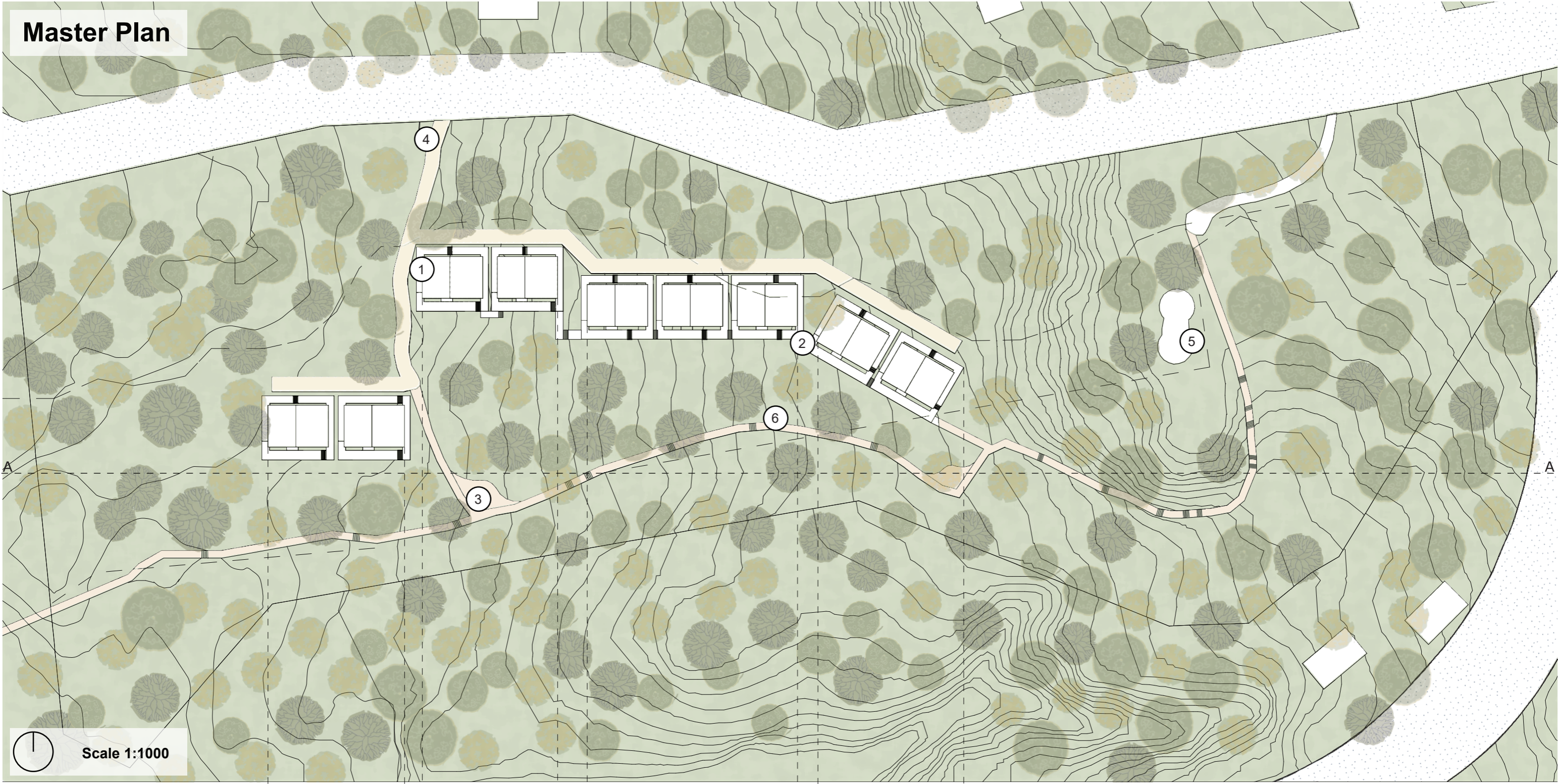


# Master Plan



Scale 1:1000

- 1. Housing Unit
- 2. Private Paths
- 3. Public Meeting Points
- 4. Main Access
- 5. Pre-existing Housing Unit
- 6. Public Paths



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Masters in Architecture for Sustainability

