EST. 1836
MICHIGAN CITY
INDIANA

CITY OF MICHIGAN CITY SUSTAINABILITY COMMISSION

BUILDING A SUSTAINABLE MICHIGAN CITY – WORKSHOP #1:

Designing, Financing & Constructing for Success

August 11, 2025 | 100 E Michigan Boulevard Michigan City, IN 46360

By: Gianna Galante

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Agenda

- **5:30 p.m.** – Welcome and introduction
  - Presented by Ms. Wendy L. Vachet, AICP, Director of Public Works (15 minutes)
- **5:45 p.m.** – Presentation by MaryEllen Etienne
  - Director of Market Transformation & Development, U.S. Green Building Council (20 minutes)
- **6:05 p.m.** – Presentation by Jack Schroeder
  - Principal, LBBA Architects (20 minutes)
- **6:25 p.m.** – Presentation by Brett Little
  - Education manager, GreenHome Institute(20 minutes)
- **6:45 p.m.** – Audience Q&A and open discussion (45 minutes)
- **7:30 p.m.** – Closing remarks and adjournment

MaryEllen Etienne

- Committed to resilience both personally and professionally
- Passionate champion for sustainability and the circular economy
- Director at the U.S. Green Building Council (USGBC)
- Works on transforming the built environment through programs, such as:
  - LEED (Leadership in Energy and Environmental Design), SITES (Sustainable Sites Initiative) and TRUE (Total Resource Use and Efficiency)
- Previously led several reuse and recycling initiatives, including:
  - Reuse Alliance, ReuseNYC, London Community Recycling Network, Materials for the Arts
- Creator and writer of the “Women in Circularity” series
- Co-developed the TRUE zero waste certification
- Provided guidance on ground-breaking industry research, policy and legislation

Jack Schroder

LBBA ARCHITECTS

- Focuses on community-based, multi-family housing, including both affordable and market-rate projects across Chicago and downstate Illinois
- Designs with optimism, enthusiasm, and inclusiveness, recognizing every resident defines “home” differently
- 2012 AIA Illinois John Wellborn Root Award recipient (for architects licensed less than 10 years), and a finalist in the 2005 USGBC Natural Talent Competition
- Expert in green building, progressive city planning, and sustainable design to reduce environmental impact and enhance resident well-being
- Project manager for La Casa Norte’s Solid Ground Supportive Housing Program, the Roseland Senior Campus, and Harvest Commons; three first-place winners of the Richard H. Driehaus Award for Architectural Excellence in Community Design.
- Recent work includes adaptive reuse and mixed-use nonprofit projects, such as: Chicago Center for Arts and Technology, the La Casa Norte Pierce House, and the Dorchester Art + Housing Collaborative

Brett Little

- Brett Little is the Education Manager at the GreenHome Institute
- Helped expand the nonprofit organization's mission to empower people to make healthier and more sustainable choices in the places we live for over 15 years!
- Educated 10's of 1000's of people on residential green building topics through weekly Wednesday continuing education webinars for over a decade.
- Leads consultations and certifications on many residential green building projects ranging from single family to multifamily, new construction to renovations.
- Works with cities and govts to make homes better in their communities.
- Uses his own home a demonstration project for sustainable improvements.

What is Sustainability/Sustainable Development?

Sustainability

To pursue sustainability is to create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations (EPA).

Sustainable Development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (Feiden and Hamin, 2011, p.3).

Sustainability Triangle

Elements of a Sustainable Community

Leadership & Civic Engagement	• Inclusive participation in decision-making • Equal access to information & respect for diversity • Shared responsibility & political stability • Support for a strong nongovernmental sector
Ecological Integrity	• Clean air, water, & food • Protect ecosystems & biodiversity • Conserve resources; reduce/reuse/recycle • Use renewable resources sustainably
Economic Security	• Diverse, resilient local economy • Local reinvestment & ownership • Meaningful jobs & workforce training
Social Well-Being	• Reliable local food supply • Quality healthcare, housing, & education • Safety, community spirit, & arts • Preserve public spaces & heritage

What is a sustainable community?. **Institute for Sustainable Communities.** https://sustain.org/about/what-is-a-sustainable-community/

Community Sustainability Tools

Design & Construct

- Support energy-efficient and resilient building design

Financing & Investment Tools

- Use local financing tools for sustainability

Equity & Economic Access

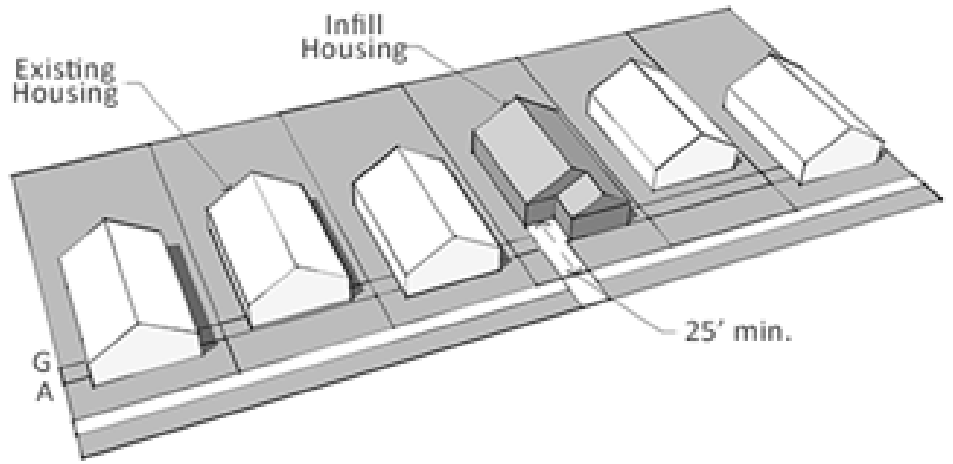
- Improve access to jobs, services, and education

Planning, Zoning & Land Use

- Adopt sustainable planning and zoning policies

Neighborhood Preservation Ordinance

- Inequitable setbacks as the status quo
- Averaging vs. standard setbacks
- Encourages infill housing
- Prevents the need for sprawling
- Taxes get lower
- Already have pipes, pavement, and capacity
- AV (Assessed Value) goes up when density is higher
- Allows for small lots to be usable without going through the variance process



U.S. Green Building Council

An Introduction to Green Building and USGBC

Presented by MaryEllen Etienne
Director, US Market Transformation & Development
U.S. Green Building Council

Michigan City, Indiana
Sustainability Workshop
August 11, 2025

Buildings are responsible for

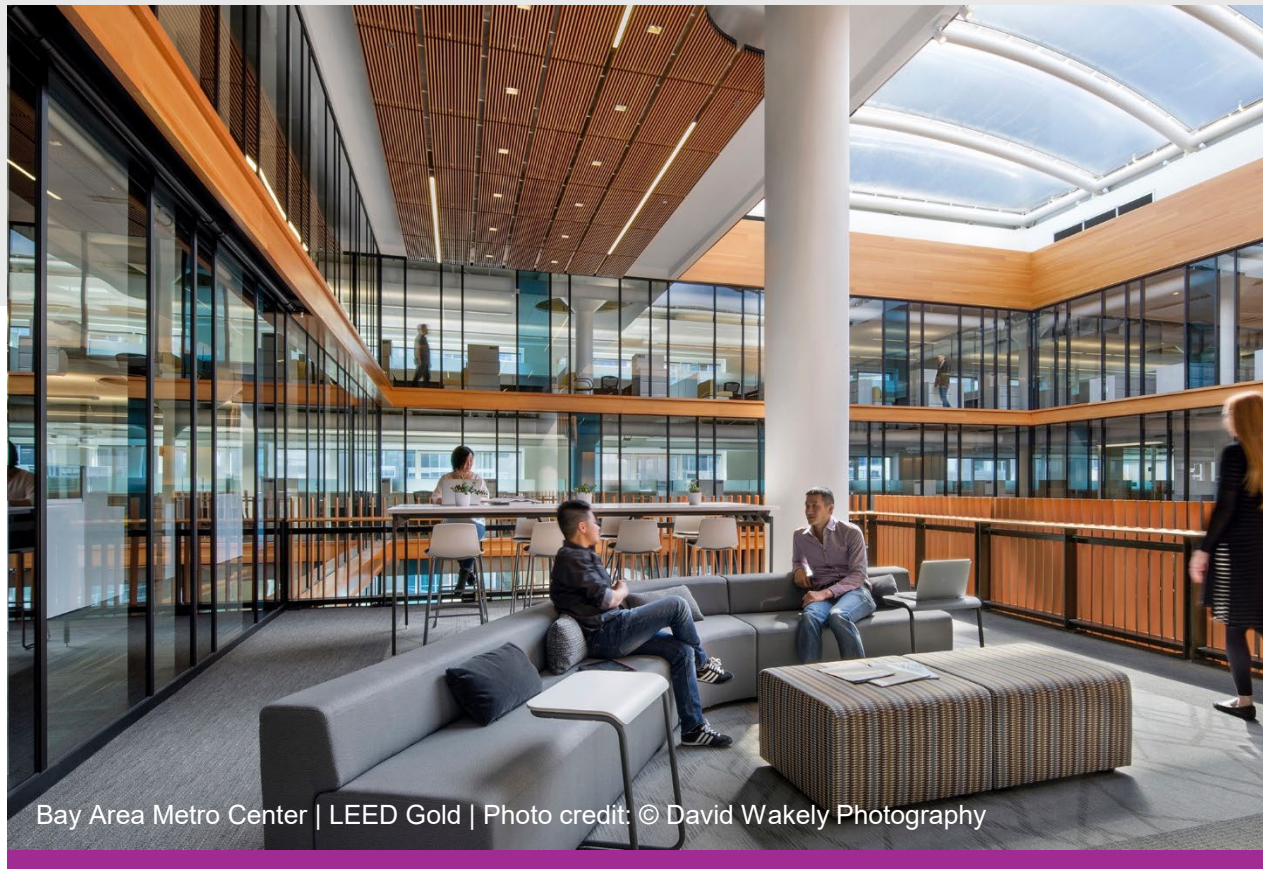
almost 40%

of global CO_2 emissions

Source: usgbc.org/articles/role-leed-climate-change-mitigation

What does 'green building' mean?

Green building encompasses planning, design, construction, operations and end-of-life of our built environment – it pursues solutions that represent a healthy and dynamic balance between environmental, social and economic benefits.



Bay Area Metro Center | LEED Gold | Photo credit: © David Wakely Photography

Source: usgbc.org/articles/what-green-building-0

What are the benefits of green building?

Environmental | Reduces carbon emissions, conserves energy and water, minimizes waste and promotes resilient, low-impact design.

Economic | Lowers operating costs, increases asset and resale values, supports job creation and delivers strong returns on investment.

Social | Improves indoor air quality, supports occupant health and well-being, enhances productivity and fosters community resilience.

Source: usgbc.org/press/benefits-of-green-building

Since 1993, USGBC has been

accelerating green building

to improve lives and livelihoods

Source: usgbc.org/articles/role-leed-climate-change-mitigation

Our Vision

A built environment that enhances health, equity, resilience, sustainability and prosperity for all life and all communities.

USGBC HQ | Washington, D.C. | LEED Platinum | © Halkin Mason Photography

Our Mission

To scale actions that advance building decarbonization, enhance community resilience, restore ecosystems, and improve occupant well-being.

Kaiser Permanente Koolau Medical Office | Photo courtesy of Kaiser Permanente

Our Experience

Drawing on three decades of experience and the deep expertise of our members, we are leading a movement to create measurable improvements to enhance human, environmental and community well-being worldwide.

Havre de Grace Middle/High School | LEED Silver | Photo: Sam Kittner Photography

USGBC has delivered

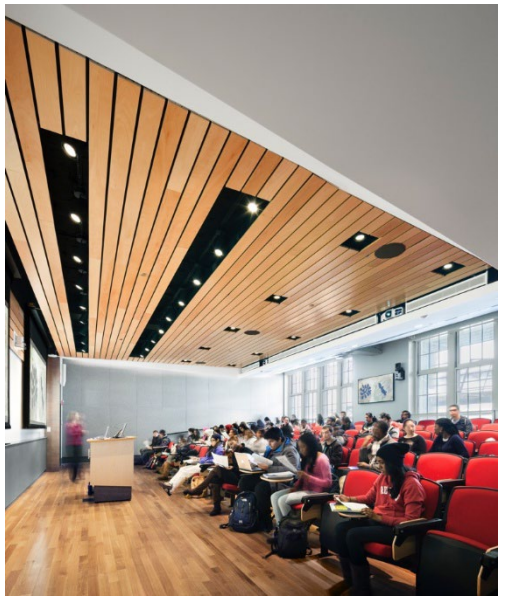
1.3 million+ hours

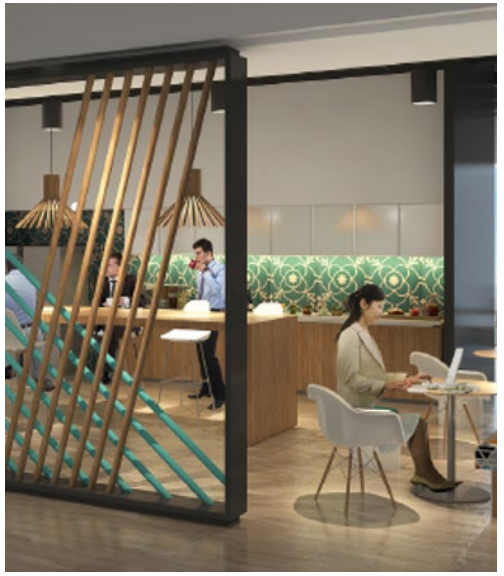
of top-quality green building content to help you enhance your knowledge and skills.

SCAN ME

USGBC offers over 1,000 on-demand green building courses.

Continuing education can help you learn about green building, prepare for exams, and fulfill credential maintenance requirements.

