



**Ahouse**  
the mother-in-law DADU

## PROJECT DESCRIPTION

“The Mother-In-Law” is a backyard cottage designed to be a comfortable, one-story home for anyone, including aging relatives. Standard building materials and a simple form keep costs low, but details such as a green roof and trellis, as well as a subdued, natural palette provide the feel of a modern, custom home. Large windows and cross-ventilation in the main living space allow for passive heating and cooling, and rainwater harvesting and a green roof are also proposed to increase energy and water efficiency.

## NARRATIVE

“The Mother-In-Law” fulfills the design criteria in the following ways:

### LOW COST / CONSTRUCTIBILITY

- A simple, efficient layout on a single story includes no “hallways” and yields a high usable area to total square footage constructed.
- Materials are chosen considering their first-cost as well as their durability, to minimize maintenance and repair costs. Two finish package options are provided for different budgets.
- A simple form and construction methods encourage homeowners to complete the construction themselves.

### GREEN BUILDING AND DESIGN

- Where possible, proposed building materials promote indoor air quality, environmental sustainability, and incorporate recycled content.
- Flexible plan configuration can allow for favorable solar orientation depending on chosen site.
- Window size and placement designed to provide cross ventilation, daylighting, and maximize solar heat gain.
- Shown with a green roof, and rainwater harvesting into a bioretention planter adjacent to the home. Efficient mechanical systems are proposed.

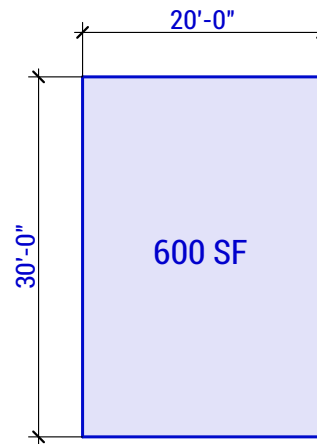
### CONTEXT / PRIVACY

- The low, single-story building preserves views for neighbors.
- The green roof helps the building to blend into the landscape as viewed from taller neighboring buildings.
- Large windows are focused on one side of the house, allowing privacy from most angles for the home's inhabitants, as well as neighbors.

### CULTURALLY RESPONSIVE DESIGN

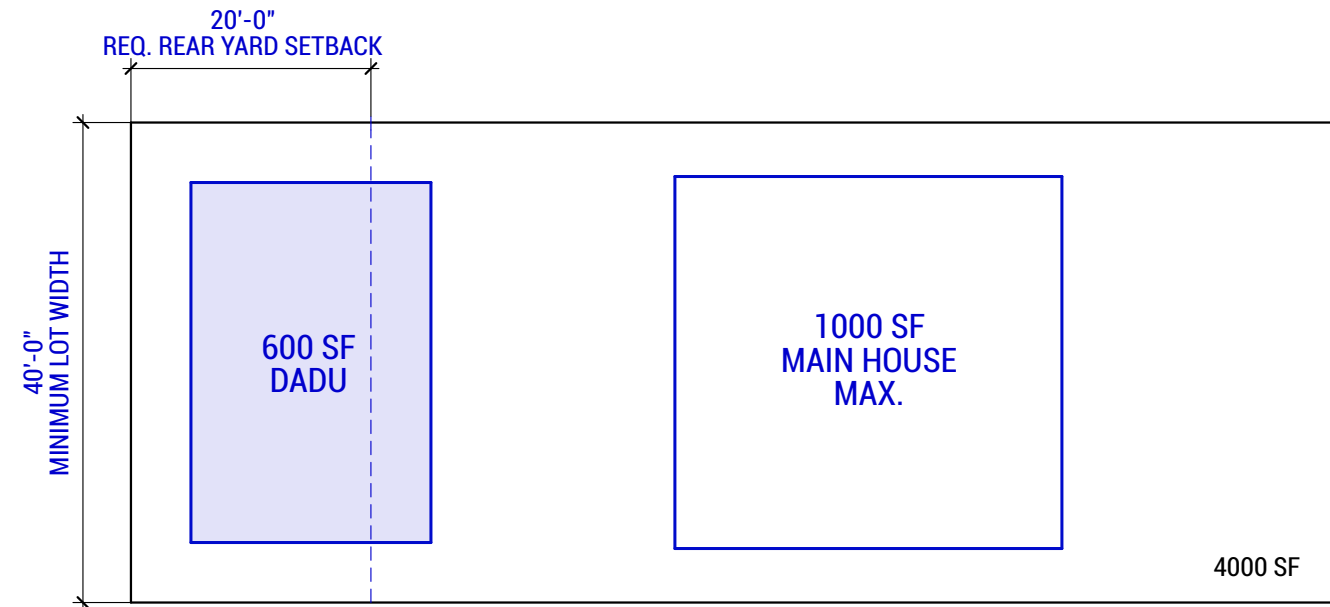
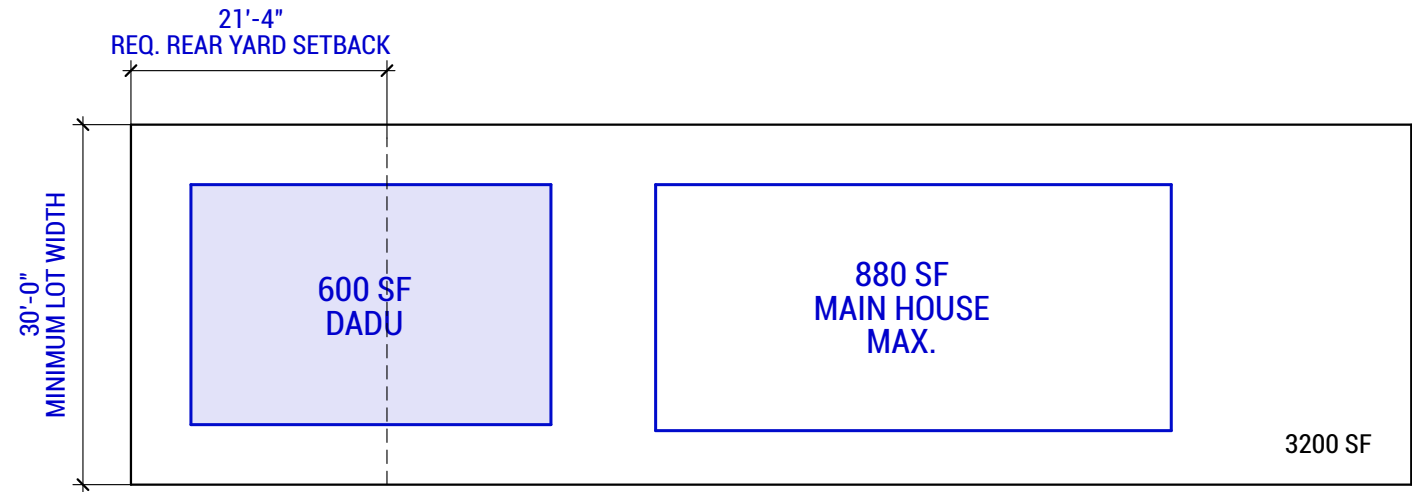
- The design works well as a true “mother-in-law,” providing a comfortable, one level home for an aging relative. It is designed as a “visitable,” unit in terms of accessibility, but simple changes could be made to make it fully wheelchair accessible (for example: enlarging the washer/dryer closet to fit side-by-side equipment).

