

The Big Book of

SMALL HOUSE DESIGNS

Perspectives
Site Drawings
Floor Plans
Elevations
Section Drawings
Exploded Views



75 Award-Winning Plans
for Your Dream House,
all 1,250 Square Feet or Less

The Big Book of
SMALL HOUSE DESIGNS

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The Big Book of SMALL HOUSE DESIGNS

75 Award-Winning Plans for Houses 1,250 Square Feet or Less

From the Editors of Black Dog & Leventhal



BLACK DOG
& LEVENTHAL
PUBLISHERS
NEW YORK

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Published by
Black Dog & Leventhal Publishers, Inc.
151 West 19th Street
New York, NY 10011

Distributed by
Workman Publishing Company
708 Broadway
New York, NY 10003

Portions of the material contained in this work were originally published by Storey Publishing LLC as:

Small House Designs edited by Kenneth R. Tremblay, Jr. , & Lawrence Von Bamford.

Copyright © 1997 by Kenneth R. Tremblay, Jr., and Lawrence Von Bamford

The Compact House Book edited by Don Metz.

Copyright © 1983 by Storey Communications, Inc. Second Edition 1988.

New Compact House Design edited by Don Metz. Copyright © 1991 by Storey Communications, Inc.

Dream Cottages by Catherine Tredway. Copyright © 2001 by Catherine Tredway.

Manufactured in The United States of America

Cover design by Sheila Hart Design

Interior design by Cindy Joy

Cover photograph courtesy Getty Images

ISBN: 1-57912-365-1

h g f e d c b a

Library of Congress Cataloging-in-Publication Data available on file.

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Modern Scottish Manor House

English Suburb

1,050 gross square feet

The objective of this design is to create a strong house that incorporates both modern and traditional elements, and that introduces novelties where possible to maximize aesthetics and utility. The ideal occupants would desire an imaginative spatial layout, despite modest means.

The central design concept is a wall that spirals, evolving like a seashell forming an organic sequence of three spaces that repeats on the two upper levels.

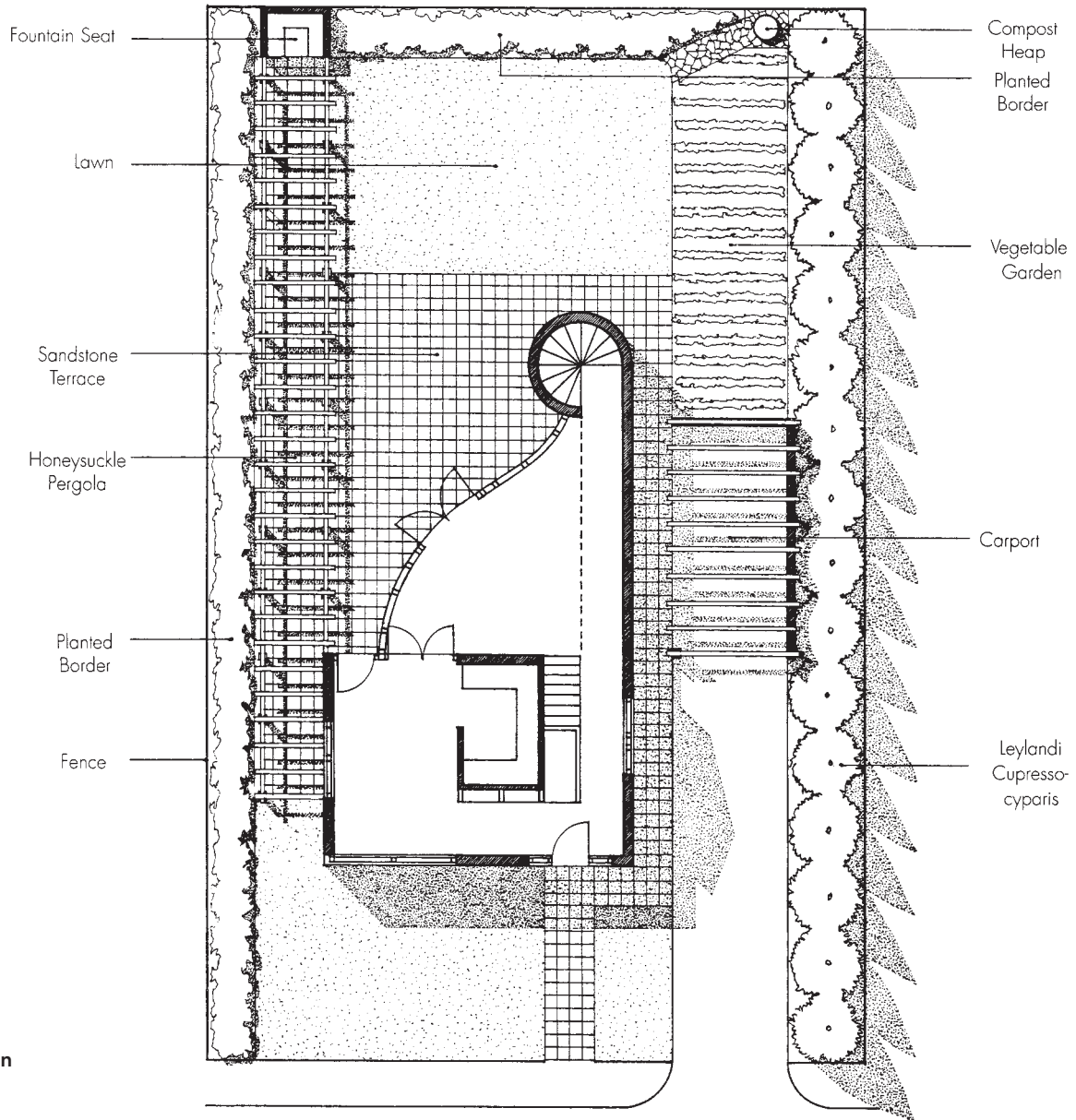
Kitchen and bathroom services occupy the central core, which opens to form the dining room (ground floor), bedrooms (first and second floors), and finally the primary space—a double-height living room. The living room opens onto the garden terrace and is oriented for passive solar gain, with a curtain wall facing south. An insulated solid wall to the north minimizes heat loss.

Nigel A. Holloway

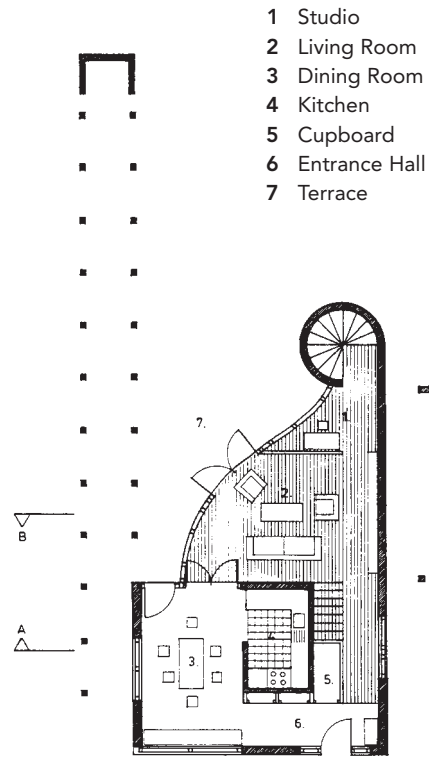


Perspective

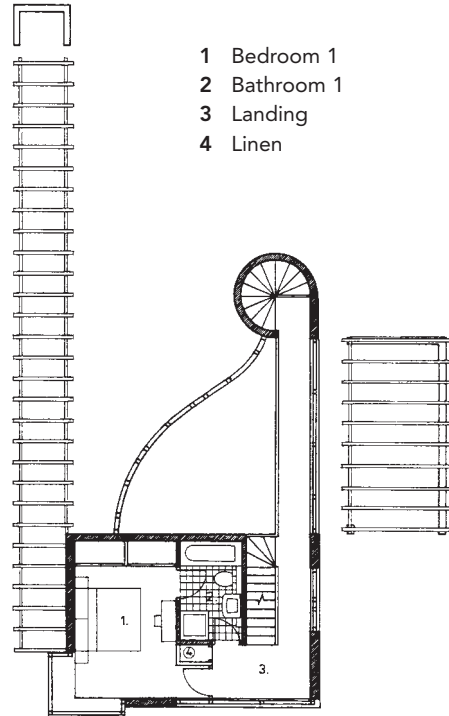
Modern Scottish Manor House



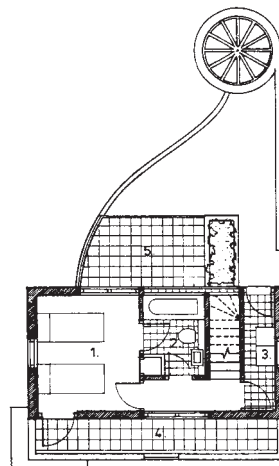
Site Plan



Ground Floor



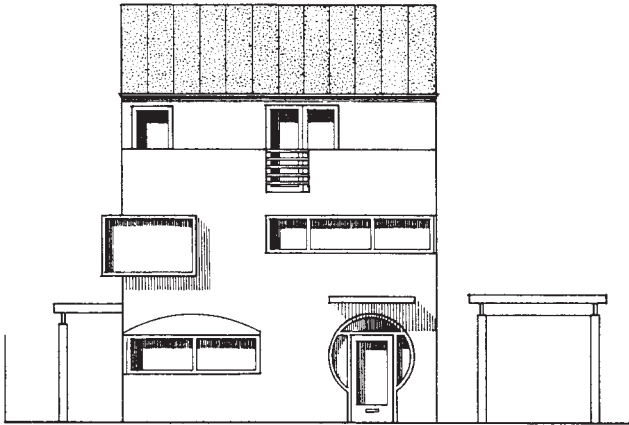
First Floor



Second Floor

Floor Plans

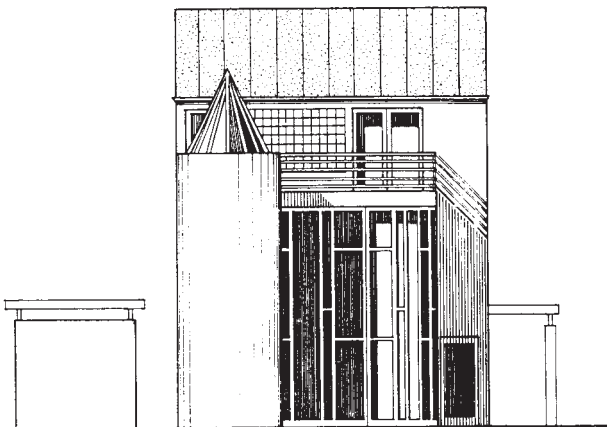
Modern Scottish Manor House



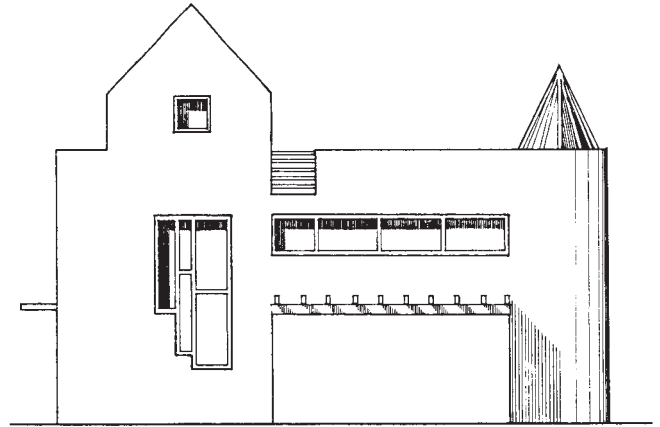
North



East

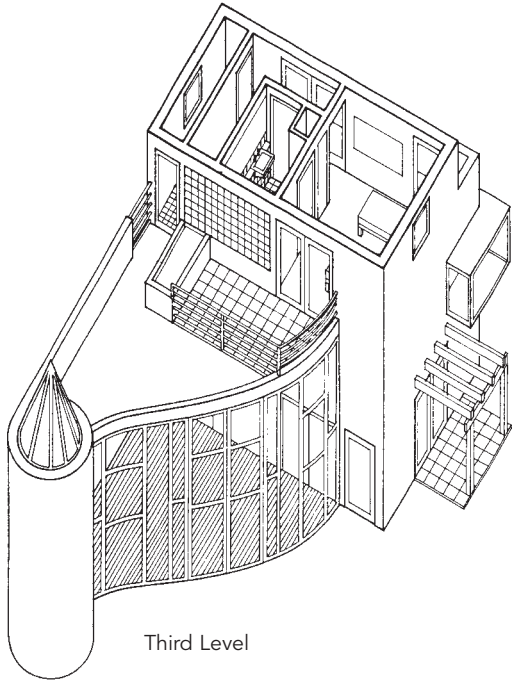


South

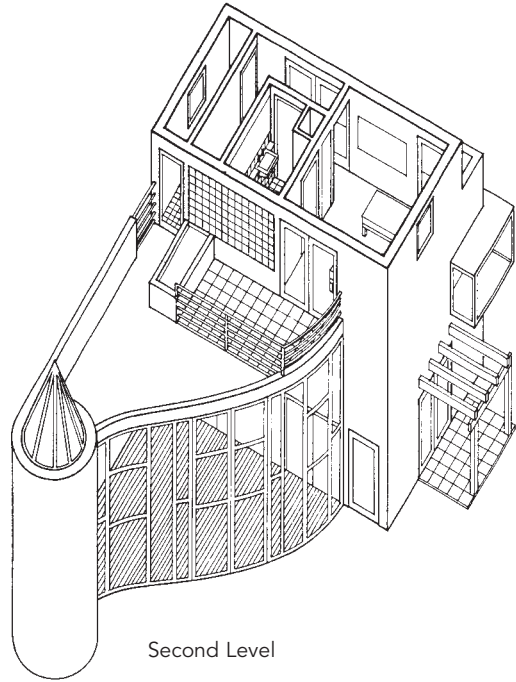


West

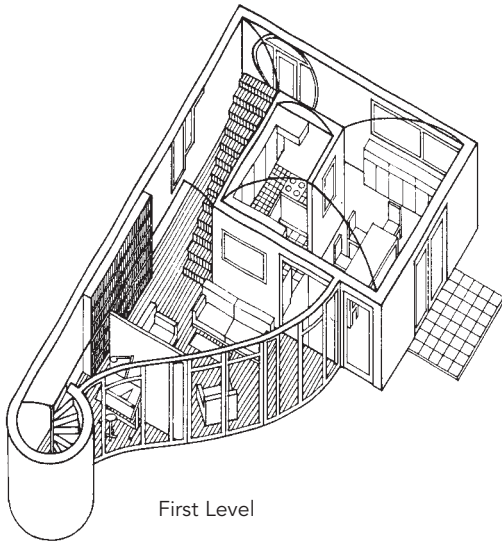
Elevations



Third Level



Second Level



First Level

Solar-Efficient Saltbox

Northampton, Massachusetts

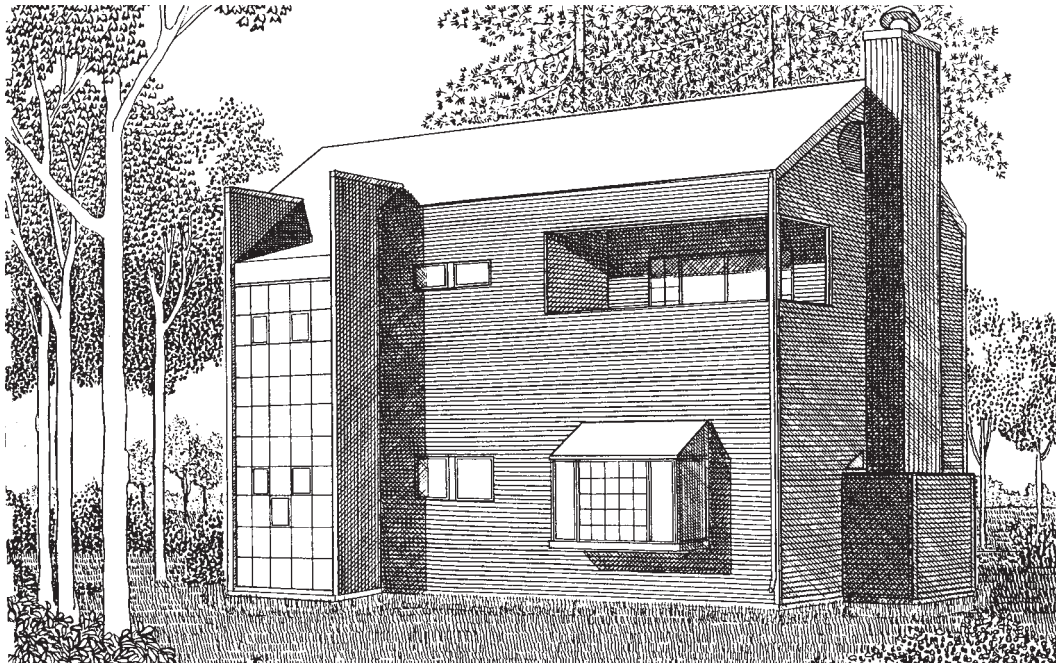
1,230 gross square feet

Located in a Massachusetts college town, this two-story home nestles among old lilacs, maple and black walnut trees, and evergreens. The design effectively uses passive solar heating and cooling. To achieve maximum efficiency it features a southern orientation with a minimum fenestration on the north. In the winter, solar energy is collected directly through the two-story solarium and south windows. In the summer, deciduous trees on the south side interrupt

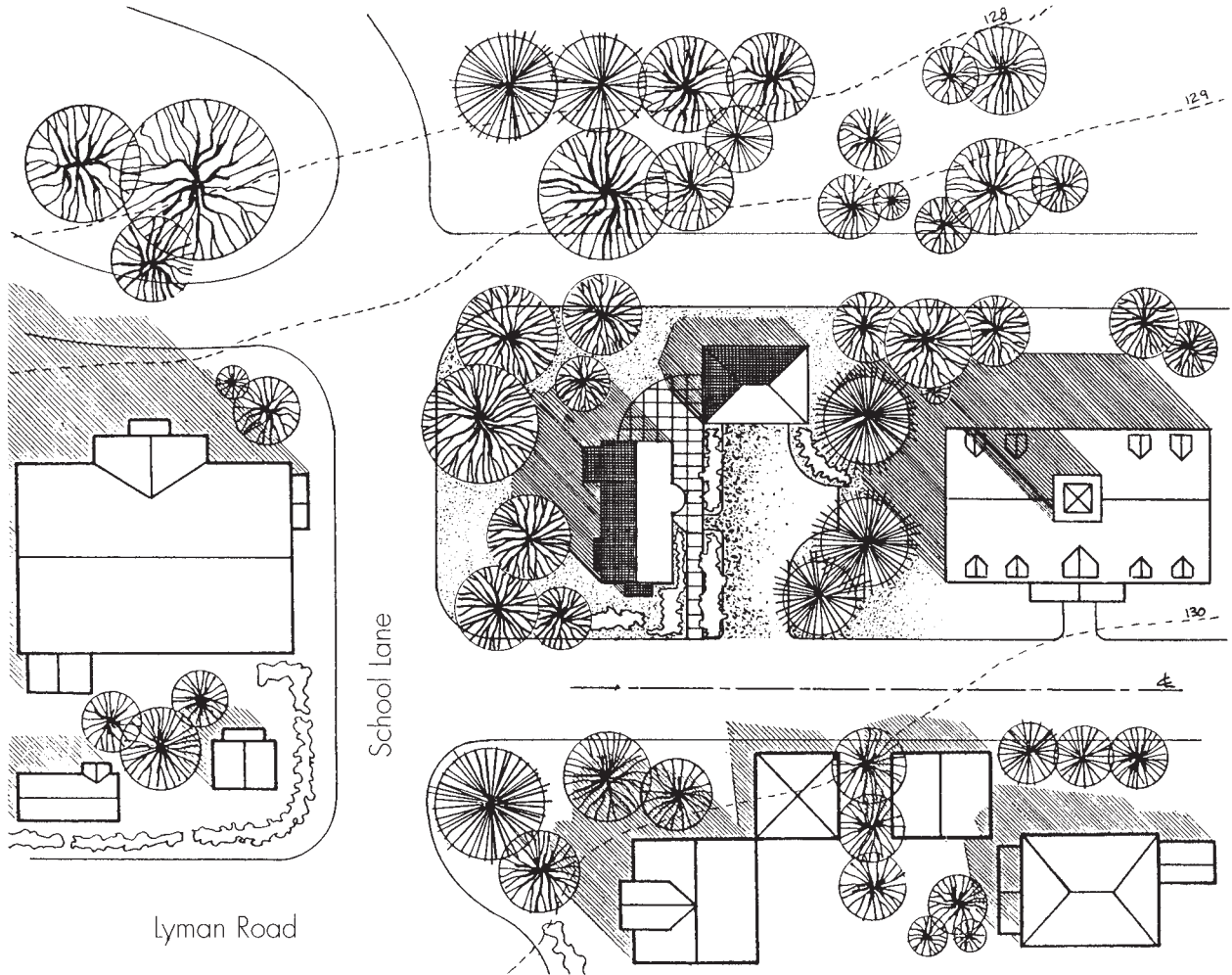
the flow of solar energy before it strikes the ground, windows, and wall surfaces.

The first floor consists of public or shared areas. The second includes a master bedroom that enjoys a private deck, another bedroom that opens below to the solarium, and a full bathroom connected to laundry space. All living areas downstairs and the bedrooms upstairs share the south view.

Hasan Akkurt and Cigdem T. Akkurt

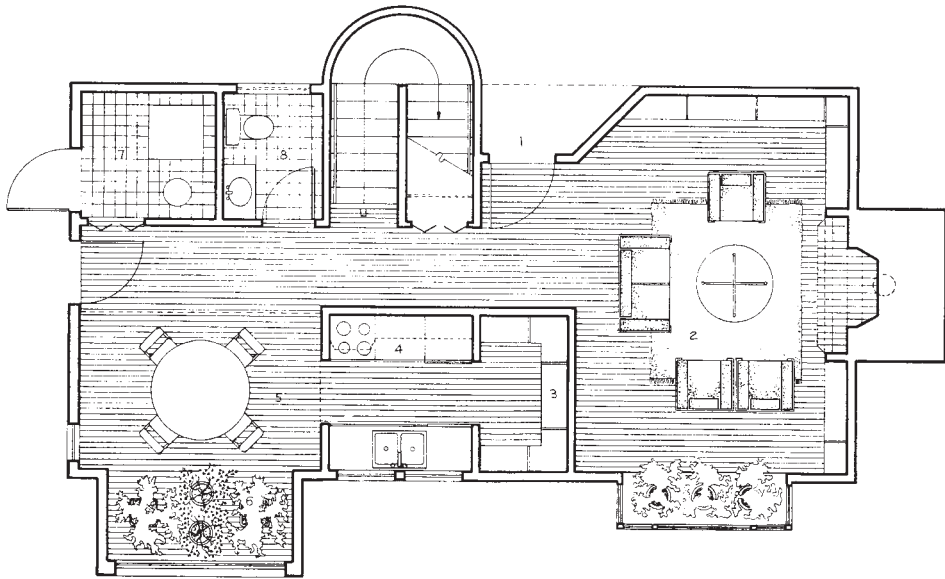


Perspective



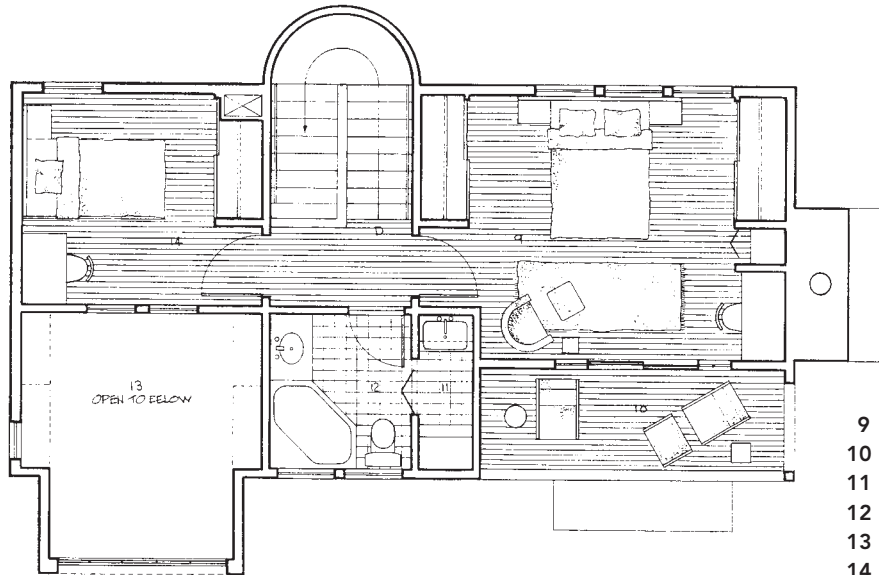
Site Plan

Solar-Efficient Saltbox



- 1 Entry
- 2 Living Area
- 3 Pantry/Storage
- 4 Kitchen
- 5 Dining Area
- 6 Solarium
- 7 Mechanical Room
- 8 Toilet

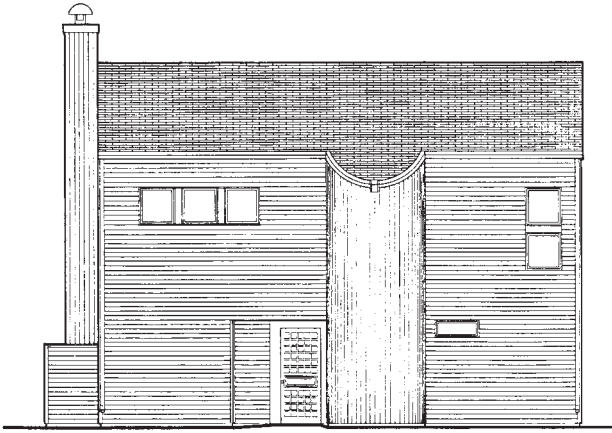
First Floor



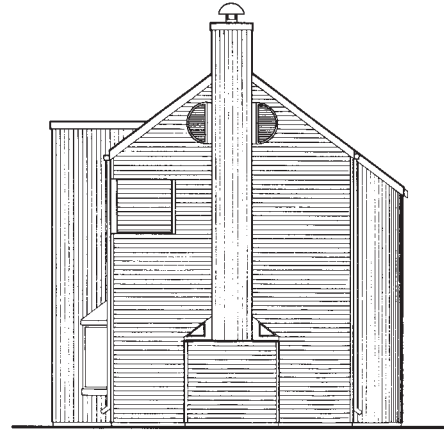
- 9 Master Bedroom
- 10 Deck
- 11 Laundry
- 12 Bathroom
- 13 Solarium
- 14 Bedroom

Second Floor

Floor Plans



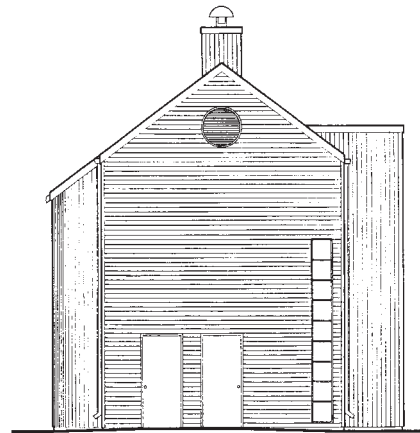
North



East

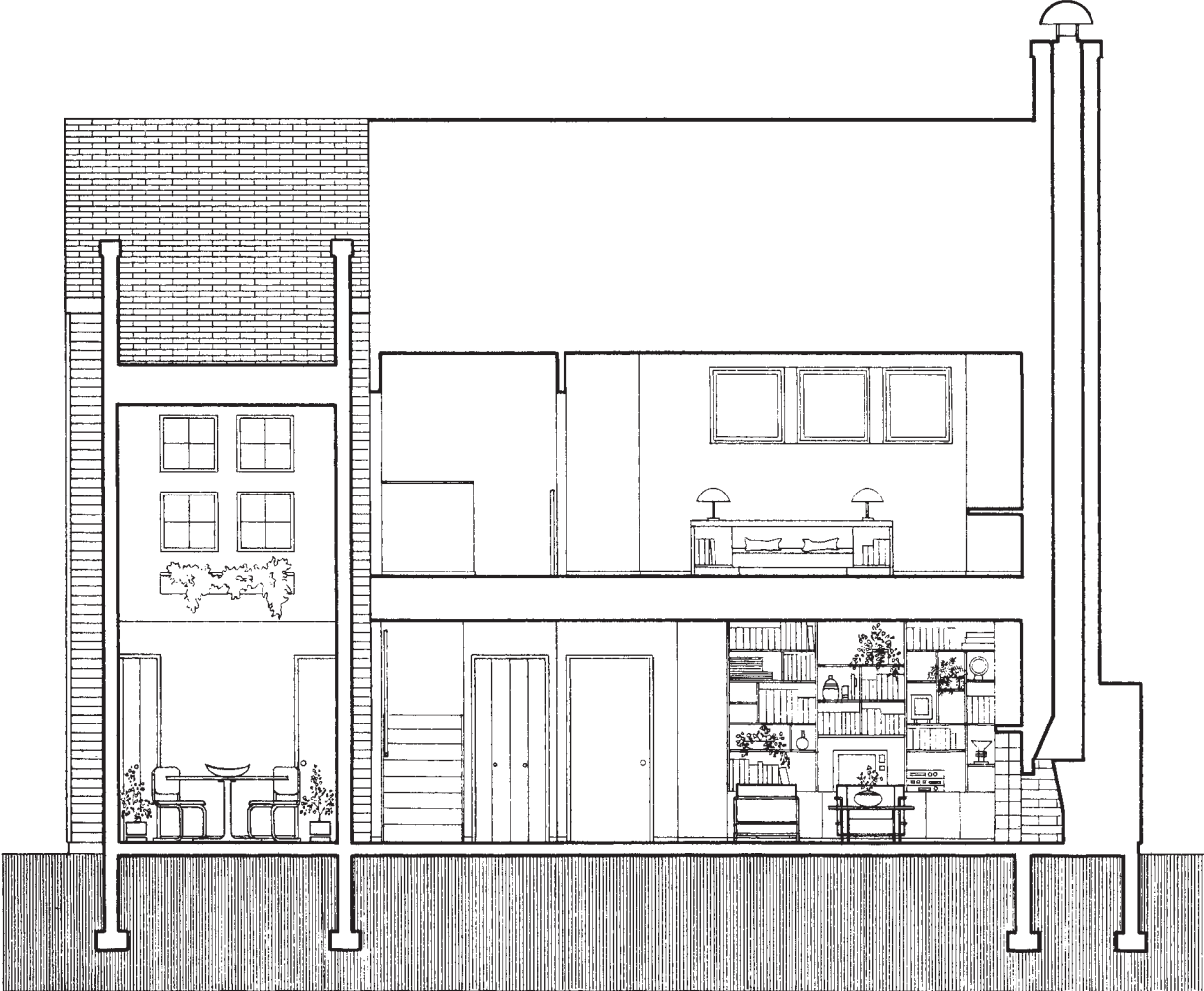


South



West

Solar-Efficient Saltbox



Cutaway

Friendly Neighborhood Home

Winston-Salem, North Carolina

1,230 gross square feet

We designed this affordable home as a prototype for the Northeast Winston Redevelopment Area in Winston-Salem, North Carolina. The area features small frame bungalows and clapboard farmhouse-style duplexes ranging from forty to seventy years old. The house and garage form components of an extended L-shaped plan. Depending on site conditions, the pieces can be rotated or reflected to provide different arrangements.

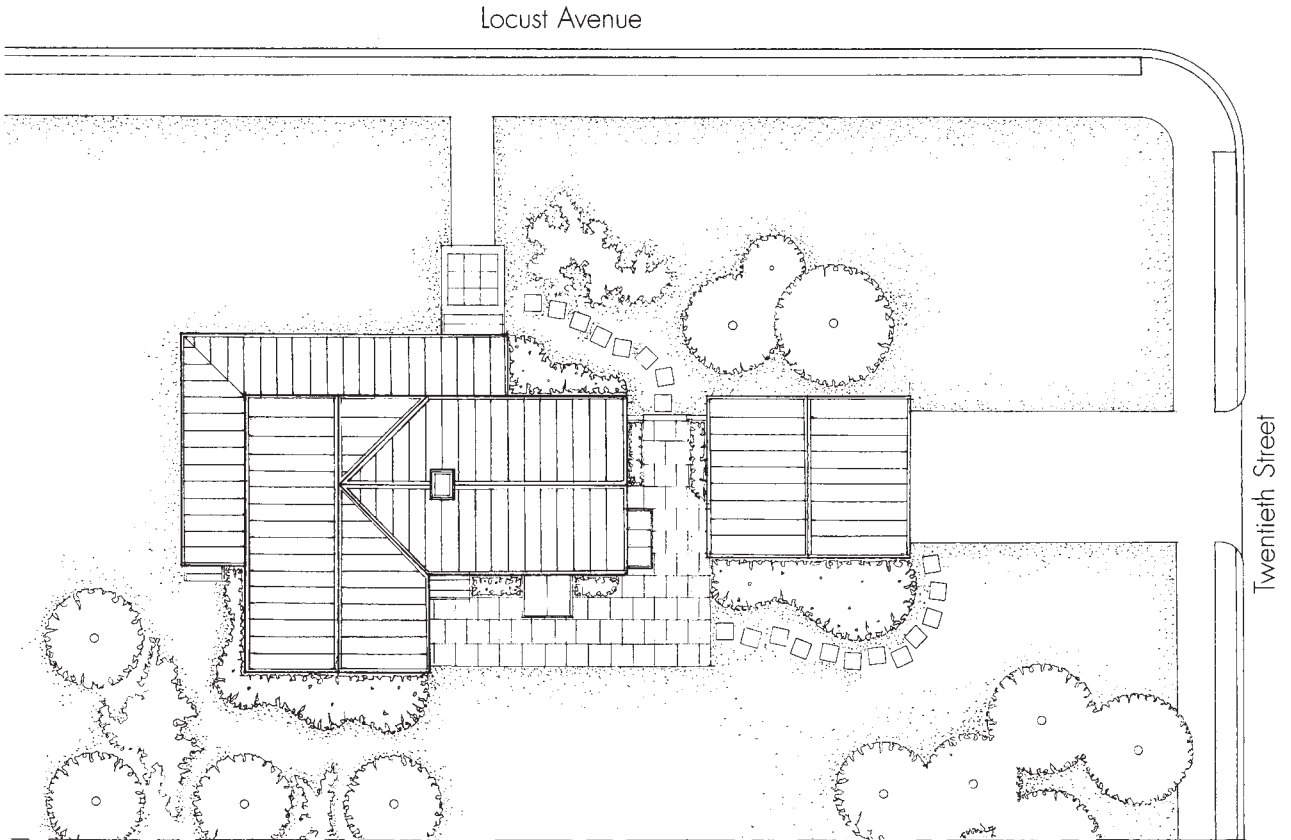
By balancing public and private zones, sun and shade, curb appeal, outdoor spaces that expand the rooms, and indoor-outdoor

circulation sequences, this design constitutes a thoughtful addition to the neighborhood fabric. Styled in a manner that appeals to prospective first-time home buyers, it relates well to neighboring houses and is conventionally constructed.

Reed M. Axelrod



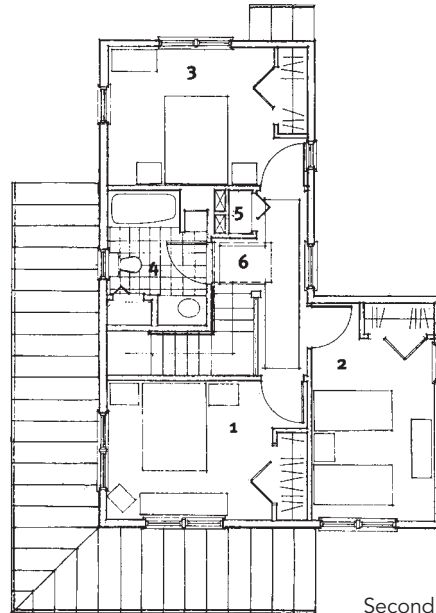
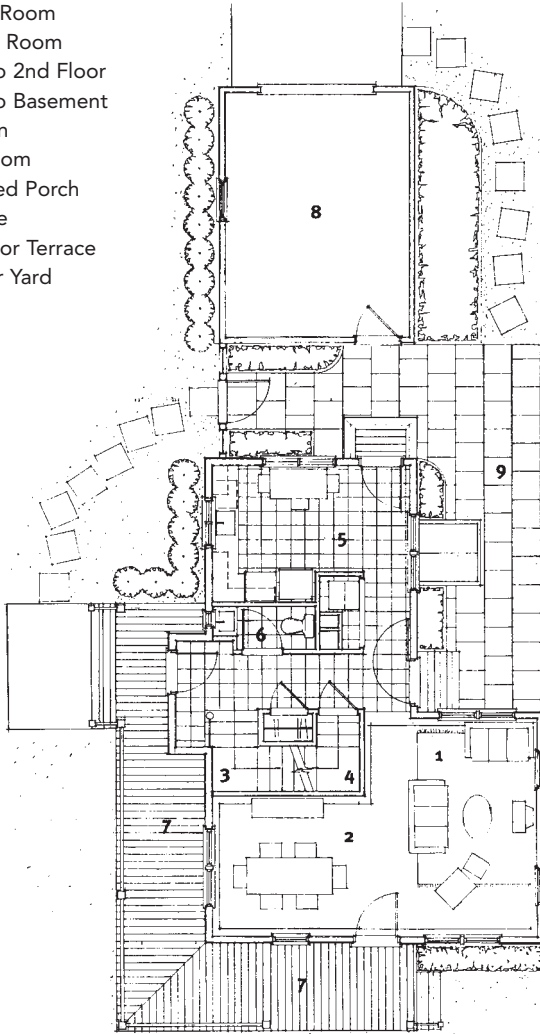
Perspective



Site Plan

First Floor

- 1 Living Room
- 2 Dining Room
- 3 Stair to 2nd Floor
- 4 Stair to Basement
- 5 Kitchen
- 6 Bathroom
- 7 Covered Porch
- 8 Garage
- 9 Outdoor Terrace at Rear Yard



Second Floor

- 1 Master Bedroom
- 2 Bedroom 1
- 3 Bedroom 2 or Office
- 4 Bathroom
- 5 Linen Closet
- 6 Hallway

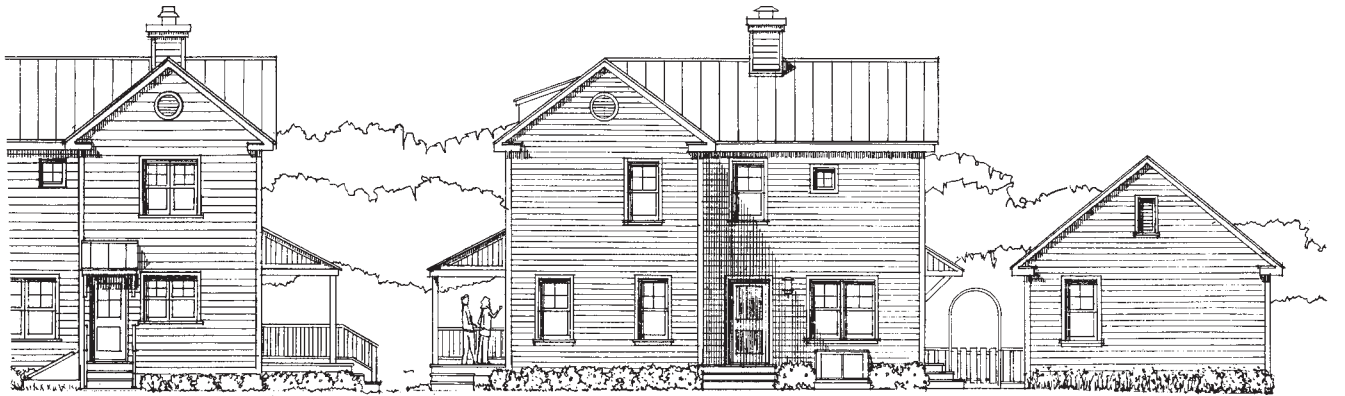
Floor Plans

Friendly Neighborhood Home



West

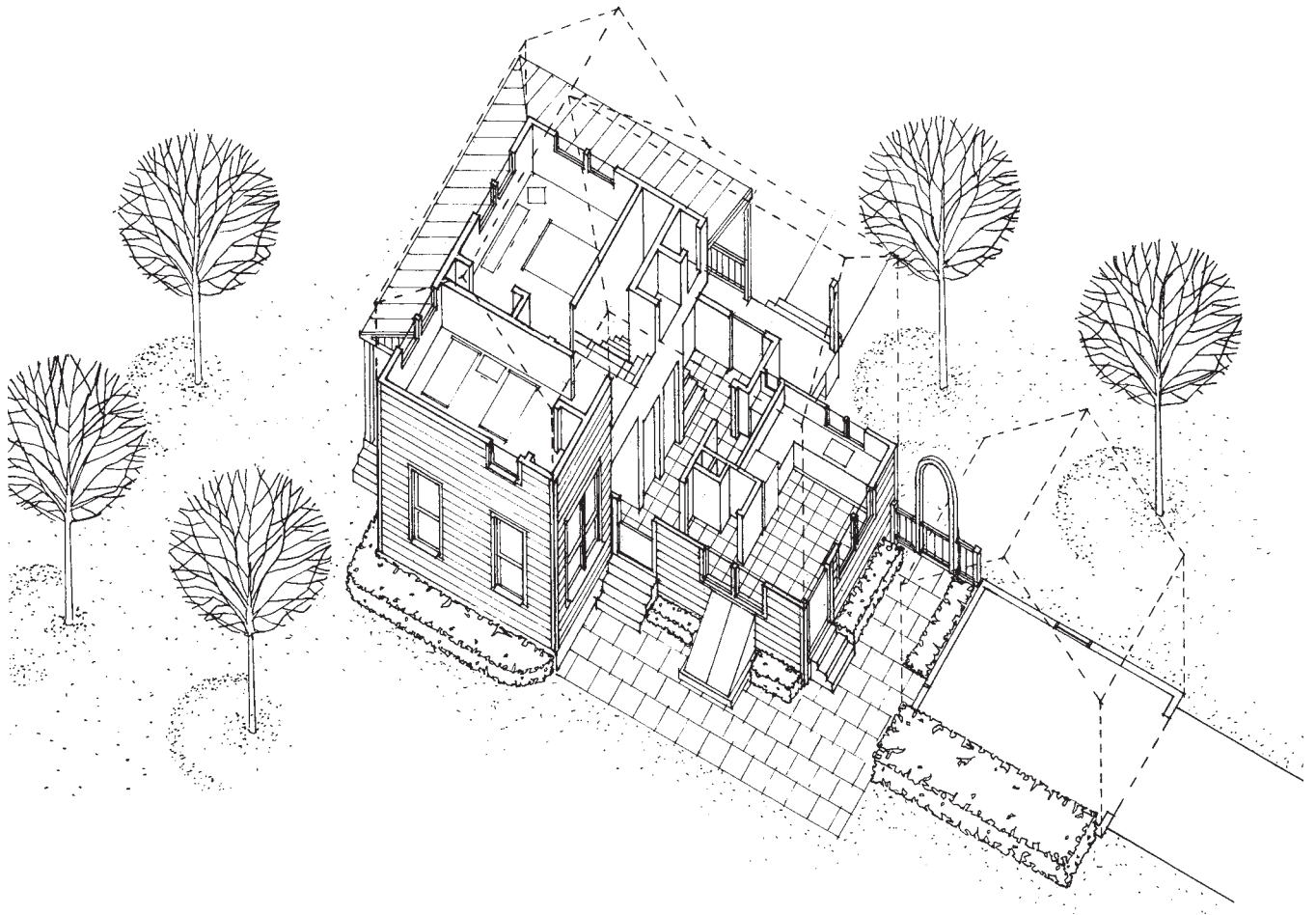
South



North

East

Elevations



Axonometric

Cottage in the Woods

Snowy Regions of the U.S.

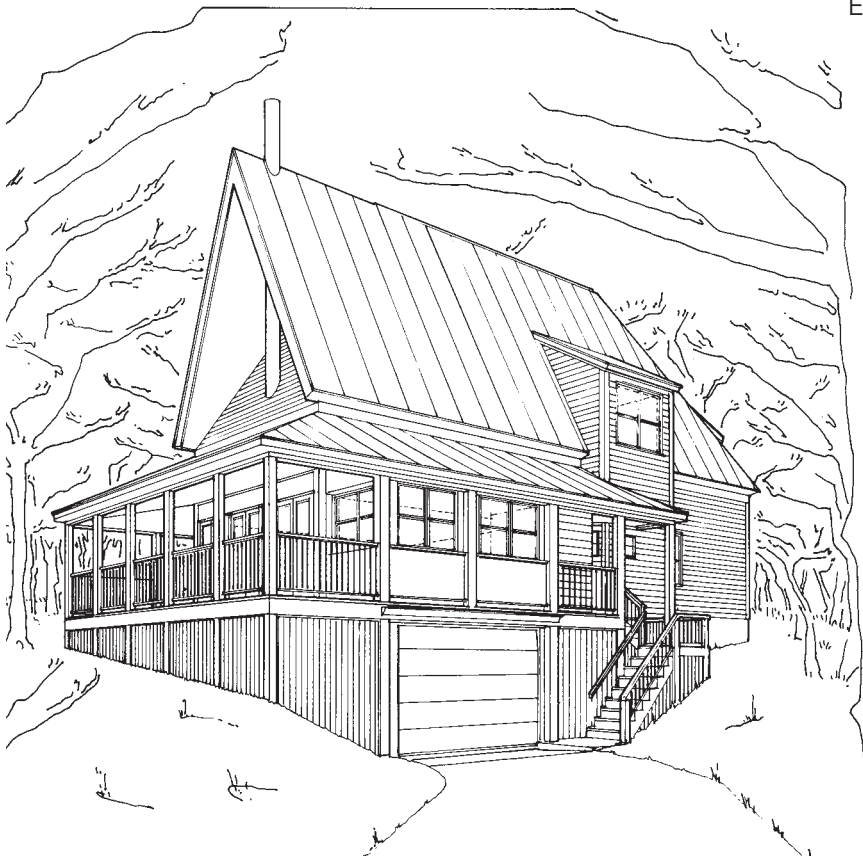
1,250 gross square feet

The cottage nestled deep in the woods recalls childhood fairy tales. This winter residence alludes to these images through the use of the steeply pitched roof, the wrap-around porch, and the projected bays.

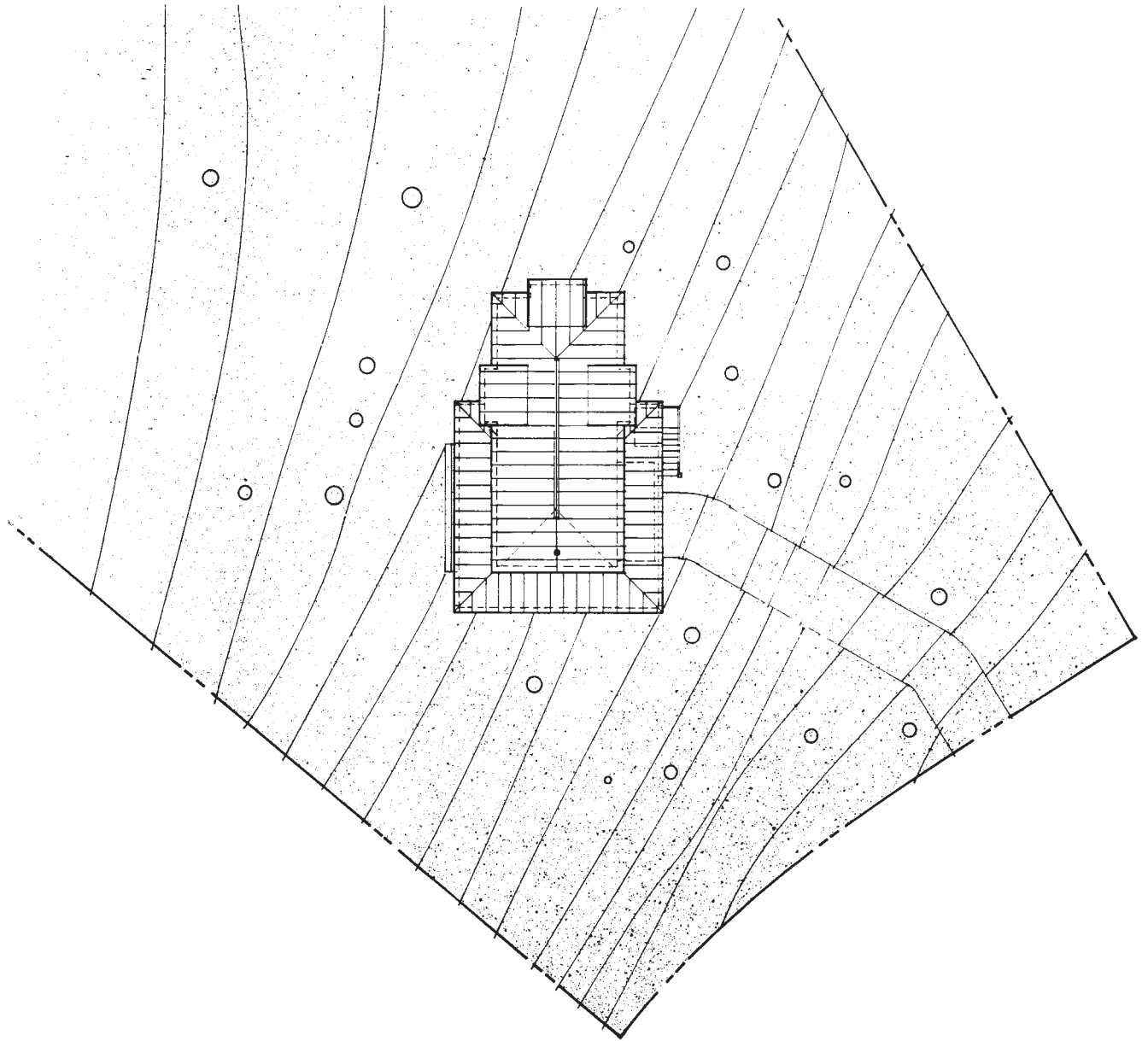
The walls dematerialize in the main living space, allowing residents to feel as if they are sitting under a light canopy in the midst of the forest. The layering of the columns provides a constructed forest, as a foreground to the natural one beyond.

Employing the most efficient principles of mechanical systems, bathroom plumbing is stacked, the heating system is forced air, and the main duct runs in a plenum under the stairs to service each floor.

Christopher Blake

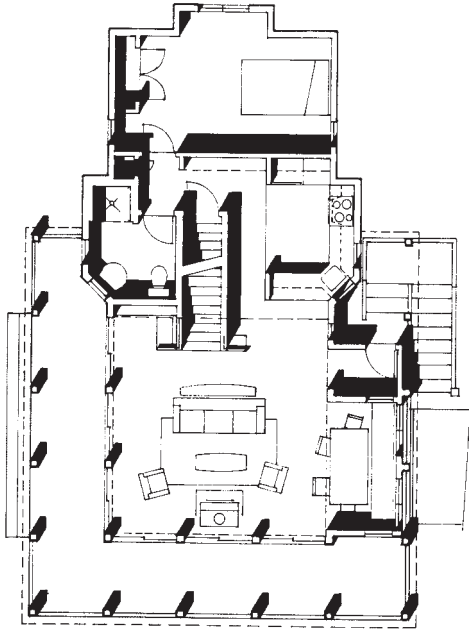


Perspective



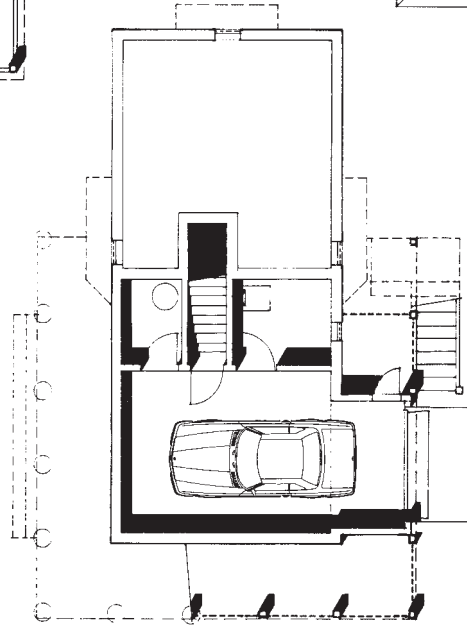
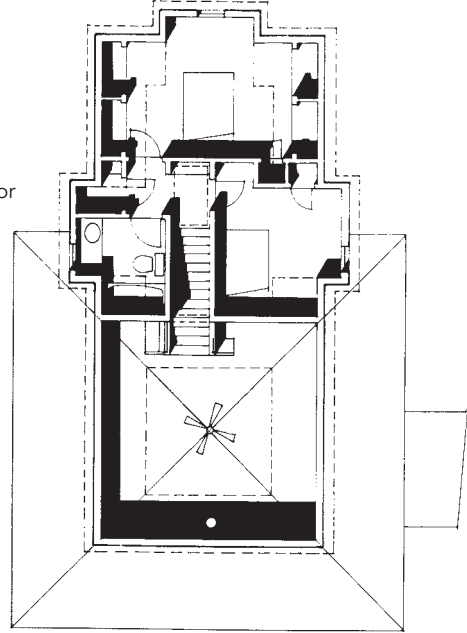
Site Plan

Cottage in the Woods



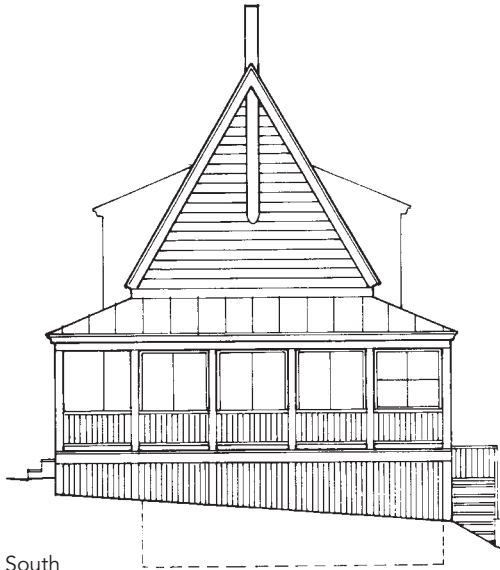
First Floor

Second Floor

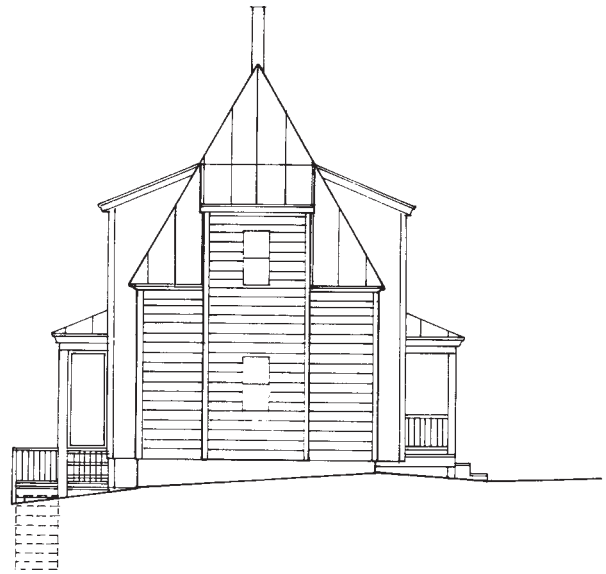


Basement

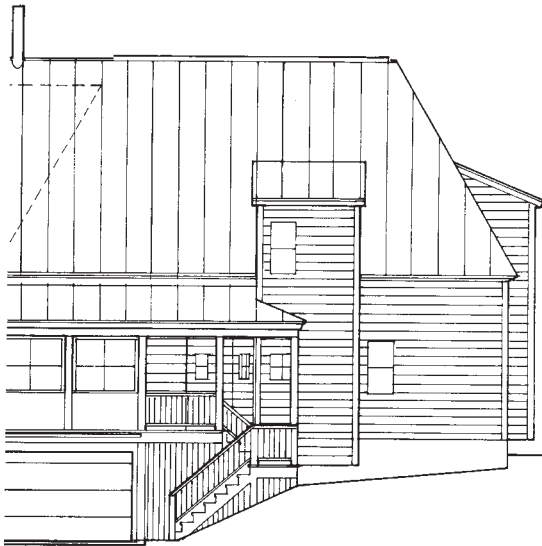
Floor Plans



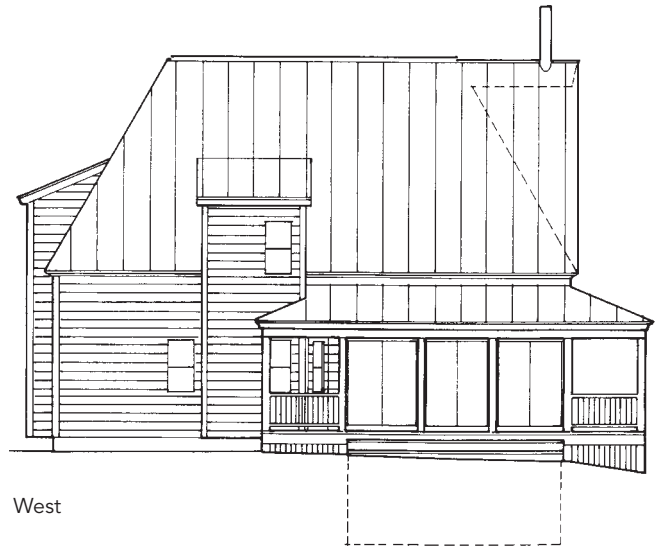
South



North

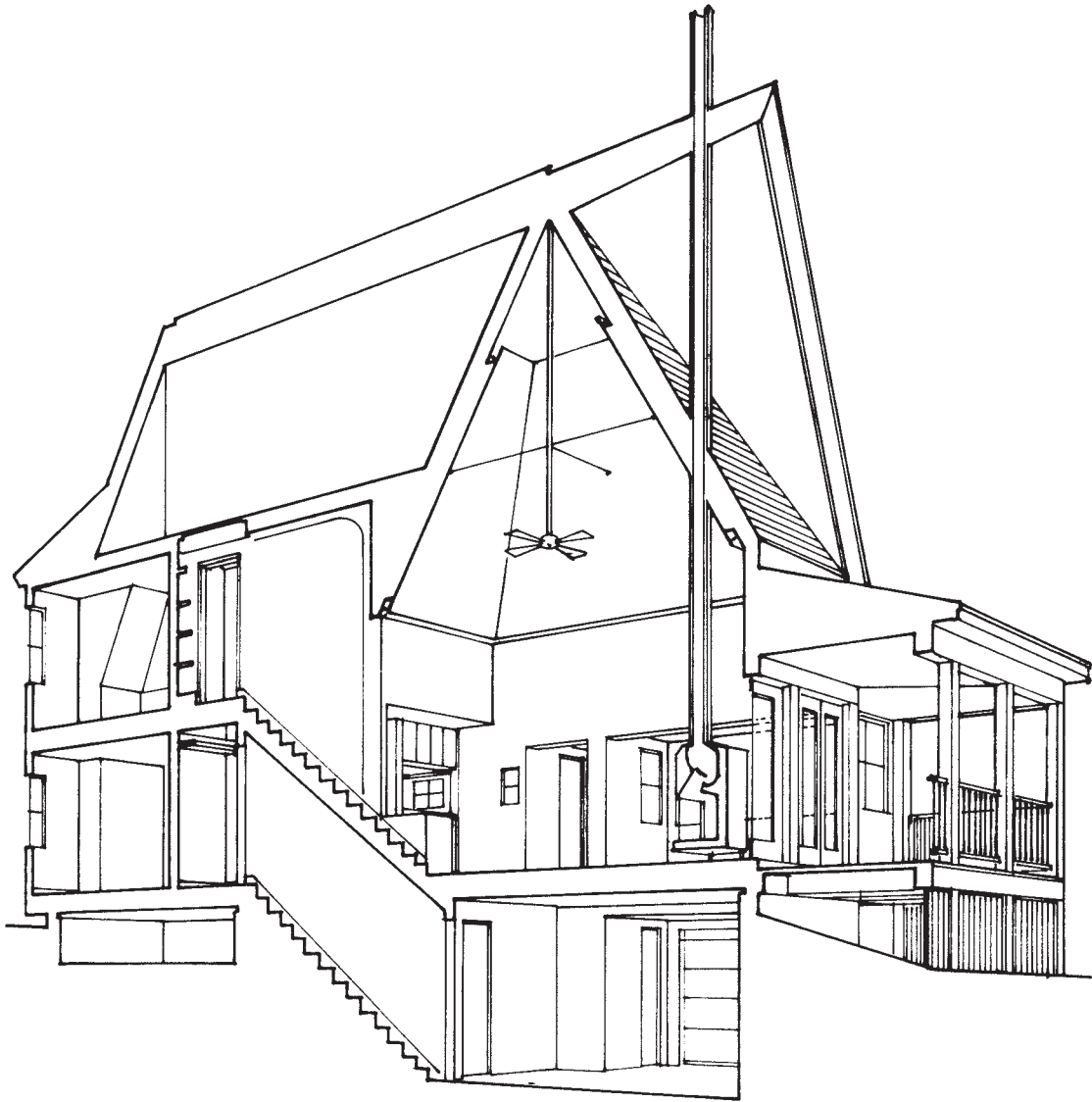


East



West

Elevations



Section

Private Lakeside Retreat

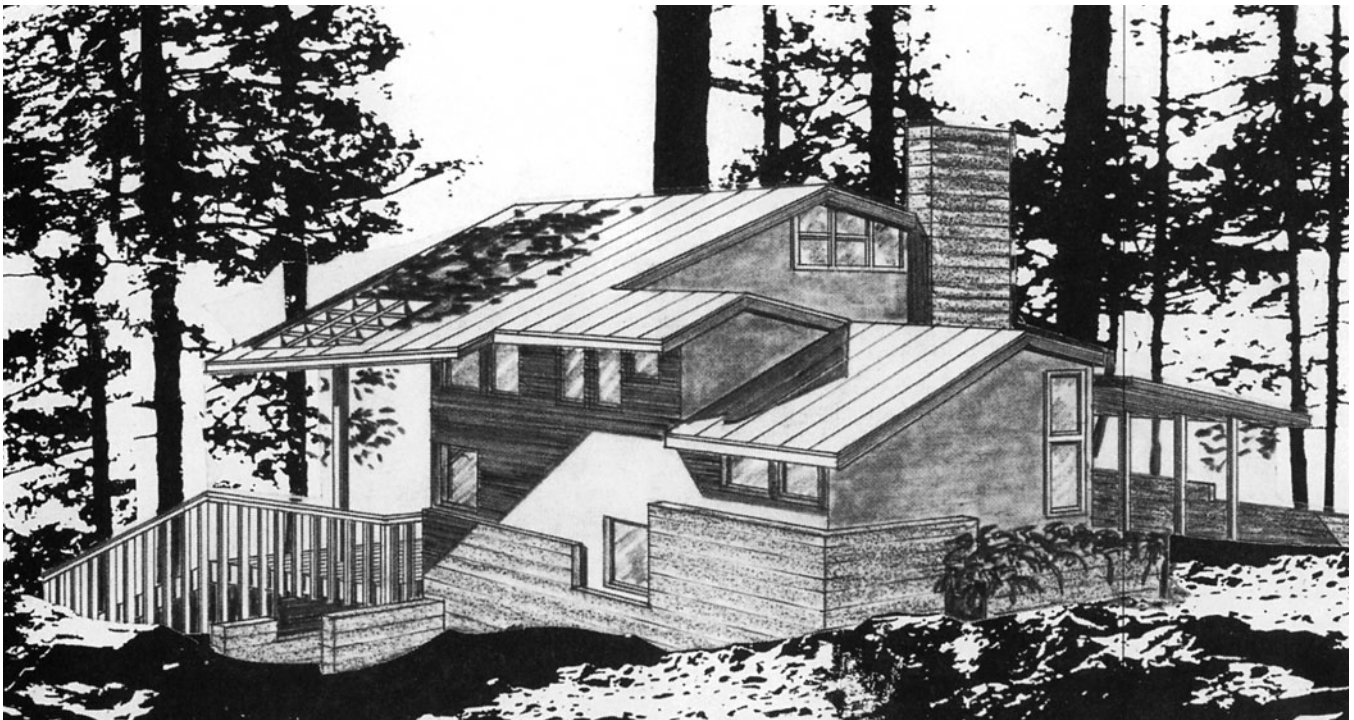
Mascoma Lake, New Hampshire

995 gross square feet

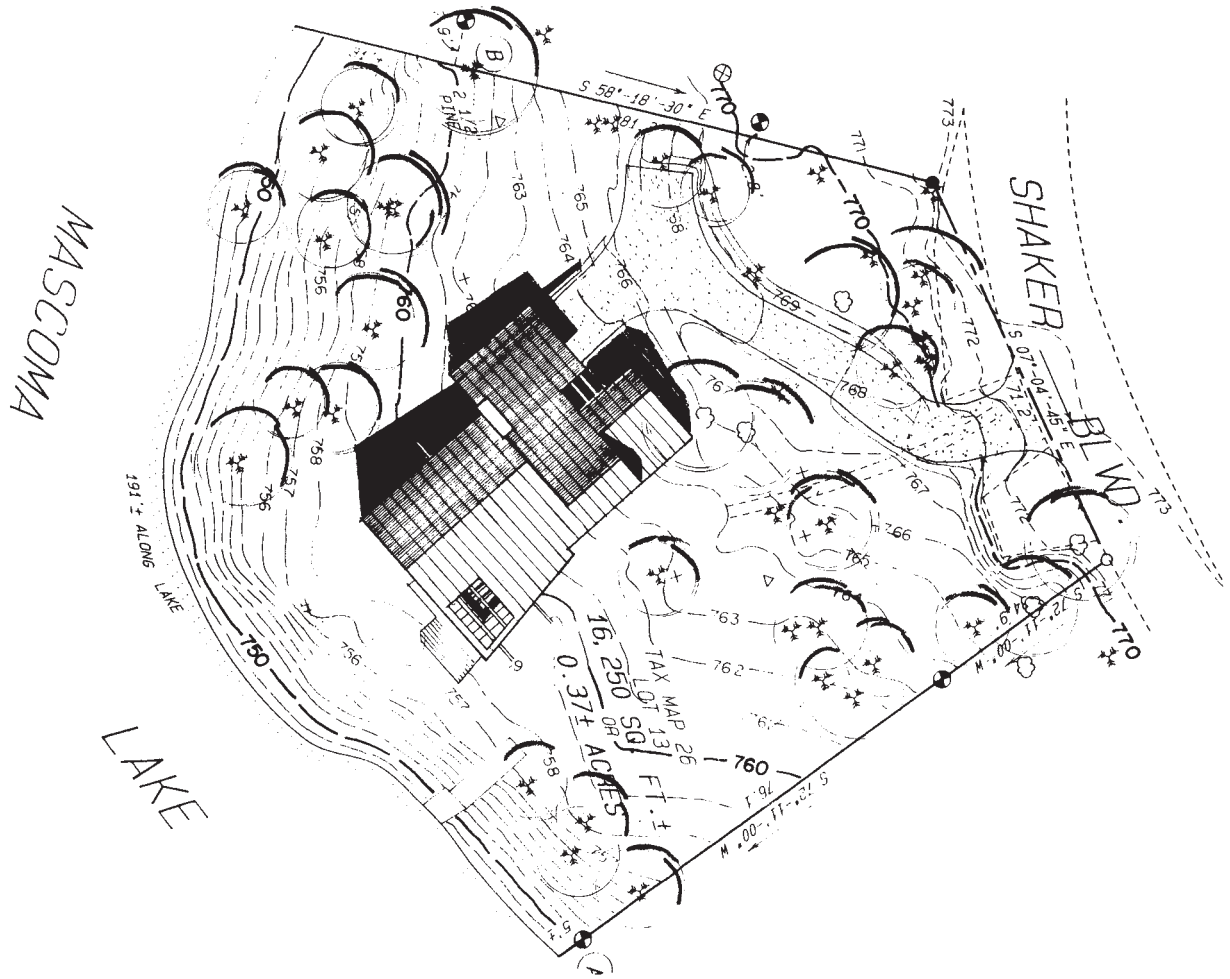
The rectangular configuration and mostly blind side wall (west) allow for sitting on small lots (rural, suburban, or urban) while still maintaining privacy. The primary living space is barnlike (20 feet high), with a loft over the back portion, giving occupants both light and openness plus protection and shelter. The space can be occupied in many different ways, depending

upon the season and the lifestyle of the occupants. The stairs perform a number of roles: bringing high, filtered light into the entry; acting as the hallway to the bathroom, separating it from both the private and public areas; and providing a pantry/washroom at the half-level below, near the kitchen.

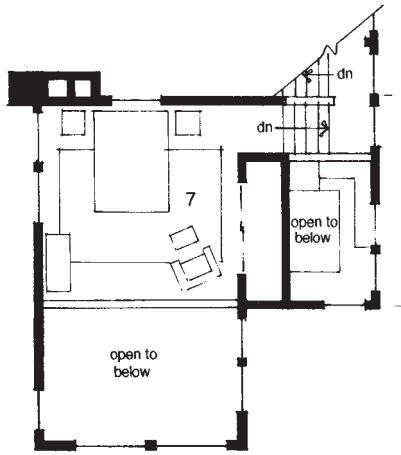
William H. Boehm



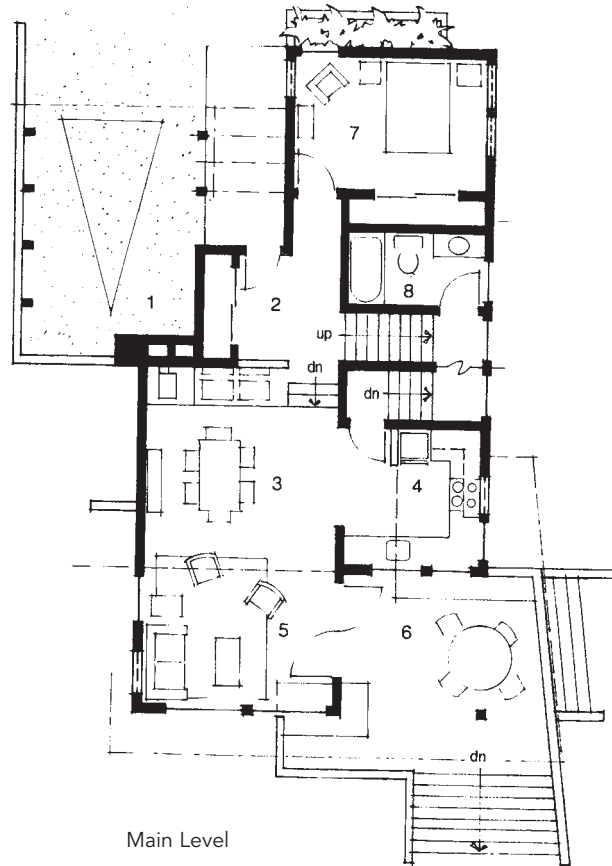
Perspective



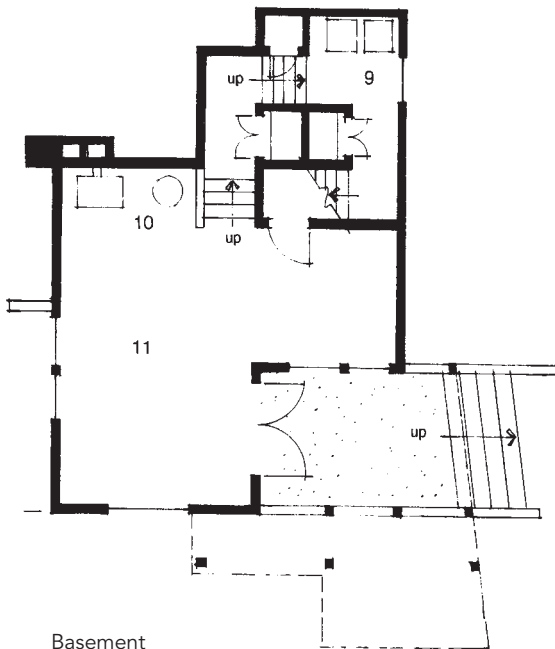
Site Plan



Loft



Main Level

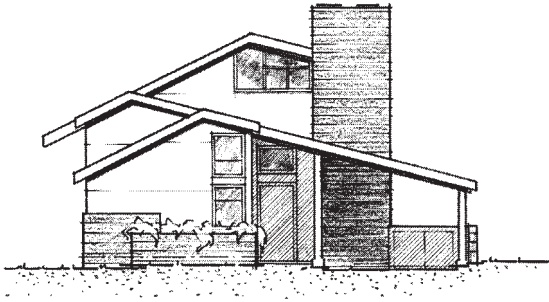


Basement

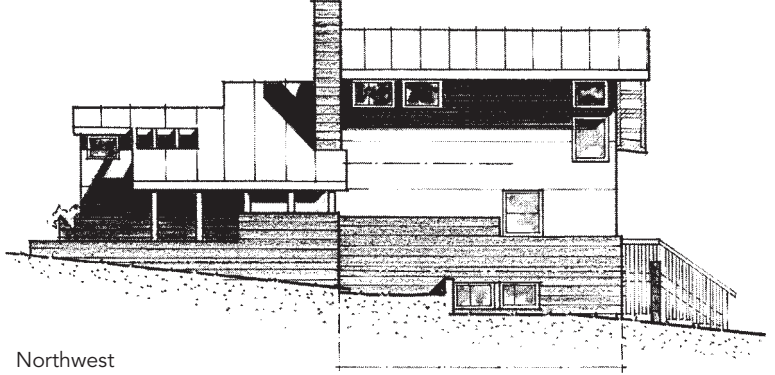
- 1 Carport
- 2 Entry
- 3 Dining
- 4 Kitchen
- 5 Living
- 6 Deck
- 7 Bedroom
- 8 Bathroom
- 9 Laundry
- 10 Mechanical
- 11 Basement

Floor Plans

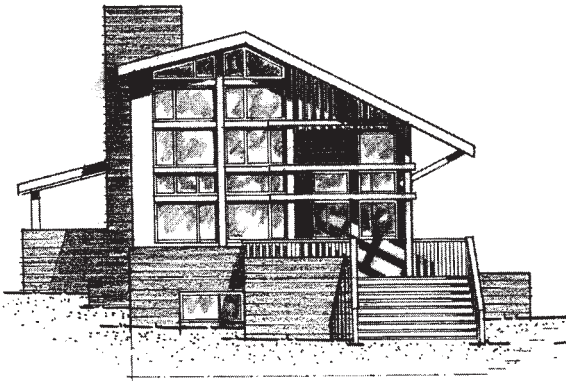
Private Lakeside Retreat



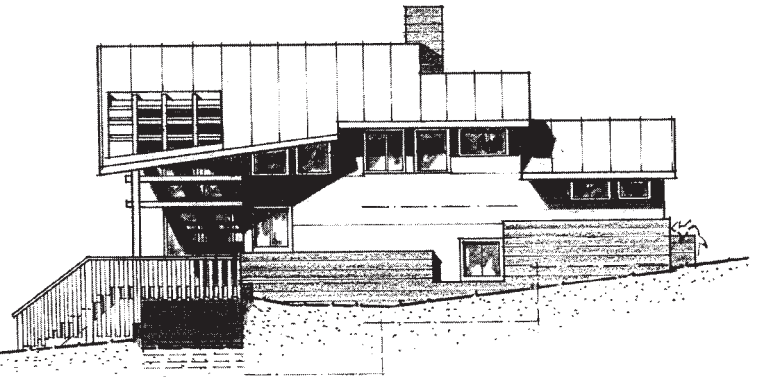
Northeast



Northwest

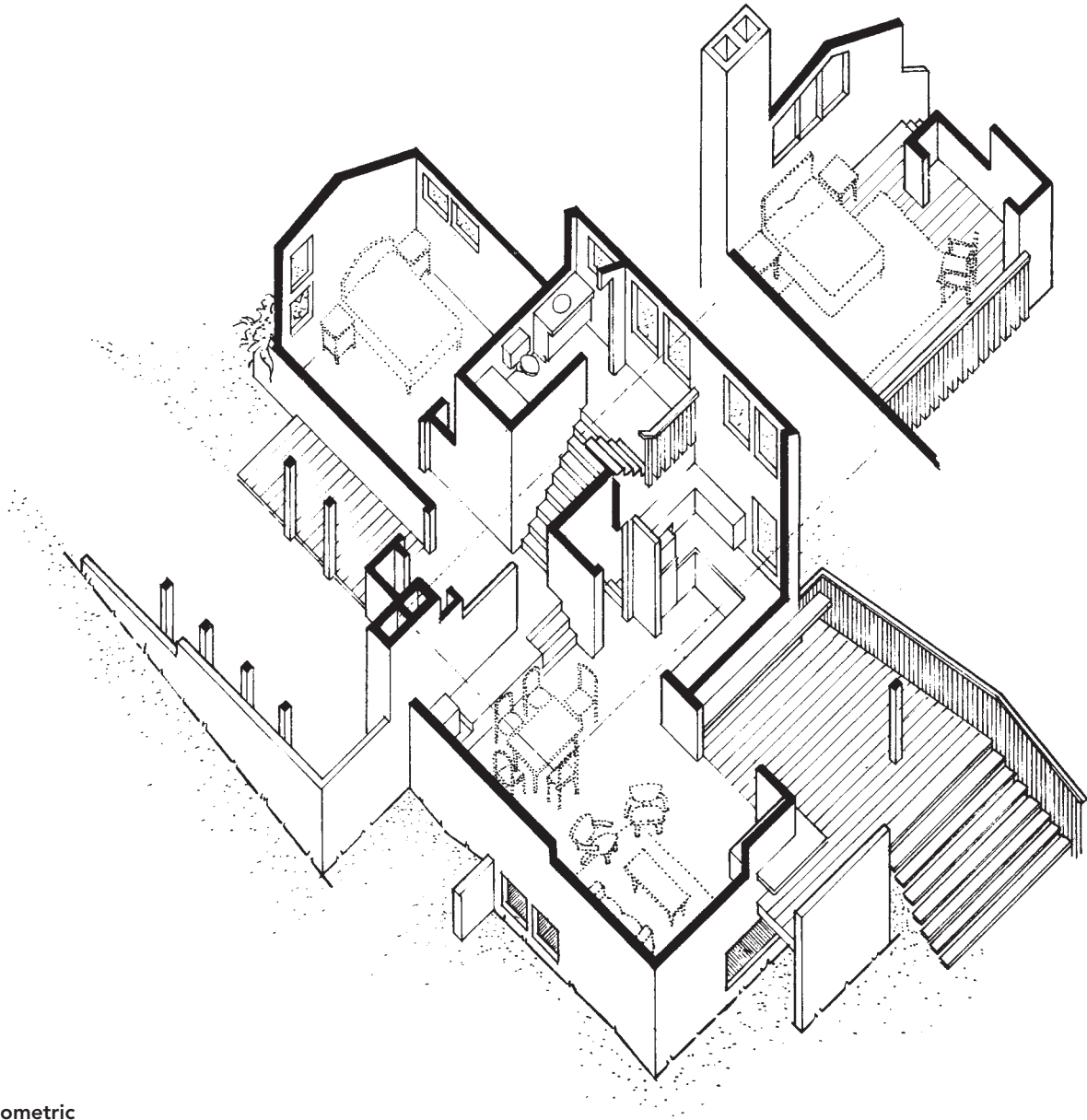


Southwest



Southeast

Elevations



Axonometric

Evergreen Hide-Away

Wisconsin Dells, Wisconsin

1,200 gross square feet

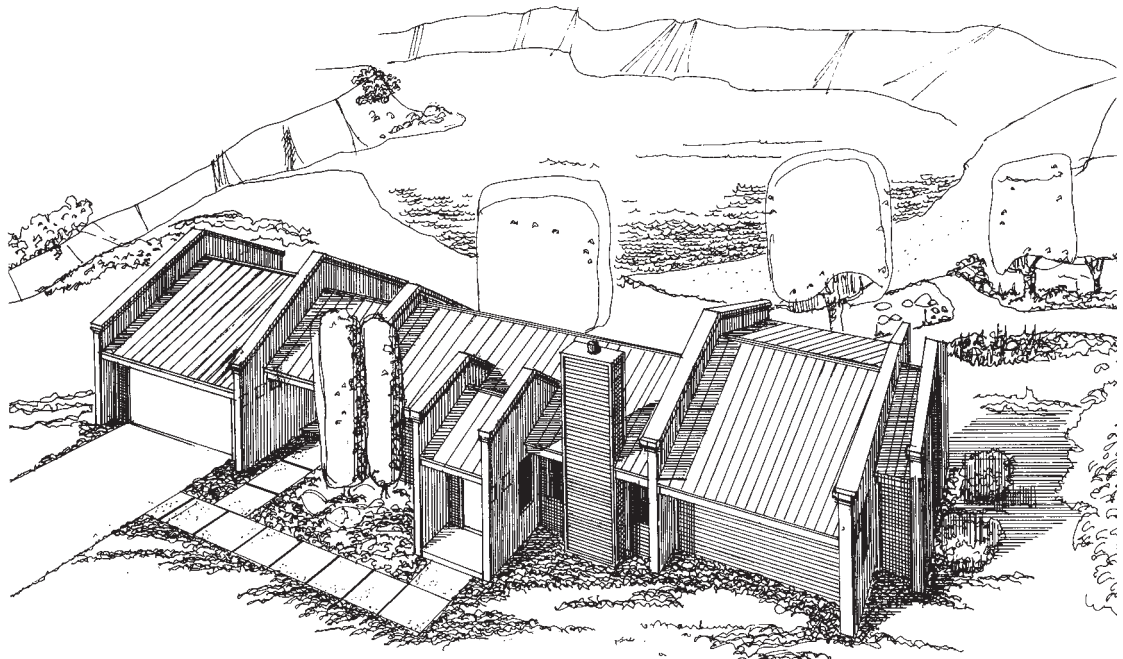
The design concept for this home evolved after seeing a lakeside property, secluded and surrounded by rolling hills covered with tall evergreen trees, in Wisconsin.

A small entryway expands into a large open interior space. The home features a very open kitchen, dining room, and family room. Vaulted ceilings in the main area provide inhabitants a feeling of greater space.

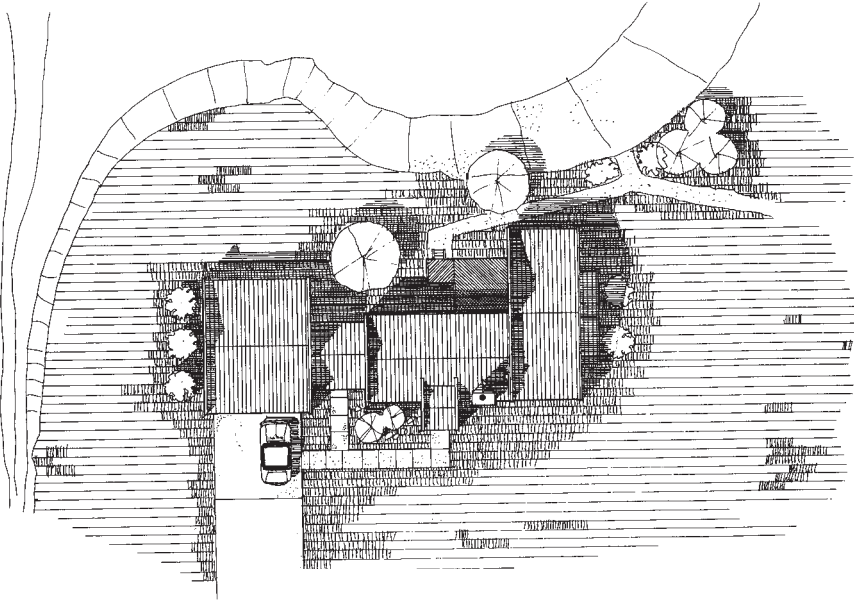
The family room opens onto a deck area that overlooks the lake to the north. Windows on the south side have been limited to reduce solar heating of the interior.

A geothermal water pump provides heating and cooling as well as hot water. All rooms have ceiling fans and operable windows that allow for natural cooling at night. All appliances and fixtures are water efficient.

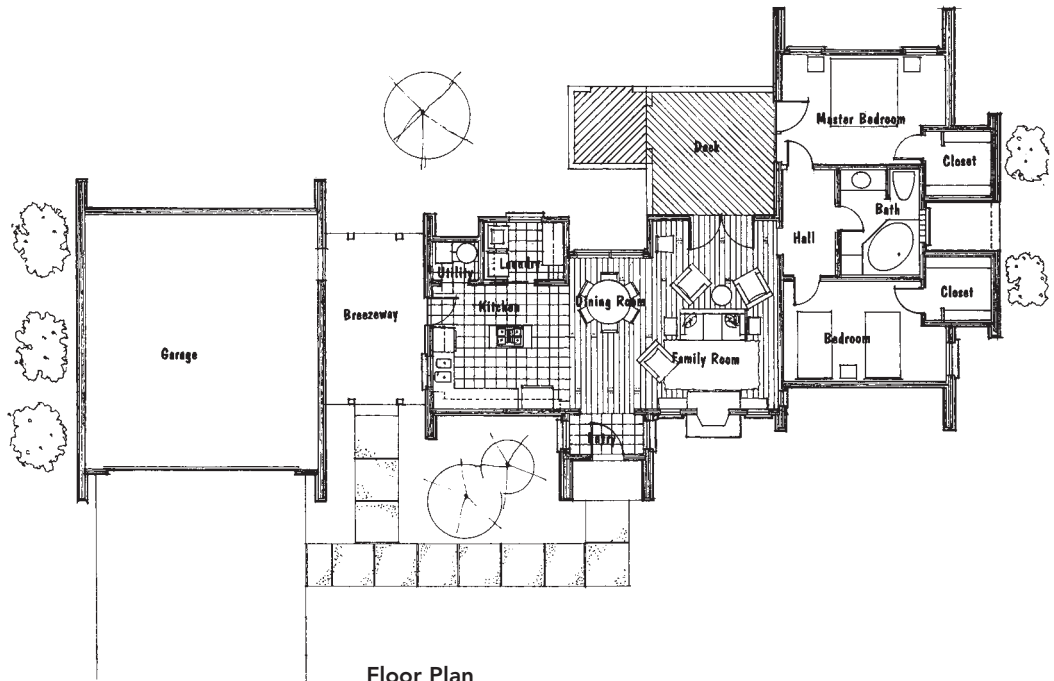
James M. Corkill



Perspective

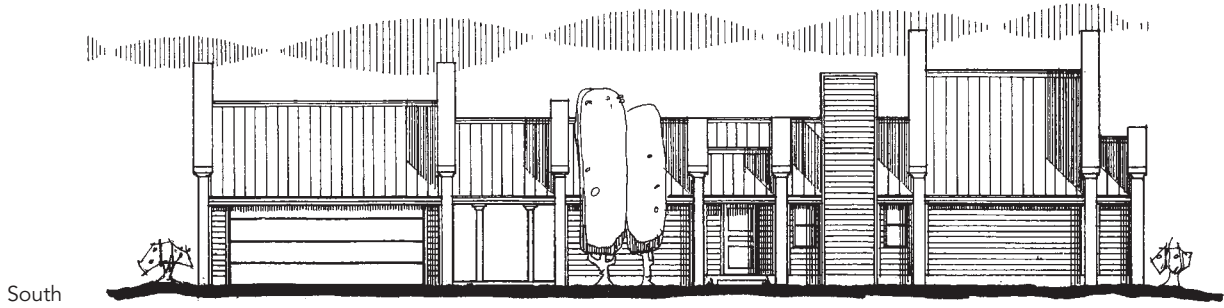


Site Plan

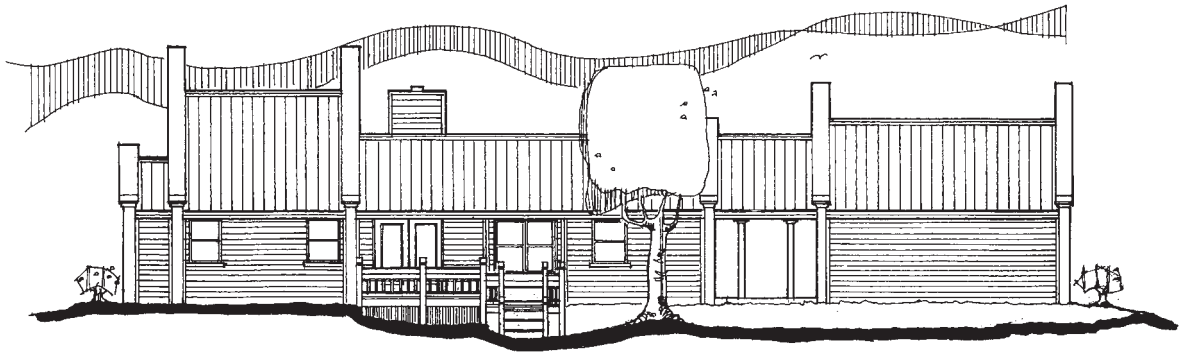


Floor Plan

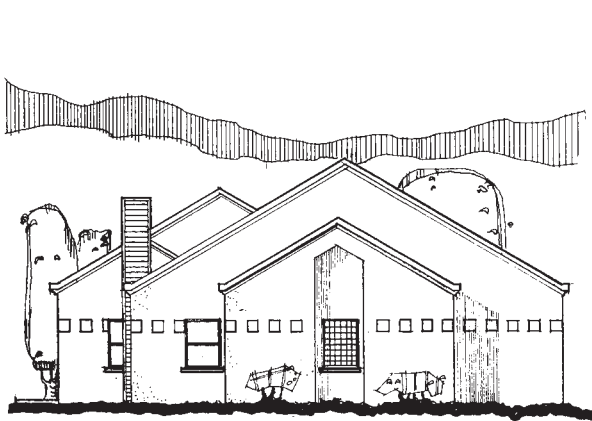
Evergreen Hide-Away



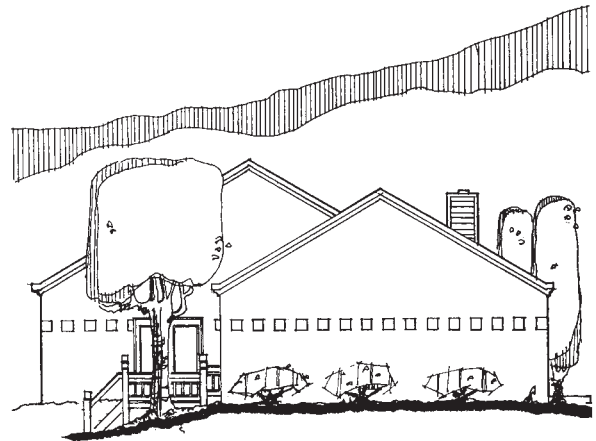
South



North

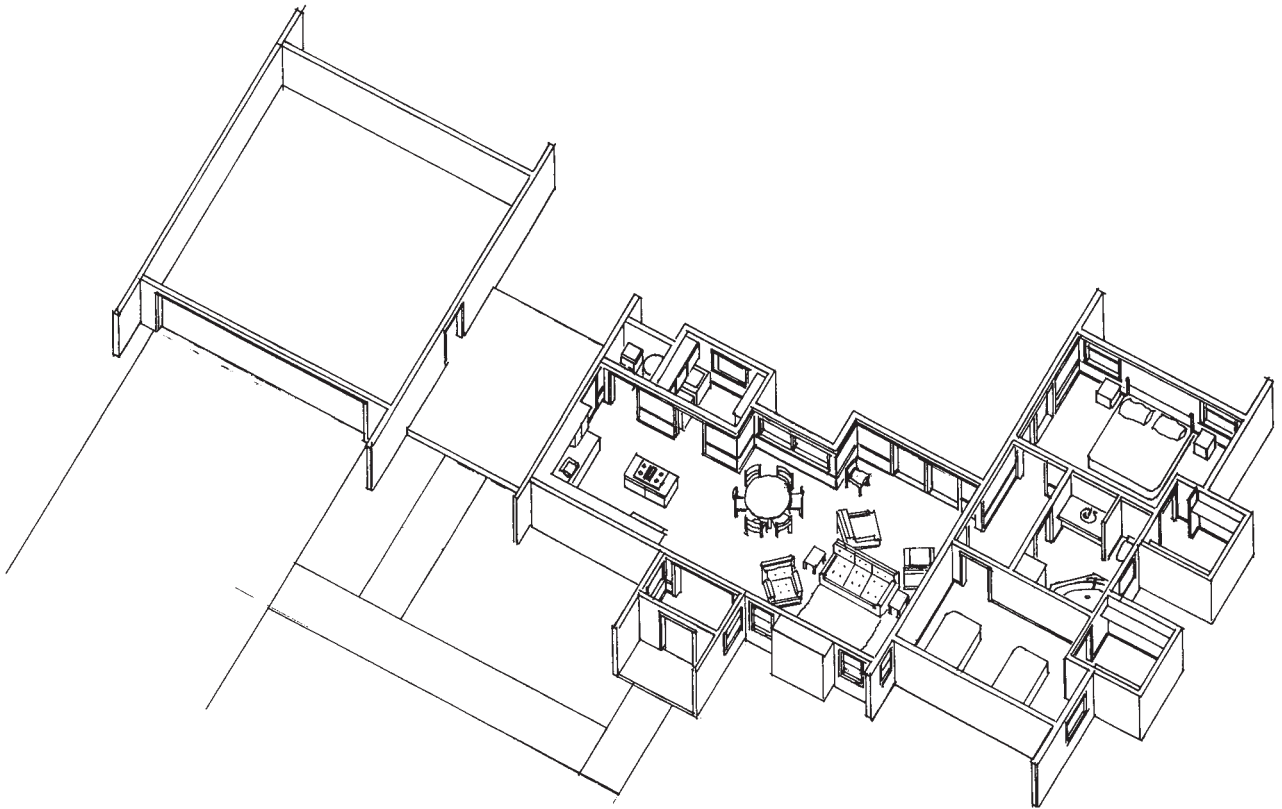


East



West

Elevations



Axonometric

Solar Ranch

Northeast U.S.

1,000 gross square feet

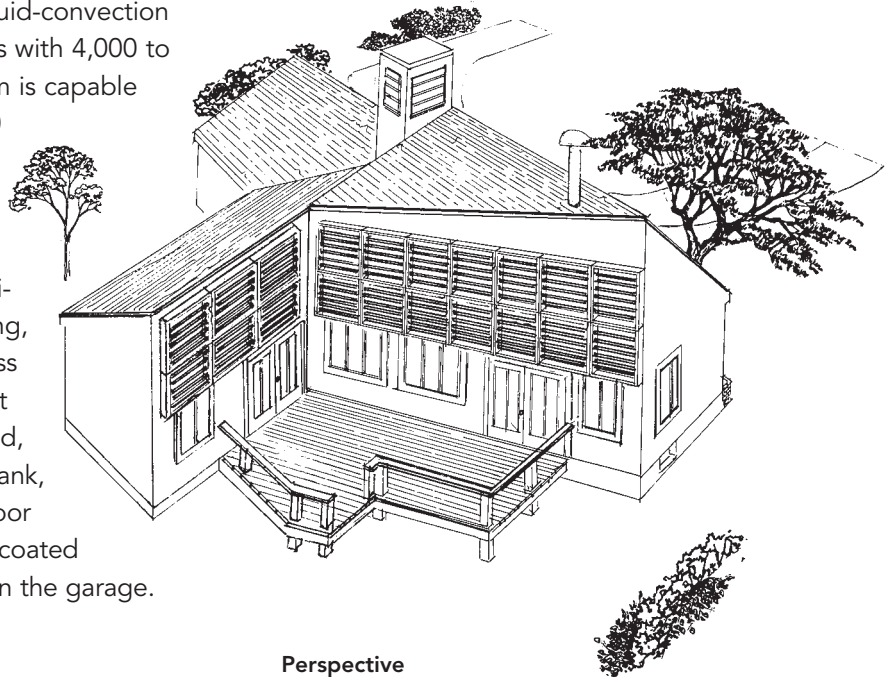
The "Solar Ranch" brings relatively unobtrusive, high-performance, active solar heating and passive cooling to conventional suburban neighborhoods in an elevation-flexible, fundamental box. The design arises from an arrangement and rescaling of five 10-foot by 20-foot function-labeled modules. The resulting fundamental envelope configuration allows flexible solar positioning and a variety of floor plans and elevations.

Primary solar features include a Mylar "Space Blanket" vapor barrier (80 percent thermally reflective), a cooling tower, and a semiautomatic, active, liquid-convection solar heating system intended for areas with 4,000 to 8,000 heating degree days. This system is capable of building up a charge in excess of 10 million Btus.

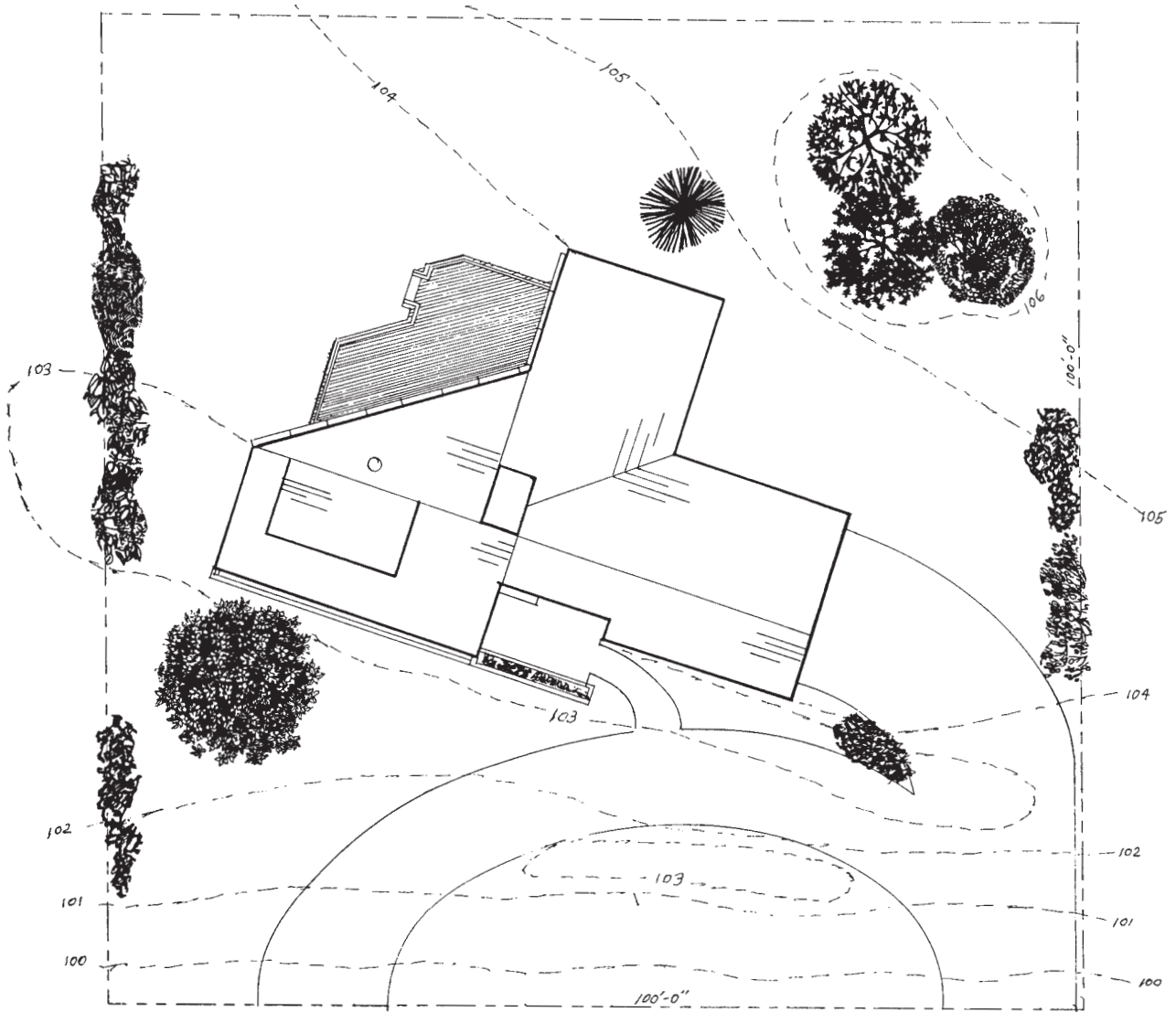
Ten 320-square-foot wall-mounted collector boxes, containing approximately 2,000 feet of 1-inch low-emissivity/high-absorption coated copper tubing, are covered with single-pane low-E glass and use antifreeze as the medium. Heat storage employs a pressurized, insulated, 2,500-gallon coated concrete storage tank, installed vertically in the cellar below floor grade. Where a cellar is not feasible, a coated steel tank may be located horizontally in the garage.

Other solar heating components include (1) the delivery system: two-zone, thermostatically controlled, radiant floor coils, with a backup electric furnace and temperature-activated storage tank bypass; (2) the collector night shield: storage-tank-to-storage-tank collector bypass and one-way directional valves; and (3) domestic hot water heating: preheating of the cold water supply via a coil looped through a thermal storage tank, with a backup electric water heater.

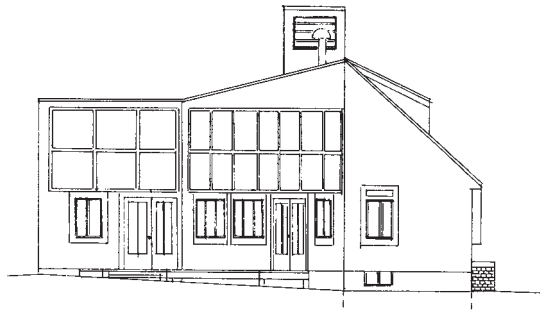
James F. Finigan



Perspective



Site Plan



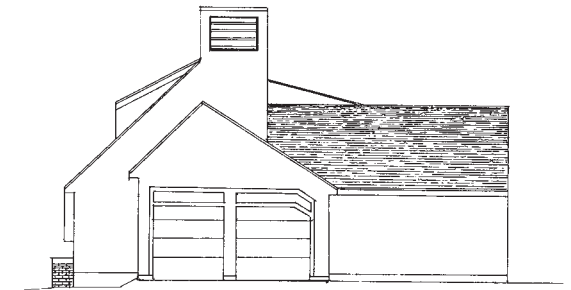
Southeast



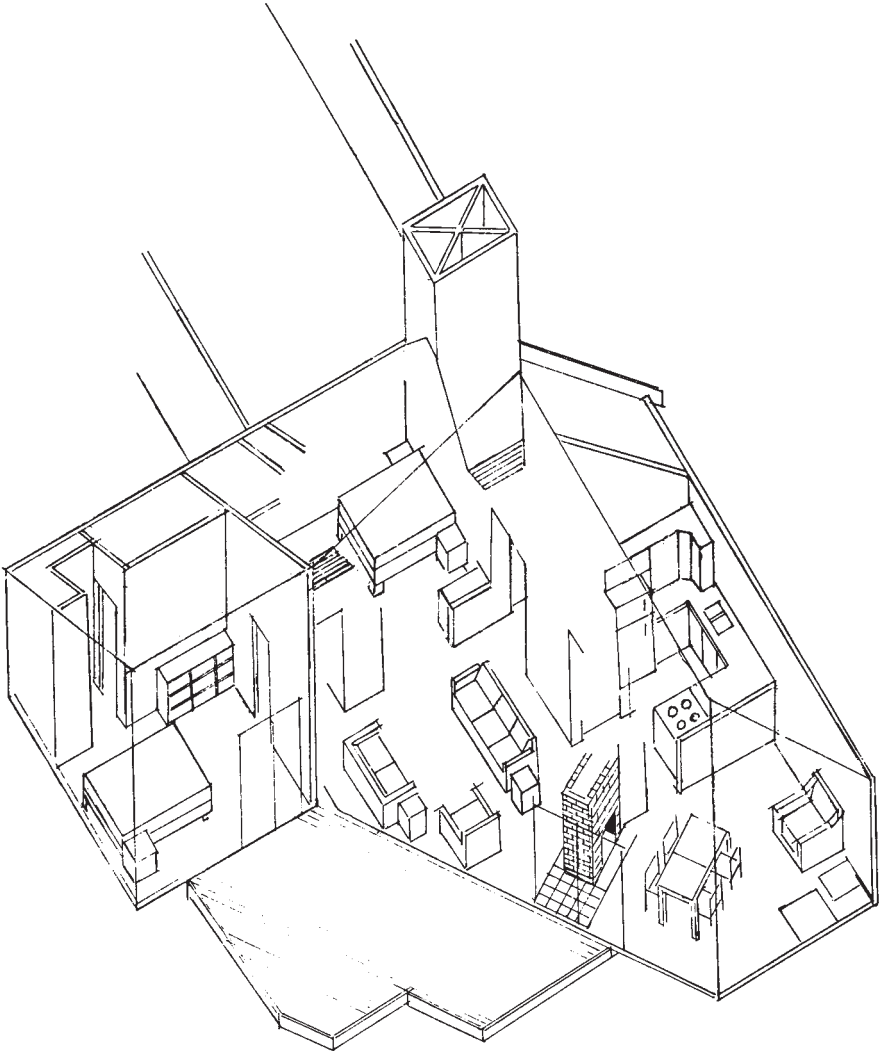
Northeast



Southwest



Northwest



Axonometric

Abstract Farmhouse

Midwestern, U.S.

1,237 gross square feet

This is a Midwestern home in every sense, abstractly based on simple farmhouse plans of earlier times. The house is compact and efficient. Outdoor spaces are modest in size but integral to the overall scheme. The sloping site allows the basement level to provide additional living space, as a walk-out.

The primary design focus is a two-story volume, around which the remainder of the plan is organized. From an interior standpoint this creates a sense of spaciousness. From a practical standpoint it provides excellent natural ventilation with the use of an attic fan. The interior bal-

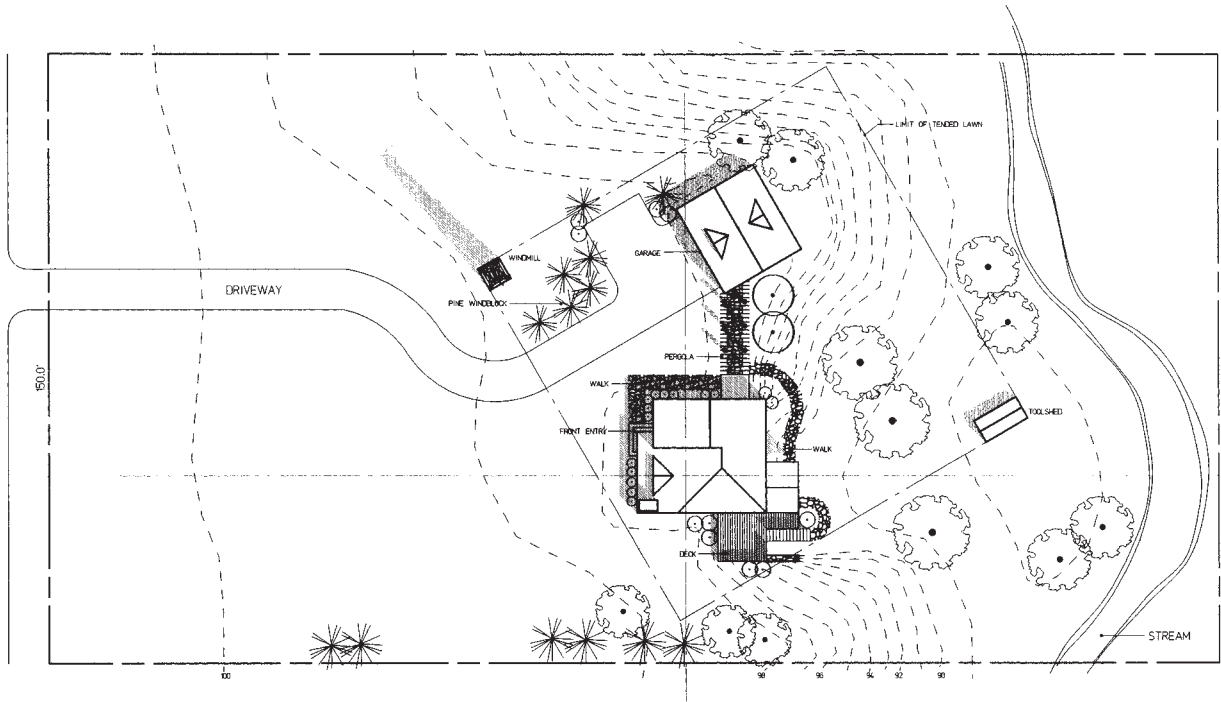
cony also serves a dual role. It allows for spatial communication between the master bedroom and the living room, enhancing the natural ventilation, but also provides a needed sense of scale to the upper portion of the two-story space — scale that is conspicuously absent from most vaulted rooms in homes today.

