SAMPLE CHAPTER

THE ROOTED HOUSE: LIVING WITH THE LAND

by Fritz Haeg & Stacy Wakefield Forte

ABOUT THE DESIGN

There is a line running horizontally through the book which is a continuation of the ground plane in the architectural sections of the houses analyzed. Dividing the book into separate parts that function symbiotically will echo part of the story of rooted architecture: that the real complex substance of the design happens below the surface.

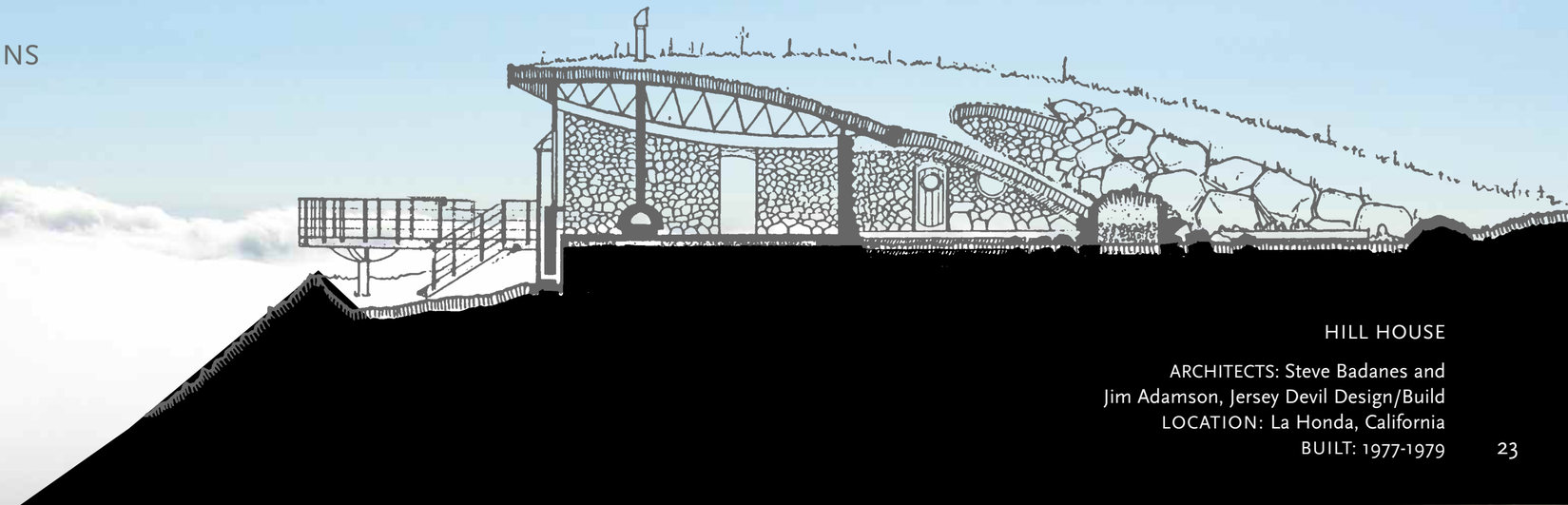
Above the ground line there will be color photos and a rather straight forward narrative. This section will document the author's visits to each of the houses, focusing on what the houses feel like to approach and explore. These texts and photos will allow the reader to experience the authors' pilgrimage to the houses. This section will be a personal, accessible and engaging first hand account.

Below the ground line we will share information that would not necessarily be obvious to a casual visitor to the house. We will provide more technical information, such as charts showing the effects of prevailing wind patterns and sun position on the design of the house, or that show energy use in the house. We will show cross sections, roof structure and planting details, and the placement of the house in the landscape. Other information pertinent to the houses or architects, or historical precedents will also exist in this space. This section will document research about Rooted Houses and present it in more technical detail.

Please note! Some of the photos and drawings in this sample chapter are borrowed without permission, this chapter is intended only to communicate the design intentions of the authors.