BASE - 11'-2"



3200 SF LOT  
≥ 30' WIDE  
MAX. LOT COVERAGE = 1480 SF

4000 SF LOT  
≥ 40' WIDE  
MAX. LOT COVERAGE = 1600 SF



Considering a maximum of 60% rear yard coverage, minimum 5'-0" side yard setback, 20'-0" front yard set back, and 5'-0" principal structure separation.

### DADU DIMENSIONS

Plan Dimensions: 20'-0" x 30'-0"

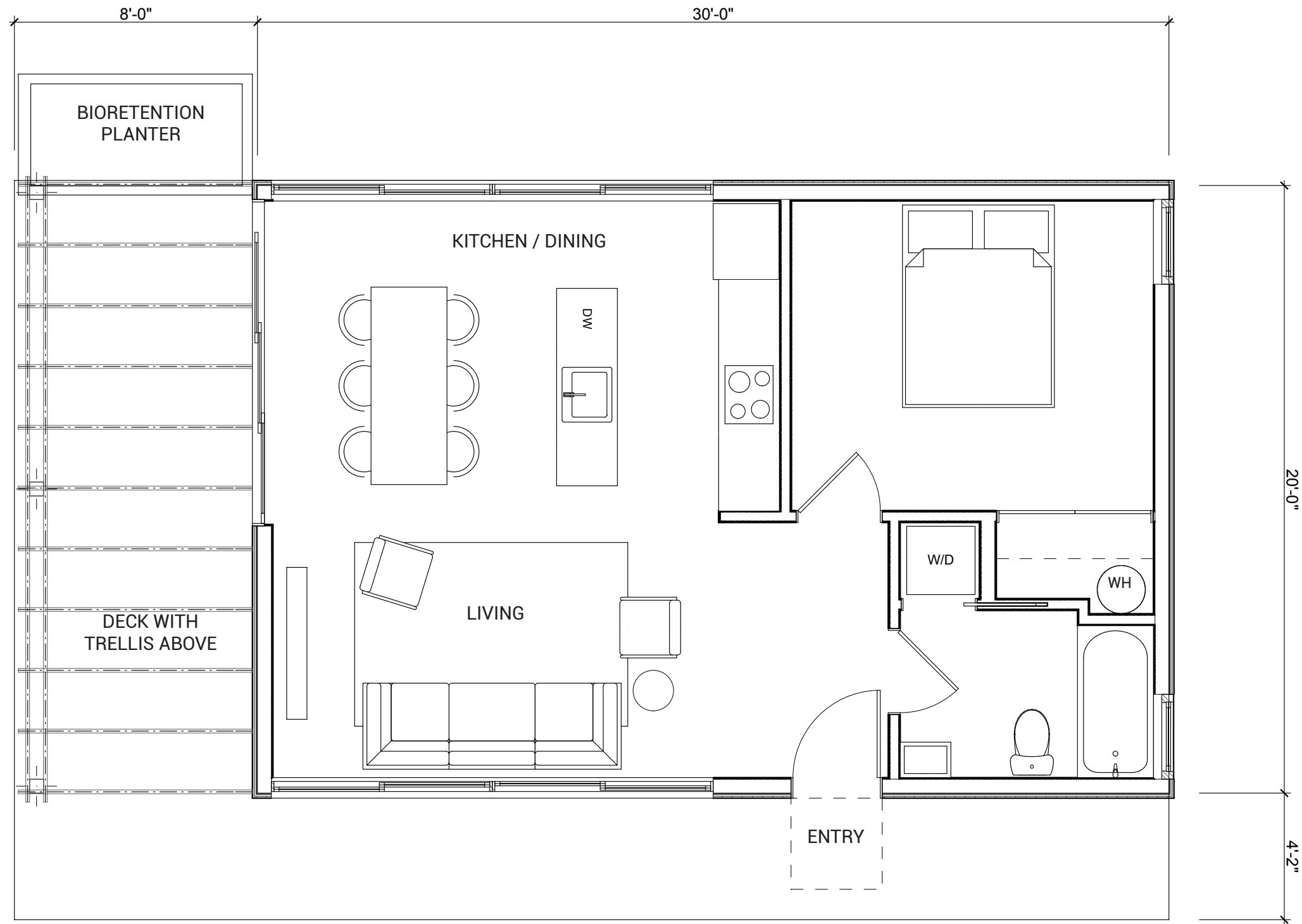
Base height: 11'-2"

Coverage area: 600 SF

### LOT CONFIGURATION

This 1-story cottage is well below the maximum allowable square footage for a backyard cottage in Seattle. Depending on the orientation of the DADU, it may be built on lots starting at 30'-0" wide.

