

The House in Boonesville is both a prototype for an environmentally responsible single-family house and a modest site-specific design for an elderly couple. The clients, retired but active octogenarians, requested a house that would allow them to live in touch with nature on the upper floor, with a lower level studio and guest bedroom. At 2700 square feet, the house represents a simplification of life, sharing one major room, revealing the changing light of the day and the seasons.

The house and landscape form a series of spaces calibrated to the site, the climate and the human scale: a window for tending herbs in an elevated garden adjacent to the kitchen, an office nook overlooking the main living space, a nearby bank for gardening, an outdoor shower between the house and pond, and places to sit at regular intervals adjacent to the house and in the landscape.

The house was designed to incorporate sustainable principles in its design and materials, using passive design strategies, local materials, high performance insulation and windows, advanced energy systems including geothermal heat pumps, on demand hot water, the capacity for thermal and solar hot water and storm water harvesting. The construction cost was \$621,000. Operating costs have been extremely modest.

The inverted umbrella roof gathers water and energy. Both the thermal systems and material expression anchor the house in the ground. Between these links to the earth and sky, a dwelling cabinet frames a permeable boundary. This is a house with tentacles in time and space, capturing energy flows, connecting to the agricultural traditions of the region, connecting the inhabitants to the environment.

House in Boonesville

near Charlottesville, Virginia



Constructing Connections

Landscape Readings
Topographic Incisions
Occupying Edges



Inhabiting the Site

The Elevated Plane
Constructed Ground
Camera Lucida
Extended Thresholds



Capturing Natural Flows

Local Energy
Water
Extending Seasons



The Human Scale
The Accessible Garden
The Body in the Landscape

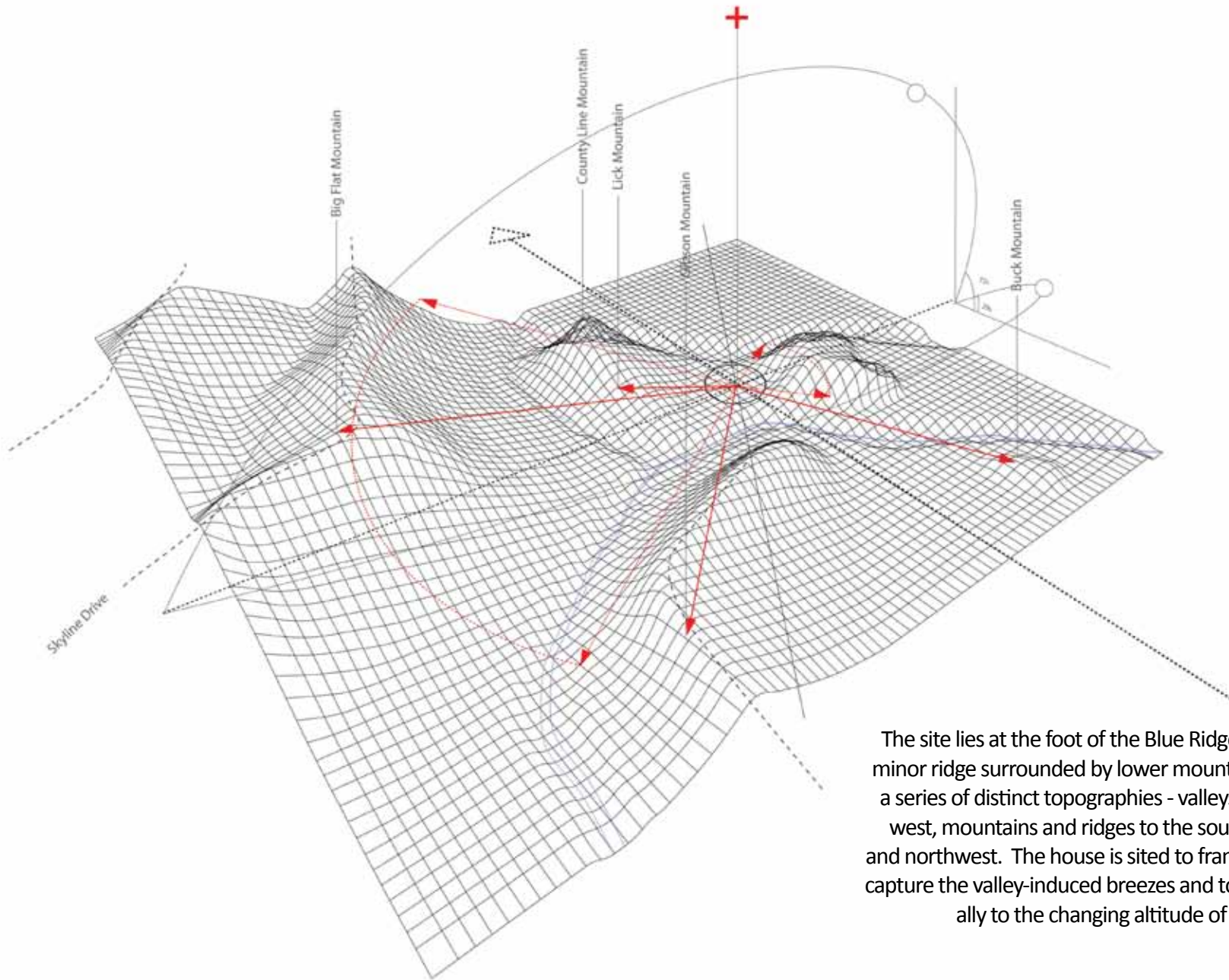


Connecting Materials

Earth and Sky
Prospect

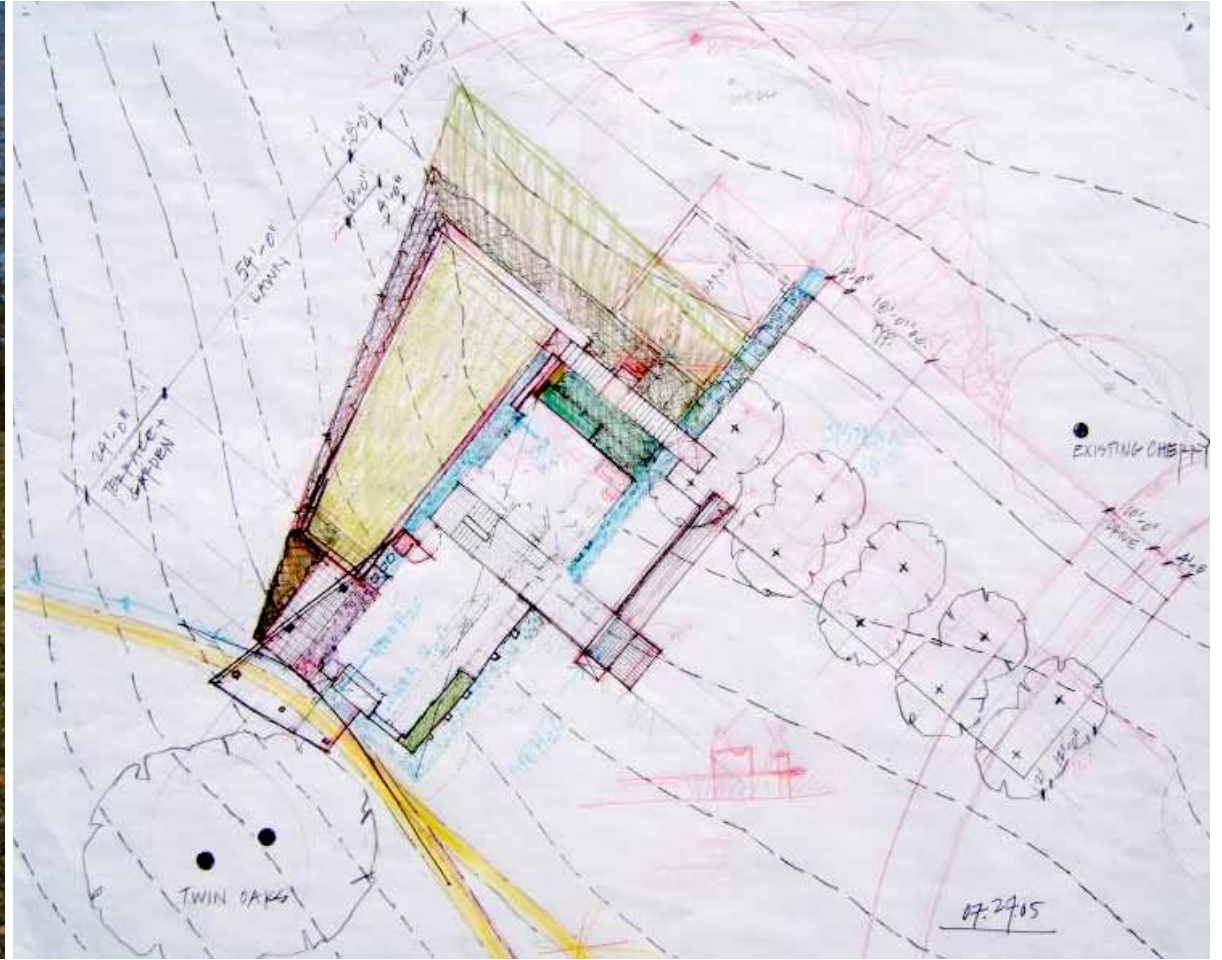


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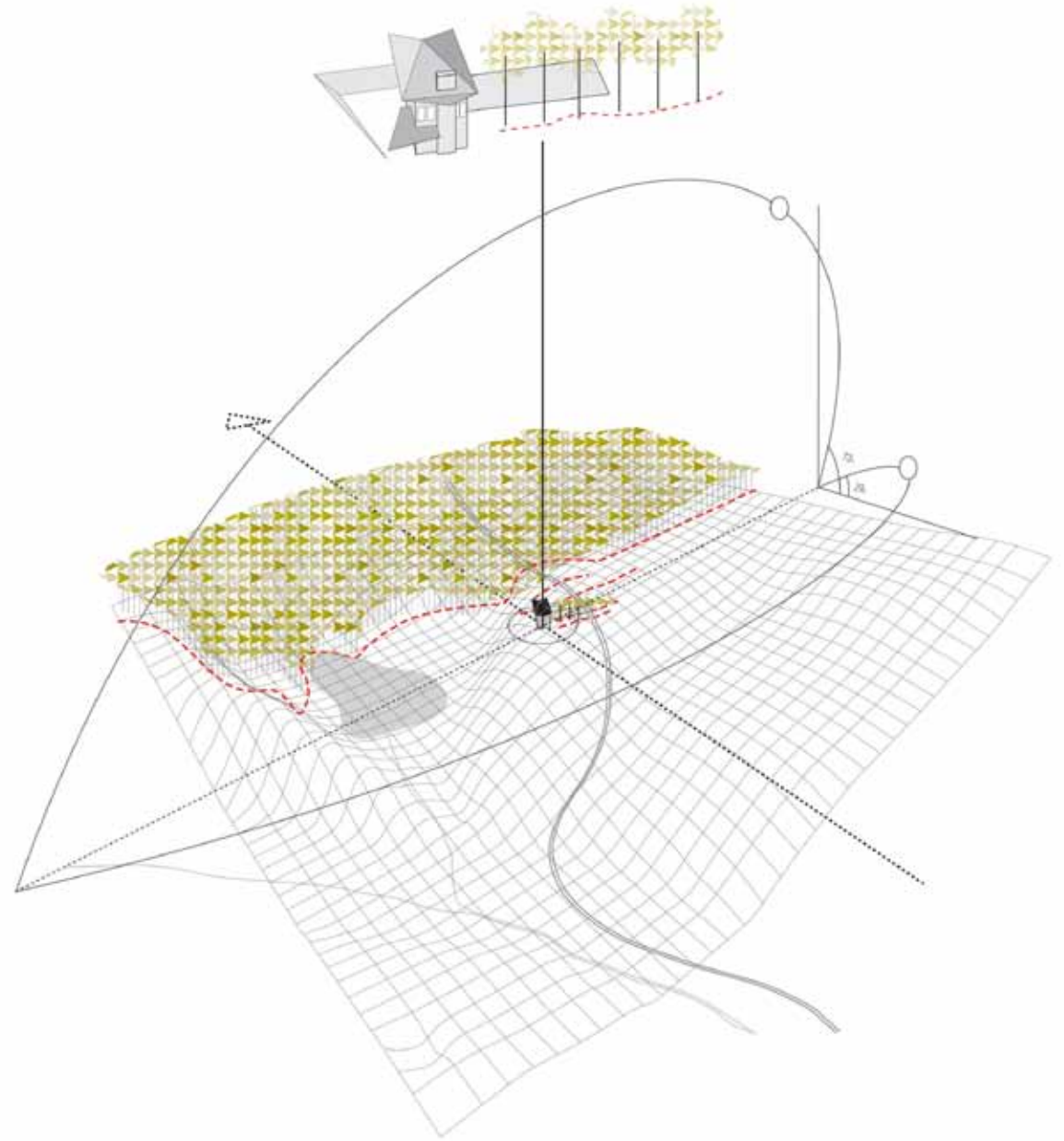
The site lies at the foot of the Blue Ridge Mountains, on a minor ridge surrounded by lower mountains. The result is a series of distinct topographies - valleys to the south and west, mountains and ridges to the southeast, southwest and northwest. The house is sited to frame these views, to capture the valley-induced breezes and to respond seasonally to the changing altitude of the southern sun.

