



AIA  
Leadership Summit



# Integrating the Framework for Design Excellence in your Component and Firm

Elaine Gallagher Adams, AIA; Michelle Amt, AIA; Adam Torrey, AIA; Mary-Margaret Zindren, CAE

# Speakers

**Elaine Gallagher Adams, AIA, LEED AP BD + C**

Net Zero Facilities & Sustainable Communities Solutions Leader, Arcadis

**Michelle Amt, AIA, LEED AP BD+C, WELL AP**

Director of Sustainability, VMDO Architects

**Adam Torrey, AIA, LEED AP BD+C, WELL AP**

Sustainability Leader, Clark Nexsen

# Facilitator

**Mary-Margaret Zindren, CAE**

EVP/Executive Director, AIA Minnesota

# Today's Session

## **Overview of the Framework for Design Excellence**

Michelle Amt

## **Application of the Framework in Practice / Client Engagement**

Michelle Amt, Elaine Gallagher Adams, Adam Torrey

## **Application of the Framework within AIA chapters & sections**

Mary-Margaret Zindren, Adam Torrey, Elaine Gallagher Adams, Michelle Amt

## **Q&A**

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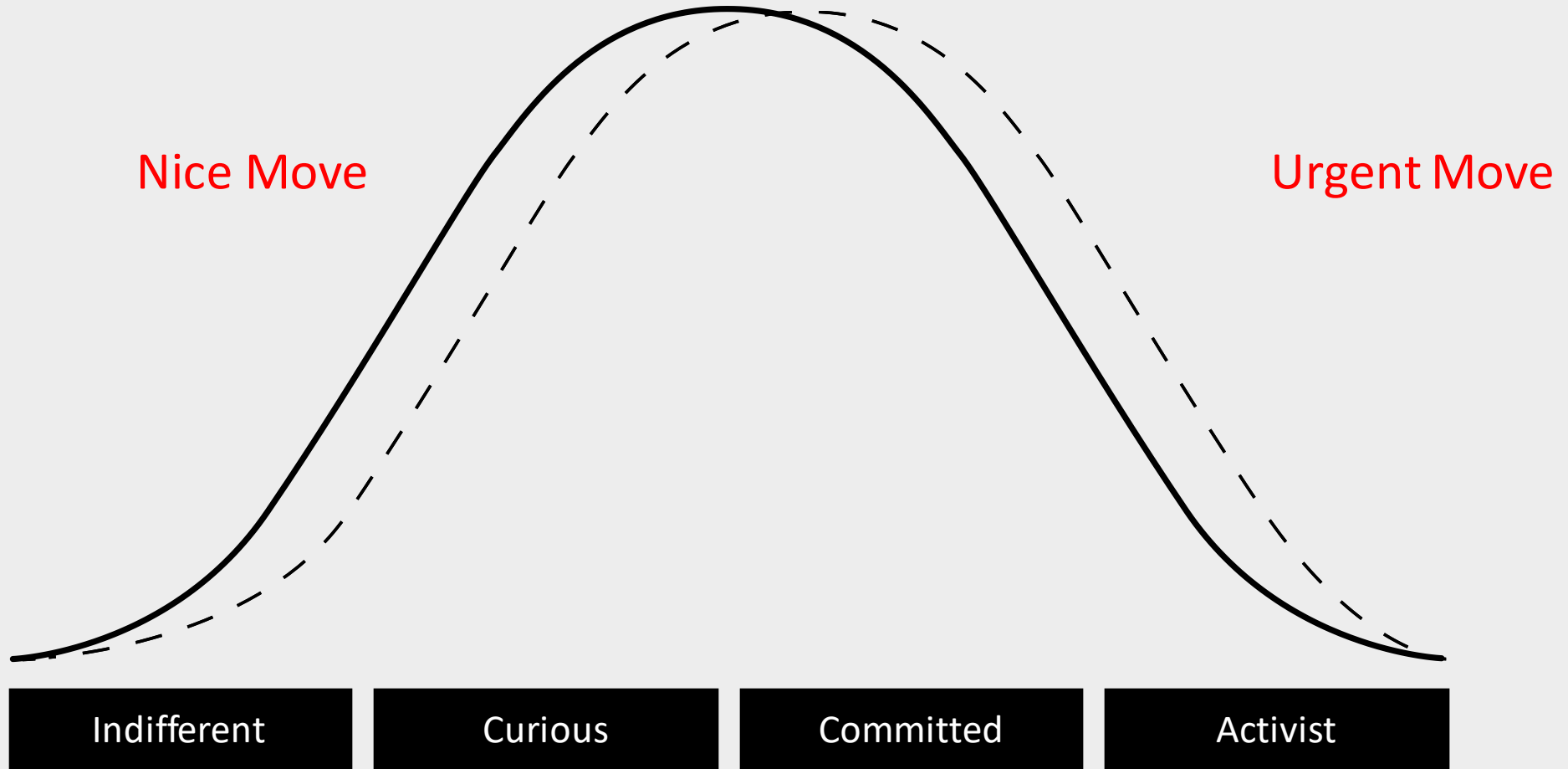
Mary-Margaret Zindren, Adam Torrey, Elaine Gallagher Adams, Michelle Amt

## **Q&A**



# The Framework

# “Propel the Bell”



The Framework represents the defining principles of good design in the twenty-first century. Comprised of a series of **ten value statements** and accompanied by searching questions, it informs progress toward a **zero-carbon, equitable, resilient, and healthy** built environment...It is intended to be **accessible** and **relevant** for every architect, every client, and every project, regardless of size, typology, or aspiration.

# Building Climate Resilience

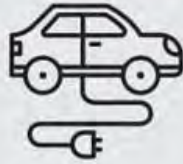
“Zero-carbon”

“Resilient”

## MITIGATION

ACTION TO REDUCE EMISSIONS  
THAT CAUSE CLIMATE CHANGE

Sustainable  
transportation



Clean energy

Energy  
efficiency



Water  
conservation



New energy  
systems



Education



Local food



Complete  
communities

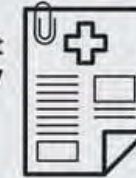


Urban  
forest

## ADAPTATION

ACTION TO MANAGE THE RISKS OF  
CLIMATE CHANGE IMPACTS

Disaster management  
& business continuity

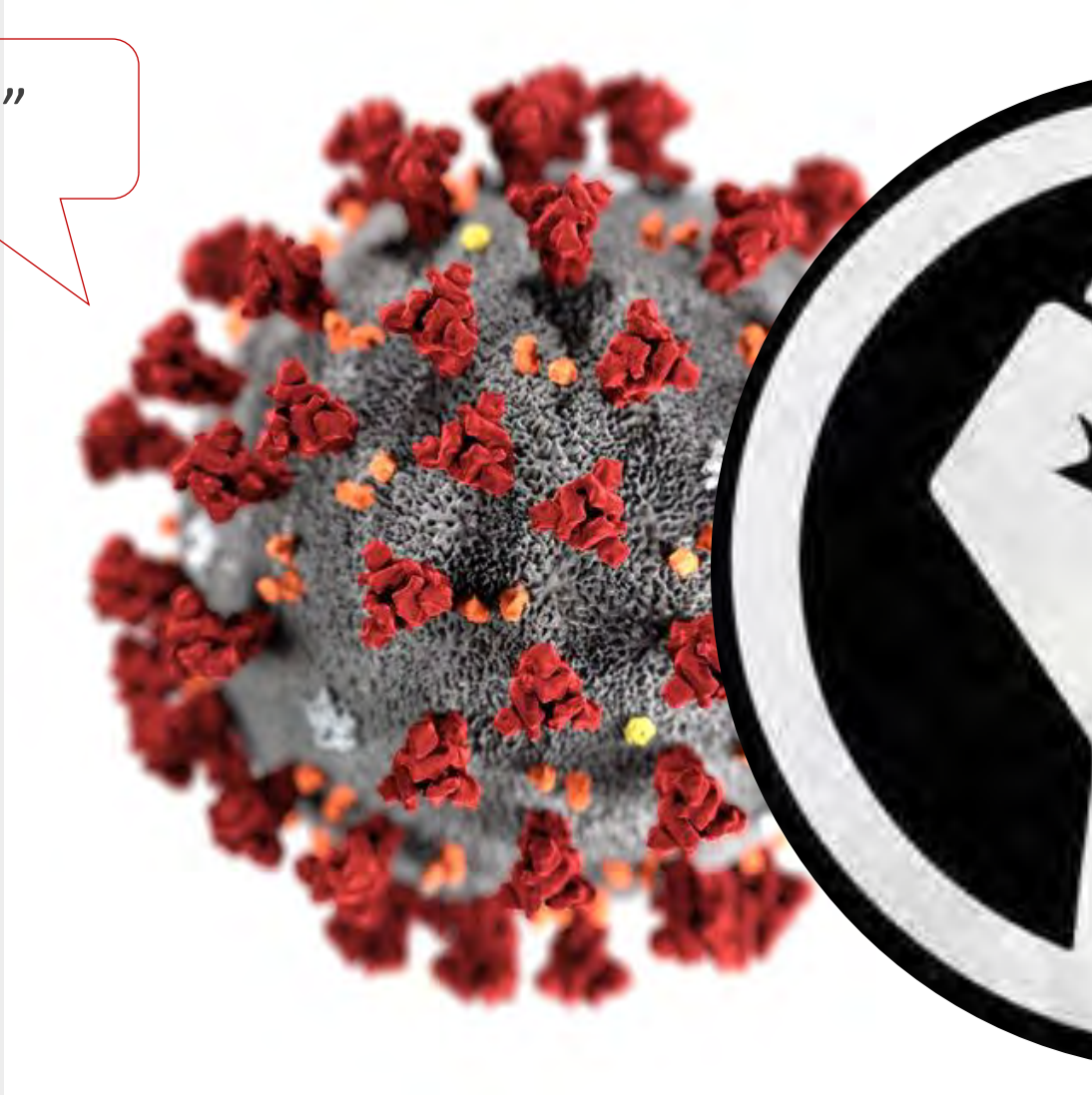


Flood  
protection



Infrastructure  
upgrades

“Healthy”



“Equitable”



## TEN PRINCIPLES OF DESIGN EXCELLENCE



DESIGN FOR INTEGRATION



DESIGN FOR ENERGY



DESIGN FOR EQUITABLE COMMUNITIES



DESIGN FOR WELL-BEING



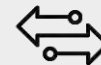
DESIGN FOR ECOSYSTEMS



DESIGN FOR RESOURCES



DESIGN FOR WATER



DESIGN FOR CHANGE



DESIGN FOR ECONOMY



DESIGN FOR DISCOVERY

> [www.aia.org/Design-Excellence](http://www.aia.org/Design-Excellence)





### Design for integration

Good design elevates any project, no matter how small, with a thoughtful process that delivers both beauty and function in balance. It is the element that binds all the principles together with a big idea.

- What is the concept or purpose behind this project, and how will the priorities within the nine other principles inform the unique approach to this project?
- How will the project engage the senses and connect people to place?
- What makes the project one that people will fight to preserve?
- What design strategies can provide multiple benefits across the triple bottom line of social, economic, and environmental value?



### Design for equitable communities

Design solutions affect more than the client and current occupants. Good design positively impacts future occupants and the larger community.

- What is the project's greater reach? How could this project contribute to creating a diverse, accessible, walkable, just, human-scaled community?
- Who might this project be forgetting? How can the design process and outcome remove barriers and promote inclusion and social equity, particularly with respect to vulnerable communities?
- What opportunities exist in this project to include, engage, and promote human connection?
- How can the design support health and resilience for the community during times of need or during emergencies?



### Design for ecosystems

Good design mutually benefits human and nonhuman inhabitants.

- How can the design support the ecological health of its place over time?
- How can the design help users become more aware and connected with the project's place and regional ecosystem?
- How can the design build resilience while reducing maintenance?
- How is the project supporting regional habitat restoration?



### Design for water

Good design conserves and improves the quality of water as a precious resource.

- How does the project use water wisely, addressing efficiency and consumption while matching water quality to appropriate use?
- How can the project's water systems maintain function during emergencies or disruptions?
- How does the project handle rainfall and stormwater responsibly?
- How does the project contribute to a healthy regional watershed?



### Design for economy

Good design adds value for owners, occupants, community, and planet, regardless of project size and budget.

- How do we provide abundance while living within our means?
- How will the design choices balance first cost with long-term value?
- How can the performance of this project be improved in ways that are cost and design neutral?



### Design for energy

Good design reduces energy use and eliminates dependence on fossil fuels while improving building performance, function, comfort, and enjoyment.

- How can passive design strategies contribute to the project's performance and form?
- How can the project exceed building code efficiency standards to approach net zero energy and net zero carbon?
- Can the project be powered by clean, renewable energy sources?
- How can the project provide for continuous performance improvements over its lifetime?



### Design for well-being

Good design supports health and well-being for all people, considering physical, mental, and emotional effects on building occupants and the surrounding community.

- How can the design encourage a healthy lifestyle?
- How can the project provide for greater occupant comfort?
- How can the project be welcoming and inclusive for all?
- How can the project connect people with place and nature?
- How can material selection reduce hazards to occupants?



### Design for resources

Good design depends on informed material selection, balancing priorities to achieve durable, safe, and healthy projects with an equitable, sustainable supply chain to minimize possible negative impacts to the planet.

- What factors (priorities) will be considered in making material selection decisions?
- How are materials and products selected and designed to reduce embodied carbon and environmental impacts while enhancing building performance?
- How can material selection reduce hazards and support equitable labor practices in the supply chain?
- How does the project promote zero waste throughout its life cycle?
- How does the project celebrate local materials and craft?
- How long will the project last, and how does that affect your material?



### Design for change

Adaptability, resilience, and reuse are essential to good design, which seeks to enhance usability, functionality, and value over time.

- How does the project address future risks and vulnerabilities from social, economic, and environmental change?
- How is the project designed for adaptation to anticipate future uses or changing markets? How does the project address passive survivability and/or livability?



### Design for discovery

Every project presents a unique opportunity to apply lessons learned from previous projects and gather information to refine the design process.

- How can the design process foster a long-term relationship between designers, users, and operators to ensure design intentions are realized and the building project performance can improve over time?
- How are performance data and experiential stories shared, even if the findings fall short of the vision?
- What strategies promote a sense of discovery and delight?





Meyer Memorial Trust Headquarters | LEVER Architecture



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Edwin M. Lee Apartments | LEDDY MAYTUM STACY Architects, Saida+Sullivan Design Partners



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Land Port of Entry, Columbus, New Mexico / Ritcher Architects



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Austin Central Library / Lake | Flato + Shepley Bulfinch Joint Venture



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Knox College Whitcomb Art Center | Lake | Flato Architects



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Teen

Children



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Louisiana Children's Museum | Mithun, with associate architect firm Waggoner & Ball



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Integrate the Framework

## HOW TO USE IN YOUR WORK

To begin integrating the ten values of the Framework into your work, AIA National provides an online resource that goes into detail for each principle.

> [aia.org/Design-Excellence](https://aia.org/Design-Excellence)

# Framework for Design Excellence

Inspiring sustainable, resilient, and inclusive design



Design is not just about aesthetic components, but how buildings perform for people. The Framework for Design Excellence is made up of 10 measures, formerly known as the COTE Top Ten. It organizes our thinking, facilitates conversations with our clients and the communities we serve, and sets meaningful goals and targets for climate action.

The tiles below provide an in-depth exploration of each measure, including best practices, high impact strategies, resources, and case studies that promote climate action.



### Designing for Integration

What is the big idea behind this project—and how did the approach toward sustainability inform the design concept?



### Designing for Equitable Communities

How does this project contribute to creating a walkable, human-scaled community (inside and outside the



### Designing for Ecology

In what ways does the design respond to the ecology of this place?

## HOW TO USE IN YOUR WORK

Each measure has its own page that features:

1. Best practices
2. High impact strategies
3. Curated web resources
4. Case studies that exemplify each value statement

The screenshot shows the 'Design for Equitable Communities' website. At the top, the title 'Design for Equitable Communities' is displayed in a large, dark font. Below the title are social media icons for Twitter, Facebook, LinkedIn, and others. A large, vibrant image of a modern, open-plan interior space with a high ceiling and large windows is the main visual. To the right of this image are four smaller, square images showing different architectural details or views. Below the main image, there is a 'Focus topics' section with a list of bullet points: 'Extend our reach beyond projects.', 'social justice, equity, diversity, and inclusion', 'community engagement and gathering', 'community resilience', and 'mobility and access'. To the right of this list is a call to action: 'Download the COTE® Super Spreadsheet >'. Below the 'Focus topics' section is a navigation bar with four buttons: 'High impact', 'Best practices', 'Resources', and 'Projects'. To the right of the navigation bar is another call to action: 'We'd like to hear from you!'. Below this is a paragraph: 'If you have any questions or feedback regarding the framework, please let us know.' and a link: 'Provide feedback here >'. At the bottom of the page, there is a section titled 'If you can do only one (or a few) thing(s):' followed by a list of four bullet points: 'Work to create thriving communities.', 'Plan for robust stakeholder engagement.', 'Facilitate equitable gathering and connecting in the design and beyond buildings in the community.', and 'Organize the design team so that disciplines integrate and are not siloed.'



# Welcome to the COTE Super Spreadsheet!

**Explanation**  
This tool will calculate project metrics and compare them to industry wide benchmarks. After entering information on each measure tab, the "Results" tab will graphically display the project's performance across all 10 COTE measures of sustainable design.

Whether it's used to better understand a design's performance or to streamline the process of submitting for the COTE Top Ten award, this tool will allow easy, consistent calculation and evaluation of project performance metrics.

For your reference, the Super Spreadsheet comes loaded with a COTE Top Ten award winner project, as an example on how to fill the required inputs. Make sure you have updated all the input cells with your project values before submitting your

#### Cell Types

- Input data
- Input non-numeric data
- Calculated value

#### Explanation

#### Reasonable values and sources

#### Super Spreadsheet Team

- Helena Zambrano, AIA (Project Lead)  
Overland Architecture, San Antonio, TX
- Coeysquire, AIA  
Lake Placid, San Antonio, TX
- Tate Walker, AIA  
DPN, Madison, WI
- ZSmith, FAIA  
SOB, New Orleans, LA

#### Step 1: Fill out the below basic information of your project

Risk Project Information	
Project Name	Hughes Warehouse
Project Address	203 E. Jones Ave.
apt., suite, etc.	Suite 104
City	San Antonio
State	TX
Zip Code	78215
Climate Zone	2B (link)
Total Building Area	23,500 gross sf
Site Area <sup>1</sup>	27,262 sf
Regularly occupied space <sup>2</sup>	14,000 sf
Avg. daily occupancy <sup>3</sup>	85 People
Peak occupancy <sup>3</sup>	100 People
FTE <sup>3</sup>	70 People
Project completion year	2013
Annual days of operation <sup>4</sup>	365 Days
Avg. daily hours of operation <sup>4</sup>	10 hours
Total Construction Cost	\$1,800,000 USD

Building Program		Program Breakdown	
Building Primary Program	Office		100%
Building Secondary			0%
Building Primary Use			0%
		Total must equal 100%	100%

Additional Building Information	
Project Type	Renovation
Site Environment	Urban
Previously Developed Site	Yes
Is the firm an AIA 2030 Signatory	Yes
Reported in the AIA DDX	Yes
Third party ratings system	None
FAR	0.80
Cost/sf	\$ 73.47
sf/occupant - Avg.	377
sf/occupant - Peak	245
Annual hours of operation	3,650

#### Step 2: Review your benchmarks. This is what your project will be compared against

Benchmarks			
Transportation Carbon Emissions	Transportation - Total Carbon	4,483	CO <sub>2</sub> lbs./occupant/yr
	Transportation - Total Carbon	291,369	CO <sub>2</sub> lbs./yr
Water Consumption	WUI - Water Use Intensity	18	Gal/sf/year
	Total Annual Water Use	257,200	Gal/yr
	Water Use per Occupant	5,508	Gal/occupant/yr
Energy Consumption	EUI - Energy Use Intensity	90	kBTU/sf/year
	Total Annual Energy Use	2,205,000	kBTU/yr
	Energy Use per Occupant	33,923	kBTU/occupant/yr
Operational Carbon Emissions	Carbon Use Intensity	26	CO <sub>2</sub> lbs./sf/year
	Carbon Use Intensity	633,921	CO <sub>2</sub> lbs./yr
	Total annual Carbon Emissions	9,753	CO <sub>2</sub> lbs./occupant/yr
Electric Lighting	Lighting Power Density (LPD)	1.00	W/sf

#### Review these numbers for single family residential projects

Single Family Residential Projects:	
Water Benchmark:	Gallons/Household/year
Energy Benchmark:	kBTU/Household/year
Carbon Benchmark:	Lbs. of CO <sub>2</sub> /Household/year

This first page will assign a series of benchmarks based on building specific, national data for the project to be compared against. Energy benchmarks are referenced from CBECS 2003. For more details on benchmarking and sourcing, visit the "Reference" tab.