Jeffrey Fleming

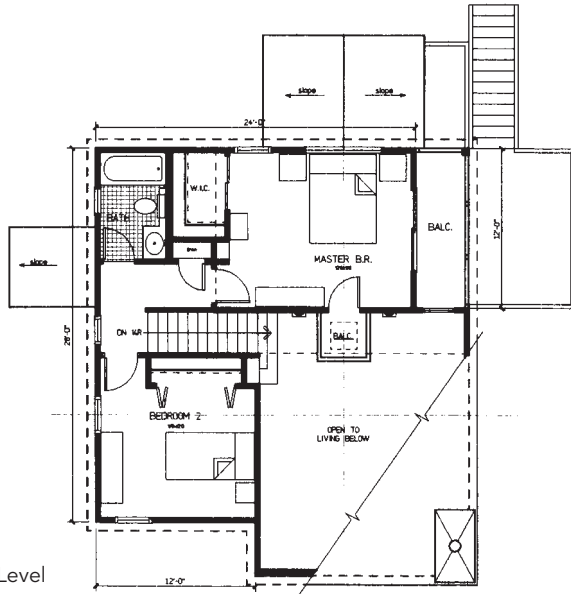


Perspective

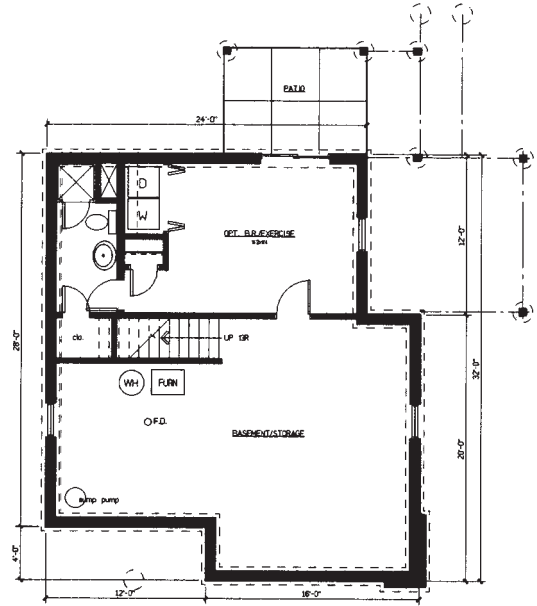
Abstract Farmhouse



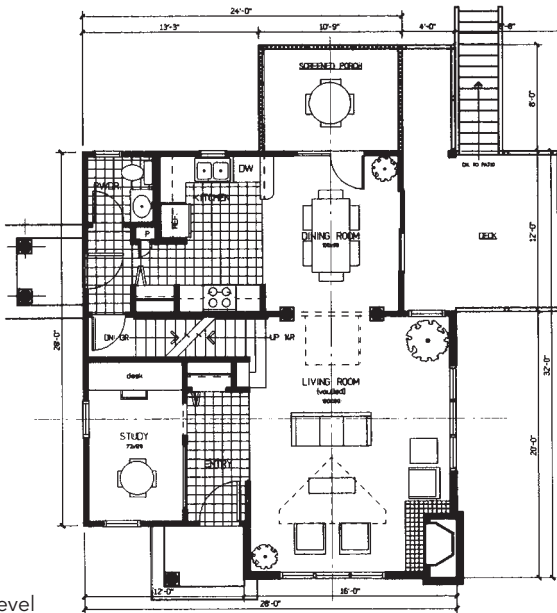
Site Plan



Second Level



Foundation/Basement



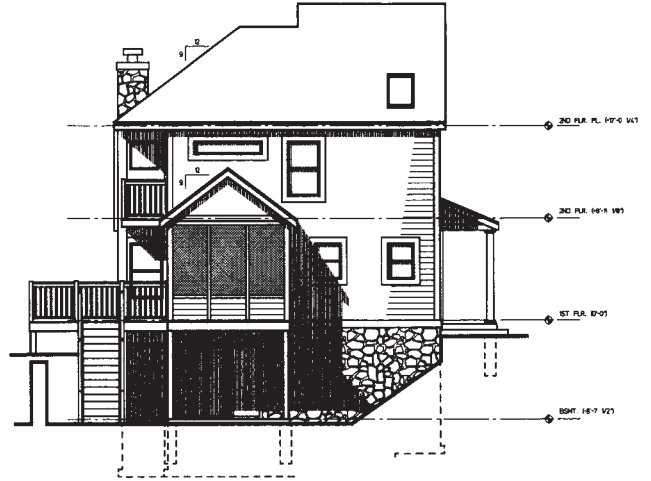
First Level

Floor Plans

Abstract Farmhouse



North



East

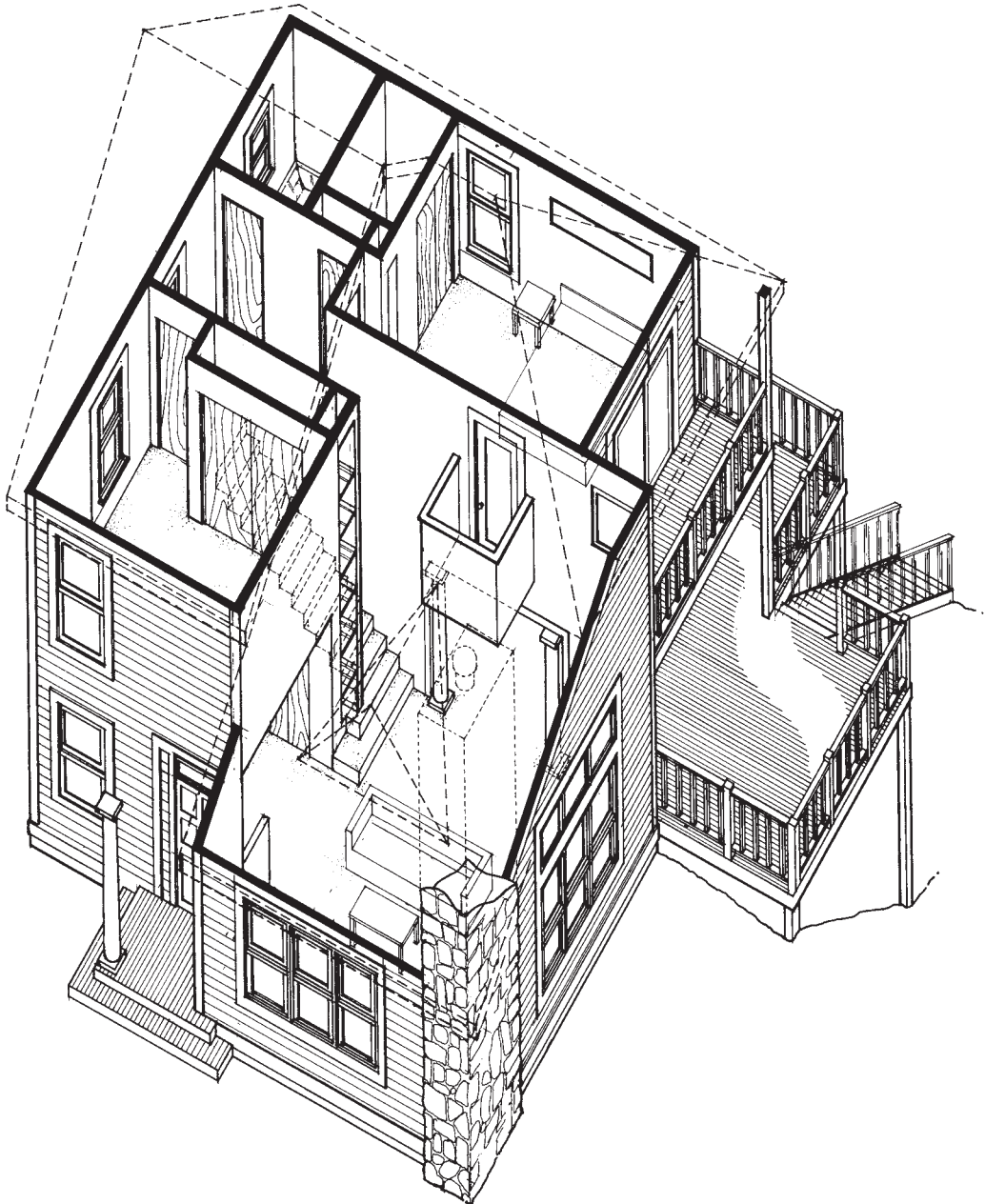


South



West

Elevations



Axonometric

Rustic Retreat

British Columbia, Canada

1,250 gross square feet

This two-story design reflects the owners' desire for informal comfort, privacy, views, and a rusticity that blends with the natural environment.

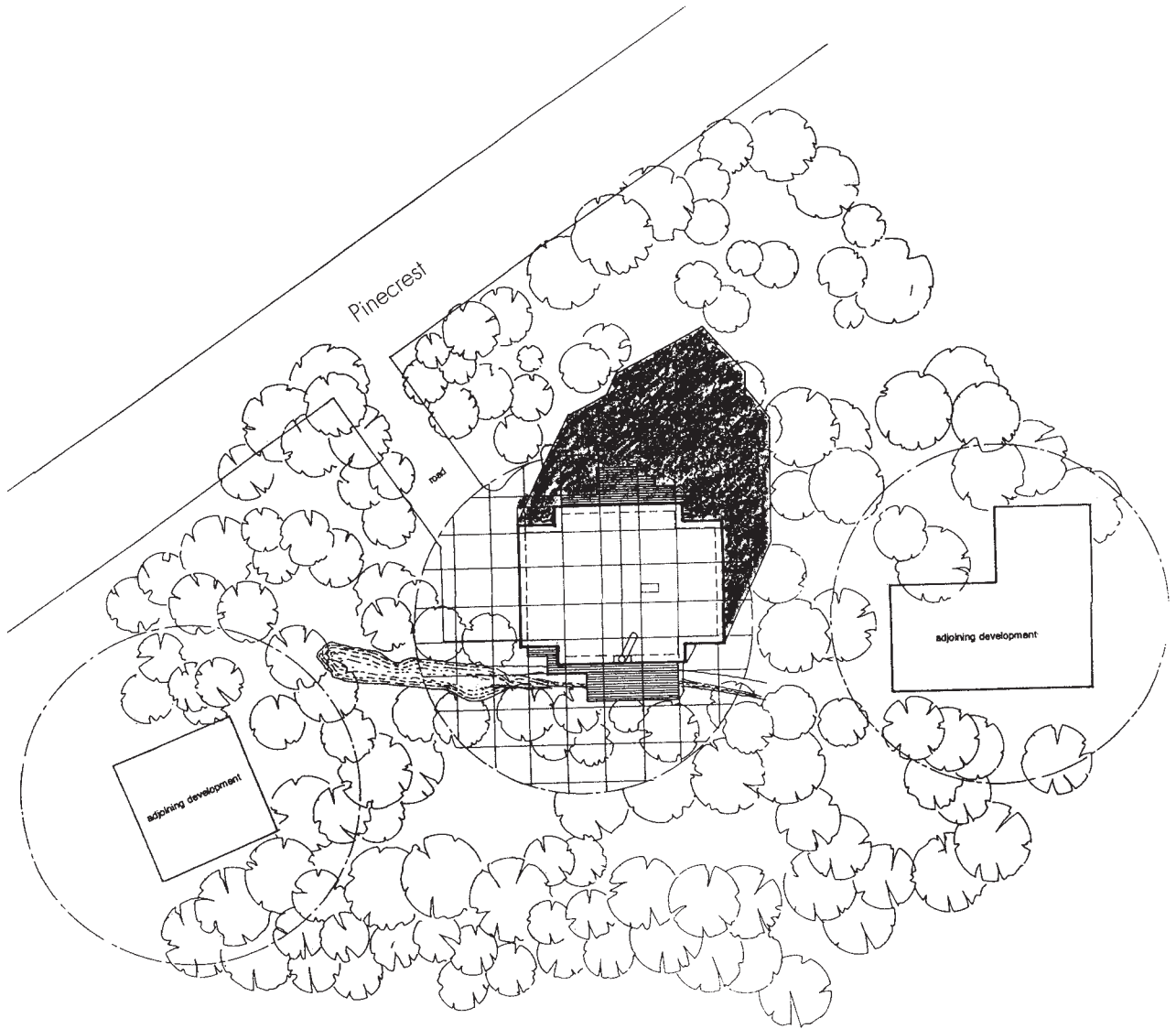
A raised wooden deck wraps around the base of the house; a wide overhang on the south side protects it from sun and wind. Reached via covered stairway, the functionally compact entry expands immediately into a large two-and-a-half-story living space illuminated by a large east-facing window. The window adds visual dimension and view space as well as a feeling of integration with the forest.

Smaller dining and kitchen areas with adjacent service/storage space complete the simple, rectangular ground-floor plan. Accessible by stairway, a second-story bedroom wing and hallway overlook the informal living space, where an overhead fan aids air circulation.

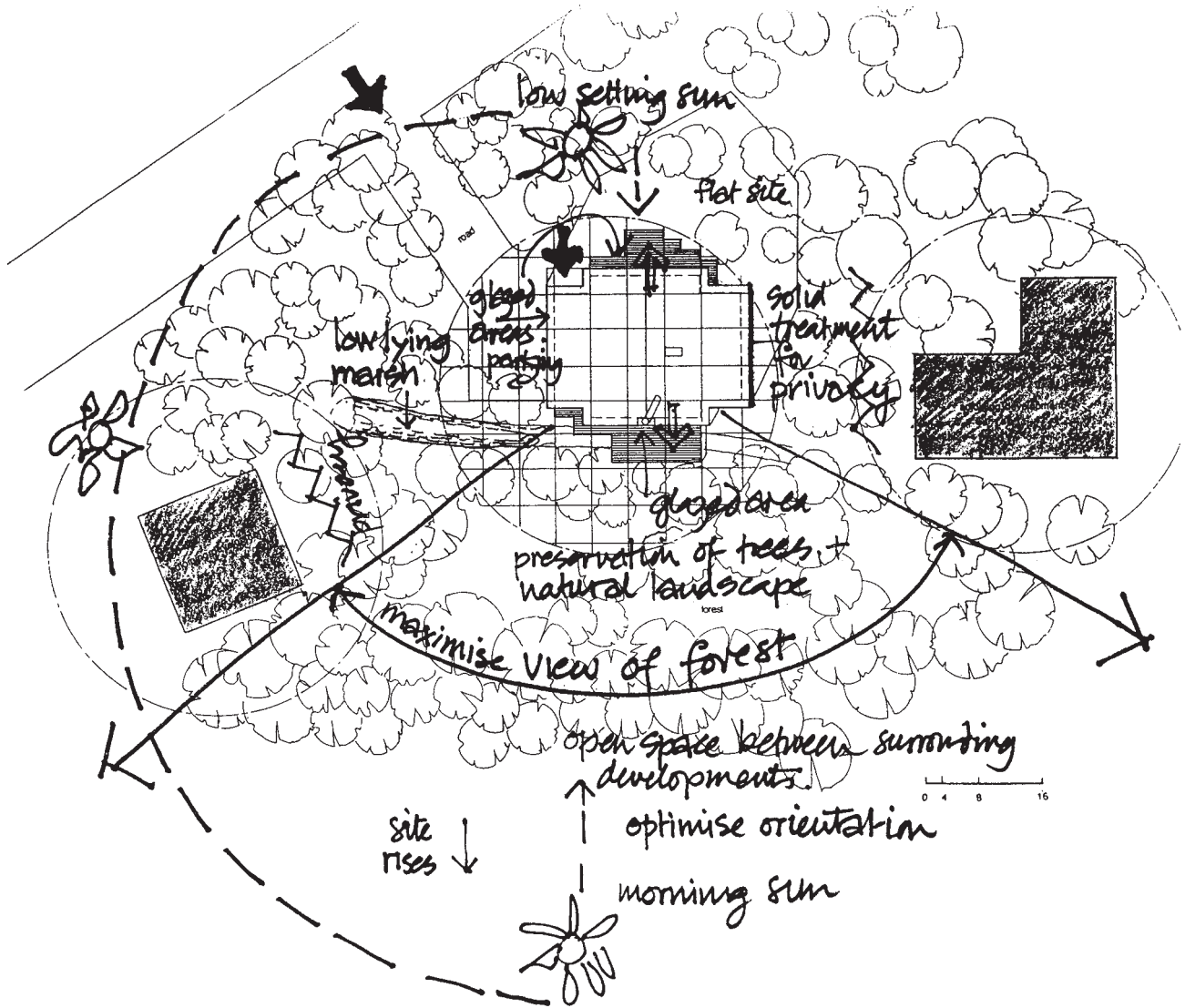
Kenneth E. King



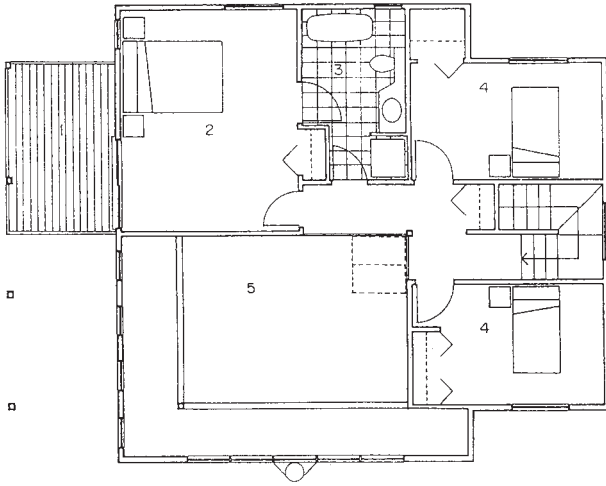
Perspective



Site Plan

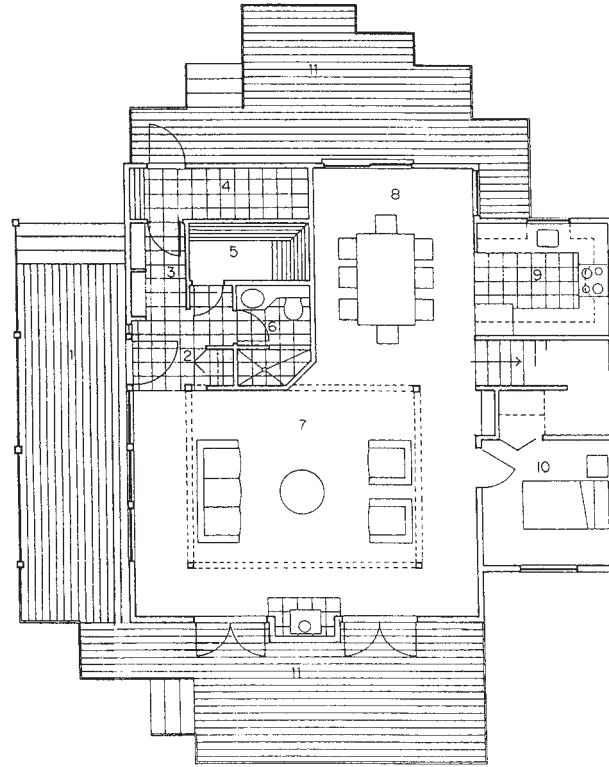


Site Influence Plan



- 1 Deck
- 2 Master Bedroom
- 3 Bathroom
- 4 Bedroom
- 5 Upper Volume of Living Room

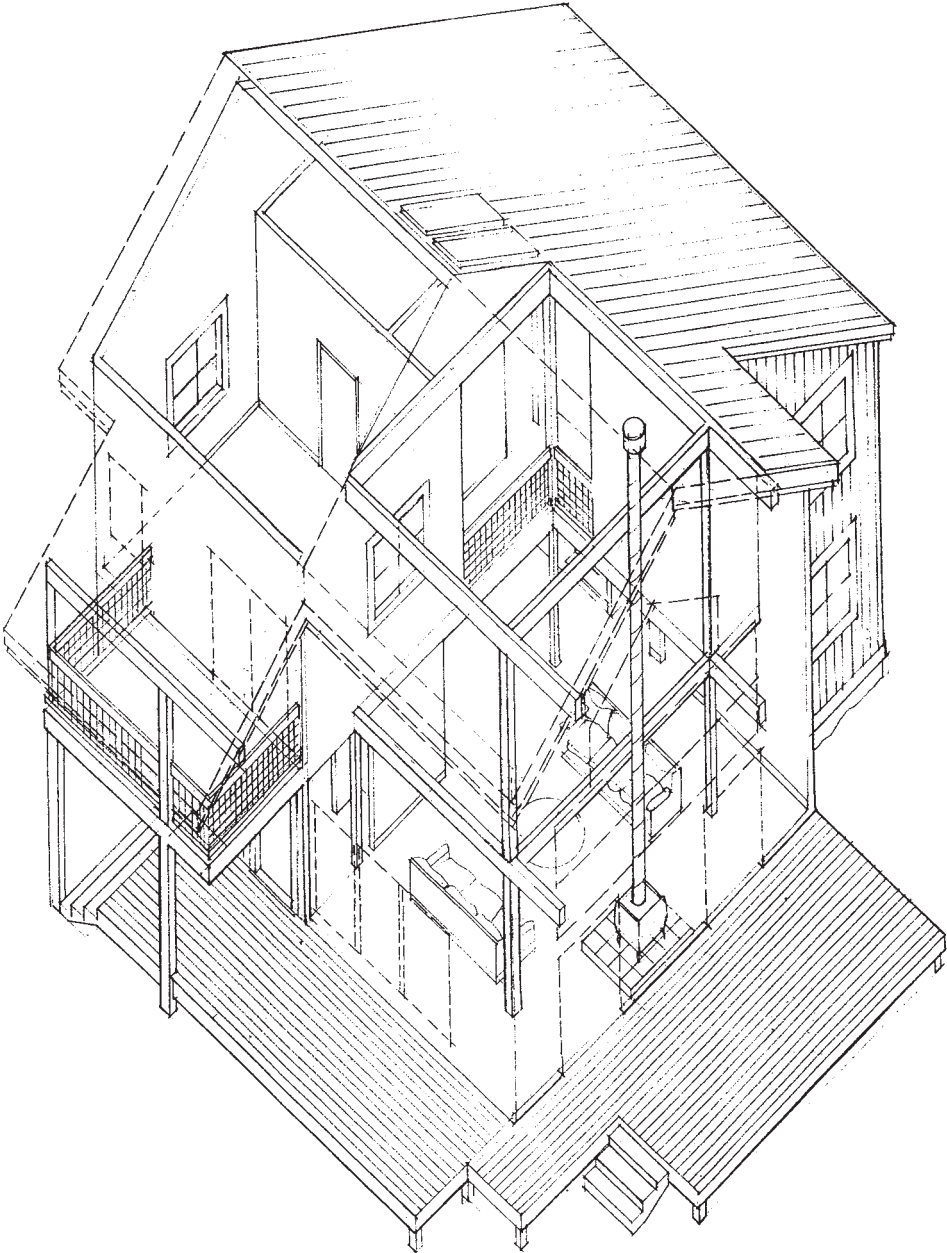
Second Floor



- 1 Covered Patio Walkway
- 2 Entrance
- 3 Hallway
- 4 Storage
- 5 Sauna
- 6 Powder
- 7 Living
- 8 Dining
- 9 Kitchen
- 10 Guest
- 11 Deck

Ground Floor

Floor Plans



Axonometric

Sunshine Home

Southern Ontario, Canada

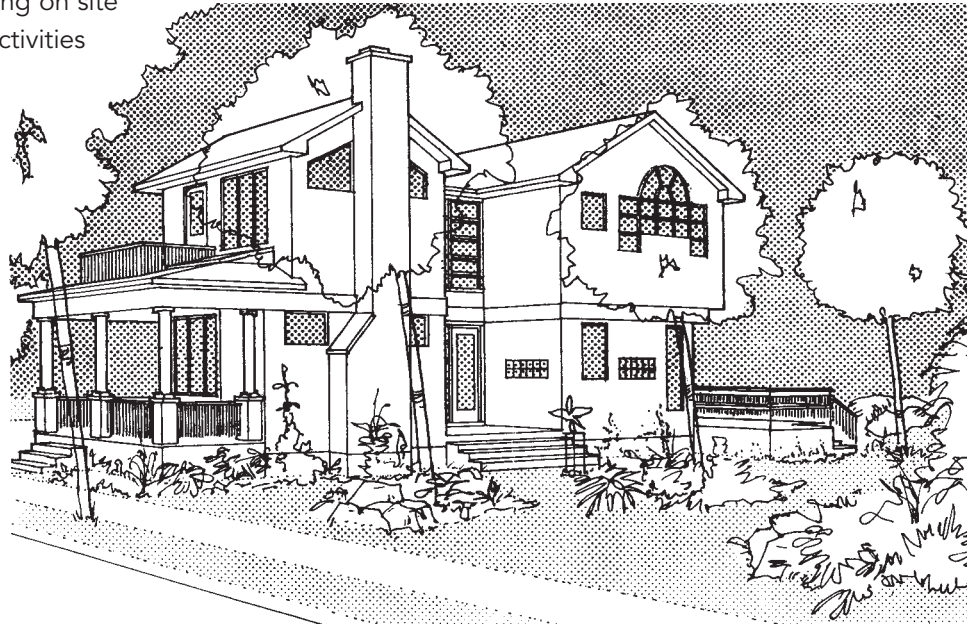
1,025 gross square feet

Located in southern Ontario and economical to construct, the house efficiently uses both space and energy. To provide richness in spatial expression and experience, the design lets the inhabitants wake up to, and perform most major activities with, the sun. Window seats, covered porch, open balconies, and decks offer variety.

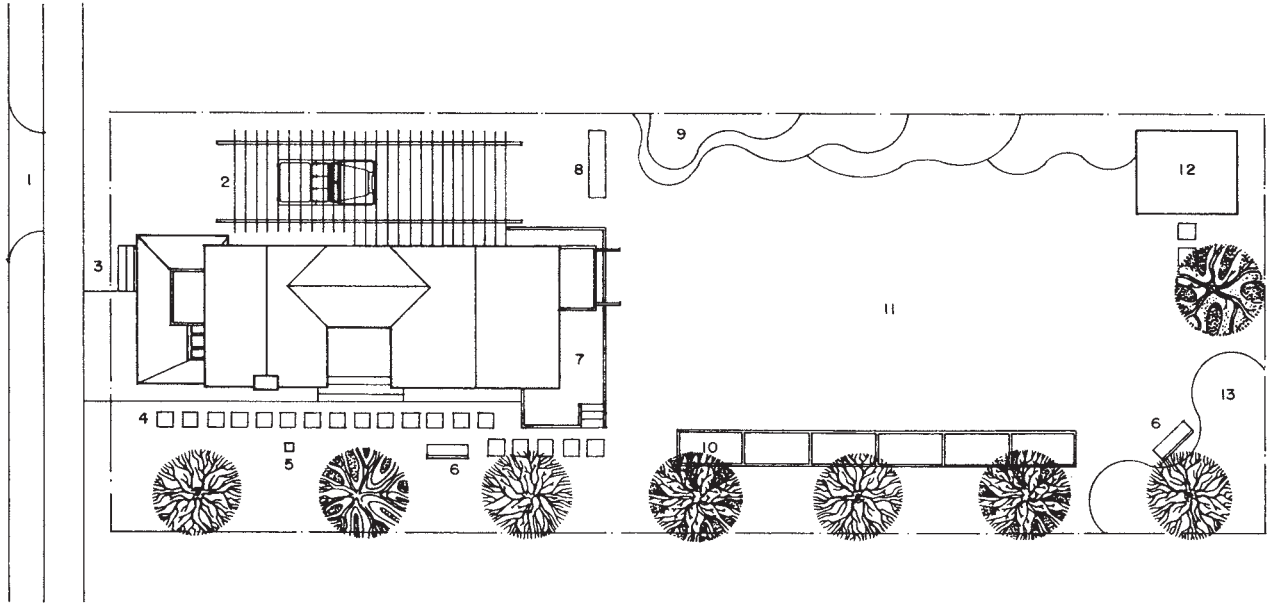
The greenhouse/patio provides for indoor gardening and outdoor living space. With its 8-foot ceiling, the basement may be turned into a den/office or a bedroom (especially desirable if raised) or a walk-out basement. Landscaping on site promotes a variety of outdoor activities and experiences.

The design realizes energy savings through the southern orientation, the landscaping, the use of environmentally friendly and recyclable materials, and energy-efficient systems. Materials and components, including a combination natural gas furnace and heat-recovery ventilator, were chosen to achieve the lowest energy impact and costs. Energy-saving plumbing and electric fixtures further reduce waste. Thus the house is designed to reduce, reuse, and recycle.

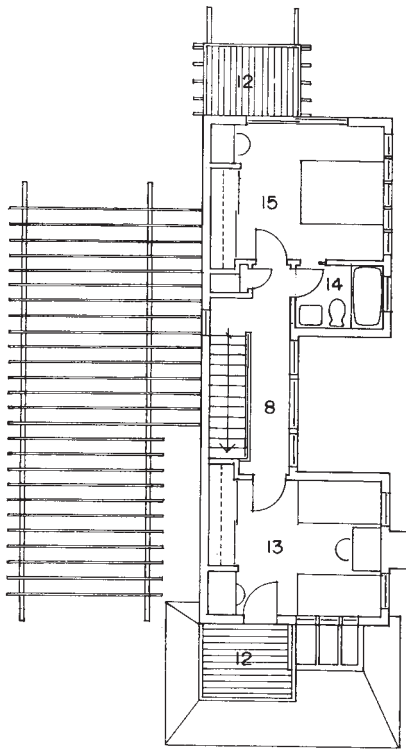
Remus S. L. Tsang



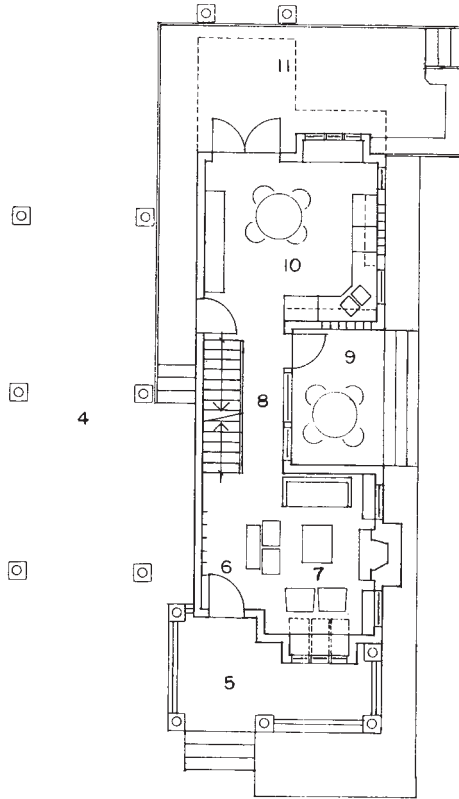
Perspective



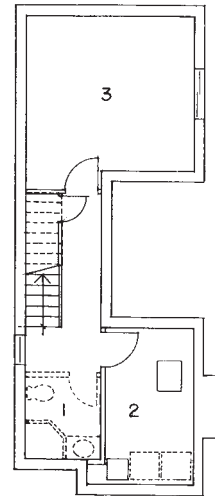
- 1 Driveway
- 2 Carport
- 3 Entry
- 4 Walkway
- 5 Sculpture
- 6 Bench
- 7 Deck
- 8 Storage
- 9 Rock Formation/Garden
- 10 Trellis Walk
- 11 Play Area
- 12 Hot Tub/Sauna
- 13 Landscaped Area



Second Floor



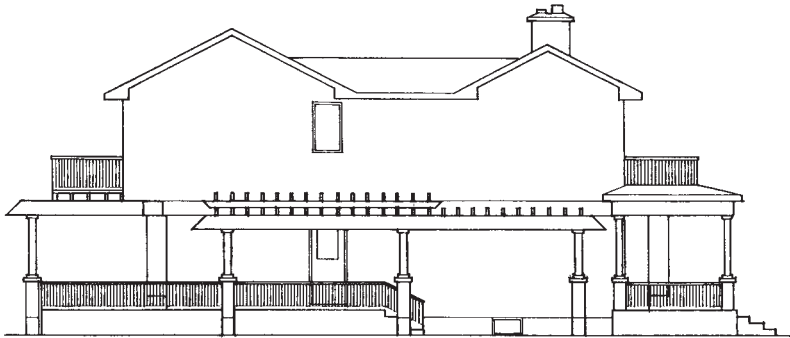
First Floor



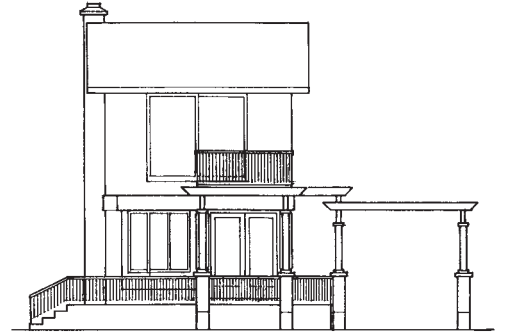
Basement

- 1 Future Washroom
- 2 Furnace
- 3 Recreation
- 4 Carport
- 5 Porch
- 6 Entry
- 7 Living
- 8 Passage
- 9 Greenhouse/Patio
- 10 Kitchen/Dining
- 11 Deck
- 12 Balcony
- 13 Bedroom
- 14 Washroom
- 15 Master Bedroom

Sunshine Home



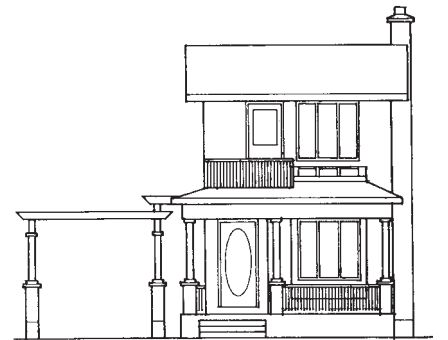
North



East

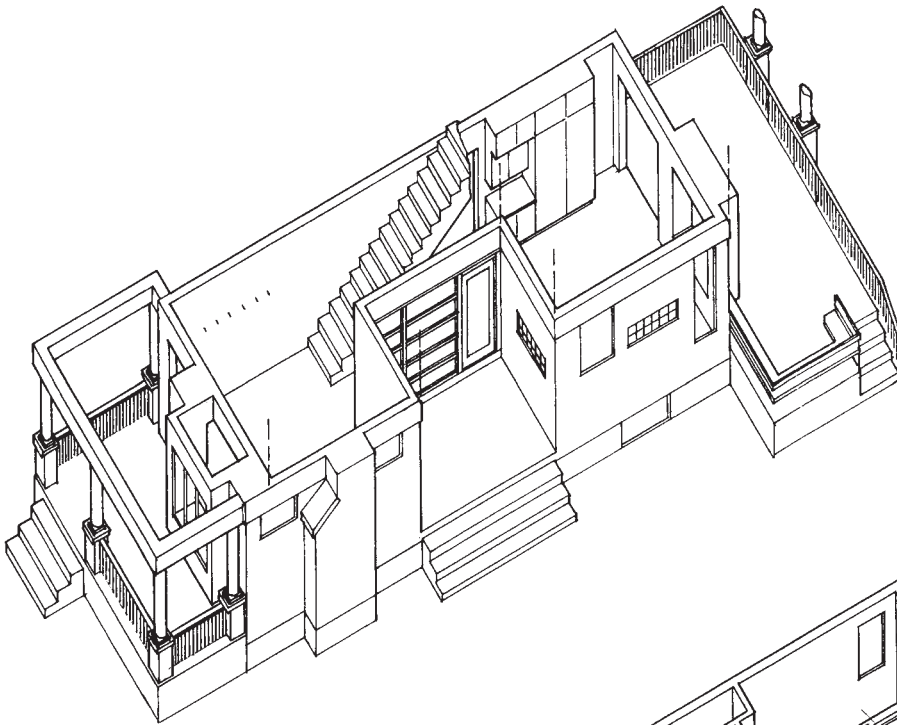


South

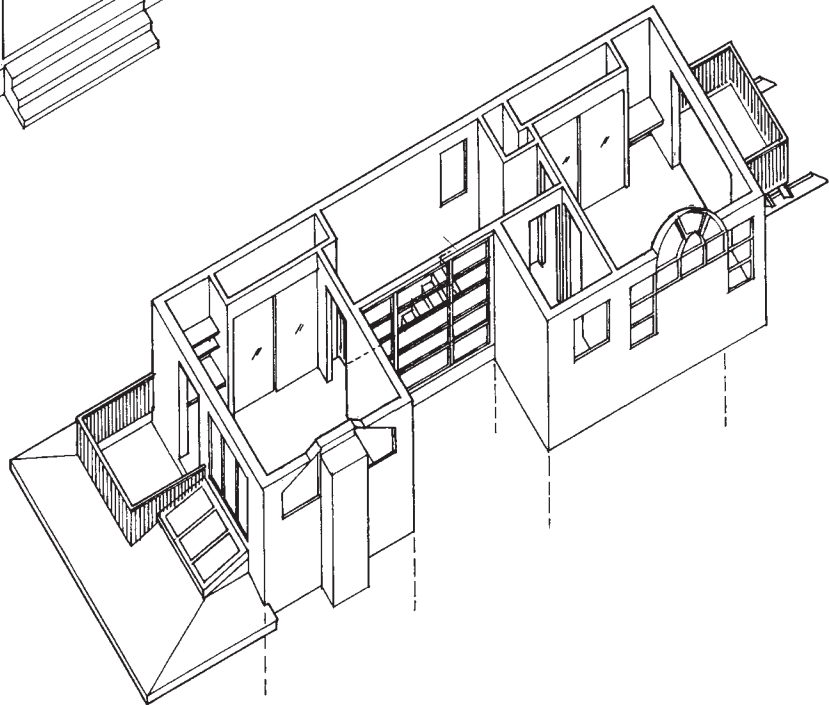


West

Elevations



First Level



Second Level

Axonometrics

Metaphoric Ark

Vancouver, British Columbia, Canada

1,150 gross square feet

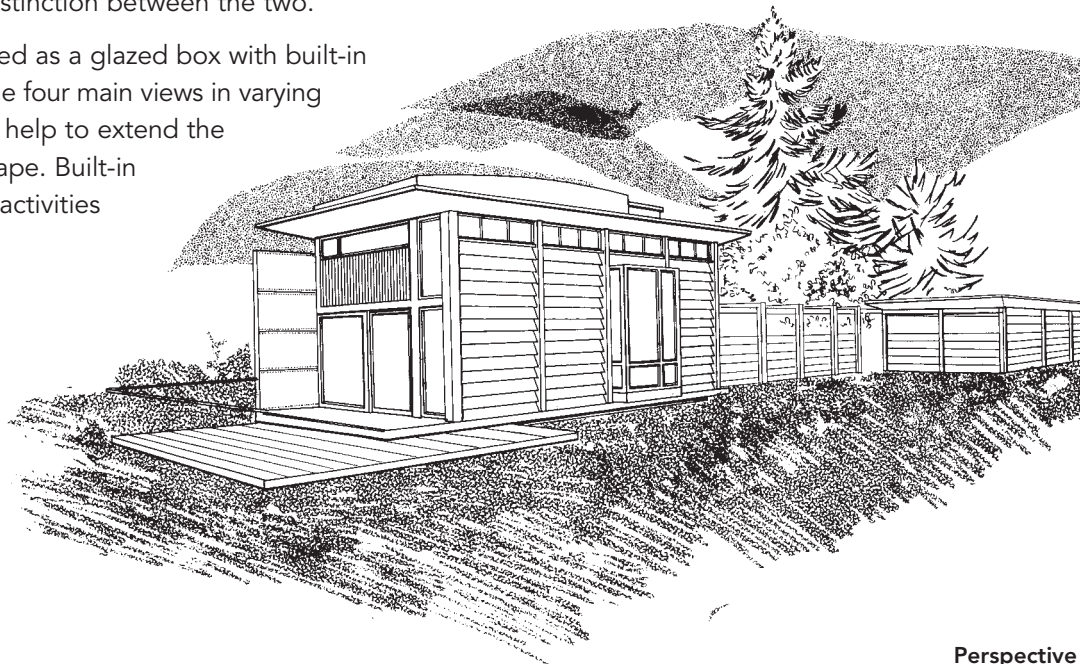
Built on a wooden deck (raft), this small house's clapboard/wood-panel walls contain a free-flowing open plan for the public space. A spiral staircase leads to the private rooms, which push up through the roof form, almost like a ship's bridge.

One enters the site through a pergola that accommodates vines and flowers. From this semi-interior space that leads through the forest and meadow, one steps onto the edge of the deck and enters the deep porch. This gradual transition between exterior and interior attempts to blur the distinction between the two.

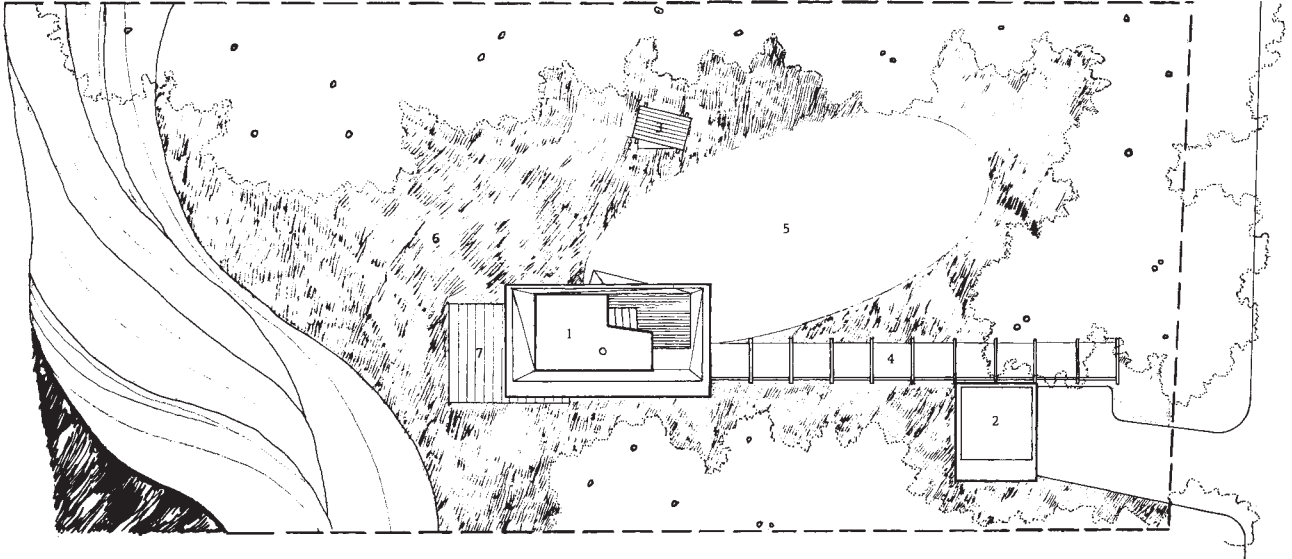
The entryway, articulated as a glazed box with built-in window seat, reveals the four main views in varying degrees. Bay windows help to extend the spaces into the landscape. Built-in furniture pieces guide activities within the structure.

Clerestory windows provide ambient light as well as induce air convection. The fireplace and stack stand central in the plan and, with appropriate venting and the aid of a natural gas furnace, heat the entire house. The south wall with its large overhang not only frames the site's best view, but also exposes the house to natural breezes and the sun's radiant heating in winter months.

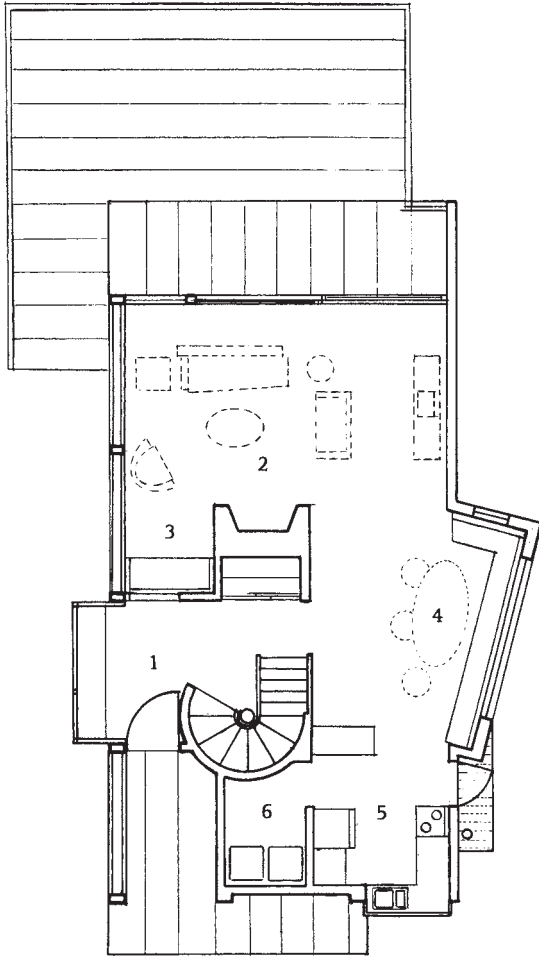
Andy Verhiel



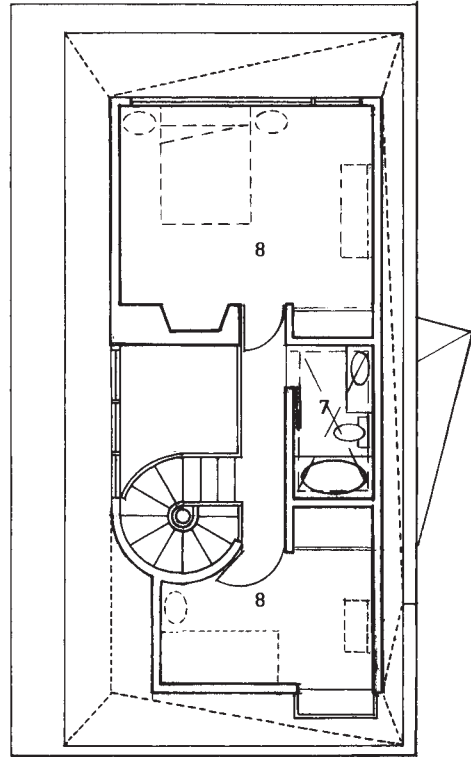
Perspective



- 1 House
- 2 Garage
- 3 Gazebo
- 4 Pergola
- 5 Oval Green
- 6 Meadow Green
- 7 Wood Deck

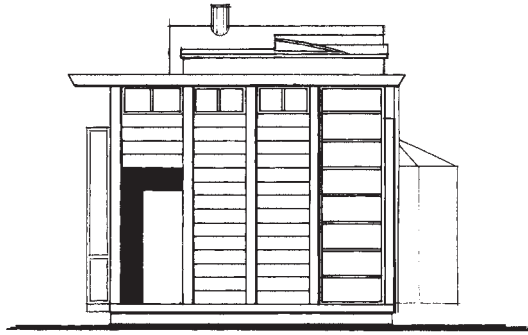


First Floor

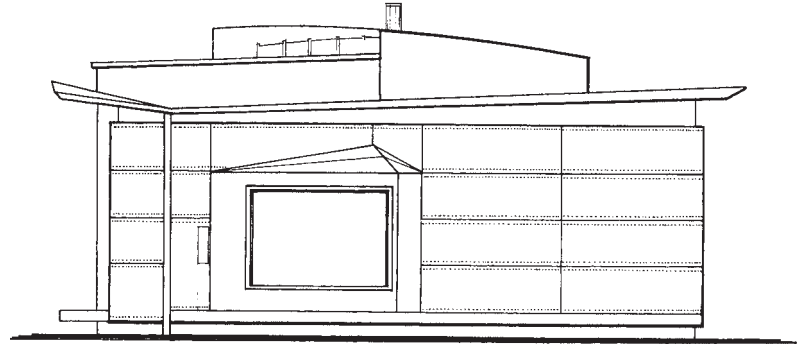


Second Floor

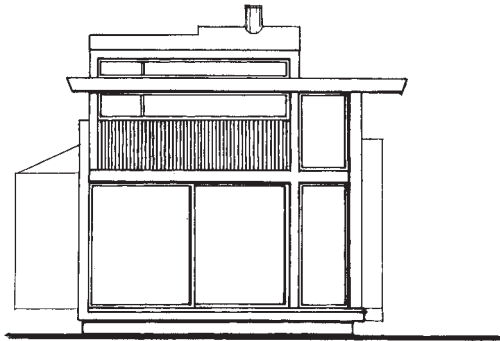
- 1 Entry
- 2 Living Room
- 3 Reading Alcove
- 4 Dining Room
- 5 Kitchen
- 6 Laundry/Storage
- 7 Bathroom
- 8 Bedroom



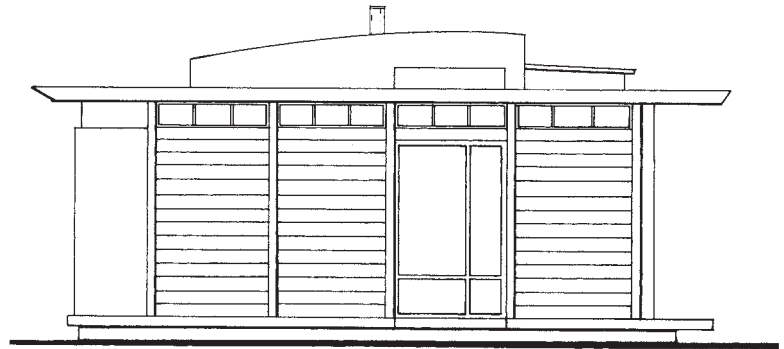
North



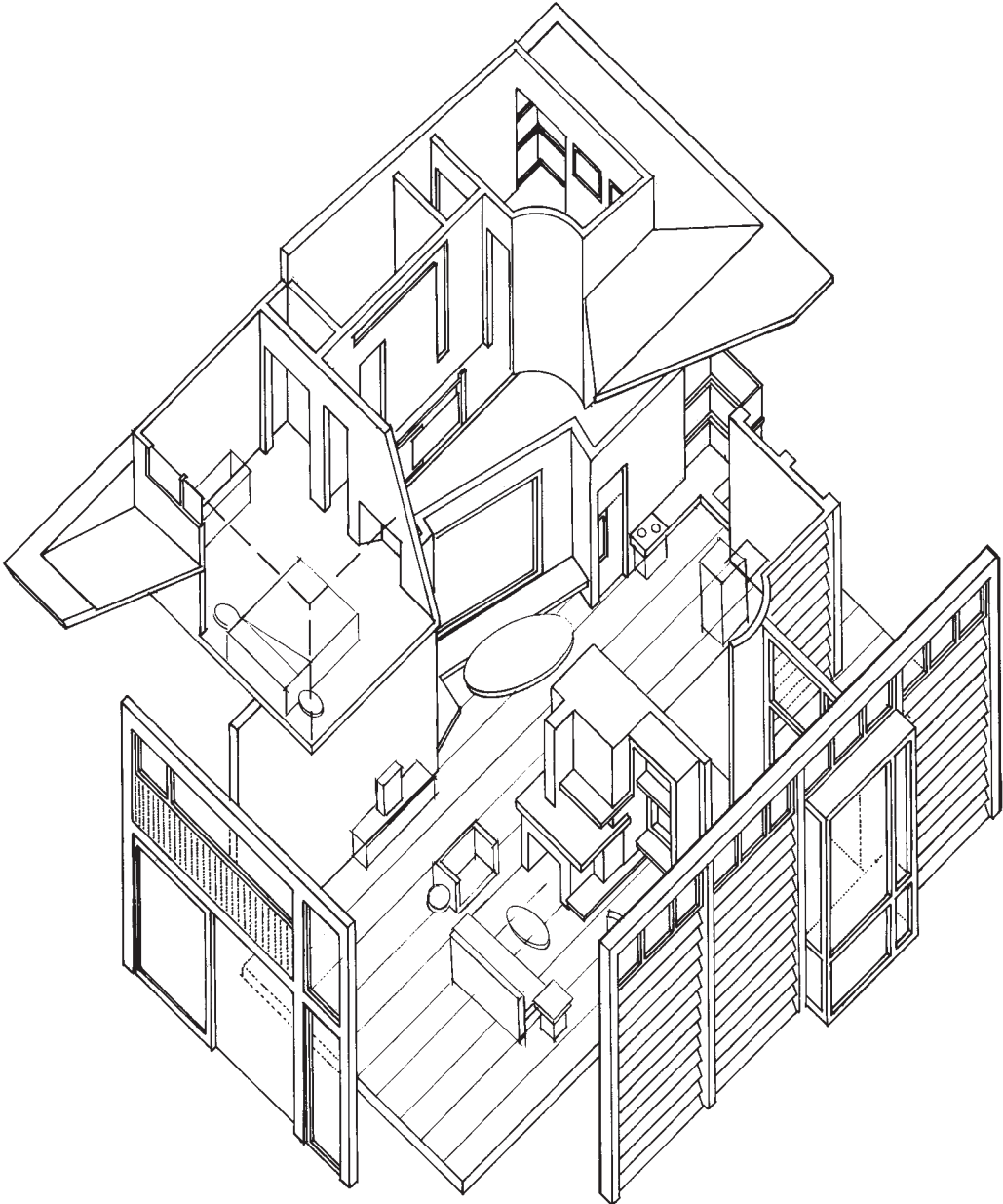
West



South



East



Axonometric

Simple, Adaptable Two Story

Vermont

1,152 gross square feet

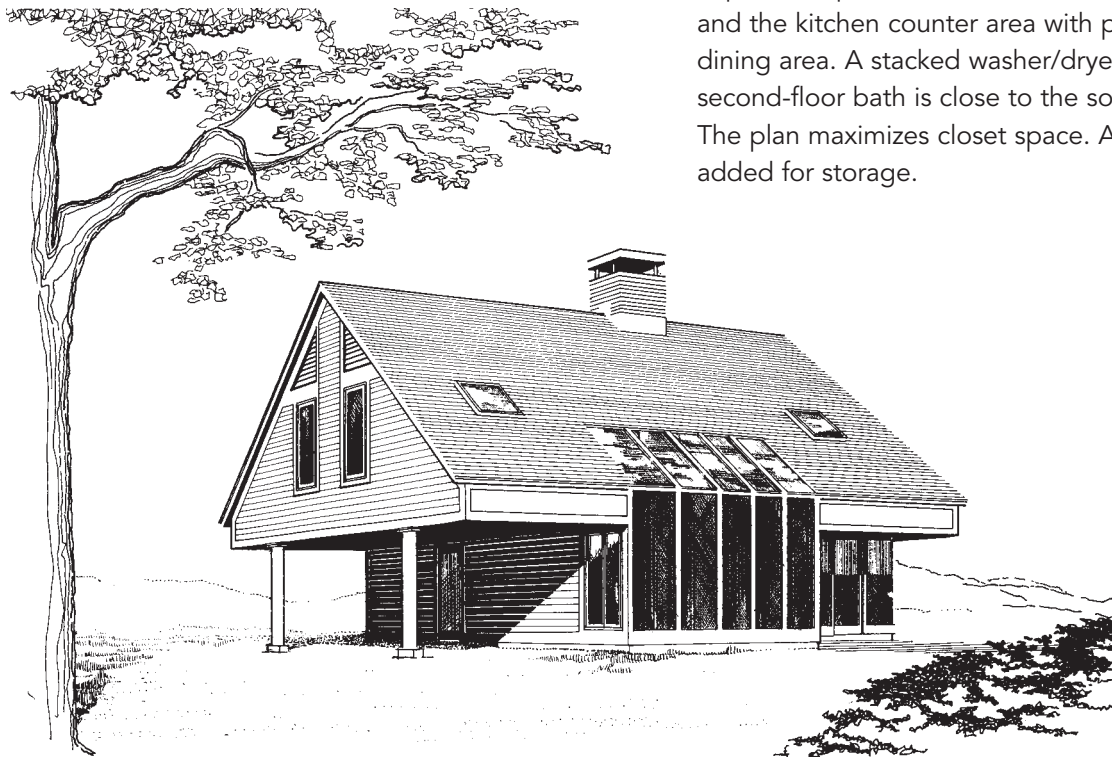
The “Cape” house form described here is simple to build and very efficient. The design incorporates double use of spaces—both visually and physically. For example, the porch in summer is used as the carport in winter.

Energy-efficient design features include the airlock vestibule, passive solar in the central hall, and wood

heat, which offers lower dependence on nonrenewable energy resources. A masonry stove with glass doors has switchbacks built into the flues, which turn the mass of chimney into a radiant heat storage system in the central hall (backup with gas burner in firebox). An optional decorative stove or fireplace can be added to the master bedroom.

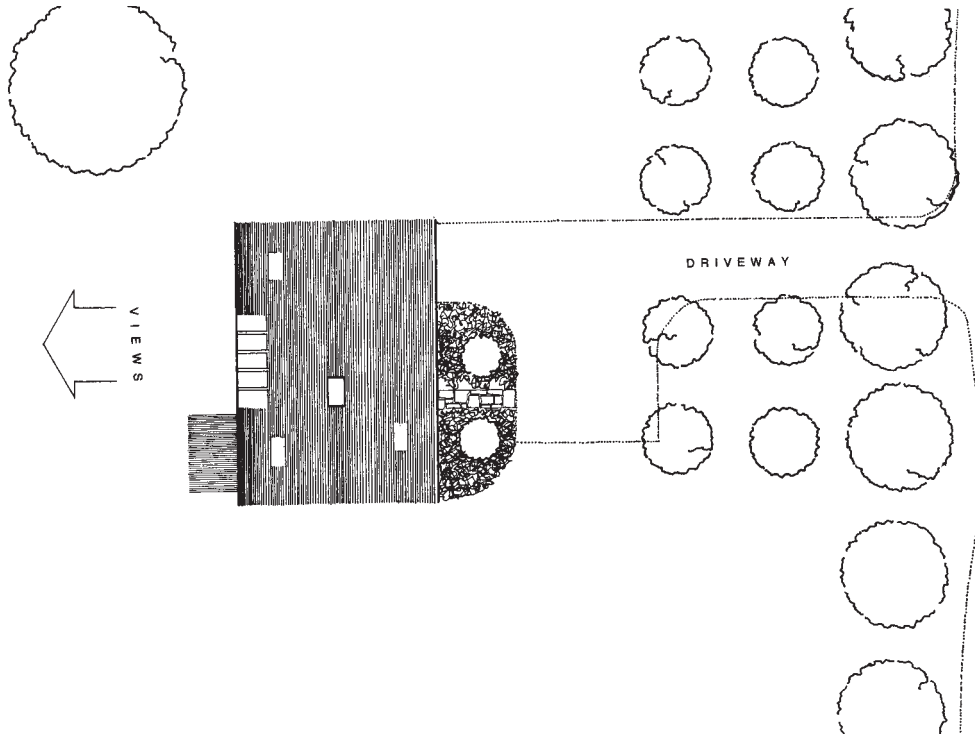
Expanded spaces include the two-story living room and the kitchen counter area with pass-through to the dining area. A stacked washer/dryer located in the second-floor bath is close to the source of laundry. The plan maximizes closet space. A basement can be added for storage.

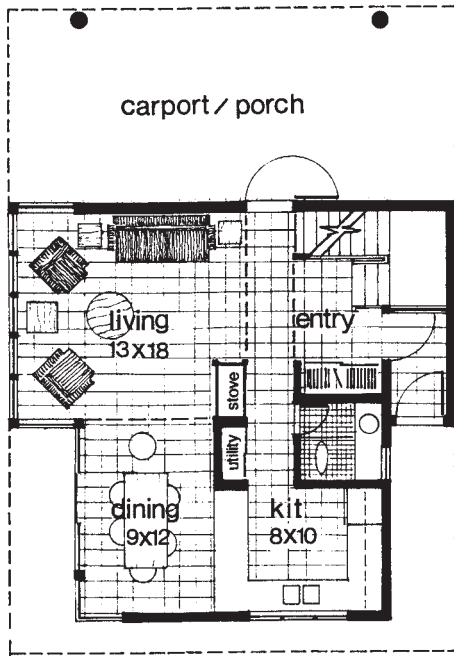
Tom Leytham



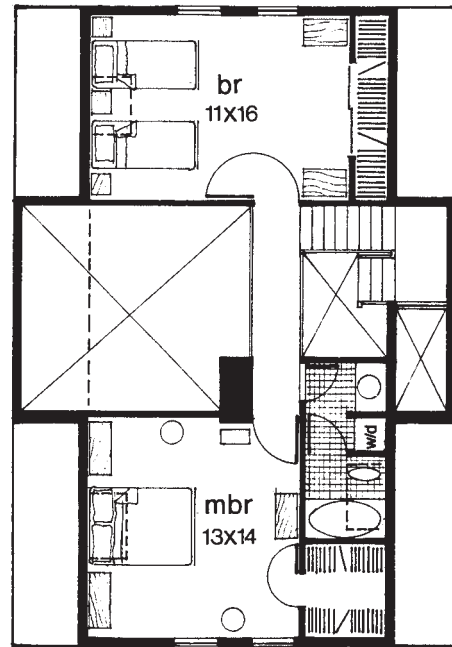
Perspective

Simple, Adaptable Two Story



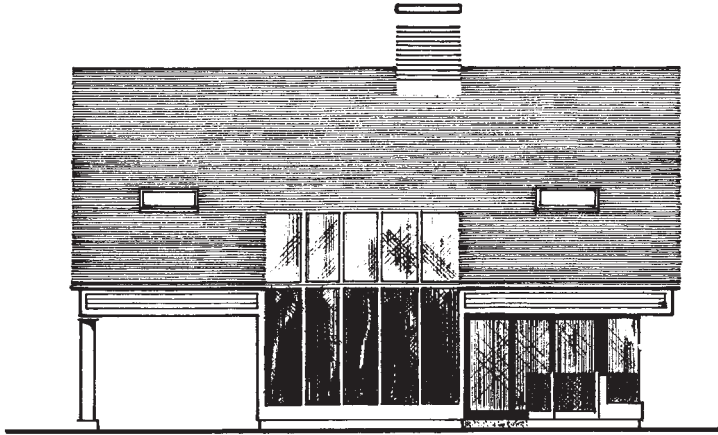


First Floor

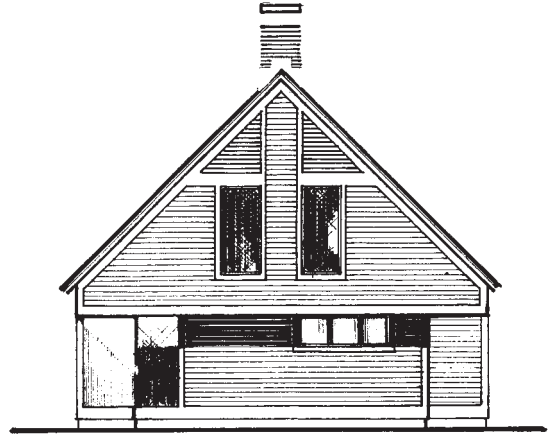


Second Floor

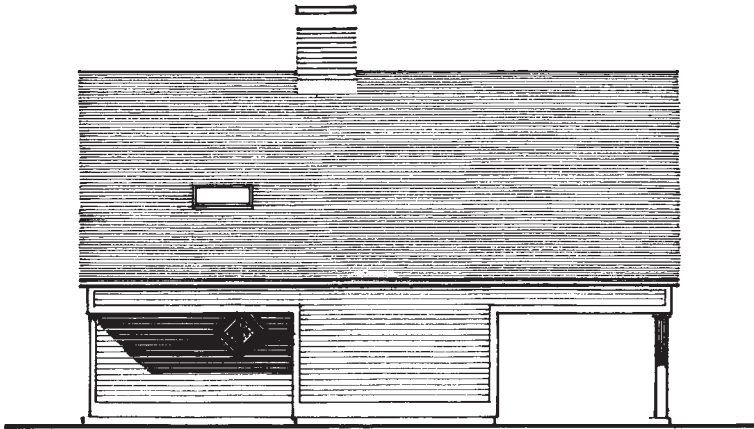
Simple, Adaptable Two Story



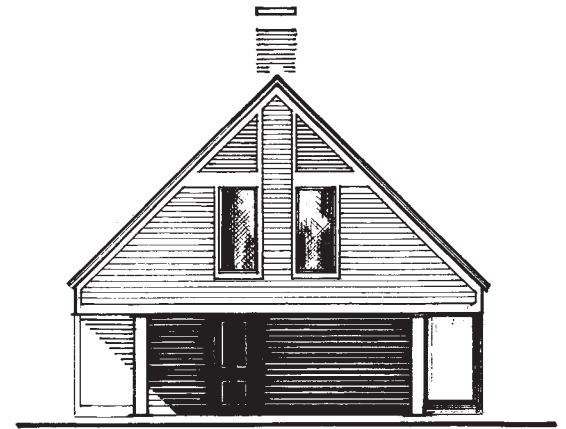
South



East

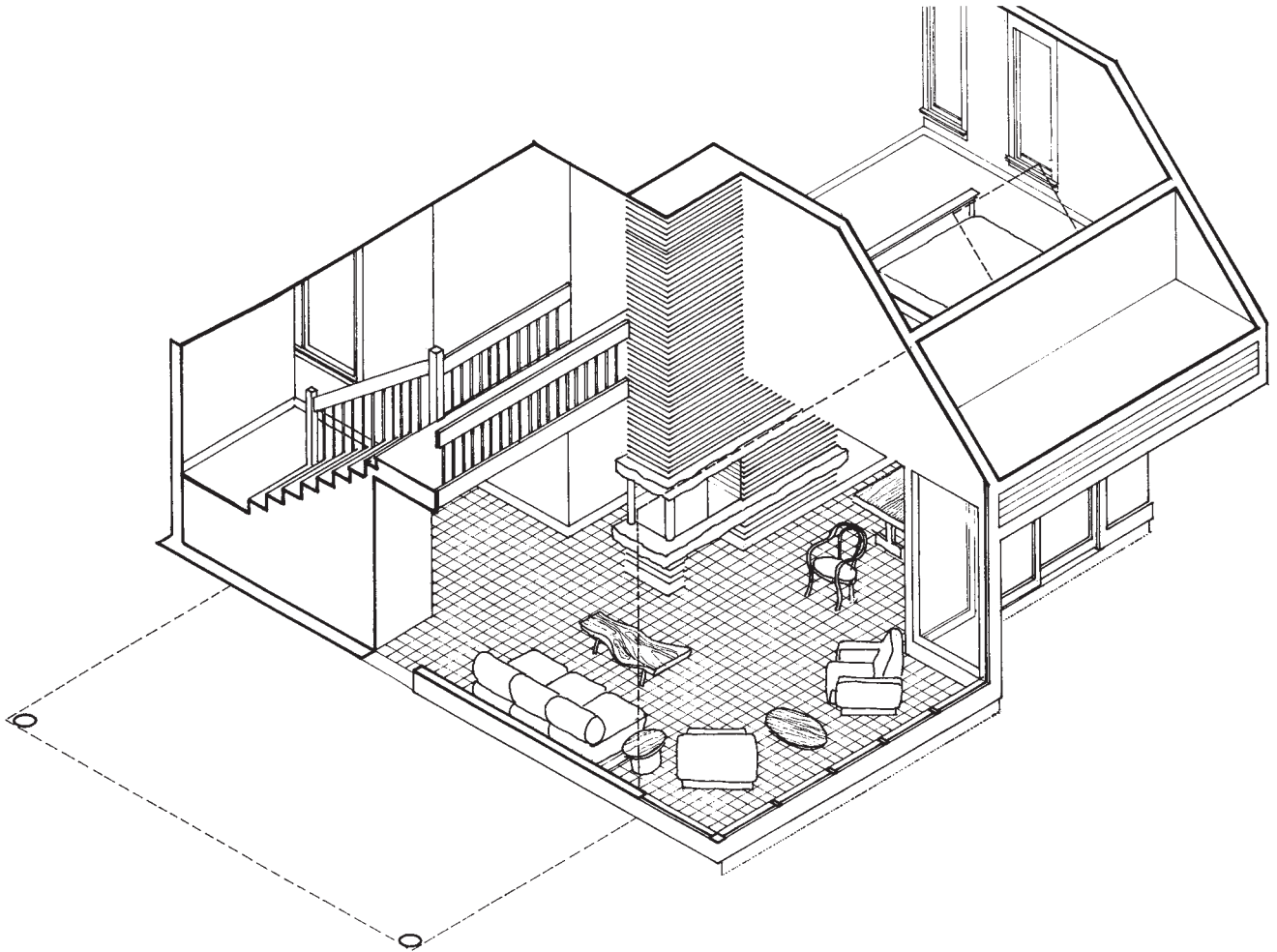


North



West

Elevations



All-Weather Rustic

Alberta, Canada

1,115 gross square feet

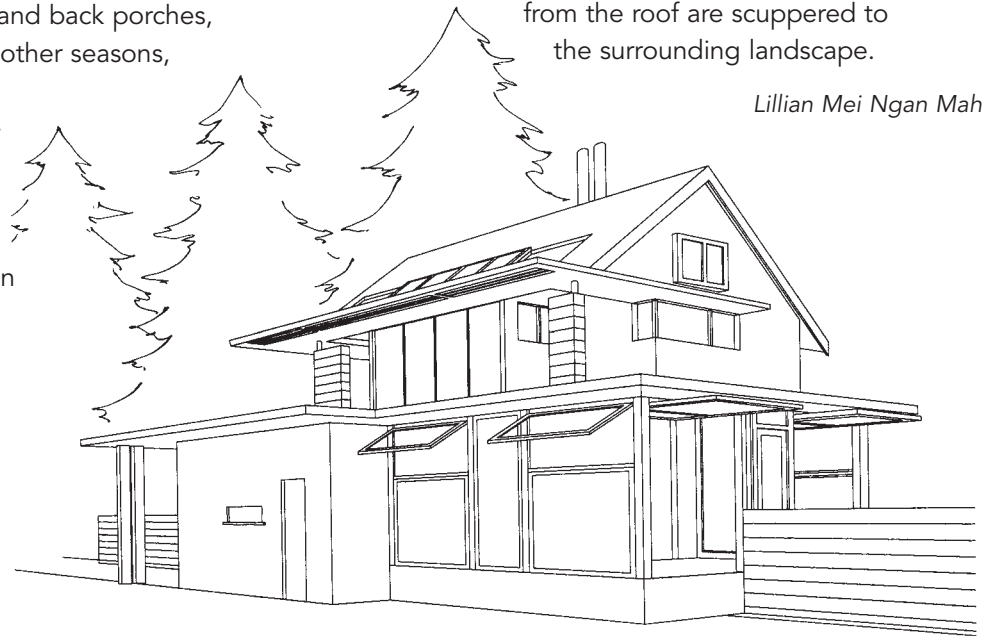
The house is designed to capture sun for both heat and light. Since the south side faces a neighboring house that will shade the lower level, a garage is placed on that side. This gesture accommodates a two-story scheme, which is set back from the neighboring property line to allow light to enter. Light from the upper level illuminates the living area via the open stairwell, with long overhangs to shade the hot summer sun. Overhangs are used extensively to mediate both light and heat.

In response to cold winters, the highly insulated and tightly sealed house has front and back porches, which act as airlock entries. In other seasons, the back exterior enclosed veranda (unheated) accommodates evening outdoor living, with operable vents and ample insect screening. During the day the veranda can be opened with overhead garage-type doors.

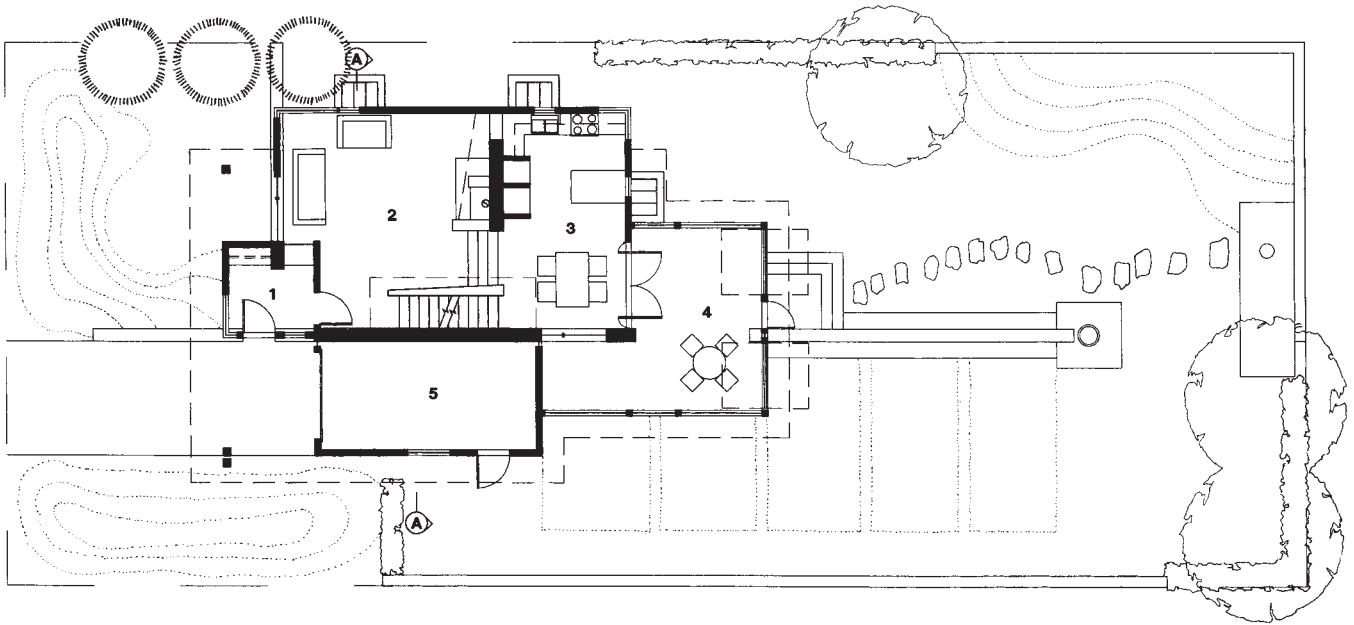
Active solar collectors on the roof supplement the heating of domestic hot water and the in-floor hydronic space-heating system. Zoned for the living area and sleeping area, the heating system also includes a supplementary energy-efficient gas fireplace.

A storage tank holds graywater from bathing, which pipes then convey to a storage tank that provides water for the toilet. Water collected from the roof flows either to the graywater tank or to the long masonry wall, where it is channeled to a cistern. Small amounts of rainwater from the roof are scuppered to the surrounding landscape.

Lillian Mei Ngan Mah

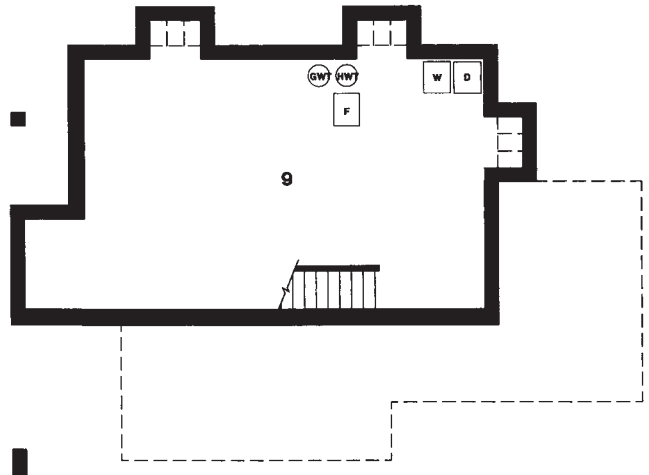
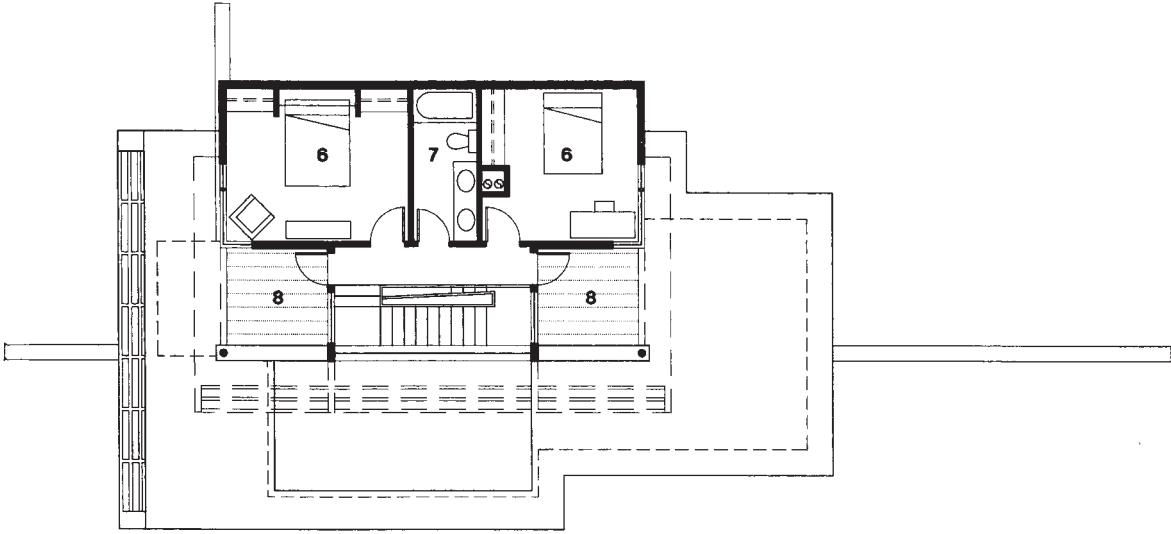


Perspective



Site and Ground Floor

- 1 Entry Porch
- 2 Living Room
- 3 Kitchen/Dining
- 4 Unheated Veranda
- 5 Garage
- 6 Bedroom
- 7 Bathroom
- 8 Roof Deck
- 9 Basement/Laundry/Mechanical



Basement

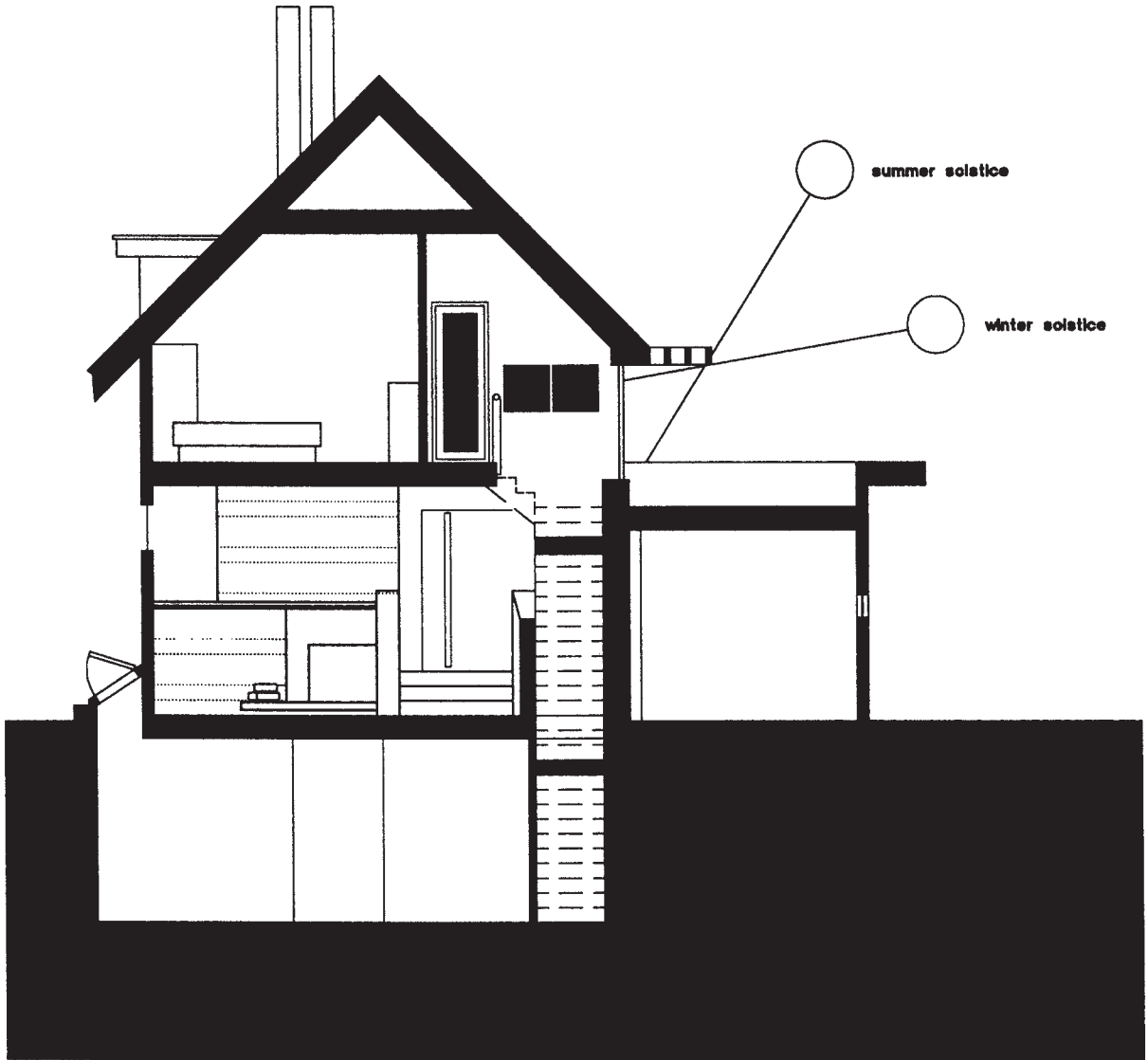


West



East

All-Weather Rustic



Section

West Coast Wood Frame

Pacific Northwest, U.S.

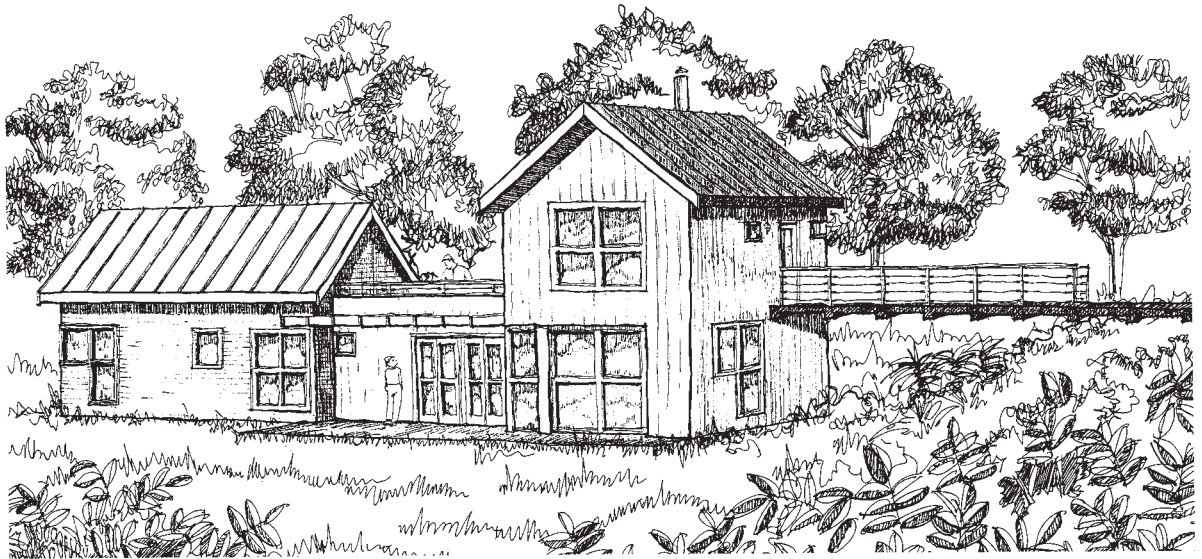
1,240 square feet

Set in a natural clearing surrounded by coniferous and deciduous trees, this house takes advantage of spectacular views of the Pacific Ocean.

The double-height element at the east end anchors the house and connects to a skylit gallery that doubles as circulation and library. The latter acts as a datum connecting sleeping, service, and living areas. Circulation is concentrated along the north wall to serve as a buffer from the heavily used road. The living spaces open up to the south to capture the spectacular ocean views.

The Pacific Northwest climate features mild, wet winters and warm summers. Local materials—wood for framing, cedar siding, and metal roofing—are used because of their availability and durability. Cellulose insulation made of recycled newsprint is blown into the wall cavities. A natural gas furnace assisted by a wood-burning fireplace provides winter warmth. Summer cooling relies on ocean-tempered natural air currents, enhanced by the stack effect of the open loft. The trellis extending over the south terrace provides summer shading.

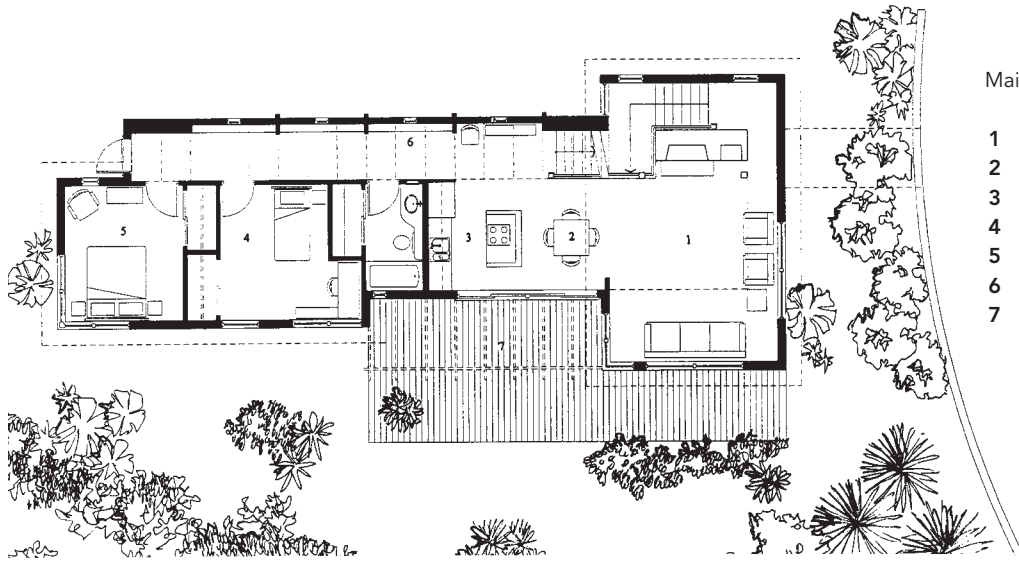
Eleanor Lee and Michael Noble



Perspective

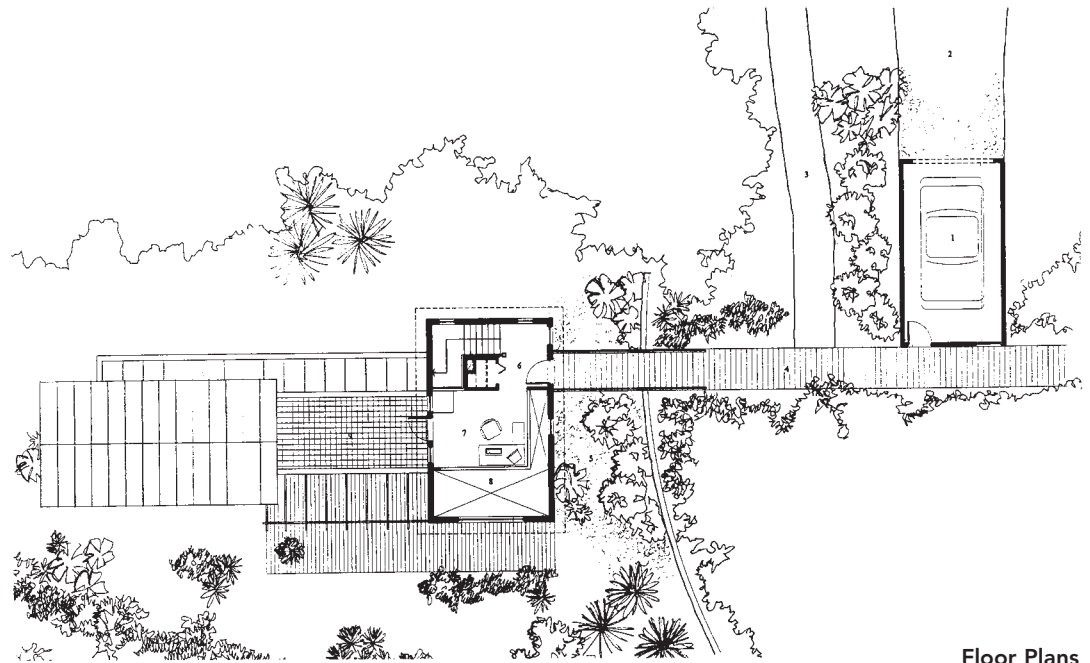


Site Plan



Main Floor

- 1 Living Area
- 2 Dining
- 3 Kitchen
- 4 Bedroom
- 5 Bedroom
- 6 Library
- 7 Deck

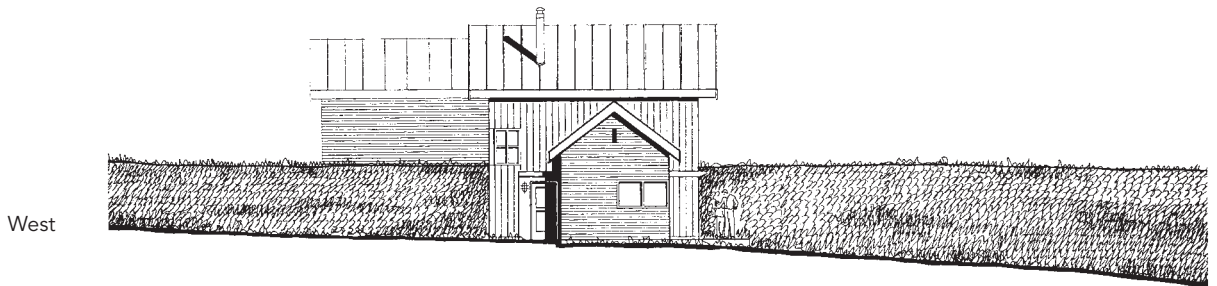
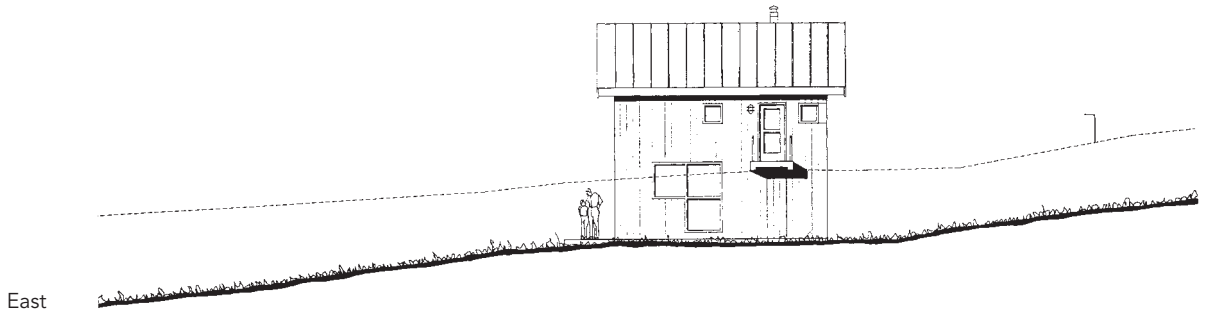
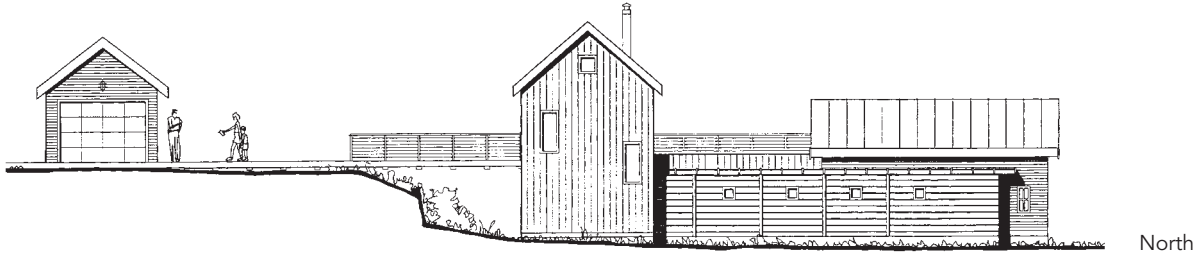


Upper Floor

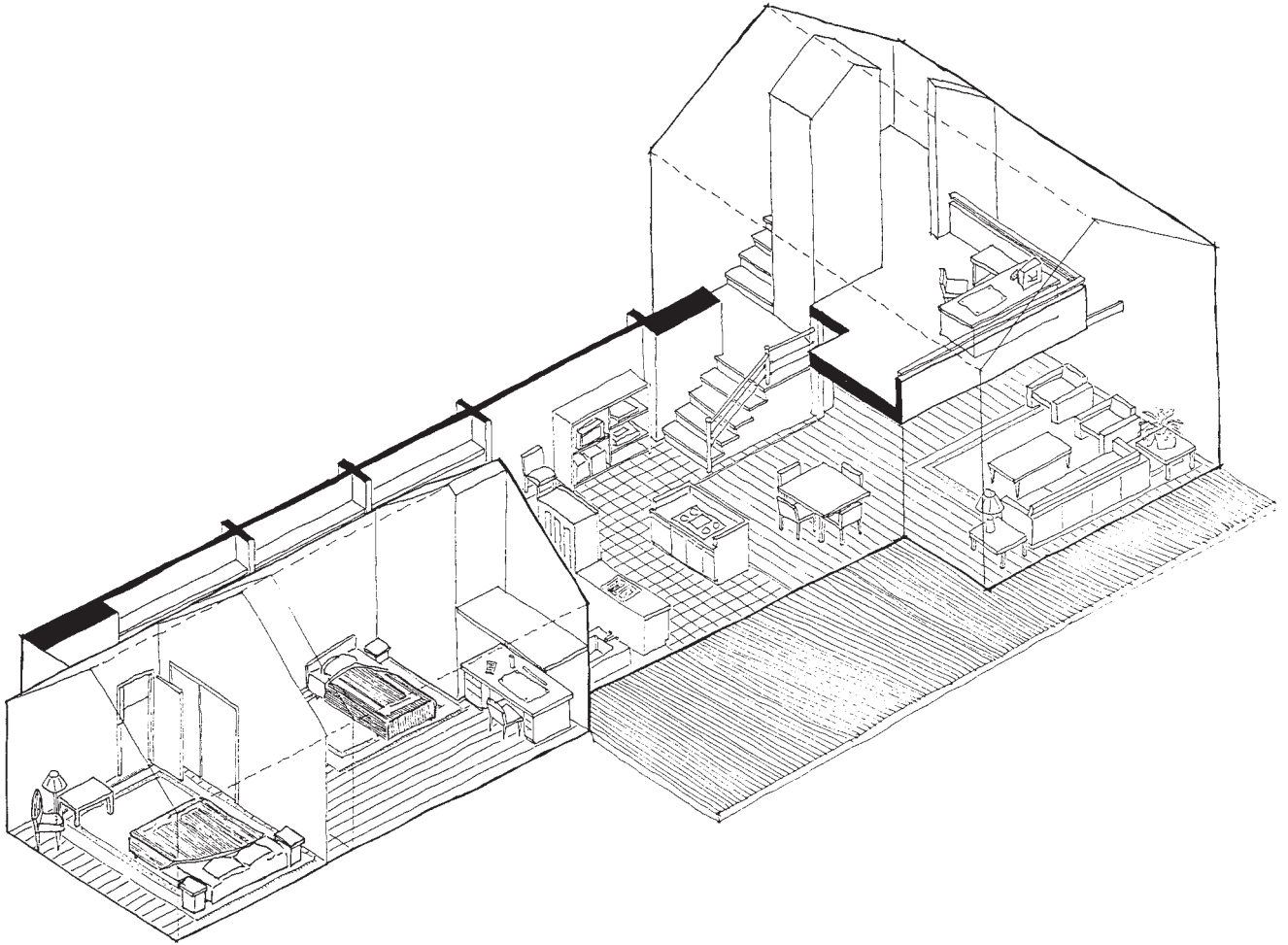
- 1 Garage
- 2 Drive
- 3 Path to Road
- 4 Boardwalk/Bridge
- 5 Garden
- 6 Foyer
- 7 Home Office
- 8 Open to Below
- 9 Roof Deck

Floor Plans

West Coast Wood Frame



Elevations



Modified A-Frame

Poland

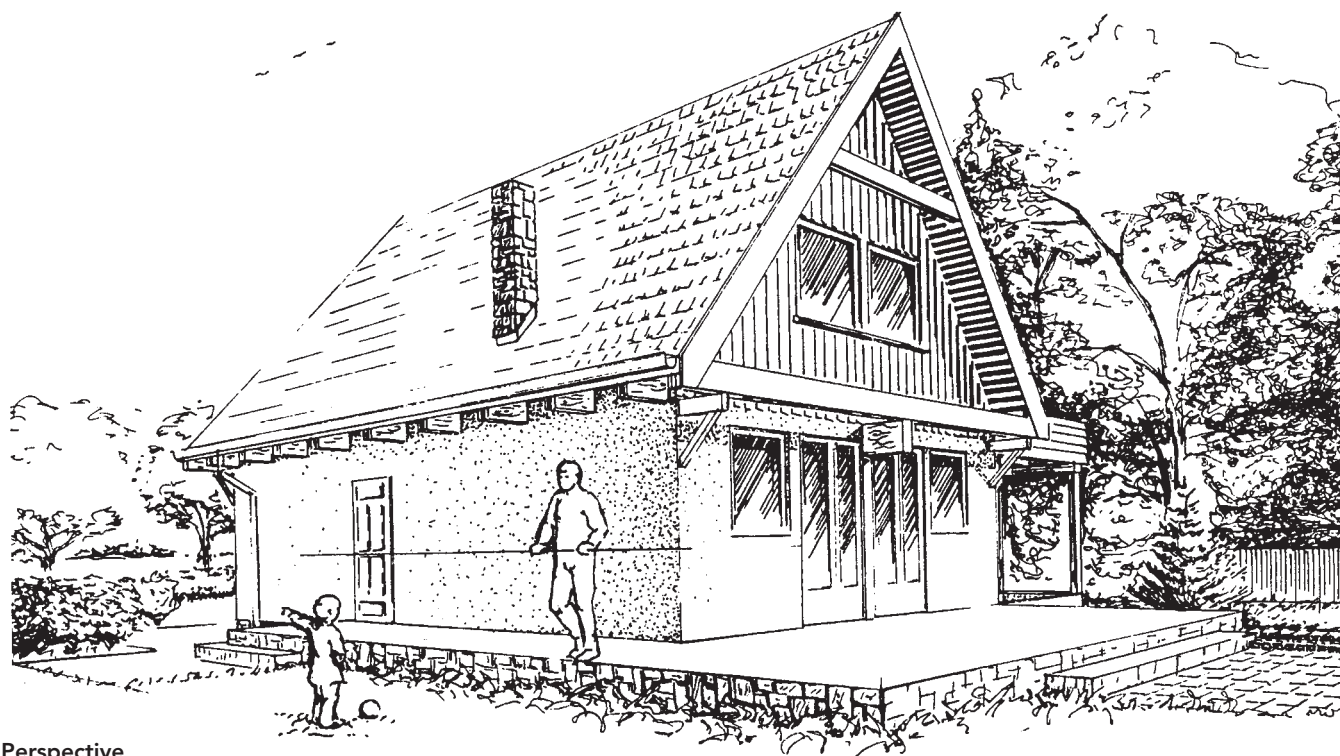
1,092 gross square feet

Arising from nature and landscape, good architecture features simplicity and clarity, combined with environmentally friendly materials.

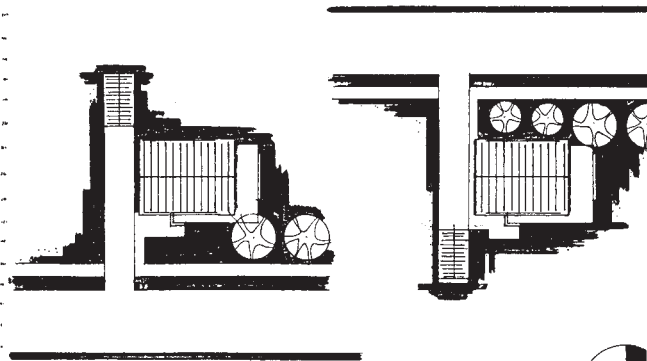
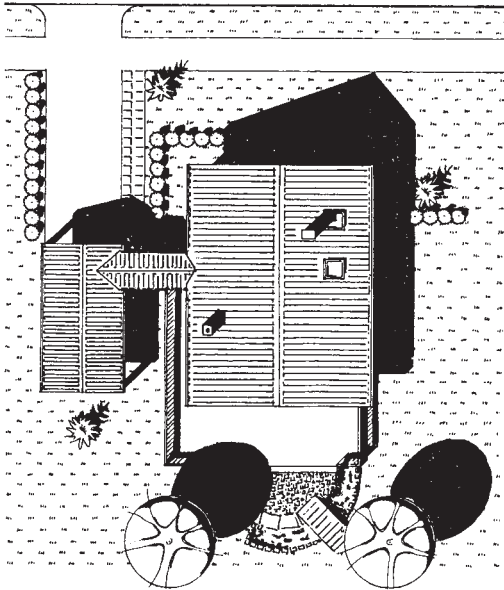
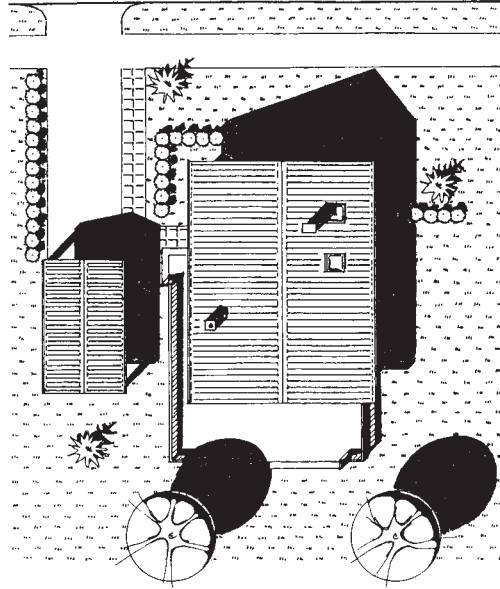
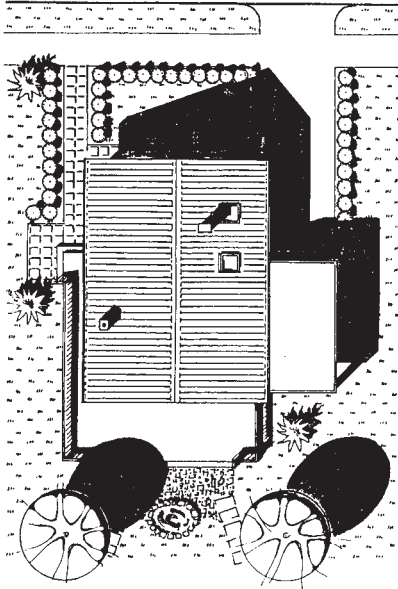
This design is heavily influenced by cost, both to build it and to live in it. Other design considerations include size, compactness, simplicity in construction and function, durability, technological potential, and energy efficiency (for example, well-insulated floors, walls,

windows, and roofs). Within these elements we look for a space that gives worthy conditions for living and a feeling of safety. We effectively use the cubic content of the house to maximize space in the day area, where family life concentrates, expanding outward to the exterior space.

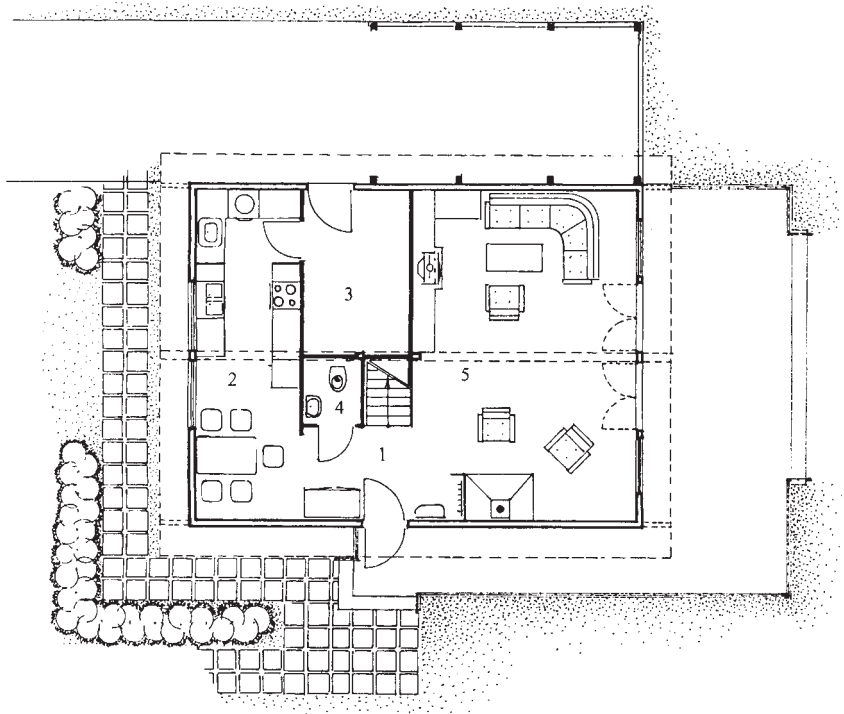
Olgierd Miloszewicz



Perspective

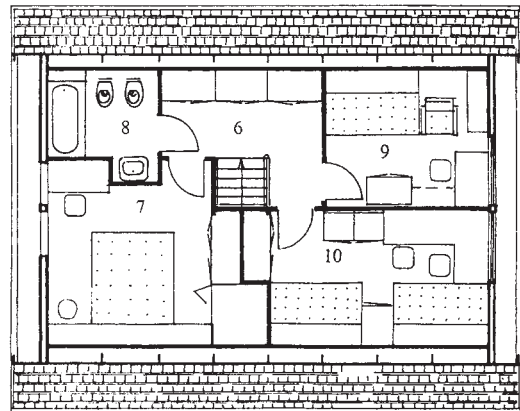


Modified



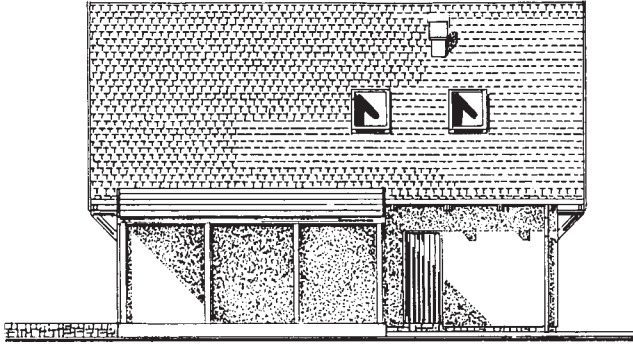
- 1 Entry and Stairway
- 2 Kitchen with Dining Area
- 3 Laundry, Storage, Mechanical
- 4 Water Closet
- 5 Living Room
- 6 Hall and Stairway
- 7 Bedroom
- 8 Bathroom
- 9 Bedroom
- 10 Bedroom

First Floor

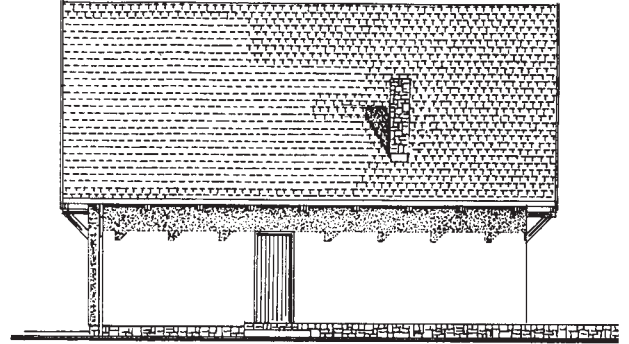


Second Floor

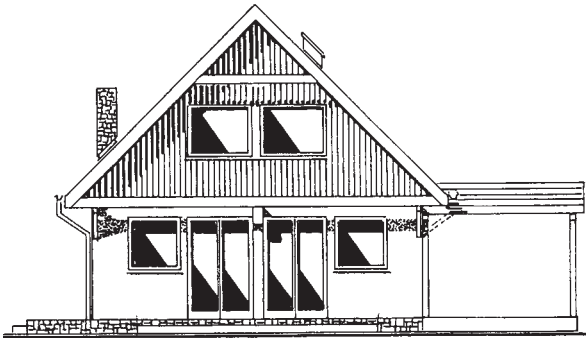
Floor Plans



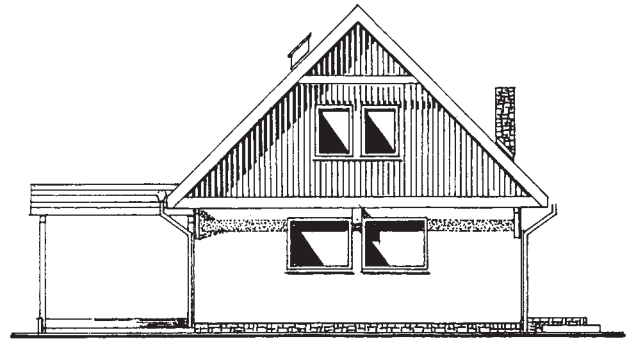
East



West

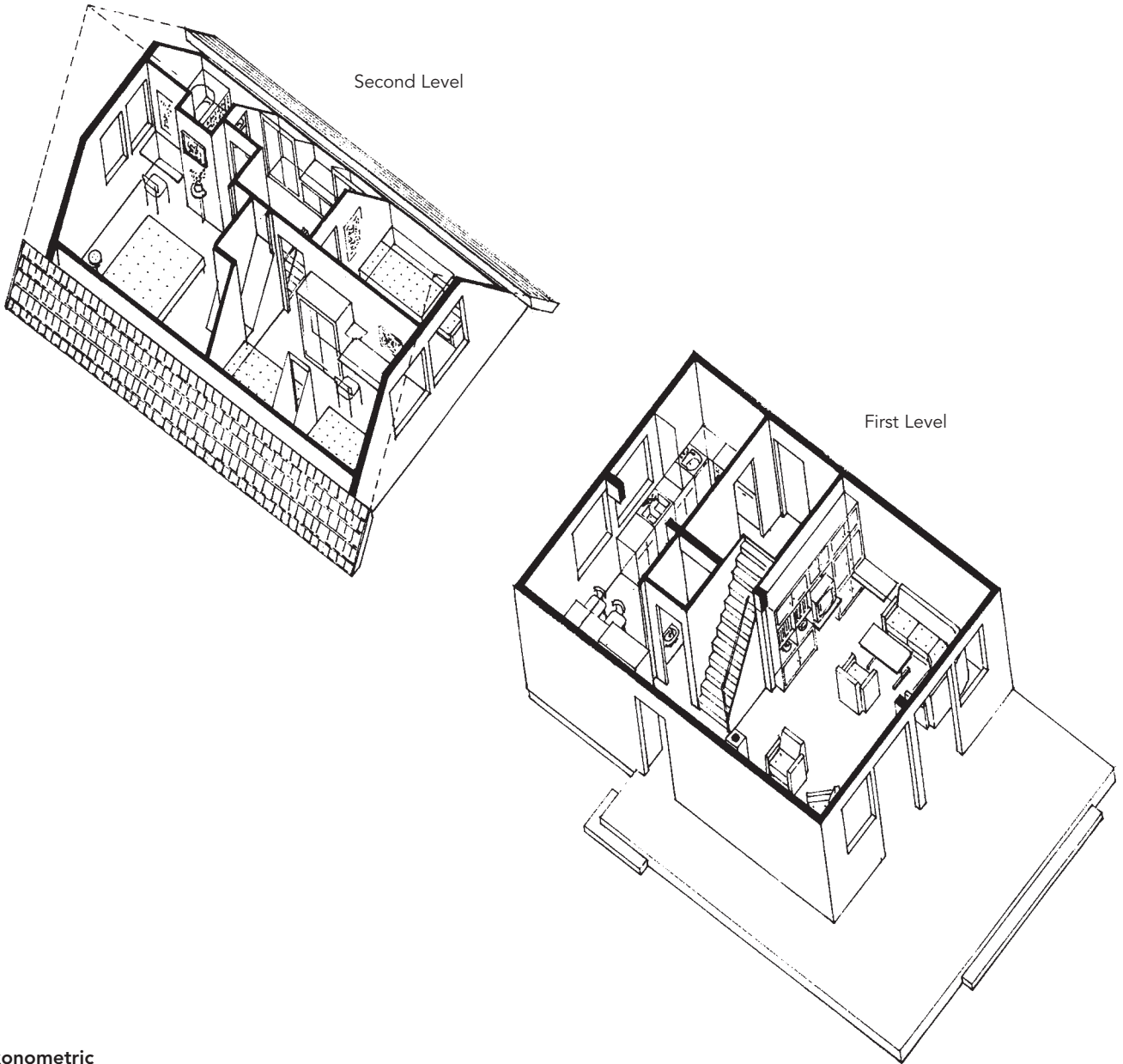


South



North

Modified A-frame



Axonometric

Sheep Farm Ranch

Australia

1,200 gross square feet

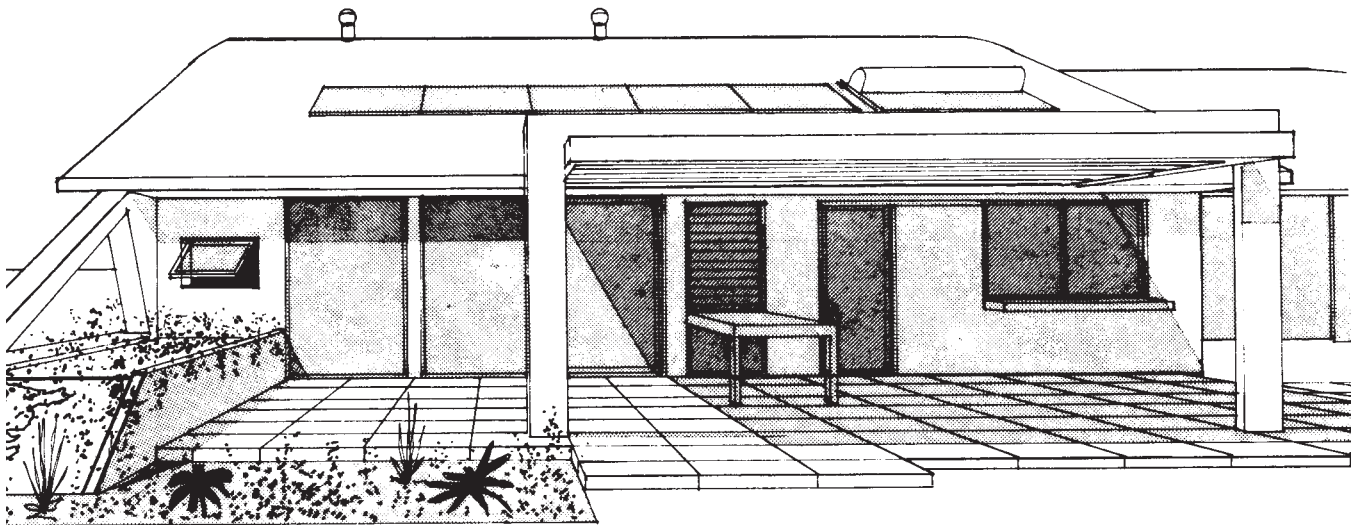
The setting is a large sheep farm in Western Australia. The region enjoys an abundance of sunshine with a fairly consistent prevailing wind.

