive, including the solar hot water system; the shared living, dining, and play areas; and the intelligent flexible apartments.”



“A large sunny garden for recreation supports healthy living spaces for this community, providing a sense of normalcy for families struggling with sick children who need housing near the UCSF Hospital.”

Team:

Architect: Leddy Maytum
Stacy Architects
General Contractor: Nibbi
Brothers

Civil: Luk and Associates
Landscape Architect: Cliff
Lowe & Associates

Structural: OLMM
MEP: Engineering 350

Lighting: Architectural
Lighting Design

Interior Design: Marie
Fisher Interior Design

Acoustic : Mei Wu Acoustics

Signage : Keilani Tom
Design Associates

Waterproofing : Simpson
Gumpertz & Heger

Corrosion : JDH Corrosion
Consultants, Inc.

Gas Mitigation: Terra Petra
Low Voltage: EdesignC

LEED : Bright Green
Strategies

“The project is a compelling example of a renovation—and an equally compelling addition—that improves the entire site.”

Mundo Verde at Cook Campus

Client: Mundo Vere Bilingual

Public Charter School

Use: School

Location: Washington DC

Architect: Studio Twenty

Seven Architecture

Area: 45,100 sf

pEUI: 61 kBtu/sf/yr

Better than Baseline: 58.8%



“A 25,000-gallon cistern holds rainwater for reuse, while the gardens have increased site vegetation from zero to 40 percent.”

“The sustainable practices went beyond the buildings themselves and were integrated into the occupants daily lives, such as the zero-waste food policy an training for teachers on how to properly operate the thermostats.”



Team:

Architect: Studio Twenty Seven
Architecture

Civil: Christopher Consultants

Structural: Ehlert/Bryan, Inc.

MEP: CS Consulting Engineers

Commissioning: Interface
Engineering

Landscape Architect: Carvalho +
Good

Landscape Design: Siteworks Studio

Food Service :Next Step Design

Acoustical Consultant: Hush Acoustics

“This project demonstrates that, even with an energy-heavy program that includes a commercial kitchen, a fully integrated and dedicated design team can produce a beautiful and extremely well-performing building.”