OPTIONAL user-defined Benchmarks	
Water Consumption	Benchmark Source
Gal/sf/year	
Energy Consumption	Benchmark Source
kBTU/sf/year	
Operational Carbon Emissions	Benchmark Source
CO <sub>2</sub> lbs./sf/year	
LPD	Benchmark Source
W/sf	

Optional user-defined benchmarks can be entered above as a way of tracking any specific benchmarking research that the team conducted. All calculations in the spreadsheet will be based on the autogenerated benchmarks, which are consistent with the COTE Top Ten awards program.





# INSTRUCTIONS

## Measure 2 - Design for Community

### Explanation

Walkscore.com generates a score for walkability and community resources for any address in the US. The higher the score, the more pedestrian friendly the site.

Based on "Arnstein's Ladder of Social Engagement", how much say did the community have during the design and construction process?

The number of occupants commuting by any means other than single occupancy vehicle on any given day, includes walking, cycling, public transit, etc.

This simple calculator compares your project's commuting patterns to published national averages. Use a survey (or a educated guess) to determine average commuting distance and average mpg of the building's occupants.

If no information is available, use the baseline (US national average). Though designed for office projects, the calculator can produce good results for all buildings that

Determine the number of parking spaces that are required on site by local zoning code. This number is compared to the actual number of spaces provided.

Record the number of bike racks and commuter showers provided for building occupants.

Calculations: Enter your values into the yellow cells

1 - Walk Score	
www.walkscore.com	50

2 - Community Engagement	
Community Engagement Level	A: Consultation

3 - Percentage of occupants commuting by Alternative Transportation	
Occupancy type	FTEs
Number of occupants commuting by alternative transportation (avg)	15
Percent Alternative Commuters	25%

4 - Simple Transportation Carbon Calculator		
	Proposed	Baseline
Percent of occupants commuting by single occupancy vehicle	79%	76% Weekly Avg
Average daily commute (round trip distance)	15	26 Miles
Days commuting per week	5	5 Days
Weeks commuting per year	50	50 weeks
Average car mpg	30	21.8 mpg
Average CO <sub>2</sub> / Gallon of Gasoline	19.6	19.6 lbs. CO <sub>2</sub> /gal
lbs. of carbon dioxide emitted/occupant/year	1,925	4,485
% reduction over the baseline	57.3%	

5 - Parking space reduction	
Required On-site parking spaces	39.5
Provided on-site parking spaces	4
Parking Space Reduction	89%

6 - Bicycle Infrastructure	
Occupancy type	FTEs
Number of bike racks	15
Number of showers	2
Bike racks installed for	25% FTBs
Showers installed for	2.0% FTBs

### Performance Range

0% - 25%	Car Dependent
25% - 50%	Mostly Car Dependent
50% - 70%	Somewhat Walkable
70% - 90%	Very Walkable
90% - 100%	Walker's Paradise

Poor	Manipulation, Therapy
Baseline	Informing, Consultation
Better	Partnership, Delegation
Best!	Citizen Control

Below Average	0% - 25%
National average	~24%
Above average	25% - 100%
ex. New York City	74%
ex. Manhattan	94%

lbs. of CO <sub>2</sub> /Occupant	
<4000	Baseline
3000 - 4000	Getting there
2000 - 3000	Better
1000 - 2000	High Performing
0 - 1000	Very High Performing

10% reduction	Poor
0% reduction	Baseline
25% reduction	Getting there
50% reduction	Better
75% reduction	High Performing
100% reduction	Very High Performing

Bike Racks		Commuter Showers	
10% - Good	1% - Good	25% - Better	5% - Best!
25% - Better		50% - Best!	

### Sources

WalkScore methodology

Arnstein's Ladder of Citizen Participation

2016 Census, Community Survey  
Tri-State Transportation Campaign

Reference Values	Unit	Source
Average car fuel economy	21.8 mpg	EPA - 2017 Report
Average CO <sub>2</sub> emitted per gallon	19.6 lbs. CO <sub>2</sub> /gallon	EPA - Vehicle Emissions
Average one-way commute	13 Miles	2016 Census
Share of single occupancy commuters	76%	2016 Census
Average commuting days	250 days/year	5 days * 50 weeks

\*Please use reference values, not national values

# INPUTS

## Measure 2 - Design for Community

**Evaluation**

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**Calculators: Enter your values into the yellow cells**

**1 - Walk Score**

www.walkscore.com

**2 - Community Engagement**

Community Engagement Level

**3 - Percentage of occupants commuting by Alternative Transportation**

Occupancy type	<input type="text" value="FTEs"/>
Number of occupants commuting by alternative transportation (avg)	<input type="text" value="15"/>
Percent Alternative Commuters	<input type="text" value="21%"/>

**4 - Simple Transportation Carbon Calculator**

	Proposed	Baseline
Percent of occupants commuting by single occupancy vehicle	79%	76% Weekly Avg.
Average daily (commute (round trip distance))	<input type="text" value="15"/>	26 Miles
Days commuting per week	<input type="text" value="5"/>	5 Days
Weeks commuting per year	<input type="text" value="50"/>	50 weeks
Average Car mpg	<input type="text" value="30"/>	21.6 mpg
Average CO <sub>2</sub> / Gallon of Gasoline	19.6	19.6 lbs CO <sub>2</sub> /gal
lbs. of carbon dioxide emitted/occupant/year	<input type="text" value="1,925"/>	4,485
% reduction over the baseline	<input type="text" value="57.1%"/>	

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Required On-site parking spaces	<input type="text" value="37.5"/>
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Occupancy type	<input type="text" value="FTEs"/>
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Bike Racks installed for	<input type="text" value="21% FTEs"/>
Showers installed for	<input type="text" value="2.9% FTEs"/>

**Baseline Group**

0% - 25%	Car Dependent
25% - 50%	Mostly Car Dependent
50% - 70%	Somewhat Walkable
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**Foot**

Baseline	Manipulation, The Easy Informing, Consultation
Better	Partnership, Delegation
Best!	Citizen Control

**Below Average**

0% - 23%	Below Average
24% - 25%	Net one / average
26% - 100%	Above average

ex. New York City: 74%  
ex. Manhattan: 94%

**lbs. of CO<sub>2</sub>/Occupant**

0-1000	Very High Performing
1000-2000	High Performing
2000-3000	Better
3000-4000	Getting there
4000+	Baseline

**10% reduction** Foot  
**0% reduction** Baseline  
**25% reduction** Getting there  
**50% reduction** Better  
**75% reduction** High Performing  
**100% reduction** Very High Performing

**Bike Racks** Commuter Showers

10% - Good	1% - Good
25% - Better	2.5% - Better
50% - Best!	5% - Best!

**Sources**

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2016 Census, Community Survey  
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Average CO <sub>2</sub> emitted per gallon	19.6 lbs. CO <sub>2</sub> /gallon	EPA - Vehicle Emission
Average one-way commute	13 Miles	2016 Census
Share of single occupancy commuters	7.6%	2016 Census
Average commuting days	250 days/year	5 days * 50 weeks

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# REASONABLE RANGES & SOURCES

Measure 2 - Design for Community		Reasonable Ranges	Sources																																																																			
<p><b>Evaluation:</b> WalkScore.com generates a score for walkability and community resources for any address in the US. The higher the score, the more pedestrian friendly the site.</p> <p>Based on "Arstein's Ladder of Social Engagement", how much say did the community have during the design and construction process?</p> <p>The number of occupants commuting by any means other than single occupancy vehicle on any given day. Includes walking, cycling, public transit, etc.</p> <p>This simple calculator compares your project's commuting patterns to published national averages. Use a survey (or a redacted guess) to determine average commuting distance and average mpg of the building's occupants.</p> <p>If no information is available, use the baseline (US national average). Though designed for office projects, the calculator can produce good results for all buildings that</p> <p>Determine the number of parking spaces that are required on site by local zoning code. This number is compared to the actual number of spaces provided.</p> <p>Record the number of bike racks and commuter showers provided for building occupants.</p>	<p><b>Calculations:</b> Enter your values into the yellow cells</p> <p><b>1 - Walk Score</b></p> <p>www.walkscore.com <input type="text" value="50"/></p> <p><b>2 - Community Engagement</b></p> <p>Community Engagement Level <input type="text" value="A: Consultation"/></p> <p><b>3 - Percentage of occupants commuting by Alternative Transportation</b></p> <table border="1"> <tr> <td>Occupancy type</td> <td><input type="text" value="PTTs"/></td> </tr> <tr> <td>Number of occupants commuting by alternative transportation (avg)</td> <td><input type="text" value="15"/></td> </tr> <tr> <td>Percent Alternative Commuters</td> <td><input type="text" value="25%"/></td> </tr> </table> <p><b>4 - Simple Transportation Carbon Calculator</b></p> <table border="1"> <thead> <tr> <th></th> <th>Proposed</th> <th>Baseline</th> </tr> </thead> <tbody> <tr> <td>Percent of occupants commuting by single occupancy vehicle</td> <td>79%</td> <td>76% Weekly Avg</td> </tr> <tr> <td>Average daily commute (round trip distance)</td> <td>15</td> <td>26 Miles</td> </tr> <tr> <td>Days commuting per week</td> <td>5</td> <td>5 Days</td> </tr> <tr> <td>Weeks commuting per year</td> <td>50</td> <td>50 weeks</td> </tr> <tr> <td>Average car mpg</td> <td>30</td> <td>21.8 mpg</td> </tr> <tr> <td>Average CO<sub>2</sub> / Gallon of Gasoline</td> <td>19.6</td> <td>19.6 lbs. 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Manhattan</b></p> <p><b>10% reduction</b> <b>0% reduction</b> <b>25% reduction</b> <b>50% reduction</b> <b>75% reduction</b> <b>100% reduction</b></p> <p><b>10% - Good</b> <b>25% - Better</b> <b>50% - Best!</b></p>	<p>Car Dependent Mostly Car Dependent Somewhat Walkable Very Walkable Walker's Paradise</p> <p>Manipulation, Therapy Informing, Consultation Partnership, Delegation Citizen Control</p> <p>0% - 25% "24% 25% - 100% 74% 94%</p> <p><b>Reference Values</b></p> <table border="1"> <thead> <tr> <th>Reference Values</th> <th>Unit</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>Average car fuel economy</td> <td>21.8 mpg</td> <td>EPA - 2017 Report</td> </tr> <tr> <td>Average CO<sub>2</sub> emitted per gallon</td> <td>19.6 lbs. 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Ellsworth Kelly Chapel, Overland Partners, Austin, TX

# ELEVATE METRICS

Predicted	Measured
74%	71%
1	
15%	
3	

COMMUNITY

51%
14%

ECOLOGY

Predicted	Measured
78%	81%
19%	37%
72%	76%
30%	

WATER

100%
64%
100%
1
1
0
0

ECONOMY

100%
1
90%
89%
50%
67%

ENERGY

100%
2
37%
200

WELLNESS

90%
75%
5

RESOURCES

CHANGE

DISCOVERY



# Building Literacy and Confidence

<b>Community</b>								
Place Based	<b>Ecology</b>							
Aquifer/watershed, shared resource	Climate appropriate landscape, Precipitation	<b>Water</b>						
Financial Resilience	Economics of Biophilia, Low Maintenance	H2O Savings	<b>Economy</b>					
District Systems Carbon in Transportation	Bioclimatic and Passive Design	Pump Savings	LCC / LCA	<b>Energy</b>				
Fitwell, Air Quality/Transport	Connection to nature	H2O Quality	Operational Costs vs Healthy building tradeoffs	Daylighting as an ECM	<b>Wellness</b>			
Embodied Carbon of Materials, Local Mfgr	Locally sourced materials	Aquifer/Watershed	Structure as Surface, Durability LCC and LCA	Embodied Carbon, Minimally Processed Materials	Material Transparency and Red List	<b>Resources</b>		
Social Equity is major component of Resilience	Climate Change: Fire, Earthquake, Flood, Ocean Rise	Flooding, Drought, Precip levels, Climate Change	Right sizing vs Flexibility for growth, Financial Resilience	Carbon's Role in Climate Change	Passive survivability	Quantify embodied savings from adaptive reuse	<b>Change</b>	
User groups, profiles, and heat maps	Biodiversity	Presence of Water	Develop replicable cost-effective strategies	Measurement and Verification	Tracking health impacts	Future Adaptability	Is the space used as intended?	<b>Discovery</b>

# Today's Session

## **Overview of the Framework for Design Excellence**

Michelle Amt

## **Application of the Framework in Practice / Client Engagement**

Michelle Amt, Elaine Gallagher Adams, Adam Torrey

## **Application of the Framework within AIA chapters & sections**

Mary-Margaret Zindren, Adam Torrey, Elaine Gallagher Adams, Michelle Amt

## **Q&A**

# Case Studies

## F4DE forms the backbone for project goal-setting

Attendees: Architects, Structural, MEP, Landscape, Civil, other design team members as needed.

1. Introductions / roles & responsibilities
2. Review basic project information (program, schedule, budget, etc.)
3. Review & confirm project vision & goals
4. Establish performance goals
  - a. Review research / site analysis synthesis maps
  - b. Develop list of goals & targets, items for further research along COTE criteria
    - Energy: How can the project conserve energy while improving building performance, function, comfort, and enjoyment?
    - Wellness: How can the project promote comfort, health, and wellness of the building occupants? How can project promote activity and fitness?
    - Water: How will potable water be conserved? How does the project relate to regional watershed for water supply, water quality and waste water management?
    - Resources: How can the project reduce waste, enhance durability, reduce the impacts of extraction, manufacturing, and transportation?
    - Community: How can the project contribute to a walkable community and how will occupants commute to the site?
    - Ecology: How does site relate or respond to surrounding ecosystem? How does the project support biodiversity and the preservation or restoration of habitats?
    - Change: How is the building designed to last over 50-100 years? How can the building adapt or be repurposed?
    - Economy: How can project do more with less (right-sizing) and reduce operational costs?
    - Integration: What design strategies provide multiple benefits and provide social, economic and environmental value?
  - c. Identify areas to engage stakeholders/owner & agenda for owner kickoff meeting
5. Discuss certification programs (LEED, WELL, LBC, SITES, etc)—a high-level overview, there is a separate meeting for credit-by-credit discussion
6. Communications protocol
7. BIM protocol



## F4DE Frames Questions per Project Phase

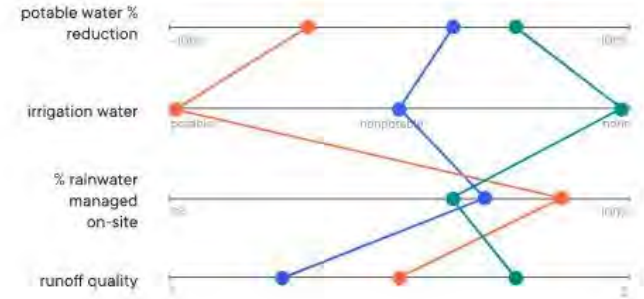
SCHEMATIC DESIGN		Last Updated: 1/26/2022	
<i>Teams should have answers to all of these questions by the end of SDs</i>			
	Questions	Answers	Guidance / Resources
<b>EQUITABLE COMMUNITIES</b>	What is the plan for stakeholder engagement in this phase?	<i>(paste location of engagement plan)</i>	<i>CHS Engagement Plan is a good model to replicate.</i>
	Equity Pause: --Who isn't at the table currently? --When you say inclusive/equitable, who or which groups specifically do you mean? What are you doing to engage with them? --How does the design meet needs of the project's non-dominant communities?		<i>Examples of design responses: prayer spaces + ablution rooms, lactation rooms, restoration spaces for neurodivergent occupants, trauma-informed design</i>  <i>Examples of alternative engagement: peer engagers, paid engagement groups, providing food/childcare at events, translation services, office hours, scheduling to allow for different attendance</i>
	Have you spoken to the client about gender-inclusive restrooms? If not now, can they be adapted to be gender-inclusive in the future?		<i>Layouts and supporting materials can be found here: R:\_Equity Advocacy\03_EQA Initiatives\Gender Inclusive Bathrooms</i>
	How does the design reflect information collected as part of the History of Place pre-flight checklist? Are there forgotten histories that can be reestablished through the project?		<i>Preflight checklist can be found here: R:\_Equity Advocacy\03_EQA Initiatives\History of Place Preflight</i>
	How does this project provide benefits to the larger community (e.g., after-hours access, farmer's markets, etc)?		

# F4DE metrics are used as a basis for internal design discussions



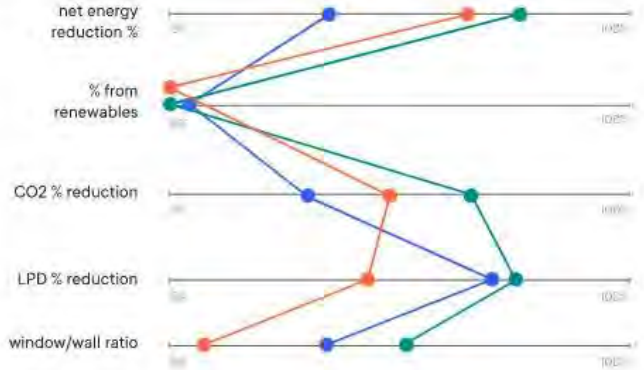
## DESIGN FOR WATER

Not providing irrigation and eliminating cooling towers through geothermal put Forest MS out in front in this category. DC's stringent stormwater requirements mean that Thurston Hall goes beyond best practice and includes rainwater capture and reuse.



## DESIGN FOR ENERGY

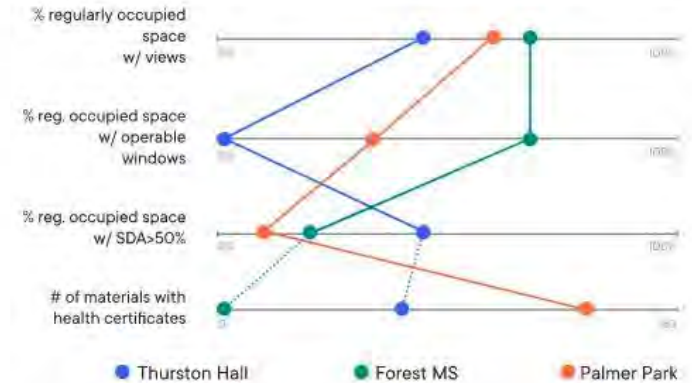
Even without PVs, Forest MS leads in energy performance using the well-honed K12 model for ZE-ready design. Thurston Hall is the first heat pump residence hall we've had in a while and it has changed how GWU thinks about the technology. Palmer Park is the first application of LED field lighting for UVA.



## DESIGN FOR WELLNESS

Both Forest MS and Palmer Park experience low spatial daylight autonomy (SDA) because of their windowless movement spaces.

While material health certificates were considered for Forest MS selections, documentation was not collected.





F4DE concepts and metrics are used as a basis for client presentations



## Design for ecosystems | water

Good design mutually benefits human and nonhuman inhabitants.



Good design conserves and improves the quality of water as a precious resource.