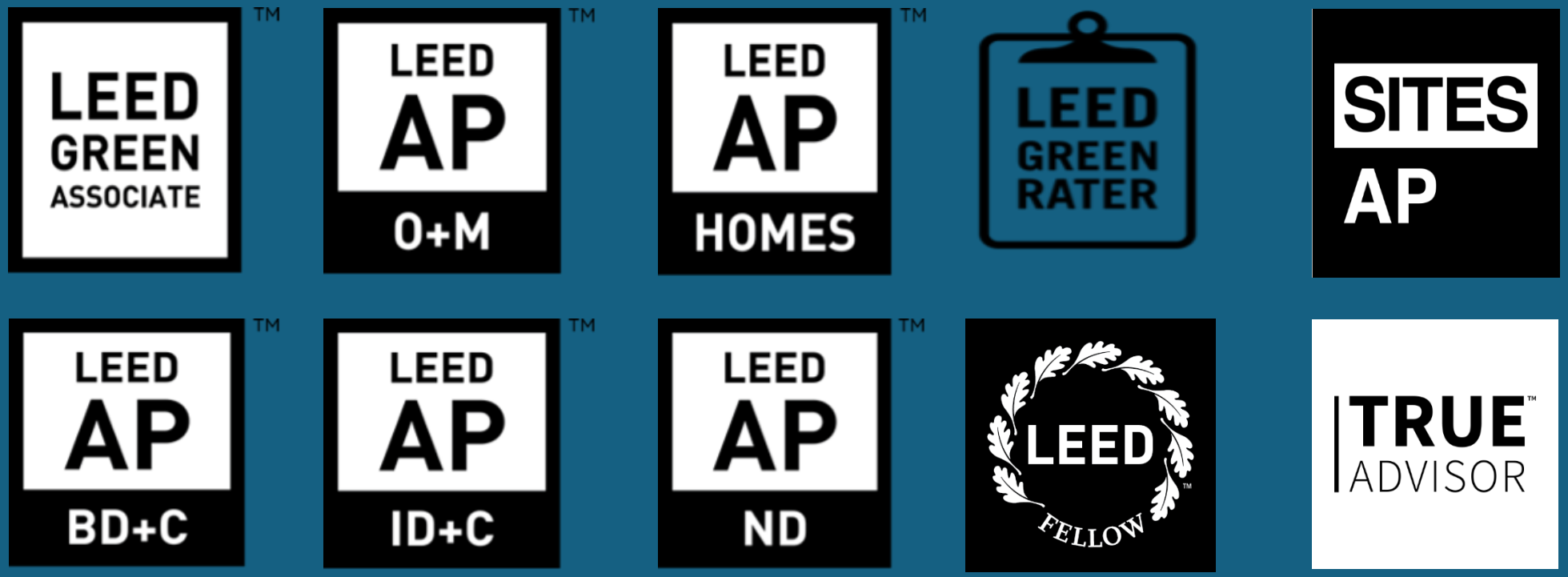




USGBC has credentialled

205,000+ professionals

Distinguish your expertise and take your career to the next level.



SCAN ME

Earn, collect and share your green building knowledge with digital badges.

Digital badges validate your knowledge and showcase your accomplishments.

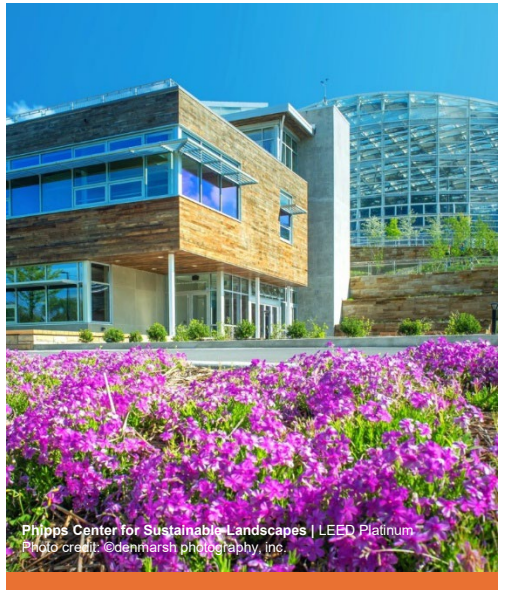
SCAN ME

Green building careers

Explore career profiles and access resources to pursue a green building career.

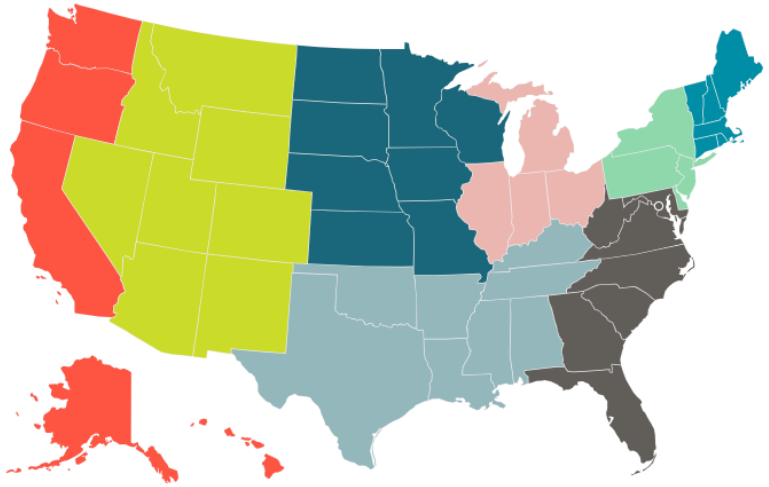

American Society of Landscape Architects | LEED Platinum | Photo credit: © Ana Ka'ahanui


Phipps Center for Sustainable Landscapes | LEED Platinum
Photo credit: ©denmarsh photography, inc.


Phipps Center for Sustainable Landscapes | LEED Platinum
Photo credit: ©denmarsh photography, inc.

USGBC's US network includes

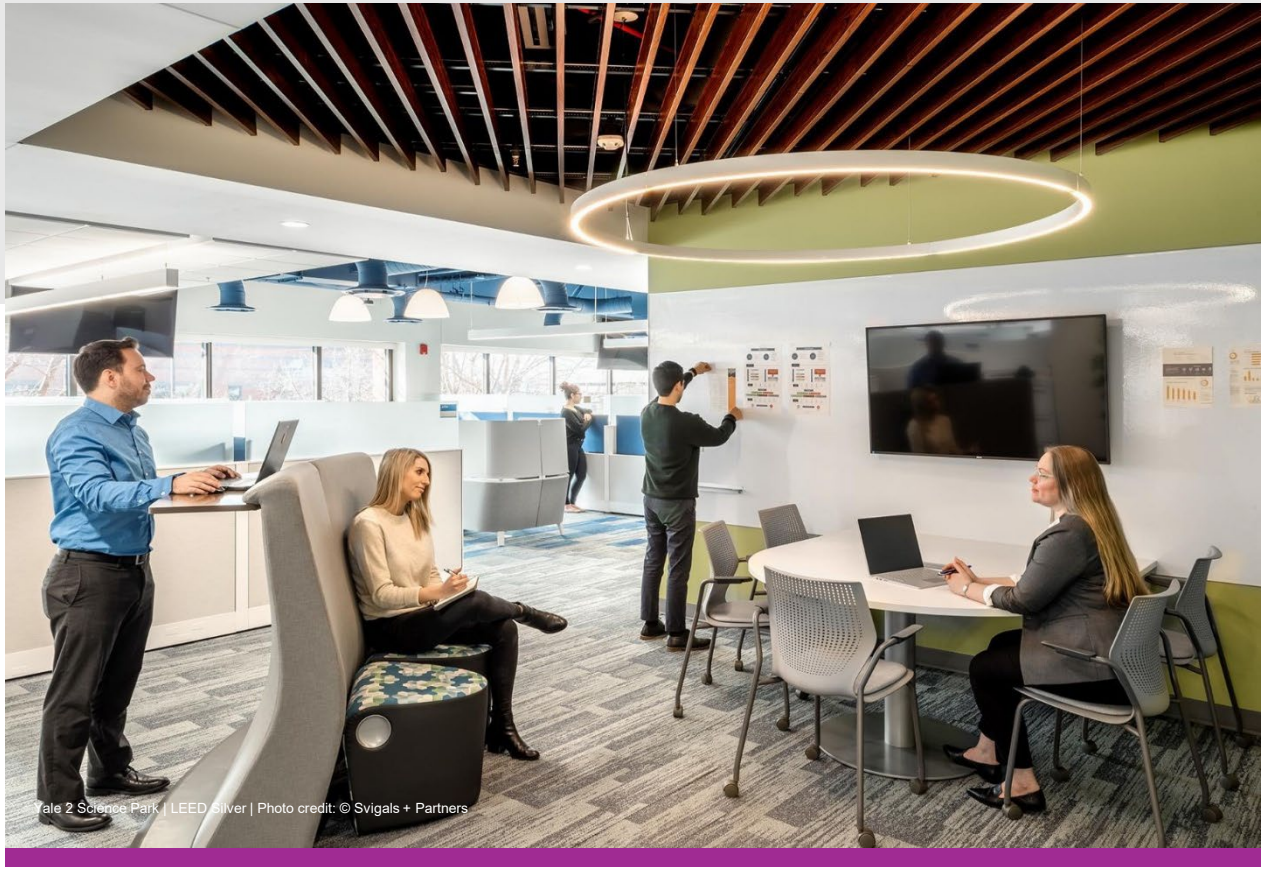
53 local communities



+ East North Central Region
+ Middle Atlantic Region
+ Mountain Region
+ New England Region
+ Pacific Region
+ South Atlantic Region
+ South Central Region
+ West North Central Region

SCAN ME

USGBC’s community network



USGBC Indiana is YOUR community!

Local opportunities for involvement and leadership through learning, networking, and professional development.

As a community member, you can support USGBC's mission of transforming local markets through education, advocacy and outreach.

SCAN ME

Advocating for green buildings and communities

Our advocacy work helps support better public policies, such as the Inflation Reduction Act, codes and standards, government construction policies, affordable housing programs and federal funding for schools facilities.

SCAN ME

Partner with USGBC to drive sustainable policy

USGBC equips governments and policymakers with tools and resources to accelerate building decarbonization, climate resilience and community well-being at the local, state, national, and global levels.

Sierra Nevada Brewery | LEED Platinum | Photo credit: Alexandra Tzoumas

USGBC offers a large portfolio of

sustainable solutions

PROJECT PROFILE — LEED

Infosys

Indianapolis, Indiana

LEED PLATINUM

Features high-performance energy systems, smart water management, a commitment to local workforce development and occupant health and wellness.

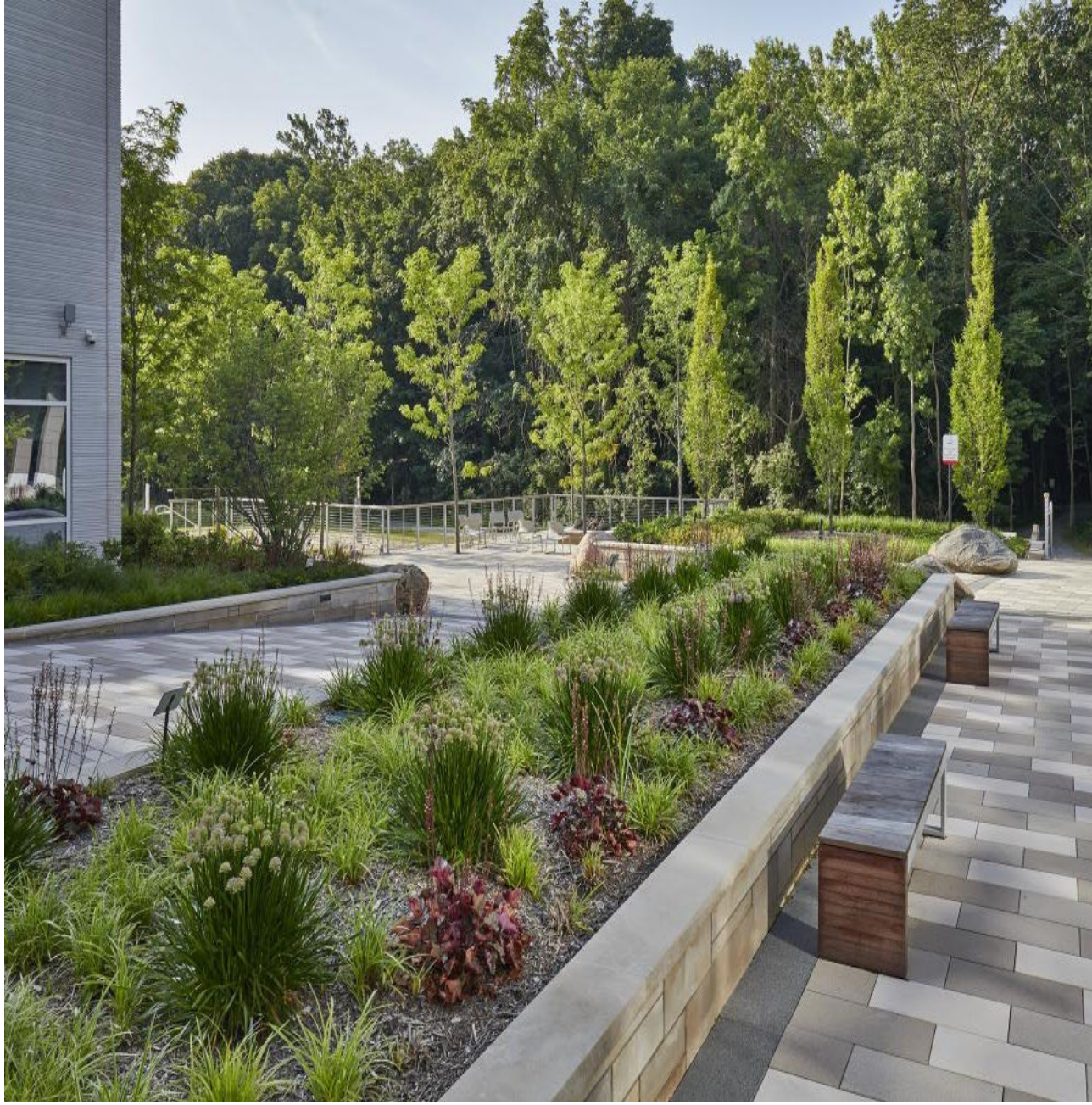
PROJECT PROFILE — SITES

The Center

Indianapolis, Indiana

SITES GOLD

Features a regenerative landscape design, incorporating native plantings, bioswales and outdoor community gathering spaces that support ecosystem services and well-being.



