



Massachusetts ADU Design Challenge | Project Cover Sheet

1. Design Team

Lead Applicant: Marcel Merwin

Additional Applicants:

Design Firm Name (If Applicable): studiomerwin

Contact Info: marcelmerwin@gmail.com

2. Design Information

EntryID (randomly assigned by HLC for tracking purposes): 3432

Design Name: ChickADU: A Small and Mighty ADU

ADU Gross Floor Area (square footage): 285

Unit Layout: Studio

ADU Height (feet): 21.75

Window/Wall Ratio: 12%

Foundation Type: Helical Pier System

3. Project Narrative

Small is mighty! ChickADU is a 285 SF micro ADU designed to fit on nearly any lot in Massachusetts. Smart planning, integrated storage, and sectional design make the space feel open and efficient. A full bathroom, bathroom, kitchen, closet, and queen bed fit comfortably without feeling cramped. Storage is built into shifts in the floorplate, reducing clutter and enhancing livability. Lifting the ADU off the ground simplifies construction and creates a covered patio and exterior storage activating the underside of the unit. The kitchen and bath form a distinct “wet core”, expressed through material and color. Living and sleeping areas remain flexible for dwelling or workspace use. ChickADU stands on three principles: contemporary design, proven sustainable practice, and efficient construction—delivering attainable housing at a low-cost entry point for Massachusetts communities. Affordable housing can be beautiful, sustainable, healthy, and new!

Please note that the information contained in this file was submitted to the Executive Office of Housing and Livable Communities (HLC) by ADU Design Challenge participants and has not been independently verified by HLC or the Commonwealth of Massachusetts. Please direct questions to the designers.

ChickADU



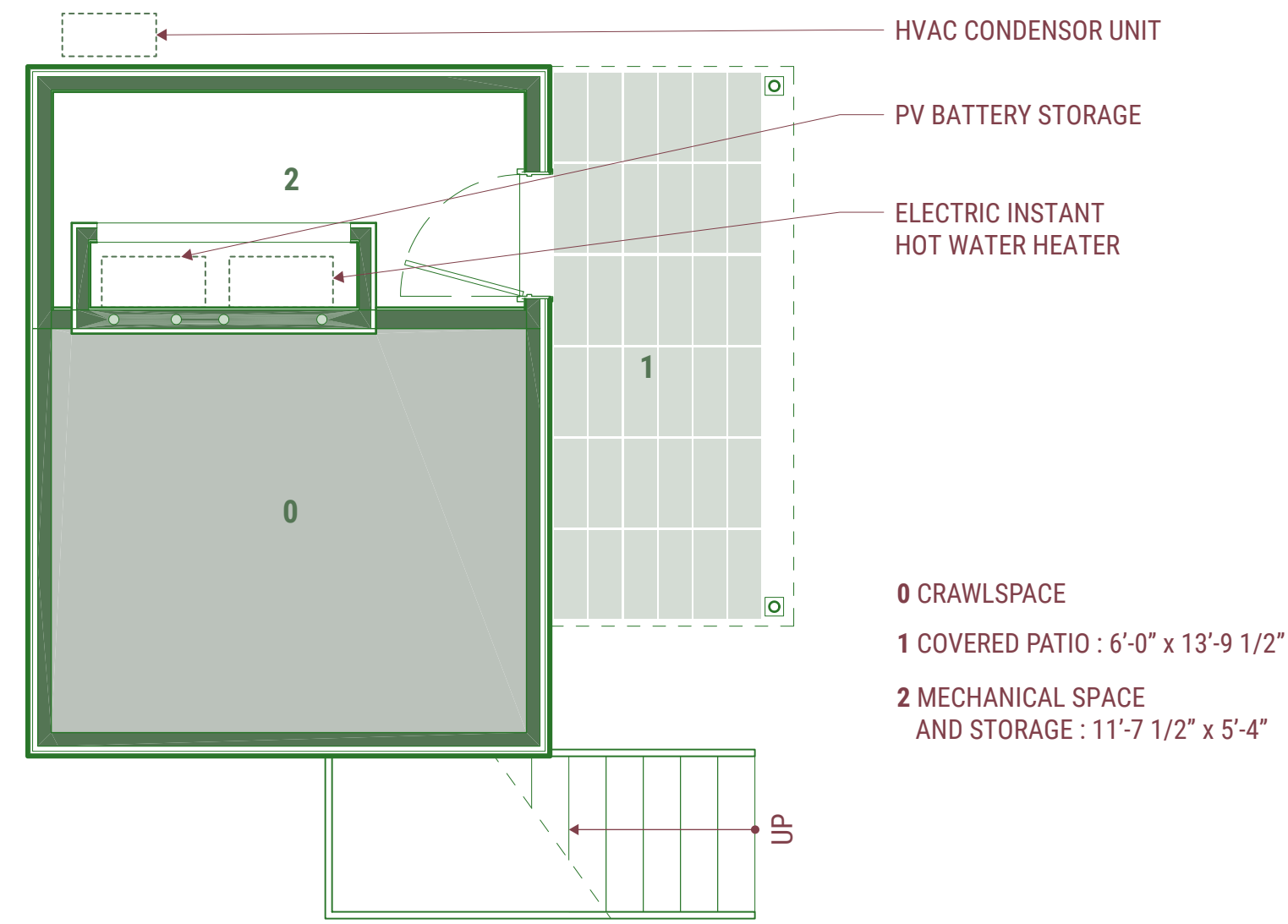
NAMED AFTER THE BLACK CAPPED CHICKADEE, MASSACHUSETTS' STATE BIRD! ULTRA EFFICIENT, CUTE, AND FITS ANYWHERE IN THE STATE.

A SMALL & MIGHTY ADU

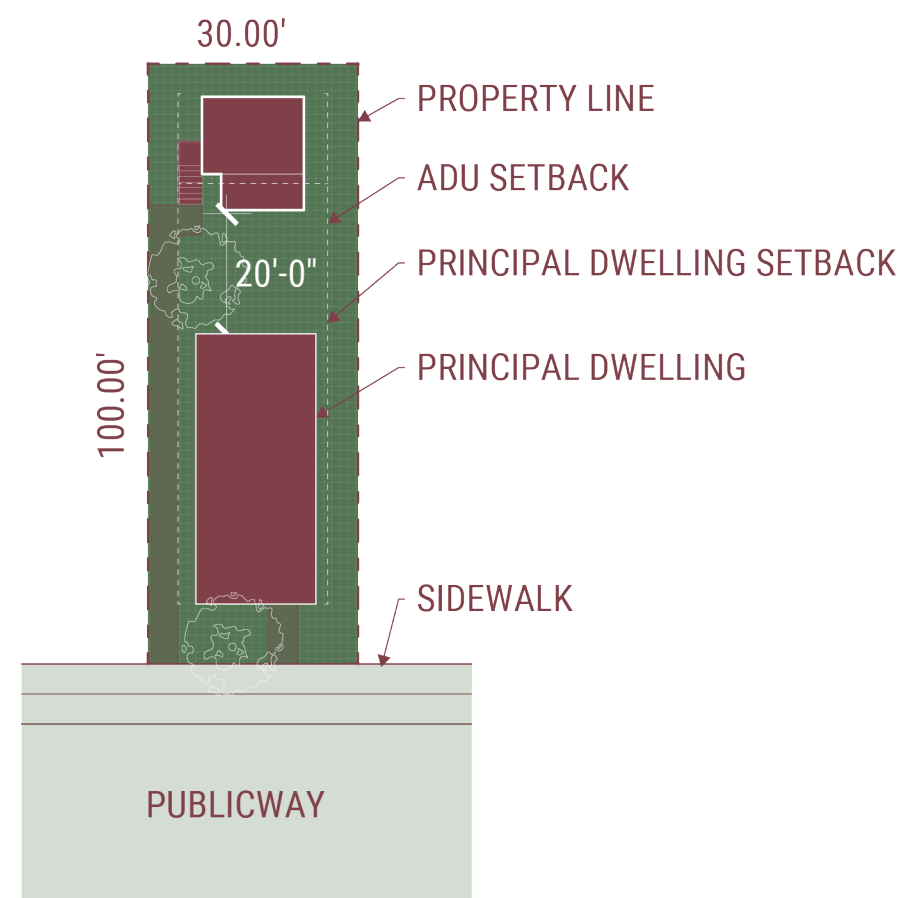
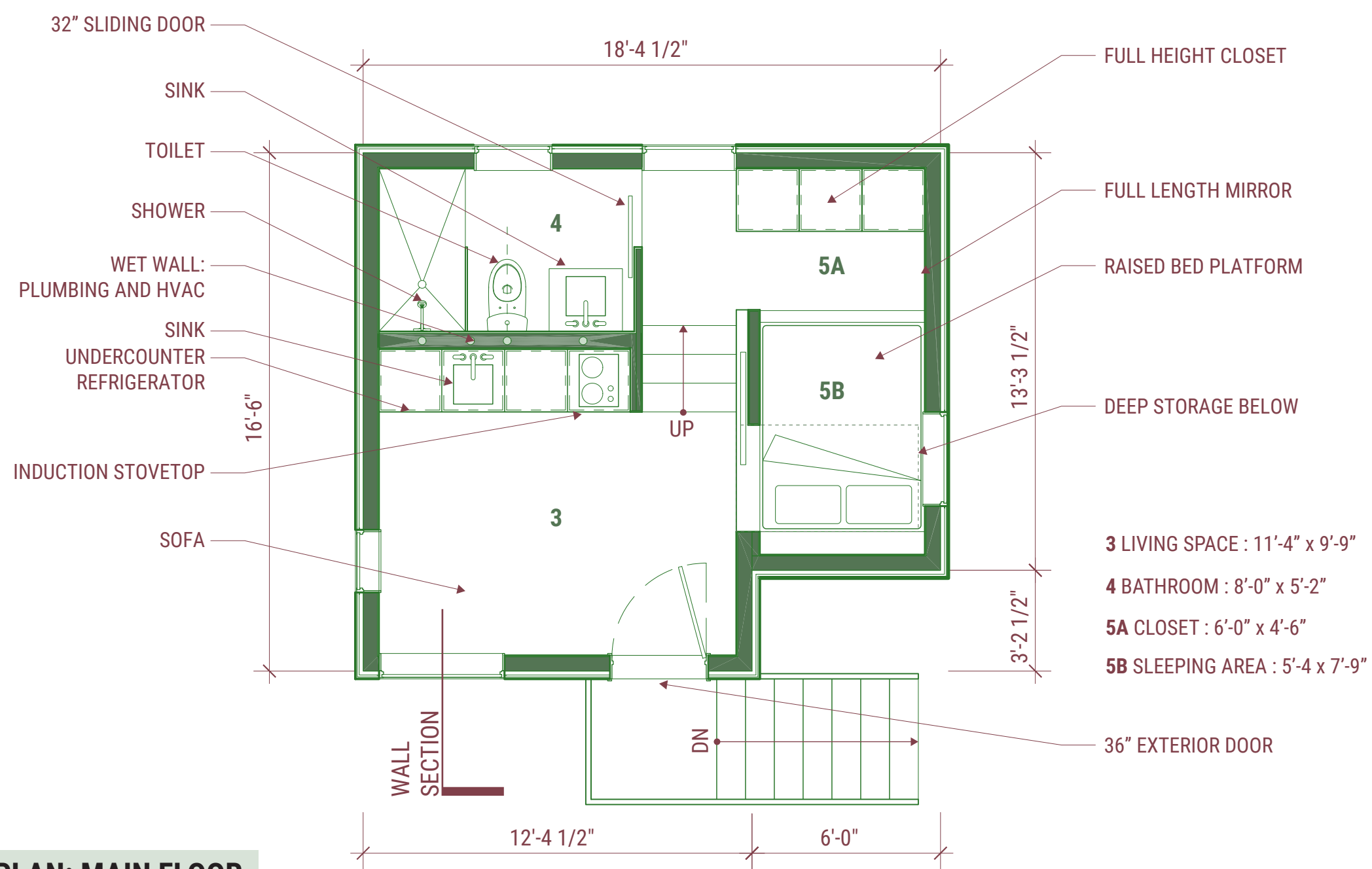
Small is Mighty! ChickADU is a **285 conditioned square feet** micro ADU, designed to fit neatly on nearly any lot available in Massachusetts. It punches above its weight-class by utilizing efficient storage, planning, and sectional design methods. A full bathroom, kitchen, closet, and queen bed fit without feeling cramped. Storage is built into intentional shifts in the floorplate, reducing clutter and enhancing livability. Lifting the ADU off the ground simplifies construction and removes concrete slab requirements, while creating covered outdoor patio and additional storage cleverly activate the underside of the building. The kitchen and bathroom are located in a "wet core", expressed through color and material. Plumbing and HVAC (an efficient wall-mounted mini-split) are located in a single, interior "wet" wall, simplifying trades, decreasing material usage, and increasing energy efficiency. Ripple glass tops the wet core, allowing light deep within the ADU from the shed roof's clerestory window while prioritizing privacy from the primary residence. Living and sleeping areas remain flexible for dwelling or workspace use.

ChickADU is defined by three major points: beautiful contemporary design, proven sustainable practices, and efficient construction methods. These guiding goals coalesce in a project that supports the housing needs of every community in Massachusetts at a low-cost entry point.

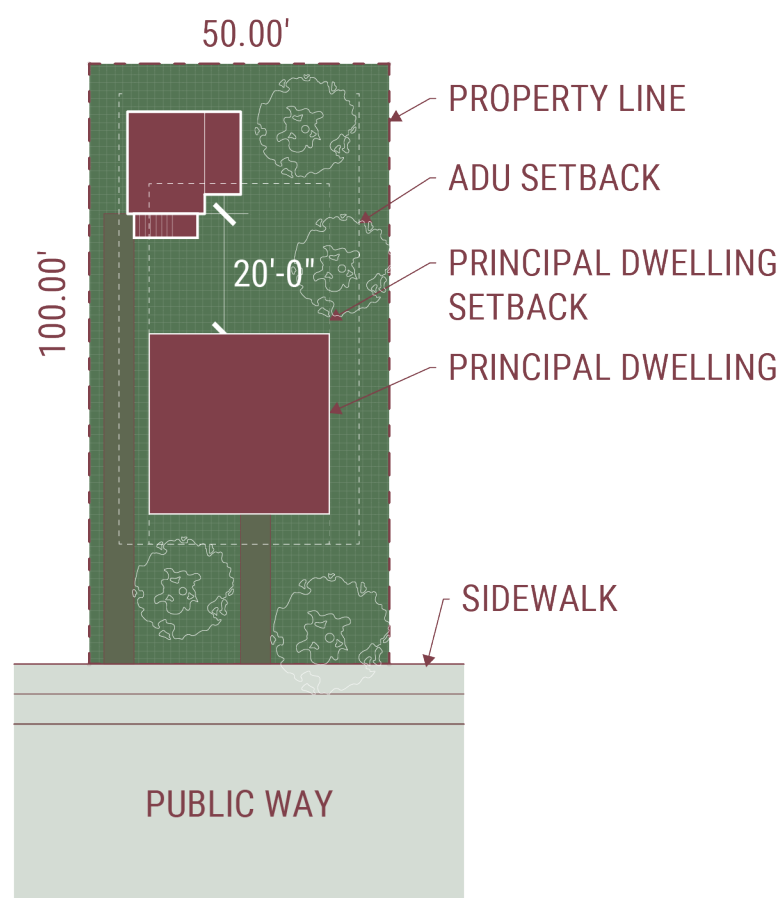
PLAN: GROUND FLOOR
1/4" = 1'-0"



