Massachusetts ADU Design Challenge | Project Cover Sheet

1. Design Team

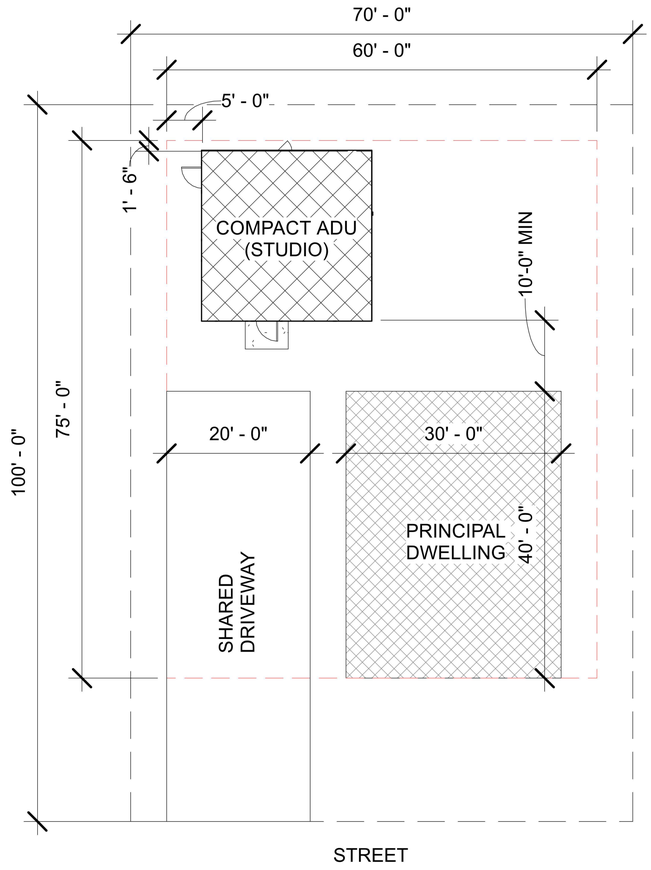
Lead Applicant: Joseph Rendino
Additional Applicants: Daniel Nemec
Design Firm Name (If Applicable):
Contact Info: josephrendino1698@gmail.com

2. Design Information

EntryID (randomly assigned by HLC for tracking purposes): 3463
Design Name: MassBuildADU
ADU Gross Floor Area (square footage): 484
Unit Layout: Studio
ADU Height (feet): 15
Window/Wall Ratio: .15
Foundation Type: Concrete Frost Wall

3. Project Narrative

Following the legislation for Accessory Dwelling Units (ADUs) in Massachusetts, property owners now have another option to help increase the state's housing supply. This design proposal aims to inform property owners of Massachusetts of one of the range of options and possibilities that ADUs can bring them. This proposed design highlights a safe and effective approach to a small, compact, studio style ADU while focusing on efficient design sensibilities, sustainable construction techniques, and easily replicable construction all while still ensuring code requirements are met. This compact ADU is designed with its location and proximity on site to nearby buildings with construction, infrastructure, and visual considerations. Ultimately, the property owner will have to adhere to their local authority's codes and laws when locating this ADU on their site.



Mass Build ADU

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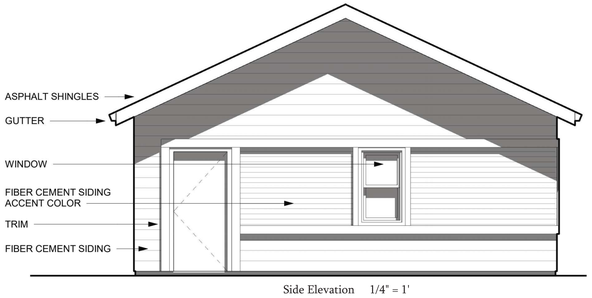
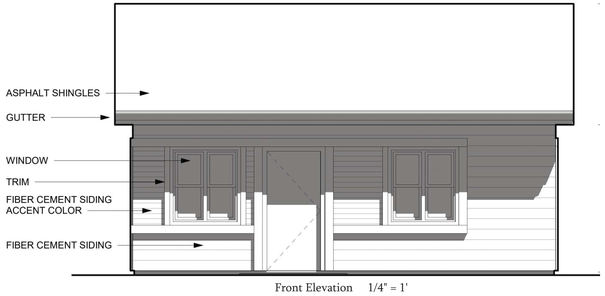
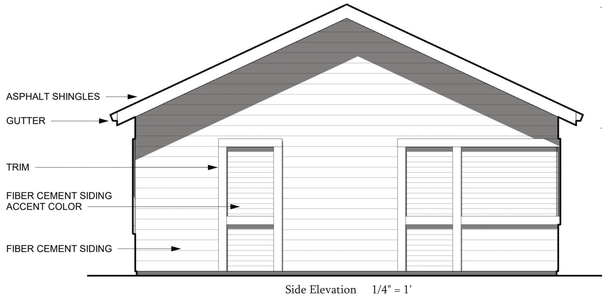