PROJECT PROFILE – TRUE

Colgate-Palmolive

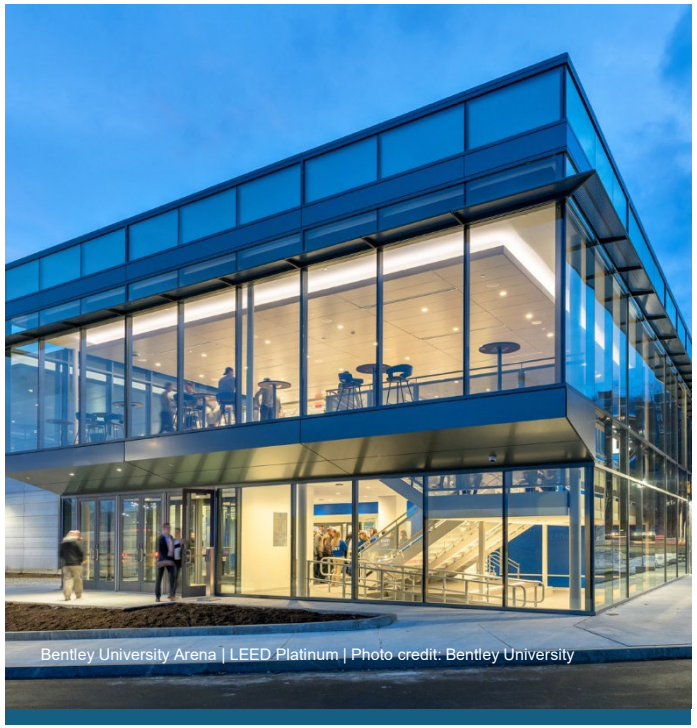
Richmond, Indiana

TRUE PLATINUM

Attained Platinum certification by diverting 97% of waste from landfill through process redesign, employee engagement and closed-loop material flows.

We accelerate impactful change by equipping practitioners, policymakers, and decision-makers with transformative tools, proven solutions, and data-driven insights to design, construct, operate and certify high-performance spaces.

IMPACT Conference | Photo credit: © Alex Carroll



Bentley University Arena | LEED Platinum | Photo credit: Bentley University

Lake Mills Elementary School | LEED Platinum
Photo credit: © Courtesy of C&N Photography, Miron:EUA

LEED certified projects are estimated to save

120 million m/t CO_2

setting a global standard for a sustainable and resilient built environment

Source: usgbc.org/articles/new-report-us-green-building-council-details-data-three-decades-impact


LEED
V5

LEED is the world's MOST WIDELY USED GREEN BUILDING RATING SYSTEM

For 25 years, LEED certification has provided a framework for healthy, highly efficient, and cost-saving green buildings, which offer environmental, social, and governance benefits.

LEED certification is a globally recognized symbol of sustainability achievement, backed by an entire industry of committed organizations and individuals paving the way for market transformation.

LEED V5

LEED V5

A market ready rating system that will drive the built environment toward a near zero carbon future that is equitable, resilient, and promotes the wise, safe utilization of all resources.

THE BEST BUILDINGS USE LEED

123k+

LEED CERTIFIED PROJECTS WORLDWIDE

15.2b+

SQUARE FEET CERTIFIED

180+

COUNTRIES AND TERRITORIES WITH LEED PROJECTS (REGISTERED AND CERTIFIED)

LEED V5

USGBC DATA AS OF JANUARY 1, 2025
ALL RATING SYSTEMS

A wise investment in your building

- Average 21% higher market sales price over non-LEED buildings[1]
- Reduce water and energy by more than 20%[2]
- Average 11% higher rent rates[1]
- Lower utility costs[3]
- Improved tenant and employee satisfaction[3]
- Qualify for tax incentives and sustainable financing[4]
- Stronger financing options[5]
- Solid data on asset performance[6]

1. Source: Cushman and Wakefield, U.S., 2021; 2. Source: GSA, U.S., 2018; 3. Source: CCCS, Latin America, 2024; 4. Source: NYT, U.S., 2025; 5. Source: GBC Australia, June 2024; 6. Source: Arc, April 2025

leed v5 is our most impactful VERSION yet

DECARBONIZATION drives the industry towards a decarbonized built environment across all major sources of emissions: operational, embodied, and transportation.

QUALITY OF LIFE uses human-centric strategies to address crucial aspects of sustainable building, including human health and well-being, resilience, and community well-being.

ECOLOGICAL CONSERVATION AND RESTORATION emphasizes strategies and actions that can be implemented at the individual asset level that limit environmental degradation and seek to rehabilitate and restore ecosystems.

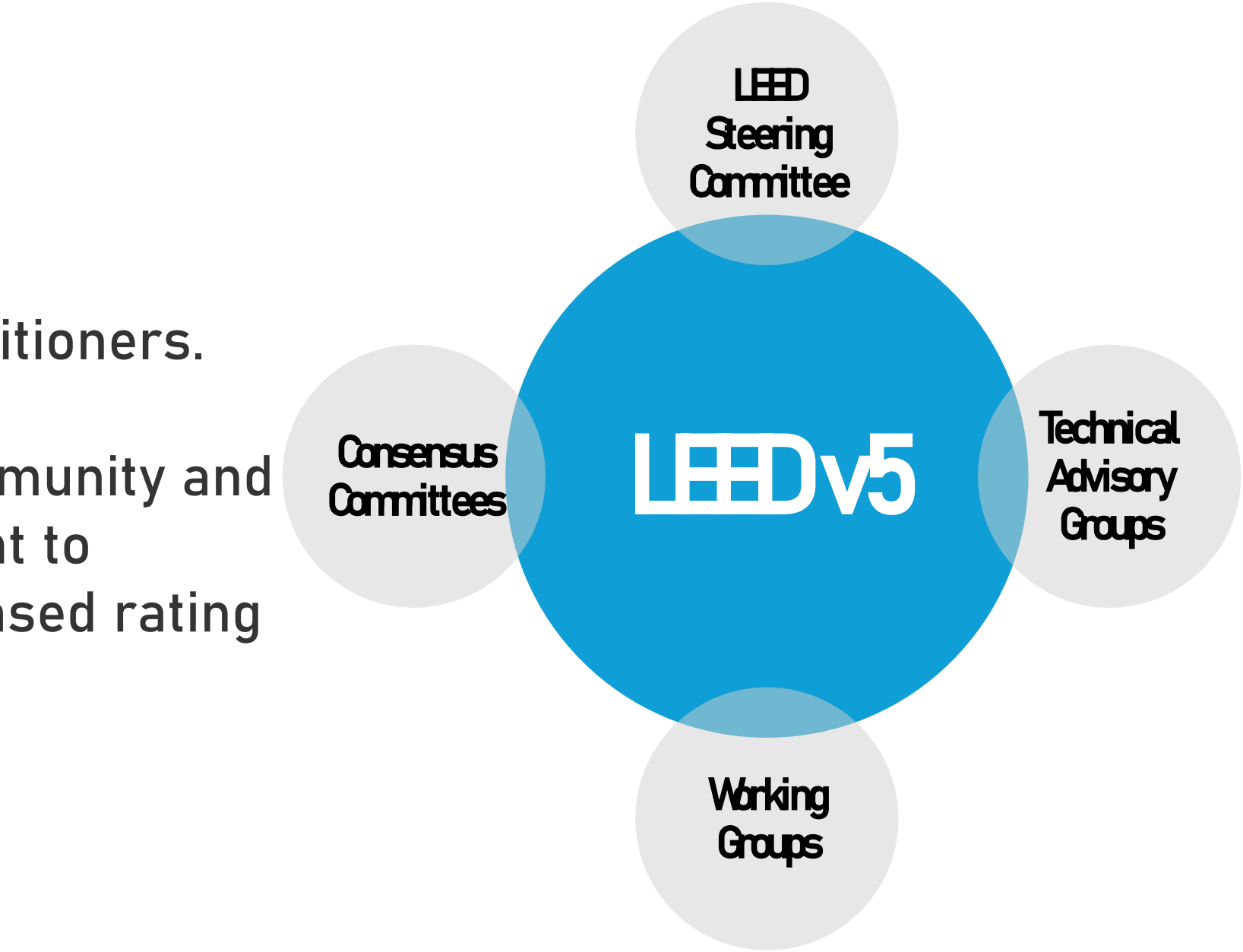
ONE WORLD TRADE CENTER | LEED GOLD | NEW YORK, NY, USA

LEED V5

LEED v5 Development

LEED is built by practitioners.

USGBC relies on community and volunteer engagement to deliver consensus-based rating systems.



LEED v5 Rating Systems

BD+C

Building Design and Construction

ID+C

Interior Design and Construction

O+M

Building Operations and Maintenance

What is new in LEED v5?

Greater flexibility for projects and more opportunities to respond to a rapidly changing market

1

FIVE-YEAR DEVELOPMENT CYCLE

Provides increased predictability for the market

2

PLATINUM REQUIREMENTS

Requirements address energy efficiency, carbon emissions and renewable energy use

3

EVOLUTION OF USER EXPERIENCE

New digital interface, tools and resources provide flexibility for projects


ECOLOGICAL CONSERVATION & RESTORATION
QUALITY OF LIFE
DECARBONIZATION
IMPACT
AREAS

DECARBONIZATION

LEED v5 drives the industry towards a decarbonized built environment across all major sources of emissions

FOCUS ON:

- Operational Carbon
- Embodied Carbon
- Transit-related Carbon

QUALITY OF LIFE

LEED v5 uses human-centric strategies to improve health and well-being, resilience, and equity and inclusion for building occupants and their communities

FOCUS ON:

- Creating more adaptable and resilient projects
- Emphasizing and enhancing elements of the rating system that support equity and inclusivity
- Increasing the likelihood that more people will enjoy and care about the building or space

ECOLOGICAL CONSERVATION AND RESTORATION

LEED v5 emphasizes strategies and actions that consider the interconnectedness of ecological systems and human-built environments, aiming to minimize ecological harm while promoting restoration and biodiversity conservation

FOCUS ON:

- Conserving natural habitats
- Restoring natural habitats
- Efficiently using resources that impact natural habitats

HOW TO GET STARTED WITH LEED v5

FIRST STOP: usgbc.org

The LEED v5 page on the USGBC website provides rating system documents and additional tools

LEED v5 FAQS

Find out more about LEED v5 in the FAQ section of the Help Center

EDUCATION COURSES

Access on-demand green building courses and live events related specifically to LEED v5

CONNECT WITH AN EXPERT

Finally, the Contact Us form provides a direct line to the Technical Customer Service team of LEED experts, who are prepared to dig into more detailed solutions

SUBSCRIBE

Subscribe to LEED Technical Insider Updates

usgbc.org/leed/v5

Thank You.

LBBA ARCHITECTS

LBBA Architects

Building a Sustainable Michigan City—Workshop #1:

DESIGNING, FINANCING, & CONSTRUCTING FOR SUCCESS

LBBA ARCHITECTS


Good design
is for everyone.
2702
1625 W. CARROLL AVE. CHICAGO, IL 60612
WWW.LBBA.COM
LB
BA

Meet the Staff

Peter Landon, FAIA, LEED AP
Jeff Bone, FAIA
Trisha Girdwood, AIA
Jack Schroeder, AIA, LEED AP
Allison Sorenson, Assoc. AIA
Dominik Soltys
Tyler Brown, AIA, LEED AP
Terran Wilson, AIA
Ashley Wendela, AIA, LEED AP
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Kevin Taylor, AIA
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Amelia Tabeling, AIA
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Jennifer Potoczak, AIA
Julia Mosqueda, Assoc. AIA
Tad Jameyfield
Ronel Constantin, Assoc. AIA
Mitchell Hawkins
Katie Taylor, Assoc. AIA
Maleno Quintero
Cristina Bestbreurtje
Shraddha Jain
Michelle Recker
Perry Howell
Sara Fundator

Office Culture

BEDS Plus Lunch Prep

ACE Mentor Program, 2023 CIRT Design Competition

Firebird Community Arts

My Block, My Hood, My City

Newhouse Competition

Dinner with Breakthrough

IIT Studio Reviews

Bike to Work Challenge

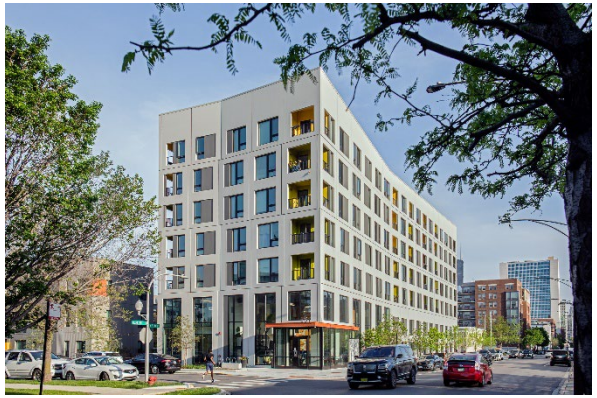
Pumkin Carving Party 2024

airLab, 2011

cityLab, 2014

cityLab, 2013

Project Typology

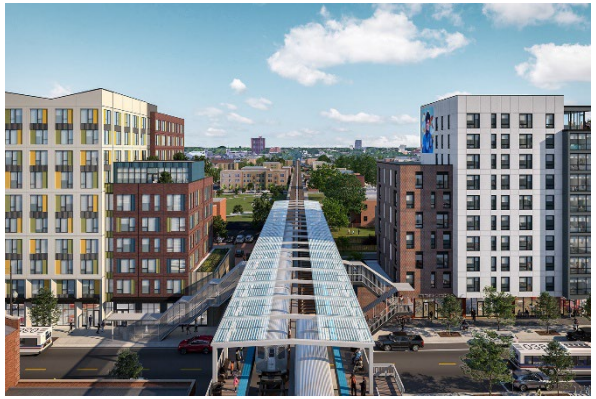


AFFORDABLE + MIXED INCOME

URBAN DESIGN + PLANNING

SUPPORTIVE HOUSING

CULTURAL + INSTITUTIONAL



TRANSIT ORIENTED DEVELOPMENTS

SENIOR HOUSING

HISTORIC PRESERVATION + REHAB

ADAPTIVE REUSE

Sustainability to Match your Mission

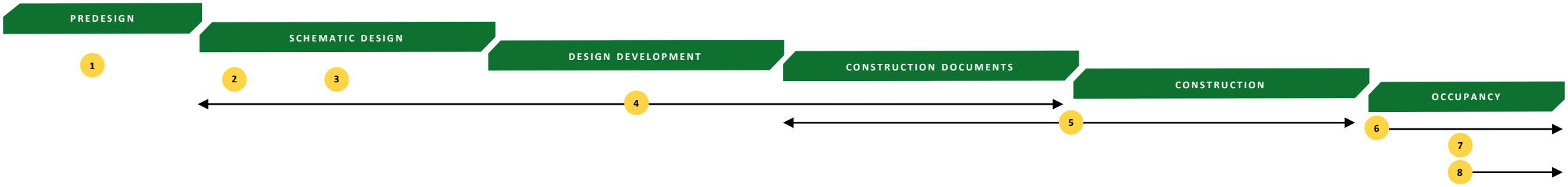
Integrated Design Workshop

MANY [EVOLVING] VOICES

WHAT?