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# Master Plan Zoom

Area 1

Area 2

A

A



Scale 1:500



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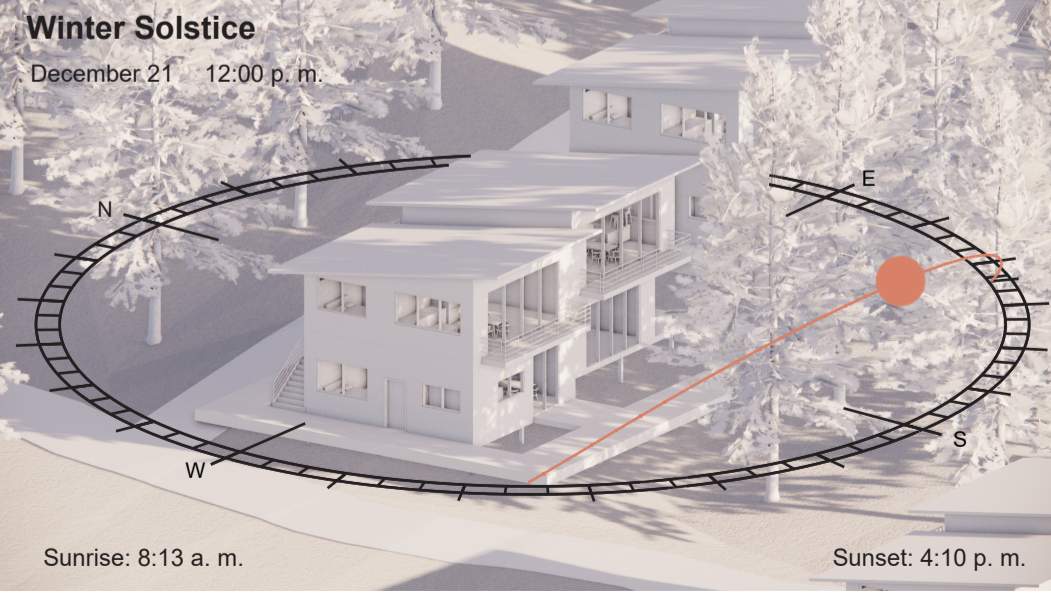
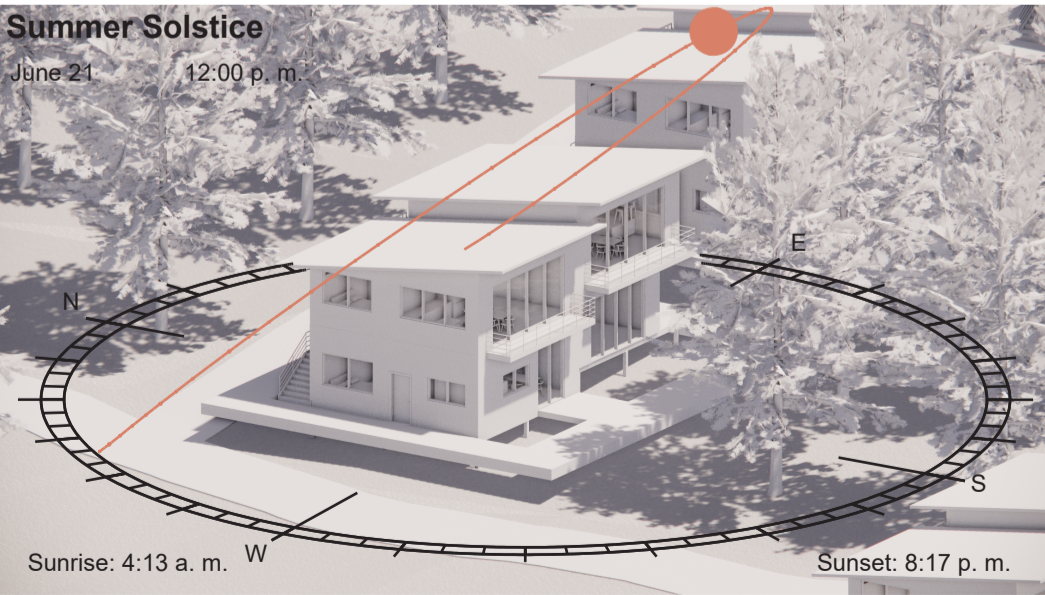