Side Elevation 1/4" = 1'



Front Elevation 1/4" = 1'



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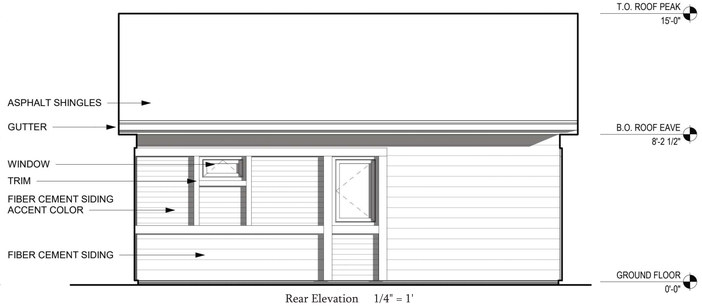
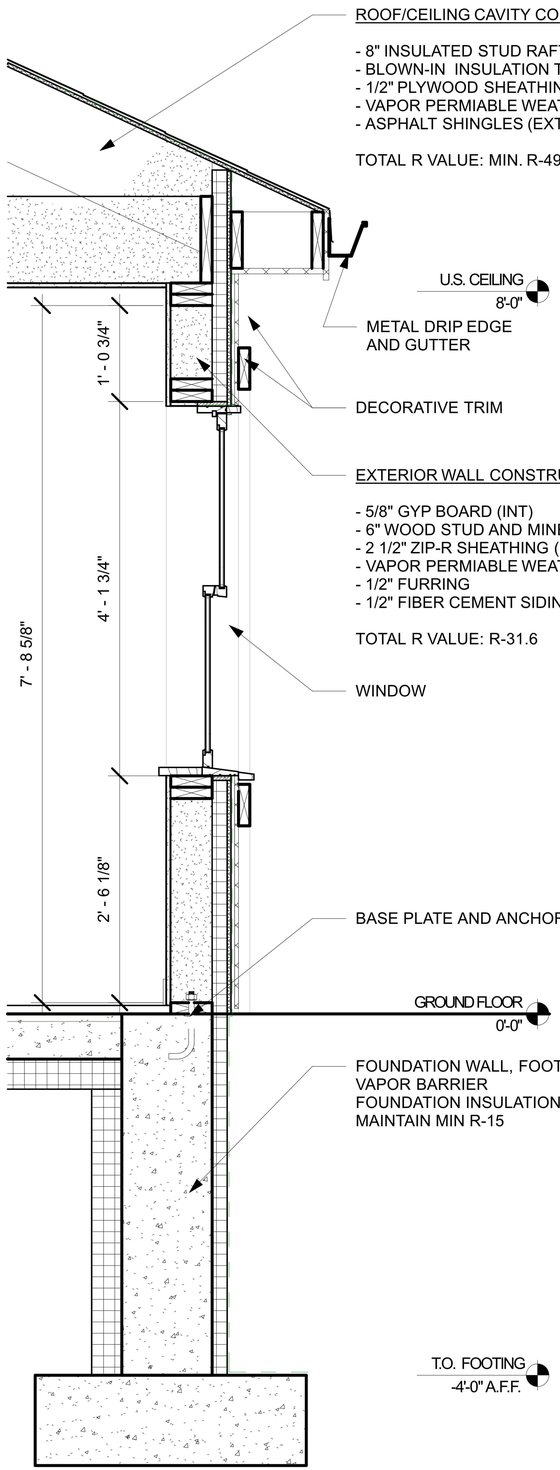
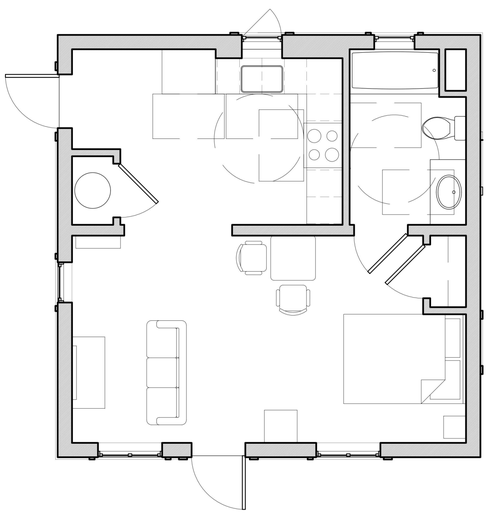


