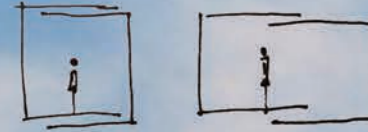




Monique Visagie



"Un-Boxing the Farmhouse"

BACKGROUND

John + Amy's family, being a typical South African family, has a busy lifestyle, constantly running around between work obligations + extra-mural activities of their Children. A "Off the Grid" weekend / vacation house in the Great Karoo is the perfect break-away from their hectic lives. The fact that there is no electricity gives the family a much-needed break from electronics which constantly interferes with their family life.

The design is simple and un-cluttered, providing the family with a peaceful, relaxing home. A house which is easy to construct in a remote landscape, the Great Karoo, as well as "Lock-up + Go".

Reinterpreting the traditional South African farmhouse, the concept of "Un-Boxing the Farmhouse" leads to the idea of sliding verandas on each side of the house to create covered outside spaces, as well as to reduce the effect of solar heat gain. These verandas will act as security, once closed, when the family is ready to leave.

WHY SHOULD JOHN AND AMY BUILD A TIMBER CONSTRUCTION HOME ?

Timber construction is incredibly versatile and known to be sustainable. The method of construction – a modular construction – reduces waste and in turn creates the opportunity to pre-fabricate. Pre-fabrication requires a smaller team on site, and the structure can be erected in less time than a conventional wet trade construction. The fact that this construction method requires less man power on site, could possibly reduce the cost of the construction. Timber is a renewable resource, and thus one of the most sustainable building materials to work with.

From a visual aspect – timber structures have a sensitive appearance in an open landscape, which makes it the best suited construction type for John + Amy's vacation home.

SUSTAINABILITY CONCEPT

Concepts of sustainable and off-the-grid living was introduced into this design, in terms of the following elements :

- Water Catchment + Storage System
- Solar Water Heating
- Composting Toilet
- French Drain for Waste Water
- Screw Pile Foundations

The main concept for a sustainable lifestyle originated from the idea of being able to completely remove a structure from the landscape with no remaining effects of damage to the surrounding site and soil. The landscape can return to its previous state.

A roof garden was introduced for 3 reasons, namely :

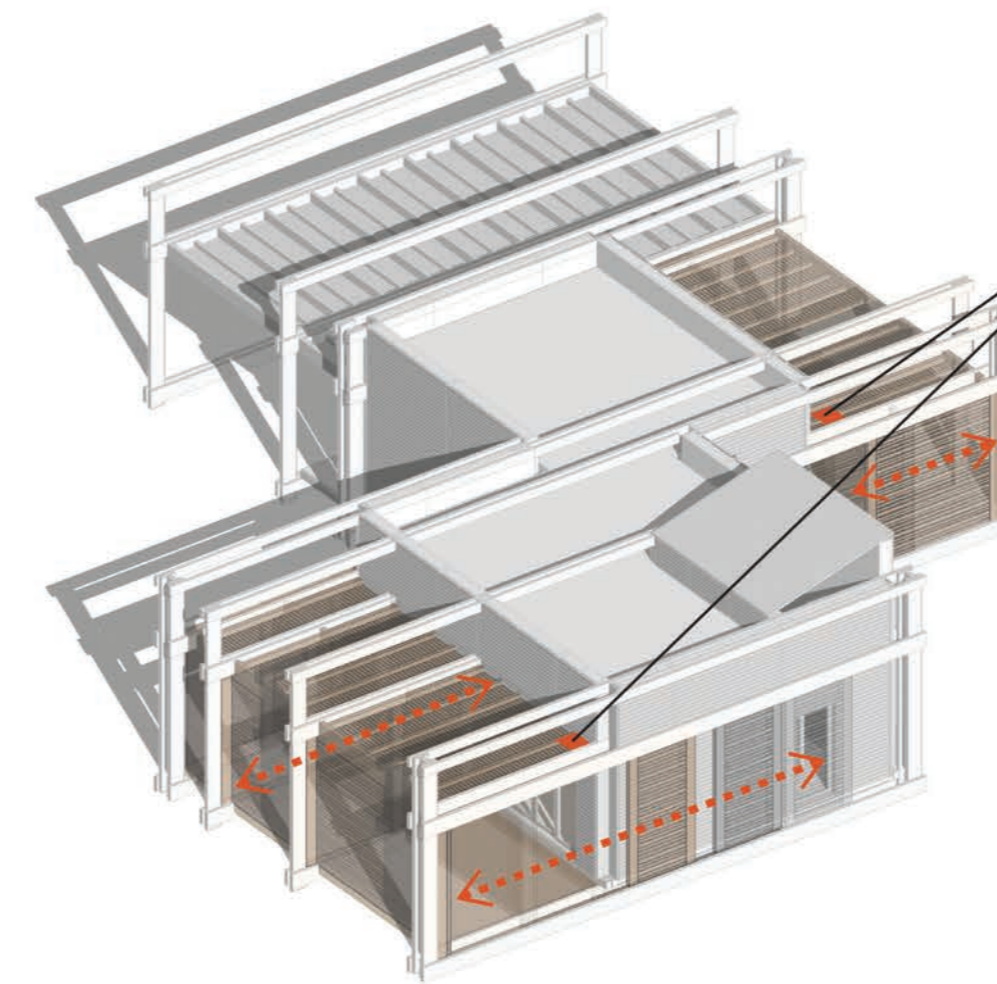
- Added insulation
- Natural filter system for rainwater catchment
- To blend the house into the landscape