1. Owner's project requirements	2. Integrated design workshop	3. Basis of design	4. Design documents	5. Commissioning	6. Sustainability certification	7. Benchmarking	8. Post-occupancy assessment
The Owner's Project Requirements (OPR) document memorializes the owner's goals and metrics for success for the project. The OPR is a living document that gets refined throughout the design process and is informed by stakeholder engagement.	The Integrated Design Workshop (IDW) tests options for achieving those goals based on the owner's priorities. The IDW also illuminates synergies and describes potential trade-offs when thinking about design questions in a holistic manner.	The Basis of Design document distills the information from the OPR and IDW into a set of parameters and strategies for how the design team intents to achieve the qualitative and quantitative goals for the project.	The Design Team then documents the materials, systems, and design strategies into the project's Construction Drawings, Specifications, and Sustainability Guidelines. Energy modeling memorializes the predicted energy performance on the building.	Cx ensures that building system performance as described in the Design Documents, the OPR, & the BOD is constructed and tested to specifications. Commissioning can include MEP systems, building enclosures & renewable energy. Building staff is properly trained in maintenance and operations.	The Design Team and Contractor track progress on key sustainability metrics during construction, and document final performance when construction is complete. Depending on the certification, this may require a performance period post-occupancy.	Once construction is complete, the Design Team gathers the project data on key performance metrics. Some metrics are used for public reporting (i.e. AIA 2030 Commitment) while others are retained internally for knowledge-sharing and best practices. The information gathering is both quantitative and qualitative.	Following a performance period, the project owner, stakeholders and staff are surveyed to see if the building is operating as intended. If there are issues, the Design Team, along with the Cx agent and Contractor assist the owner in making necessary adjustments.
WHO?							
1. Owners 2. Stakeholders	1. Owners 2. Stakeholders 3. Contractors 4. Builders 5. Designers	1. Owners 2. Builders 3. Designers	1. Designers 2. Contractors 3. Developers	1. Builders 2. Contractors 3. Developers	1. Designers 2. Contractors	1. Designers	1. Owners 2. Stakeholders 3. Contractors 4. Builders 5. Designers 6. Developers

WHEN?

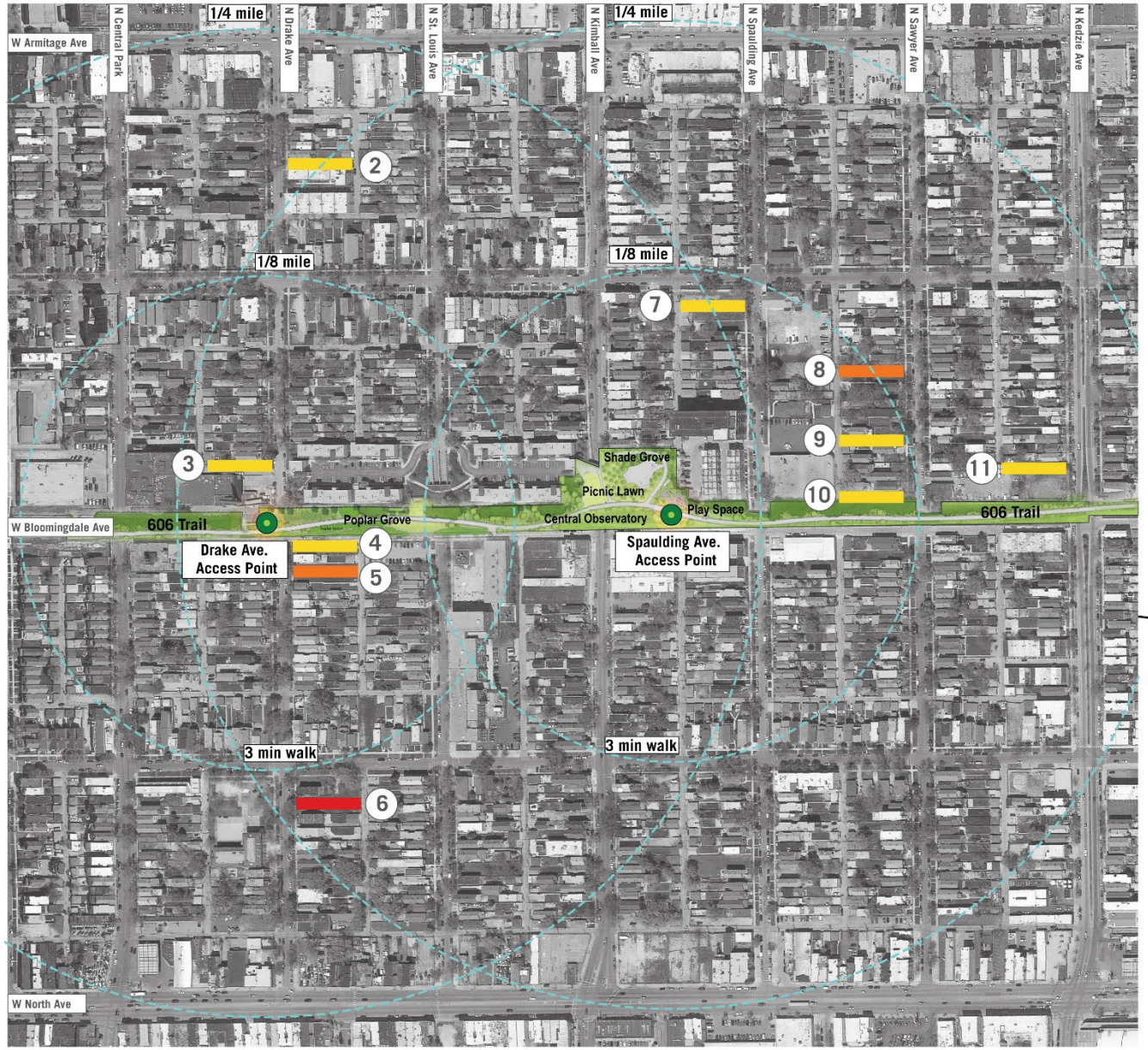


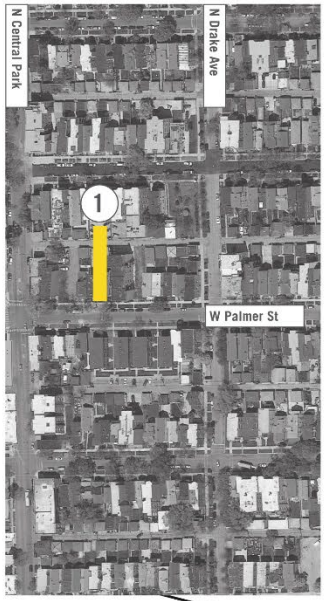
Project Examples

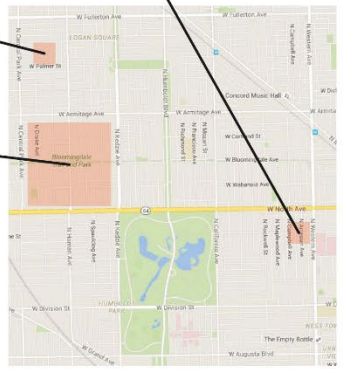
Tierra Linda

CHICAGO, IL

Tierra Linda, Chicago, IL

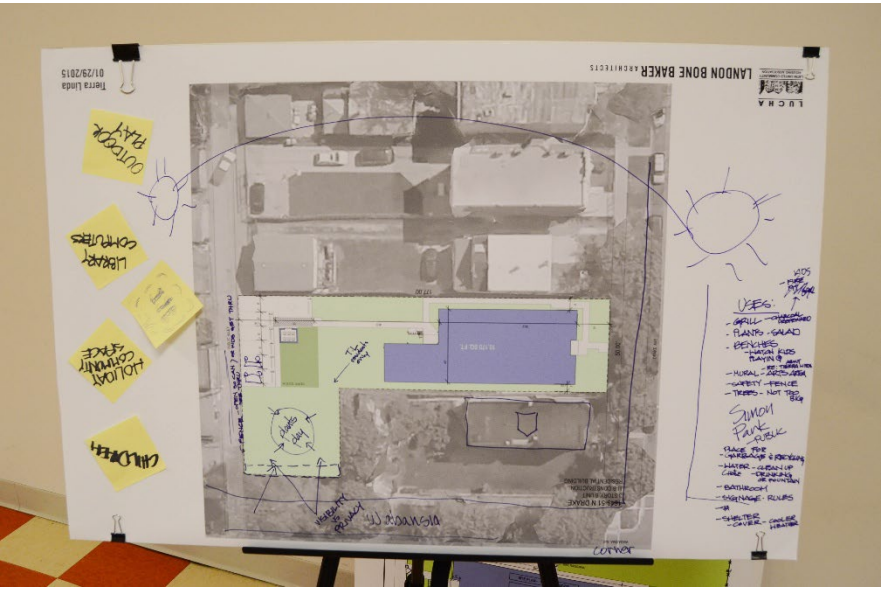




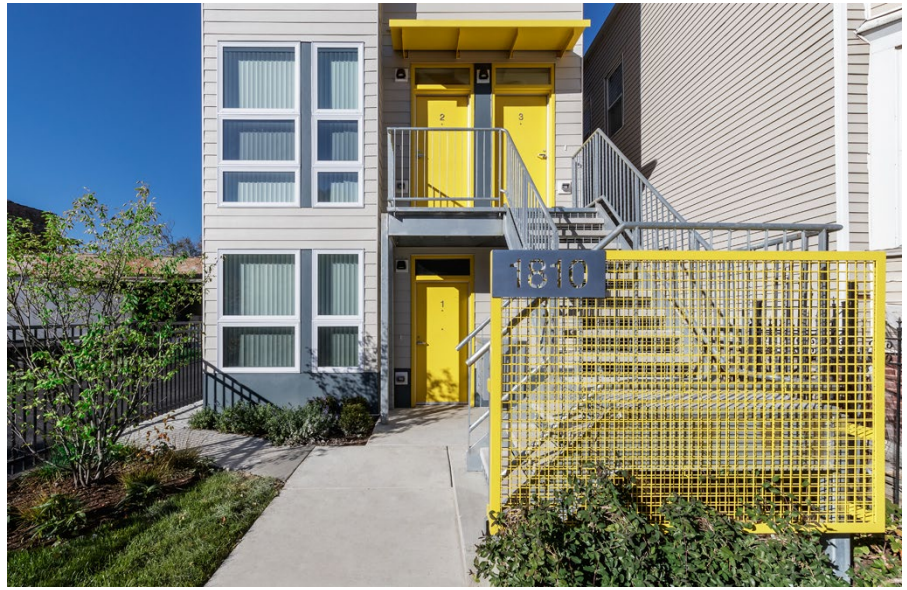


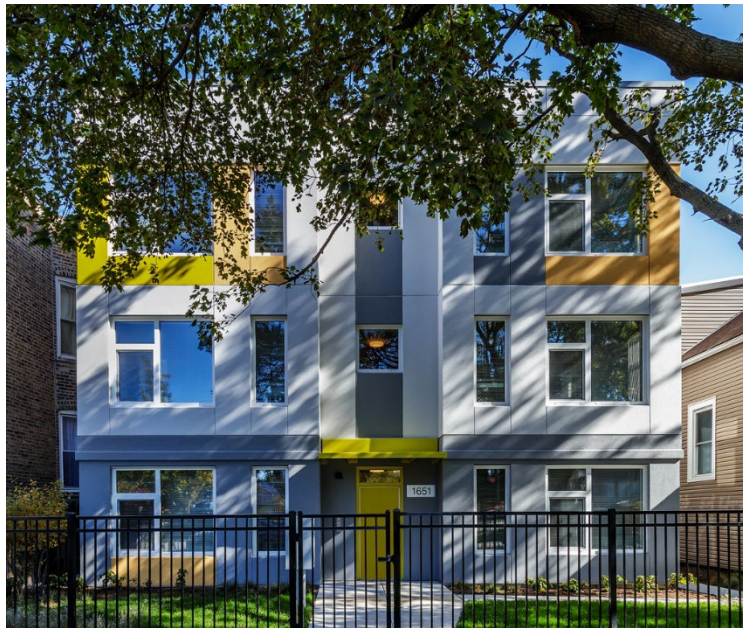
1 - 3572 W Palmer St 3-Flat
2 - 1929 N Drake Ave 3-Flat
3 - 1812 N. Drake Ave 3-Flat
4 - 1757 N. Drake Ave 3-Flat
5 - 1749-51 N. Drake Ave 6-Flat
6 - 1649-51 N. Drake Ave 6-Flat Passive House
7 - 1858 N Spaulding 3-Flat
8 - 1834-38 N Sawyer Ave 6-Flat
9 - 1822 N Sawyer Ave 3-Flat
10 - 1802 N Sawyer Ave 3-Flat
11 - 1808 N Kedzie Ave 3-Flat
12 - 1421 N Artesian Ave 3-Flat

Tierra Linda Eco Charrette



Tierra Linda, Chicago, IL





Tierra Linda, Chicago, IL

Why Passive House?