### What's changed since 2013?

- Future climate modeling for sizing stormwater infrastructure
- Increased focus on rainwater infiltration
- Role of landscape in carbon sequestration / climate action
- Biodiversity crisis

### Opportunities + Challenges at MV Calle Ocho

Carbon: improve carbon sequestration

Habitat: improve habitat quality + quantity, preserve soils, bird safety, night sky protection, heat island effect

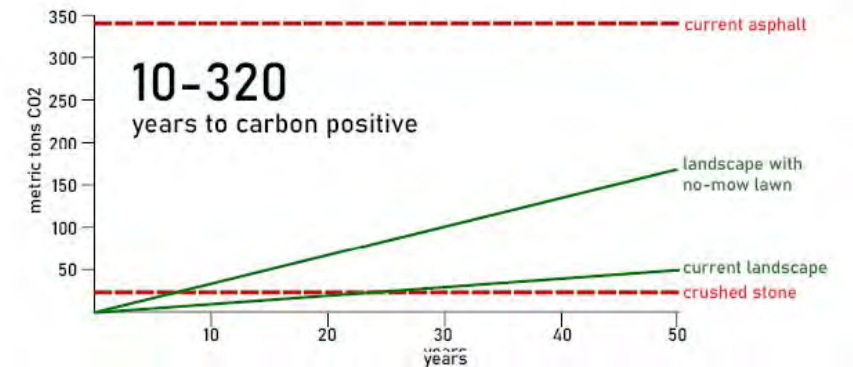
Stormwater: manage 100% rainwater on-site

Potable Water: rainwater capture for toilet flushing; consider graywater system if kitchen is in Phase 1; no irrigation



Major 2013 strategies: 25,000 gallon cistern feeds irrigation/toilets (50% reduction); 41% rainwater managed on-site; rain gardens/interactive constructed stream; native/edible landscaping; agriculture

### MCV8 Site: Current Condition vs. Low Carbon Approach





## AIA Framework in Practice – Making it Real

Elaine Gallagher Adams, AIA, LEED AP BD+C

*Arcadis – North America – Net Zero Facilities and Sustainable Communities Solutions Leader*



# Framework Project Kick-Off / Owners Project Requirements





# 1 | Design for Integration

- *What is the VISION for this project?*
- *Commit to designing a STATE OF THE ART building/ campus/ community that reflects current science and best practices.*
- *Follow INTEGRATIVE design strategies and plan a diverse team and project calendar to make that happen.*
- *Identify the primary CONTACT and DECISION MAKER from the client side.*





## 2 | Design for Equitable Communities

- *Has the client committed reporting ESG to shareholders?*
- *Will there be an opportunity for COMMUNITY or user input during design?*
- *Is the client monitoring HUMAN RIGHTS IMPACTS in supply chain?*
- *Will this project offer tangible SOCIAL/CULTURAL benefits? (pathways, wifi, art, daycare, gardens, etc)*
- *Can we right-size or eliminate PARKING and connect to PATHWAYS AND PUBLIC TRANSIT?*



# 3 | Design for Ecosystems



- *Establish expectation and method for GHG calculations.*
- *Agree that site and landscape design will include diverse NATIVE and ADAPTIVE, NON-INVASIVE PLANTINGS that provide habitat and minimize maintenance and irrigation.*
- *Establish the area of disturbance during construction and plan for PROTECTION and RESTORATION of site.*
- *Discuss Audubon BIRD-SAFE BUILDING DESIGN guidelines.*
- *Assess and minimize LIGHT and SOUND POLLUTION from construction and operation of the building(s).*



## 4 | Design for Water

- *Address regional water issues. Set WATER BUDGET, goals for NET ZERO WATER capabilities (current or future).*
- *Agree to provide two water supply lines – POTABLE AND NON-POTABLE end uses – for future ready water systems.*
- *Establish whether property is in a FLOOD ZONE and discuss code, mitigation, adaptation, or relocation.*
- *Identify any areas of landscape that must be IRRIGATED.*
- *Document STORMWATER MANAGEMENT requirements and general approach for implementation.*



# 5 | Design for Economy

- *Set project BUDGET and TIMELINE.*
- *Identify anticipated FUNDING SOURCES and associated documentation.*
- *Document client tolerance for LCCA PAYBACK period(s).*
- *Attach project program with required spaces/uses and wishlist spaces/uses.*
- *Discuss RIGHT-SIZING spaces and make multi-function.*
- *Identify building COMMISSIONING/testing plan, agent, scope, and timing for engagement.*



# 6 | Design for Energy



- *Discuss expectations for ENERGY MODEL iterations for informed design decisions / certifications / tax credits.*
- *Will the project be NET ZERO energy/carbon operations/capable? Establish ENERGY BUDGET.*
- *In lieu of net-zero, set future-ready ENERGY TARGET from Energy Star/Zero Tool/owner portfolio/other.*
- *Can the facility participate in DEMAND RESPONSE?*
- *Is there a preferred PROPRIETARY SYSTEM for HVAC controls?*





# 7 | Design for Well Being - *part 1*

- *What are the anticipated OCCUPANCY HOURS and days? Fully conditioned?*
- *Will this serve as EMERGENCY SHELTER? Provide essential operations services during natural / non-natural events?*
- *How long does the building need to operate WITHOUT GRID/INFRASTRUCTURE SUPPORT?*
- *Will this facility be designed for PASSIVE SURVIVABILITY?*
- *Are we designing to meet specific AIR QUALITY standards? Pathogen control? Daylighting? Acoustics? Seasonal?*





## 7 | Design for Well Being - *part 2*



- *Does client require building products that are **KNOWN CARCINOGENS** at some point in their lifecycle? **RED LIST**?*
- *Does client want continuous air quality **MONITORING**?*
- *Are there **COMMUNICATIONS/AV** needs for the building?*
- *What **SECURITY** concerns does client have? Addressed through passive measures or surveillance?*
- *Can windows be **OPERABLE**?*
- *Will **HAZARDOUS MATERIALS** be stored on the property*





## 8 | Design for Resources

- *Is there a geographic SOURCING GOAL for materials and products? Made in America? 500-mile radius? Within the SEC region?*
- *Do we want to conduct a whole building LCA?*
- *What renewable materials can make this project more successful for the client?*
- *What factors shall inform choice of furnishings?*
- *What furnishings/equipment will the owner provide?*



# 9 | Design for Change

- *Will the project be phased? Anticipate future expansion?*
- *State that design decisions will take into account anticipated regional impacts of climate change.*
- *How will this facility respond to extreme temperatures and weather events? Peak design? Modified operations? Closure?*
- *Will the project incorporate existing structures or materials?*
- *How will backup power be supplied? Renewable options.*



# 10 | Design for Discovery

- *Will management utilize a green leasing structure for tenant space?*
- *Will the owner pursue building certifications? Future certifications?*
- *What operations training is needed and who gets trained?*
- *Will there be a post-occupancy survey initiated by owner? By design team?*
- *Owner and design team agree to create and share publicity on project for publications / awards.*



Now USE it. Make it yours.

- reduce **Risk** by improving communication
- drive **Design** decisions
- provide checklist for **QA/QC**
- inform **Specification** writers
- inform content for **Award** submittals
- create content for **Marketing** narrative
- give **Reusable** impactful tool to client



## Download the Framework Document



*Special THANK YOU to **LS3P** Architects for sharing this template with AIA members in 2022 with the firm belief that a rising tide lifts all boats.*

*Template developed by Elaine Gallagher Adams, Arcadis, while with LS3P*





**Adam Torrey** AIA, LEED AP BD+C, WELL AP  
Sustainability Leader | Architect

# Start Where You Are.

CLARKNEXSEN









**We are here**





**Not here**

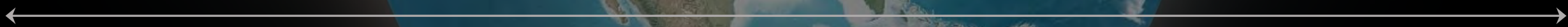
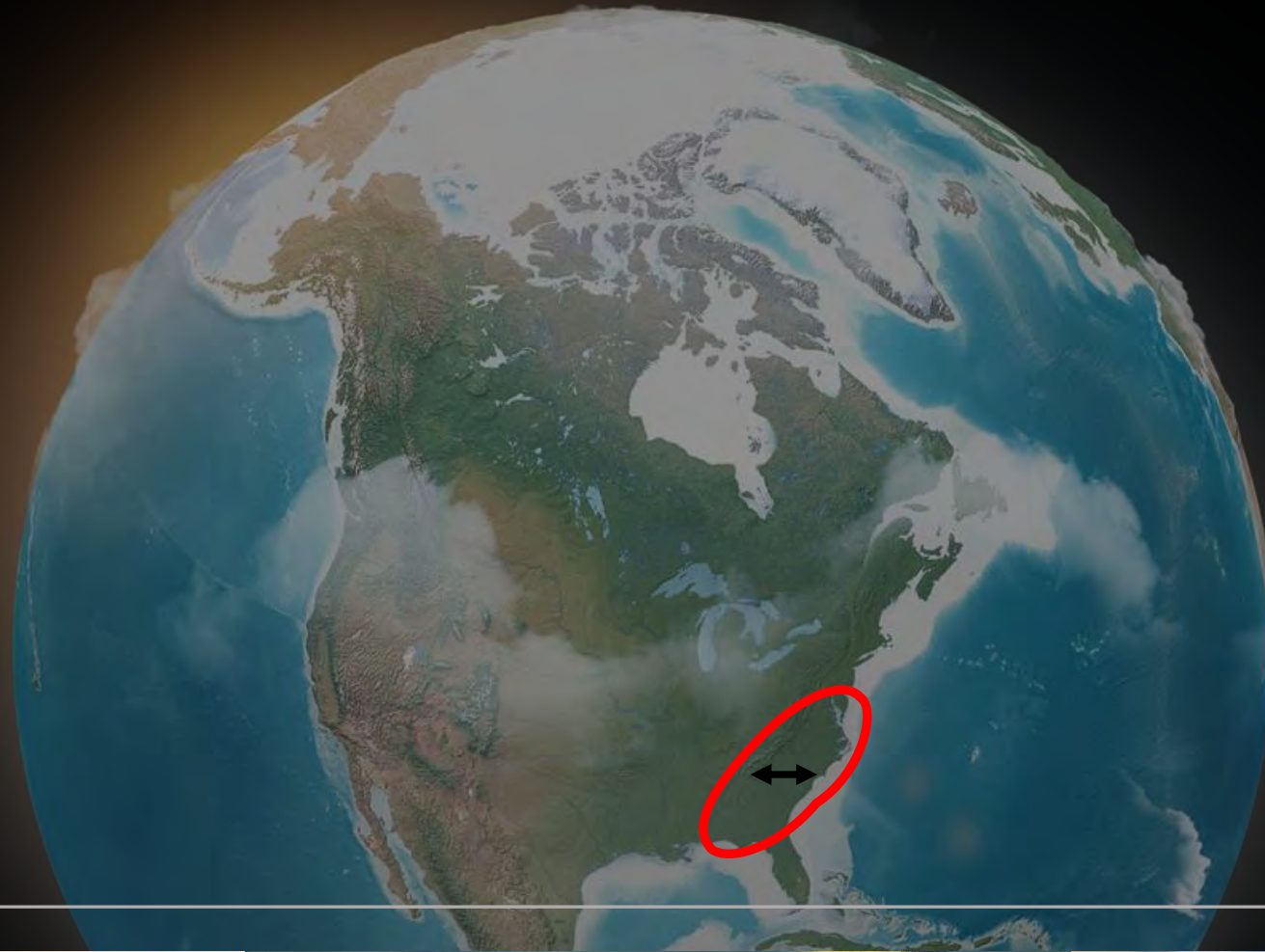




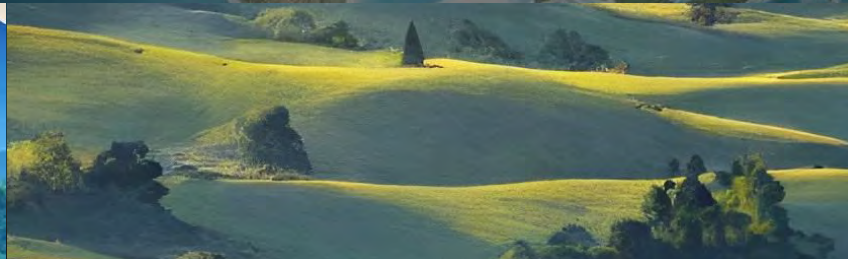


Or here





Mountains



Foothills



Coastal Plains



“Code Red”

**extreme heat waves, flooding,  
droughts, and wildfires**



## The Climate Imperative

**we must take urgent action  
to reverse the impacts of our  
greenhouse gas emissions**



# How will you respond?

Do something



or, do nothing?







**Take a deep breath...**



# Who is Clark Nexsen?



# Firm Profile

Employees  
300+

## Design Disciplines

- Architects
- Interior Designers
- Mechanical
- Electrical
- Plumbing
- Civil
- Fire Protection
- Structural
- Transportation
- Landscape Architects





# Firm Profile

## Office Locations

### Virginia

Virginia Beach

Richmond

Roanoke

Vienna

### North Carolina

Asheville

Charlotte

Raleigh

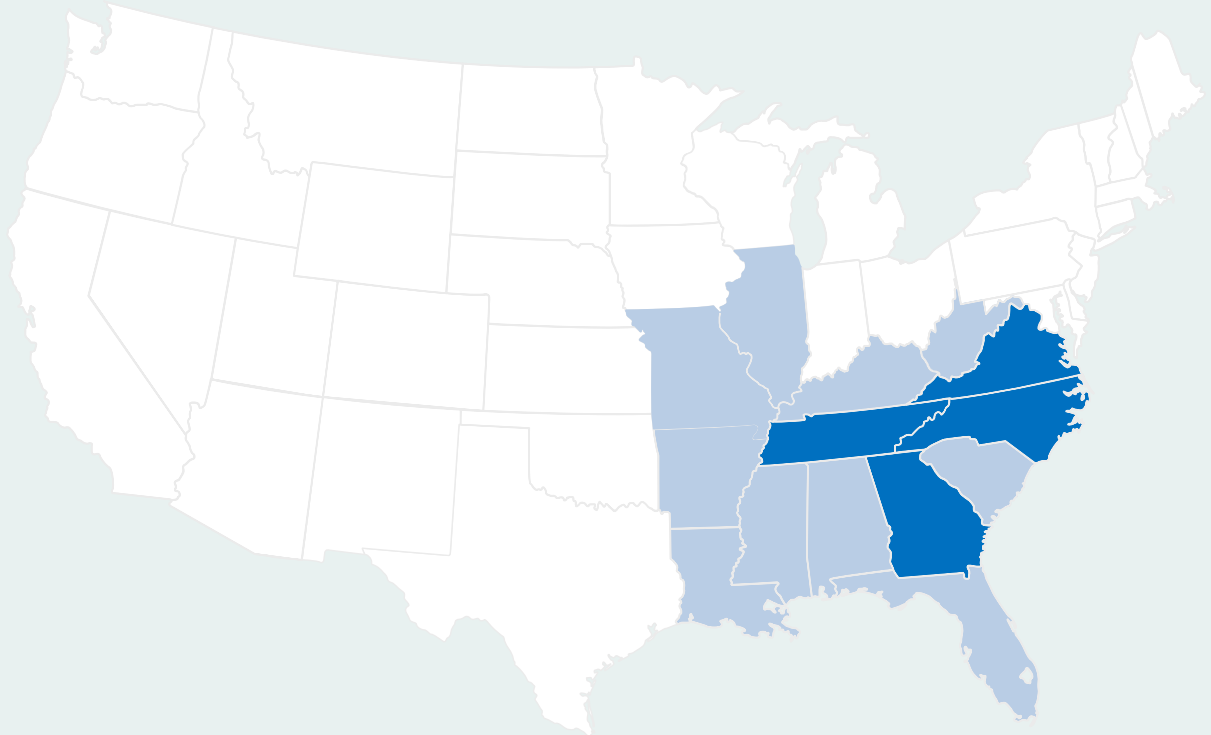
### Georgia

Atlanta

Macon

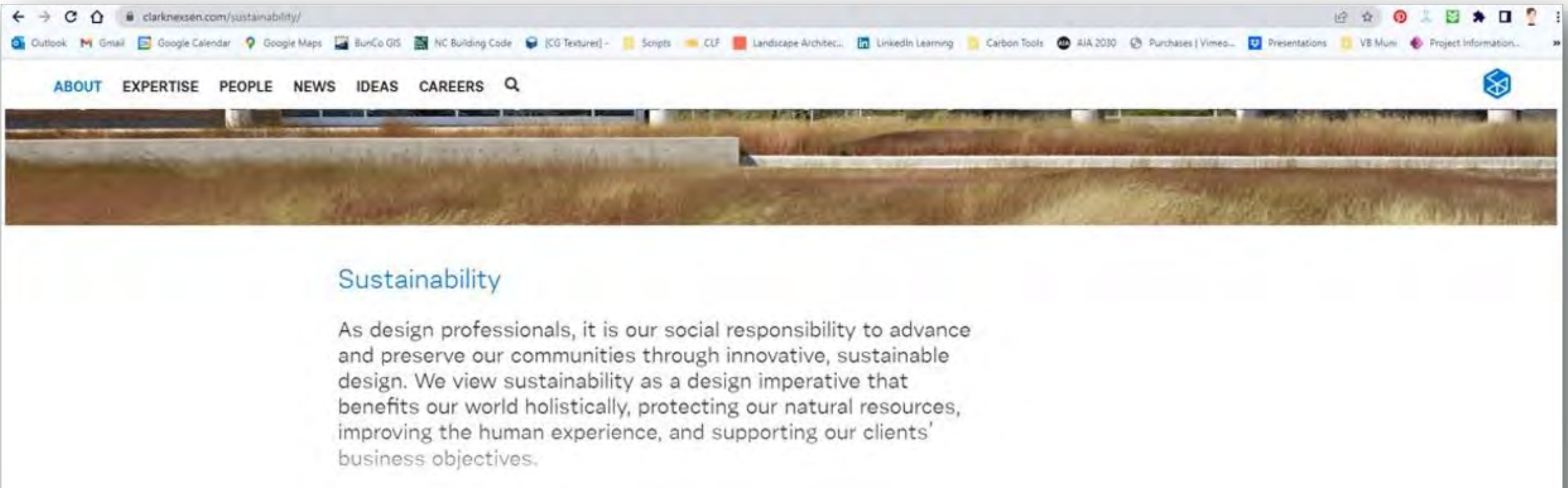
### Tennessee

Johnson City





# Firm Profile

A screenshot of a web browser displaying the Clark Nexsen Sustainability page. The browser's address bar shows the URL 'clarknexsen.com/sustainability/'. The top navigation menu includes links for 'ABOUT', 'EXPERTISE', 'PEOPLE', 'NEWS', 'IDEAS', and 'CAREERS', along with a search icon. Below the navigation is a large banner image of a landscape with tall, golden-brown grasses and a concrete wall. The main content area features the heading 'Sustainability' in a blue font, followed by a paragraph of text.

clarknexsen.com/sustainability/

OUTLOOK Gmail Google Calendar Google Maps BurCo GIS NC Building Code [CG Textures] - Scripts CLF Landscape Architec... LinkedIn Learning Carbon Tools AIA 2030 Purchases | Vimeo... Presentations VB Muni Project Information...

ABOUT EXPERTISE PEOPLE NEWS IDEAS CAREERS

## Sustainability

As design professionals, it is our social responsibility to advance and preserve our communities through innovative, sustainable design. We view sustainability as a design imperative that benefits our world holistically, protecting our natural resources, improving the human experience, and supporting our clients' business objectives.

Public commitment to Sustainability



## Firm Profile

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### **AIA** 2030 COMMITMENT

2015 Signatory

All new buildings, developments, and major renovations shall be carbon-neutral by 2030.

---

### **MEP 2040** Committing to Zero

2022 Signatory

All systems engineers shall advocate for and achieve net zero carbon in their projects: operational carbon by 2030 and embodied carbon by 2040.

---

### **SE2050** COMMITTING TO ZERO

2020 Signatory

All structural engineers shall reduce and ultimately eliminate embodied carbon in their projects by 2050.