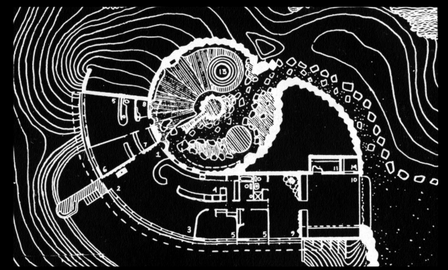
IN THE CLOUDS

UNDER THE EARTH AT THE TOP OF THE SANTA CRUZ MOUNTAINS



HILL HOUSE

ARCHITECTS: Steve Badanes and
Jim Adamson, Jersey Devil Design/Build
LOCATION: La Honda, California
BUILT: 1977-1979

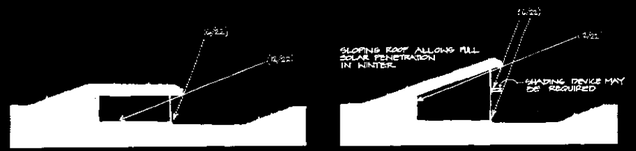


JERSEY DEVIL GOES UNDERGROUND

When Steve Badanes and Jim Adamson of the Jersey Devil team, known for their woodworking and attention to detail, were commissioned to build Hill House in the late 1970s, their decision to carve out the top of the hill and put the house under it was purely practical. They needed to keep the house low-profile to accommodate local zoning codes and the wishes of the clients. They also had to deal with the extreme weather on top of the mountain—storms are frequent and winds can reach 80 miles an hour, making traditional building styles untenable. Badanes says they were aware of the earth-sheltered building movement, they had seen the recently published University of Minnesota study and were excited about the possibilities. The San Francisco based engineer they hired to design the roof had not built for a sod roof before either, but the challenge was tackled with gusto. The house is bermed with poured concrete walls, and the roof was created with barn trusses and wood, with a tar and gravel roof.

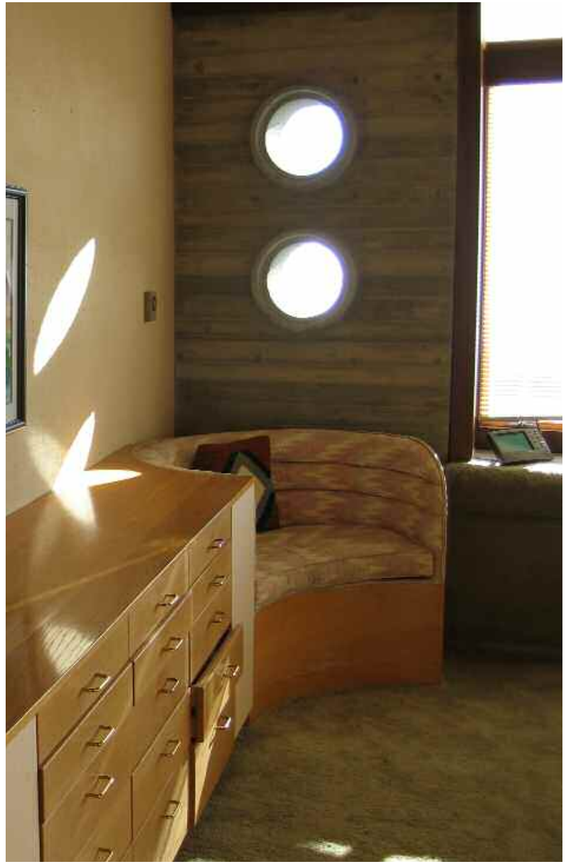
The furthest thing from your mind, as you stand in the living room of Hill House, is that you are "underground". The curved and sloping ceiling may be covered in four feet of topsoil and grasses, but the wall of windows frames the santa cruz mountains tumbling down to the pacific ocean, creating the sensation that you are floating above the clouds. The house curves out towards the hill, and the ceiling slopes up to the windows, so every room reaches out to the california sky and the spectacular setting of the house is the most important feature of its architecture.

From outside, the house is understated to the extreme. Approaching from the driveway, it is all but invisible. Past the garage a walkway curves next to a wall of huge rocks, carefully chosen to look natural and not like anything you would suspect of covering a house. The presence of a dwelling becomes apparent as you arrive at an intimate curled up entrance space, hidden behind an arm of sod reaching down from the roof. The modest arched door and round ship's windows give no hint of the high-ceilinged aerie you're about to enter. The house feels like an inversion of a typical suburban mcmansion — it's facade is as modest as a rabbit's hole, but inside, instead of a series of sheetrocked boxes, every room is unique and handmade and sensitive to its site.