# PRESENTATION DRAWINGS



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

NOTE: THIS IS A PRESENTATION PLAN. SEE INCLUDED DRAWING SET FOR GREATER DETAIL AND FOR ASSEMBLIES

## ROOM AREAS:

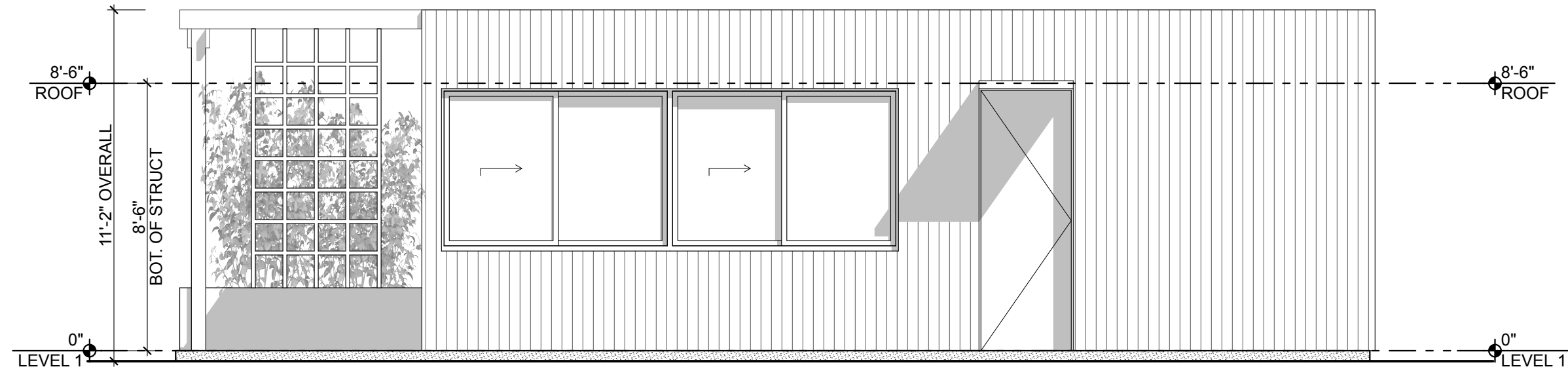
LIVING / KITCHEN / DINING: 315 SF

BEDROOM WITH CLOSET: 134 SF

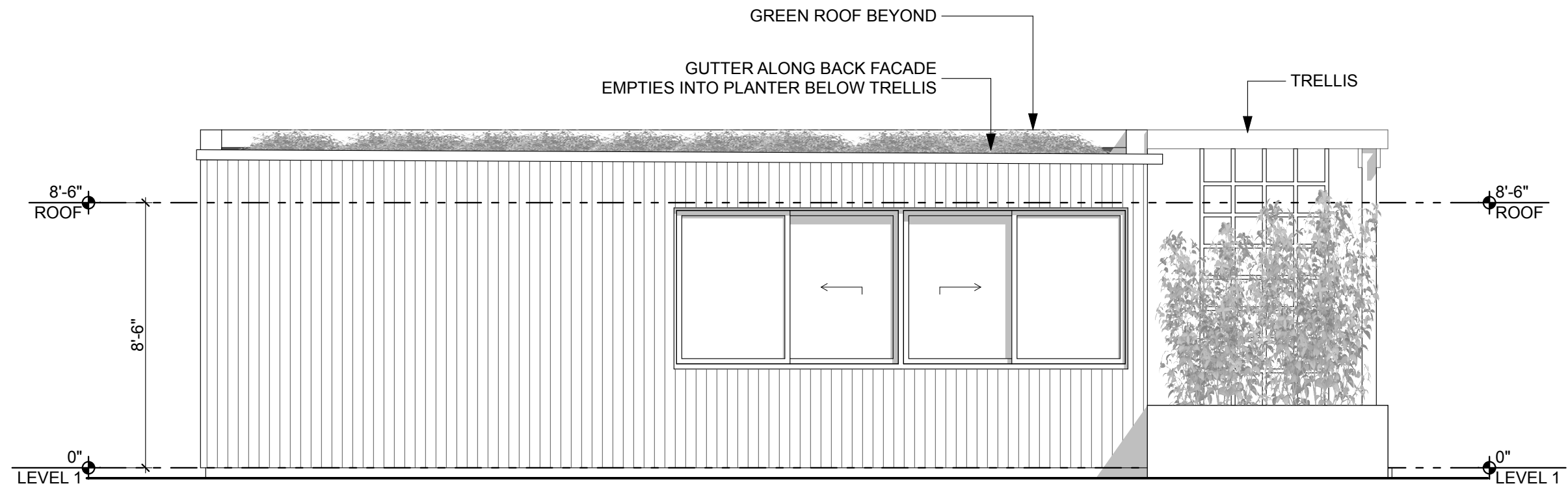
BATHROOM WITH CLOSET: 53 SF

DECK WITH TRELLIS: 156 SF

# PRESENTATION DRAWINGS



FRONT ELEVATION

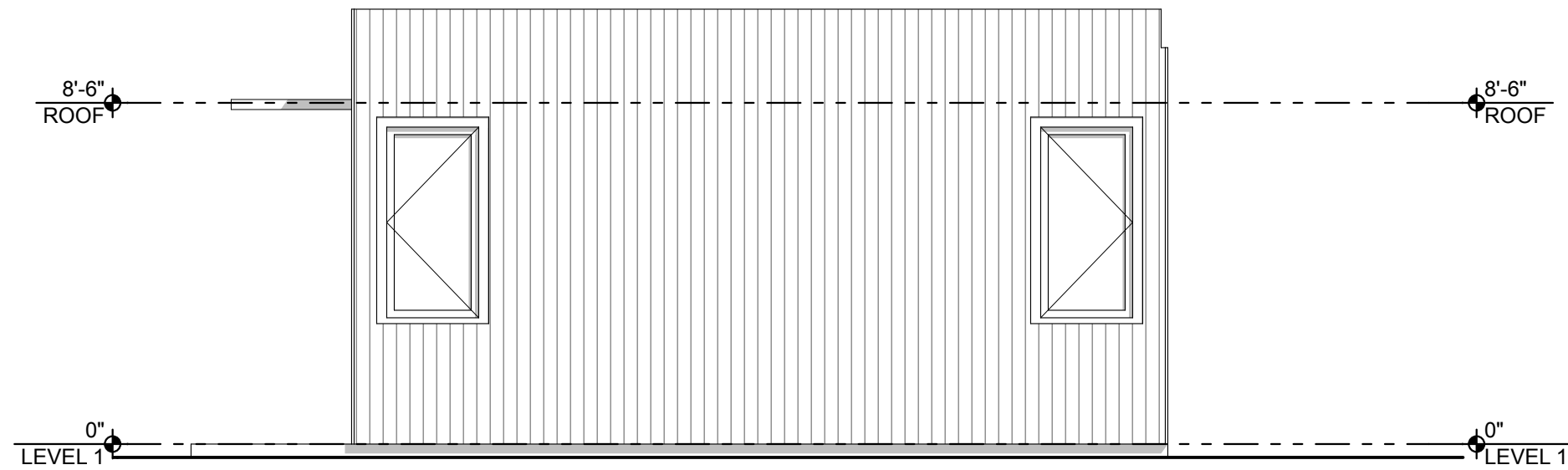
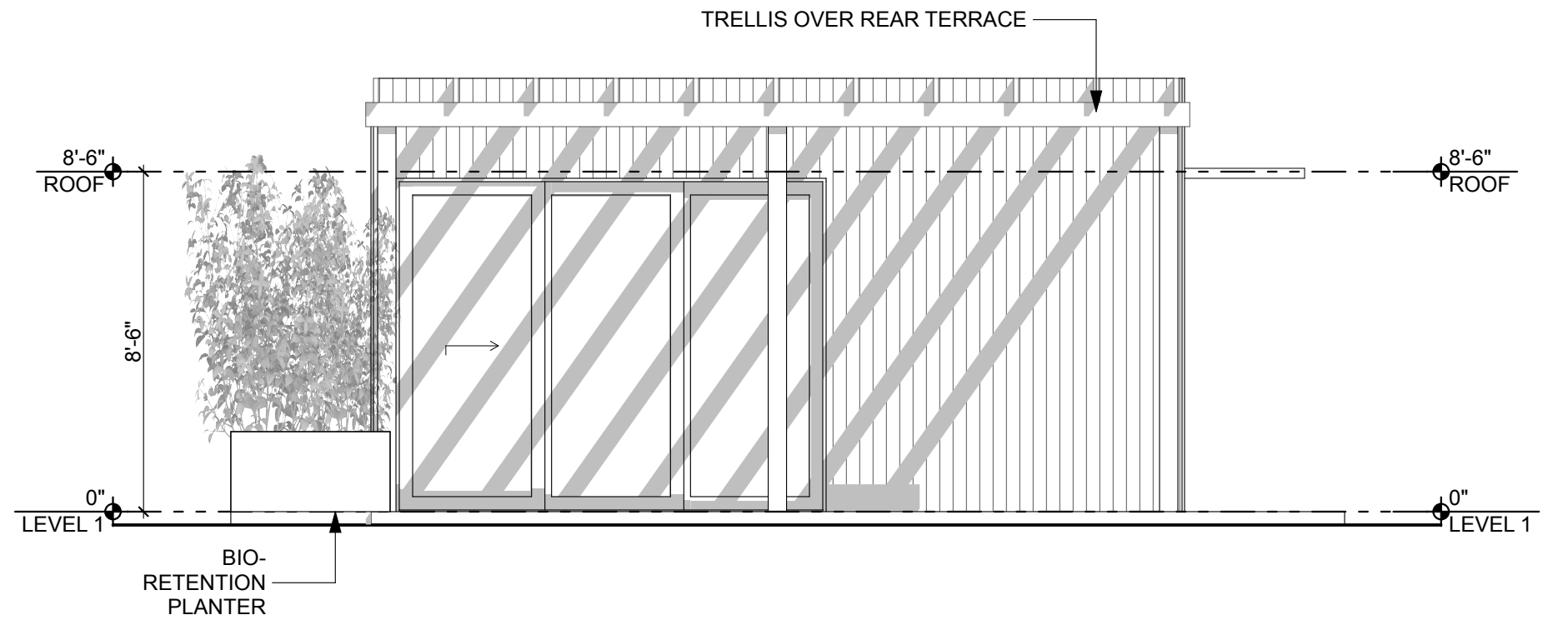