The design criteria are (1) to harness the natural elements by positioning solar collectors on the north-facing roof and by installing a wind generator; (2) to provide a cool house in the summer and a warm house in the winter, which in the Southern Hemisphere requires a north-facing orientation; and (3) to create a feeling of space within the limits of a small house.

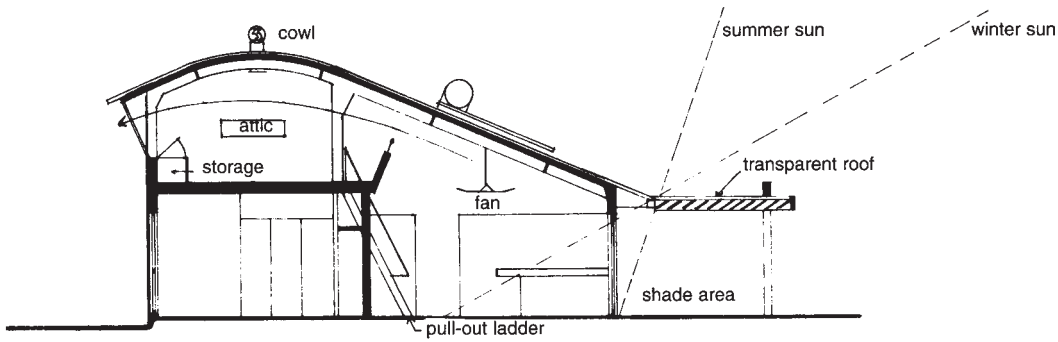
I set out to achieve a spacious feeling by allowing the attic floor to extend into a mezzanine, with access via a pullout ladder. The attic space can provide both convenient storage and a recreation area for children during the winter months. The cross-section also allows cross-ventilation during the summer.

Agricultural buildings in Western Australia inspired and influenced this design.

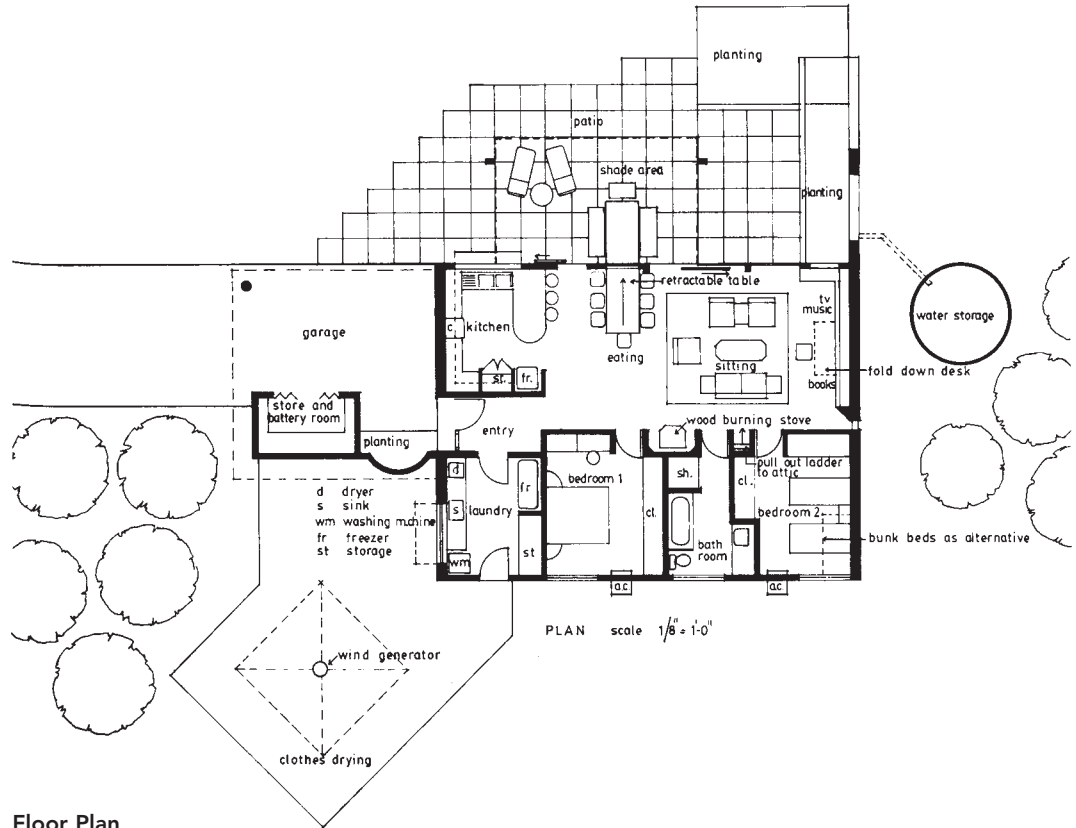
W. I. Shipley



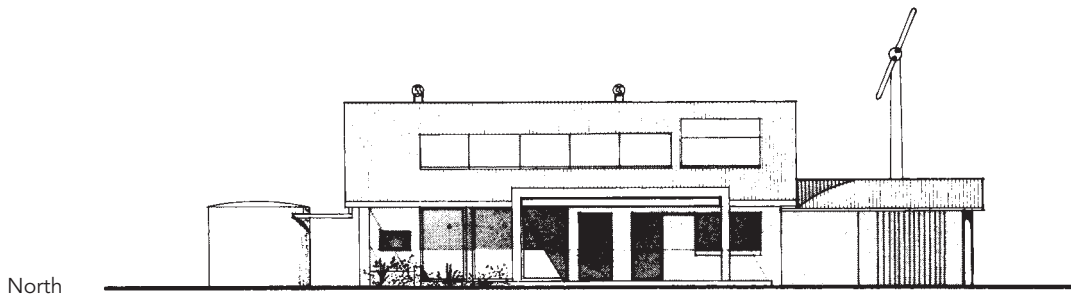
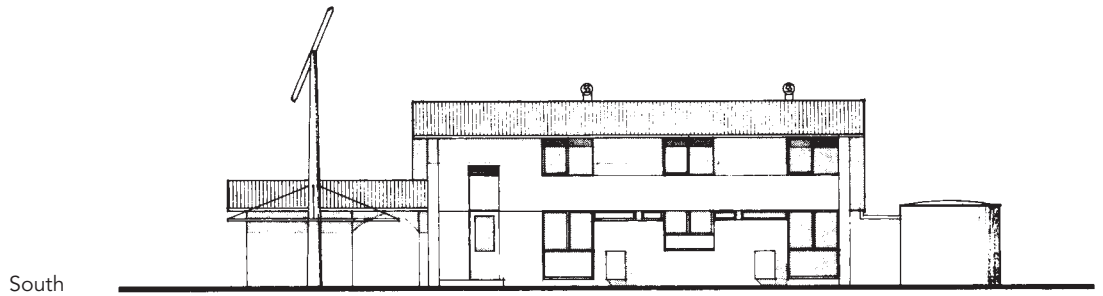
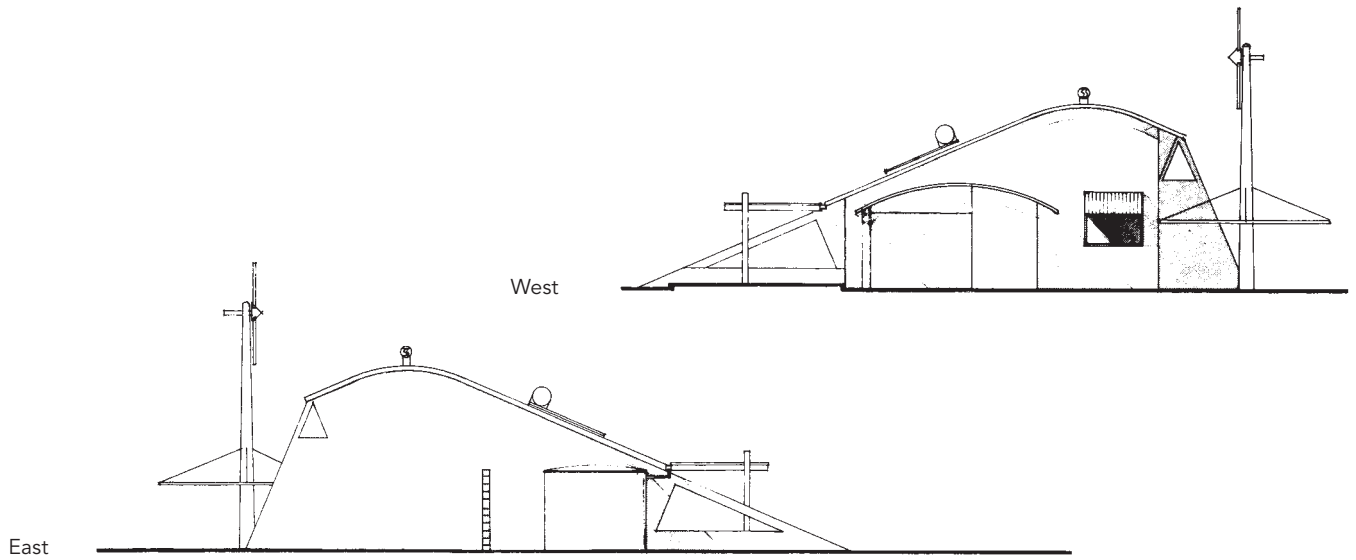
Perspective



Section



Floor Plan



Elevations

Subtropical Solar Home

Brisbane, Queensland, Australia

1,022 gross square feet

The compact footprint of this plan enables placement on small lots. With the home sited to take maximum advantage of solar access, the focus of outdoor activity is to the north and east (appropriate to the Southern Hemisphere). Likewise, all living spaces and bedrooms face north and east. Daylight to all spaces eliminates the need for electric lighting during the day. A sloping roof minimizes overshadowing on neighbors and assists smooth airflow over the building to reduce heat loss.

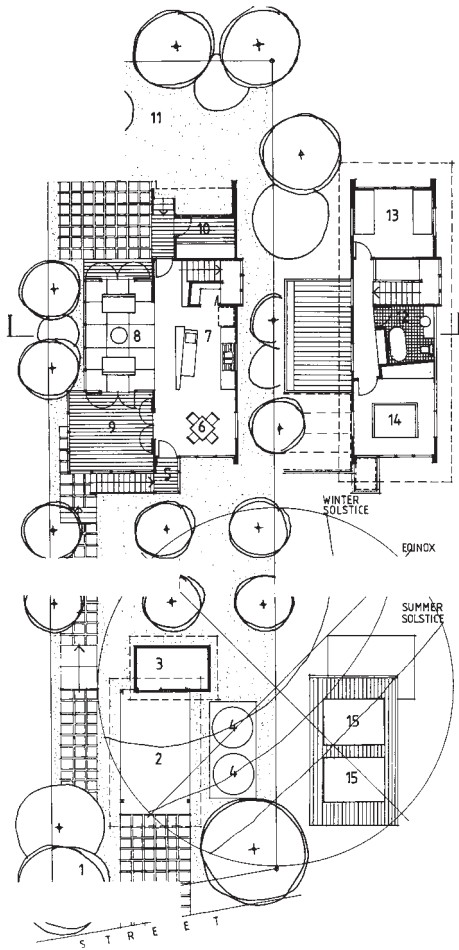
The design groups together all service areas to minimize hot water pipe runs. The house is insulated to higher-than-usual levels. Appropriately sized and shaded windows achieve maximum solar efficiency using timber rather than aluminum window frames. A south-north air path cross-ventilates all spaces. Other energy-efficient and

environmentally friendly features include a gas-boosted solar hot water system, compact fluorescent lights, small cisterns for toilets, aerators on water taps, nontoxic termite barriers, and acrylic paints. Collection of rainwater and pressurized pumping using solar power are key energy features. A covered area outside allows laundry to dry even in wet weather.

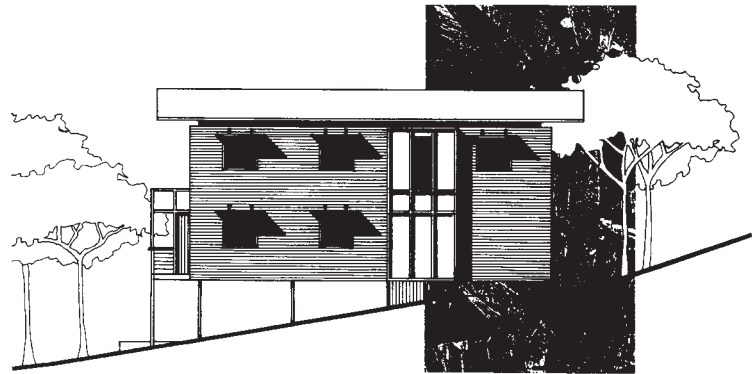
Robert Takken and Matthew Cooper



Perspective

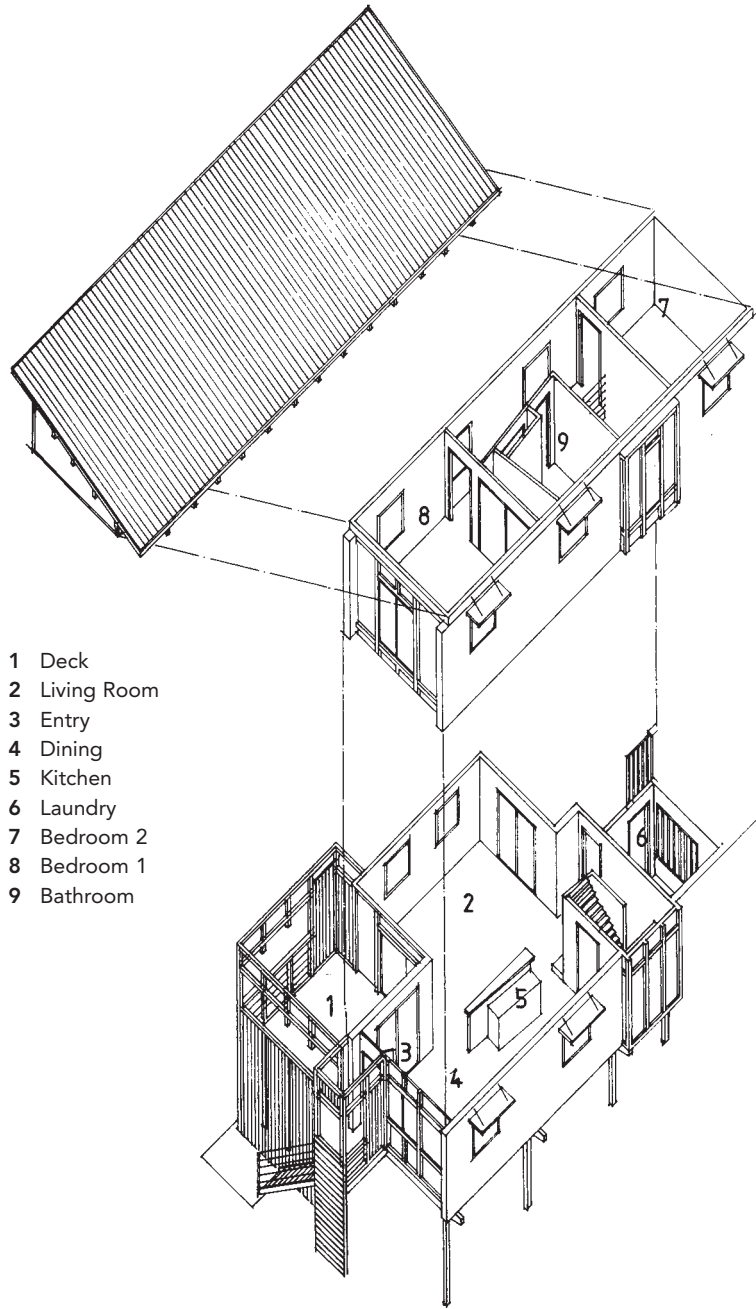


- 1 Gatehouse
- 2 Carpet
- 3 Storage
- 4 Rainwater Tanks
- 5 Entry
- 6 Dining
- 7 Kitchen
- 8 Living Room
- 9 Deck
- 10 Laundry
- 11 Courtyard
- 12 Bathroom
- 13 Bedroom 2
- 14 Bedroom 1
- 15 Solar Collectors



West Elevation

Subtropical Solar Home



Axonometric

European Splendor

Italian Countryside

1,180 gross square feet

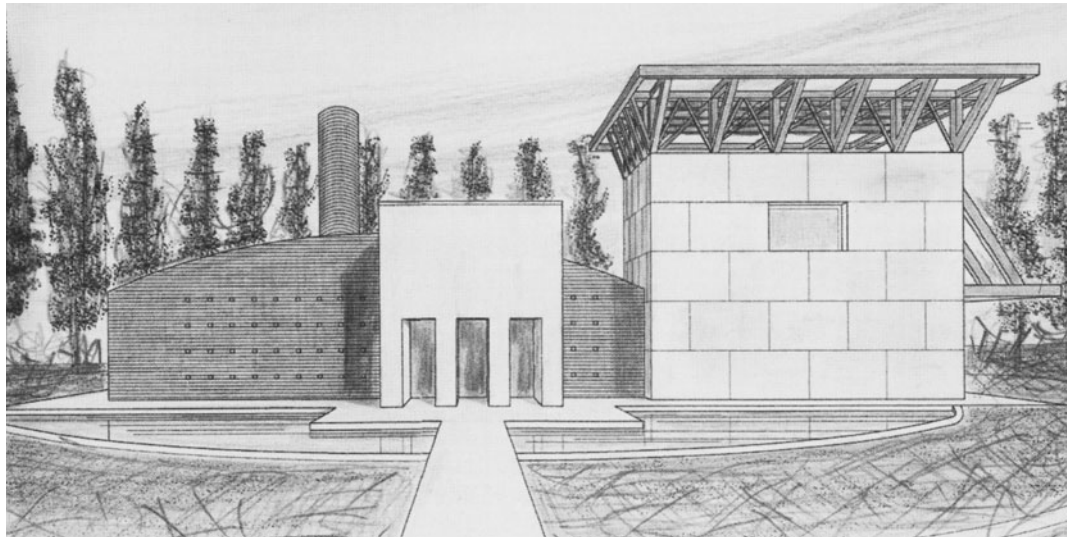
This home consists of two different blocks: a low, long, linear element and, opposite, the massive element of the tower. In the linear part, the day area—an open space only interrupted by the chimney—separates the living room from the dining area.

The main axis of the plan goes through the sheet of water in front of the house, passes through the home, and stops at the semicircular fountain fed by a little brook. That solution extends the perception of interior space, which directly communicates with the exterior, as encouraged by the glass doors that face the porticos.

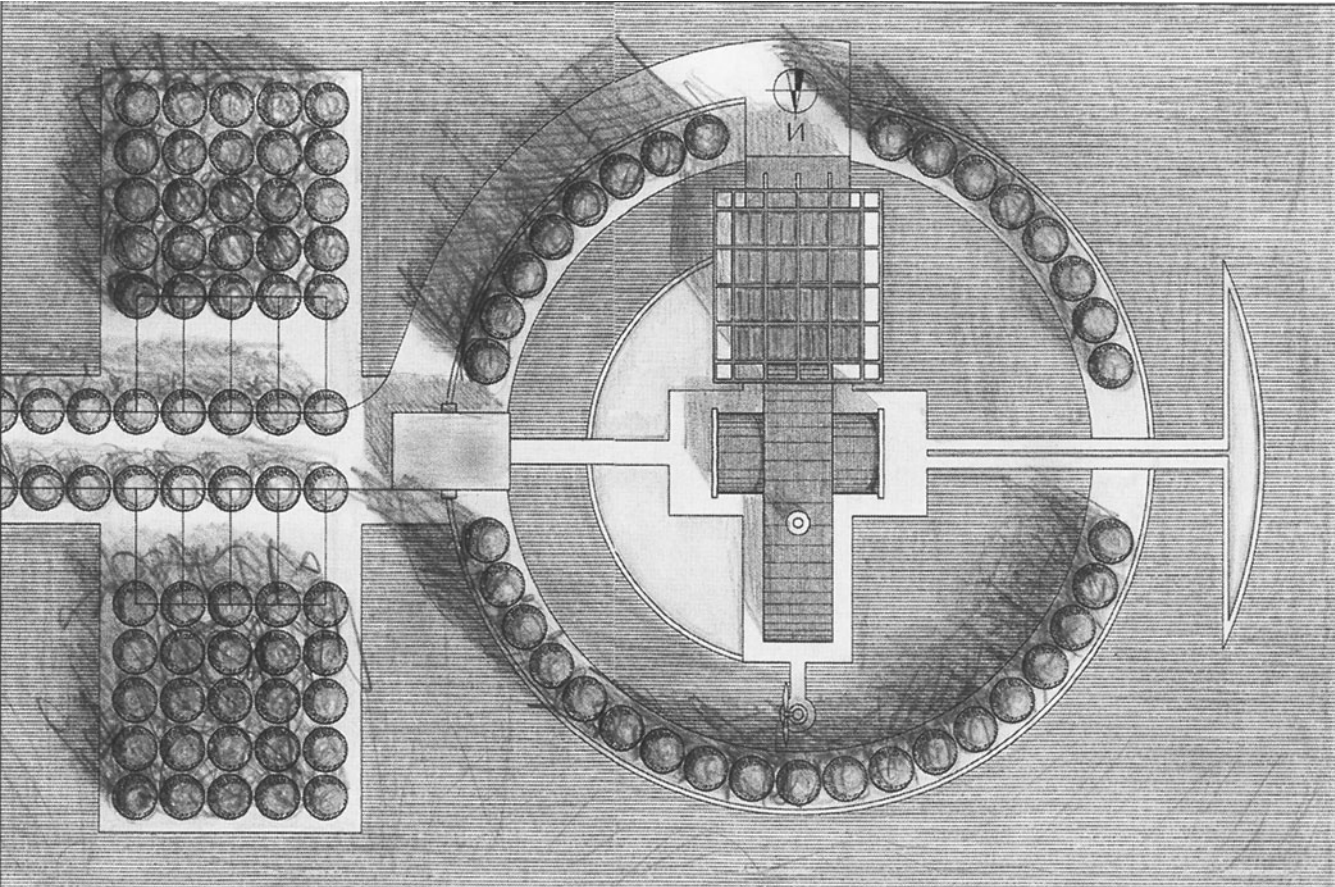
As far as energy savings are concerned, the house has solar panels on the tower roof, which consists of lamellate (layered) wood; a chimney with boiler system connected to the heating system; a serpentine solar hot water heater under the grass; and a cooling system that takes advantage of the sheet of water in front of the house.

The design is conceived for a flat site. The home stands out in an ornate landscape inspired by the geometry of Renaissance gardens.

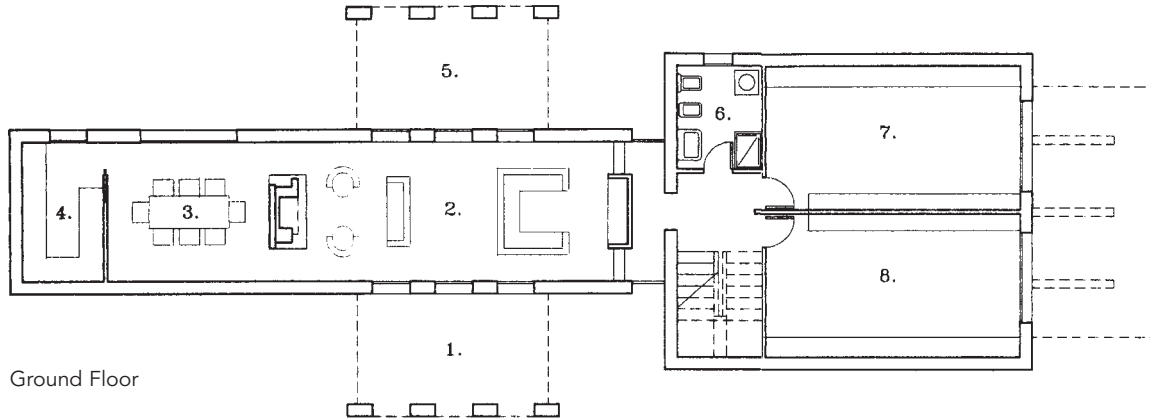
Giulio Fabbri



Perspective

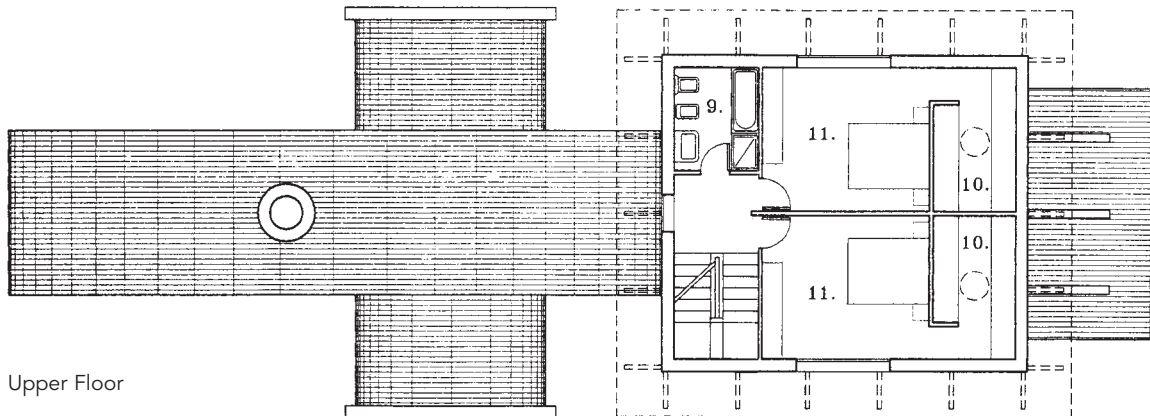


Site Plan



Ground Floor

- 1 Entrance
- 2 Living Room
- 3 Dining Area
- 4 Kitchen
- 5 Portico
- 6 Laundry
- 7 Storage Area
- 8 Garage

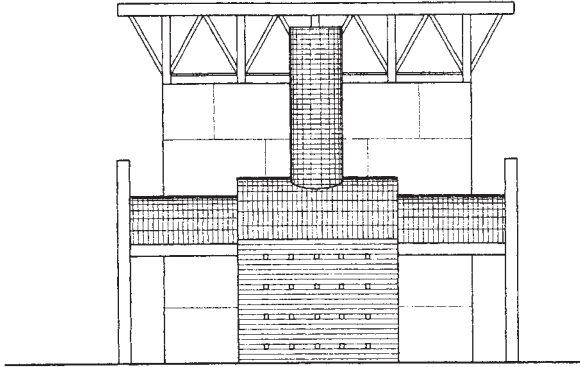


Upper Floor

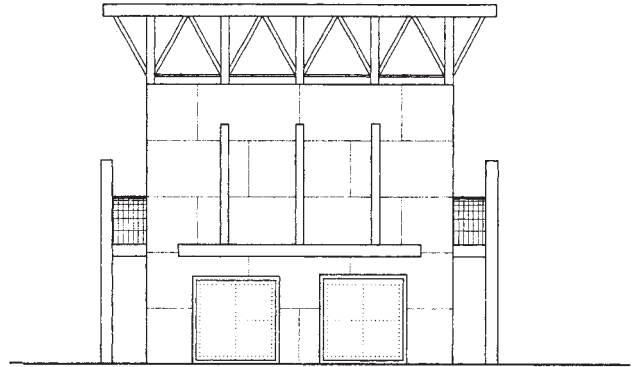
- 9 Bathroom
- 10 Closets
- 11 Bedrooms

Floor Plans

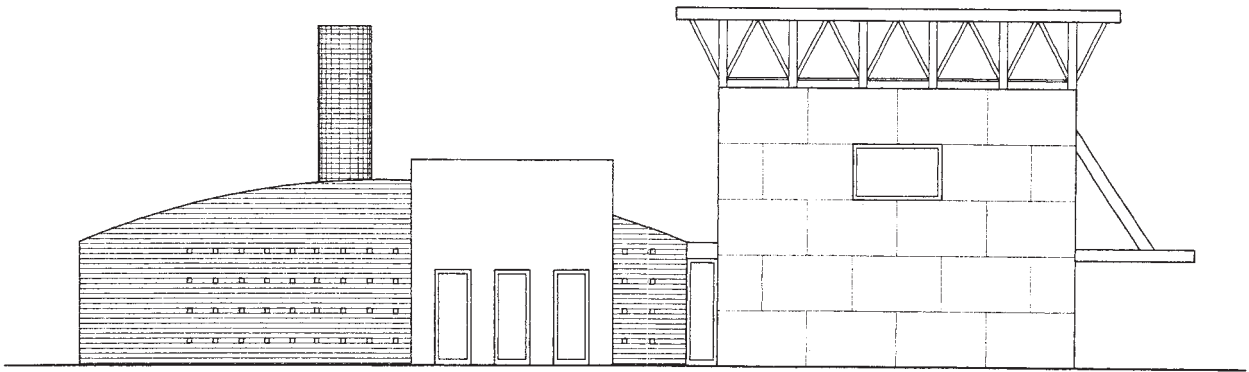
European Splendor



North

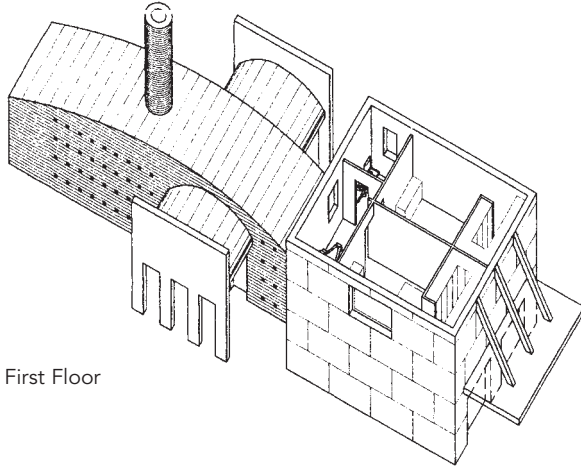


South

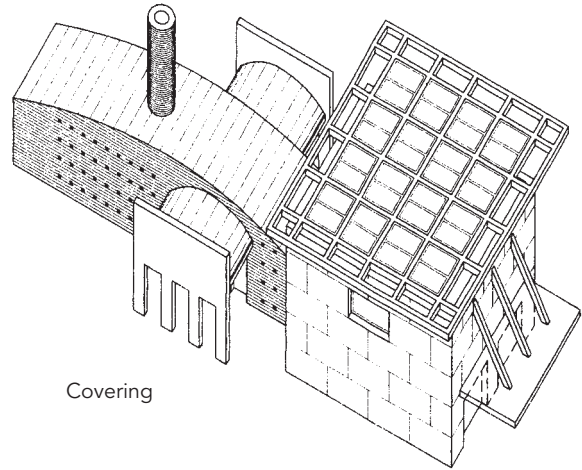


West

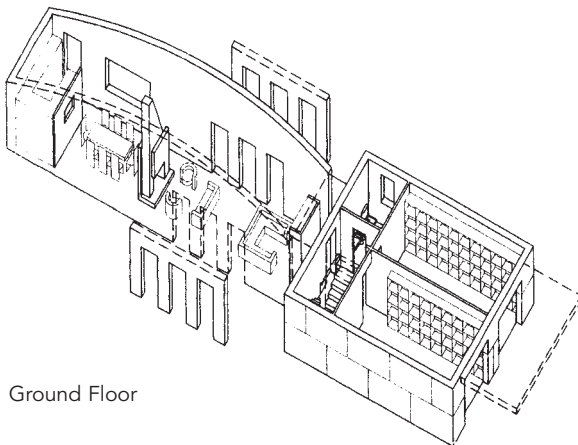
Elevations



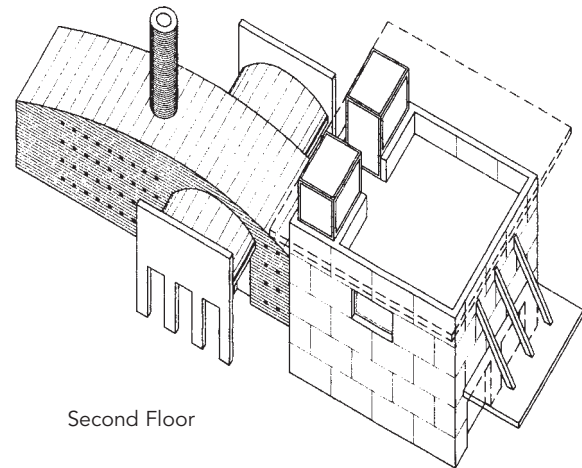
First Floor



Covering



Ground Floor



Second Floor

Geometric Contemporary

Italy

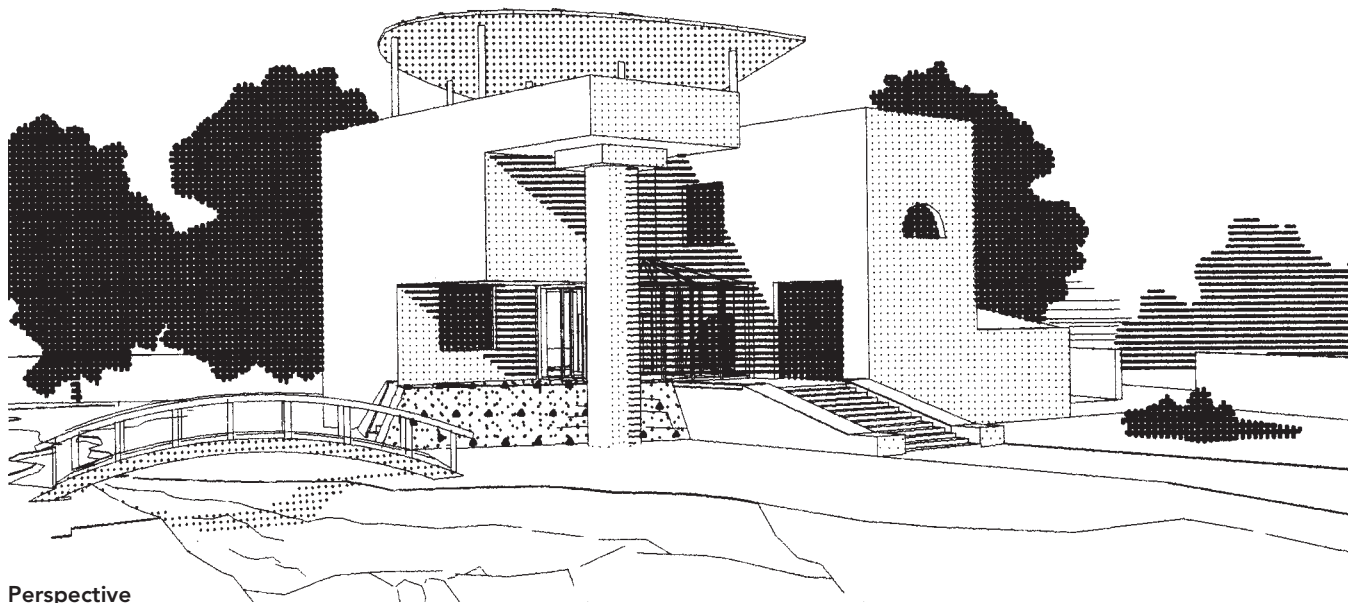
1,250 gross square feet

This house has two functional floors: one for the living areas and the other for resting and studying. The ground floor includes the dining and lounge areas with adjacent kitchen and conservatory, as well as a laundry and a storeroom that contains the main plant and systems. The double volume of the entrance lounge incorporates a circular wooden staircase that connects the two levels. At ground level is a box garage.

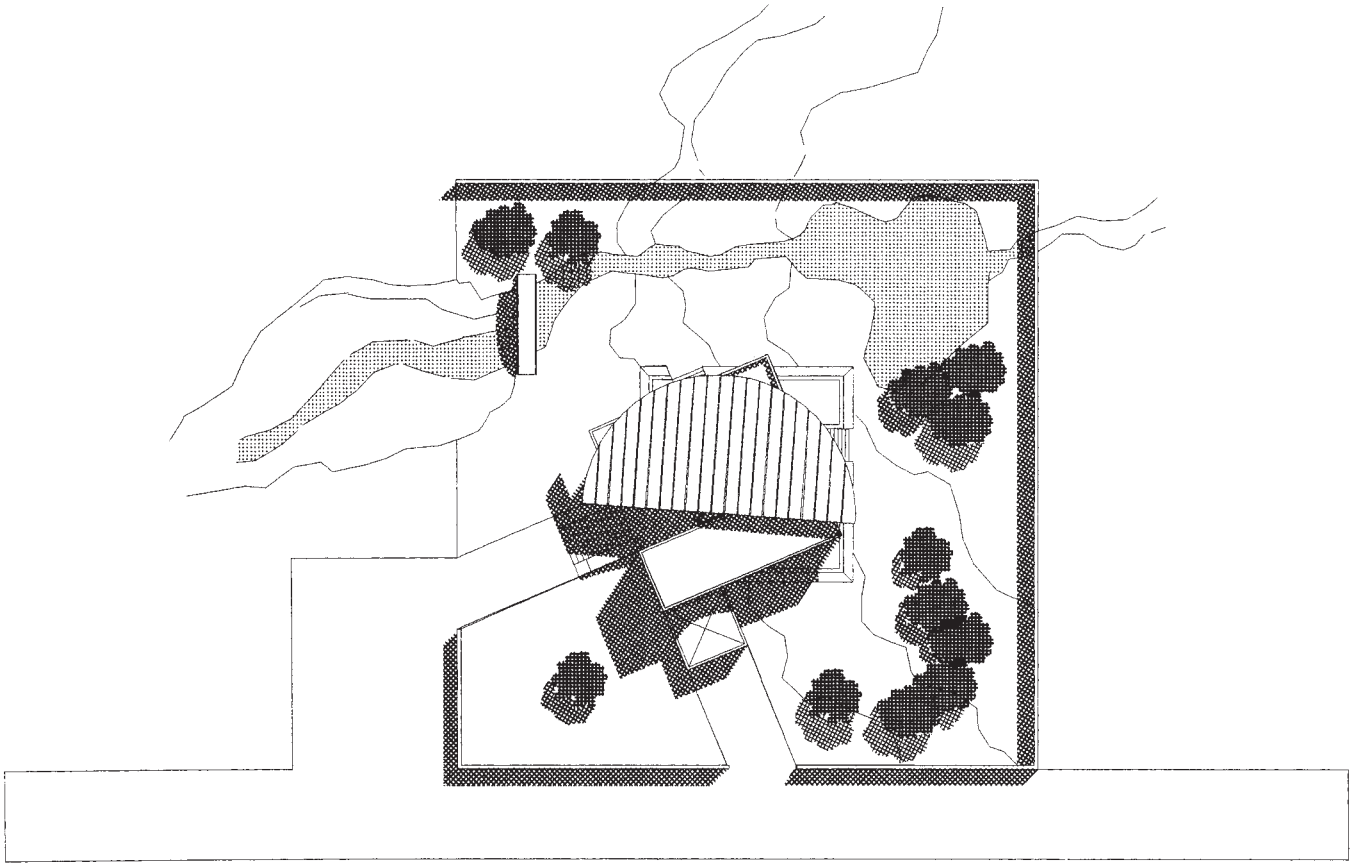
On the upper floor are the spaces for study and work, and a separate night area—two bedrooms with half baths. This level also has a full bathroom as well as a stairway leading to the terrace.

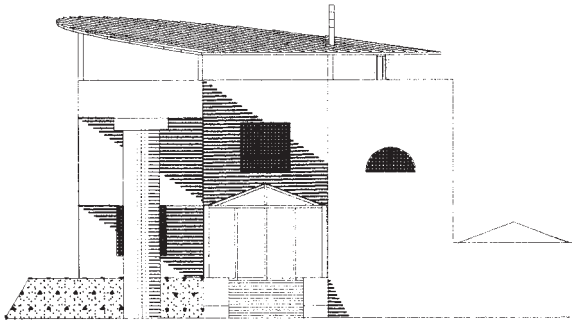
The construction technique employs reinforced concrete frame and curtain walls. Inside, gypsum walls and an insulation layer create a heat-cold barrier. The flooring consists of polished lime and fired terracotta powder. The external window and door frames are in copper and zinc alloy. Lime plaster and marble sawdust cover the outside walls, while copper sheets cover the roof.

Carlo Giuliani

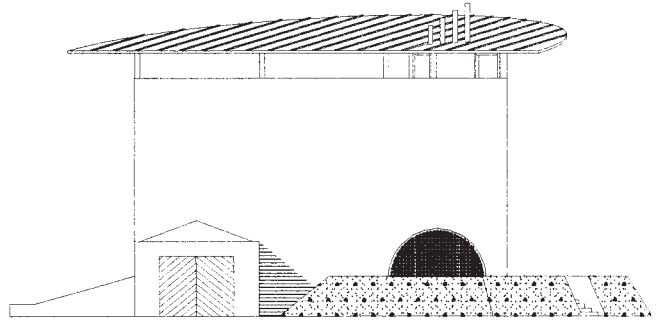


Perspective

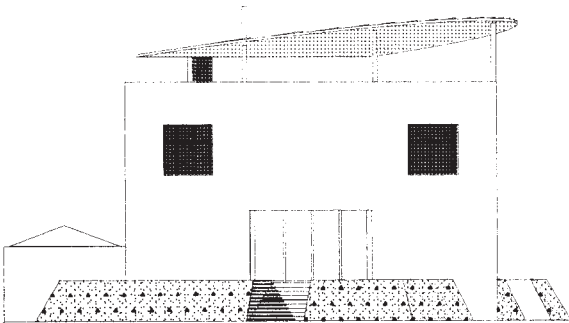




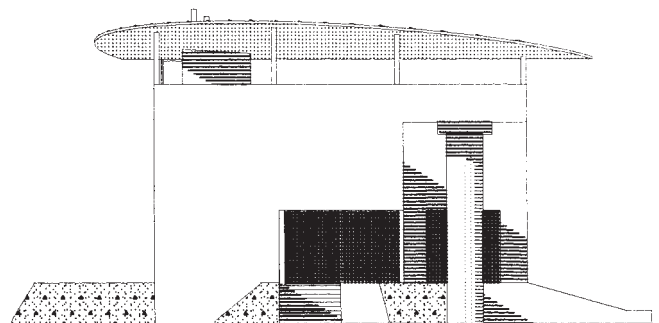
Northeast



Northwest



Southwest



Southeast

Garden Paradise

Norway

1,008 gross square feet

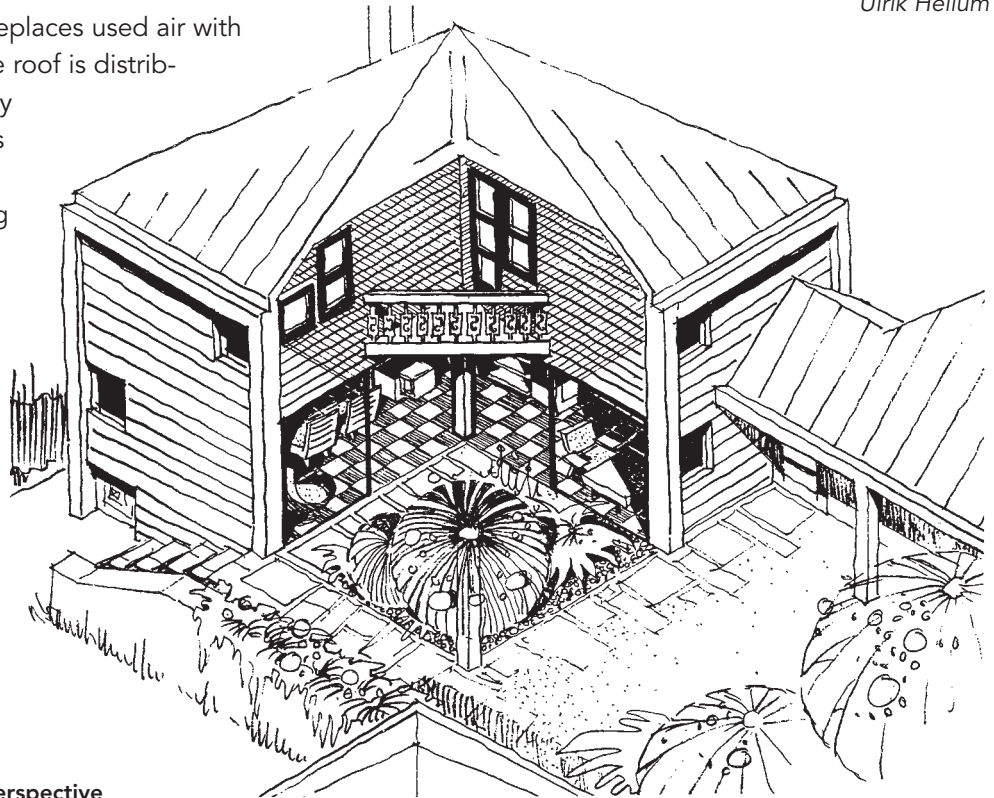
The design focuses on providing a clean indoor environment for the occupants of this house. A living indoor garden produces oxygen and helps to filter indoor air pollutants. Mechanically operated blinds between the glass in the garden walls regulate heat transmission. A tank in the ground or under the house stores fresh water for occupants and plants.

A heat exchanger in the loft replaces used air with outside air. Air intake from the roof is distributed to the garden area, partly through soil ventilation. In this way the garden serves as a fresh-air filter. When designing the garden, it is important to select plants that are resistant

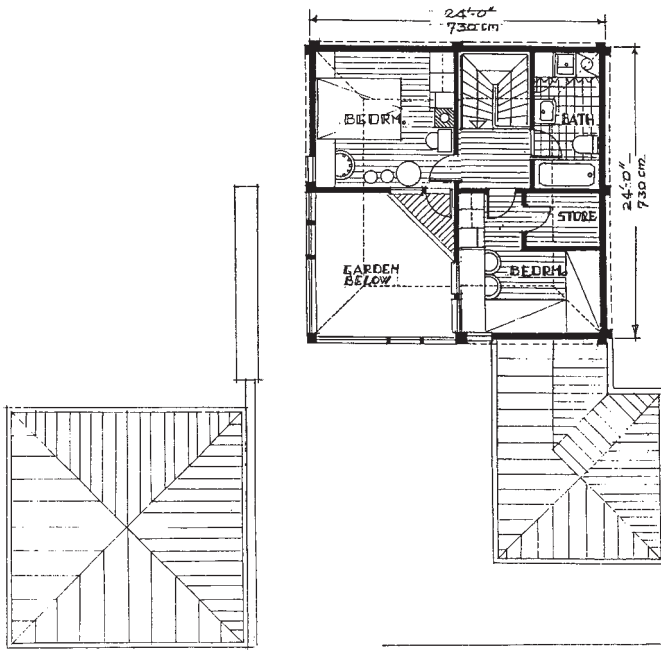
to low temperatures and to choose plant nutrients that do not adversely affect human living conditions.

The house design provides for privacy, a view outdoors from the kitchen, controlled traffic areas inside and outside, and direct access from the living area to the garden. The possibility exists for future expansion.

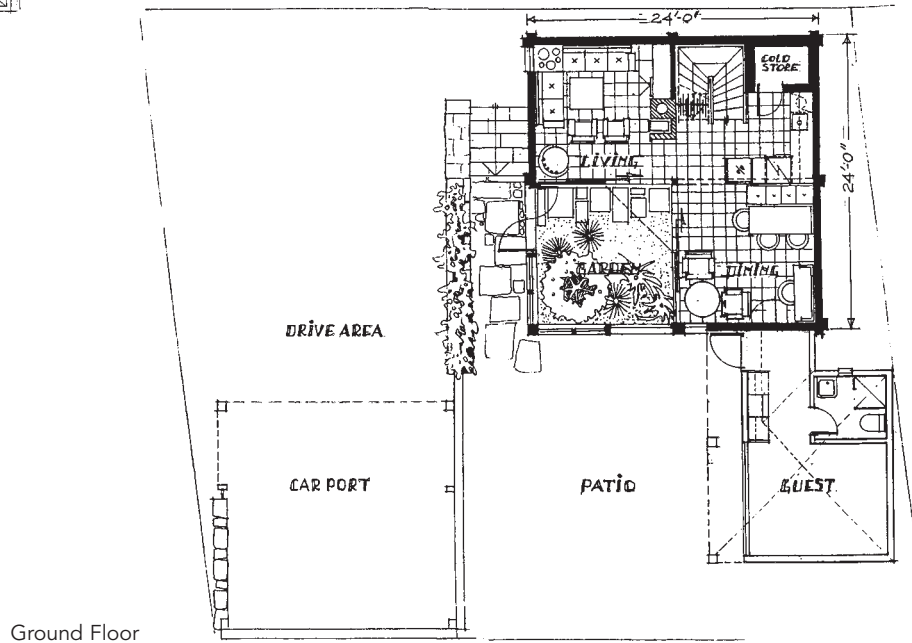
Ulrik Hellum



Perspective

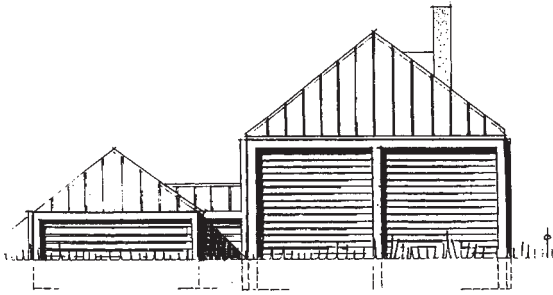


First Floor



Ground Floor

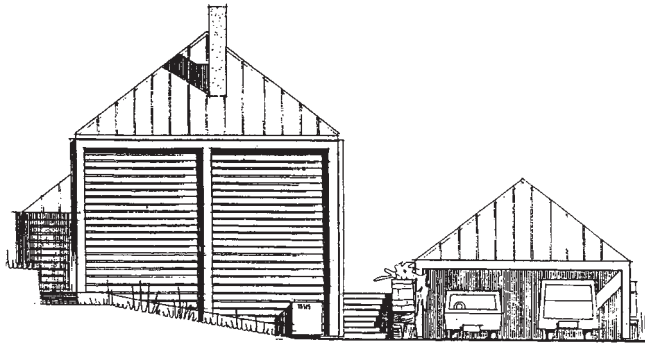
Garden Paradise



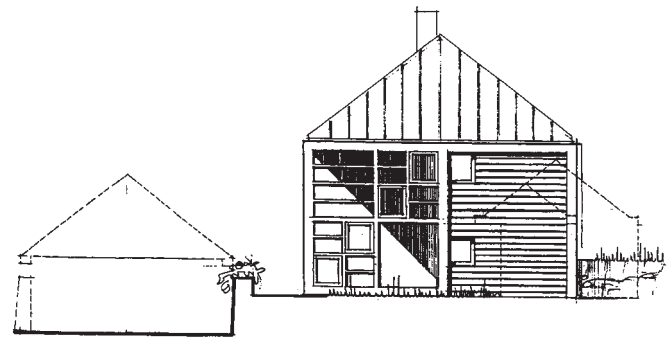
East



West



North



South

Elevations

Sustainable Living

Melbourne, Australia

1,080 gross square feet

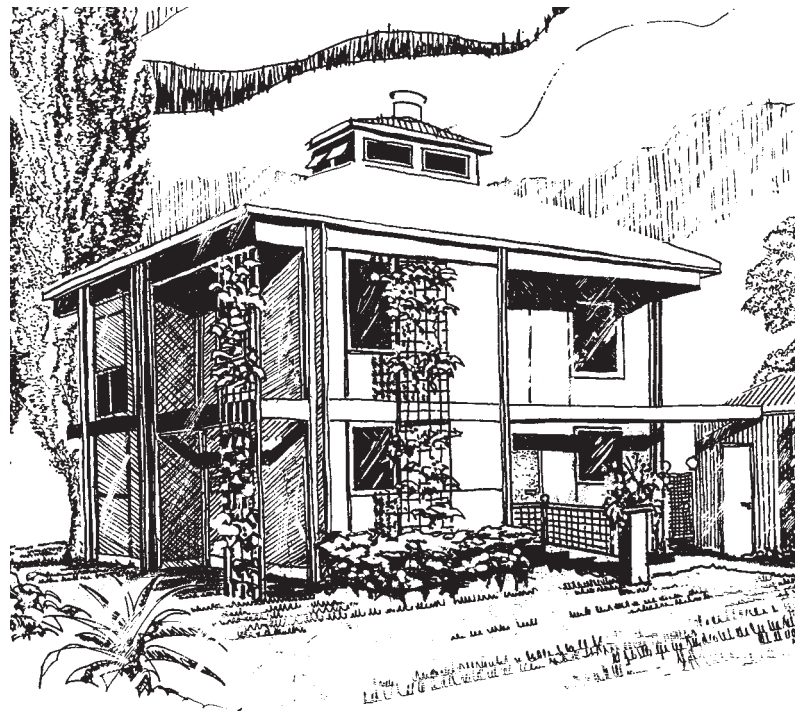
The objective of this design is to promote a sustainable living environment within the requirements of a small house. These requirements include passive solar design, efficient and economical use of building materials, and a garden for produce and compost. Such features strengthen and become an integral part of a small house design. Flexible and adaptable space echoes the concept of sustainability.

This design incorporates a hybrid mechanical system. Passive solar heating and cooling combine with the radiant-hydronic floor system and conventional ceiling ventilation fans. Solar hot water integrates with the hydronic heating system. The central stairwell produces negative air pressure at the cupola, enhancing natural ventilation.

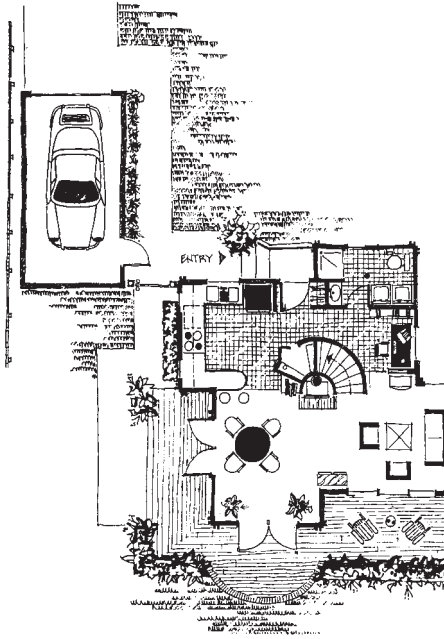
An innovative structural system employs highly insulated stress-skin panels. These

panels not only reduce by about 60 percent the consumption of timber when compared to conventional housing, but conserve energy as well. A lightweight, ventilated metal roof, insulated at the ceiling, helps reduce summer cooling loads. The assembly of this modular system allows for easy future additions.

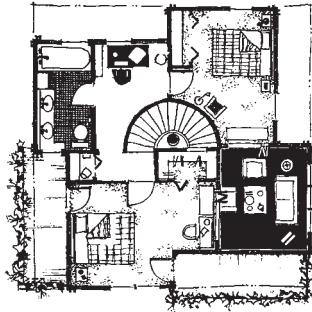
Mark B. Luther



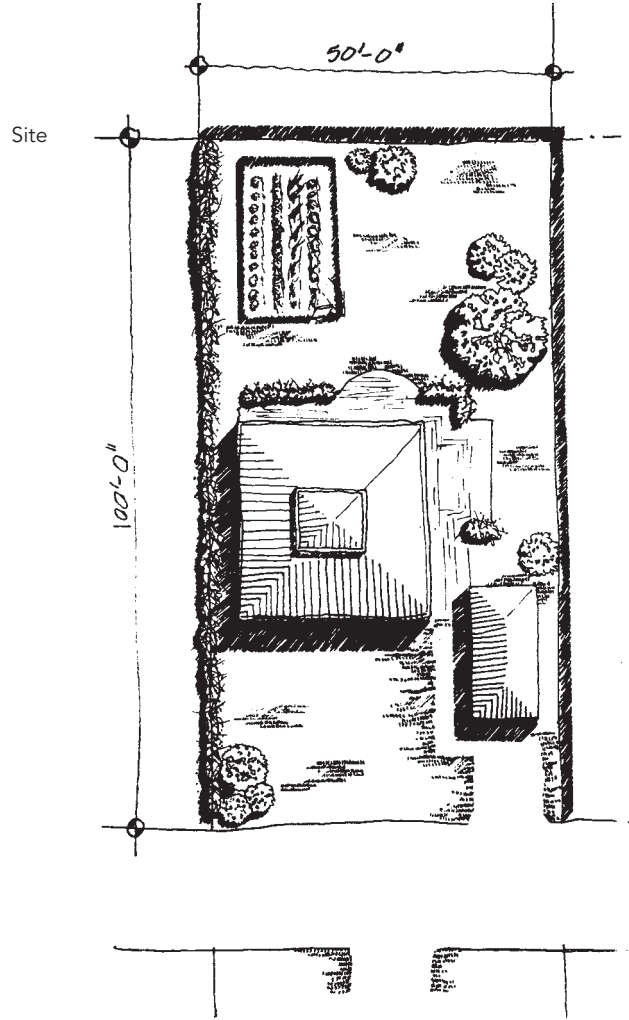
Perspective



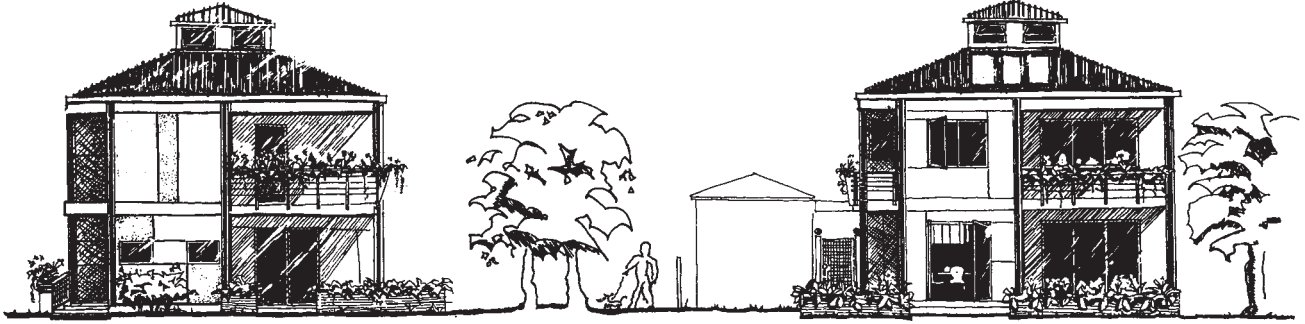
First Floor



Second Floor



Site



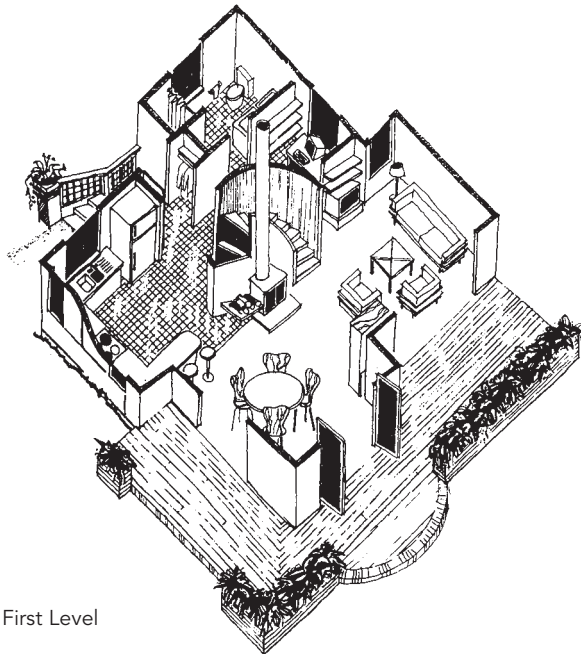
East

North

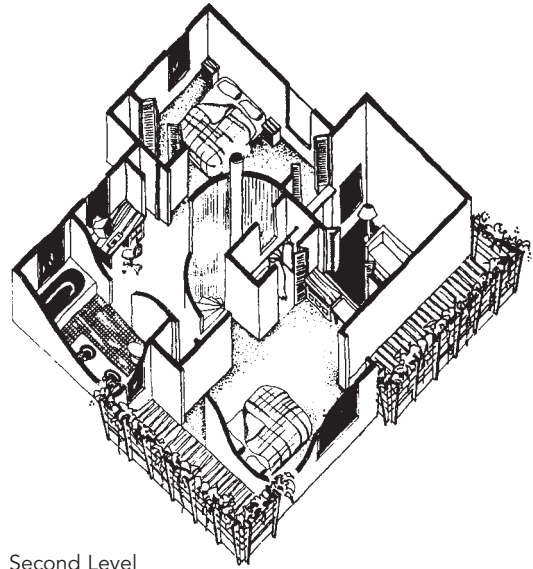


South

West



First Level



Second Level

Spacious, Compact Ranch

Oklahoma

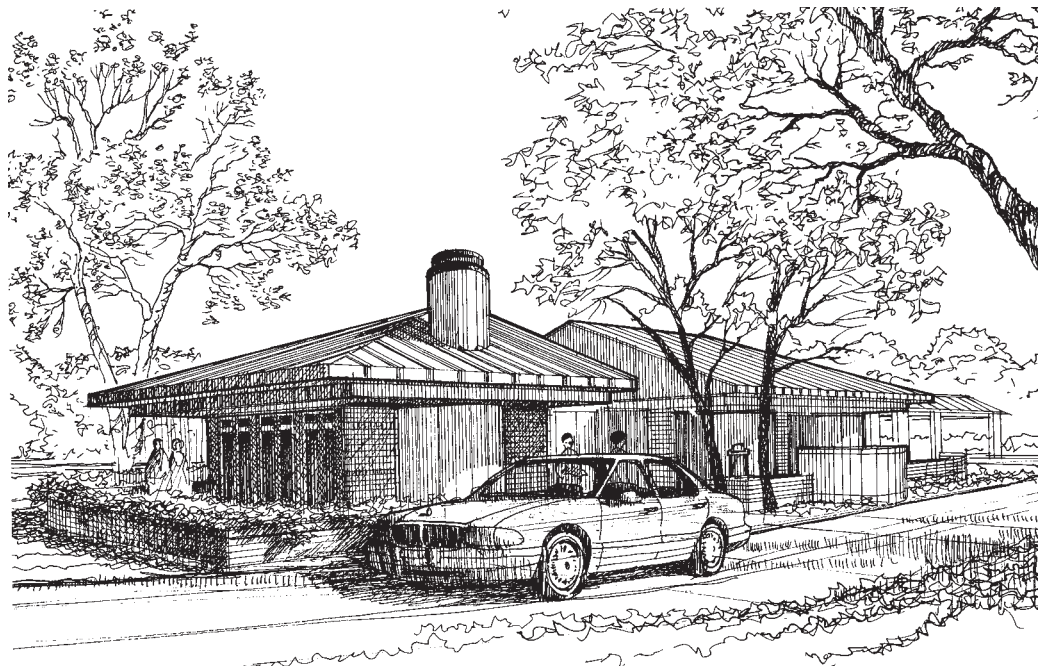
1,248 gross square feet

My proposal is a design that will fit into existing neighborhoods while providing a comfortable, compact, and efficient environment. A gracious entry disperses traffic to the various living spaces, obviating any need to pass through other areas of the house. The exterior not only accommodates outdoor activities, but also offers views from the interior, making the small house appear larger. On the street side of the property, a front porch allows for relaxed viewing.

Energy efficiency is a primary concern in the design, from the orientation of the plan to the use of appropriate construction materials. The design specifies masonry walls with a

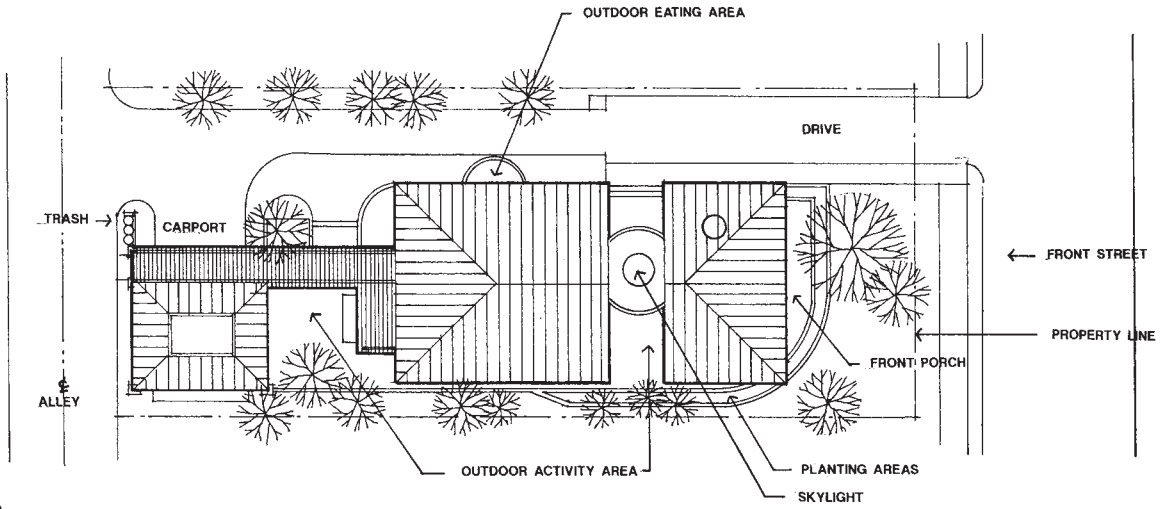
6-inch superinsulation system and large roof overhangs with extensive insulation in the attic. The air-conditioning and heating system consists of a closed-loop, ground-source heat pump, using a deep-well concept for the heat exchanger. This prevents equipment damage due to exposure to the elements, eliminates the need to hide the equipment with landscaping, and reduces noise pollution.

Don Buoen

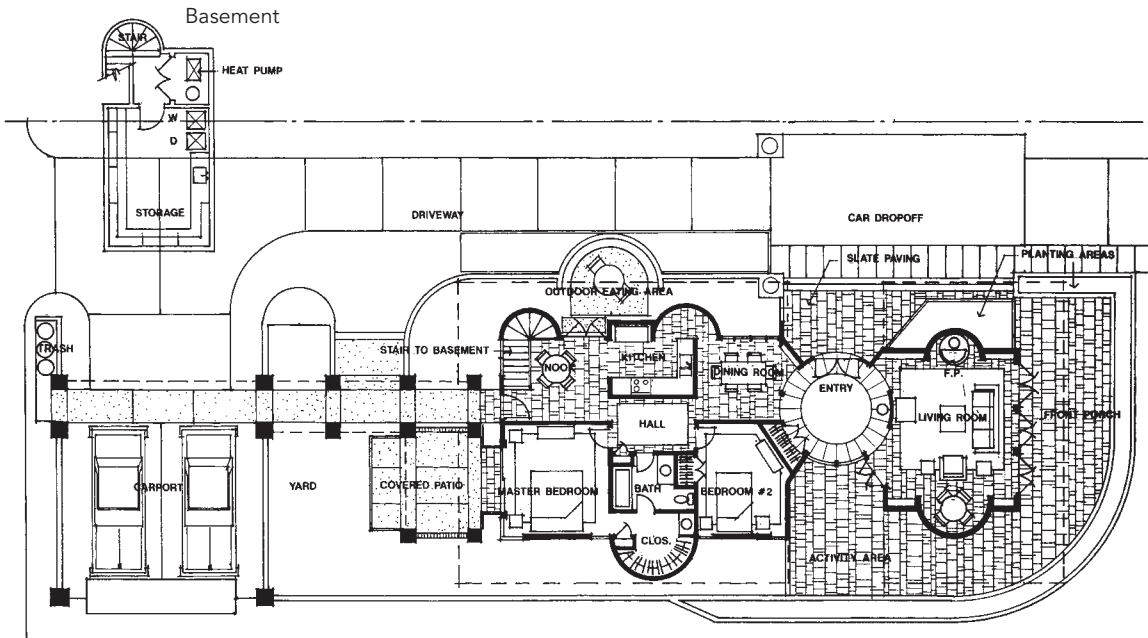


Perspective

Spacious, Compact Ranch

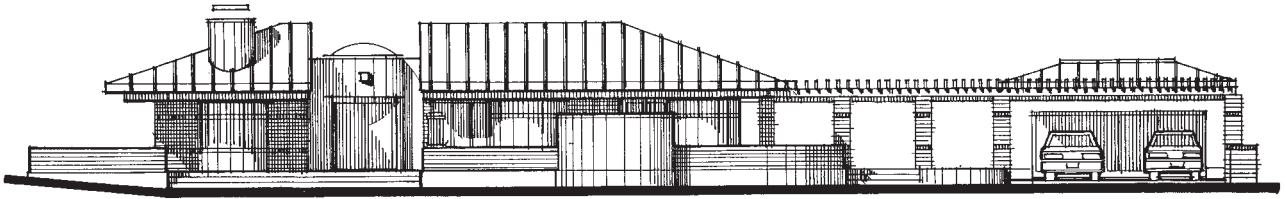


Site Plan

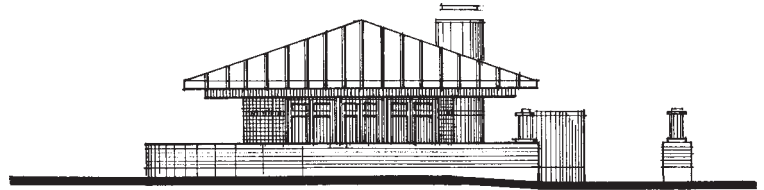


Floor Plans

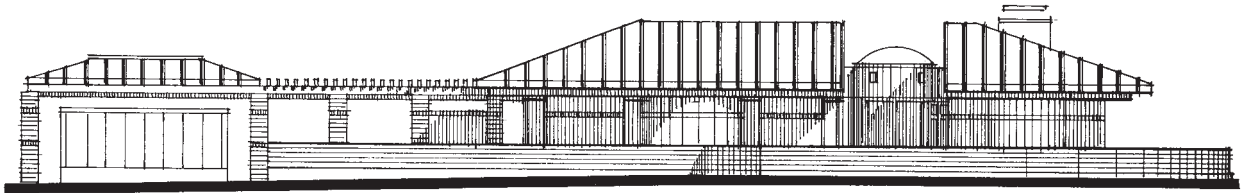
Main Level



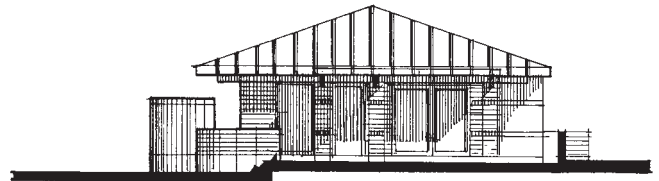
North



East



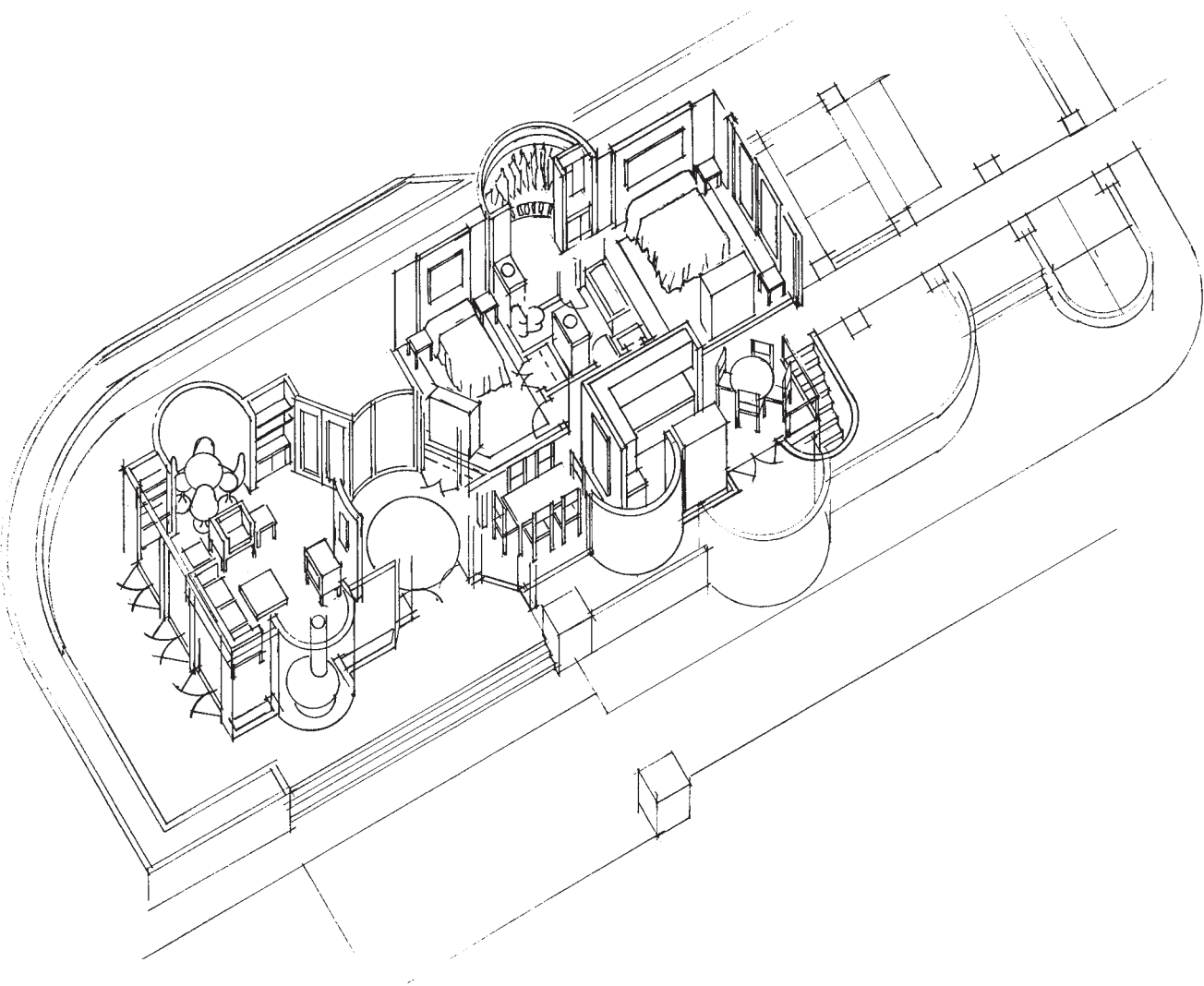
South



West

Elevations

Spacious, Compact Ranch



Axonometric

Versatile Split Level

North Dakota

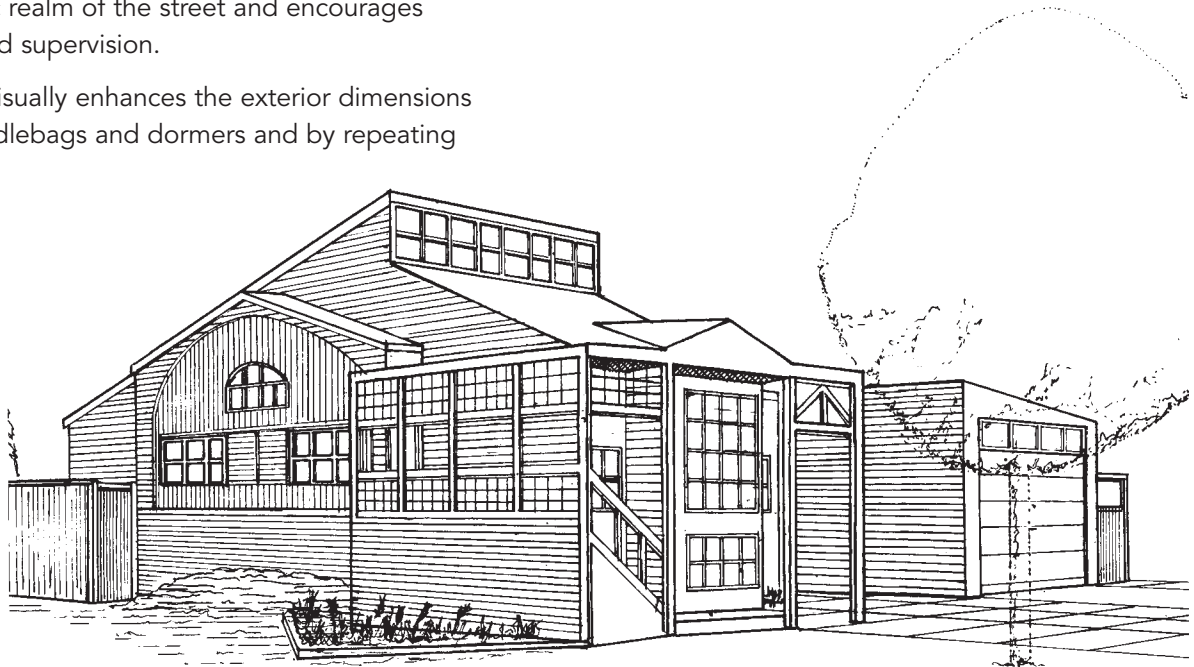
1,250 gross square feet

This small residence includes features for changing lifestyles: a home office with a private entry (which can be used as a third bedroom), and a lower-level interior atrium space for a family theater. The design incorporates privacy gradients and a half-hidden garden, bedrooms with east light, and sheltering roofs. The split-level layout stresses integration with the landscape through the use of a courtyard, focused views, and transitional spaces. A front porch places emphasis on the public realm of the street and encourages neighborhood supervision.

The design visually enhances the exterior dimensions by using saddlebags and dormers and by repeating

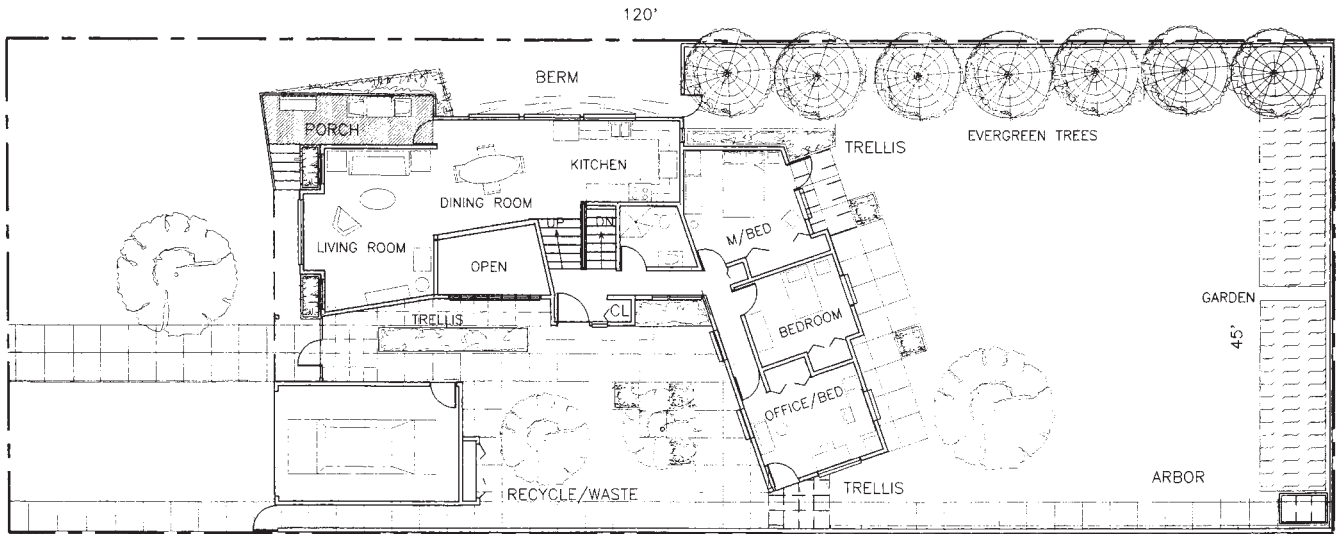
building forms as outbuildings in the landscape. Placing the garage in profile, as seen from the street, minimizes its visual impact and adds to the frontal aspect of the house. Open planning in the living/dining/kitchen, combined with raised ceiling areas, increases the sense of interior space. A central entry and stairway minimize unnecessary circulation.

Daniel L. Faoro

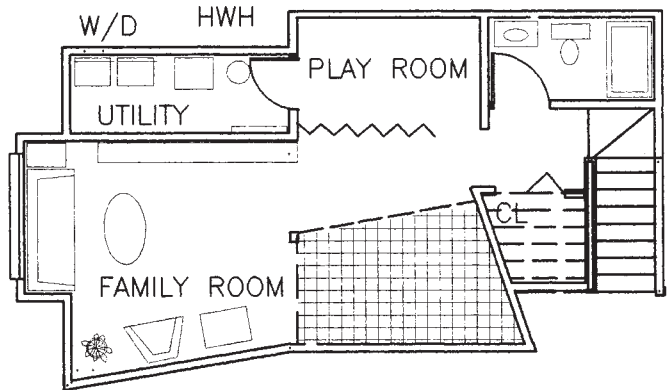


Perspective

Versatile Split Level

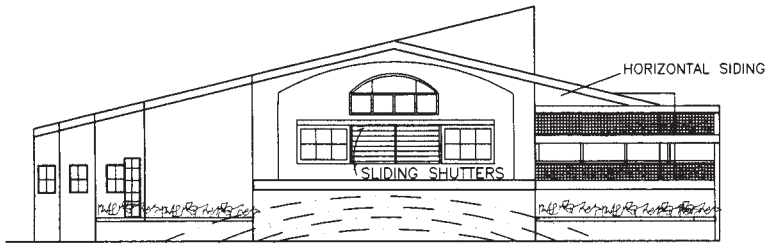


Site and Ground Floor

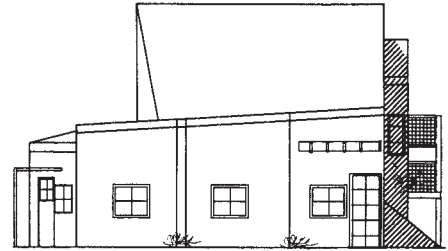


Lower Level

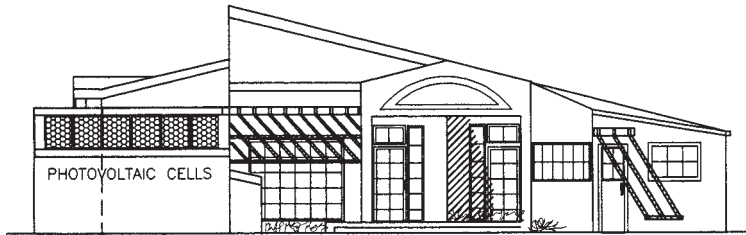
Site and Floor Plans



North



East

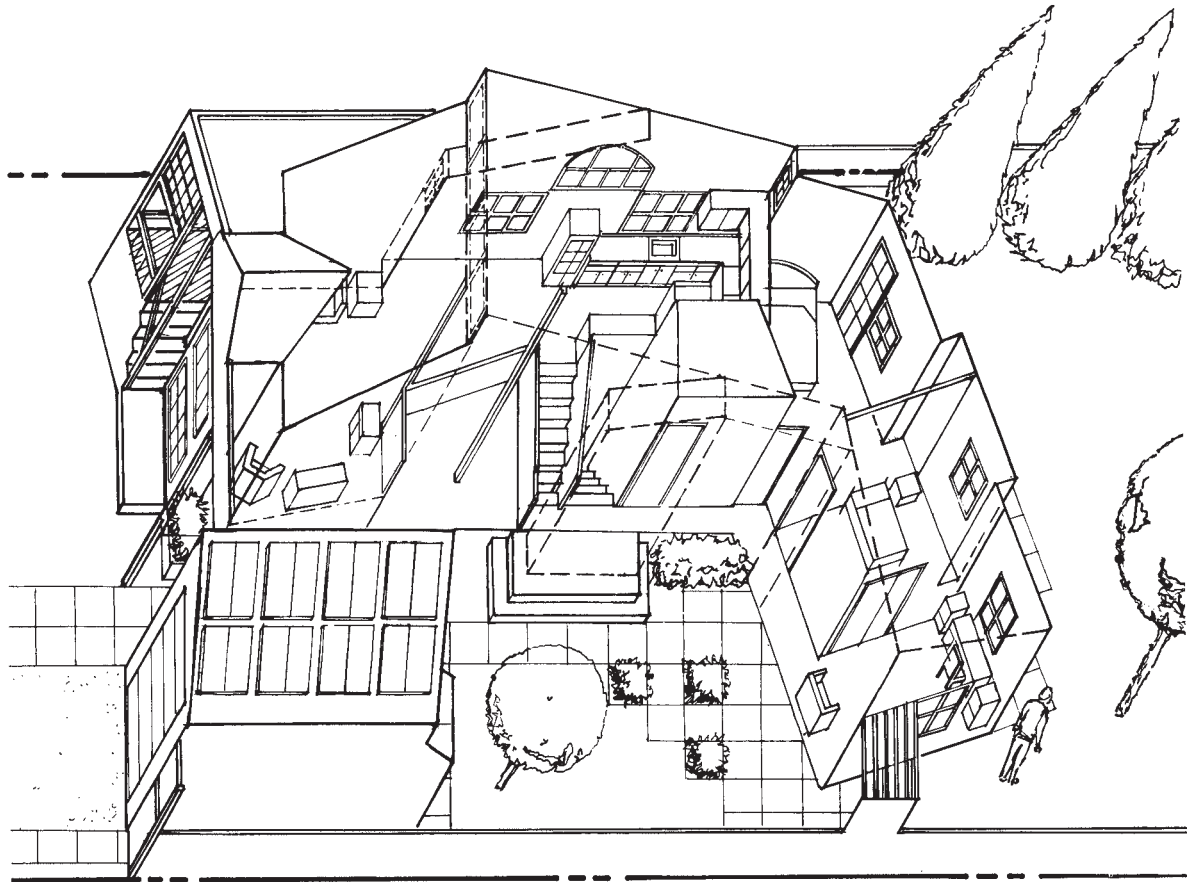


South



West

Versatile Split Level



Axonometric

Family-Oriented Split Level

Central Pennsylvania

1,250 gross square feet

The vertical spatial hierarchy of the open plan is easy to modify with minimal architectural intervention. The living, dining, and kitchen areas and the spaces around the central staircase collectively form one large continuum that permits multiple uses. The covered deck and the walk-up attic also provide additional living space for the future. The articulated spaces create a visually connected and dramatic interior environment—both horizontally and vertically—especially for children.

This particular design takes advantage of a 5-foot drop toward the middle of the site, but can be easily modified to effectively accommodate a half-raised or walkout basement on a flat site. The covered deck or terrace, which overlooks a picturesque park across the street, provides a safe play area for children and can be either screened or left open.

The design addresses energy savings and environmental concerns primarily through orientation, with the majority of the windows facing southeast or southwest. Insulation and proper ventilation devices help to create an energy-efficient home.

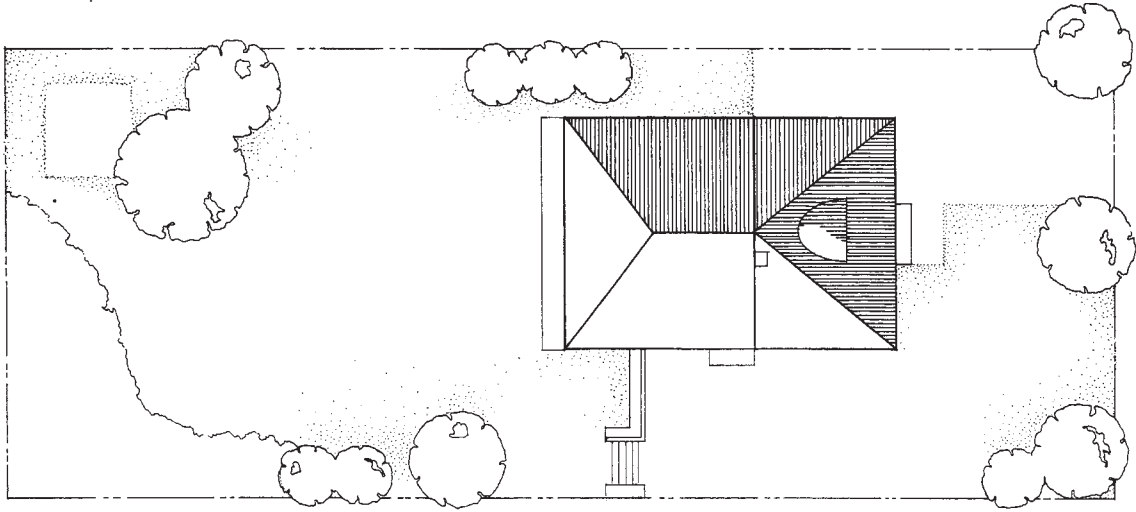
Jawaid Haider and Talat Azhar



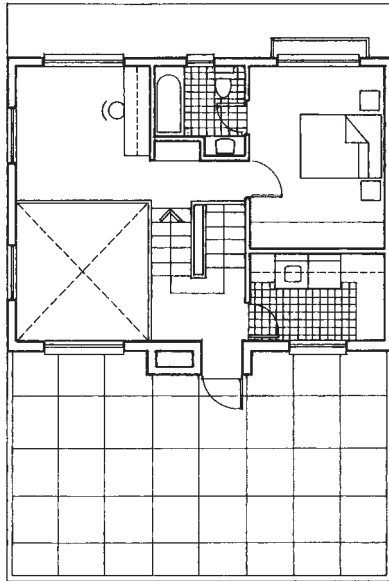
Perspective

Family-Oriented Split Level

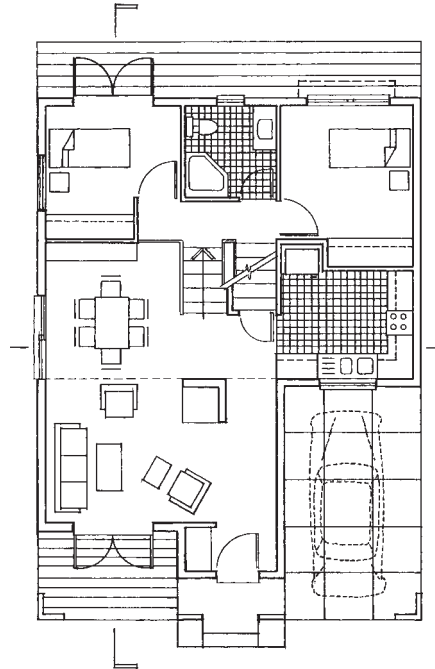
Site Plan



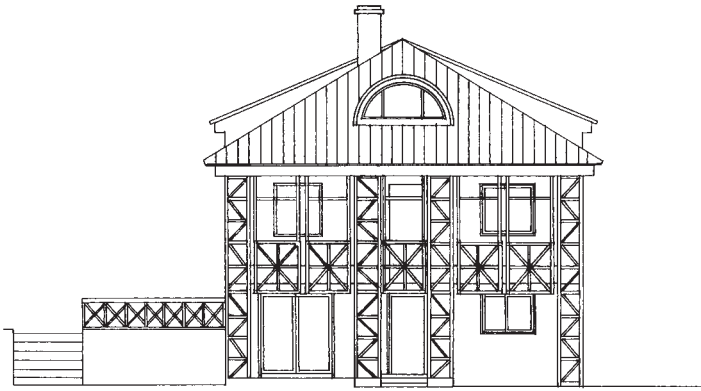
Floor Plans



Levels 1 and 2



Levels 3 and 4



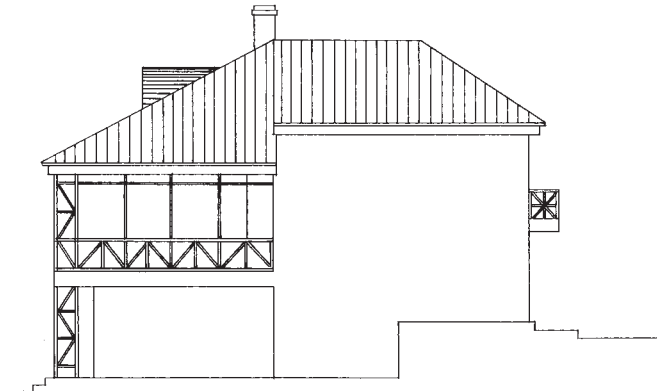
Northeast



Southwest

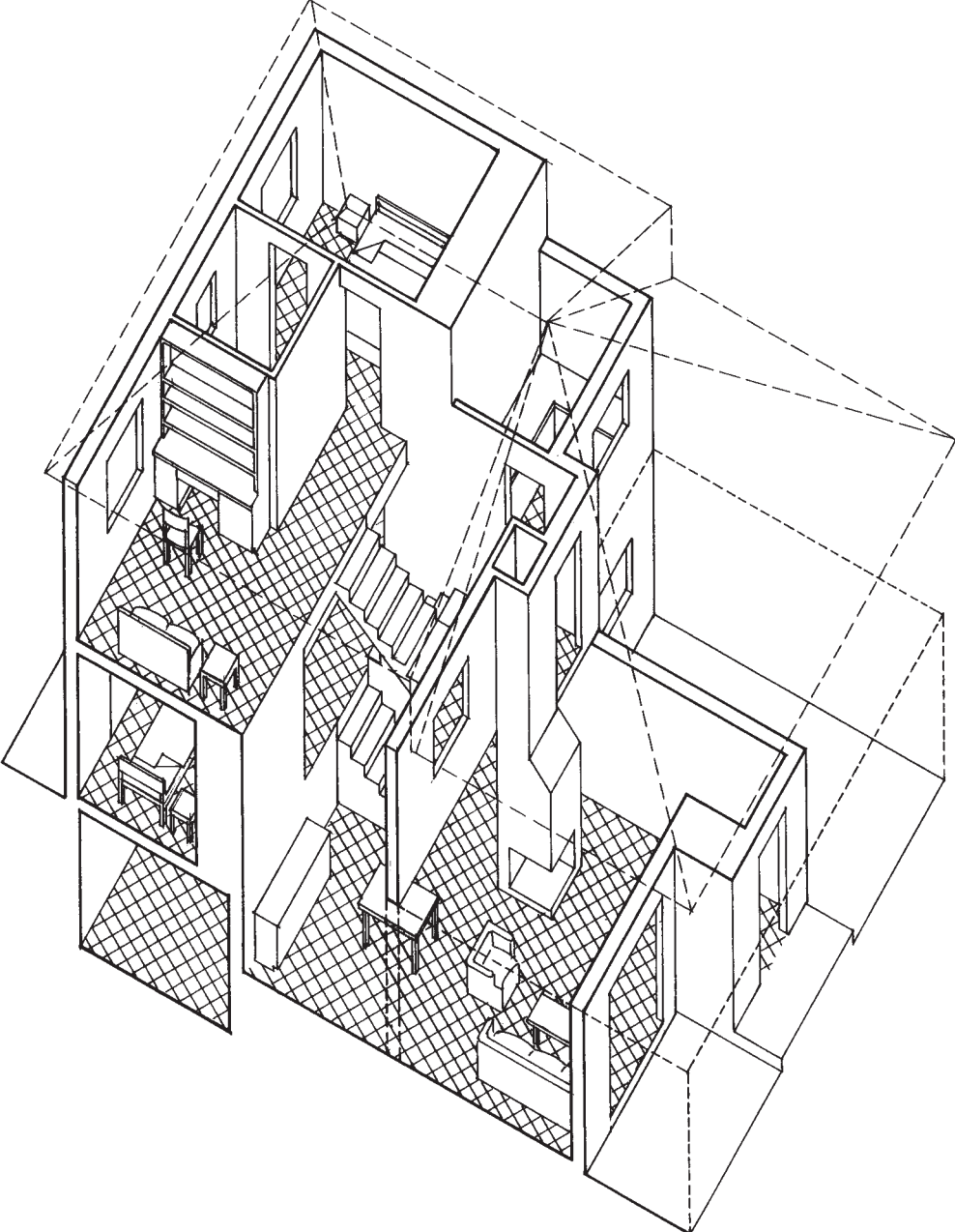


Southeast



Northwest

Family-Oriented Split Level



Axonometric

Solar, Modular Prefab

Anywhere, U.S.A.

1,248 gross square feet

This design consists of a small prefab modular house with integrated passive solar heating, solar power, and solar hot water, thereby allowing homeowners to reduce the amount of income spent on basic shelter. The prefab house is versatile, offering the owners and builders elevation, material, and plan variations to produce a “custom” house.

The concept arranges four modules, each 13 x 24 feet, so as to capture a basement (12 x 23 feet) and a passive solar sunroom (13 x 18 feet), the latter featuring a prefab greenhouse that closes the southernmost wall. Metal module trusses (floor joist, studs, and roof rafters screwed together) slide into and bolt into two 24-foot-long metal channel beams with sleeves at 24 inches on center. The builders add metal blocking, plate straps, and so on, before attaching

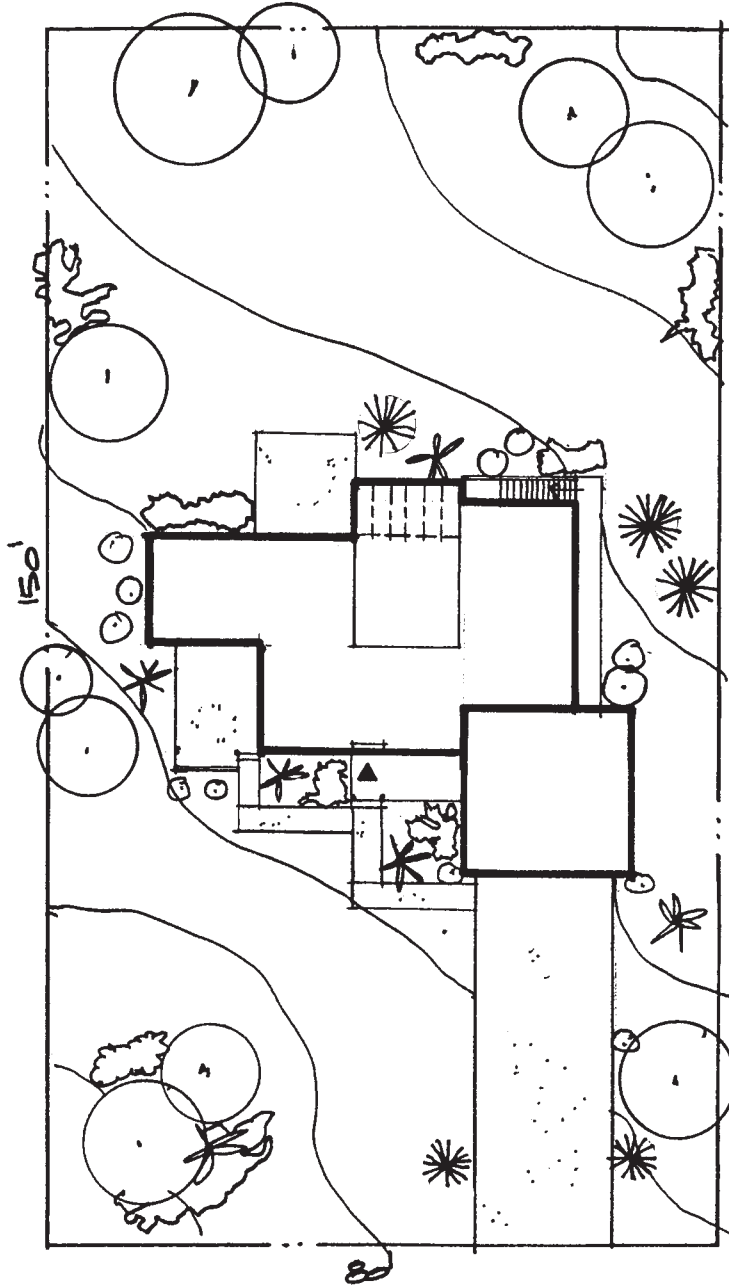
plywood sheathing, windows, and exterior materials.

The finished modules, set by crane and sealed, anchor the site-built garage and patio covers. The insulated thermal-mass slab, combined with built-in sliding window insulation work, delays temperature fluctuation and reduces the need for air conditioning.

Bruce Shindelus

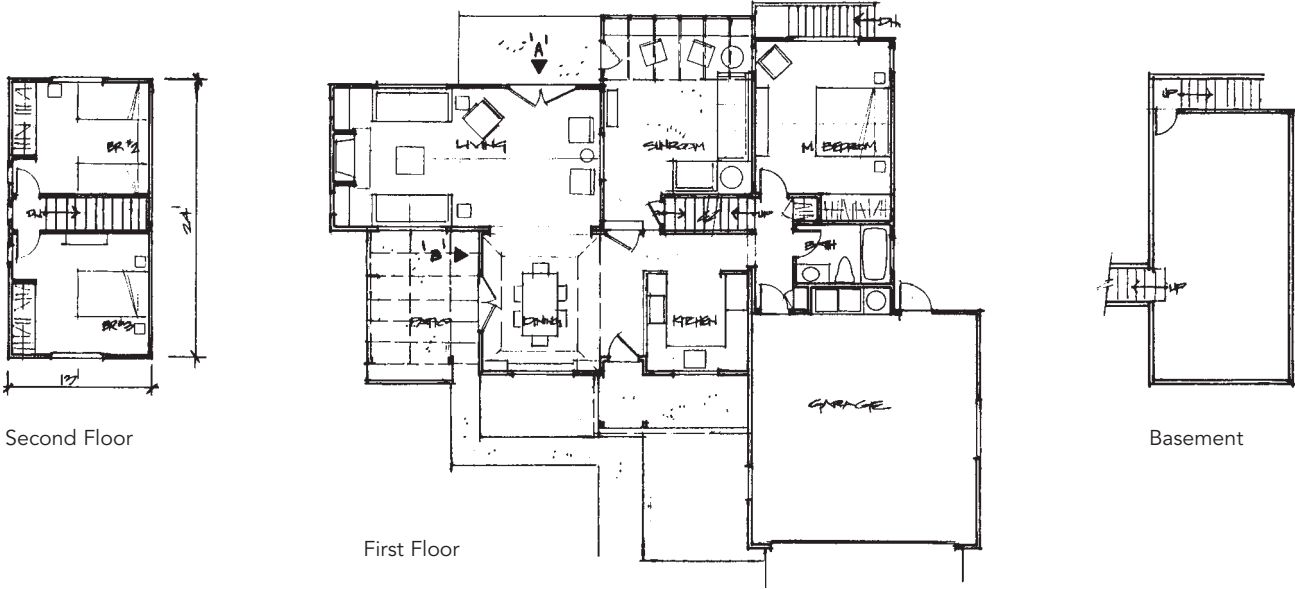


Perspective

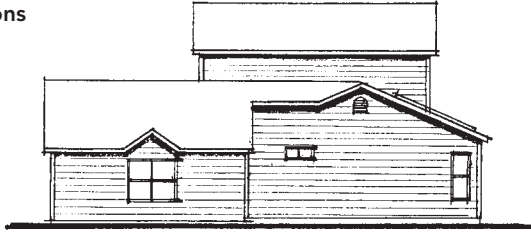


Site Plan

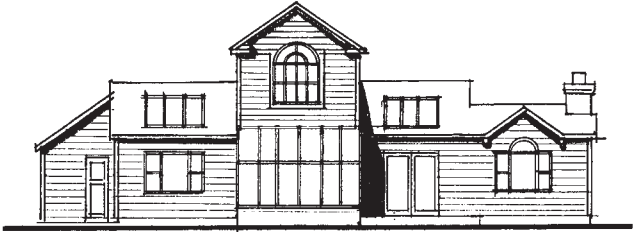
Floor Plans



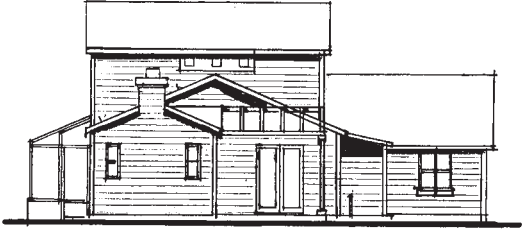
Elevations



West



South



East



North

Underground Earth Home

Adirondack Park, New York

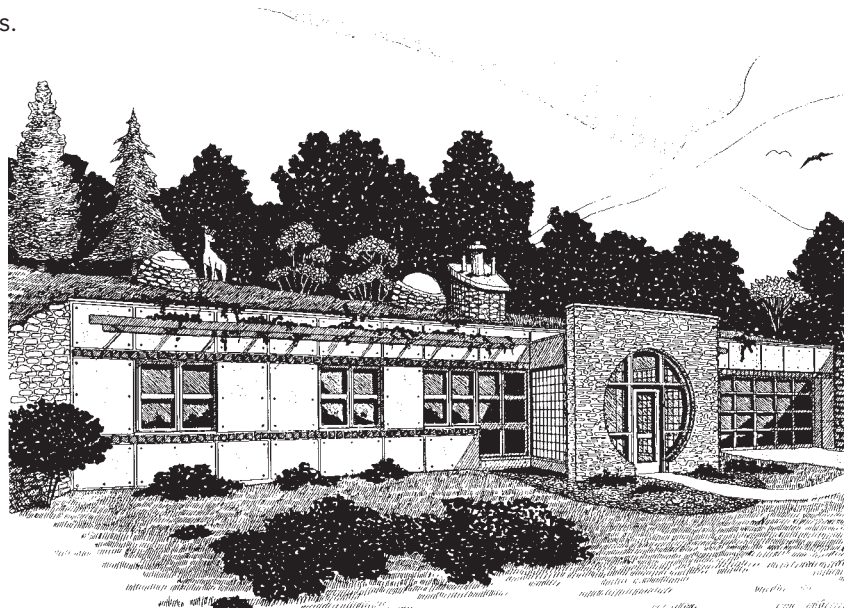
1,250 gross square feet

The architects' ideas translated into an exposed concrete facade with rusticated joints, rough wood-grain patterns, and exposed form-ties. An accent band of earth-toned ceramic tiles above and below the windows and a custom redwood sun-screen add color and depth to the facade. Natural Adirondack bluestone, available on site, is incorporated in the design facade, at the retaining wing walls, in the monitor projections through the earth roof, and as an accent at the vestibule wall with the circular door opening.

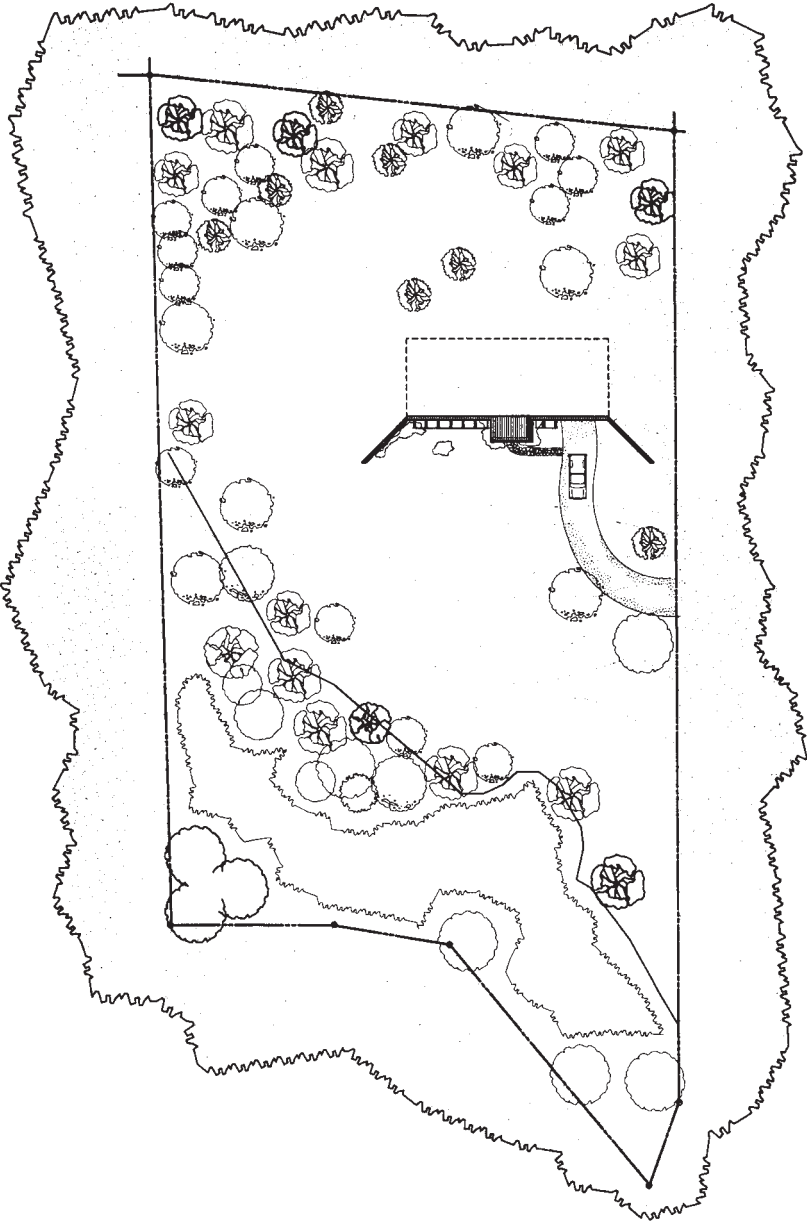
The southern exposure of this facade illuminates the interior through large expanses of glass. The windows allow light to enter deep within the building, eliminating the impression of an uninviting hole and creating a warm, sunlit home. The sunscreen is designed to shade the harsh summer sun while welcoming the winter's rays.

