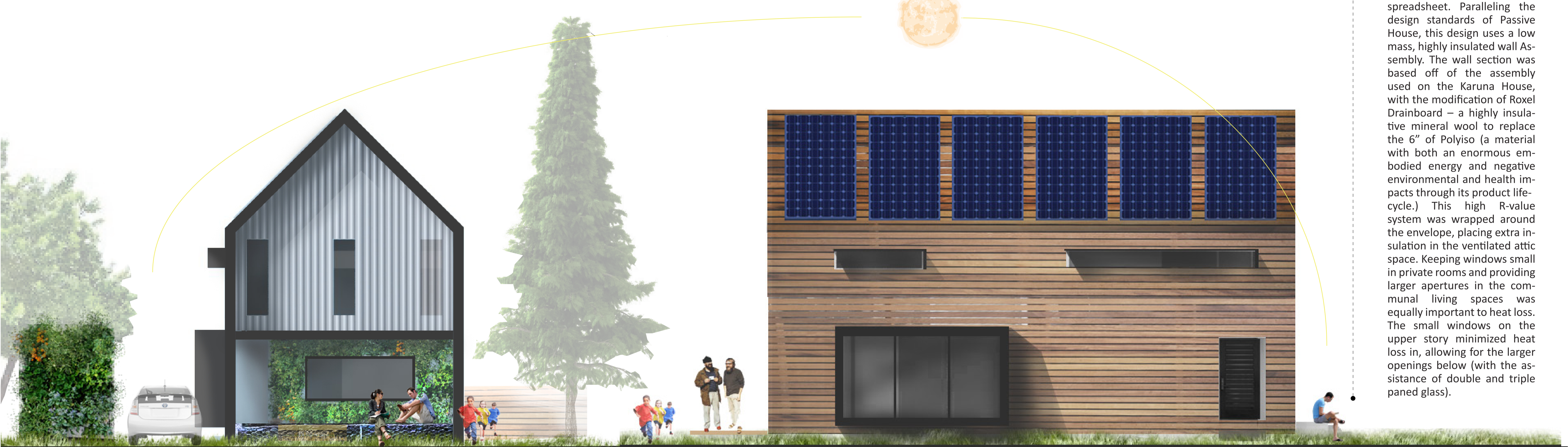


1,580 sf

Size matters - at 1581 sf, the architecture maximizes the amount of usable space while staying compact and humble to the neighborhood.

HO[MIN]ID

The goal of this project was to loosely follow Passive House standards in order to achieve a high performance envelope and overall system, while creating a truly flexible environment for a forward thinking. There is far more that goes into sustainability than what can be shown on an energy spreadsheet. Paralleling the design standards of Passive House, this design uses a low mass, highly insulated wall Assembly. The wall section was based off of the assembly used on the Karuna House, with the modification of Roxel Drainboard – a highly insulative mineral wool to replace the 6" of Polyiso (a material with both an enormous embodied energy and negative environmental and health impacts through its product life-cycle.) This high R-value system was wrapped around the envelope, placing extra insulation in the ventilated attic space. Keeping windows small in private rooms and providing larger apertures in the communal living spaces was equally important to heat loss. The small windows on the upper story minimized heat loss in, allowing for the larger openings below (with the assistance of double and triple paned glass).

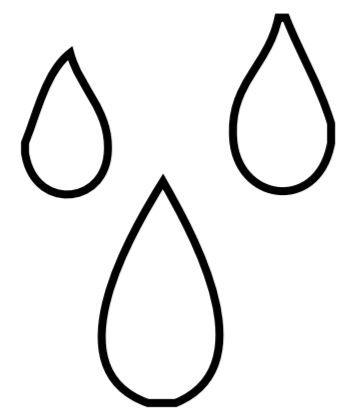


SUSTAINABLE COMMUNITY



Sustainable housing starts with sustainable people. First and foremost is designing a space and environment that empowers people to live sustainably.

WATER COLLECTION



Rainwater can be recycled for flushing toilets and watering plants and lawn. Storage tanks are underground.