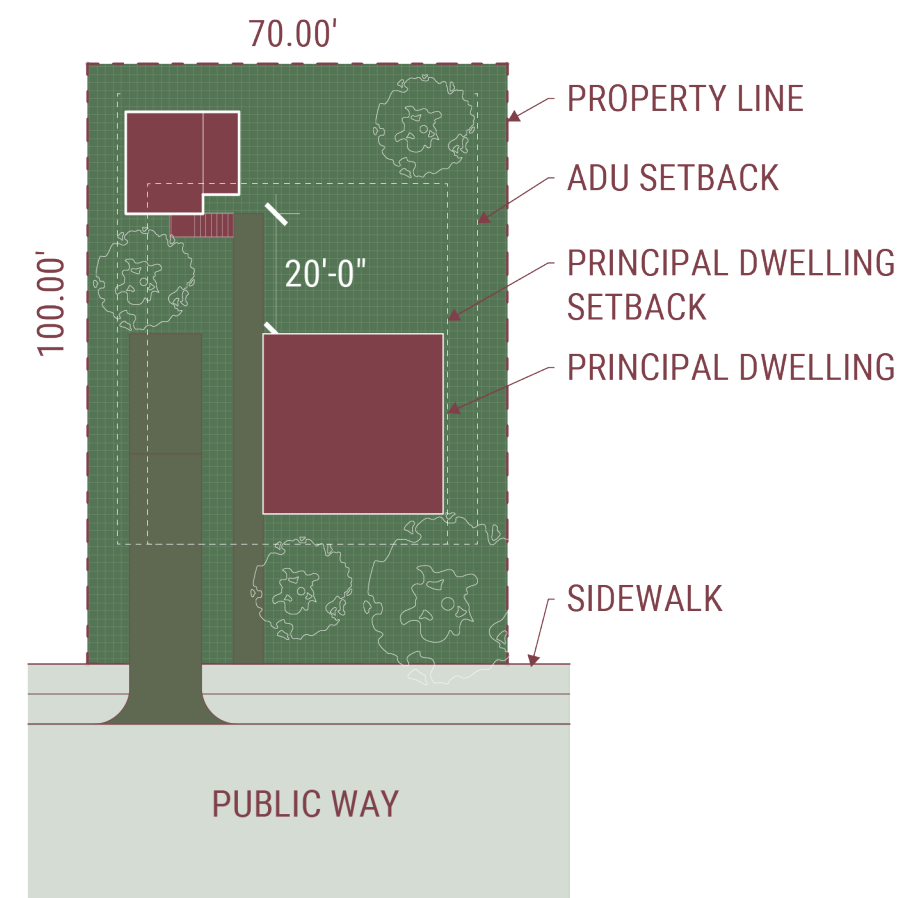
PLAN: MAIN FLOOR
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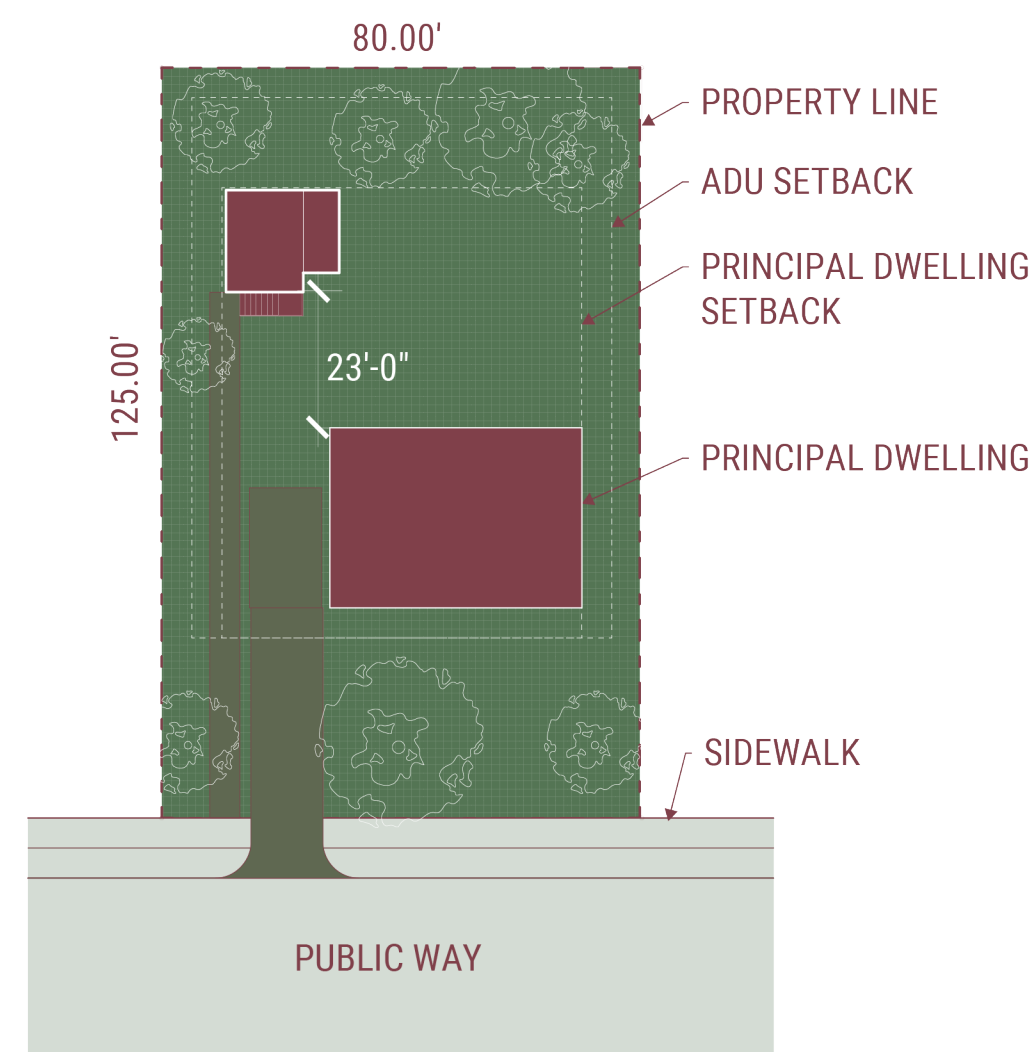
3,000 SF SITE



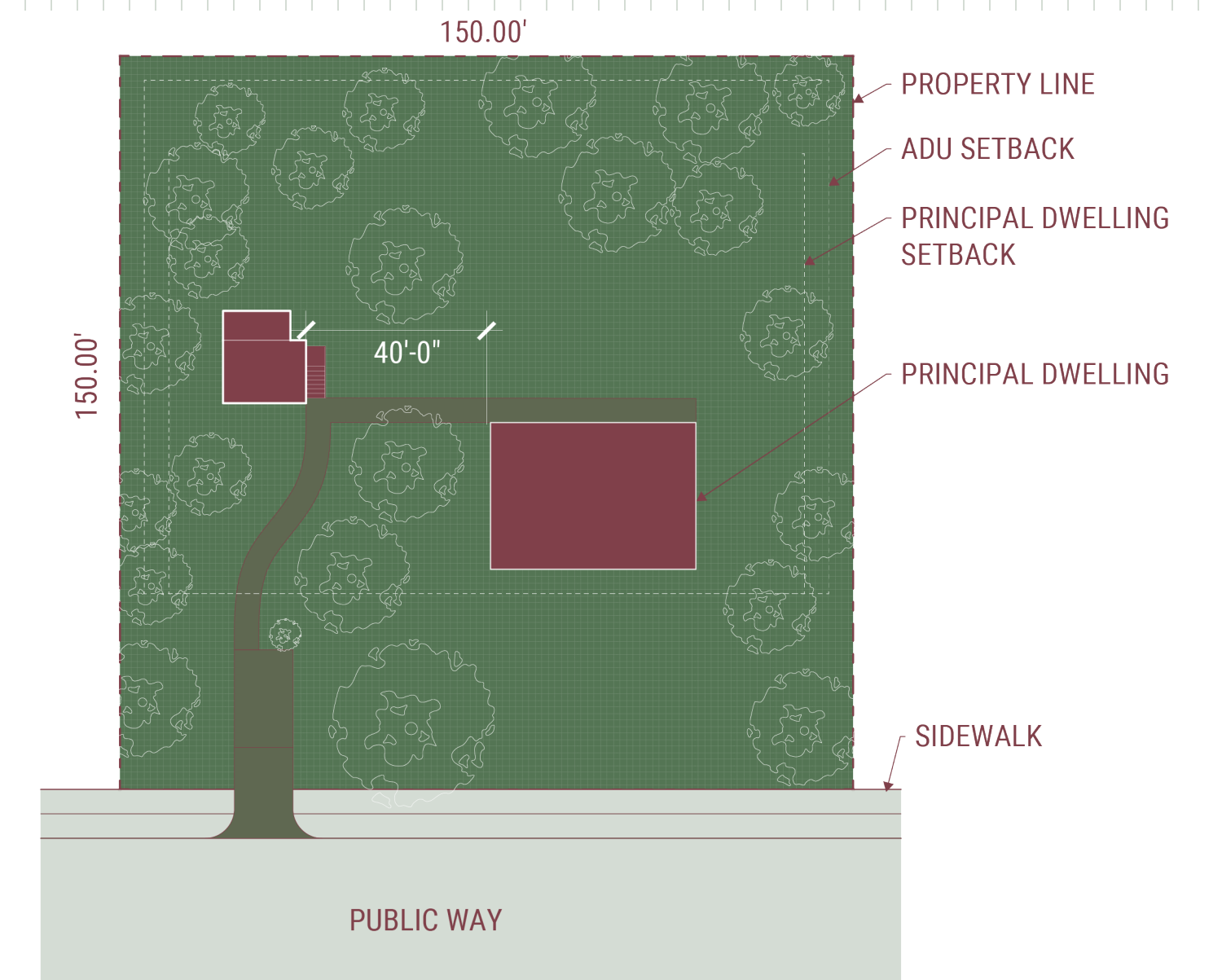
5,000 SF SITE



7,000 SF SITE



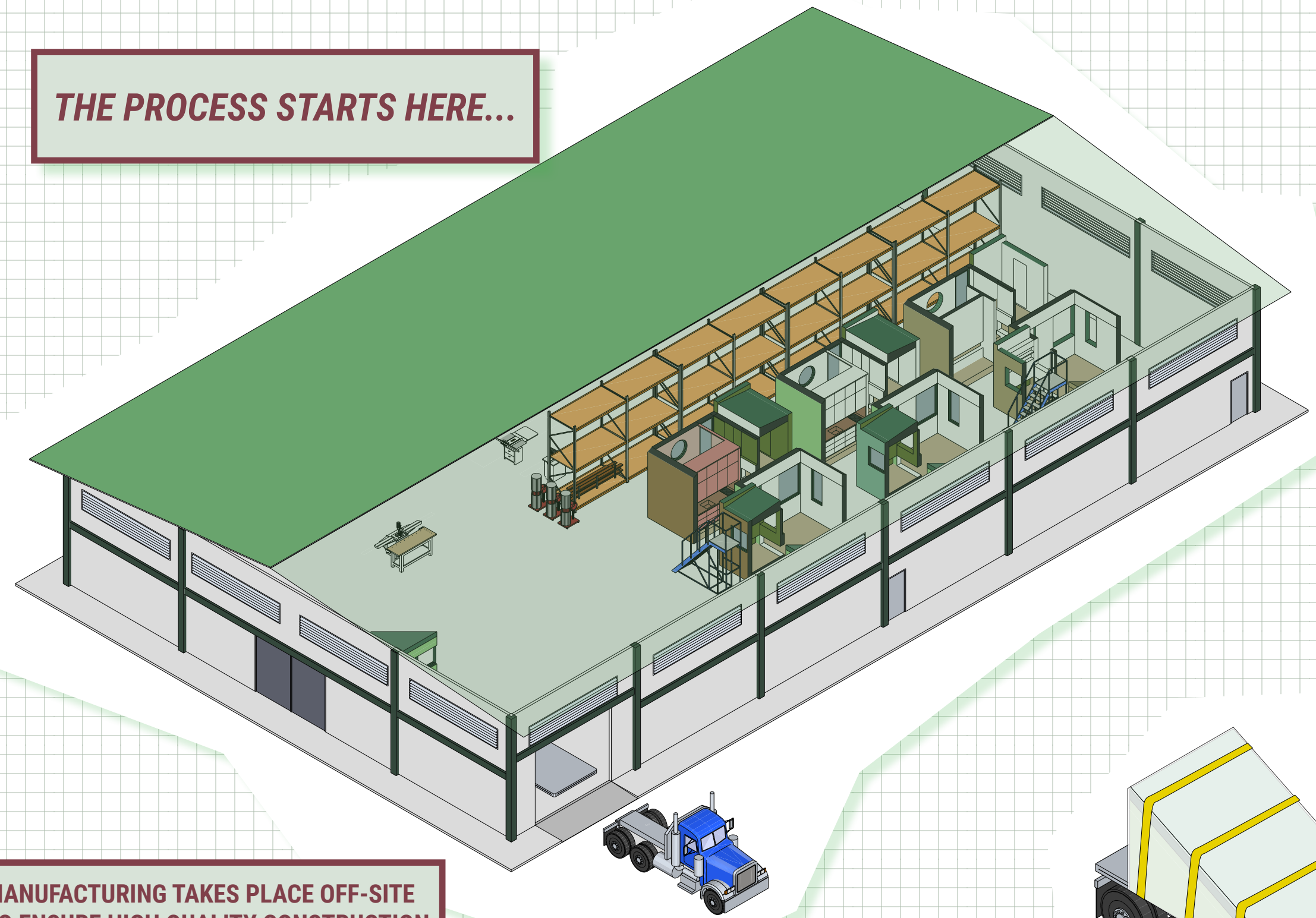
10,000 SF SITE



22,500 SF SITE

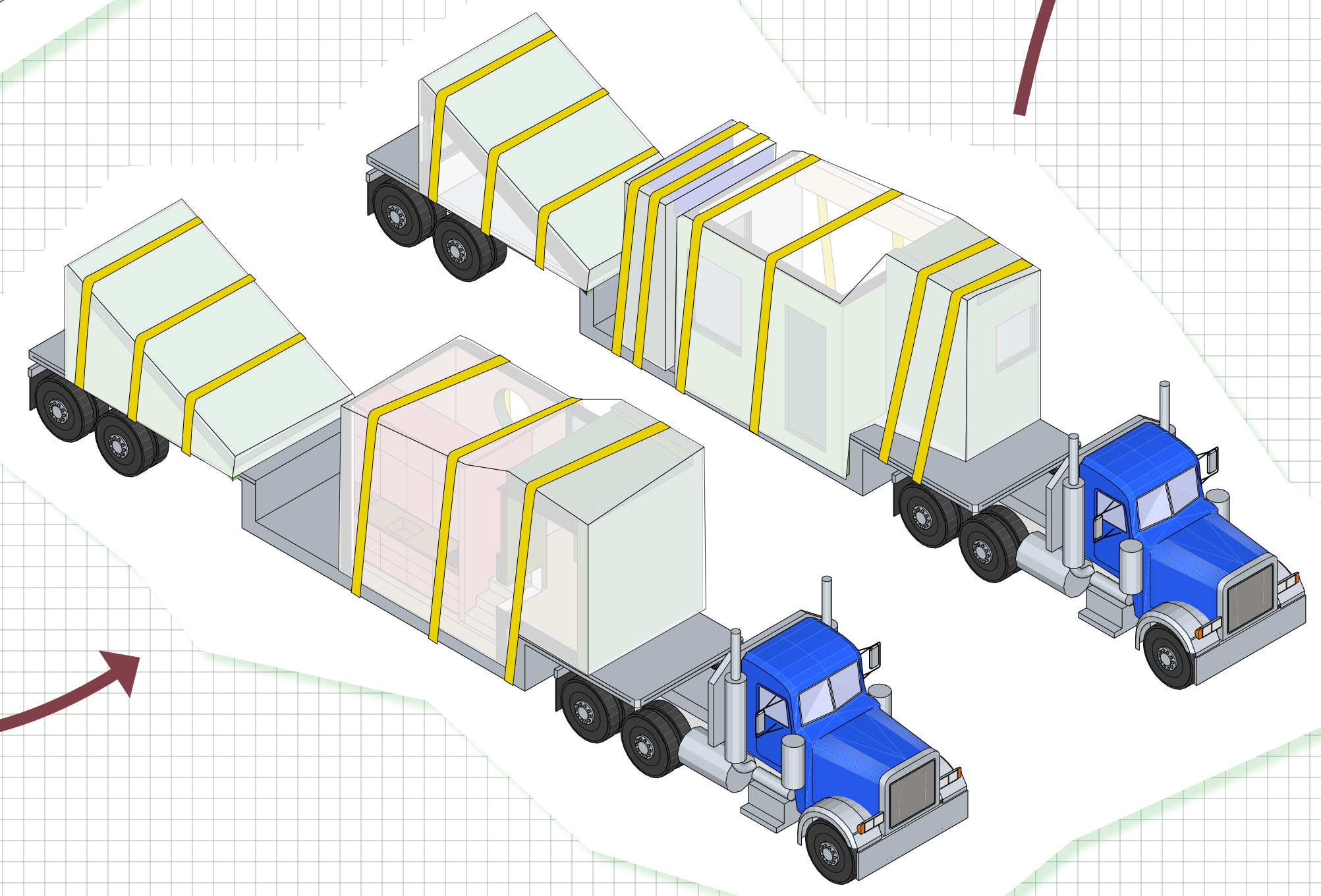
FITS ANY SIZE LOT!

THE PROCESS STARTS HERE...

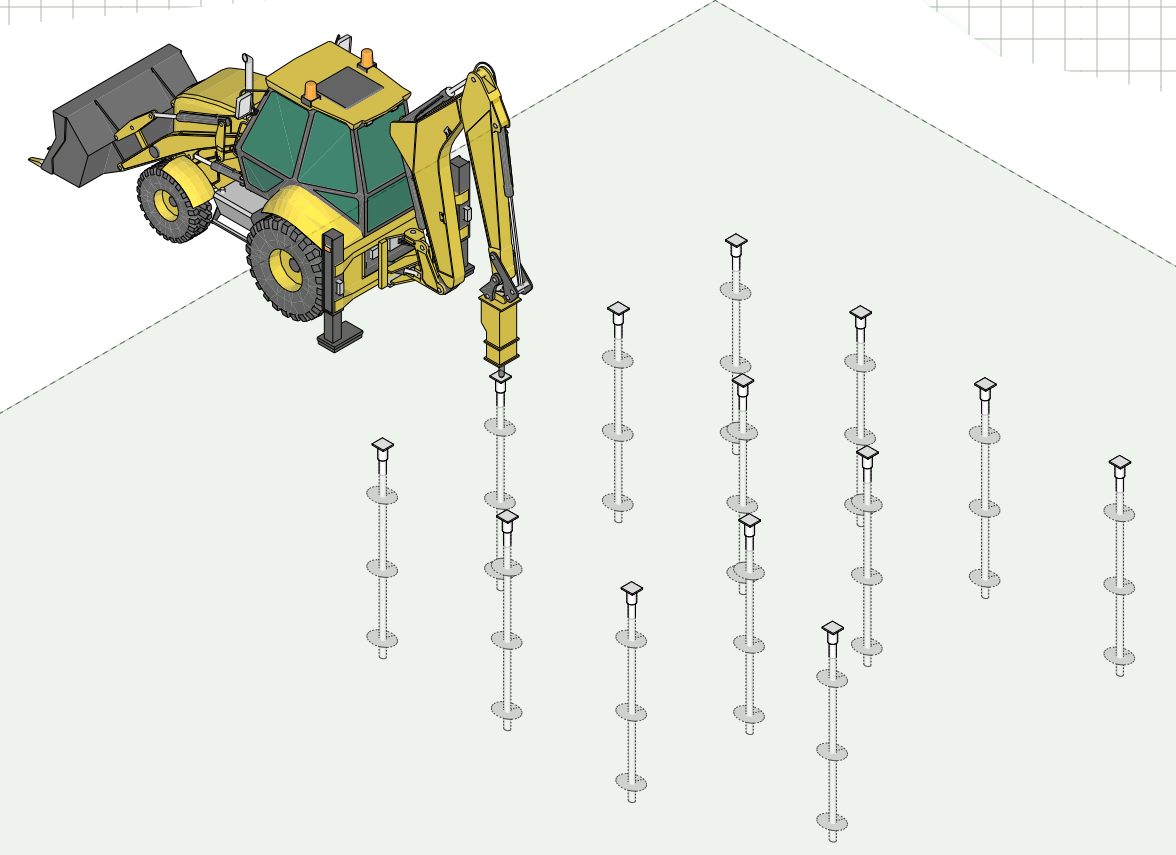


MANUFACTURING TAKES PLACE OFF-SITE TO ENSURE HIGH QUALITY CONSTRUCTION AND EFFICIENCY. INTEGRATING HANDS-ON EDUCATIONAL COMPONENTS HELPS BUILD THE CONSTRUCTION WORKFORCE!