Another design feature is a central chimney structure that contains the flue for the Russian fireplace as well as plumbing, kitchen, and mechanical penetrations. We also incorporated the intake and exhaust air from the air-to-air heat exchanger that was required for improved indoor air quality. Conceived in an effort to reduce roof penetrations, this chimney and its symbolic heat source, and the adjacent skylight monitors, illuminate the darker areas of the "underground den" while punctuating the unsuspecting south-facing slope in the Adirondack Mountains.

Synthesis Architects

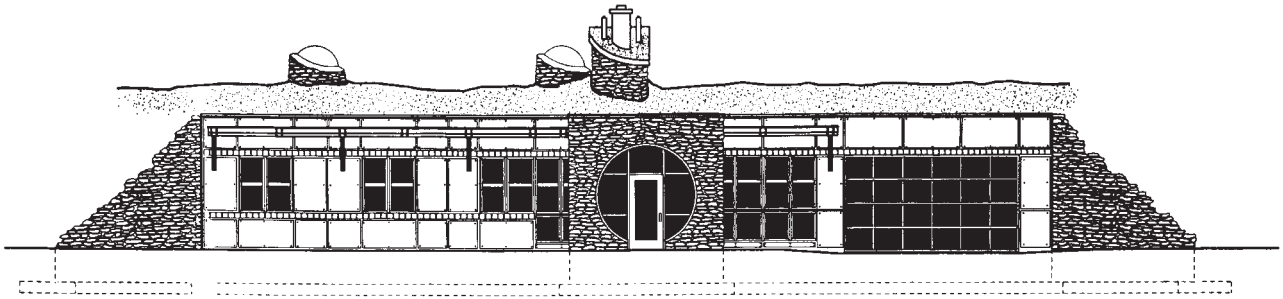


Perspective

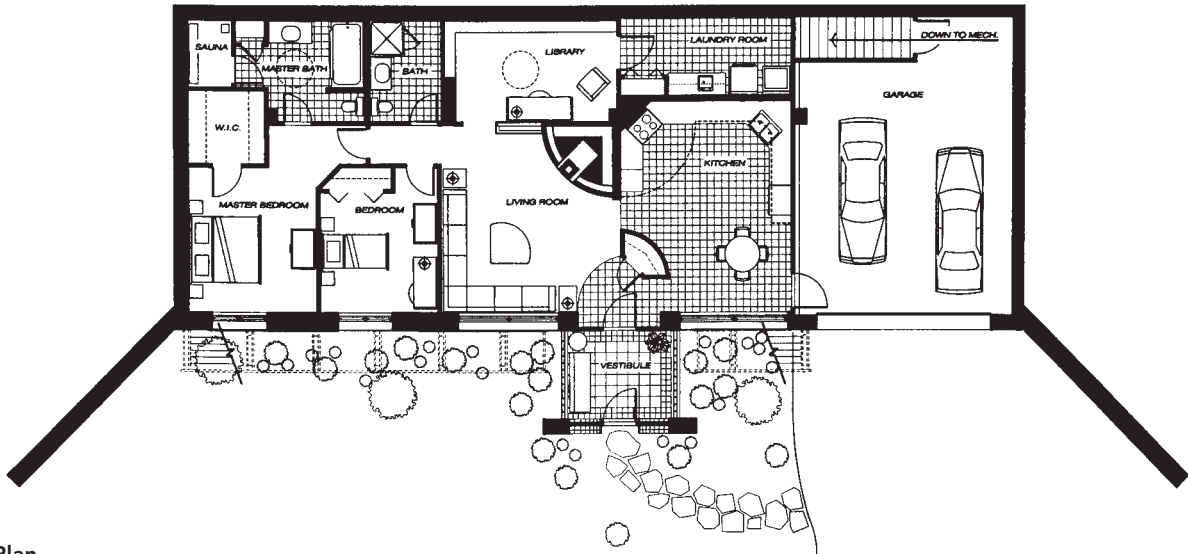


Site Plan

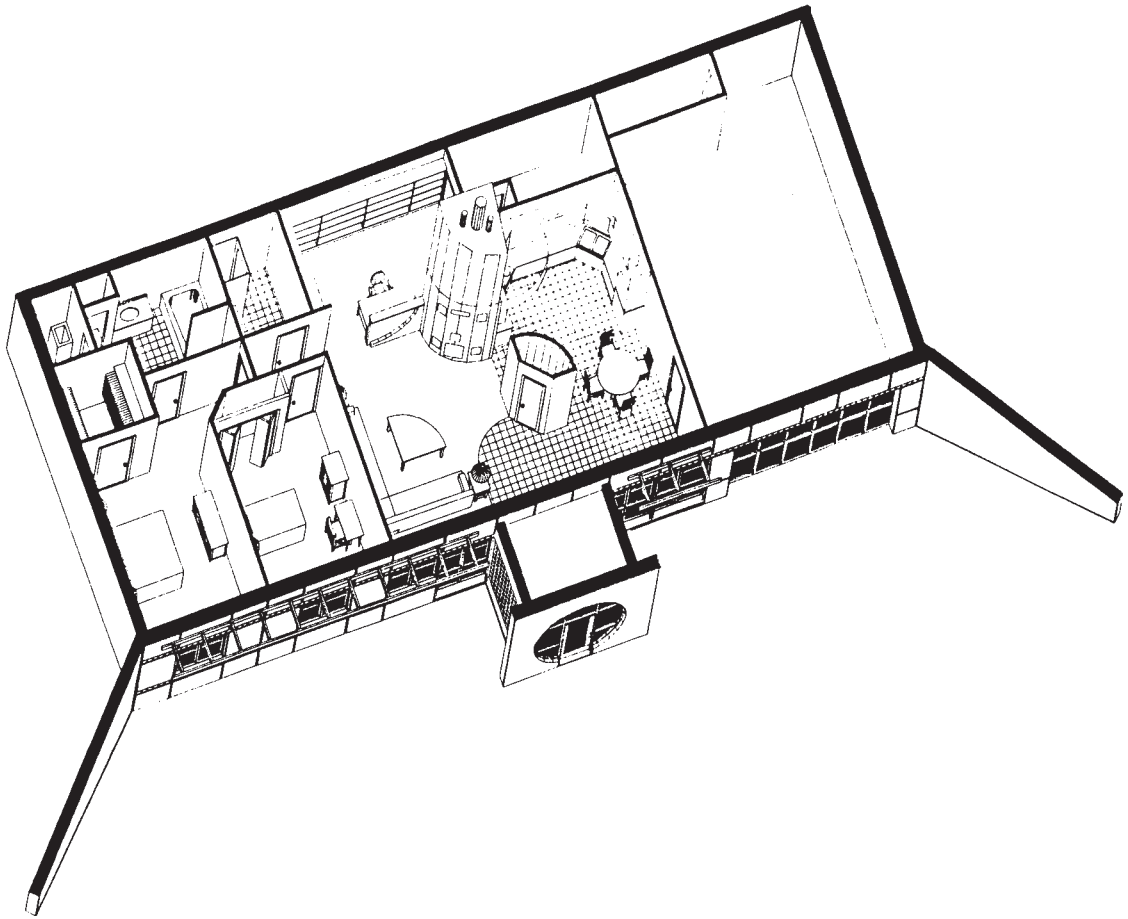
Underground Earth Home



South Elevation



Floor Plan



Cozy Vermont Cabin

Vermont

1,124 gross square feet

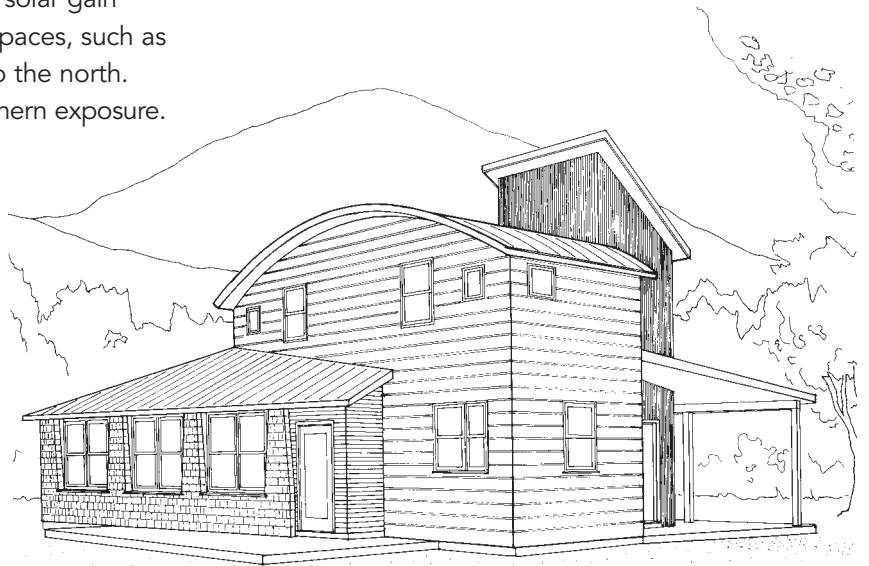
Given a hypothetical site in Vermont, the most energy- and cost-saving design strategy is to build a highly insulating shell. A continuous air/vapor barrier increases heat retention, prevents drafts, and creates an environment where air quality can be controlled. A fan draws fresh air into second-floor closets, where it interflows with ambient air to reduce cold drafts before being ducted into bedrooms and living spaces. Fans in kitchen and bathroom provide air exhaust. The system maintains slight positive air pressure, which helps keep external toxins out of the home environment.

The plan of the home provides optimum solar gain and generous daylight. Low-occupancy spaces, such as the stair, mudroom, and bathroom, are to the north. All living spaces and bedrooms have southern exposure.

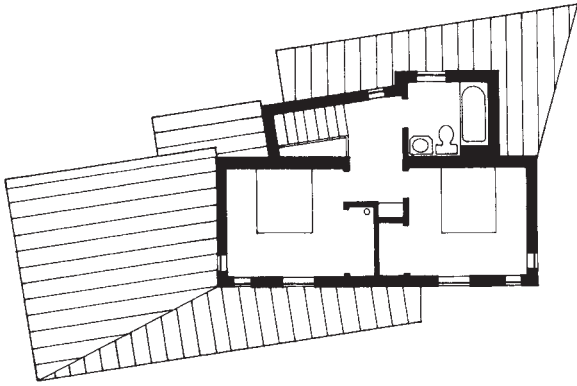
The living room, with its concrete slab floor, angles slightly to the east, to benefit from early-morning solar gain and to reduce overheating in the afternoons.

Firewood is a readily available, inexpensive, local, renewable source of fuel in Vermont. Superinsulation makes it possible to heat this house throughout most of the year with a small wood stove. The stair, serving as a plenum, and the fresh-air system move the heated air throughout the building. This convective space planning requires only a single, high-output, backup space heater.

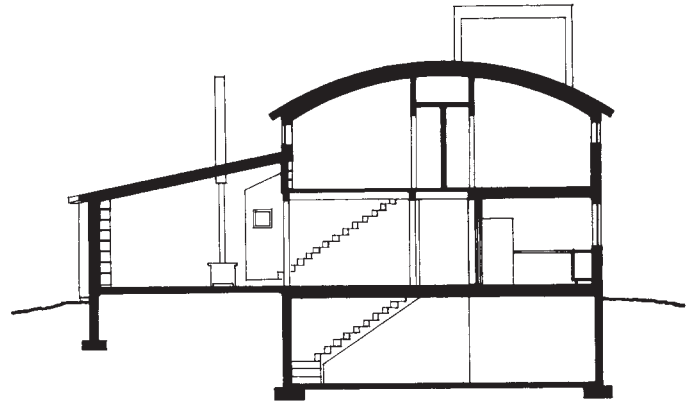
Terra Firma



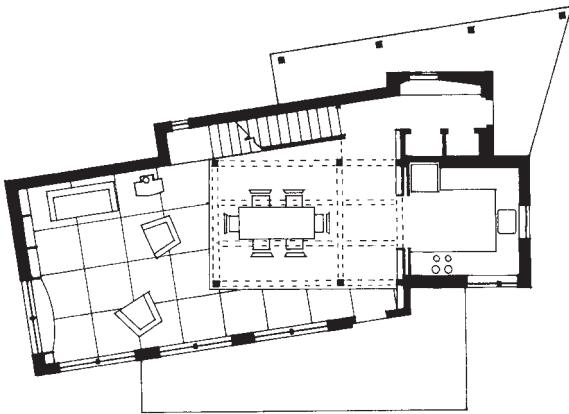
Perspective



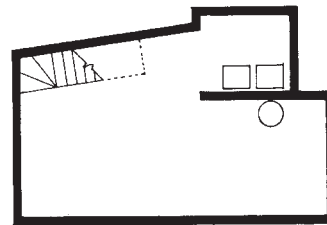
Second Floor



Section

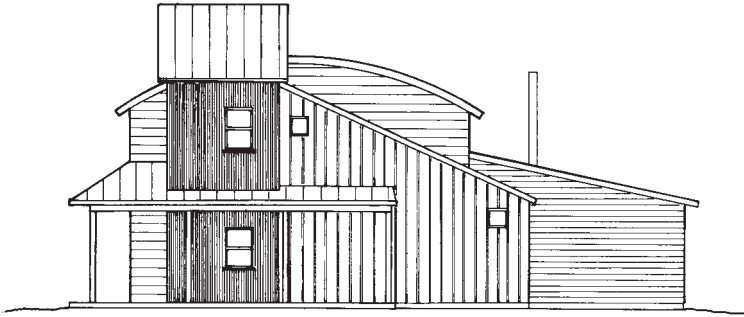


First Floor

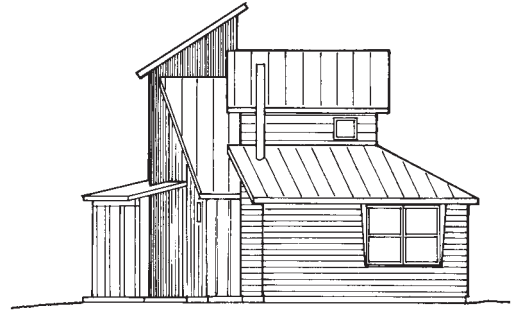


Basement

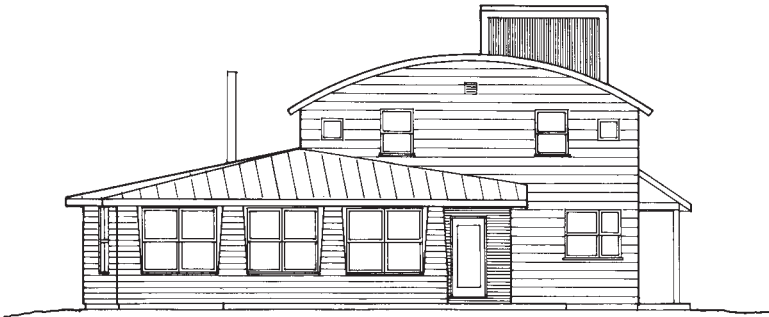
Cozy Vermont Cabin



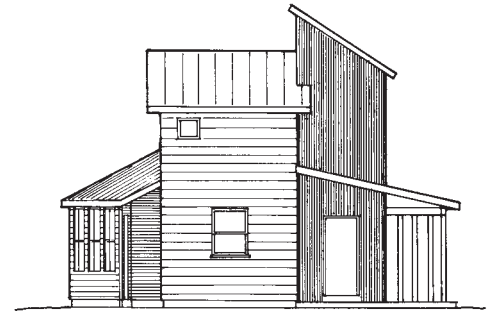
North



West

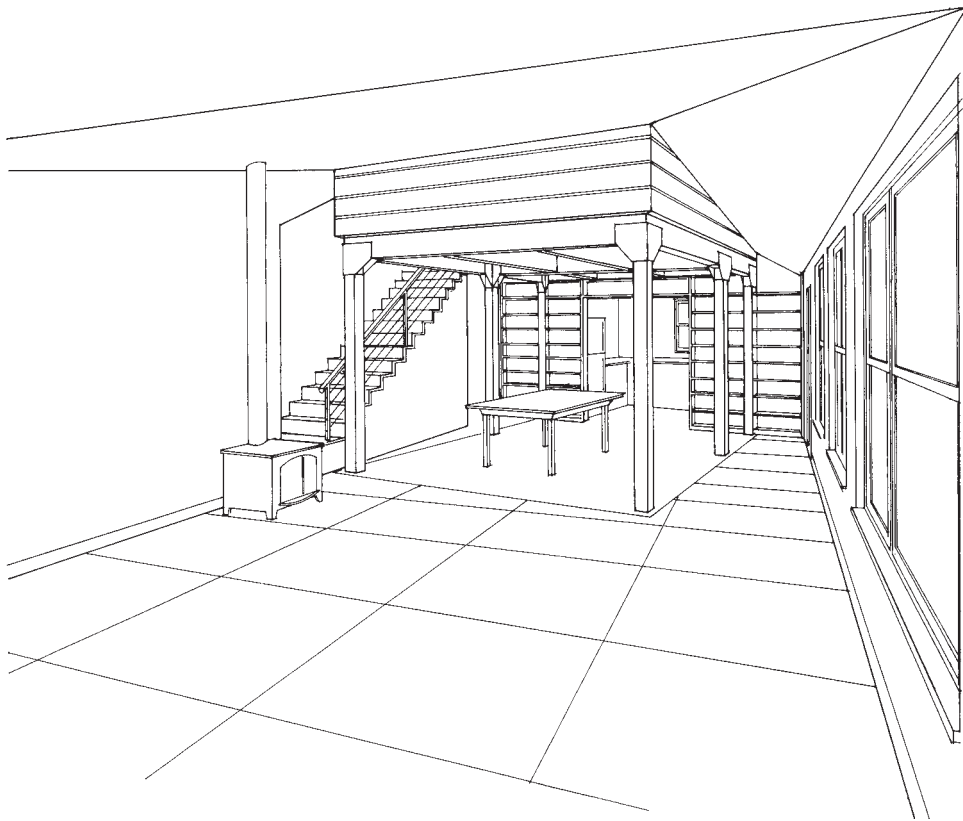


South



East

Elevations



Elegant Urban Fortress

London, England

1,250 gross square feet

Completing a new street facade, the house answers the challenge of the aggressive road on which it sits by enfolding its occupants in a protective layer of books, buffering them from the inner-city noise outside. The south side is a stepped bookcase, or bookstep, forming a tiered living area that encourages appropriation (with sofa, work surface, etc.). On the north, the house grows toward the fresher air and quieter environment of Hoxton Square.

Climbing from the street up a flight of exposed and weathered Corten steel steps, one enters the body of the house. Concrete structural spines, which announce the route through the house as well as its eventual destination, act as plumb lines gauging the eccentricities of the site—a measuring device. The smaller interior rooms are lightly held by the larger stepped space of the bookcase room. The interior gently unfolds ahead: one

inhabits, accumulates, mediates; rising at last to the perch, the widest shelf at the highest point of the bookcase room.

The house fractures away from its boundary to allow light to penetrate deep into the interior, and a rectangular light scoop lined with etched glass pierces the roof so that light runs down alongside the service core and top bedroom.

Megan Williams

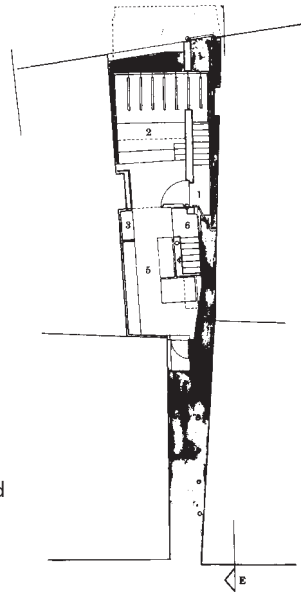


Perspective



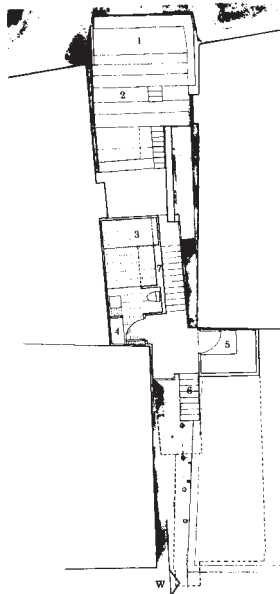
Ground Level

- 1 Stairs to Entrance
- 2 Garden
- 3 Air Reservoir
- 4 Route to Rear Slot/
Air Reservoir



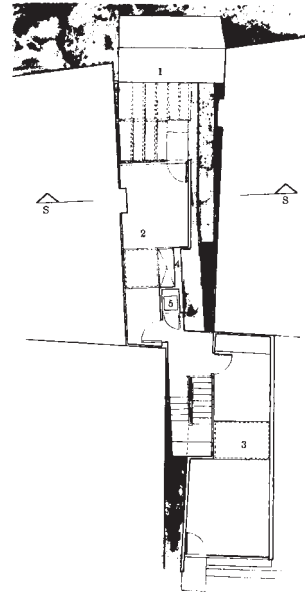
Level 1

- 1 Entrance Landing
- 2 Booksteps
- 3 Visitors Cupboard
- 4 Services
- 5 Kitchen
- 6 Stairs to Level 2



Level 2

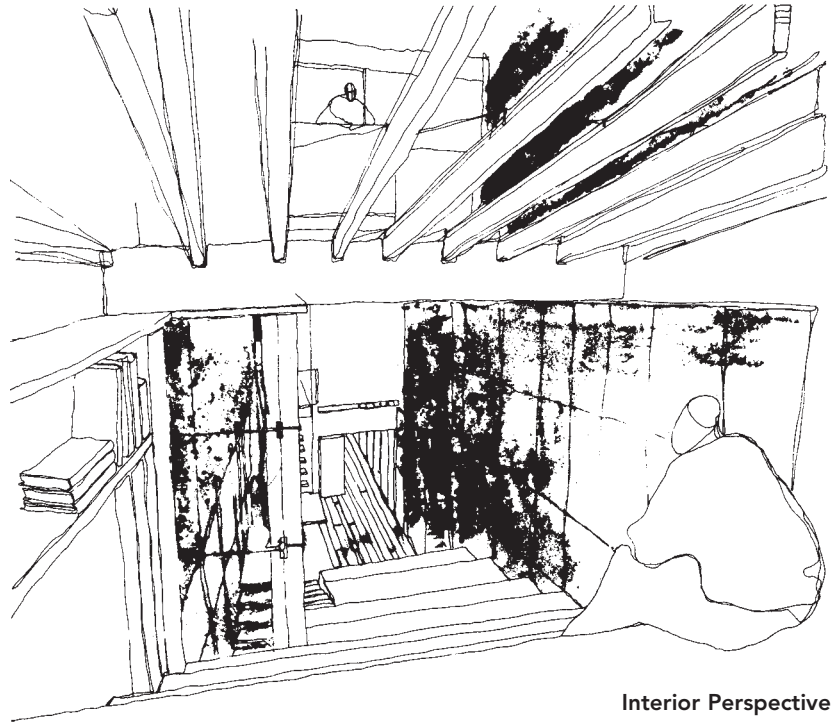
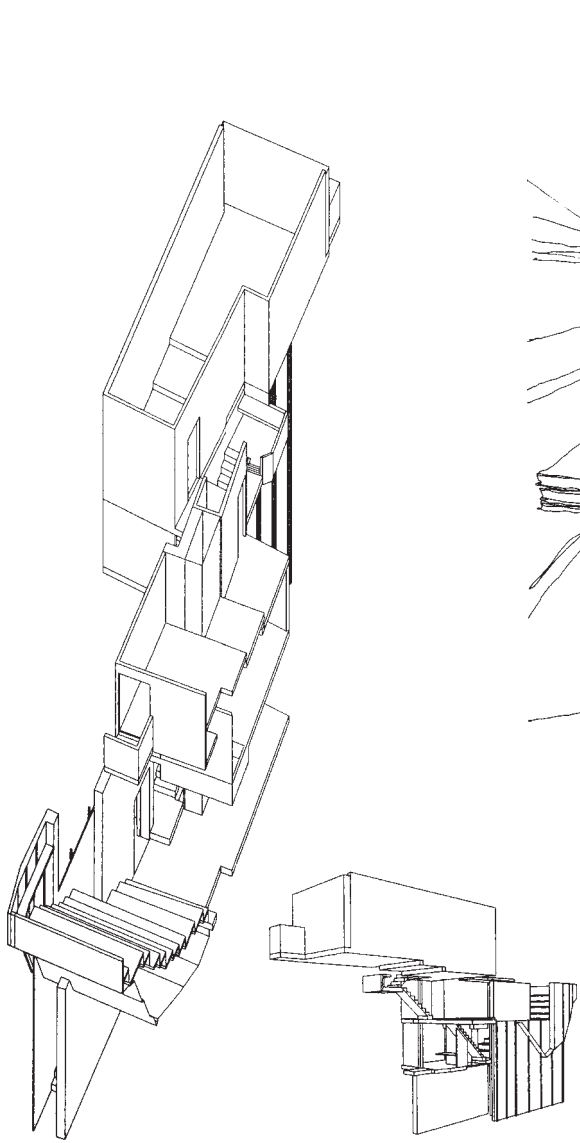
- 1 Perch
- 2 Booksteps
- 3 Wetroom
- 4 Linen
- 5 Storage
- 6 Stairs to Level 3
- 7 Services



Level 3

- 1 Roof
- 2 Bedroom
- 3 Bedroom
- 4 Services
- 5 Washing

Floor Plans



Interior Perspective

Axonometrics

Zen Temple

Japan

1,200 gross square feet

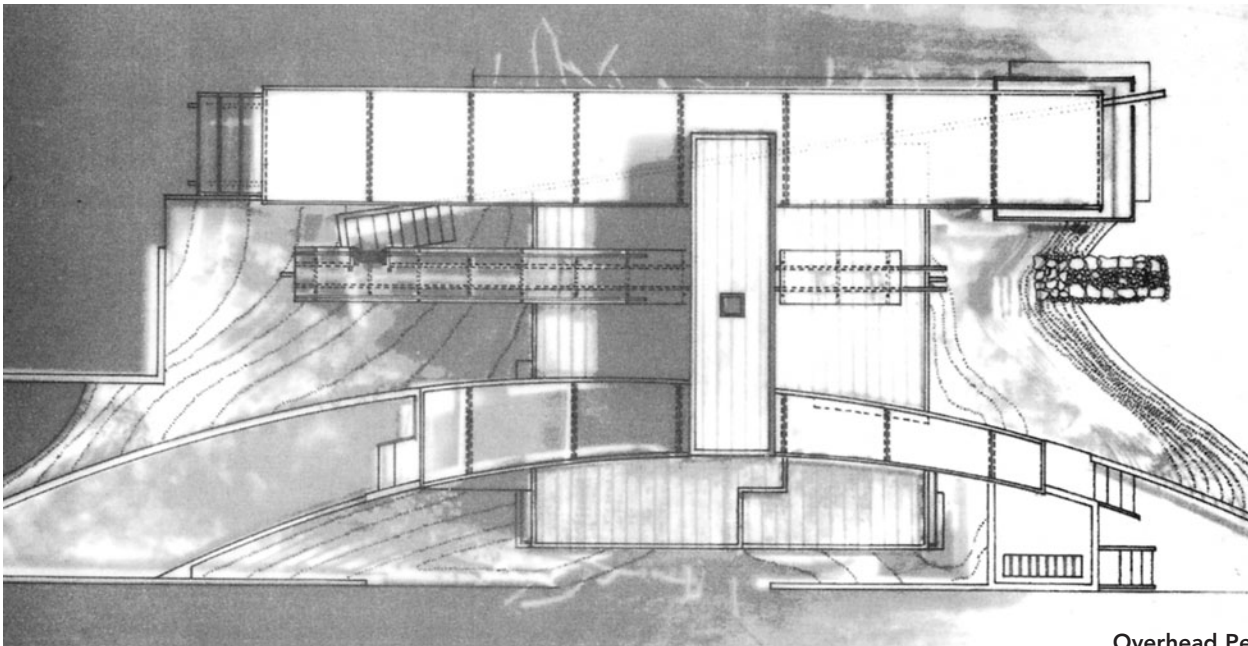
Every surface appears to be fading away in this design, leaving behind a world of silence and a feeling of utter solitude. A chilly grayness lies at the innermost heart of Japanese space. In the smoky light that pervades a Zen temple or tiny tea house, the human eye is engaged indirectly as if by stealth.

These whitened and emptied qualities of light must have been created by and for a human spirit ready to go beyond the outer aspects of things, and beyond a

reality aimed to satisfy vision. Their tones express a taste for something deeper and more mysterious than traditional housing.

The structure is cable and steel. The roof is a galvanized steel sheet, and the flooring is of Japanese cedar and oak as well as exposed concrete. Landscaping includes gravel, a pond, bamboo, and maple trees.

Hideyuki Takita

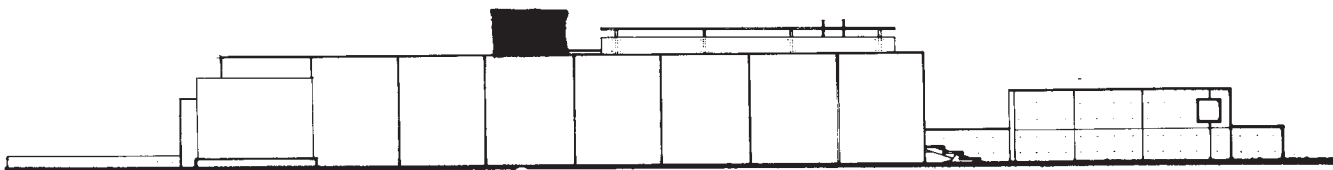


Overhead Perspective

Zen Temple



South



North

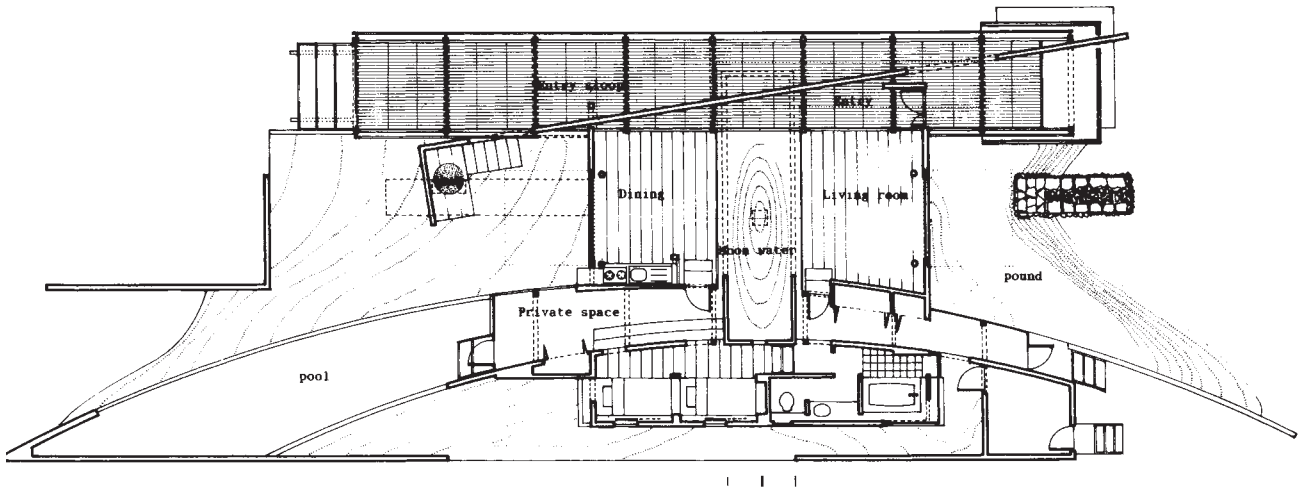


West

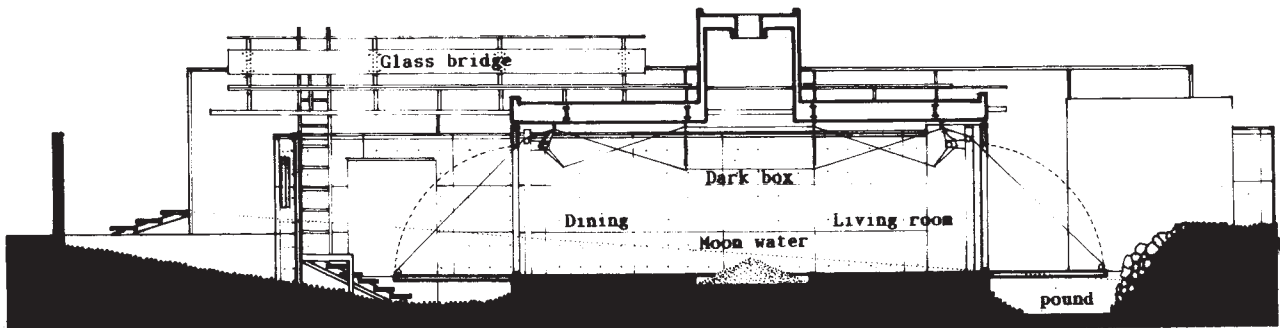


East

Elevations



Floor Plan



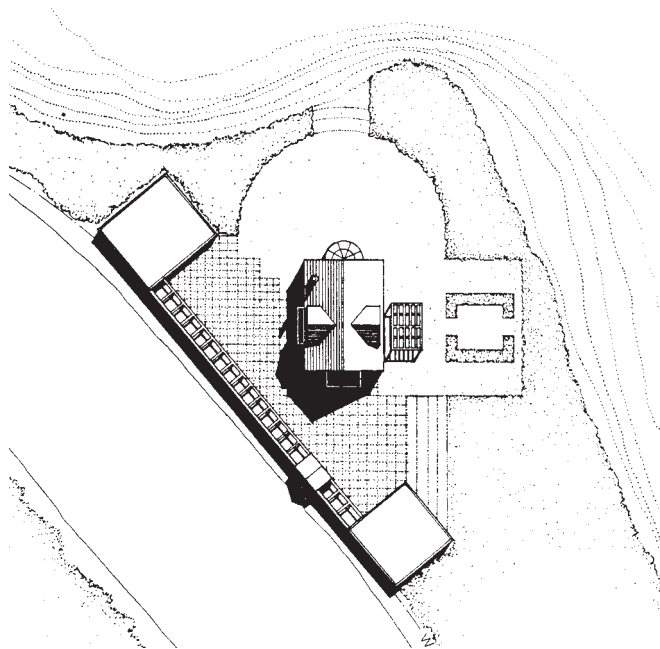
Section

Meditative Lakeside Retreat

Covert, New York

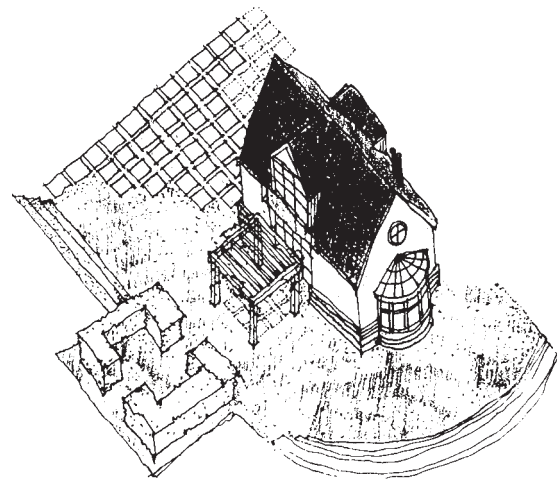
1,000 gross square feet

Here we chose to collage two typical forms: garden wall and sacred object building. Due to the tight, delicate site conditions, we kept the house modestly scaled, and placed the non-heated services against the wall. This provides a buffer to road noise and cold northern winds, and serves as a backdrop/foreground to the chapel, through containment of the outbuilding functions: potting shed, entry portal, wood storage loggia, and carport. It is deformed to accept changes in elevation and function.

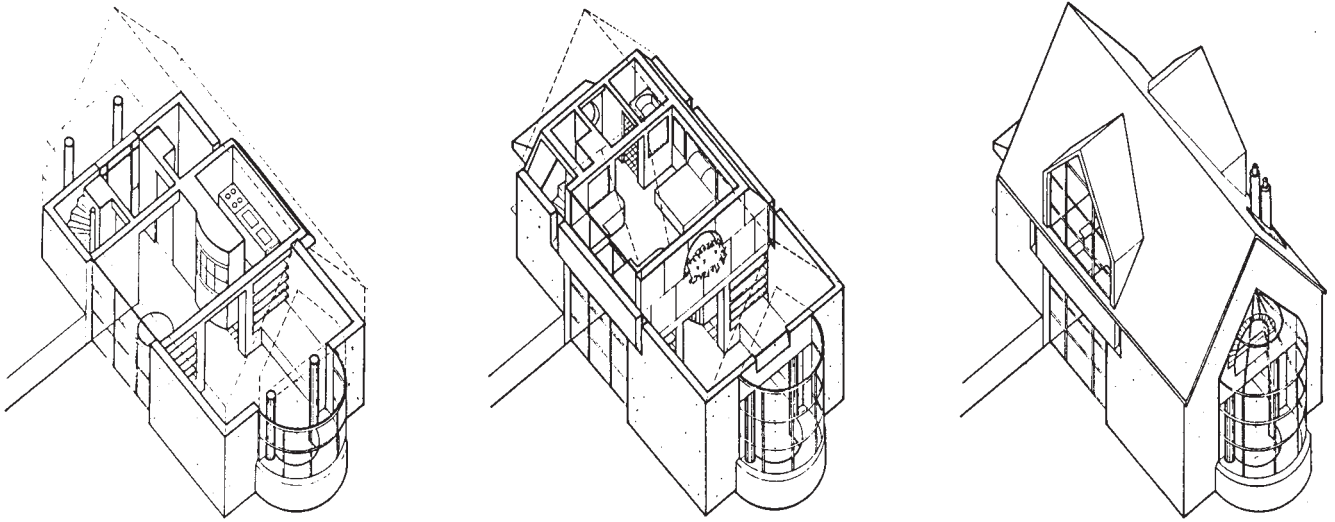


The object building contains living accommodation, and heightens the contemplative introversion fostered by the wall, cliff edge, and woods. Each side of the pure volume is uniquely deformed due to internal considerations, and to focus on a particular aspect of its relation to landscape and wall: the wooden porch accepts entry courtyard; the wooden kitchen saddlebag addresses wall and evening sitting terrace; the glass dining area and bedroom dormer open southward to the garden; and the glass apse finds culmination in the distant view.

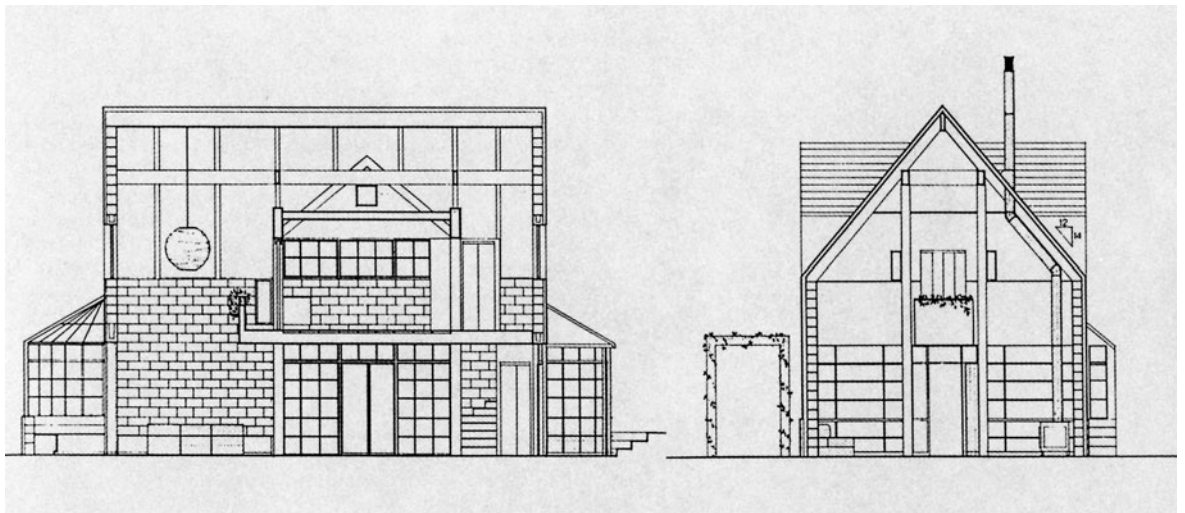
Lee B. Temple



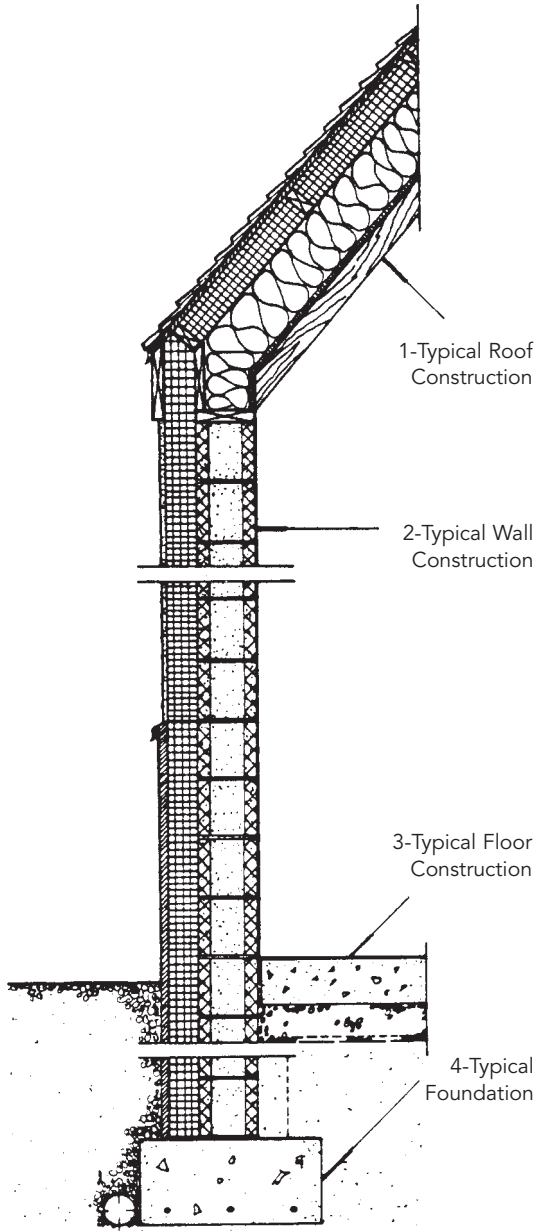
Site Plan



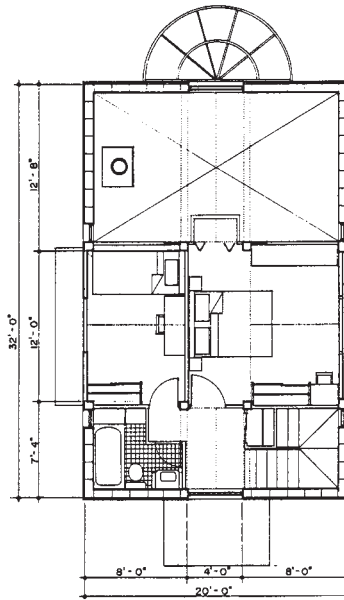
Perspectives



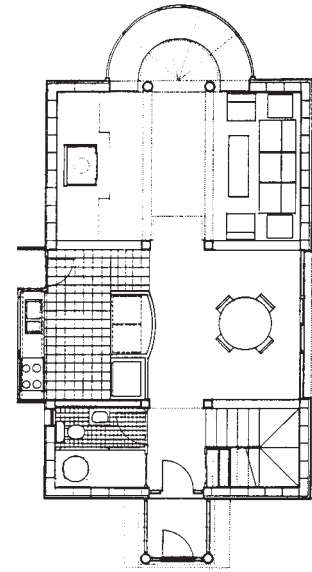
Elevations



Wall Section



Floor Plan



1-Typical Roof Construction

Asphalt shingles over 1/2" plywood over 4" foam and 2 x 4 sleepers over vapor barrier over 8" fiberglass and 4 x 10 rafters over 1/2" plywood R = 32

2-Typical Wall Construction

1/2" stucco over metal lathe attached to 8" CMU thru 4" rigid foam insulation and vapor barrier R = 24

3/4" Pressure Treated board over 4" rigid foam insulation over vapor barrier over 8" CMU

3-Typical Floor Construction

6" conc. slab on grade over vapor barrier over 5" gravel

4-Typical Foundation

1' x 2' conc. footing poured in place/reinforcing bars, 4" drain tile

Neighborhood Privacy

Redwood City, California

1,000 gross square feet

Project Assumption

To provide an affordable compact house for middle-income buyers in a suburban housing development.

Approaches

Increased density to reduce cost of land per dwelling.

Use of mini-clusters to give more visual interest and mass to small units. Common open space created and number of curb cuts minimized.

Strongly defined streetscape created by assembling mini-clusters in manner to avoid monotonous rows of small detached units common to many subdivisions.

Architectural design based on most desired housing vernacular determined by market surveys.

Plan simplified by variation of space provided. Bedroom-bath areas separated for guests or shared use of home.

Maximum use of insulated exterior walls and roof for energy conservation.

Use of conventional wood construction.

Group-maintained, drought-free landscaping to reduce maintenance work for owners.

Owner-maintained patio provided at each unit.

Special Features and Advantages

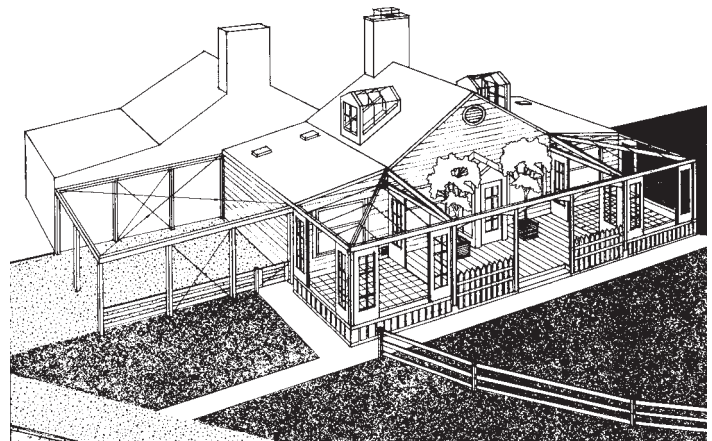
Site is well drained non-agricultural land in area occupied by single-family dwellings.

Site has little initial visual interest. Landscaping, mounding, and street pattern are used to enhance views and create sheltered areas.

Higher sloping roof pitch over living areas and vent allow escape of warm air in summer. Heat recycled in winter by fan and duct from ceiling to floor at living area.

Parts of patio convert into multi-exposure solar greenhouses for passive solar design.

David Leash

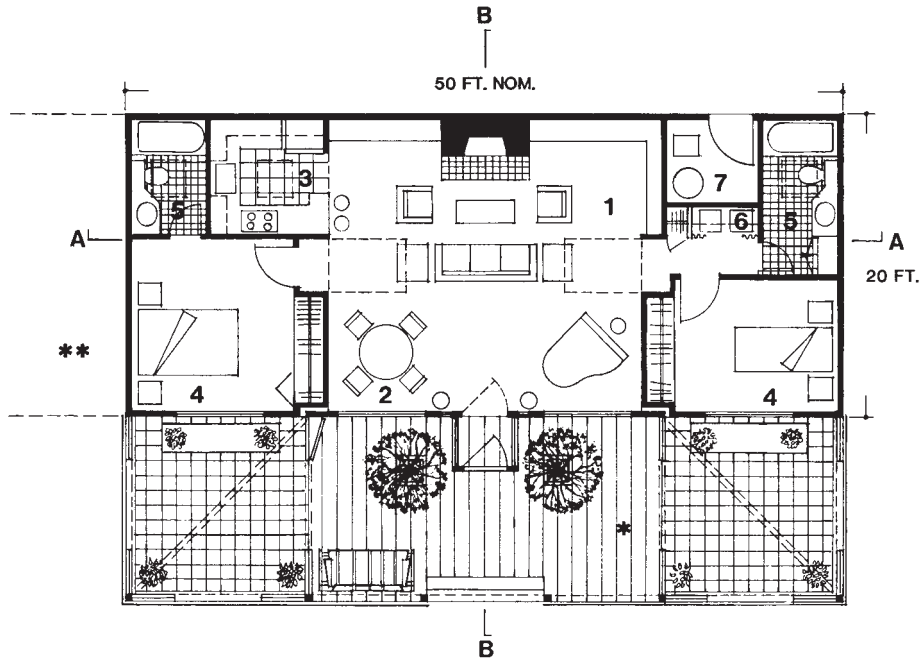


Perspective

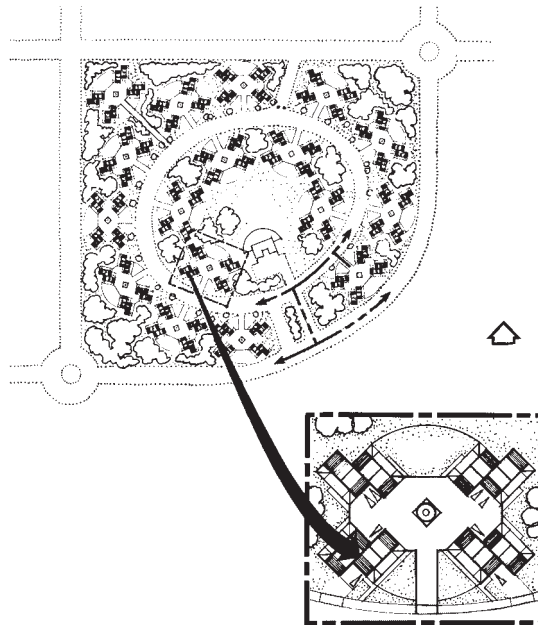
Neighborhood Privacy

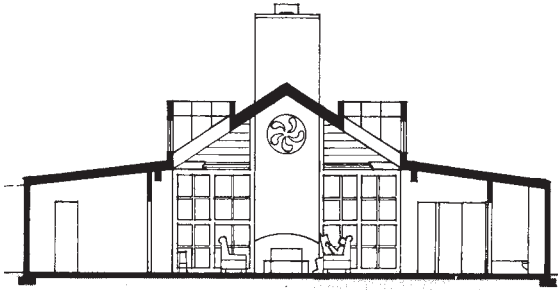
Floor Plan

- 1 Living Area
- 2 Dining Area
- 3 Kitchen
- 4 Bedrooms
- 5 Baths
- 6 Laundry
- 7 Mech/Storage

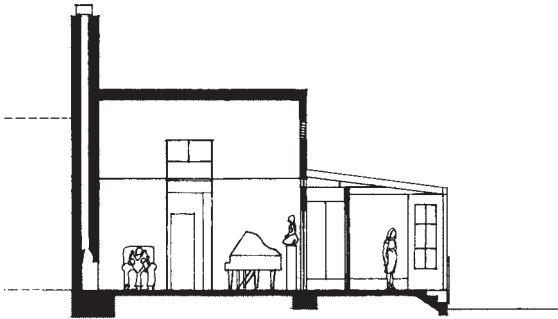


Site Plan

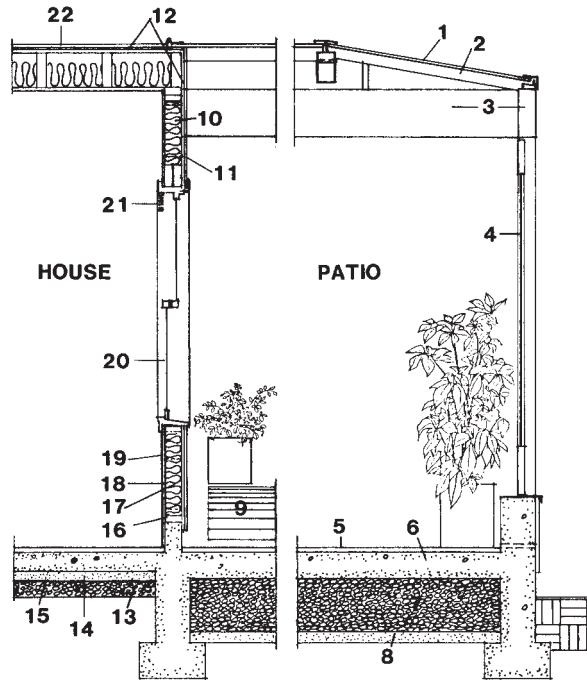




AA



BB



Wall Section

- | | |
|-------------------------|--------------------------|
| 1 Tempered Glass | 14 Sand |
| 2 Anodized Alum. | 15 Vapor Barrier |
| 3 Timber Framing | 16 Wood Framing |
| 4 Wood/Glass Doors | 17 Insulation |
| 5 Tile | 18 Vapor Barrier |
| 6 Conc. Slab | 19 Gypsum Board Interior |
| 7 Rock Thermal Storage | 20 Operable Sash |
| 8 Pumice | 21 Adjustable Louver |
| 9 Water Thermal Storage | 22 Roofing |
| 10 Vent Beyond | |
| 11 Wood Siding | |
| 12 Plywood Sheathing | |
| 13 Gravel | |

Sections

Dramatic Coastal Lookout

Marin County, California

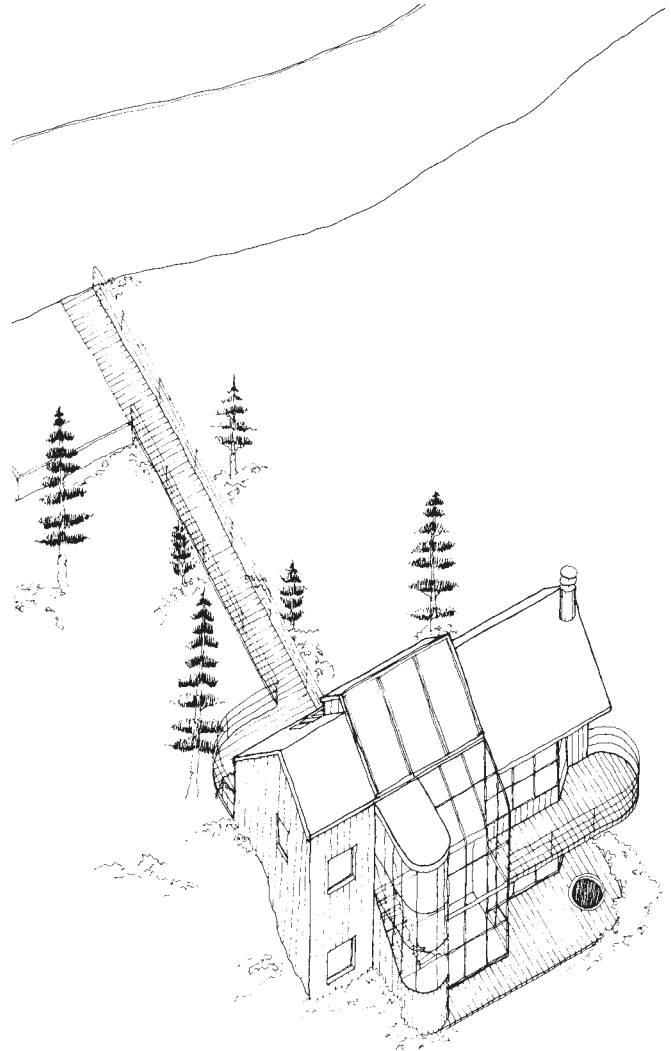
990 gross square feet (including terraces and greenhouse)

This site is located in the hills above the rugged California coast. The house is composed of terraces oriented due south to capture the spectacular view and maximize the mild climate. The architectural form of the house is generated by the northern California vernacular combined with passive solar access needs.

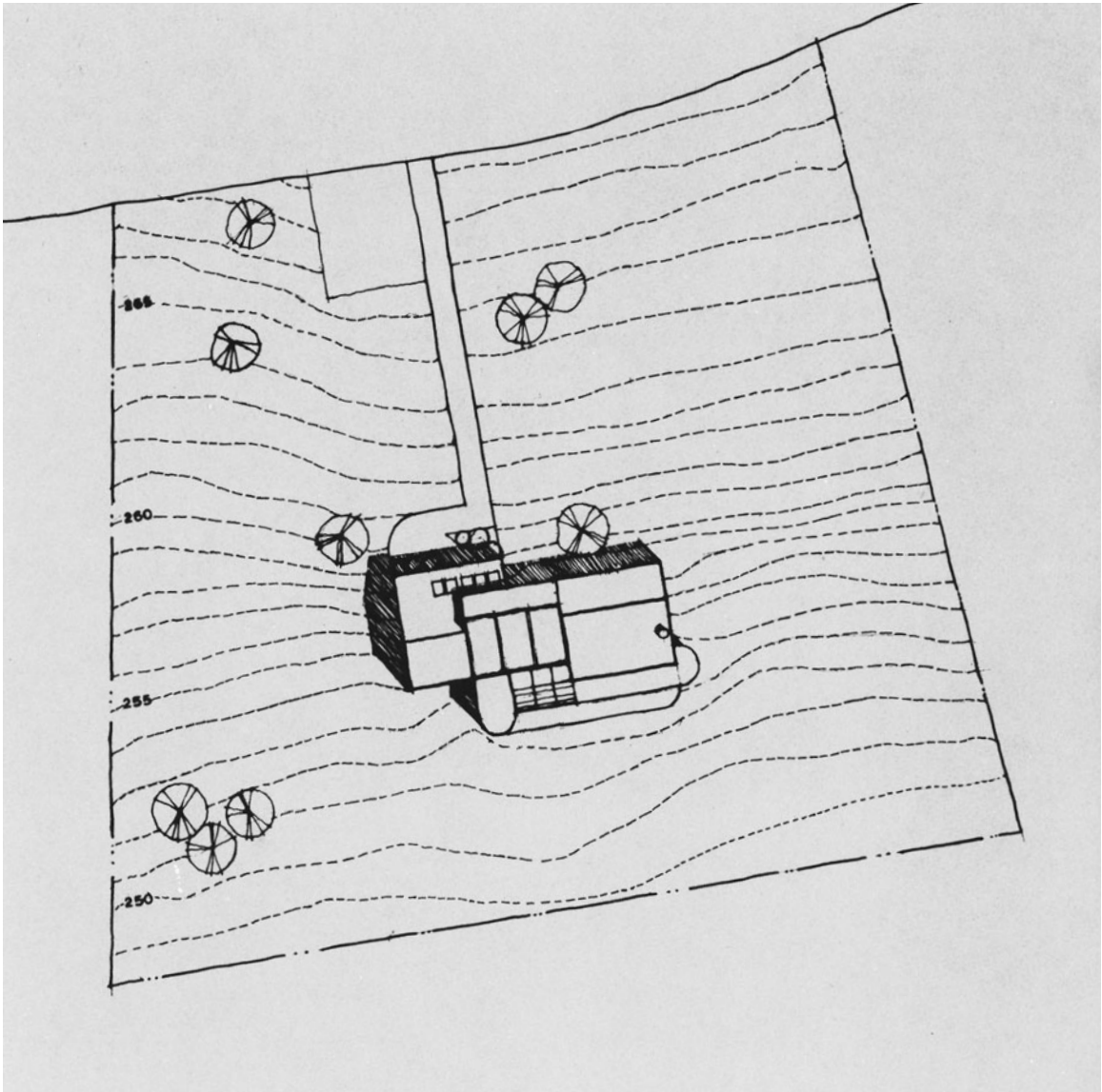
The minimum heating requirements of the house are served on the lower level by a greenhouse which collects heat and radiates through the thermal mass of the floor slab.

The upper level is also heated by the greenhouse in combination with the fireplace. In addition, there is a small auxiliary mechanical system if poor weather conditions persist.

Nancy Scheinholtz

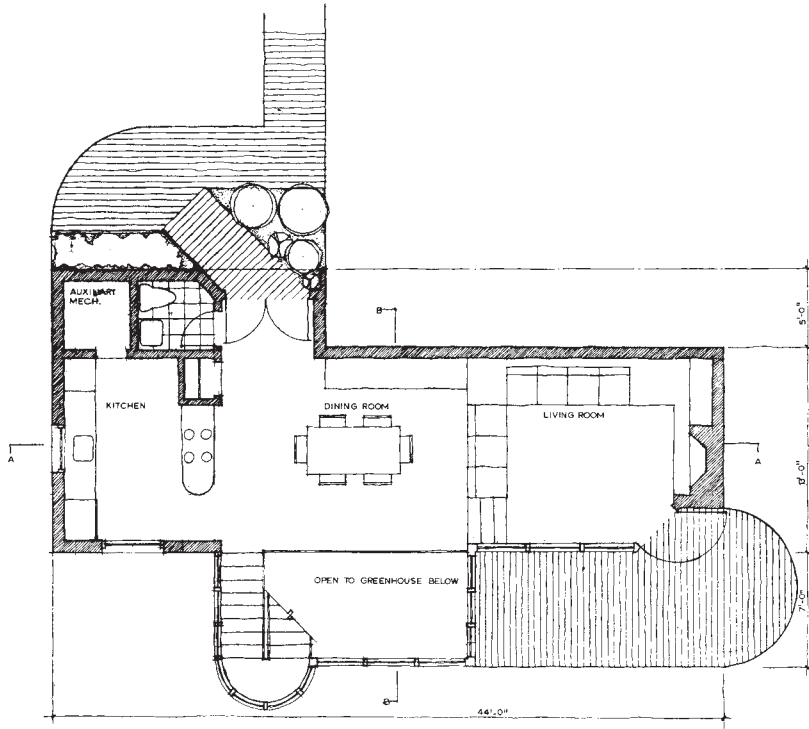


Axonometric

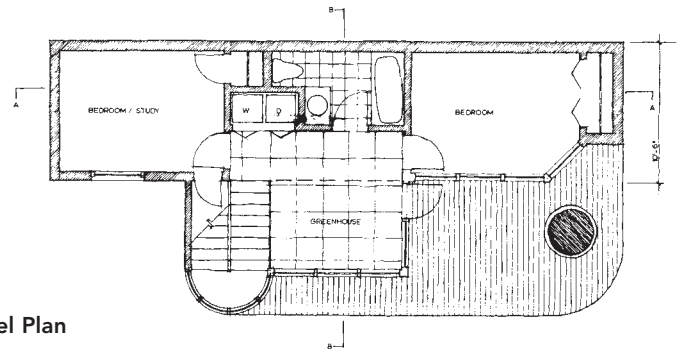


Site Plan

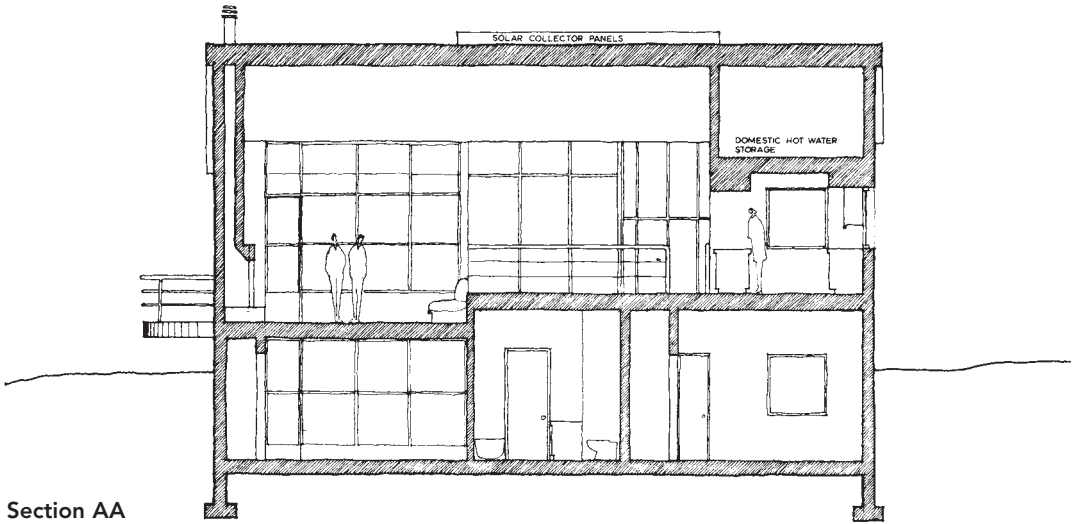
Dramatic Coastal Lookout



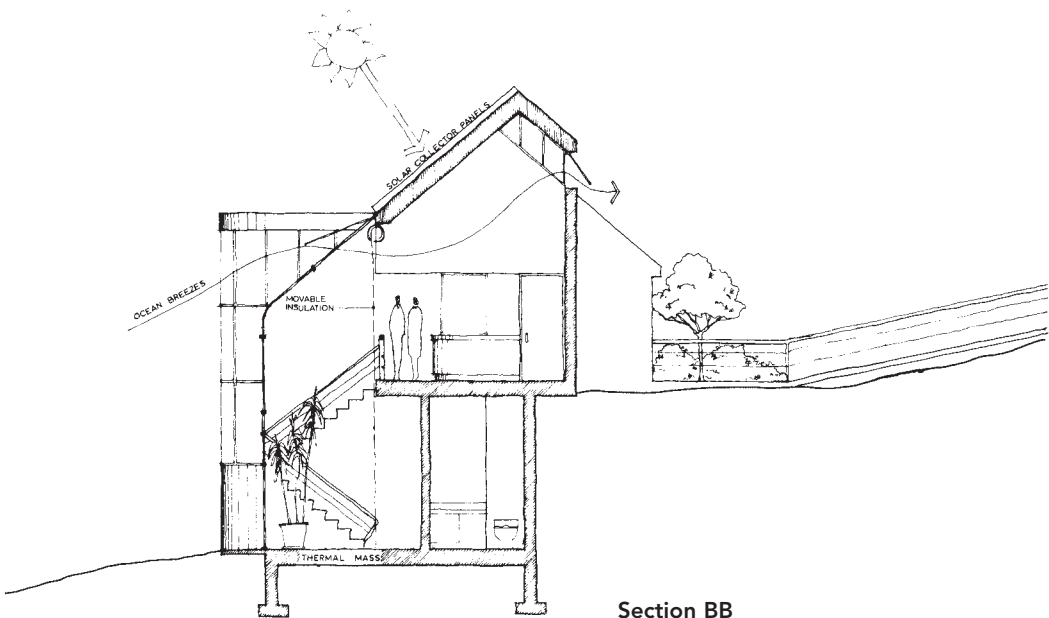
Upper Level Plan



Lower Level Plan

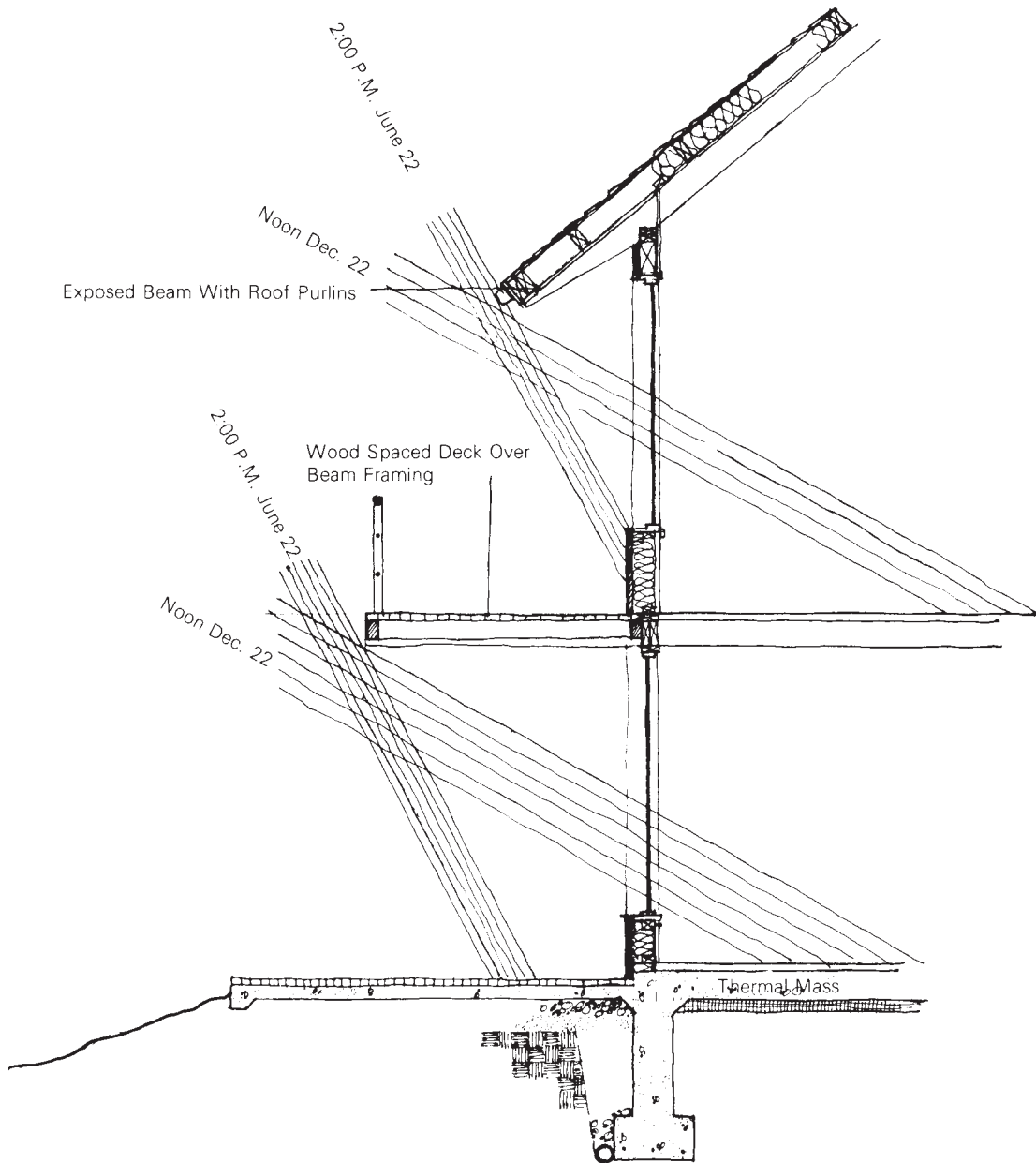


Section AA



Section BB

Dramatic Coastal Lookout



Wall Section

Classical Florida House

Gainesville, Florida

1,000 gross square feet

A proposal for a small house on a suburban subdivision on the outskirts of Gainesville, Florida.

It is designed in the belief that it is possible to build a small, formal house which combines many of the advantages of compact planning and energy-efficient design with the usual functional and psychological needs of a small, middle-class, suburban family.

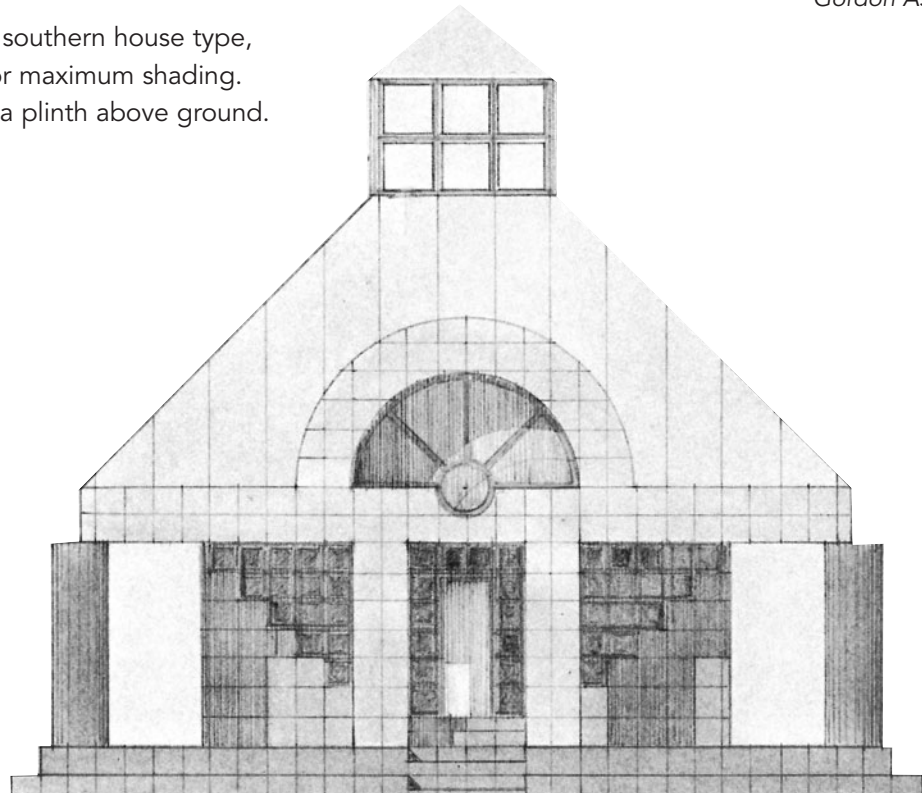
It is based on the traditional southern house type, with a wide roof overhang for maximum shading. It is freestanding and set on a plinth above ground.

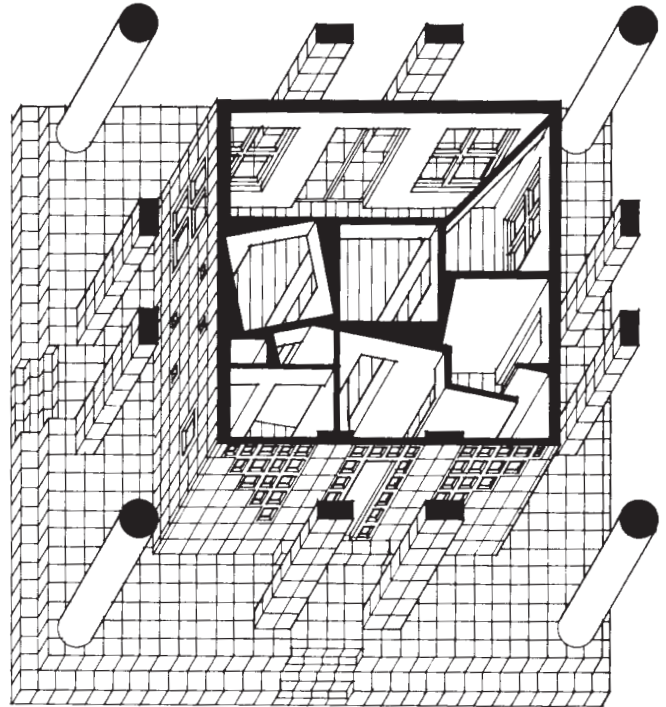
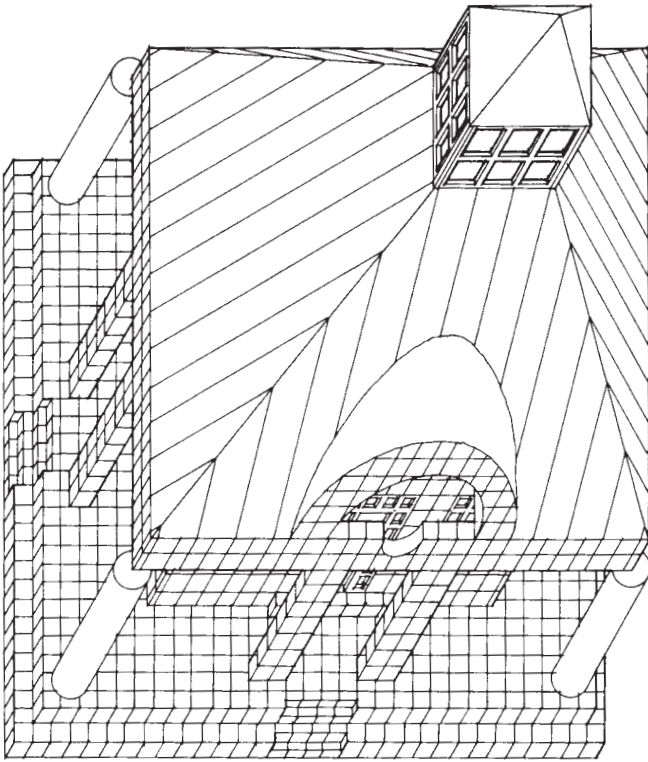
A series of vents at ground level bring air into the house and circulate it vertically through a thermal chimney.

The design attempts to solve the problem of size by using a big roof to give the impression of largeness, and overscaled elements, such as the entrance dormer and columns.

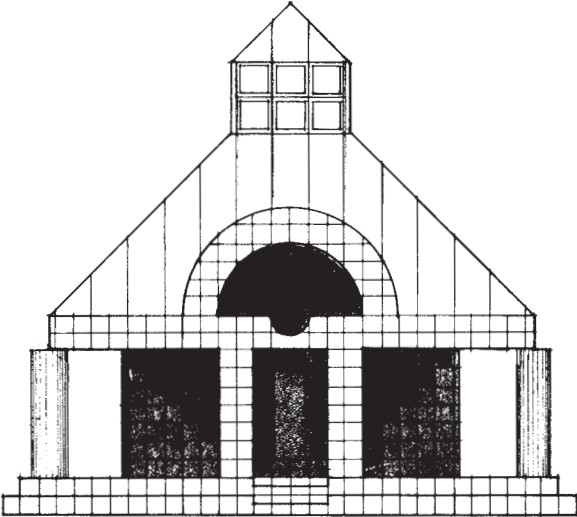
Gordon Ashworth

Elevation

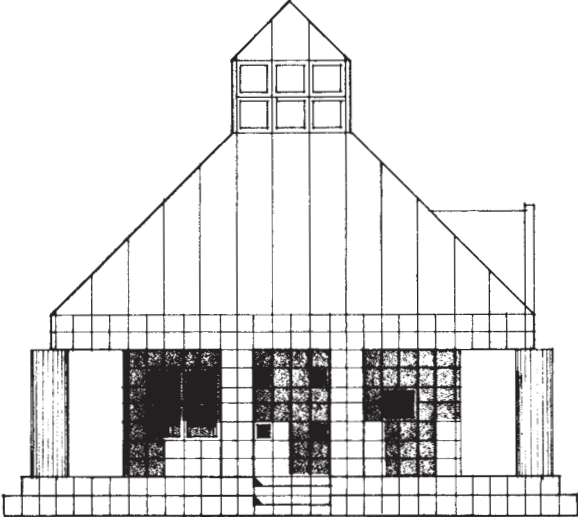




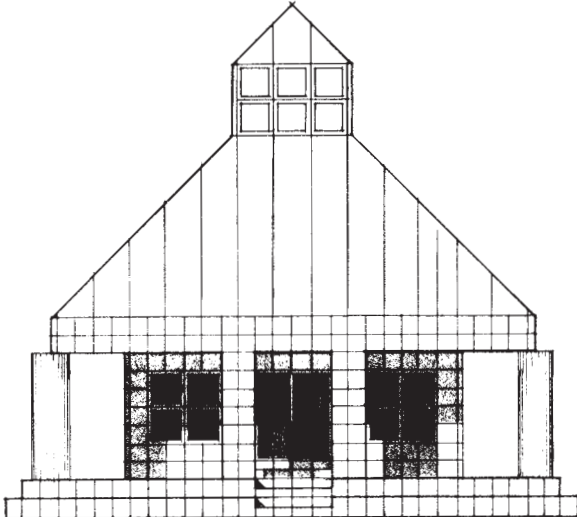
Axonometrics



North



East

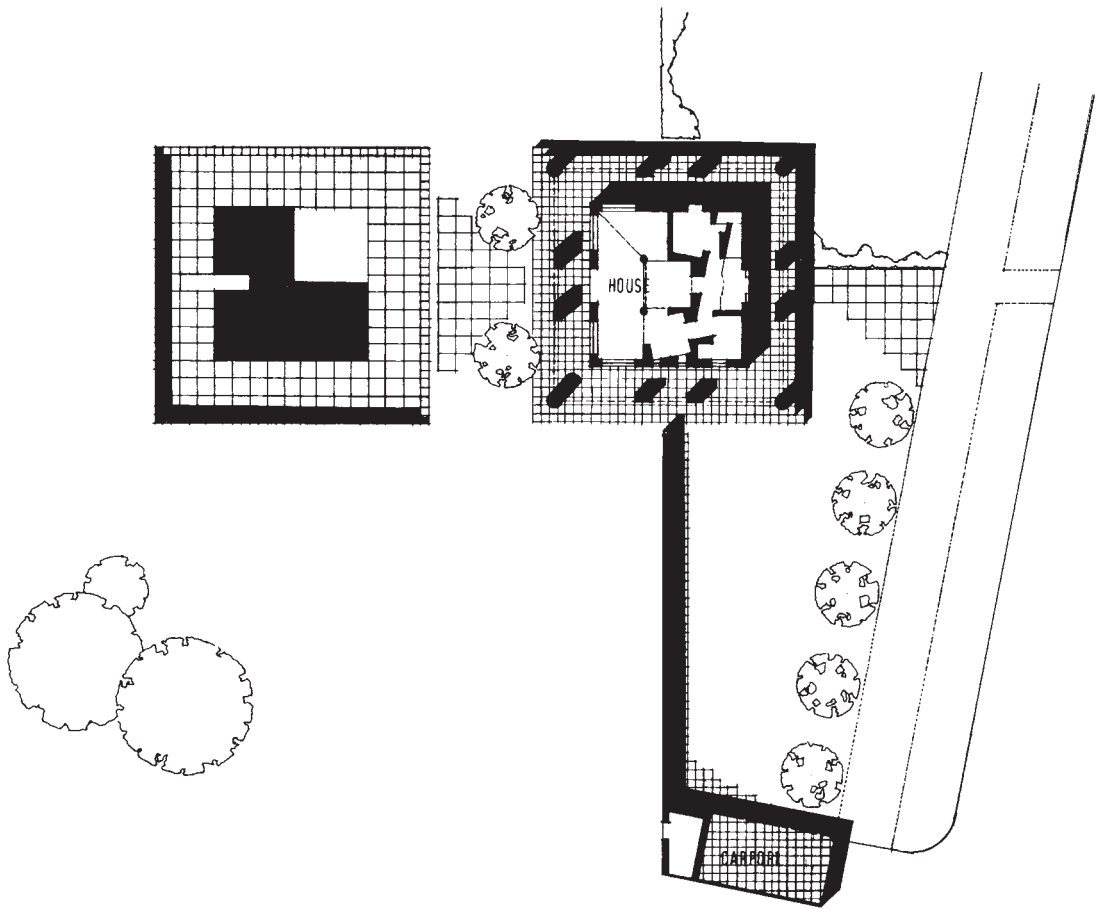


South

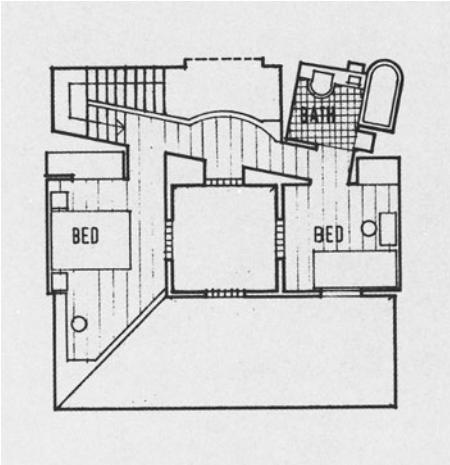


East-West Section

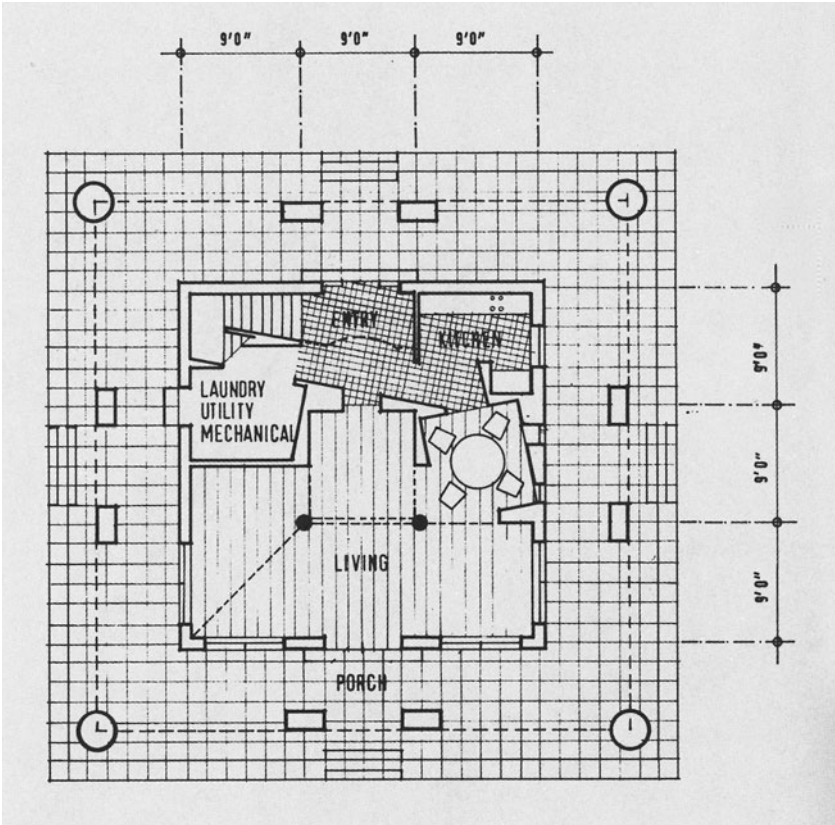
Classical Florida House



Site Plan

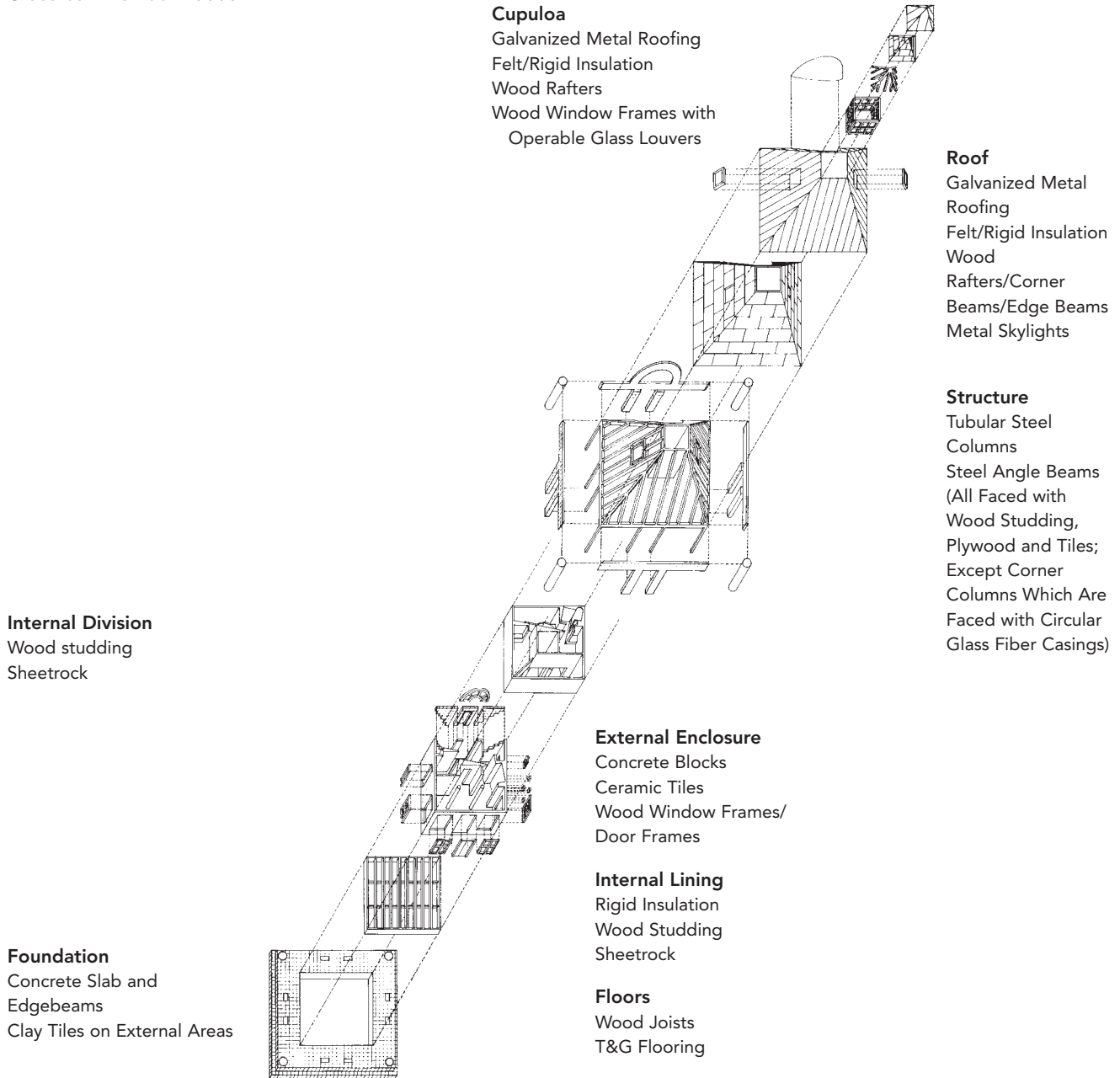


Upper Level



Main Level

Classical Florida House



Cozy Woodland Home

North Bangor, New York

996 gross square feet

An Outline

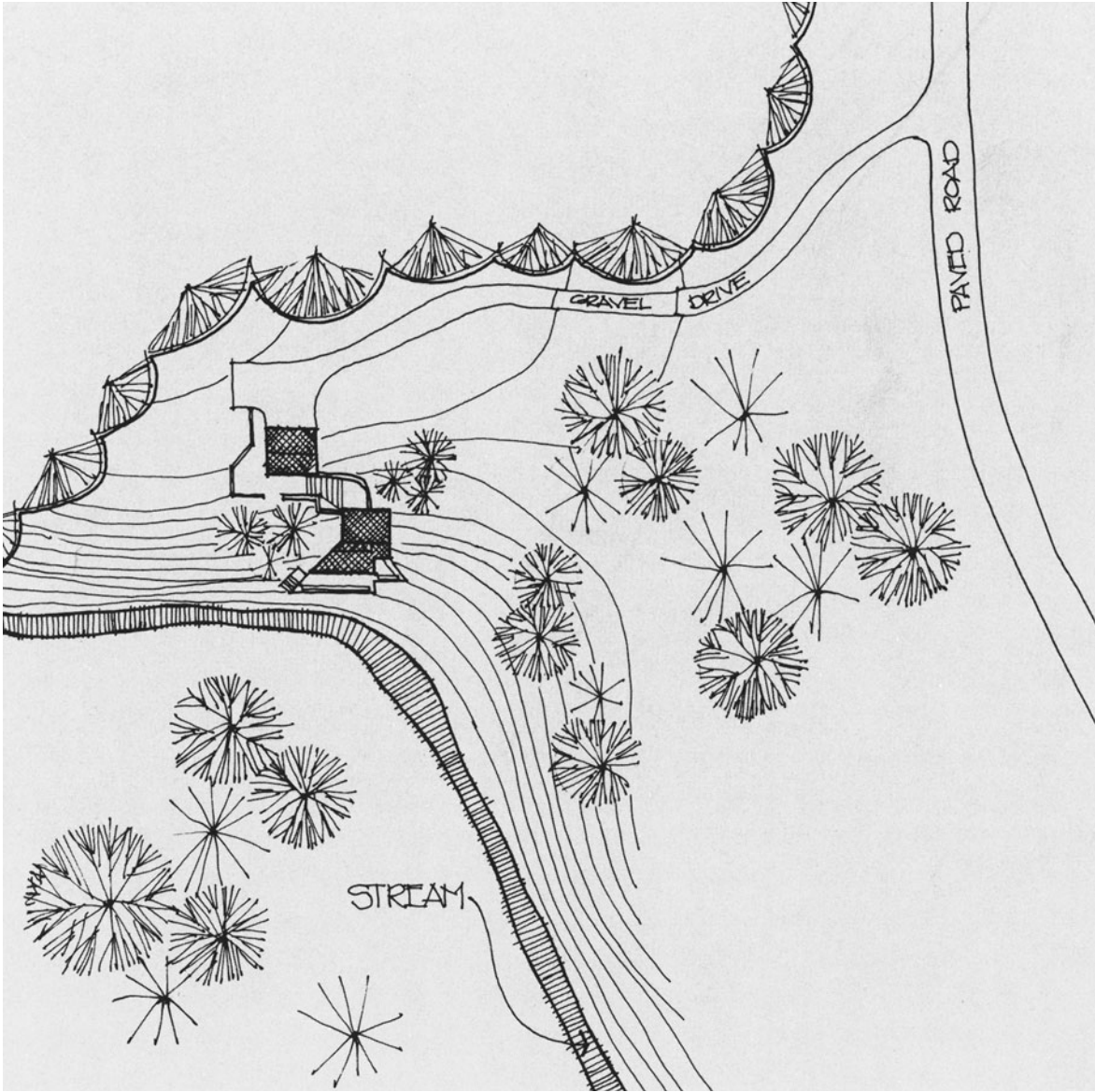
- Earth-sheltered concept in harmony with south-sloping building site.
- Southern exposure has beautiful view of constantly running stream.
- Privacy. The six-acre site adjoins hundred of acres of pastures, meadows, and forest.
- A wind-sheltered forest cove.
- Natural landscaping. The open forest floor. The house area and play area are grassed.
- Sandy gravel loam soil. Good percolation.
- Russian fireplace with high ceiling hot air intakes down through fireplace mass.

- Mass storage. Tile and concrete floors, and masonry walls.
- Economical removable night insulation of fabric-covered urethane panels.
- Structural bay truss system, long span decking. Ease of construction.

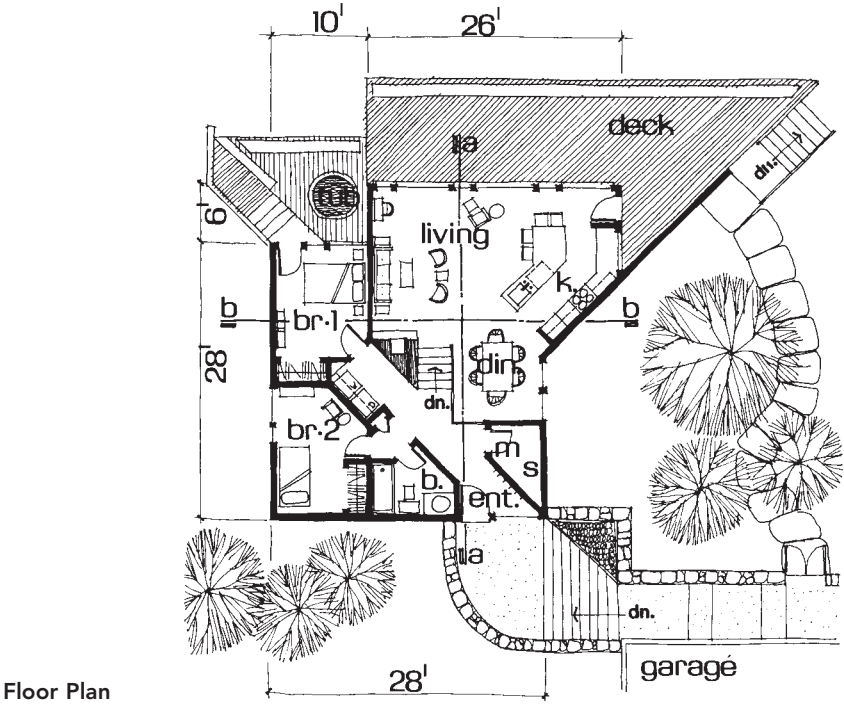
Marc Camens



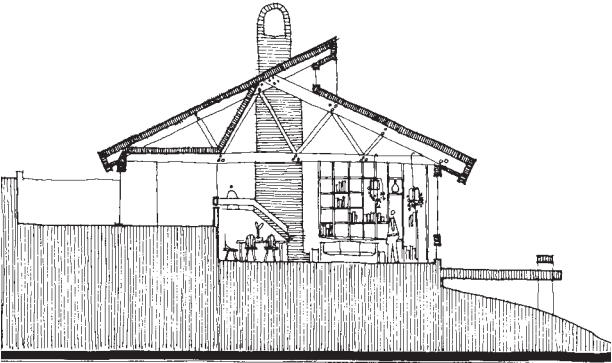
Perspective



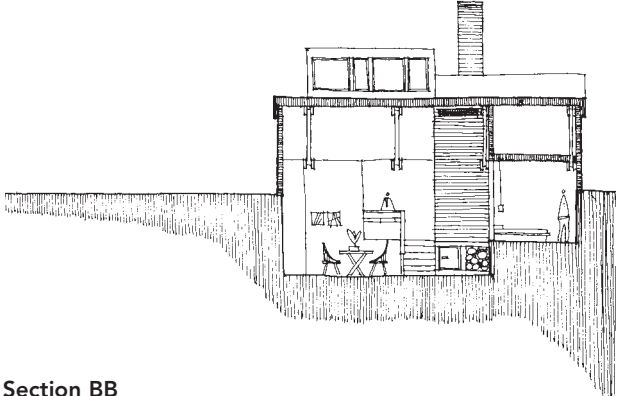
Site Plan



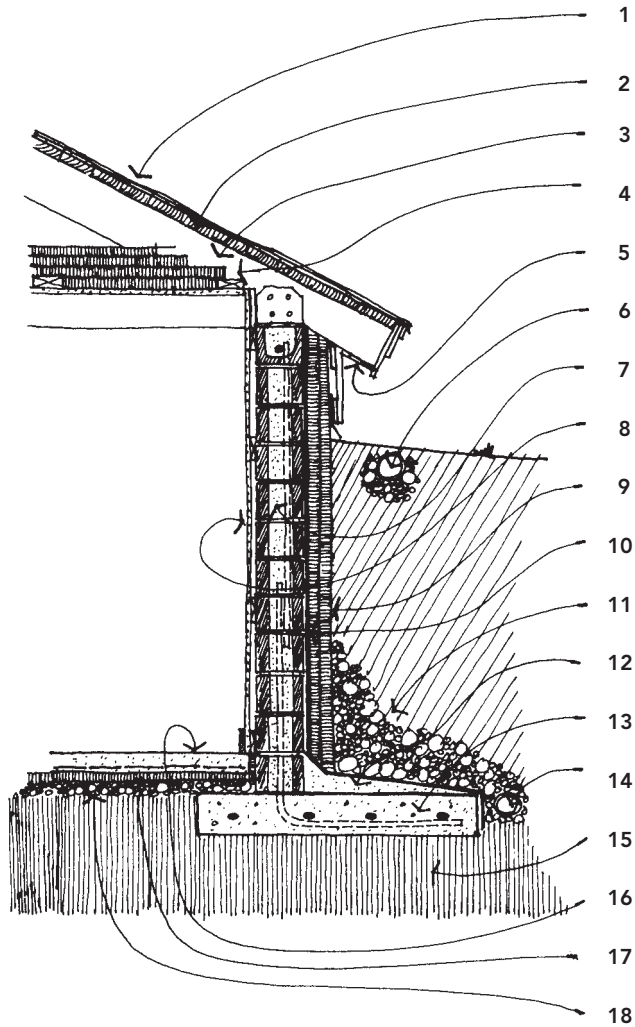
Floor Plan



Section AA



Section BB



- 1 Asphalt Shingles Over 15# Felt
- 2 2 x 6 T&G Wood Deck
- 3 Heavy Timber Trusses
- 4 5" Urethane Foam-Foil Faced
- 5 Vent Strip Cont.
- 6 Upper 4" Perforated Drain
- 7 10" C.M.U. Reinf. & Conc. Filled
- 8 1/2" Gyp. Bd. on Furring Strips
- 9 4" Polystyrene Insulation
- 10 Waterproof Membrane
- 11 Gravel Fill
- 12 Footer Drainage Cant.
- 13 Reinforced Cantilever Ftg.
- 14 4" Perforated Drain & Filter
- 15 Undisturbed Earth
- 16 4" Reinf. Conc. Slab
- 17 1" Polystyrene Insulation
- 18 Gravel Fill

Wall Section

"Prairie One"

Stilwater, Oklahoma

900 gross square feet

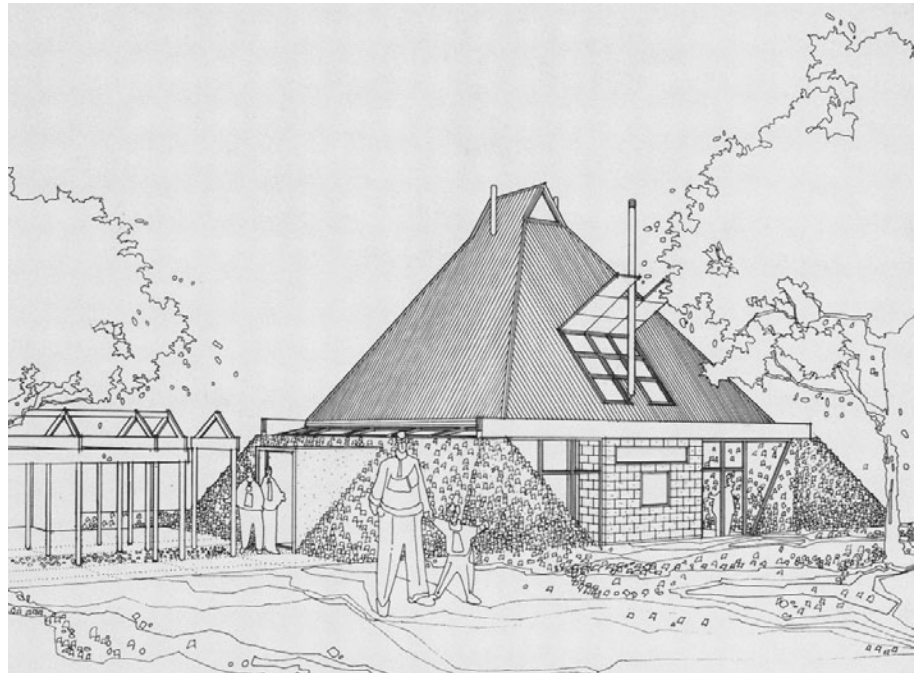
The concept of Prairie One is a passive thermo sink plenum/superinsulated solar syphon from which hot air rises to the top. It is vented by an operable sky-light in conjunction with awning windows in the passive solar wall to maintain positive ventilation. The awning windows are approximately three times larger in surface area than the skylight at the top solar syphon.

The air lock entries are on the east and west walls. They are made of 8-foot-square, precast concrete storm sewer pipes with sliding glass doors at either end.

Prairie One assumes a very active owner who is a "do-it-yourself" type person. The hermetic environment of Prairie One with its ivy-covered earth berm on three sides of the living space affords the use of earth and nature to enclose the house. The earth

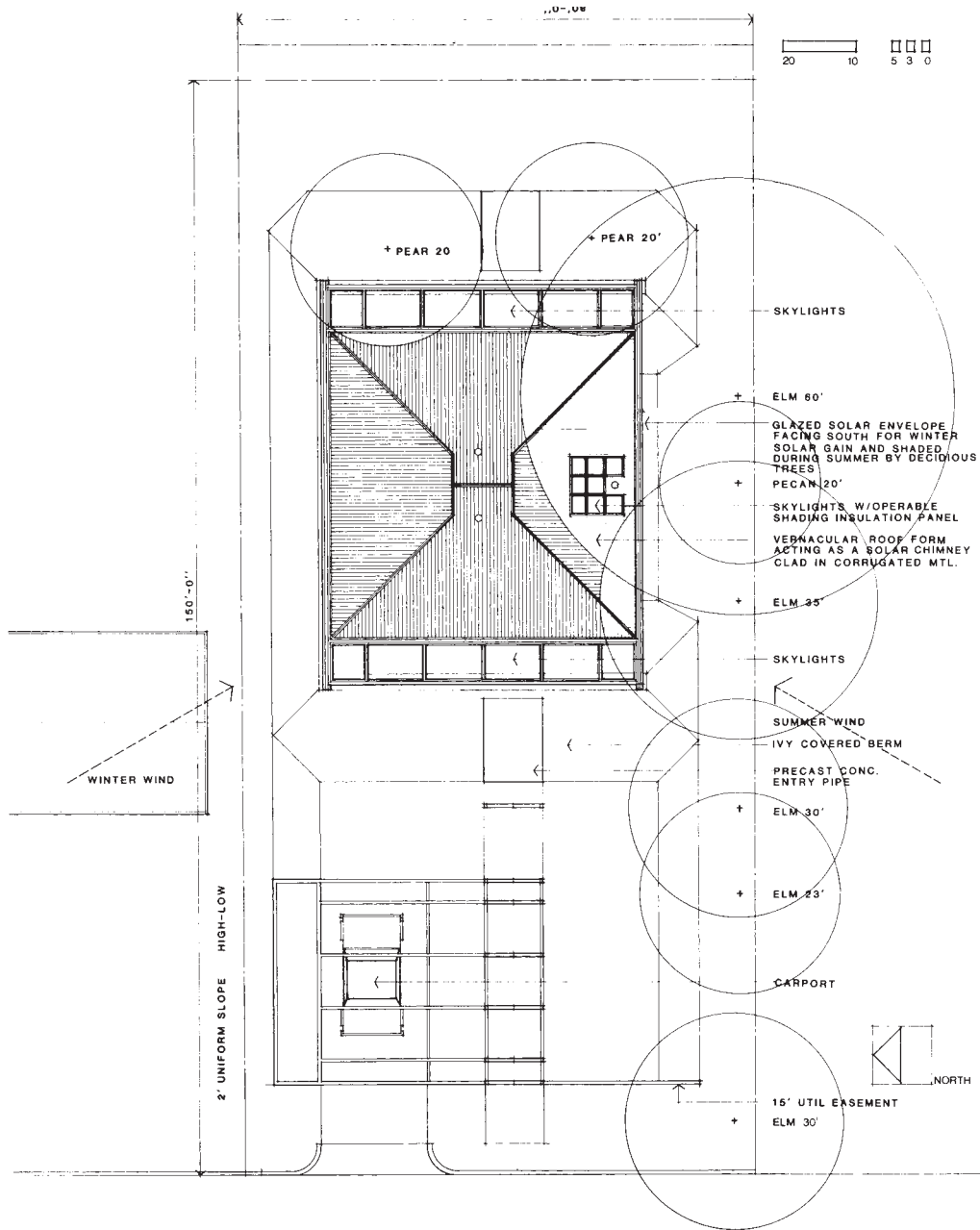
berm is constructed of loose rubble and compact fill so as to maintain its shape and insulation integrity. The passive solar wall is the open glazed side which faces the south with a view of an open field. Deciduous trees line the south side, shading the passive solar wall during the summer and allowing heat gain during the winter.

