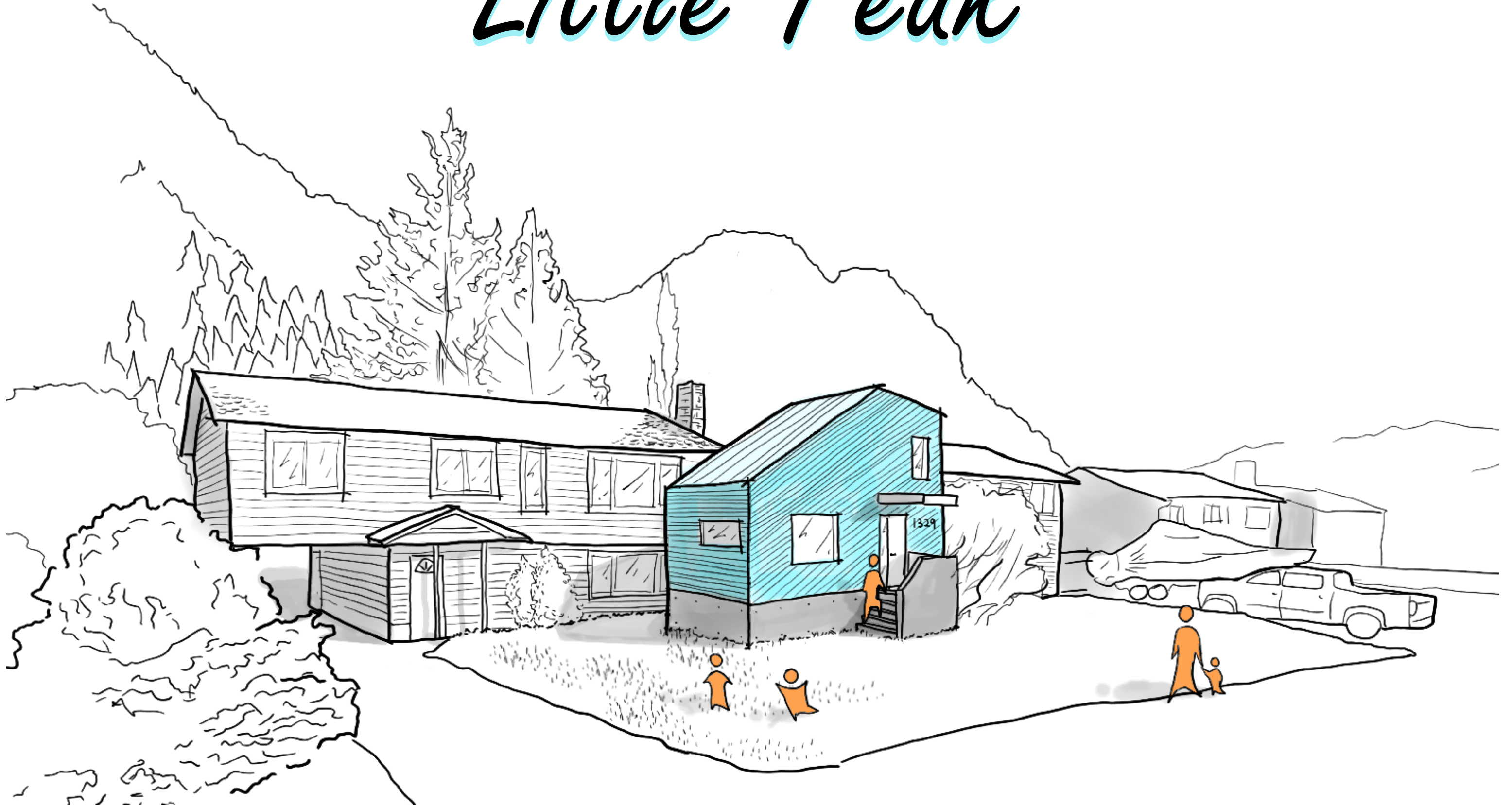