Industry carbon reduction commitments



# Firm Profile

## Annual Action Plan

Prioritize Embodied Carbon Reduction

Optimize EUI Tracking & Performance

Improve & Share Knowledge

Optimize Project Delivery

Sustainable Operations

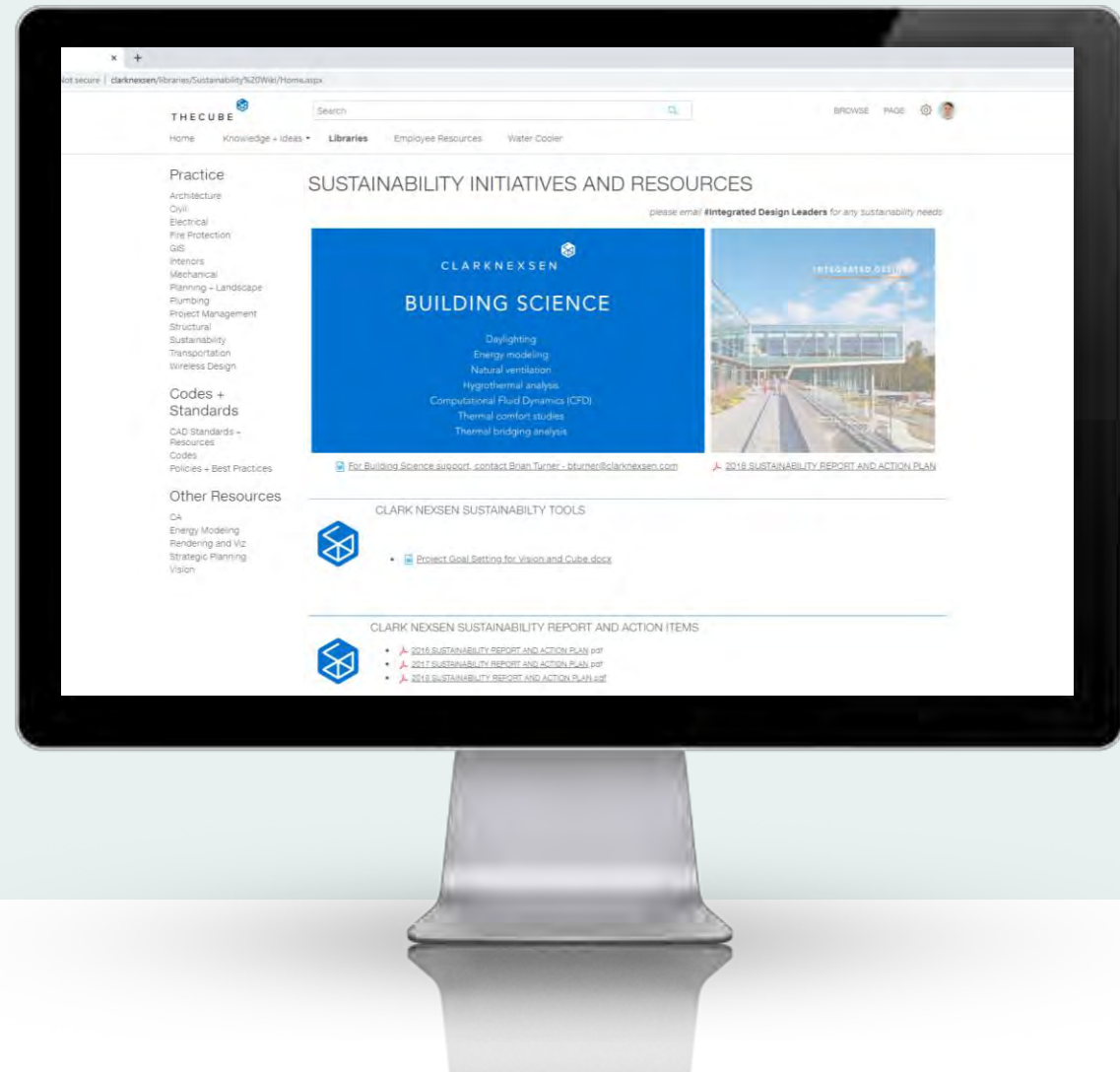
AIA 2030 Commitment



# How is Clark Nexsen taking action?

Development | Implementation | Optimization





Development

Clark Nexsen: internal resources

The screenshot displays the 'COTE Top Ten Super Spreadsheet' in Microsoft Excel. The interface includes the standard Excel ribbon (File, Home, Insert, Page Layout, Formulas, Data, Review, View, Help) and a search bar. The spreadsheet is divided into several tabs: Introduction, 2 - Community, 3 - Ecology, 4 - Water, 5 - Economy, 6 - Energy, 7 - Wellness, 8 - Resources, 9 - Change, 10 - Discovery, Summary, Results, Reference Information, and a final unlabeled tab.

**Introduction Tab:**

- Step 1: Fill out the below basic information of your project**

Project Name	Hughes Warehouse
Project Address	203 E. Jones Ave.
apt, suite, etc	suite 204
City	San Antonio
State	TX
Zip Code	78213
Climate Zone	2A
Total Building Area	24,500 sqft
Site area	27,742 sqft
Regularly occupied space	14,000 sqft
Avg. daily occupancy	65 People
Peak occupancy	100 People
FTEs	70 People
Project completion year	2013
Annual days of operation	365 Days
Avg. daily hours of operation	10 hours
Total Construction Cost	\$1,800,000 USD
- Step 2: Review your benchmarks. This is what your project will be compared against**

Transportation Carbon Emissions	4,483	CO <sub>2</sub> lbs./occupant/yr
Transportation - Total Carbon	291,369	CO <sub>2</sub> lbs./yr
Water Consumption	15	Gal/yr
Water Use Intensity	352,200	Gal/yr
Water Use per Occupant	5,503	Gal/occupant/yr
Energy Consumption	90	kBtu/yr
EUI - Energy Use Intensity	2,205,000	kBtu/yr
Total Annual Energy Use	33,923	kBtu/occupant/yr
Energy Use per Occupant	36	CO <sub>2</sub> lbs./yr
Carbon Use Intensity	633,921	CO <sub>2</sub> lbs./yr
Operational Carbon Emissions	9,753	CO <sub>2</sub> lbs./occupant/yr
Total Annual Carbon Emissions	1.00	W/sf
Electric Lighting		
Lighting Power Density (LPD)		
- OPTIONAL user-defined Benchmarks**

Water Consumption	Benchmark Source
Energy Consumption	Benchmark Source
Operational Carbon Emissions	Benchmark Source
LPD	Benchmark Source

**Building Program Tab:**

Building Primary Program	Office	Program Breakdown
Building Secondary		100%
Building Primary Use		0%
Total must equal 100%		100%

**Additional Building Information Tab:**

Project Type	Renovation
Site Environment	Urban
Previously Developed Site	Yes
Is the firm an AIA 2030 Signatory	Yes
Reported in the AIA DOD	Yes
Third party rating system	None
FAR	0.90
Cost/sf	75.47

**Summary/Results Tab:**

Baseline	Response	Very High Performance		
Walk Score	50	100		
Community Engagement Score	3	8		
Alternative Transportation Percentage	0%	22%	100%	
Transportation carbon - Percent Reduction	0%	57%	100%	
Parking Space Reduction	-100%	89%	100%	
Bicycle Infrastructure - Bike Racks	0%	23%	50%	
Bicycle Infrastructure - Showers	0%	75	5%	
Vegetated site area - Post Development	0%	75%	100%	
Native plantings - Percent of vegetation	0%	75%	100%	
Potable water reduction	0%	54%	72%	100%
Potable water used for irrigation?	Yes (0)	1	No (1)	100%
Rainwater managed onsite	0%	1	5	100%
Estimated runoff quality	1	3	5	100%
Construction cost reduction from the benchmark	-100%	51%	50%	
Efficiency ratio percent improvement	-50%	24%	50%	
Net energy reduction from Benchmark	0%	78%	81%	105%
Percent from renewable energy	0%	24%	37%	100%
CO <sub>2</sub> Percent reduction from Benchmark	0%	72%	76%	100%
Lighting Power Density % Reduction	0	88%	79%	
Quality views	0%	100%	100%	
Operable windows	0%	66%	100%	
Daylight autonomy	0%	100%	100%	
Is CO <sub>2</sub> Measured?	No (0)	1	Yes (1)	100%
Is VOC measured?	No (0)	1	Yes (1)	100%
Materials with health certifications	0	10	10	
Chemicals of concern avoided	0	10	10	
Embodied energy reduction from benchmark	0%	100%	100%	
Life cycle analysis conducted - 1Yr	No (0)	1	Yes (1)	100%

**Carbon Calculations Tab:**

Category	CO <sub>2</sub> (lbs/yr)	Energy (kWh)	Building Materials (lbs)	Total
Community	18%			
Energy		54%		
Building Materials			31%	
Building Materials			1%	

**Visualizations:**

- Cumulative carbon after 1 year occupancy:** Donut chart showing Building Materials at 31%, Energy at 54%, and Community at 18%.
- Cumulative carbon over building life:** Donut chart showing Energy at 54%, Building Materials at 31%, and Community at 18%.

Development

AIA: COTE Super Spreadsheet (15 tabs)



AIA Committee on the Environment (COTE)  
Top Ten Toolkit

Phase 1  
June 2018

DRAFT

Top Ten Reasons Buildings Matter

<b>Integration</b>	#1	Ranking of built environment in determining happiness <sup>1</sup>
<b>Community</b>	90%	% of time people spend indoors <sup>2</sup>
<b>Ecology</b>	45%	Buildings as % of US greenhouse gas emissions <sup>3</sup>
<b>Water</b>	80%	Buildings as % of municipal water supply <sup>4</sup>
<b>Economy</b>	87%	Buildings as % of global GDP <sup>5</sup>
<b>Energy</b>	75%	Buildings as % of US electricity use <sup>6</sup>
<b>Wellness</b>	50%	% increase in risk of adverse health effects through poor quality <sup>7</sup>
<b>Resources</b>	40%	Buildings as % of raw material use <sup>8</sup>
<b>Change</b>	400%	Return on investments in natural disaster preparedness <sup>9</sup>
<b>Discovery</b>	73%	Built environment % impact of on student test scores <sup>10</sup>

<sup>1</sup> Gallup Place and Happiness Survey  
<sup>2</sup> National Institutes of Health  
<sup>3</sup> Architecture 2030  
<sup>4</sup> National Resources Defense Council  
<sup>5</sup> Arcadis Global Built Asset Wealth Index  
<sup>6</sup> Architecture 2030  
<sup>7</sup> United States Green Building Council  
<sup>8</sup> United States Green Building Council  
<sup>9</sup> NAPA  
<sup>10</sup> University of Salford

DRAFT

COTE Top Ten Measure of Sustainable Design

Design for Integration	Central Design Concept Beauty and Delight Integrated Process
Design for Community	Walkability / Human Scale / Alternative Transportation Community Engagement & Buy-In Social Equity
Design for Ecology	Landscape Dark Skies Bird Friendly Site Acoustics Biodiversity / Habitat Bioclimatic Design
Design for Water	Indoor Water Efficiency Outdoor Water Use Reduction (Irrigation Reduction / Evaporation Reduction / Process Water Reuse (ex. Condensate) Recapture/Reuse of Greywater and/or Blackwater Foundation water capture (if pumped) Rainwater/Stormwater Use and Management Net Zero Water Building (NZWB) Climate Change
Design for Economy	Building Size Operational Requirements Maintenance Requirements Financing and Incentives
Design for Energy	Energy Benchmarking Energy Modeling Predicted Energy Use Intensity (pEUI) Metered Energy Use Intensity (EUI) Passive Design Features On-Site Renewables (Solar, Wind)

DRAFT

Suggested Best Practices

1. Write a Vision Statement that resonates with the design team, the investors, the operators and managers, the users, the community, and the client. A shared direction, that all stakeholders can rally around will set the stage early for positive outcomes.
2. Understand and take full advantage of everything the site has to offer. This can include community amenities, local climatic conditions, or a unique history. Wrap these opportunities into a big picture design concept that can incorporate sustainable design best practices from the other nine measures.
3. Take inspiration from architectural history. The buildings we revere today provide lessons for their aesthetics or concepts that future generation will want to keep around.

References

[COTE Top Ten Award Recipients](#)

More than two decades of COTE Top Ten award recipients and their case studies can be accessed from this link. Use these projects for inspiration of what sustainable design can be and how team use big ideas to bring together excellence across measures. In a future phase of this document, the case studies of all award recipients and many entrants will be provided in a searchable database.

[Lessons From The Leading Edge](#)

This 2016 Report from the Committee On The Environment analyzes trends among 20 years of projects that received a COTE Top Ten award.

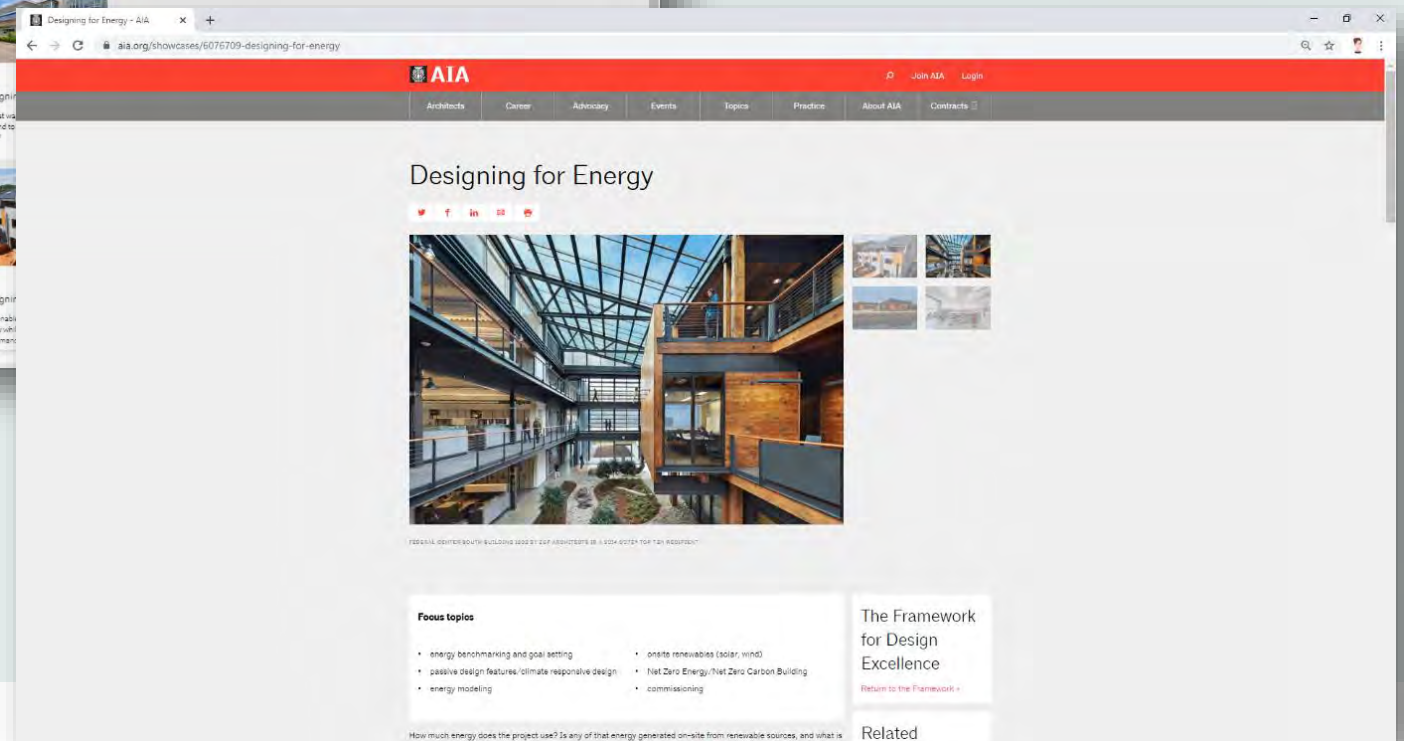
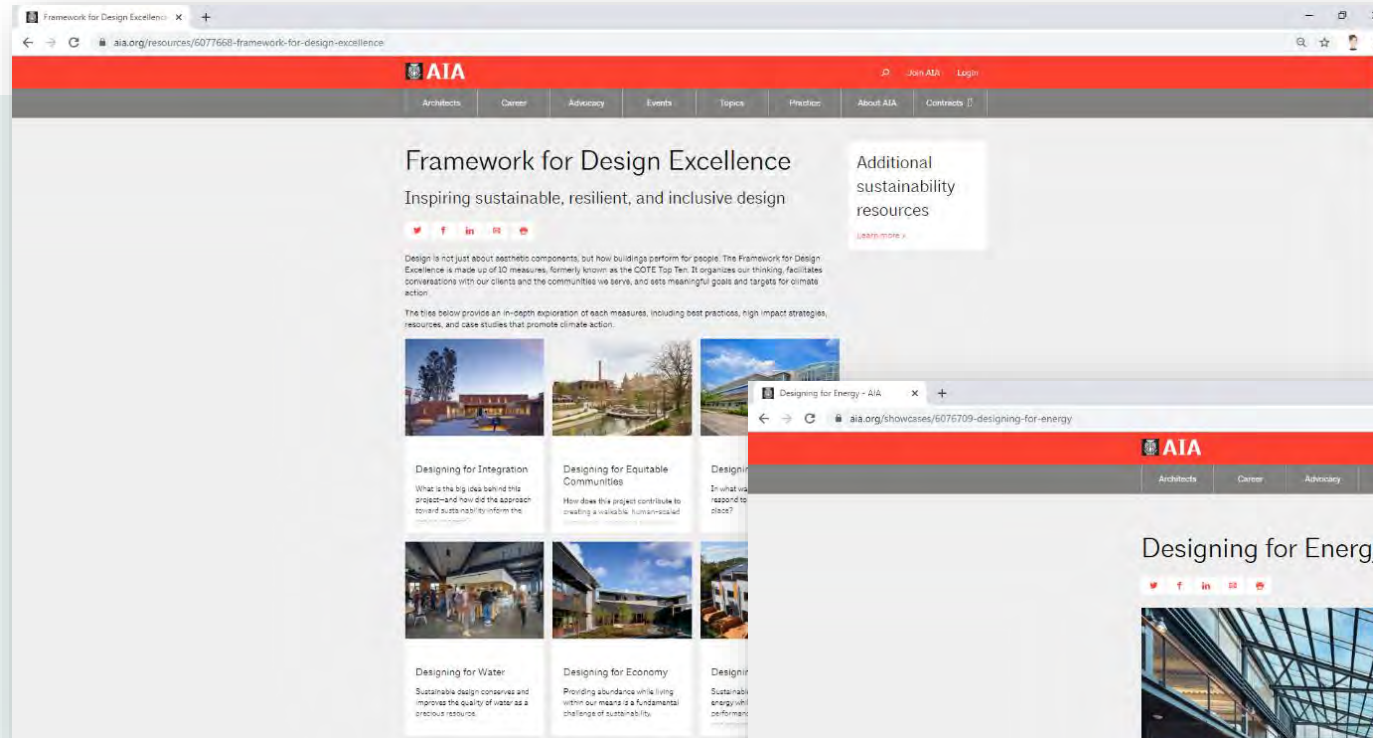
[BuildingsGreen: How To Run a Great Workshop: 37 Tips and Ideas](#)

Whether you call it a charrette, a workshop, or simply a meeting, these suggestions from experts will make your next event more fun and productive.

[Integration at its Finest](#)

A thoroughly researched up to date guide on Integrated Design for the GSA that takes a deep dive into 3 different COTE award recipients. It includes a comparative analysis across several categories found in high performance buildings.