Constructing Connections: Landscape Readings



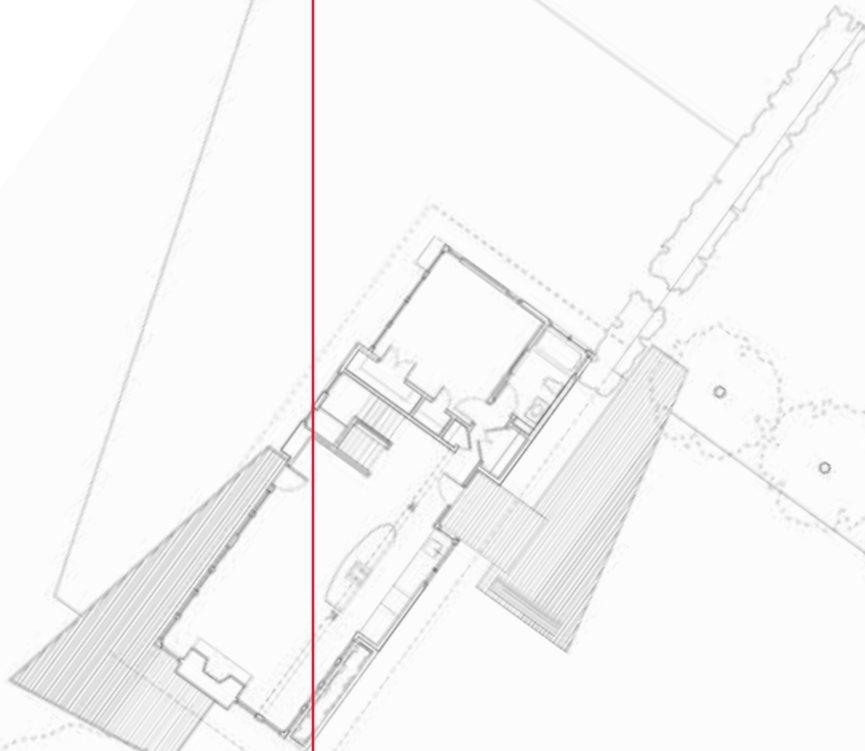
The house is sited at the forest edge, leveraging the economy of its simple rectangular form to create distinct landscapes through the combination of topographic manipulations and constructed attachments.

Constructing Connections: Topographic Incisions



Constructing Connections: Occupying Edges

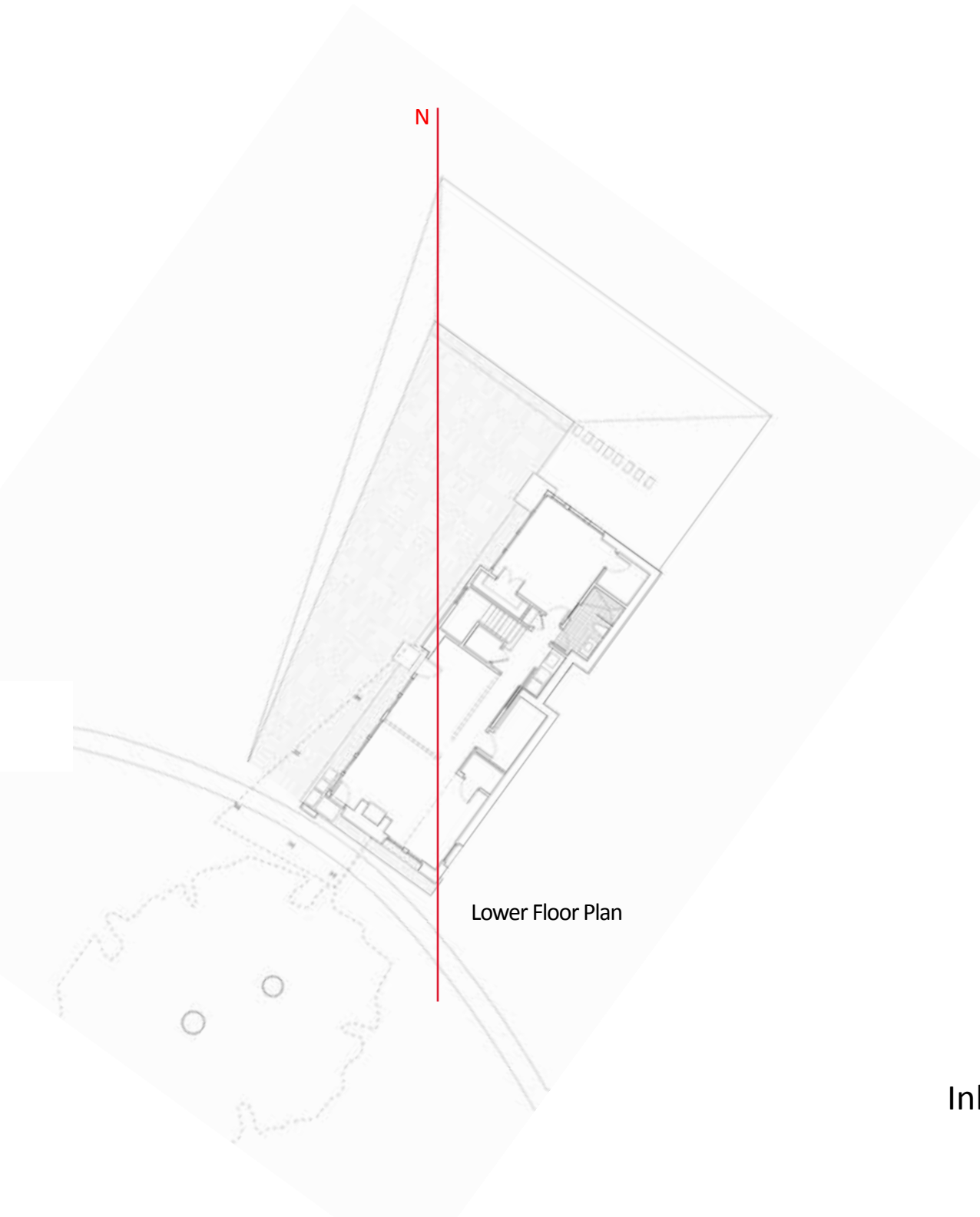
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Upper Floor Plan