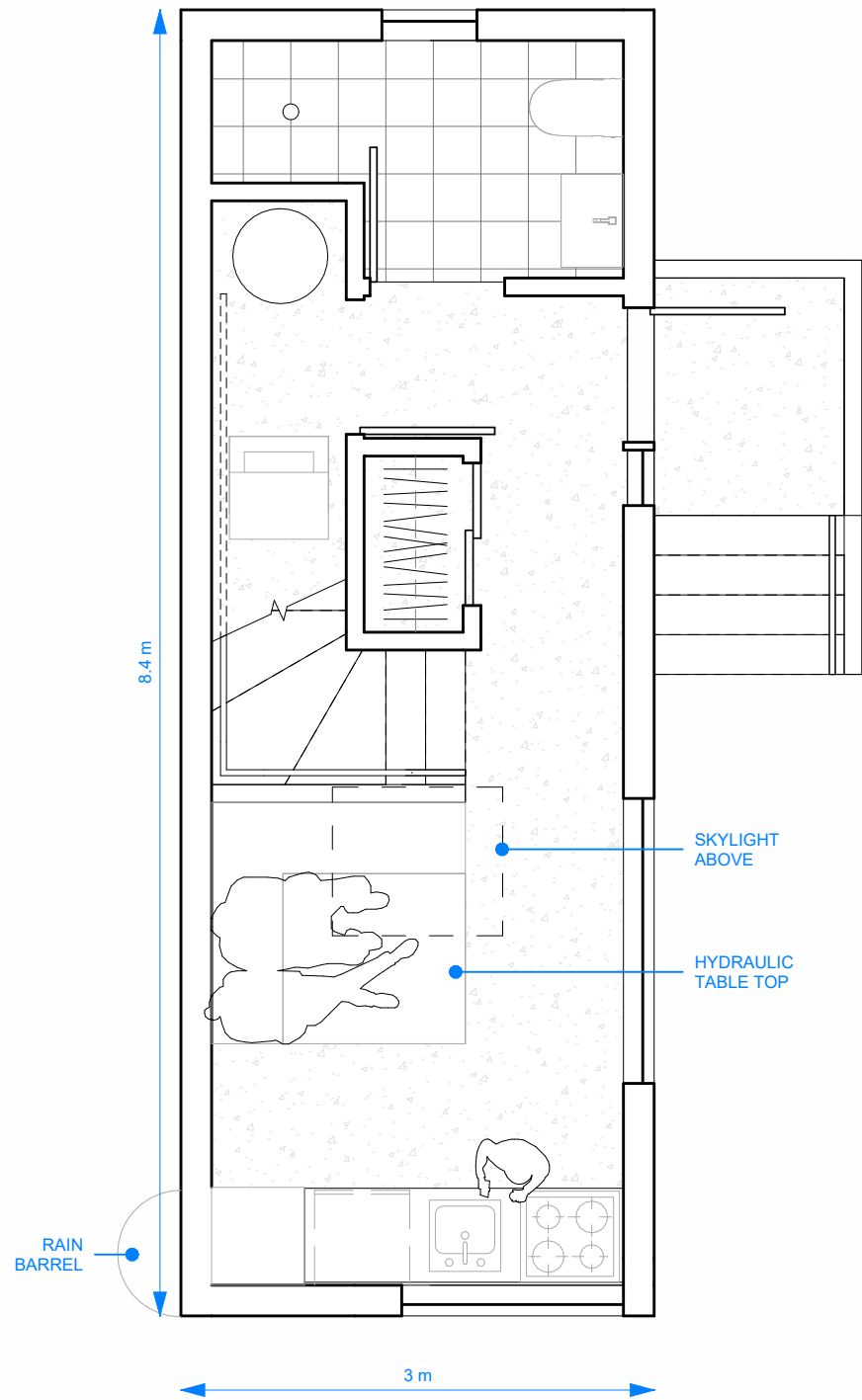