Rear Elevation 1/4" = 1'



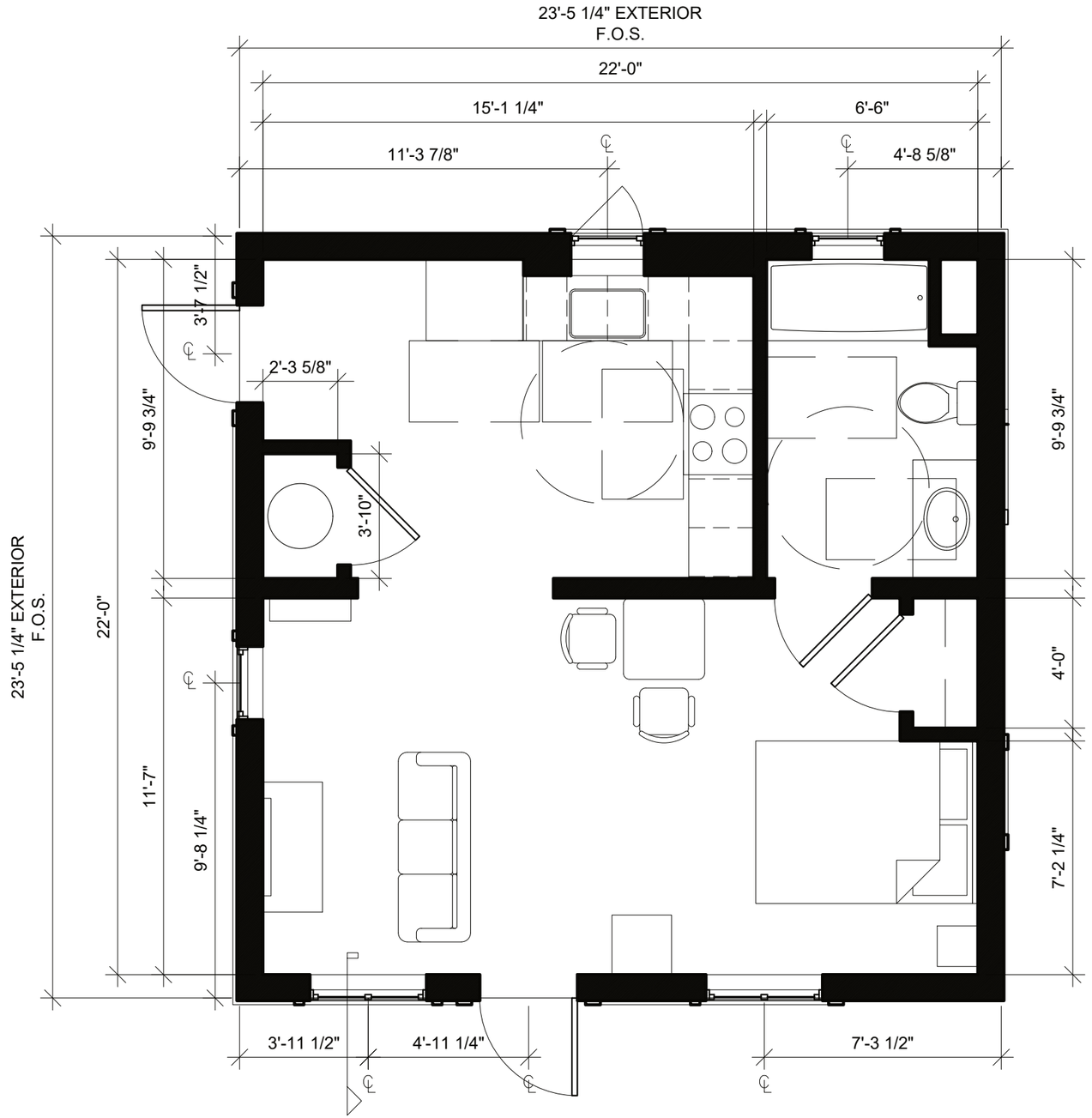
Mass Build ADU



Floor Plan 1/4" = 1'

Floor Plan - Compact ADU

Mass Build ADU



With the framework of sustainability through minimizing building waste and need for onsite changes, the floor plan is designed with the standard stud 16 inch on center module. Doors and windows, especially in the exterior walls, were sized and placed within that framework to limit needs for redundant studs. Additionally the floor plan is made with an intentional somewhat vague understanding of the possibility of the interior. The kitchen and bathrooms were designed and placed first as their infrastructure requires much more planning ahead and solidity for long term use. A shear wall divides the kitchen and bathroom from the living space in order to divide up the service and serviced spaces, again with the understanding of building infrastructure in mind. This leaves the living space generally vague as to allow for flexibility on how to arrange the space for the resident's needs. This design, while compact, allows for the accommodation of a range of different inhabitants with varying levels of accessibility needs.