REAR ELEVATION

LONG ELEVATIONS - 1/4" = 1'-0"

NOTE: THESE ARE PRESENTATION ELEVATIONS. SEE INCLUDED DRAWING SET FOR GREATER DETAIL

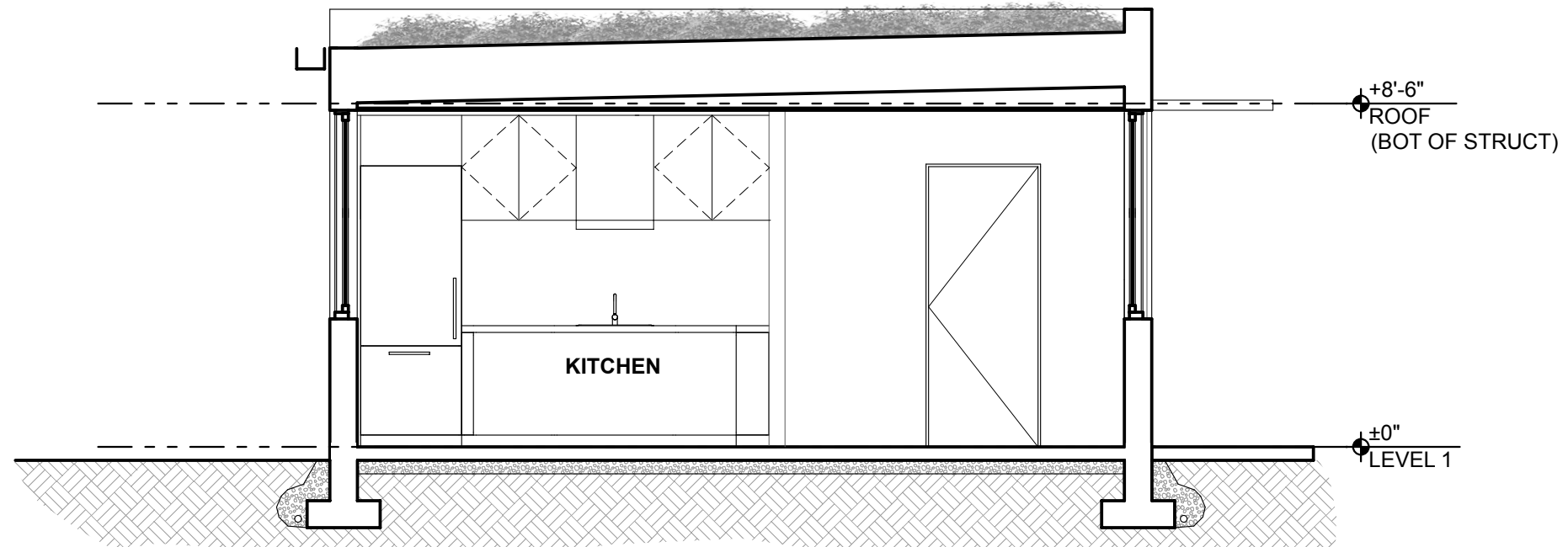
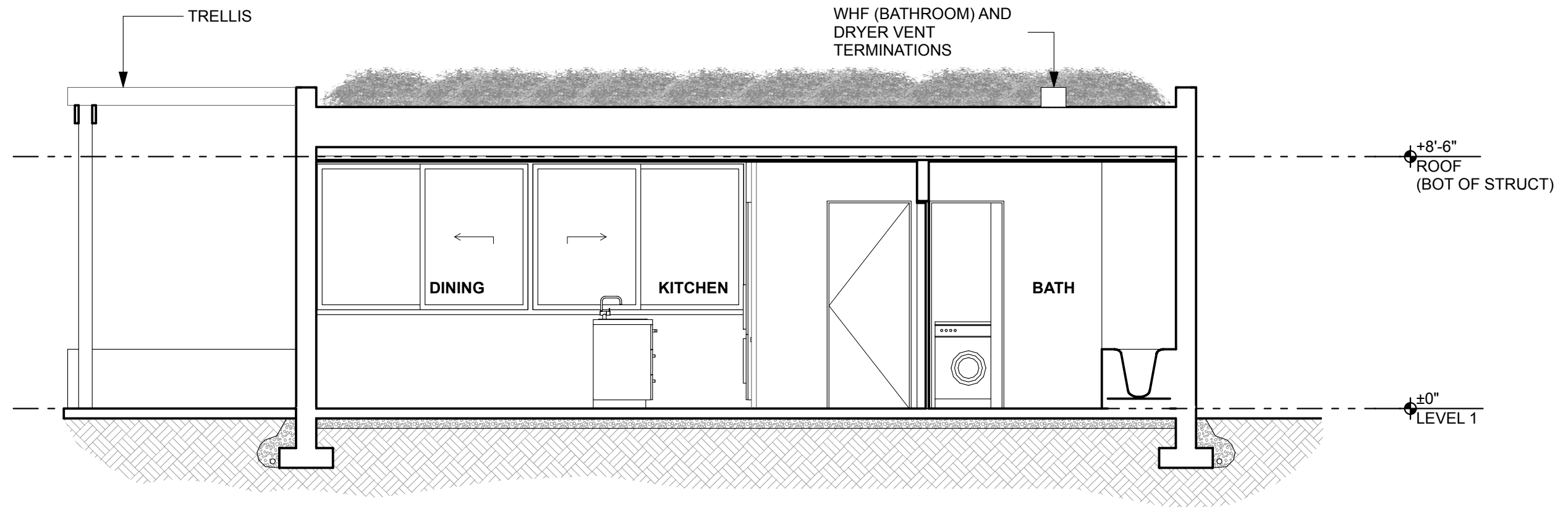
# PRESENTATION DRAWINGS