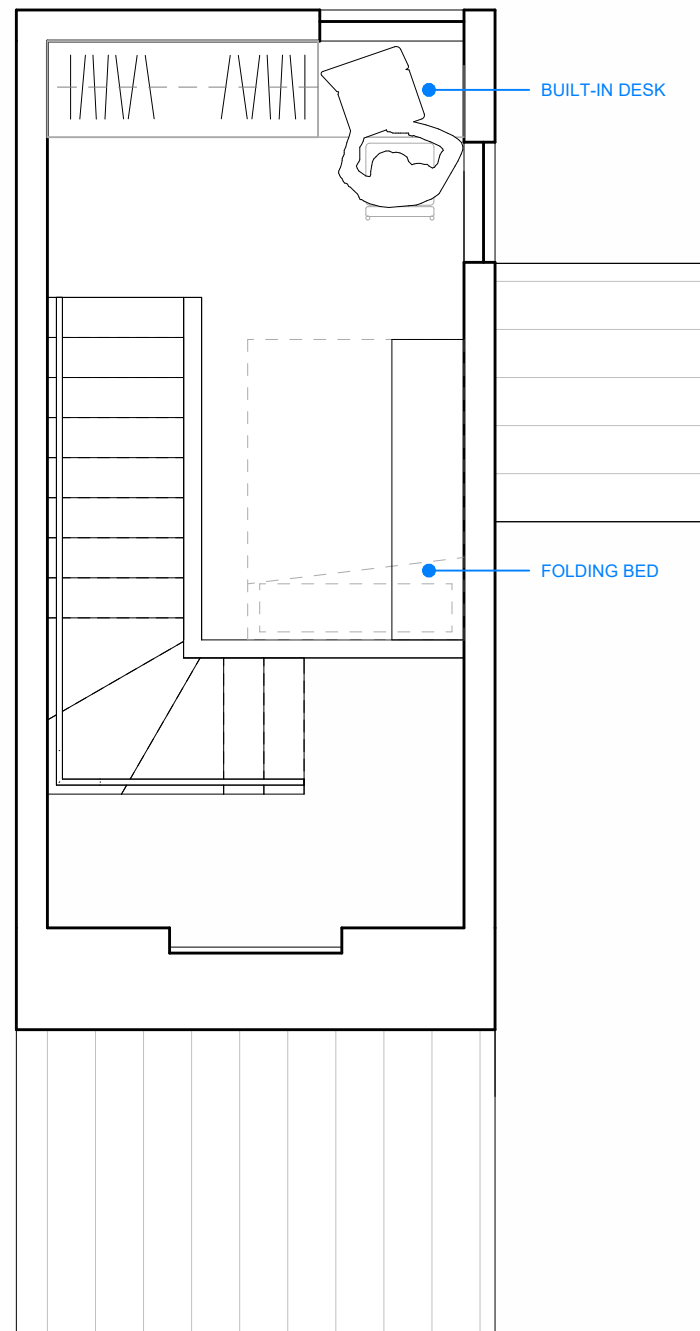