ALL COMPONENTS OF THE ADU ARE DESIGNED TO FIT ON A STANDARD SEMI-TRUCK LOAD. PARTS CAN BE DELIVERED ANYWHERE IN THE STATE.

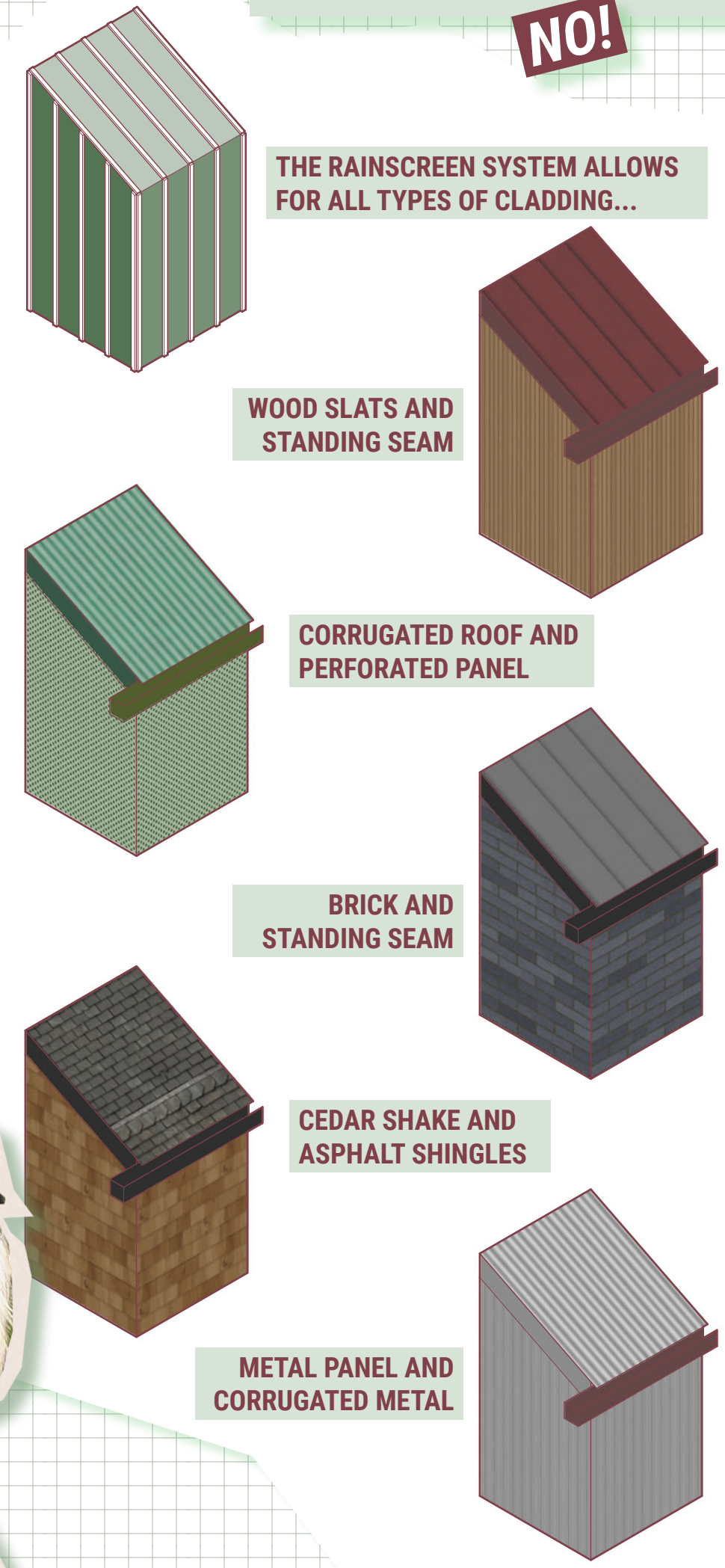


ON SITE, HELICAL PIERS ARE DRIVEN INTO THE GROUND TO SUPPORT THE INCOMING CONSTRUCTION PARTS. THESE PIERS REMOVE THE NEED FOR A CONCRETE SUB-CONTRACTOR, STREAMLINING THE CONSTRUCTION PROCESS



DOES IT HAVE TO LOOK LIKE THAT?

NO!



THE RAINSCREEN SYSTEM ALLOWS FOR ALL TYPES OF CLADDING...

WOOD SLATS AND STANDING SEAM

CORRUGATED ROOF AND PERFORATED PANEL

BRICK AND STANDING SEAM

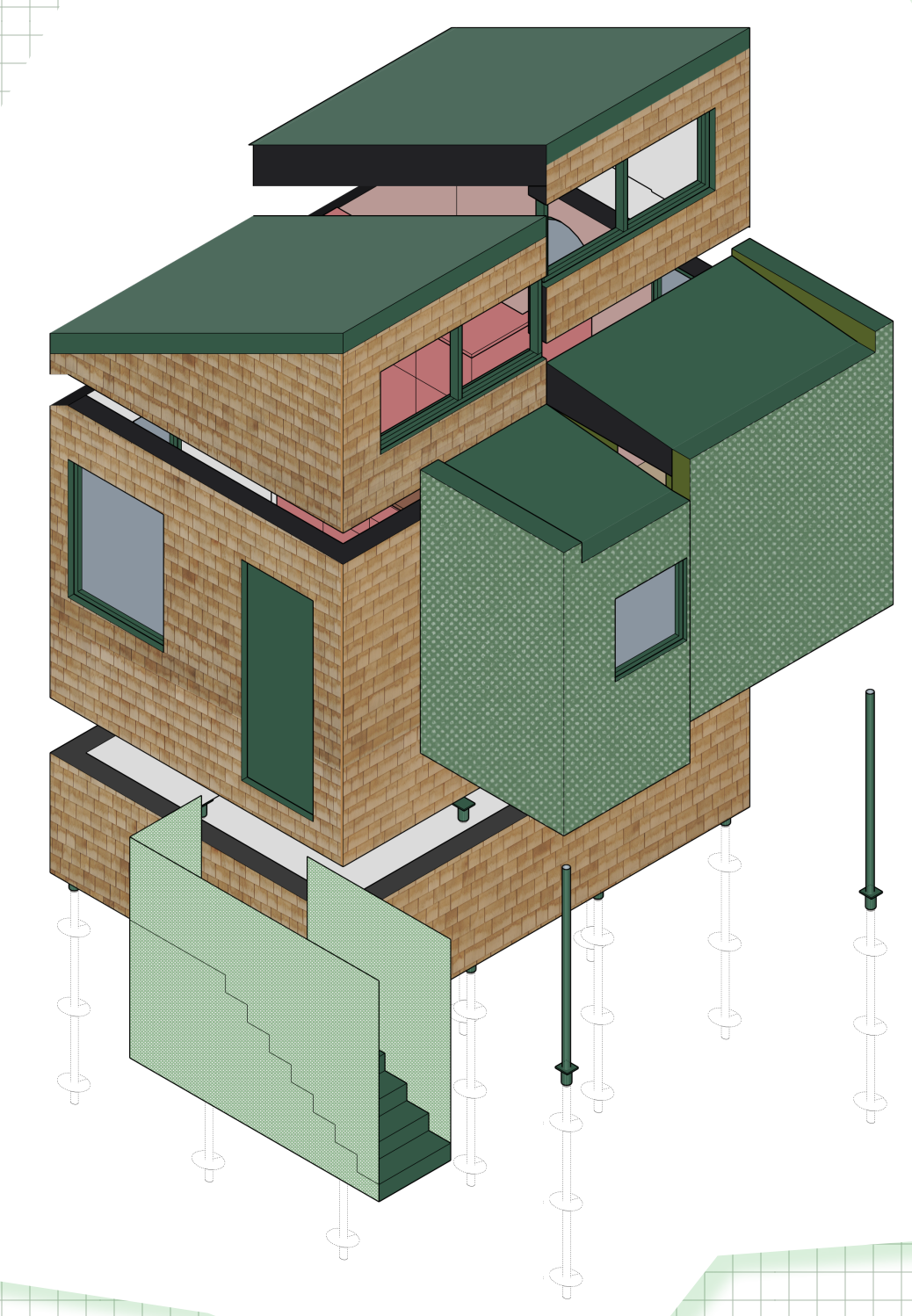
CEDAR SHAKE AND ASPHALT SHINGLES

METAL PANEL AND CORRUGATED METAL

ChickADU combines proven sustainable materials and methods to meet and exceed the Massachusetts Stretch Energy Code. Low GWP (Global Warming Potential) materials like cork flooring, and sustainably harvested wood cladding are paired with efficient, long-life materials like mineral batt insulation that balance the project's overall carbon impact. Alongside material sustainability, construction techniques including continuous insulation, advanced framing, and low-waste off-site manufacturing contribute to the ADU's low carbon footprint. 2x6 wood-framed walls and 2x12 floor and roof framing allow for higher insulation values throughout, hitting values of R-30 and R-50, respectively. The building is all-electric and EnergyStar specified, and, when paired with rooftop solar panels and a battery storage bank, decreases its dependence on fossil fuels. Building and resident health are prioritized as well, pairing a fresh-air circulator with low-VOC interiors to keep air clean and healthy.

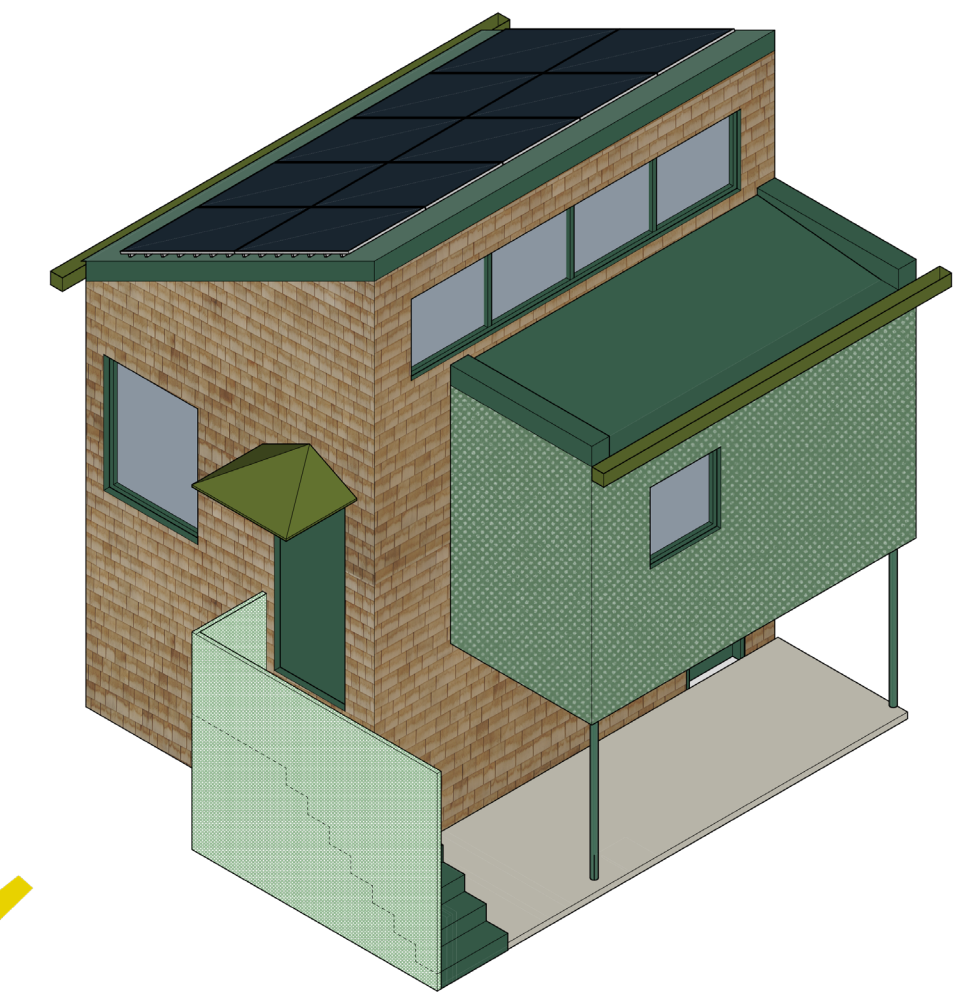
Constructability directs the design and implementation of ChickADU. The ADU is a modular, off-site manufactured building, designed to fit on a standard semi-truck trailer. Using a rainscreen, "perfect wall" system offers potential owners easily modified exterior cladding choices, opening up the market of buyers. Factory construction creates higher tolerance builds, as well as more efficient labor and material practices. The ADU foundation is a grid of helical piers, installed prior to the building's arrival. This innovation removes concrete from the project, bringing two major benefits: labor savings through the removal of a full trade and significant GWP reductions. By streamlining material types, dimensions, and trade requirements, costs are cut, and savings are passed on to homeowners.

We believe that sustainability is not just of the building, but of the industry. ChickADU envisions a sustainable building practice that creates a permanent workforce development program, teaching new workers trade skills that strengthen the Massachusetts Construction Industry. An easily replicable product that contains green building techniques, advanced material usage, and simple but beautiful details will push the construction industry forward, solidifying it as a robust, healthy industry for young professionals to enter.

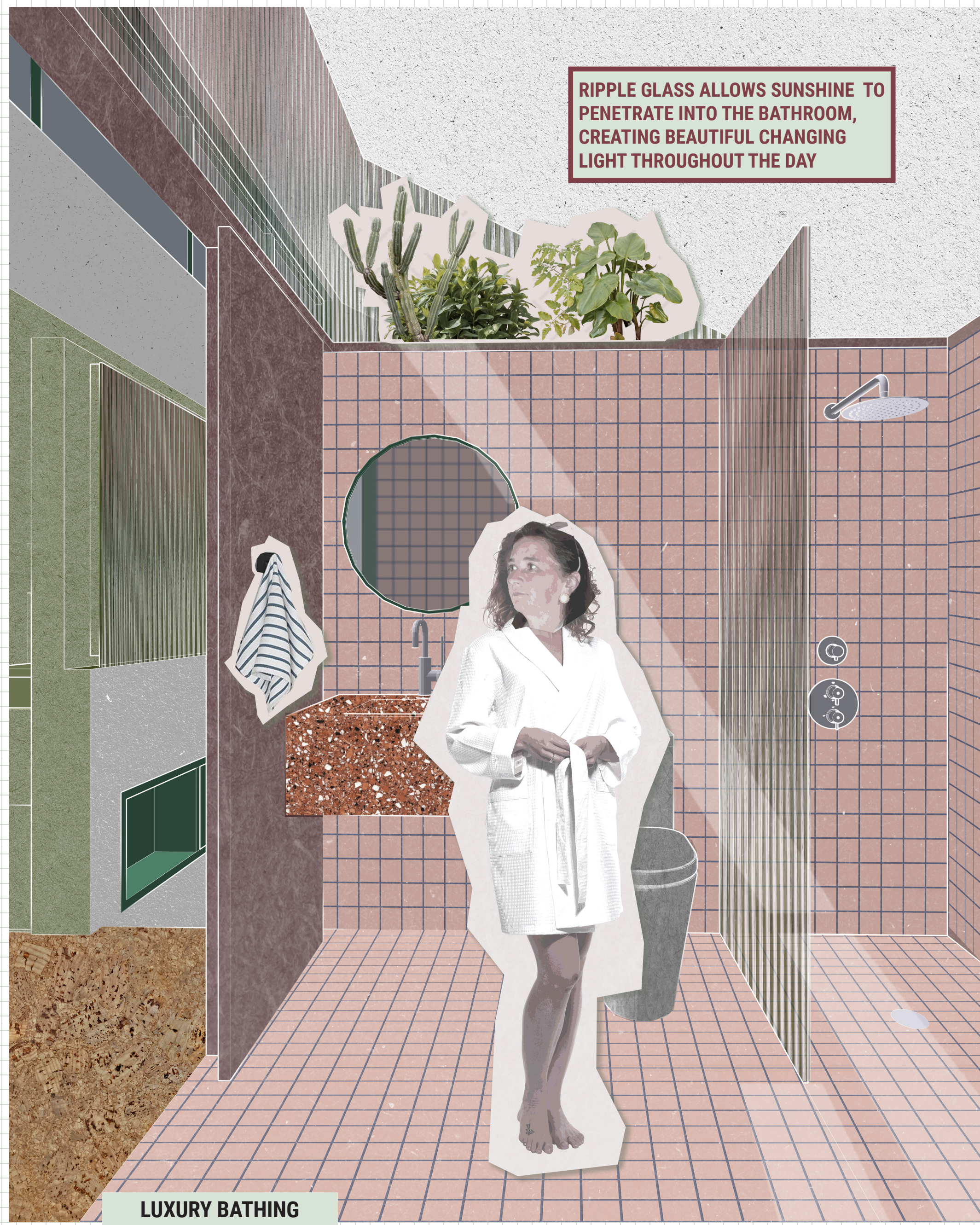


EACH PART IS LIFTED AND ASSEMBLED ON SITE IN A SINGLE DAY. AIR AND WATER TIGHTNESS IS CREATED WITH THE ZIP-R INTEGRATED SHEATHING, QUICKLY DRYING IN THE STRUCTURE.

LOOK AT THAT! YOUR ADU IS READY IN RECORD TIME DUE TO THE HIGH EFFICIENCY MATERIAL AND CONSTRUCTION SYSTEMS USED TO DECREASE WASTE, INCREASE SUSTAINABILITY, AND STREAMLINE LABOR REQUIREMENTS.



