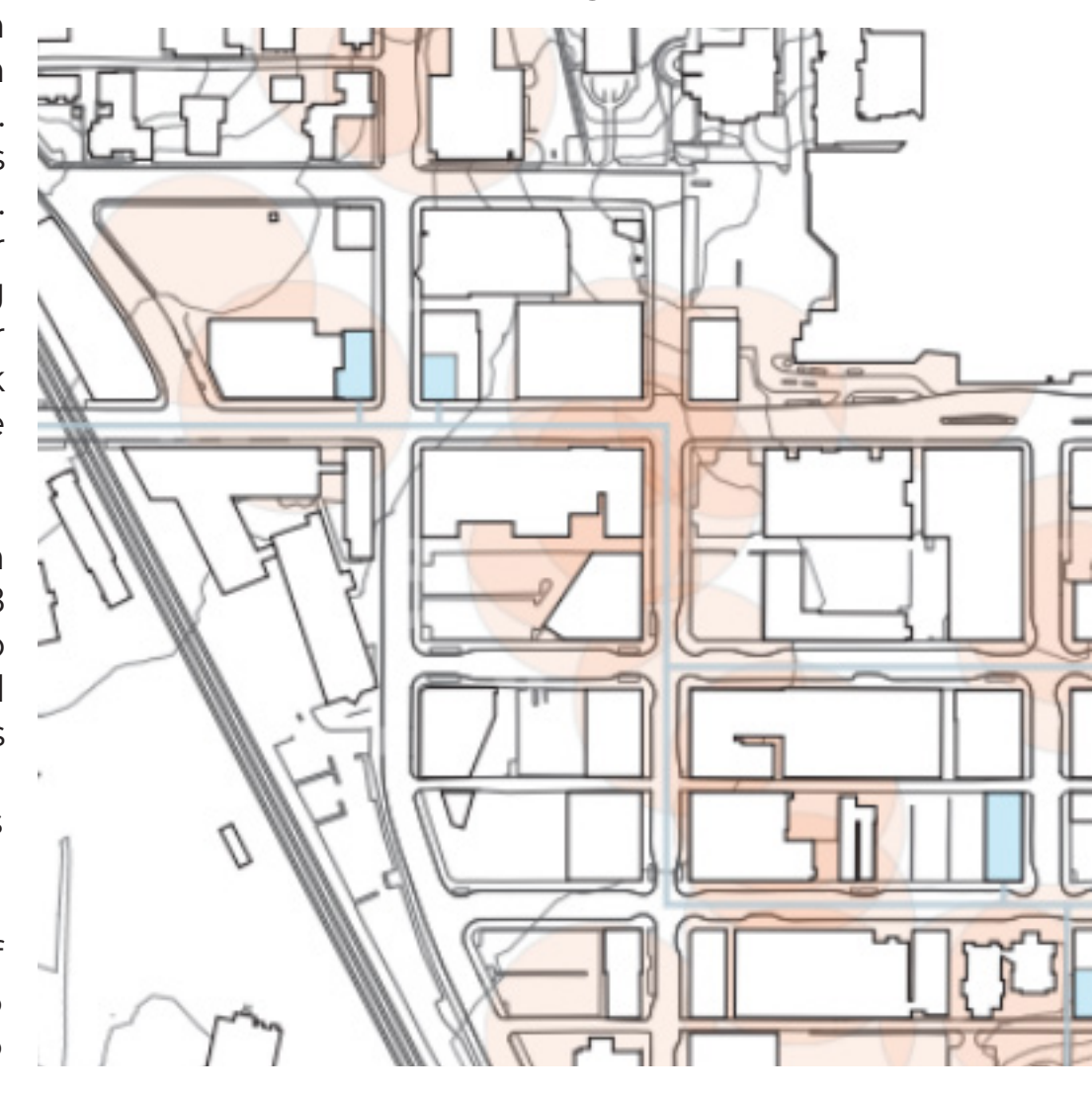


FLATPACK TINY HOMES

RESEARCH

People experiencing homelessness is an ongoing problem within Sudbury and it has remained a prevalent issue for the last several years. A majority of research for this project comes from the Homelessness in the City of Greater Sudbury: 2018 Enumeration report. The report shows evidence that a large majority of people experiencing homelessness would sleep in public spaces, vehicles, makeshift shelters, abandoned buildings or other locations unprotected from the elements. It is worth noting that Sudbury experiences temperatures as high as 25°C to as low as -18°C, has significant rainfall year round, and has snow coverage nearly half the year. Other populations of the people experiencing homelessness may "couch surf," that being moving place to place, or staying with friends. People experiencing homelessness intend to stay in shelters, housing, or utilize social services but often fail to get these accommodations due to a lack of temporary or permanent housing in Sudbury. Therefore people often slip between "couch surfing" and utilizing substandard accommodations. Many people also pay rent to live in accommodations deprived of standards appropriate for human habitation. Whether it be a friend's house, temporary housing, or makeshift shelter on the streets, the people experiencing homelessness do not have a place they can consider uniquely theirs. The places they live are degrading, lack emotional value, do not provide privacy and are unsafe for living.