# Little Peak

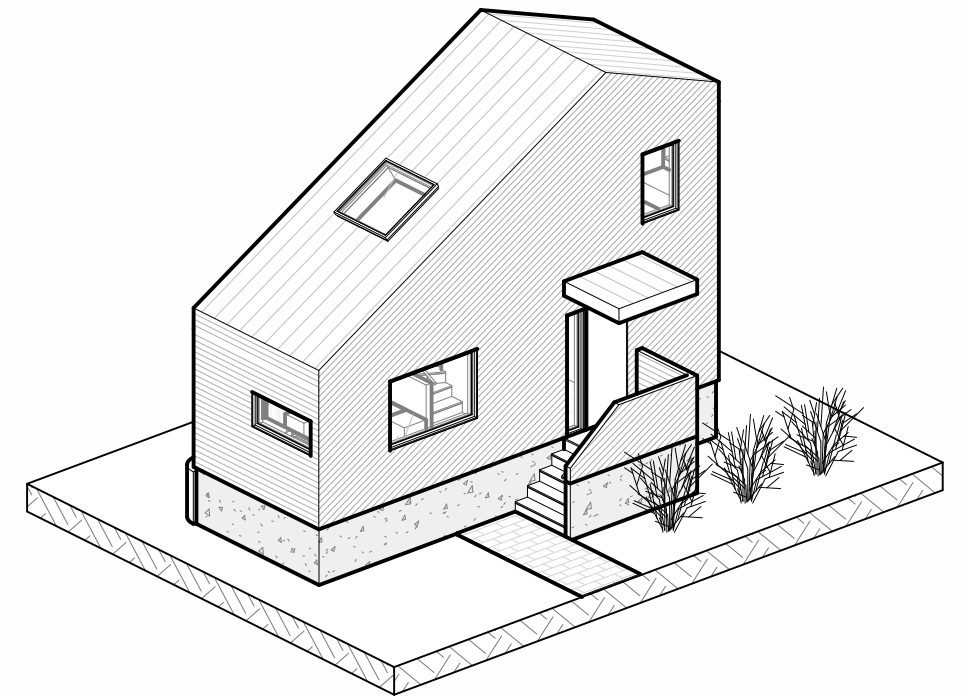




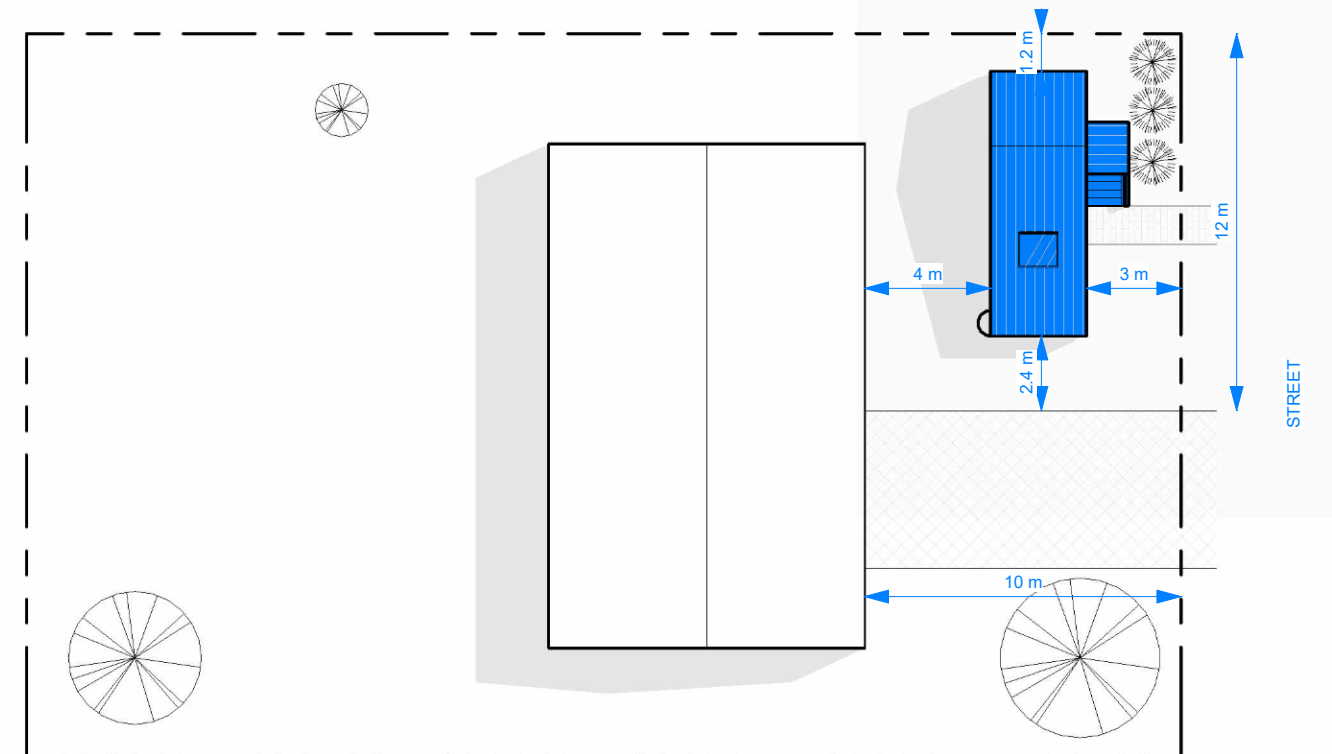
GROUND FLOOR PLAN