Scale 1/4"=1'-0"

Elevation 1 - Compact ADU

Mass Build ADU

The elevations are designed using off the shelf fiber cement siding and trim sizes. In an effort to bring the importance of the alignment and sizing of the windows and doors, and their relationship to the hidden framing, trim and an accent color are utilized to “unearth” the organization. In the end, these elevation design moves are merely suggestive, but their purpose is to suggest that the consideration that went into the buildability of the structure is why the ADU exists as it is.

Scale 1/4"=1'-0"

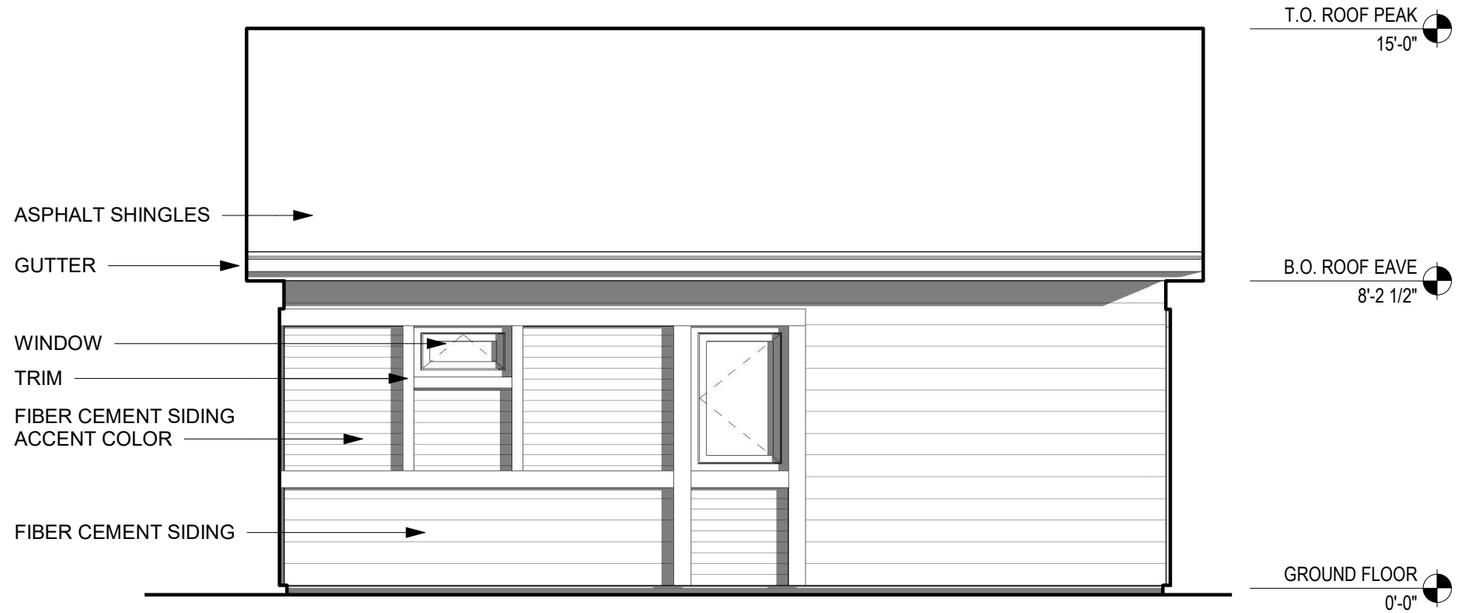
Elevation 2 -
Compact ADU

Mass Build ADU

Scale 1/4"=1'-0"

Elevation 3 - Compact ADU

Mass Build ADU



Scale 1/4"=1'-0"