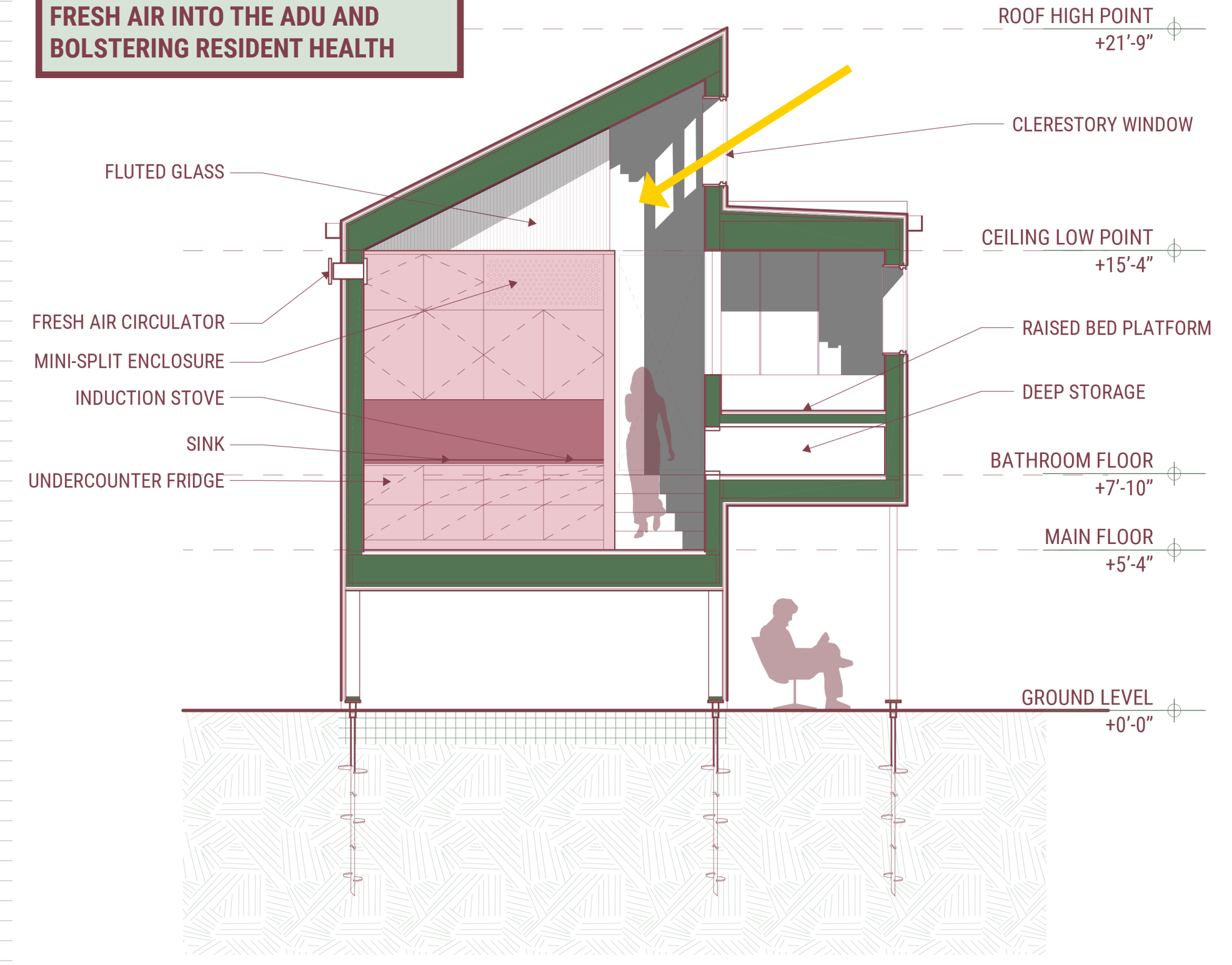
RIPPLE GLASS ALLOWS SUNSHINE TO PENETRATE INTO THE BATHROOM, CREATING BEAUTIFUL CHANGING LIGHT THROUGHOUT THE DAY



LUXURY BATHING IN A COMPACT ADU

SOUTH FACING CLERESTORY WINDOWS ALLOW LOTS OF LIGHT TO ENTER WHILE PRIORITIZING PRIVACY FROM THE PRIMARY RESIDENCE

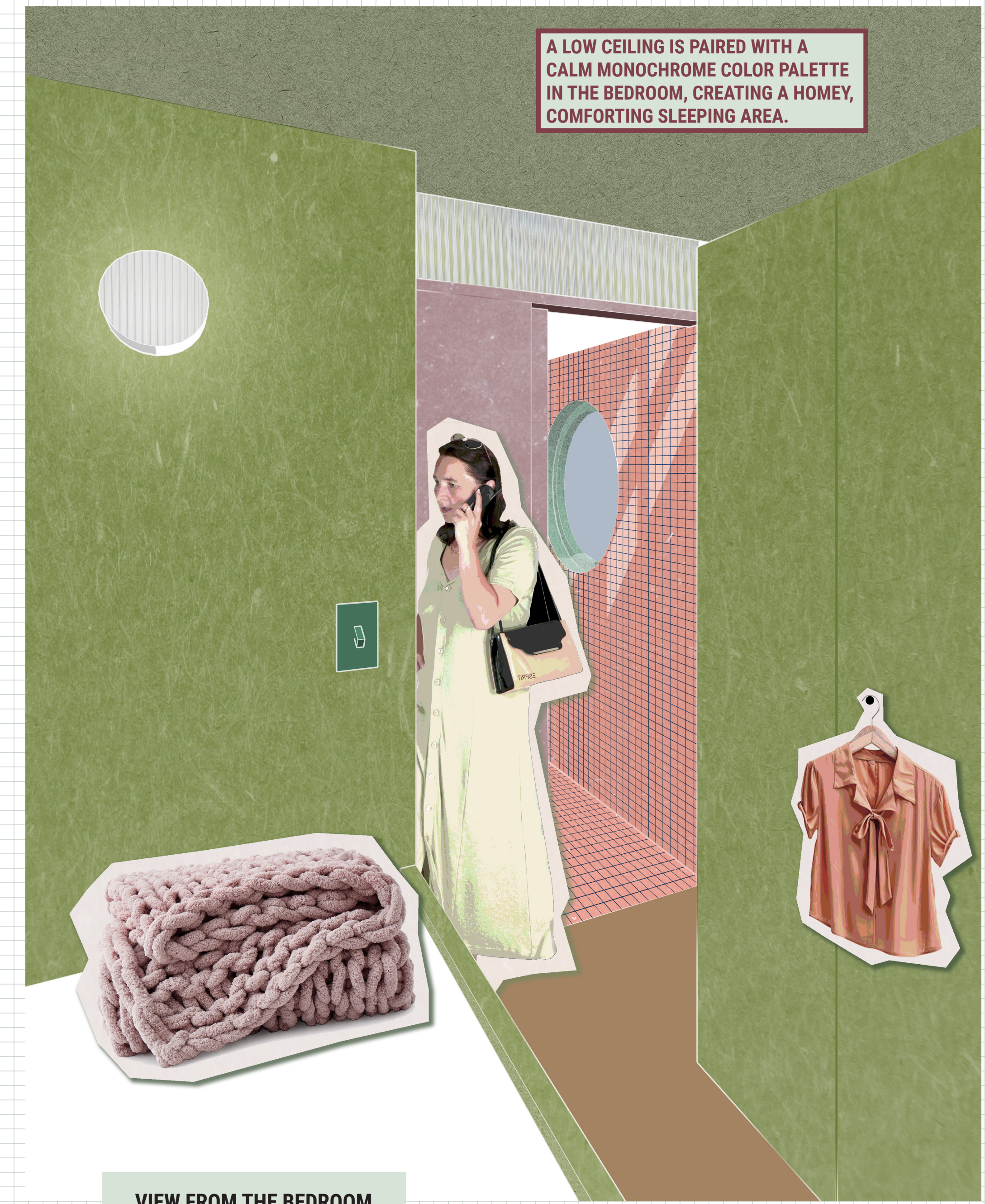
ACTIVE AIR EXCHANGERS PROMOTE HEALTHY AIR QUALITY, BRINGING FRESH AIR INTO THE ADU AND BOLSTERING RESIDENT HEALTH



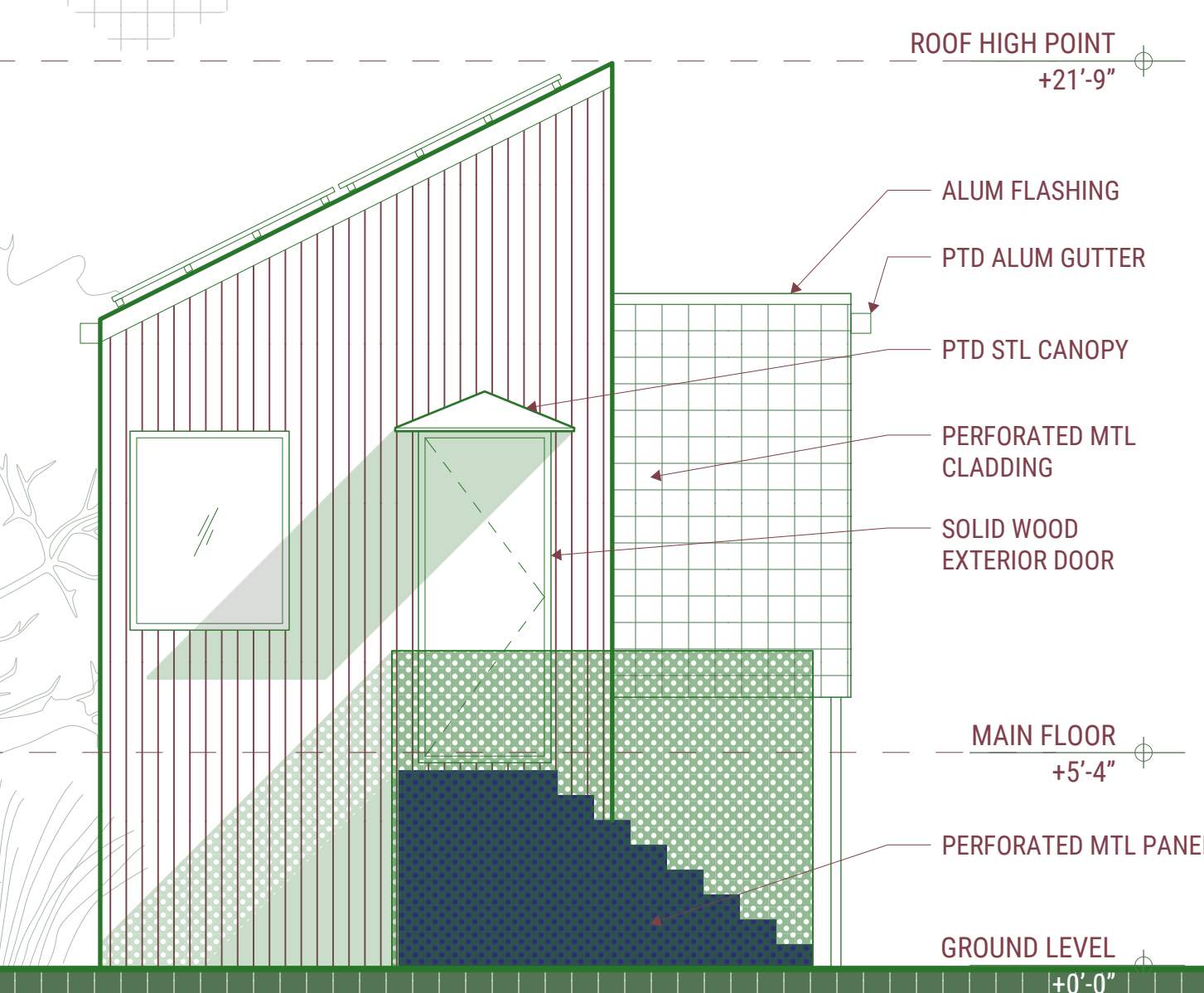
BUILDING SECTION
1/4" = 1'-0"

EXTERIOR ELEVATIONS ARE RENDERED ABSTRACTLY, ALLOWING YOU TO IMAGINE THE MANY POSSIBLE MATERIAL PALETTES THAT CAN CLAD THE ChickADU!

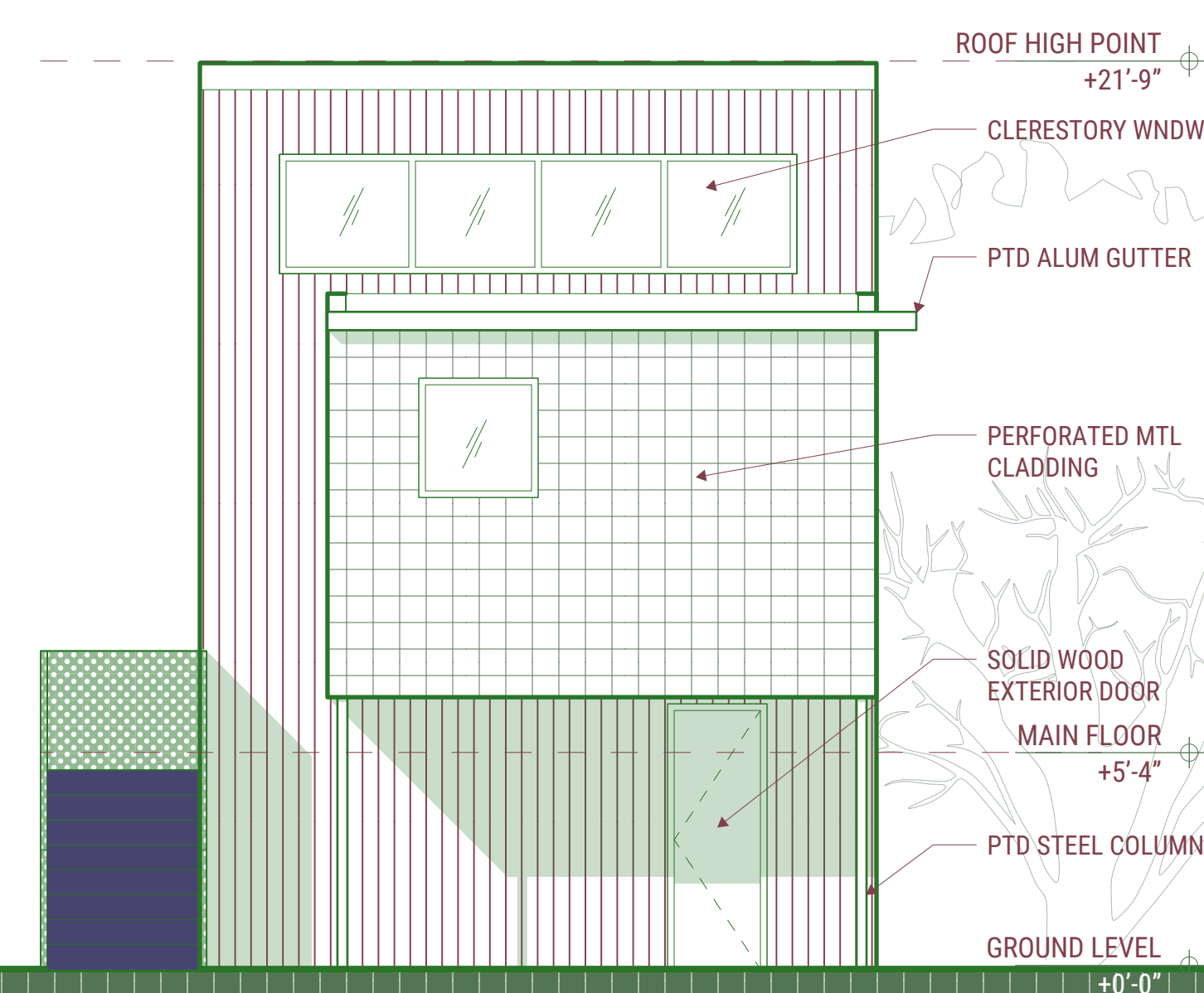
A LOW CEILING IS PAIRED WITH A CALM MONOCHROME COLOR PALETTE IN THE BEDROOM, CREATING A HOMEY, COMFORTING SLEEPING AREA.