On the upper floor of the 22' x 60' plan, the client requested one large room for living, dining and cooking. The desire for a very small office was accommodated at the top of the stair with a window at desk height framing a view to the mountains.

Inhabiting the Site: The Elevated Plane



Lower Floor Plan



The lower level includes a guest bedroom suite, a studio that can be subdivided into two bedrooms, as well as laundry, mechanical and storage rooms.

Inhabiting the Site: Constructed Ground

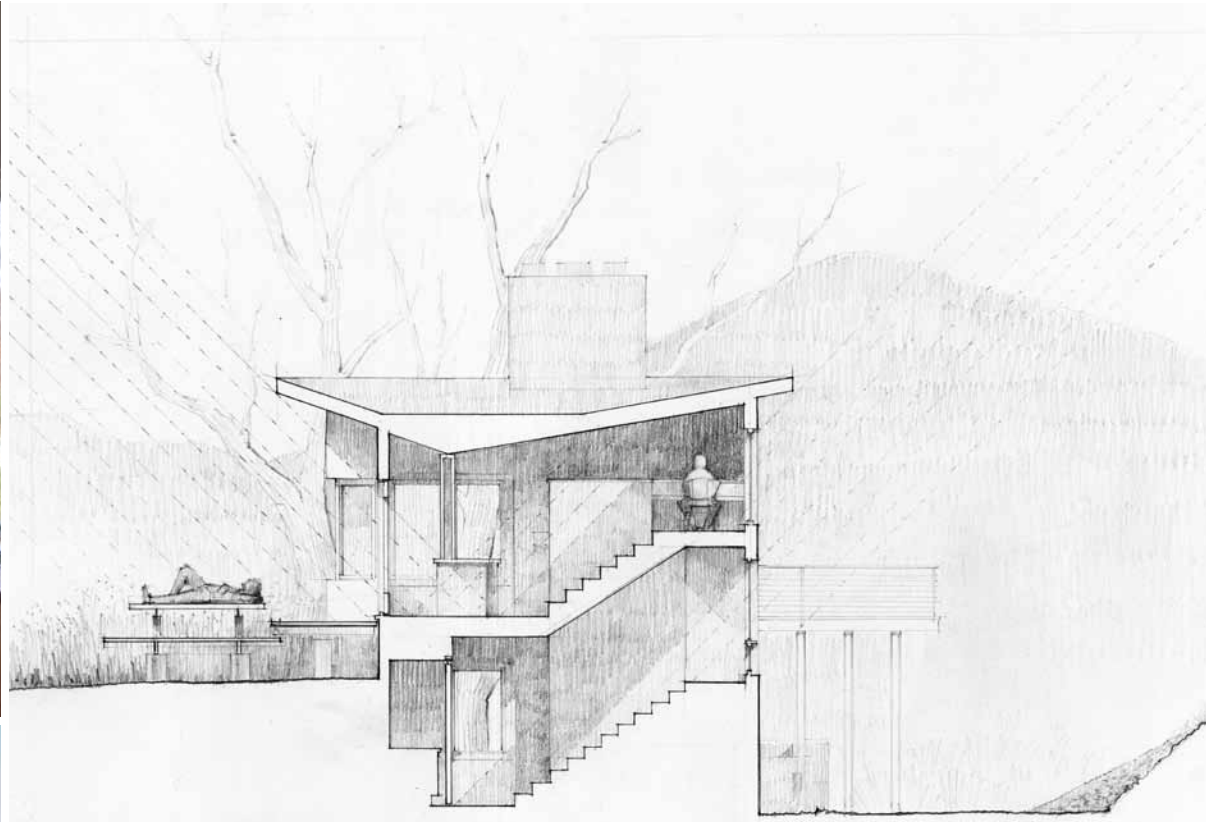


Section at Major Rooms



The major living space frames diagonal views to the south and west. Designed to be fully accessible for the aging clients who remain avid gardeners, the windows to the east open onto a small herb garden immediately adjacent to the kitchen, anticipating a future when larger scale of gardening may no longer be possible. An outdoor shower with a concrete bench and planter overlooks the spring-fed agricultural pond below.