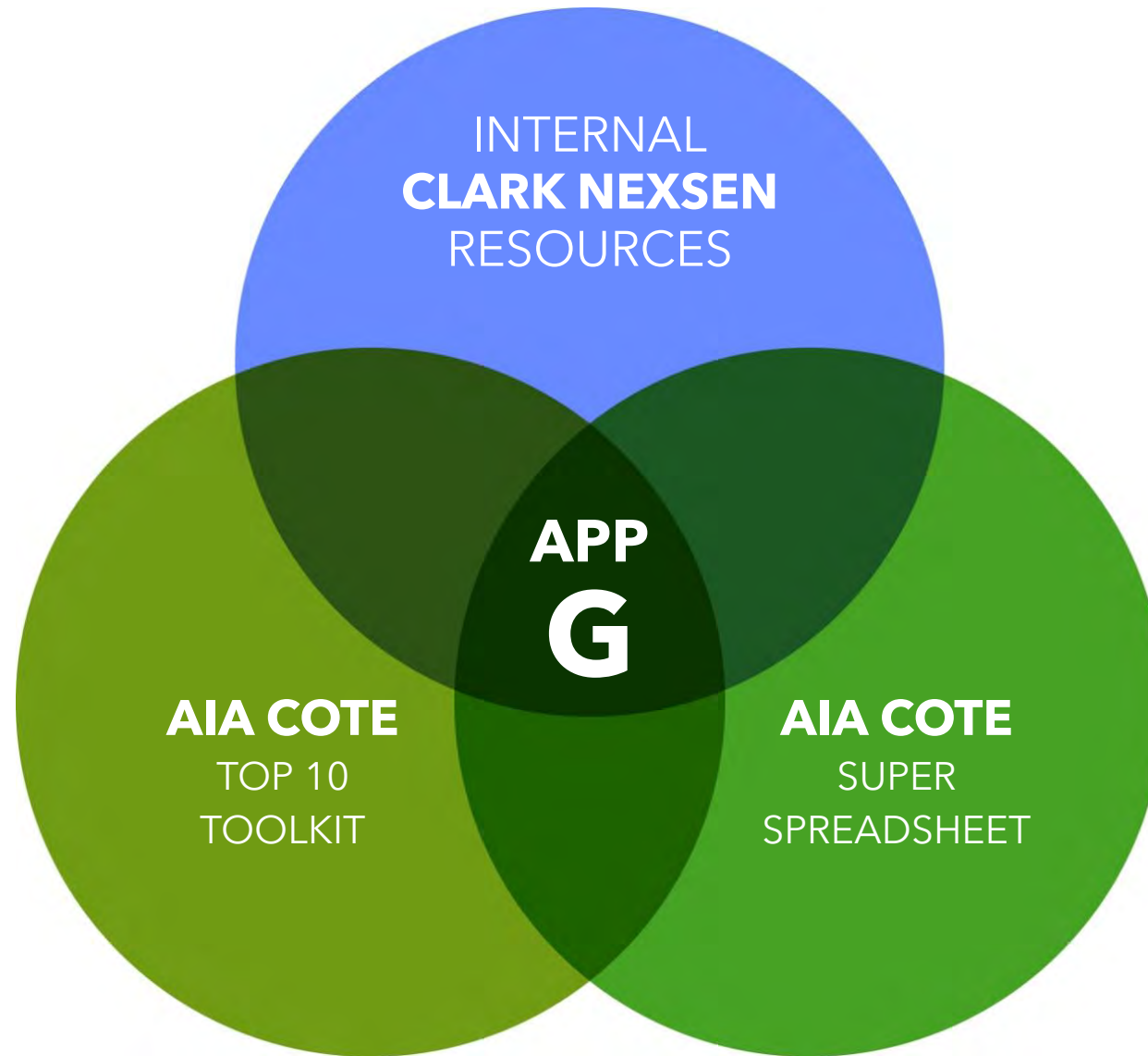
DRAFT



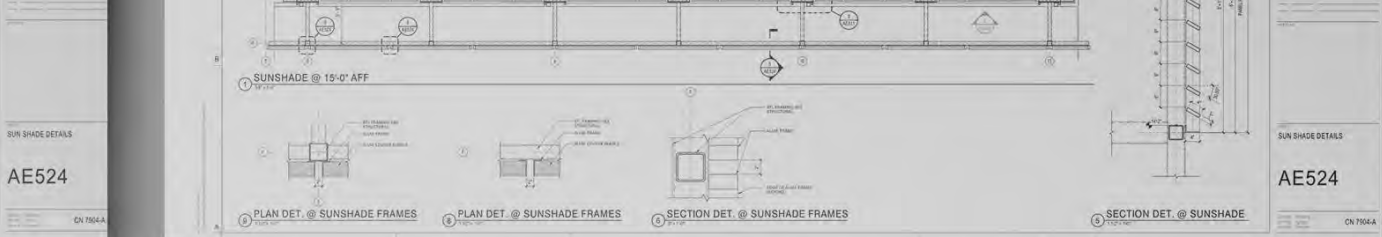
**Development**

AIA: Framework for Design Excellence (website)





**Development**



DR. WESLEY GRANT SR. CENTER EXPANSION

CLARKNEXSEN

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL, ELECTRICAL, SERVICE DESIGN AND EQUIPMENT

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL SYSTEM AND EQUIPMENT

CLARKNEXSEN

GI010

CN 1954A

**Integration**

Good design integrates a project with a thoughtful consideration of its context, including its location, its relationship to the surrounding community, and its impact on the environment.

**Equitable Communities**

Design solutions that promote the well-being of all people, including those with disabilities, and that promote the economic vitality of the community.

**Ecosystems**

Good design recognizes the natural and cultural resources of a project site and seeks to enhance and protect them.

**Energy**

Good design recognizes the need to reduce energy consumption and the impact of climate change.

**Economy**

Good design recognizes the need to create jobs and support the local economy.

**Water**

Good design recognizes the need to conserve water and protect water quality.

**Well-being**

Good design recognizes the need to create a healthy and vibrant community.

**Resources**

Good design recognizes the need to use resources efficiently and sustainably.

**PROJECT NAME**

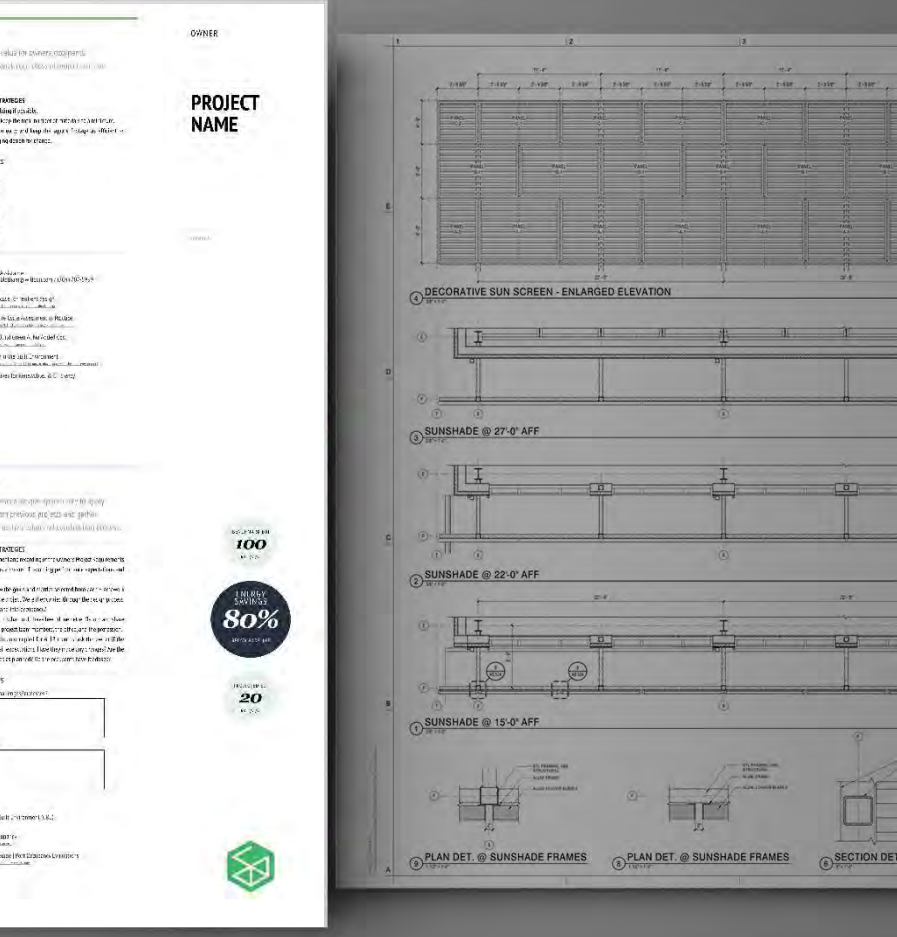
OWNER

100% LEED CERTIFIED

80% ENERGY SAVINGS

20% FASTER

CLARKNEXSEN



Development

"App G" Print format

DR. WESLEY GRANT SR. CENTER EXPANSION

CLARKNEXSEN

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

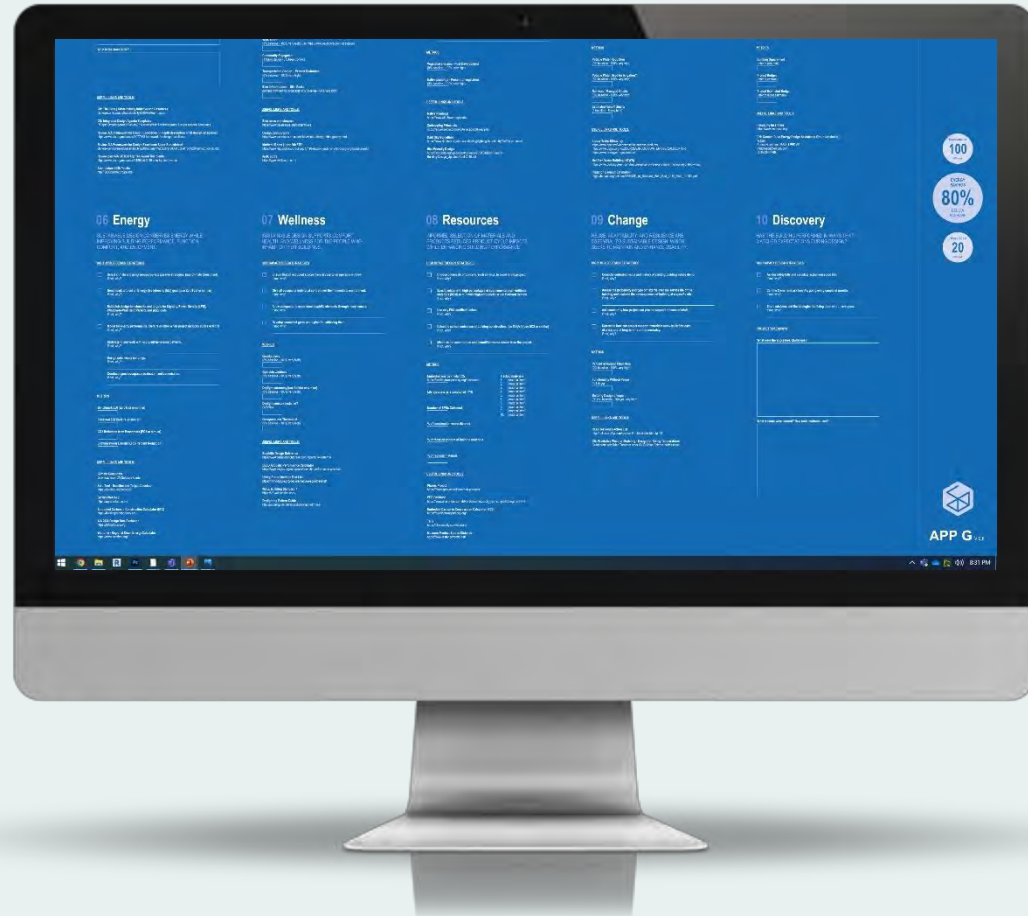
ALTERNATE HEIGHT

ACCESSIBLE ELEVATION UNITS

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

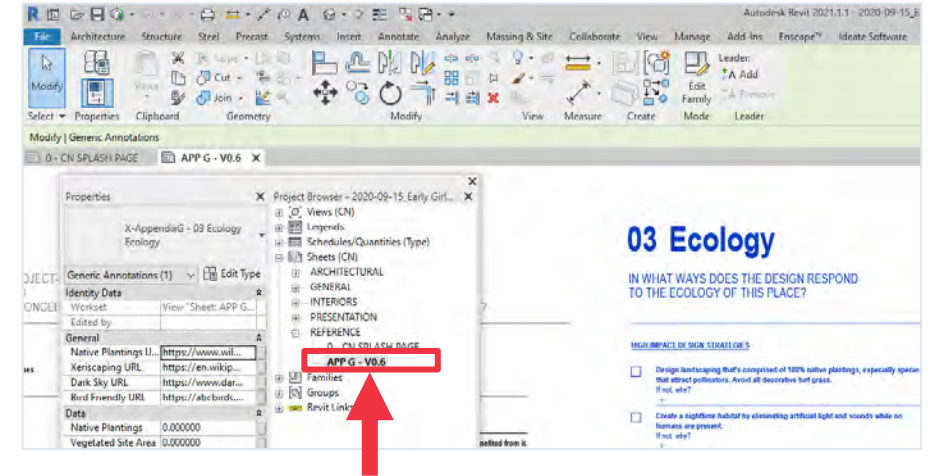
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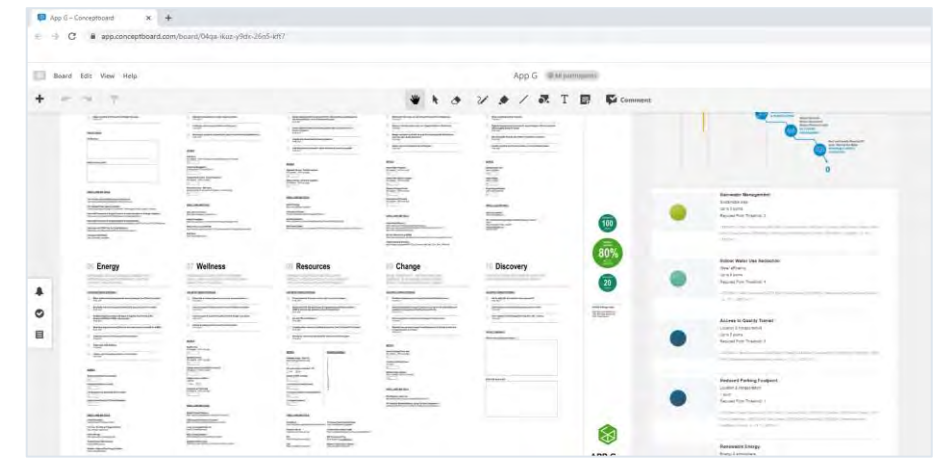


Development

“App G” Digital format



Revit integration



Virtual infinite canvas underlay

# How is Clark Nexsen taking action?

Development | Implementation | Optimization



# Jackson County Rec. Center

Aquatics Addition in Cullowhee, NC



**Integration**

Good design elevates any project, no matter how small, with a thoughtful process that delivers both beauty and function in balance. It is the element that binds all the principles together with a big idea.

**Equitable Communities**

Design solutions affect more than the client and current occupants. Good design positively impacts future occupants and the larger community.

**Ecosystems**

Good design mutually benefits human and nonhuman inhabitants.

**Water**

Good design conserves and improves the quality of water as a precious resource.

**Economy**

Good design adds value for owners, occupants, community, and planet, regardless of project size and budget.

**Energy**

Good design reduces energy use and eliminates dependence on fossil fuels while improving building performance, function, comfort, and enjoyment.

**Well-being**

Good design supports health and well-being for all people, considering physical, mental, and emotional effects on building occupants and the surrounding community.

**Resources**

Good design depends on informed material selection, balancing priorities to achieve durable, safe, and healthy projects with an equitable, sustainable supply chain to minimize possible negative impacts to the planet.

**Change**

Adaptability, resilience, and reuse are essential to good design, which seeks to enhance usability, functionality, and value over time.

**Discovery**

Every project presents a unique opportunity to apply lessons learned from previous projects and gather information to refine the design and construction process.



## Jackson County Rec. Center

### Aquatics Addition

#### Size

Aquatics addition	30,500 sf
Existing facility	22,500 sf
Total:	53,000 sf

#### Completion

2023 (projected)

#### Program

Competition pool  
Recreation pool  
Support facilities

#### Goals

- Onsite renewable energy
- Mass timber structure
- Regional/low carbon materials

#### Challenges

Energy and water intensive  
Pool typology made it difficult to set baseline and project EUI



#### Integration

Integrated design process

- Interdisciplinary and stakeholder charettes held to set goals and explore design opportunities

#### Equitable Communities

Zero-entry pool features

- Inclusive features take into consideration people with health conditions or physical impairments.

#### Ecosystems

Native plantings

- Attracts local pollinators

Reuse of existing utilities

- Reduced site disturbance

#### Water

Native plantings

- Minimal to zero irrigation needs

Pool water heat recovery

- Improved heated water efficiency and usage

#### Economy

Flexible/rightsized spaces

- Integrated sliding partition dividers
- Movable bleachers accommodates usable bonus space in pool area

Saltwater pool

- Reduced maintenance costs

#### Energy

Photovoltaic panels

- Supplemental energy
- Onsite roof mounted array takes advantage of solar orientation

Pool water heat recovery

- Improved heating and energy efficiency

Daylight strategies

- Clerestories and translucent panels reduce lighting density.

#### Well-being

Native plantings

- Continuation of park location and provides acoustic and visual buffer from road and parking

Regional porcelain tile

- Eliminate need for vinyl products

#### Resources

Mass timber beams, bracing and exposed decking in pool and common areas.

- Reduced embodied carbon
- Reduced need for finish materials

Biophilic elements

Regional porcelain tile

- 200-mi radius from site

#### Change

**Discussed possible considerations with owner**

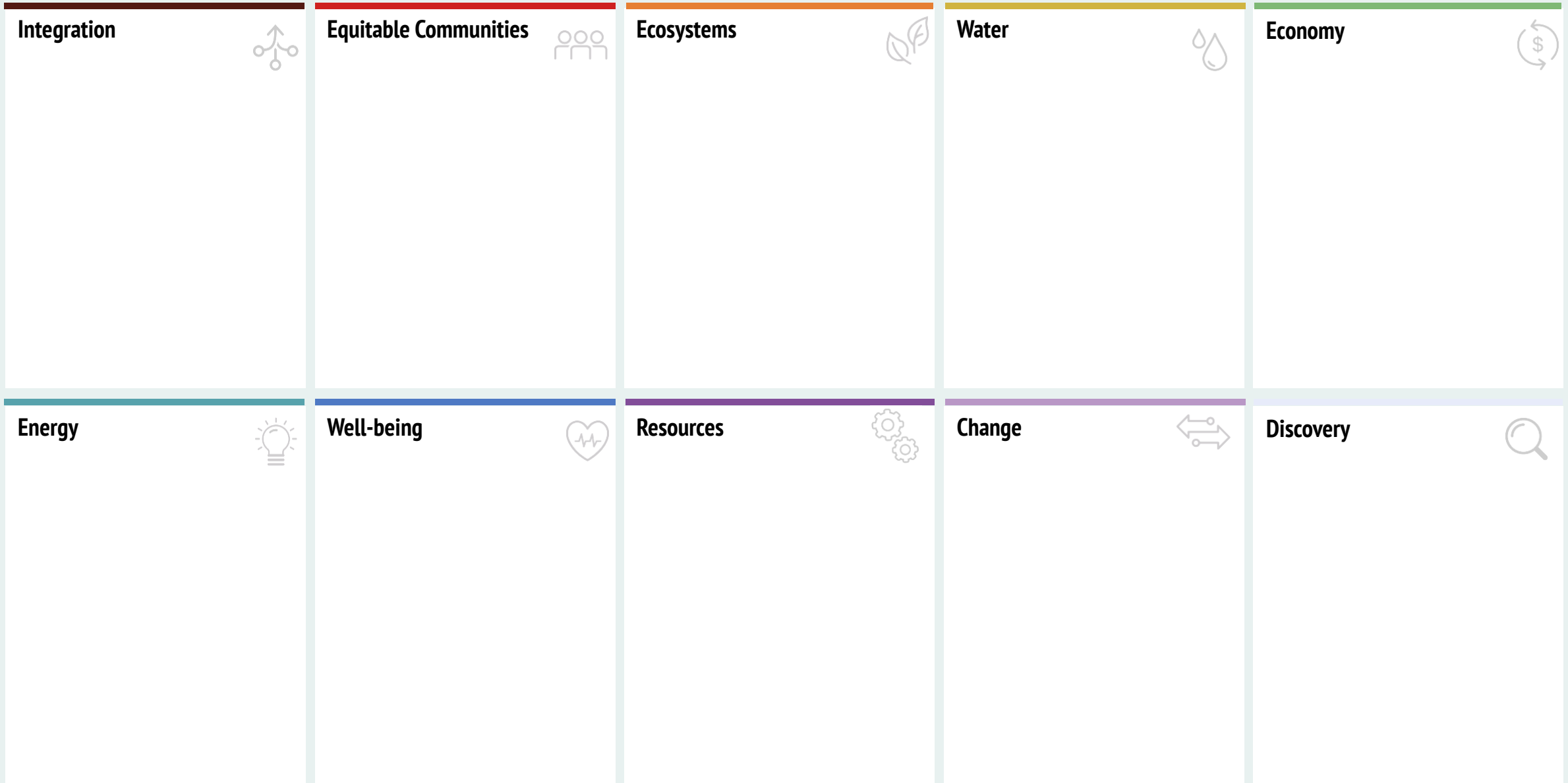
*Limitations due to type, including:*

- *Pool environment not conducive to disaster recovery support*
- *Pool environment not easily adaptable or repurposed in future*

#### Discovery

Counter-intuitive efficiency through energy and daylight modeling analysis

- Increased SHGC in pool area glazing decrease heating requirements





### Integration



#### Integrated design process

- Interdisciplinary and stakeholder charrettes held to set goals and explore design opportunities

### Equitable Communities



#### Zero-entry pool features

- Inclusive features take into consideration people with health conditions or physical impairments.

