

Jonathan Rose Companies



# **Climate, Energy and Affordable Housing Solutions: New buildings and retrofits.**

Oxford Energy Seminar

November 1, 2022







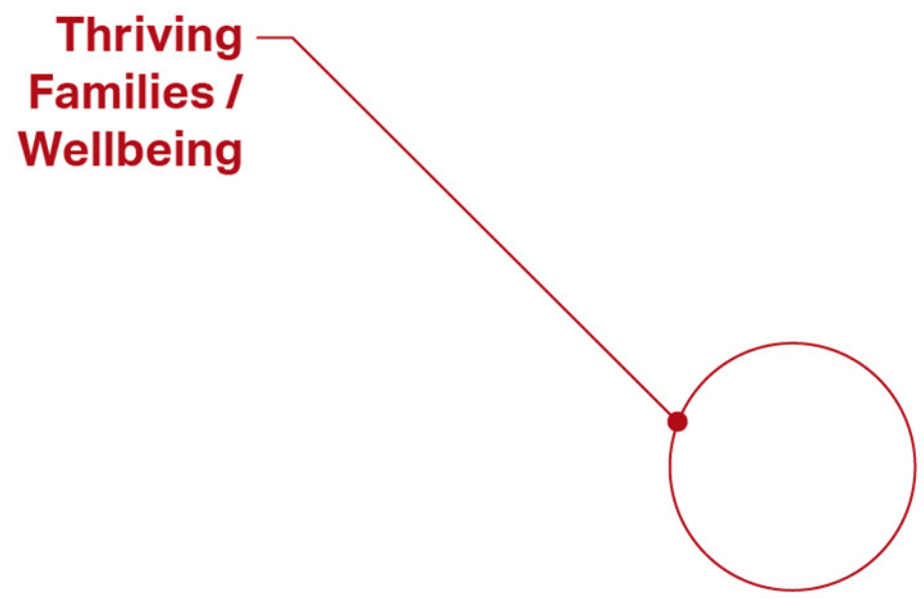






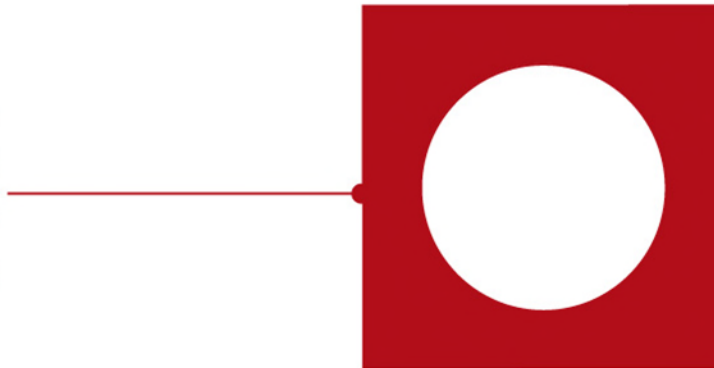






Thriving  
Families /  
Wellbeing

**Green, Stable,  
Affordable &  
Mixed-Income  
Communities**





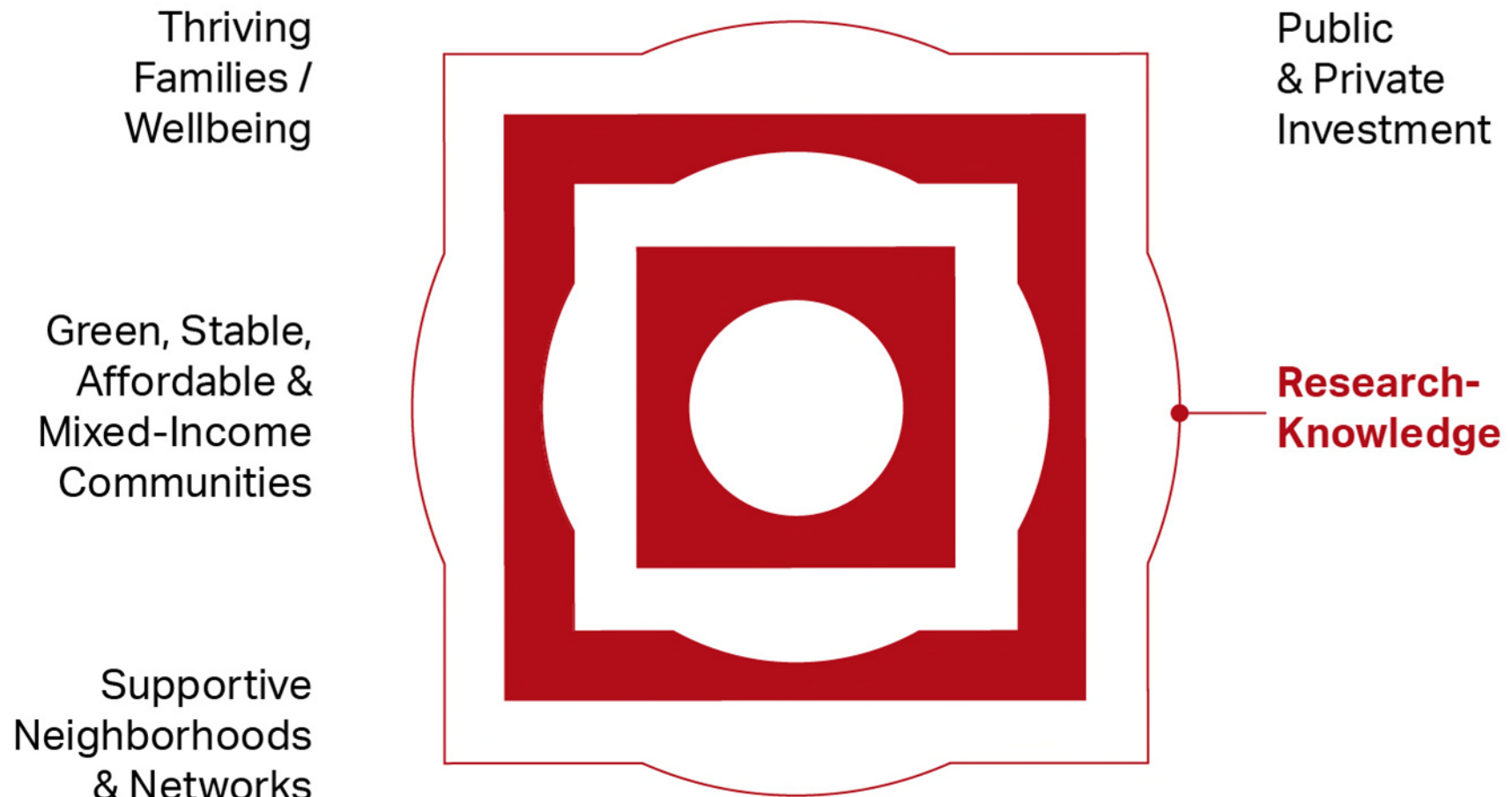
Thriving  
Families /  
Wellbeing

Green, Stable,  
Affordable &  
Mixed-Income  
Communities

Supportive  
Neighborhoods  
& Networks



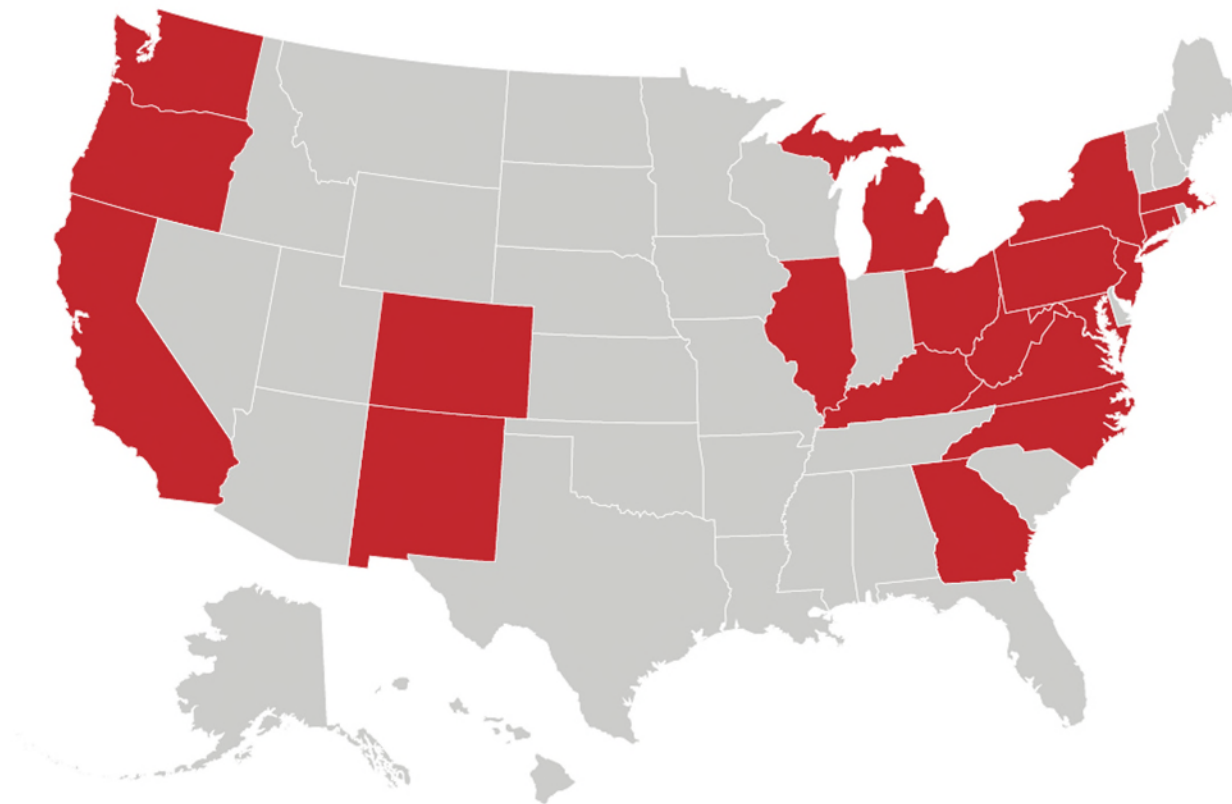
**Public  
& Private  
Investment**











**8 Offices**

Across the U.S.A.