- Superinsulation and airtight construction provide **UNMATCHED COMFORT** even in extreme weather conditions.
- Continuous mechanical ventilation of fresh filtered air provides **EXCELLENT INDOOR AIR QUALITY.**
- A comprehensive systems approach to modeling, design, and construction produces **EXTREMELY RESILIENT BUILDINGS.**
- Passive building principles offer the best path to **NET ZERO AND NET POSITIVE** buildings by minimizing the load the renewables are required to provide.
- **LOWERS LONG TERM BUILDING COSTS** due to well-insulated and tight envelope.

What is Passive House?

- Employs **CONTINUOUS INSULATION** throughout its entire envelope without any thermal bridging.
- The **BUILDING ENVELOPE IS EXTREMELY AIRTIGHT**, preventing infiltration of outside air and loss of conditioned air.
- Employs **HIGH-PERFORMANCE WINDOWS AND DOORS**—solar gain is managed to exploit the sun's energy for heating purposes in the heating season and to minimize overheating during the cooling season.
- Uses some form of balanced **HEAT AND ENERGY RECOVERY VENTILATION**.
- Requires minimal space conditioning due to the **ROBUST THERMAL ENVELOPE AND AIR SEALING**.

Passive House: Tierra Linda

ADDITIONAL INNOVATIONS

- Triple pane window U-value 0.17
- Door U-value 0.09 (R-11)
- Roof insulation R-60 value
- Continuous under-slab rigid insulation
- Isokorb steel attachment components significantly reducing thermal bridging at canopy and porch connections
- Condensing dryers
- Split Heat pump system (2.5 ton ducted)
- Makeup air rates (80 CFM range)
- Reduction of heating/cooling loads over code basis

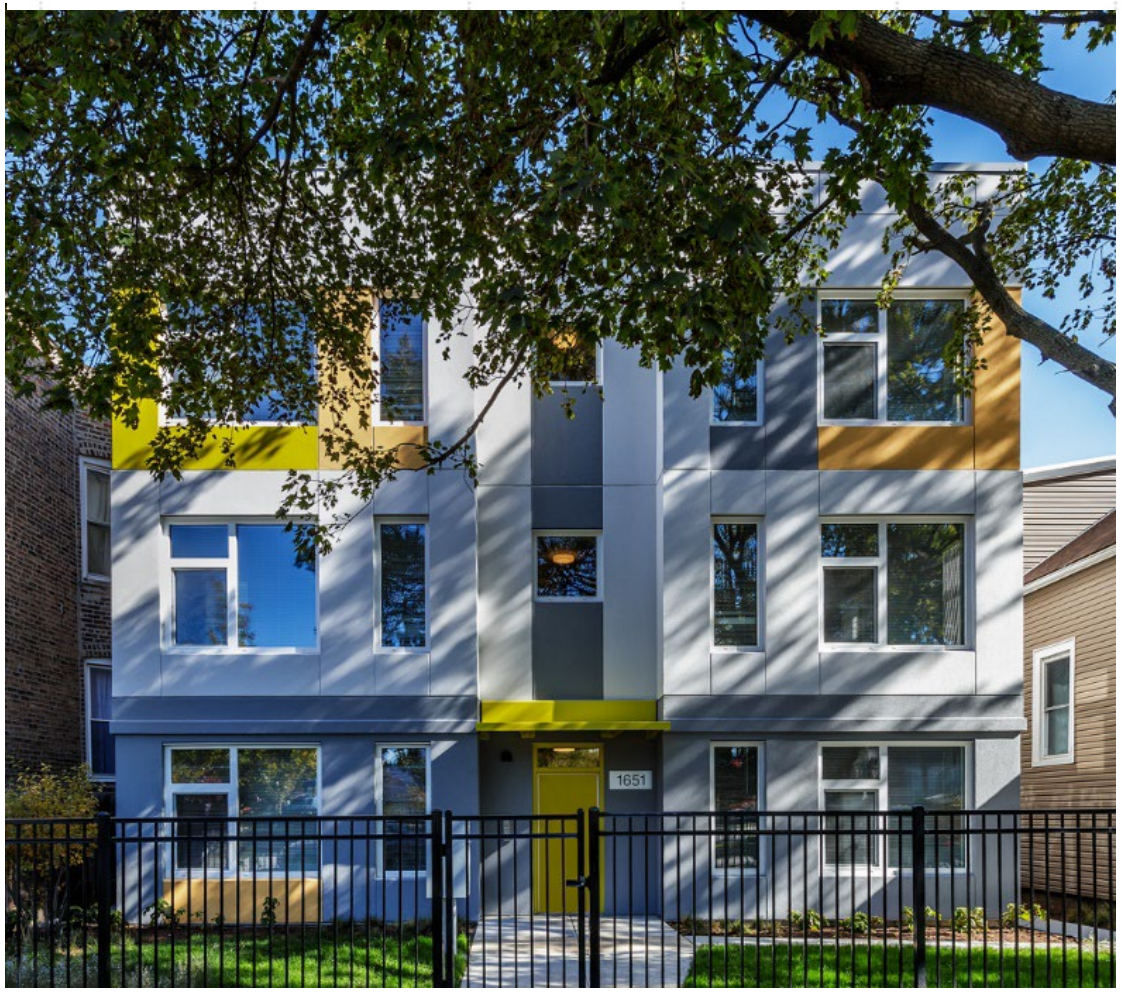
Tierra Linda Energy Usage Comparison

Tierra Linda Typical 6 Flat

PREDICTED	BASELINE	GOAL	SAVINGS	CHALLENGE
64.3	66.0	19.8	3%	2030 = 100% (Carbon Neutral) 2025 = 90% 2020 = 80% 2015 = 70% 2014 = 60%
kBtu/sf/yr	kBtu/sf/yr	kBtu/sf/yr		[Architecture 2030 Challenge]
[Predicted Energy Use Intensity]	[Baseline Energy Use Intensity]	[Energy Use Intensity]		

Tierra Linda Passive House

PREDICTED	BASELINE	GOAL	SAVINGS	CHALLENGE
15.3	66.0	19.8	77%	2030 = 100% (Carbon Neutral) 2025 = 90% 2020 = 80% 2015 = 70% 2014 = 60%
kBtu/sf/yr	kBtu/sf/yr	kBtu/sf/yr		[Architecture 2030 Challenge]
[Predicted Energy Use Intensity]	[Baseline Energy Use Intensity]	[Energy Use Intensity]		



Tierra Linda Energy Usage Comparison

Job Name Tierra Linda
Job Address Varies

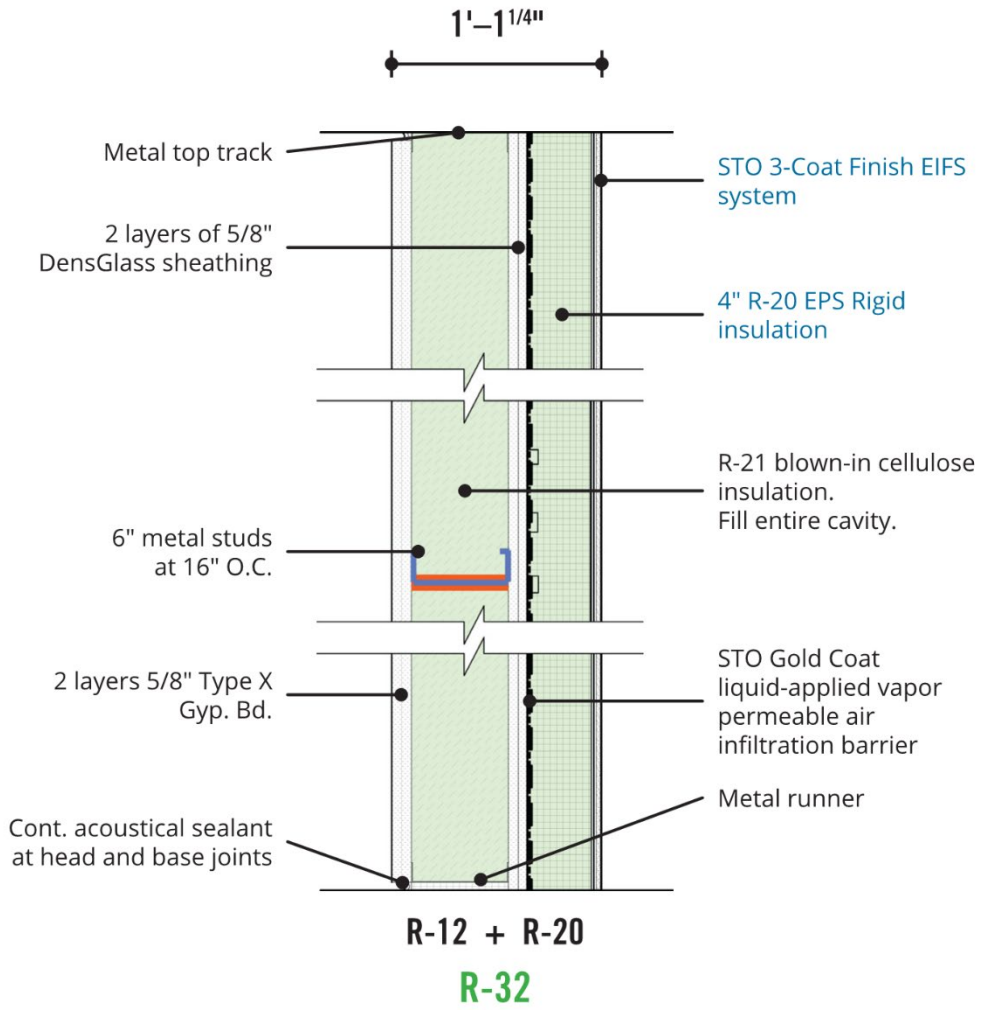
Passive House Preliminary Estimate
1/17/2017

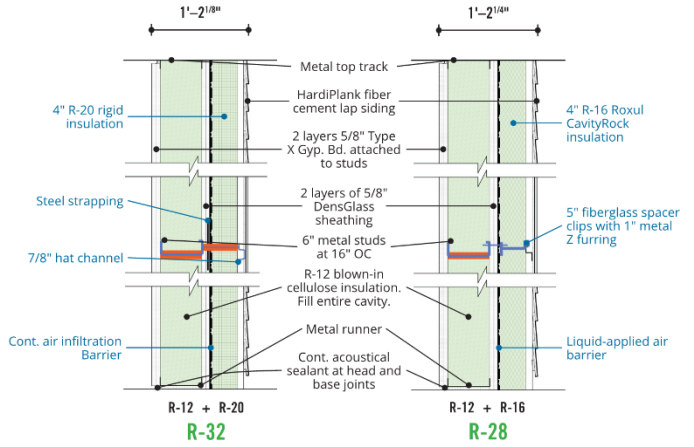
Owner: LUCHA
Architect: Landon Bone Baker
Gross SF: 9,288
Total Units: 6

Division	Description	6-Flat Cost	Passive House	Cost Difference	%	NOTES
01 00 00	GENERAL REQUIREMENTS	$ 74,520	$ 85,646	$ 11,126		
03 00 00	CONCRETE	$ 67,600	$ 82,250	$ 14,650		Allowance for ICF foundation
04 00 00	MASONRY	$ 6,250	$ 6,250	$ -		
05 00 00	METALS	$ 7,510	$ 7,510	$ -		
06 00 00	WOODS, PLASTICS and COMPOSITES	$ 455,681	$ 429,681	$ (26,000)		Deduct 2" Rigid Insulation & Tyvek
07 00 00	THERMAL & MOISTURE PROTECTION	$ 138,820	$ 222,442	$ 83,622		Includes add'l insulation for roof, EIFS Ext. walls & air sealing
08 00 00	OPENINGS	$ 69,612	$ 105,192	$ 35,580		Windows, Exterior Doors
09 00 00	FINISHES	$ 180,110	$ 200,663	$ 20,553		add'l drywall for ceiling soffits for HVAC system
10 00 00	SPECIALTIES	$ 1,910	$ 1,910	$ -		
11 00 00	EQUIPMENT	$ 8,600	$ 14,068	$ 5,468		Condensing Dryers
12 00 00	FURNISHINGS	$ 21,802	$ 21,802	$ -		
22 00 00	PLUMBING	$ 75,690	$ 75,690	$ -		
23 00 00	HVAC	$ 130,507	$ 219,150	$ 88,643		VRF / ERV system
26 00 00	ELECTRICAL	$ 115,506	$ 115,506	$ -		
31 00 00	EARTHWORK	$ 31,300	$ 31,300	$ -		
32 00 00	EXTERIOR IMPROVEMENTS	$ 99,924	$ 99,924	$ -		
33 00 00	SITE UTILITIES	$ 79,575	$ 79,575	$ -		
	SubTotal	**$ 1,564,916**	**$ 1,798,557**	**$ 233,641**	**15%**	
	Builders OH&P Total	$ 109,544	$ 125,899	$ 16,355		
	Total	**$ 1,674,460**	**$ 1,924,456**	**$ 249,996**	**15%**	
	Cost per SF	$ 180	$ 207	$ 27		
	Cost per Unit	$ 279,077	$ 320,743	$ 41,666		

Tierra Linda Passive House Wall Assembly Factors

Tierra Linda Passive House Wall



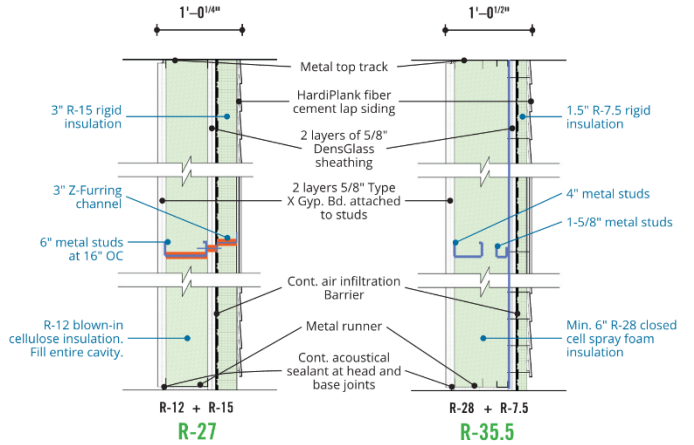


Conventional Wall Plus Rigid

- Significant thermal bridging
- Specialty long fasteners required
- Potential installation compression/ damage by hat channel
+ Conventional construction

Proprietary Cladding Clip System

- Expensive proprietary clip system
- Labor sequence requires 3 crews
- Insufficient R- value
+ Highly effective thermal break
+ Similar to conventional installation