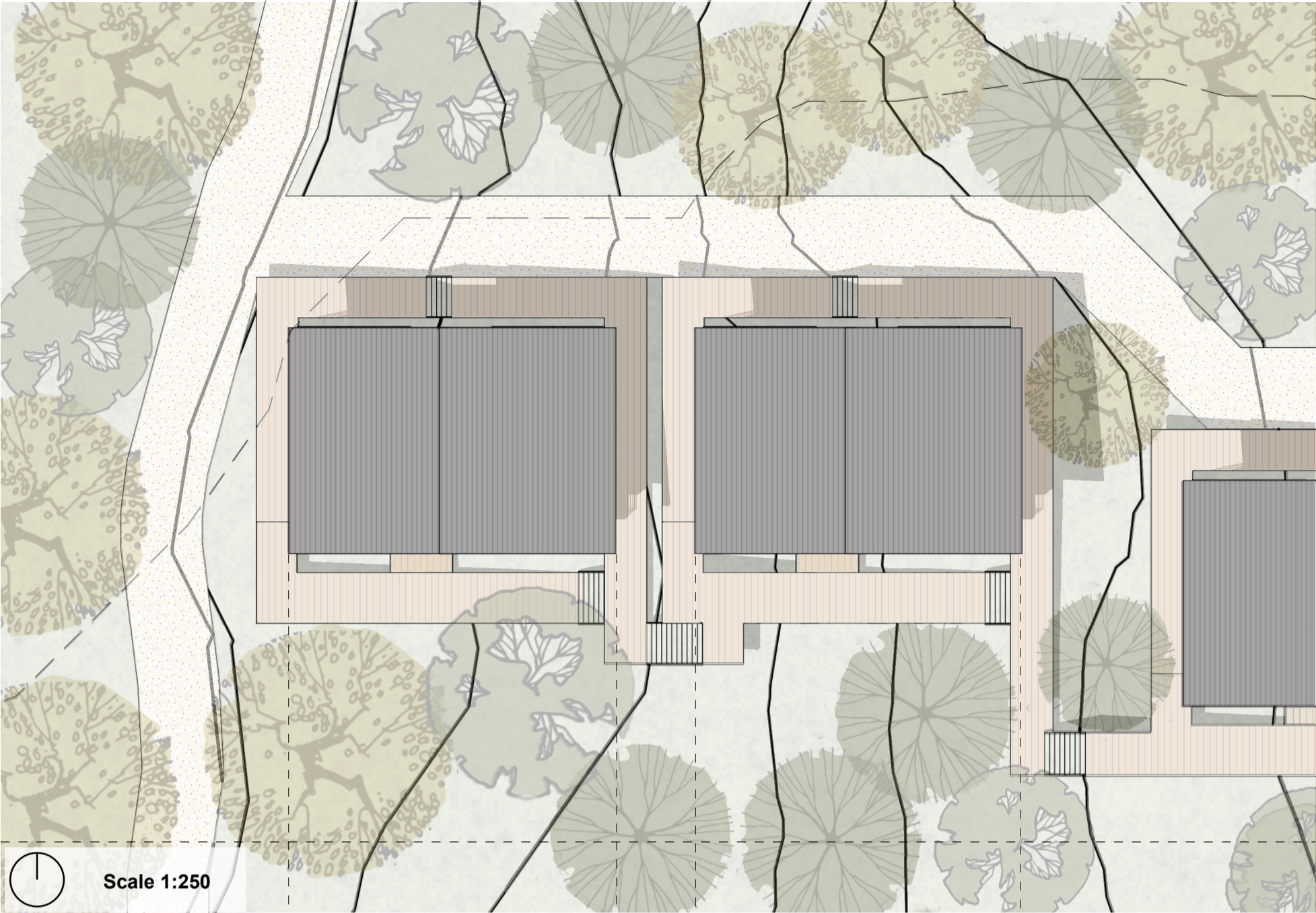
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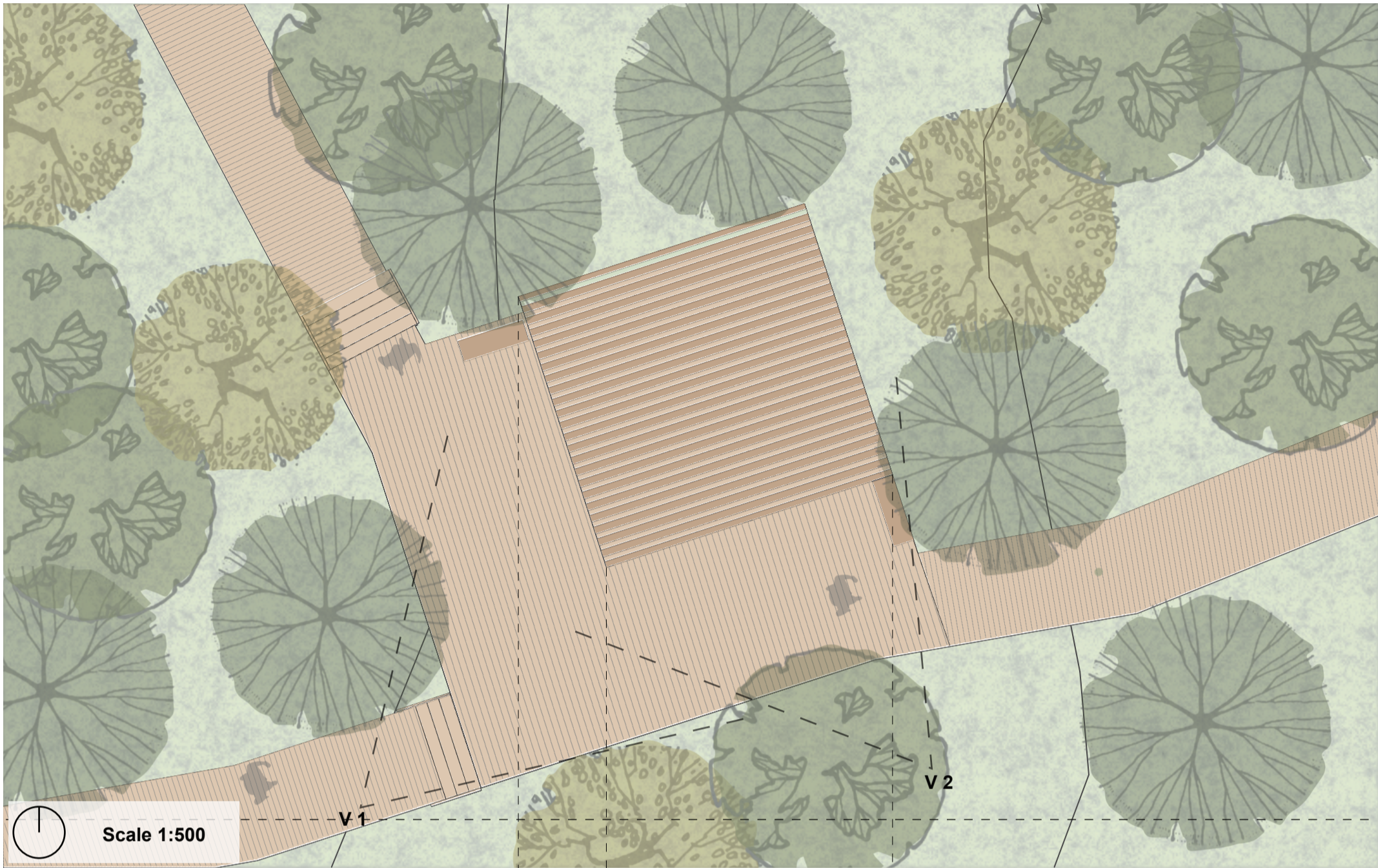
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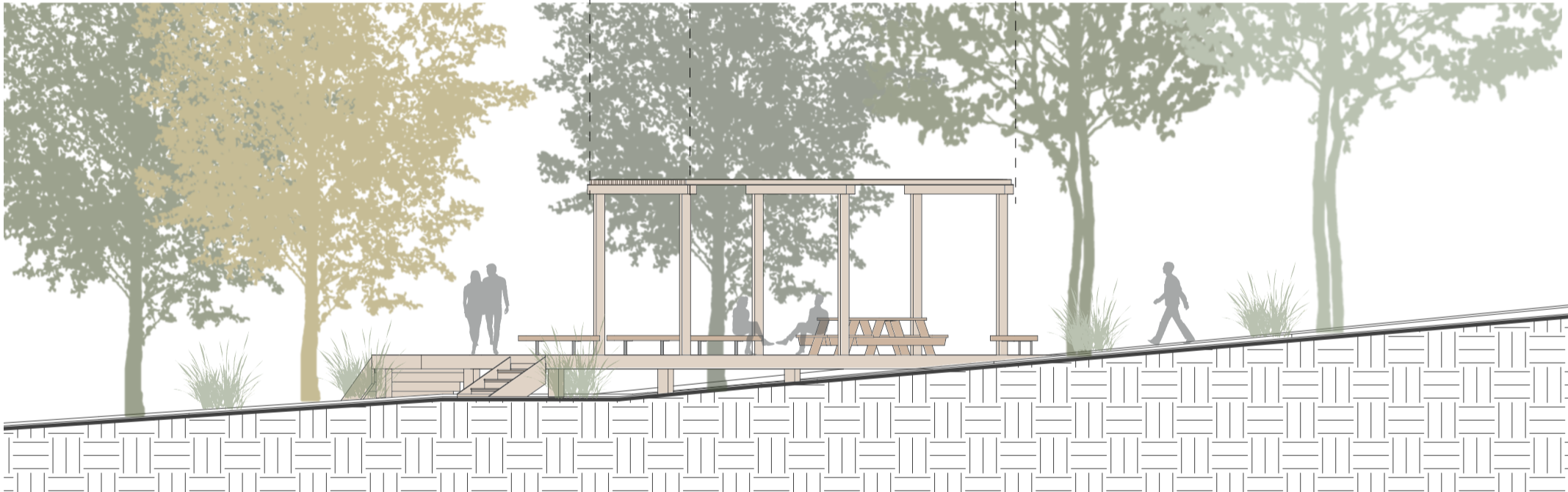
Area 1 (Housing Units)