**400+**

Employees

**\$3.7 billion**

Invested in Acquisitions  
and Development

**14.8 million**

Square Feet

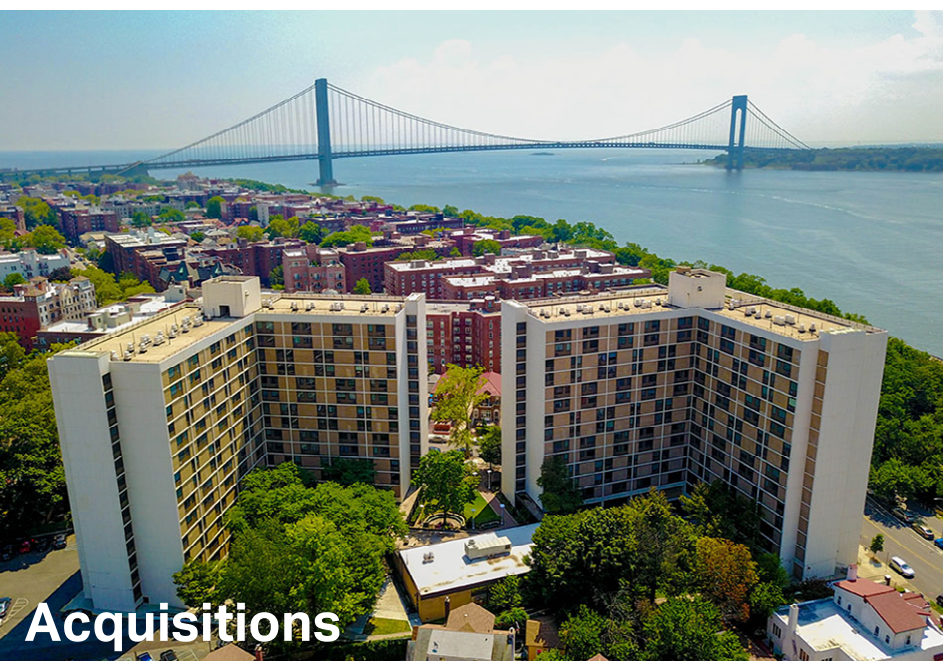
**16,000+**

Residential Units Across  
**19 States and D.C.**

**14,000+**

Affordable Units

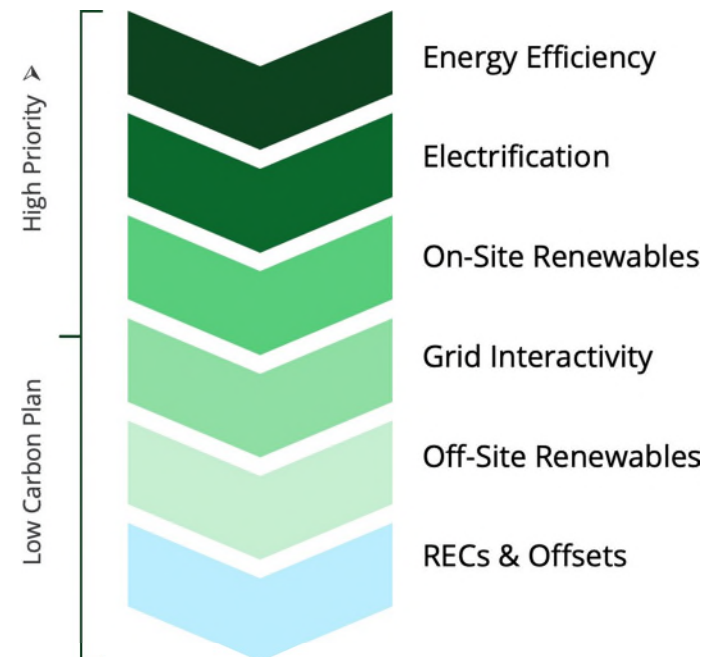








## U.S. DOE & LA Better Buildings Challenge "Priority Waterfall"





Renewable Energy



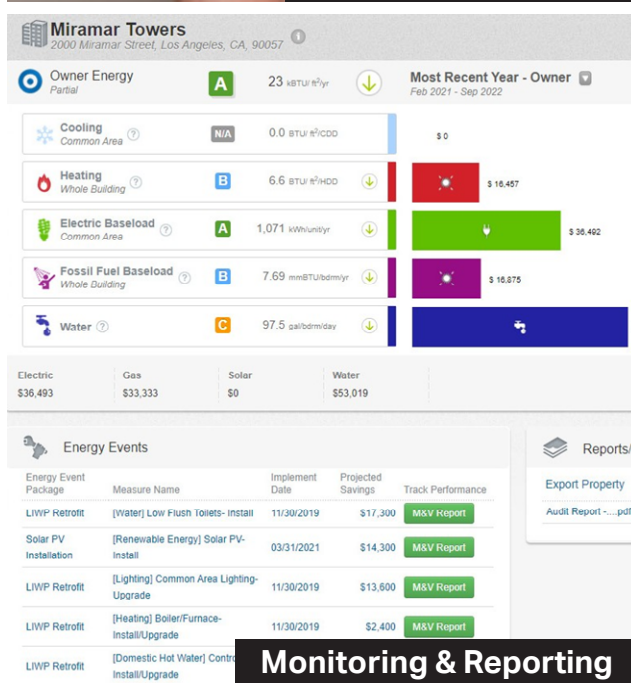
Water Conservation



Healthy Materials



Resilience



Monitoring & Reporting



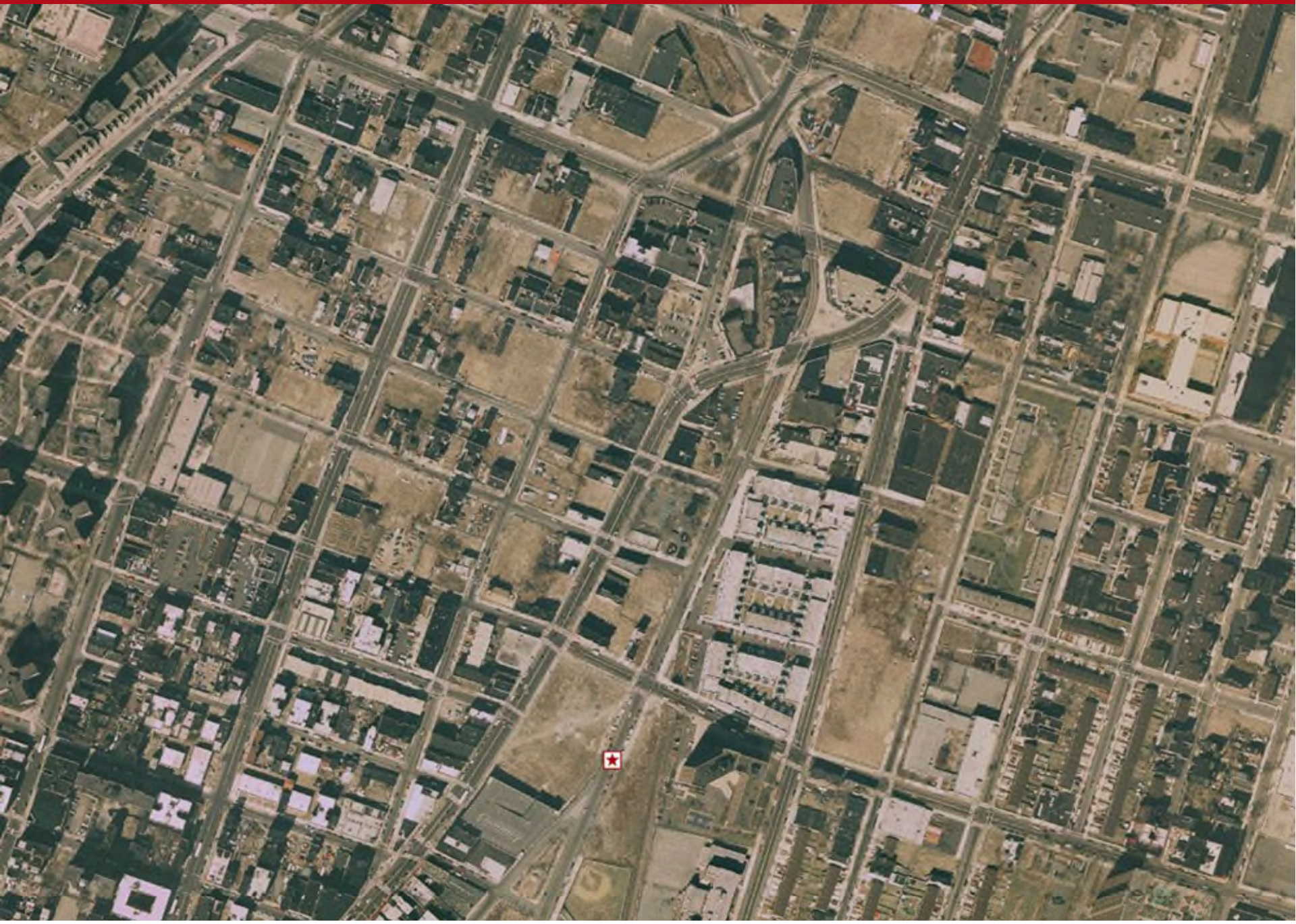
Decarbonization



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Via Verde





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## Projects in Harlem, New York



Fortune Academy  
Expansion

David and Joyce  
Dinkins Gardens

Erbograph Apartments

NHNY  
Via Verde

135<sup>th</sup> Street  
Affordable Housing Preservation

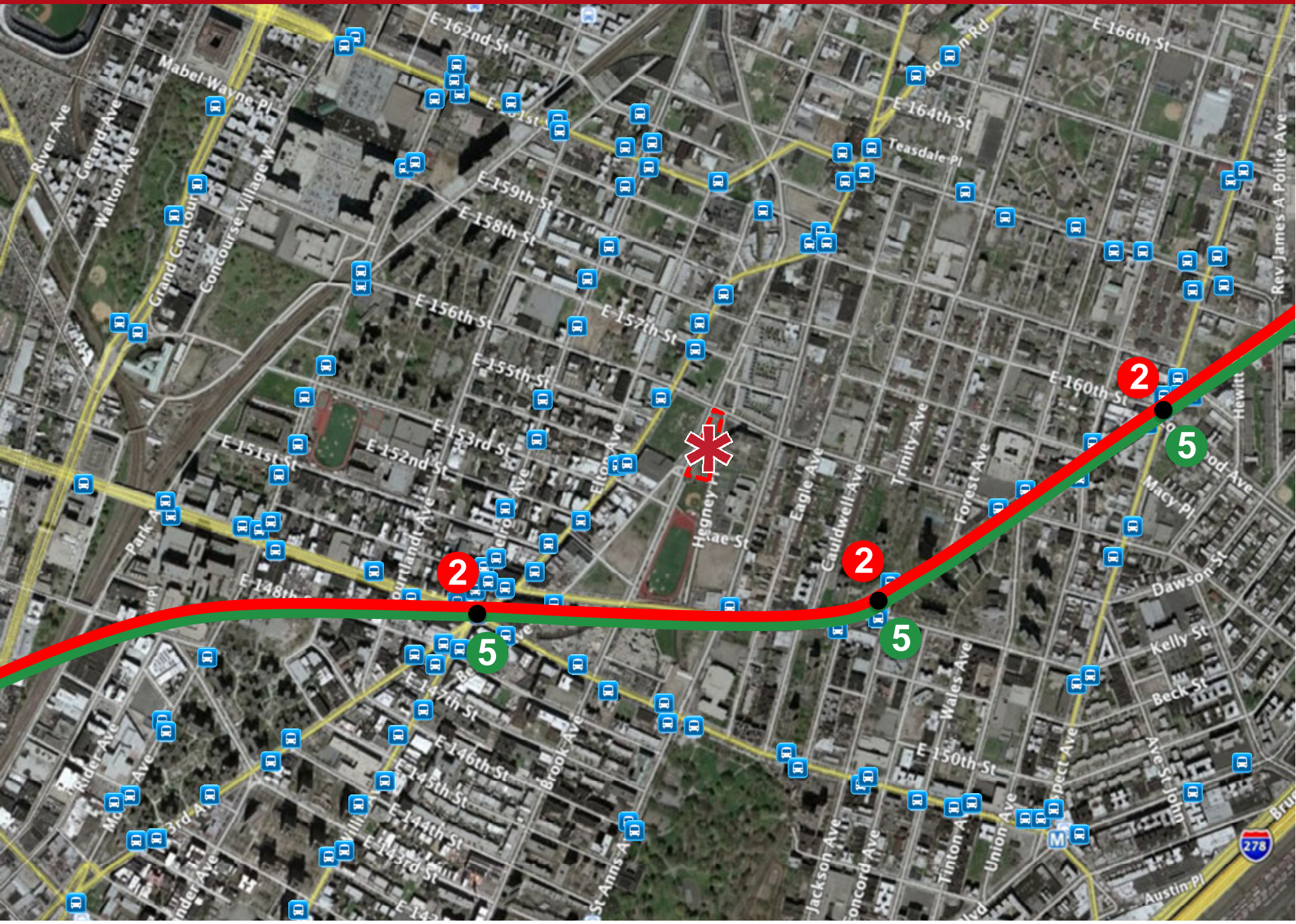
Tapestry

Harlem RBI

















# NEW HOUSING NEW YORK

Announcing a request for proposals to design and build **INNOVATIVE, SUSTAINABLE, and AFFORDABLE** housing in the South Bronx.



New Housing  
New York



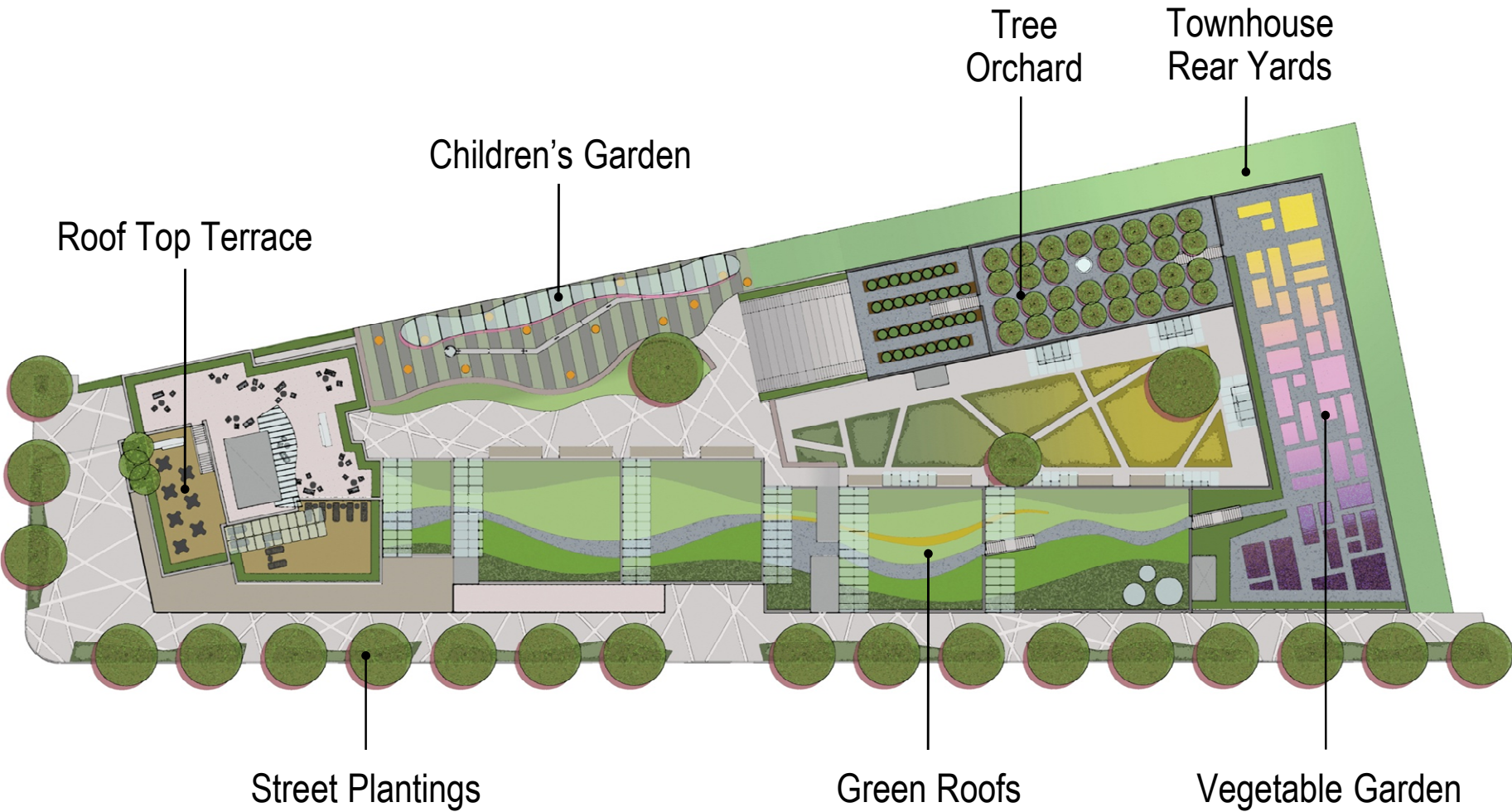
New York City Department  
of Housing Preservation  
and Development



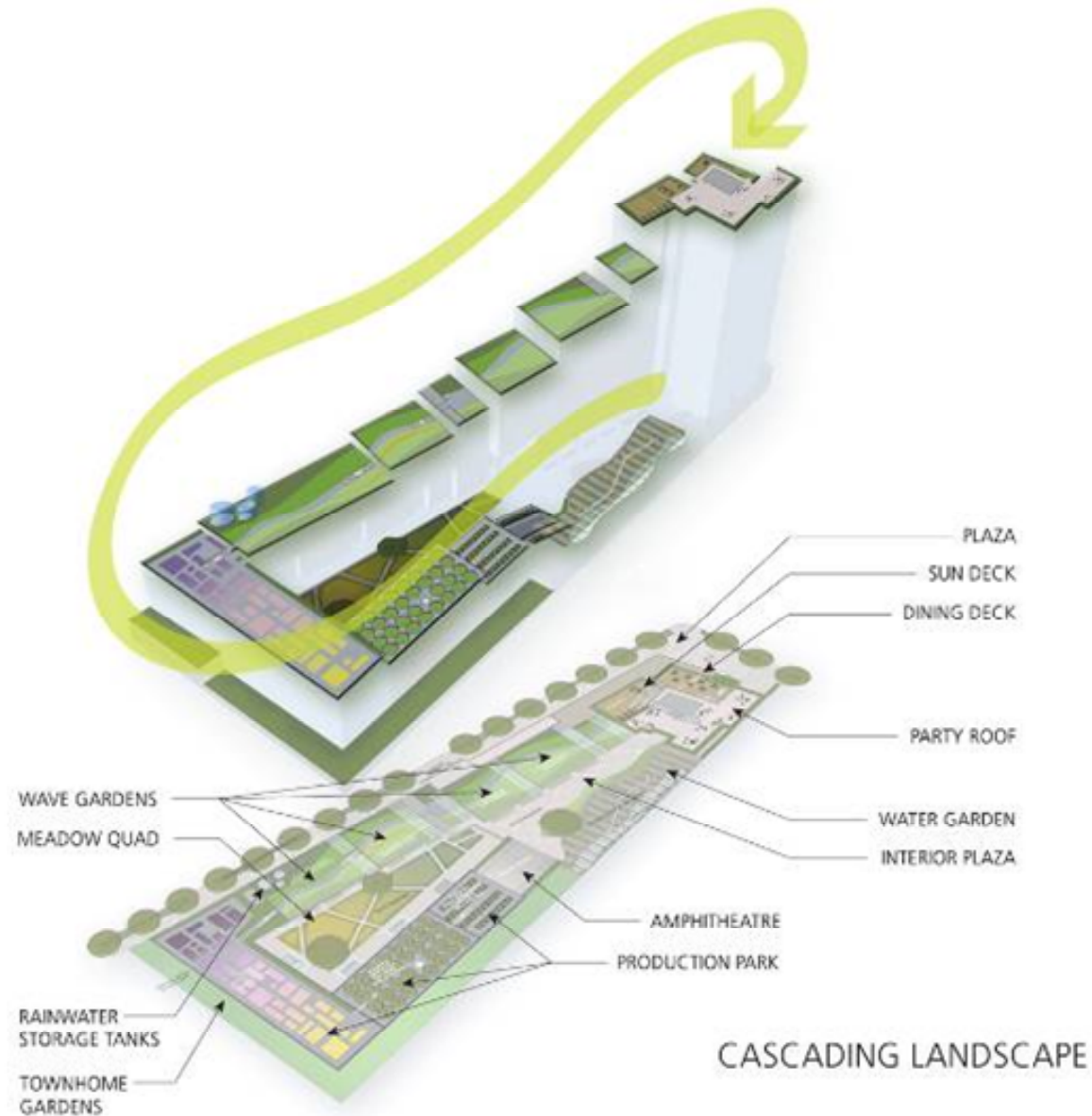
American Institute of Architects  
New York chapter