"RIGHT SIZE"



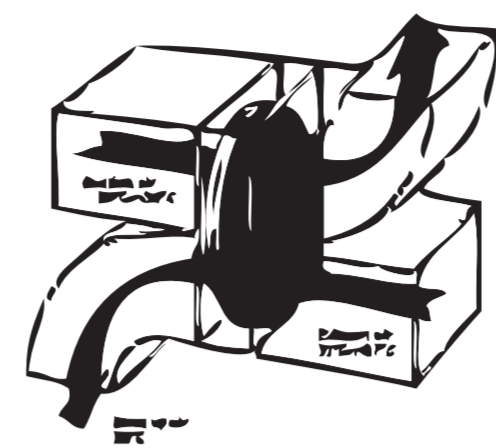
Keeping the house only as big as it needs to be reduces energy required for heating and cooling the space.

SUPER INSULATION



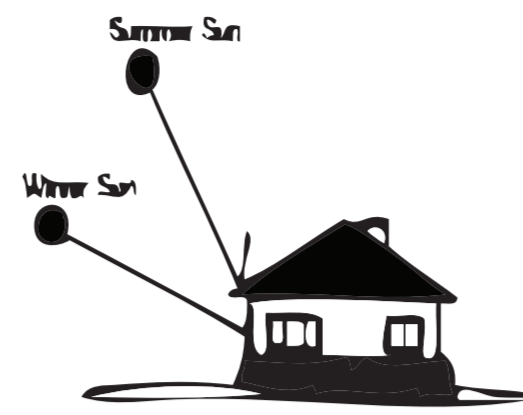
Steep pitched vented roof with High density cellulose insulation (R-21) ceiling, along with the rest of the high performance wall system make up the building envelope.

ACTIVE HEAT EXCHANGE VENTILATOR



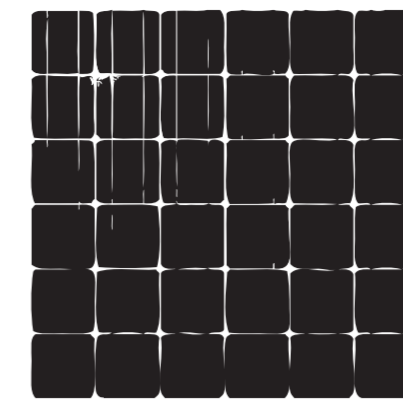
An ultra-energy efficient way of keeping heat in, cleaning and drying the air, while maintaining high level of comfort in the home.

PASSIVE HEATING AND COOLING



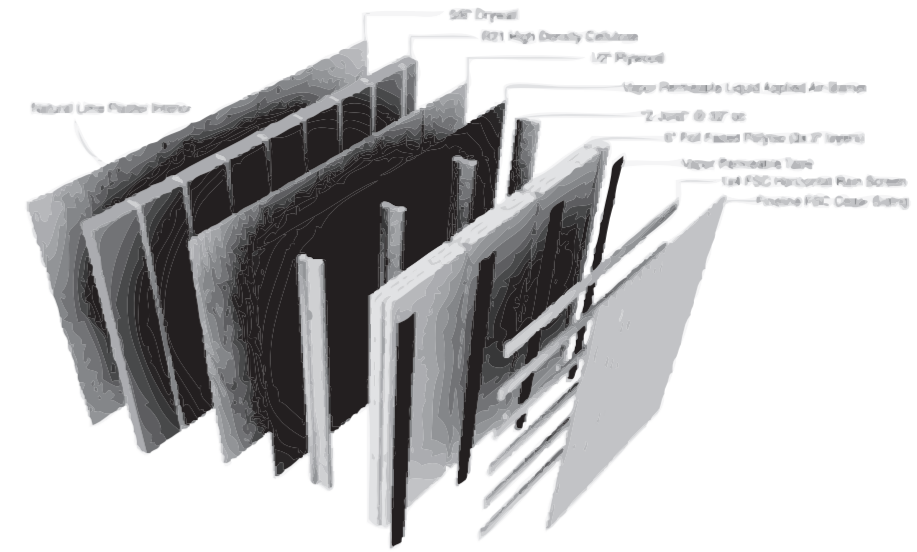
A large aperture allows passive solar gain to heat some of the actively used daytime spaces during the winter months. Windows are operable as a form of passive cooling.

PHOTOVOLTAICS



Photovoltaic panels provide the energy for heating and cooling systems, allowing the house to consume less energy from the grid.

LOW MASS CONSTRUCTION



Low mass, highly insulated and tightly sealed construction allows for rapid heat build up in the mornings. A carefully sealed envelope will also eliminate infiltration and drafts throughout the house.