Area 2 (Meeting Point)



Section



View 1



View 2



Along the public paths located in the southern area of the lot, meeting points with multiple activities are proposed. These places are composed of covered areas, resting points, and open viewing decks.

These areas are available for both tourists walking along the public paths and the residents of the project to develop multiple open space activities.

# Housing Units

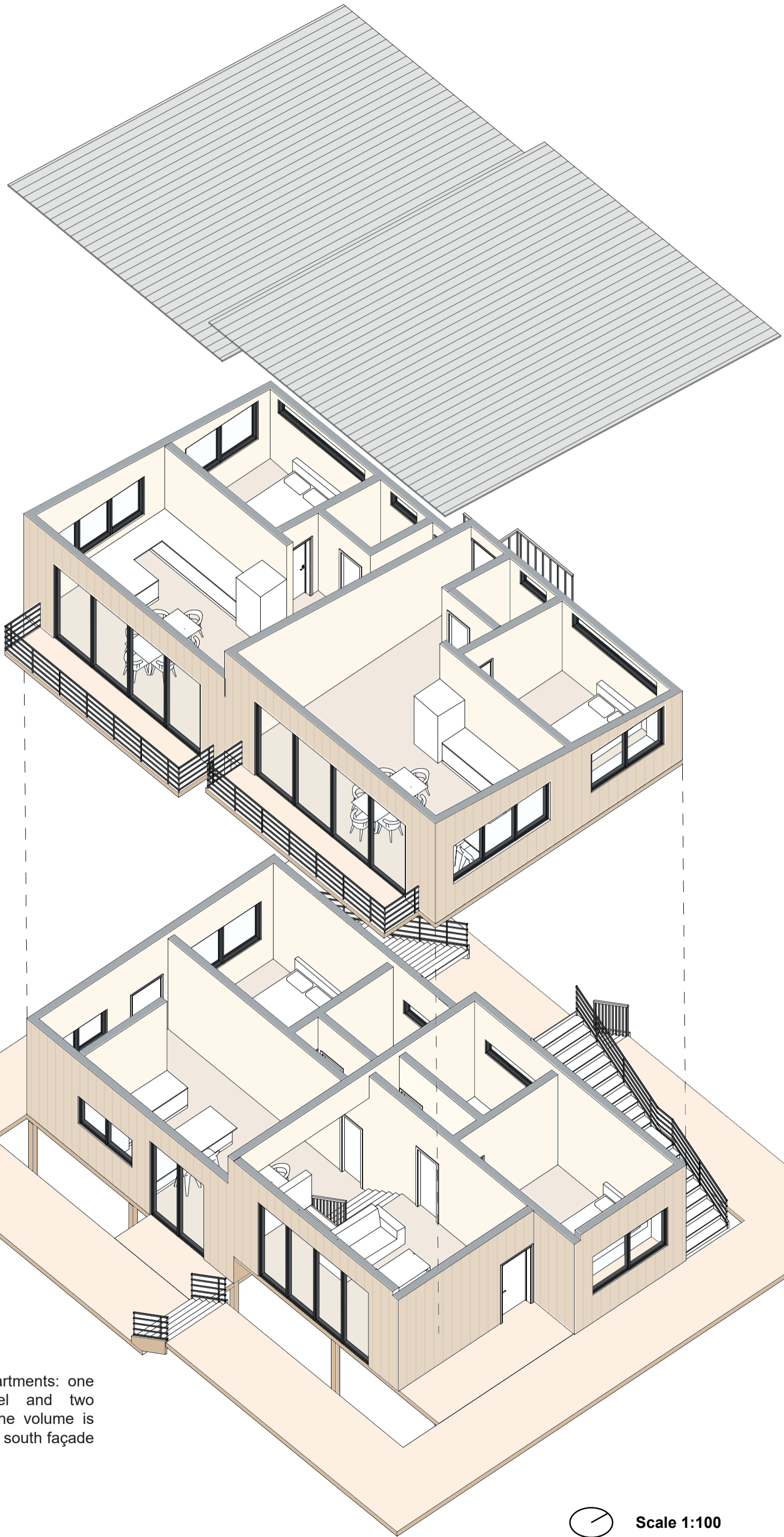
South Elevation



West Elevation



East Elevation

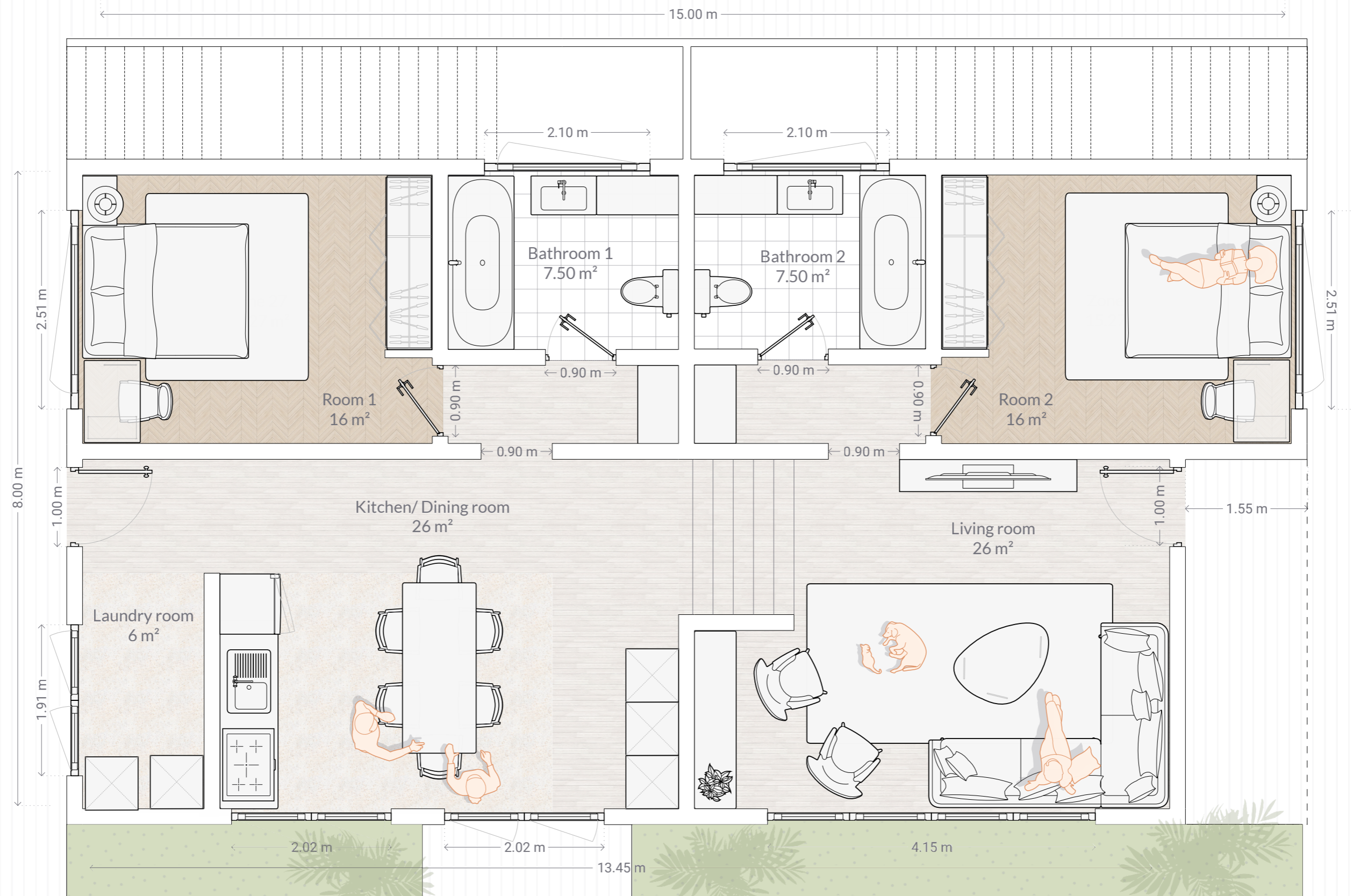


The housing unit volume is composed of three apartments: one 100-square-meter apartment on the lower level and two 60-square-meter apartments on the upper levels. The volume is designed to have the main social activities towards the south façade and the private activities towards the north.