New York State  
Energy Research  
and Development

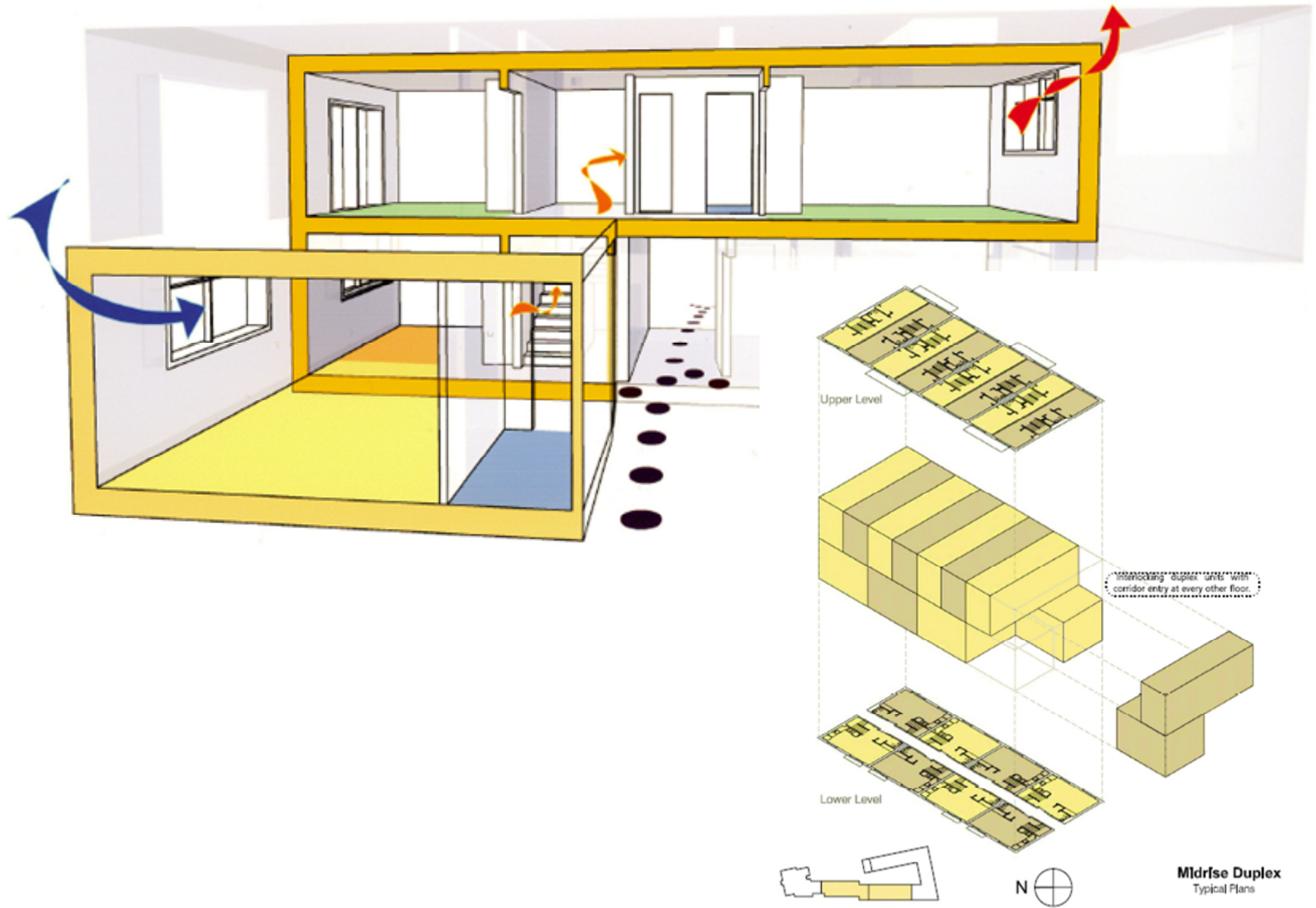
































































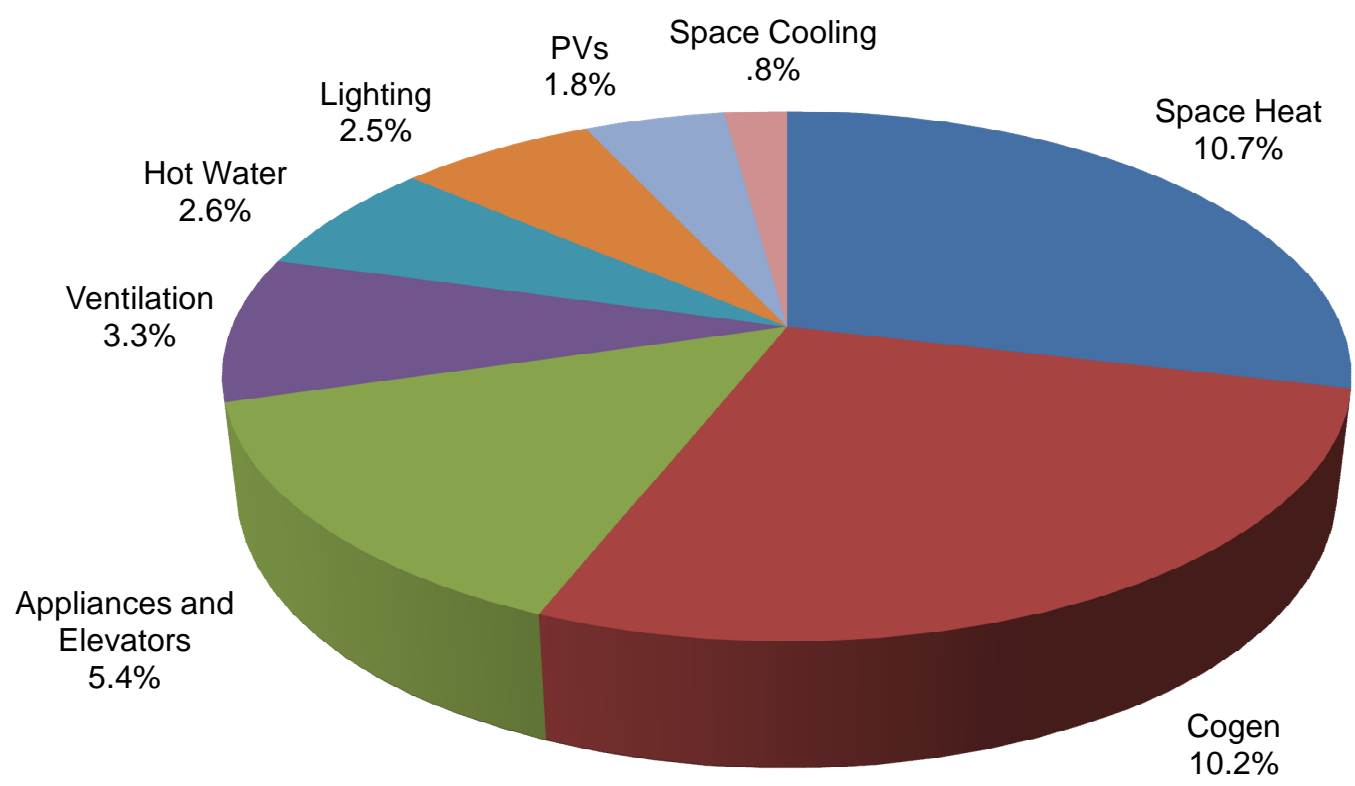






LEED/NYSERDA Energy Model  
37.3% Projected Savings over Baseline

- Space Heat (Envelope, Boilers, Reduced Ventilation)
- Appliances and Elevator (gearless)
- Hot Water (High Eff. Boilers)
- Photovoltaic System
- Cogen (Preheating Hot Water)
- Ventilation (Reduced fan run-times)
- Lights (Bi-Level and Energy Star)
- Space Cooling (Envelope, Energy Star AC)



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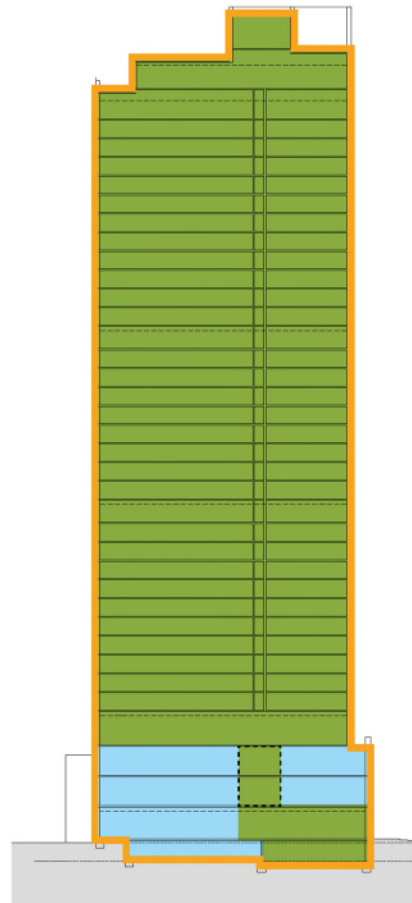
# Sendero Verde