Inhabiting the Site: Camera Lucida

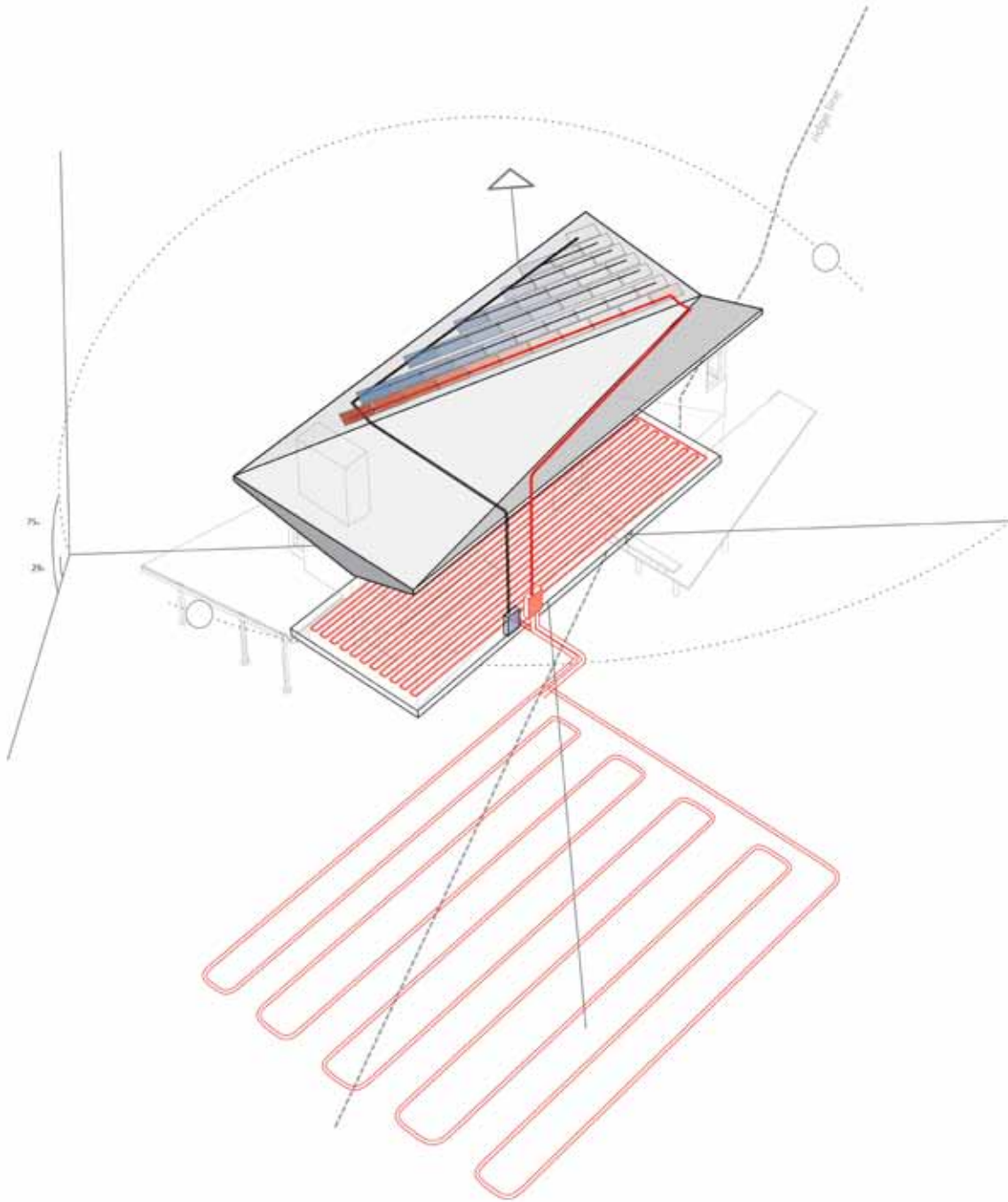


Section at Entry and Stair

At the entry, the elevated platform leads to the corner kitchen window, which provides visual security and a flood of morning light. The material language of paired steel channel columns connects the interior structure to that of the west deck.