SECURITY CONCEPT

Any house in South Africa, even at a remote location, will require additional security measures. The concept of Sliding Screen which could allow for natural ventilation (even when closed), provide security, as well as overhead shading for glazed elements is the main concept for this design. "Un-boxing the farmhouse" takes a look at the traditional farmhouse which typically has verandas around all sides of the house. These verandas provide shade and regularize the internal climate of the house. This concept was used to create a contemporary version of the veranda, with the added feature of security.

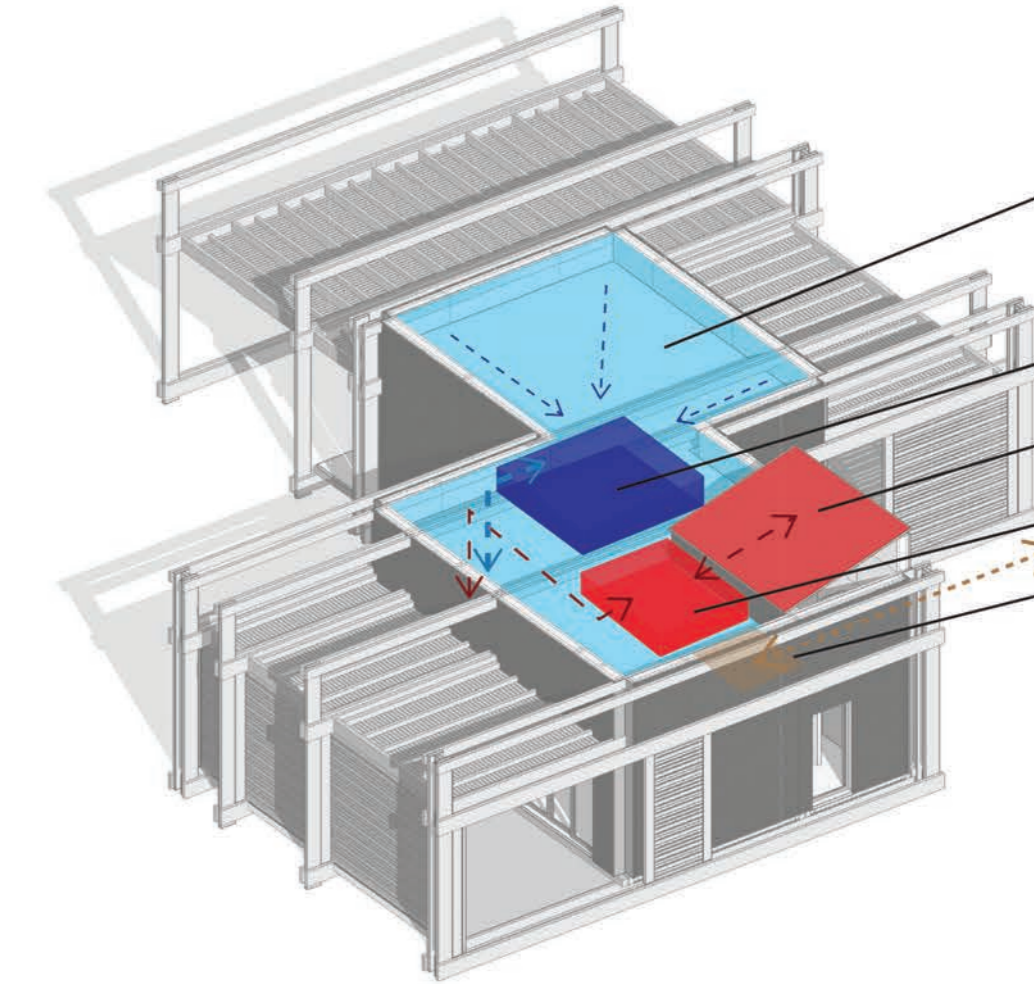
The Screens slide on tracks, both at the top and bottom of the structure. These tracks form the structural elements of the residence as well. The house sits on top of the tracks. The top tracks double as support for the roof structure + water catchment system.