Scale 1:100

# Two-Bedroom Apartment



Scale 1:50



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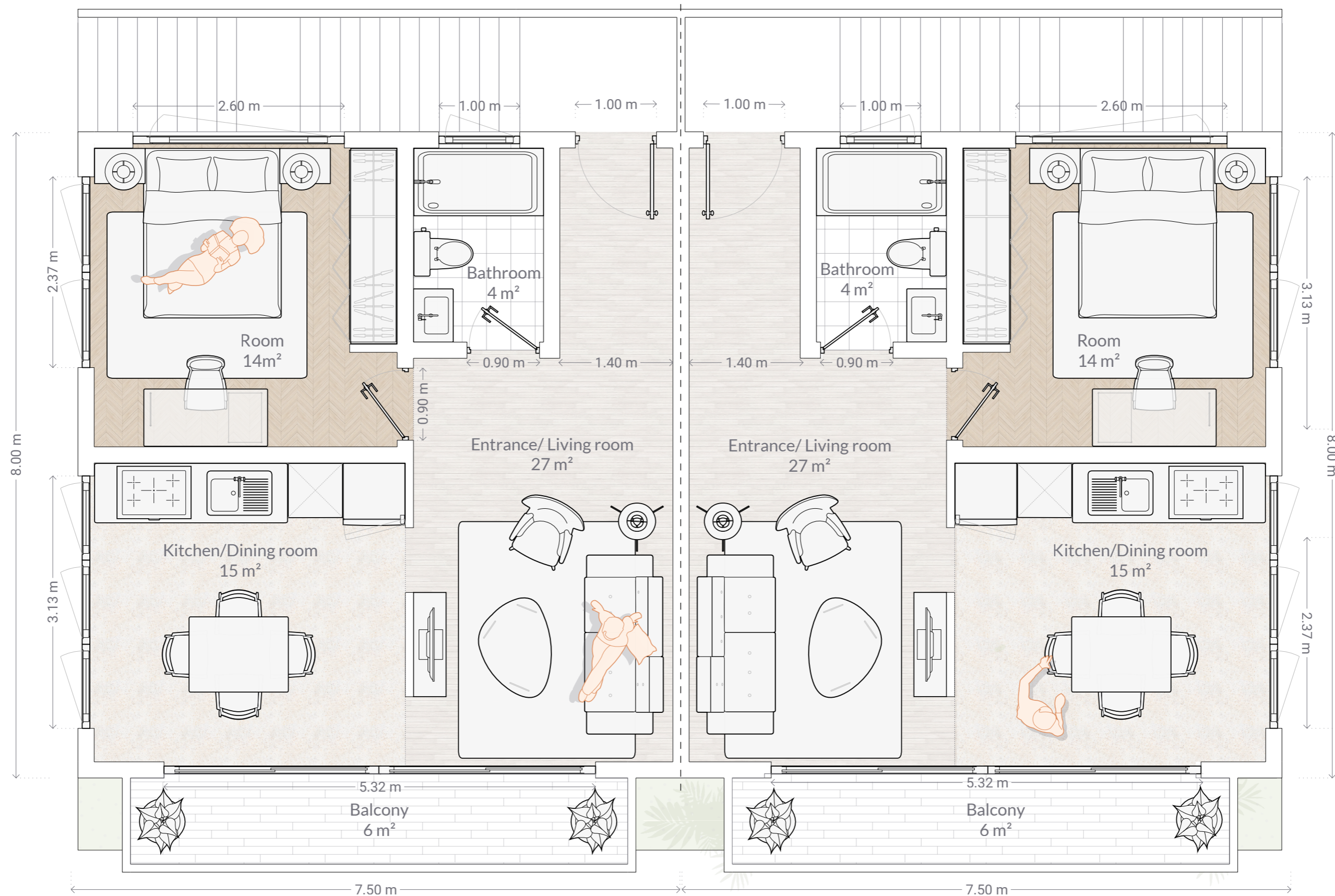
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One-Bedroom Apartments



Scale 1:50

# Sustainable Strategies

## Snow Barreirs

Snow barriers prevent sudden snow falls from the roof and large accumulations. This reduces the risk of damage to the water management systems and the structure.

## Solar Panels

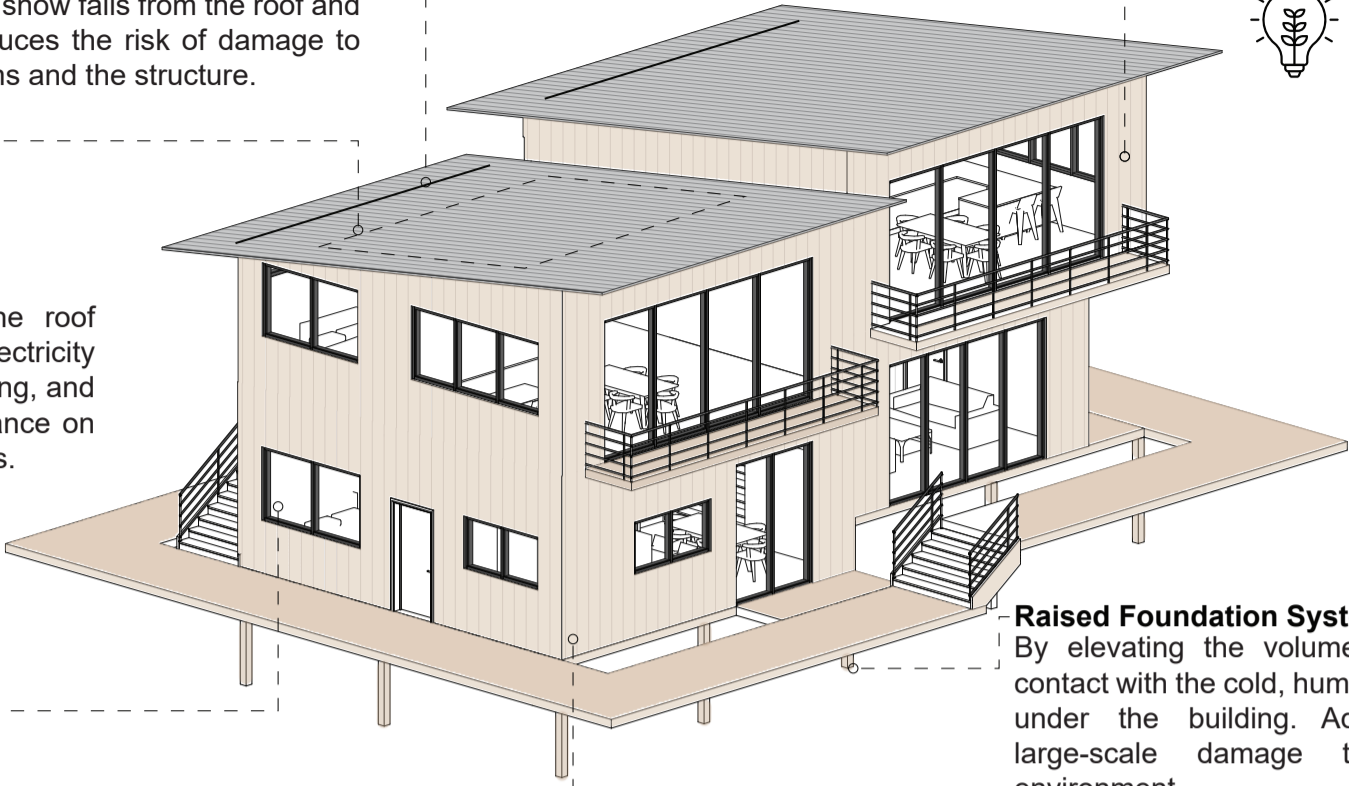


Solar panels installed on the roof generate energy that offsets electricity consumption for heating, lighting, and appliances. This reduces reliance on non-renewable energy sources.