Richard Dunham

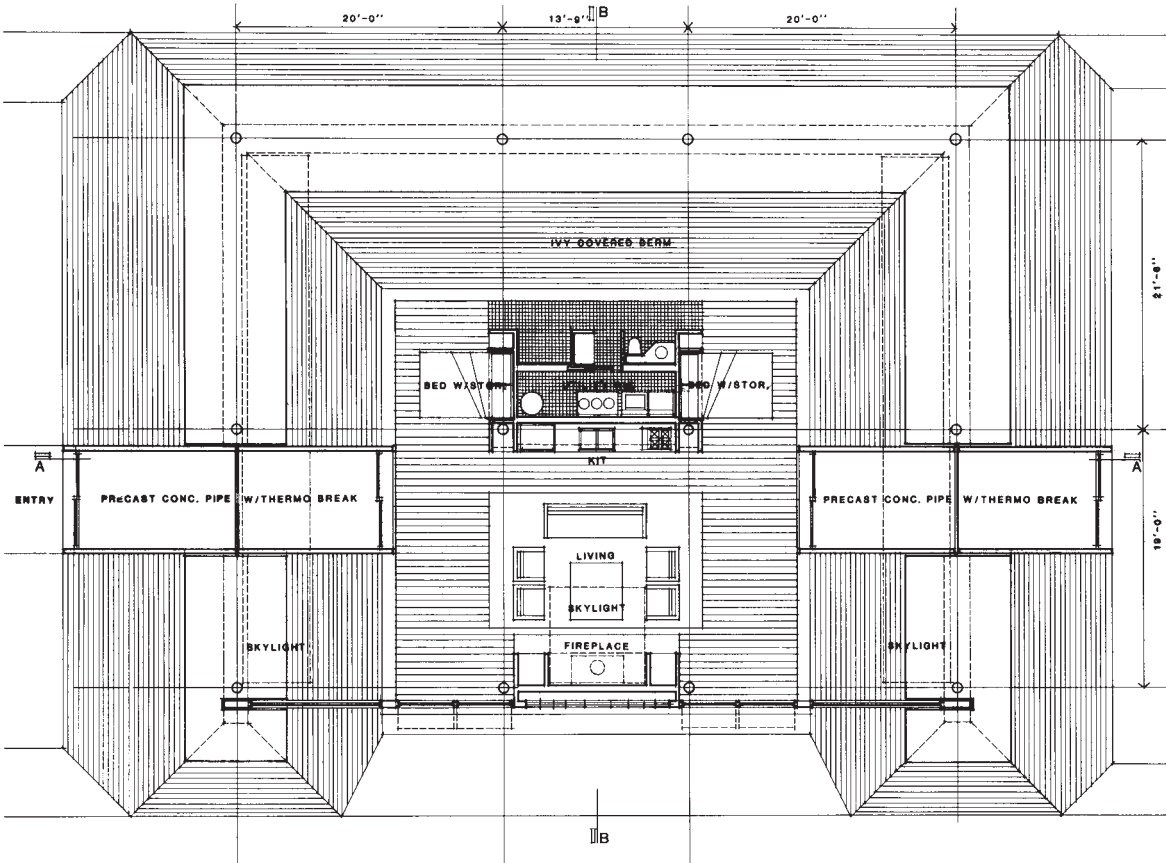


Perspective

"Prairie One"

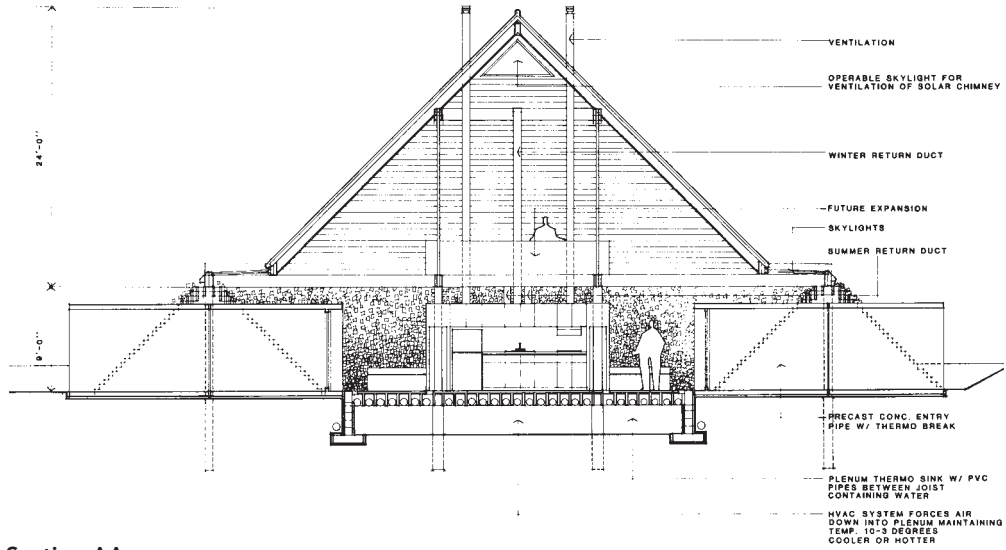


Site Plan

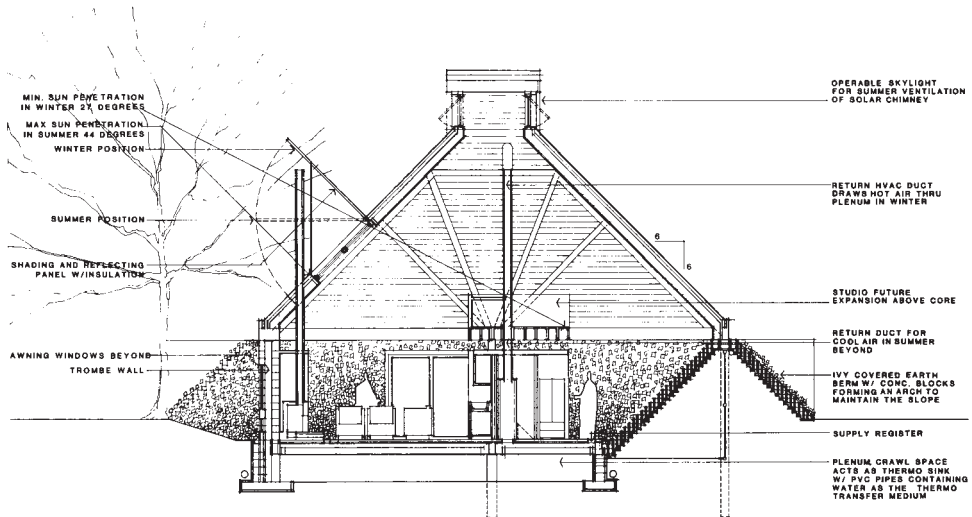


Floor Plan

"Prairie One"



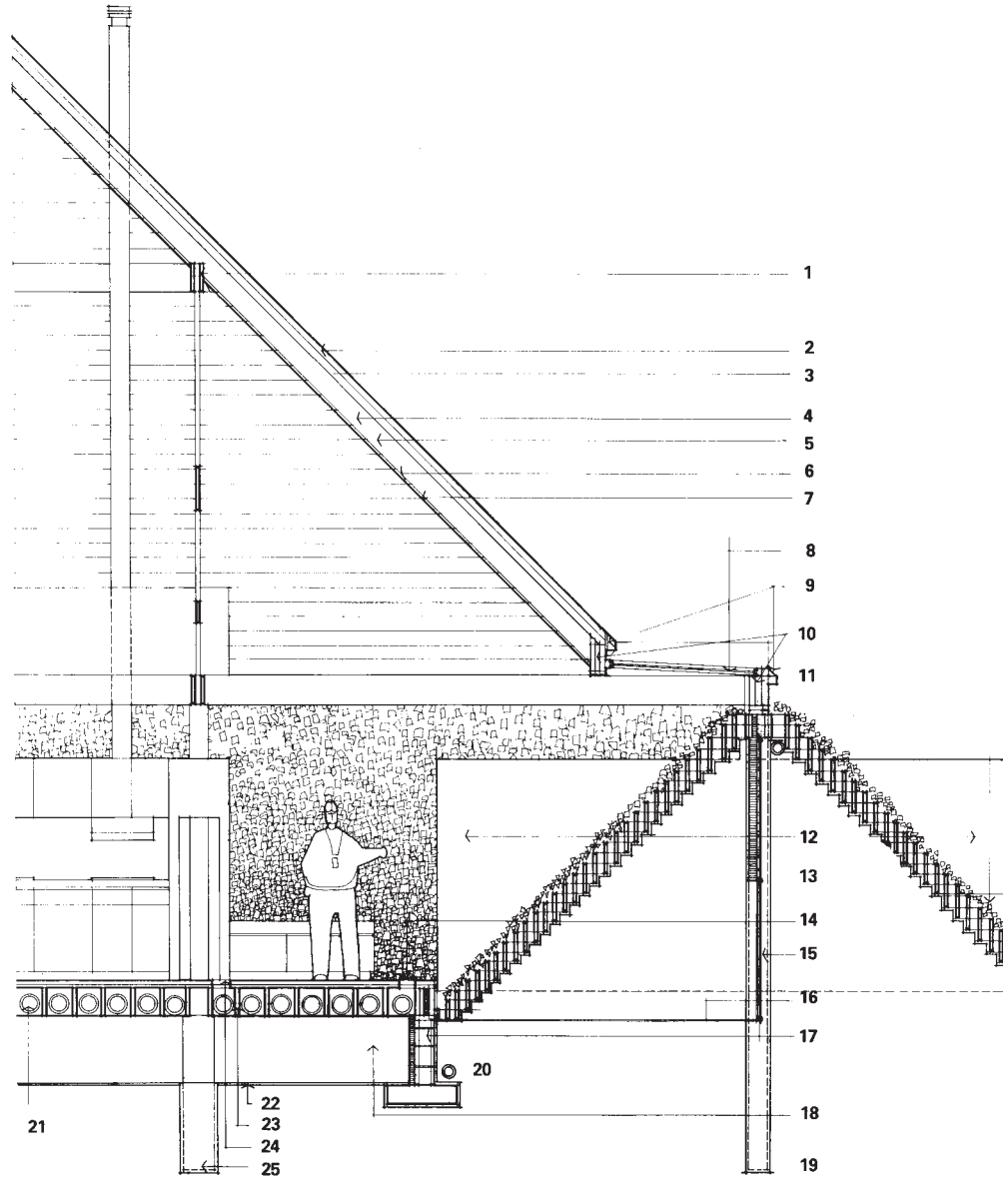
Section AA



Section BB

Enlarged Section

- 1 Built-Up Truss 2 x 4
- 2 Corrugated Mtl. Cladding
- 3 3" Rigid Insulation Roof Decking R6 w/Roofing Felt
- 4 6" Batten Insulation R19
- 5 2 x 8 Ceiling Rafters 16" O.C.
- 6 Vapor Barrier
- 7 1 x 8 T&G Fin. Ceiling
- 8 Skylight
- 9 Mtl. Rake Closure
- 10 2-2 x 12 Built Up w/Rigid Insulation
- 11 45 Degree Slope Maintained By 8" Sq. Conc. Blocks Forming an Arch w/Keystone
- 12 Precast Conc. Storm Pipe w/Thermo Break
- 13 Compact Fill Earth Berm
- 14 Supply Register
- 15 Chain Link Fence w/Vapor Barrier and Rigid Insulation
- 16 Vapor Barrier
- 17 Conc. Footing w/Conc. Blk. Stem Wall Filled w/Vermiculite
- 18 Super Insulated Thermo Plenum
- 19 8" Concrete Pip. Pier
- 20 Drainage Pipe
- 21 8" Dia. PVC Pipe w/Water Capped on Ends, Wire Mesh Supports PVC Thermo Sink
- 22 Vapor Barrier
- 23 2 x 12 Floor Joist 12" O.C.
- 24 1 x 8 T&G Floor w³/₄" Ply Wd. Subfloor
- 25 12" Conc. Pip. Pier



Flexible Family Living

Chapel Hill, North Carolina

1,000 gross square feet

The site is in a rural neighborhood on a 1½-acre lot which slopes gently away from the road to a creek on the south side and is heavily wooded with deciduous trees. Temperatures in the immediate area are generally 5°-10° cooler than the nearest reporting station, and the prevailing winds are from the northwest.

The house is of direct gain passive solar design with a covered or screened porch which can be converted into a solarium in the winter by attaching clear awning material or glass storm panels. An insulating shutter for the skylights over the living room pivots at the ridge to store against the opposite ceiling when open.

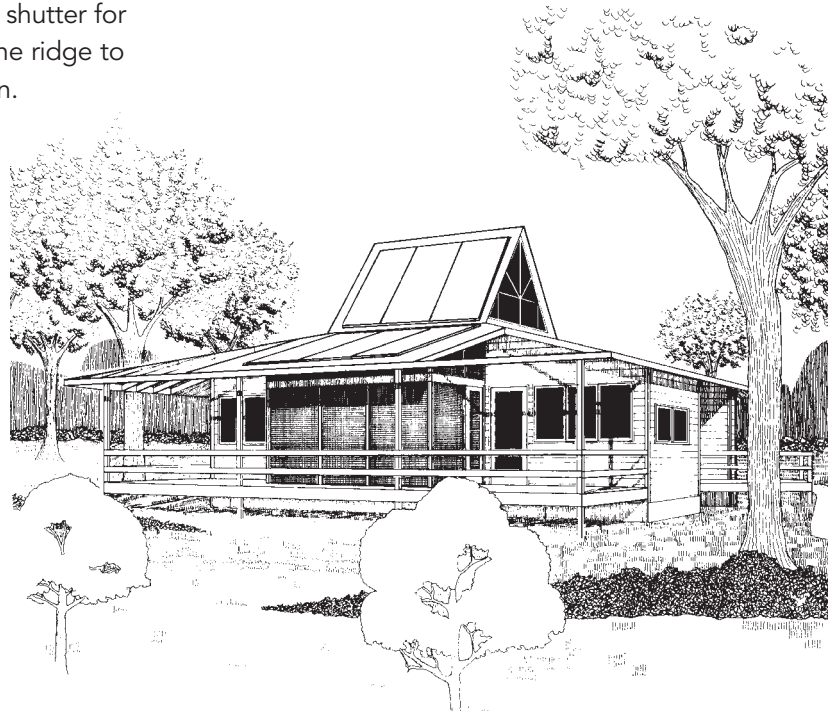
Brick floors are used in conjunction with clear water tubes in the cabinets behind the couches for thermal mass.

In the summer, awnings are placed over the skylights to prevent overheating, operable windows in the gable ends over the living room offer natural ventilation, and a whole-house attic fan is planned. Transoms are used over the bedroom doors to maintain privacy while providing ventilation. Supplemental heat comes from a centrally located wood stove. The projected heating costs are based on an electric air-to-air heat pump.

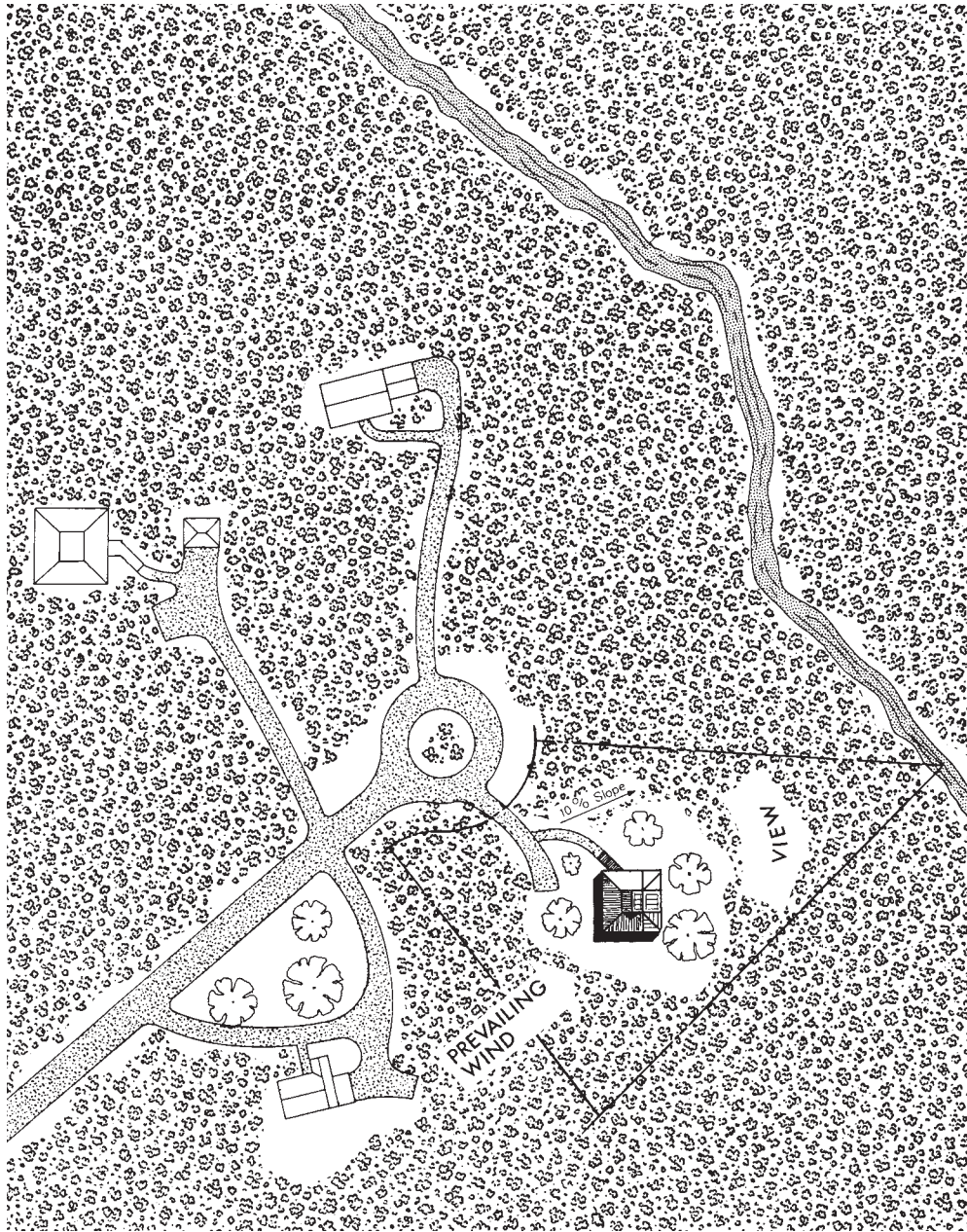
There's a great deal of flexibility in the living space: the kitchen table can be rotated to seat six, and two additional sleeping areas can be provided by rotating the two L-shaped couches face-to-face to create two full-sized beds.

This house was designed for an exciting and spacious-feeling living environment for people desiring the smaller house.

Bob Giddings

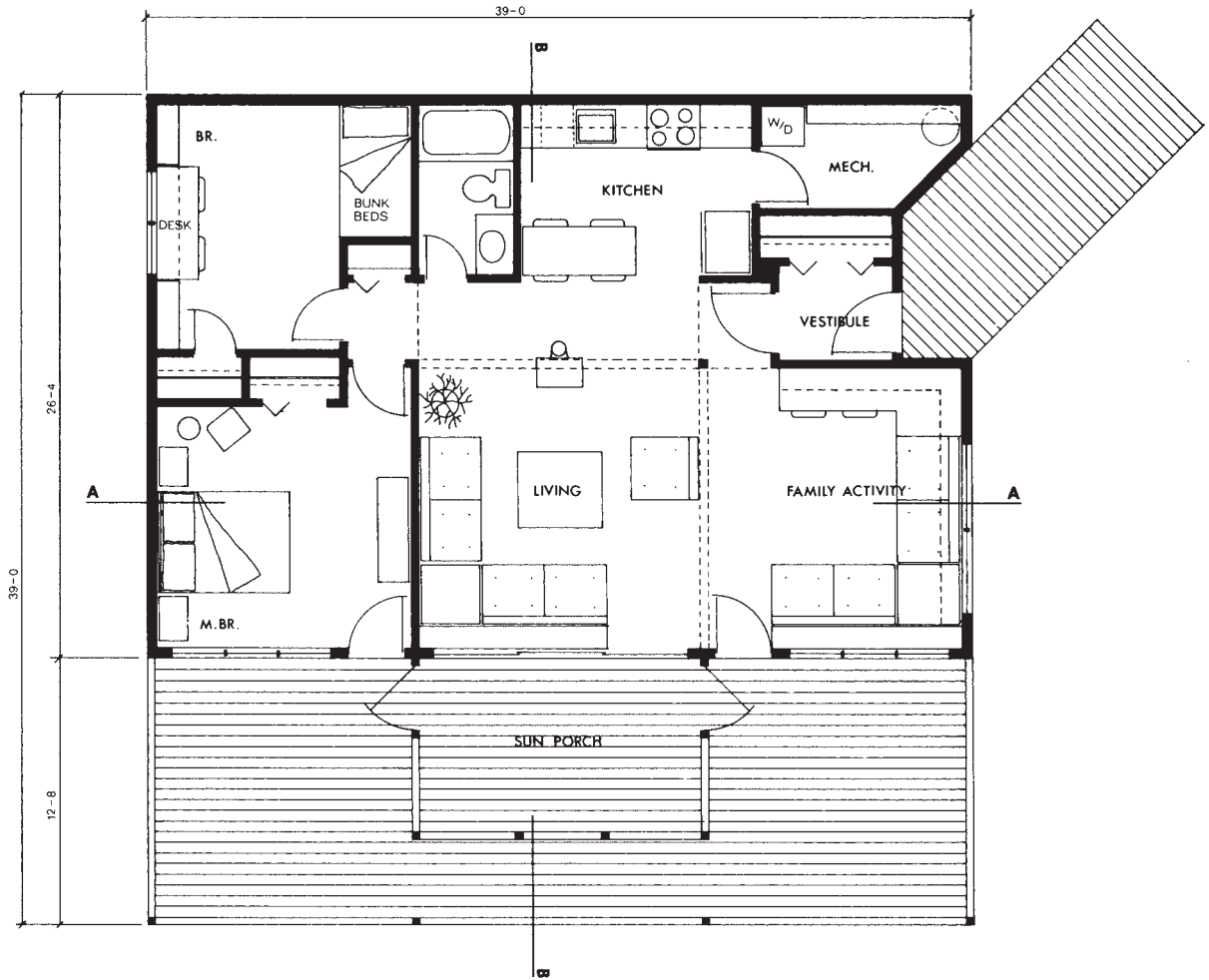


Perspective



Site Plan

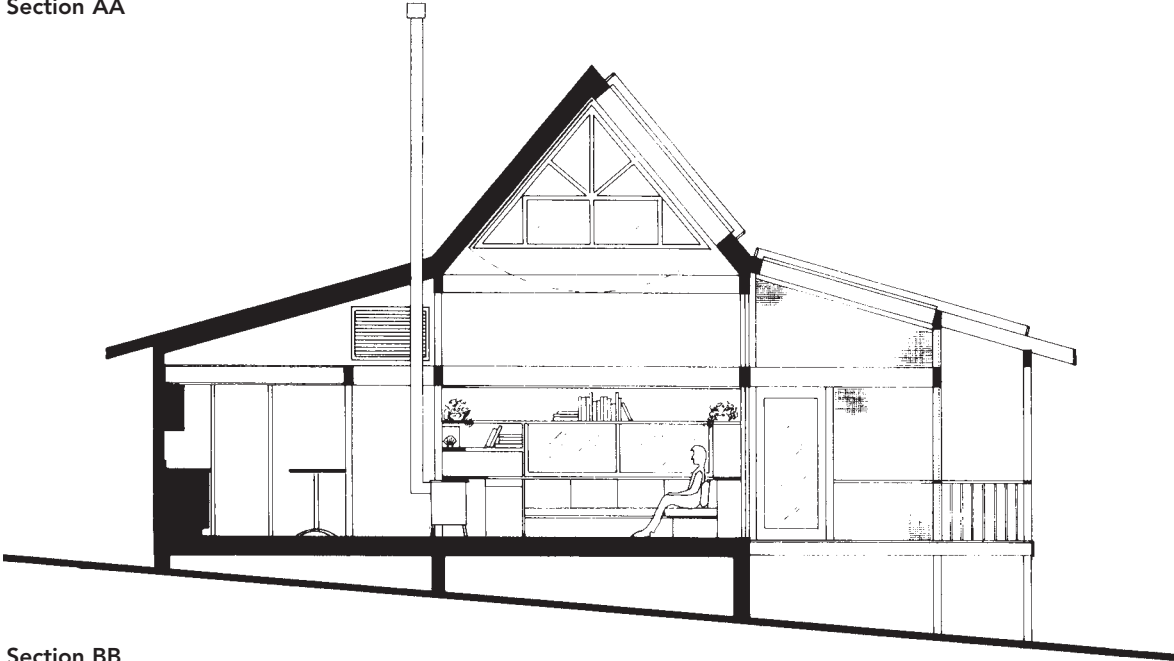
Flexible Family Living



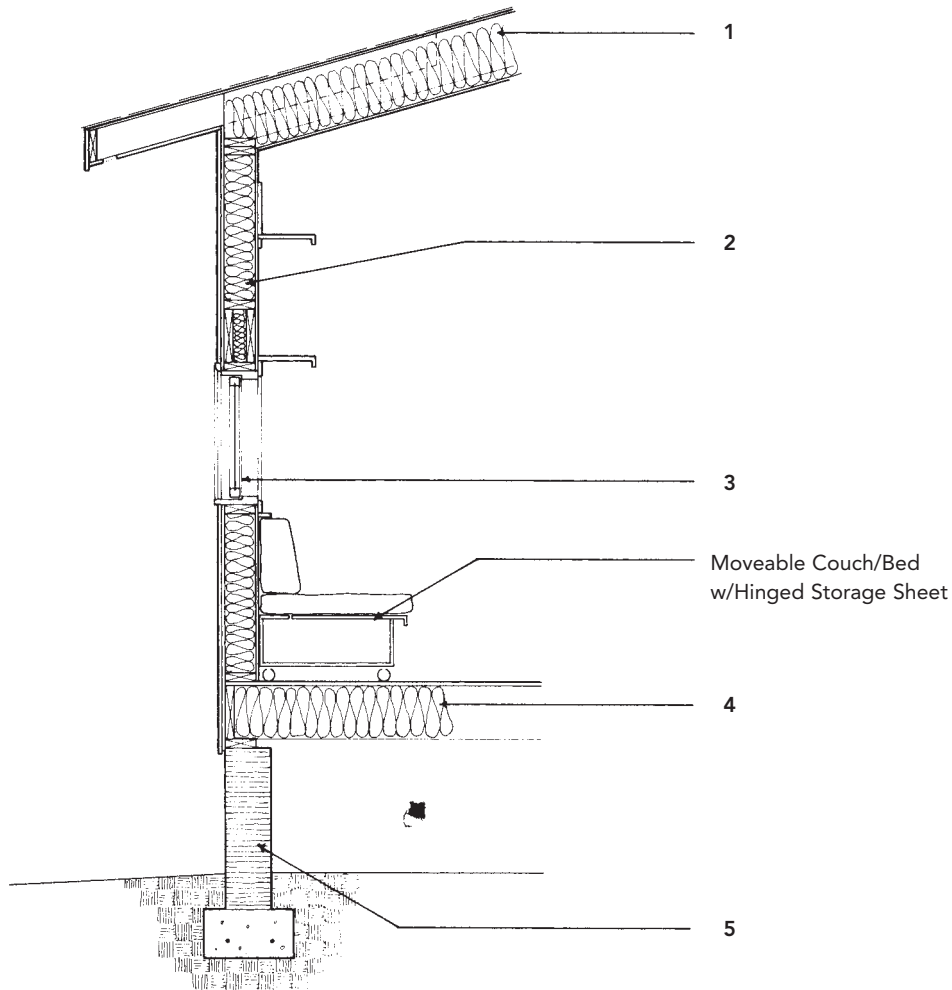
Floor Plan



Section AA



Section BB



1 Roof Construction

240 # Asphalt Shingles on 15 # Bldg. Felt on 1/2" Plywood w/H-Clips on Roof Trusses or 2 x 12's @ 24" O.C. w/R-30 Batt. Insul. Over 4 Mil. Vapor Barrier

2 Exterior Wall Construction

Siding (Owner's Choice) on 1/2" Foil Faced Foam Sheathing on 2 x 6 Studs @ 24" O.C. w/Let in Diagonal Bracing & R-19 Batt. Insulation w/1/2" Drywall Over 4 Mil. Vapor Barrier

3 Windows & Sliding Glass Doors

Windows are Wood Casement, Awnings & Fixed w/Thermopane Glass Sliding Glass Doors are Bronze Finish Aluminum w/Thermal Break & Thermopane

4 Floor Construction

Finish Floor (Owner's Choice) on 1/4" T&G Plywood on 2 x 10's @ 16" O.C. w/R-30 Batt. Insul. w/4 Mil. Vapor Barrier on Ground

5 Foundation Construction

3" Scored Conc. Block on Continuous Concrete Footing w/Continuous Steel Reinforcing

Wall Section

Modified Colonial Saltbox

Branford, Connecticut

962 gross square feet

The building site is part of a wooded acreage being subdivided for single-family homes. The 7,500-square-foot lot is situated in a clearing at the top of a knoll with Southeast views of Long Island Sound. Four large maples are to remain. The south-facing slope is ideal for passive solar techniques. Summer breezes blow off the water while winter storms buffet the shore from south and west. Underlying soil is a stable, gravelly clay with good bearing characteristics.

This compact design has been developed from the Connecticut saltbox of colonial times to place bedrooms below the main living space. The building volume is nearly square to reduce surface area. Interior spaces are continuous and an entry lock is provided.

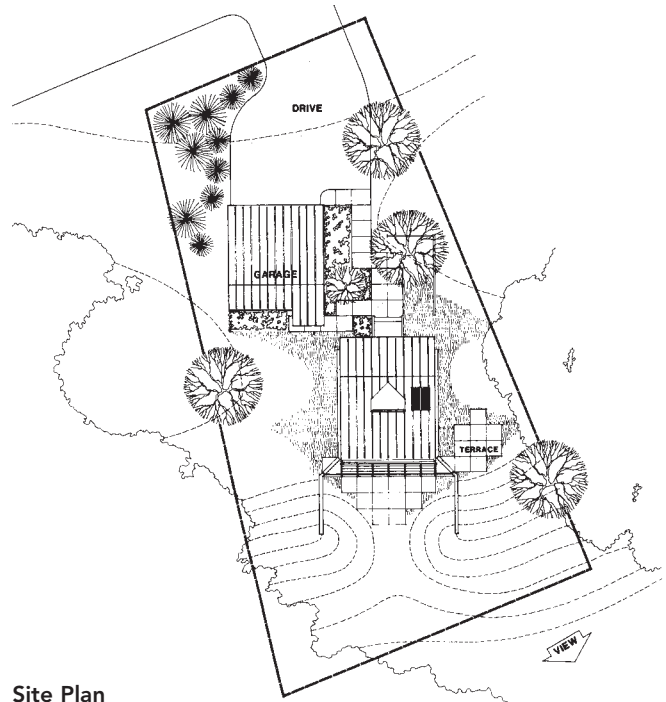
A metal roof reflects uncontrolled radiation; windows and translucent panels admit and diffuse controlled sunlight. Night insulation (R-9) is provided by sliding and hinged panels.

The principle energy feature is a concrete masonry solar chimney which concentrates storage mass and admits daylight in the center of the house. Additional mass is provided in a thickened ground floor slab.

In summer the air is vented to promote natural cooling. Collectors for a solar water heater are mounted on the roof adjacent to the chimney.

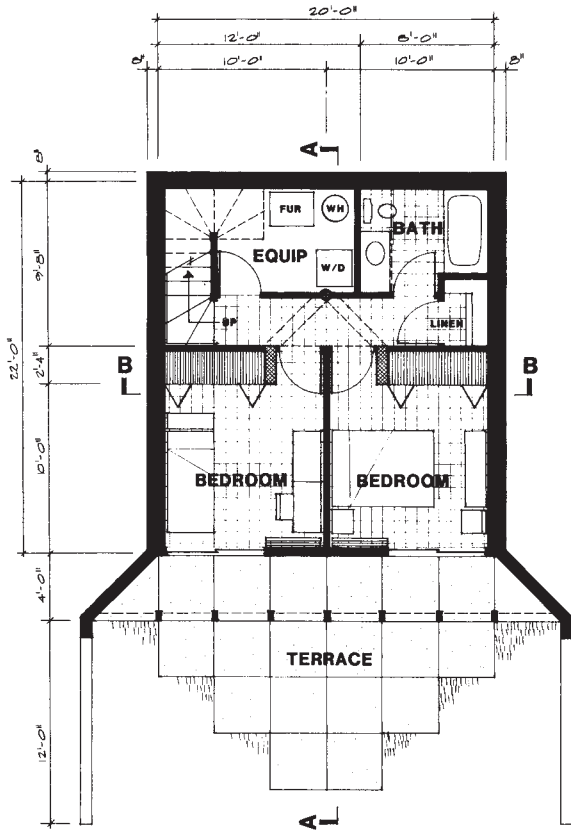
Solar techniques provide 92 percent of the heating needs of this home. A wood stove located in the central chimney can easily supply the balance. A furnace provides back-up heat and ventilation.

Thomas M. Haskell

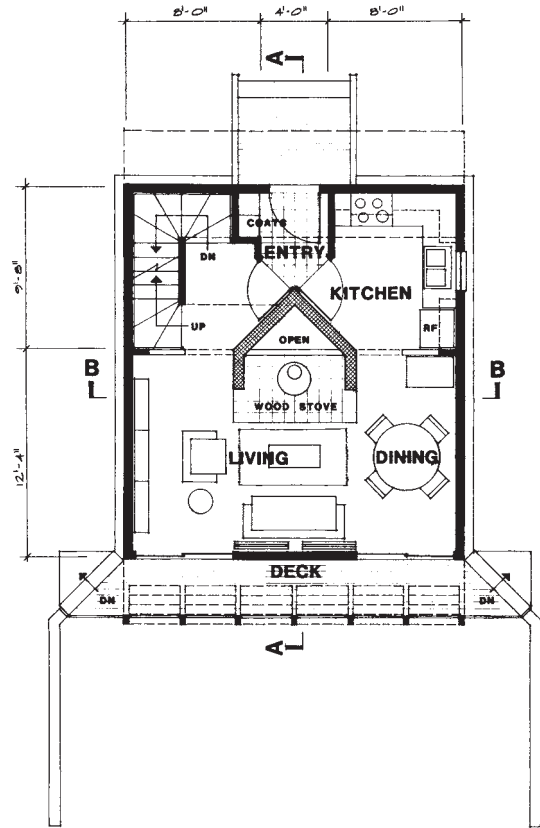


Site Plan

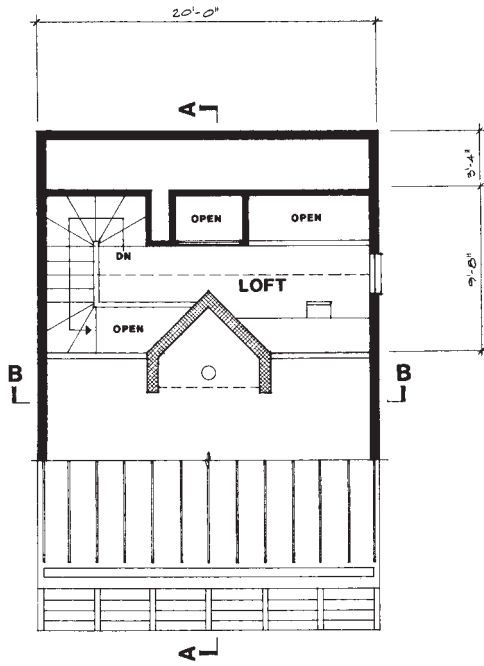
Modified Colonial Saltbox



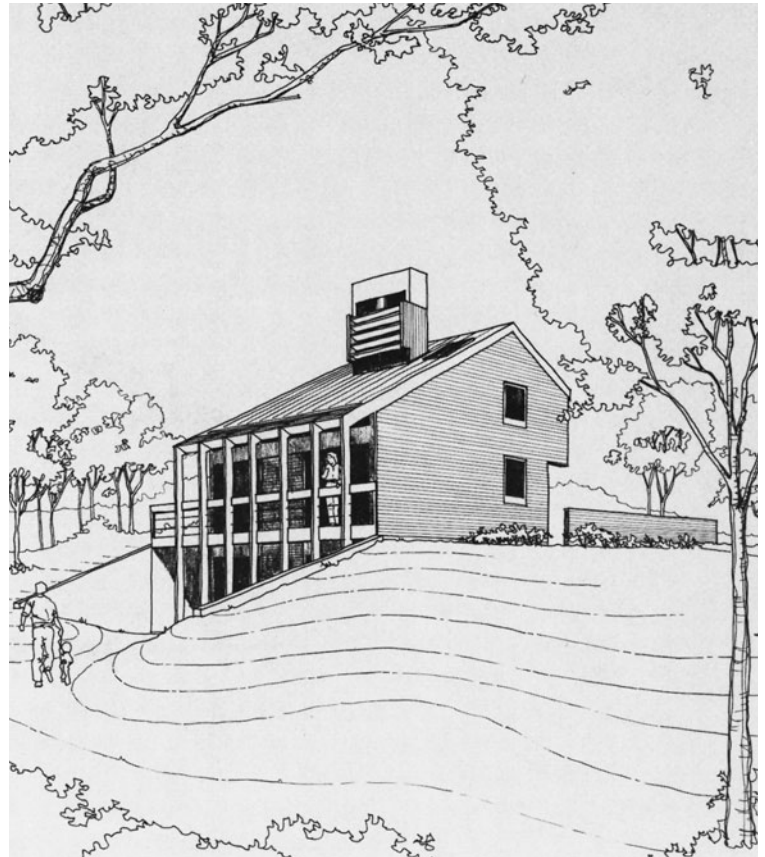
Ground Floor Plan



Main Floor Plan

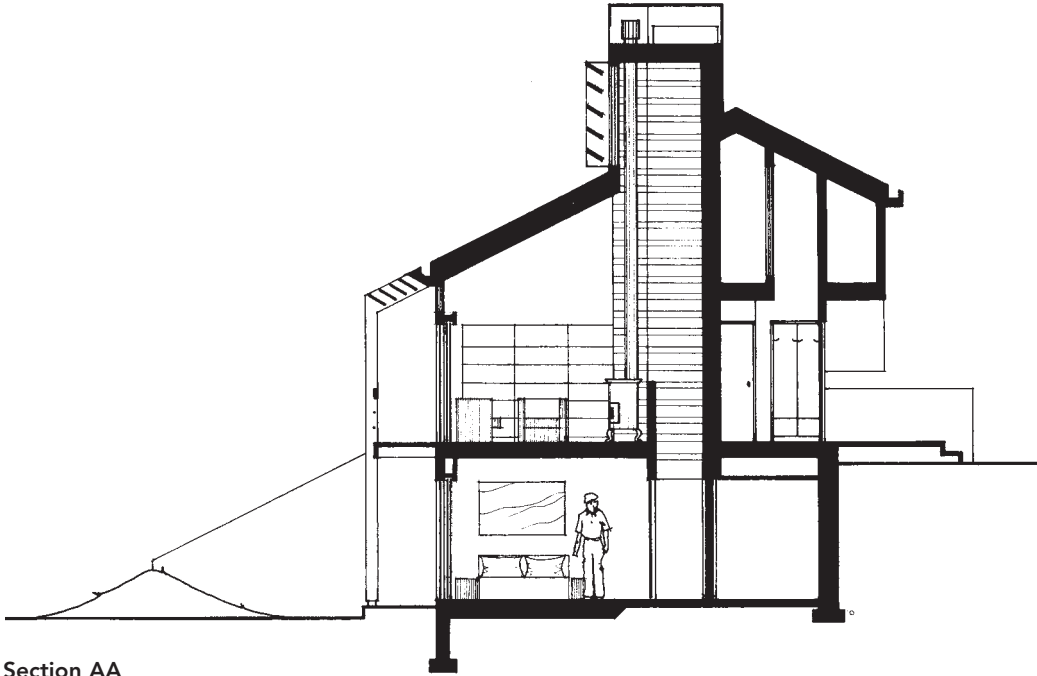


Loft

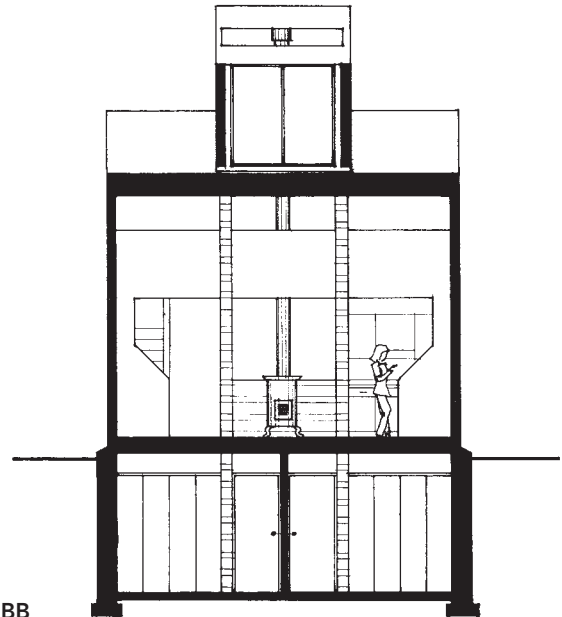


Perspective

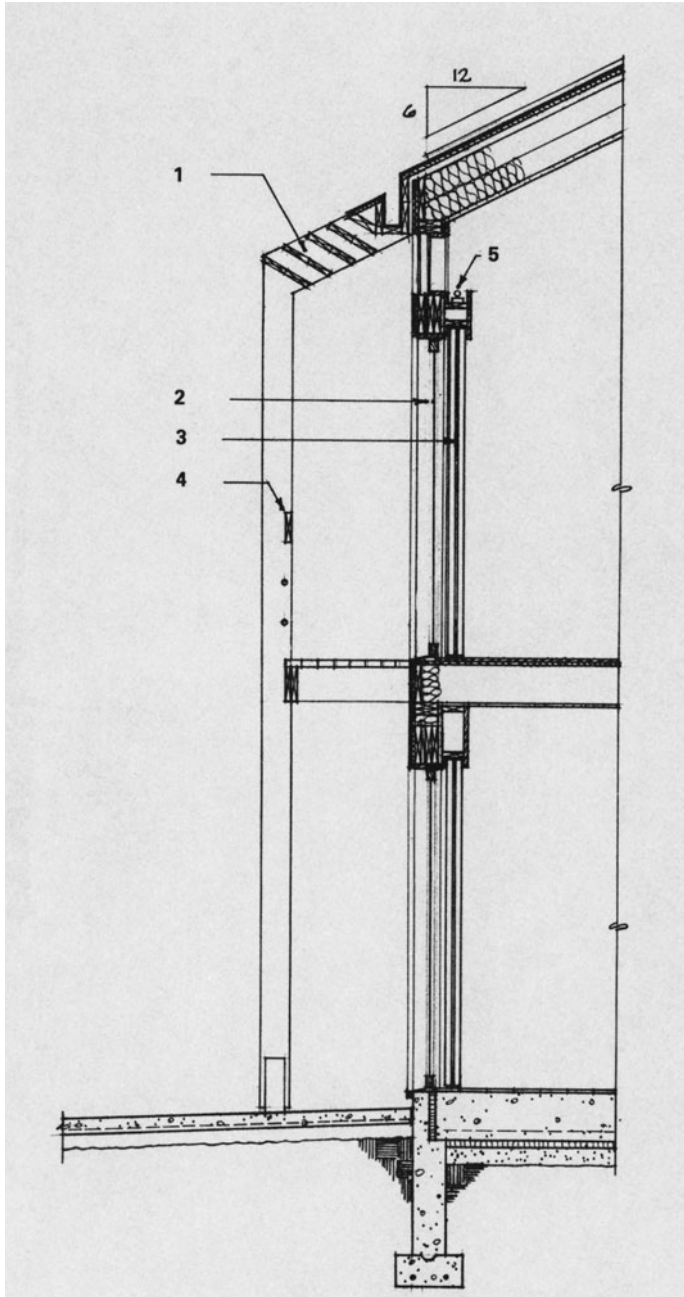
Modified Colonial Saltbox



Section AA



Section BB



- 1 Wood Louvers
- 2 Wood Sliding Doors
- 3 Sliding Translucent Insulating Panels
- 4 Hand Rail
- 5 Light Cove

South Wall

Modified Colonial Saltbox

1 Roof

Standing Seam Metal Roof
5/8" Plywood Underlayment
2 x 12 Rafter w/2 x 2 Nailer, 24" O.C.
12" Batt. Insulation
Vapor Barrier
5/8" Gypsum Bd.

2 Loft

3 Wall

5/8" Gypsum Bd.
Vapor Barrier
2 x 6 Studs, 16" O.C.
Batt. Insulation
5/8" Insul. Sheathing
Horizontal Cedar Siding

4 Floor

Hardwood Flr.
3/4" Plywd. Subfloor
2 x 10 Joists, 16" O.C.
5/8" Gypsum Bd.

5 Main Floor

6 Wall

5/8" Gypsum Bd.
Vapor Barrier
3 1/2" Studs, 16" O.C.
Batt. Insulation
60 Mil. Waterproofing
8" Conc. Foundation Wall

7 Ground Floor

8 Floor

Quarry Tile
4" Concrete Slab
Vapor Barrier
1 1/2" Rigid Insulation
4" Sand Cushion

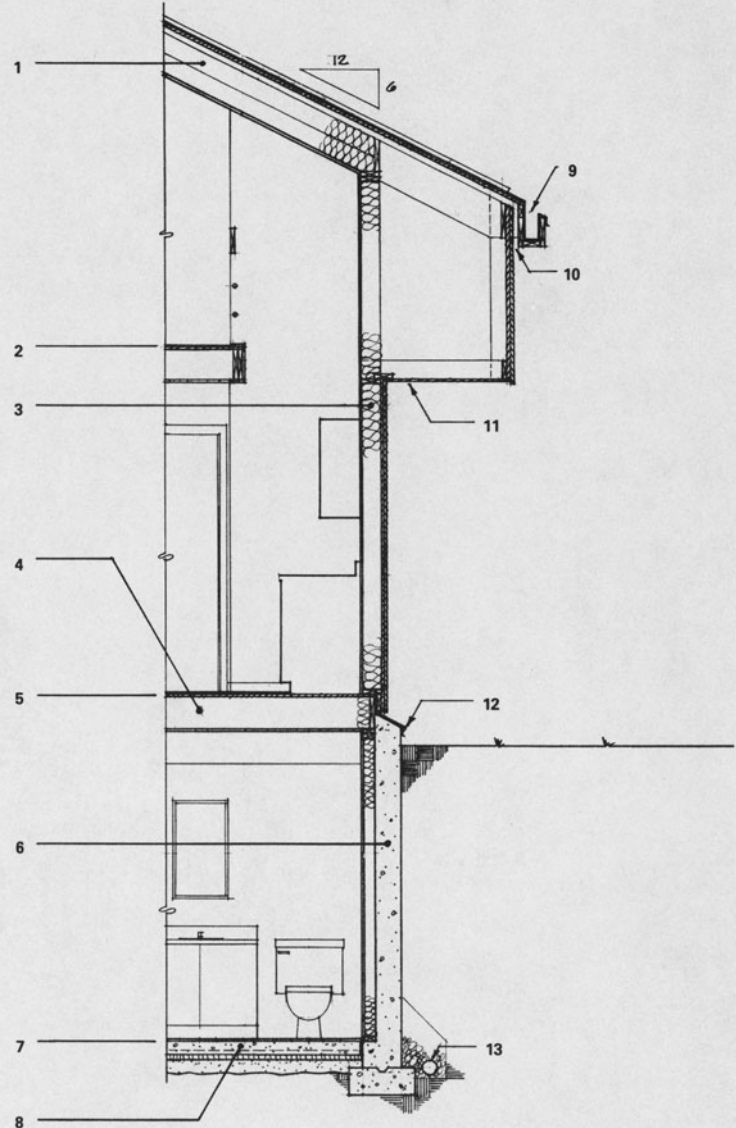
9 Metal Gutter in Wood Frame

10 Contin. Vent

11 Plywood Soffit

12 Metal Cap Flashing

13 Footing Drain



North Wall

Nature Lover's House

Lincoln, Massachusetts

960 gross square feet

A home for an amateur naturalist who requires a flexible program allowing for both social and solitary usage; here a high, quiet perch provides both and strikes a balance between protection and exposure.

A cost-efficient post foundation emphasizes both long water views and eye-level forest canopy. The house is summer shaded, protected from the northeast winter wind, and well above possible floods.

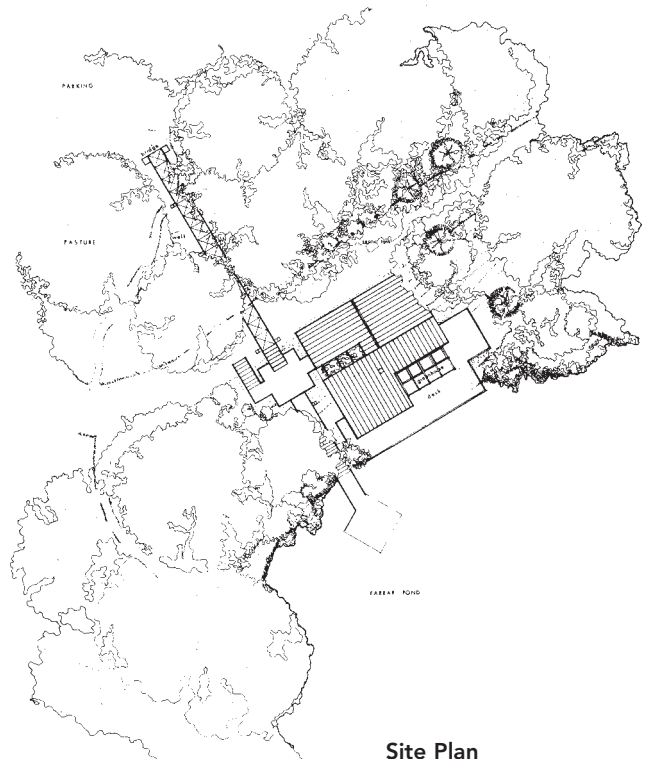
A large planned woodlot will thin over time to grazing land, retaining all trees along the water line and enough growth elsewhere for windbreaks, animal shade, and erosion control.

The parti points not just to a structure in harmony with the terrain, but also to ultimate treehouse of childhood, reinterpreted according to adult needs.

A long bridge from the driveway/parking area is playful in its suggestion of a moat, but quite serious in its practical linking with the pond below. The ample porch is balanced by a private deck off to the side, designed specifically as a retreat and as a site for a small, protected aviary.

The site is a mixture of meadow, marsh, and woodland on glacial till. The pond shore is either under conservation or in limited private hands dedicated to preservation. The pond supports much migratory and permanent wildlife, and is a routine nesting ground for geese, heron, duck, and osprey.

Neil Husher and Kathyanne Cowles

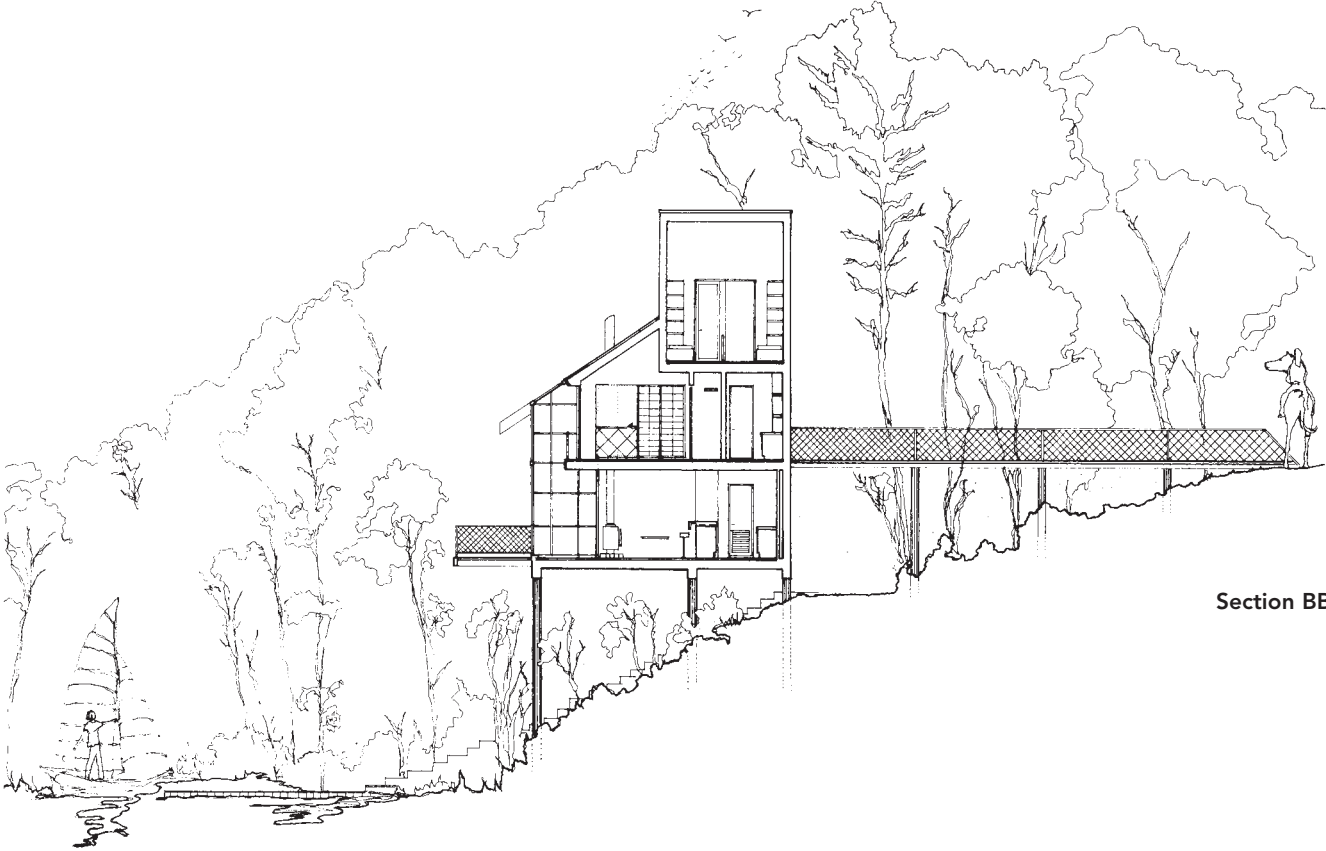


Site Plan

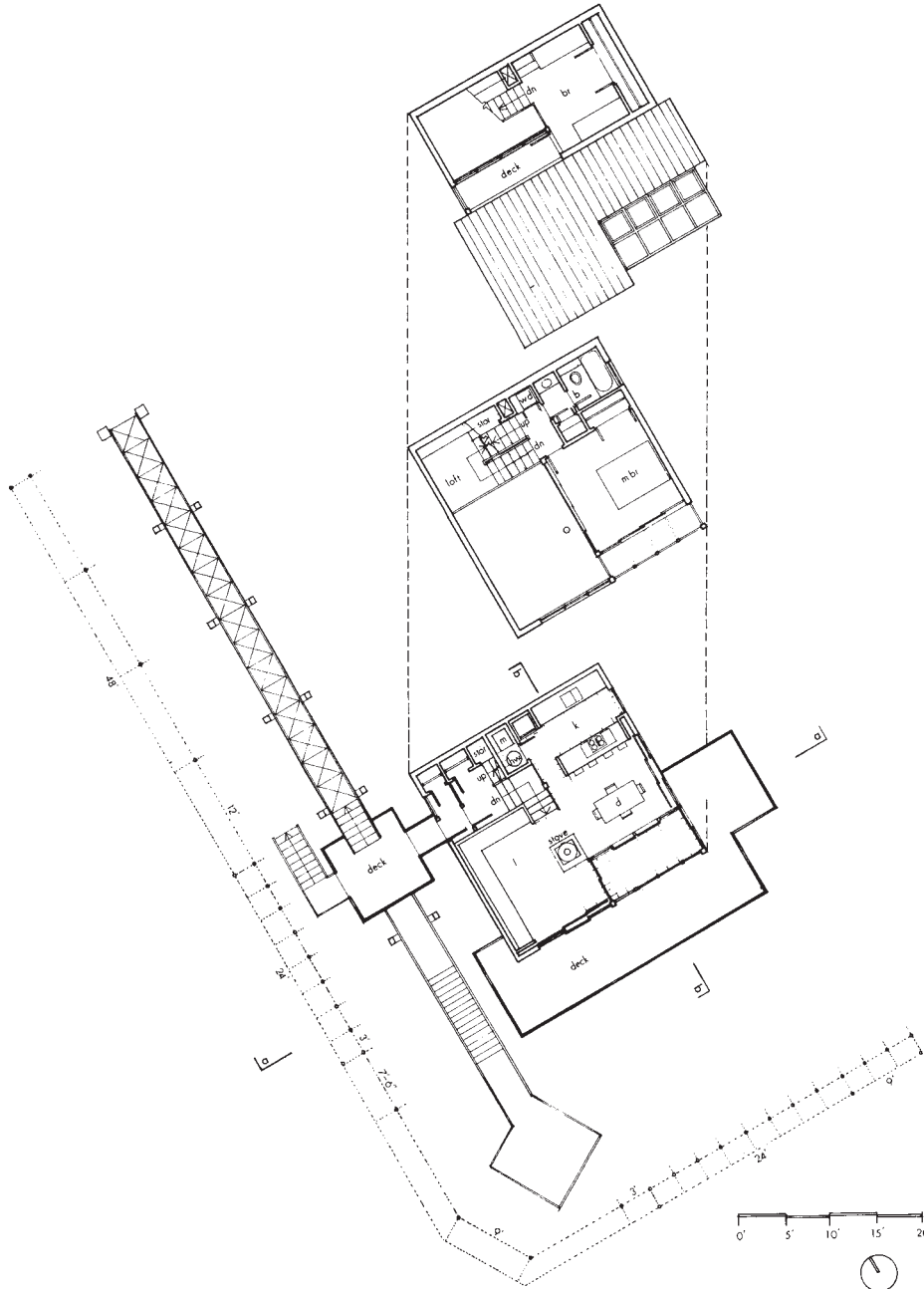
Nature Lover's House



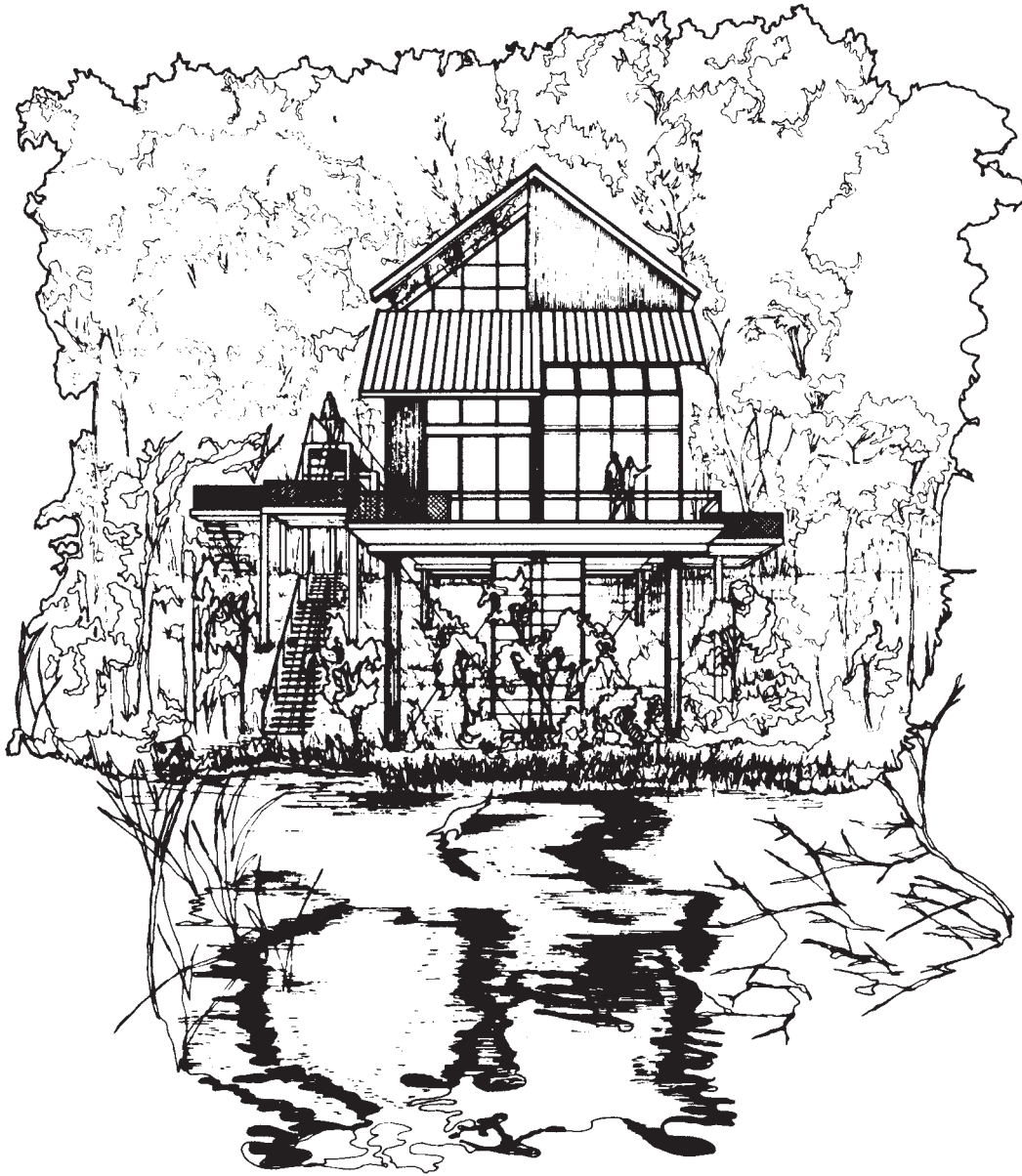
Section AA



Section BB



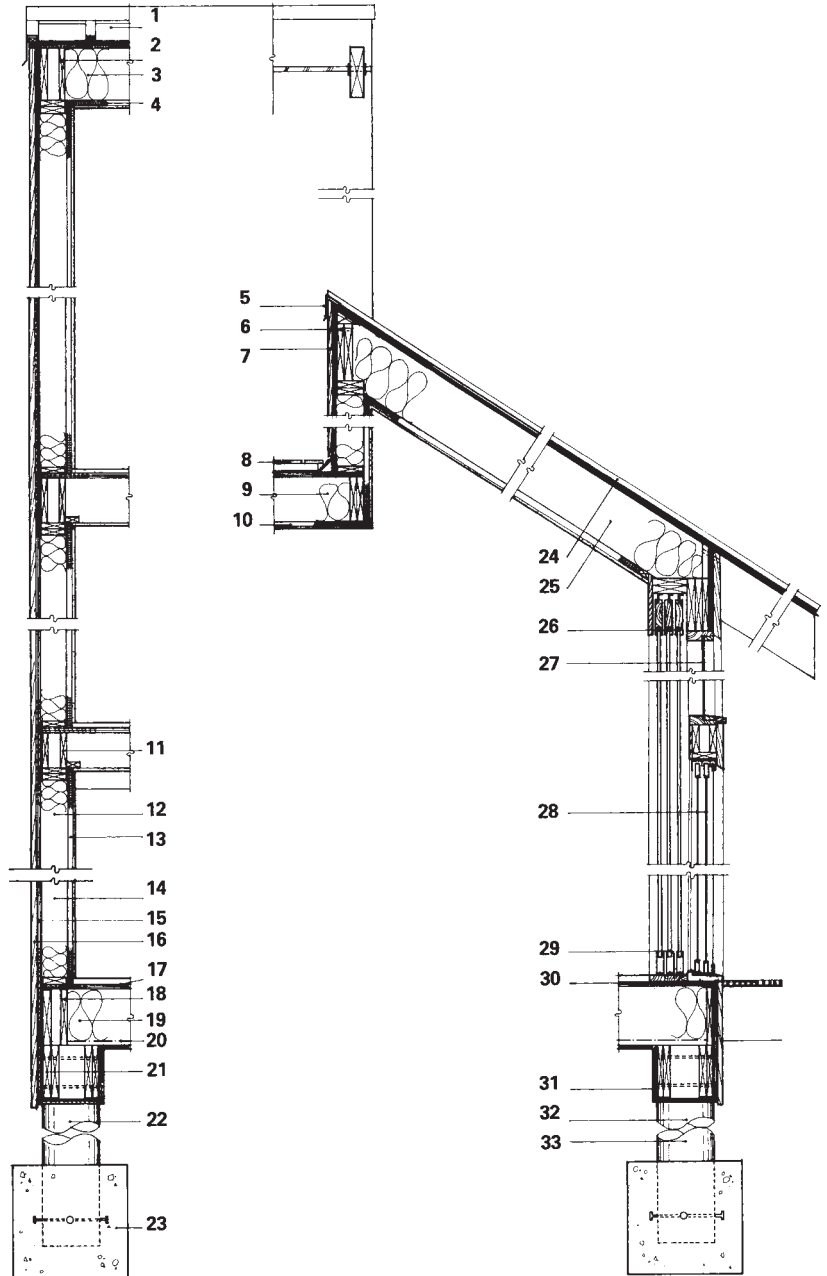
Floor Plan



Perspective

Nature Lover's House

- 1 Standing Seam Metal Roof
- 2 2 x 12 Rafters @ 24" O.C.
- 3 10" Batt. Insulation
- 4 1" Foam Insulation Taped for Vapor Barrier
- 5 Flash
- 6 Vent Holes
- 7 Tongue & Groove Siding
- 8 Wood Deck on Built-up Roof
- 9 8" Batt. Insulation
- 10 1" Foam Insulation Taped for Vapor Barrier
- 11 2 x 8 Joists @ 24" O.C.
- 12 5" Batt. Insulation
- 13 1" Foam Insulation Taped for Vapor Barrier
- 14 2 x 6 Studs @ 24" O.C.
- 15 1/2" CDX Plywood
- 16 Tongue & Groove Siding
- 17 Vapor Barrier
- 18 2 x 12 Joists @ 24" O.C.
- 19 10" Batt. Insulation
- 20 Wire Mesh
- 21 4, 2 x 12 Built-up Beams Bolted to Post
- 22 18" Pressure-Treated Pole (creosote),
Notched to Receive Wood Beams
- 23 Concrete Footing
- 24 Standing Seam Metal Roof
- 25 10" Batt. Insulation
- 26 Insulated Shoji Screens
- 27 Wood Frame Window Fixed Glass,
Double Glazed
- 28 Aluminum Frame Double-Glazed
Sliding Glass Doors
- 29 Insulated Shoji Screens
- 30 Metal Grill Decking on Pad
- 31 1/2" CC Plugged Ext. Plywood Painted
- 32 18" Pole
- 33 Steel Cable Cross-Bracing



Wall Section

Underground Eden

Prescott, Arizona

1,000 gross square feet

The intent of this concept is to create an efficient, quality, garden environment that is adaptable to many different site conditions and family lifestyles, and is economical to build and operate.

A passive solar direct heat gain technique utilizes the sunken garden, floor-to-ceiling double-glazed glass, and the triple-glazed skylight. During the winter, when the tree has lost its leaves, the protected garden becomes a heat sink, which increases the outside temperature adjacent to the glass wall, thereby reducing interior heat loss.

Direct solar energy enters the house through the glass wall and skylight. It is stored in the exposed floor slab and rear wall mass. Cooler room temperatures cause the stored heat to radiate back into the interior.

The centrally located fireplace is actually a high efficiency wood-burning stove with glass screens, outside combustion air intakes, and an air chamber built into the hood. With the barometric evaporative cooler damper closed, the air inside the chamber is heated quickly by the fire and is drawn through the exposed sculptural duct system by natural convection.

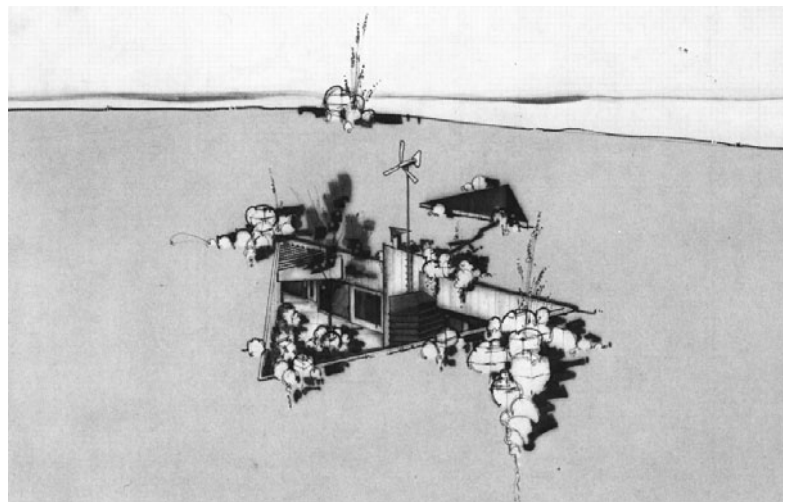
Perspective

In-line duct "assist" fans could be incorporated to accelerate air movement when necessary.

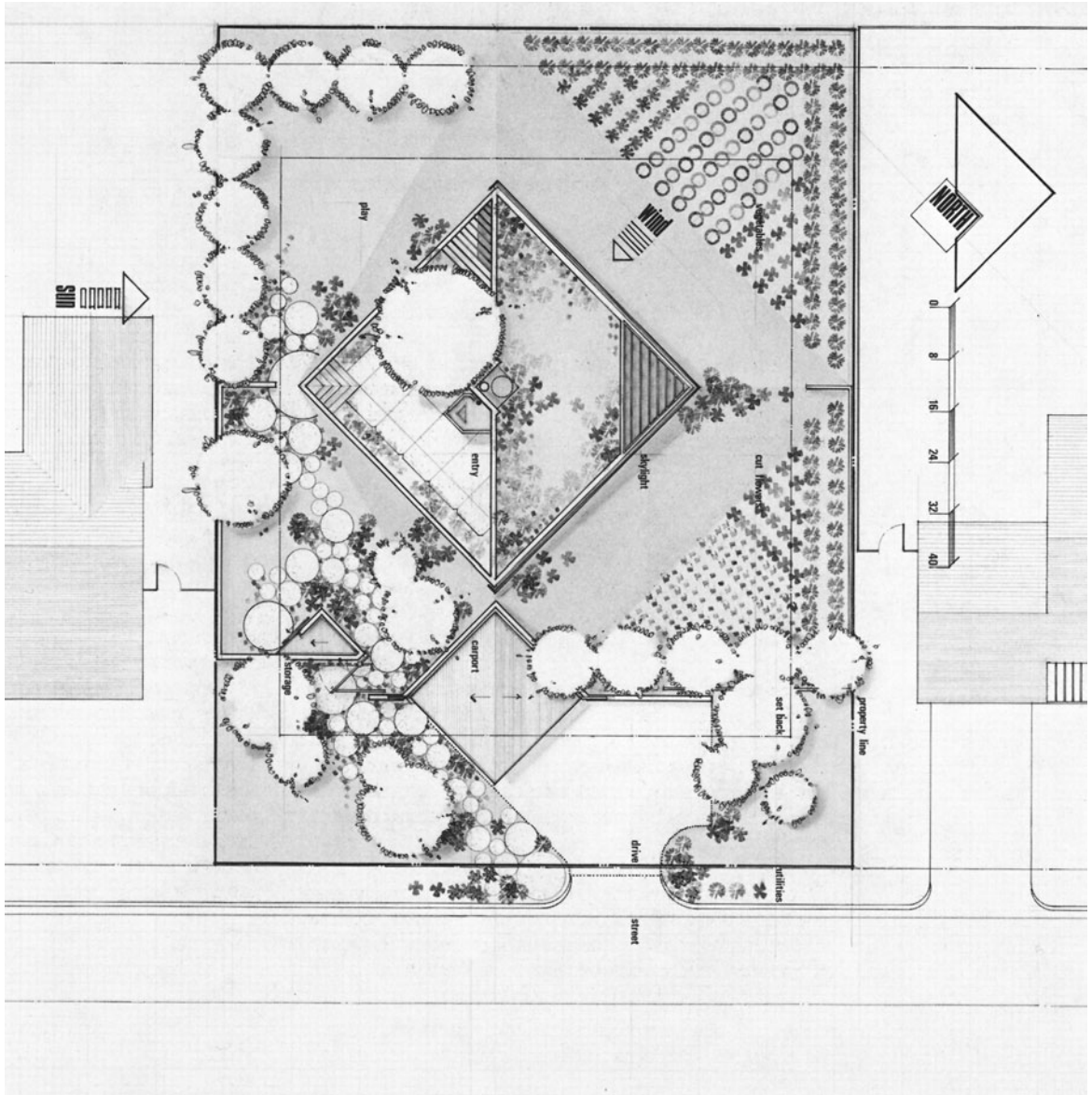
Wind power could supply electrical energy for auxiliary portable floor units when more heat is needed. The pole fan above the sleeping loft provides additional warm air circulation.

For cooling, the garden tree and canvas trellis shade flush south glazing without inhibiting the view, and the five-foot porch overhang protects living room glass. A removable wooden lattice screen is placed over the skylight to minimize direct solar exposure, and the earth-insulated wall stabilizes exterior wall temperatures.

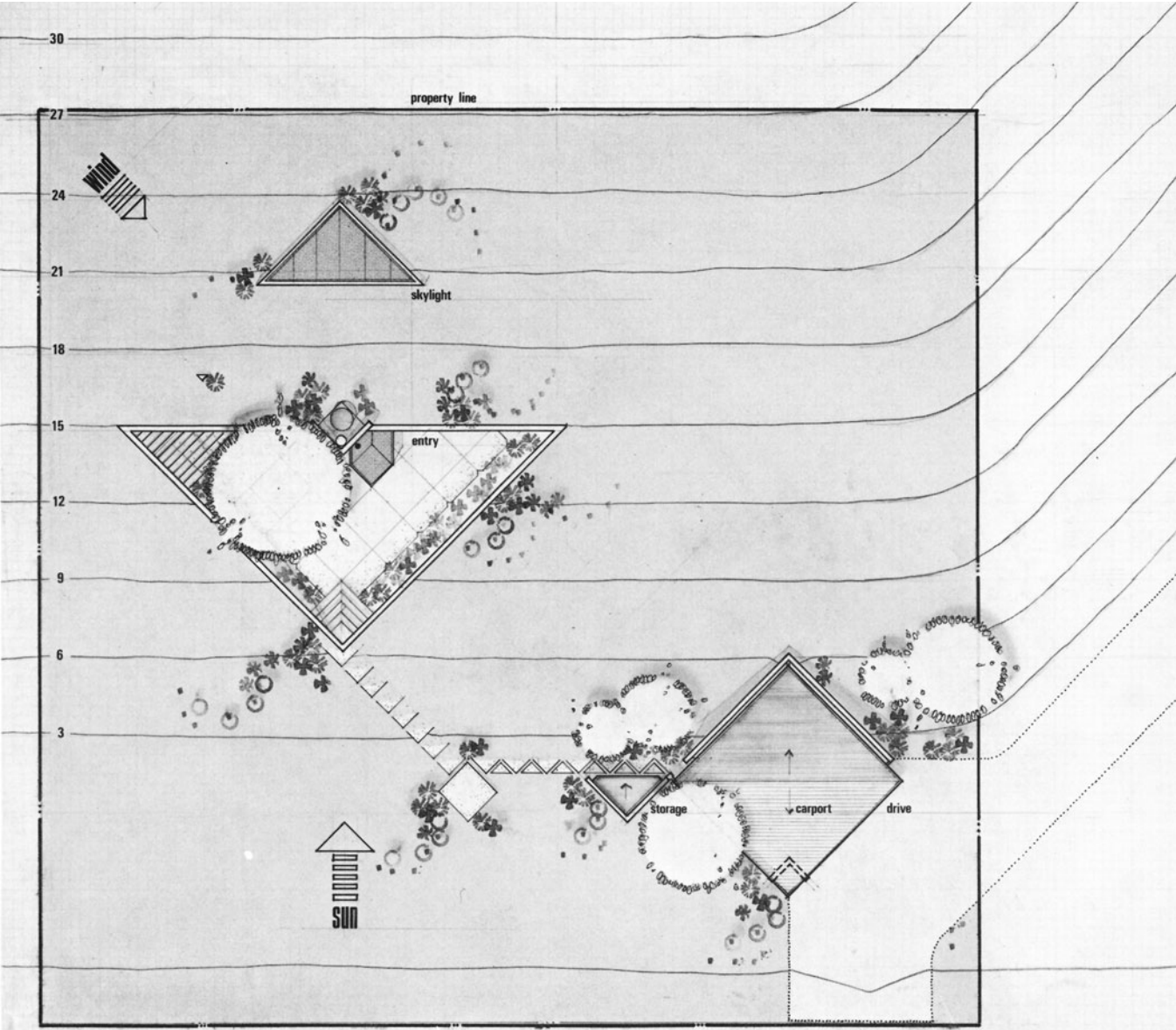
Edward Madison Jones



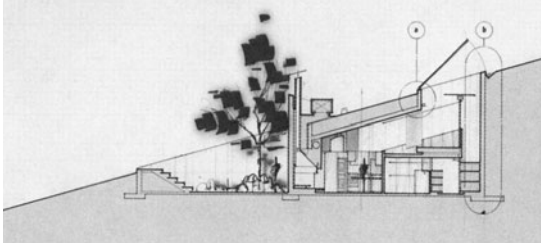
Underground Eden



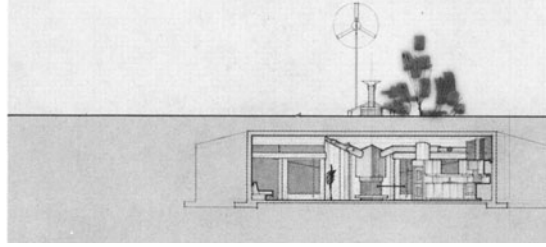
Site Plan



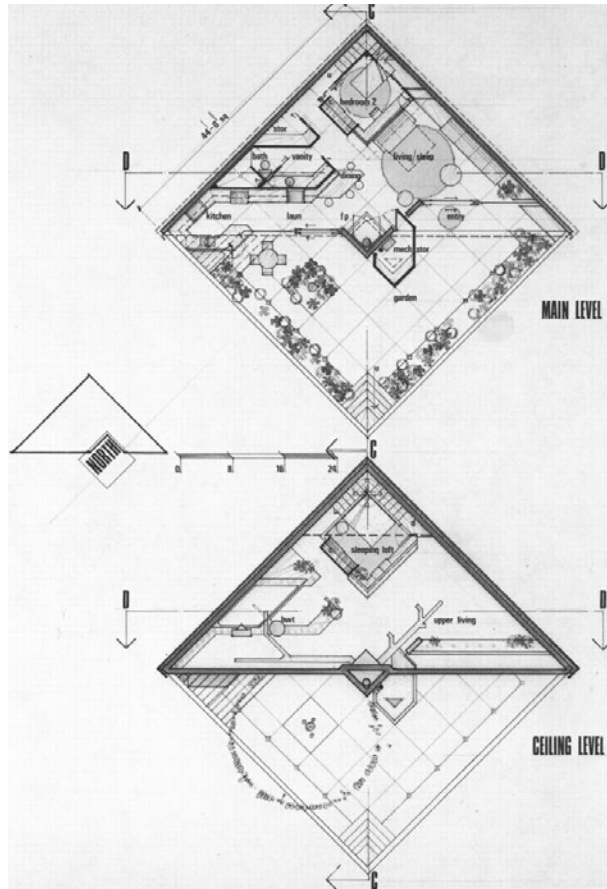
Underground Eden



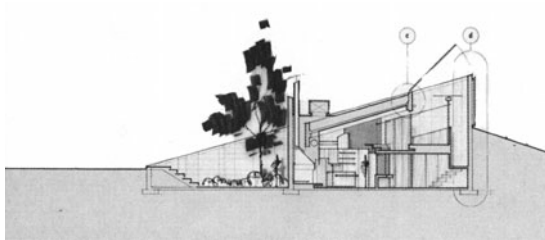
Section AA



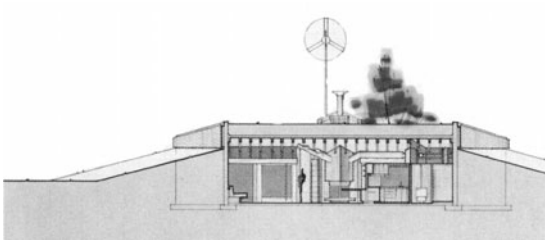
Section BB



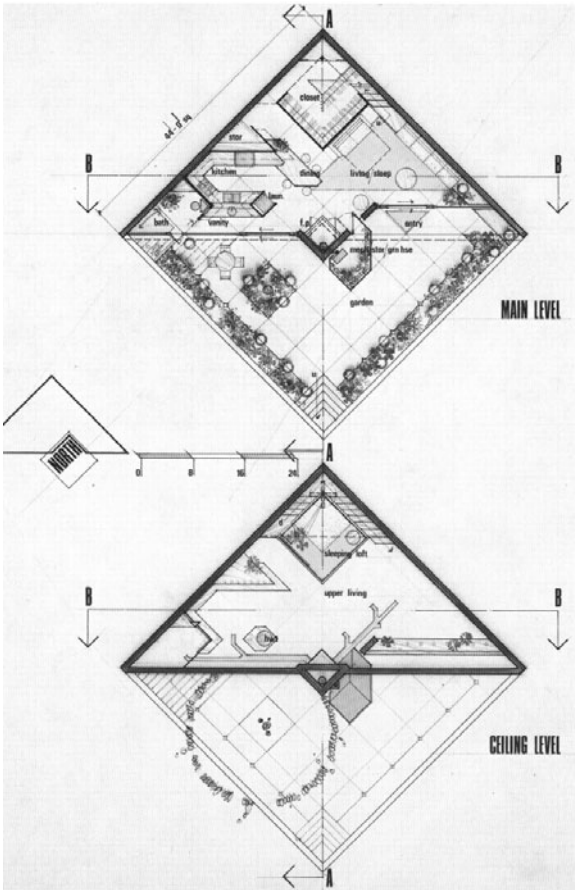
Floor Plan



Section CC



Section DD



Floor Plan

Vermont Retreat

Central Vermont

993 gross square feet

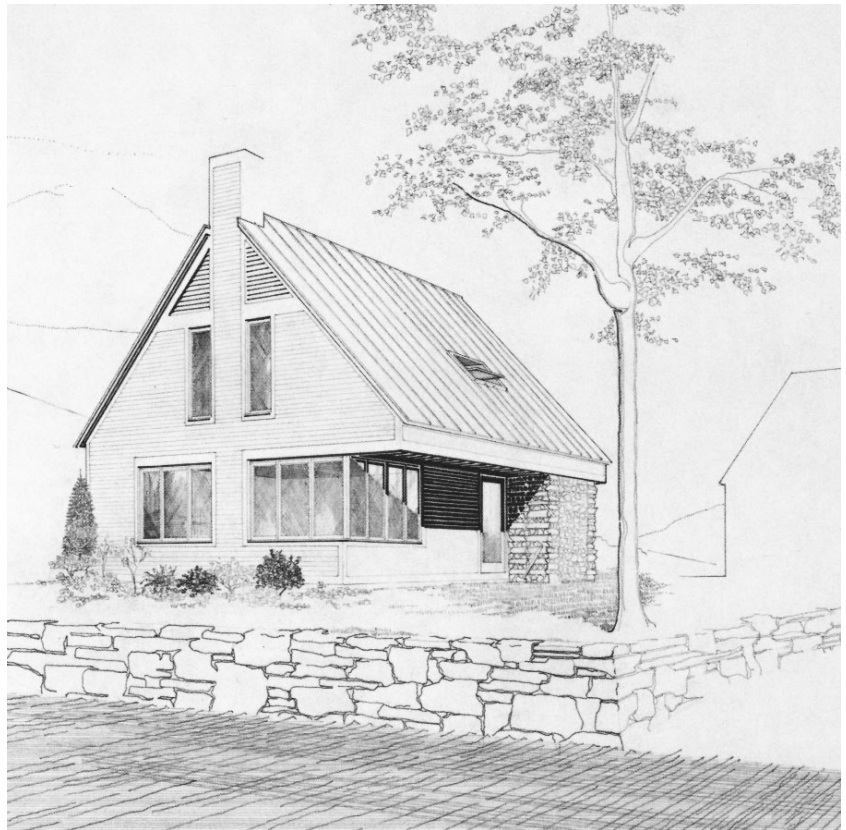
The compact house should be an economic alternative to the mobile home. To compete, all systems must be based on standard building procedures, and easily constructed by a carpenter or owner-builder.

The heat storage system utilizes the first floor for a collector and storage for both passive and wood heat.

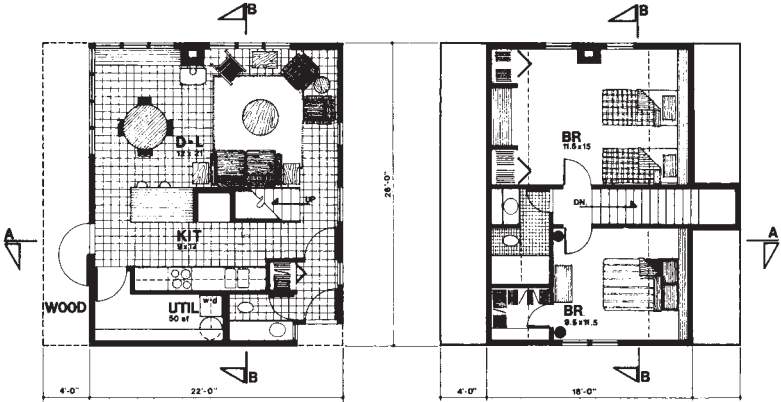
This house is in a central Vermont valley with western hills obstructing the afternoon sun. The soil is sandy, providing good septage, but a town system is nearby, and alternative pricing should be considered.

Considerable cost savings could be realized with alternate floor and sliding finishes, and altering the heat storage.

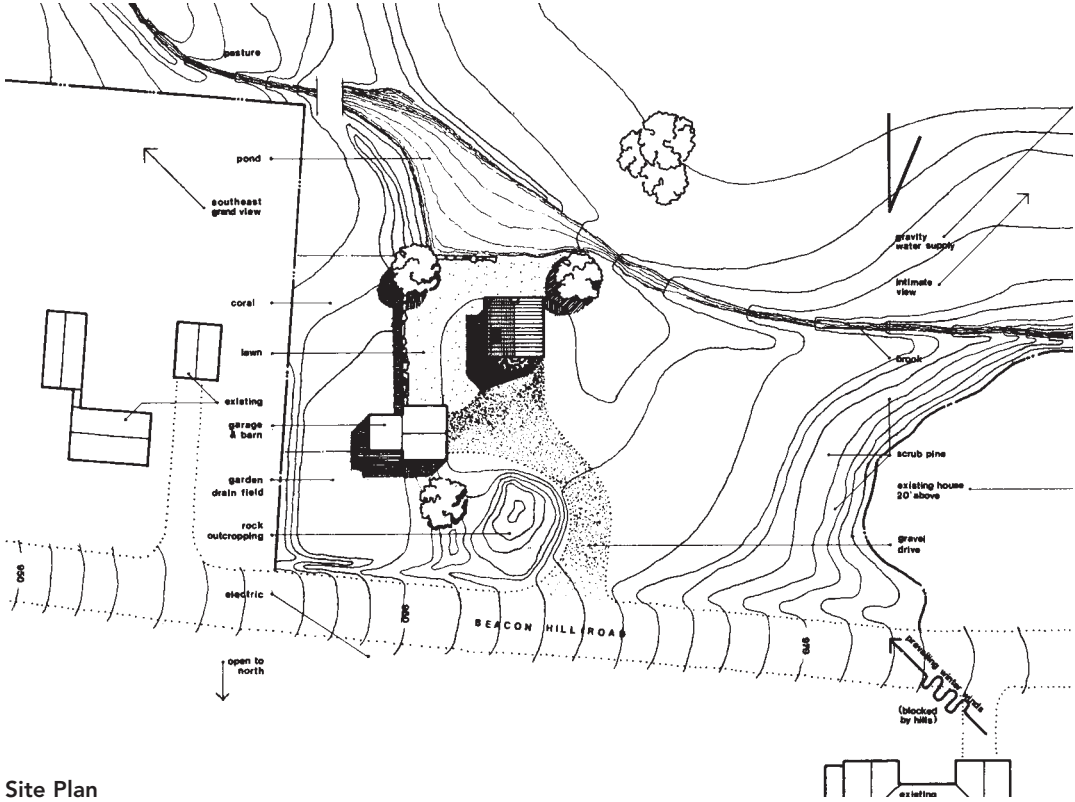
Tom Leytham



Perspective

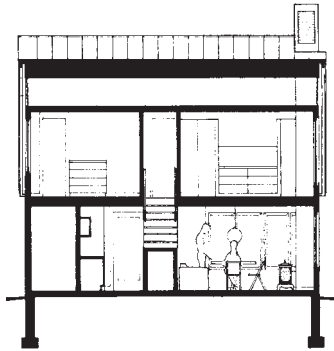


Floor Plans

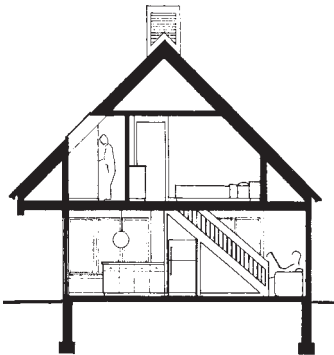


Site Plan

Sections

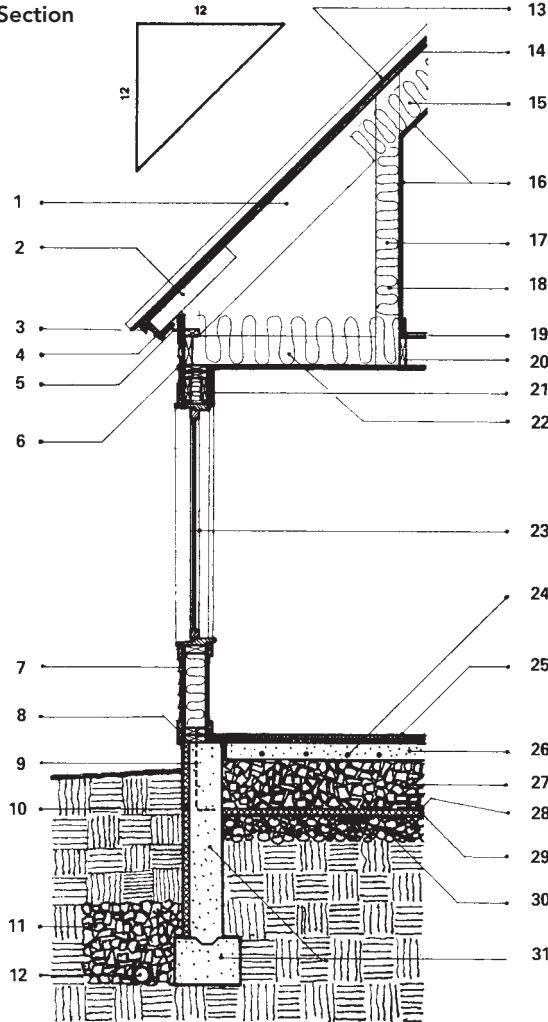


BB



AA

Wall Section



- 1 2 x 12s—16" O.C.
- 2 2 x 4 Scab
- 3 1 x 2 Trim
- 4 1 x 6 Trim
- 5 Eave Vent with Screen
- 6 Clapboard Siding
- 7 Insulating Sheathing (Brace)
- 8 Fiberglass Sill Seal
- 9 Anchor Bolt
- 10 2" Rigid Insulation
- 11 Crushed Stone
- 12 Footing Drain
- 13 Standing Seam Metal Roofing
- 14 5/8" Plywood
- 15 9" Fiberglass in Sloped Roof and 12" in Flat
- 16 Gypsum Board
- 17 5 1/2" Fiberglass Insulation with Vapor Barrier
- 18 2 x 6s—16" O.C. (Balloon Frame)
- 19 3/4" Tongue & Groove Plyw'd
- 20 2 x 10 Blocking
- 21 2-2 x 6s
- 22 2 x 10'—16" O.C.
- 23 Casement Window
- 24 Heat Piping
- 25 Masonry Floor Set in Cement Bed
- 26 Light Weight Concrete Slab
- 27 Crushed Stone
- 28 Vapor Barrier
- 29 2" Rigid Insulation
- 30 Gravel
- 31 Concrete Footing & Frost Wall

Storybook Cottage

New Haven, Vermont

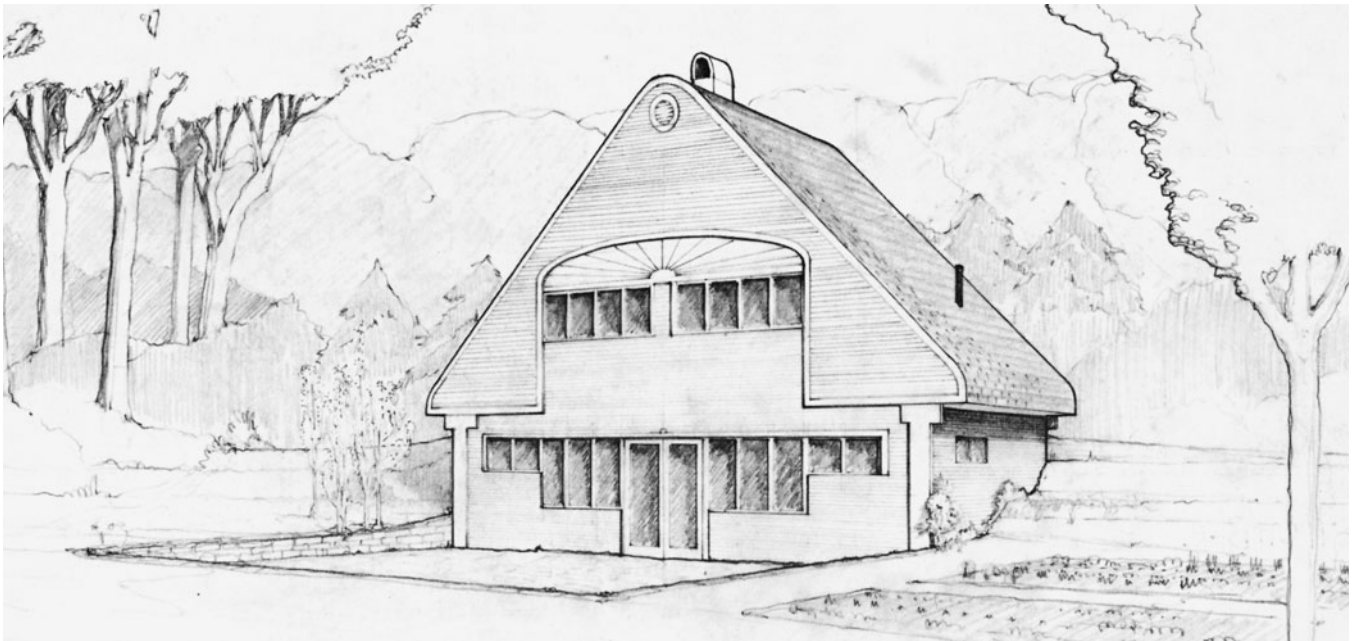
978 gross square feet

This compact house design combines simple structural and energy-efficient planning with the detail and craftsmanship of traditional New England building. A regional approach incorporates indigenous forms such as the breezeway, ellipse-shaped and engaged fan trim, and crafted details within a curved roof form. This house design is oriented towards people desiring design and craftsmanship with quality and character. The orientation of the gable end to the south allows for the maximum visual impact by this small house.

The elongation of the plan maximizes the solar potential. Options include: earth berming with second-floor entry, garage, breezeway, greenhouse, alternate northwest entry, and attic expansion space.

The combination of superinsulation and solar contributions will reduce overall energy consumption to less than one or two cords of wood per year, depending on location and user characteristics.

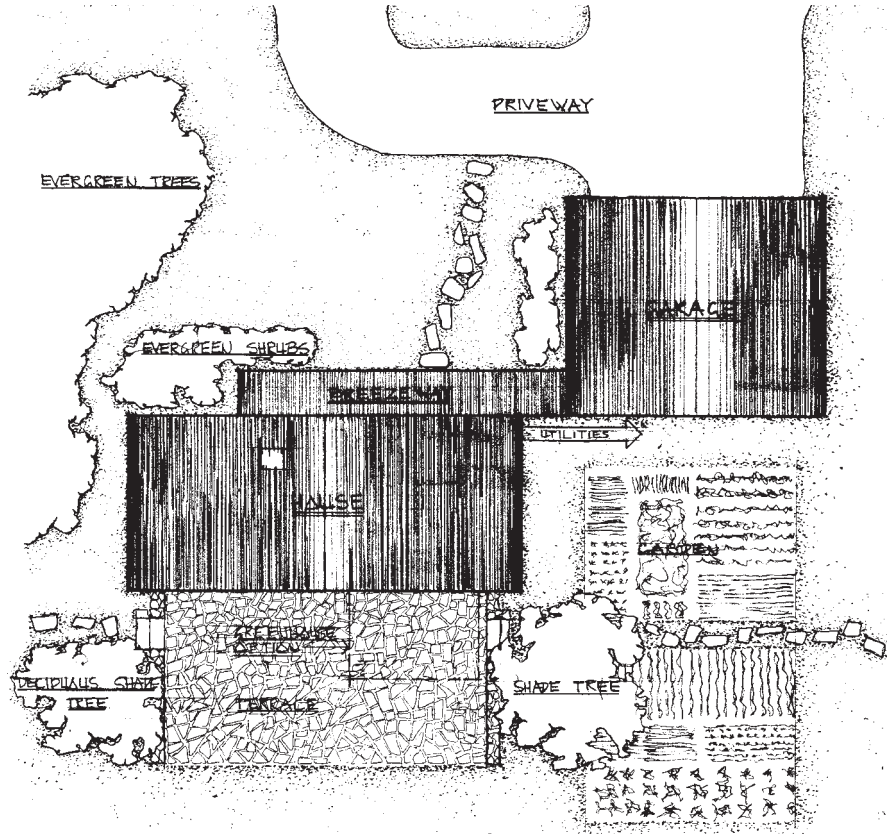
William Maclay



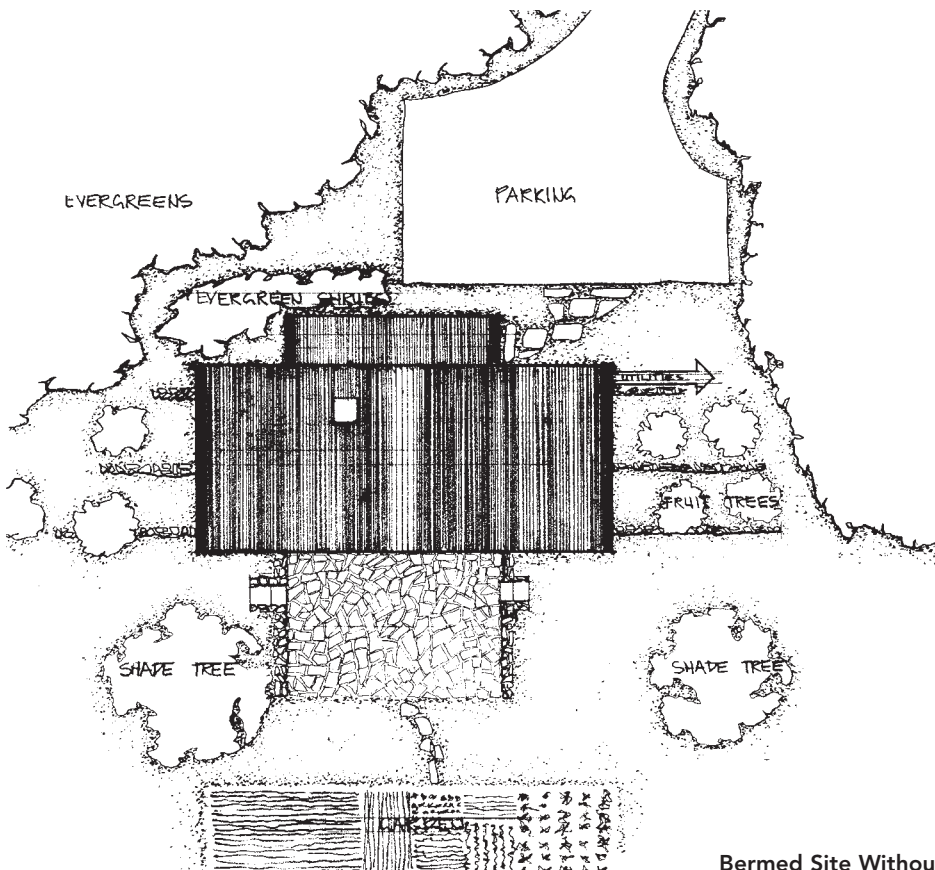
Storybook Cottage



Perspective

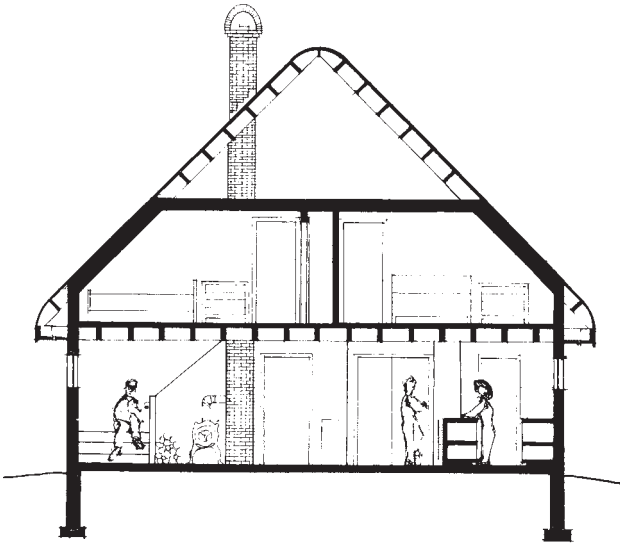


Bermed Site With Garage

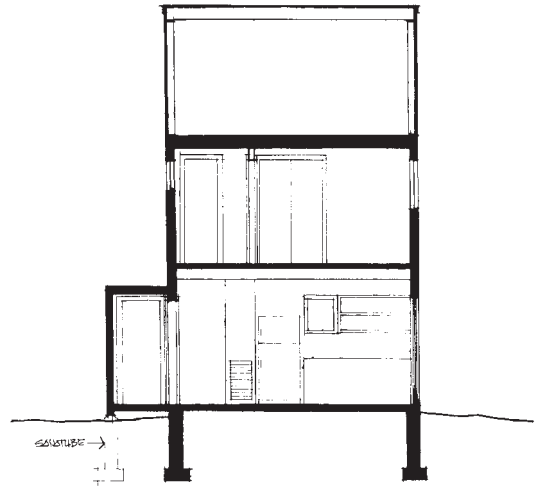


Bermed Site Without Garage

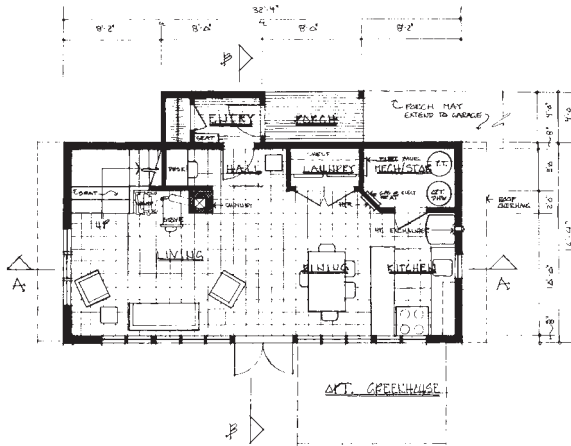
Storybook Cottage



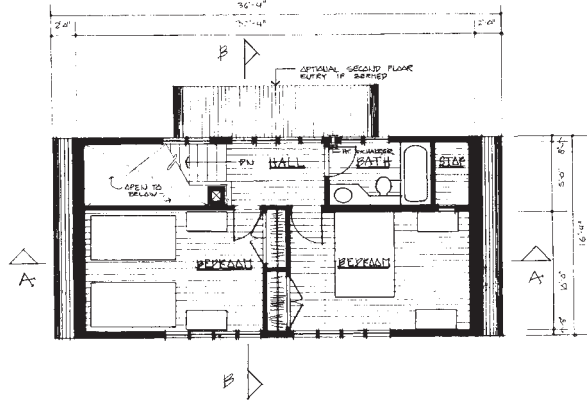
Section AA



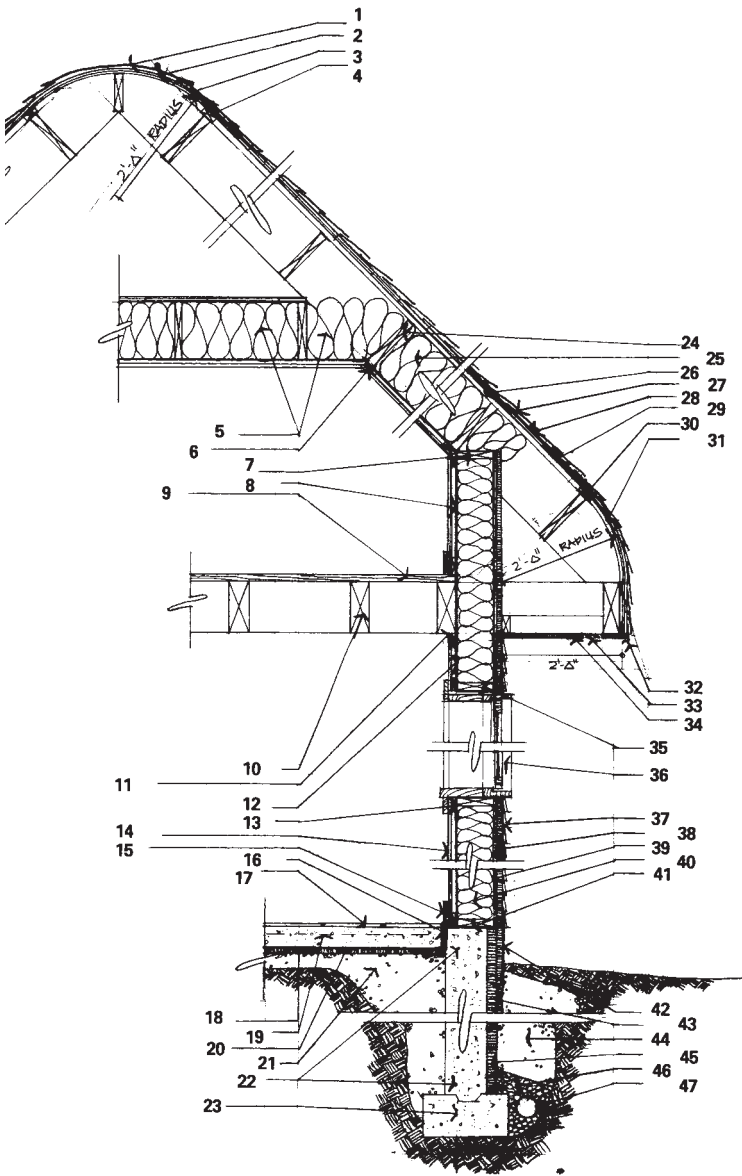
Section BB



First Floor Plan



Second Floor Plan



- 1 Roll Roofing @ Cap
- 2 15# Felt
- 3 2 Layers 1/4" AC Ply @ Curve-Curved Blocking @ Joints
- 4 Furring
- 5 12" Fiberglass Insulation
- 6 3/4" Furring-16" O.C.
- 7 2 x 8 Balloon Framed Wall @ East & West w/Cont. V.P.
- 8 Air Space for Elect. Chase
- 9 2 x 6 T&G Flrg.
- 10 Exposed 4 x 10 Joists 24" O.C.
- 11 J or L Bead
- 12 6 Mil. Vapor Barrier x/No Penetrations-Lap All Joints
- 13 3/4" Furring for Elect. Chase
- 14 1/2" Gyp. Bd.
- 15 Baseboard
- 16 1/2" Premolded Expansion Joint
- 17 Tile or Slate-Mastic Set
- 18 1" EPS Rigid Insulation
- 19 4" Slab w/6 x 6 8/8 WW Fabric
- 20 6 Mil Poly-Lap @ Wall
- 21 Compacted Gravel Fill-4" MIU
- 22 8" Wall w/2-#4 Bars-Top & Bot.
- 23 PTG w/Key or #14 Stl. Dowels-24" O.C. Typ.
- 24 2 x 12 Rafter-24" O.C.
- 25 12" Fiberglass Insulation
- 26 Air Space for Vent
- 27 Asphalt Shingles
- 28 15# Felt
- 29 1/2" CDX Sheathing
- 30 Furring
- 31 2 Layers 1/4" AC Ply-curved Blocking @ Joints
- 32 Drip Edge
- 33 Soffit Vent
- 34 1" T&G Soffit or 1/2" AC Ply
- 35 No Header @ Window-Non Structural Wall
- 36 PermaShield Windows or Eq. Seal w/Polycel Sealant and Vapor Barrier
- 37 Clapboards-3" Exposed
- 38 1" Blueboard Insulation
- 39 1/2" CDX Ply Sheathing
- 40 9" Fiberglass Insulation
- 41 Sill Insulation
- 42 Aluminum Flashing to 1'-0" B.G.
- 43 3" Blueboard to 2'-0" B.G.
- 44 Gravel Fill
- 45 2" Blueboard Insulation
- 46 Crushed Stone
- 47 Perimeter Drain

Wall Section

A Taste of the Far East

Sandstone, West Virginia

875 gross square feet

The site is a ridge top in Summers County, West Virginia, with excellent views of the New River and the village of Sandstone to the northeast, and tree-covered Chestnut Mountain to the south.

This area has cool winters; pleasant springs and falls; and warm, hazy summers. Annual rainfall is about 35 to 45 inches. The wettest month is July; the driest, October.

Planned for owner-builders, the house is conceived as a modest but comfortable shelter, retreating into itself in cold weather and opening up to the site in warm weather. The overhanging roof not only provides protection for upper-level sleeping porches, summer kitchen, entry, and north porch, but collects rainwater to be filtered and stored as the primary domestic supply.

Inside the house, storage areas are located on the north, living areas on the south.

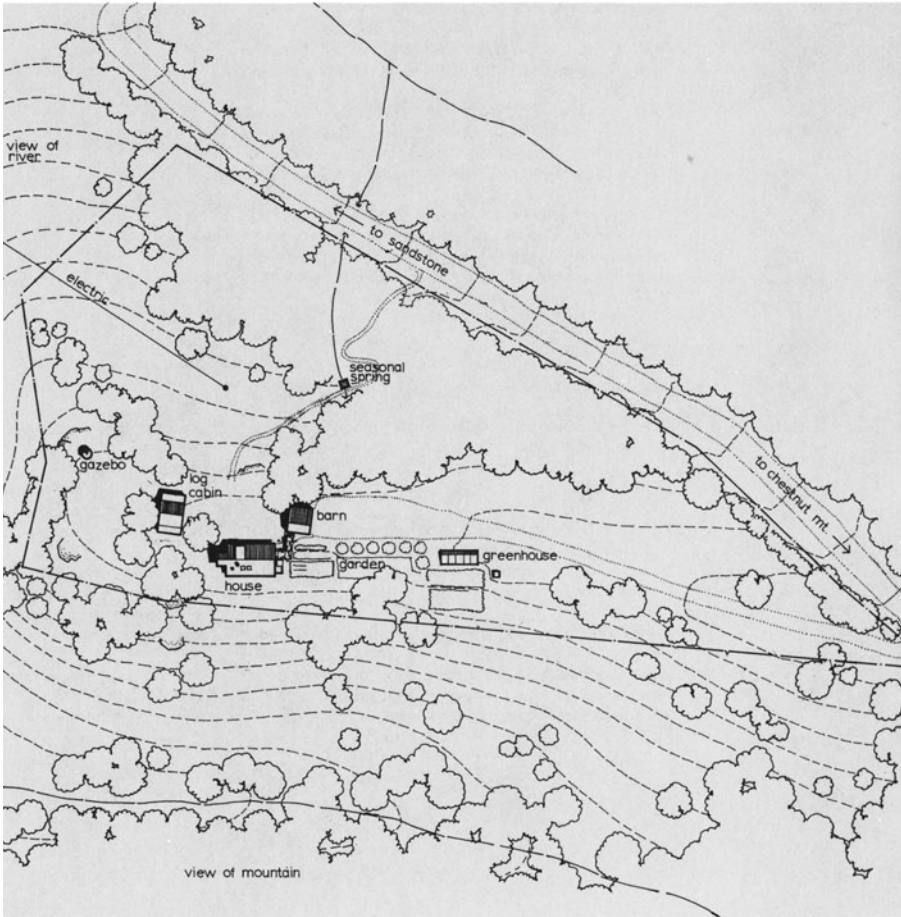
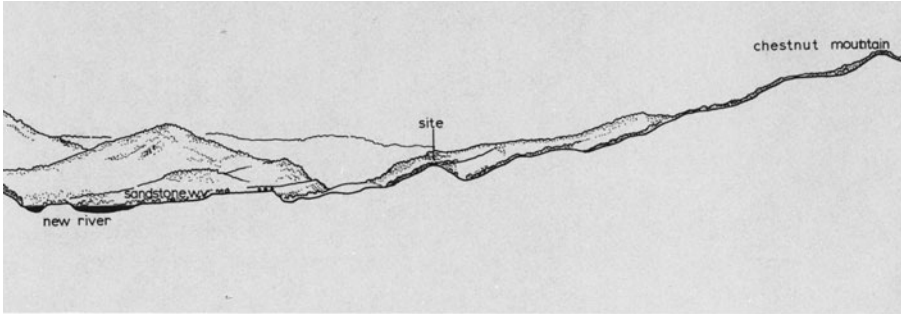
The k'ang, or Korean-style heated masonry floor, forms the center of the house. Furniture is kept to a minimum; seating is built in or a function of floor level change.