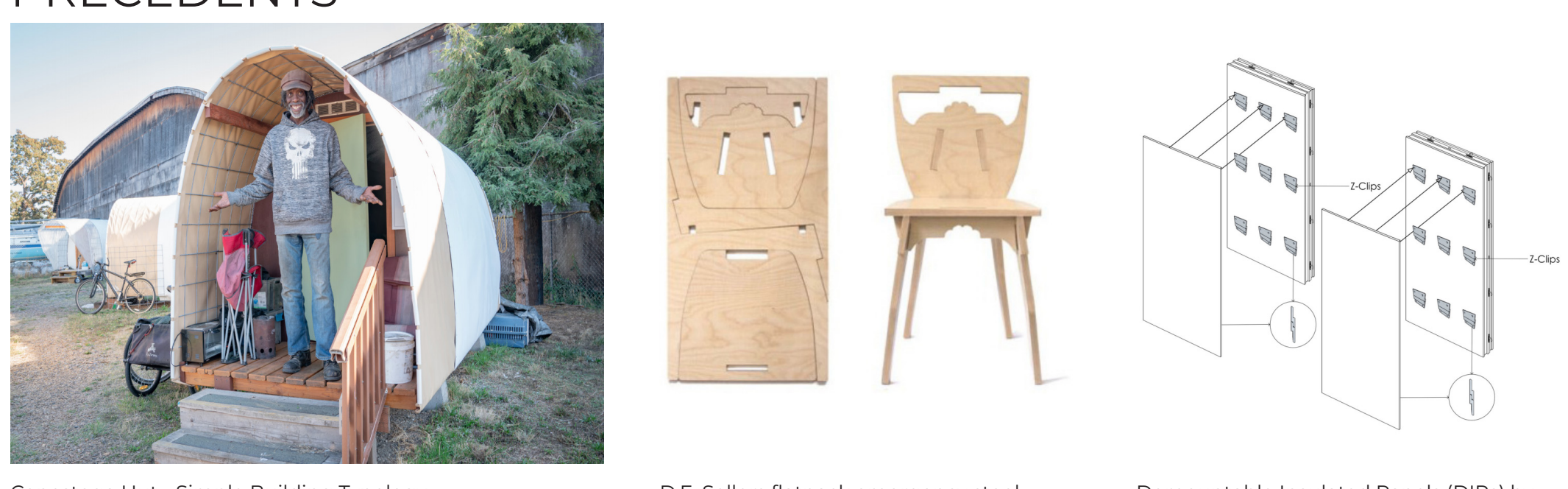


Bazin, Chris. "The Potential of Architecture to Address Homelessness in Northern Ontario," 2020.

Many reasons contribute to homelessness or to a person being considered at risk of homelessness. The 2018 Enumeration report listed addiction, job loss, inability to pay rent or mortgage, unsafe housing conditions, and domestic conflicts as the top five reasons for homelessness in Sudbury. The report also found a balance between people experiencing chronic and episodic homelessness with the absolute homeless population. Therefore, an equal amount of people require long term shelter and short term shelter. Additionally, the report found that of the people experiencing absolute homelessness, 40% used emergency or domestic violence shelters and 14% used transitional shelters. To add, since 2008, it's estimated that over 1000 people are accessing emergency shelters.

Citation: Carol KAUPPI, Henri PALLARD, Emily FARIES, Phyllis MONTGOMERY, Michael HANKARD. (2018). Homelessness in the City of Greater Sudbury: 2018 Enumeration. June 2018. Report prepared for the City of Greater Sudbury. Centre for Research in Social Justice and Policy, Laurentian University, Sudbury, Ontario.