**SIDE ELEVATIONS - 1/4" = 1'-0"**

NOTE: THESE ARE PRESENTATION ELEVATIONS. SEE INCLUDED DRAWING SET FOR GREATER DETAIL

# PRESENTATION DRAWINGS



SECTIONS - 1/4" = 1'-0"

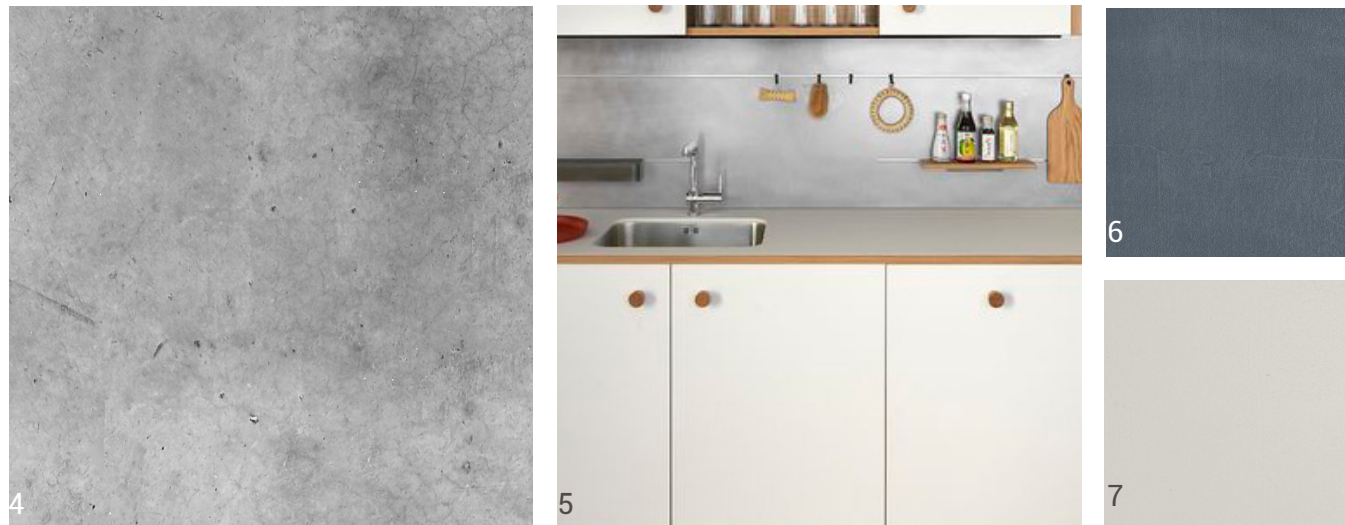
NOTE: THESE ARE PRESENTATION SECTIONS. SEE INCLUDED DRAWING SET FOR GREATER DETAIL AND FOR ASSEMBLIES



RENDERING OF INTERIOR



RENDERING OF EXTERIOR



*MATERIALS: 1. EPDM rubber Roofing. 2. HardiePanel Vertical Siding, iron gray 3. Gray Vinyl windows 4. Concrete, matte. 5. Painted plywood kitchen fronts and countertop 6. Microcement, in Royal Velvet 7. Microcement in Ivory.*

## MATERIALS PALETTE #1 LOWER GRADE

### EXTERIOR FINISHES

ROOFING: EPDM or Modified bitumen

EXTERIOR SIDING: HardiePanel vertical siding, iron gray

BASE METAL FLASHING: Prefin aluminum.

WINDOWS: Vinyl, light gray

WINDOW FLASHING: Prefin aluminum.

EXTERIOR DOORS: Vinyl, light gray, stainless steel threshold. Painted hardwood entry door.

### INTERIOR FINISHES

FLOOR THROUGHOUT: Cast in place concrete, smooth trowel and penetrating sealer, matte finish.

WALL FINISH: Painted Gypsum Board Wall Board, level 5 finish.

WALL FINISH BATHROOM: Painted GWB and Colored plaster (microcement), wear resistant and waterproof.

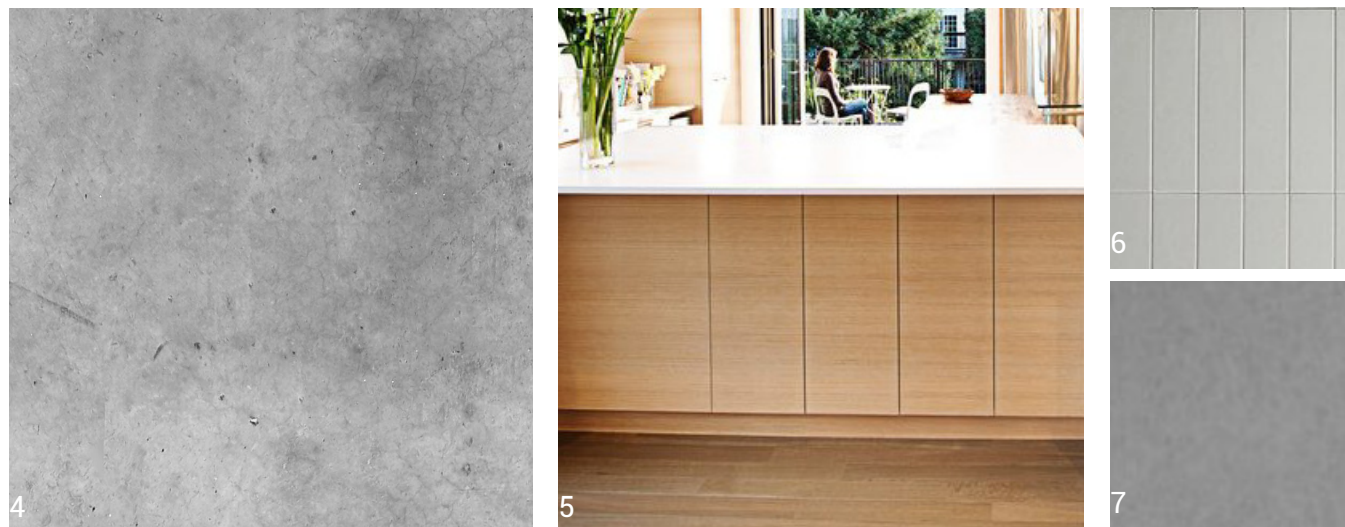
CEILING FINISH: Painted Gypsum Board Wall Board, level 5 finish.