These Screens will be operated with remote control via a solar-powered motor. The solar-powered motor is situated along the side of the top track.



Remote-Controlled Solar-Panel Operated Motor to Control Movable Screens

SECURITY SCREENS



Integrated Water Catchment System Water Collects through natural filter process (plants + rocks) + into the water storage tanks

Cold Water Storage Tank

Solar Panels to heat water

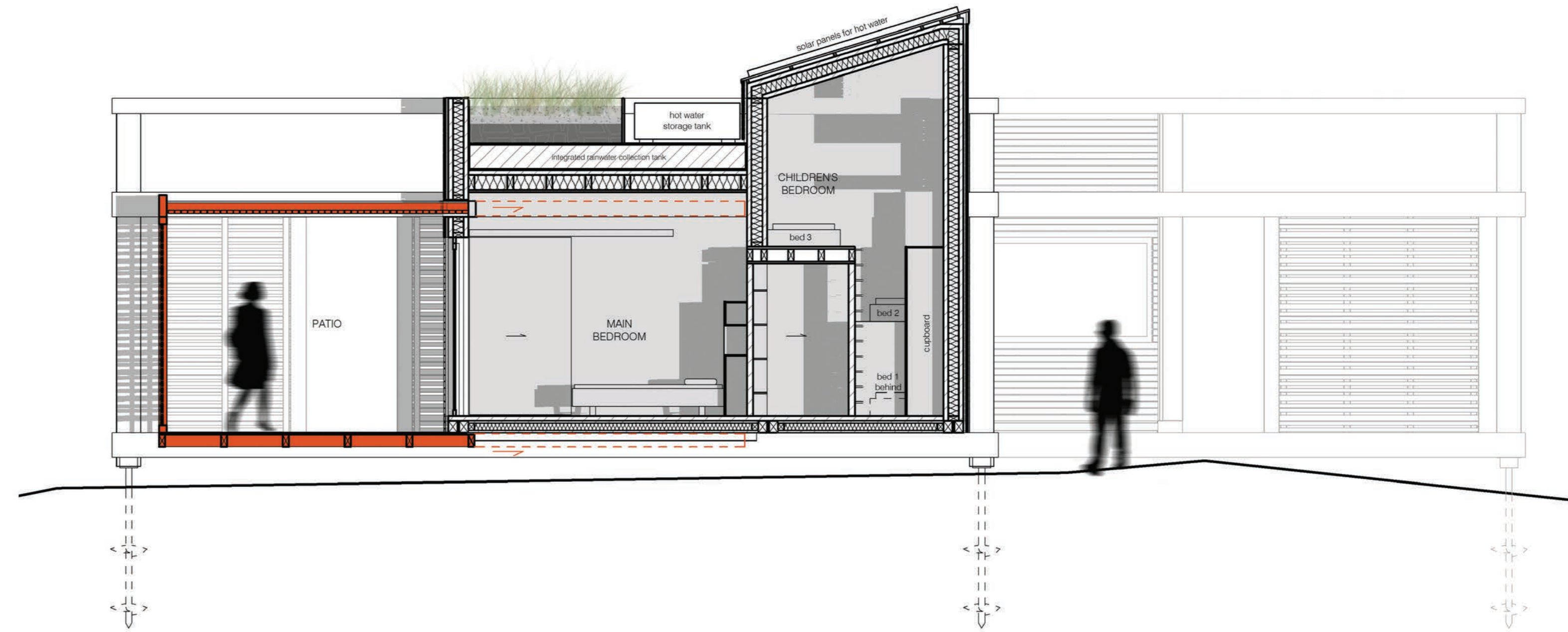
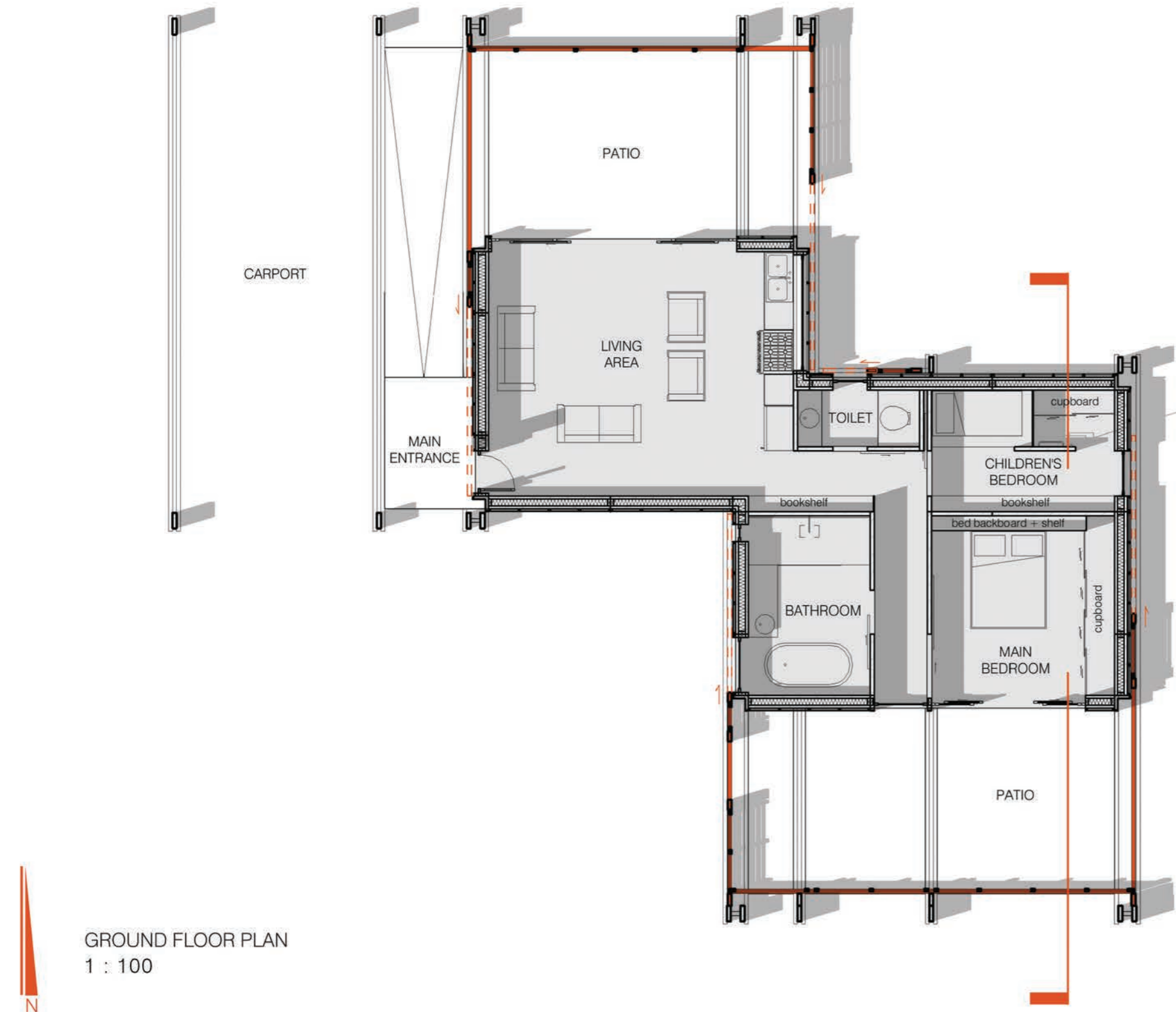
Hot Water Storage Tank