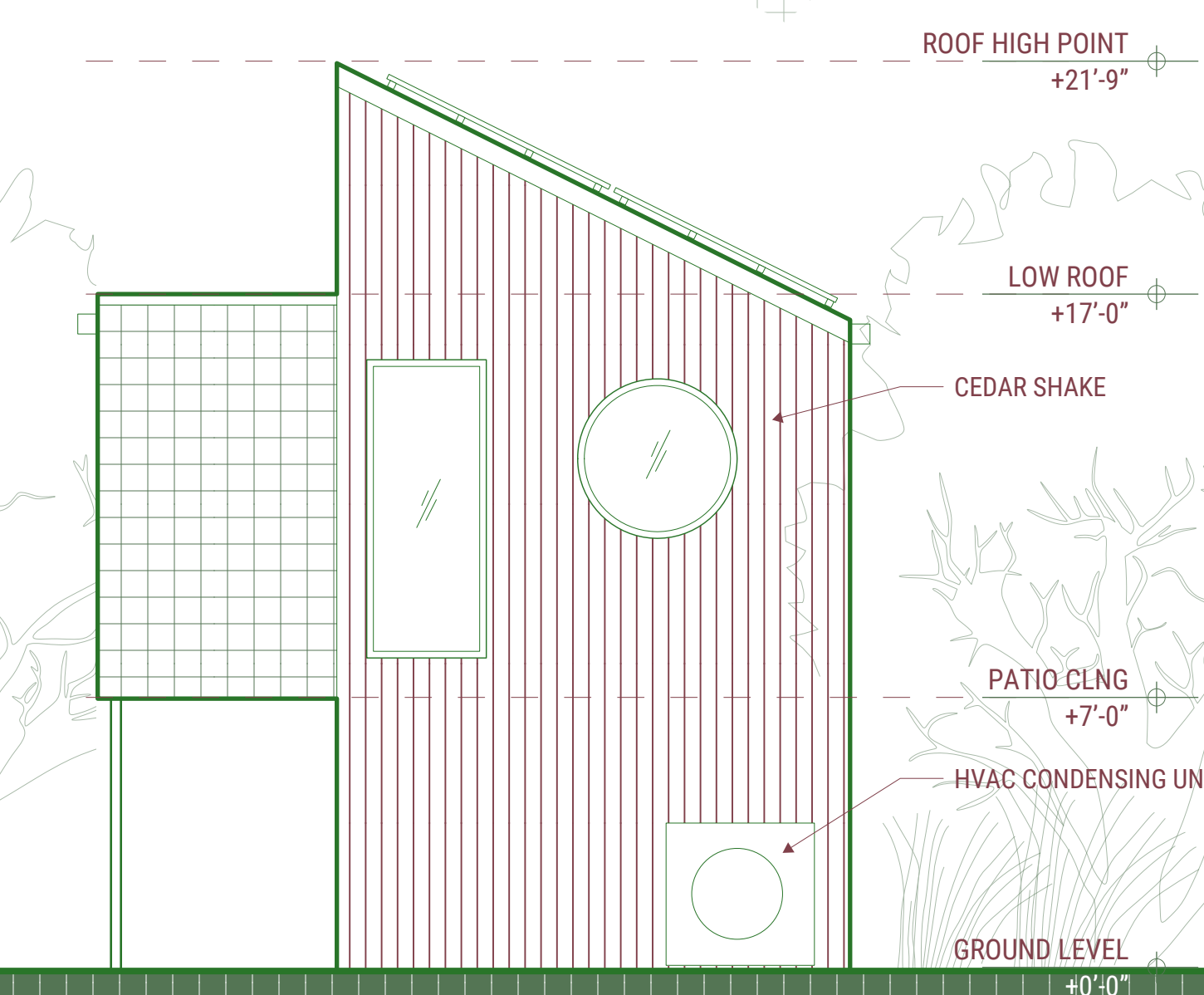
VIEW FROM THE BEDROOM



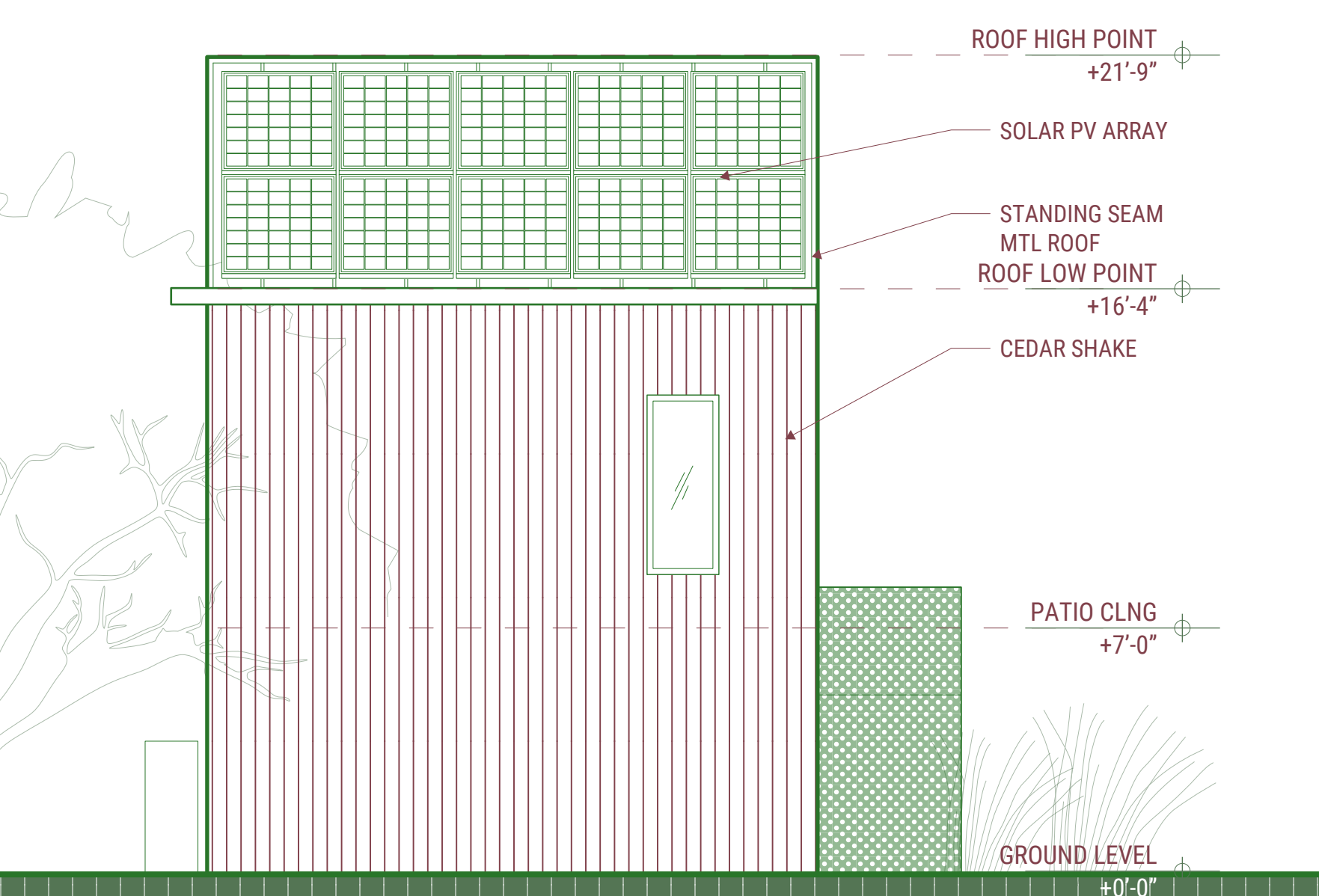
ELEVATION : WEST
1/4" = 1'-0"



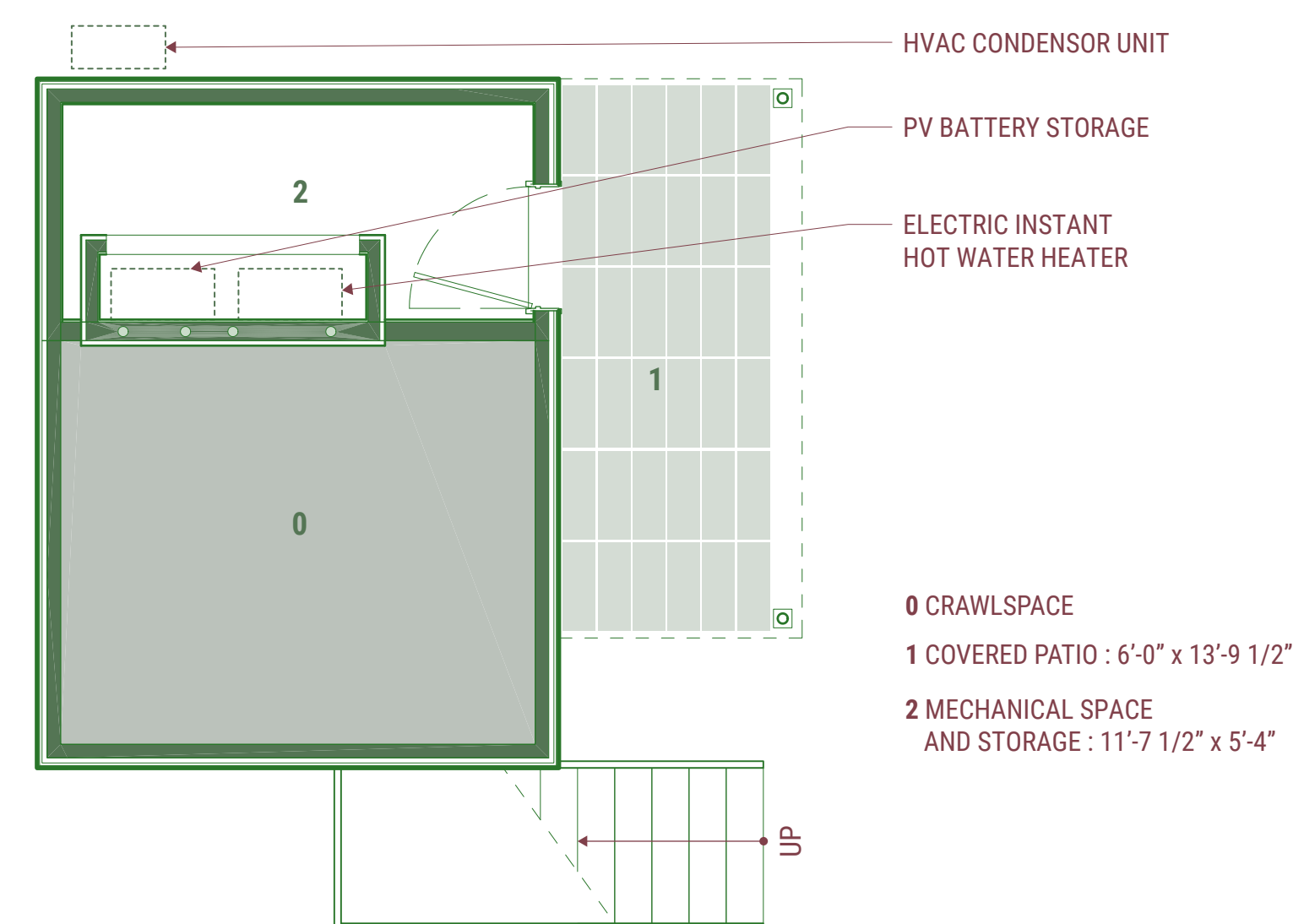
ELEVATION : SOUTH
1/4" = 1'-0"

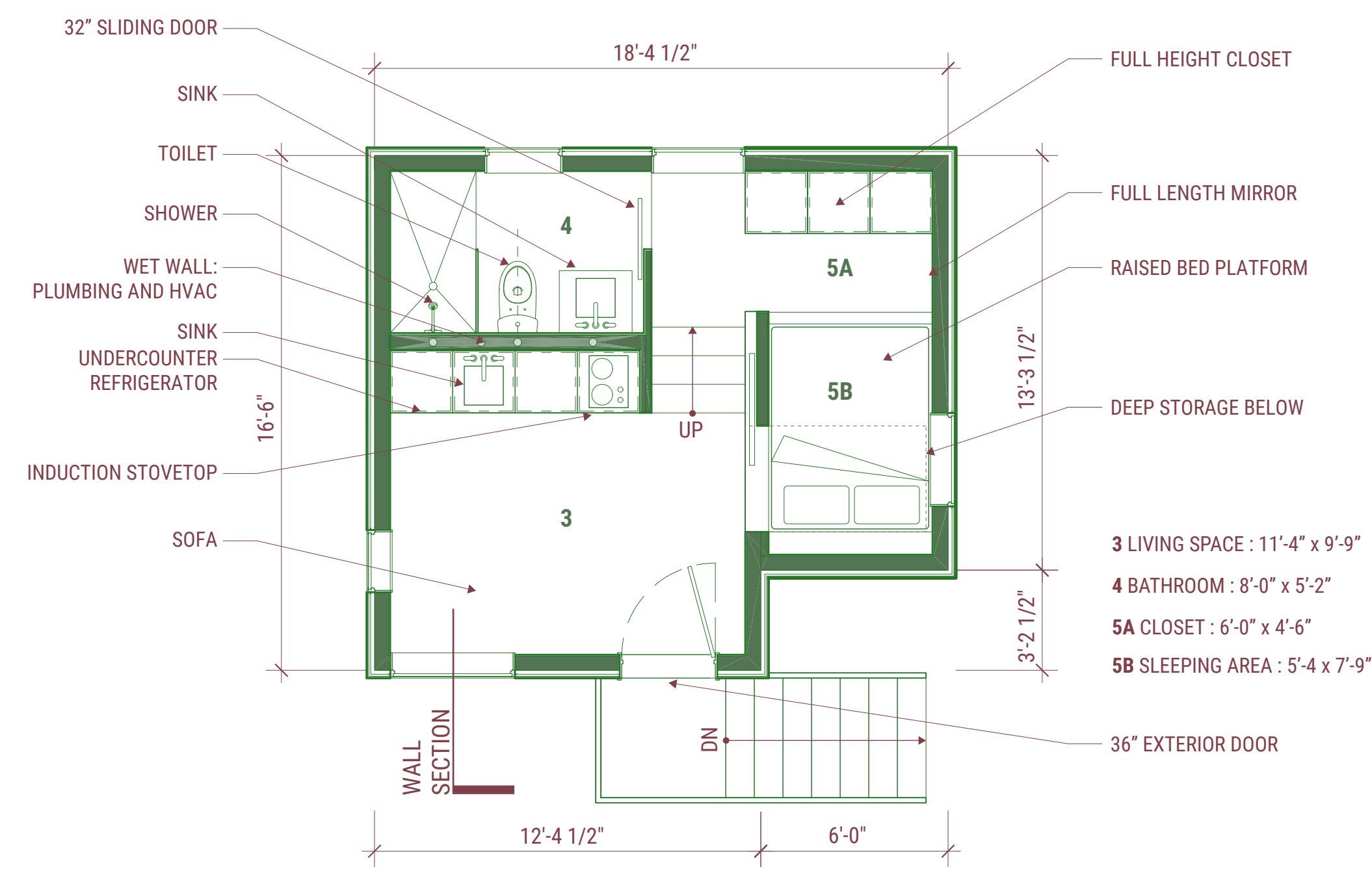


ELEVATION : EAST
1/4" = 1'-0"

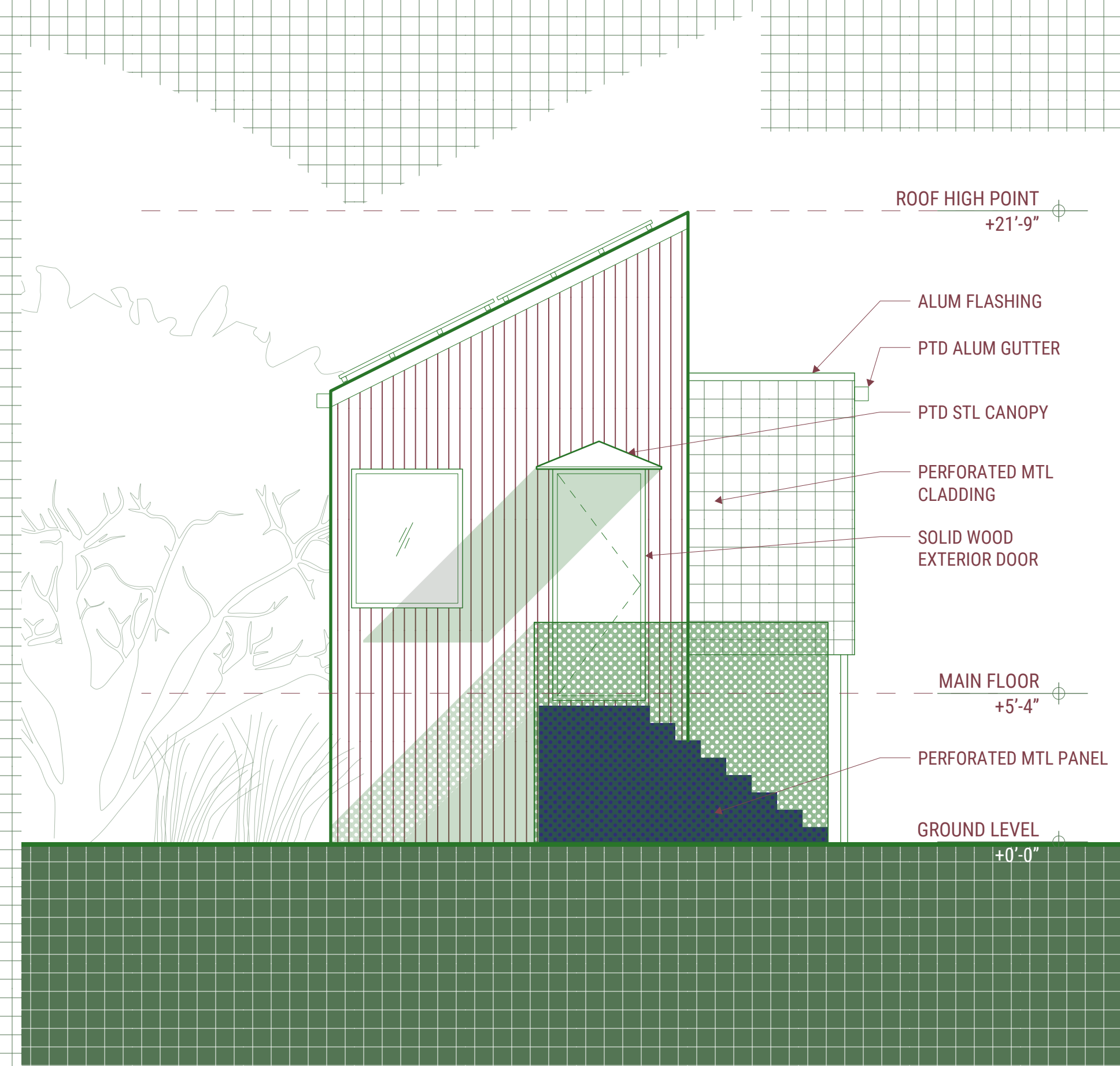


ELEVATION : NORTH
1/4" = 1'-0"