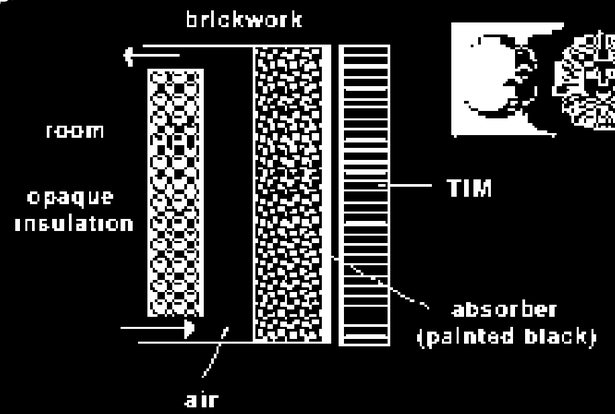


WIND PATTERNS AT HILL HOUSE

The architect Steve Badanes thought of this sod-covered extension of the roof as an anchor — tethering the airy house to the hillside and providing an entrance that is sheltered from the intense storm winds off the Pacific.

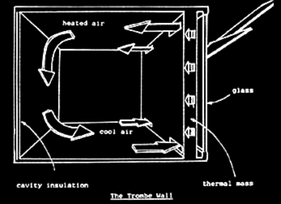


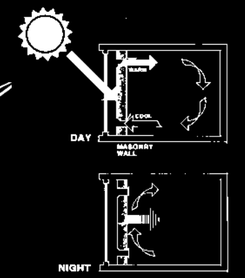
The Jersey Devil team of collaborators created custom doors, cabinets, windows, even the woodstove was handbuilt. They are known for their fine craftsmanship and experiments with alternative energy sources. Other details in the house are typical of Jersey Devil playfulness and craftsmanship: the hand built doors, custom hardware, walls made of perrier bottles in concrete, light fixtures created from terra cotta pots, and a wonderful ceiling of wooden grape stakes that were left over from the concrete pour.



HOW TROMBE WALLS WORK

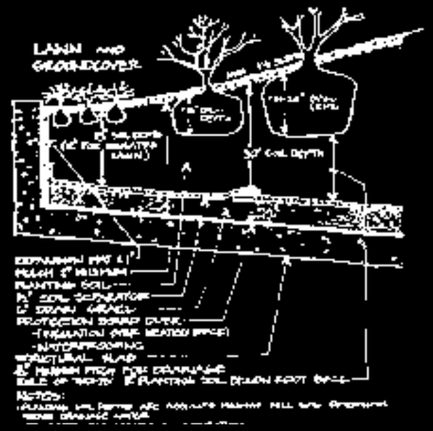
Charts here will explain how the solar trombe wall works to bring heat into the house, send it by convection through the interior, and store it.





While the fancy view and custom details make Hill House feel like a luxury dwelling, many features of the house show its earthy roots. The only heat source in the house besides the handmade woodstove is a passive solar trombe wall, designed to feed warm air into the house or vent it out by natural convection. A traditional farm windmill pumps water from the well, which is deliverd to the house via gravity feed and heated with solar panels.

The current owner, Brendan, who bought the house 3 years ago, has maintened these systems. Conventionally built houses in the area cannot survive the harsh weather and are being eliminated from the area, which has mostly been taken over by an open space non profit park. But hill house, rooted in its site, has held up extremely well over 30 years and is there to stay. Brendan loves coming home from his job in silicon valley, where much of the year it can be foggy and chilly. Ascending, he often climbs above the cloud layer and emerges into warm sun on top of the hill.



THE ROOF PLANTINGS

Over the tar and gravel and concrete walls, Jersey Devil placed top soil they bought from a local mushroom farmer, and sowed winter rye to hold the dirt in place. Very quickly the roof and walls disappeared as the grasses and wildflowers from around the house took over. Every spring, depending on when and how much it rains, a different wild flower dominates the roof.

When the current owner bought the house in the 1990s and said "sod roof" to the insurance company they got nervous. Finally he told them to just check the 'tar and gravel' box the deal went through. The sod protects and insulates the tar roof, making it more stable and sustainable than a normal exposed one. He also noted that when he needed to fix a leak around the chimney, it was easy to stroll up to the roof, dig up the soft topsoil and get to the surface. Its much more comfortable and safe to work on the roof of hill house than that of an ordinary house: no ladder needed!

SUITED TO ITS SITE

This neighboring house was bulit years after Hill House, but has already been condemed by the county as unsustainable (more details about this coming). It has lost its roof twice in windstorms. Ideally we will have energy cost comparisons here between the two houses.