October 28, 2022

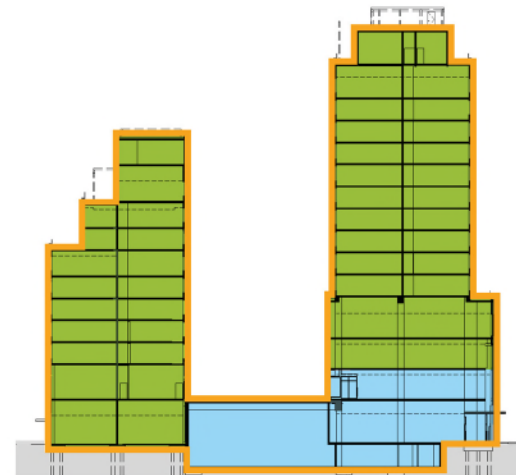




- PH AIRTIGHT LAYER
- PH CERTIFIED AREA
- NON-CERTIFIED AREA

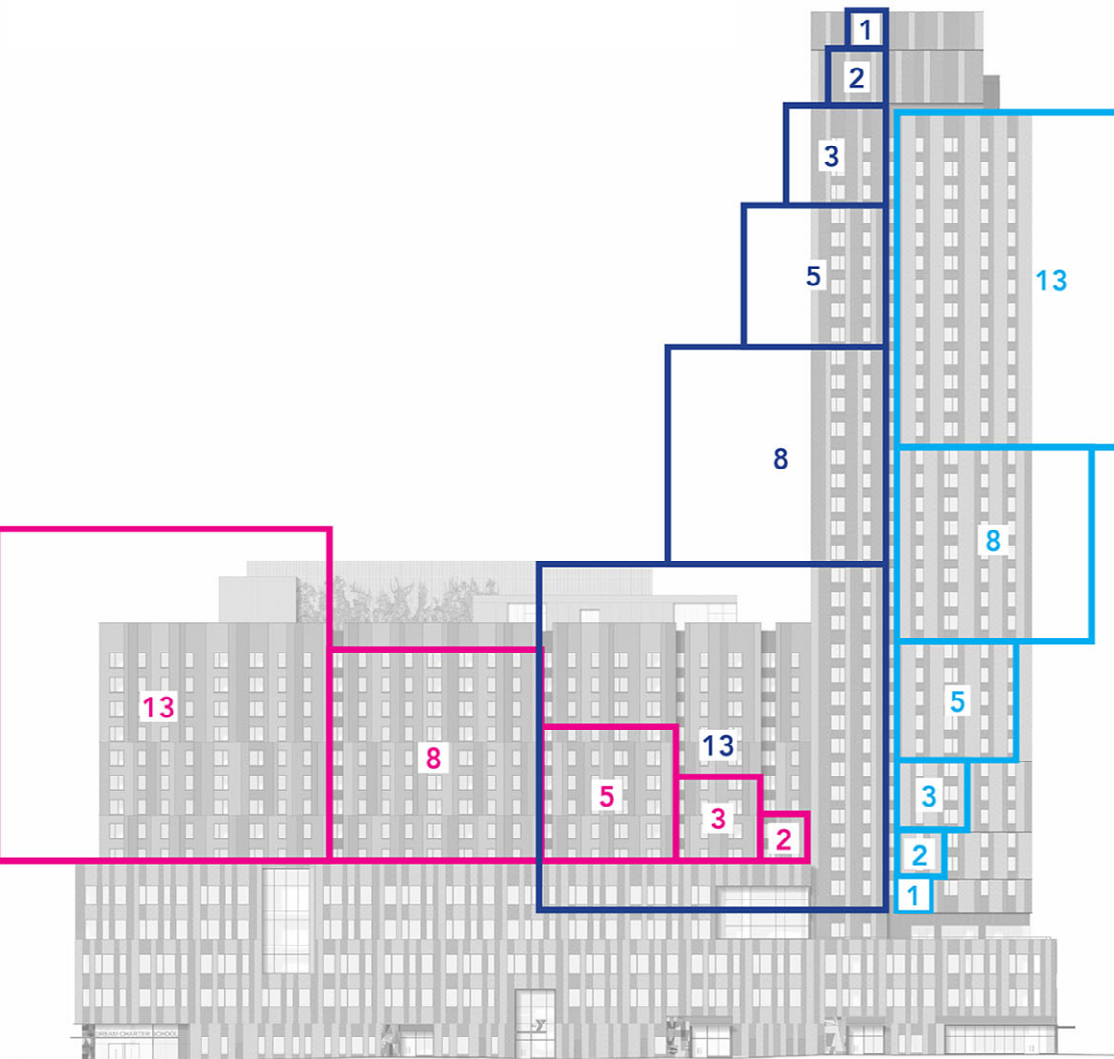


SENDERO VERDE A

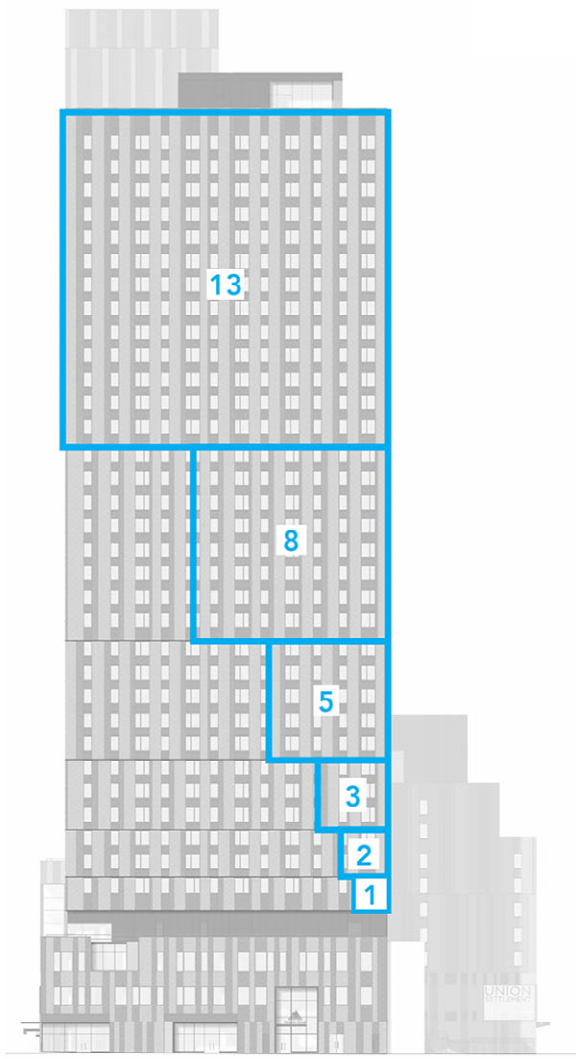


SENDERO VERDE B





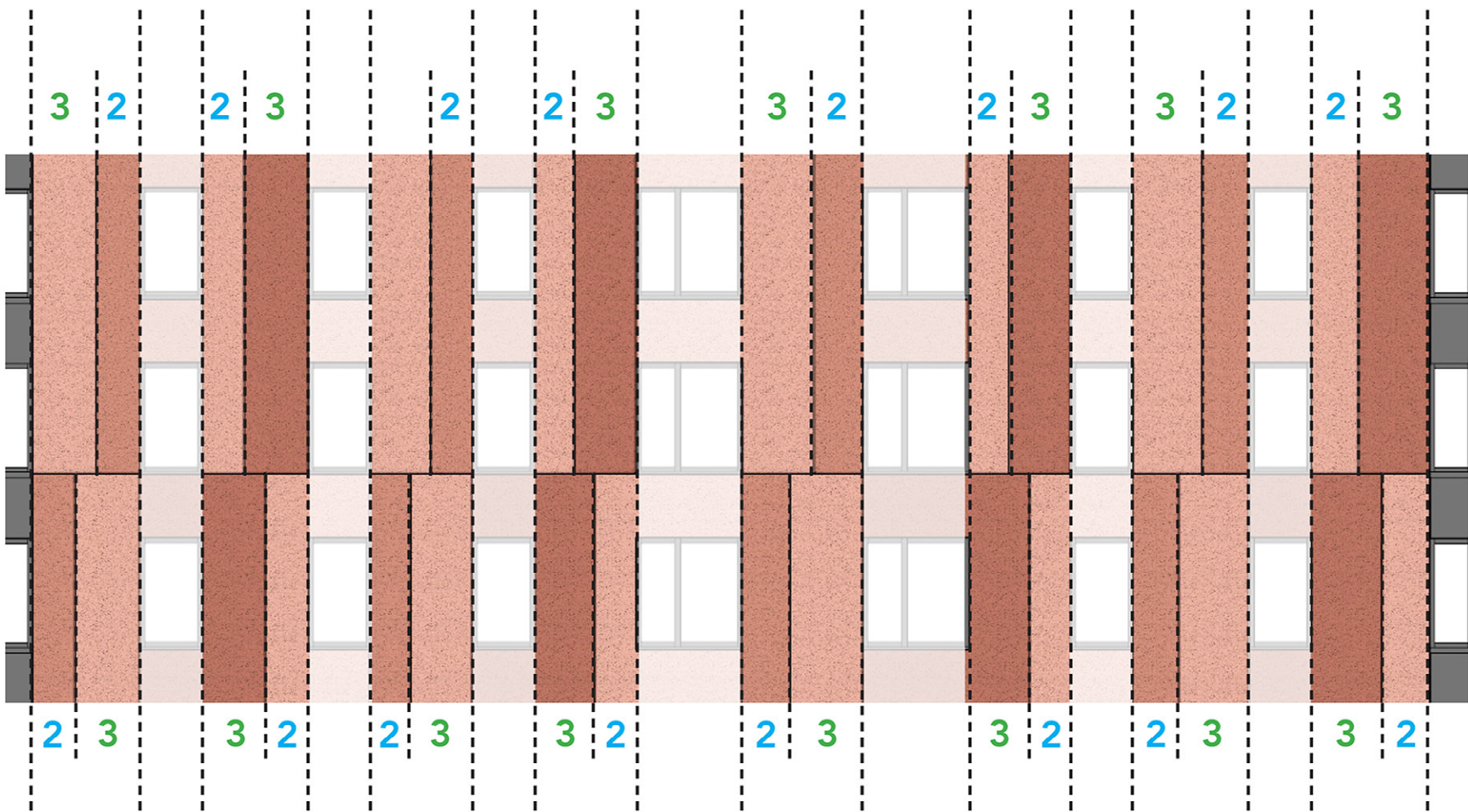
NORTH ELEVATION

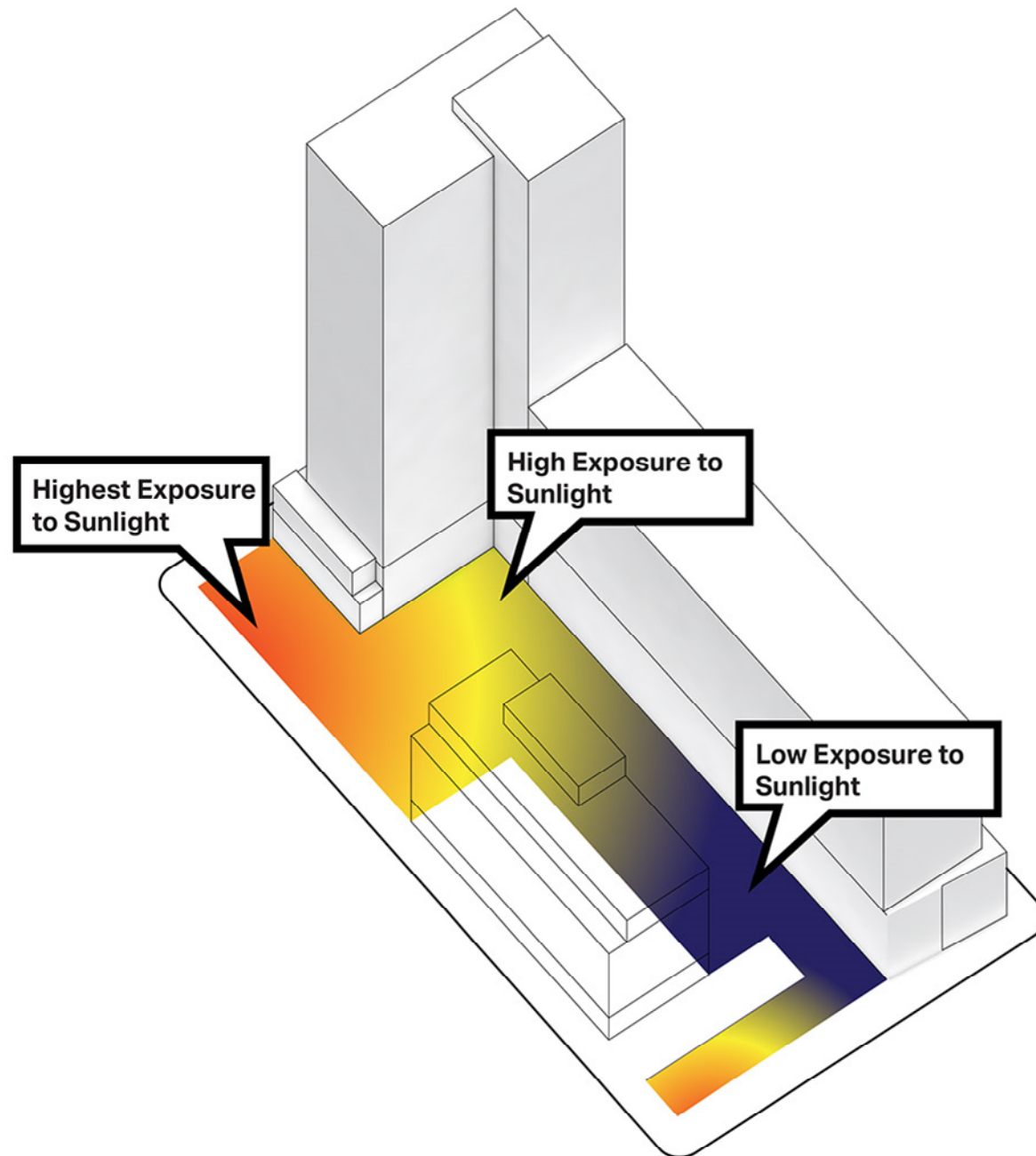


WEST ELEVATION

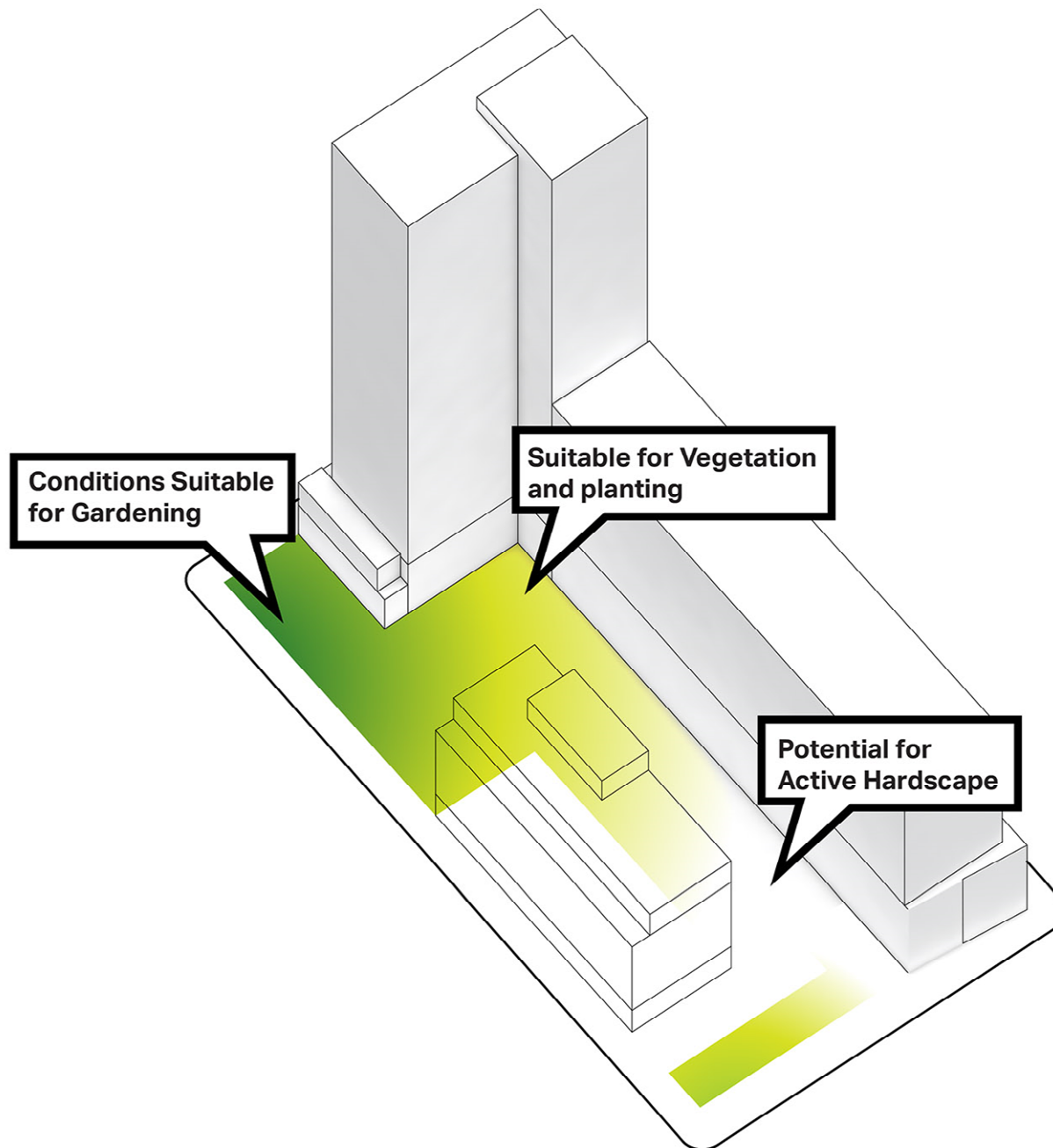


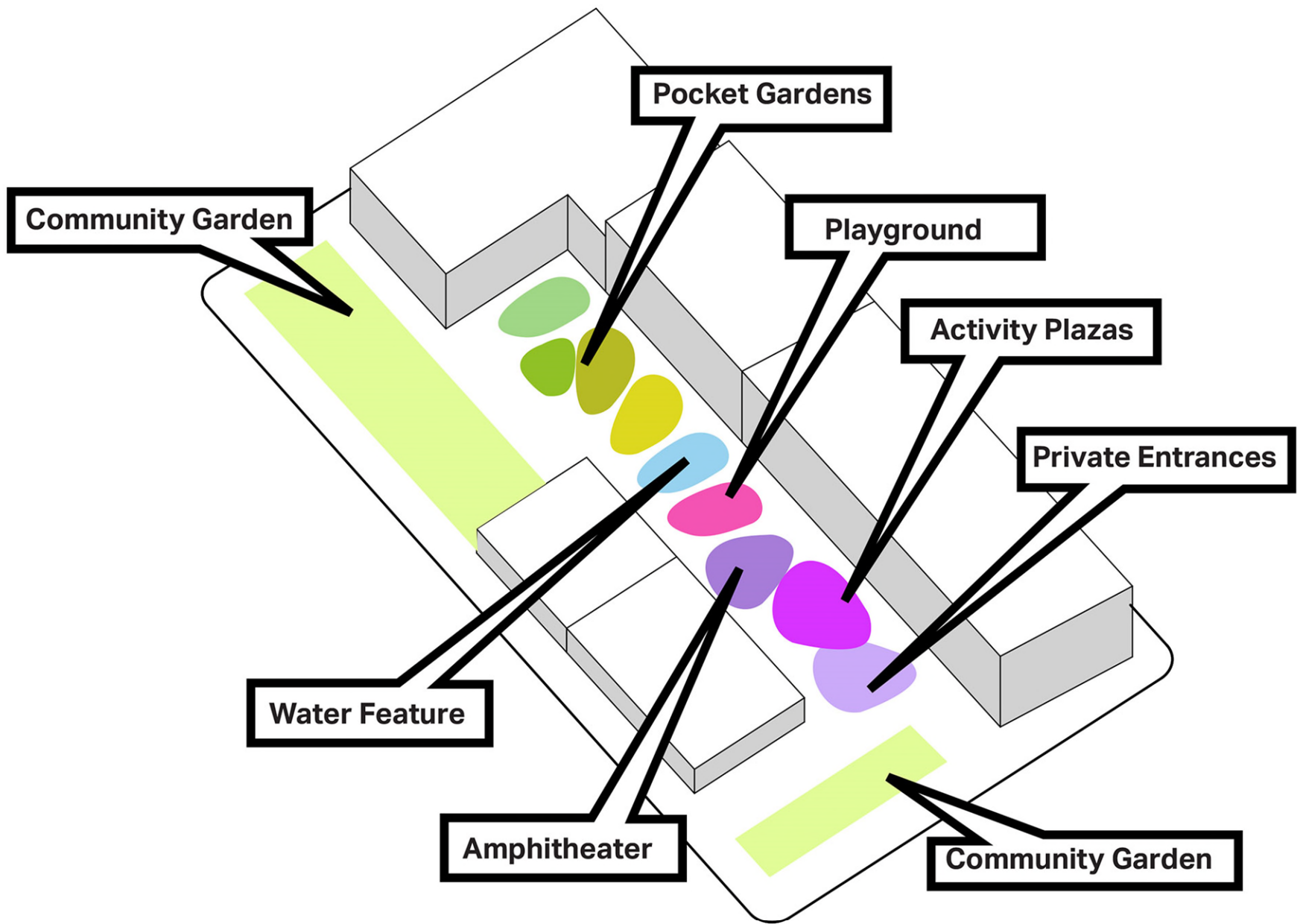




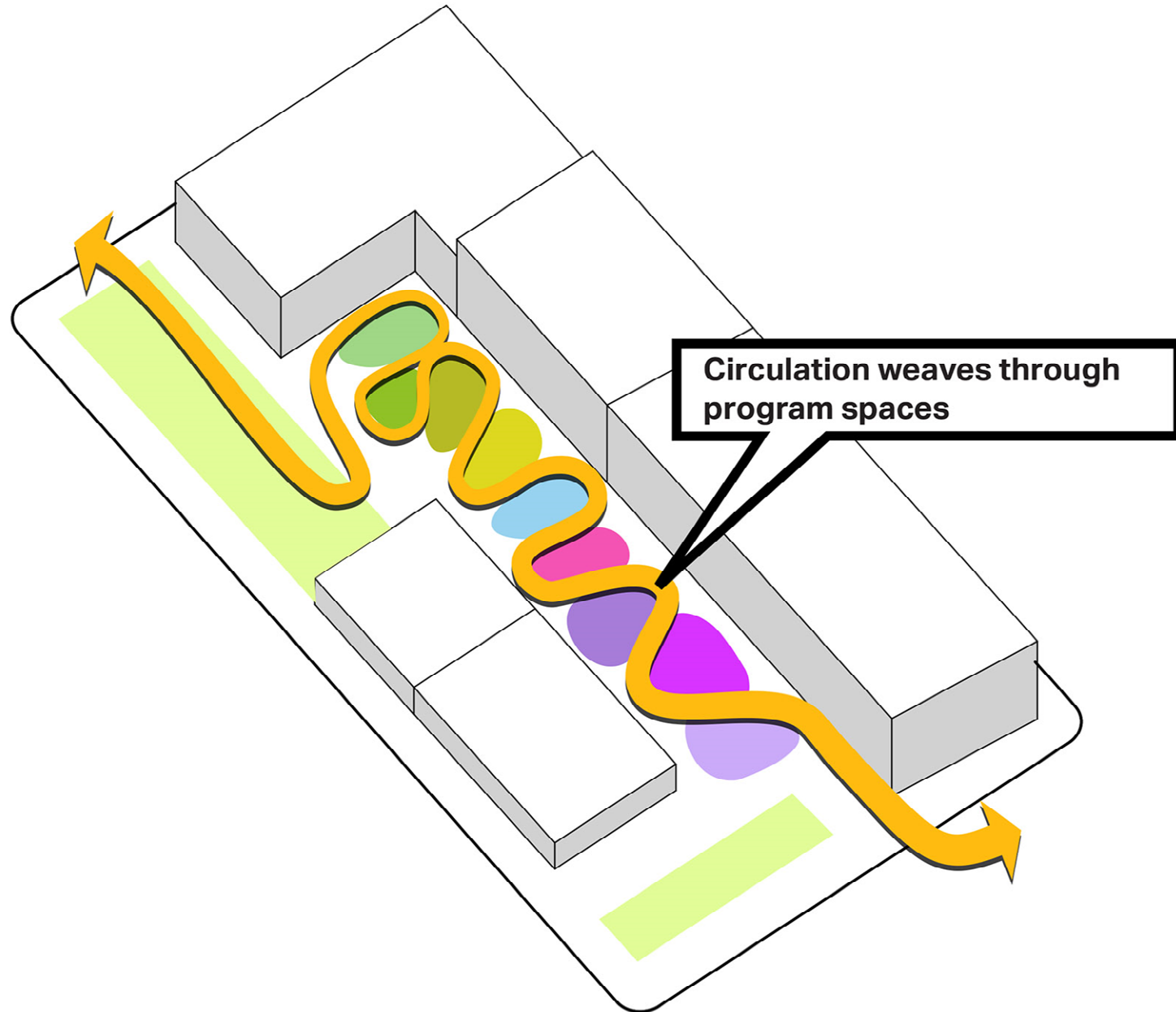


















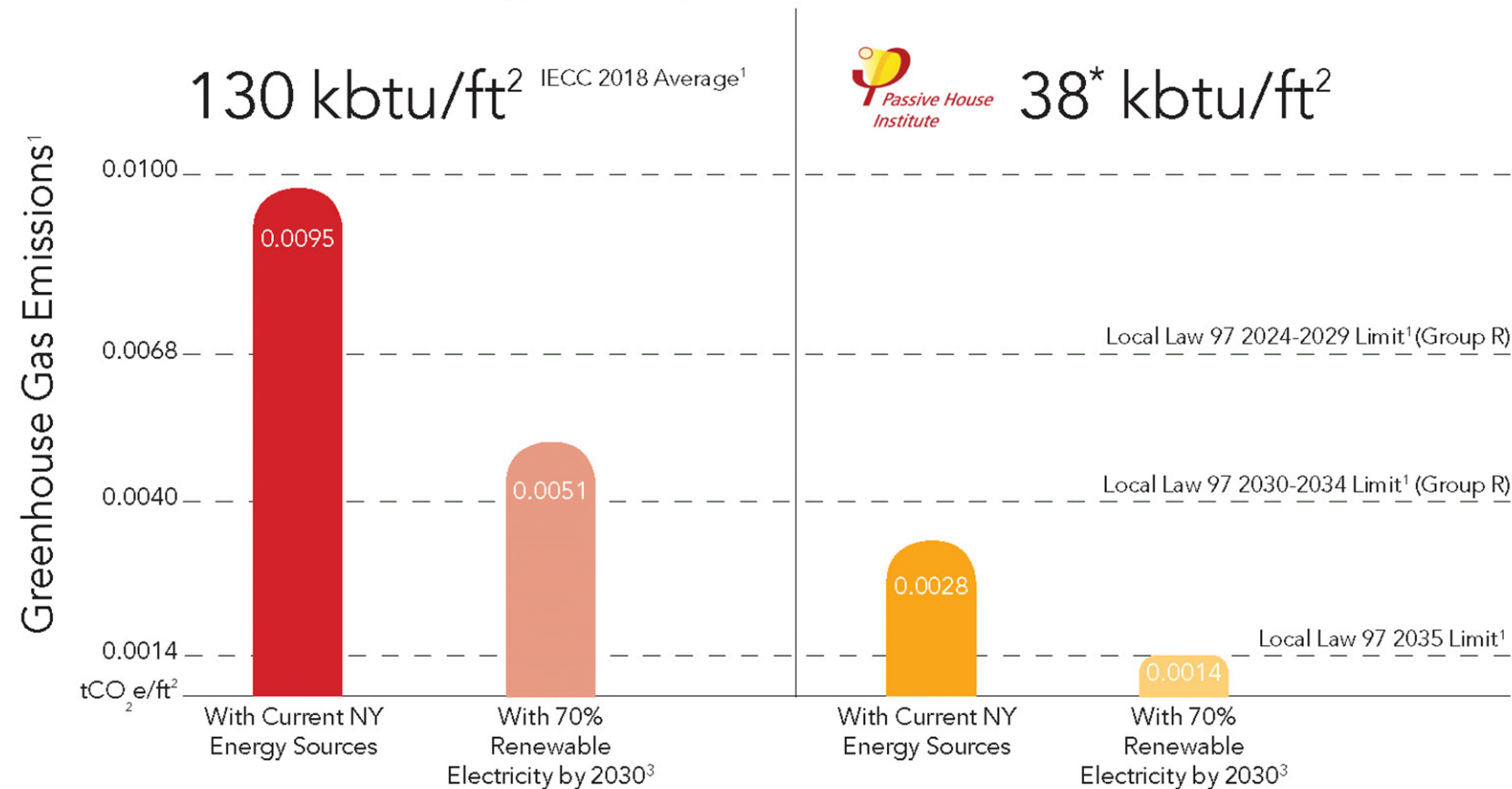








Passive House Standard for Energy Efficiency



<sup>1</sup>New York State Energy Research and Development Authority-Energy 2018

<sup>2</sup>New York Local Law 97 of 2019

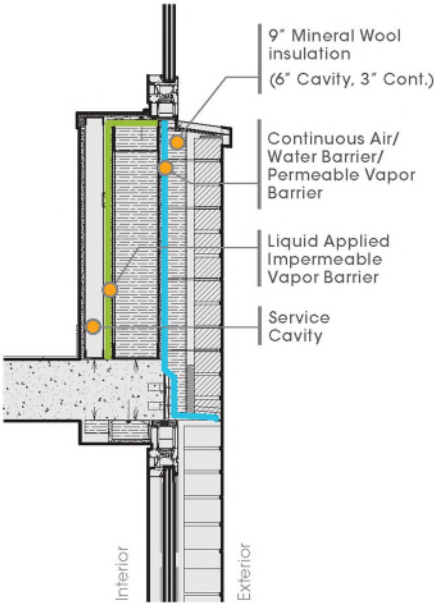