## Material (Carbon Footprint)



A large portion of the house is made with wood. This material is easily accessible in the British Columbia region. This not only reduces construction costs but also minimizes its carbon footprint.



## Raised Foundation System

By elevating the volume from the ground, it reduces contact with the cold, humid ground and creates ventilation under the building. Additionally, this prevents any large-scale damage to the surrounding natural environment.

## Double-Glazed Windows

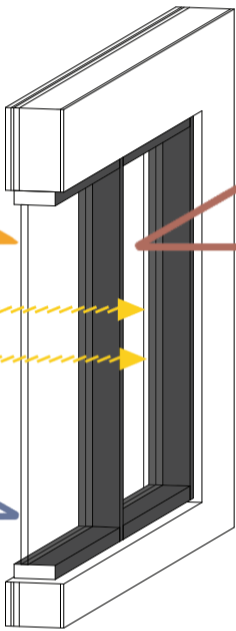
Summer heat Reflected out

Visible Light Passes Through

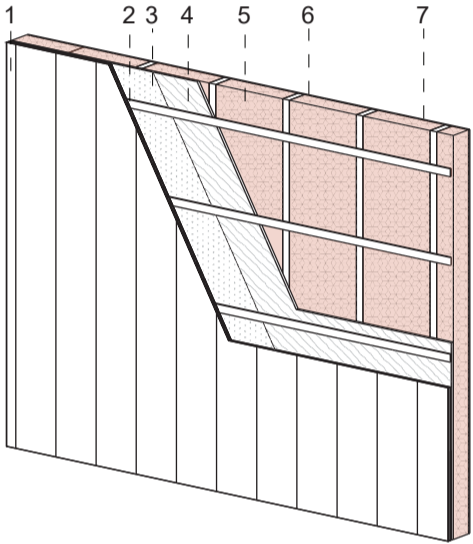
UV Light Reflected

Winter Heat Reflected back inside

Double Glazed Window Low E Glass



## Insulation



1. Exterior Vertical Cedar Siding
2. Horizontal Battens (Siding Support)
3. Waterproof Membrane
4. Wood Sheathing
5. Insulation & Vertical Sturctural Studs
6. Vapor Barrier
7. Gypsum Drywall Finish

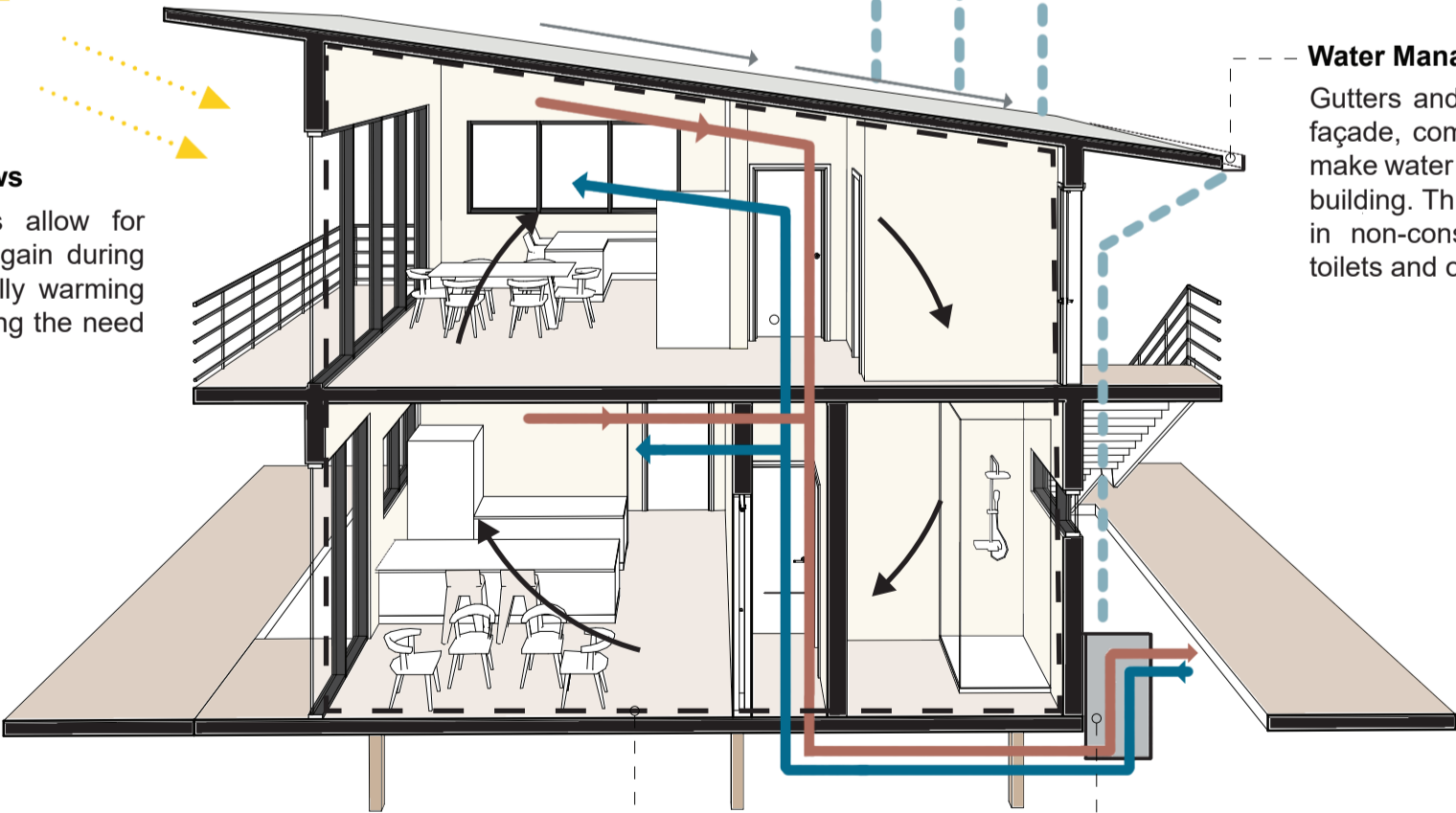
Double-glazed windows with argon between the glass panels reduce heat transfer, while the low-e coating reflects UV radiation, maintaining comfort in the interior.