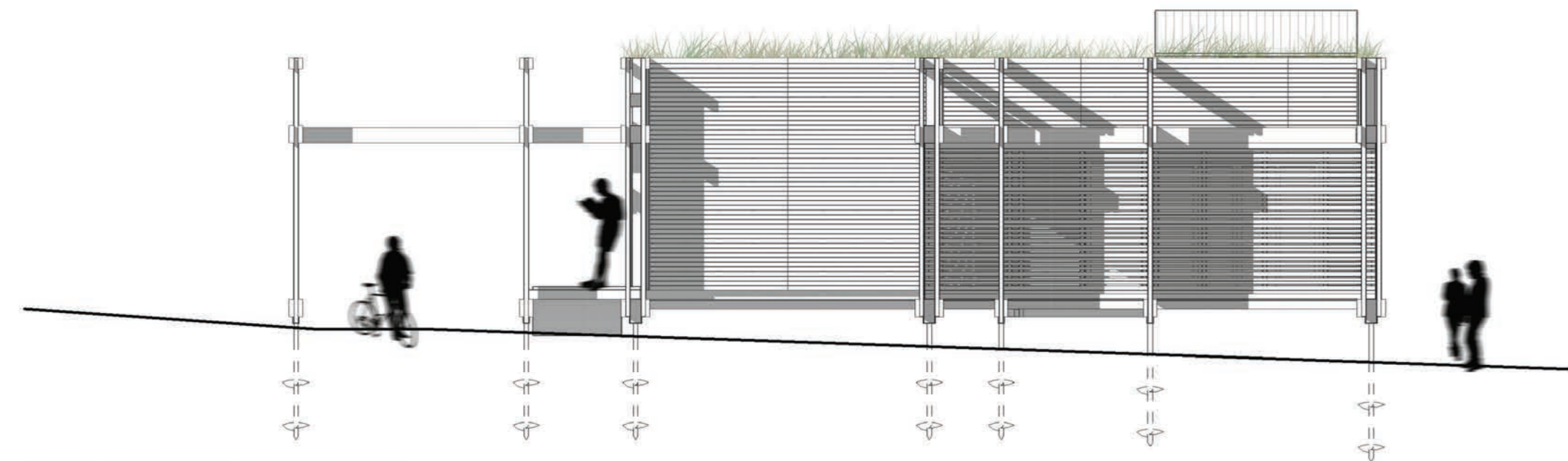
Composting Toilet

French drains are used for all other Grey Water Disposal

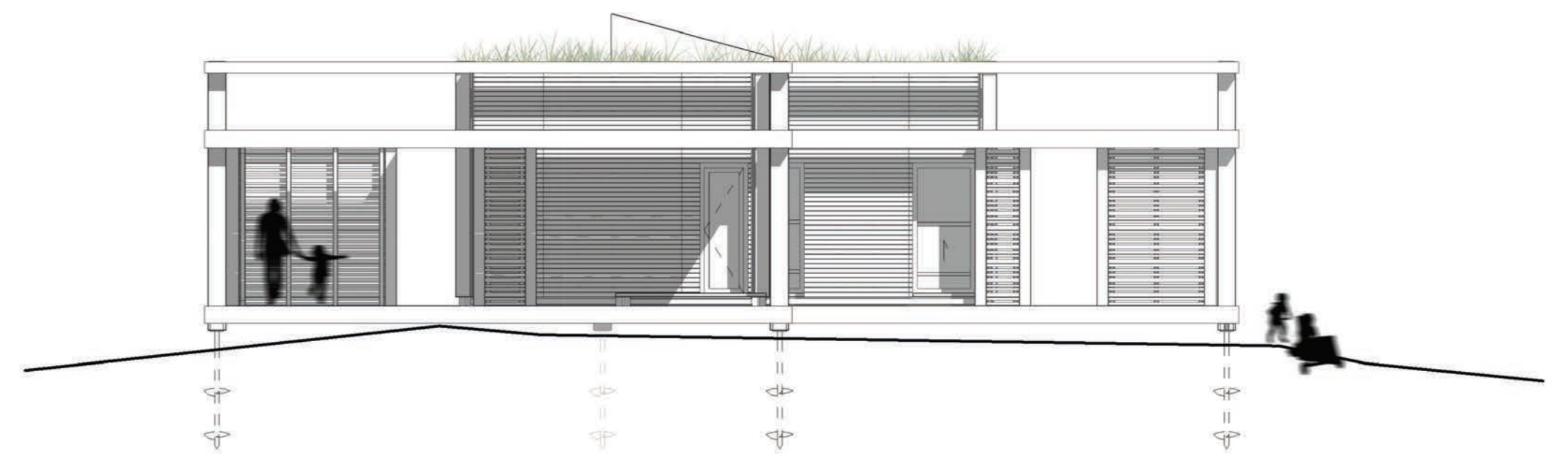