PRECEDENTS

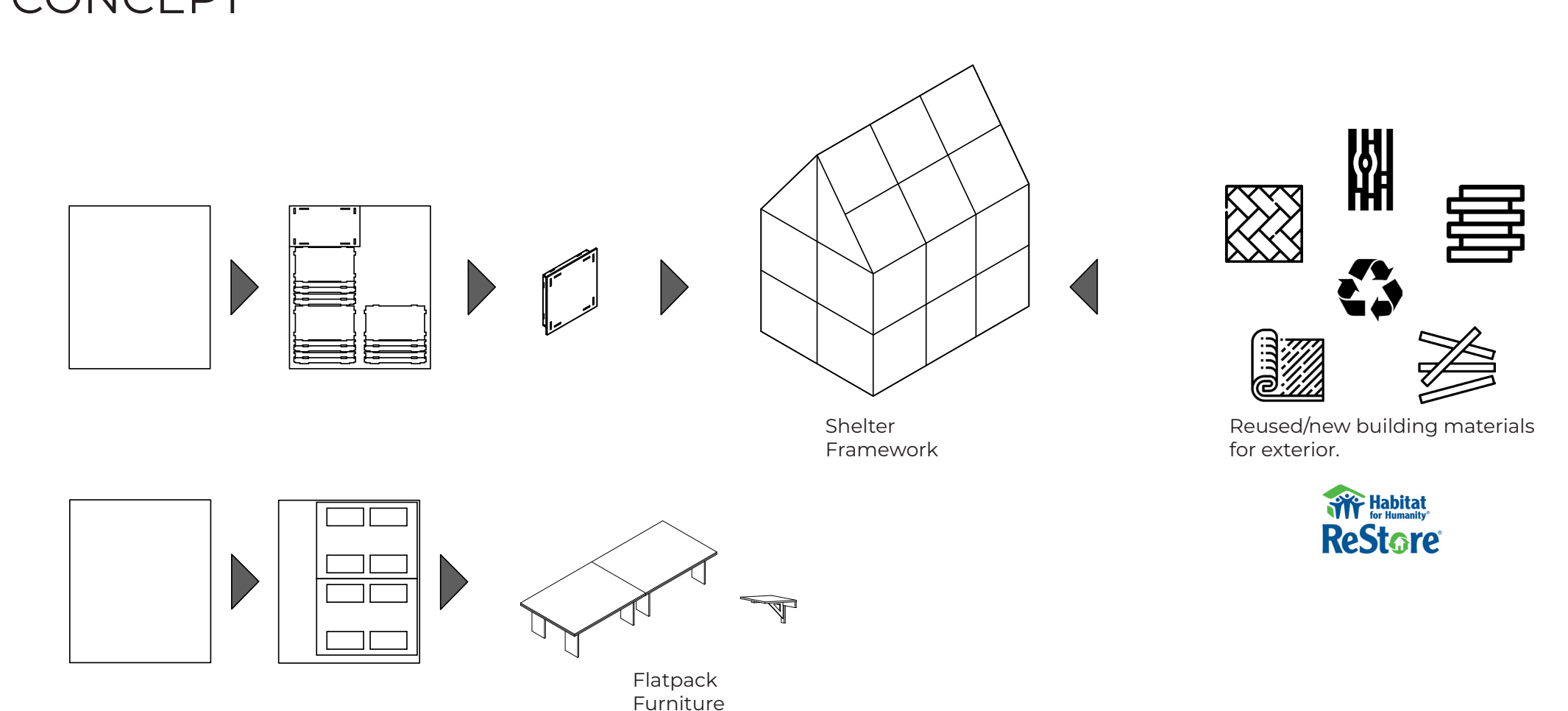


Conestoga Hut - Simple Building Typology

D.E. Sellers flatpack emergency stool

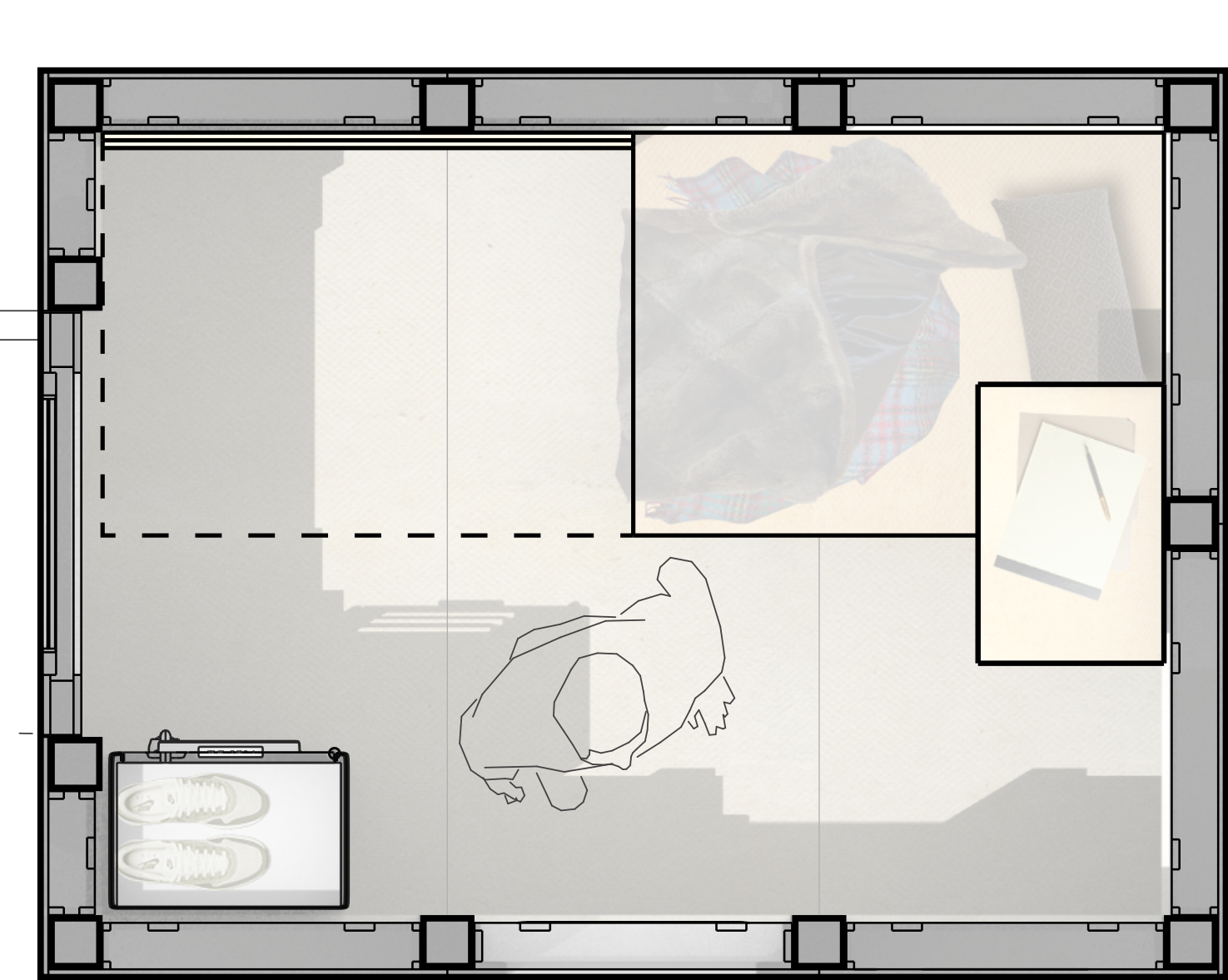
Demountable Insulated Panels (DIPs) by LADA Cube