The materials used in the roof, exterior walls, and floors provide excellent thermal resistance. Exterior walls use rigid polyurethane foam, while mineral wool in the roof minimizes summer heat gain and winter heat loss.



## South Facing Windows

South-facing windows allow for greater passive solar gain during colder months, naturally warming the interior and reducing the need for heating.



## Water Management

Gutters and downspouts on the north façade, combined with the roof slope, make water management easier for the building. This water is stored and used in non-consumable utilities such as toilets and outdoor irrigation.

## Airtightness

Airtightness in the volume is important to achieve better energy performance. This prevents any air leaks or infiltration, efficiently maintaining the interior temperature.

## Heat Recovery System (HRV)

The HRV system recovers up to 85% of the heat from outgoing air and transfers it to incoming fresh air, reducing heat loss or cooling incoming air.

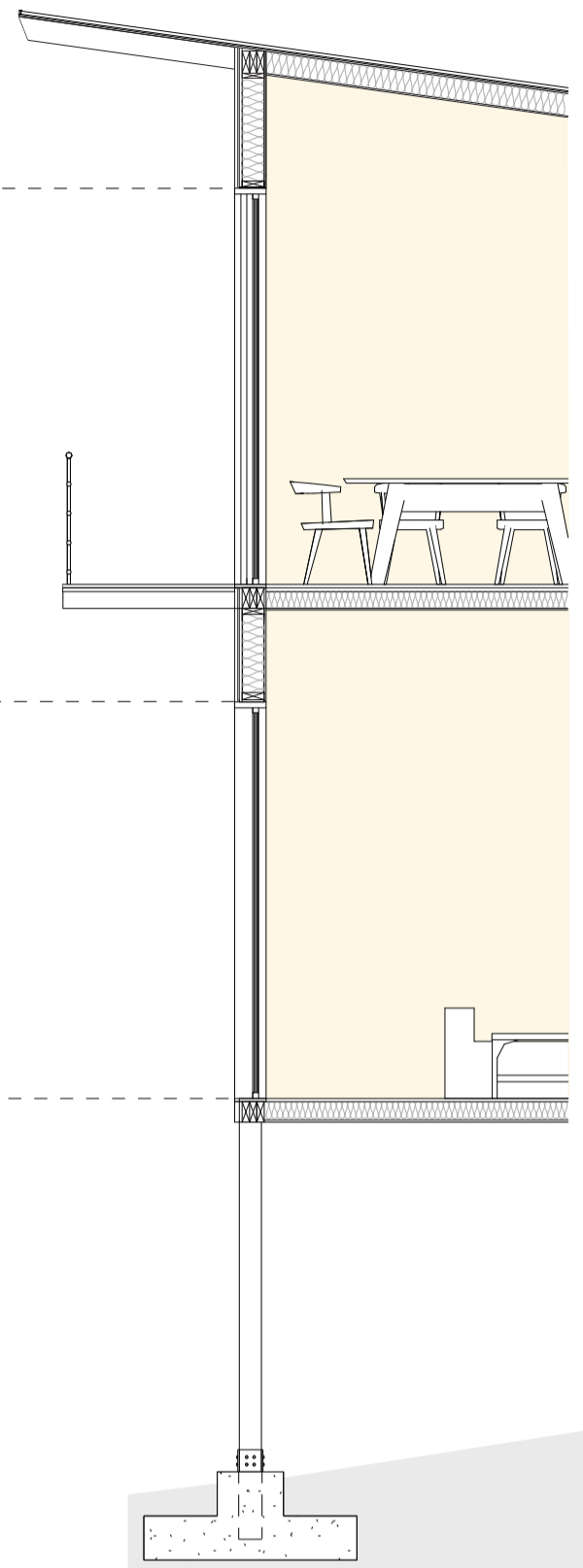
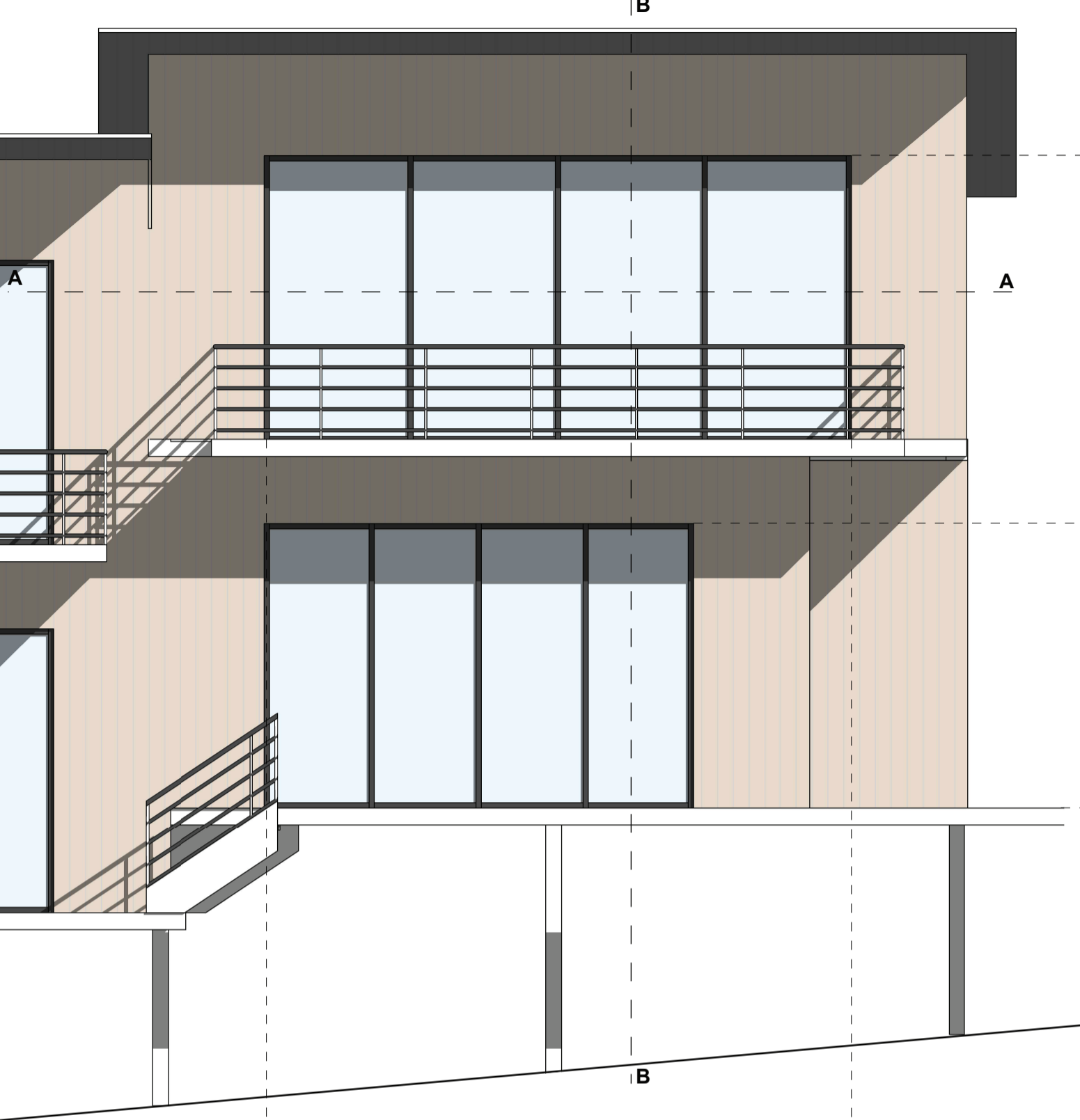
# Sections & Details