Advanced Conventional Wall

- Significant thermal bridging
- Insufficient R- value
+ Conventional construction
+ Minimal construction trades involved

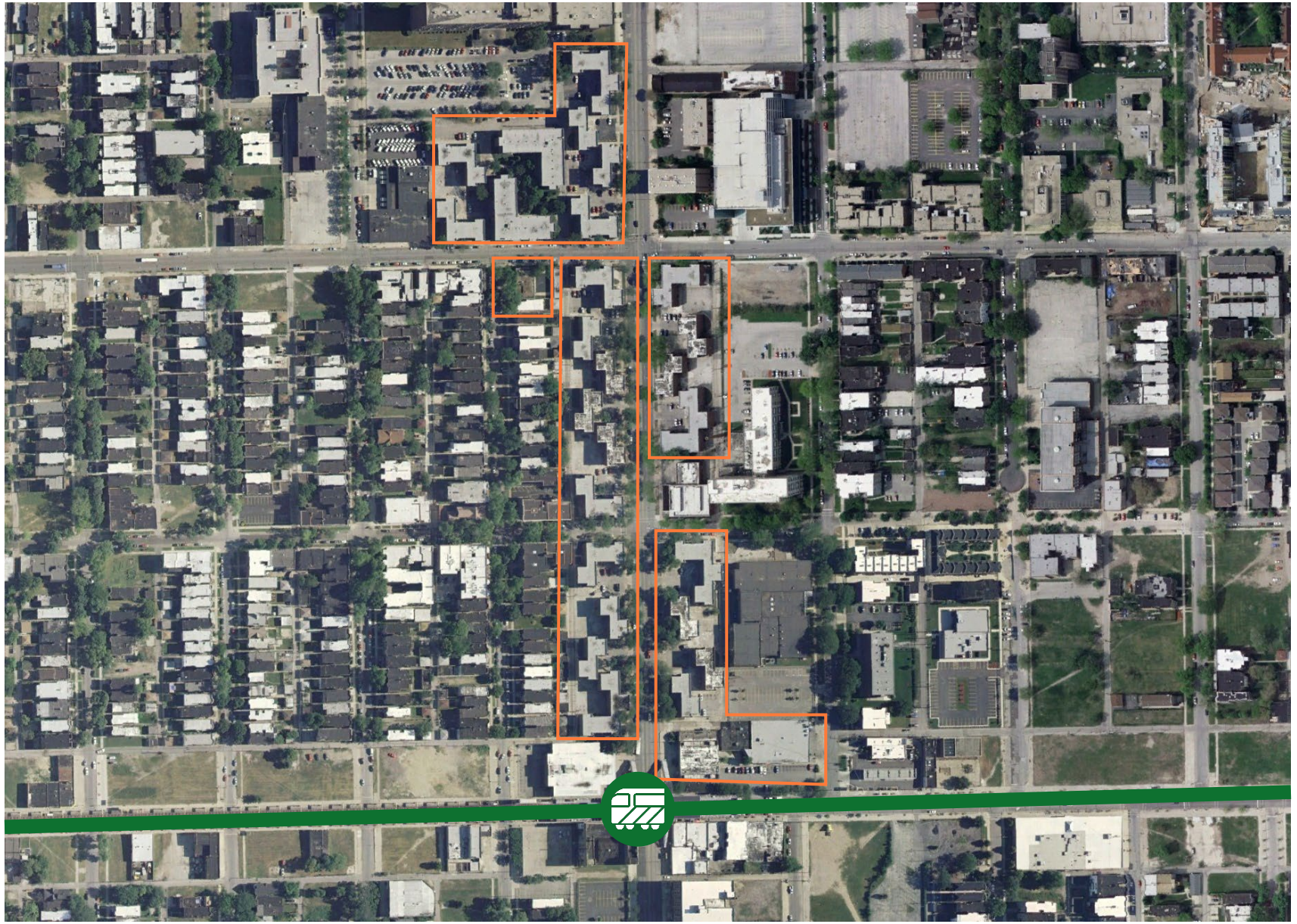
Double Metal Stud

- Difficult to panelize
- Condensation issues
+ High R-value
+ Highly effective thermal break

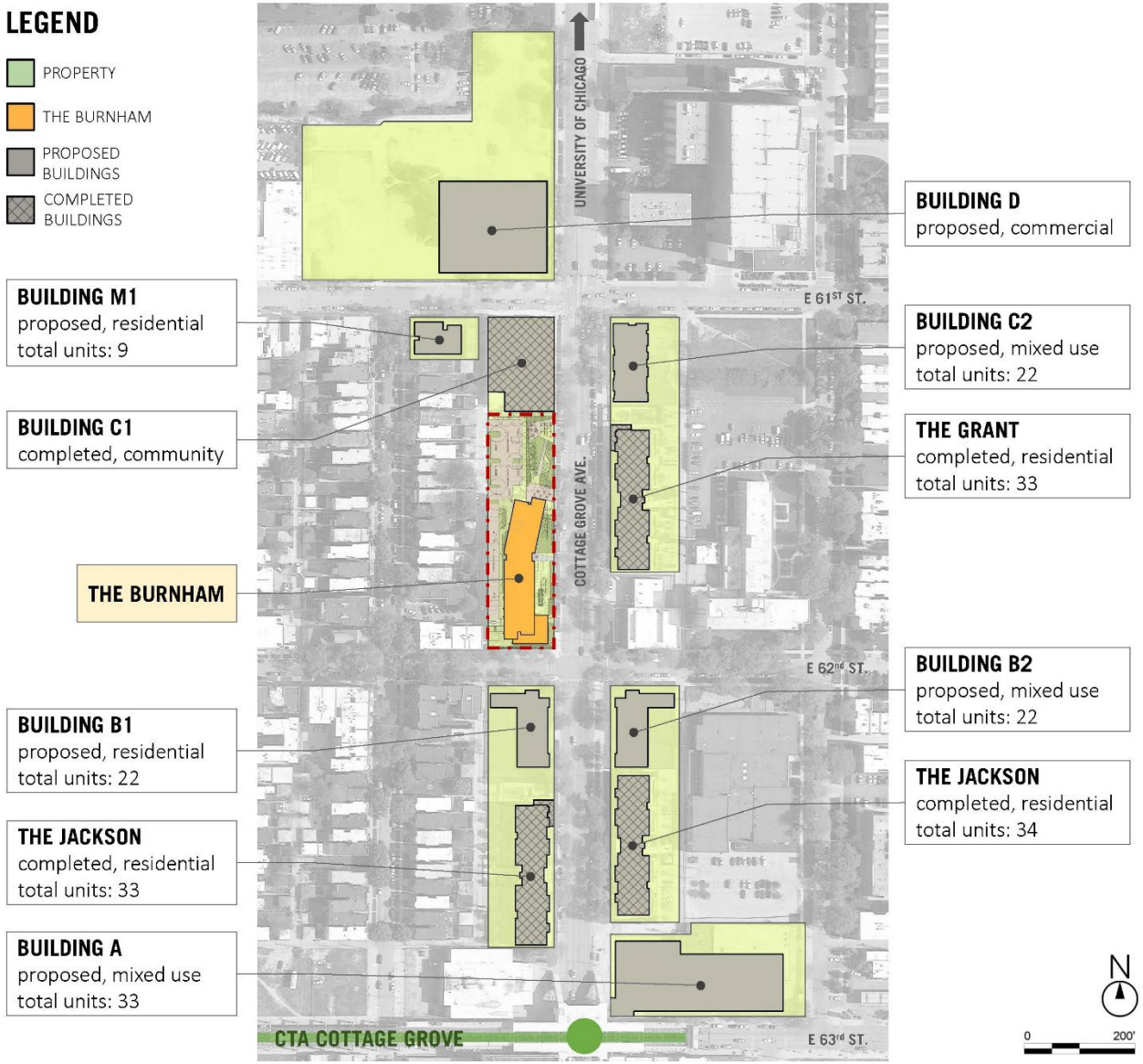
The Woodlawn Park Redevelopment

CHICAGO, IL

Woodlawn Park Previously Existing Context



The Burnham at Woodlawn Park



Woodlawn Park Redevelopment Massing Diagram

The Jackson at Woodlawn Park Roof and Site Plan

1. Permeable Surfaces
2. 1st Floor Private Patio
3. Shade Tree
4. Green Screen
5. Private Patio for 2nd Floor Unita
6. Site Lighting
7. Permeable Parking
8. Planters for Rainwater Harvesting
9. Tot Lot
10. Communal Meeting Space Associated with Community Room
11. Green Roof Canopy
12. Community Room Inside Building
13. Planters for Rainwater Harvesting
14. Entry Stair and Ramp
15. Downspout for Planter
16. Green Screen
17. New Tree

Woodlawn Park Redevelopment Green Strategies

Woodlawn Midway

Naturalized play environments feature indigenous vegetation, sand, places to sit, shade, different levels, and adaptable equipment. The emphasis is on exploration, not structure.

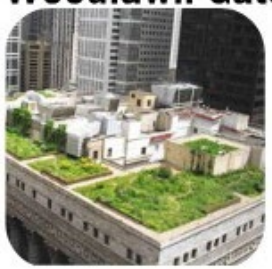
Woodlawn Center Elderly

A **solar water heating system** uses the sun, rather than electricity, to heat water for sinks and showers. Heating units, either in panels or tubes, can be placed on roofs or south-facing walls.

Permeable pavement filters rainwater into the ground below, restoring the natural watershed. Impervious surfaces cannot absorb water, causing storm runoff to overflow drainage systems.

Sun screens can effectively shade southern facades, and are separated from the building skin to prevent thermal bridging. They can take on almost any form, allowing for integrated graphics or signage.

Woodlawn Gateway



Green roofs reduce both storm water runoff, preventing overflows of the city's drainage system, as well as the heat island effect. Intensive green roofs have a thick growing medium, allowing for trees and park-like landscaping.

Tall buildings are well suited for **wind-based power generation**. Directing air flow over wind turbines can be used to generate the electricity needed.

Woodlawn Station

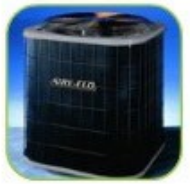
Canopies along pedestrian walkways shade to reduce the heat island effect and protect from the rain. Solar energy generation can be integrated to power night lighting.

Landscaping, paving, lighting, signage, and seating all contribute to making **pedestrian zones** feel safe and inviting. By introducing variety, these features activate a space, encouraging positive use.

Woodlawn Park Redevelopment Green Strategies

energy efficiency

- Energy Star rated exterior envelope (index 85 rating)
- Minimum R-21 insulated exterior walls
- Minimum R-49 insulated attic space
- Advanced air sealing package to minimize air infiltration
- Slab on grade R-10 insulation at 6' perimeter
- Low-E, low U-value (heat loss) windows of 0.35 or lower
- Direct Vented, 90% efficiency furnace
- SEER 14 Air conditioner with non-HCFC refrigerant
- Energy Star programmable thermostat
- Energy efficient water heater
- Energy Star appliances
- Energy Star rated light fixtures in common areas
- Exterior & common area lights on automatic control system
- Solar hot water panels


resource conservation

- Low Flow toilets
- Aerators restricting flow at bathroom and kitchen faucet
- Low-flow shower heads
- Organic mulch
- Drought resistant plants
- Non-invasive rain gardens



air quality, health & safety

- Continuous Exhaust Only mechanical system
- Bathroom exhaust fan
- Range Hood vented to the outside
- Low VOC paints and finishes
- Low toxicity, solvent free adhesives and sealants



resident education

- Provide manual to occupant on basic use and care of their home
- Provide walkthrough to occupant on basic use and care of their
- Provide video documentation of the walkthrough to occupant



The Burnham at Woodlawn Park

CHICAGO, IL

The Burnham at Woodlawn Park

Good design is for everyone

1625 W. CARROLL AVE. CHICAGO, IL 60612
WWW.LBBA.COM

GreenHome Institute

GreenHome INSTITUTE

is a nonprofit organization that empowers people to make healthier and more sustainable choices in the renovation and construction of the places we live.

Find Your Ideal Green Building Training

The GreenHome Institute offers on-demand professional continuing education and other residential green building accreditations and certifications for professionals, raters, and homeowners alike. Review our course offerings below or take this short quiz to determine which is best for you.