<sup>3</sup>New York Climate Leadership and Community Protection Act

\*Can be adjusted for density and use.



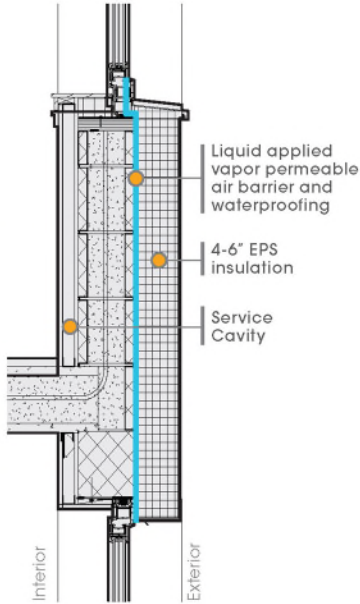
Component	Efficiency
Roof	R-40
Walls	R-23 Effective
Windows - Operable	U: 0.16
Windows - Fixed	U: 0.14
Cantilevered Floors	R-11
Glazing	21%

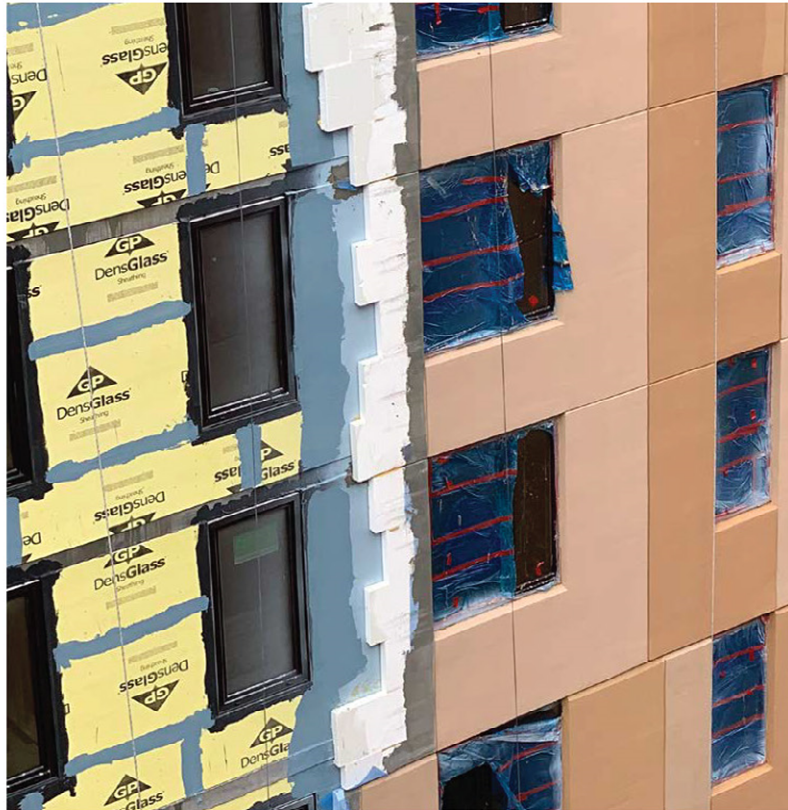
SENDERO VERDE A  
MASONRY CAVITY WALL



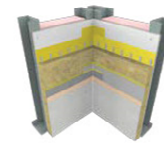
Component	Efficiency
Roof	R-40
Walls	R-24 Effective
Windows - Operable	U: 0.15
Windows - Fixed	U: 0.14
Cantilevered Floors	R-11
Glazing	21%

SENDERO VERDE B  
EIFS





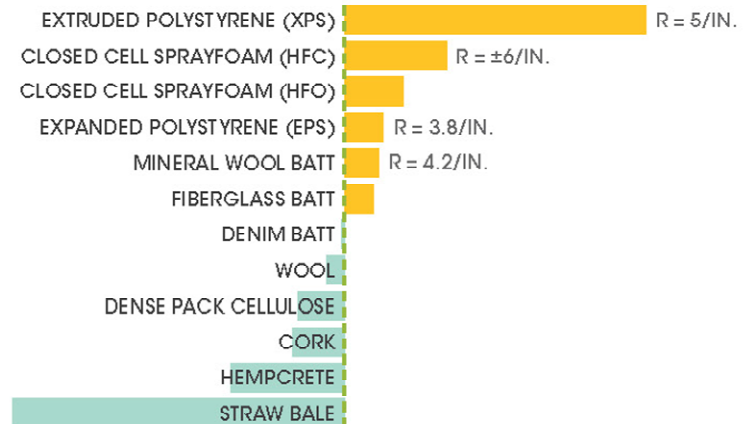
EIFS ASSEMBLY COMPONENTS



WT-3

Mineral Wool  
Backed EIFSContinuous insulation cladding  
system with lower embodied  
energy from traditional systems.