### Ecosystems



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### Well-being



#### Native plantings

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#### Regional porcelain tile

- Eliminate need for vinyl products

### Resources



#### Mass timber beams, bracing and exposed decking in pool and common areas.

- Reduced embodied carbon
- Reduced need for finish materials
- Biophilic elements

#### Regional porcelain tile

- 200-mi radius from site

### Change



#### Discussed possible considerations with owner *Limitations due to type, including:*

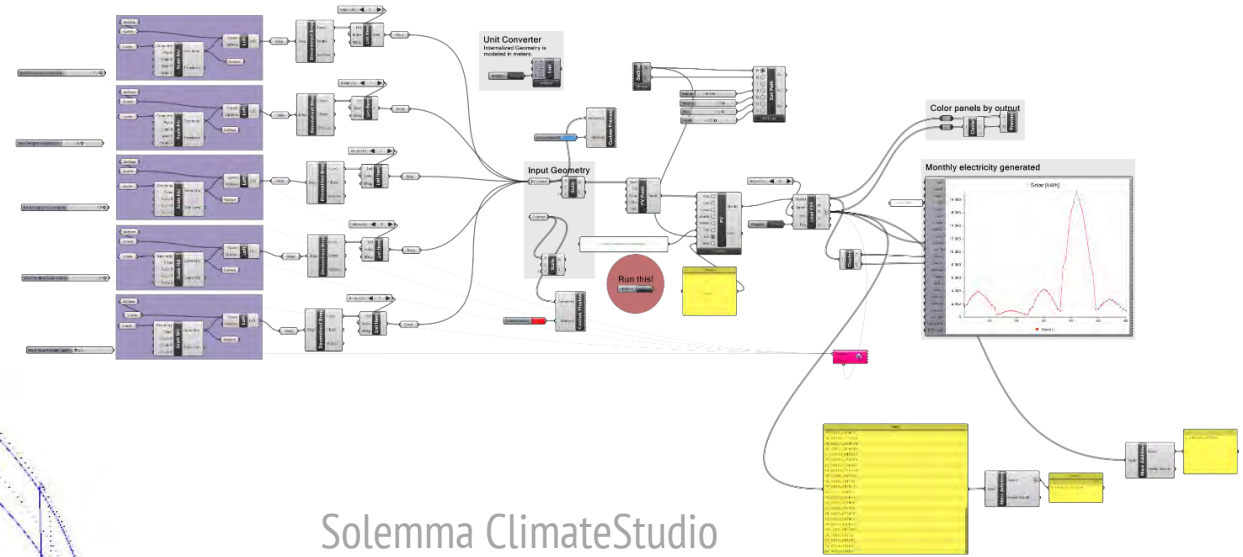
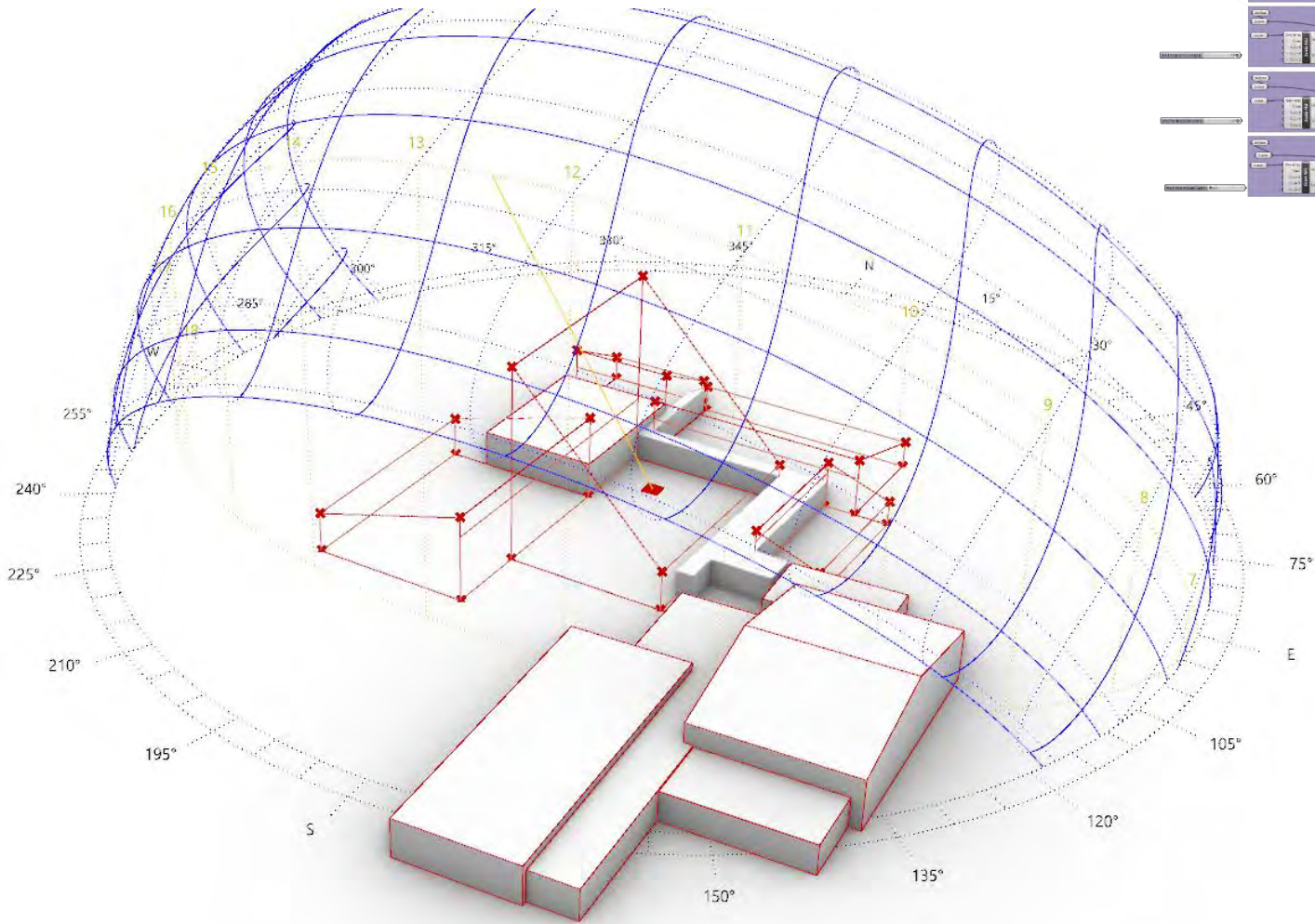
- *Pool environment not conducive to disaster recovery support*
- *Pool environment not easily adaptable or repurposed in future*

### Discovery

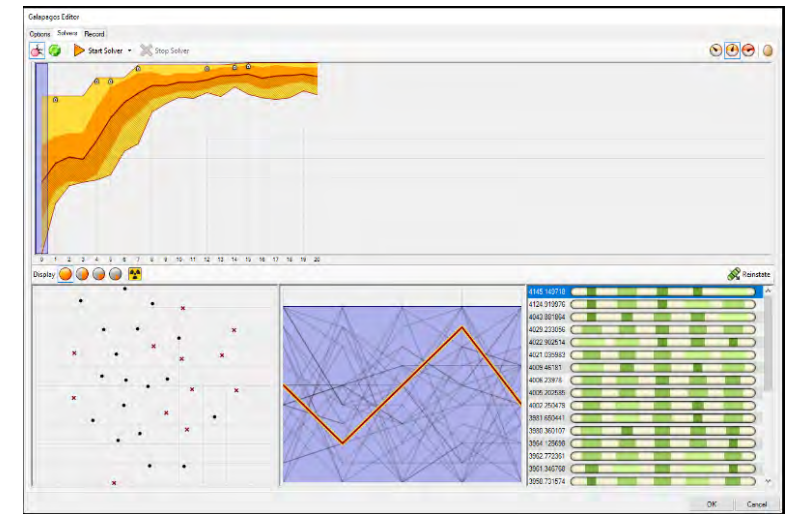


#### Counter-intuitive efficiency through energy and daylight modeling analysis

- Increased SHGC in pool area glazing decrease heating requirements



Solemma ClimateStudio



Galapagos optimizer for Grasshopper

**Implementation**

Solar optimization



## Resources

Mass timber beams, bracing and exposed decking in pool and common areas.

- Reduced embodied carbon
- Reduced need for finish materials
- Biophilic element

## Energy

Photovoltaic panels

- Supplemental energy
- Onsite roof mounted array takes advantage of solar orientation

## Water

Native plantings

- Minimal to zero irrigation needs



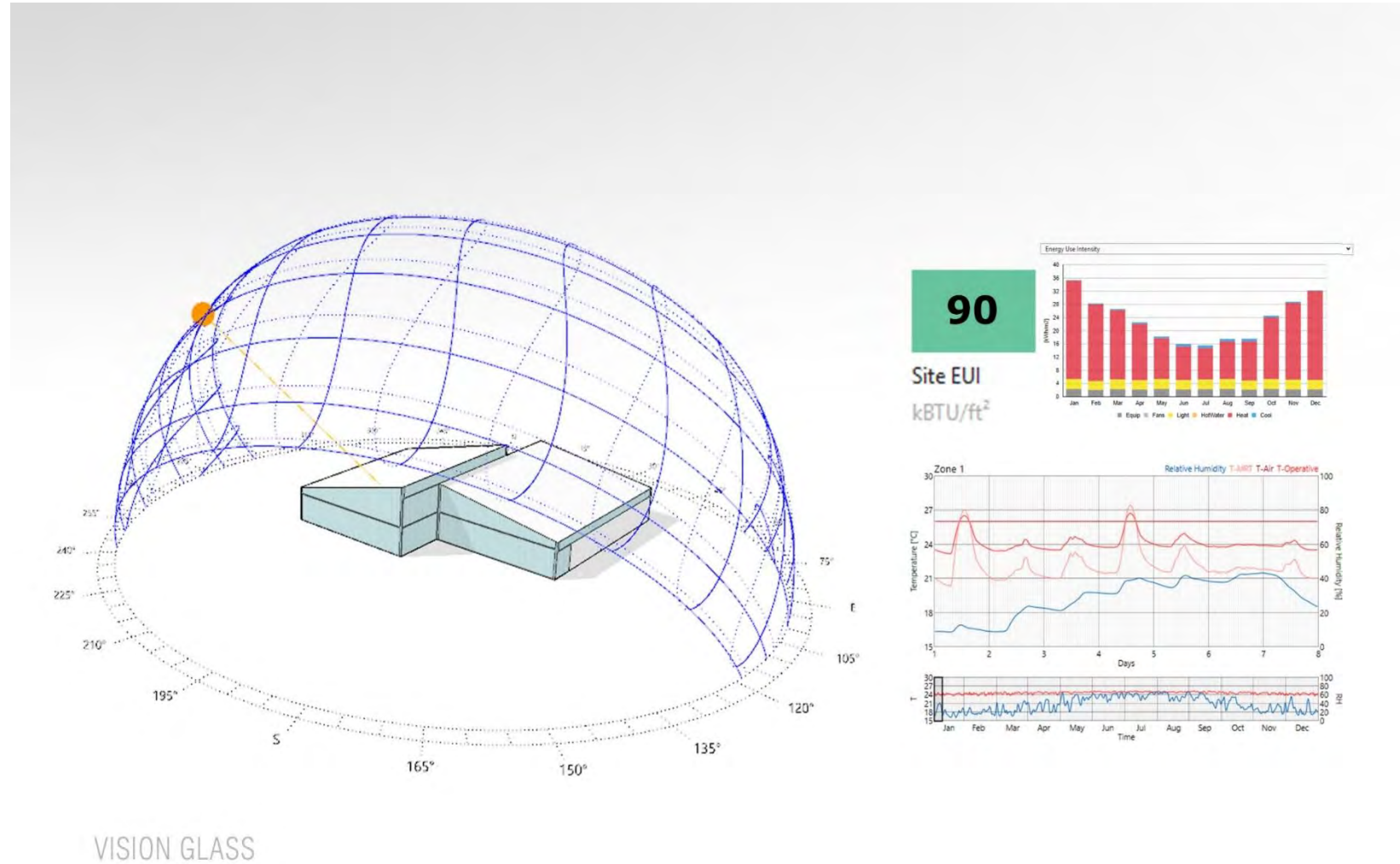
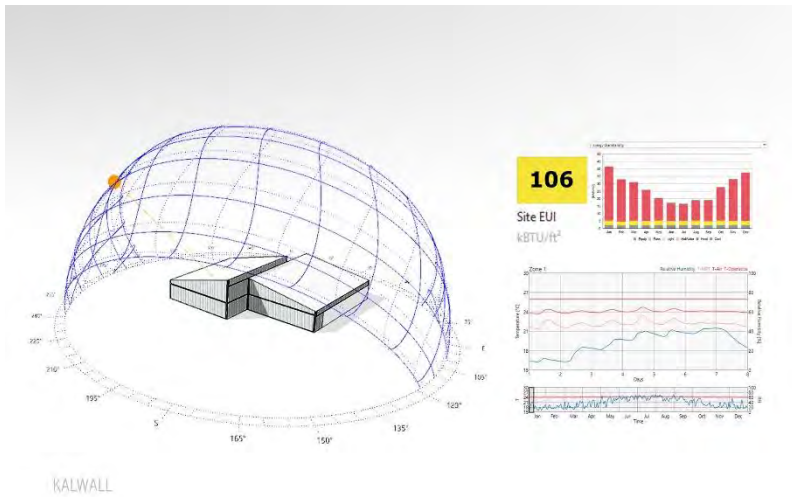
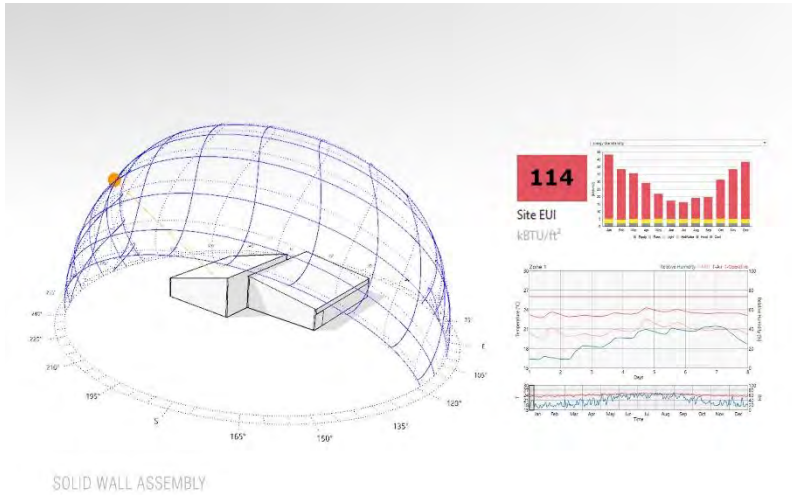
Implementation





JACKSON COUNTY  
RECREATION CENTER





Implementation

Energy analysis



### Energy

- Daylight strategies
- Clerestories and translucent panels reduce lighting density.