Folding beds create more usable space upstairs and allow flexibility of sleeping location. Folding chairs and an expandable table provide extra space for dinner guests.

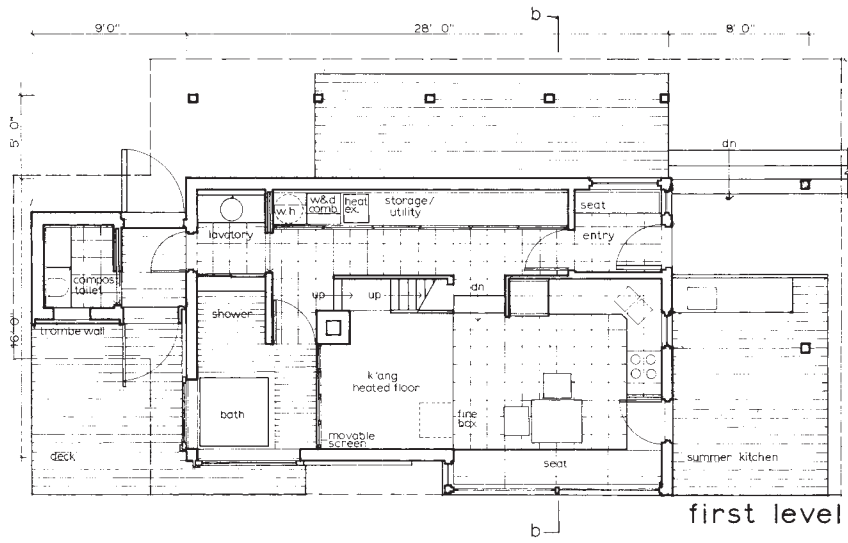
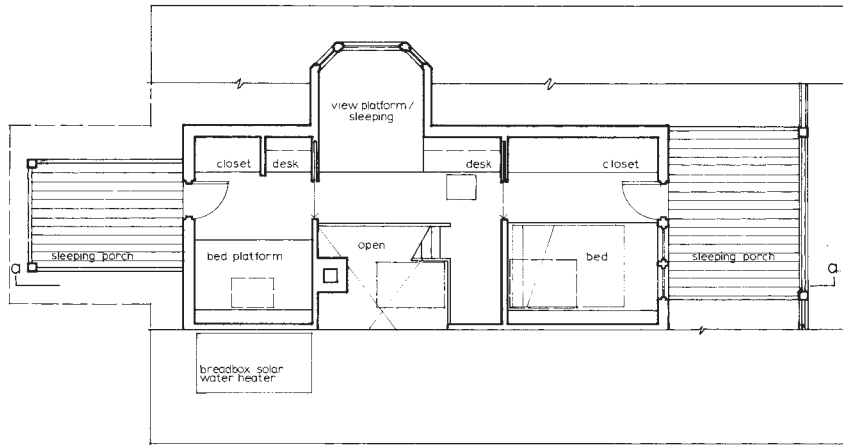
Bruce Osen



Perspective

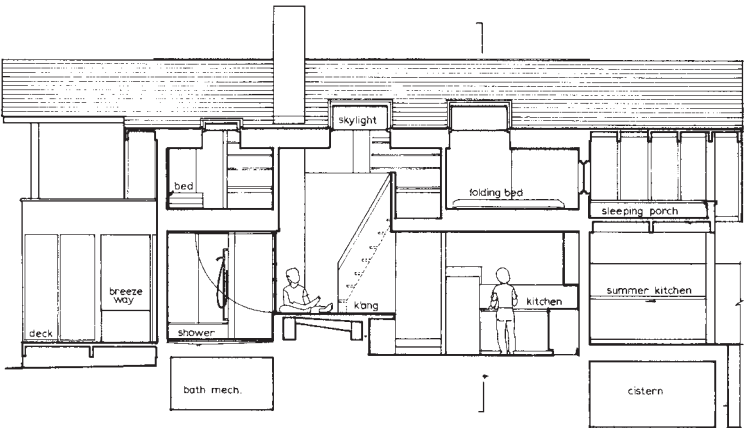


Site Plan

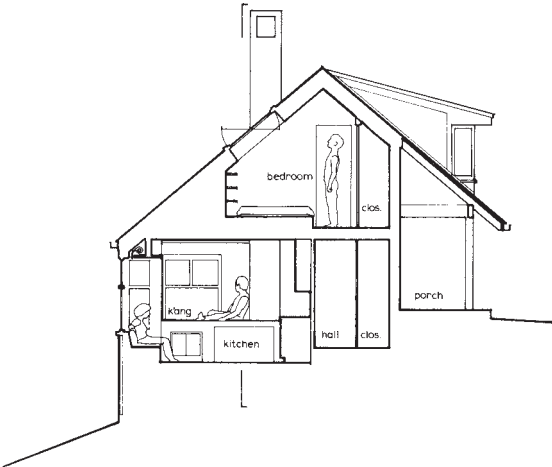




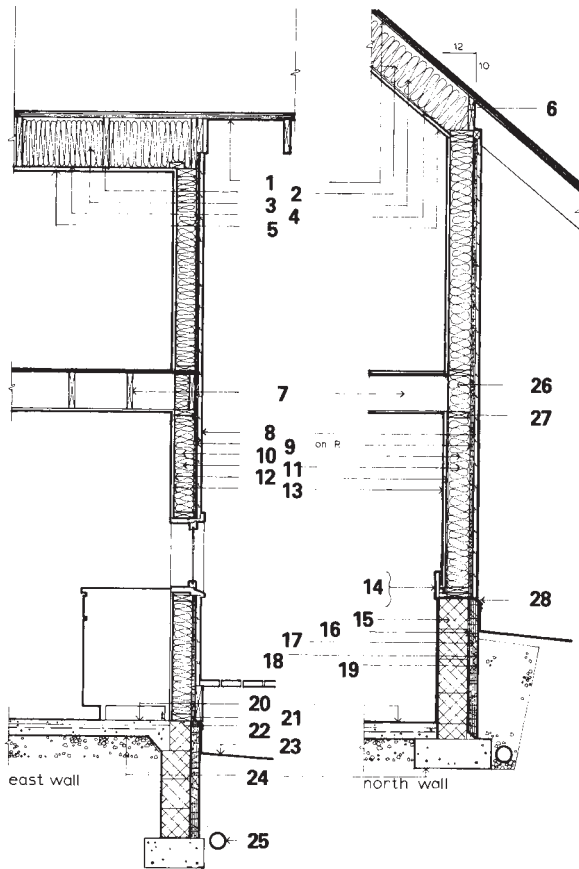
Perspective



Section AA



Section BB



- 1 $\frac{5}{8}$ " CDX Plywood
- 2 2 x 12" Rafters
- 3 12" Fiberglass Insulation R-38
- 4 6 Mil. Poly Vapor Barrier
- 5 $\frac{1}{2}$ " Drywall
- 6 Vents
- 7 2 x 10 Floor Joists
- 8 1" Drop Siding
- 9 1" Rigid Insulation R-6.5
- 10 6" Fiberglass Insulation R-19
- 11 2 x 6 Studs
- 12 6 Mil. Vapor Barrier
- 13 $\frac{1}{2}$ " Drywall
- 14 Elec. Wiring Where Required on Exterior Wall is Placed in Raceways on the Interior Side of Vapor Barrier
- 15 Stack Bonded 8" Conc.
- 16 Bentonite Waterproofing
- 17 2" Rigid Insulation
- 18 6 Mil. Poly
- 19 Cement Asbestos Board
- 20 4" Conc. Slab
- 21 Pressure Treated Board
- 22 Sill Sealer
- 23 Grade
- 24 6 Mil. V B
- 25 4" Drain
- 26 North Wall Balloon Framed
- 27 Firestops
- 28 Drip Strip/Termite Shield

Wall Section

"Bridge House"

Malvern, Pennsylvania

997 gross square feet

Approaching the house, the garage and porch suggested in the developed plan stretch across the entry elevation, allowing the house to command an impressive aspect of the landscape. Seen this way, this compact house appears large.

The house is organized with service spaces on the north, sheltering the house and allowing the public rooms facing south to overlook a terrace that leads to an allée of fruit trees and a picturesque view of farmland.

The garage blocks winter winds and directs summer breezes to the house.

House

The double-height living and dining spaces make this compact house feel spacious and open, while the second-floor bridge articulates the space into more intimate functional areas.

The kitchen, although tucked in a corner and somewhat out of sight, is still open to the main activity areas.

The bedrooms also share the double-height space by having casement windows which can be closed for acoustical privacy.

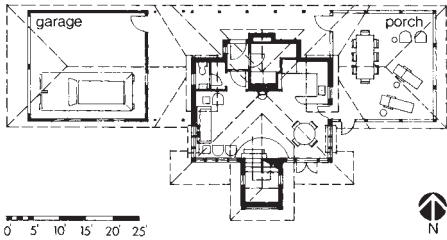
A window seat on the stair landing doubles as a bed for an extra overnight guest.

J. Douglas Peix and William R. Crawford

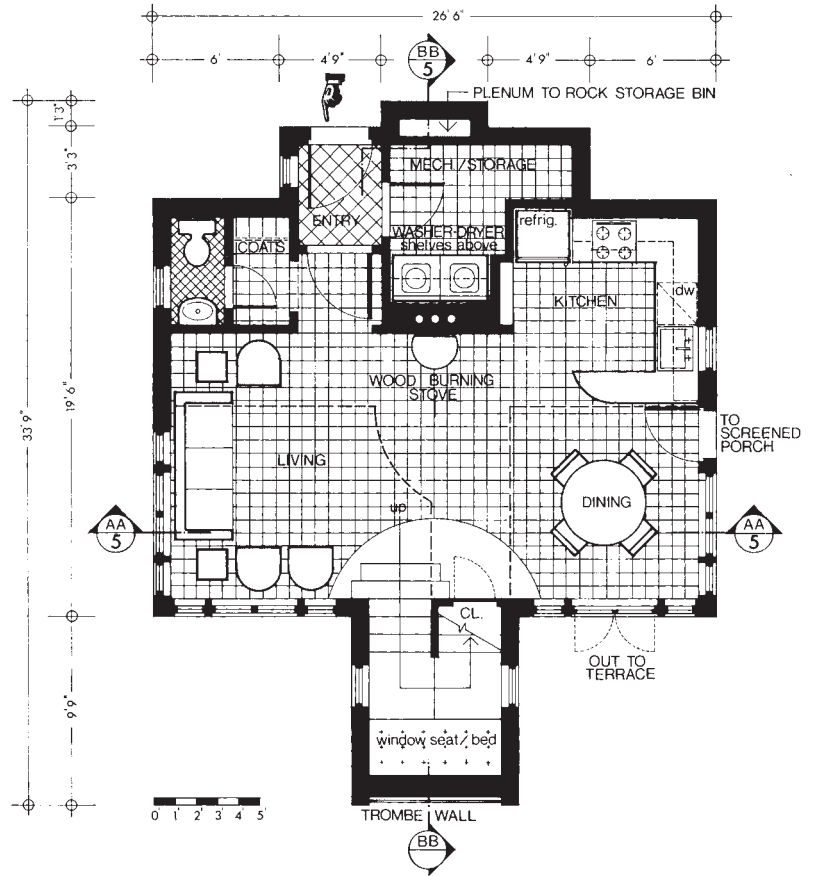


Perspective

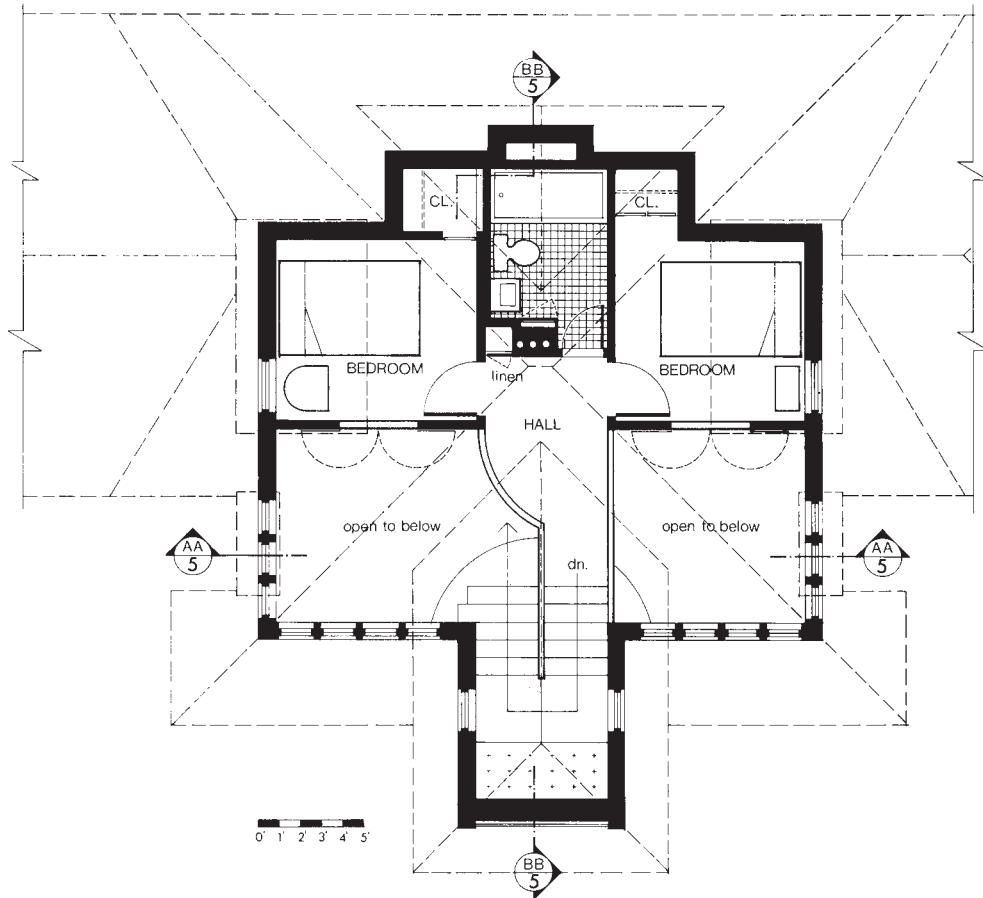
"Bridge House"



Developed Plan

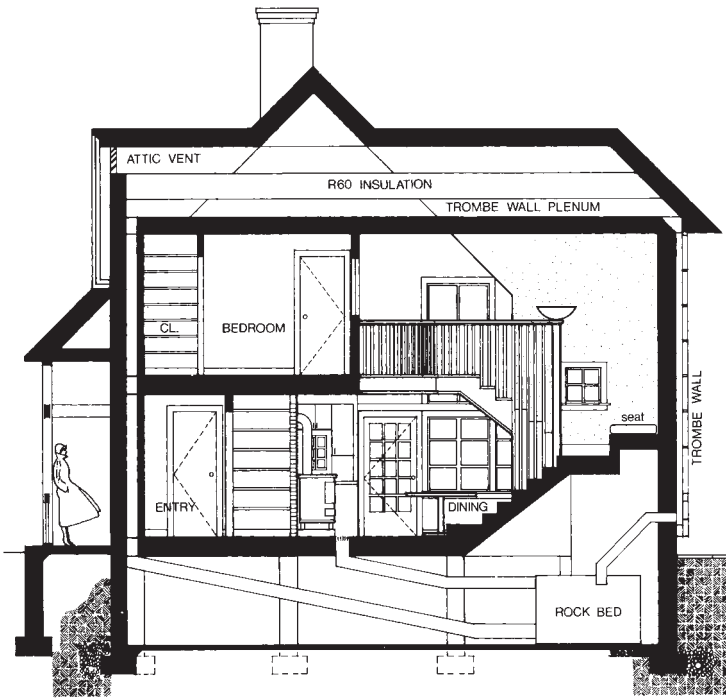


Lower Level Plan

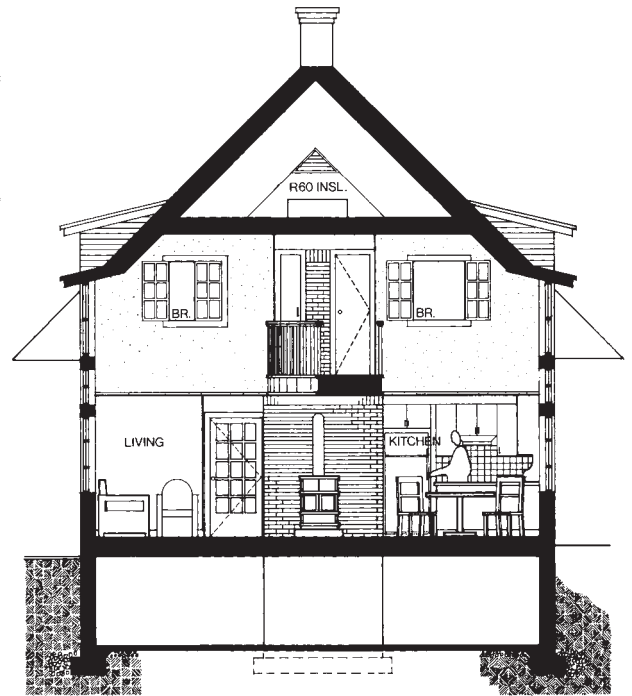


Upper Level Plan

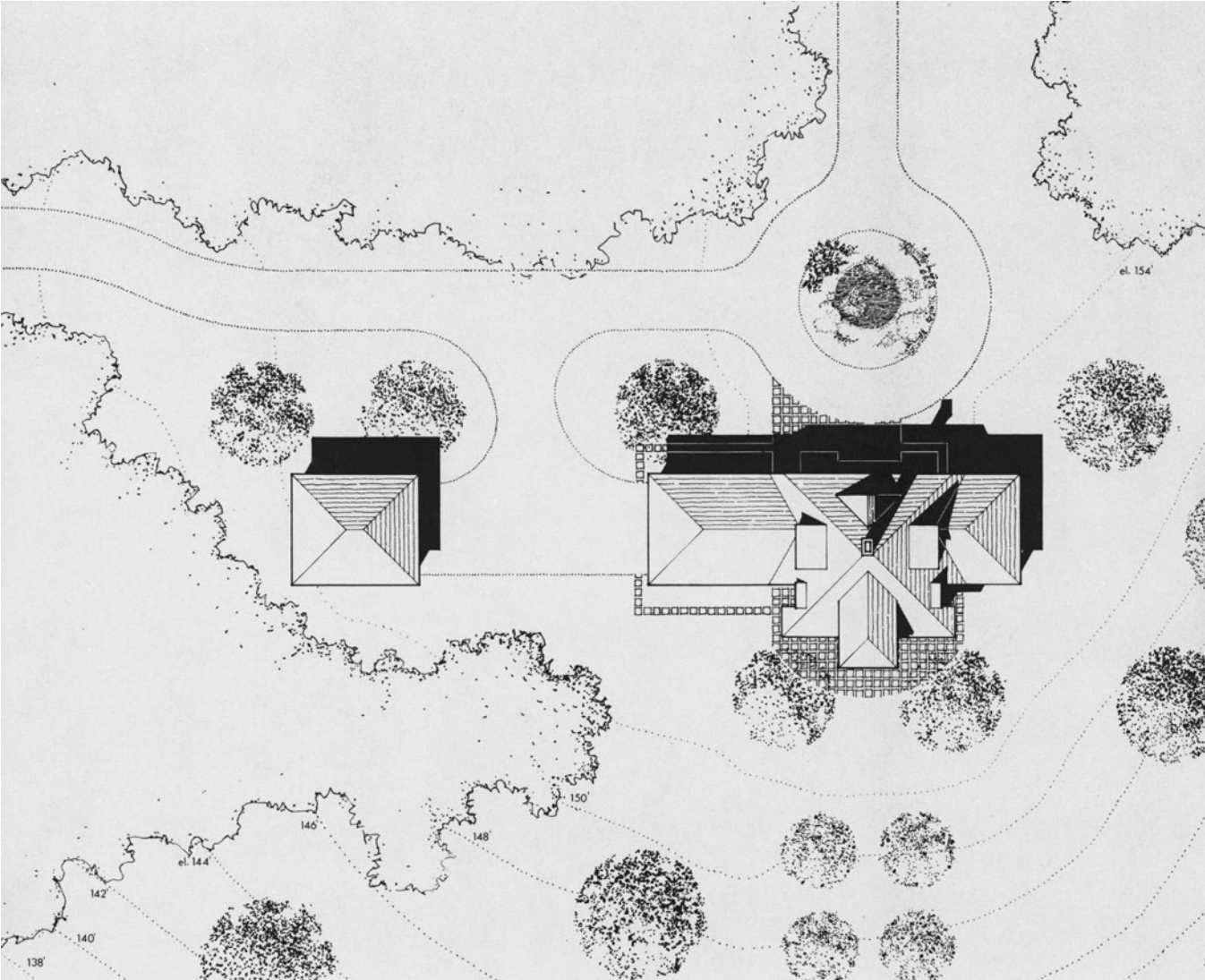
"Bridge House"



East BB



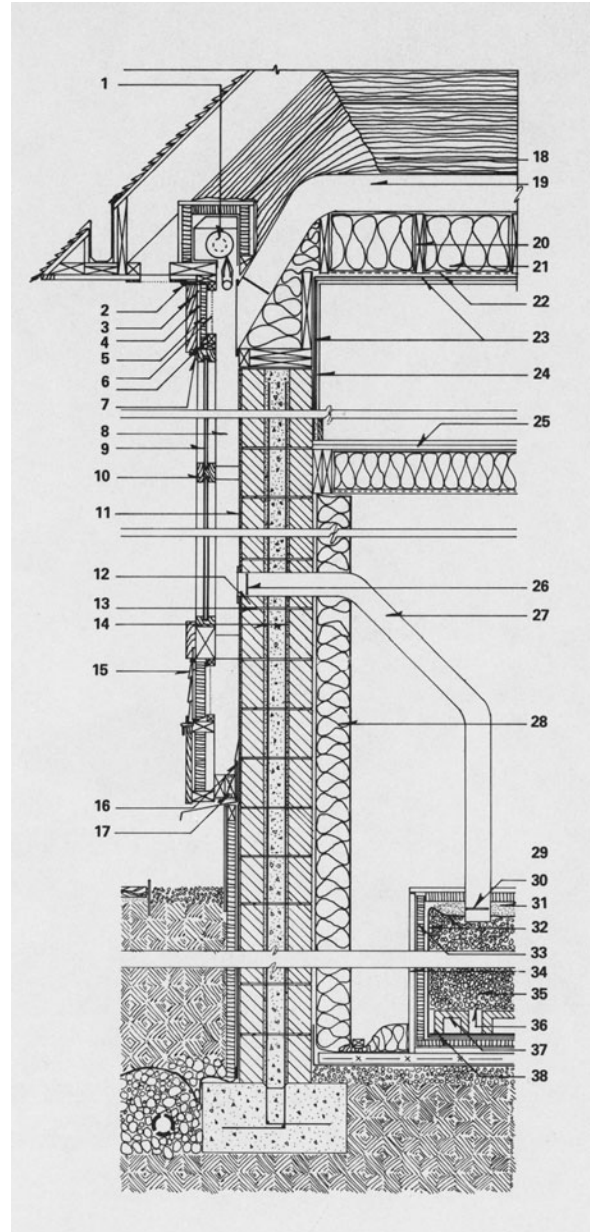
North AA



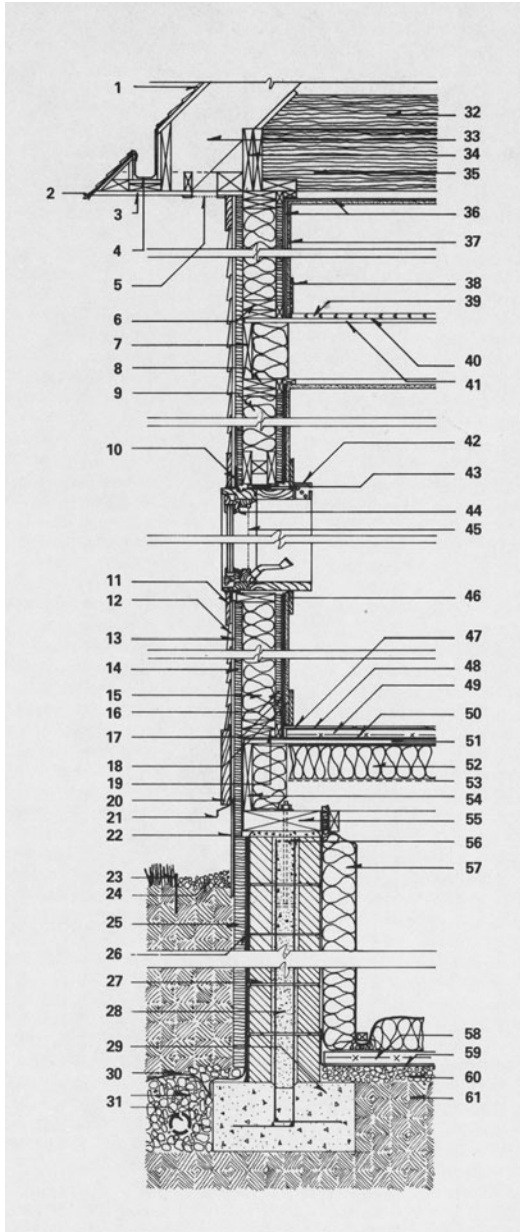
Site Plan

"Bridge House"

- | | |
|---|---|
| 1 Inflatable Insulating Curtain in Insulated Housing | 18 R-60 Roof Insulation |
| 2 Upper Outside Vent Continuous Hinge | 19 Thermosiphon Plenum with Automatic Damper to Rock Bed Heat Storage |
| 3 Cedar Face | 20 2 x 10 Joists |
| 4 3/4" Exterior Plywood | 21 R-19 Batt. Insulation |
| 5 1 1/2" Rigid Insulation | 22 Chicken Wire Support for Insulation |
| 6 Insect Screening Weather Strip | 23 6 Mil. Polyethylene Vapor Barrier |
| 7 Latch | 24 Painted GWB Laminated Directly to Concrete Block |
| 8 4" Air Space | 25 Typical Wood Floor |
| 9 5/8" Tempered Insulating Glass | 26 Back Draft Damper Loop |
| 10 Cedar Mullion with Removable Stop | 27 Thermosiphon Loop Return |
| 11 1 Part Portland Cement, 1 Part Sand Slurry with Black Masonry Pigment & Black Concrete Stain | 28 R-19 Insulated Crawl Space |
| 12 Heavy Weight Concrete Masonry Unit Grouted Solid | 29 Rock Bed |
| 13 2 #4 Rebars @ 24" O.C. | 30 Automatic Damper |
| 14 #4 Rebars @ 16" O.C. | 31 Sand |
| 15 Lower Outside Vent Similar to Upper Vent | 32 6 Mil. Poly Film |
| 16 Flashing & Counterflashing | 33 R-15 Rigid Insulation |
| 17 3/8" Diameter Weeps 2'0" O.C. with Insect Screening | 34 3/4" Plywood Enclosure |
| | 35 Dry, Clean, Non-Radon Producing Rocks |
| | 36 Metal Lath |
| | 37 Concrete Block Plenum |
| | 38 1/4" Masonite |



Trombe Wall



Wall Section

- 1 Asphalt & Fiberglass Overlay, Fed. Spec. SS-S-001534, Class A, Type I; UL Class A, Over No. 15 Asphalt Saturated Felt; Fasten with Hot Galvanized Steel Roofing Nails
- 2 Copper Flashing
- 3 3/4" Exterior Grade Plywood Roof Deck
- 4 Inset Copper Gutter with Flashing & Counterflashing
- 5 Continuous Eave Roof Vent with Insect Screening
- 6 2 x 6 Sole Plates
- 7 2 x 10 Header & Floor Joists
- 8 2 x 6 Cap Plates
- 9 2 x 6 Studs, 24" O.C.
- 10 Flashing
- 11 Cedar Trim 6" x 3/4"
- 12 Cedar Rabbeted Bevel 5" x 3/16" Siding
- 13 1/2" Exterior Grade Plywood Sheathing
- 14 1" Tongue & Groove Rigid Polystyrene Sheathing
- 15 R-19 Batt. Insulation
- 16 1" Rigid Polystyrene Insulation
- 17 6 Mil. Polyethylene Vapor Barrier
- 18 5/8" Gypsum Wall Board
- 19 2 x 6 Sole Plates
- 20 2 x 12 Cedar Trim
- 21 Copper Shield
- 22 1/4" Mineral Fiber Board
- 23 Metal Border Strip
- 24 Crushed Stone Drainage
- 25 2" Waterproof Rigid Insulation
- 26 Bituminous Waterproofing
- 27 12" Reinforced Concrete Masonry Foundation Wall with #4 Rebars
- 28 Vermiculite Cavit Insulation
- 29 Poured, Reinforced, Continuous Concrete Footing; Set 2" Below the Frost Line
- 30 6 Mil. Polyethylene Silt Shield
- 31 Graded Gravel Drainage Perforated PVC Drainage Pipe
- 32 R-38 & R-19 Batt. Insulation; Total Roof R-60
- 33 2 x 12 Rafters, 12" O.C.
- 34 Blocking
- 35 Nailer for Ceiling
- 36 6 Mil. Polyethylene Vapor Barrier
- 37 5/8" Gypsum Wall Board Taped & Compounded with 3 Coats. To Be Painted
- 38 6" x 1/2" Painted Poplar Base
- 39 Select Oak Strip Flooring 25/32" x 2 1/2". Sand, Stain & Finish with 3 Coats of Moisture Curing Polyurethane
- 40 5 Lb. Building Paper
- 41 3/4" Plywood Subfloor
- 42 3 Layer Insulated Retractable Film Shades
- 43 Shim
- 44 Triple Glazed Insulating, Vinyl Clad Casement Windows, R = 3.12
- 45 Insect Screen
- 46 Painted Hardwood Sill & Trim
- 47 8" x 8" x 1/2" Black Slate Flooring
- 48 Cement Mortar
- 49 1 1/2" Thick Reinforced Concrete Bed
- 50 6 Mil. Polyethylene Cleavage Membrane
- 51 3/4" Exterior Grade Plywood Subfloor
- 52 R-19 Batt. Insulation
- 53 Chicken Wire Support
- 54 2 x 12 Header & Floor Joists
- 55 2 x 8 Sill
- 56 1/2" Diameter Anchor Bolt Fixed in Mortar
- 57 Foil Faced Insulation
- 58 2" Reinforced Cement Bed
- 59 6 Mil. Polyethylene Vapor Barrier
- 60 Crushed Stones
- 61 Earth

Michigan Lake House

St. Joseph, Michigan

1,000 gross square feet

The building is located on a fairly level site which gently slopes down to Lake Michigan. Dunegrass and a few small evergreen and cottonwood trees are the only vegetation that exists in the sandy soil.

Lake Michigan has a tempering effect on the climate. Air conditioning is not really a necessity; a fan should be used to circulate the humid air.

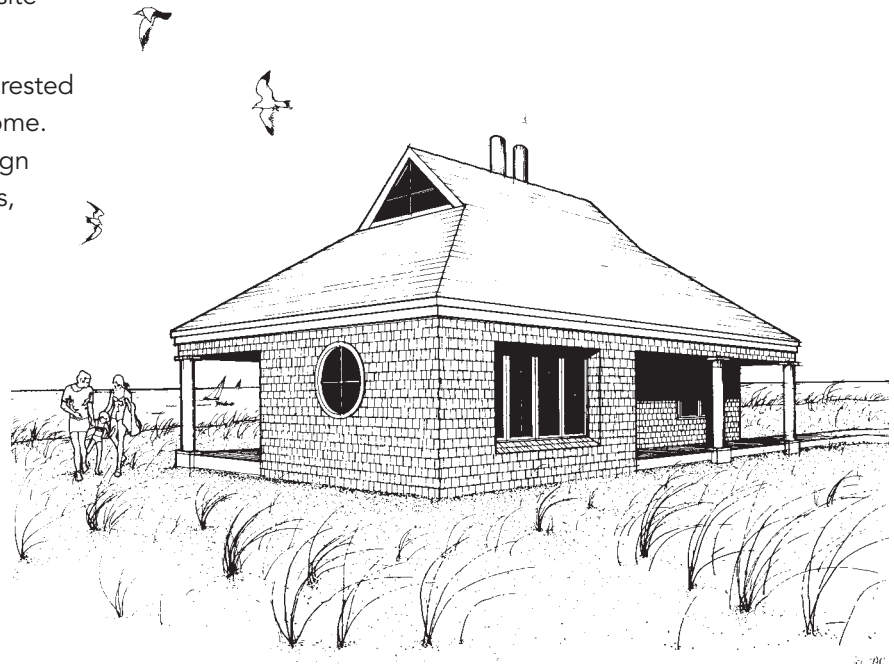
The winters are not as cold as they are inland; however, lake effect precipitation results in a heavy snowfall and frequent cloud cover, making the site unattractive for solar heating.

The design is intended for people interested in a starter house or a small second home. It is appealing because the whole design scheme can be implemented in phases, thereby reducing the initial capital expenditure. A different composition of house, garage, and walks will make the house adaptable to most of the lakefront sites in the area.

Through the use of a low house profile and natural materials (wood shingles), the house is integrated into the beach environment. Cutouts in the basic rectangular form are used to address the entry and the lake.

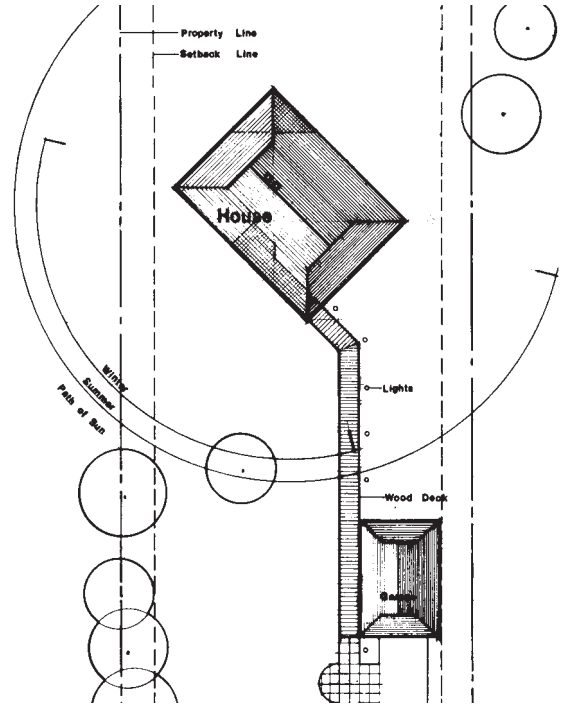
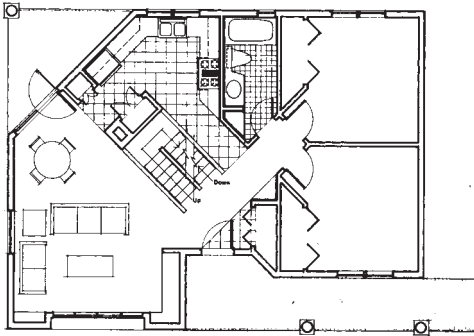
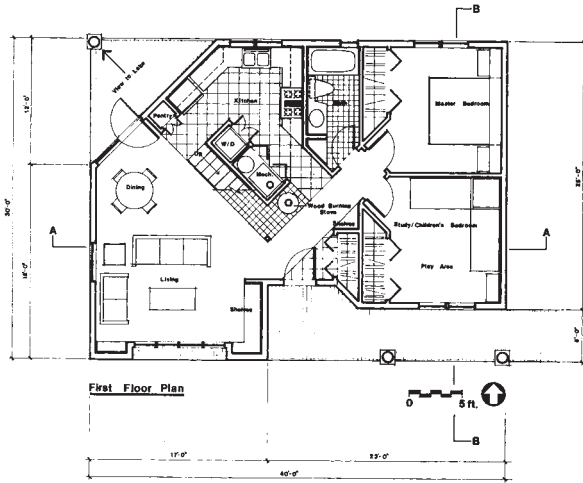
Other features include optional basement floor plan (without compromising the design scheme) and an unfinished attic space that can be finished later to accommodate future spatial needs.

Arunas Rumsa

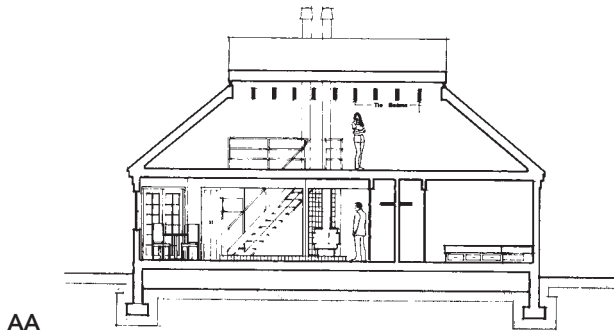


Perspective

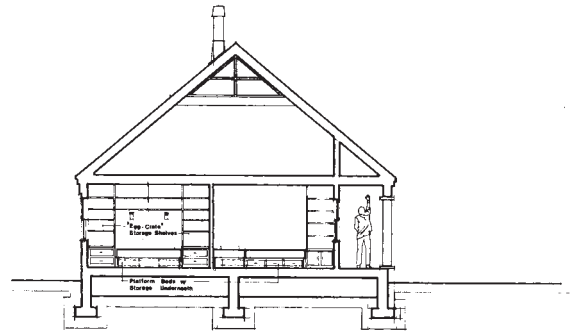
Floor Plan



Site Plan

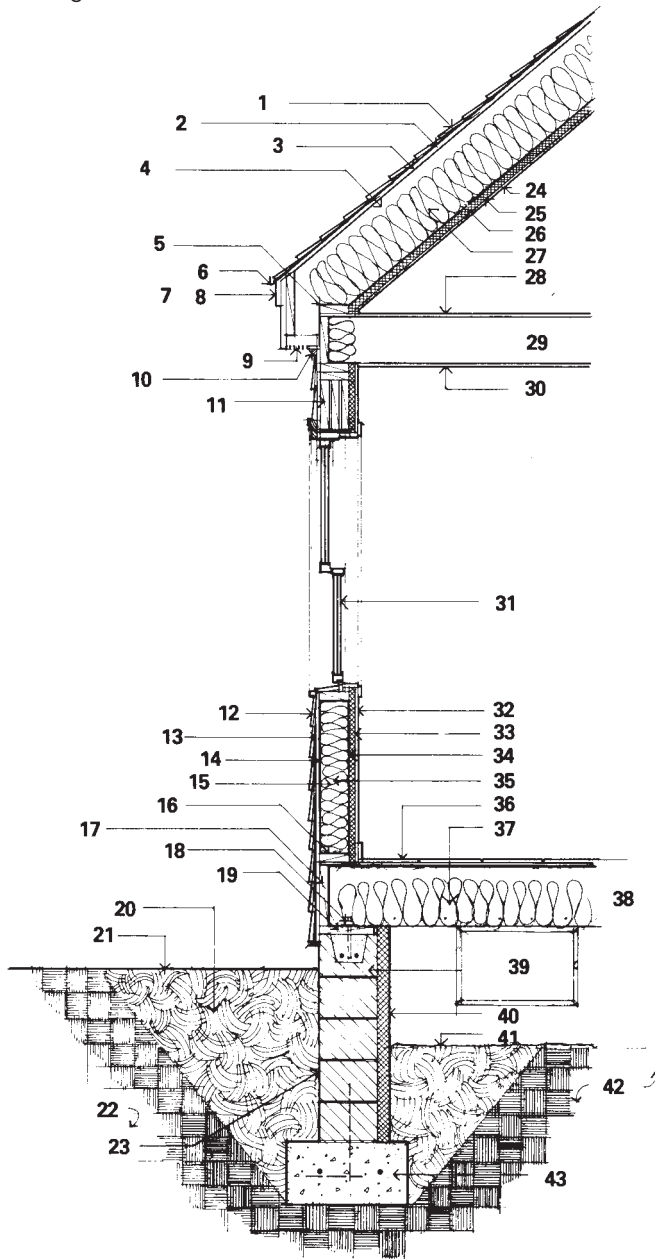


AA



BB

Michigan Lake House



- | | |
|---|---|
| 1 Cedar Shingles (Dipped) | 26 1" Rigid Insulation |
| 2 Building Paper | 27 10" Batt. Insulation |
| 3 1/2" Plywood Roof Sheathing | 28 3/4" Plywood Subfloor |
| 4 Air Space | 29 2" x 10" Wd. Joists |
| 5 2" x 6" Wd. Plate | 30 1/2" Gypsum Board |
| 6 Galy. Stl. Drip-Edge | 31 Double-Hung Window
(Triple Glazed Shown)
Caulk Around Windows |
| 7 1" x 4" Wd. Trim Over | 32 1/2" Gypsum Board
(Screwed to Studs) |
| 8 1" x 12" Wd. Trim | 33 6 Mil. Vapor Barrier |
| 9 Contin. Vent w/Insect
Screen | 34 1" Rigid Insulation |
| 10 Wd. Trim Pc. | 35 5 1/2" Batt. Insulation |
| 11 (3) 2" x 12" w/ 1/2" Spacers | 36 Tile or Carpet over 3/4"
Plywood Subfloor |
| 12 Cedar Shingles (Dipped) | 37 5 1/2" Batt. Insulation |
| 13 Building Paper | 38 2" x 12" Wd. Joists |
| 14 1/2" Plywd. Sheathing | 39 Duct-Space 12" G.M.U.
Fd'n Wall w/Horizontal
Reinf. Bond Beam w/(2) #4
Rebars at Top Course |
| 15 2" x 6" Wd. Framing | 40 2" Rigid Insulation
(Optional) |
| 16 2" x 6" Wd. Plate | 41 6 Mil. Vapor Barrier |
| 17 2" x 12" | 42 Sand |
| 18 Stl. Anchor Bolt | 43 2'-0" 3 1'-0" Conc. Ftg. in
(2) #5 Stl. Rebars. #4 Dowel |
| 19 2" x 12" Treated Wd. Plate
Over Sill Sealer | |
| 20 Backfill | |
| 21 Grade | |
| 22 Sand | |
| 23 Waterproofing | |
| 24 1/2" Gypsum Board (Screwed
to Rafters) | |
| 25 6 Mil. Vapor Barrier | |

Wall Section

Ocean Views

Rhode Island

980 gross square feet

The house site is 300 feet from the edge of 150-foot bluffs overlooking the Atlantic. The view from the ground floor is screened by a dense, 8-foot high thicket of wild bayberry. As a result, all of the common spaces have been placed on the second floor, with large east- and south-facing windows.

The site is quite hilly, covered in the summer with lush vegetation, and surrounded by few other houses. The soil contains some clay.

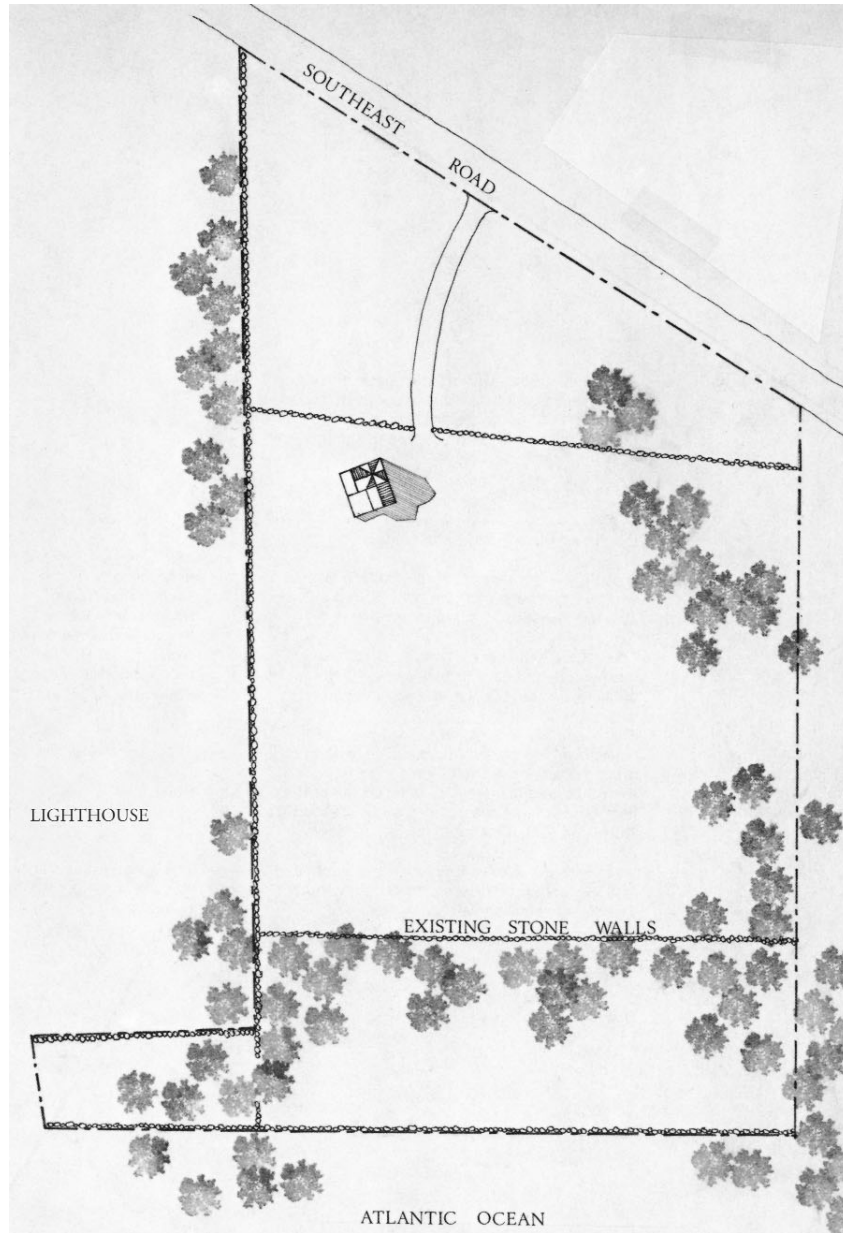
In order to save energy, the house has been kept small, well-insulated, caulked, and weather-stripped. Harsh winter temperatures are moderated somewhat by the Gulf Stream, but severe gales are frequent, requiring the letting in of wind bracing in addition to the plywood sheathing. Sufficient and carefully installed flashing is essential to keep out wind-driven rain; gutters and downspouts are useless.

There are few windows on the west and north sides. Building materials have been selected for their thermal efficiency, weathering capabilities, and construction tightness.

The house is solar oriented, and a coal stove will be supplemented by a 20,000 Btu/h kerosene mobile home heater.

Homer Russell and Carol Nugent

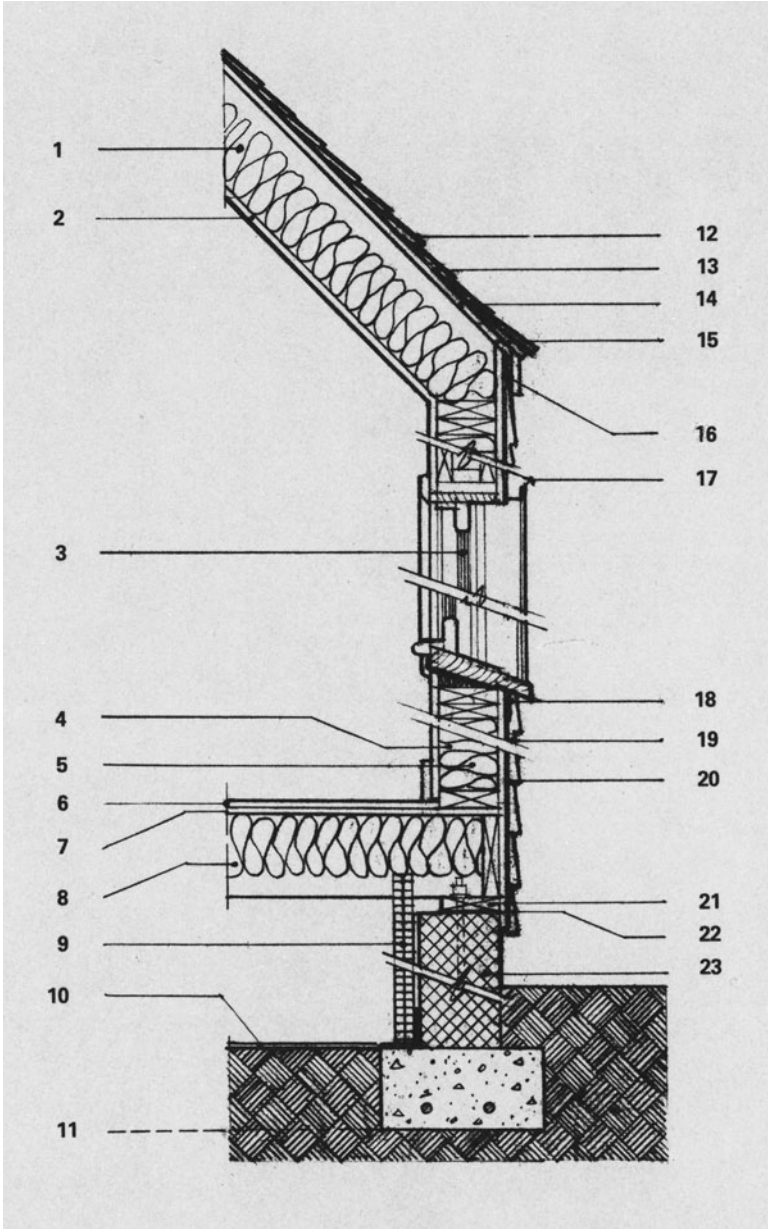


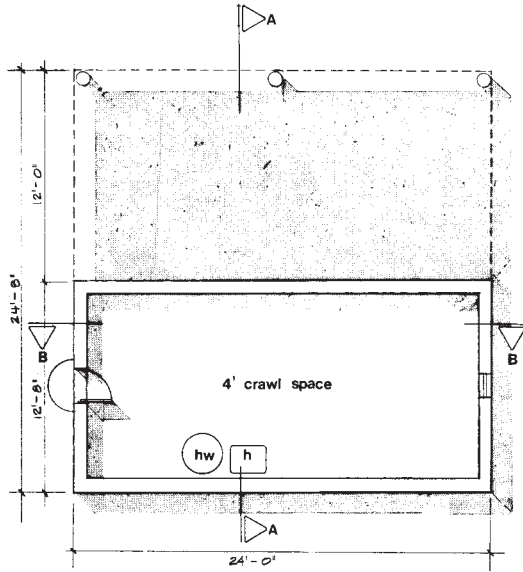


Site Plan

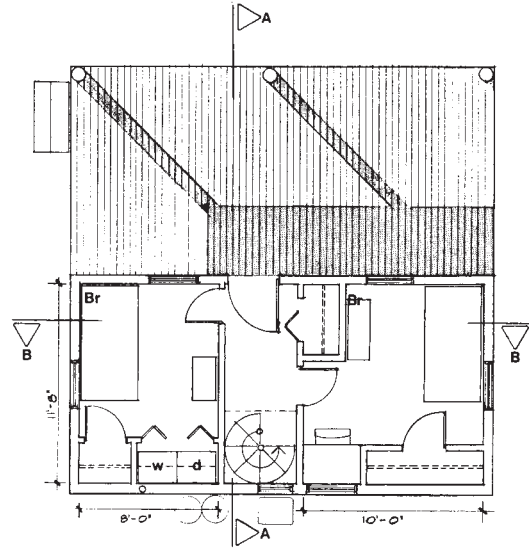
Wall Section

- 1 6" Foil-Faced Batt. Insul. (R-19 Min.)
- 2 1/2" GWB
- Note: All Foil on Insul. to Face Living Space
- 3 Double Glazing
- 4 6" Batt. Insul. (R-19 Min.)
- 5 2 x 6 Studs 16" O.C.
- 6 5/8" Oak Fin. Floor
- 7 5/8" Ply. Subfloor
- 8 6" Batt. Insul. (R-19 Min.)
- 9 2" Rigid Insul.
- 10 Vapor Barrier
- 11 Frost Line 3'-6" Below Grade
- 12 290# Asphalt Roofing
- 13 15# Bldg. Paper
- 14 1/2" Ply Sheathing
- 15 2 Layers Cedar Shingles Under First 2 Rows of Roofing
- 16 Eave Vent
- 17 8" Lead Flash & Caulk
- 18 10" Alum. Pan Flash & Caulk
- 19 White Cedar Shingles, 5" Exp.
- 20 1/2" Ply Sheathing
- 21 2 x 6 P.T. Sill
- 22 Sill Sealer
- 23 C.M.U.

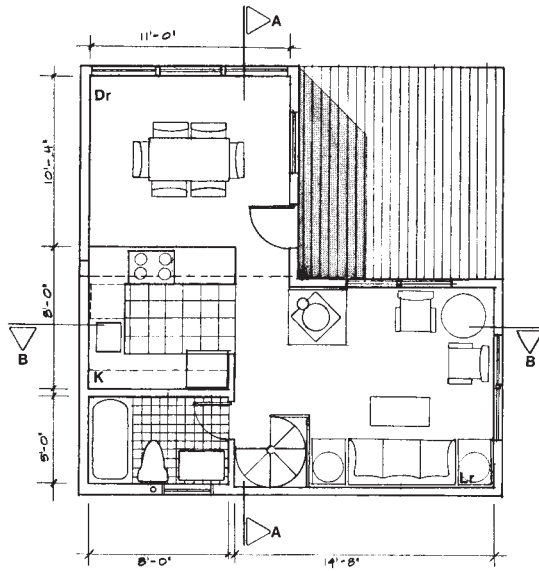




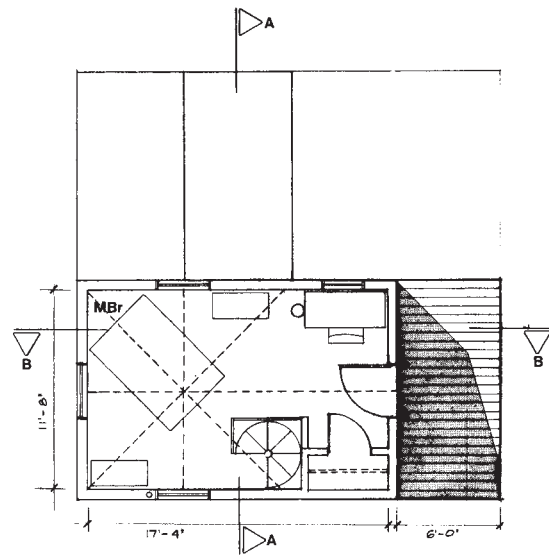
Foundation



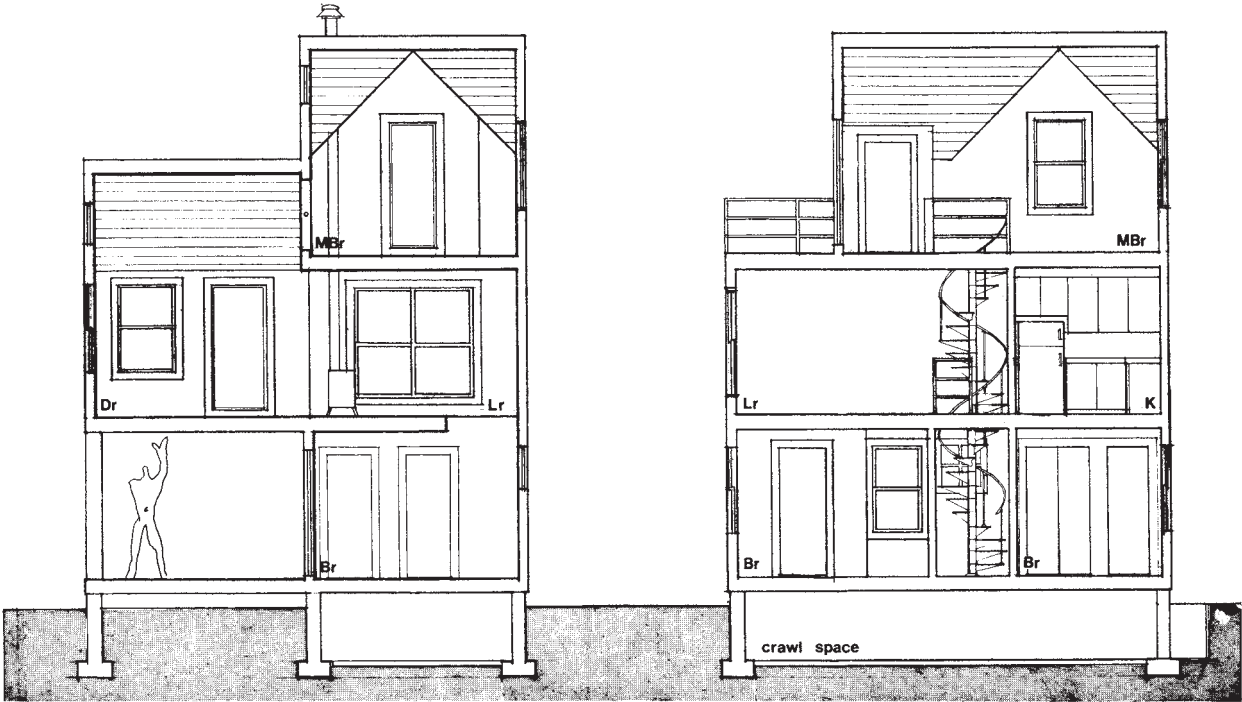
First Floor Plan



Second Floor Plan

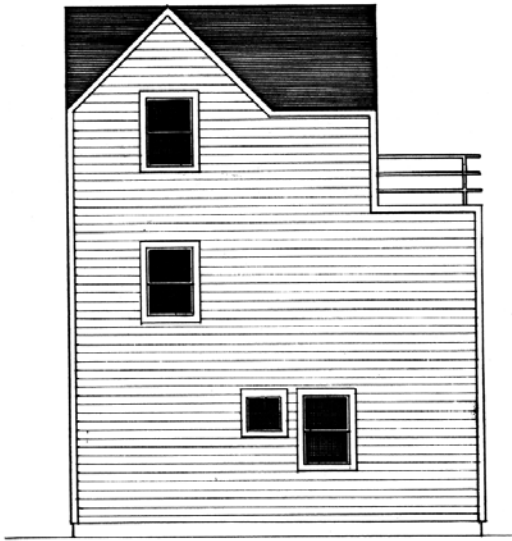


Third Floor Plan

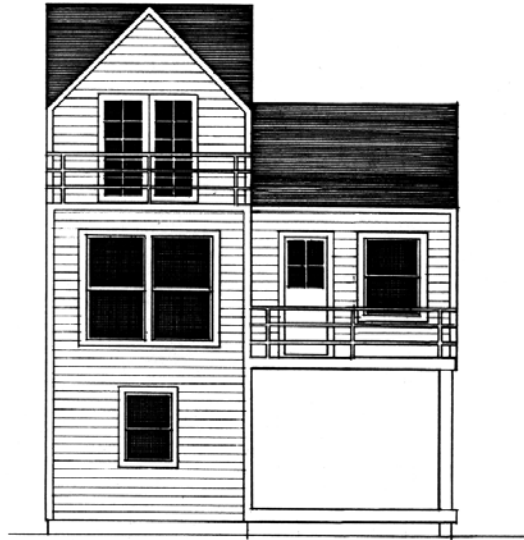


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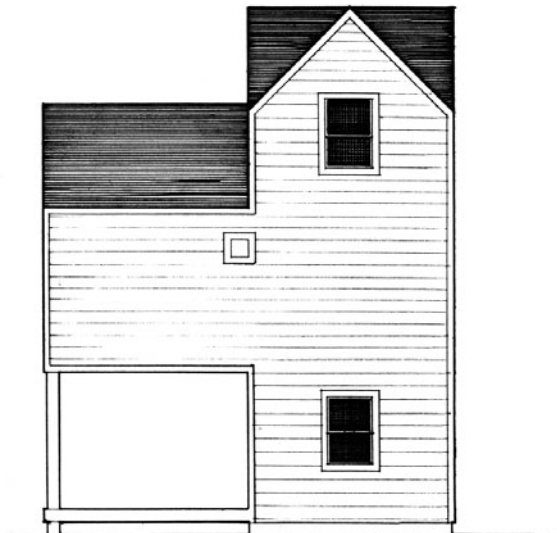
North



West



South



East

Formal Ocean-side Home

Charleston, South Carolina

996 gross square feet

The house is designed as a prototype dwelling for the hot, humid climate of the southeastern United States. The specific site chosen is a beach lot near Charleston, South Carolina, with a climate of warm, humid summers and moderate winters.

The house, especially the public area, is oriented to provide the best views of the ocean and take advantage of prevailing breezes. A garden greenhouse on the south and deck/hot tub on the north enhance the north/south axis of the floor plan. The berm and new evergreens help protect the house from winter winds. Existing live oaks and overhangs shade the house from afternoon sun. The house is raised to protect it from coastal flooding and to improve natural ventilation.

The seating area, under the octagonal belvedere, becomes a symbolic focus and increases natural ventilation.

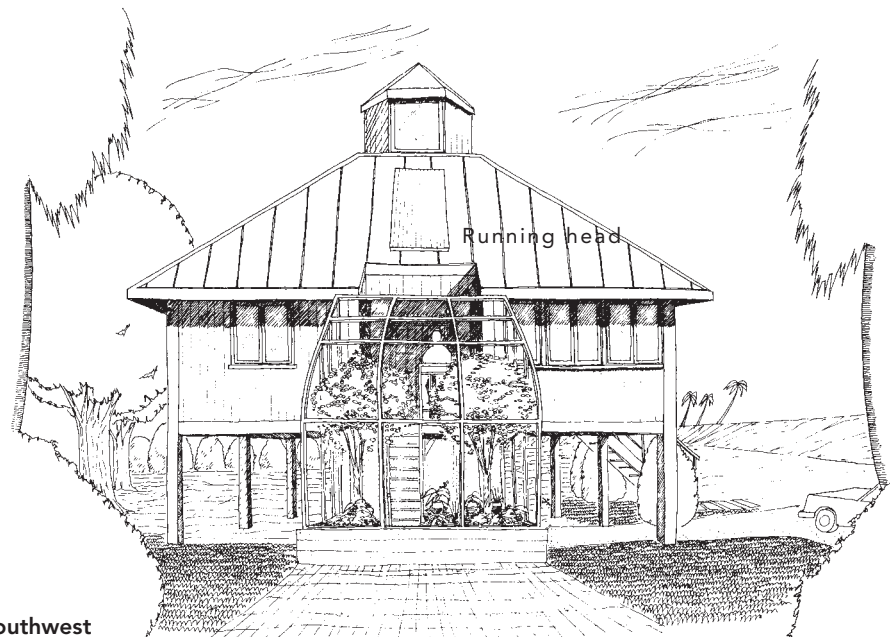
A storage zone divides the public and private areas. The bathroom serves as a buffer during the afternoon to cool the public space.

Zoning also allows the private area to be cooled or heated separately.

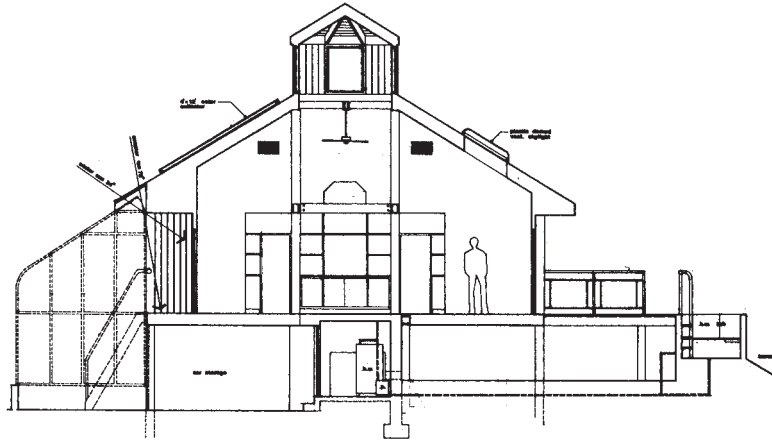
The bedrooms are characterized by ceiling spaces with hot air exhausts for cooling.

The optional greenhouse augments winter heating and allows vegetables and fruits to be grown year-round. A solar hot water system is used for hot water needs, and a heat pump facilitates heating and cooling demands.

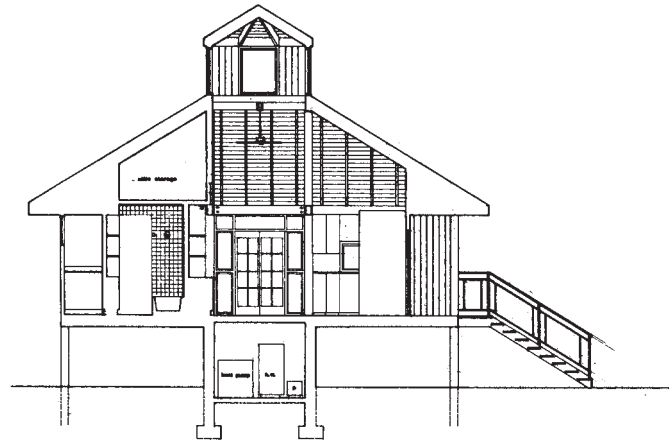
Roberto L. Sotolongo



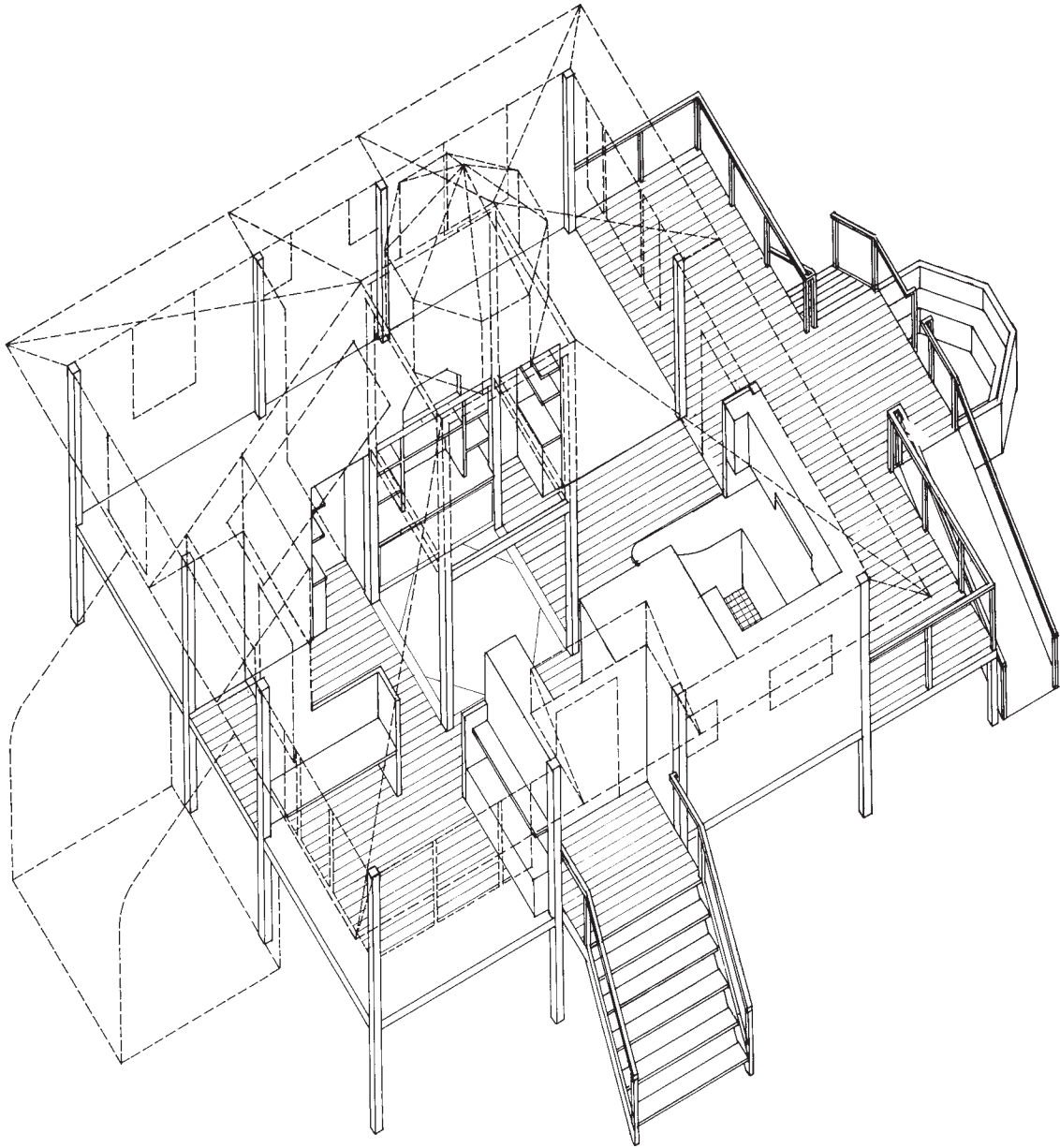
View from Southwest



Section AA

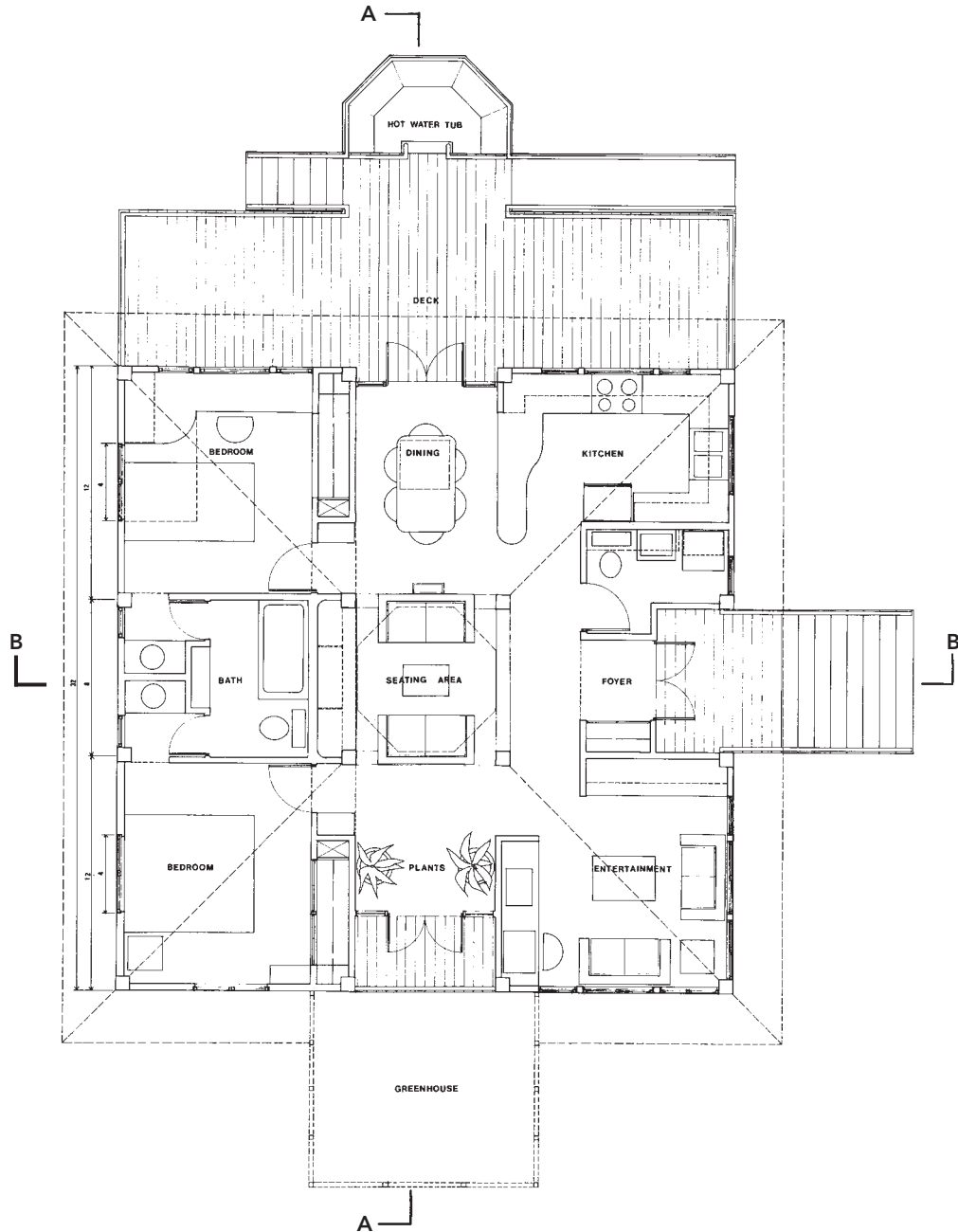


Section BB

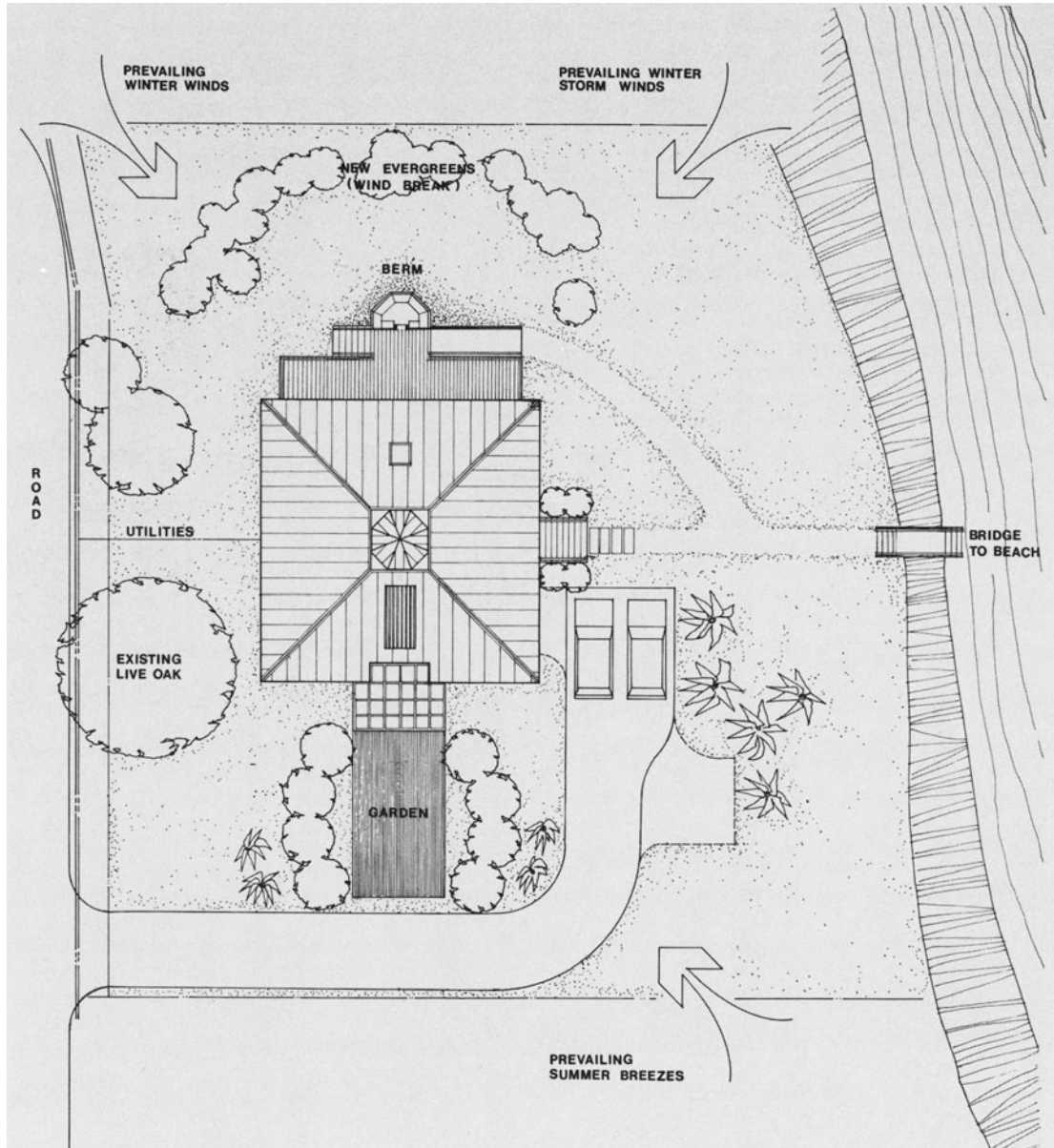


Axonometric

Formal Ocean-side Home



Floor Plan



Site Plan

Midwest Modular

Upper Midwest
998 gross square feet

This house has been designed for a new community of affordable homes in the upper Midwest. The land, a former farm, is flat, without special views, and without any significant micro-climate.

The house has been designed to be componentized, and delivered to the site on one flatbed truck.

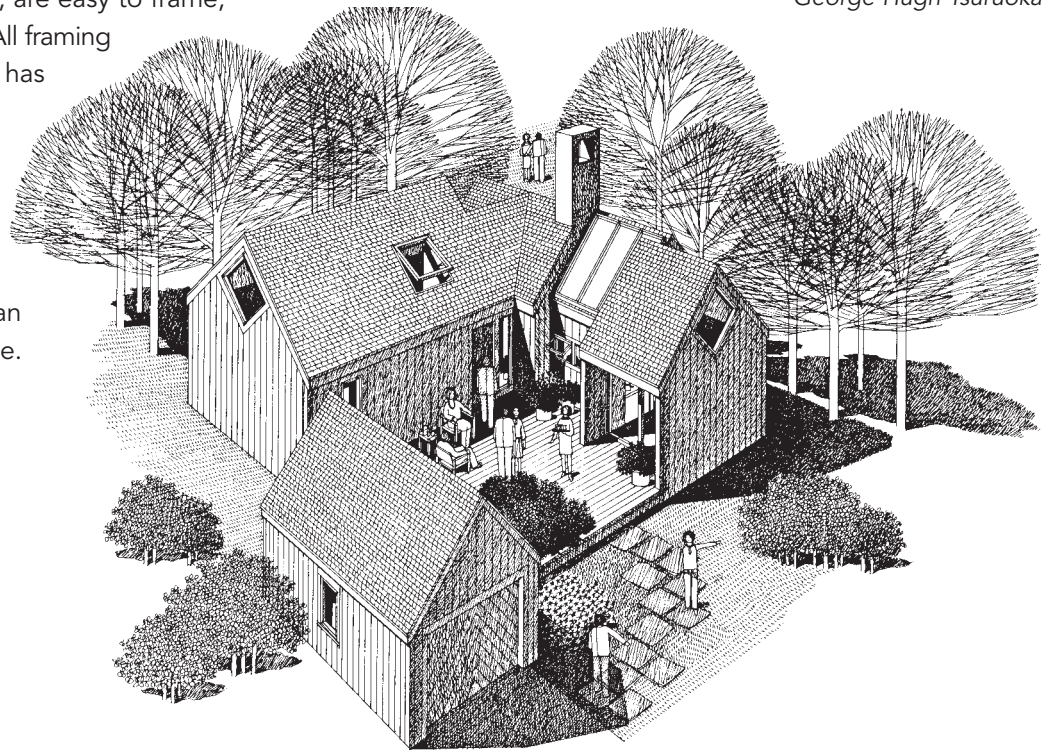
The design consists of four small boxes that can be built with minimum effort, are easy to frame, and economical to build. All framing is on 24-inch centers and has minimum waste.

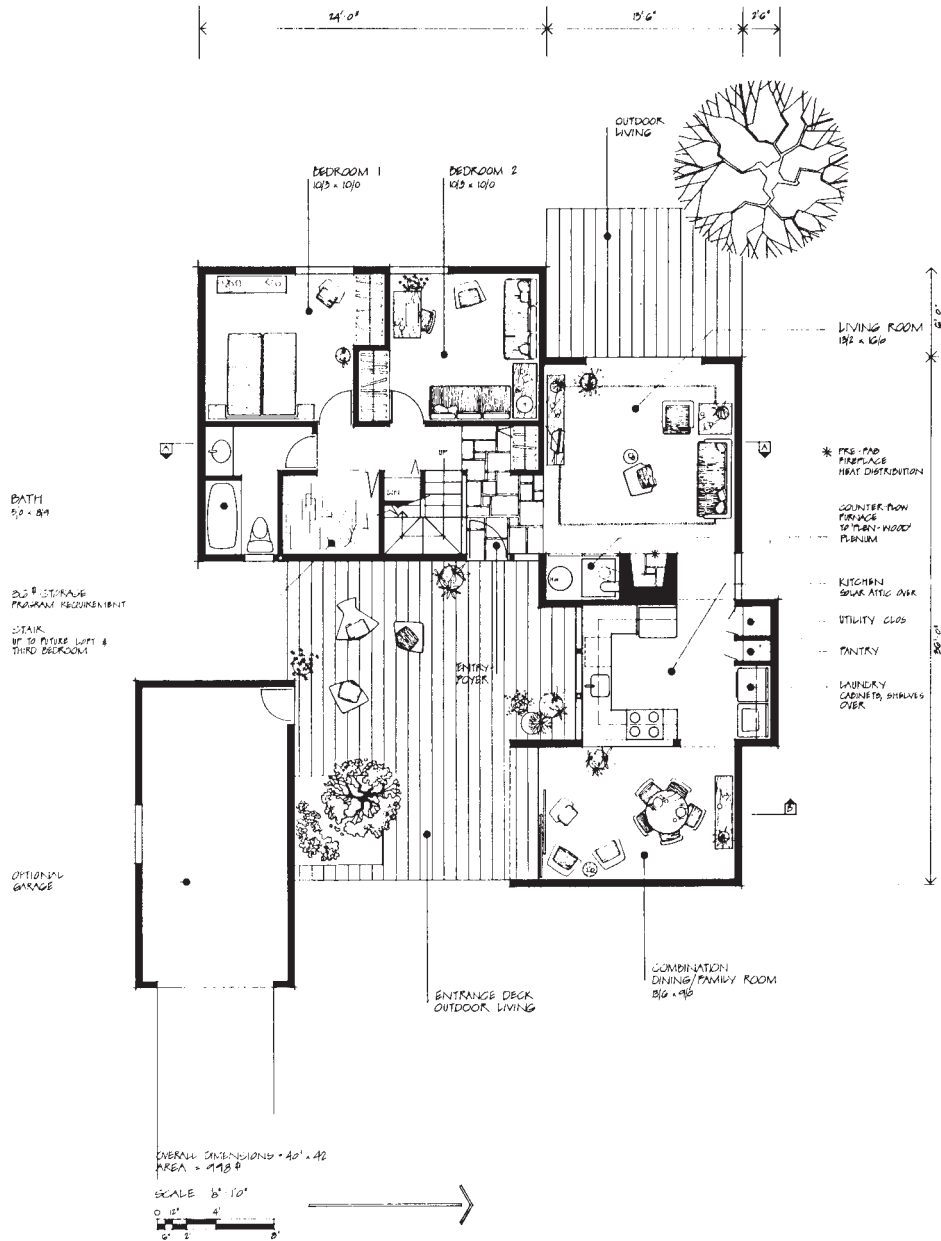
The living room, kitchen, and family/dining room have sloping ceilings and are open to one another, creating an additional feeling of space.

The main outdoor living area also serves as an entrance court. Added privacy can be achieved by erecting a fence on the east side of the deck. A second outdoor living area opens off the living room.

The house can be faced and sited on small lots in many different ways, and the garage can be placed in several different locations to form the private entrance court.

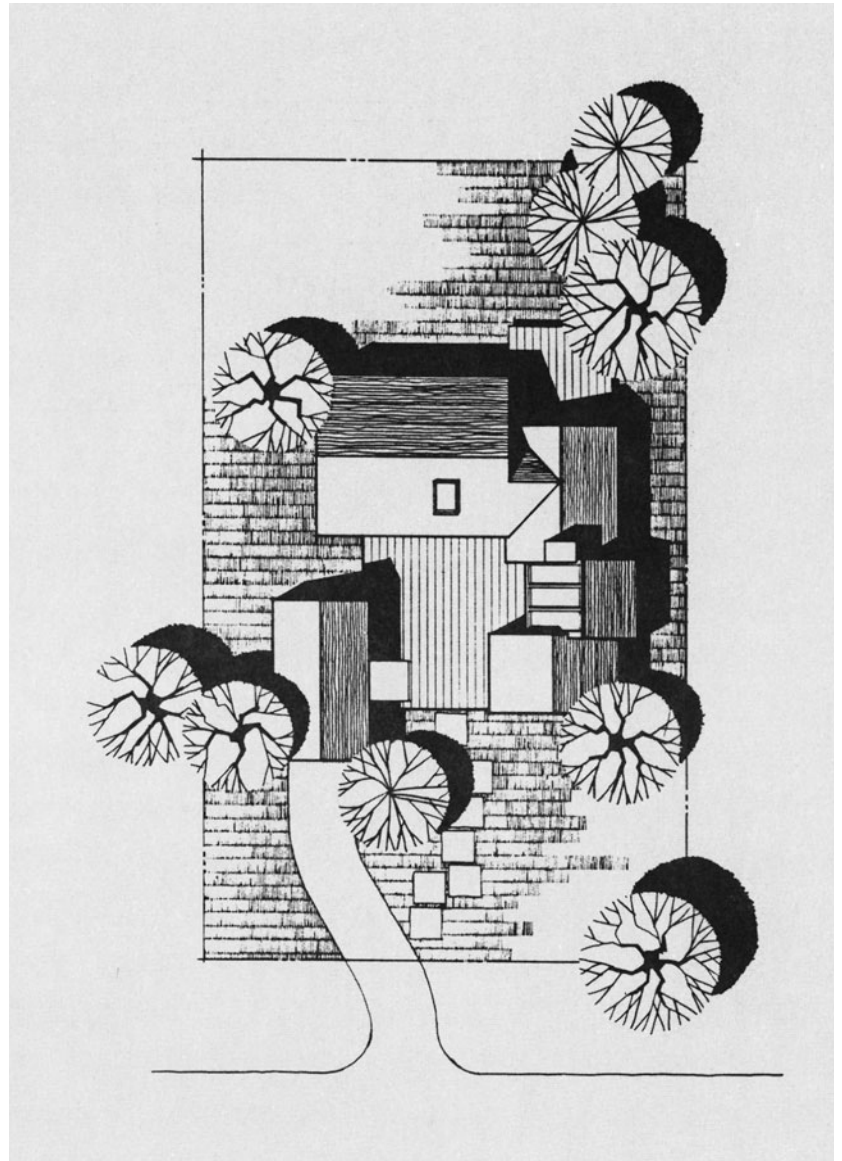
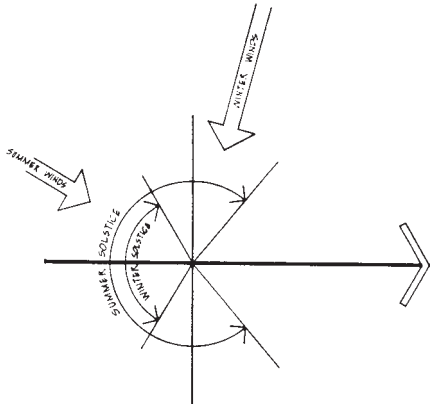
George Hugh Tsuruoka





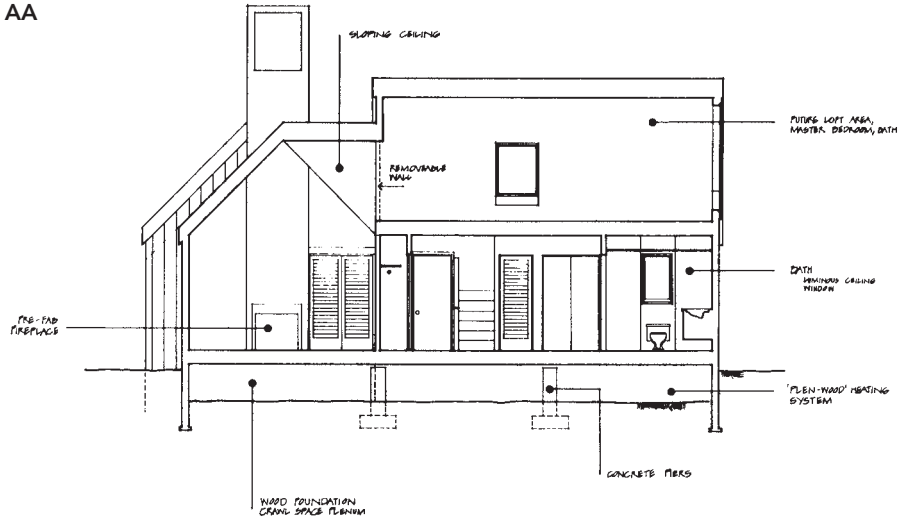
Floor Plan

Midwest Modular

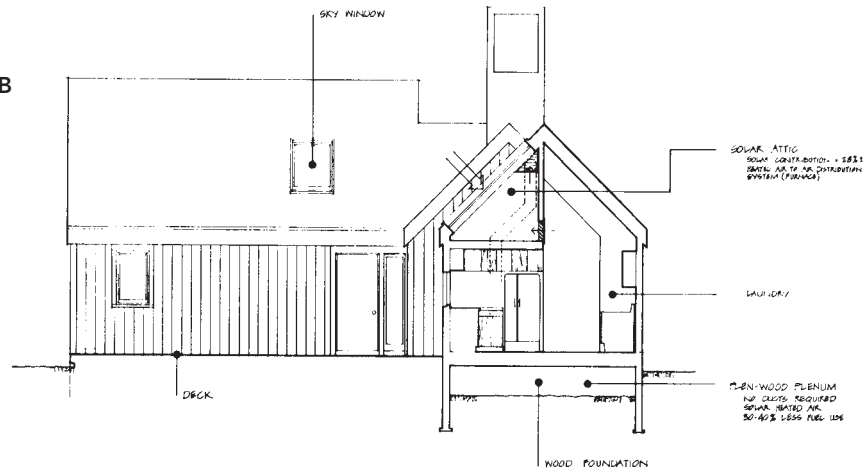


Site Plan

Section AA



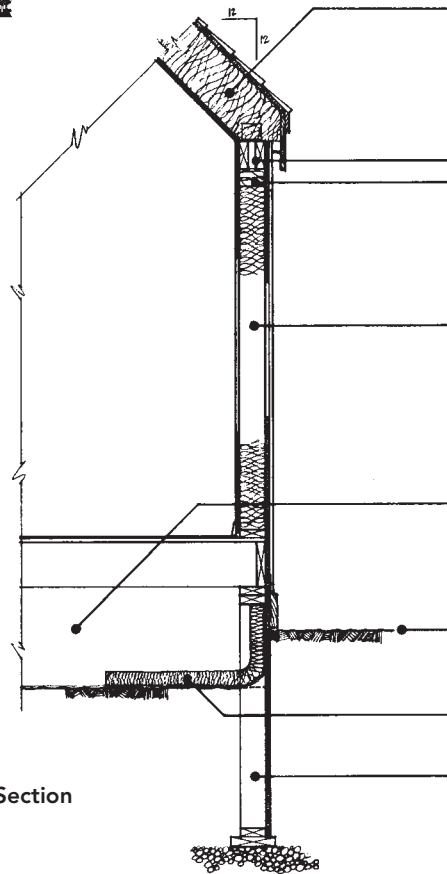
Section BB



Midwest Modular



Elevation



Wall Section

Roof Construction R-41

250# Compo. Shingles
 3/4" Plywood, Glued & Nailed, Plywood Clips
 Rafters = 2" x 12" @ 24" O.C.
 12" Batt. Insulation
 1/2" Drywall
 2-2" x 6"
 2" x 6" Single Header
 (All Openings)

Wall Construction R-23

Texture 1-11 Siding
 3/4" Plywood Sheathing, Caulk Joints
 2" x 6" Studs @ 24" O.C.
 Polyethylene V.B.
 1/2" Drywall, Clips
 6" Insulation

'Plen-Wood' Plenum

2'-6" Clearance
 Polyethylene V.B. Entire Space

Grade

3" Insulation - As Shown
 Entire Perimeter

Wood Foundation

Treated Lumber
 2" x 6" @ 24" O.C.
 3/4" Plywood Sheathing, Clips
 2" x 6", 2" x 10"
 Gravel Fill -
 10" Deep, 20" Wide

The Modified Dog-Trot

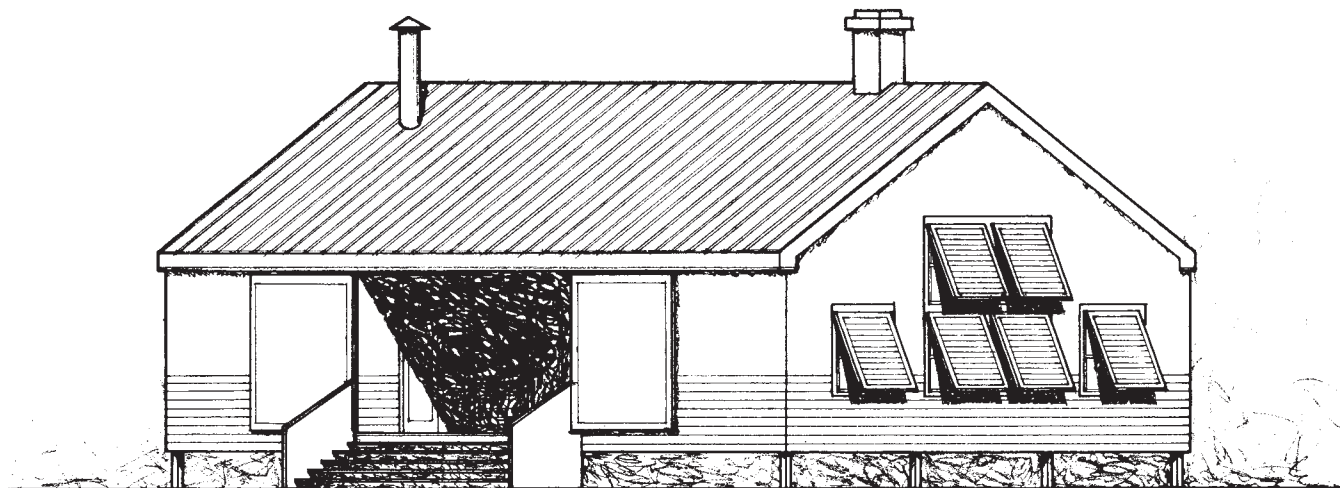
Houston, Texas

982 gross square feet (not including breezeway of 522 sq. ft.)

In a small second house for a remote site in a rural area near Houston, the traditional Texas dog-trot configuration is adapted to eliminate the need for air conditioning. Large sliding doors at both ends of a central breezeway and swing-up shutters over the

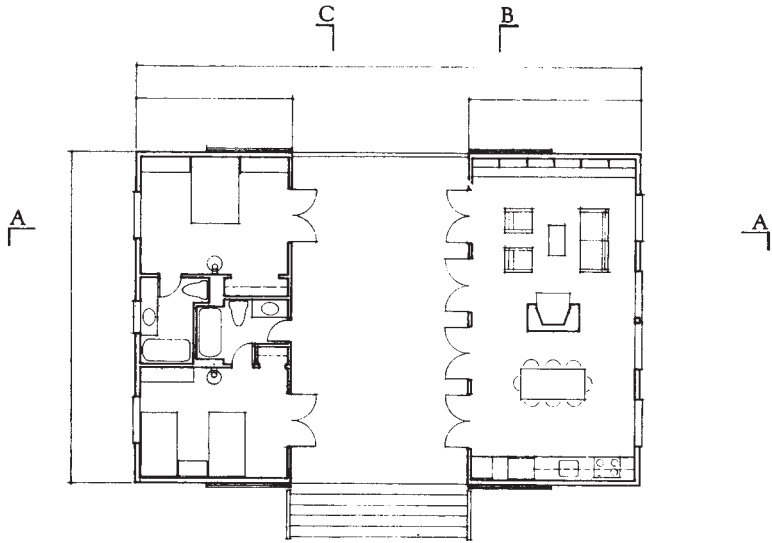
windows can be manipulated to secure the house when vacant, open the house to sunlight but not to wind on cool days, and maximize breezes through the house on hot, humid days.

Michael Underhill

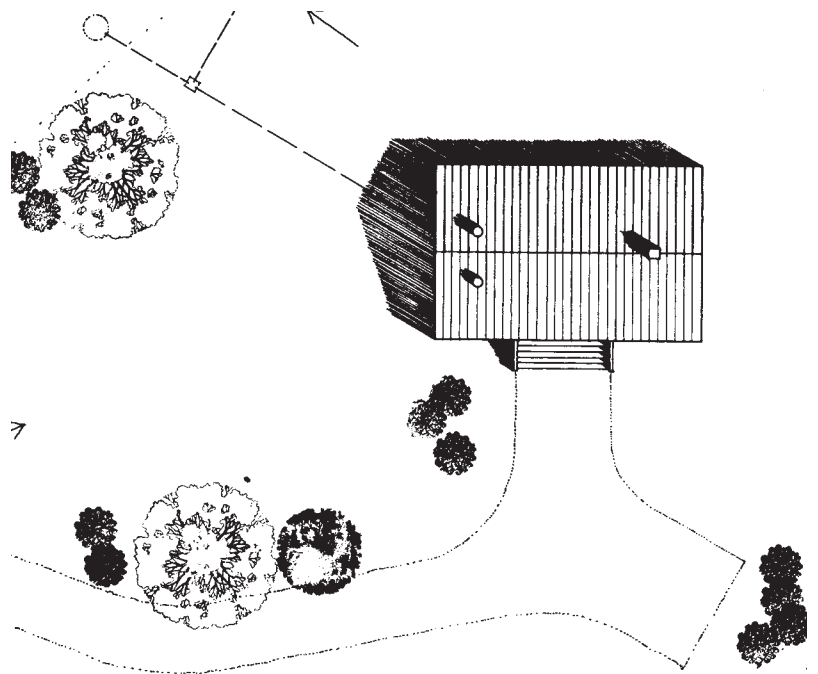


Perspective

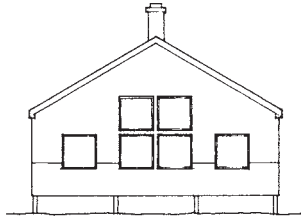
The Modified Dog-Trot



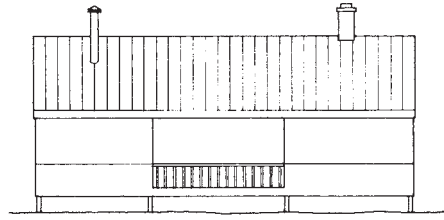
Floor Plan



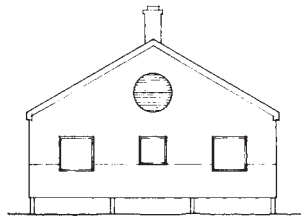
Site Plan



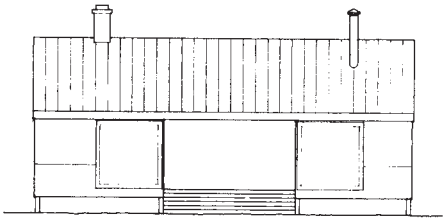
East



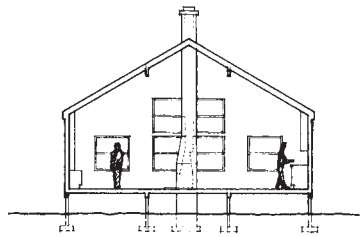
North



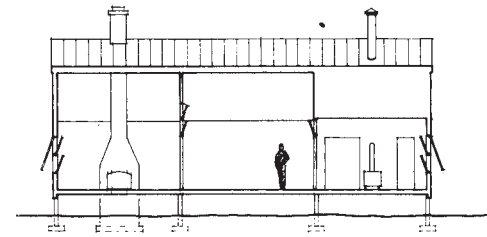
West



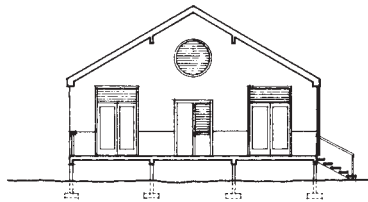
South



BB

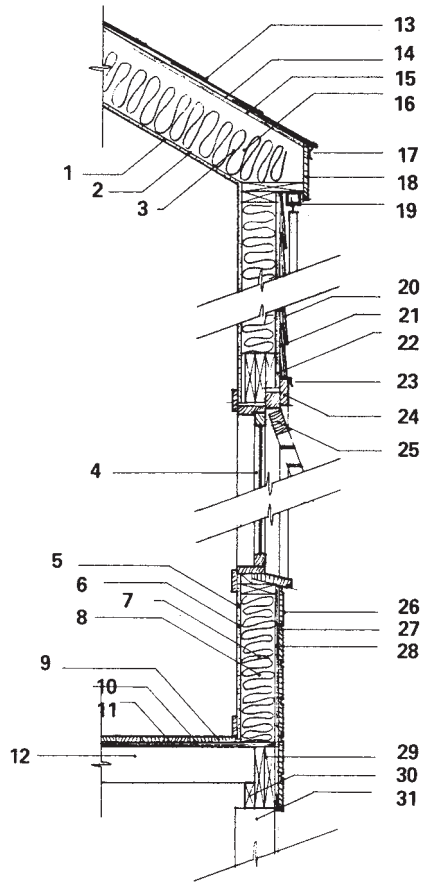


AA



CC

The Modified Dog-Trot



- | | | | |
|----|----------------------------|----|---------------------------|
| 1 | ½" Gypsum Board | 16 | 2 x 10 Rafters 16" |
| 2 | Vapor Barrier | | on Center |
| 3 | 8" Batts Insulation | 17 | Metal Drip Edge |
| | Between 2 x 10 Rafters | 18 | 1 x 8 Wood Fascia |
| | 16" on Center | 19 | Sliding Door Tract |
| 4 | Standard Wood Hopper | 20 | Wood Shingles |
| | Window Units | 21 | Foil Faced Building Paper |
| 5 | ½" Gypsum Board | 22 | ½" Plywood Sheathing |
| 6 | Vapor Barrier | 23 | Metal Drip Cap |
| 7 | 5" Batts Insulation | 24 | 1¼ x 4" Wood Casing |
| 8 | 2 x 6 Studs 16" | 25 | Swinging Wood Shutter |
| | on Center | 26 | Shiplap Wood Siding |
| 9 | Wood Flooring | 27 | Foil Faced Building Paper |
| 10 | Building Paper | 28 | ½" Plywood Sheathing |
| 11 | ¾" Plywood Deck | 29 | Double 2 x 10 Header |
| 12 | 2 x 6 Joists 16" on Center | 30 | 2 x 4 Ribbon |
| 13 | Asphalt Shingles or | 31 | 6 x 6 Treated Piles |
| | Standing Seam Metal | 32 | Concrete Foundation |
| 14 | Roofing Felts | | Pads (not shown) |
| 15 | ½" Plywood Deck | | |

Wall Section

Elegant Hacienda

Terrazas Del Sol, New Mexico

960 gross square feet (per unit)

The concept of Terrazas Del Sol was to offer the freedom of condominium living and the benefits of single-family residence country life, all in a compact, reasonably priced, energy-efficient package.

The project was designed to accentuate the “wide open spaces” of the Southwest while maintaining moderate high-density for land efficiency. The condominium concept retains control over any possible future unsightliness through the rule of the homeowners’ association, and assures future maintenance, thus guaranteeing values.

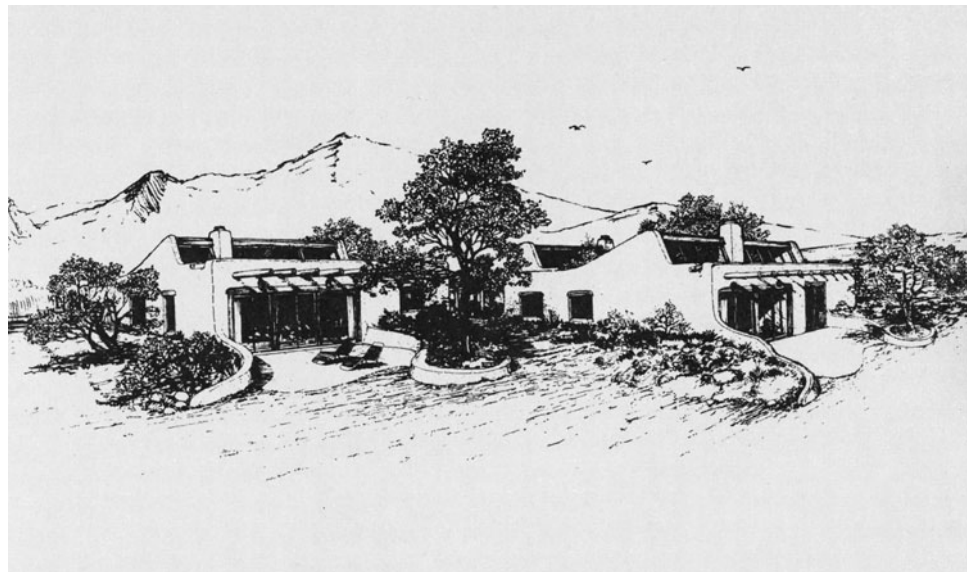
The cluster takes on a “hacienda” or estate appearance, a style indigenous to the Southwest.

Partial berming of the houses aids the heating and changes

the scale as each house marries with the site, giving each a lower profile on the horizon. Landscaped berms were constructed to modulate an otherwise flat terrain, to control drainage, to define space, and give a sense of privacy and “place.”

The concept of Terrazas Del Sol is to provide for its owners the amenities of a planned unit development in a rural setting where open space, beautiful views, clean air, and efficient solar construction make for a desirable lifestyle.