CONCEPT

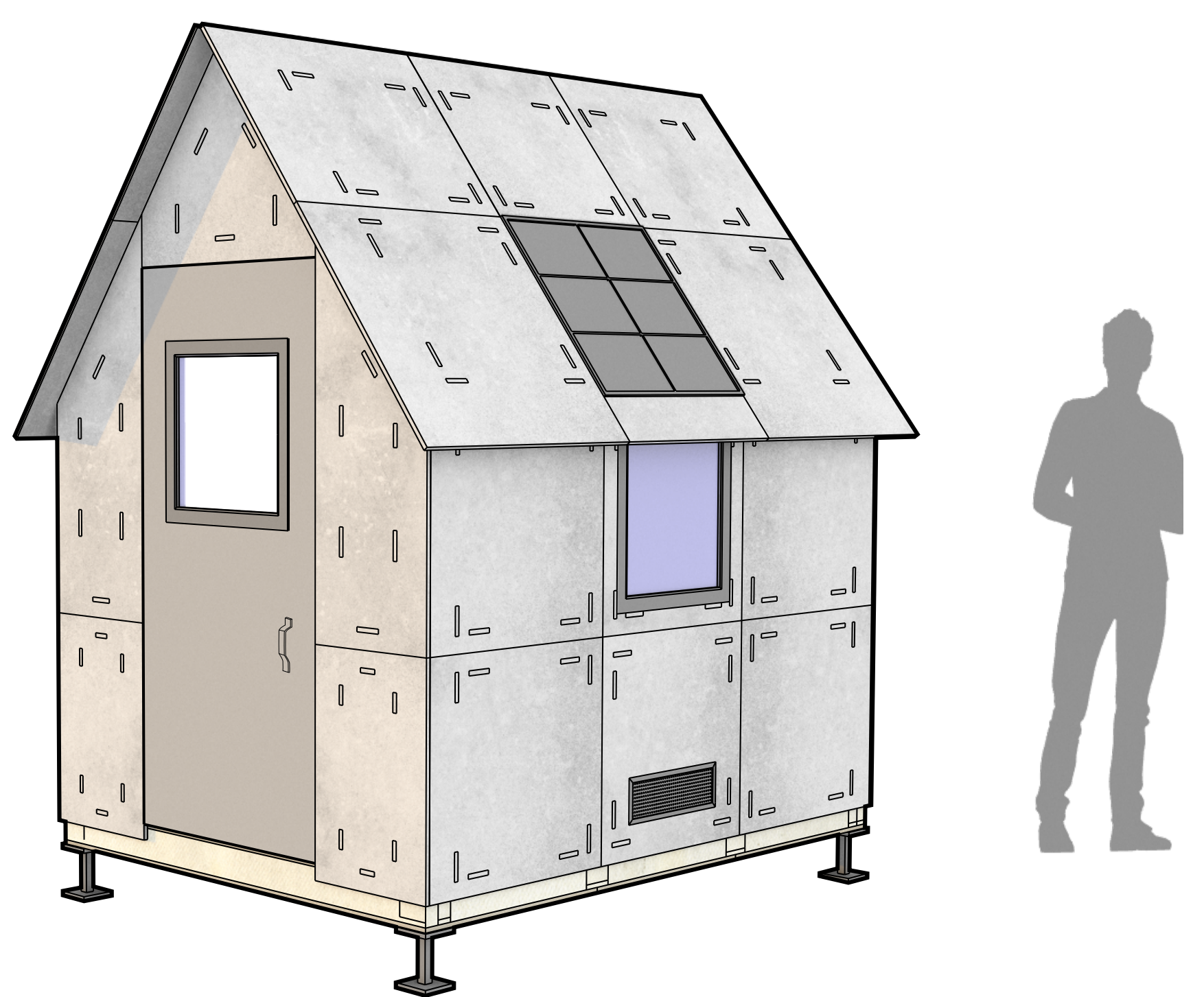


THESIS

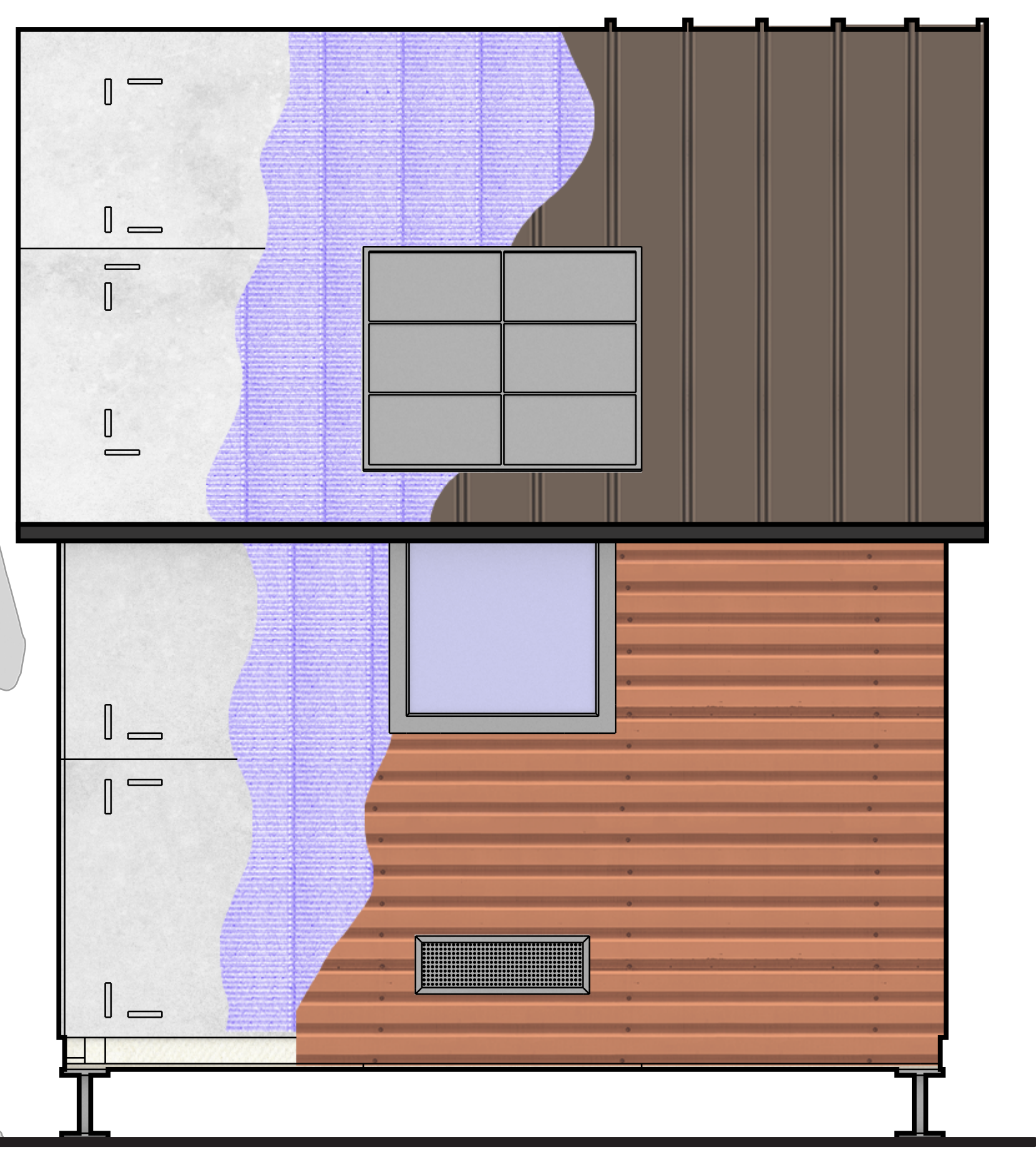
In Sudbury, the majority of people experiencing homelessness intend to stay in shelters, housing, or utilize social services. They often fail to get these accommodations due to a lack of temporary or permanent housing. Consequently, people are forced to live in substandard living conditions with no sentimental value, lack of privacy, and protection from the elements. Through our design, we aim to provide occupants with a durable shelter which offers security, protection, privacy and sense of ownership. The simplicity of our shelter provides a blank canvas for the occupant to create a place of their own. The flatpack plywood building system and simple construction method allows our design to be accessible to anyone and be fabricated with just the use of a CNC machine. Standardized panels provide a user/site specific design and can accept a wide range of recycled building materials applied to the exterior. We envision our design to be an open source fabrication technique that can be altered to better respond to site specific challenges.