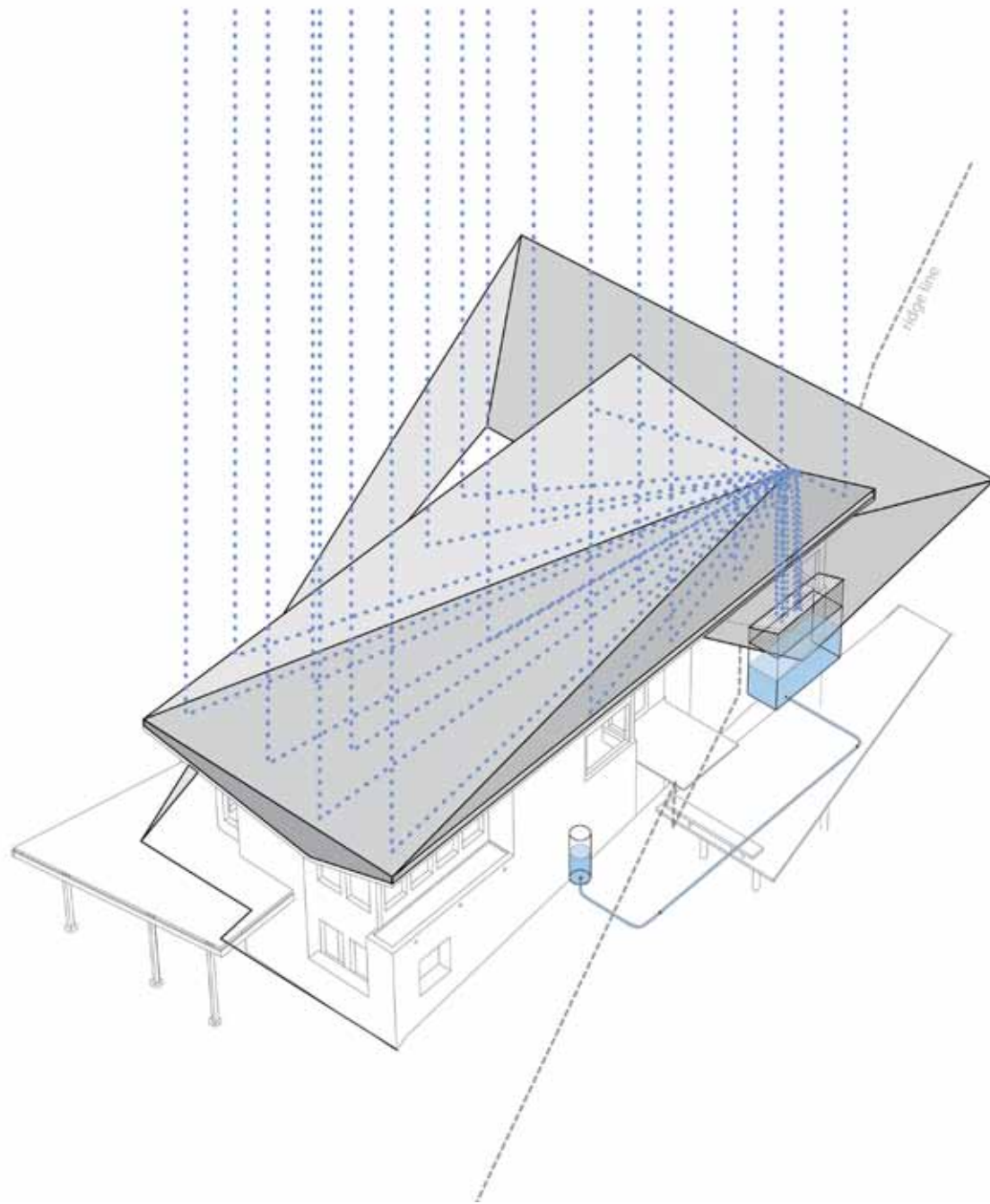


Inhabiting the Site: Extended Thresholds



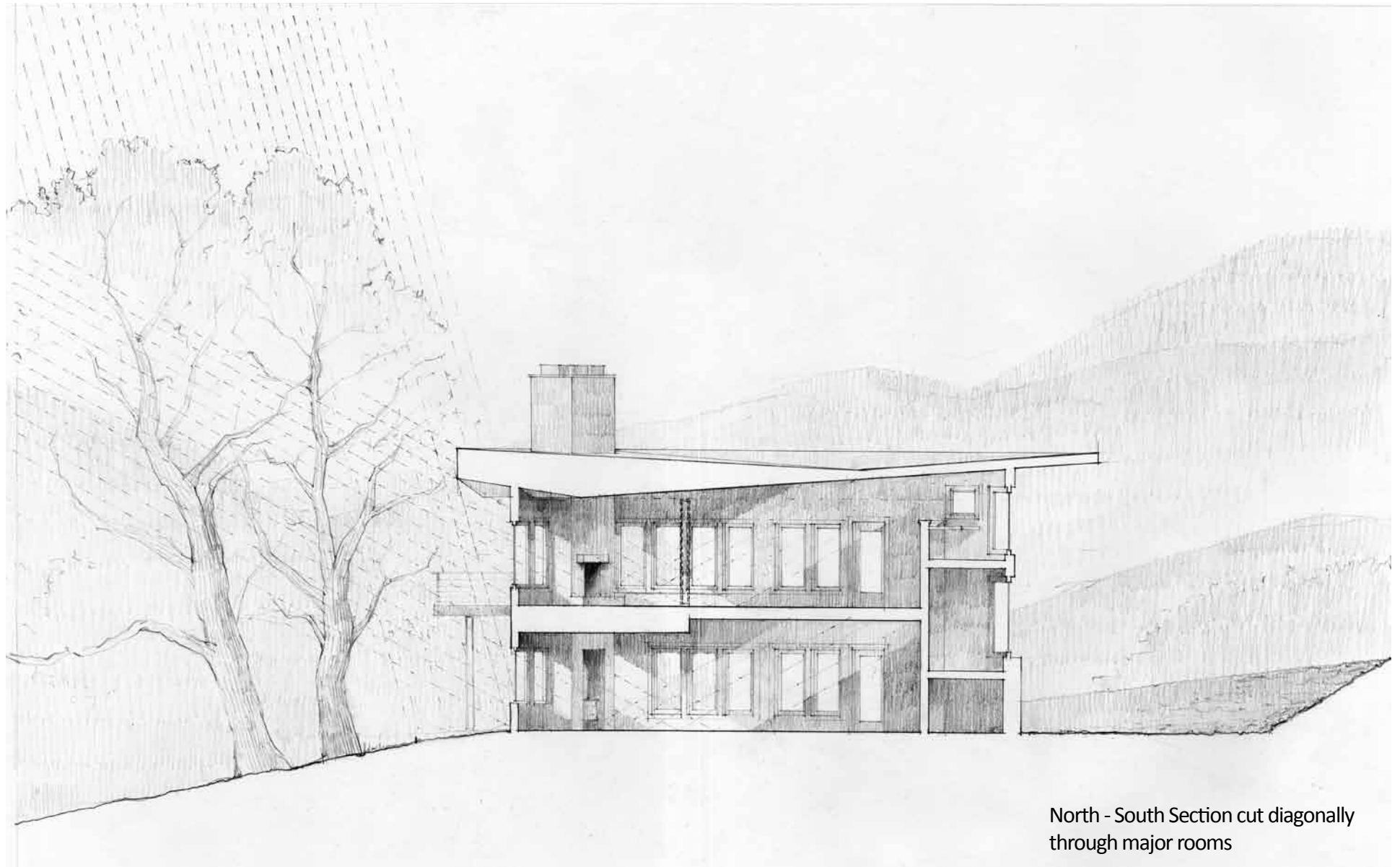
As a prototype for sustainable dwelling, the house extracts energy from the ground with a geothermal heat pump connected to a radiant slab and air handler. The roof was designed and has been prepared for both thermal and photovoltaic panels on the south-facing leaf.

Capturing Natural Flows: Local Energy



The house harvests water for storage in a cistern to the north, uphill from the gardens to provide a gravity-fed water supply. The cistern may also be tapped for a gray water supply to toilets.