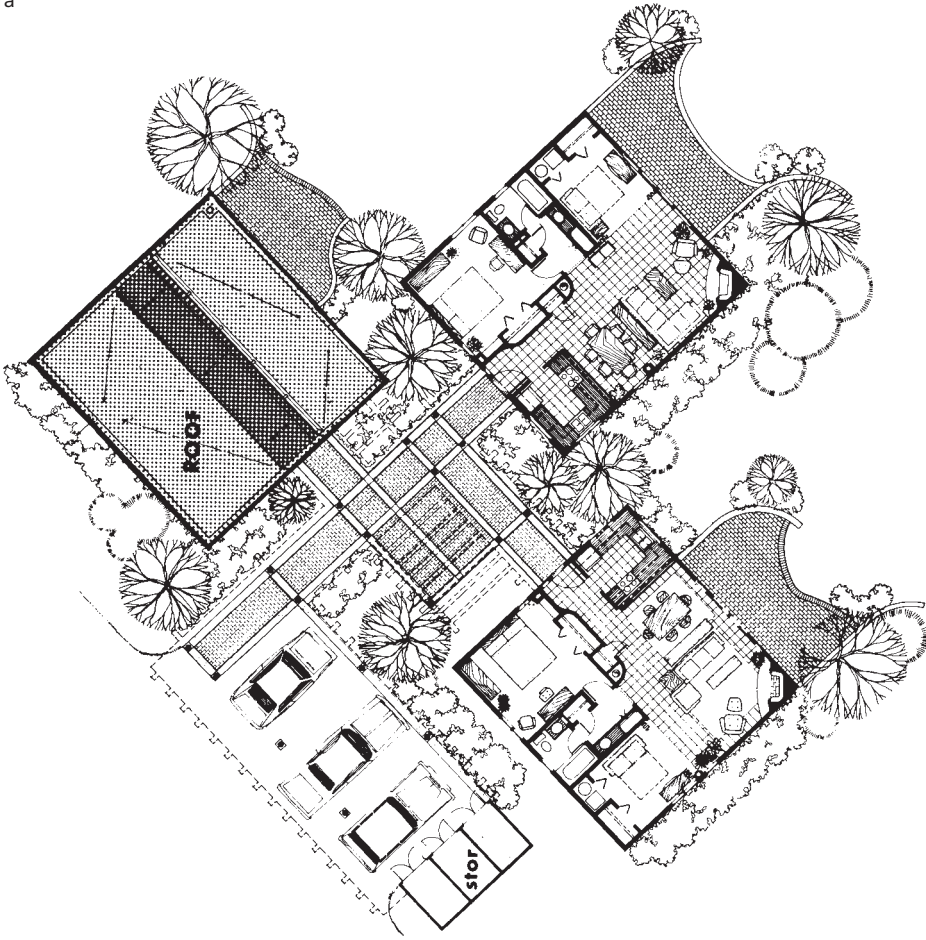
James M. Wehler



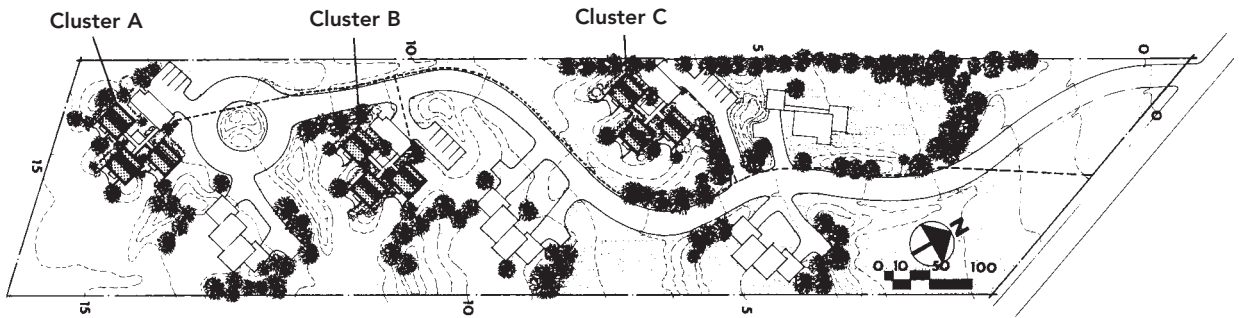
Perspective

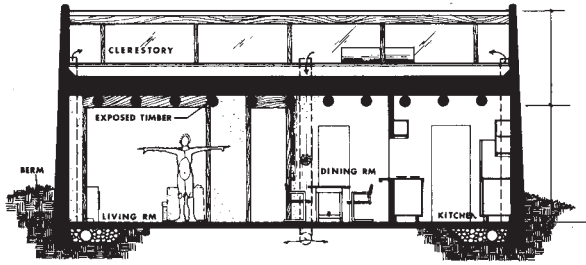
Elegant Hacienda

Floor Plan

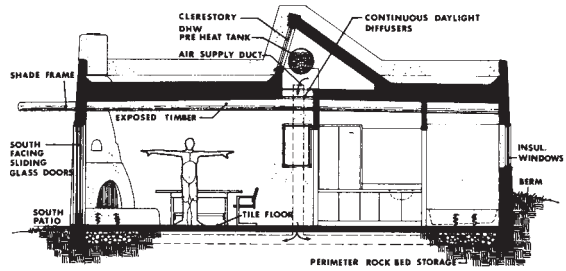


Site Plan

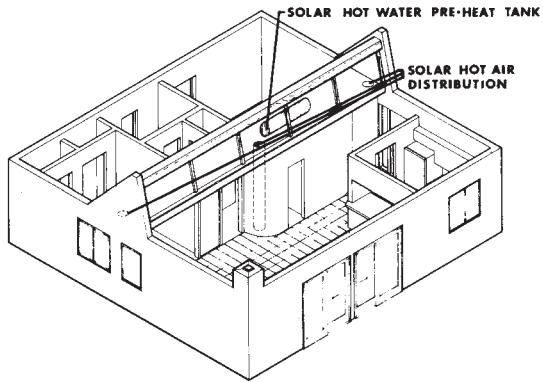




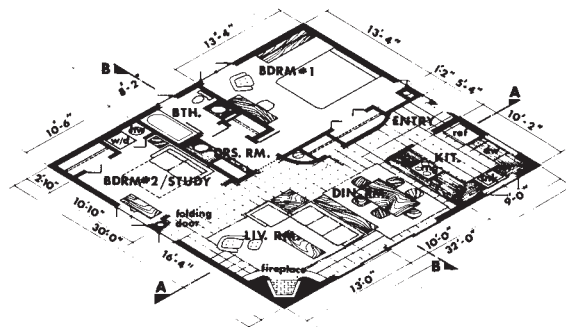
Section AA



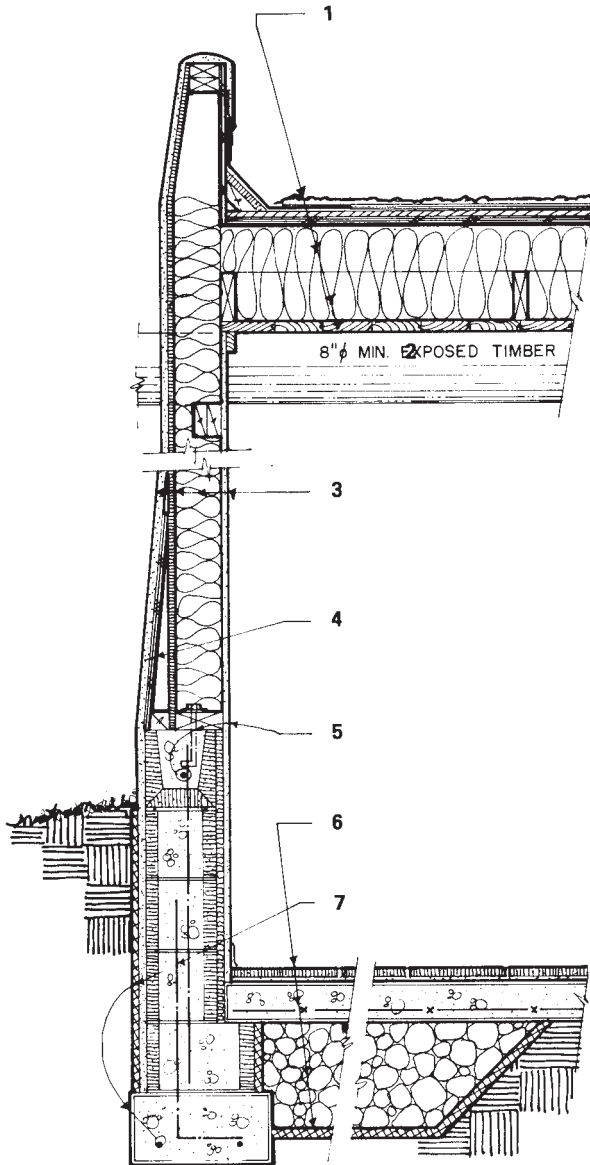
Section BB



Isometric



Floor Plan



- 1 Built-up Roof & Gravel, 4-ply on $\frac{1}{2}$ " Fibre Bd. Base on $\frac{1}{2}$ " CDX Plywood Deck on 2 x 6 Rafters @ 2'-0" O.C. on 2 x 6 Blocking @ 6'-0" O.C. w/R-40 Cellulose Fibre Insulation & 1 x 6 T&G Aspen Ceiling Deck
- 2 8" \varnothing Min. Exposed Timber
- 3 $\frac{1}{2}$ " Gyp. Board on 2 x 6 @ 16" O.C. Wd. Frame w/R-19 Cellulose Fibre Insul. & $\frac{1}{2}$ " Fibre Bd. Sheathing w/ $\frac{3}{4}$ " Cement Stucco over Galv. Stucco Wire, Sand Float Finish
- 4 $\frac{1}{2}$ " CDX Plywd. Batter-Bd. w/2 x Blk.
- 5 8" CMU Bd. Bm. w/1-#4 Cont., Faced with $\frac{1}{2}$ " Fibre Bd. & $\frac{1}{2}$ " Gyp. Bd. w/ $\frac{1}{2}$ " \varnothing A.B. @ 4'-0" O.C.
- 6 12" x 12" Conc. Tiles in Thinset on 4" Conc. Slab w/6" x 6" 10/10 WWF on Rock Bd. Perimeter w/1" Rigid Insul. Lining
- 7 8" CMU Filled Stem w/1-#4 @4'-0" Vert. on One Course 12" CMU on 8" x 16" Conc. Ftng. w/2-#4 Contin. & 1" Rigid Insul.

Wall Section

Solar Staircase House

Vermont

988 gross square feet

The Solar Staircase House addresses several issues often ignored in the rush for efficient plans and low heating bills. Siting is very flexible, and the solar staircase/hearth is a unique way of providing environmental comfort and several useful small spaces which make the compact house enjoyable to live in.

Siting

The corner porch entry along with a careful sequence of landscaping allows the house to be sited with any combination of site access/solar orientation while offering a warm and inviting entry and maintaining privacy for outdoor living/working areas.

Environmental

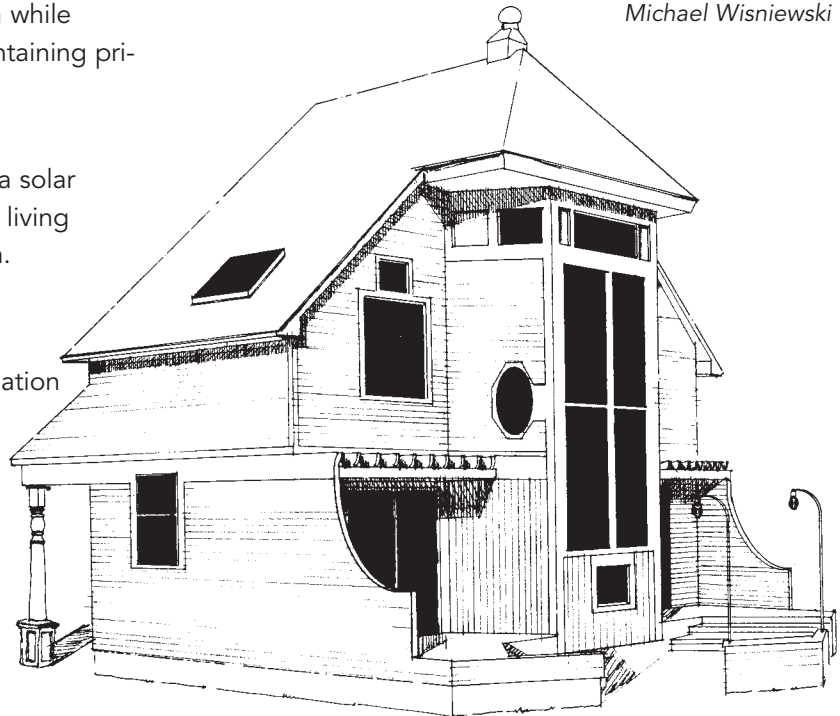
The staircase is slightly inflated to serve as a solar collector/storage unit filtering light into the living areas and offering a window seat in the sun.

This solves the compact house dilemma of not having enough square feet for a usable sunplace, but not wanting a direct gain situation where the living areas are hot, stuffy, and full of glare.

Social

The house is very open, but care was taken in the planning to respect the needs for privacy, and to provide a place for children. Bedrooms are cozy, private, and large enough for a study. Under the solar staircase we find a secluded window seat (doubles as a sleeping nook for a guest) and below that a "children's cave" with its own window. Above the bath is an area for a future crow's nest playroom.

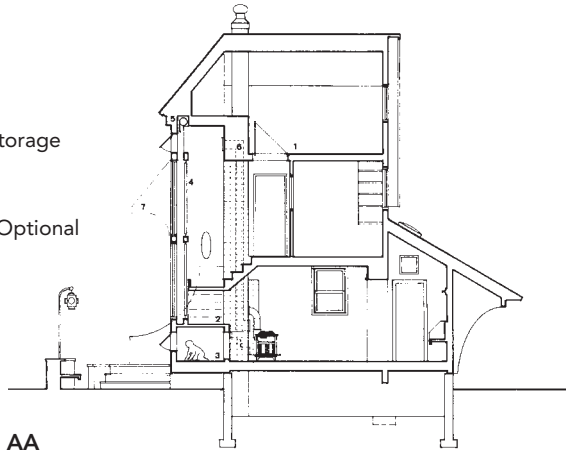
Michael Wisniewski



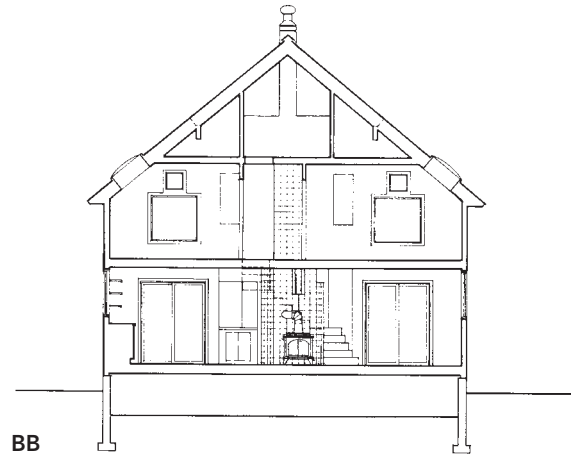
Perspective

Solar Staircase House

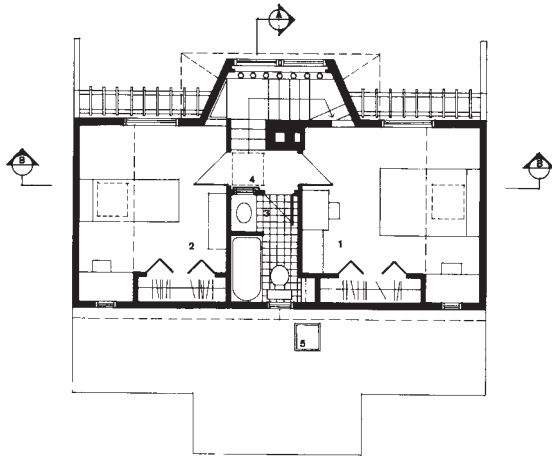
- 1 Loft (Unfinished)
- 2 Window Nook
- 3 Child Cave
- 4 Phase Change Storage
- 5 Thermal Curtain
- 6 Air Duct
- 7 Canvas Awning-Optional



AA

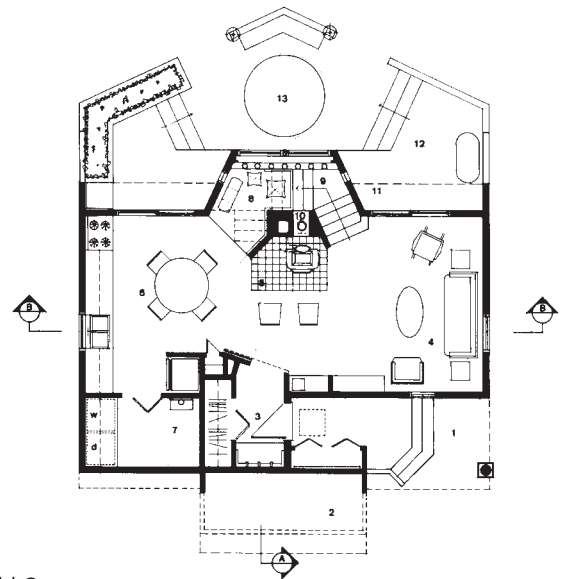


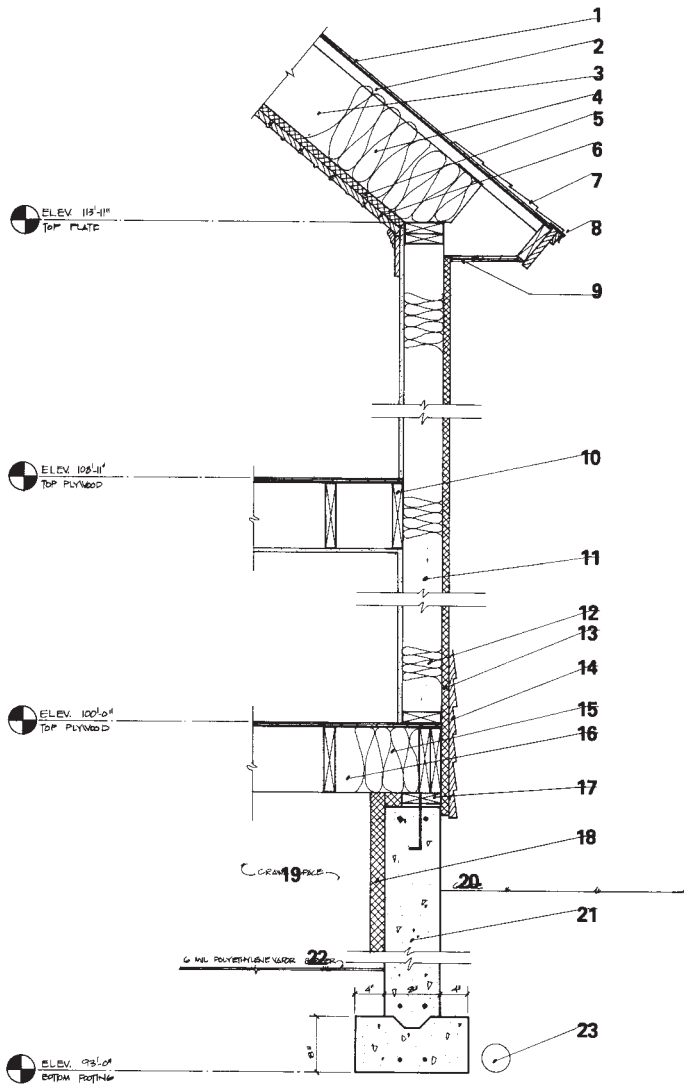
BB



- 1 MBR
- 2 BR
- 3 Bath w/Obscure Glass
- 4 Loft (Unfinished) Ladder
- 5 Porch Skylight

- 1 Corner Porch
- 2 Wood Storage
- 3 Entry w/Bench
- 4 Living
- 5 Hearth
- 6 Country Kitchen
- 7 Utility (Tankless H2O Heater)
- 8 Window Seat/Child Cave
- 9 Solar Staircase
- 10 Air Duct
- 11 Trellis
- 12 Deck
- 13 Garden





- | | | | |
|----|--|----|--|
| 1 | 1/2" Sheathing | 14 | Wood Clapboard 4" to Weather |
| 2 | 2 x 3 Strapping Nailed into Roof Rafters for Vent Space | 15 | 9" Fiberglass Batt. |
| 3 | 2 x 12 Rafters—2'0" O.C. | 16 | 2 x 10 Joists 16" O.C. Spanning North/South. Provide Bridging at Midspan. Double Rim Joist, 3/4" T&G Plywood |
| 4 | 12" Fiberglass Batt | 17 | Pressure Treated 2 x 6 w/Sill Seal |
| 5 | 1.2" R-7 Insulating Sheathing | 18 | 2" Rigid Polystyrene perimeter Insulation 2'-0" Below Exterior Grade |
| 6 | Painted Exterior "Porch" Grade Beaded T&G Spruce | 19 | Crawl Space |
| 7 | Shingles | 20 | Grade |
| 8 | Gal. Metal Drip Edge | 21 | Concrete or Concrete Block Frost Wall-2 Coats of Asphalt Bituminous Waterproofing on Below Grade Exterior |
| 9 | Soffit Vent w. Insect Screen | 22 | 6 Mil. Polyethylene Vapor Barrier |
| 10 | 2 x 10 Joists 16" O.C. Spanning North South- Bridging at Midspan | 23 | 4" PVC Drain Tile |
| 11 | 2 x 6 Stud Wall 2'-0" O.C. Balloon Frame East and West Walls, Platform Frame North-South Walls | | |
| 12 | 6" Fiberglass Batt. | | |
| 13 | 1.2" R-7 Insulating Sheathing | | |

Wall Section

Elegant Postmodern

North-central Texas

1,250 gross square feet

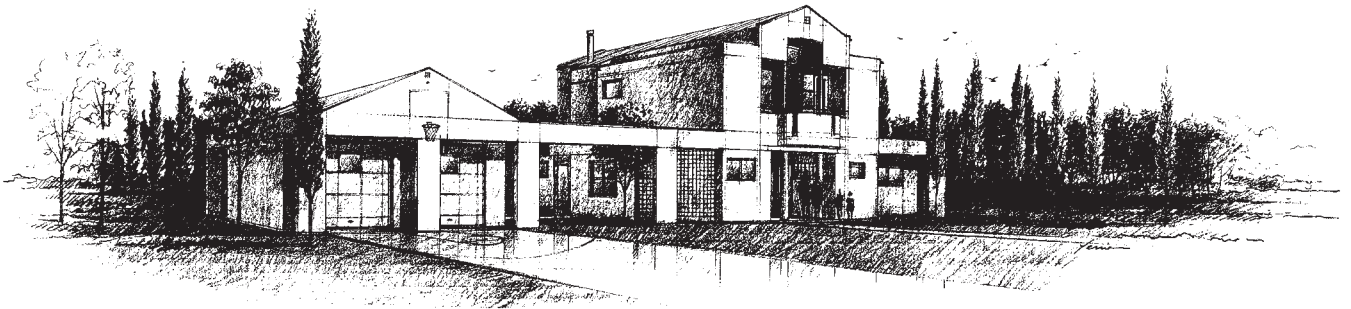
The basic concepts utilized in the design of this house are: clarity of organization and circulation, zoning according to public and private spaces, and the notion of images which depict dwelling.

The front plane of the house enfronts the street with a single layer that reveals subsequent layers beyond. The image suggests two house forms, the primary two-story block for people and the smaller house for vehicles and ancillary functions. Symmetrical devices are used to provide a formal entry and receiving space for visitors. The living area is two stories high, with a balcony above that serves as a small library leading to the master bedroom on the second floor.

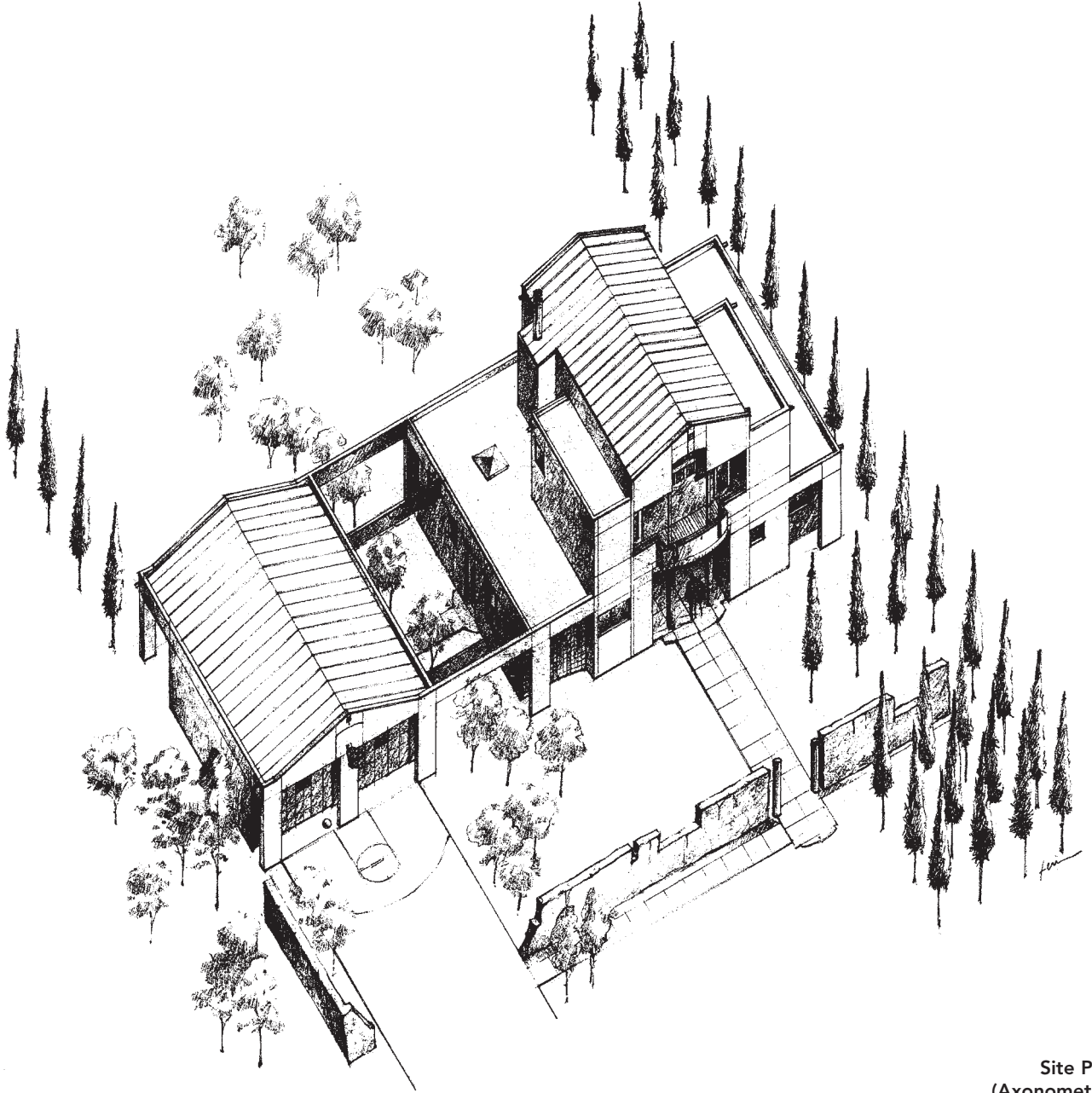
The master suite is well away from the children. The library loft allows a pleasant place to read, write, talk on the telephone, or watch the children below. The plan provides for a darkroom adjacent to the library. We have included an alternate plan for this area illustrating how this space might be utilized for additional closet space in the master bath area.

Circulation is at the edge of rooms rather than corridors. In is the variation of spatial definition and different views from the spaces which allow for a variety of experiences.

Richard B. Ferrier

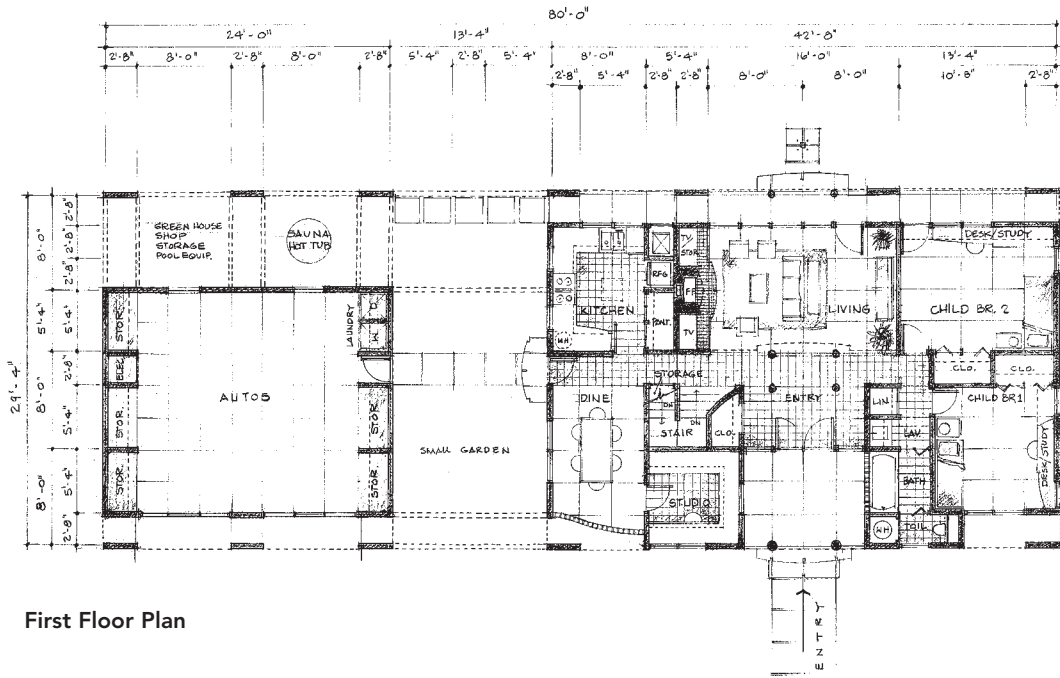


Perspective

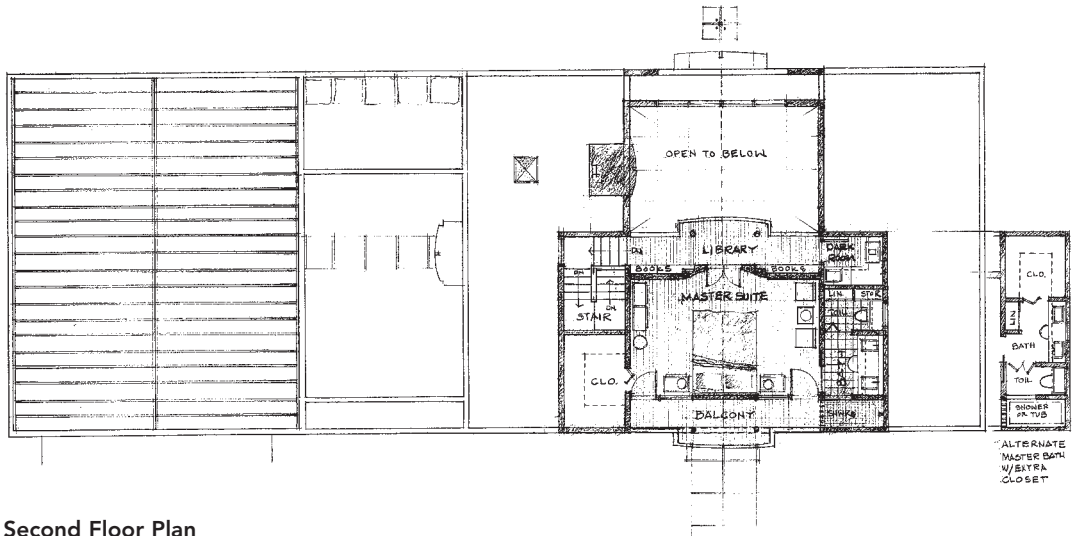


Site Plan
(Axonometric)

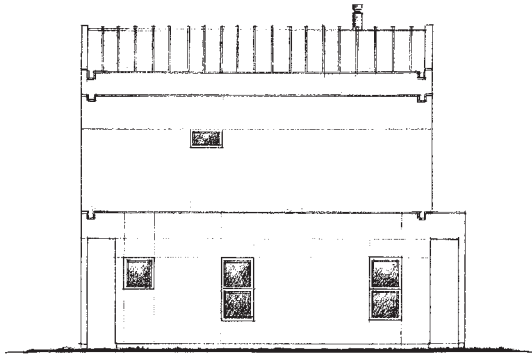
Elegant Postmodern



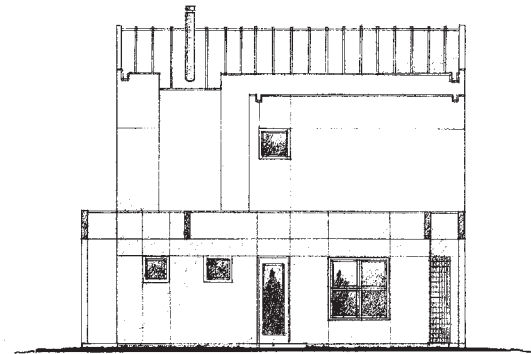
First Floor Plan



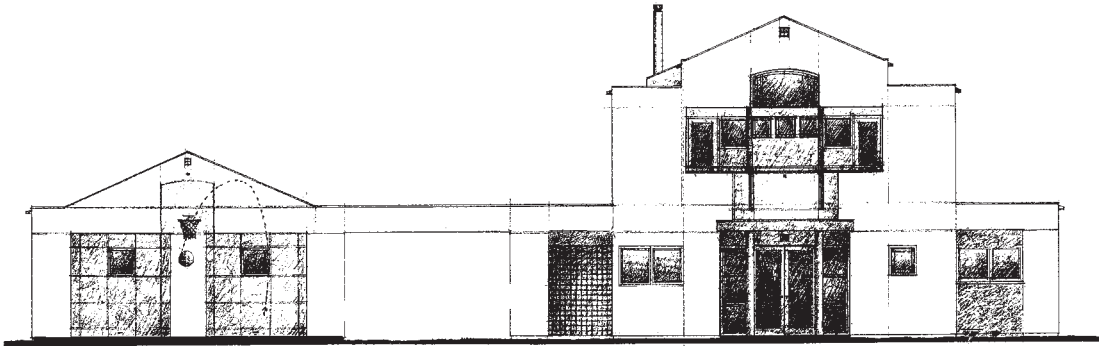
Second Floor Plan



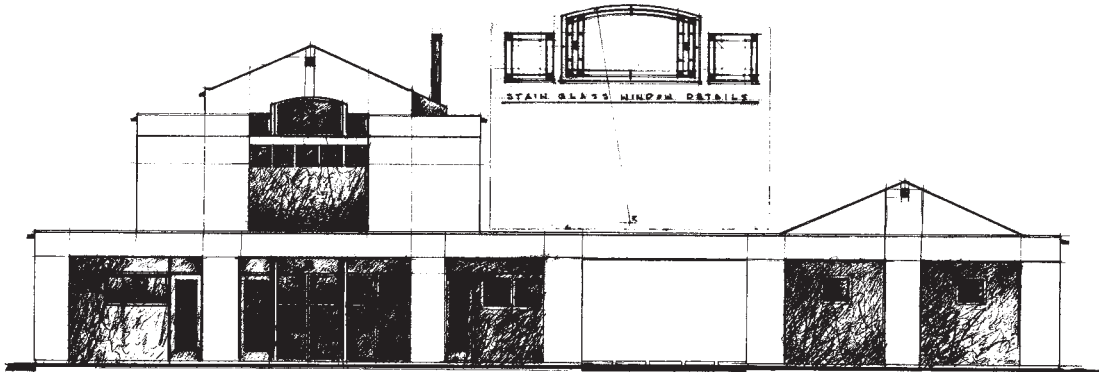
Elevation: Side



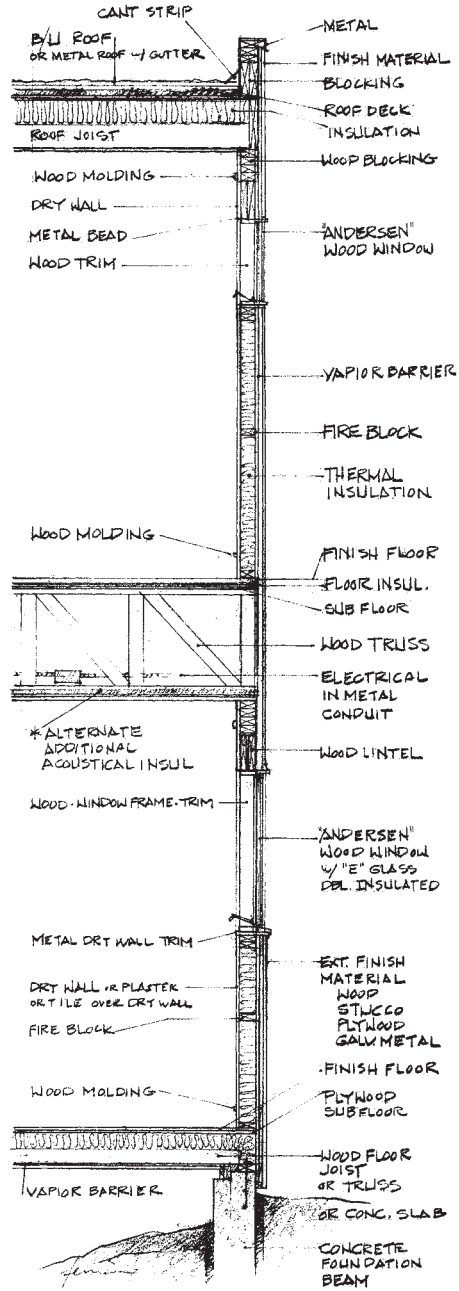
Elevation: Side (Kitchen/Dining)



Elevation: Entry/Front



Elevation: Garden/Rear



Wall Section

Earth and Wood Essential

Napa Valley, California

1,241 gross square feet

The construction elements here are earth and wood.

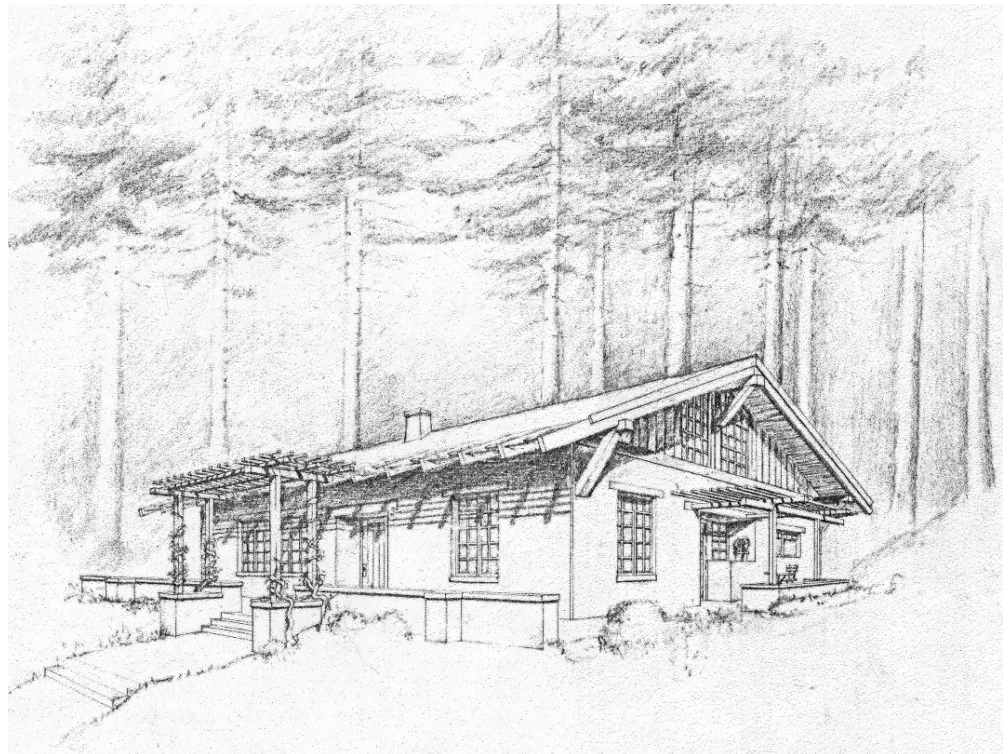
Our essential house, simple yet inspiring, is located in the Napa Valley region of northern California on a narrow, south-facing city lot. The residence derives its strength and functionality in this urban setting from sound-absorbing, monolithic earth walls.

These 2-foot-thick walls, in conjunction with active and passive solar systems, retain the warmth of sunny winter days as well as the coolness of the foggy summer nights.

Imagine quiet, cozy seats in most windows, niches and bookcases carved from the thick walls, private kid's spaces under the sloping roof, and a kitchen designed to make recycling a natural.

A practical design for comfortable living, massive earth masonry for energy efficiency, and sustainable materials for environmental responsibilities.

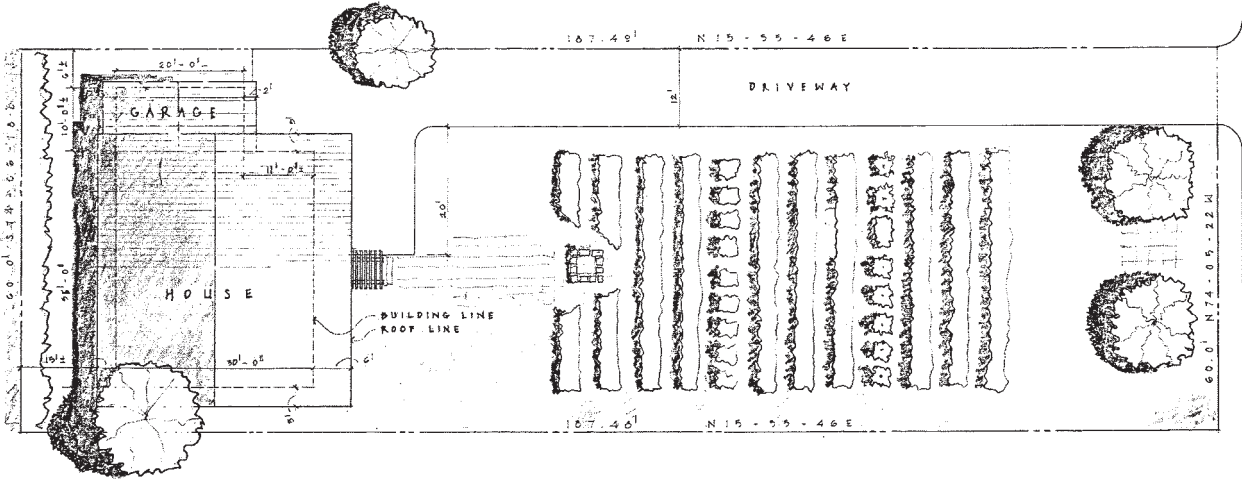
Rammed Earth Works



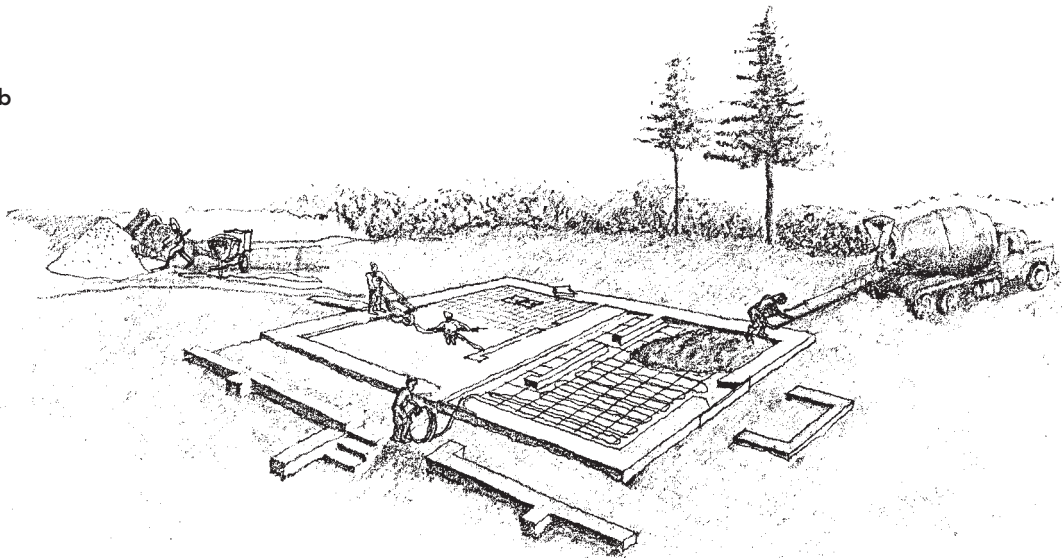
Perspective



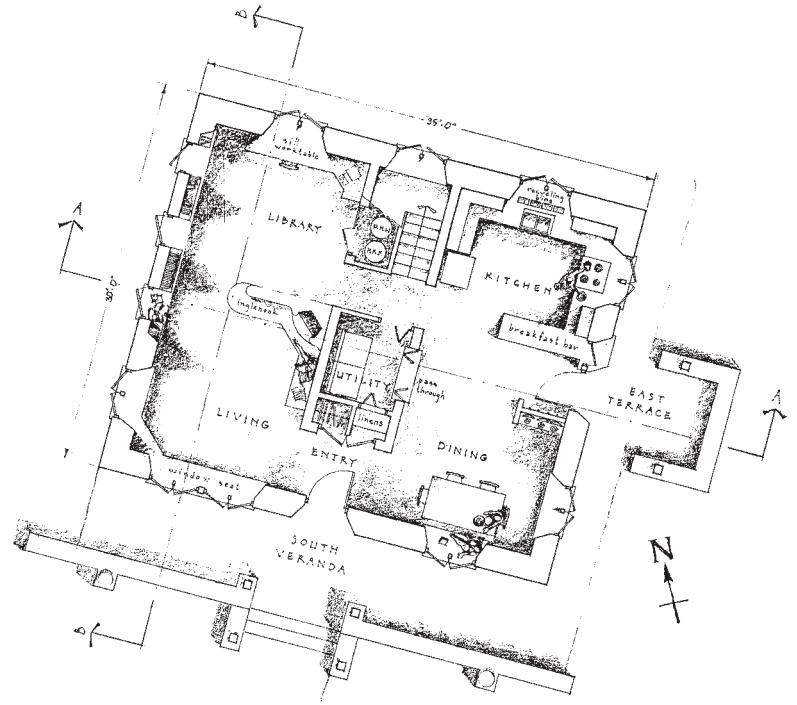
Site Plan



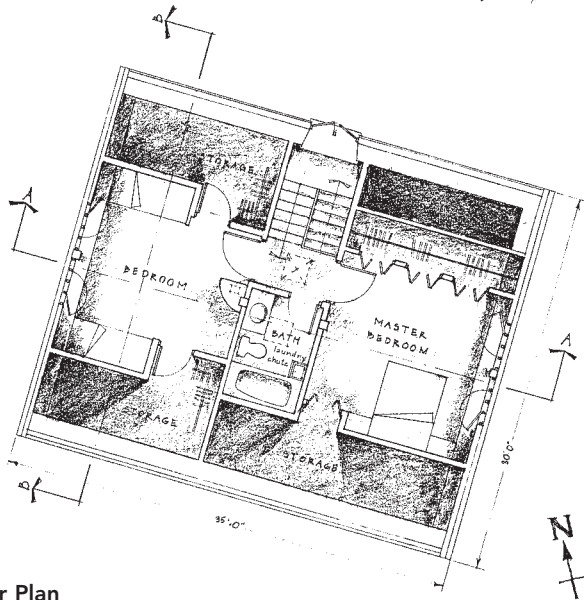
Installing Radiant Slab
and Earth Tile Floor

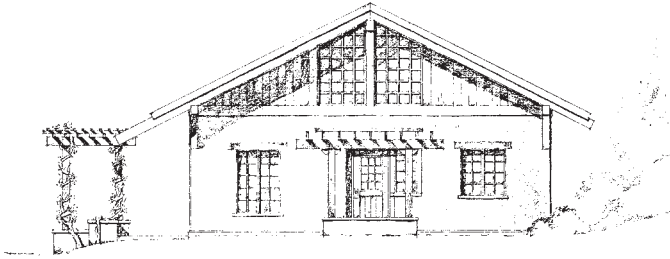


First Floor Plan

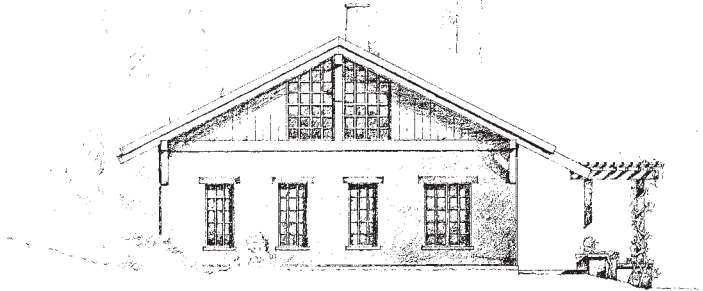


Second Floor Plan

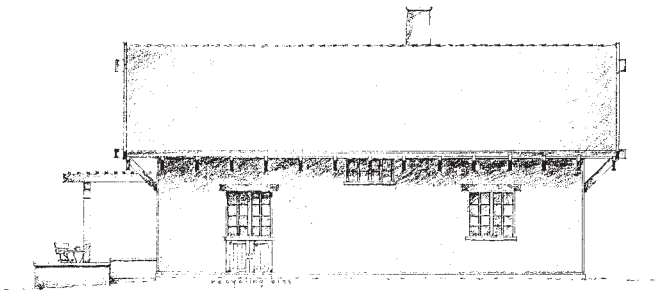




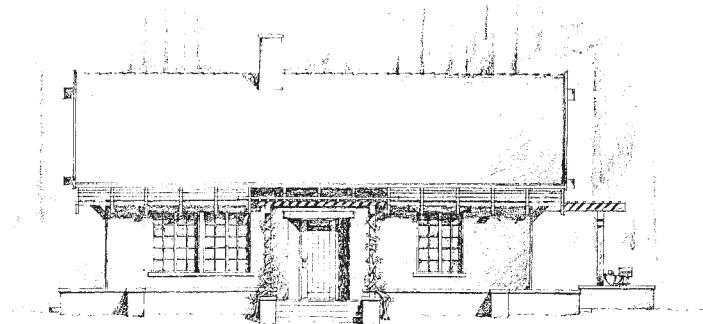
East Elevation



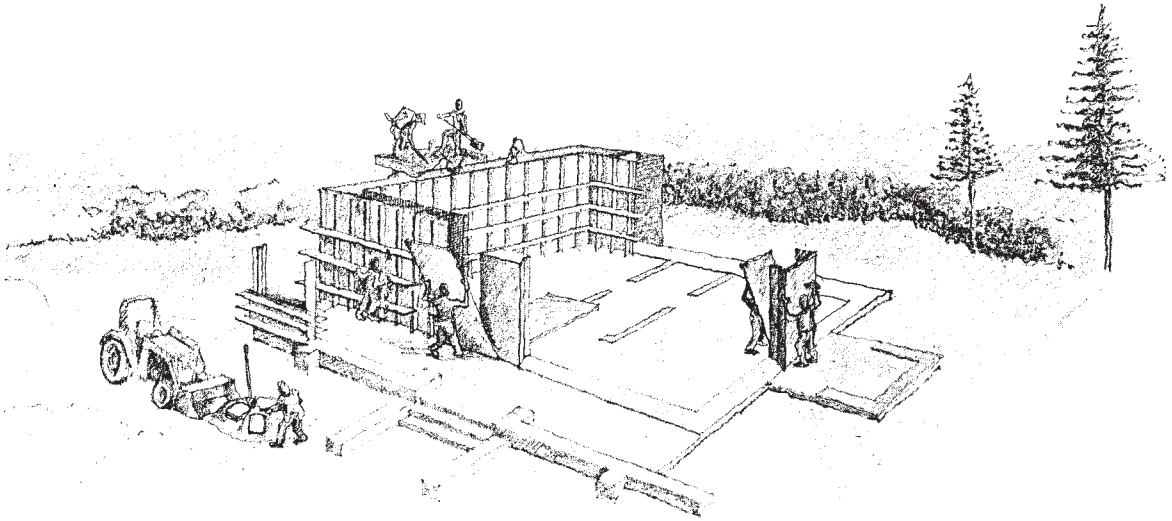
West Elevation



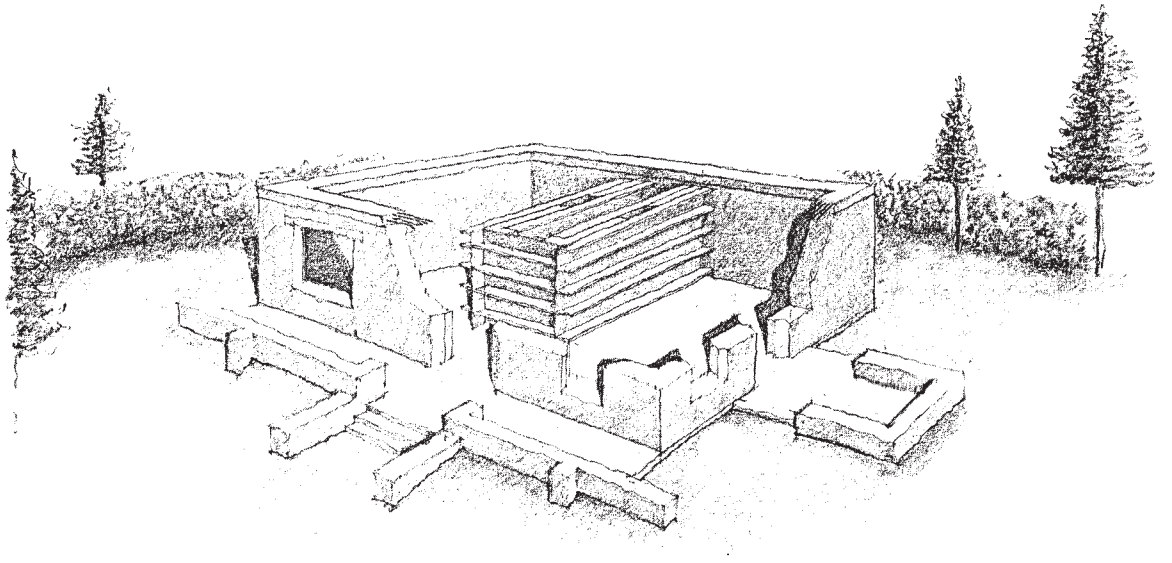
North Elevation



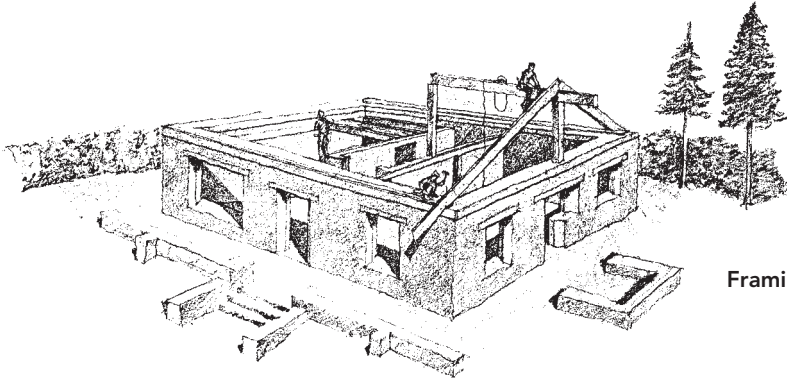
South Elevation



Constructing Solid Earth Walls

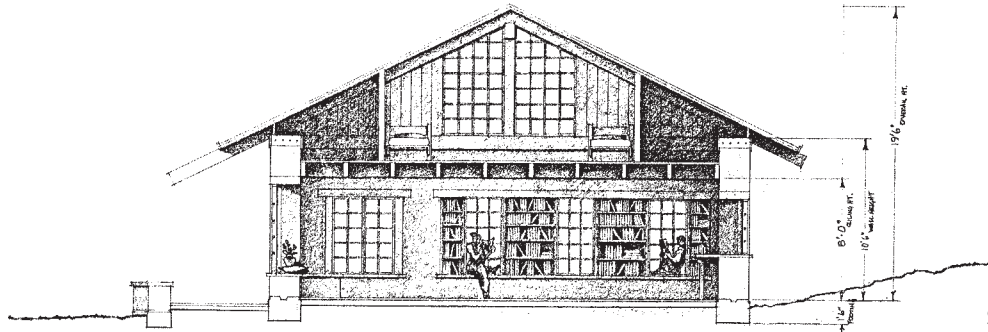
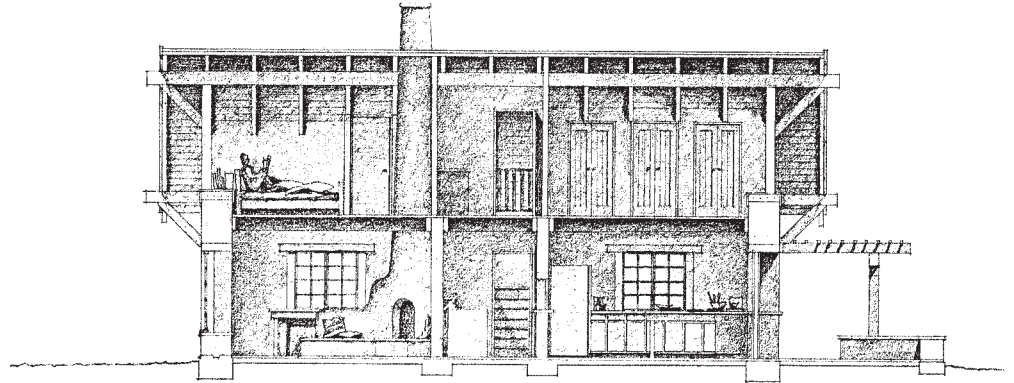


Casting Interior Walls

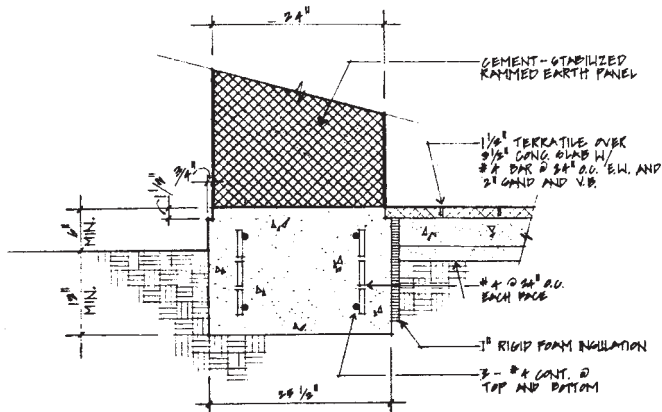
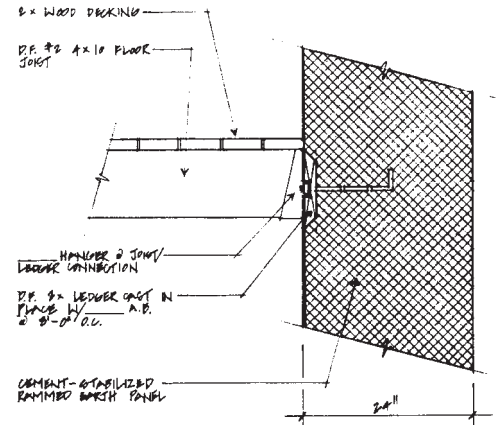
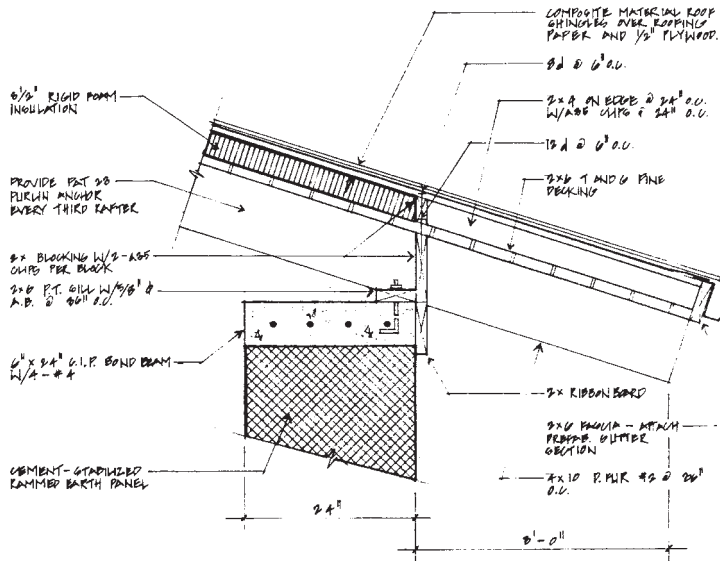


Framing Upper Floor and Roof

Section A-A



Section B-B



Ever-Efficient Home

South Florida

1,240 gross square feet

This design is a study in providing an energy-, cost-, and space-efficient house that is responsive to the functional and aesthetic needs of the people that use it. Its spaces intimate and dynamic are intended to romance and excite the users as they experience the routine of daily living.

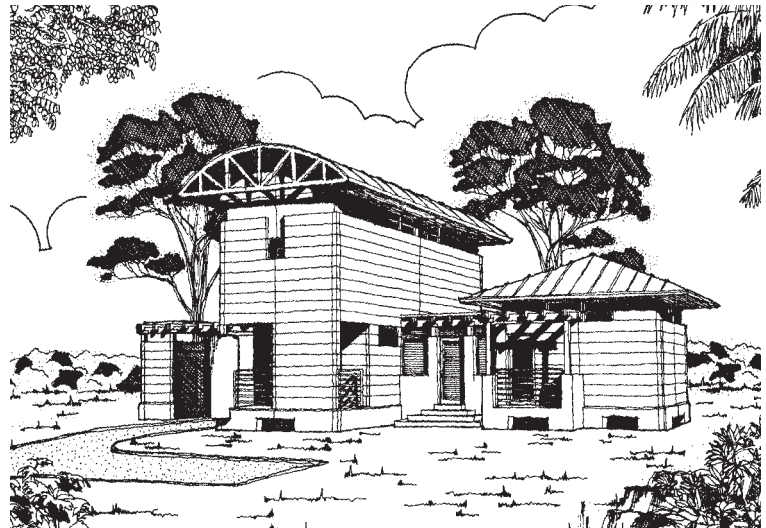
The centrally located courtyard is the transition of exterior and interior spaces. The courtyard links the living spaces on the ground floor and allows them to expand functionally and visually. Upstairs, the use of a shared tub/shower allows the typical bathroom to double and provide private access from either bedroom. The organization of the house as a single room depth helps minimize circulation and increase cross-ventilation.

South Florida's extensive heat and humidity require a series of design parameters that can at times detract from the overall appearance of the house. An example of this is the limited use of windows. In this design, the energy components are used to embellish the overall appearance:

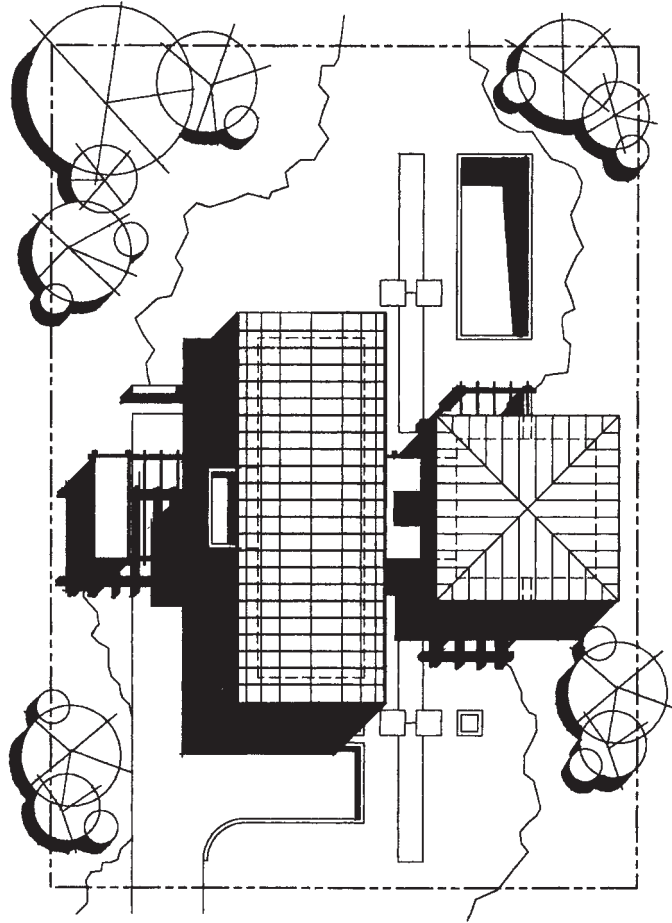
- elevated floors, large overhangs, and clerestory windows help articulate and balance the overall building form;
- trellises derived from Spanish influence allow for exterior shaded use of courtyards and porches;
- radiant barriers, insulation, and ceiling fans when combined with volume ceilings help create dynamic, energy-efficient spaces.

The goal in the overall character of the house was to reach back into history and provide an appearance that is vernacular to the South Florida area.

Primitivo Emilio Conde

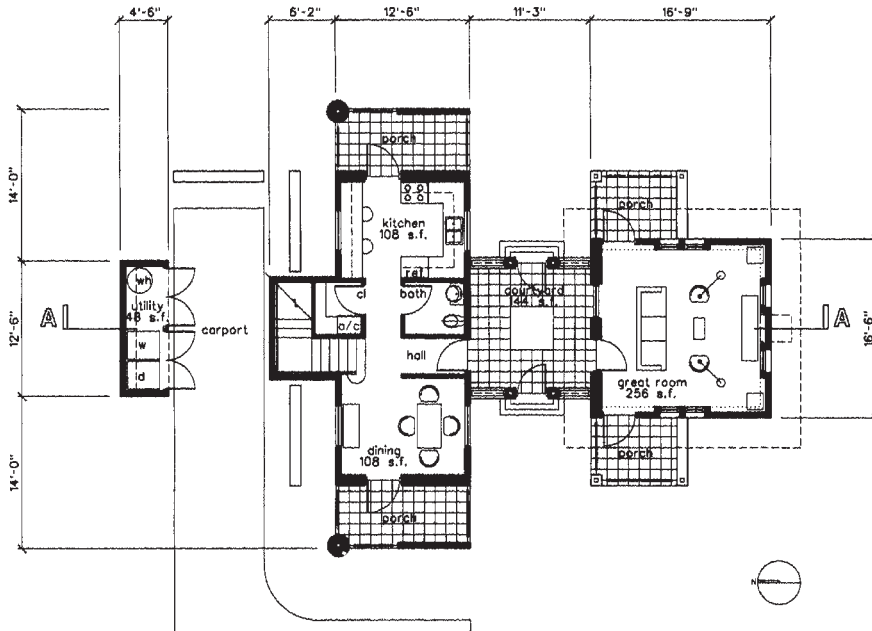


Perspective

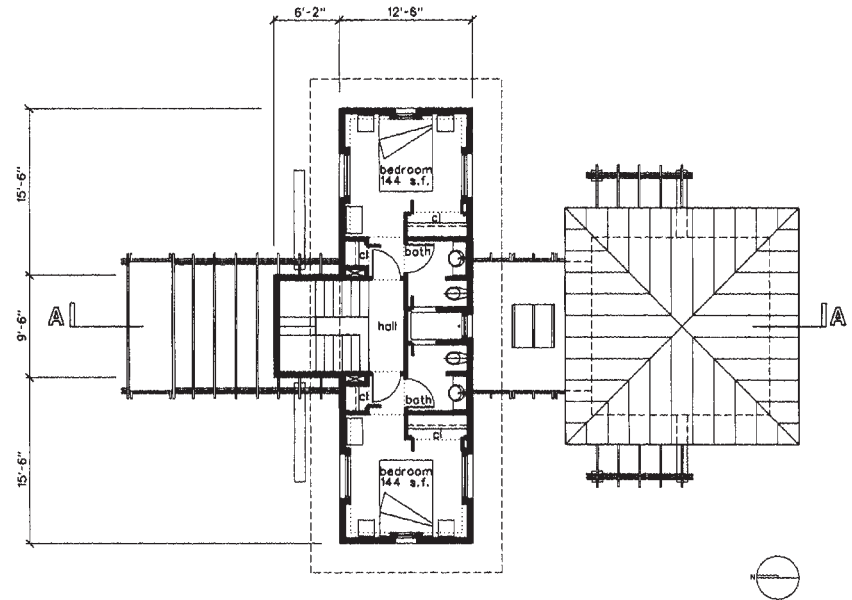


Site Plan

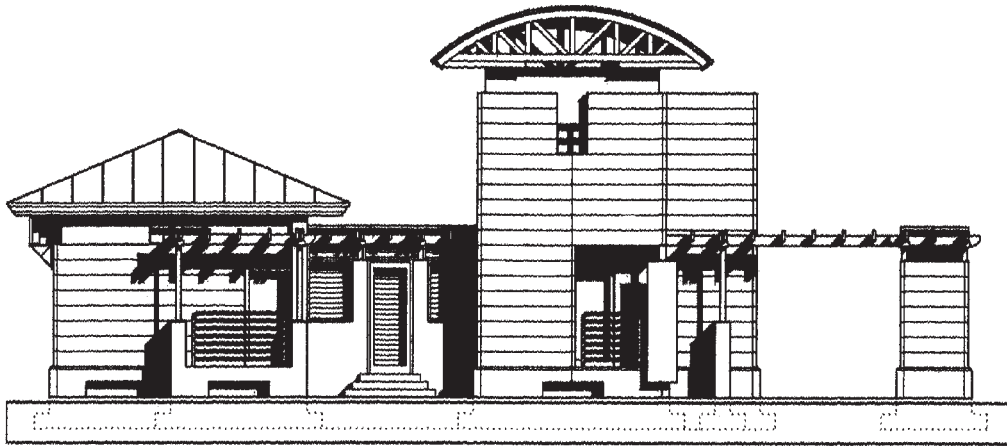
Ever-Efficient Home



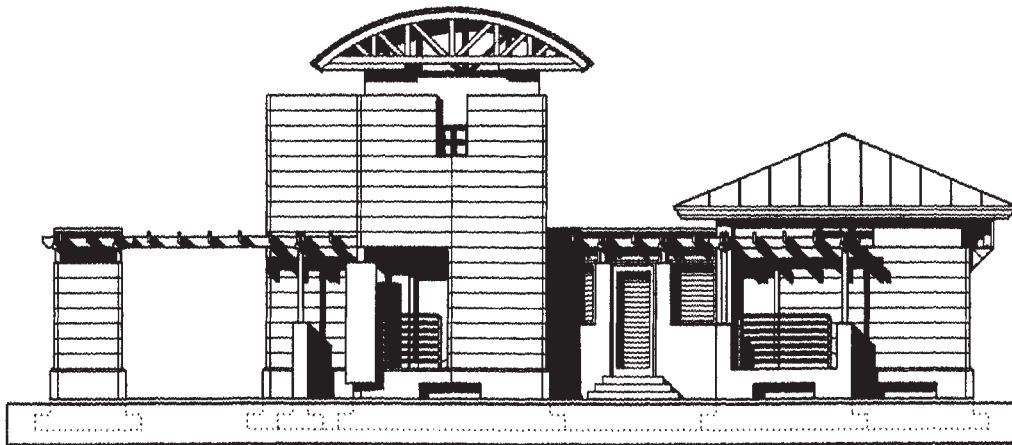
First Floor Plan
780 sq. ft.



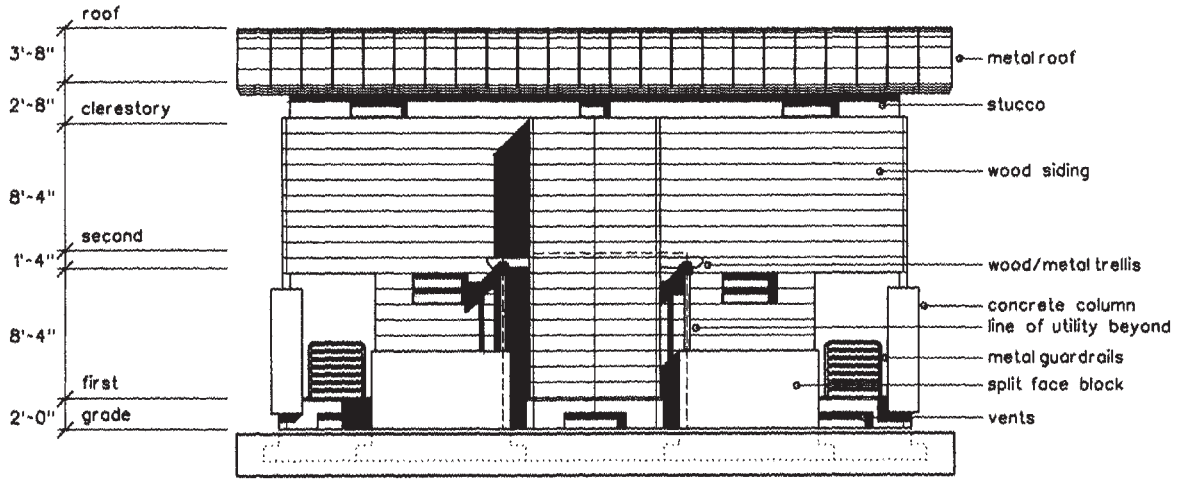
Second Floor Plan
460 sq. ft.



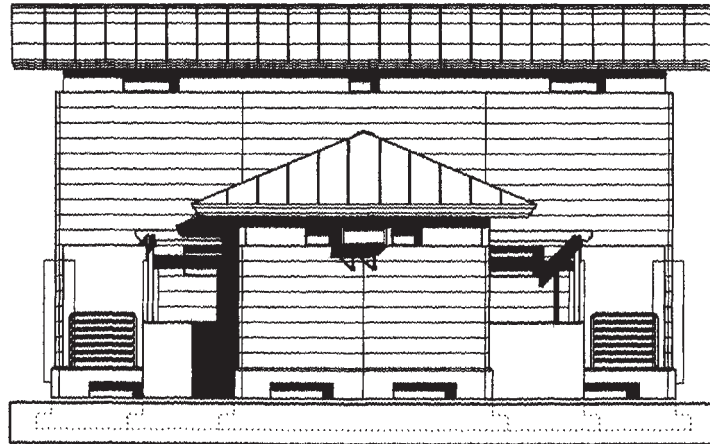
East Elevation



West Elevation

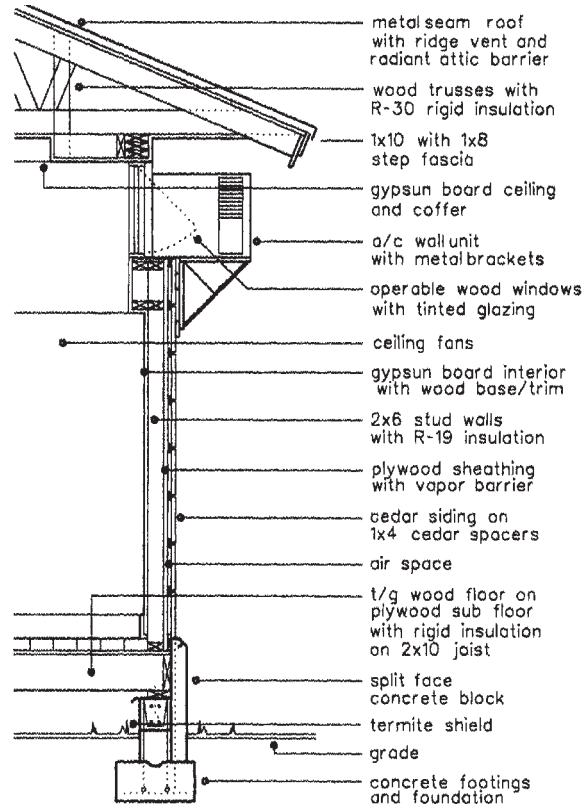
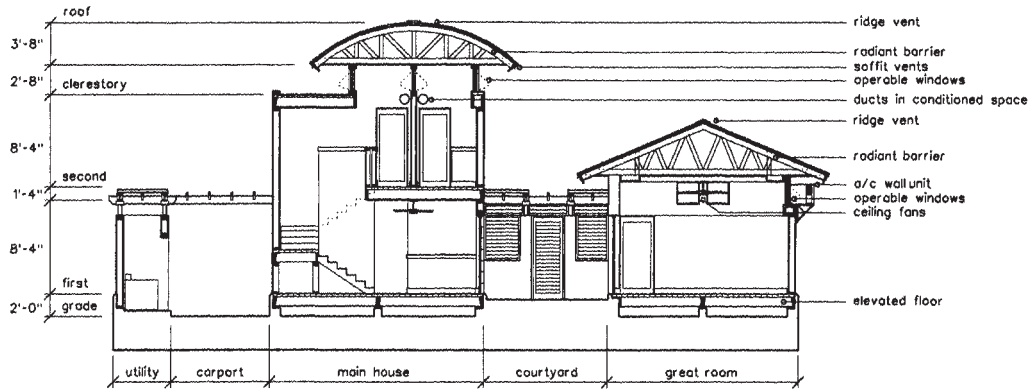


North Elevation



South Elevation

Section



Wall Section

"Charleston House"

Southeastern U.S.

1,250 gross square feet

This house is intended as an infill unit for the low-density urban environments so common in the cities of the Southeast. It is loosely based on the Charleston townhouse model with its private garden to the side, as opposed to the rear, of the house. This garden can be defined as shown with a one-car garage, or simply with a high fence. The large areas of glass facing south onto this garden and the flagstone floor are calculated to give this house passive solar characteristics without looking like a "solar house." The second-story balcony of the master bedroom and deciduous trees shade these openings in summer.

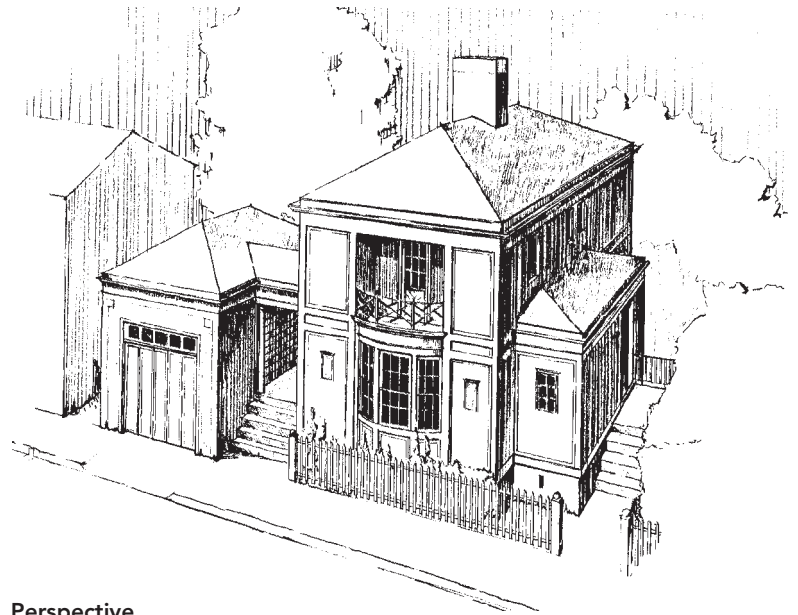
The plan is a simple two room over two room with the stair in between. Mechanical systems are located in a pit below the stairs and share the zero-clearance fireplace flue with the chimney as shown by the minimal masonry chimney.

Of wood frame construction, this house is sided with 6-inch beaded flush siding treated with two coats of deep base stain. The roof

is preformed standing seam metal. The windows are true divided-light single panes with insulating interior shutters.

The design of this house is generated from the geometry of the double square. Thus all elements, from the smallest detail to the entire plan and elevations, are unified. This house will evoke in all who experience it a sense of harmony, even though it is of a limited size and scale.

Nancy Nugent



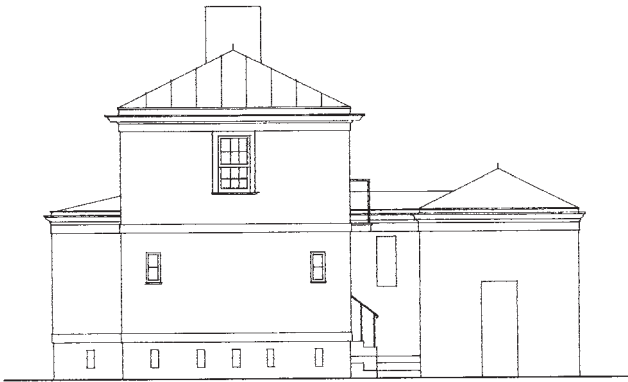
Perspective



North Elevation



South Elevation

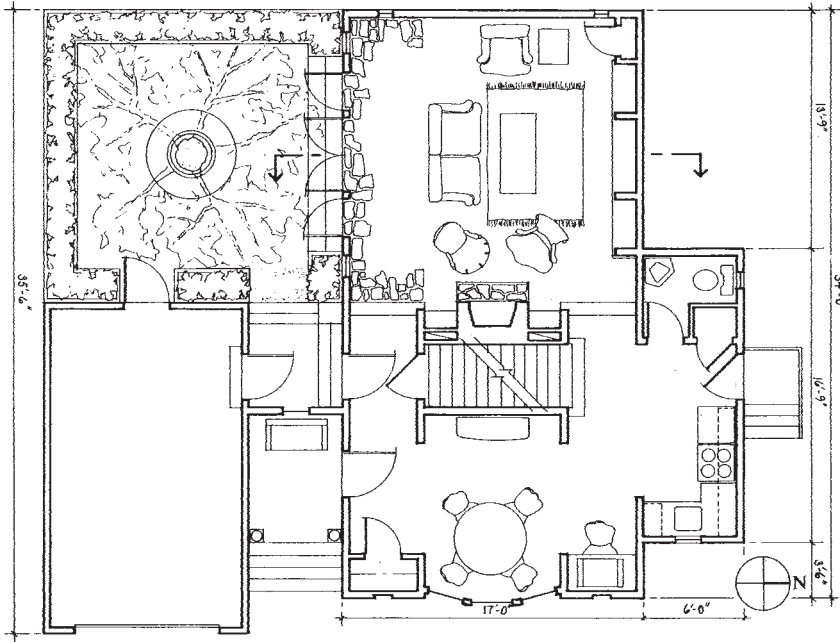


West Elevation

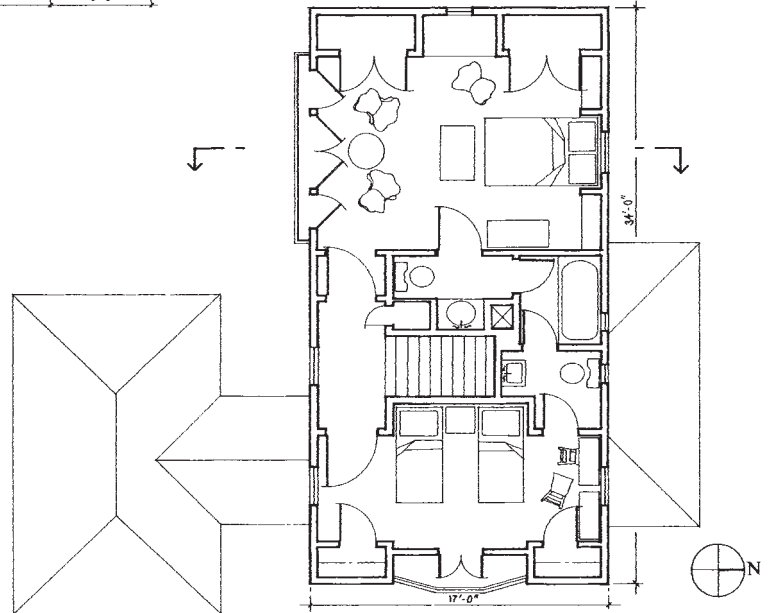


East Elevation

"Charleston House"



First Floor Plan

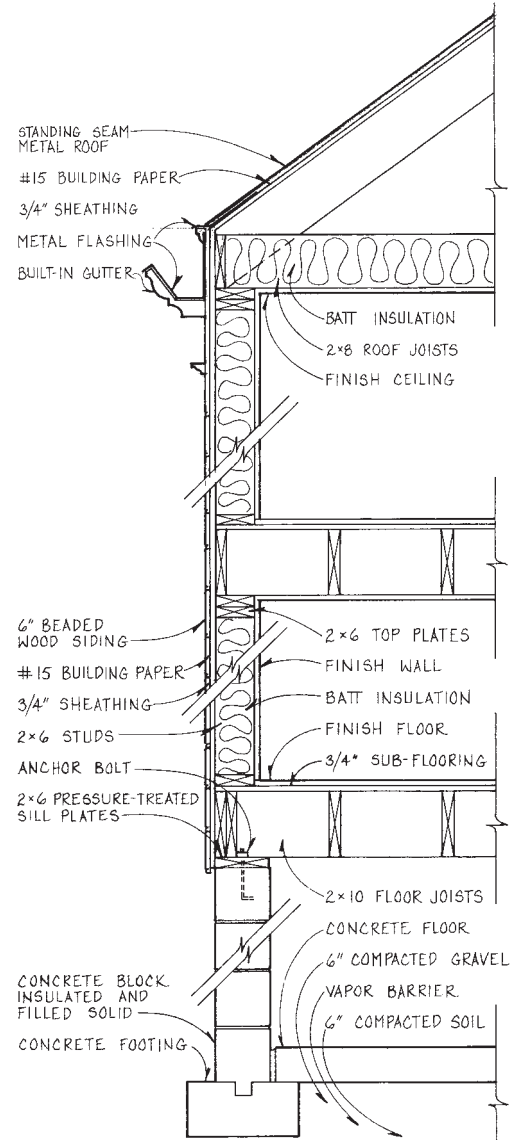


Second Floor Plan



Section

Wall Section



Wisconsin Farm House

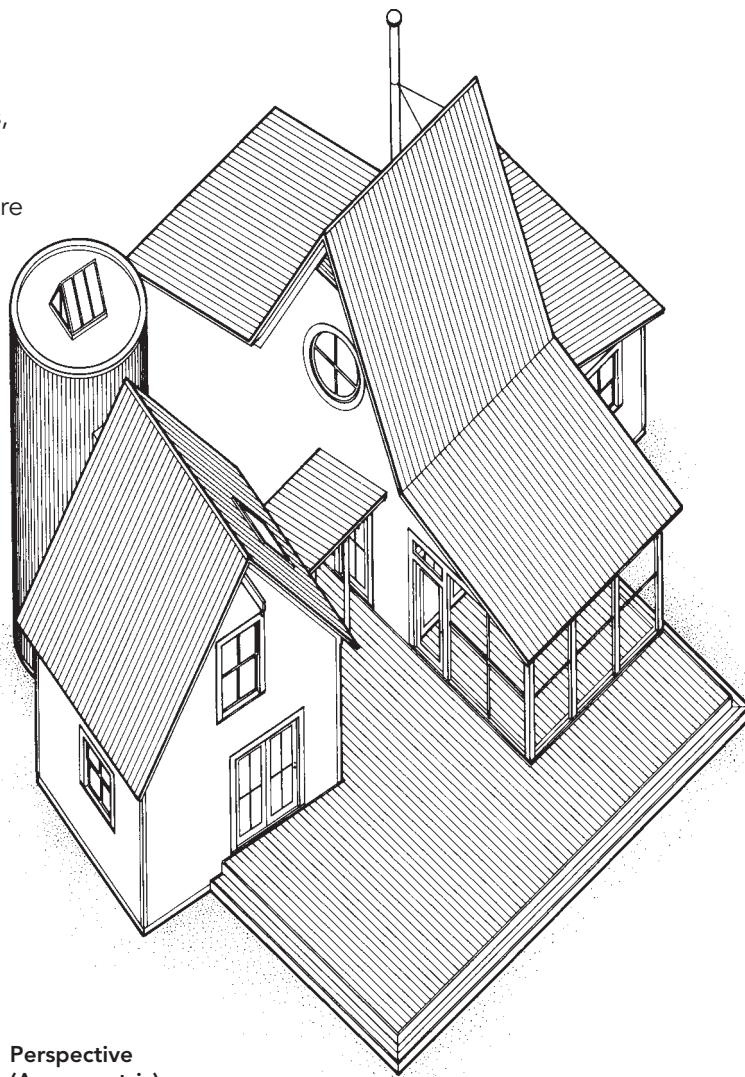
Washington Island, Wisconsin

1,200 gross square feet

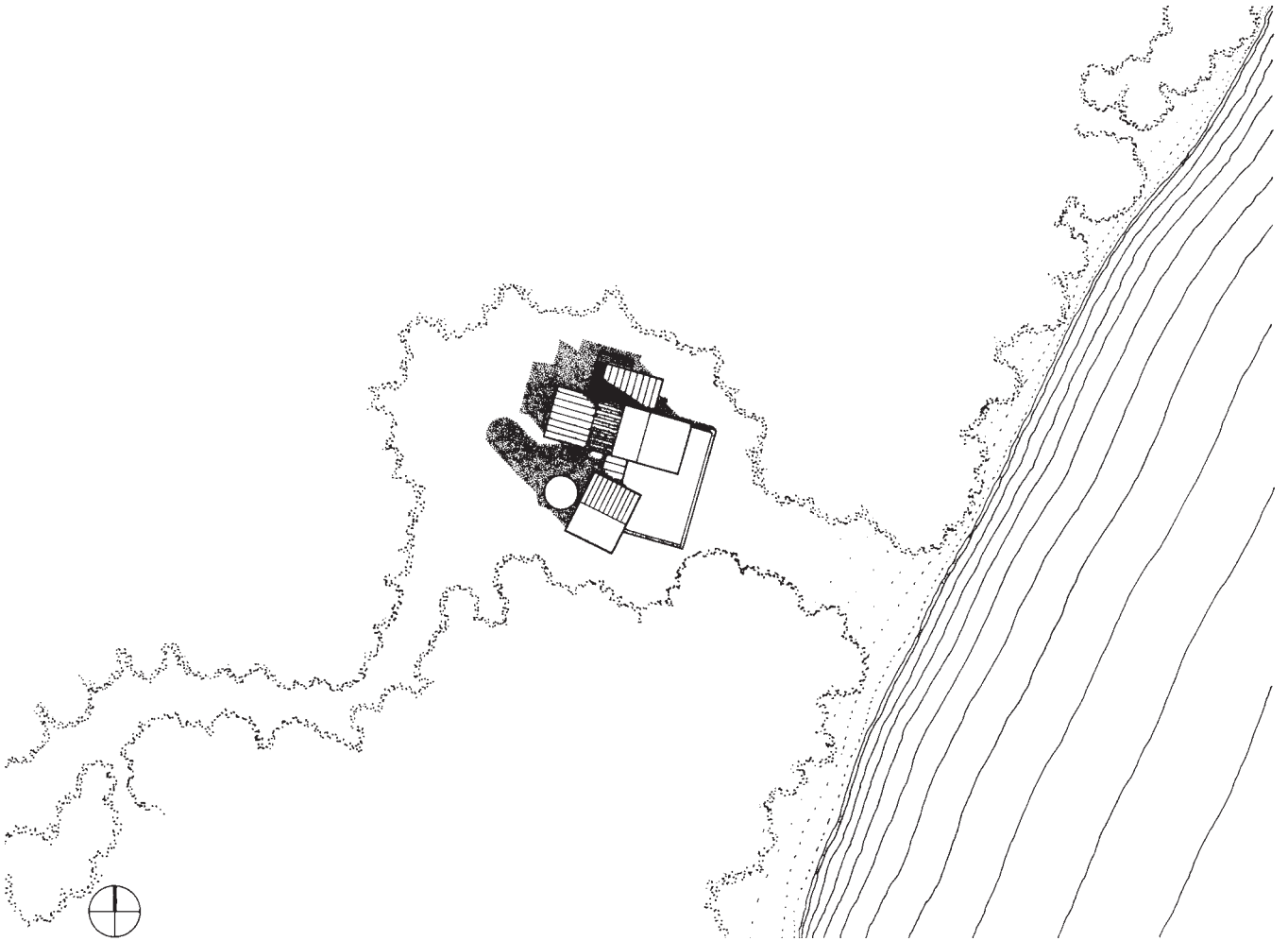
This house is inspired in part by typical farm complexes of northern coastal Wisconsin. Three structures house living spaces, bedrooms, and bathrooms, respectively.

The separation of this tiny program (1,200 square feet) into three distinct structures establishes a reassuring community of buildings on this remote 13-acre site on Lake Michigan. Accordingly, this design is as much about the spaces between buildings as it is about the buildings themselves.

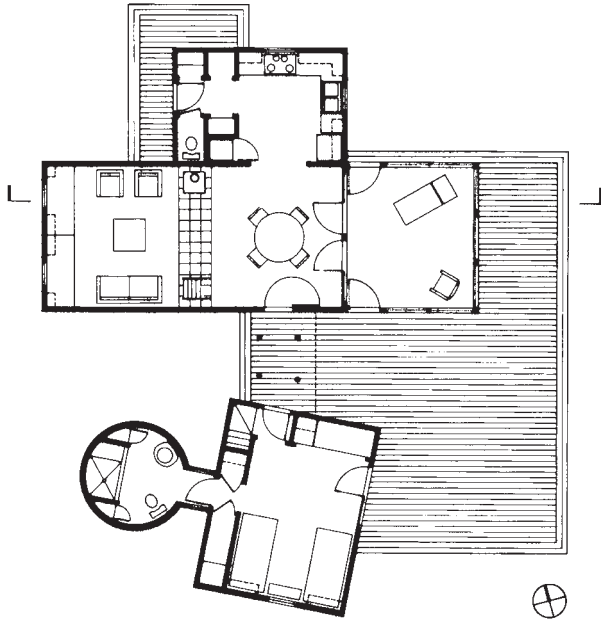
Frederick Phillips



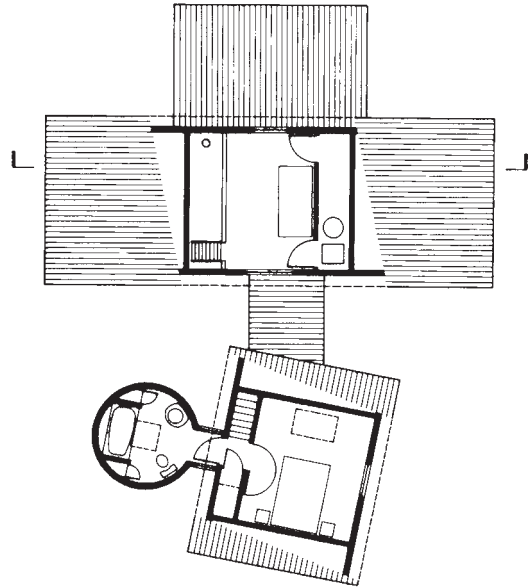
Perspective
(Axonometric)



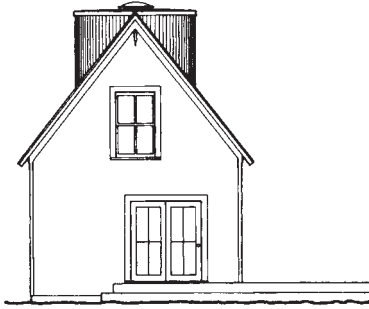
Site Plan



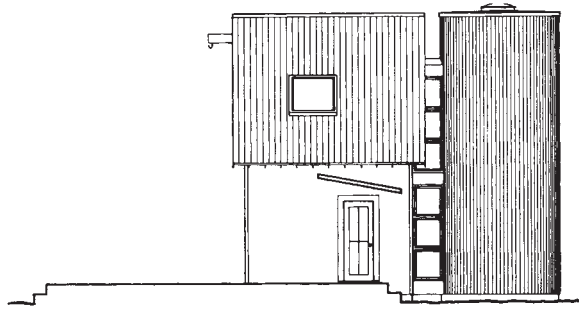
First Floor Plan



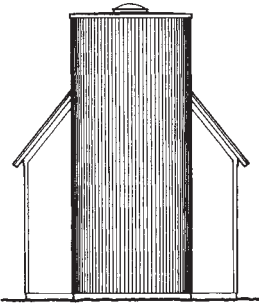
Second Floor Plan



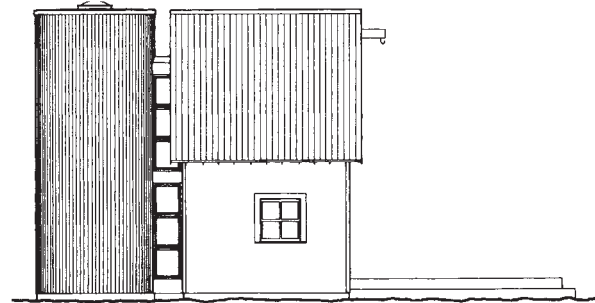
East Elevation 1



North Elevation 1

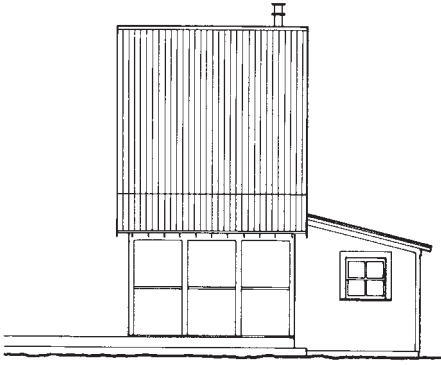


West Elevation 1



South Elevation 1

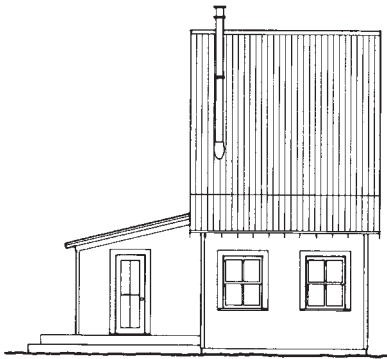
Wisconsin Farm House



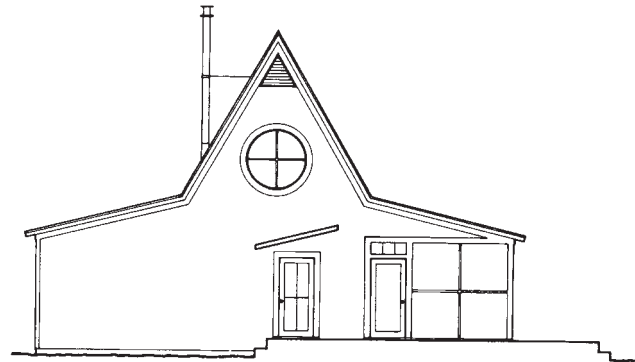
East Elevation 2



North Elevation 2



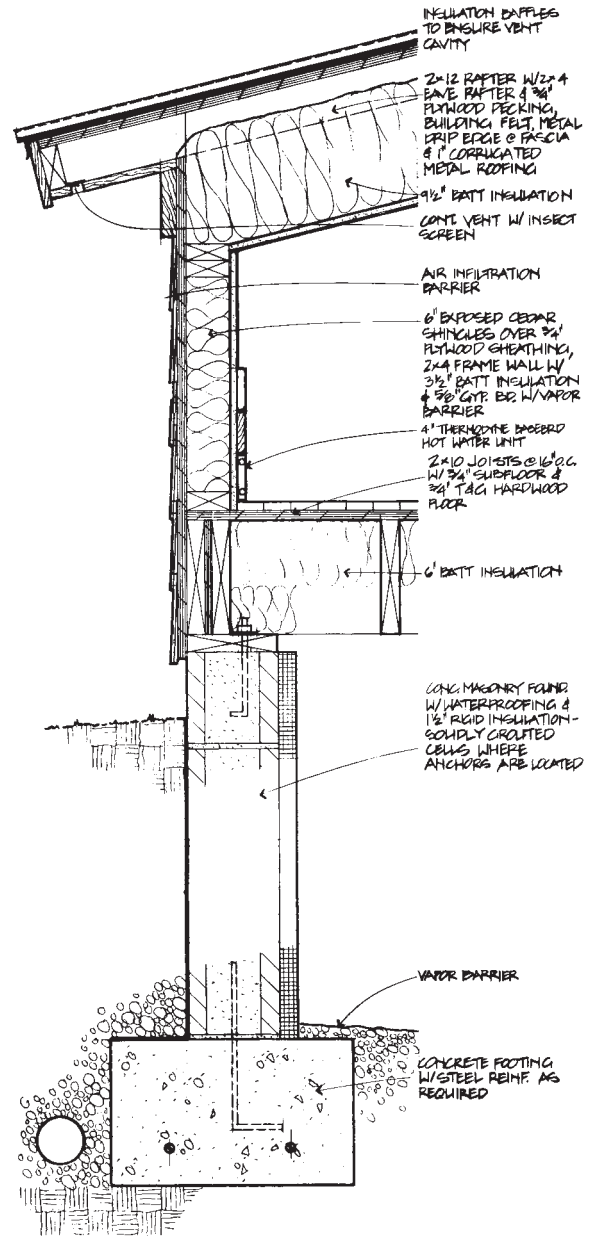
West Elevation 2



South Elevation 2



Section



Wall Section

Adobe

Santa Fe, New Mexico

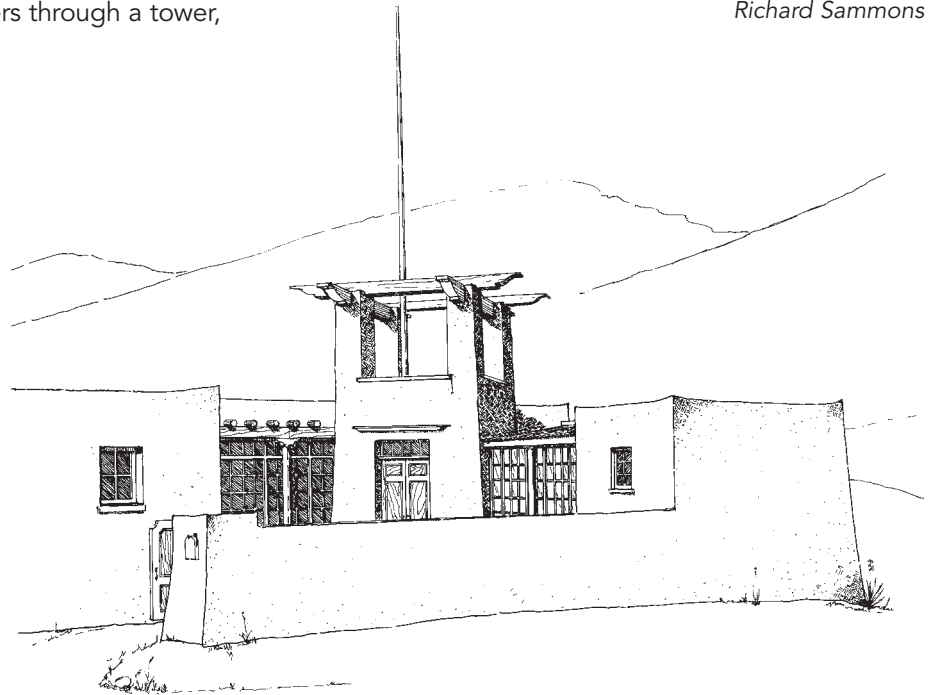
1,220 gross square feet

This 1,220 square foot house was designed for the outskirts of a small town near Santa Fe, New Mexico. It is situated at the corner of two dirt roads that come together at an obtuse angle. The southwest walls of the house follow the line of the roads. Following the lead of John Gaw Meem, the great Santa Fe architect of the beginning of this century, the design freely adapts the local vernacular, in plan and detail.

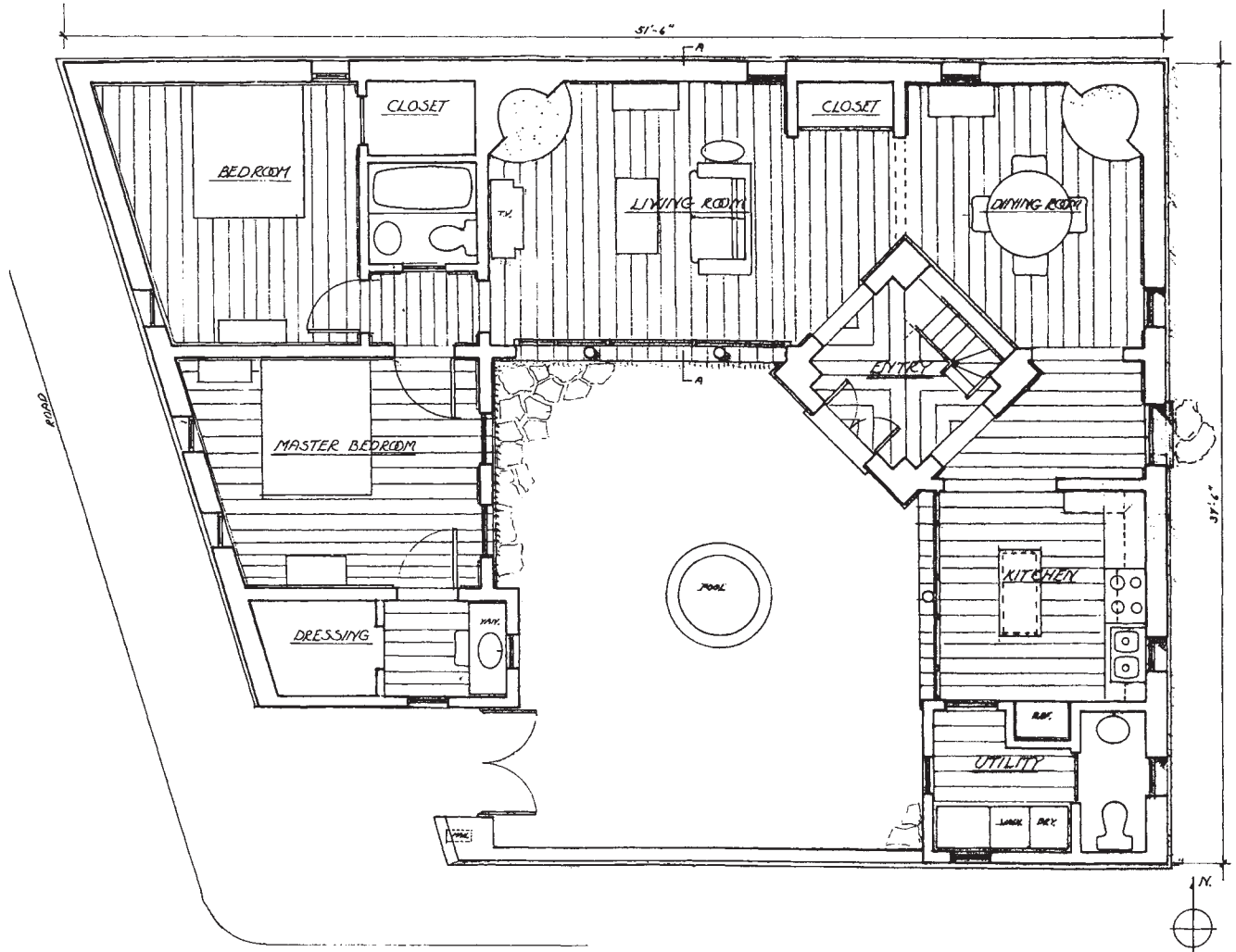
The house is built of adobe, with the principal rooms opening to the courtyard. One enters through a tower,

which can be reached by a steep stair in the vestibule. Inexpensive adobe fireplaces give focus to both the dining and living rooms, and the southfacing window-wall of the latter gives the house some passive solar possibilities. Awnings provide shade and outdoor living in the summer. Primary heating and mechanical systems are situated in a pit below the tower. Air conditioning is not necessary. The perimeter walls have small openings, which focus attention into the courtyard.

Richard Sammons

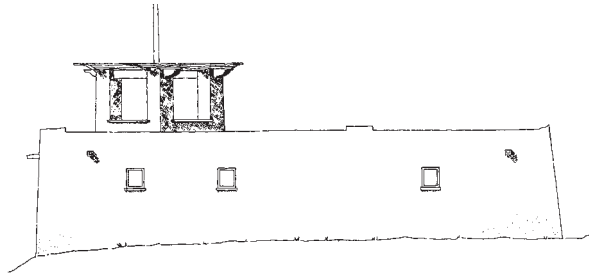


Perspective

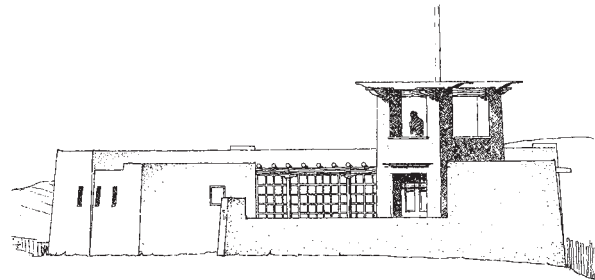


Floor Plan

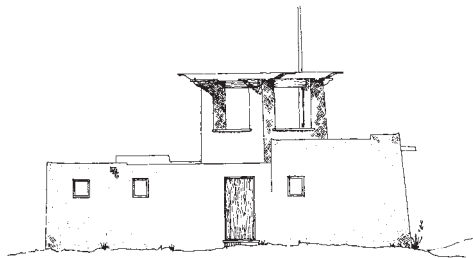
Adobe



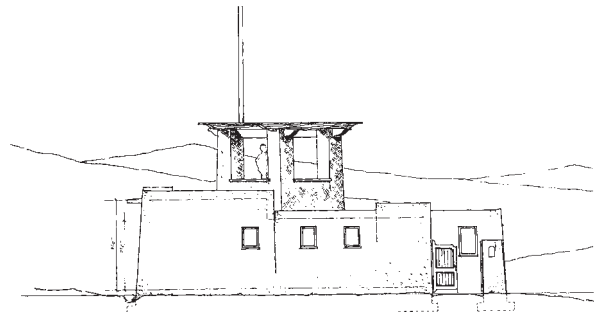
North Elevation



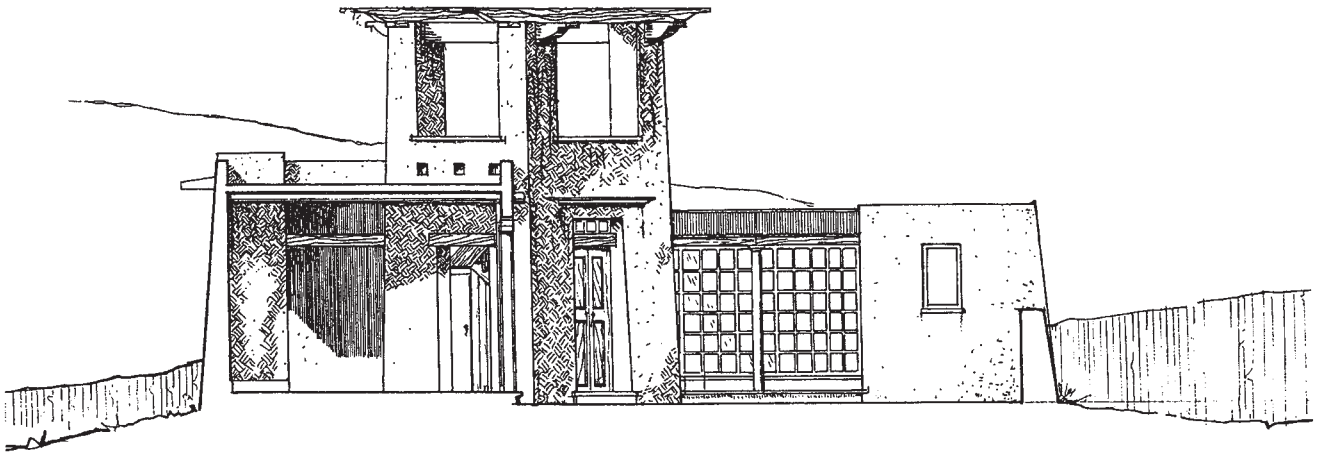
South Elevation



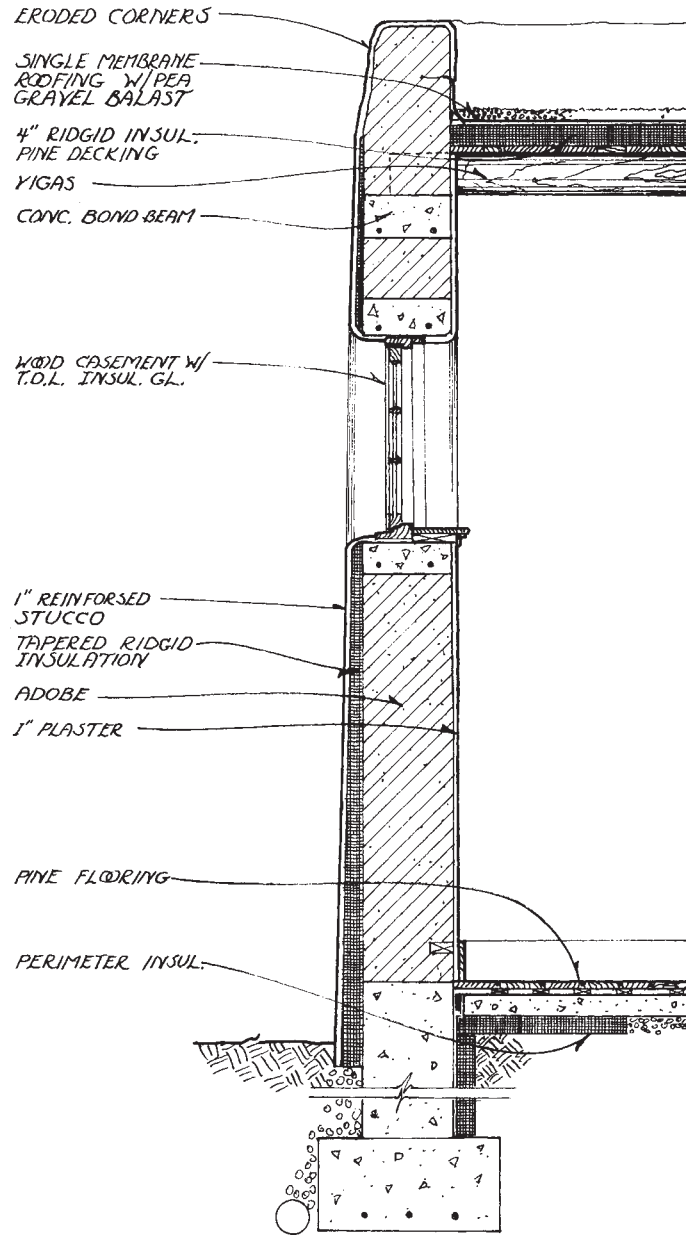
East Elevation



West Elevation



Section



Wall Section

Sophisticated Steel Frame

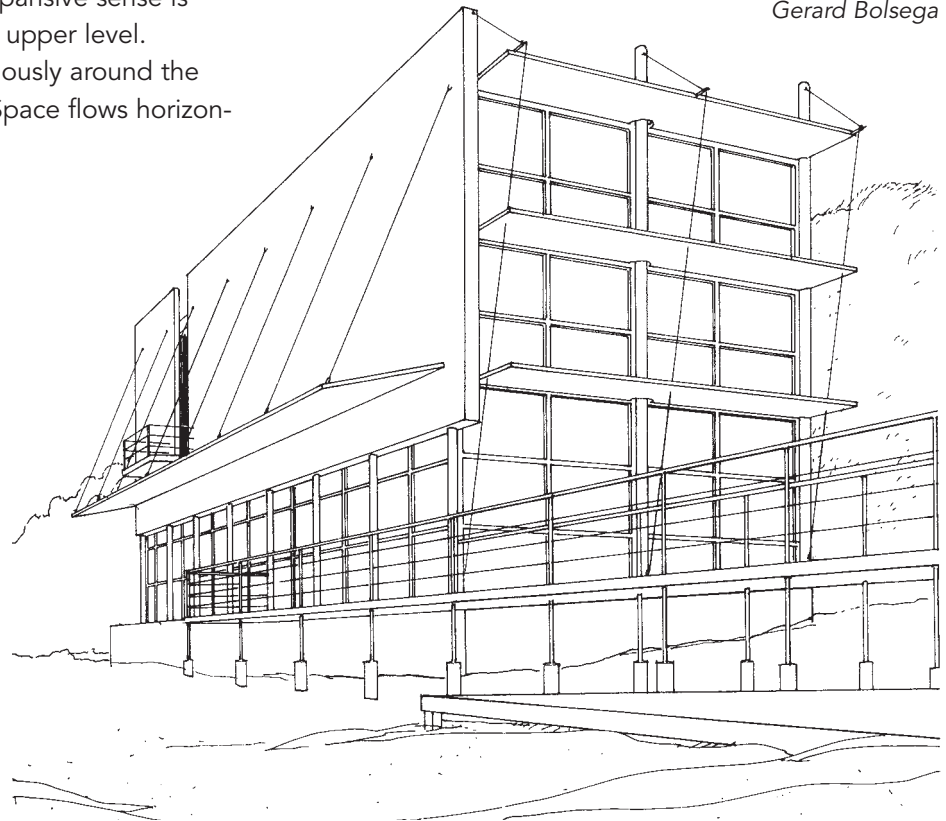
Clear Lake, California

1,205 gross square feet

The conventional house form with its numerous partitions cuts up space and works against a feeling of expansiveness. The plan here is long and rectilinear. Within this volume, a great space is kept, and distance itself serves to isolate areas of the house. The functions of kitchen and bath form a core placed so as to act itself as a divider of space. The expansive sense is enhanced by the “floating” of the upper level. Double-high space moves continuously around the perimeter of the house’s interior. Space flows horizontally and vertically.