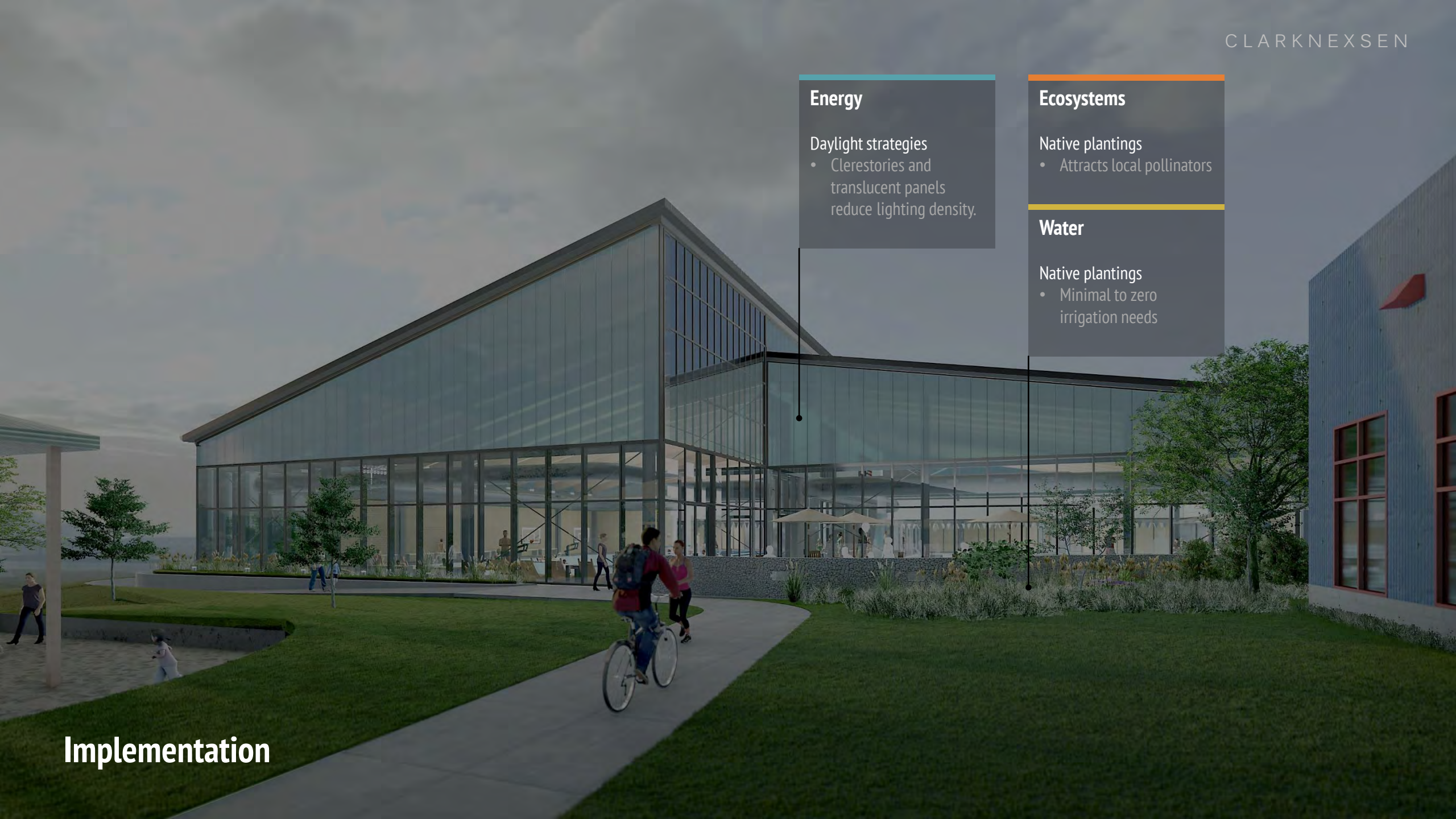
### Ecosystems

- Native plantings
- Attracts local pollinators

### Water

- Native plantings
- Minimal to zero irrigation needs

Implementation

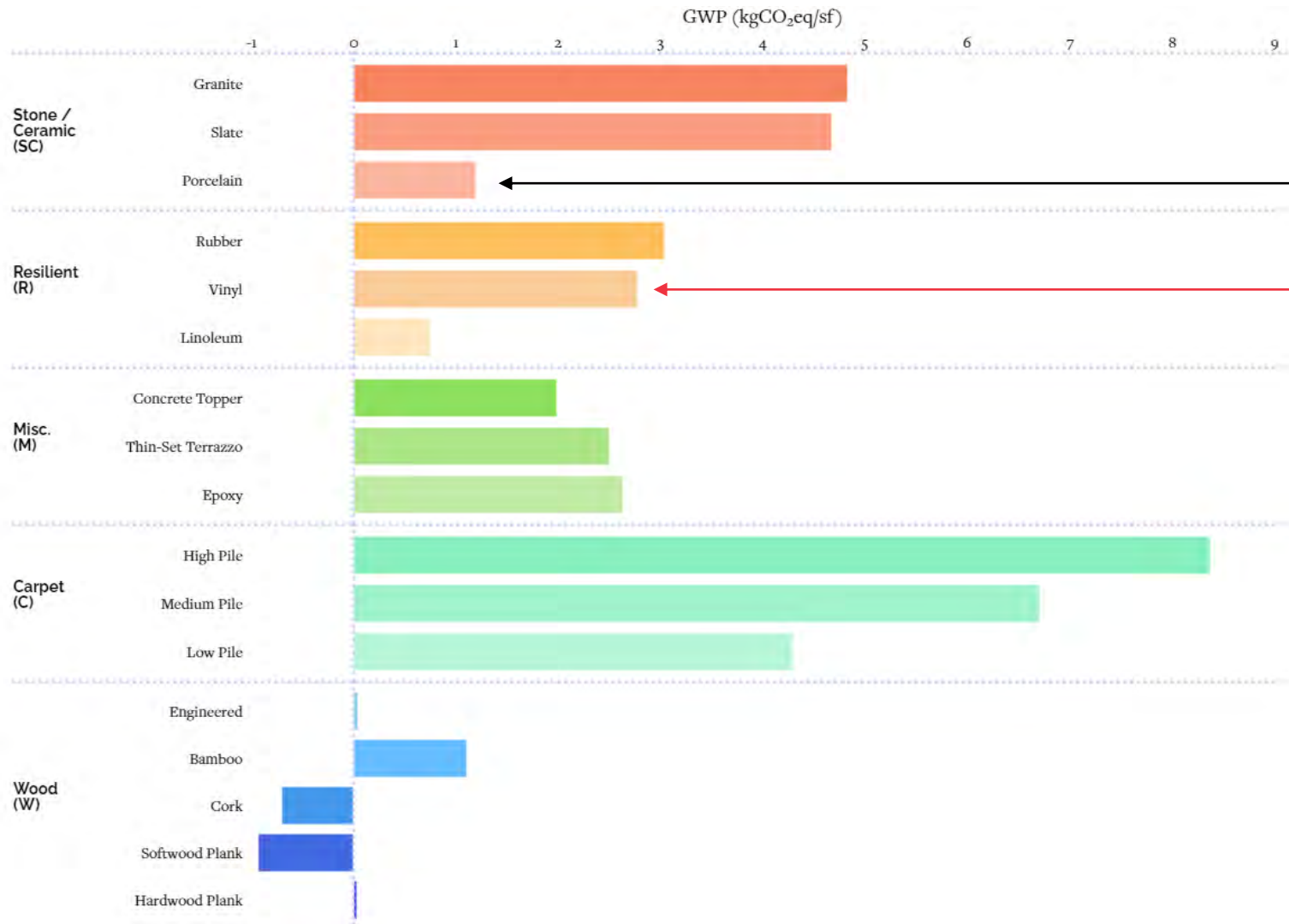








# Kaleidoscope

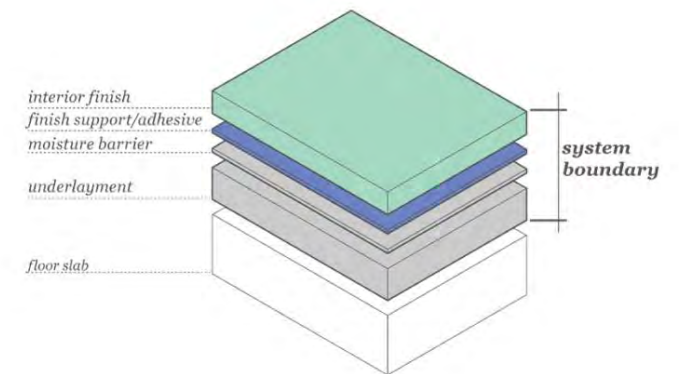


Porcelain floor tile

**1.25** kgCO<sub>2</sub>eq/sf

Vinyl floor tile

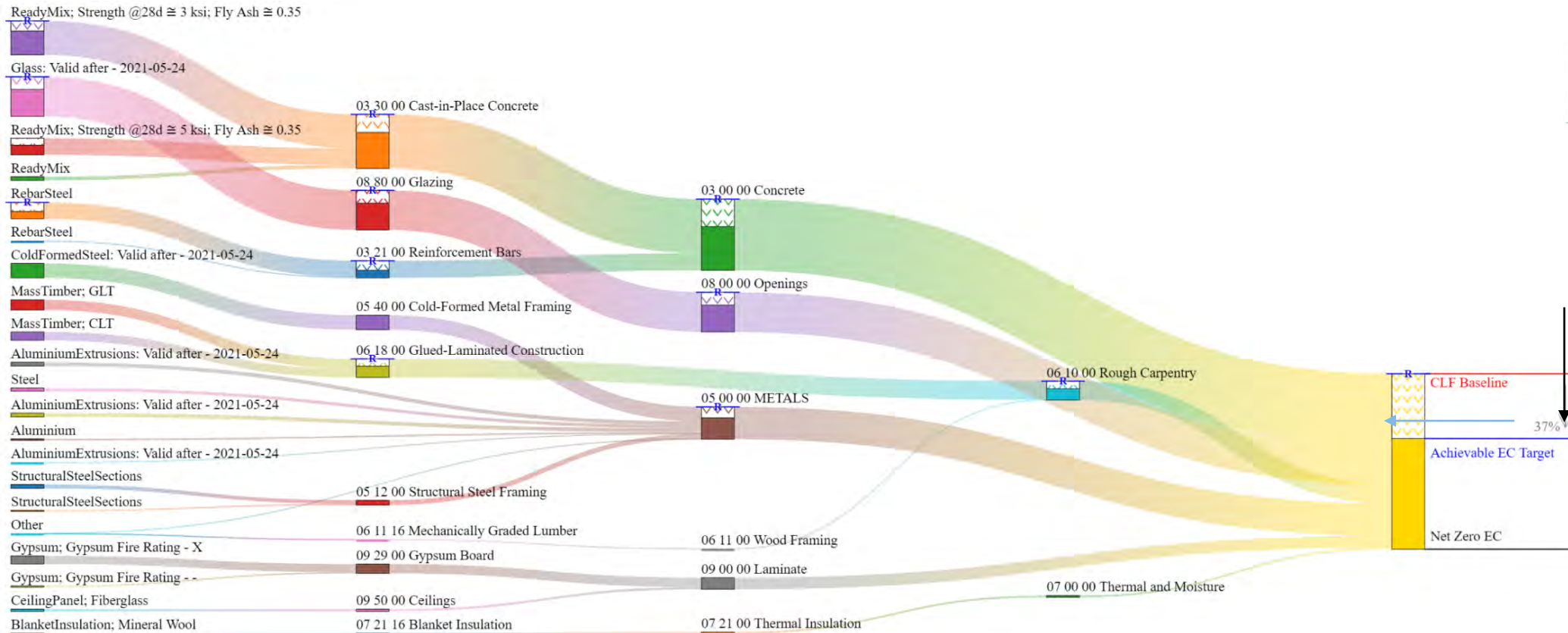
**2.75** kgCO<sub>2</sub>eq/sf



## Implementation

Embodied carbon reduction & healthy material selection





**Achievable savings**  
 ≈ **226,000** kg CO<sub>2</sub>e  
 Savings equivalent to:  
**276** acres of U.S. forests / 1yr

Gross Floor Area		Floors	EC Total (Conservative)
31,000 ft <sup>2</sup>		1 Stories	500k kgCO <sub>2</sub> e
Floor Area Above Grade		Height	EC Total (Achievable)
31,000 ft <sup>2</sup>		36 ft	274k kgCO <sub>2</sub> e

# Implementation

Embodied carbon reduction & procurement



### Resources

- Regional porcelain tile
- 200-mi radius from site

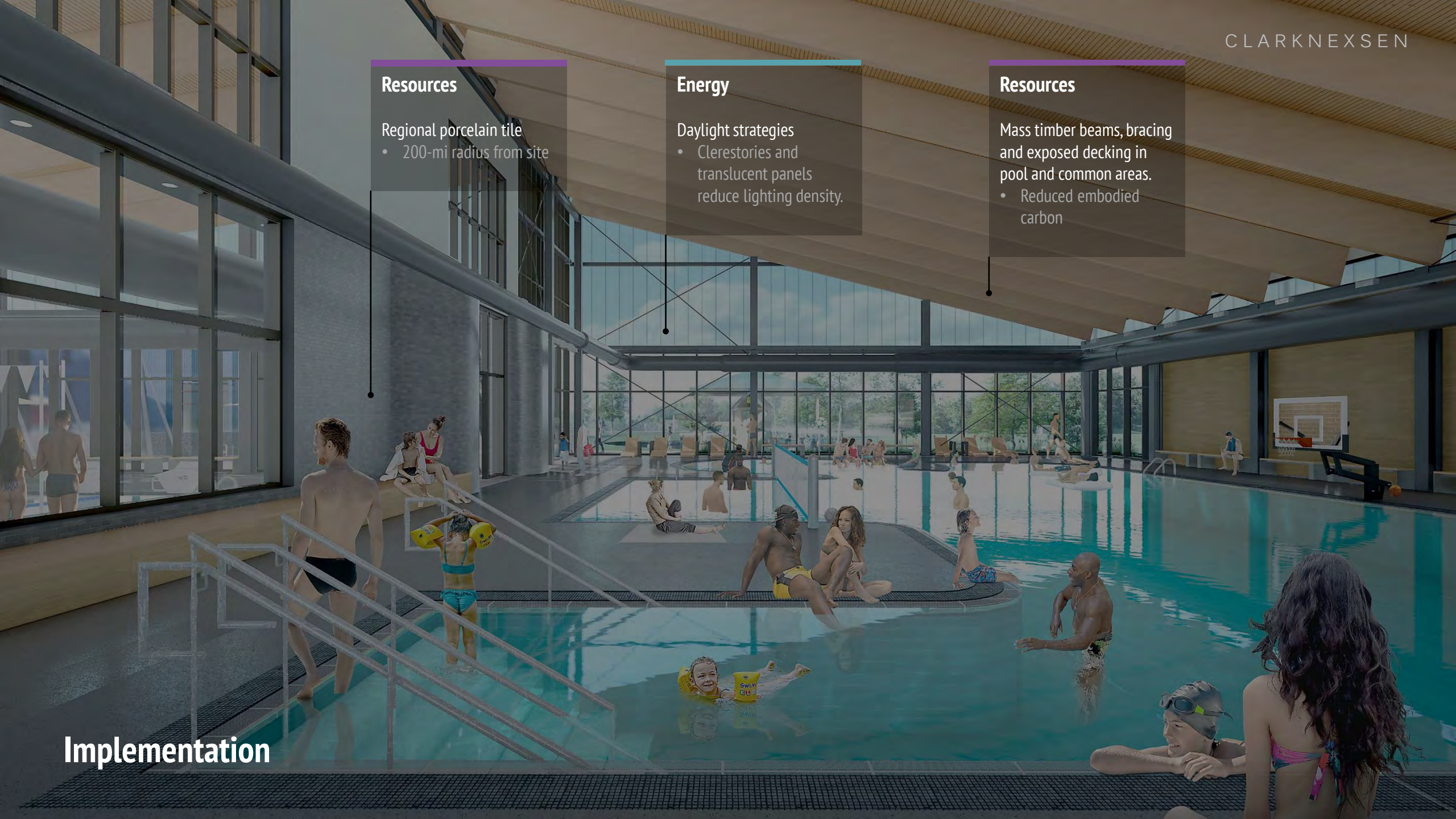
### Energy

- Daylight strategies
- Clerestories and translucent panels reduce lighting density.

### Resources

- Mass timber beams, bracing and exposed decking in pool and common areas.
- Reduced embodied carbon

Implementation







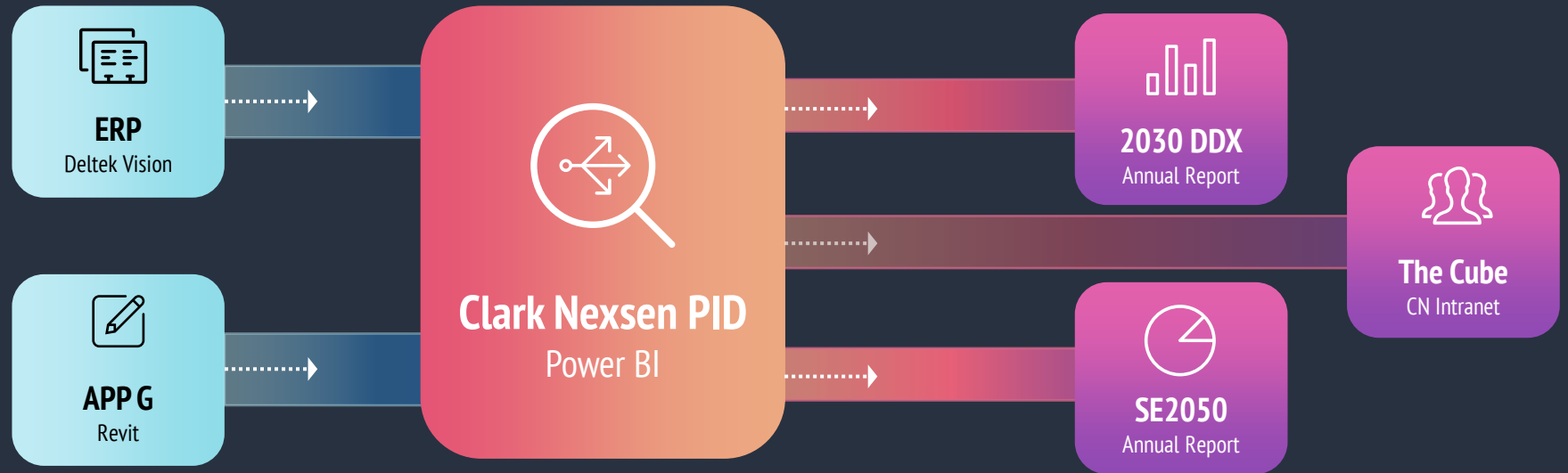


# How is Clark Nexsen taking action?

Development | Implementation | Optimization



## Project Information Database



Automated tracking

Searchable & interactive analysis

Knowledge sharing

## Optimization

## Project Information Database

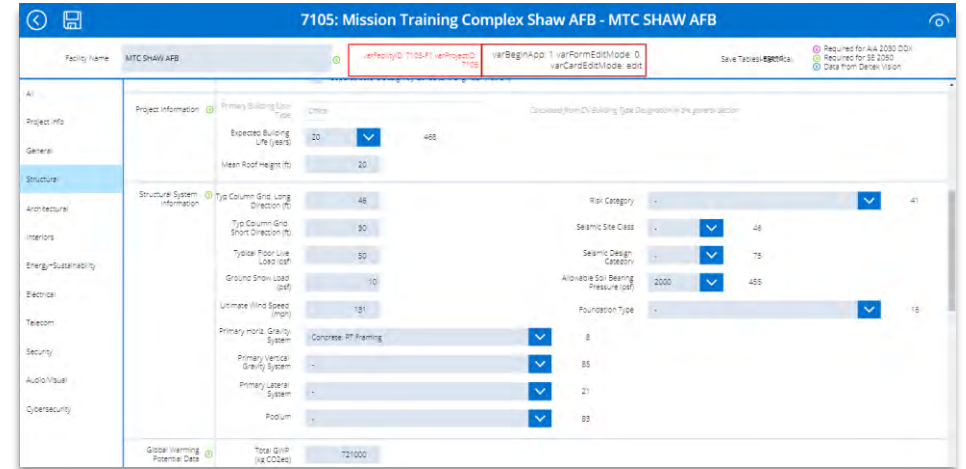
307 projects in PID

384 buildings in PID

254 tracked for AIA 2030



6 tracked for SE 2050

## Optimization






Increased investment  
in high-performance design

**THE CUBE**  Search 


Home Knowledge + Ideas ▾ Libraries Employee Resources Scorecard Practice Technology

 Chad Roberson Oct 11


**Brian Turner Named Building Science Practice Leader**


Please join me in congratulating Brian Turner on his new role, Building Science Practice Leader! For those who may have missed it being announced on a recent firmwide call, Brian stepped into this position following conversation around the importance of elevating Building Science as a practice. He has been an advocate of sustainable design for a long time, and I'm confident his leadership in this area will help us achieve the big goals we have for reducing carbon emissions from projects. Brian comes to this role with 23 years of experience as a professional mechanical engineer and was formerly the mechanical department head in the Virginia Beach office. He has specialized in green building design for commercial, federal, and institutional clients and has been a regular presenter on energy and the integrated design process. Congrats, Brian!


#BuildingScience #Carbon #AIA2030 #MEP2040 #SE2050



Unlike | Subscribe | More Actions ▾

 59 People like this.

 Show all 5 comments


 Bethany Whitehurst Oct 17

**Sustainable Concrete: Key Takeaways from Panel and Discussion at 2022 SEA of NC Conference**


A few weeks ago, I served as the moderator for the Concrete Sustainability Panel at the 2022 SEA of NC State Conference. I was joined by three professionals in the concrete industry, all of whom work locally in the Carolinas and provided valuable perspectives and insights. We answered questions structural engineers might have if trying to reduce a project's embodied carbon by specifying sustainable concrete.

- Cement is the leading contributor of carbon in concrete, with the production of cement accounting for 8% of global carbon emissions.
- Reducing embodied carbon through sustainable concrete specification requires discussing this goal early in the project (schematic design) and involving all stakeholders.
- Whole Building Life Cycle Assessments are immensely informative in the design process as we aim to reduce embodied carbon. On a LEED project, you get points for performing one.
- As more engineers start requesting EPDs for concrete, it will create more demand, forcing more producers to make them available.
- Cement manufacturers are working to adopt sustainable practices by modifying their plants to meet changing goals and needs.
- To meet the immediate goals of reducing and eliminating carbon by 2050, we'll need sustainable concrete mixes for new construction.

As we continue toward our goal of meeting the SE 2050 challenge, insights like these will help us reduce and eliminate embodied carbon in our structural designs. If you'd like to learn more about the Q&A panel and presentation, the attached PDF provides a detailed review.