South Facade

Scale 1:50

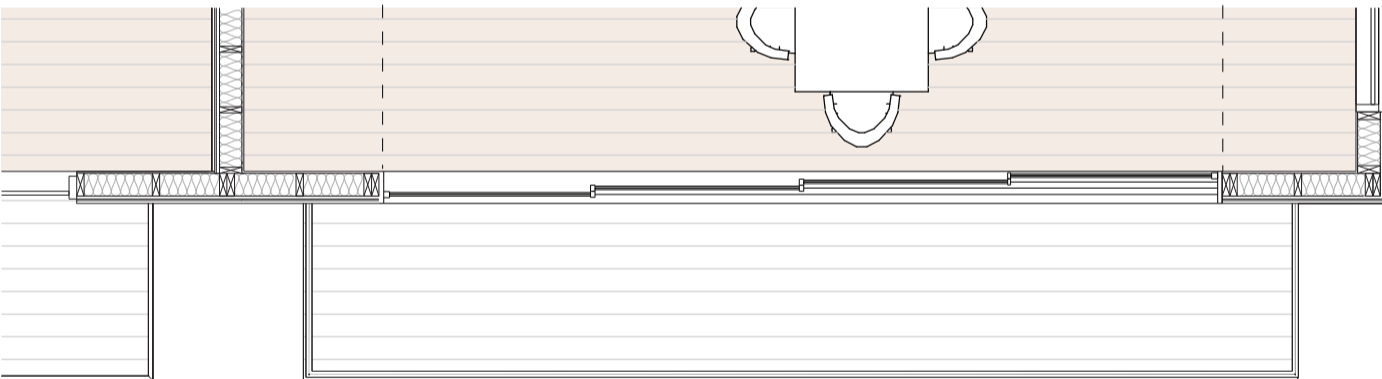
Vertical Section (B)

Scale 1:50



Horizontal Section (A)

Scale 1:50



Among the most important layers in all the components of the building is the insulation. Insulation improves internal comfort by enhancing the airtightness and maintaining the internal temperature of the building. In terms of materials, the most used material in the building is wood, as it is accessible and affordable.

Roof Detail

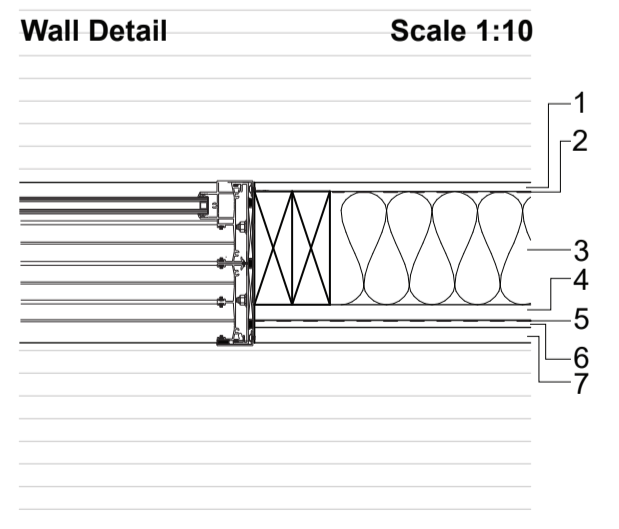
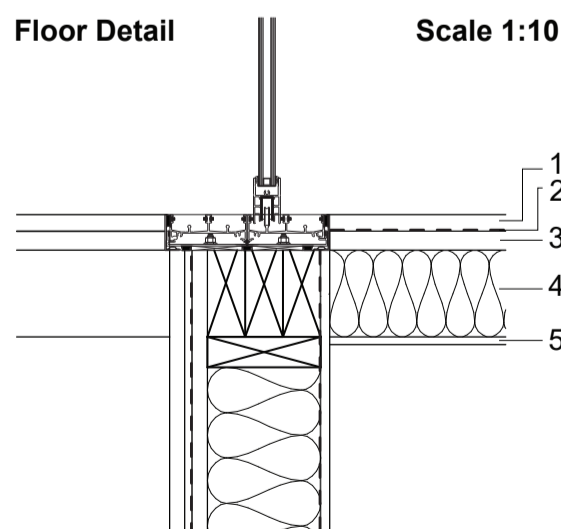
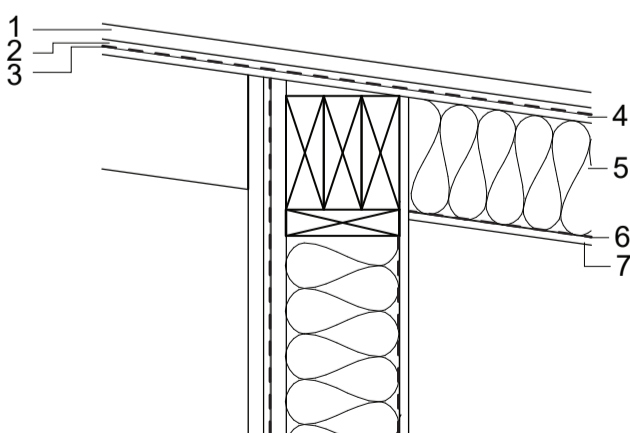
Scale 1:10

Floor Detail

Scale 1:10

Wall Detail

Scale 1:10



1. Metal Roof
2. Wood Battens & Air gap for Ventilation
3. Waterproof membrane
4. Wood Sheathing
5. Insulation
6. Vapor Barrier
7. Wood Ceiling Finish

1. Interior Finish
2. Waterproofing membrane
3. Hardwood
4. Insulation
5. Sheathing / Wood Ceiling

1. Exterior Vertical Cedar Siding
2. Horizontal Battens (Siding Support)
3. Waterproof Membrane
4. Wood Sheathing
5. Insulation & Vertical Structural Studs
6. Vapor Barrier
7. Gypsum Drywall Finish



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