## CARBON IMPACTS OF INSULATION

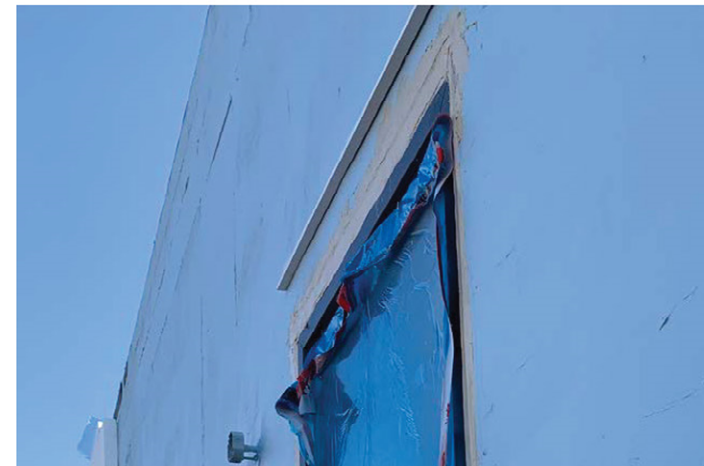
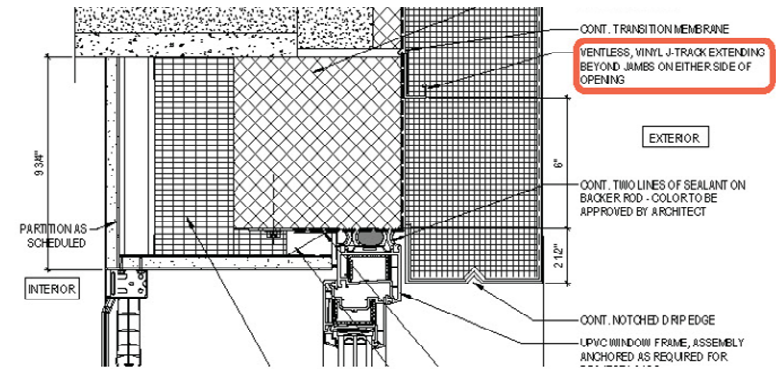
kgCO<sub>2</sub> represents R-20 at 234 m<sup>2</sup>6,735 kgCO<sub>2</sub> emitted-7,437 kgCO<sub>2</sub> embodiedData Source: Builders for Climate Action - 2019 White Paper "Low-Rise Buildings as a Climate Change Solution"  
Infographic Source: 2020 Inc./Architecture 2020

R-VALUE VS. EMBODIED CARBON





FLASHING INSTALL AT BASE OF EIFS ASSEMBLY



FLASHING INSTALL ABOVE WINDOW HEAD



**STRUCTURAL THERMAL BREAK AT  
CANOPY STEEL**



**ISO-1**

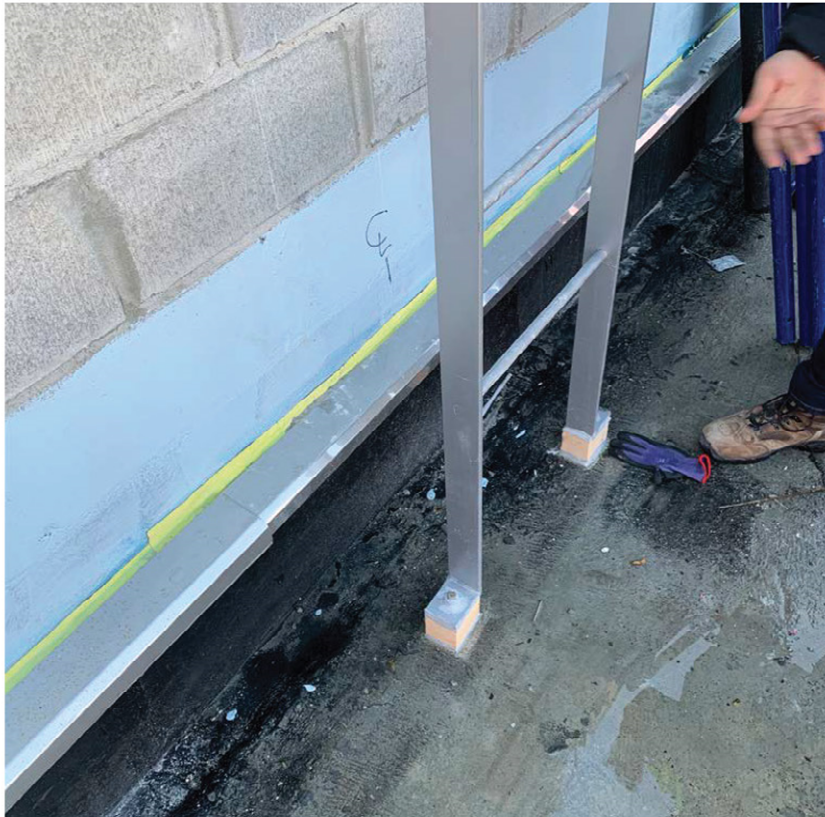
**Schock -  
Structural  
Thermal Break**

Thermal isolators - Steel to Steel.  
Concrete to concrete available.  
Parapet isolators too.



**STRUCTURAL THERMAL BREAK AT  
GENERATOR CURBS**

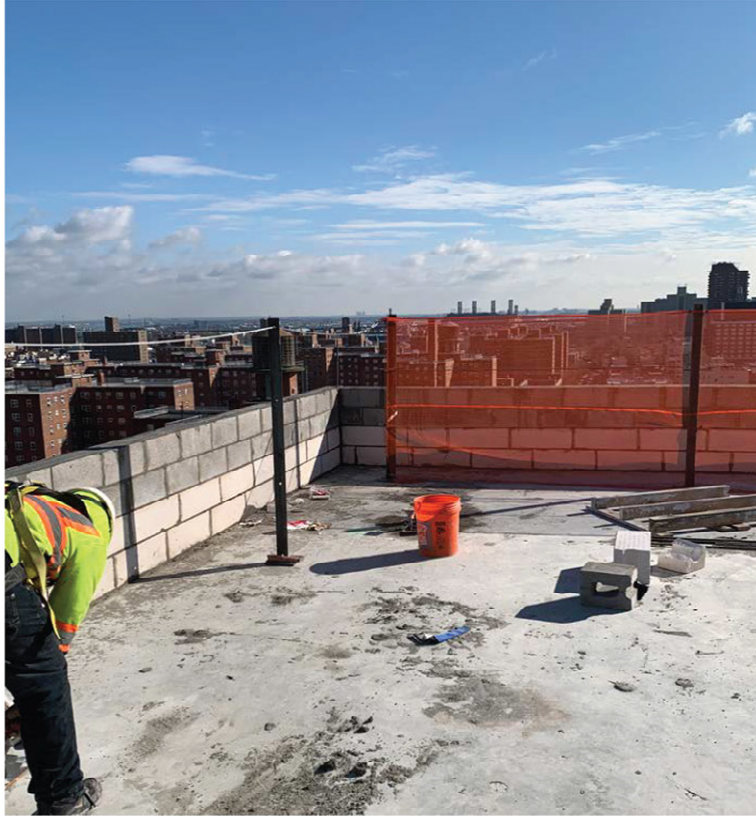




**STRUCTURAL THERMAL BREAK AT  
MISCELLANEOUS METAL CONNECTIONS**



**STRUCTURAL THERMAL BREAK AT PV  
DUNNAGE POST**



**AAC BLOCK @ PARAPETS**



**AAC-1**

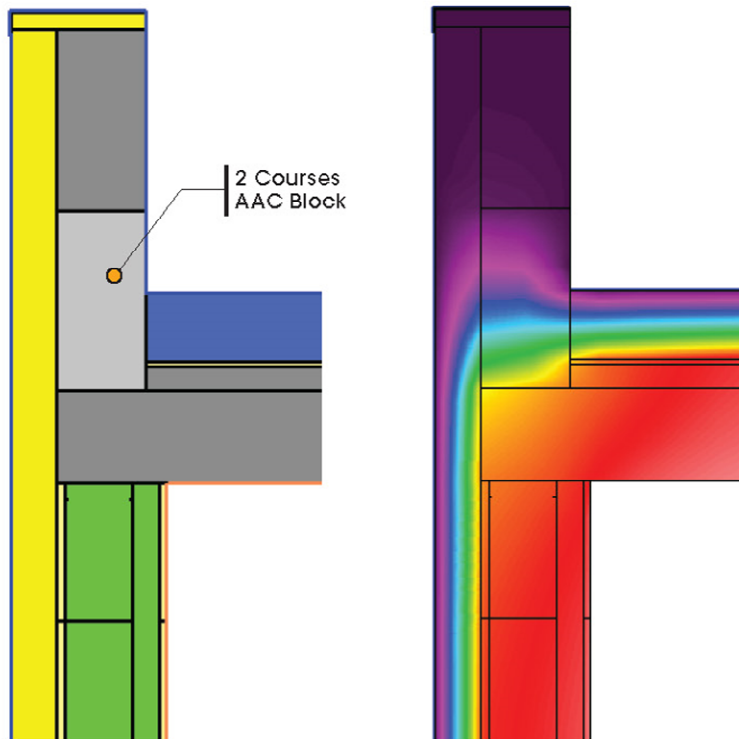
**Autoclaved  
Aerated  
Concrete  
Masonry Units**

8" = R-10  
10" = R-12.5  
12" = R-15  
For use in parapets, curbs,  
or in lieu of CMU walls.



**AAC BLOCK @ BRICK SHELVES**



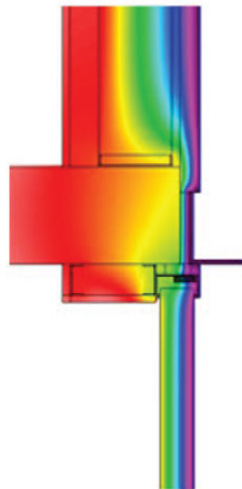


THERM MODEL @ AAC PARAPET

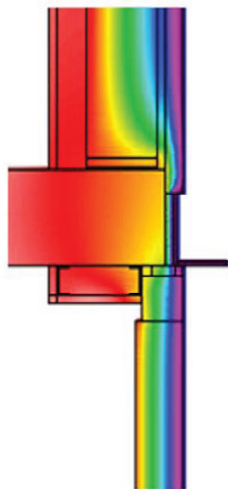
PARAPET MOUNTED RAIL @ CMU  
COURSES ABOVE AAC

## Legend (F)

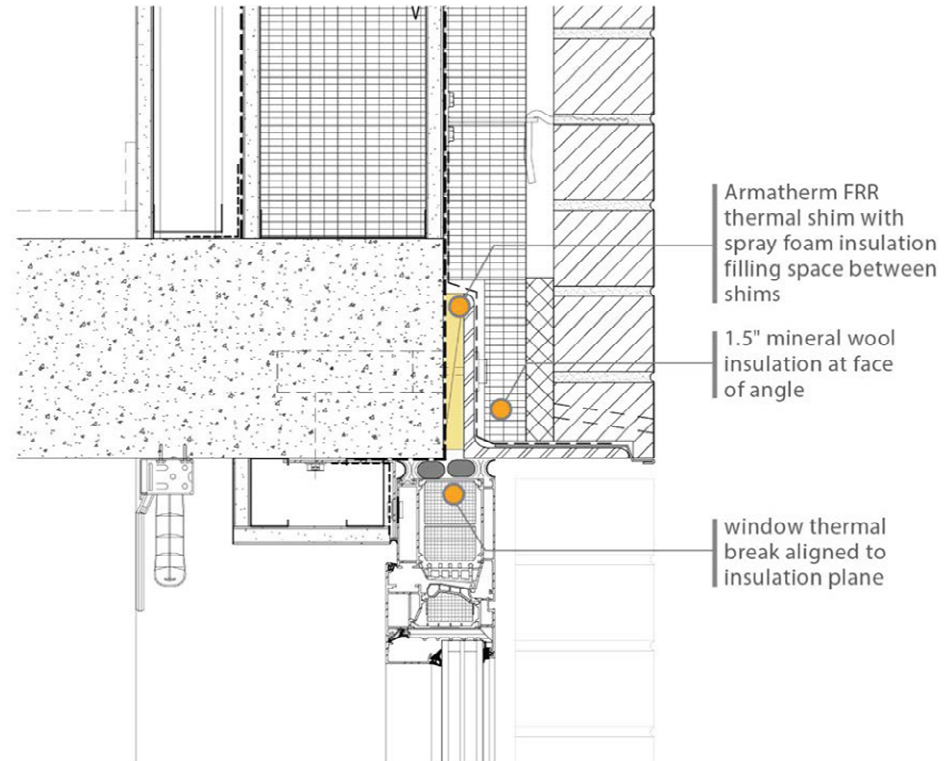
14.0° 20.8° 27.5° 34.3° 41.0° 47.8° 54.5° 61.3° 68.0°



**Concept:** Shelf angle with intermittent Armatherm attachments

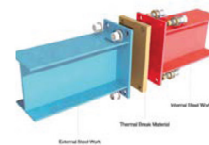


**DD:** Shelf angle with Armatherm attachments and spray foam

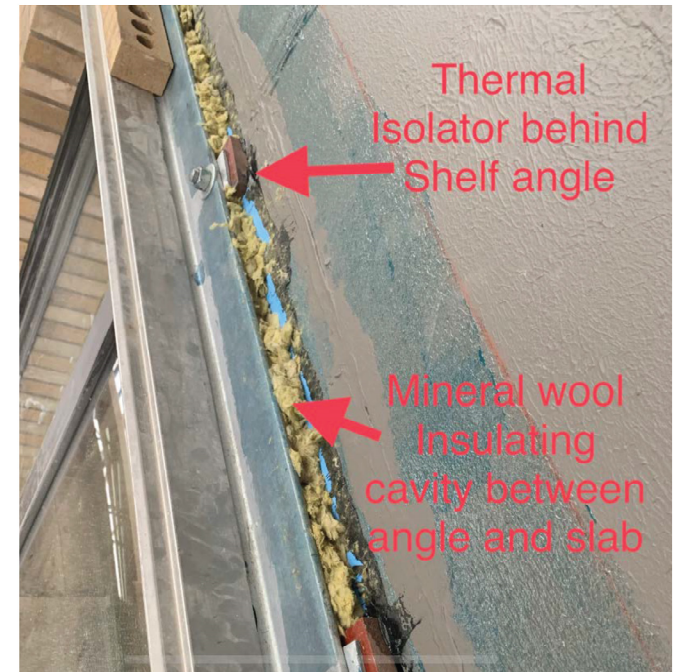


**CD:** Final architectural detail



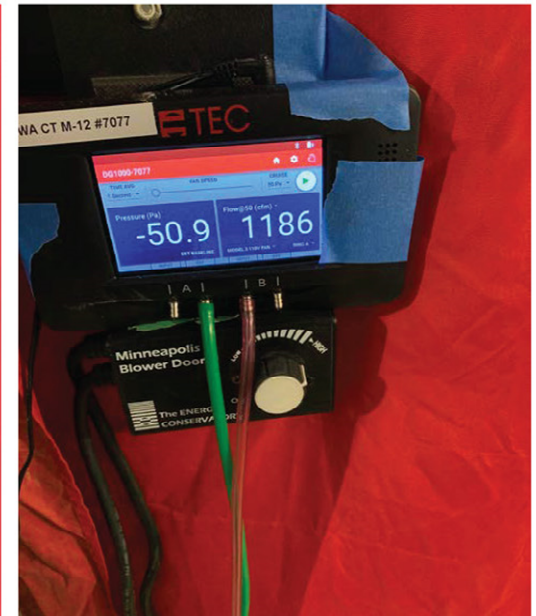
**ISO-4****Armatherm  
Thermal Break  
Pads**

Thermally broken shims for steel-to-steel and steel-to-concrete attachments such as base plates and shelf angles.