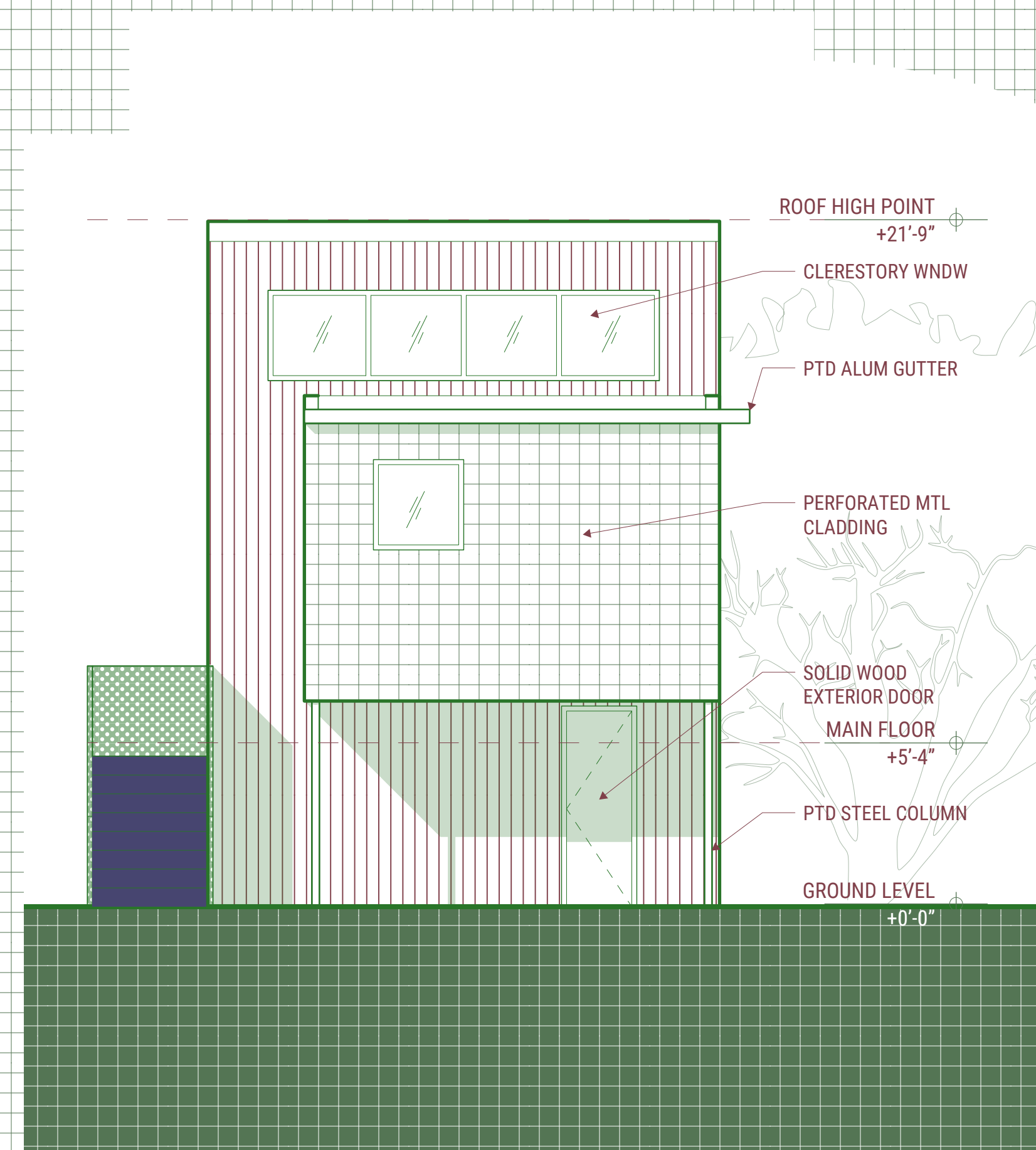


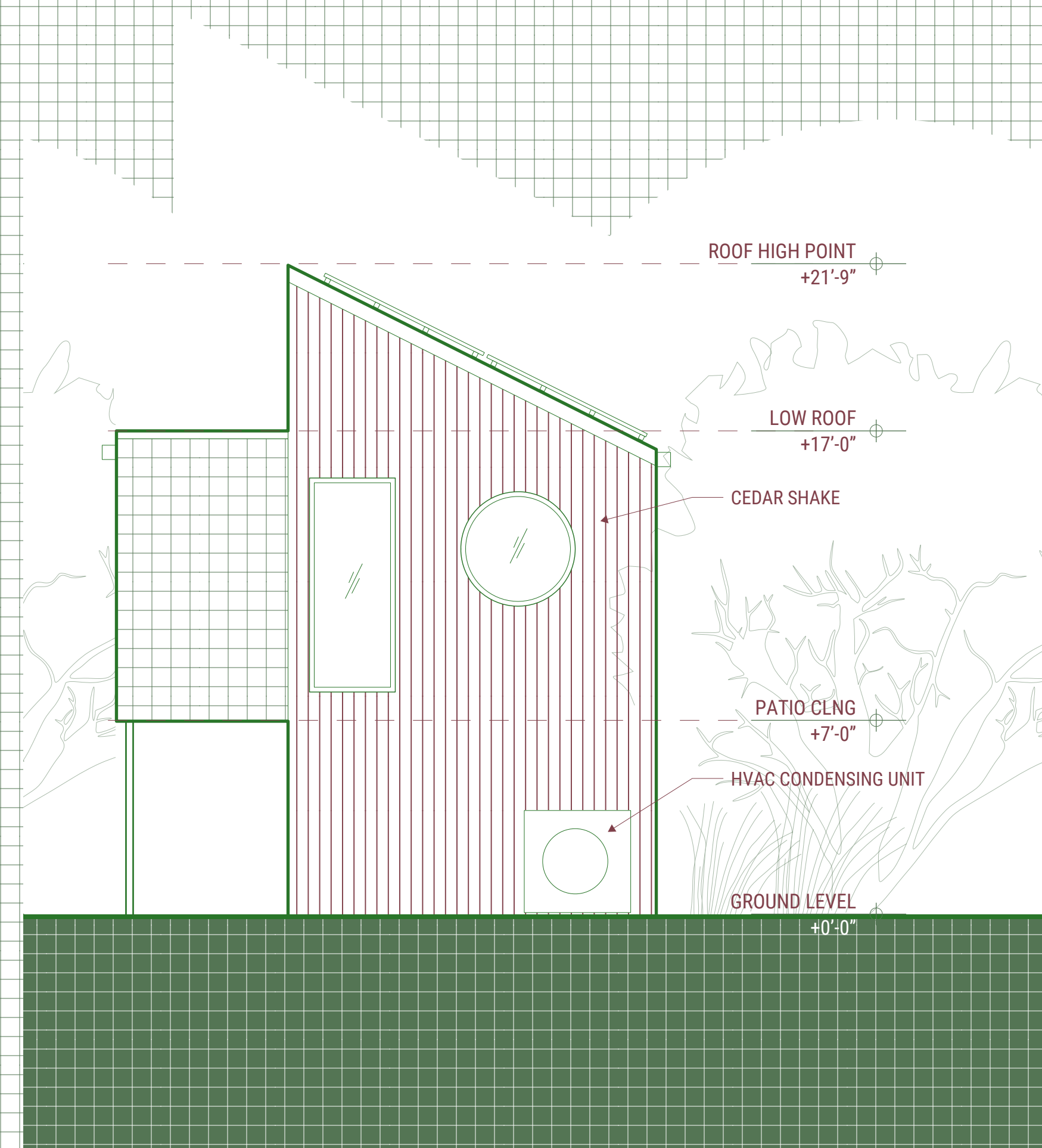


PLAN: MAIN FLOOR
1/4" = 1'-0"

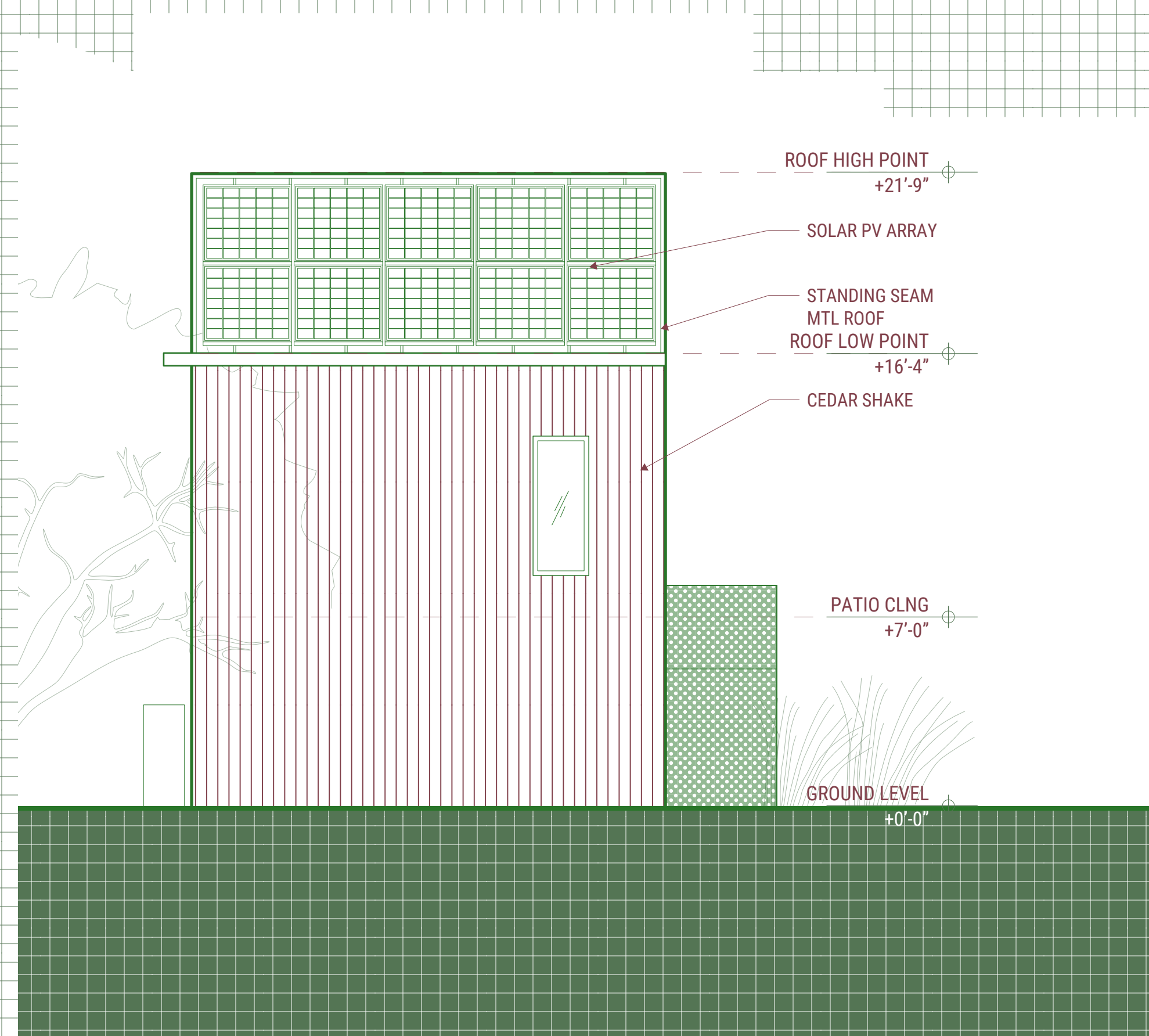


EXTERIOR ELEVATION: WEST
1/4" = 1'-0"