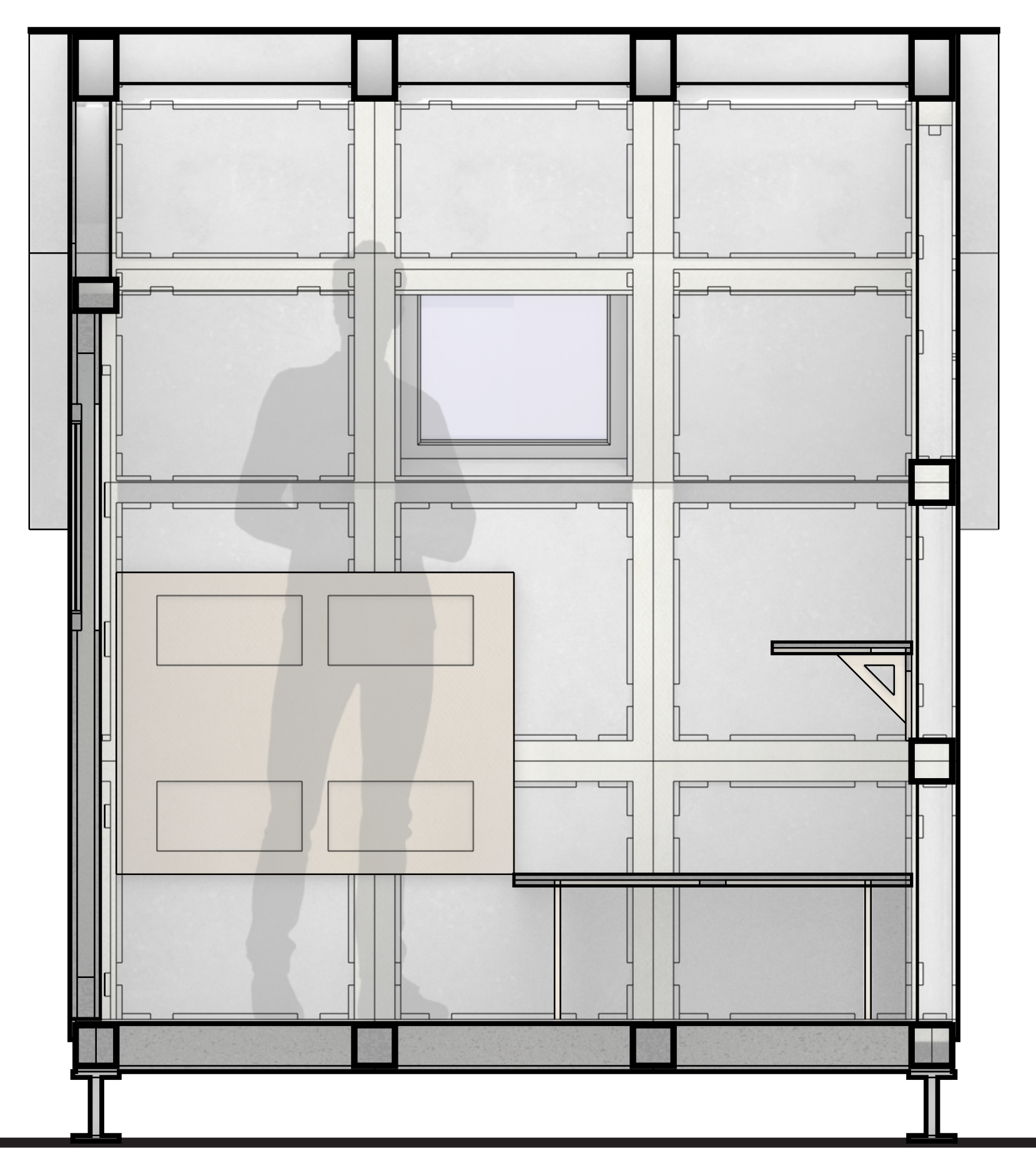
FLOOR PLAN
SCALE 1:10



PERSPECTIVE

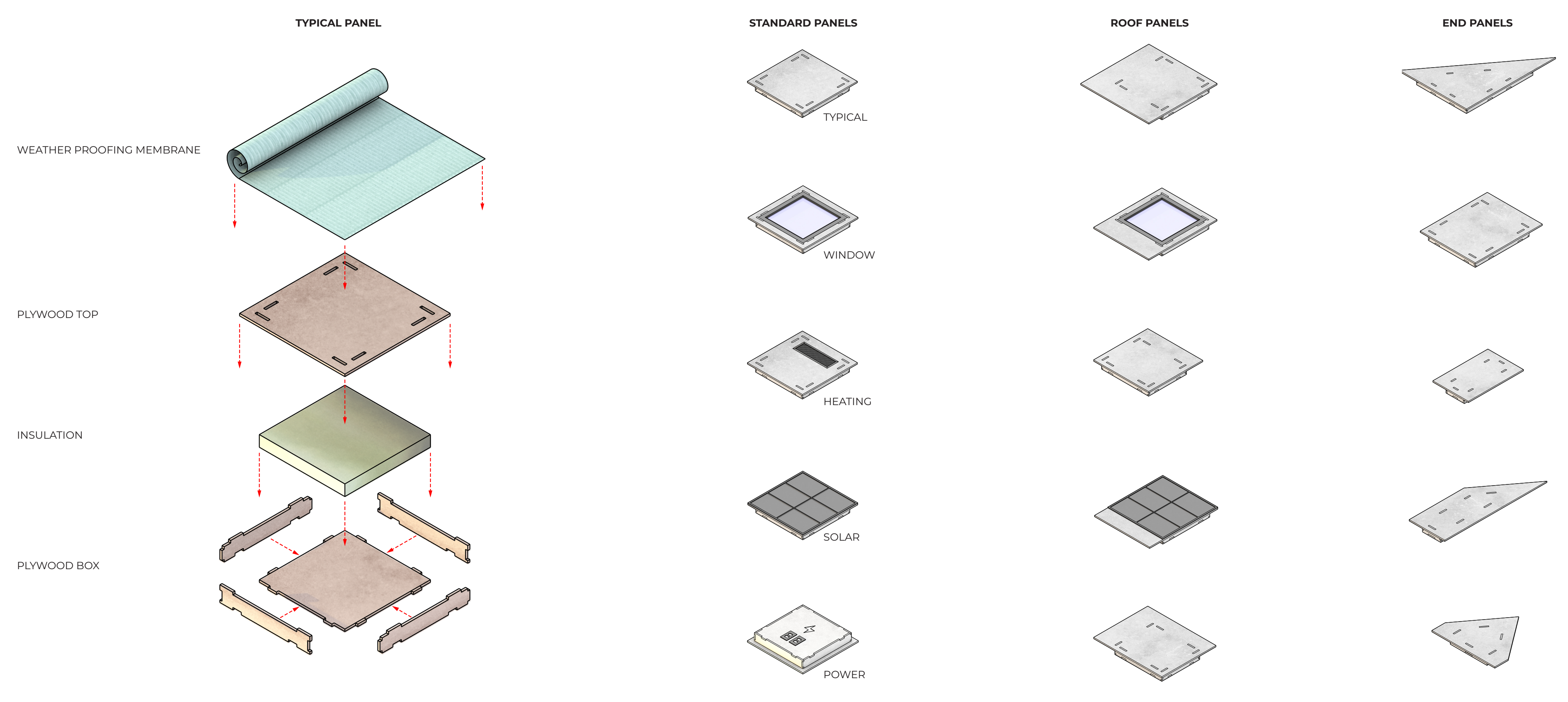


ELEVATION
SCALE 1:10

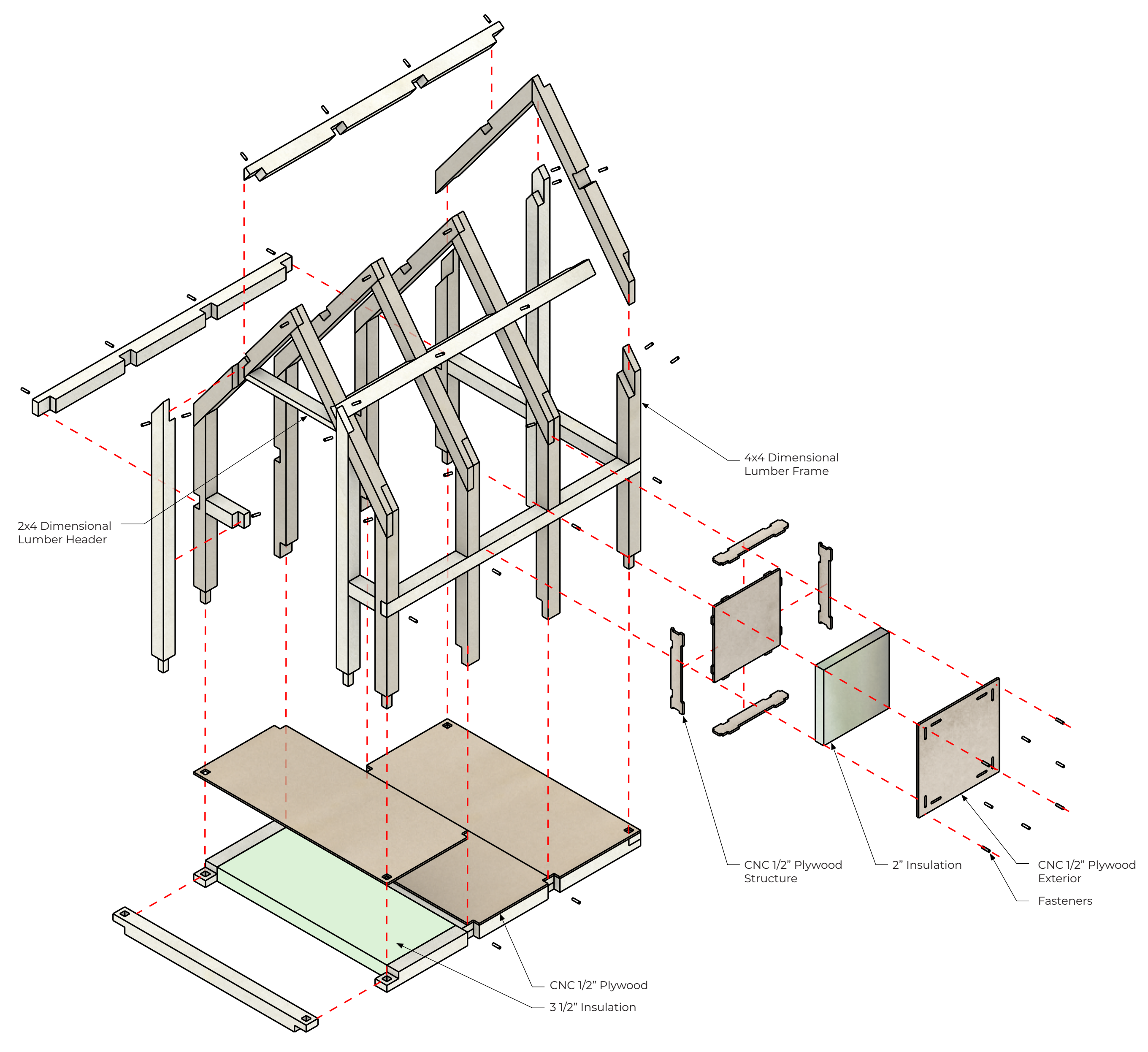


SECTION
SCALE 1:10

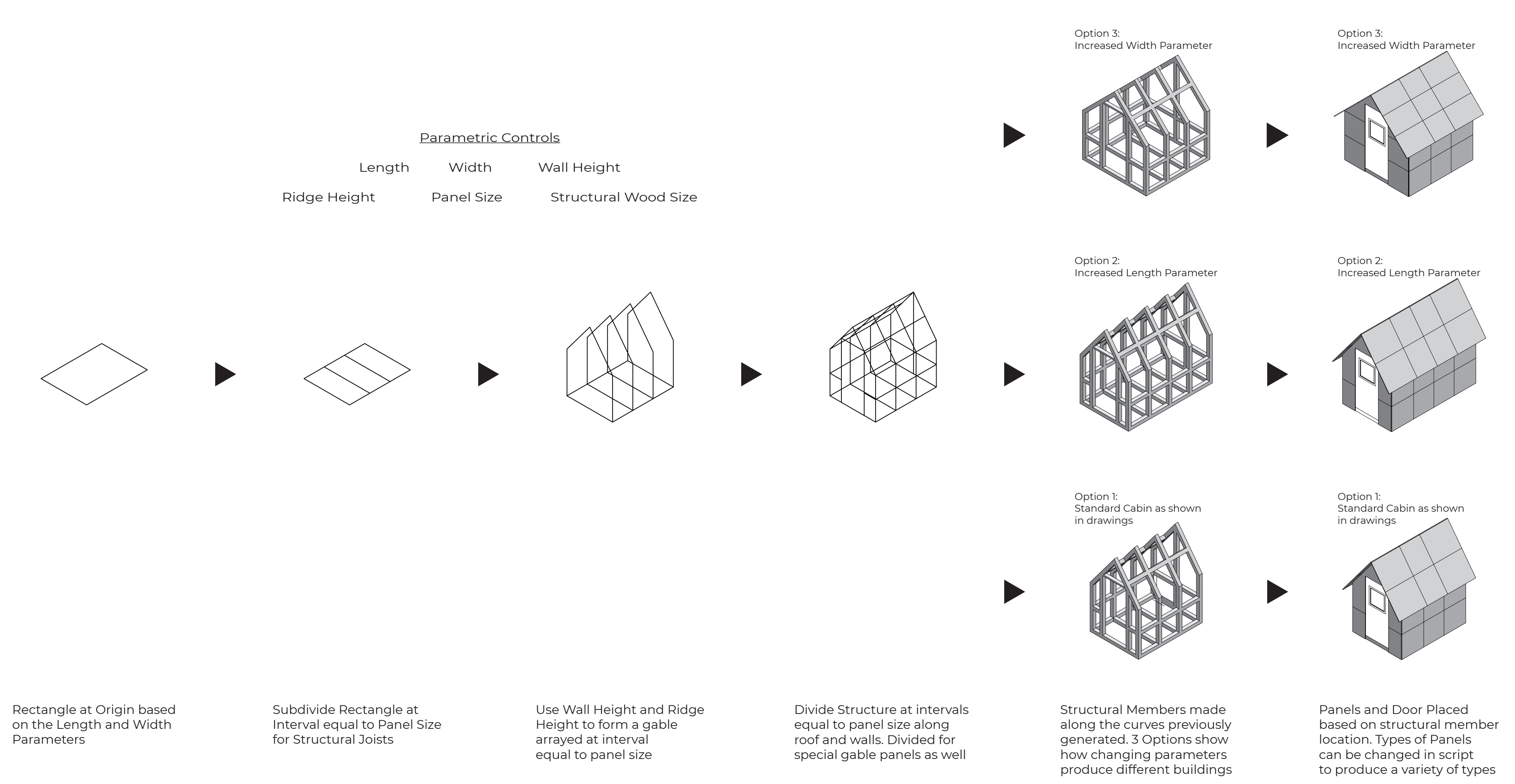
PANEL SYSTEM



EXPLODED ISOMETRIC



PARAMETRIC PROCESS



Parametric Controls
Length Width Wall Height
Ridge Height Panel Size Structural Wood Size

Rectangle at Origin based on the Length and Width Parameters
Subdivide Rectangle at Interval equal to Panel Size for Structural Joists
Use Wall Height and Ridge Height to form a gable arrayed at interval equal to panel size
Divide Structure at intervals equal to panel size along roof and walls. Divided for special gable panels as well
Structural Members made along the curves previously generated. 3 Options show how changing parameters produce different buildings
Panels and Door Placed based on structural member location. Types of Panels can be changed in script to produce a variety of types