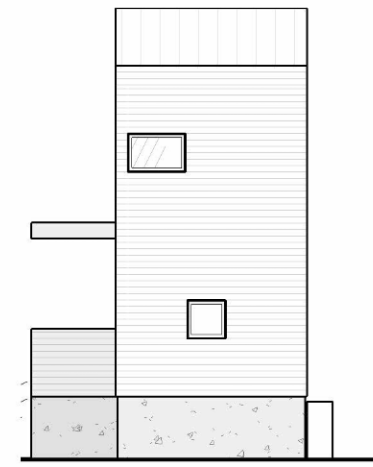
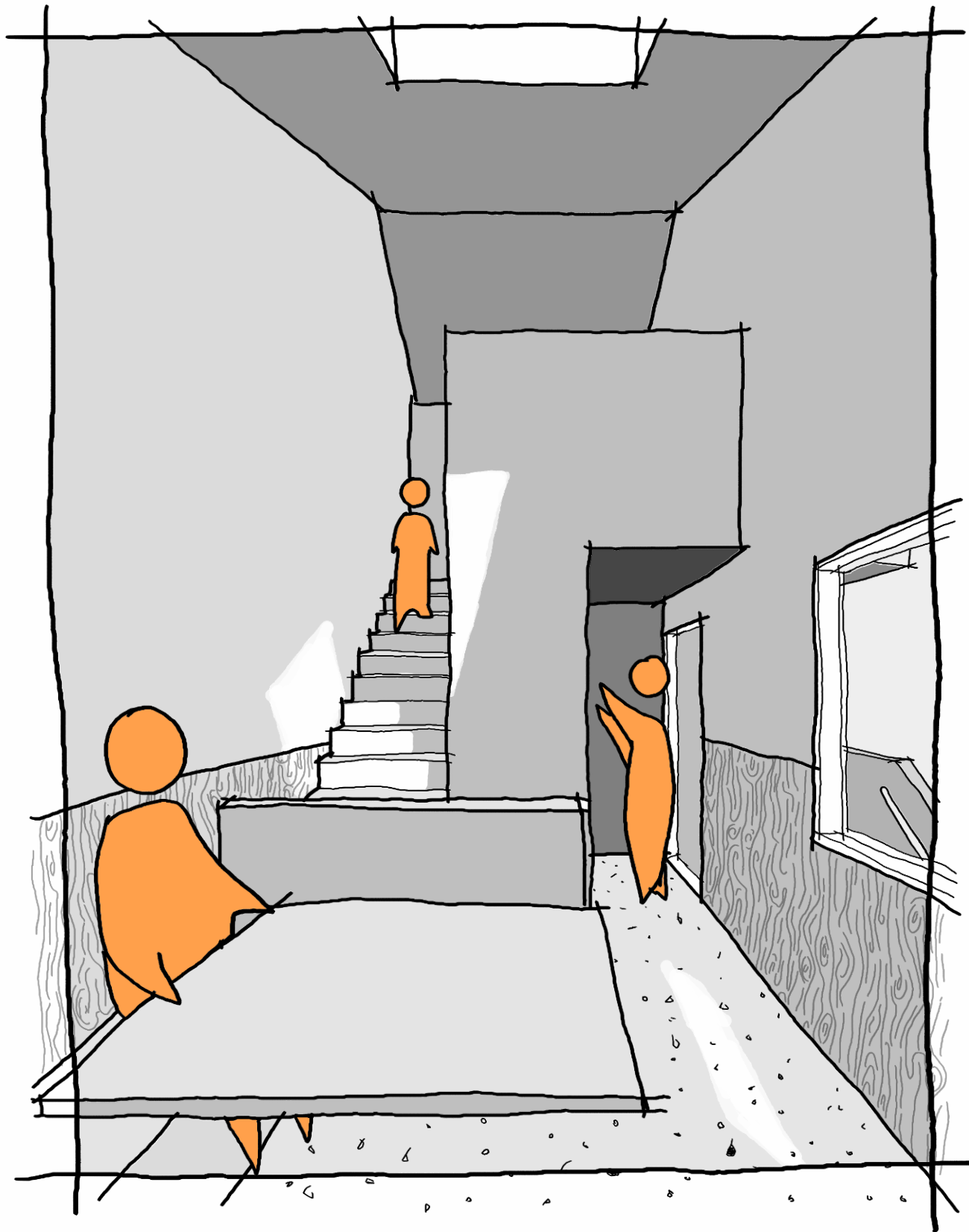
UPPER FLOOR PLAN