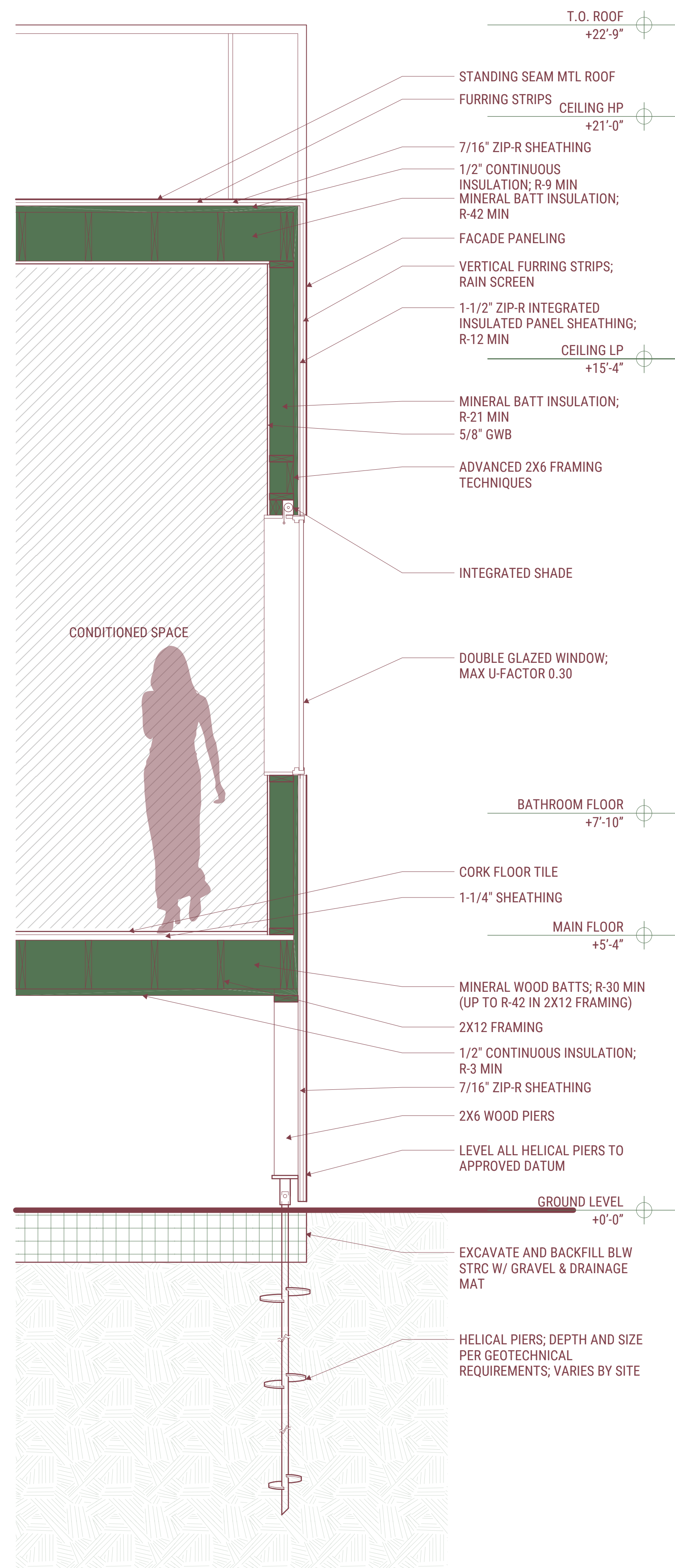




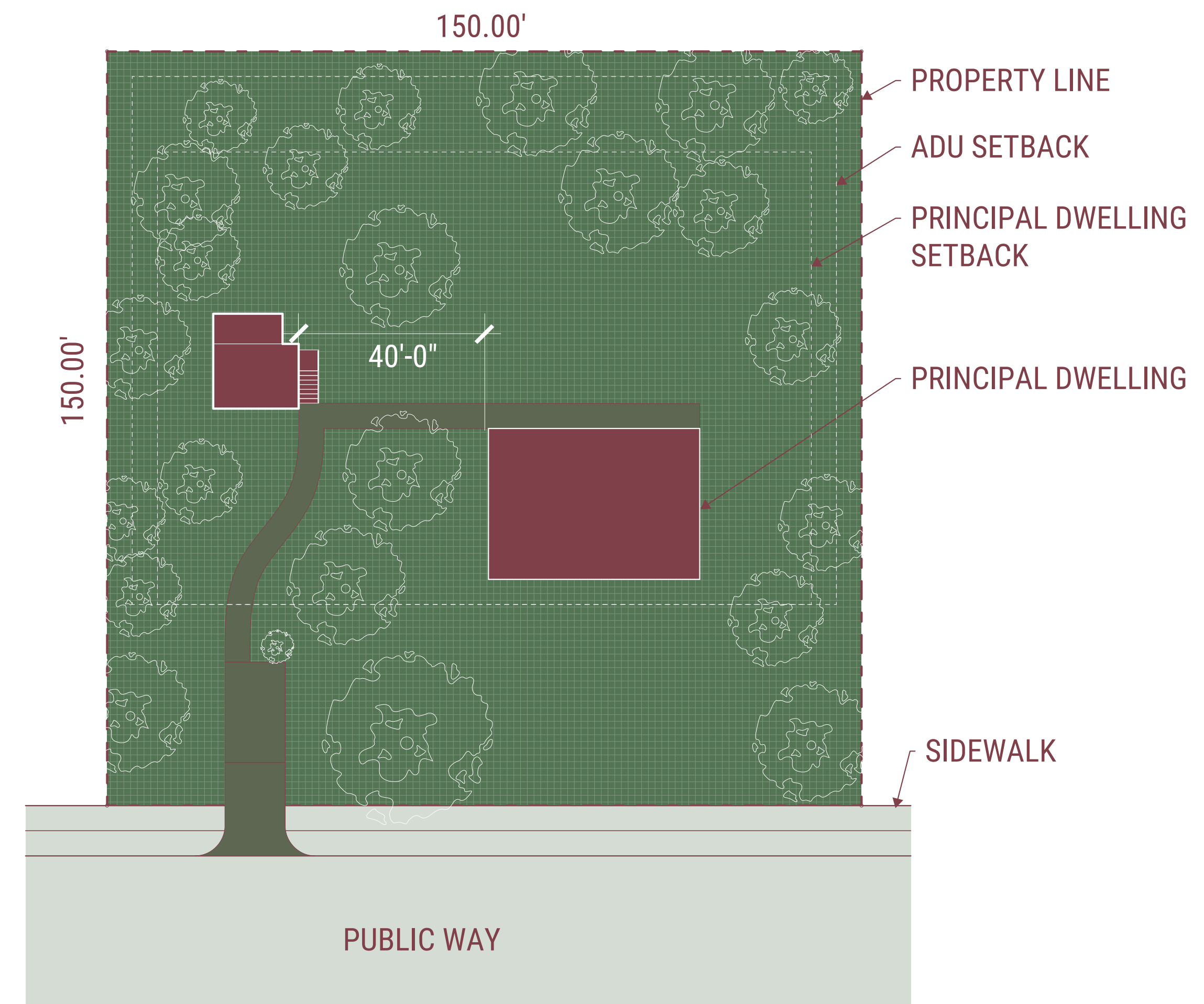
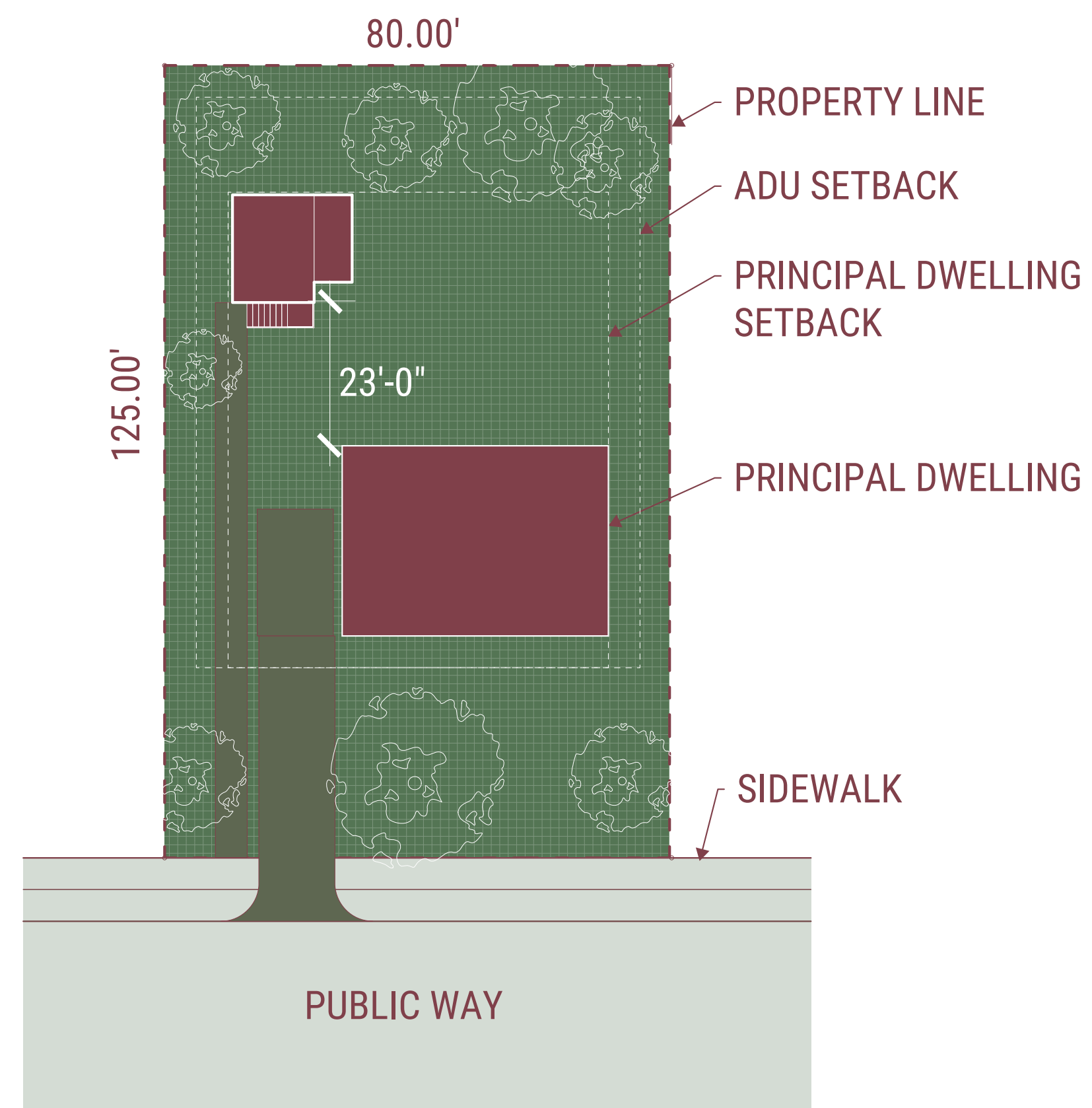
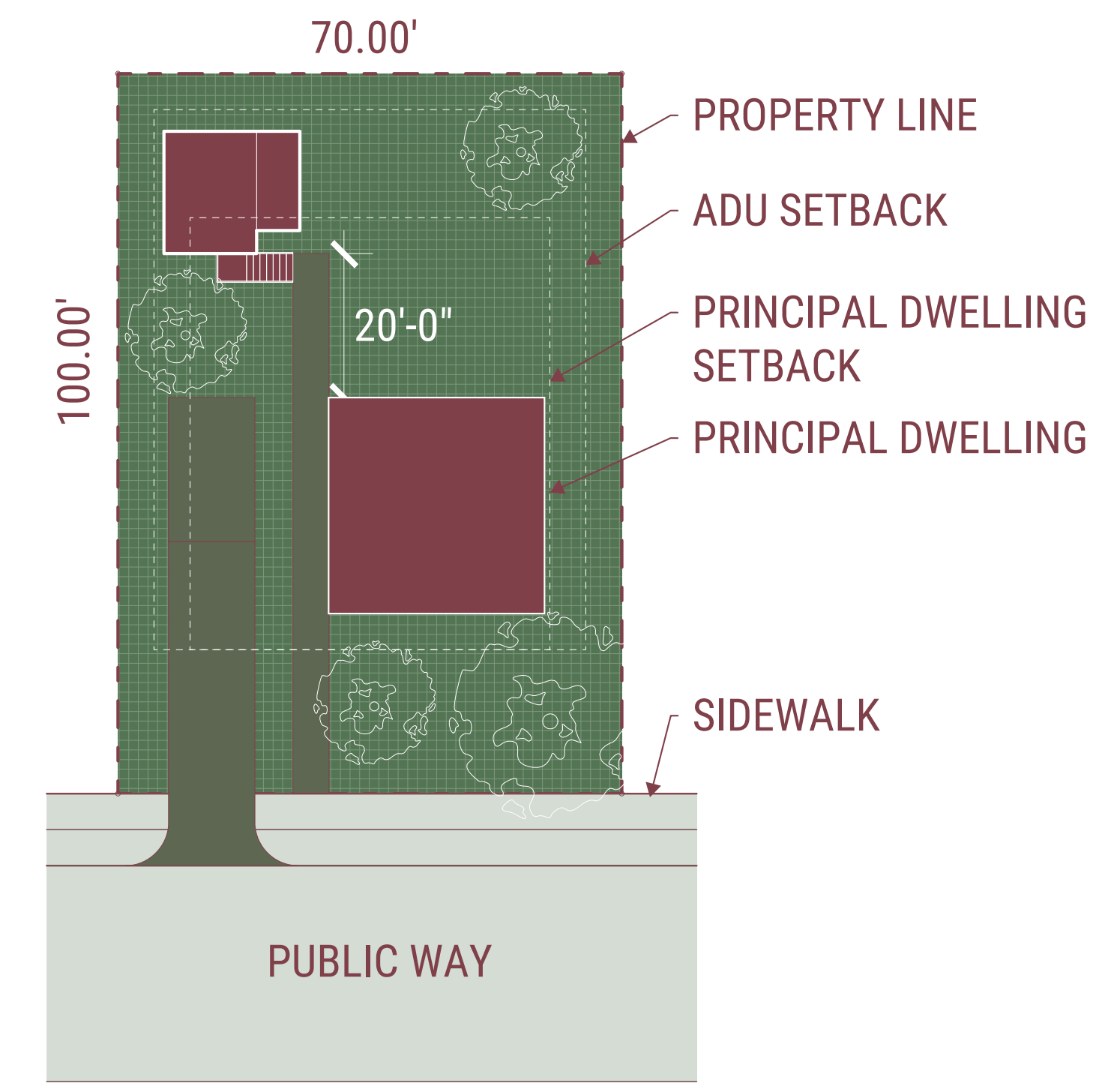
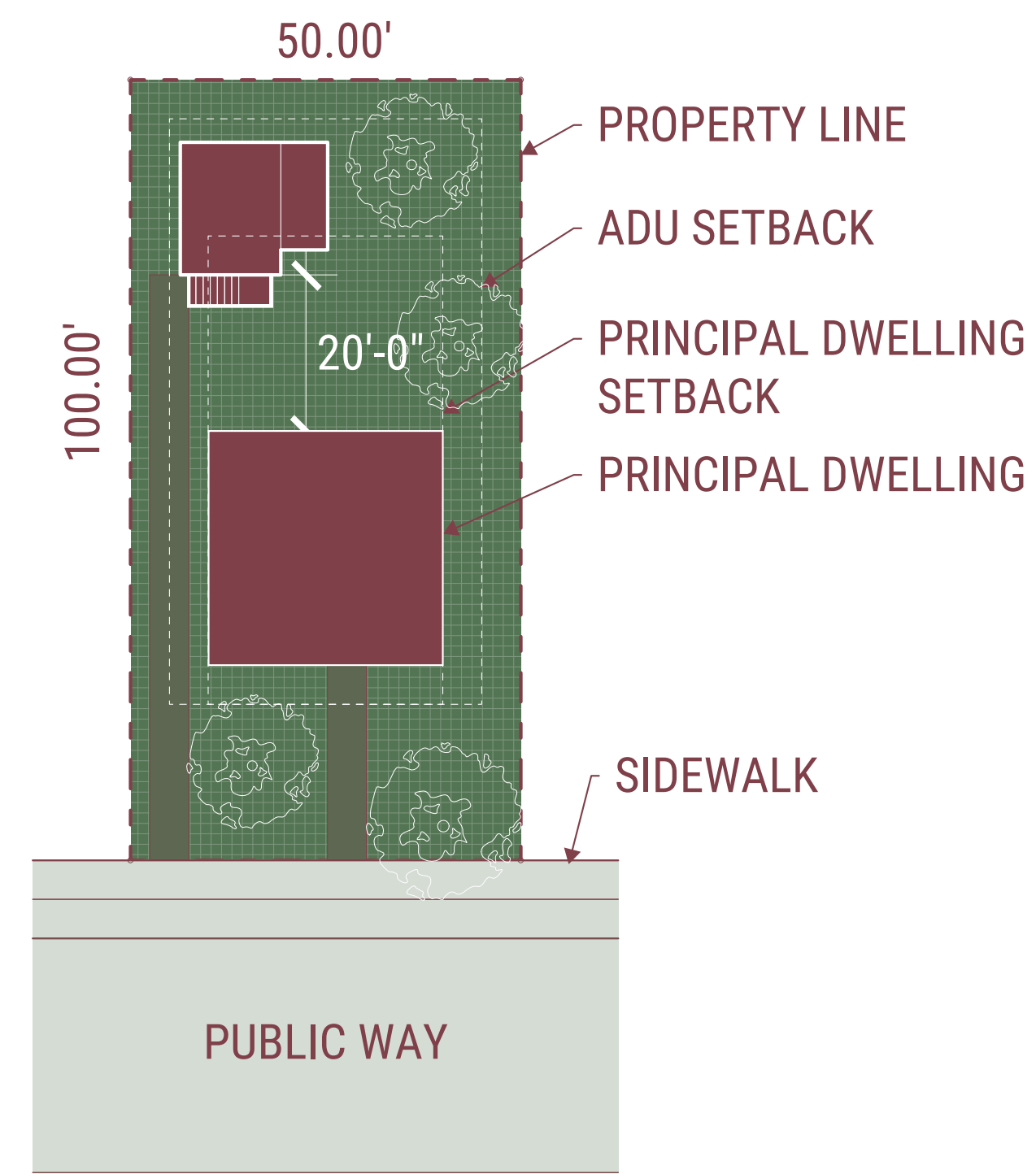
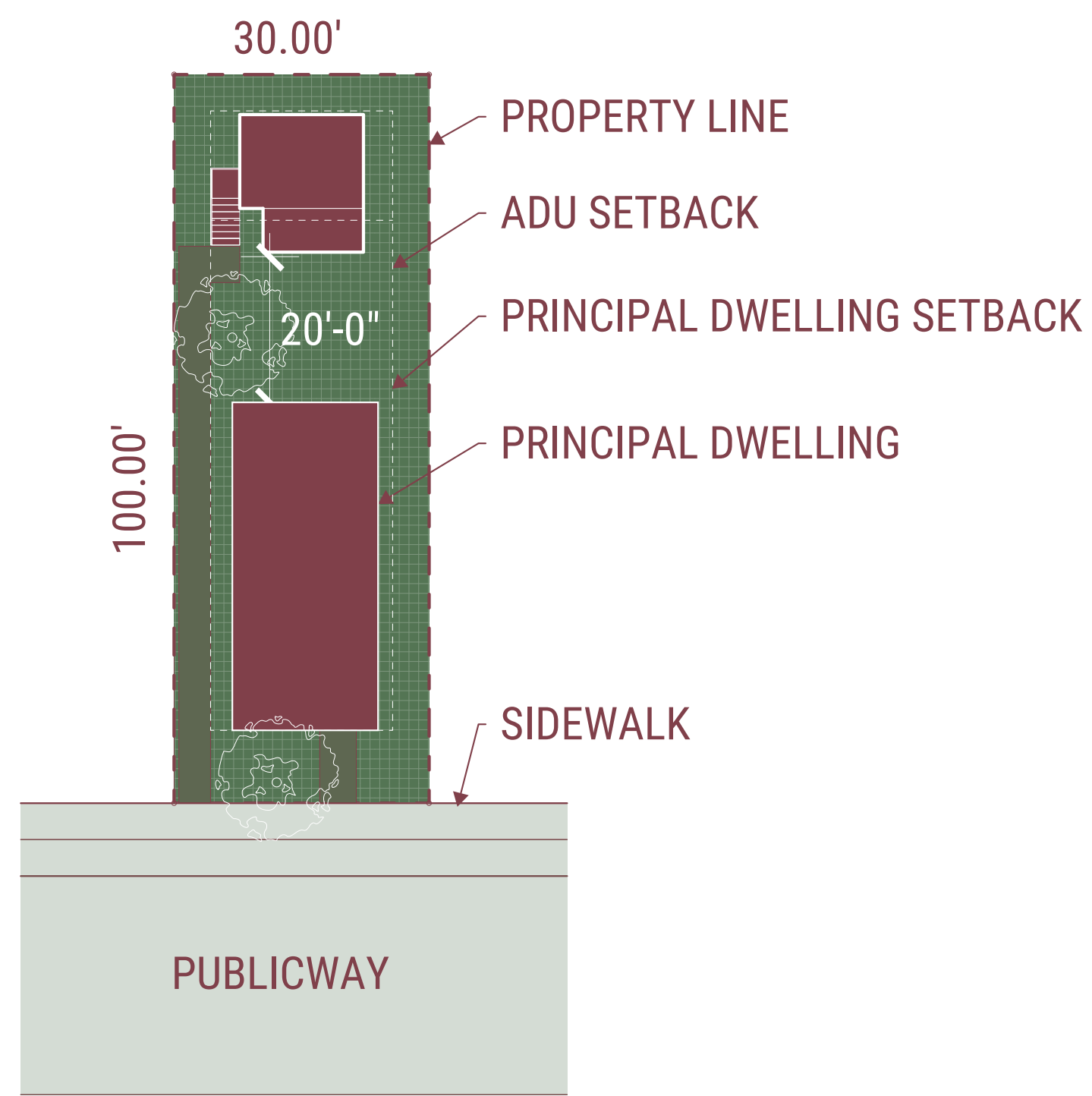
EXTERIOR ELEVATION: EAST
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EXTERIOR ELEVATION: NORTH
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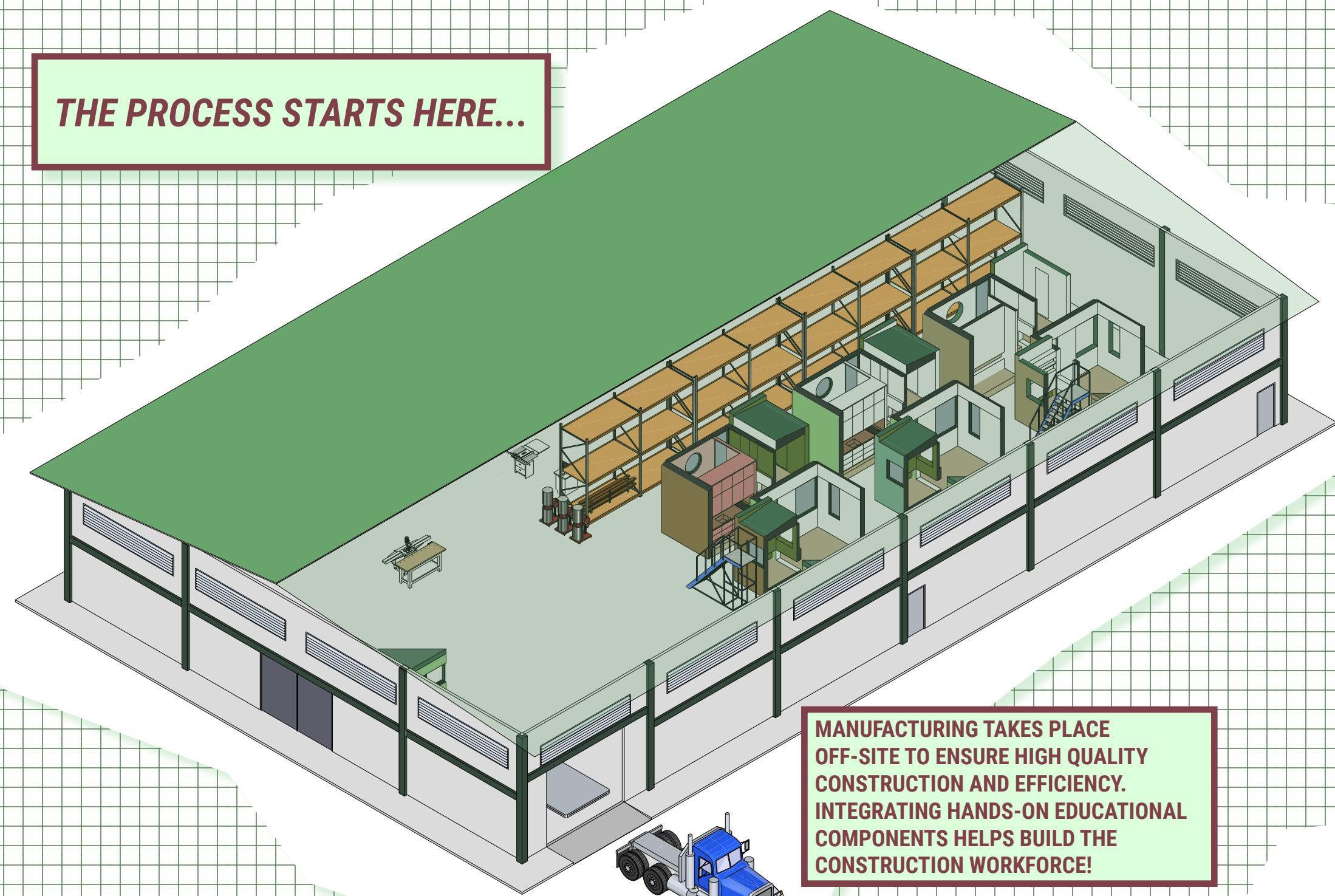
WALL SECTION
1-1/2" = 1'-0"