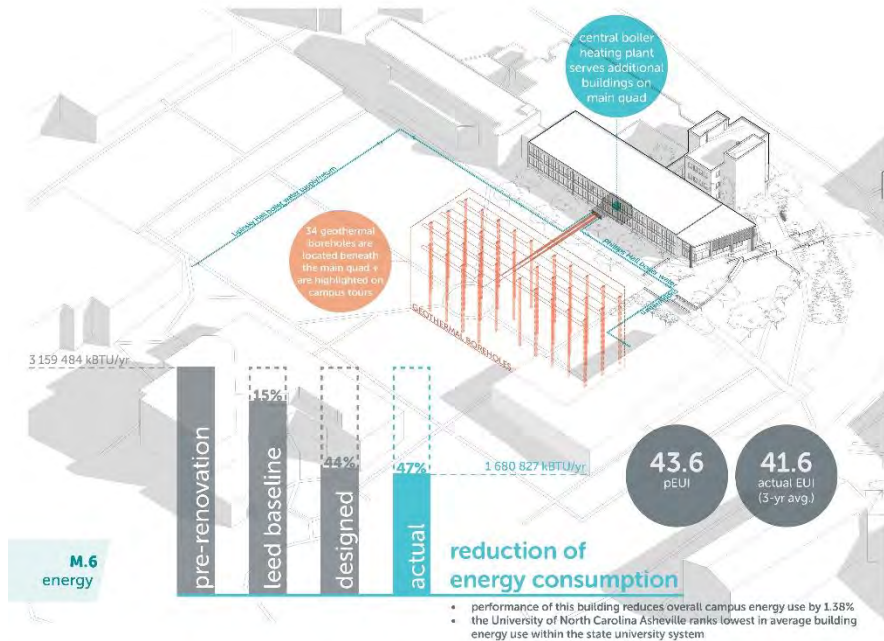
 220922 SEA of NC SDC - State Conference Concrete Sustainability Panel Discussion.pdf

Unlike | Subscribe | More Actions ▾

 16 People like this.

Optimization

# AIA NC 2020 COTE Design Award



# Optimization



DRAMATIC REDUCTION OF ENERGY CONSUMPTION

LEED GOLD

150% GROWTH PER DEPARTMENT

TRANSFORMATION OF PEDESTRIAN EXPERIENCE

SUSTAINABLE WATER MANAGEMENT

# RHOADES HALL

Completed: 2012  
Location: University of North Carolina Asheville

The transformation and rehabilitation of Rhoades Hall enhances the lives of occupants and passersby alike by augmenting the campus pedestrian experience while dramatically increasing the sustainability and beauty of an existing structure.



**What have we learned?**

# At Clark Nexsen, the 'AIA Framework for Design Excellence' has...

... transformed and informed our existing integrated planning and design process.

... inspired and defined the development of internal design tools, including our 'App G' document and the 'Project Information Database.'

... raised the bar for design excellence and investing in project performance optimization.



# Today's Session

## **Overview of the Framework for Design Excellence**

Michelle Amt

## **Application of the Framework in Practice / Client Engagement**

Michelle Amt, Elaine Gallagher Adams, Adam Torrey

## **Application of the Framework within AIA chapters & sections**

Mary-Margaret Zindren, Adam Torrey, Elaine Gallagher Adams, Michelle Amt

## **Q&A**



# Application of the Framework at AIA Minnesota

Mary-Margaret Zindren, CAE



# AIA Minnesota

## **Awards Programs**

Honor Awards & Commendations

## **Publications**

ENTER Digital Bi-weekly & Print Annual

## **Advocacy**

State-level – Engagement with legislators

Community work - History, Hurdles & Hope – Multi-sector change agenda  
(with AIA Minneapolis; academic and community leaders)

# The Nine Recipients of 2022 AIA Minnesota Honor Awards and Commendations for Design Excellence

By Chris Hudson | December 15, 2022



Rehearsal Room B in the new Marlboro Music Reich Hall in Marlboro, Vermont, designed by HGA. Photo by Albert Vecerka/ESTO.





*Photos by Gaffer Photography.*

## **Sartell High School**

Sartell, Minnesota

Architect: Cunningham

Client: Sartell–St. Stephen Independent School District 748

Honor Award for Excellence in Design for Economy, Well-Being, and Integration



*Photos by Lara Swimmer Photography.*

## **Missoula Public Library**

Missoula, Montana

Architect: MSR Design with A&E Design

Client: Missoula Public Library

Commendation for Excellence in Design for Equitable Communities



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L



# enter

CLIMATE

EQUITY

EXPERIENCE

ECONOMY

INNOVATION



*ENTER*, a digital biweekly and print annual from the creators of *Architecture MN* magazine, explores the people, places, and ideas shaping a better built environment for Minnesota

# Architects and designers don't create architecture alone.

The work of architecture is a deeply collaborative endeavor. The built environment is a system within which a wide variety of leaders, influencers, advocates, and visionaries continually determine what is kept, what is left behind, and what is created.

This collective sensibility is at the core of *ENTER*. We engage a wide array of voices in shaping original biweekly content that highlights inspiring stories in Minnesota communities and thought leadership on climate action, equity, experience, economy, and innovation in the built environment. Once a year, we go up a few thousand feet and assess where the built environment has been and where it's headed, in a printed format designed to be substantial and worthy of keeping for years to come.

The future of architecture—the future of our communities—is what we collectively shape it to be. At *ENTER*, we're excited to explore and inspire the work of creating the future, together.



**CHANGE**  
Design for reuse, adaptability, and resilience to maintain and enhance usability, functionality, and value over time.

**ECOLOGY**  
The ways in which the design responds to the ecology of its place.

**WATER**  
Attention to conserving and improving the quality of water as a precious resource.

**EQUITABLE COMMUNITIES**  
How the project contributes to creating a walkable, human-scaled community inside and outside the property line.

## 2022 AIA MINNESOTA

# DESIGN AWARD WINNERS

BY CHRIS HUDSON

In an awards celebration on December 2, AIA Minnesota announced the winners of its annual **Honor Awards and Commendations for Design Excellence**, the state's most prestigious recognition for buildings designed by Minnesota architects. The 46 submissions were reviewed by a panel of three acclaimed architects from around the country and evaluated using the AIA Framework for Design Excellence. The Framework outlines a holistic approach to quality design in 10 measures (see graphic).

The 2022 jury selected three projects for an Honor Award, for demonstrating excellence in two or more Framework measures, and six additional entries for a Commendation for Design Excellence, for a

notable achievement in a single Framework measure.

"One of the things we were looking for in a winning entry was significant impact—impact for the users, the neighborhood, the city, or the community," said juror Phillip Chen, FAIA. "Among our selections are several projects that look like the architects took what may have been a conventional project brief and went beyond it with a very special design."

Also highlighted in this section are the latest recipients of AIA Minnesota's **Affordable Housing Design Award** and **25 Year Award**. The latter honor celebrates a 25- to 50-year-old building designed by Minnesota architects and designers whose architecture has stood the

**ENERGY**  
Conserving energy while improving building performance, function, comfort, and enjoyment.

**DISCOVERY**  
The design promotes learning for the project team and a sense of discovery and delight for occupants.

**AIA  
FRAMEWORK  
for  
DESIGN  
EXCELLENCE**

**INTEGRATION**  
The big idea behind the project—and how the approach toward sustainability informed the design concept.

**WELL-BEING**  
Supporting comfort, health, and wellness for the people who inhabit or visit buildings.

**RESOURCES**  
Informed selection of materials and products to reduce environmental impacts while enhancing building performance.

**ECONOMY**  
Providing abundance while adhering to financial constraints.

*Comments from the jury are included in the project highlights on the following pages.*

The background is a vibrant, abstract composition of various colors and patterns. It includes a large olive green shape on the left, a purple shape at the top left, a teal shape at the bottom, and a white rectangular area on the right. Patterns include polka dots, wavy lines, and small crosses. The text is overlaid on these shapes.

# History, Hurdles, & Hope

Building neighborhoods  
of racial equity,  
environmental justice,  
and community health  
in the areas affected in  
the civil unrest.





# Workshop Hosts

## **Paul Bauknight**

Minneapolis Parks Foundation

Minneapolis College of Art & Design

Center for Transformative Urban Design

## **Mary-Margaret Zindren**

American Institute of Architects MN

## **Tabitha Montgomery**

Powderhorn Park Neighborhood Association

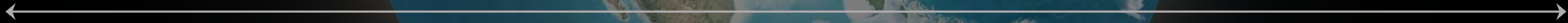
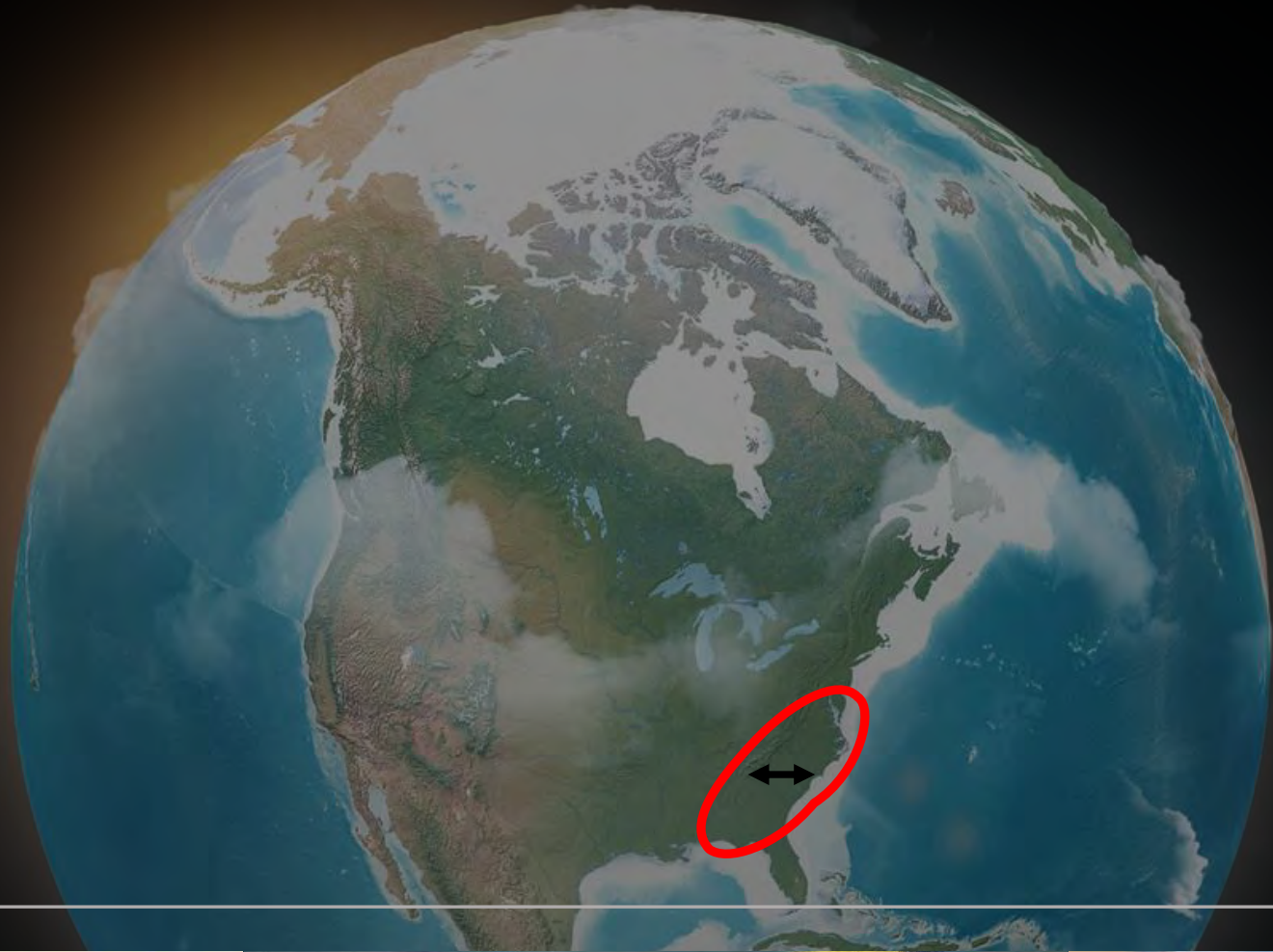
R.E.A.C.H. Twin Cities

**Adam Torrey** AIA, LEED AP BD+C, WELL AP  
Sustainability Leader | Architect

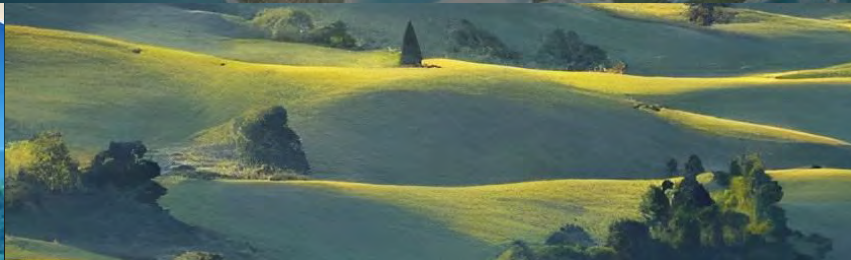
# Start Where You Are.

CLARKNEXSEN





Mountains



Foothills



Coastal Plains

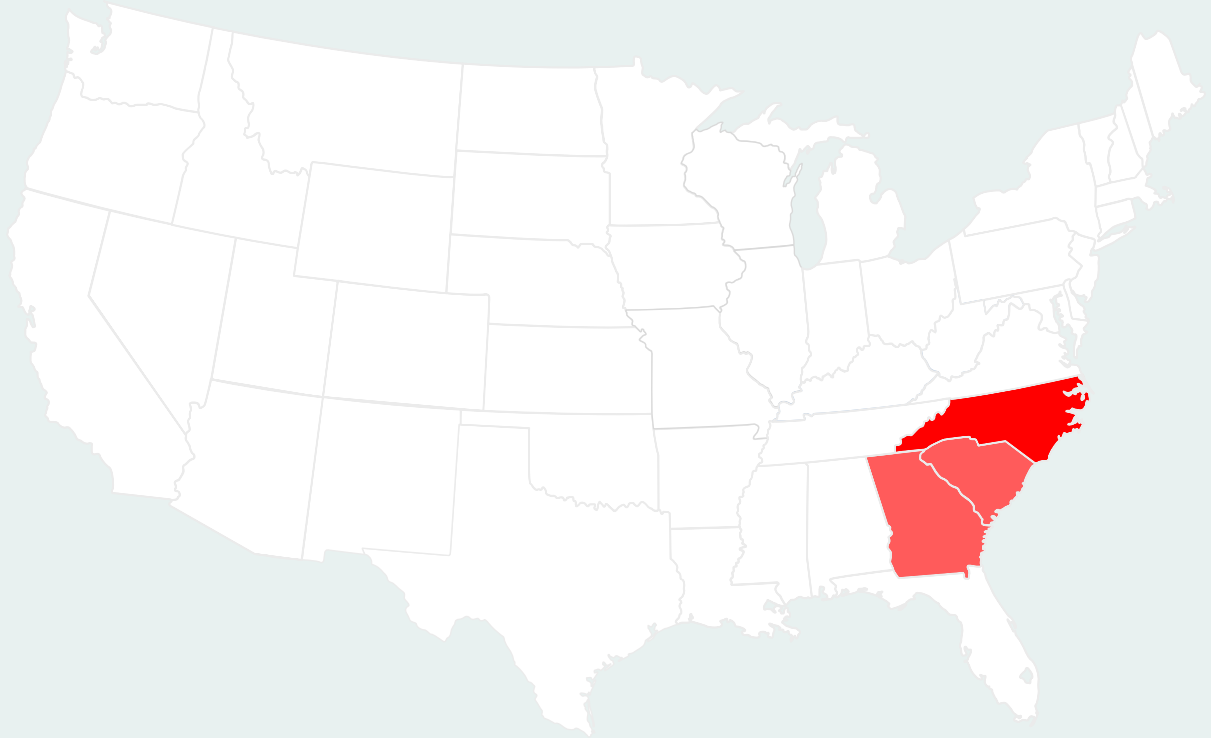
## Regional Advocacy

AIA

North Carolina

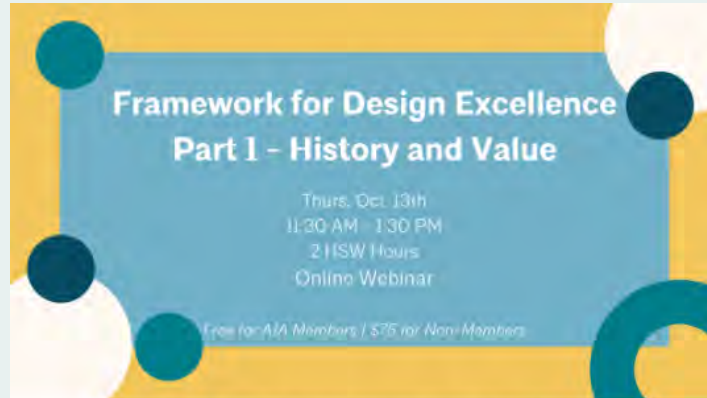
South Carolina

Georgia





## Two Part Learning Series



### Framework for Design Excellence Part 1 - History and Value

The [Framework for Design Excellence](#) challenges architects with a vision of what the profession strives to achieve, the toolkit provides practical resources to help all architects achieve the vision. This unifying resource was developed by the AIA to be accessible and relevant for every architect, every client, and every project, regardless of size, typology, or aspiration. The Framework provides a collaborative approach to the needs of our industry today: Integration, Equitable Communities, Ecosystems, Water, Economy, Energy, Well-being, Resources, Change, and Discovery.

Please join us for a virtual conversation on the AIA Framework for Design Excellence - exploring its development, value in our work, role in communication, and application to our process. Speakers include: Carl Elefante, FAIA, FAPT, Elaine Adams AIA LEED AP BD+C, and Betsy del Monte FAIA – speaking to history and development

Thursday, October 13th  
11:30 AM - 1:30 PM  
2 HSW Hours  
Online Zoom Webinar

#### Speakers:



Betsy del Monte, FAIA,  
LEED BD+C



Elaine Gallagher Adams,  
AIA LEED AP BD+C



Carl Elefante, FAIA, FAPT,  
LEED AP



### Framework for Design Excellence Part 2 - Application

The [Framework for Design Excellence](#) challenges architects with a vision of what the profession strives to achieve, the toolkit provides practical resources to help all architects achieve the vision. This unifying resource was developed by the AIA to be accessible and relevant for every architect, every client, and every project, regardless of size, typology, or aspiration. The Framework provides a collaborative approach to the needs of our industry today: Integration, Equitable Communities, Ecosystems, Water, Economy, Energy, Well-being, Resources, Change, and Discovery.

For our Oct 27 event, we'll have a diverse array of practicing Architects explain how the Framework has informed their process and design work. Each designer has a unique approach to incorporating the Framework within their project type and context and will share their best practices to incorporate in their work. Each speaker has developed their own resources for communicating the Framework with clients and colleagues. Please join us for a virtual conversation on the AIA Framework for Design Excellence - exploring its application across a wide range of project types and locations in the Southeast.

#### Speakers:



Brian Court, FAIA  
The Miller Hull Partnership



Adam Torrey, AIA, LEED AP  
BD+C, WELL AP  
Clark Nexsen



Jane Frederick, FAIA, LEED  
AP  
Frederick + Frederick

Are you **FAMILIAR** with the Framework for Design Excellence?



Have you begun **USING** the Framework for Design Excellence?





# Regardless of type, size, location or budget, every project can:

- **Kick-off with a meeting involving owners/stakeholders and project team to discuss goals, best practices and high-impact design opportunities.**  
Let the 'AIA Framework for Design Excellence' set the agenda and prompt the talking points!
- **Utilize free resources to make informed low/zero-cost carbon reduction decisions.**  
Kaleidoscope , EC3, epic, and Climate Consultant are a few examples of simple and free tools.

# Today's Session

## **Overview of the Framework for Design Excellence**

Michelle Amt

## **Application of the Framework in Practice / Client Engagement**

Michelle Amt, Elaine Gallagher Adams, Adam Torrey

## **Application of the Framework within AIA chapters & sections**

Mary-Margaret Zindren, Adam Torrey, Elaine Gallagher Adams, Michelle Amt

**Q&A**



**Thanks to our speakers**

**Thanks to the AIA staff team**

**Thanks to all of you for integrating the  
AIA Framework for Design Excellence  
into the work of your practice  
and of your component!**