Short Quiz

GREENHOME INSTITUTE CERTIFIED PROFESSIONAL

U.S. DEPARTMENT OF ENERGY
Home Energy Score
CERTIFIED ASSESSOR

LEED GREEN ASSOCIATE

LEED AP HOMES™

LEED GREEN RATER

greenhomeinstitute.org/education/

LIVE WEBINAR

WEEKLY CEU WED WEBINAR SERIES

ON DEMAND

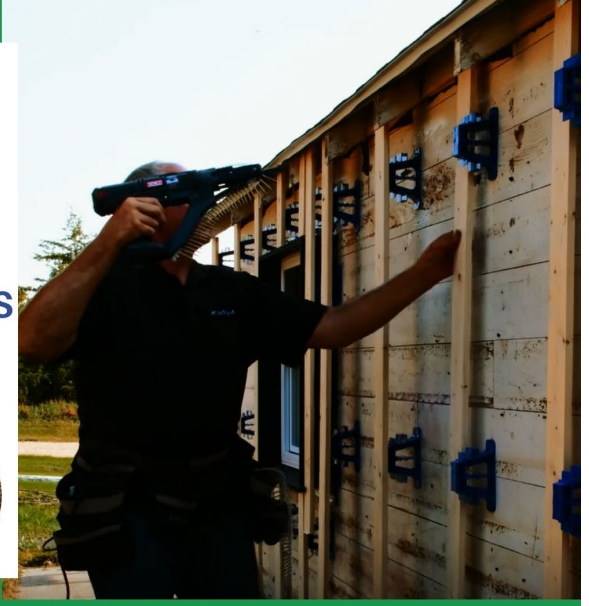
ON YOUR TIME

GreenHome INSTITUTE

STRATEGIES FOR OLDER HOME EXTERIOR WALL RETROFITS AND OVERCOMING LEAD ISSUES

Garrett Mosiman &
Matthew Scherrer

WED AUGUST 13TH 2025 12PM
Q & A | CEUS - AIA | LEED | BPI

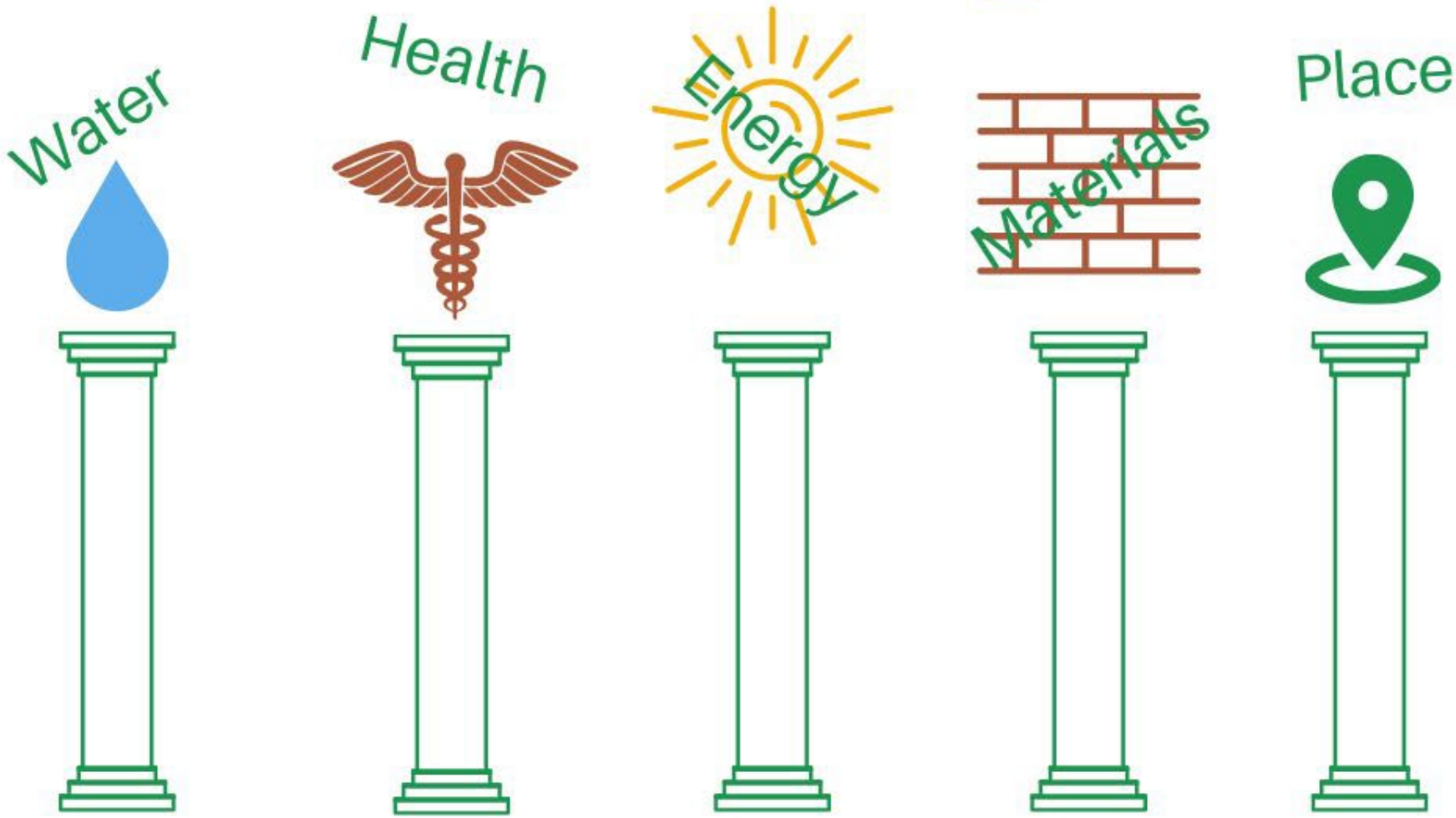


All about ducted mini-splits
Sep 19, 2024

Automated Geodesic Homes = Regenerative Living wit...
Aug 29, 2024

Vapor Barriers: Do we REALLY need them?
Jun 3, 2021

5 pillars of Green Building



GreenStar Homes helps professionals and homeowners achieve and communicate their sustainability goals in residential building projects

GreenStar Homes can be used in new or existing, single family or multifamily projects.

The GreenStar checklist and manual are available to anyone to use and access for free in order to give you guidance on greening your next project.
The manual outlines the process and below are some success stories of projects that have been certified. Will yours be next?

GreenStar Workbook

GreenStar Homes Certification Manual

GreenStar Homes Project Registration

https://greenhomeinstitute.org/home-certification-programs/greenstar-homes/

Energy coaches coming to the Traverse City area this summer

Interlochen Public Radio | By Izzy Ross
Published May 28, 2025 at 6:57 AM EDT

Holland
Energy Fund

HOME ENERGY 101

Sign up for Home Energy 101 to work with a home energy educator to find the best areas for utility savings and efficiency improvements at your home, apartment or condo.

This program will also identify up to $300 worth of FREE energy savings supplies to lower your utility bills, and it's one of the prerequisites to apply for Holland Energy Fund rebates on projects like roof insulation or a home heating and cooling system.

Your journey to a more efficient and comfortable home starts with a FREE 60-90 minute Home Energy 101 session led by trained home energy educators from local nonprofit partners.

GET REGISTERED

GUIDEBOOK P

graham.umich.edu/media/files/CLCF-2024-Yip-Residential-Energy-Coaching-Guidebook.pdf

This guidebook was curated to
municipal authorities and l
implement their unique resi
achieve decarbonization ar
households.

Serving as a comprehensive re
to-date information and ma
customers have access to the la
financial) to initiate their home impr

Additionally, the guidebook aims to pr

ESIDENTIAL ENERGY
ACHING GUIDEBOOK

graham.umich.edu/media/files/CLCF-2024-Yip-Residential-Energy-Coaching-Guidebook.pdf

PROGRAM OVERVIEW

Pre-Assessment Phase

STEP 1: INITIAL CONSULTATION

Make a checklist to note the information you need to provide prior to the consultation. It could be something like:

- ☐ Basic home details (size, age, type of home, # of occupants).
- ☐ Current electricity and gas providers.
- ☐ Energy habits.
- ☐ Source of household electricity.
- ☐ Exisiting appliances and systems.

***** If you have conducted an assessment before, keep track of the list of recommendations the contractor provided.***

Assessment Phase

STEP 2: HOME ENERGY ASSESSMENT

You should be home at the time of the assessment, and it can take about 2 to 4 hours.

During the assessment, energy coaches may:

- ☐ Walk around your house and locate the air leaks.
- ☐ Request your copies of your energy bill over the past months.
- ☐ Upload data on the laptop.

***** If you are a pet owner, please secure your pets in a separate room and kindly notify the energy coach to ensure a smooth assessment.***

Post-Assessment Phase

STEP 3: REVIEW HOME ASSESSMENT

Energy coach will reach out to you again to request for a post-assessment consultation. This time, the energy coach will:

- ☐ Provide a thorough review and explanation of the report.
- ☐ Give advice and recommendations on home improvements.
- ☐ Provide a list of resources to tailor your needs and concerns.

STEP 4: CONSIDER FUNDING OPTIONS

Be prepared to consider the following questions:

- ☐ How long do you plan to own your current home?
- ☐ What is the value you want from your home?
- ☐ Do you need to hire a contractor, or can you do it yourself?
- ☐ What is your estimated budget?
- ☐ How much time do you have for maintenance and repairs?

graham.umich.edu/media/files/CLCF-2024-Yip-Residential-Energy-Coaching-Guidebook.pdf

STEP 5: MAKE HOME IMPROVEMENTS

Congratulations! You are all set to embark on your home improvement projects with your energy coach!

INDIANA ENERGY SAVER PROGRAM

Apply Now | Become a Contractor | Program Benefits | FAQ | EN

Empowering Hoosiers to Enhance Home Energy Efficiency

indianaenergysaver.com/

Home Efficiency Rebate (HOMES)

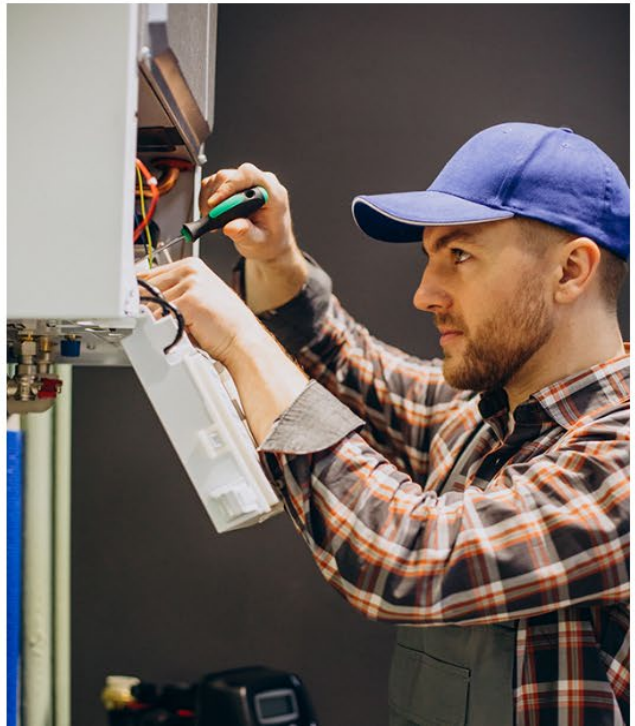
The Home Efficiency Rebate (HOMES) provides cost savings to all Hoosiers, including single family and multifamily residents, on whole-home retrofits achieving a minimum of 20% energy savings. Eligible upgrades include:

- **ENERGY STAR-certified heating and cooling**
- **ENERGY STAR-certified water heaters**
- **Insulation**
- **Air sealing**
- **Duct sealing**
- **Appliances**
- **Lighting**

Learn More

indianaenergysaver.com/

Home Efficiency Rebate



The Home Efficiency Rebate (HOMES) provides cost savings to all Hoosiers, including single family and multifamily residents with retrofits.

Participants will receive the rebate in the form of a discount on the eligible product and installation by a qualified contractor. The maximum discount amounts are determined based on your household income level, measured as a percentage of your **county's area median income (AMI)**, and the total expected energy savings modeled during your energy audit. Eligible upgrades must achieve a minimum 20% energy savings.

Income level	Energy Savings (Modeled)	Discount Maximum (lesser of)	
Less than 80% AMI	20-34%	$12,000	100% of project cost
	35%+	$18,000	100% of project cost
80% AMI or more	20-34%	$2,000	50% of project cost (Single family home); $200,000 (multifamily building)
	35%+	$4,000	50% of project cost (Single family home); $400,000 (multifamily building)

Apply Now

Home Appliance Rebate (HEAR)

The Home Appliance Rebate (HEAR) provides additional cost savings to low- and moderate-income households earning less than 150% of the Area Median Income in single family or multifamily residential units for eligible upgrades including:

- **Heat pump water heaters**
- **Heat pump HVAC systems**
- **Heat pump clothes dryers**
- **Electric stove, cooktop, range, or oven**
- **Electrical system enhancements (like service load centers/panels and electrical wiring)**

Learn More

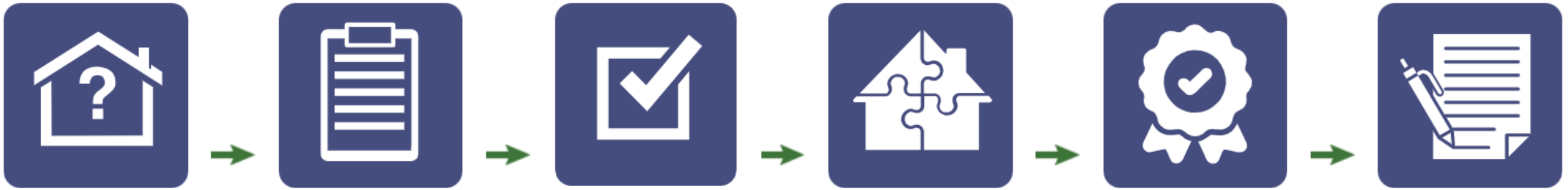
indianaenergysaver.com/

Income level	Discount Maximum (lesser of)
Less than 80% AMI	100% of qualified project cost, up to $14,000
80% -150% AMI	50% of qualified project cost, up to $14,000

Eligible Measures	Discount Maximum
ENERGY STAR-certified heat pump water heater	$1,750
ENERGY STAR-certified heat pump for space heating and cooling	$8,000
ENERGY STAR-certified heat pump clothes dryer	$840
ENERGY STAR-certified electric stove, cooktop, range, or oven	$840
Electric load service center (i.e., electrical panel)	$4,000
Electric wiring	$2,500
Insulation, air sealing, and mechanical ventilation	$1,600
Maximum Total Discount	**$14,000**

Please note: HEAR rebates are not permitted for the replacement of existing electric equipment. Replacing an existing electric stove, cooktop, range, or oven with an induction appliance is not allowed.

A Simple, Straightforward Process to Participate



Education

We'll keep you updated on the energy-saving opportunities available through the program.

Application

A user-friendly portal will make it easy to submit your info and verify your program eligibility.

Energy Checkup

A program representative will review your home's energy use and identify ways to help you save.

Personalized Plan

We'll provide you with a customized list of options to fit your home and budget.

Installation & Quality Check

Approved contractors will do the work, and we'll make sure it's done right.

Reporting

We'll handle the paperwork for state and federal requirements.

indianaenergysaver.com/

EMPOWERING HOOSIERS TO ENHANCE HOME ENERGY EFFICIENCY

Hoosiers are interested in how they can save energy and cut energy costs now more than ever. With the support of roughly $182 million in federal funding, Indiana will assist Hoosiers by reducing energy costs and improving home comfort through qualified energy efficiency upgrades.