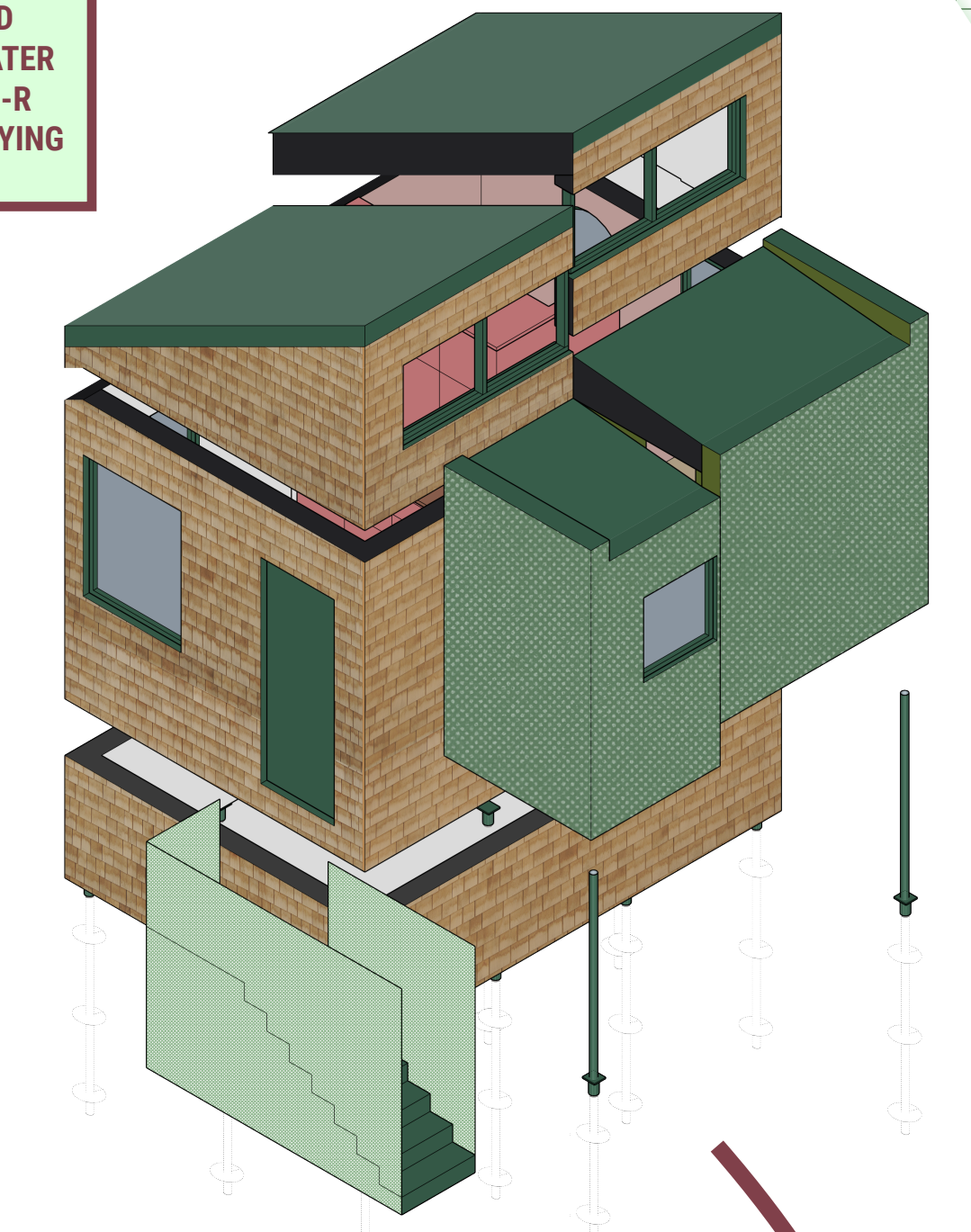
RENDERING:
EXTERIOR GARDEN

THE PROCESS STARTS HERE...

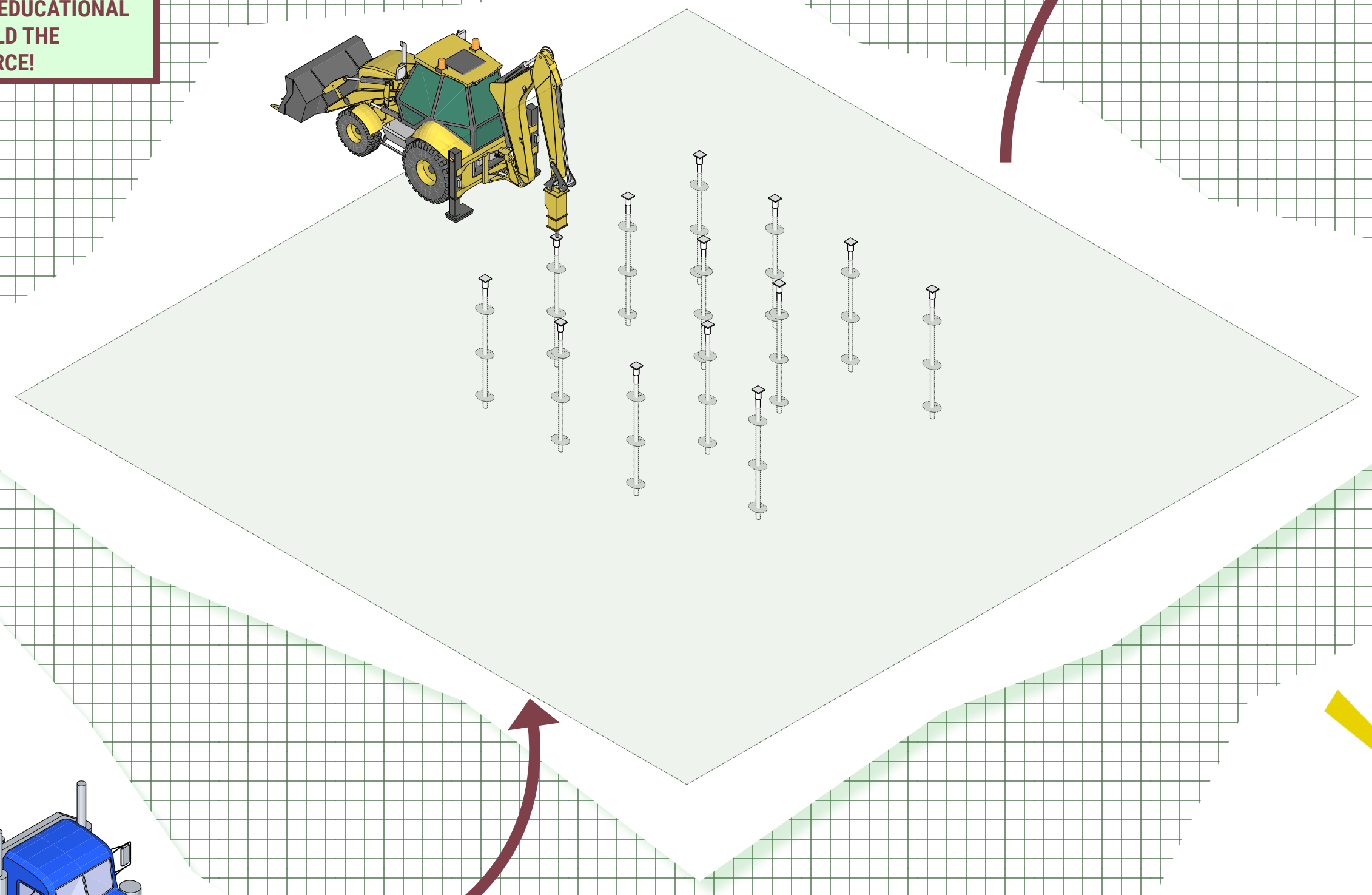


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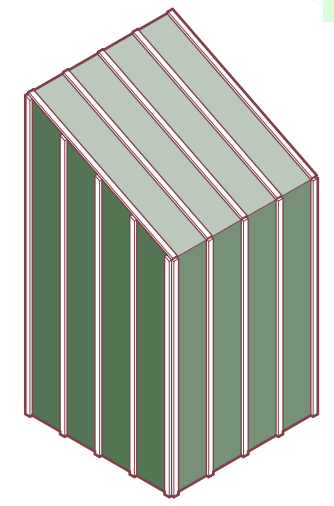


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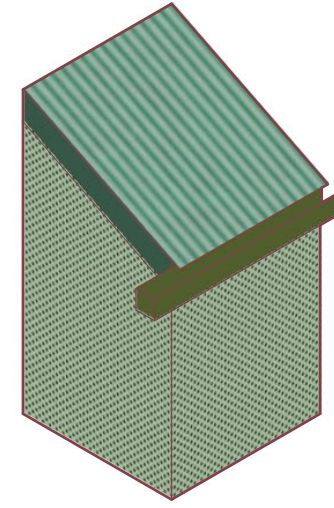
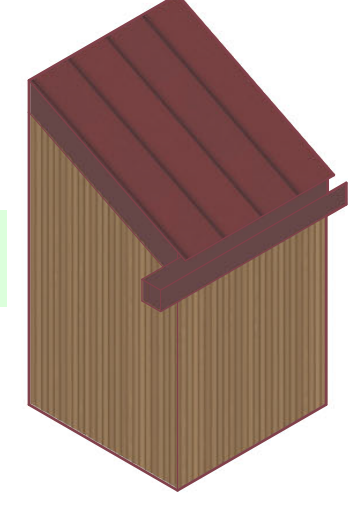
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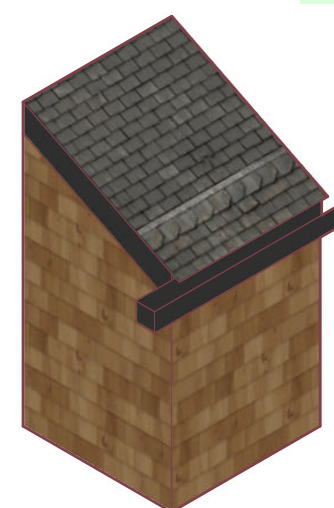
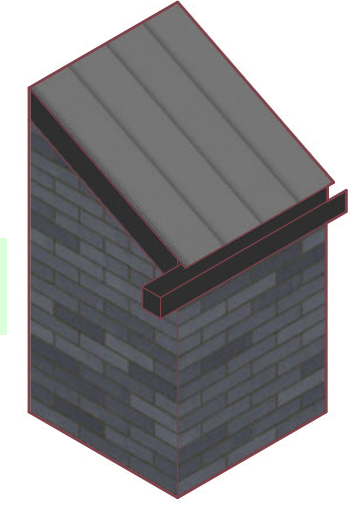
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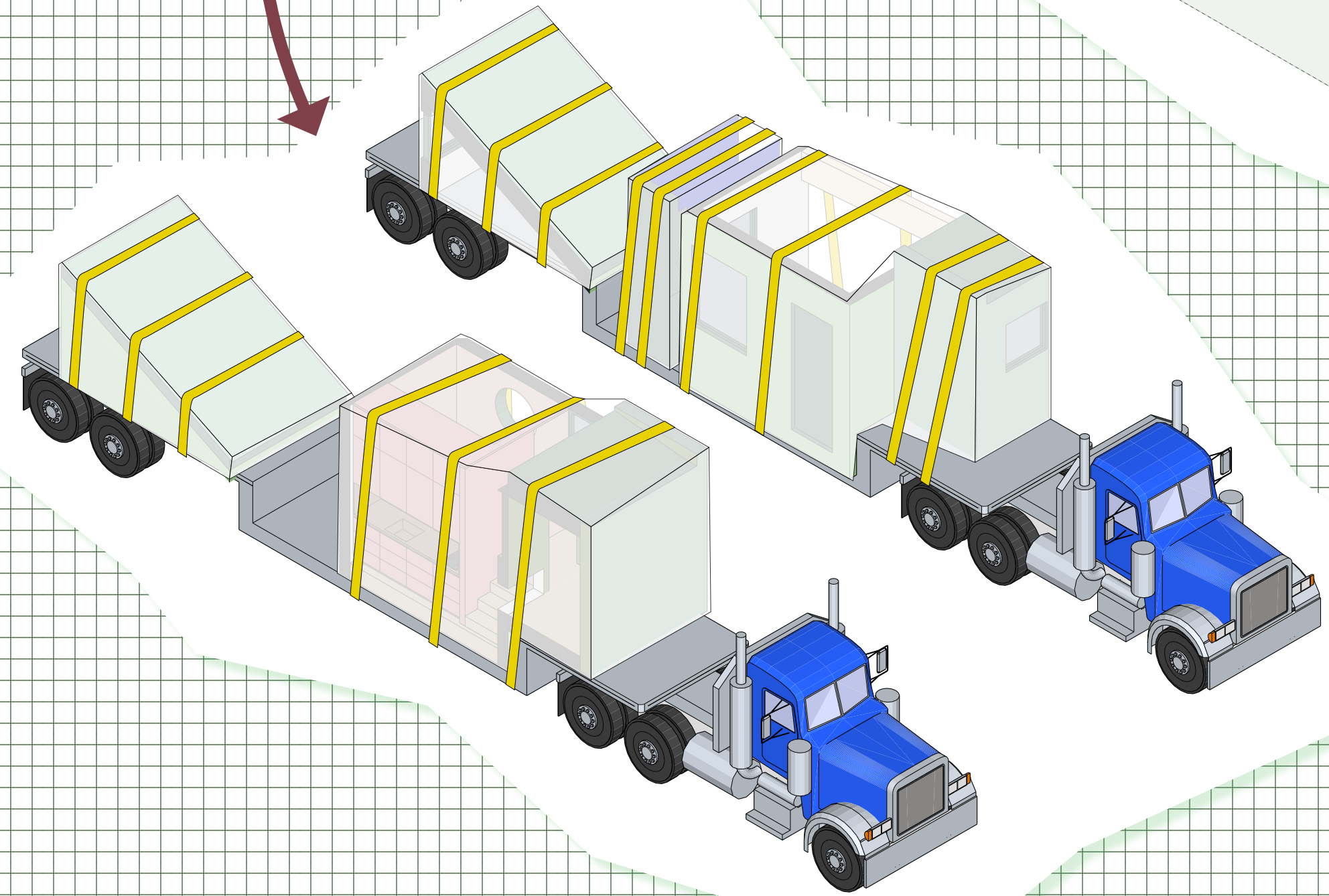
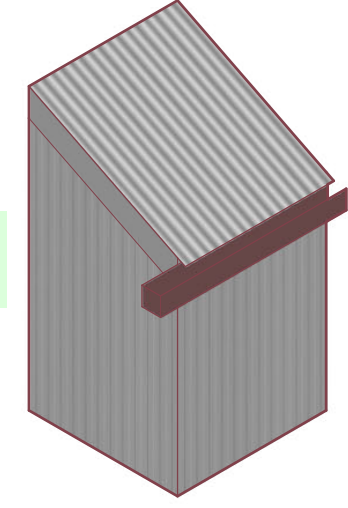
CORRUGATED ROOF AND PERFORATED PANEL

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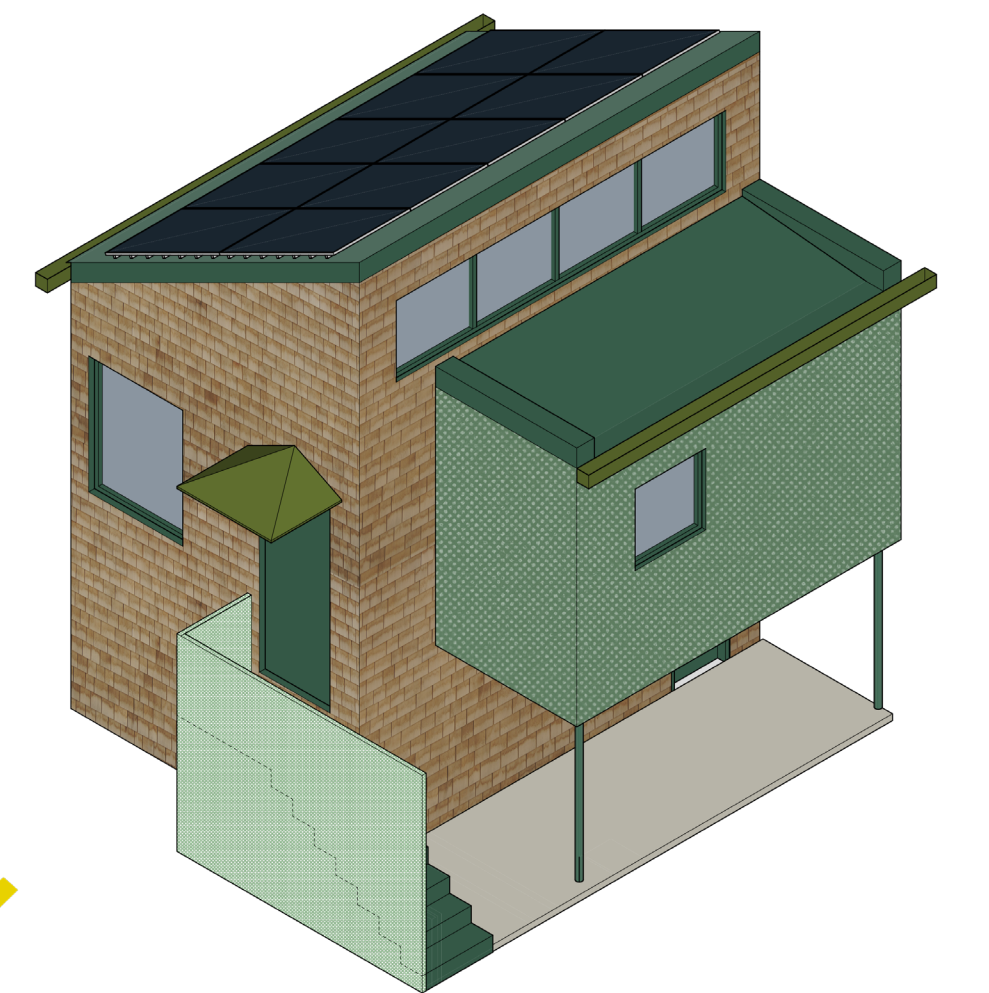


DIAGRAM: HOW THE SAUSAGE IS MADE