BASEBOARD & DOOR TRIM: Painted Poplar to match wall color, semi-gloss finish.

WINDOW & DOOR RETURN: Painted GWB. Hardwood Sill.

INTERIOR DOORS: Flush panel, painted to match wall color.

KITCHEN: IKEA Metod Cabinets with painted fronts and painted plywood countertop



*MATERIALS: 1. Green Roof Tray system. 2. Charred Cedar siding 3. Dark anodized aluminum windows 4. Concrete, matte 5. Hardwood cabinet fronts 6. Vertical ceramic tiles 7. Paperstone or stainless steel counter and backsplash*

## MATERIALS PALETTE #2 HIGHER GRADE (rendered option)

### EXTERIOR FINISHES

ROOFING: Green roof tray system over membrane

EXTERIOR SIDING: 4" wide charred T&G cedar boards, vertical orientation.

WINDOWS: Aluminum-clad wood, dark anodized

WINDOW FLASHING: Painted Metal to match exterior Siding.

EXTERIOR DOORS: Aluminum-clad wood sliding doors, dark anodized. Painted hardwood entry door.

### INTERIOR FINISHES

FLOOR - THROUGHOUT: Cast in place concrete, smooth trowel and penetrating sealer, matte finish.

WALL FINISH: Painted Gypsum Board Wall Board, level 5 finish.

WALL FINISH BATHROOM: Painted GWB and ceramic tile at shower and trim.

CEILING FINISH: Painted Gypsum Board Wall Board, level 5 finish.

BASEBOARD & DOOR TRIM: Painted wood to match wall color, semi-gloss finish.

WINDOW & DOOR RETURN: Painted GWB. Hardwood Sill.

INTERIOR DOOR: Flush panel, painted to match wall color.

KITCHEN: IKEA Metod Cabinets with hardwood fronts and Paperstone countertop in pewter (or stainless steel)

## **PROPOSED GREEN BUILDING FEATURES**

### STORMWATER MANAGEMENT

400 gallon (6' x 3' x 3') rainwater harvesting tank.

### SUSTAINABLE BUILDING MATERIALS

Green roof tray system

Charred cedar siding

Zero VOC paint.

High density cellulose cavity insulation

Paperstone (recycled paper and non petroleum resin) or wood countertops.

Low flow fixtures.

Induction cooktop.

EnergyStar appliances.

## **PROPOSED MECHANICAL SYSTEMS**

### WATER HEATER

30 gallon electric water heater. Rheem 3800 Watts. Wall mounted. 19" diameter. 48" height.

Efficiency 0.93 Uniform Energy Factor (UEF)

### HEATING AND COOLING

Mini split heat pump. 18000 btu. HSPF 10.

Mitsubishi MZ-HM18NA 18,000 BTU 18 SEER Ductless Mini Split Heat.

Table 406.2 Energy credits: 3B - Air source heat pump with min. HSPF of 9.0 - 1.0 point.

## **OPTIONAL GREEN BUILDING FEATURES FOR HIGHER ENERGY PERFORMANCE**

### ADDED FEATURES

Targeting 0.6 ACH Airtight envelope.

INTUS/ZOLA high performance windows and doors.

High density cellulose cavity insulation, mineral wool exterior insulation (min. R29 walls)

### ALTERNATIVE WATER HEATER

40 gallon heat pump water heater. Reference brand: Hubbell. 28" diameter. 49" height.

EF 2.33 at ambient air temperature of 77 F.

(Uses 3x less electricity than traditional water heaters). Energy credits - option 5 c

### HRV (HEAT RECOVERY VENTILATOR)

20 to 90 CFM Zehnder ComfoAir 160

The CA160 is equipped with two class G4 filters (MERV 7/8). An optional class F7 pollen filter (MERV 13) is available for fresh air intake.

Height: 34". Width: 26.4". Depth: 10.6"

**PROJECT FEE:** Please inquire with us directly about services we can provide, including: custom design, permit drawings, site-specific permitting assistance, construction documents and standardized materials package and interior design.



**AHOUSE STUDIO**

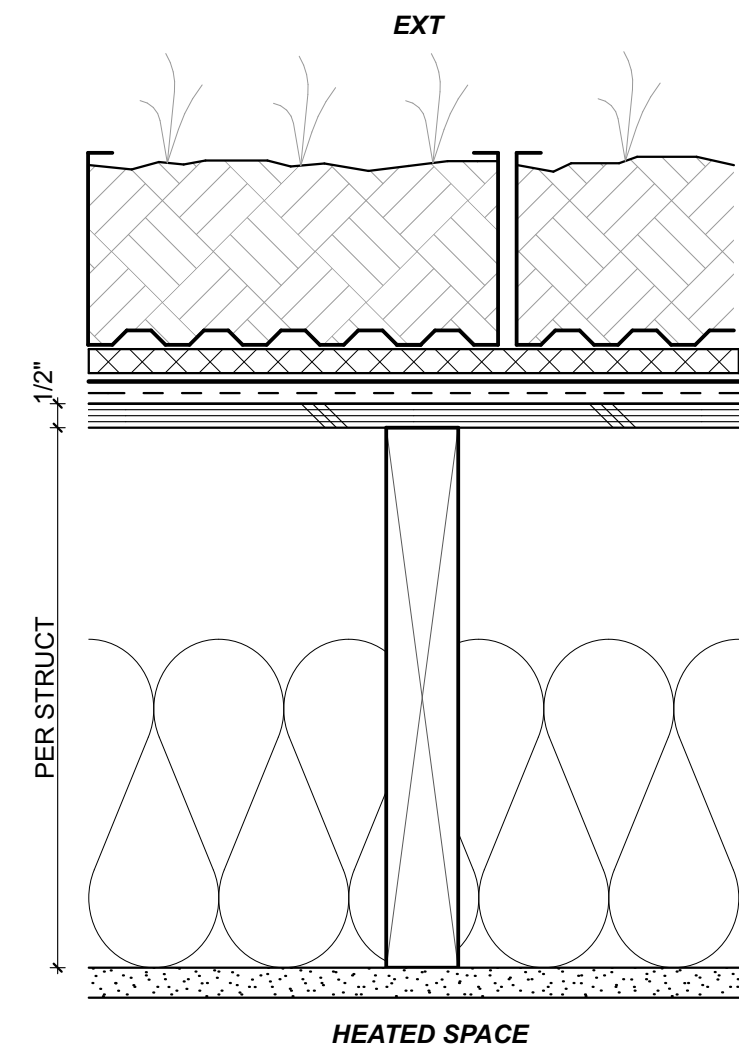
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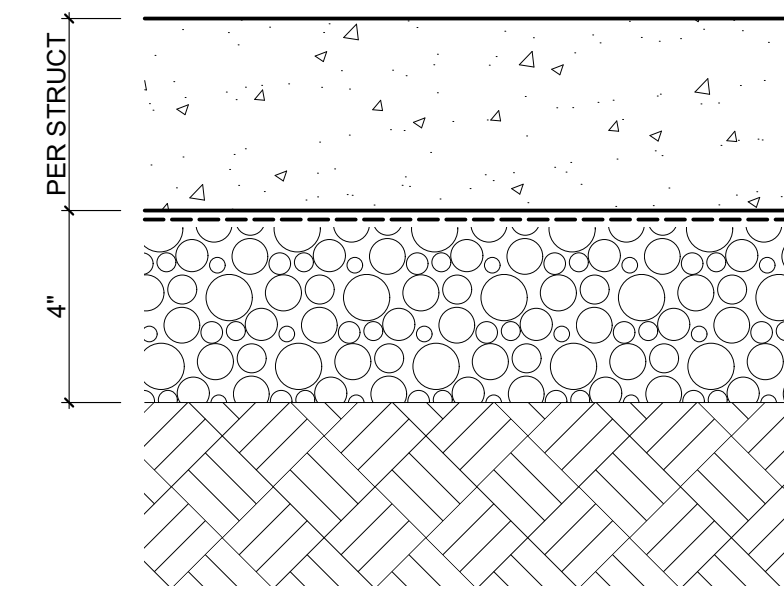