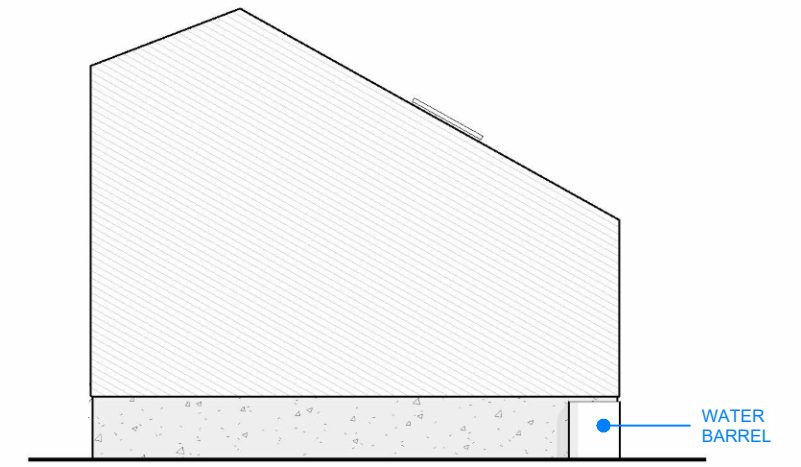
ISOMETRIC



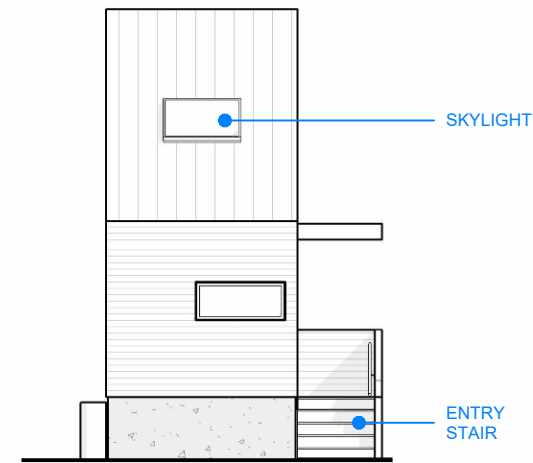
SITE PLAN



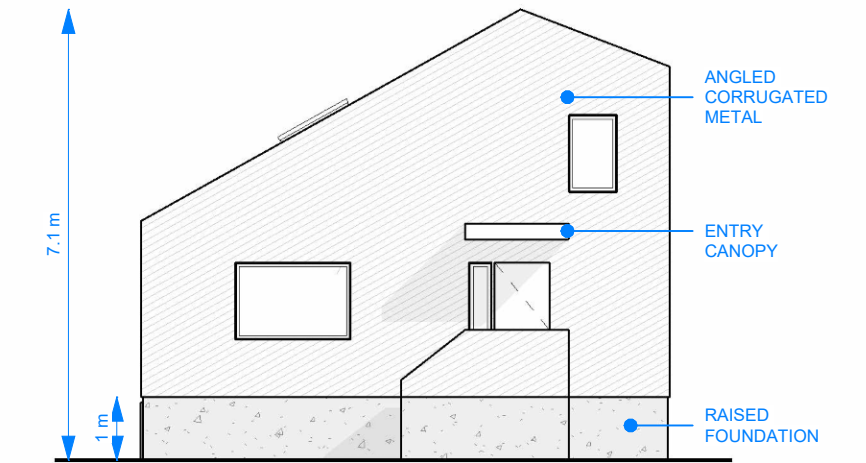
ELEVATION - SIDE



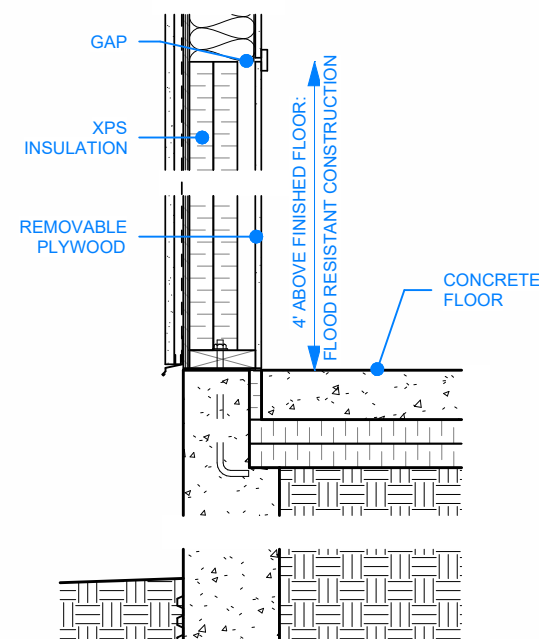
ELEVATION - REAR



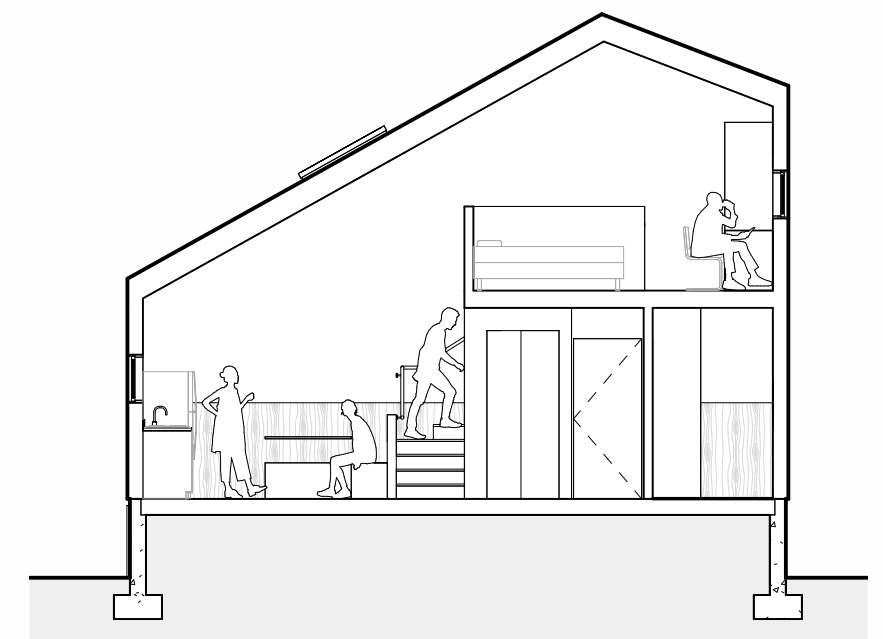
ELEVATION - SIDE



ELEVATION - STREET



DETAIL



SECTION

# Little Peak

## Aesthetics

- Tiny Highlands is strategically situated at the front corner of the lot to minimize shadowing and visual interference with the existing house. Measuring just shy of 8.4 meters in length, the ADU leaves enough space for a path beside the driveway to the primary dwelling's front entrance. There is a 4-meter gap between the two buildings, and with a 3-meter setback from the front property line, the front yard ADU is 3 meters wide.
- The building is one story high on the driveway side, gradually increasing in height towards the side yard to reduce the impact on the primary dwelling.