PROVIDING BENEFITS TO HOOSIERS ACROSS THE STATE

The program aims to achieve the following:

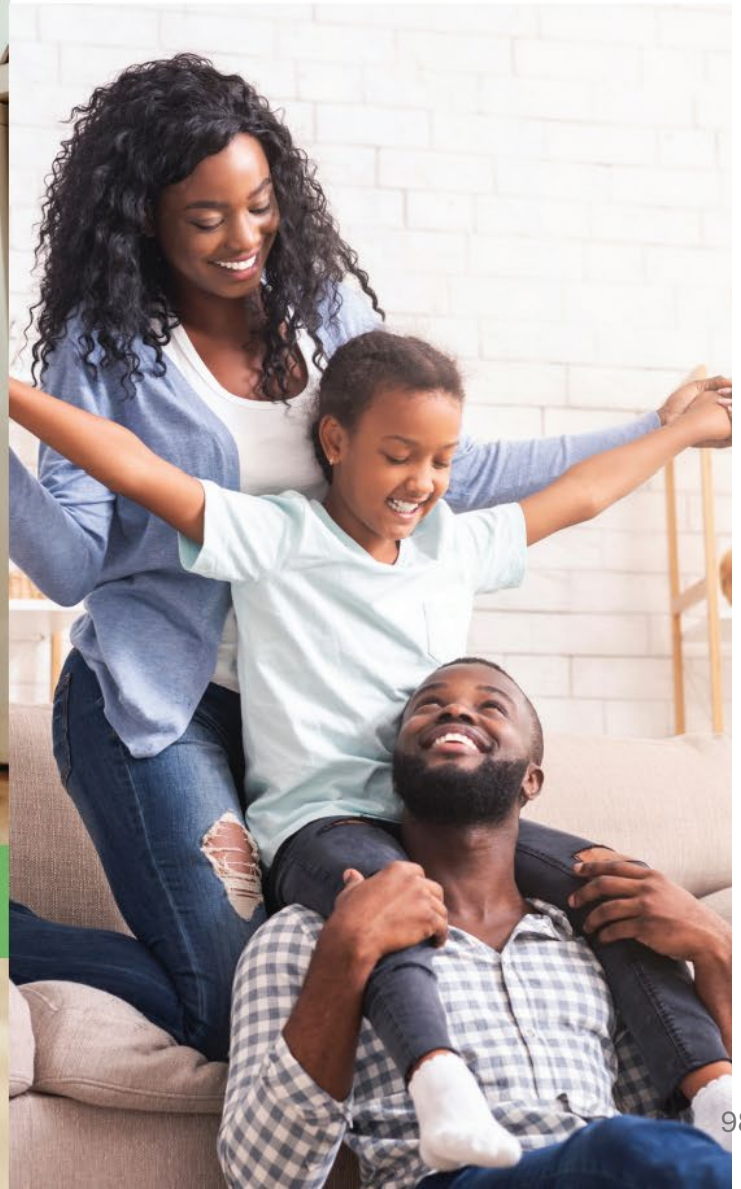
- Help more households
- Support low- and moderate-income families
- Cut energy costs
- Improve quality of life
- Create job opportunities

Save Energy. Cut Costs.

INDIANA OFFICE OF ENERGY DEVELOPMENT

INDIANA ENERGY SAVER PROGRAM

Save Energy. Cut Costs.



STEPS TO PARTICIPATE

Application

Energy Checkup

Personalized Plan

Installation

Quality Check

PROGRAM OFFERINGS

The Indiana Energy Saver Program provides two offerings through a single application process to maximize the benefits to Hoosier households.

HOME EFFICIENCY REBATE (HOMES)

The Home Efficiency Rebate Program (HOMES) provides whole-home retrofits to achieve a minimum of 20% energy savings. Eligible upgrades may include air sealing, insulation, and HVAC upgrades.

HOME APPLIANCE REBATE (HEAR)

The Home Appliance Rebate Program (HEAR) supports low and moderate-income households earning less than 150% of the Area Median Income with efficient equipment upgrades including heat pump HVAC systems, heat pump water heaters and electrical upgrades.

LEARN MORE

To learn more and sign up for updates visit:
IndianaEnergySaver.com

SCAN FOR MORE INFORMATION:

INDIANA ENERGY SAVER PROGRAM
Save Energy. Cut Costs.

Responsibilities of Qualified Contractors

- Provide energy-saving improvements that meet program standards and boost home efficiency.
- Ensure a smooth, transparent experience through clear communication and professional service.
- Comply with technical specs, reporting, and federal requirements for every project.
- Help Hoosiers save money, contribute to energy goals, and expand access across Indiana.

A Simple, Straightforward Process for Joining the Qualified Contractor Network

Review Requirements

Explore the **Contract Documents** and **gather necessary materials** before applying.

Complete Your Application

Fill out the **Qualified Contractor Application form online** or **download the application** and submit by email/mail.

Application Review

IESP will review your application and contact you for any needed clarifications.

Submit Insurance Certificates

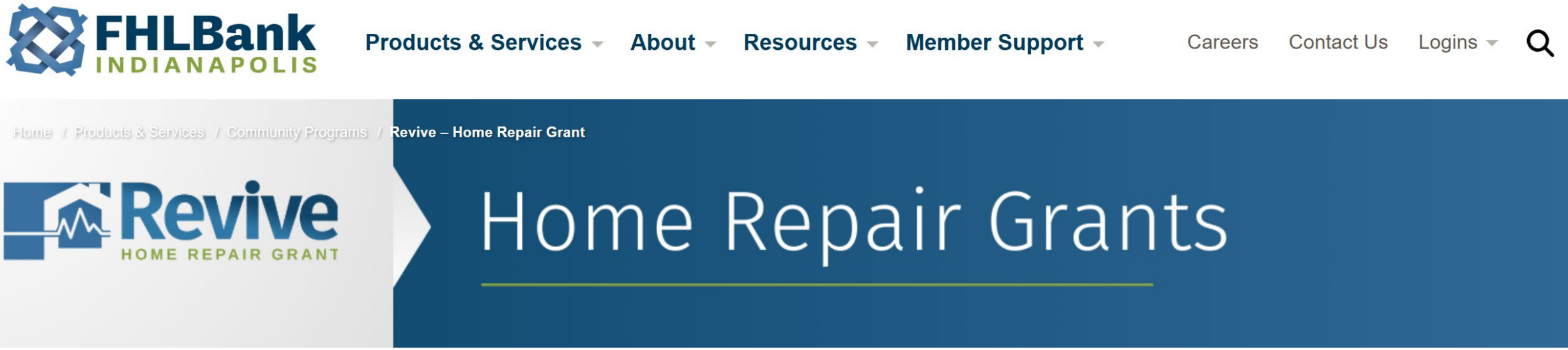
Provide proof of required insurance to finalize your application.

Gain Provisional Approval

Receive your IESP Qualified Contractor Certificate and begin your first 5 projects under “Provisional” status.

Start Working

Get assignments, complete projects, and participate in post-installation inspections.

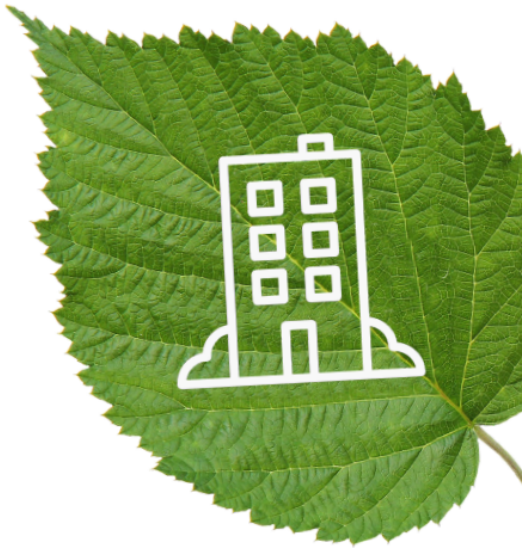


https://www.fhlbi.com/fhlbi-gives/homeownership-initiatives-gives/

NEIF
NATIONAL ENERGY IMPROVEMENT FUND
A Certified B Corp™

Indiana Energy Independence Fund

https://energyindependencefund.org/commercial-properties/



Indiana Energy Independence Fund (IEIF)

Low Monthly Payment Financing for Indiana Businesses, Non-Profits, and Government

RATES AS LOW AS 5.99%

In coordination with the Indiana Energy Independence Fund (IEIF), the National Energy Improvement Fund (NEIF) provides access to low-cost commercial financing for Indiana businesses, multi-family, non-profits, and government properties making qualifying energy efficiency improvements. All retrofits must be installed by a NEIF-Approved Contractor to be eligible.

Qualifying Improvements:

- LED Lighting & Electrical
- High Efficiency HVAC
- Refrigeration
- Controls
- Renewable Energy
- Water Saving Measures
- Building Envelope
- Retro-Commissioning
- Other

MONTHLY PAYMENT EXAMPLES

	60 Months
$2,500	$48
$10,000	$193
$25,000	$483
$50,000	$966
$75,000	$1,450
$100,000	$1,933
$125,000	$2,416
$150,000	$2,899

LED lighting and electrical

- Electrical system upgrades or other repairs needed for building electrification or solar
- Electric vehicle charging stations
- Lighting and controls

High-efficiency HVAC

- Heat pumps
- Pipe insulation
- Water heaters
- Variable frequency drives (VFD)
- Other high-efficiency equipment

Refrigeration

- Lighting
- Motors
- Anti-sweat heater controls

Controls

- Building management systems
- Equipment controls

Renewable energy

- Geothermal
- Energy storage solutions
- Solar photovoltaic (PV) and associated roof upgrades
- Other renewable energy systems

Water-saving measures

- Low-flow water fixtures
  - Toilets, sinks, aerators, dishwashers, equipment, sprinklers, etc.
- Irrigation systems

Building envelope

- Insulation and air sealing
- Green roofs (irrigation systems and equipment only)

Retro-commissioning (RCx)

- RCx studies identifying opportunities to maximize building energy performance
- RCx required to certify high-performance buildings
- Implementing measures identified in an RCx study

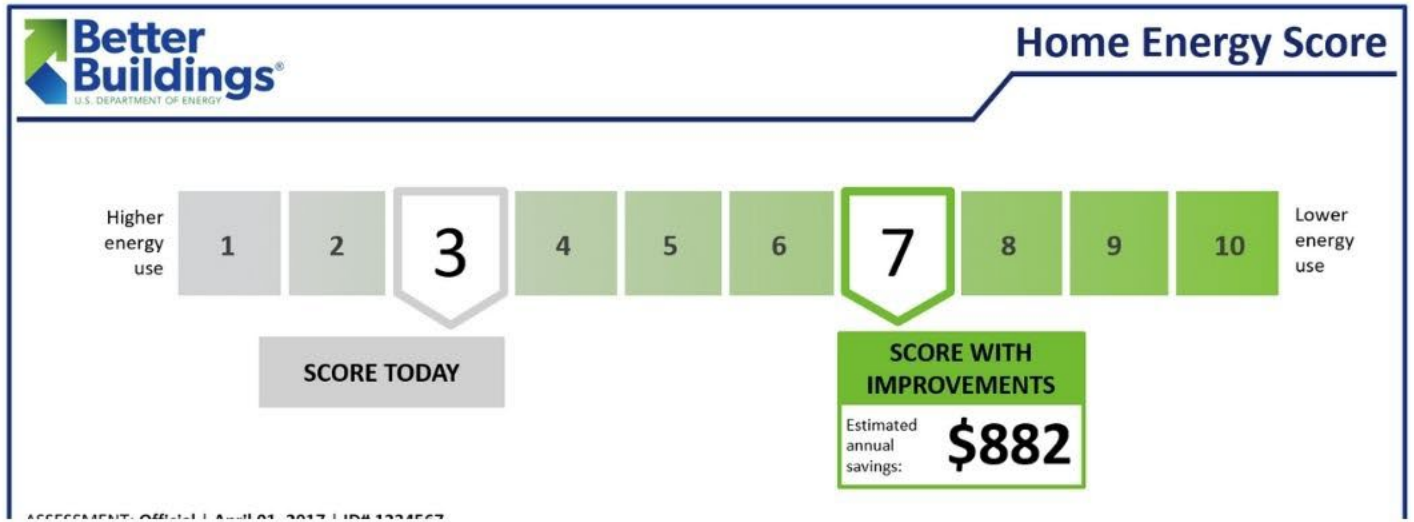
Other possible measures

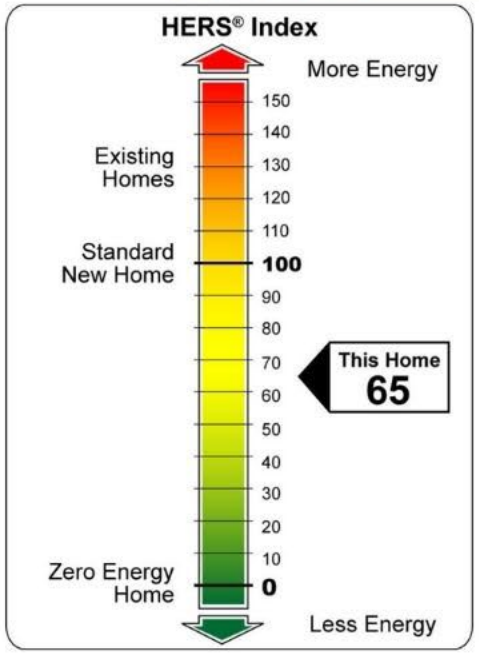
(Contact NEIF or IEIF for availability)

- Energy-related health and safety remediation
- Other ancillary, energy-related work, subject to underwriting
- Nonefficiency equipment on a case-by-case basis
- Roofing when upgrade needed for solar and green-roof projects, subject to underwriting
- Natural habitat restoration, stormwater control

https://energyindependencefund.org/commercial-properties/

1–100 ENERGY STAR® SCORE





ASHRAE®

A % Better than Code

GreenHome INSTITUTE

A CONVERSATION ON RESIDENTIAL BUILDING BENCHMARKING

Brett Little

AUG 20TH 12PM EST - 1PM EST

Q & A | CEUS - AIA | LEED | BPI | ICC

https://greenhomeinstitute.org/education/events/

RESOURCES

Find a Pro

Find a professional who was vetted by GHI through certification, accreditation or involvement in a green building certification program.

Find a Pro

greenhomeinstitute.org/resources/

EST. 1836
MICHIGAN CITY
INDIANA

Thank You!

Audience Q&A

Thoughts and Themes…

- Balancing sustainability with affordability in new construction
- Making financing accessible for small-scale developers or homeowners
- Understanding the “why” behind sustainable practices
- Ensuring all neighborhoods benefit from sustainable development