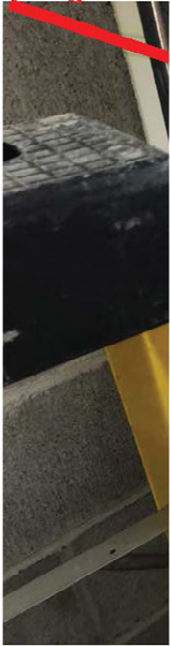


APPROXIMATELY 150 CFM REDUCTION  
WITH PROPER WINDOW ADJUSTMENTS



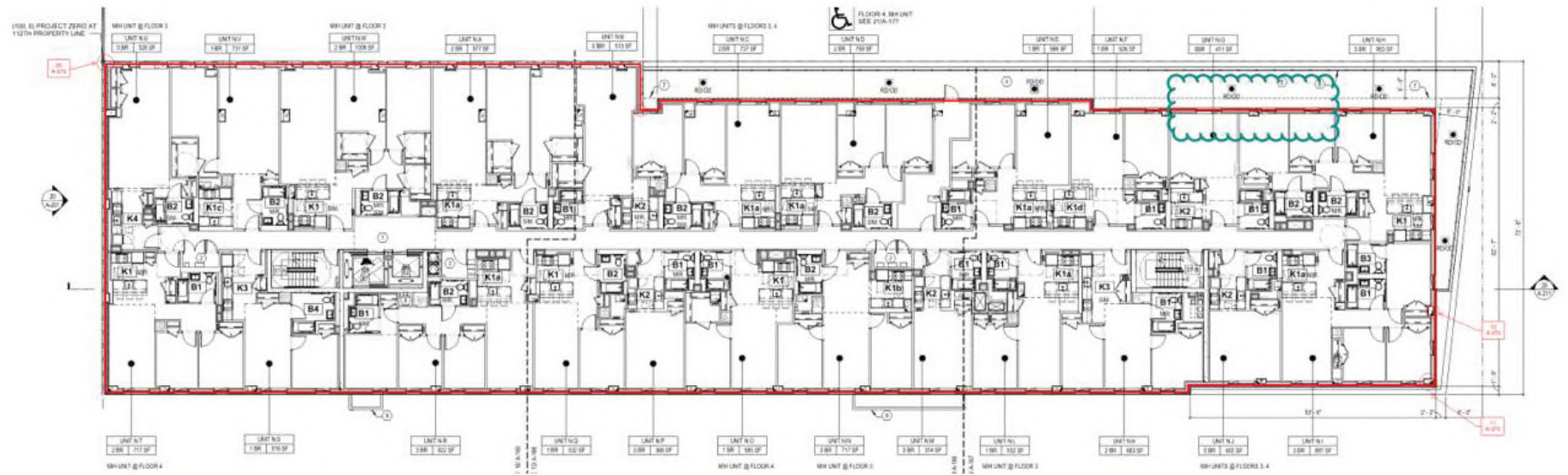


replace with











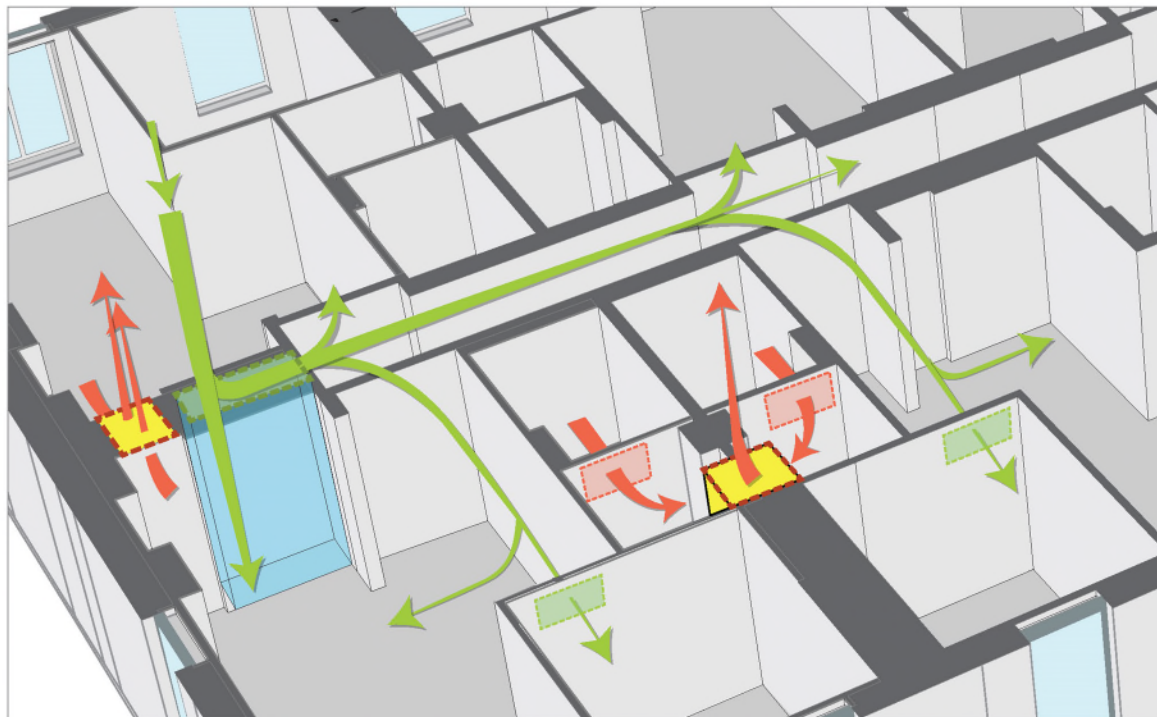




## Ventilation

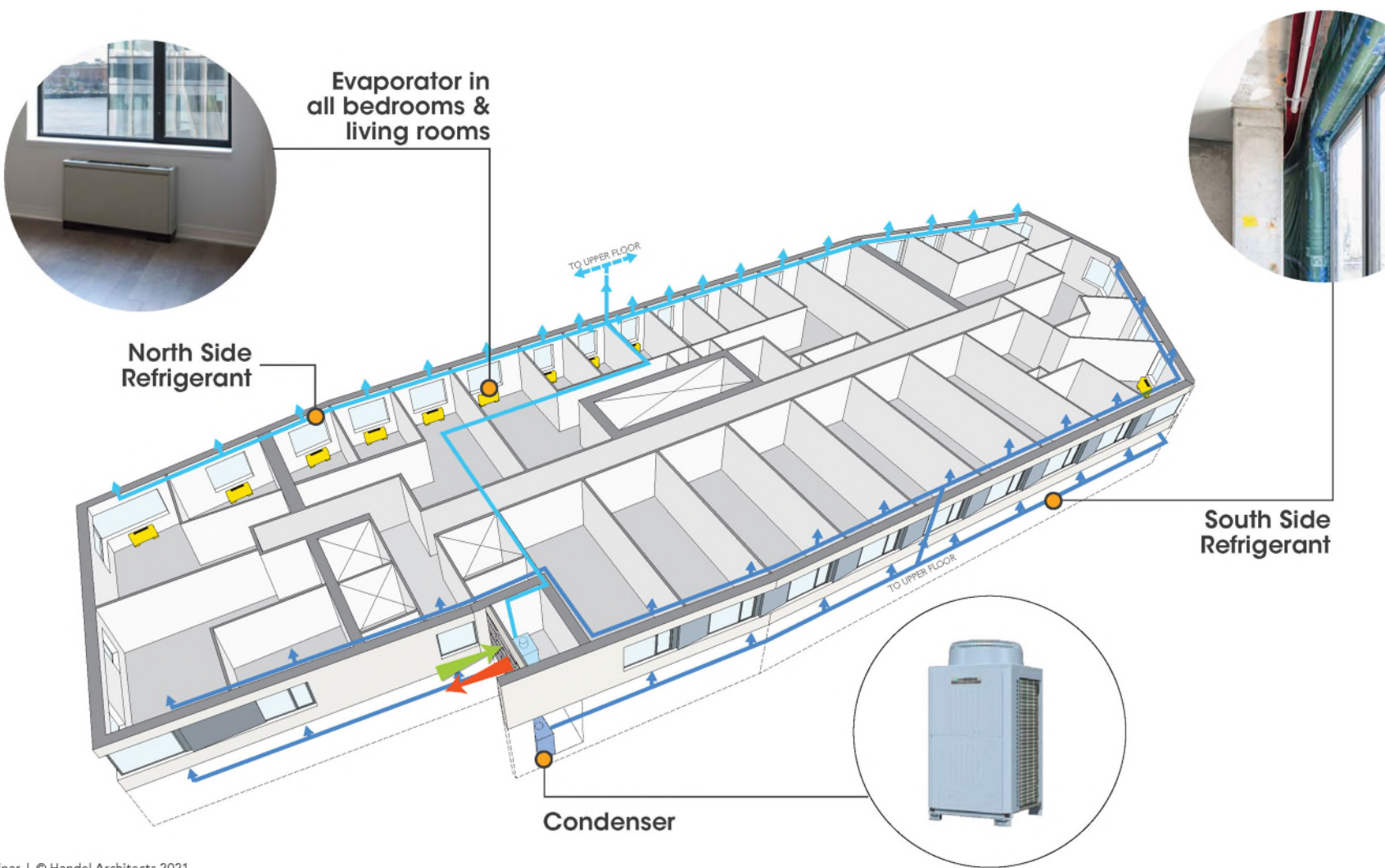
Balanced Ventilation with Heat  
Recovery Central Systems