**2 ROOF ASSEMBLY - R-38 MIN\***

- 4" GREEN ROOF TRAY SYSTEM
- 1/2" DRAINAGE MAT
- ROOT BARRIER
- WATER PROOFING
- 1/2" PLYWD SHTG (PER STRUCT)
- BATT INSULATION - R-38 MIN\*
- 2X WOOD JOISTS (PER STRUCT)
- SLOPE PER PLAN
- 5/8" GWB

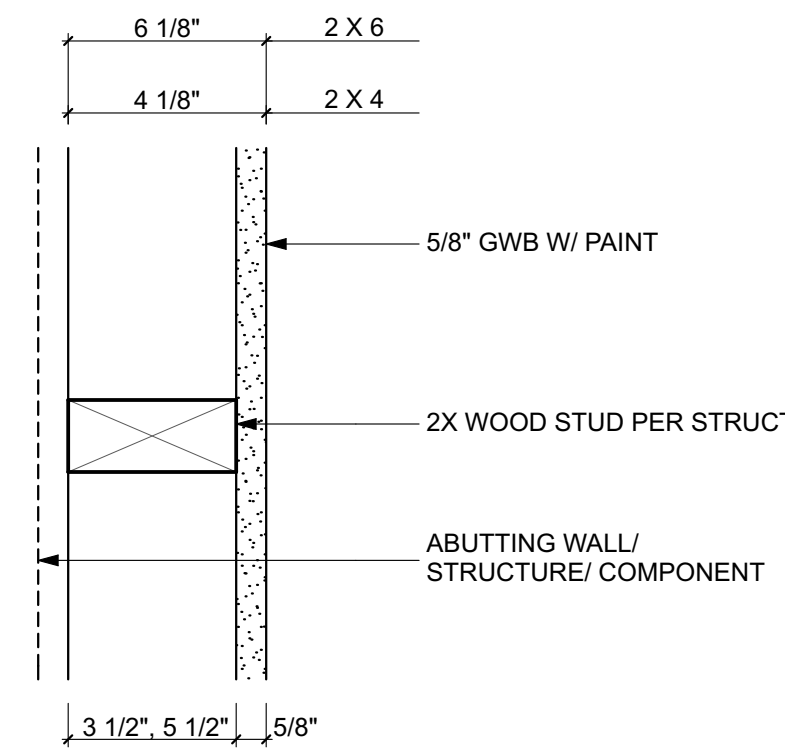
\*PER SREC, TABLE R402.1.1 NOTE K, OR PROVIDE BLOWN-IN CELLULOSE INSULATION OR EXTERIOR RIGID INSUL FOR ADDED R-VALUE