INTEGRATED SUSTAINABILITY



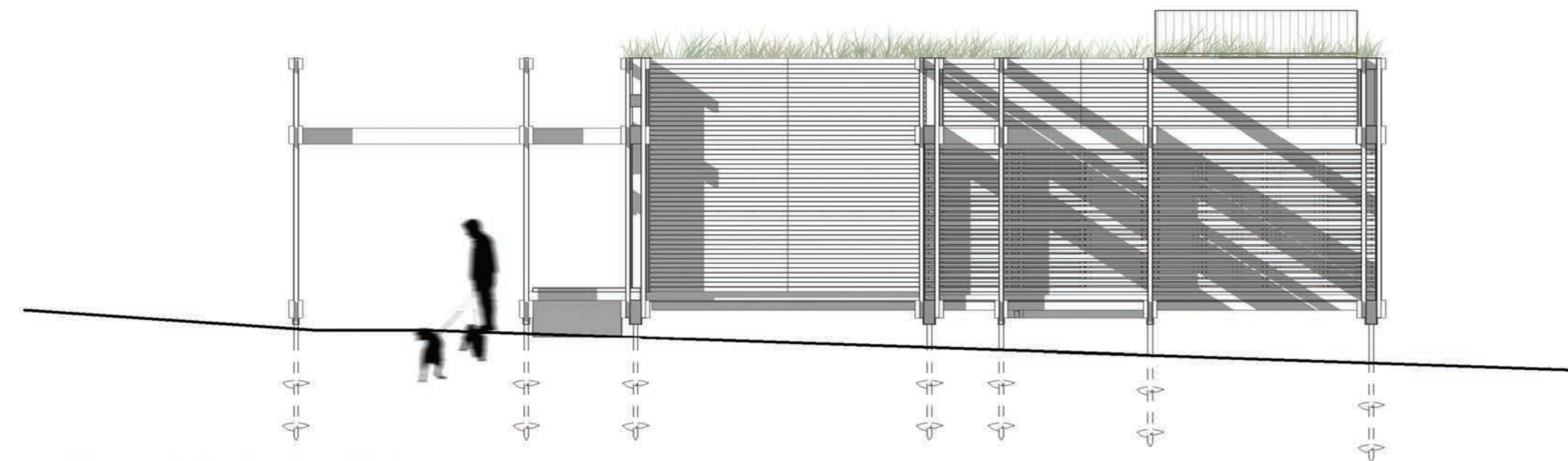




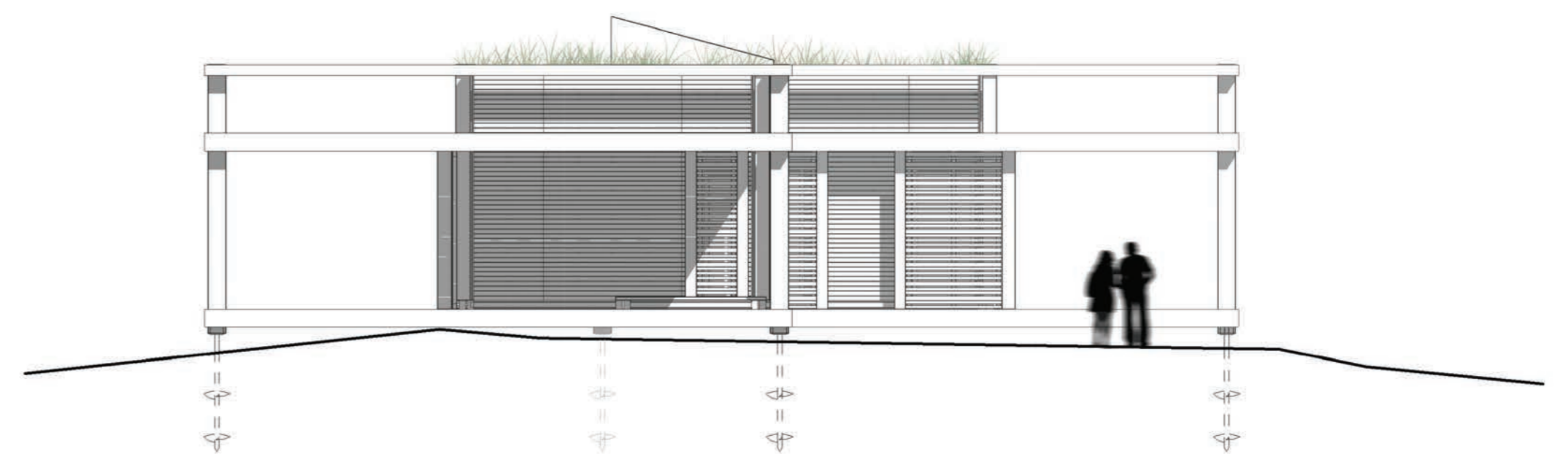
NORTH ELEVATION - OPEN SCREENS