- Fresh Air
- Exhaust Air

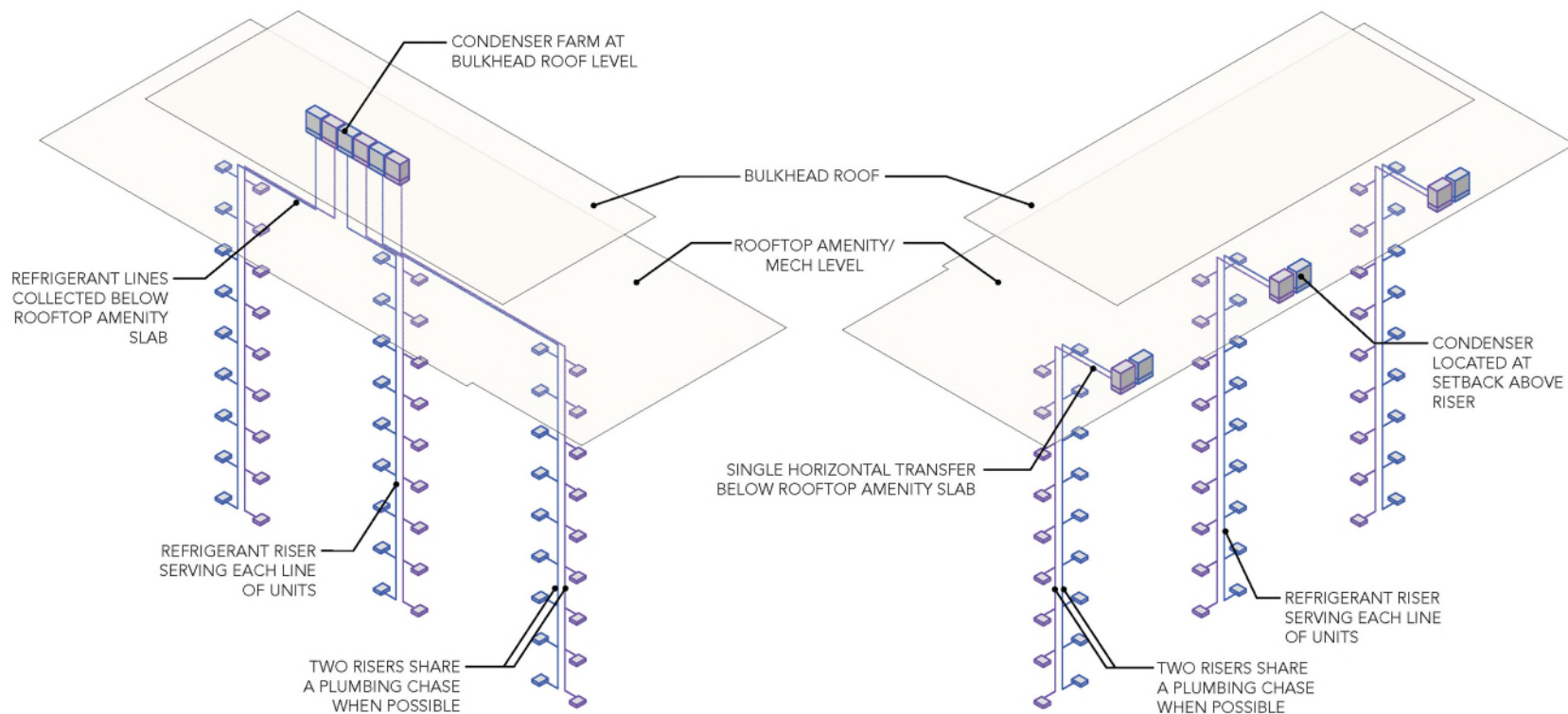


**SENDERO VERDE BLDG A: CENTRAL RISER**

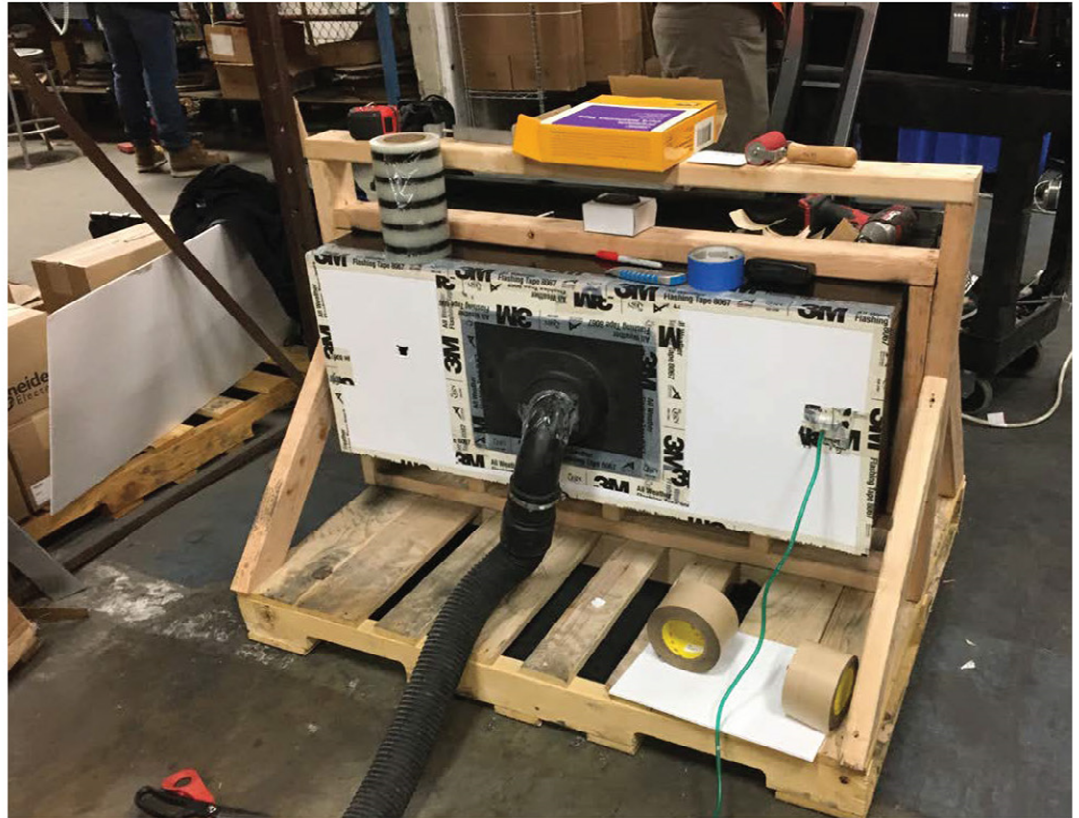


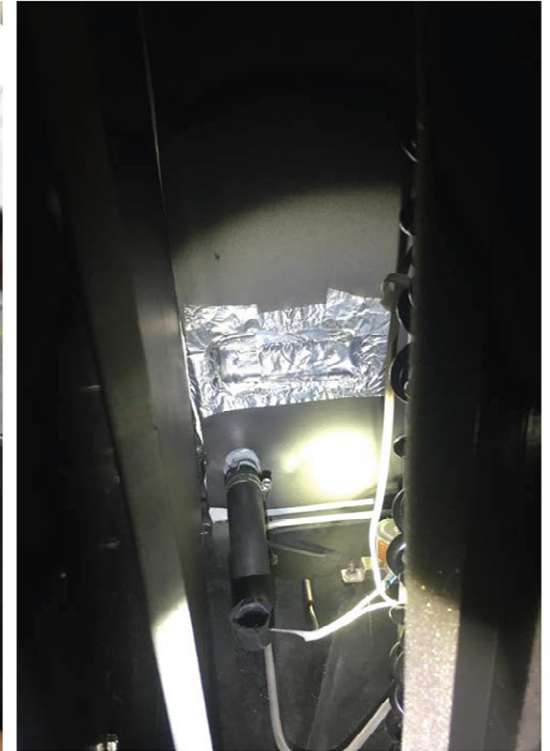
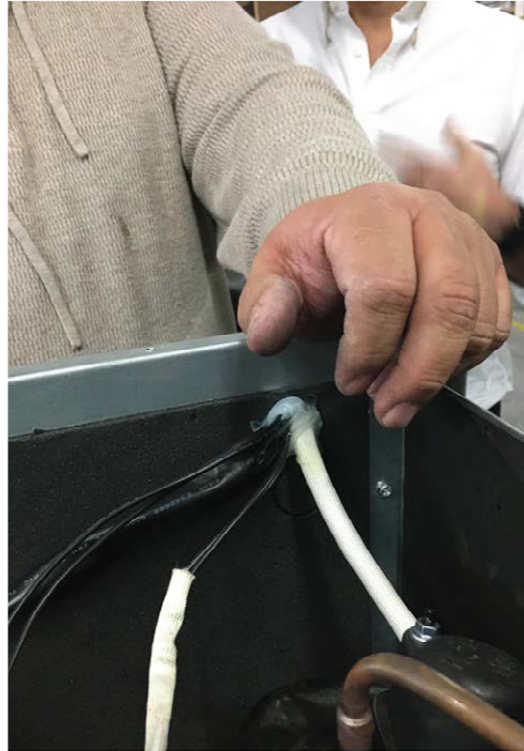


## Rooftop Design

**SOUTH SIDE DISTRIBUTION STRATEGY****NORTH SIDE DISTRIBUTION STRATEGY**











**TYPICAL STANDING EVAP IN  
APARTMENT CLOSET**



**INSULATED REFRIGERANT HOUSING  
ON ROOF**



**ERV WITH ASSOCIATED CONDENSERS**



**SIDE VIEW OF ERV ON THERMALLY BROKEN CURB WITH ACOUSTIC PADS**



ERV  
Performance

	SIZE	EFFICIENCY	MANUFACTURER
<b>THE HOUSE</b> Enthalpy Wheel Vertical Risers Horizontal Collection at Top Floor	<b>12,000 CFM</b>	<b>73%</b>	<b>AAON</b>
<b>SENDERO VERDE: A &amp; B-NORTH</b> Enthalpy Wheel Vertical Risers Horizontal Distribution at Top Floor	<b>14,500 CFM</b>	<b>81%</b>	<b>SWEGON</b>
<b>SENDERO VERDE: B-SOUTH</b> Enthalpy Wheel Vertical Risers Horizontal Distribution at Top Floor	<b>7,000 CFM</b>	<b>86%</b>	<b>SWEGON</b>
<b>UTSC</b> Enthalpy Wheel Vertical Risers Horizontal Collection at Top Floor	<b>7,000 CFM</b>	<b>86%</b>	<b>SWEGON</b>





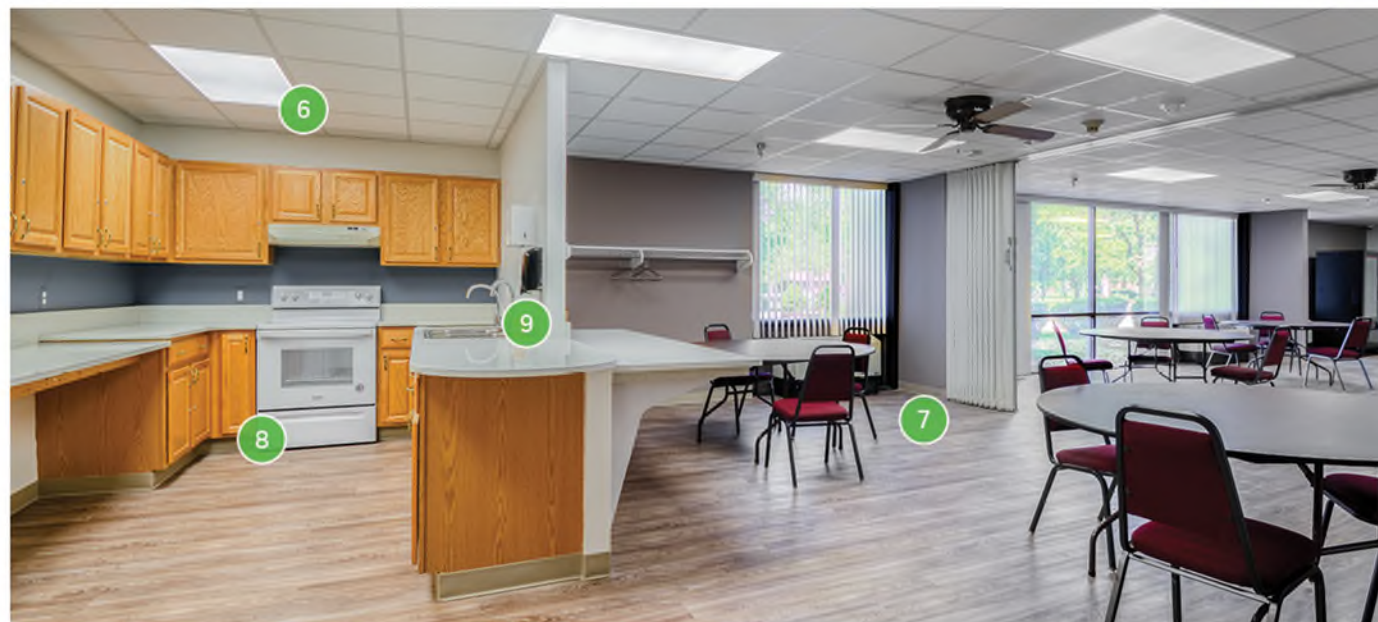
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# Acquisition- Preservation

# Environmental Retrofit Tour

- 1 INSULATION & AIR SEALING  
● ● ●
- 2 HIGH-PERFORMANCE WINDOWS  
● ● ●
- 3 INTEGRATED PEST MANAGEMENT  
●
- 4 INDIGENOUS PLANTS & EFFICIENT IRRIGATION  
●
- 5 BOILER TUNING & CONTROLS  
● ●
- 6 LIGHTING FIXTURES & CONTROLS  
● ●
- 7 HEALTHY MATERIALS  
●
- 8 ENERGY-EFFICIENT APPLIANCES  
● ●
- 9 LOW-FLOW FAUCET AERATORS, SHOWERHEADS, AND TOILETS  
● ●



## LEGEND

● Indoor Environmental Quality

● Water

● Electric

● Gas



# Communities of Opportunity Tour

- 1 COMMUNITY ROOM
- 2 OUTSIDE/GREEN SPACE
- 3 LOBBY BULLETIN BOARDS/DIGITAL SCREENS
- 4 FITNESS ROOM
- 5 COMPUTER LAB
- 6 MEDICAL SCREENING ROOM
- 7 RESIDENT SERVICE COORDINATOR
- 8 KITCHEN
- 9 LIBRARY







GROSS PROJECT COST  
**\$872,000**

TOTAL INCENTIVES  
**\$561,495**

NET INVESTMENT BY OWNER  
**\$310,505**

CARBON REDUCTION  
**37%**

ENERGY REDUCTION  
**16%**

WATER REDUCTION  
**39%**

UTILITY SPEND REDUCTION  
**28%**

PROJECTED PAYBACK  
**7.3 Years**







































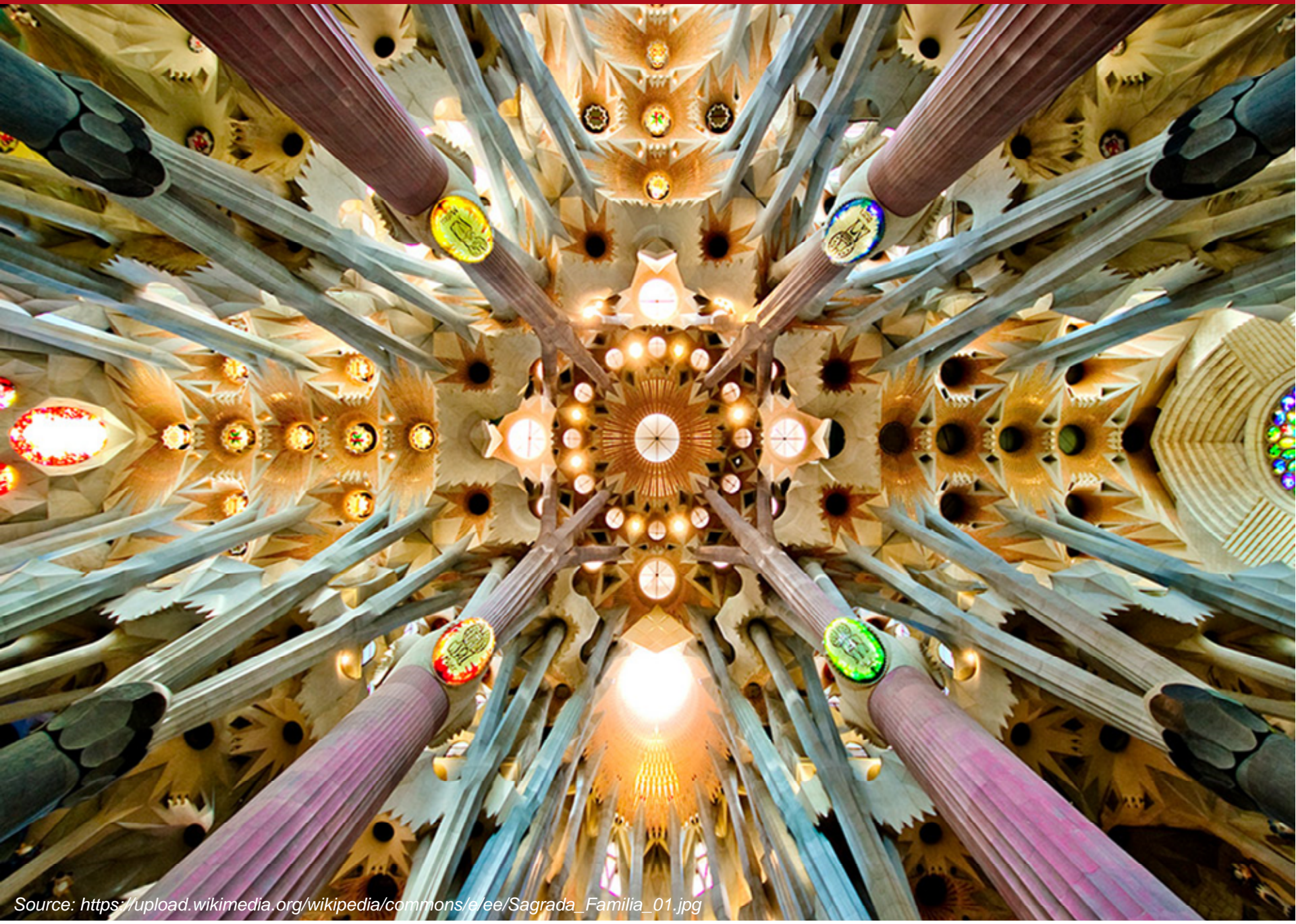












Making wholeness  
heals the maker.

- Christopher Alexander