Sonoma Academy's Janet Durgin Guild and Commons

Client: Janet Durgin, Head of
School

Use: School

Location: Santa Rosa, CA

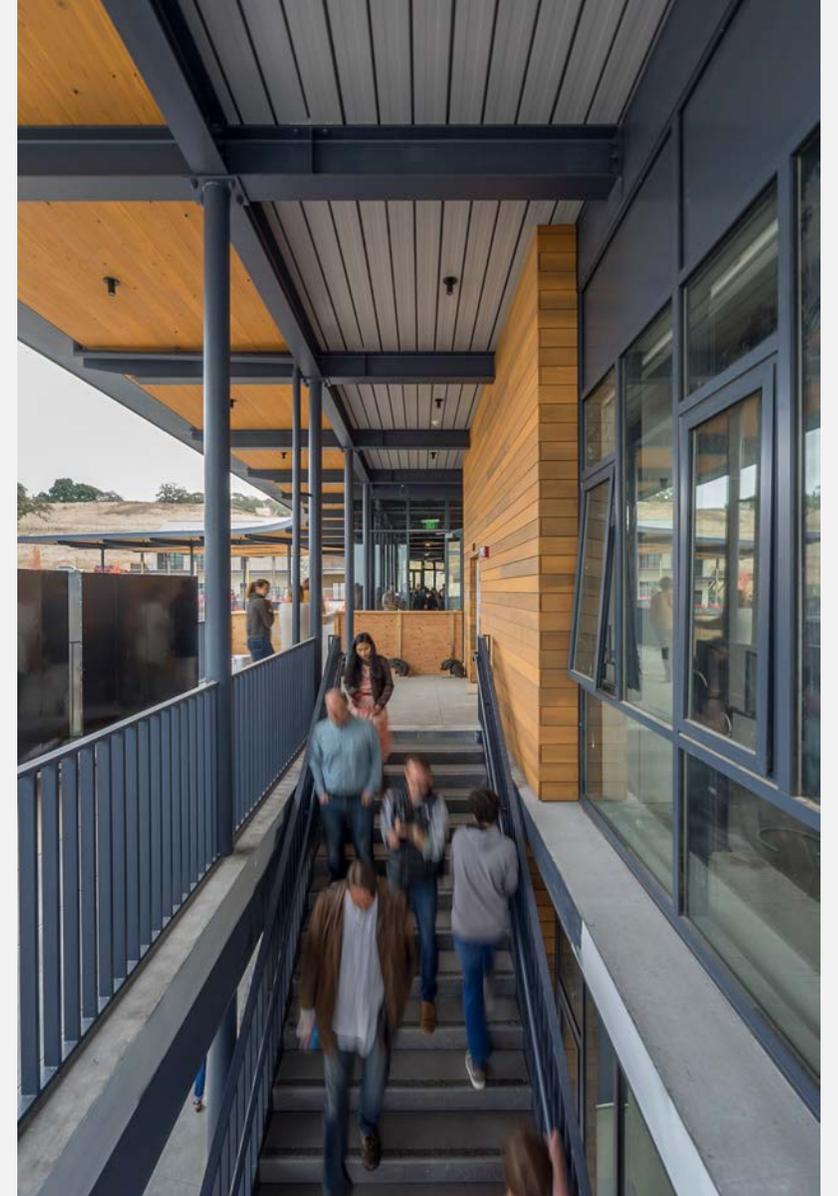
Architect: WRNS Studio

Conditioned Area: 19,000 sf

Total Area: 41,000 sf

pEUI: -4.85 kBtu/sf/yr

Better than Baseline: 104%



“The sloping site, at the core of the campus, is navigated via an upper terrace and lower garden, collecting and using water in an efficient and effective system.”



Team:

Architecture/Interiors:
WRNS Studio

Contractor: XL
Construction

M/P/Modeling: Interface
Engineering Electrical: PV
Design,

Daylighting: Integral Group
Civil Engineer: Sherwood
Design Engineers

Structural: Mar Structural
Design

Landscape and Garden
Architect: RHAA

Landscape Architects

Green Roof: Ranicreek

Acoustician: Salter

Kitchen Design: Vision
Builders

Commissioning: Interface
Engineers



The Renwick Gallery of the Smithsonian American Art Museum

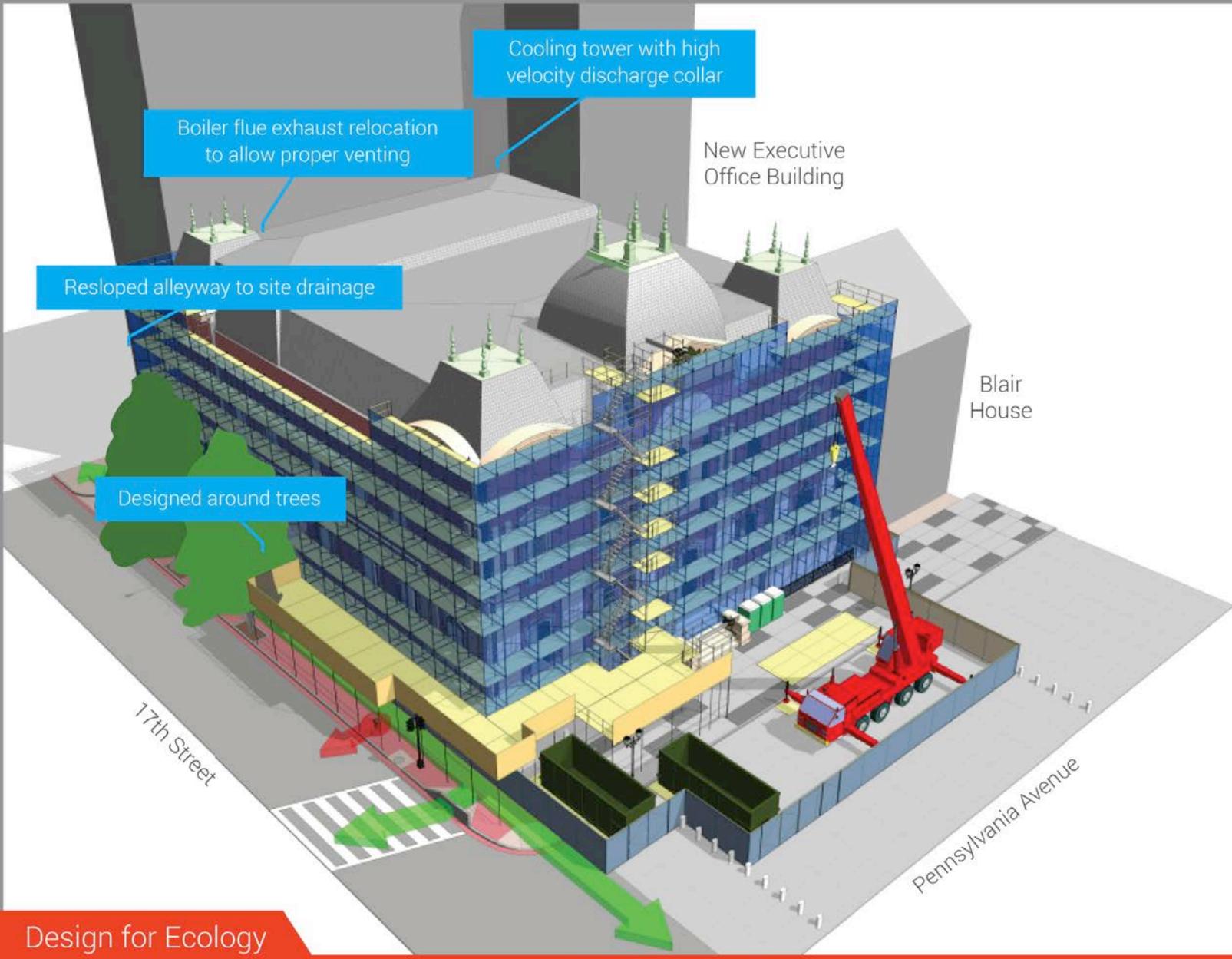
Client: Smithsonian Institution
Use: Museum
Location: Washington, DC
Architect: DLR Group
Westlake Reed Leskosky

“In this major retrofit project, the design team made great improvements to the thermal and luminous performance of this extremely challenging and much loved 1859 historical landmark.”

Area 46,800: sf
pEUI: 92 kBtu/sf/yr
Actual EUI: 102.3 kBtu/sf/yr
Better than Baseline: 54% actual 49%



“The success of the Renwick’s improvements demonstrate that museums and historic landmarks can deliver energy savings with creative retrofits and will hopefully encourage similar projects.”



Team:

Architecture, MEP, Sustainability,
Lighting, Technology: DLR Group
|Westlake Reed Leskosky

General Contractor/Constructor:
Consigli Construction Co., Inc.

Structural: Woods Peacock

Civil: Wiles Mensch Engineer

Fire Protection, Life Safety /
Security: GHD/Protection
Engineering Group

Hazardous Materials: Applied
Environmental

Wayfinding/Signage: AB Design

Vertical Transportation: Lerch
Bates

Cost Estimating: O'Connor
Construction Management

Design for Ecology

AIA

COTE Top Ten

for Students

INNOVATION2030

What if the most visionary designs from the best architecture students in the country led the way to a climate-adaptive, resilient, and carbon-neutral future?

Don't Miss!

FR403: Innovation2030: Next Generation

Friday 6/22

9:45 – 11:15 AM

The New School

Room UL105

Panelists:

Marsha Maytum, FAIA, Leddy Maytum Stacy Architects

Karin Bjorkman Bell, Assoc AIA, Nola|Van Peurseem Architects

Edward Mazria, FAIA, Architecture2030

Holly Samuelson, Harvard GSD

<https://network.aia.org/committeeontheenvironment/home>

Thank You!