1 : 100



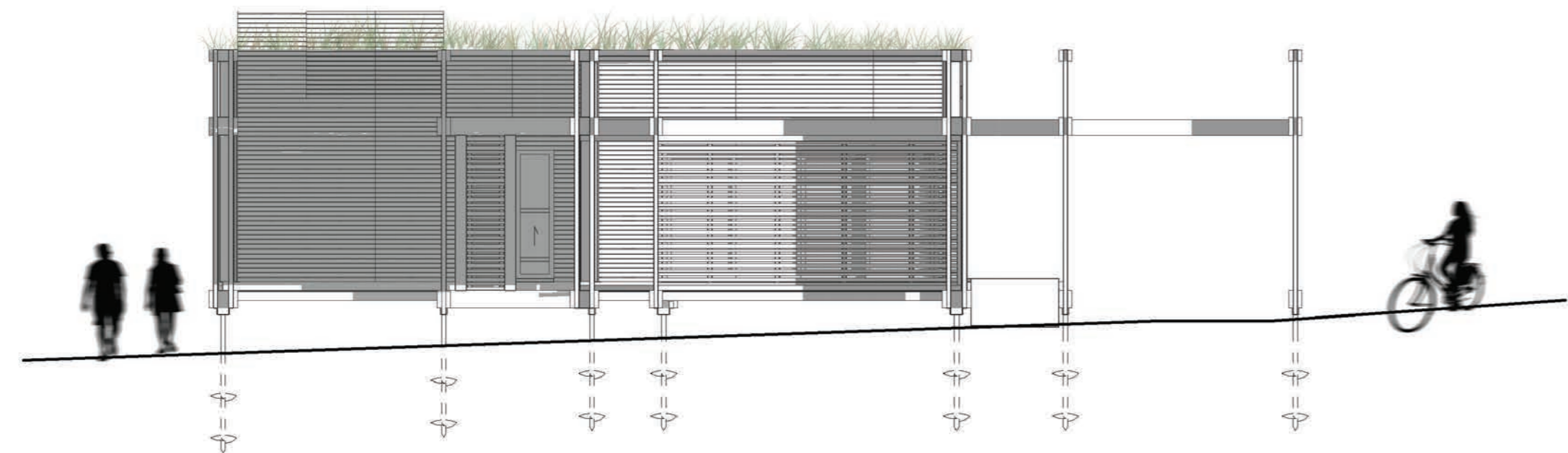
EAST ELEVATION - OPEN SCREENS
1 : 100



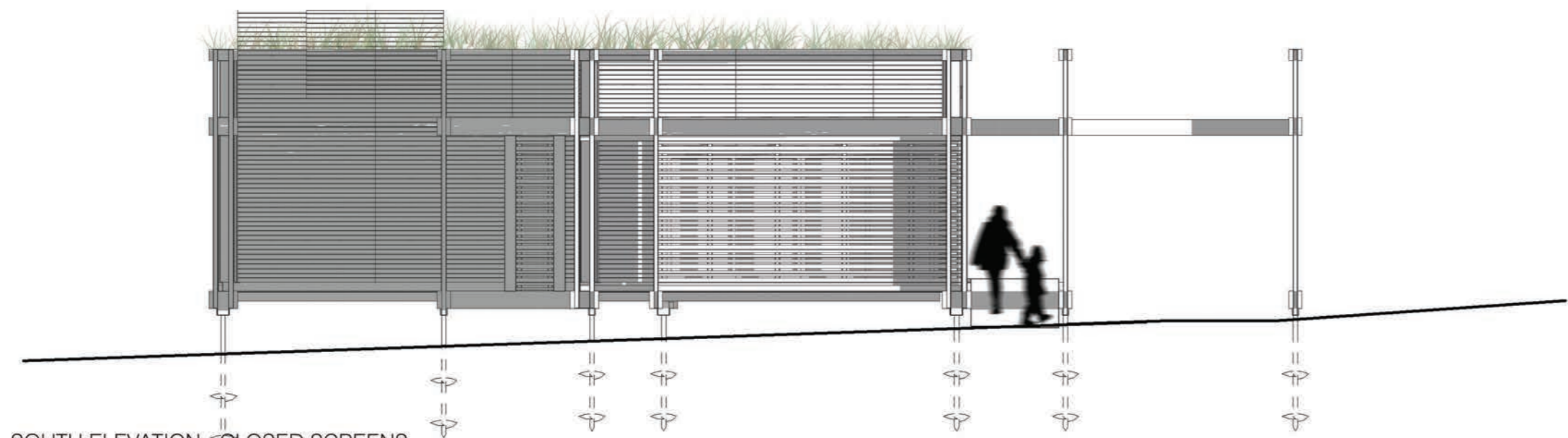
NORTH ELEVATION - CLOSED SCREENS
1 : 100



EAST ELEVATION - CLOSED SCREENS
1 : 100



SOUTH ELEVATION - OPEN SCREENS
1 : 100



SOUTH ELEVATION - CLOSED SCREENS
1 : 100