**1 TYP. SLAB ON GRADE**

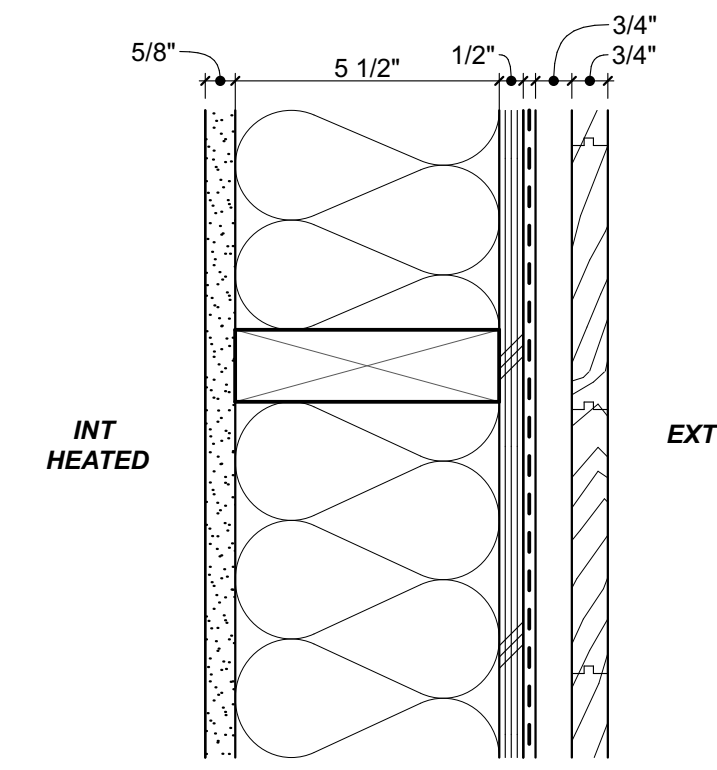
- CONCRETE SLAB PER STRUCT
- VAPOR BARRIER
- 4" MIN GRAVEL STRUCTURAL FILL

PROVIDE R-10 RIGID INSUL 24" WIDE @ PERIMETER OF SLAB BELOW HEATED SPACE, AND EXTENDED DOWN TO TOP OF FOOTING, TYP



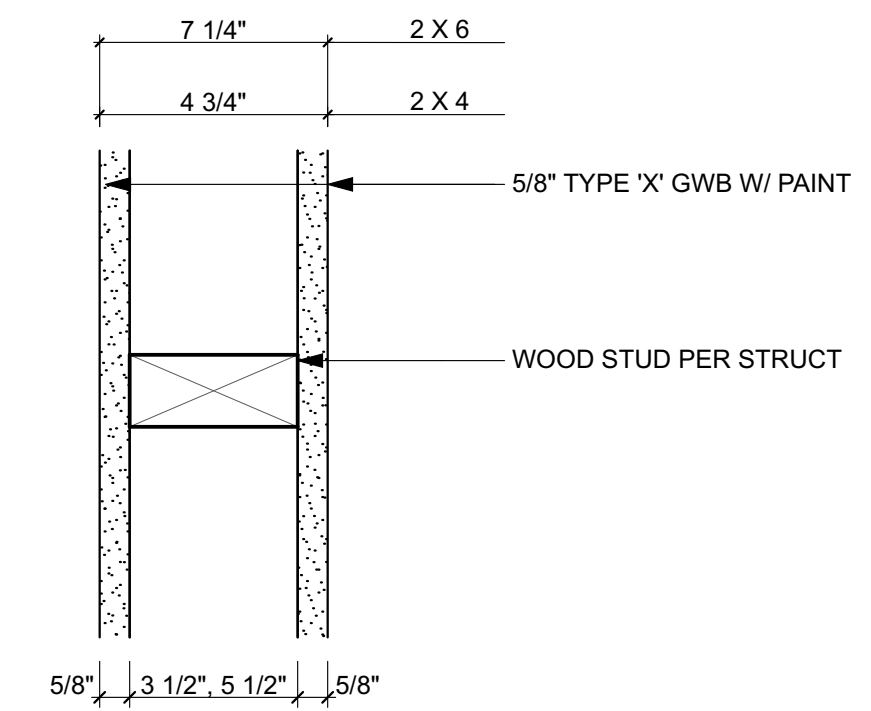
**E WOOD STUD FURRING WALL - 2 x 6 STUD**

**D WOOD STUD FURRING WALL - 2 x 4 STUD**



**Z1 WOOD STUD WALL W/ WD RAINSCREEN CLADDING - R-21 MIN**

- 3/4" WOOD CLADDING
- 3/4" WD FURRING, SLOPED TOP, TREATED W/ SBX AFTER RIPPING TO SIZE
- WRB - (AIR BARRIER)
- 1/2" PLYWD
- 2X6 WD STUDS @ 16" OC
- 5/8" BATT INSUL - R-21 MIN - OR - BLOWN-IN HIGH DENSITY CELLULOSE INSUL - R-21 MIN
- 5/8" GWB W/ VAPOR RETARDER PAINT



**B TYP. INTERIOR WOOD STUD WALL - 2 x 6 STUD**

**A TYP. INTERIOR WOOD STUD WALL - 2 x 4 STUD**

**GENERAL NOTES**

1. GYP BD IS 5/8" U.N.O.
2. CEMENTITIOUS BACKER IS 5/8"
3. STUD SIZES ARE PER PARTITION TYPE
4. WHERE ENDS OF PARTITION ABUT OTHER CONSTRUCTION PROVIDE RELIEF JOINT
5. SHEAR WALLS PER STRUCTURAL SCHEDULE
6. ALL EXPOSED GYP BOARD TO BE LEVEL 4 FINISH U.N.O.

**DADU Mother-In-Law**

OWNERS:  
X

DPD PROJECT # XXXXXXXX

PARCEL #XXXXXXXX

**PROJECT DESCRIPTION**

CONSTRUCT NEW 1-STORY DETACHED ACCESSORY DWELLING UNIT IN REAR YARD OF EXISTING SINGLE FAMILY RESIDENCE

ADDRESS  
XX  
SEATTLE

DESIGN  
AHOUSE

**NOTES**

REVISION	ID	CHANGE NAME	DATE

ISSUE DESIGN DEVELOPMENT  
DATE 2/17/2020  
DRAWN BY EA

SHEET TITLE  
**BUILDING SECTIONS / ASSEMBLIES**

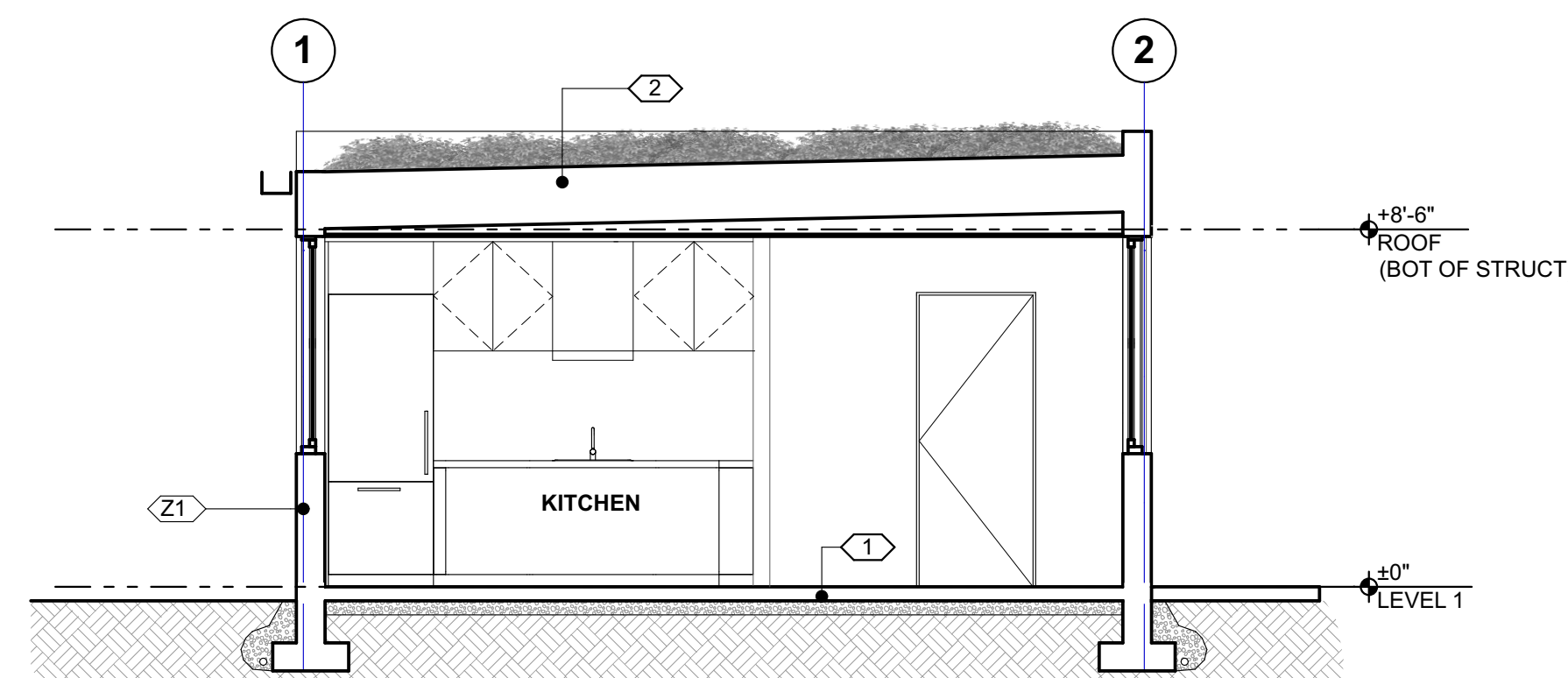
SHEET

**A400**

SCALE AS INDICATED



**2 SECTION EE - LONG**  
SCALE: 1/4" = 1'-0"



**1 SECTION DD - SHORT**  
SCALE: 1/4" = 1'-0"