## Innovation & Creativity

- The innovation of this building lies in providing a livable and flexible living space within a small footprint.
- The design of this studio dwelling features a linear space with a straight staircase leading to a loft. The kitchen and dining rooms as well as the washroom and service spaces are located on the ground floor, with the bedroom and study area in the loft.
- The double-height ceiling gives the entire unit an airy feel despite its limited floor area.
- The dining table and seats are built-in, with a hydraulic top on the table that lowers to form a large platform for lounging.
- The bed upstairs folds up sideways, providing ample open space during the day.

## Affordability & Cost-Effectiveness

- The construction cost of the ADU is low due to its compact size. The small footprint minimizes foundation and roof costs, which are typically expensive. Although the metal roof has a higher upfront cost compared to shingles, it offers a much longer lifespan and requires minimal maintenance.

## Sustainability & Resilience

- The building design incorporates rainwater harvesting, offering two major benefits: delaying peak runoff during heavy rain to reduce flooding risk and infrastructure burden, and using collected water for irrigation, which helps reduce water consumption and replenish groundwater aquifers.
- 55-gallon rain barrels is installed at the corner of the building to collect rainwater from the roof.
- Additionally, owners can opt for green stormwater infrastructure such as rain gardens and bioswales to reduce stormwater runoff.
- The building is designed for optimal performance with passive lighting, heating, and cooling. Windows are strategically placed to provide natural light in key areas like the kitchen, work table, living room, and over the staircase. The unit features windows on opposite ends to allow for cross-ventilation, with extruded frames that provide shade in summer and allow light in winter.
- For flood resilience, the building is elevated 1 meter off the ground. Up to 4 feet from the finished floor, the interior finish consists of plywood with rigid insulation in the walls, ensuring resilience and minimal damage in the event of flooding above the 1-meter level. The ground floor is polished concrete which will not be damaged by water.
- Electrical plugs are located 3 feet off the floor, and appliances are placed on pedestals for added safety.

## Accessibility & Universal Design

- The kitchen will feature a removable base cabinet.
- The bathroom will have plywood backing behind the walls to facilitate the installation of grab bars as needed.

### Project Data

Name	Tiny Highlands
Type	Category 3: Front Yard ADU
Flood Construction Level	1.0 m

Parking	N/A
Height	7.1 m
Gross Floor Area	38 m <sup>2</sup>
Rooms	1 Loft Bedroom 1 Full Bathroom 1 Living Room / Kitchen / Dining
Key Features	- Small space Living

## Energy Performance

The energy performance meets and in most areas exceeds the prescriptive requirements in BCBC 2024. The assemblies utilize standard construction materials that are easy to source and are affordable. Wood helps to sequester carbon, while mineral wool insulation is made up of 70% recycled material and is recyclable.

	Assembly	Thermal Resistance
Walls	<ul style="list-style-type: none"> <li>- Cladding</li> <li>- VP Waterproof membrane</li> <li>- R24 5 1/2" Mineral Wool Insulation</li> <li>- 2×6 Wood Studs @ 16" o.c.</li> <li>- Vapour Barrier</li> <li>- 1/2" Gypsum Board</li> </ul>	R24
Roof	<ul style="list-style-type: none"> <li>- Metal Roof Cladding</li> <li>- Drainage Mesh</li> <li>- Roof Membrane</li> <li>- 5/8" Plywood Sheathing</li> <li>- R32 8" Mineral Wool Insulation</li> <li>- 2×10 Wood Joists @ 16" o.c.</li> <li>- Vapour Barrier</li> <li>- 5/8" Gypsum Board</li> </ul>	R32
Slab On Grade	<ul style="list-style-type: none"> <li>- 4" Polished Concrete</li> <li>- Vapour Barrier</li> <li>- 4" Rigid Insulation</li> </ul>	R20
Vinyl Windows	<ul style="list-style-type: none"> <li>- Double pane, argon filled</li> <li>- Low-E coating</li> </ul>	U-Value: 0.32
Fibreglass Entry Door	<ul style="list-style-type: none"> <li>- Fibreglass</li> </ul>	U-value: 0.20

Estimated Construction Cost

Design & Engineering	\$10,000
Permit Fees	\$10,000
Utility Connections	\$10,000
Construction	\$125,000
Total	\$155,000