Elevation 4 - Compact ADU

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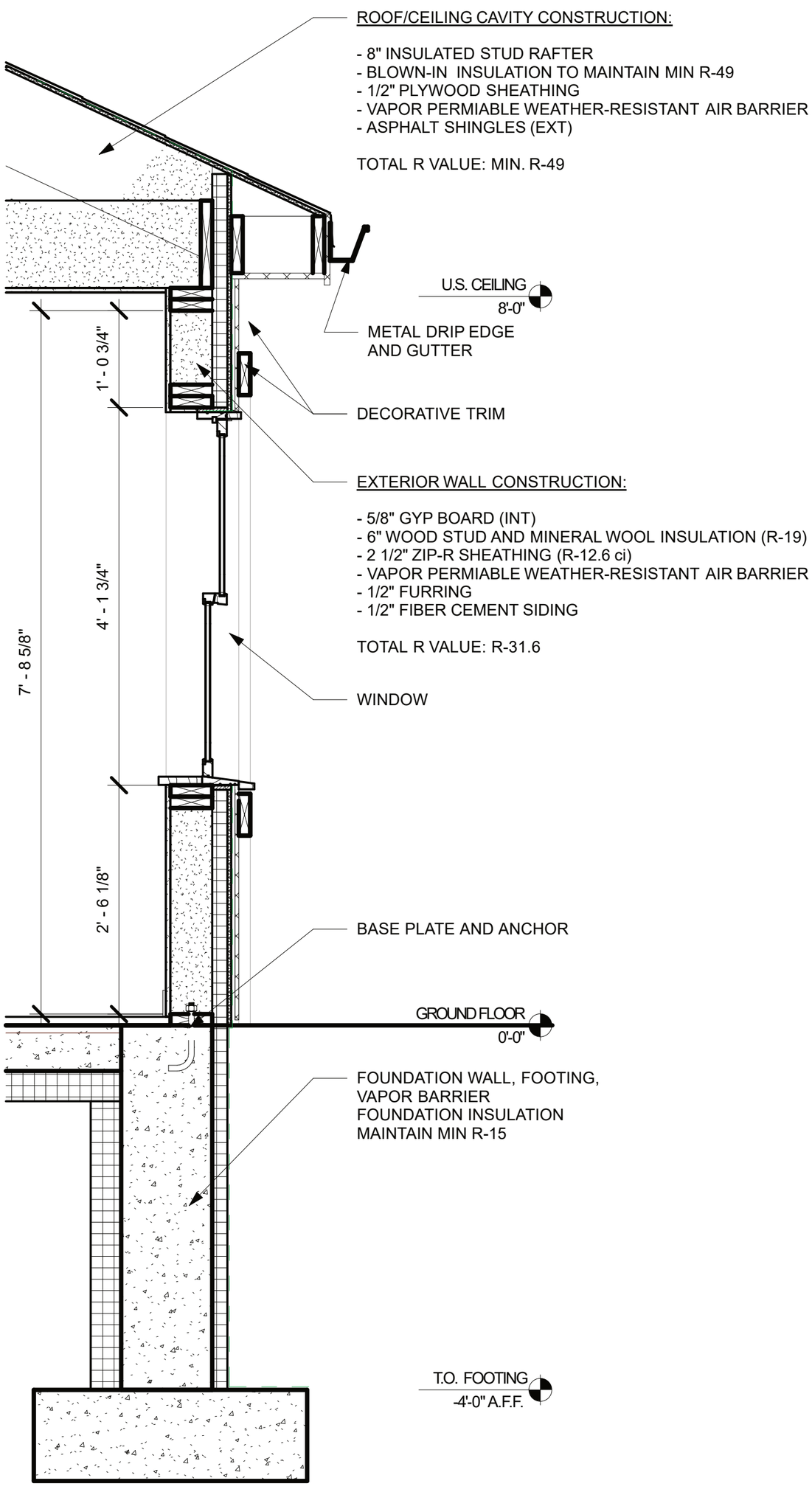
Scale 1/4"=1'-0"

Wall Section - Compact ADU

Mass Build ADU



With the intent of minimizing construction waste and on site cutting, the walls are constructed with the standard uncut length of lumber, 7'-9 5/8", placed on a single base plate with a double top plate. Using balloon framing allows for ease of construction as each layer comes to sit on top one another. The clear and clean design of the structure lends itself to intuitive application of the exterior insulation, sheathing, and weather barrier thus limiting possibilities for deficiencies during construction and installation. The roof, sitting on top of all these layers, is designed to a 42 degree angle to be optimized for solar panels in Massachusetts. The ideal end result is an ADU structure that is built well with the consideration of ease to build it.

Scale 1/4"=1'-0"

Exterior Rendering -
Compact ADU

Mass Build ADU

Interior Rendering -
Compact ADU

Mass Build ADU