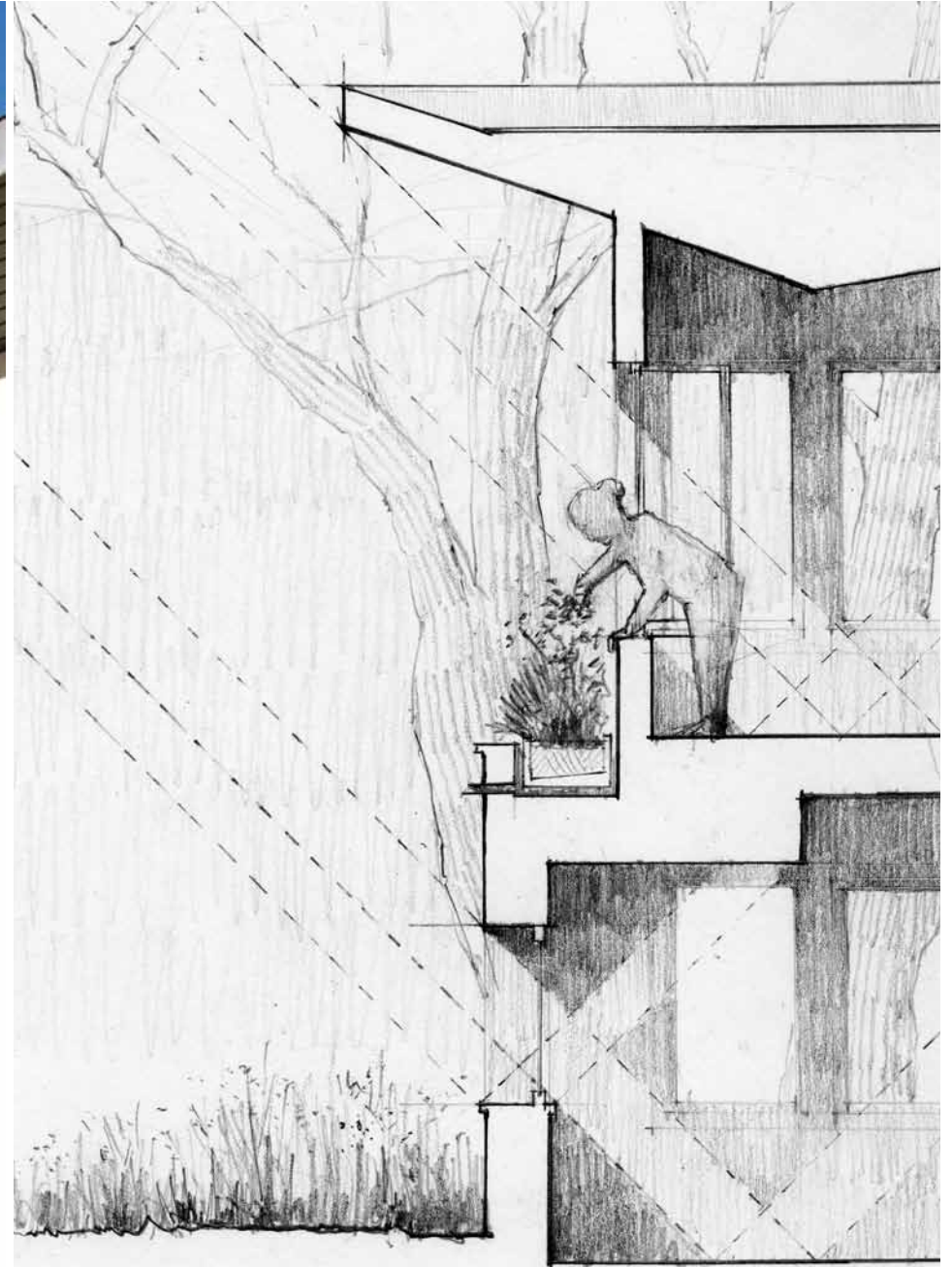
Capturing Natural Flows: Water



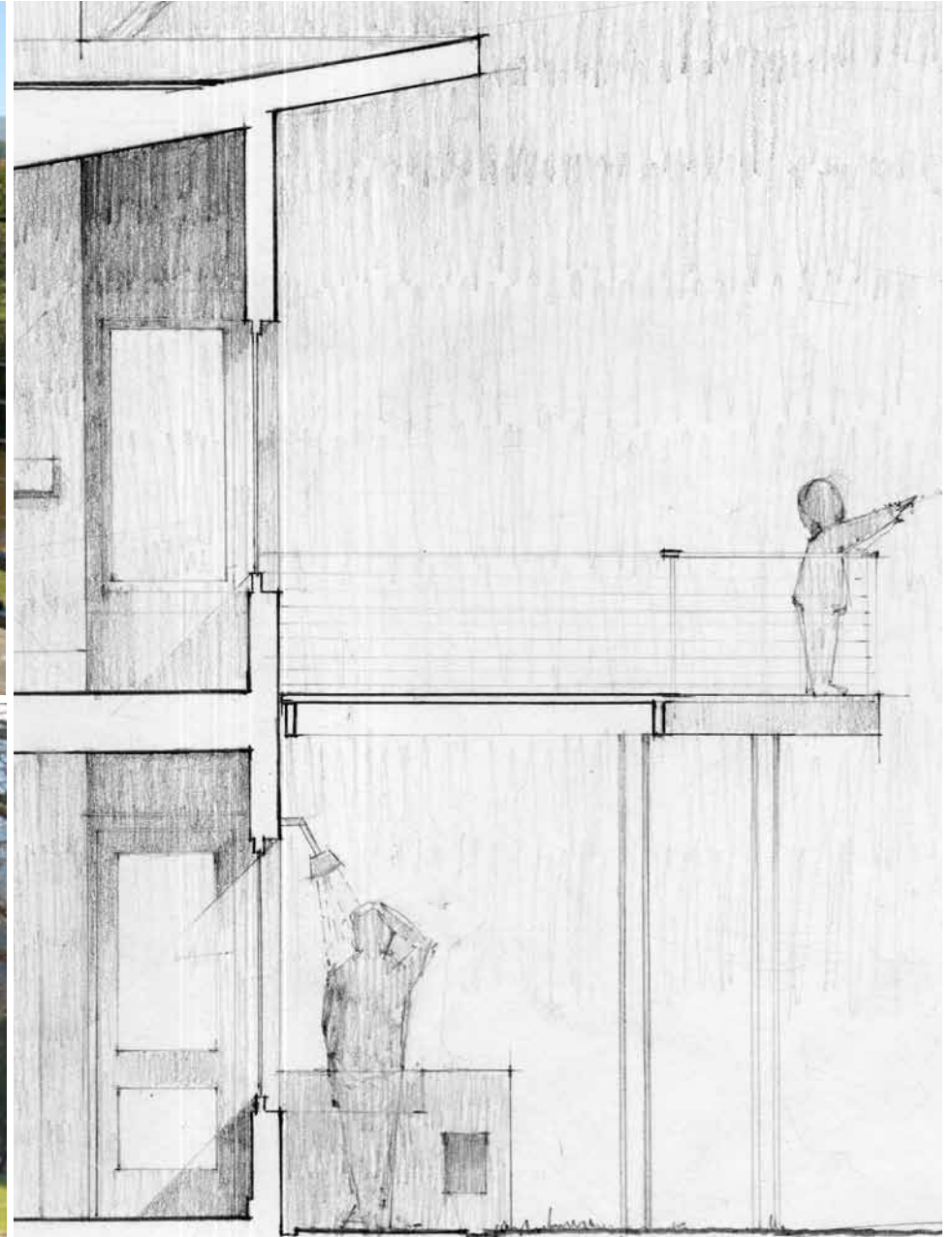
North - South Section cut diagonally through major rooms

Sustainable principles pervade the design strategy and material choices. The overhanging roof and recessed walls at the south corner provide shade to extend the shelter of the oak trees. Winter sun is captured under the upturned roof. The house incorporates low V.O.C. finishes, icynene insulation and local materials. The siting and capacity for cross-ventilation extend the long fall and spring seasons into the summer and winter with minimal heating and cooling.

Capturing Natural Flows: Extending Seasons



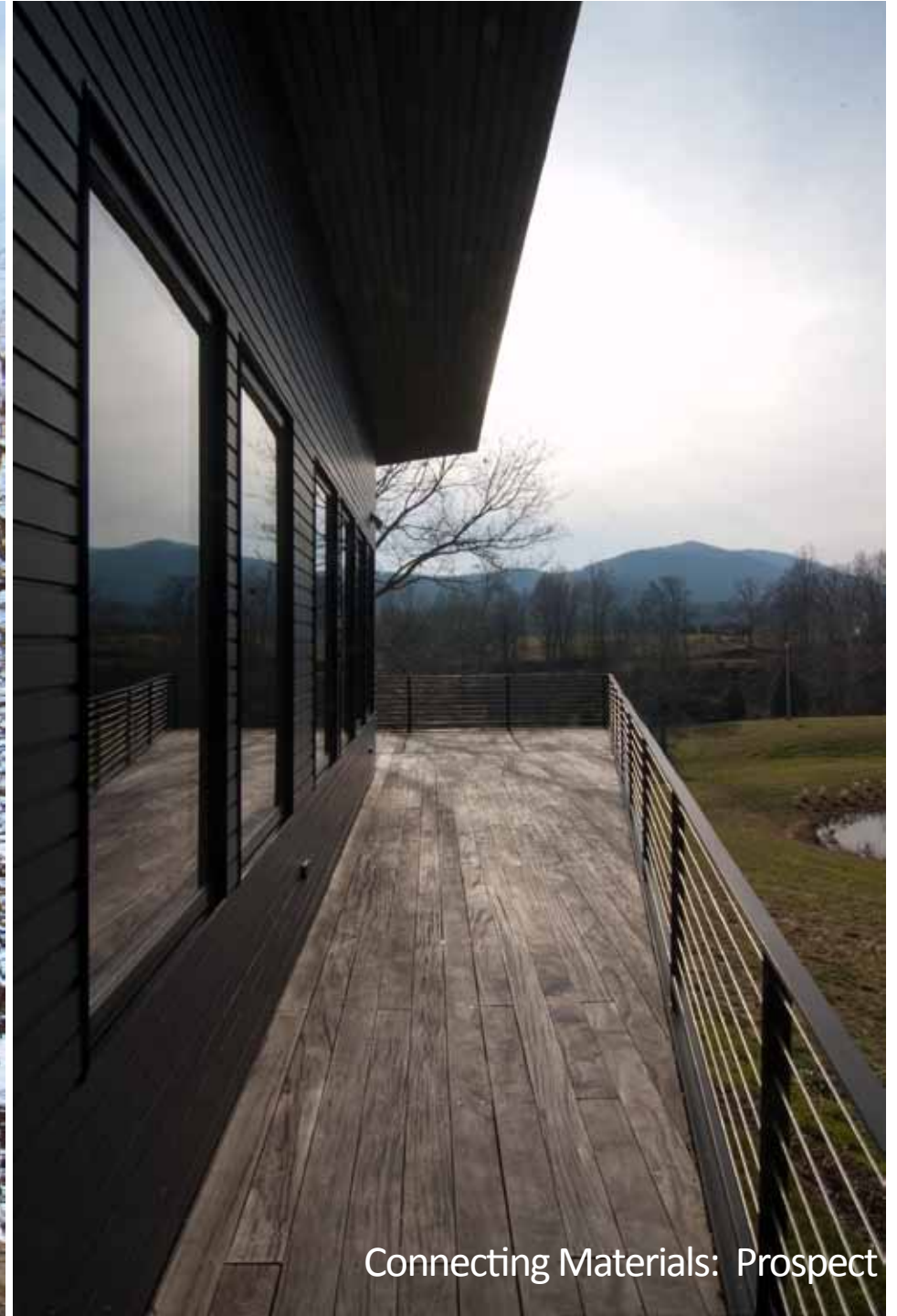
The Human Scale: The Accessible Garden



The Human Scale: The Body in the Landscape



Connecting Materials: Ground and Sky



Connecting Materials: Prospect