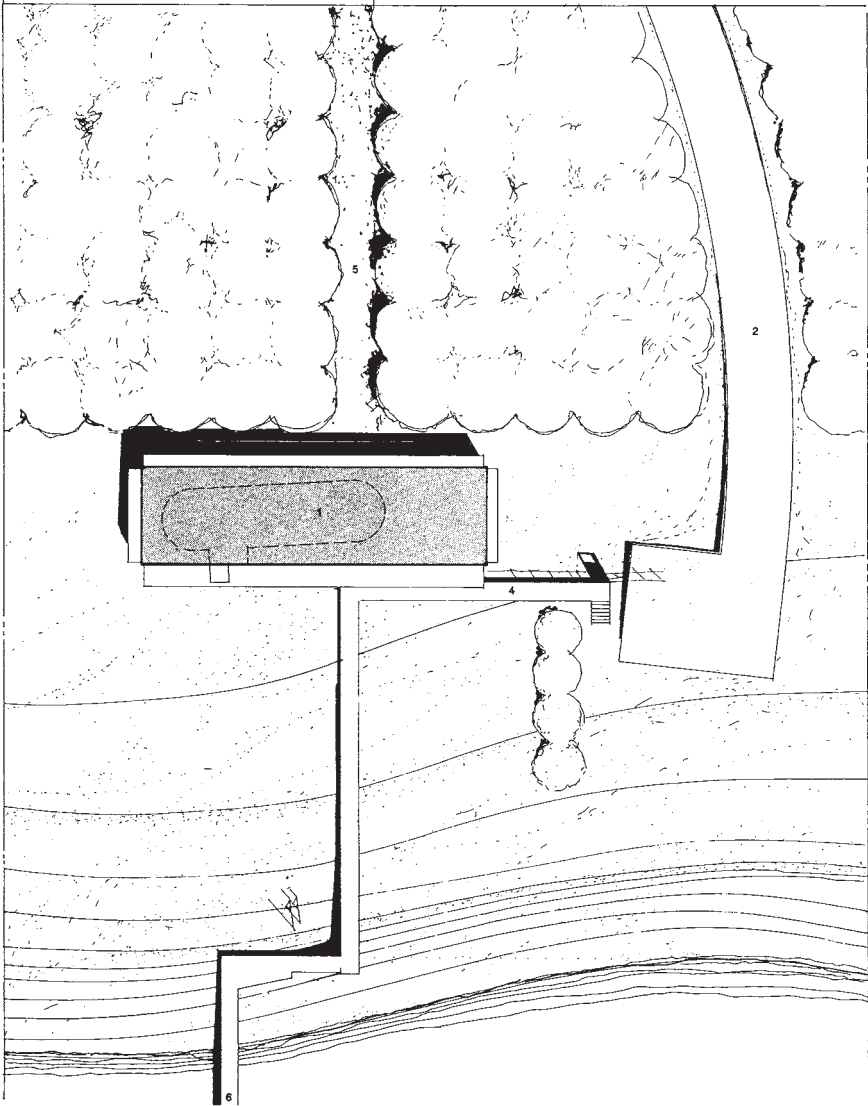
Another key element is the use of large glazed exterior walls. Sandwiched between the lakefront and a grove of trees, the sun-shaded glazed walls allow the interplay of interior and exterior space. The house is not so much a defined, limited enclosure but rather a place within and expanding into its natural setting.

Gerard Bolsega

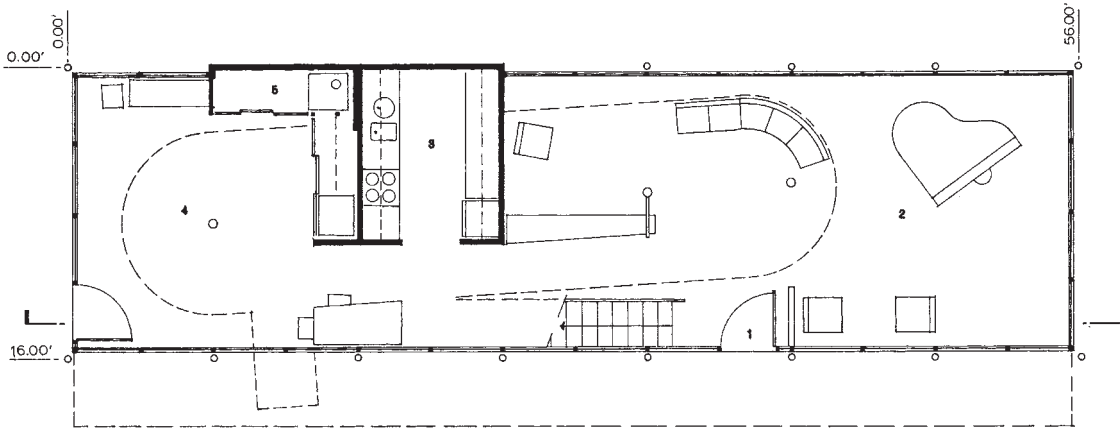


Perspective

Sophisticated Steel Frame

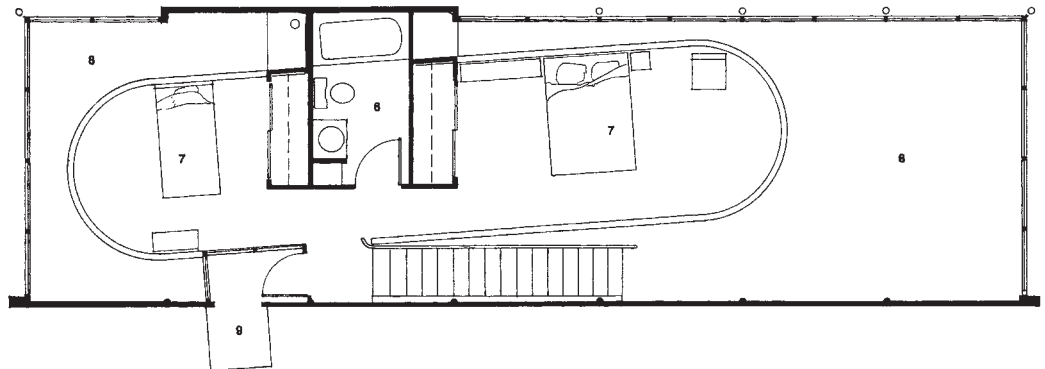


Site Plan



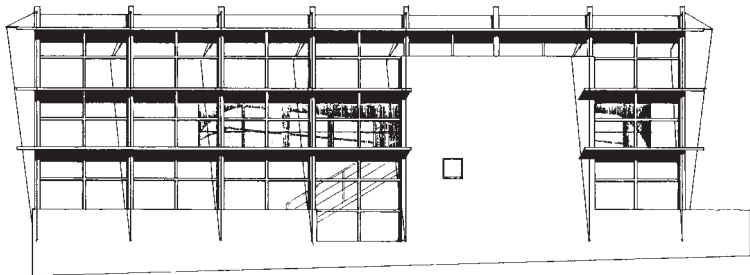
Ground Floor Plan

- 1 Entry
- 2 Living Area
- 3 Kitchen
- 4 Multi-Use
- 5 Storage/Utility
- 6 Bath
- 7 Sleeping Area
- 8 Open to Below
- 9 Terrace

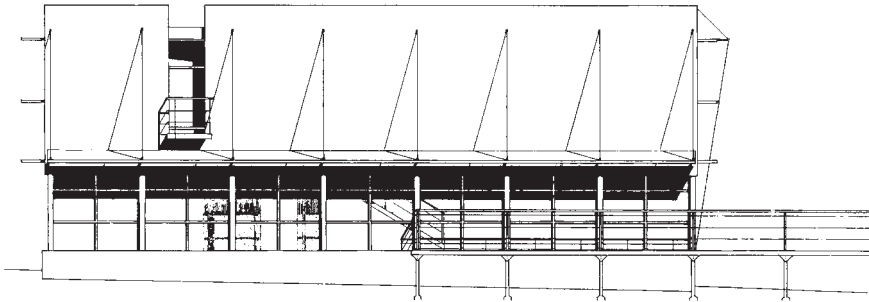


Upper Floor Plan

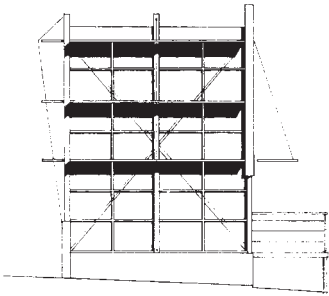
Sophisticated Steel Frame



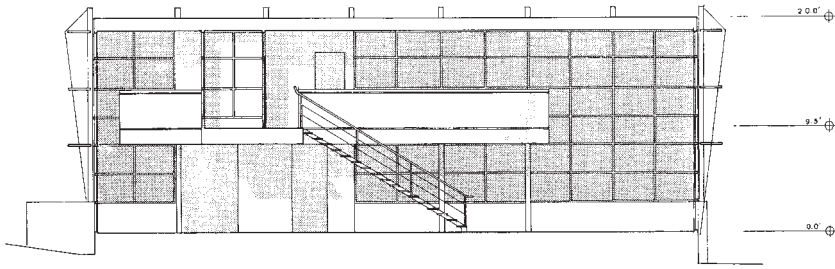
North Elevation



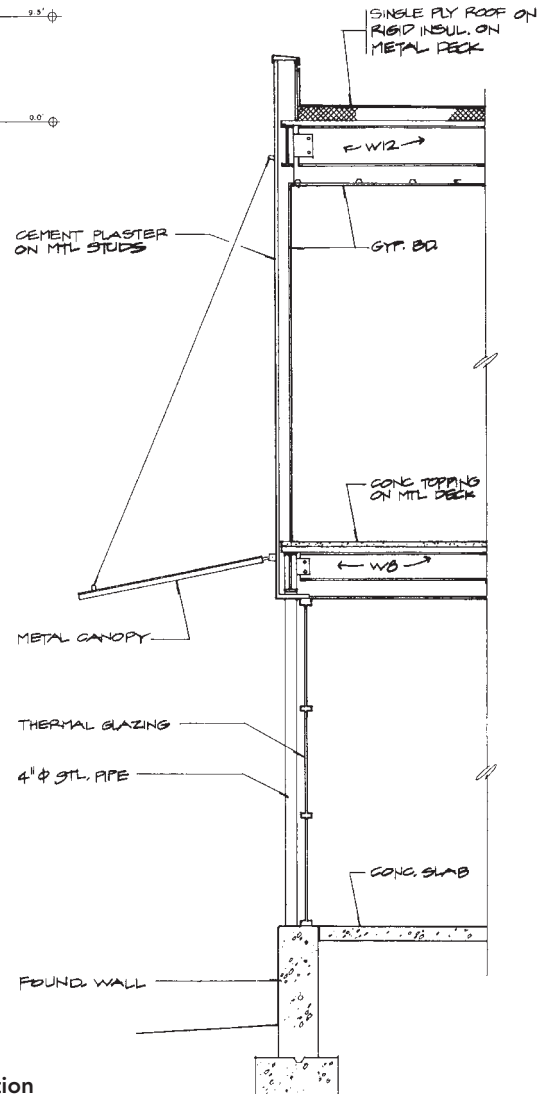
South Elevation



Side Elevation



Building Section



Wall Section

Woodsy Home/Studio

Orlando, Florida

1,175 gross square feet

The residence for a professional couple is situated on a densely wooded 5-acre site in central Florida.

The 1,175 square foot, two bedroom, two bath home-studio radiates from a spiral, central living area. Conventional trusses of uniform pitch and varying height and length span the living room by way of a steel "moment transference ring," allowing a central shaft of light to complement the perimeter clerestory.

A recessed floor allows seating around the low table.

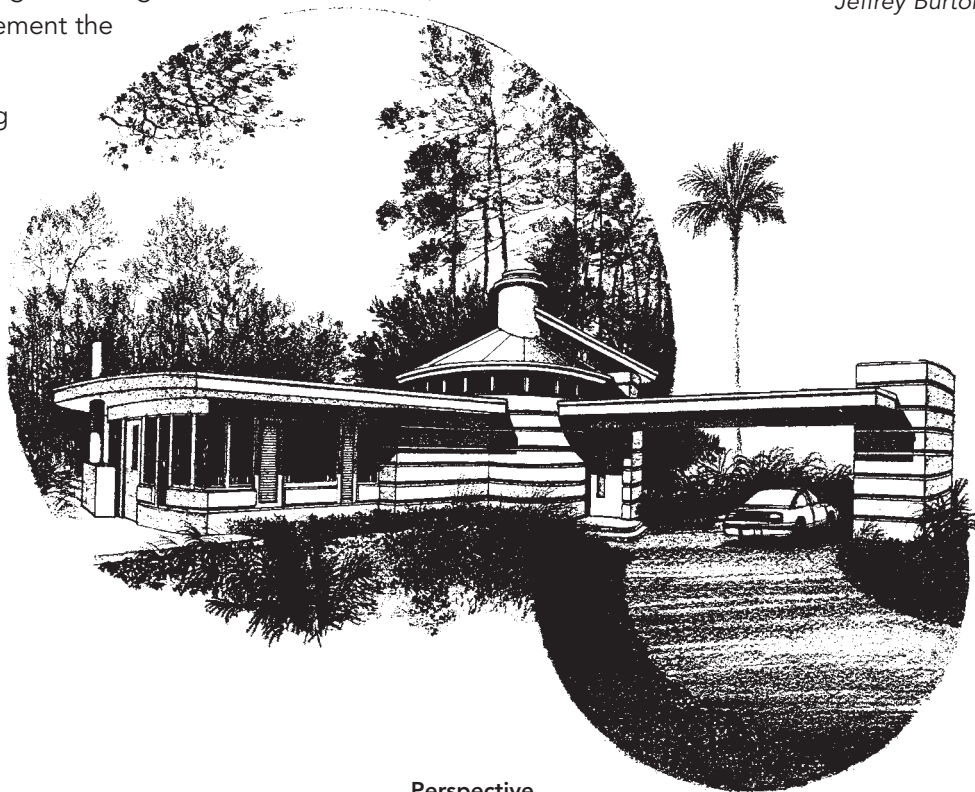
The master bedroom opens onto a patio built around an existing palm tree. The master bath's sunken tub features floor-to-ceiling glass facing a private garden.

The powder room becomes a "ship's bath," with a floor drain and tiled walls with a shower head.

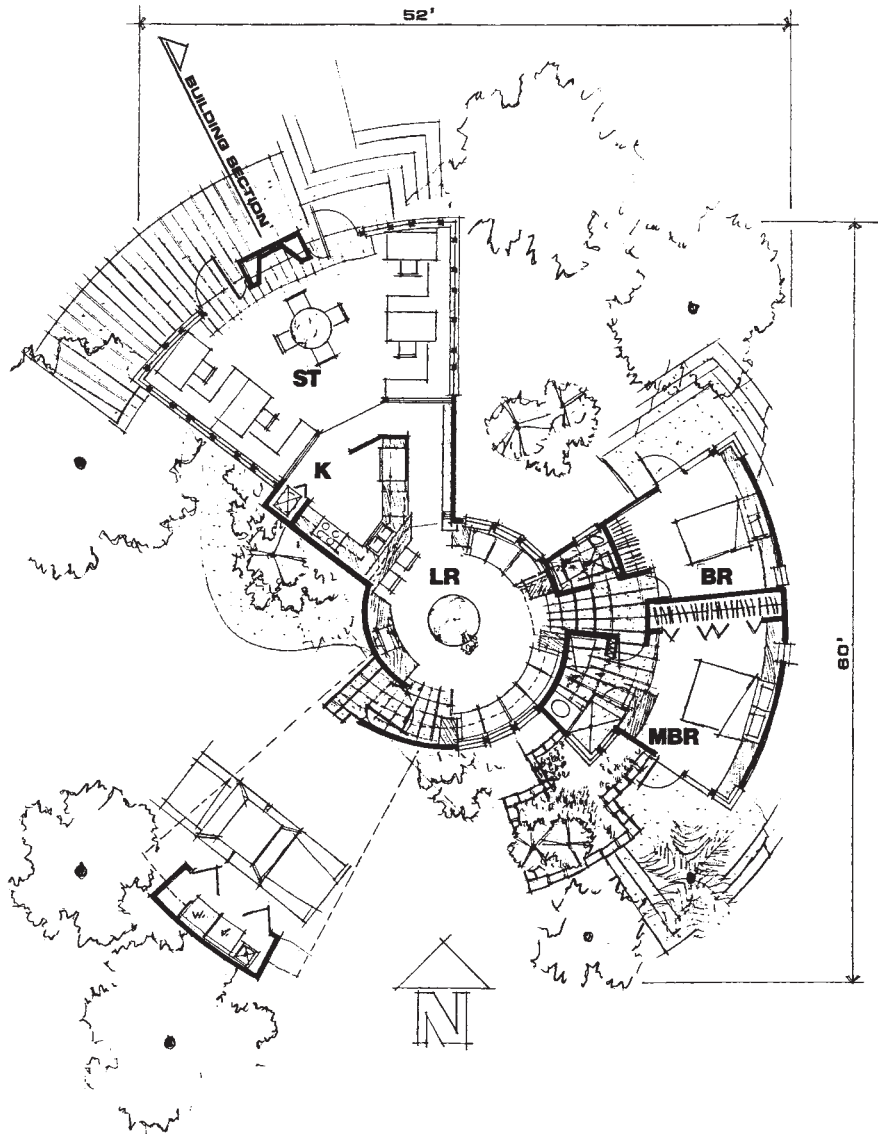
Windows encompass the studio area on three sides. A fireplace provides warmth during brisk winter mornings.

A V-grooved stucco exterior wall finish, rough-sawn red cedar fascia and metal roofing, and native coquina floor tile combine with the formal and spatial experience to produce an organic statement in a subtropic forest.

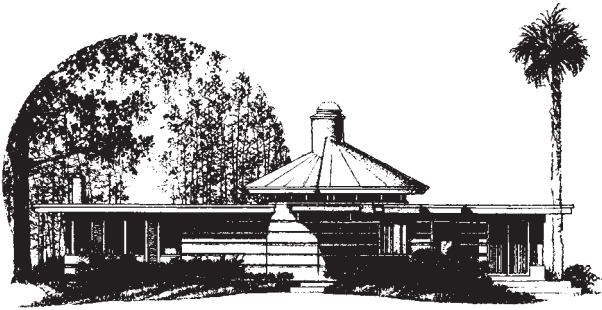
Jeffrey Burton



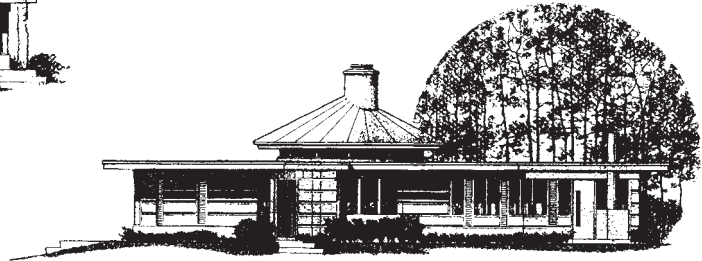
Perspective



Floor Plan



East Elevation



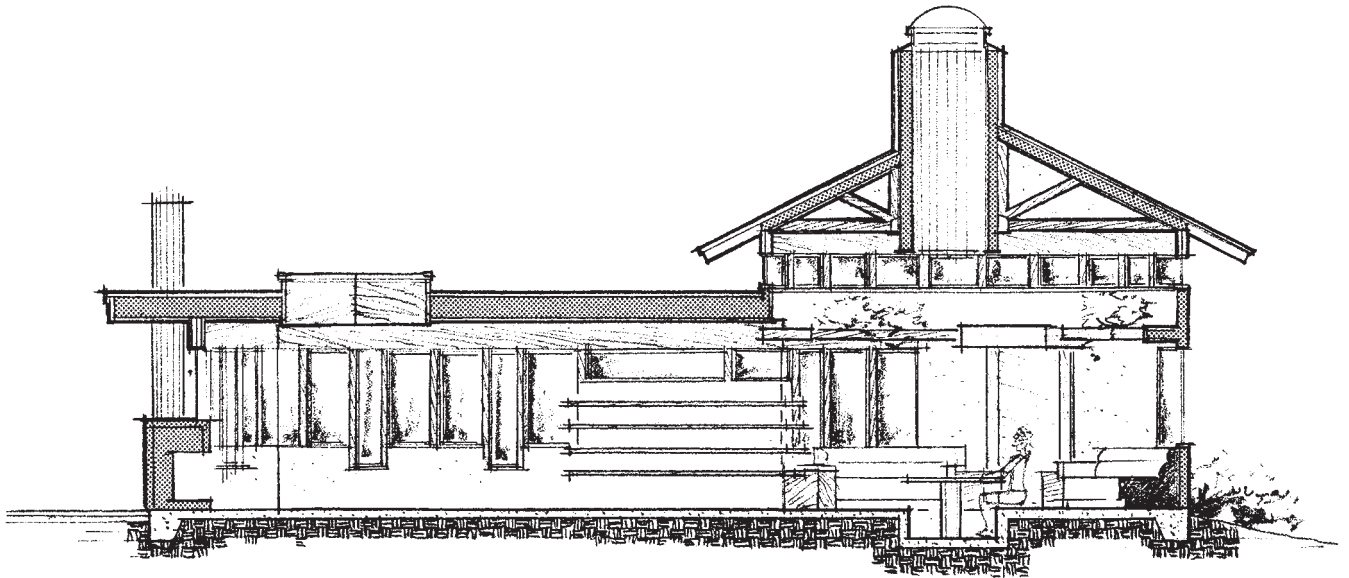
West Elevation



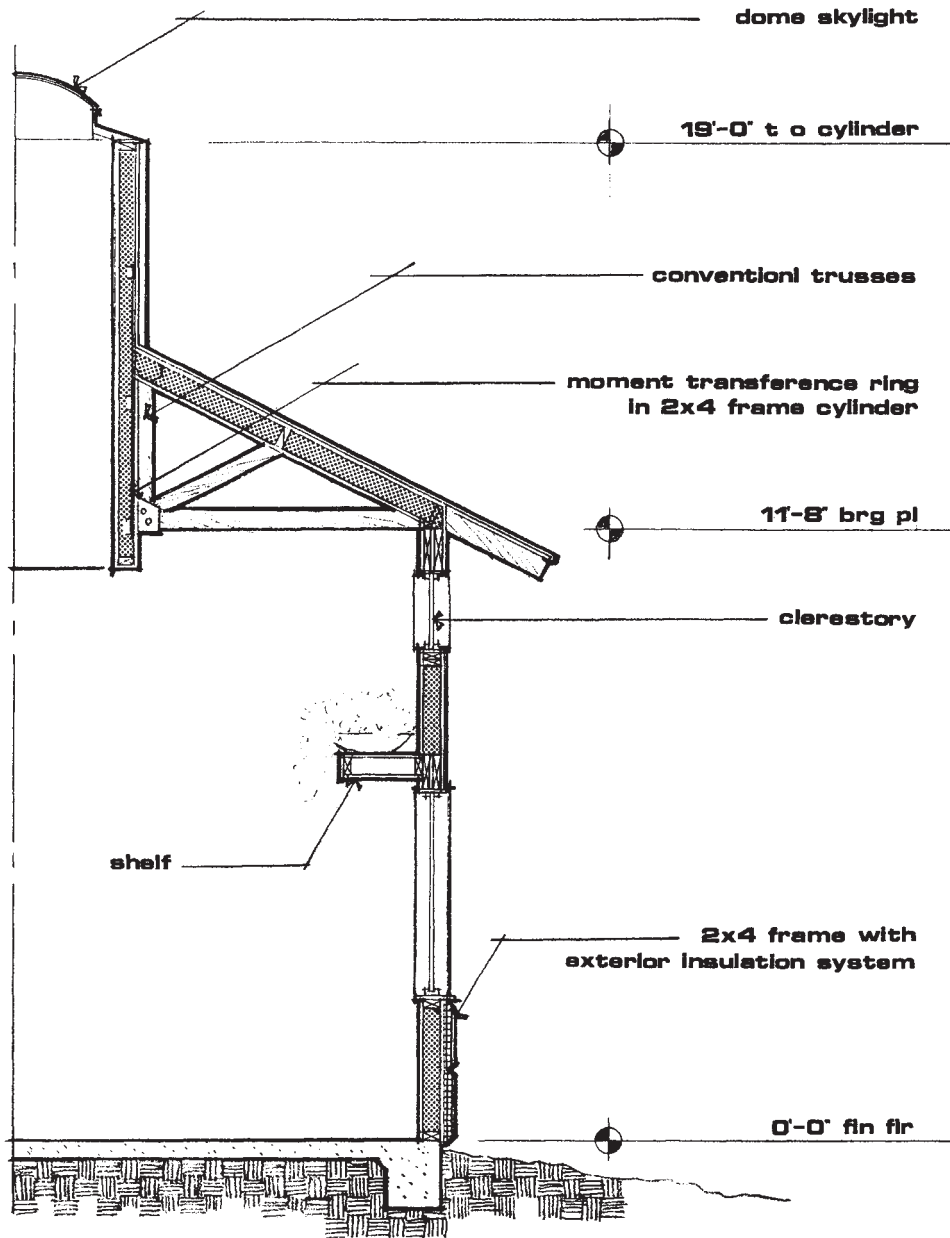
North Elevation



South Elevation



Section



Wall Section

Energy Efficient (on a South-Sloping Site)

Nonspecific Location

1,250 gross square feet (house)

1,200 gross square feet (garage)

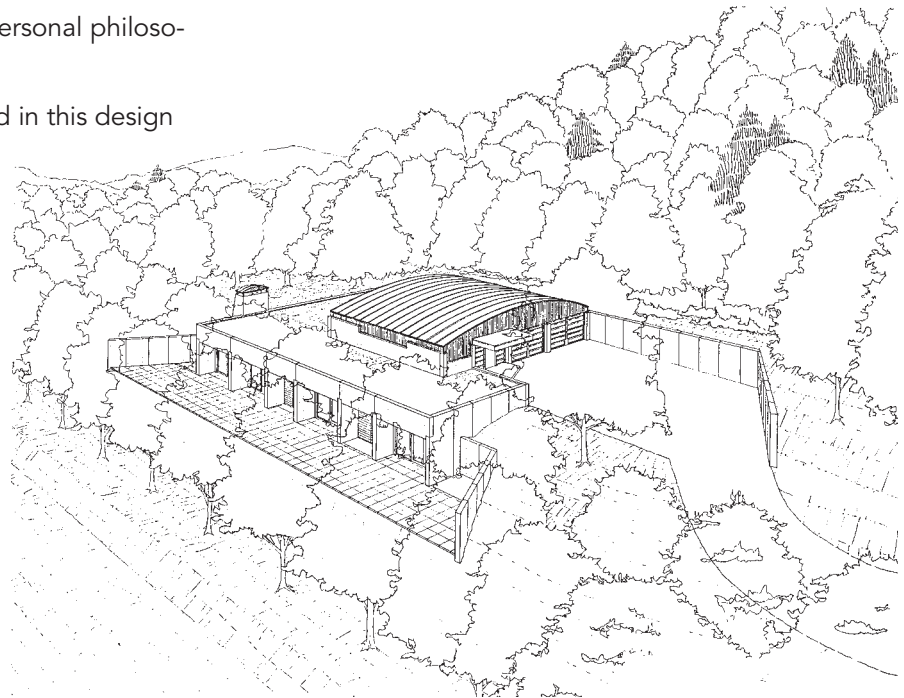
This project was conceived in response to the call for submissions to the Second Compact House Competition. The house is not built; there is no specific location, site, or client.

I submitted this design in order to communicate some strongly held beliefs. Among these is that efficiency is valuable in and of itself. When one builds, whether to provide low-cost housing or a piece of expensive architecture, one has a moral obligation not to be wasteful. This is a basic tenet of my personal philosophy of architecture.

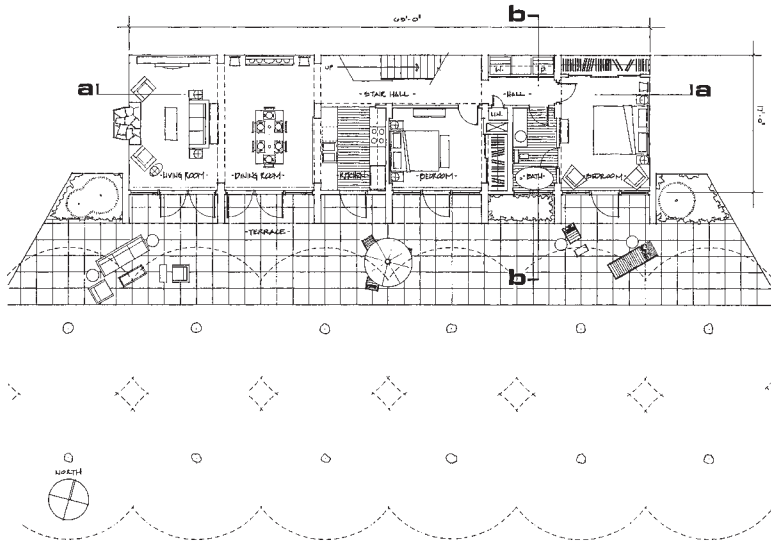
Another strongly held belief embodied in this design is that one should choose quality rather than quantity. My fictitious clients would like to build three bedrooms and two baths all at once and not have to deal with limited space, but to do so they would have to sacrifice quality. My design represents an acceptable alternative to this problem. The compact, efficient core design allows for incremental expansion. Delayed gratification versus instant gratification has, in the end, its own rewards.

Finally, in terms of environmental cost, the issue of energy efficiency is of great concern to all of us. This home relies on a number of passive design strategies in order to be energy-efficient. Primary among these is the placement of the house into a south-facing slope. Important, too, is the use of trees and overhangs to regulate seasonal solar gain.

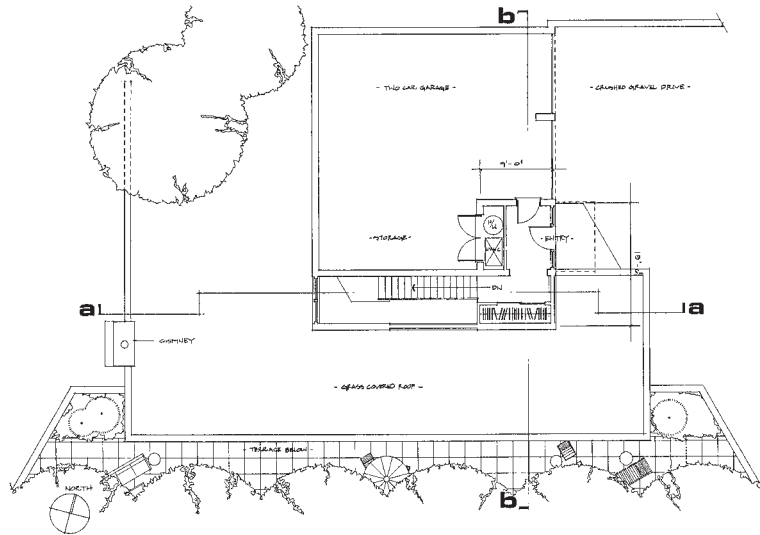
Michael Clark Connor



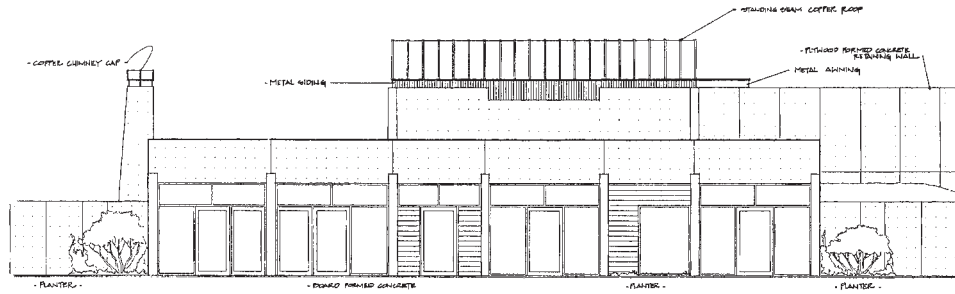
Perspective



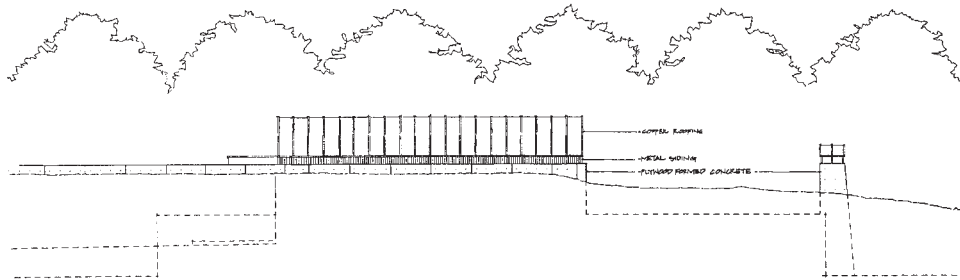
Lower Level Plan



Upper Level Plan

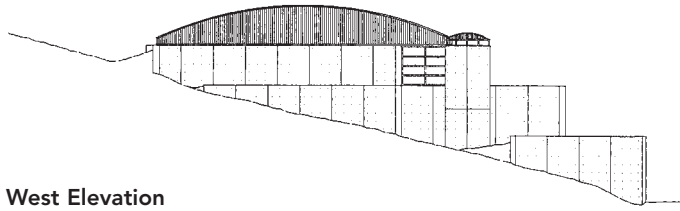


South Elevation

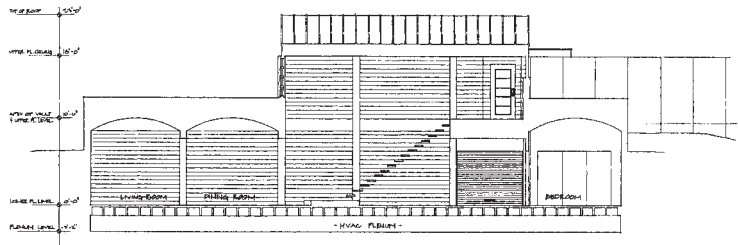


North Elevation

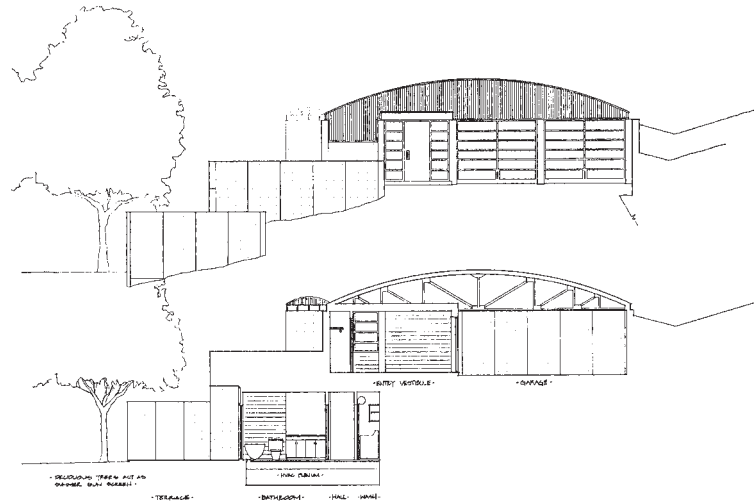
Energy Efficient



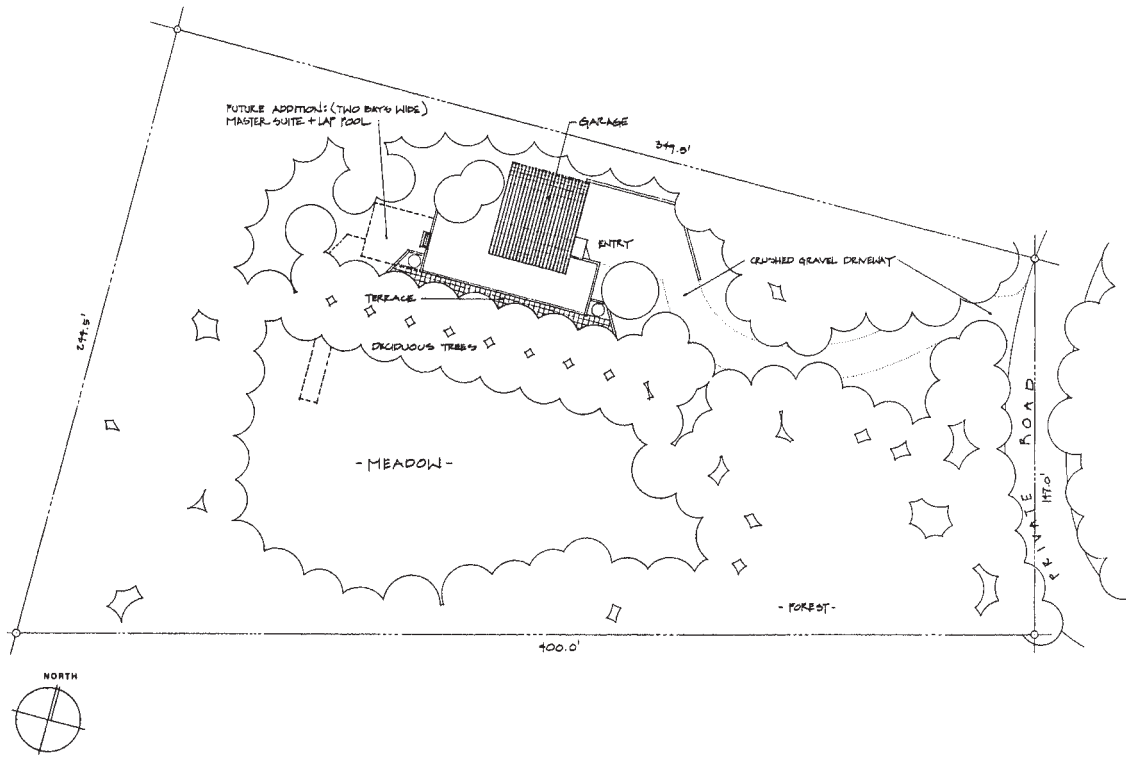
West Elevation



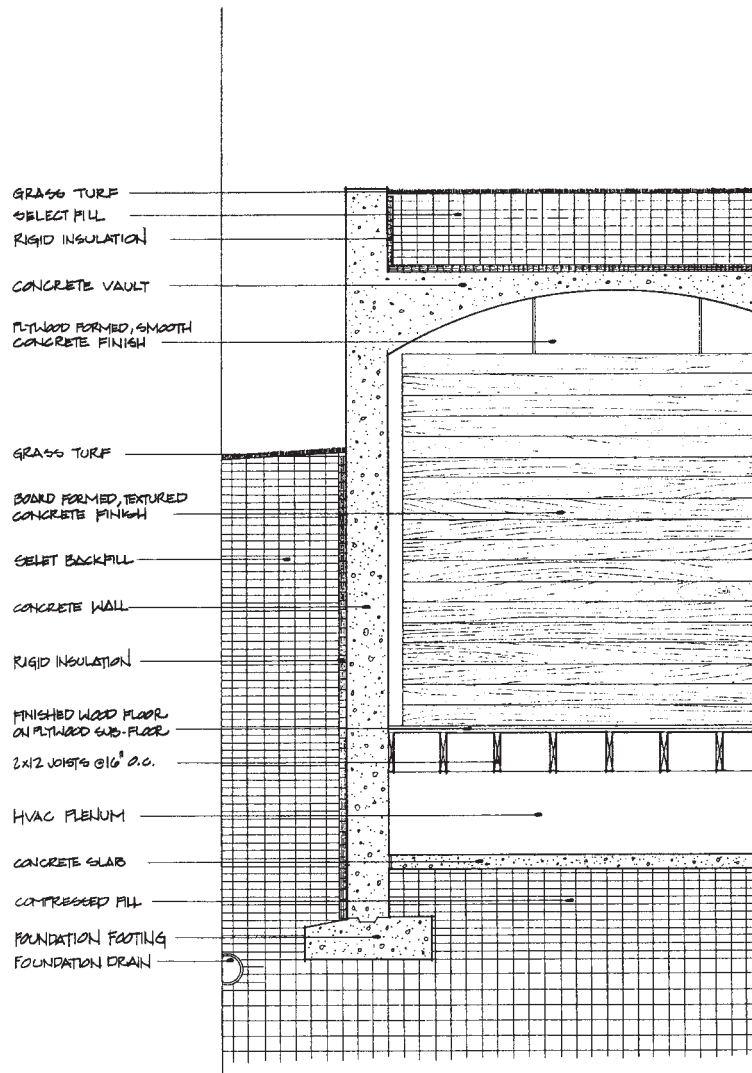
Section A-A



East Elevation (top)
Section B-B (bottom)



Site Plan



Wall Section

Big Little House

Southern or Western U.S.

1,222 gross square feet

This residence is designed to meet the needs of the first-time buyer and the retired couple buying their last home.

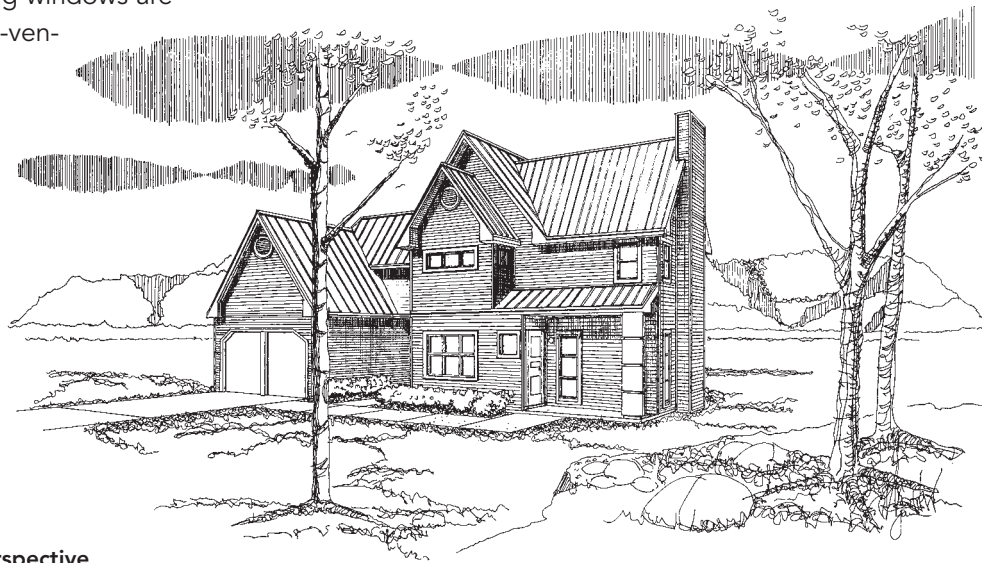
The materials used in the design give the homeowner many of the luxuries found in a more expensive home. The home achieves a much larger appearance through the use of varying roof heights, the slope of the roof, and the horizontal lines produced by the siding.

Economic considerations being important, a water source heat pump is used to provide for the heating and cooling as well as the hot water requirements. The fireplace in the living area should also be integrated into the heating system. Awning windows are positioned to provide for cross-ventilation of the home during the spring and fall months. These windows, in conjunction with the open floor plan, do not confine one's eyes to a small area but allow them to visit all parts of the living area.

The residence is divided into the sleeping area upstairs and the living area on the first level. The living area with its open plan allows for freedom of movement. The use of a patio door in the living room brings the out-of-doors inside and makes the room appear more spacious and comfortable.

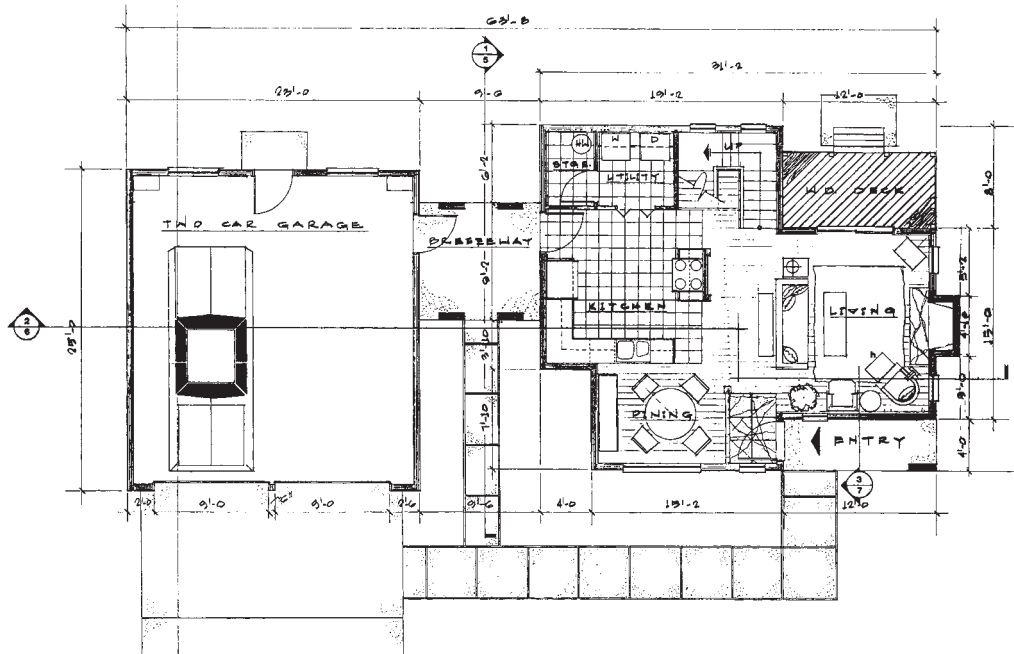
The use of wood flooring throughout the majority of the house adds a feeling of warmth and continuity to the home. The wood floors also allow for the use of area rugs to accent different sections within the home.

James M. Corkill

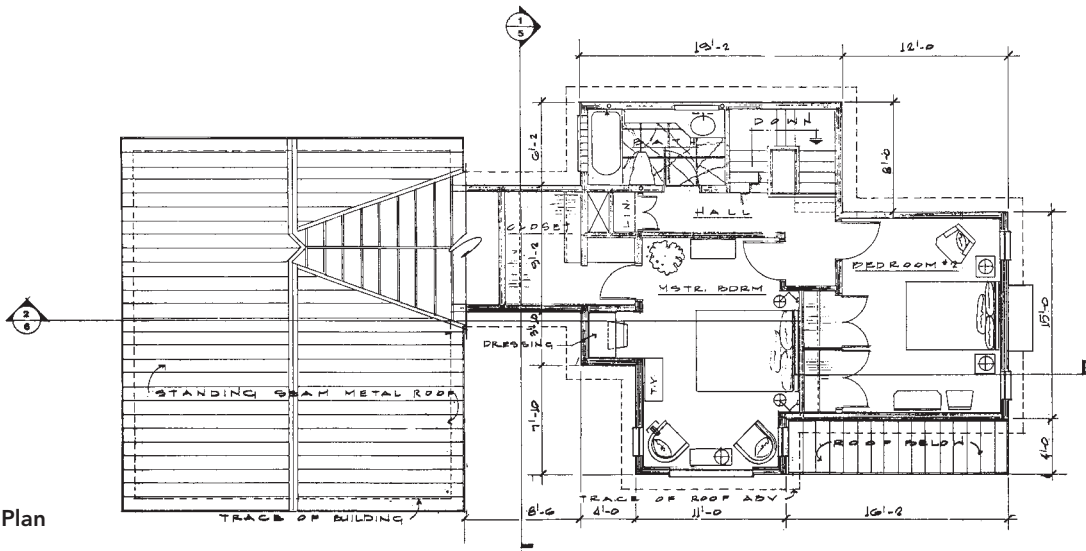


Perspective

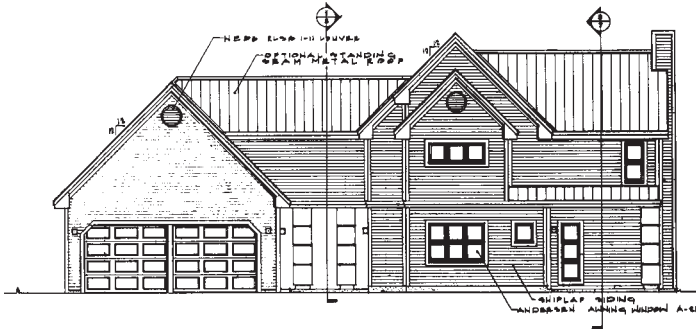
Big Little House



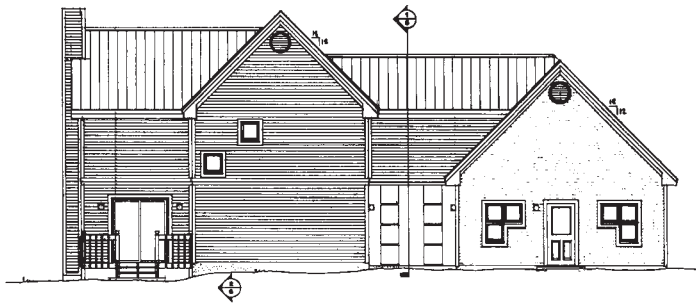
First Floor Plan



Second Floor Plan



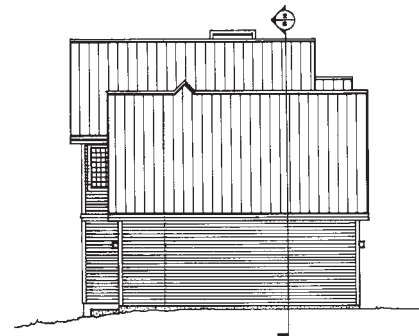
North Elevation



South Elevation

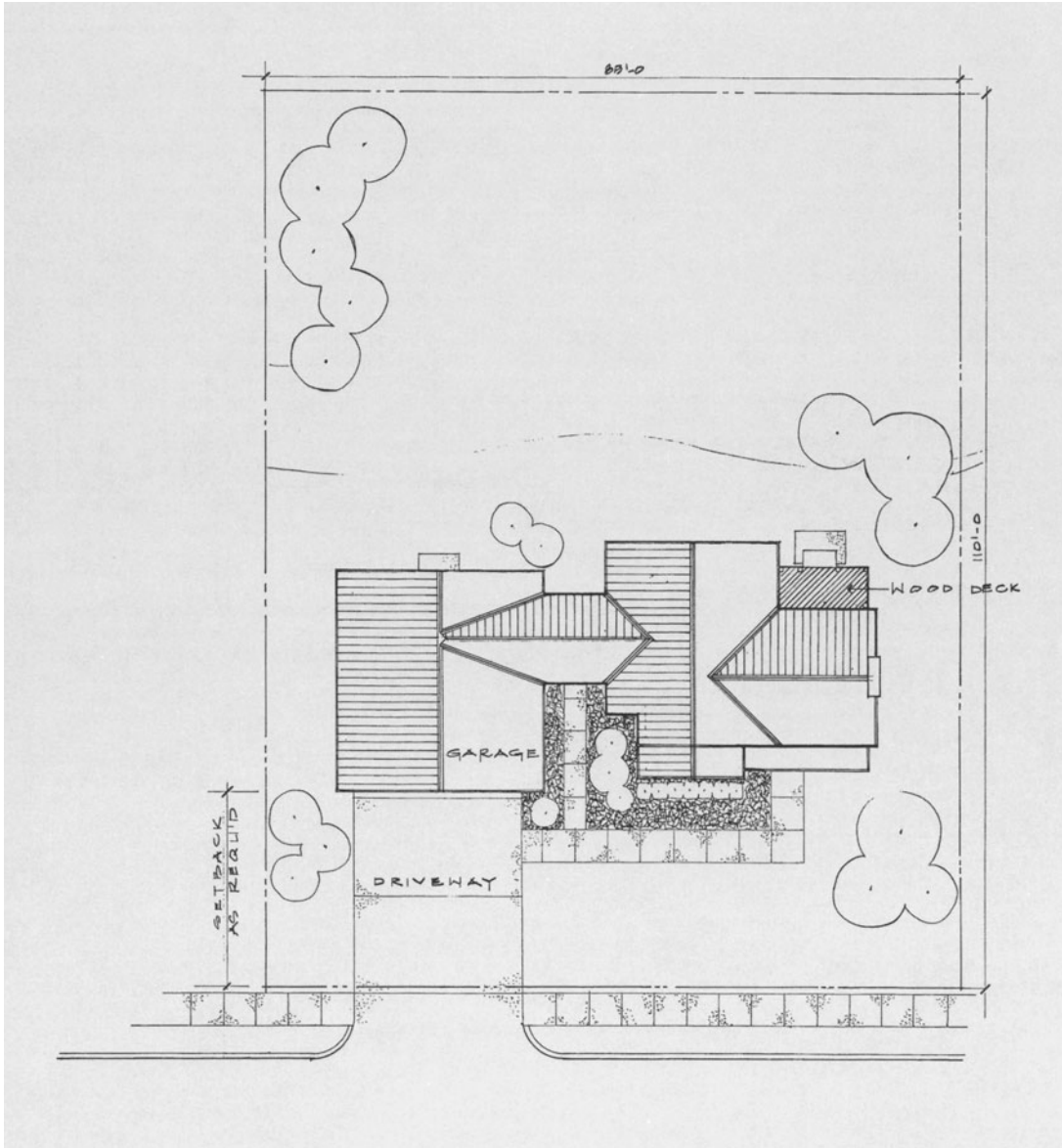


East Elevation



West Elevation

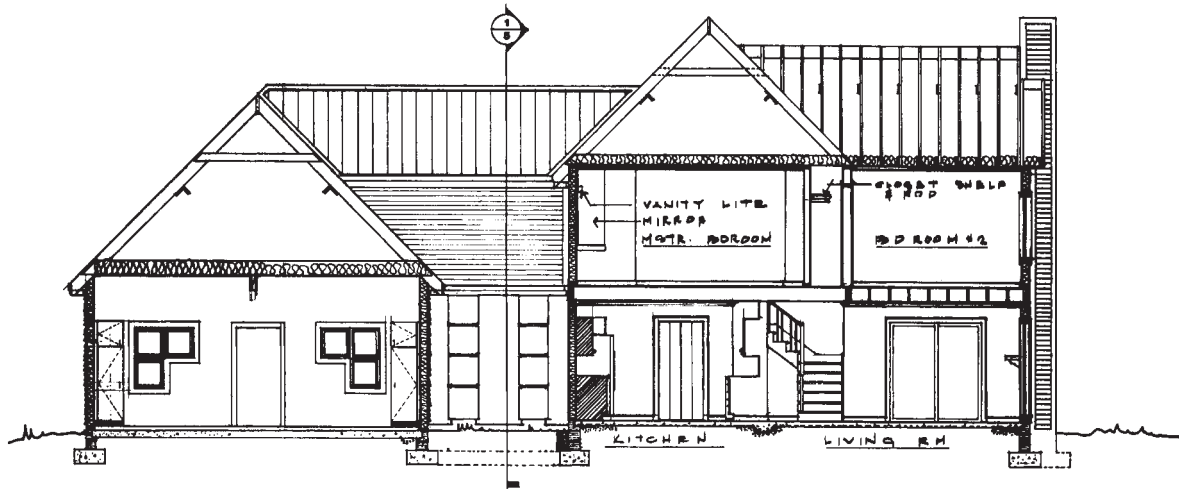
Big Little House



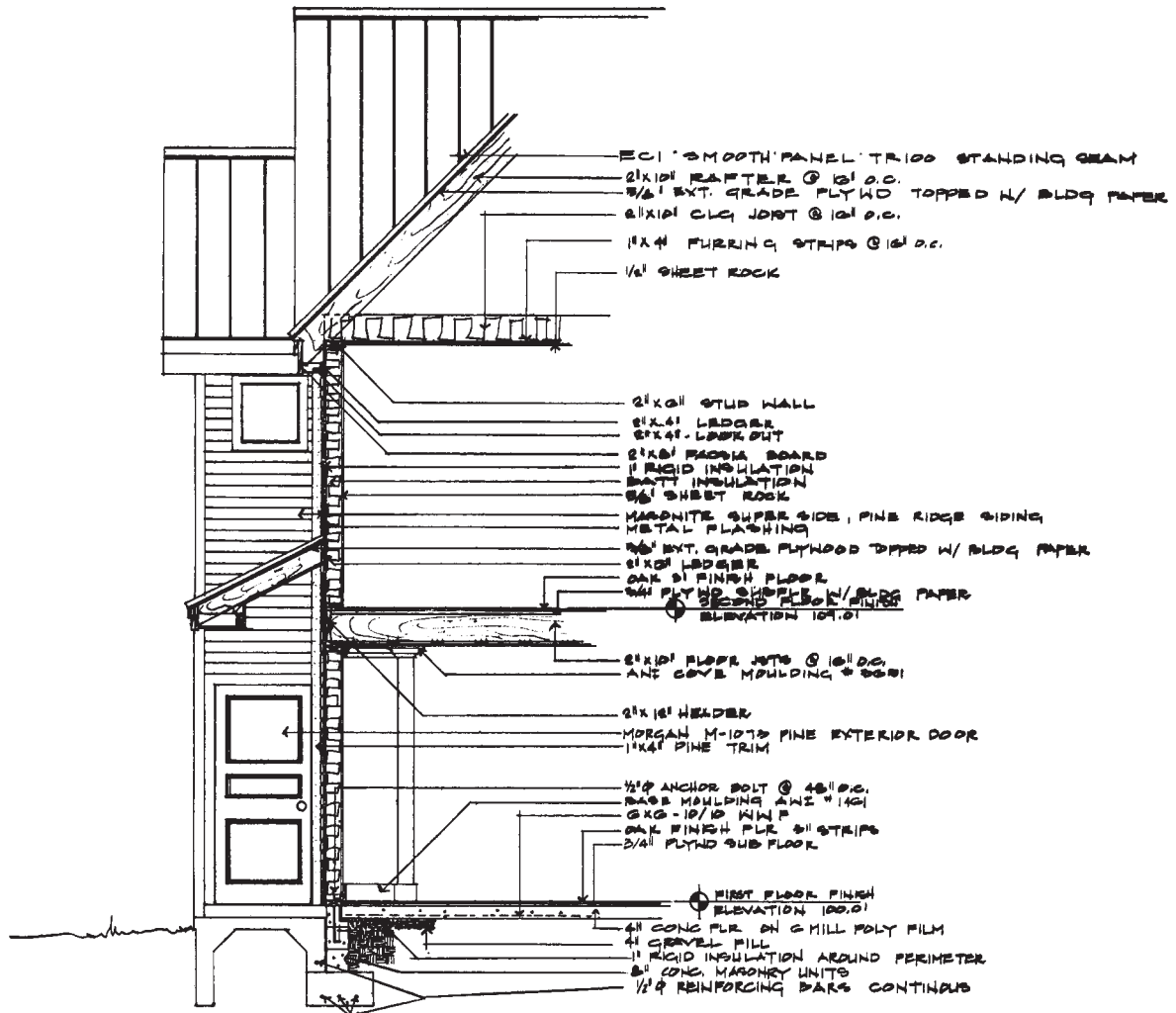
Site Plan



Section A-A



Section B-B



Wall Section

Desert Module

Phoenix, Arizona

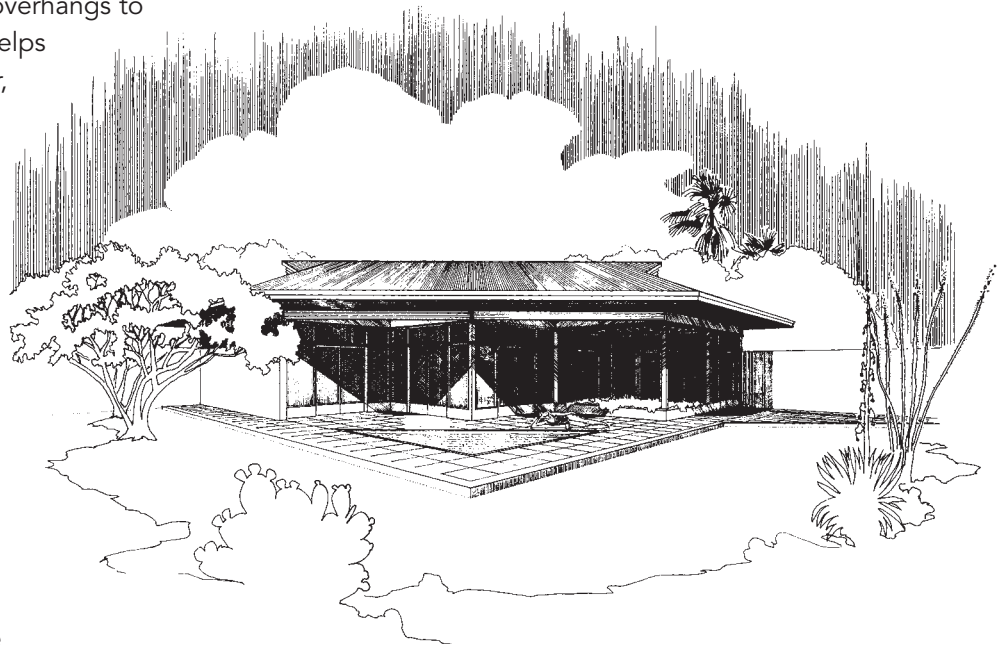
1,248 gross square feet

Designed for the Sonoran Desert, this home responds to the rigorously hot climate and a leftover, oddly shaped building site. The combination of sun and site helped suggest the stepped three-module plan and large-angled, sun-shading roof. Stepping and nesting the 24-foot-square modules to follow the southeast lot line afforded the opportunity to continuously open the cooler northeast side to the outdoors. The sun shade roof floats protectively over the living modules for maximum ventilation and covering for the HVAC and DWH equipment. Its angled shape yields huge effective overhangs to protect wall areas and also helps direct the eye along a longer,

more dynamic line. In addition to the sun shade, desert-tolerant trees are planted around the west, southwest, south, and east sides of the house to protectively shade walls and cool the adjacent ground.

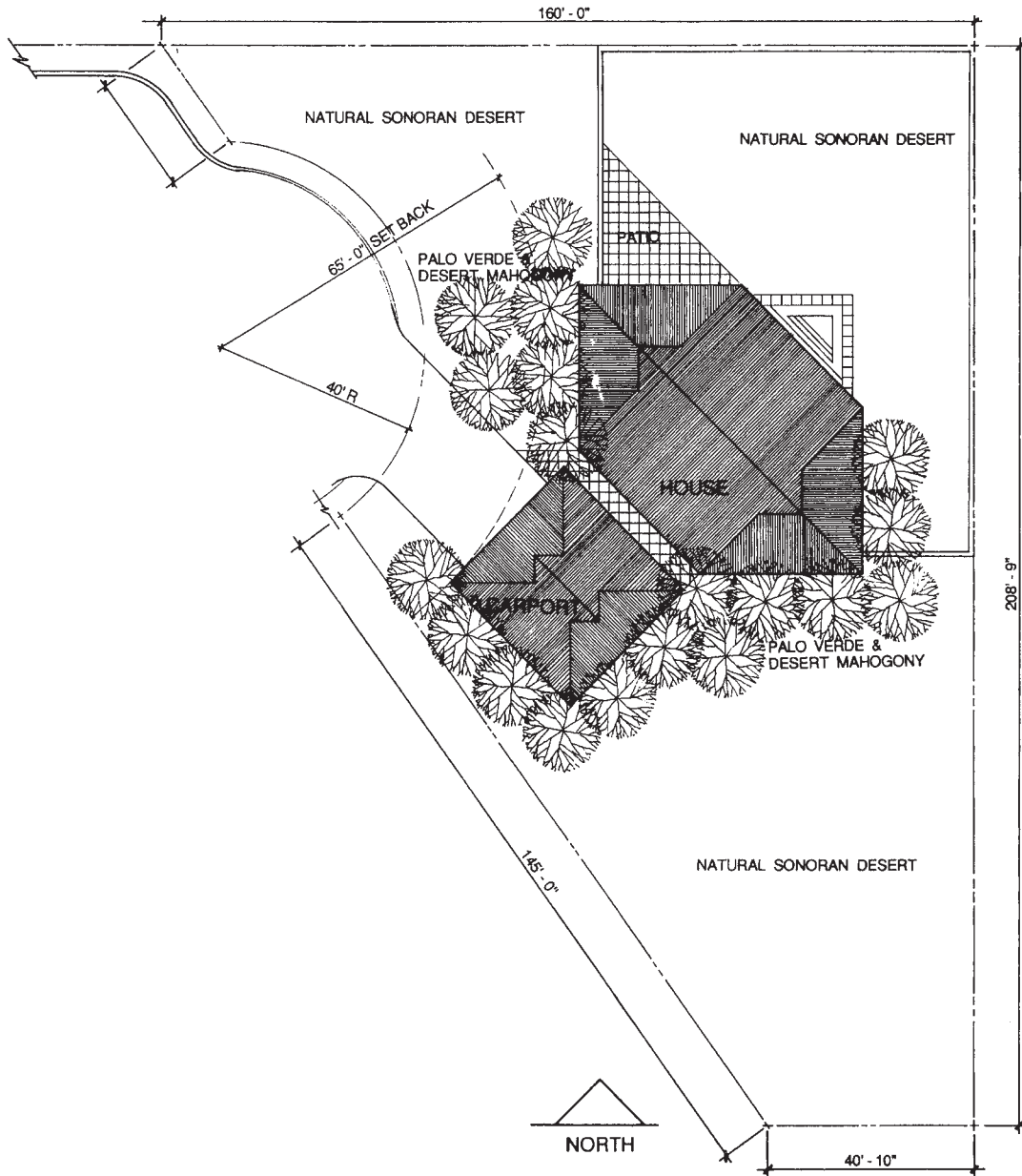
A single floor material, colored and patterned concrete, flows from inside to out, enhancing the feeling of spaciousness. Nine-foot-high ceilings and continuous clerestory windows allow natural light without sun to further connect the occupant with the outside.

David B. DiCicco

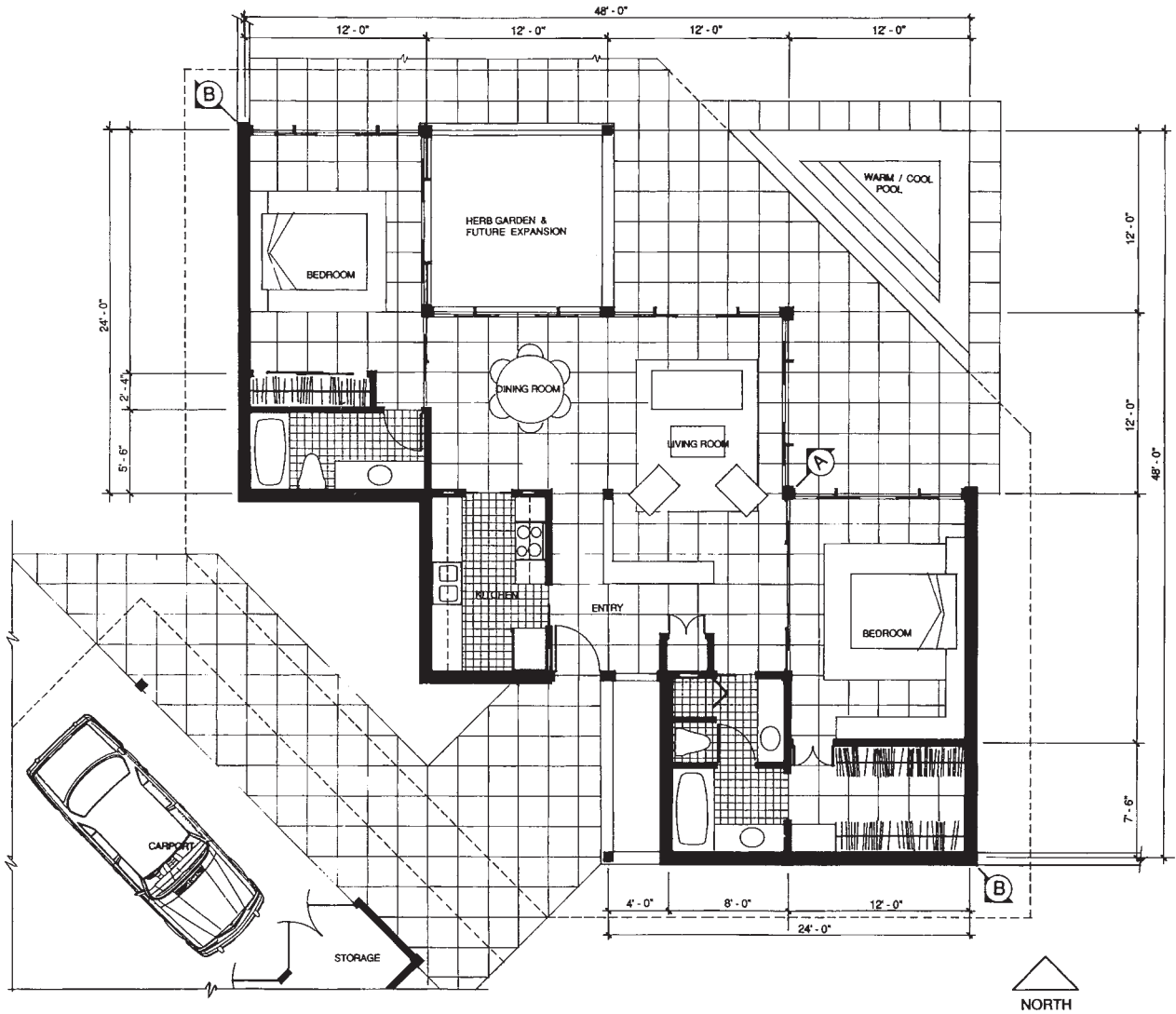


Perspective

Desert Module

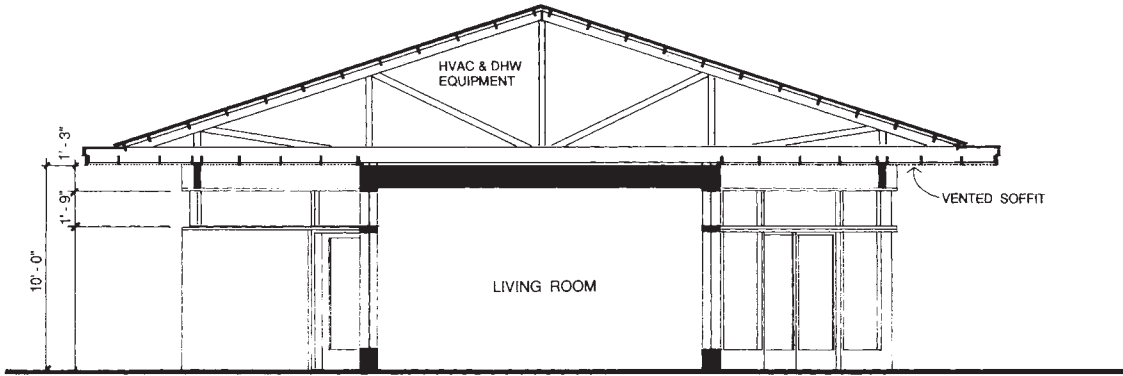


Site Plan

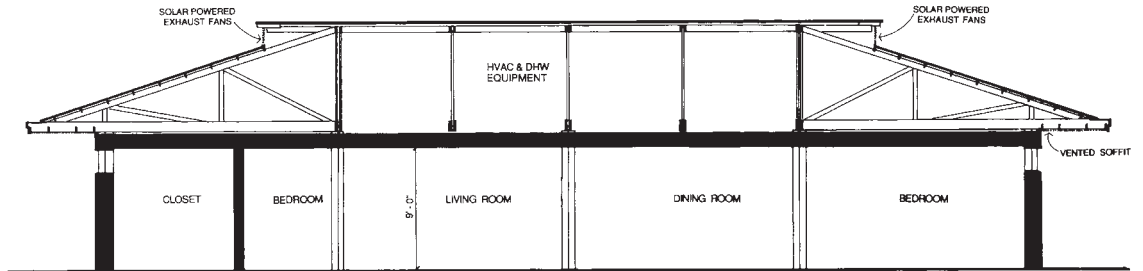


Floor Plan (and Partial Carport)

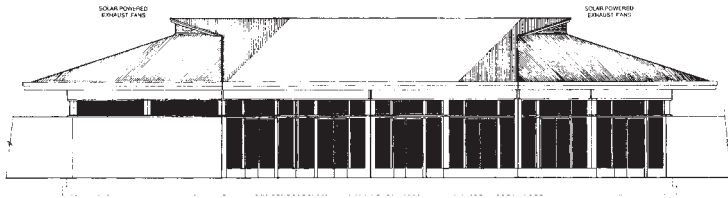
Desert Module



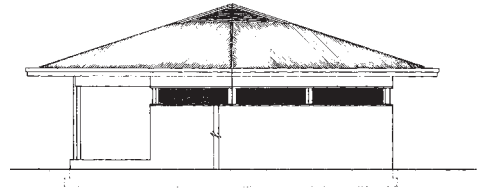
Cross Section



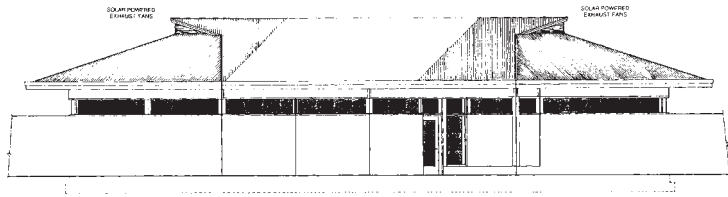
Longitudinal Section



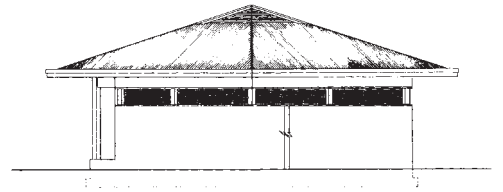
Northeast Elevation



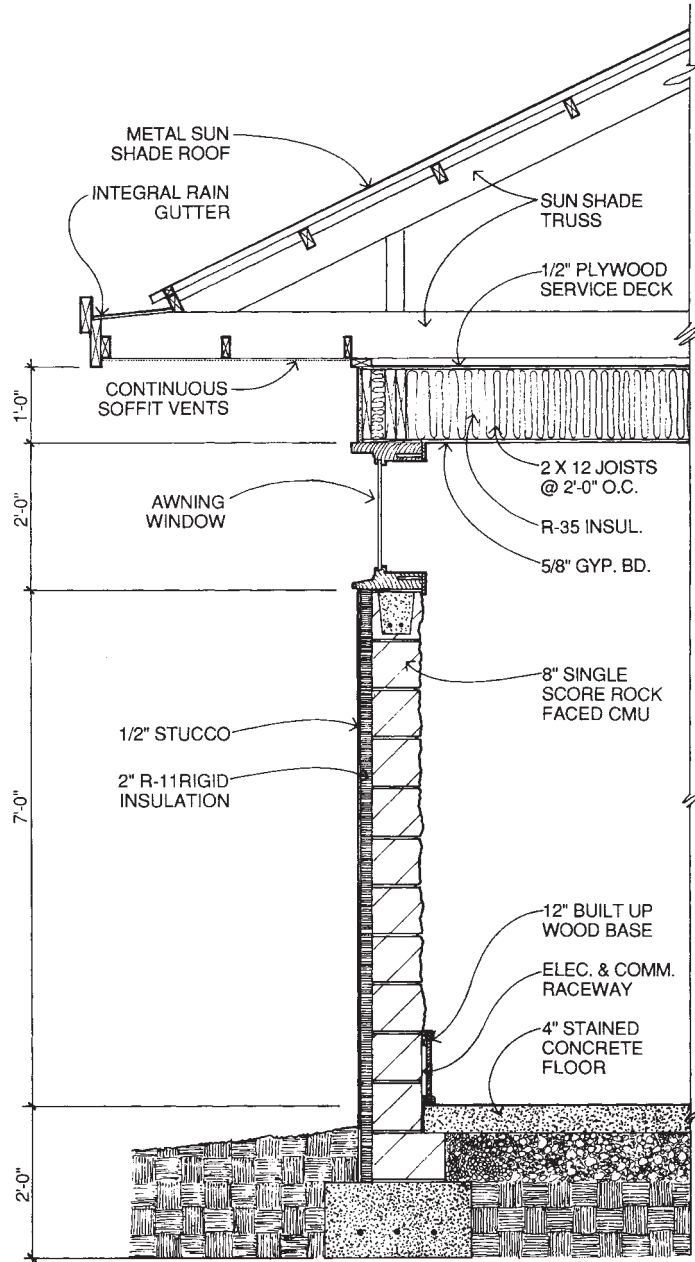
Northwest Elevation



Southwest Elevation



Southeast Elevation



Wall Section

Basic Ranch

Manitoba, Canada

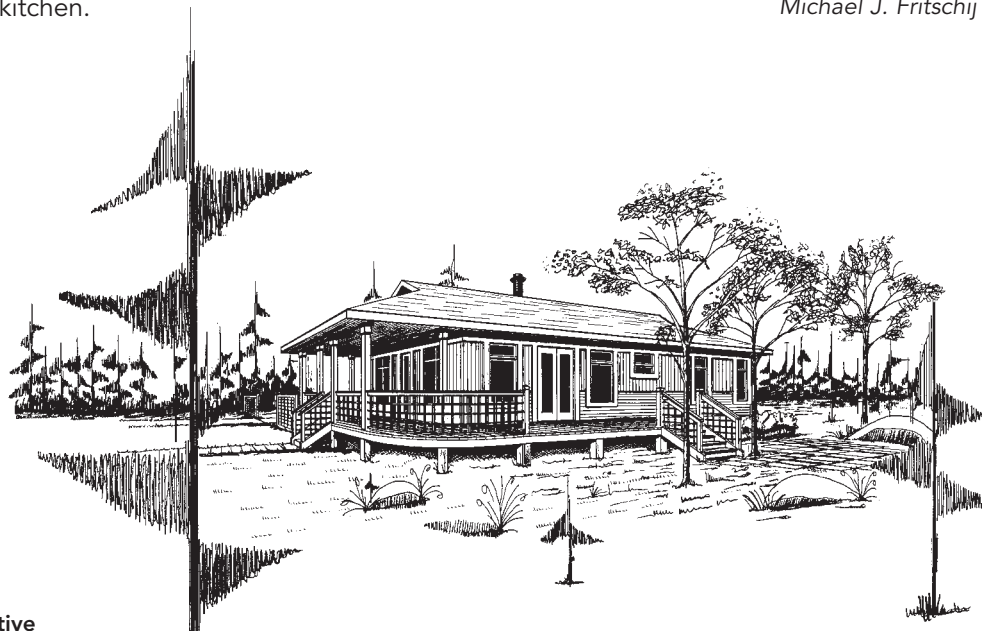
1,200 gross square feet

This home is designed for a retiring couple with a love for the outdoors in both winter and summer. The home's formal front, verandah, and entry court address the vernacular architecture in the surrounding community. Extensive natural landscaping provides privacy from the street to the sun deck and patio. The house then acts as a gateway, opening up to spectacular views to the south. The verandah's design allows for it to be enclosed, extending its use into both the spring and autumn seasons.

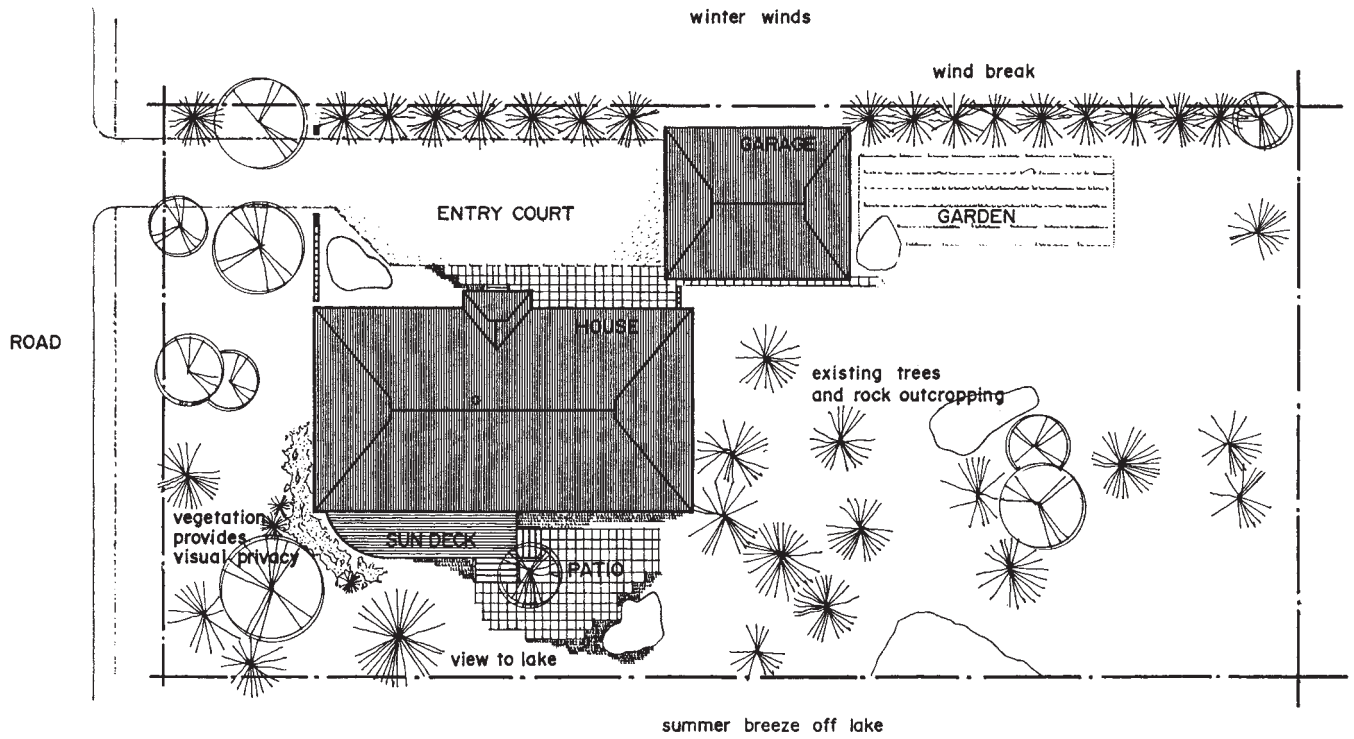
In the interior, the wood stove acts as the central focus for the living area and country kitchen.

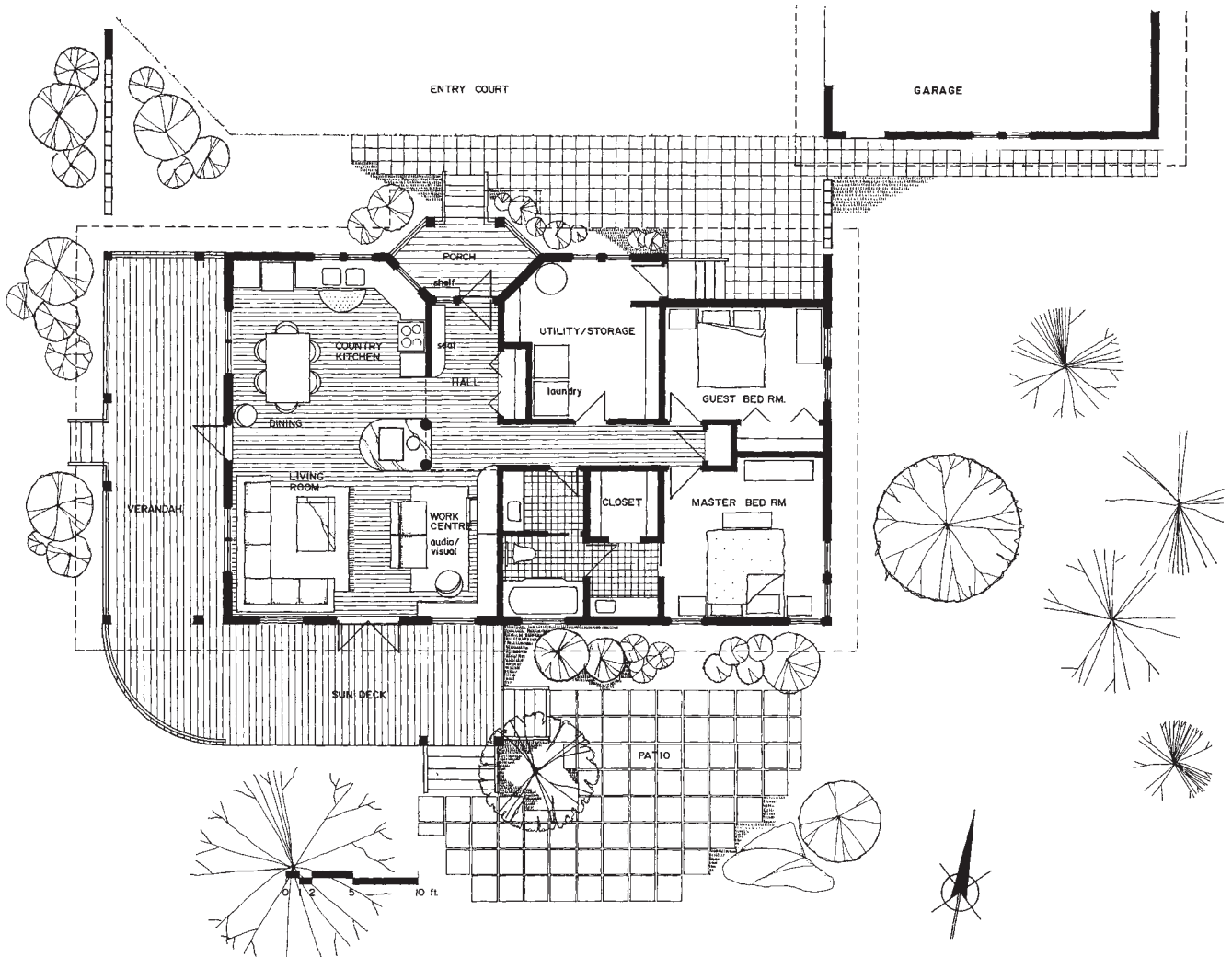
Through the arrangement of furnishings, the open plan creates a casual atmosphere with the possibility for both large or smaller, more intimate gatherings taking place. As a space-saving measure, the bathroom serves as both a guest powder room and an ensuite for the master bedroom. The extensive use of glazing on the south facade allows for winter sun to penetrate the home and summer breezes off the lake to filter through the house, cooling it. The home is planned on a single level, allowing for the mobility of residents in later years.

Michael J. Fritschij



Perspective



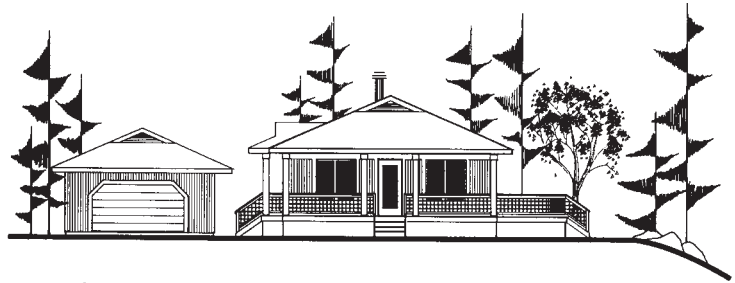


Floor Plan

Basic Ranch



East Elevation



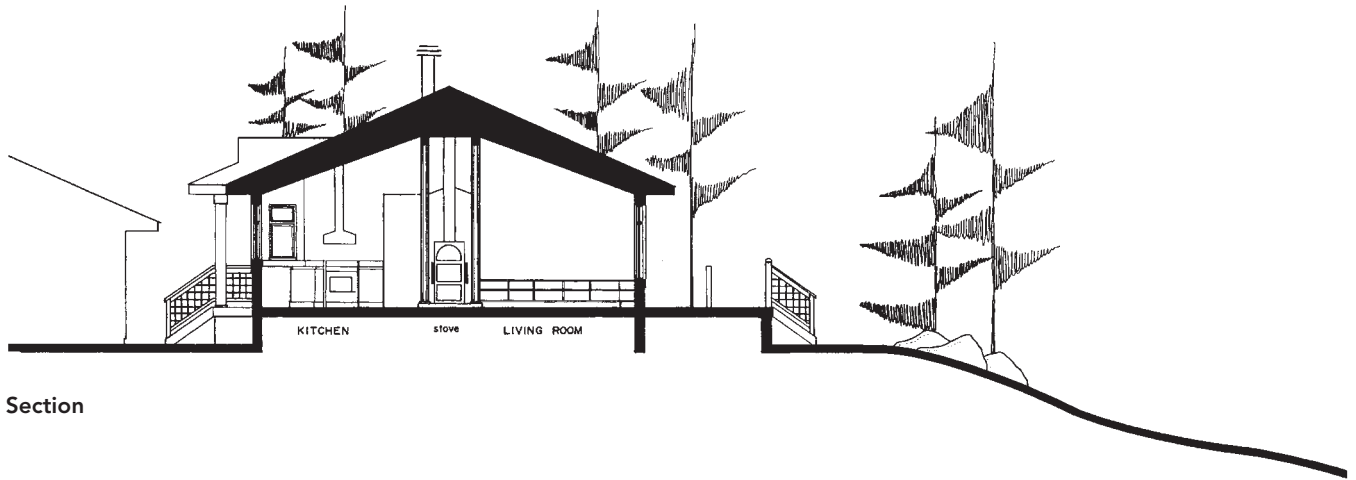
West Elevation



North Elevation



South Elevation



Section

Live-in Sculpture

A Coastal, Moderate Climate

1,250 gross square feet

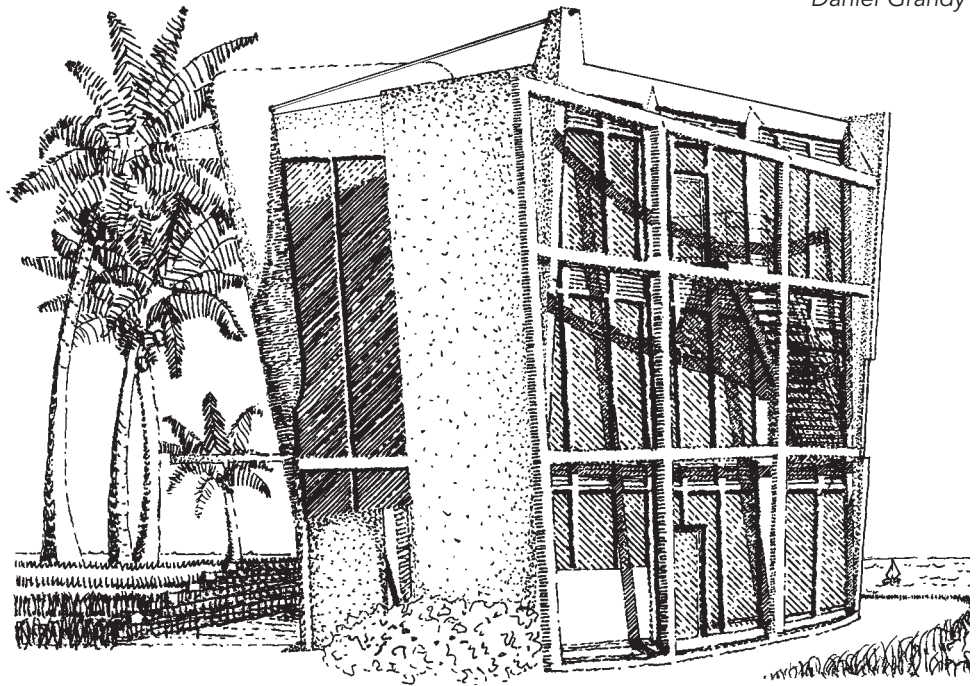
The site is a coastal point which has a fair climate and tropical breezes throughout most of the year. The possibility of extremely turbulent storms is, however, a concern.

The waterfront location brings to us images of seagoing vessels from distant ports and pleasure boats enjoying a calm afternoon. These contrasting images of “vessel” and “boat” help establish a dichotomy of function and form: a vessel in an independent, enduring, and enclosed instrument; a pleasure boat is restricted, vulnerable, and open.

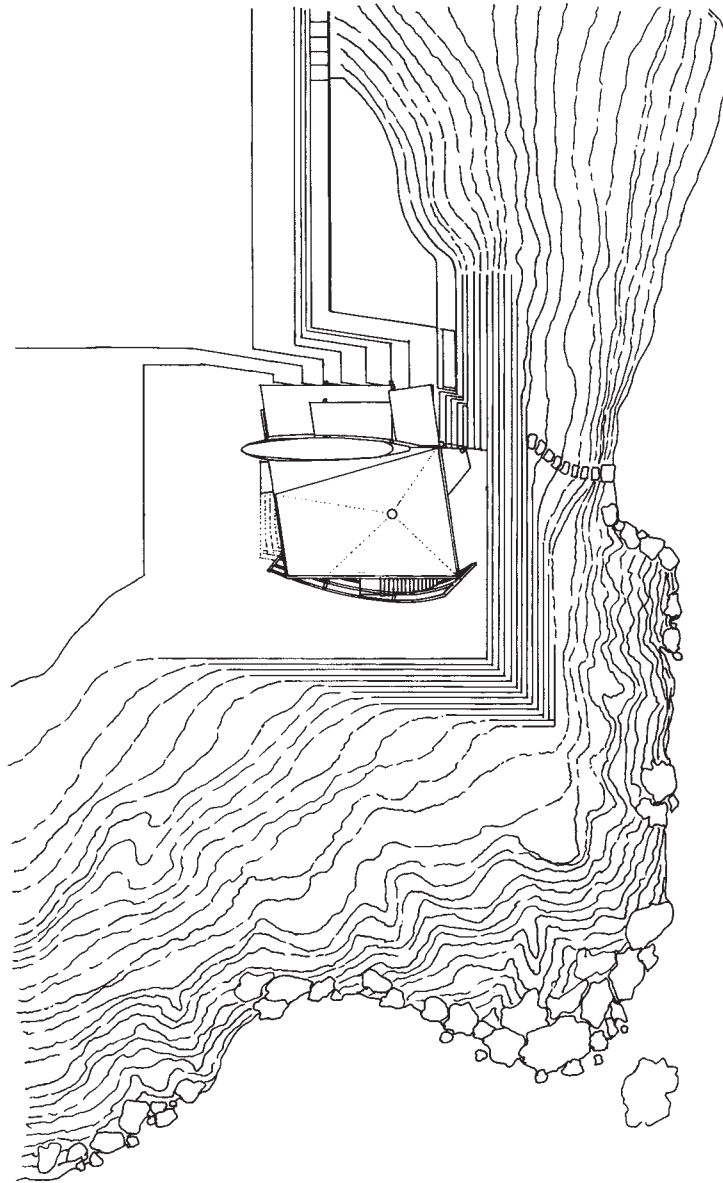
These same images are expressed in the “house-vessel” on the north, which is rigid against harsh winds and stands tall to separate public from private domains. In contrast, the “house-boat” on the south is passive in form and solar qualities, expressed through the south glazing being echoed by the exploding out of the frame—a metaphor of its vulnerability.

Ideally, a house that’s ready to sail; in reality, a summer home that mirrors its surroundings.

Daniel Grandy

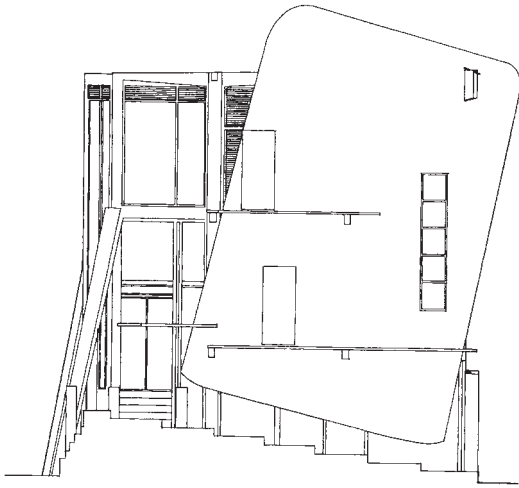


Perspective

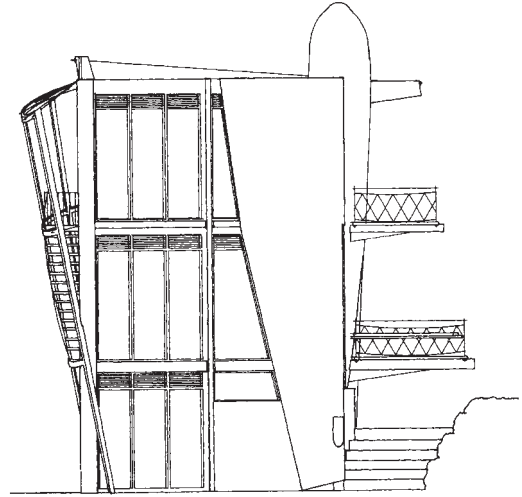


Site Plan

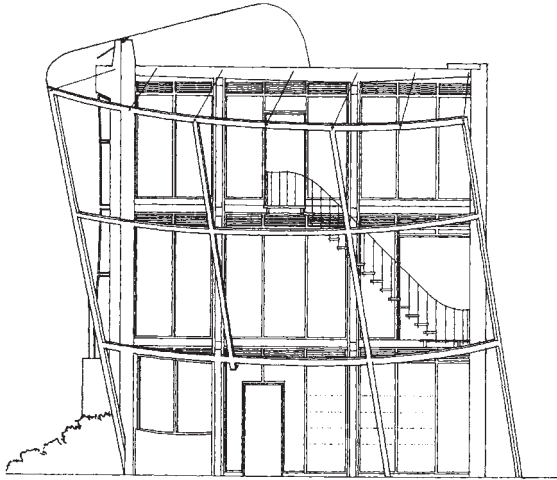
Live-in Sculpture



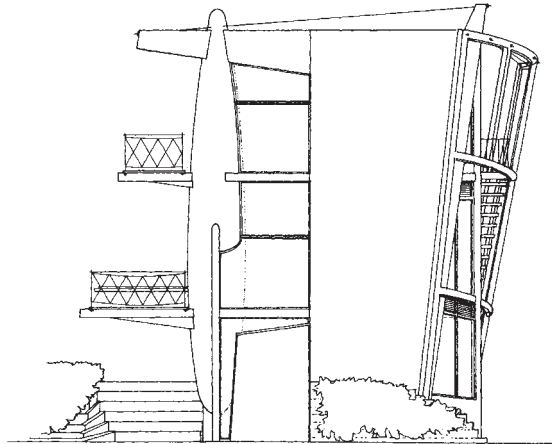
North Elevation



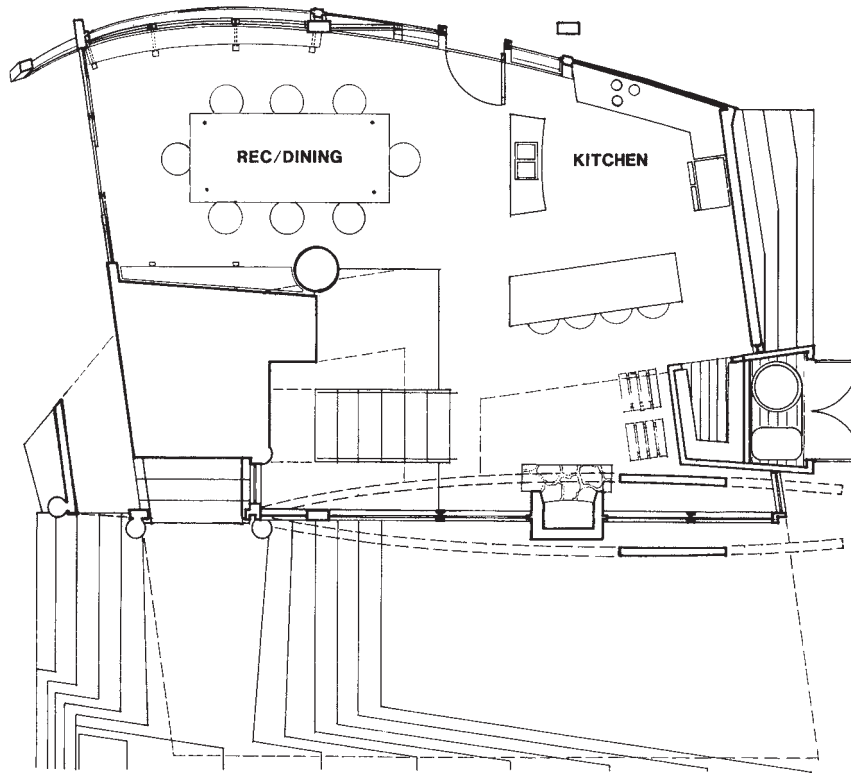
East Elevation



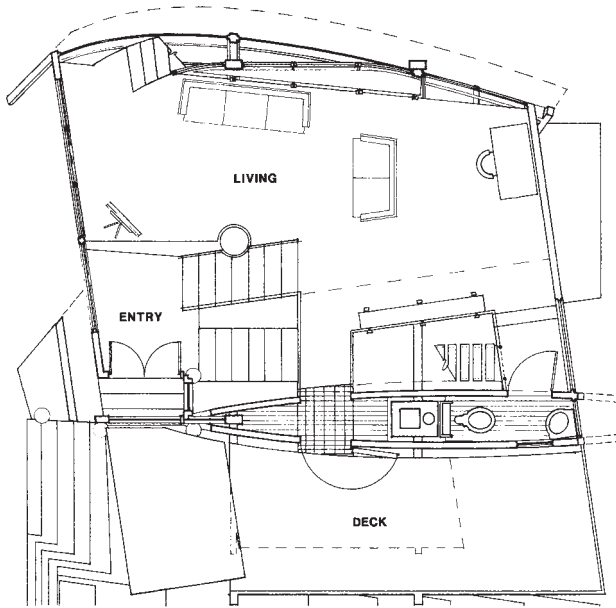
South Elevation



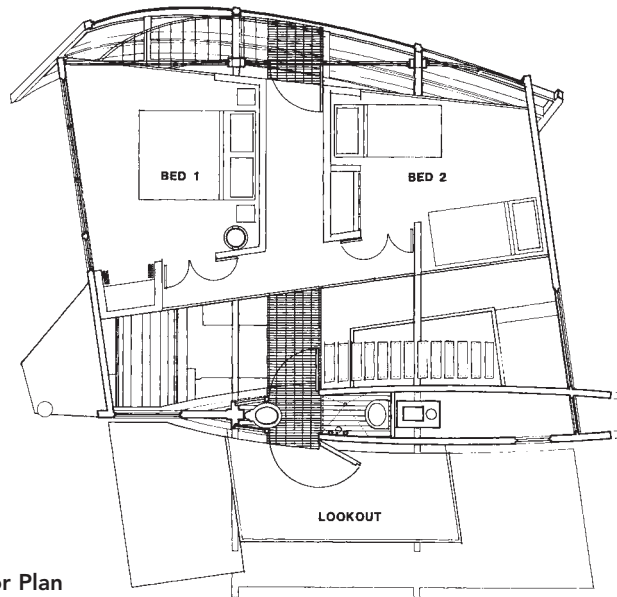
West Elevation



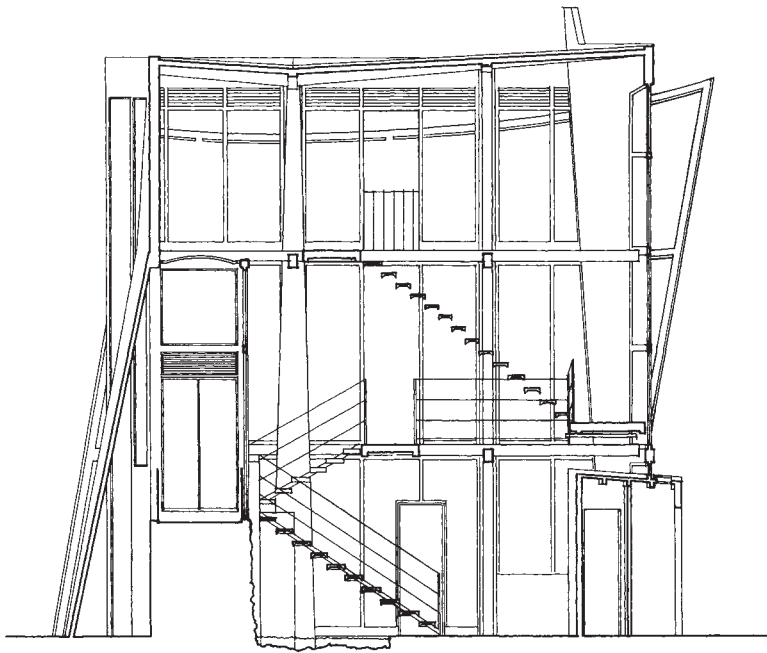
First Floor Plan



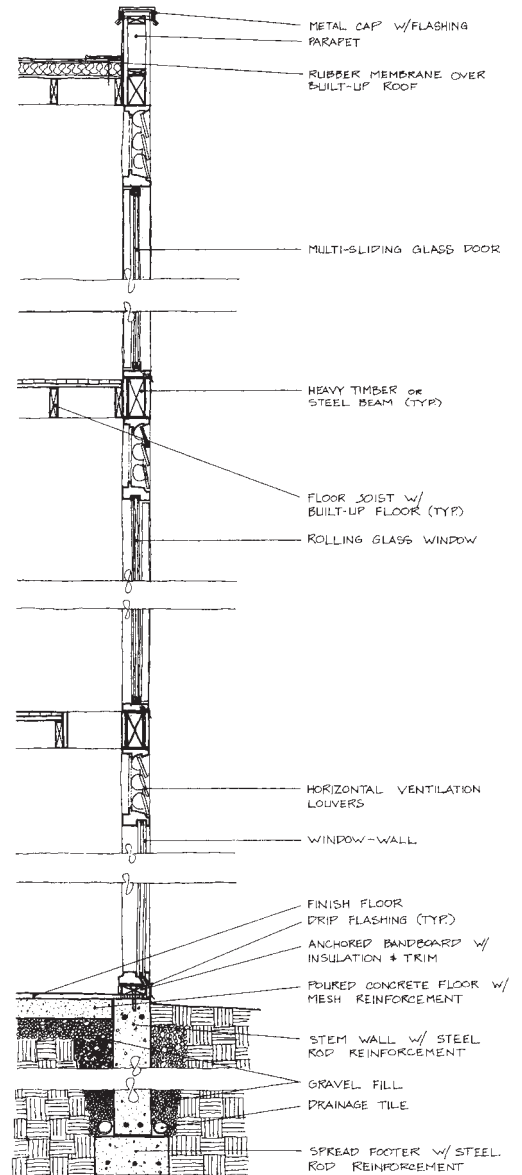
Second Floor Plan



Third Floor Plan



Section



South Wall Section

Vertical Space

Bayview, Idaho

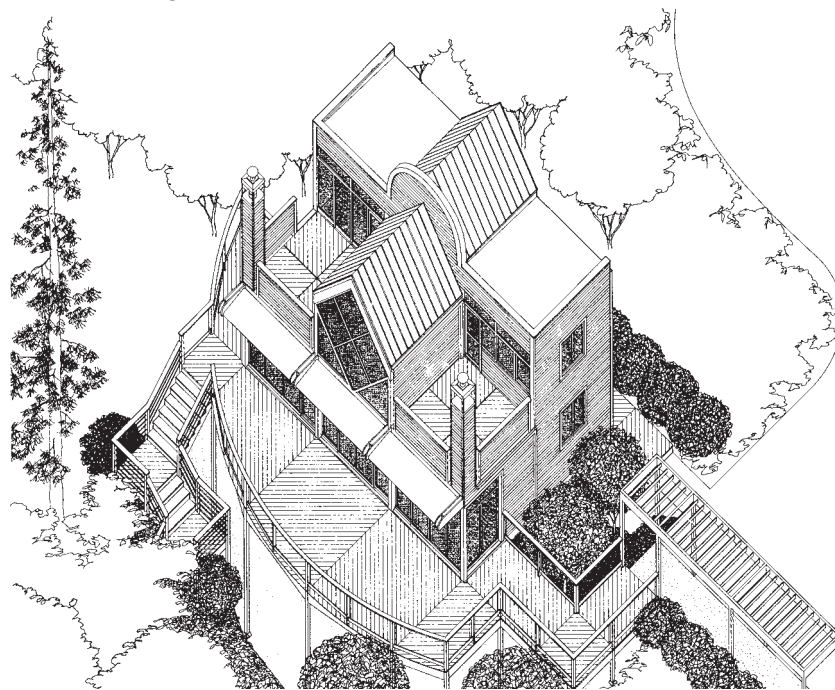
1,238 gross square feet (excluding decks)

The house is organized on a stacked nominal 12' x 12' x 10' nine-square grid. The architectural style and materials are indigenous to the coastal Northwest: expressive but simple forms and geometry, elements of whimsy, and openness to relieve "cabin fever" and increase natural light and a feeling of warmth in frequently overcast skies.

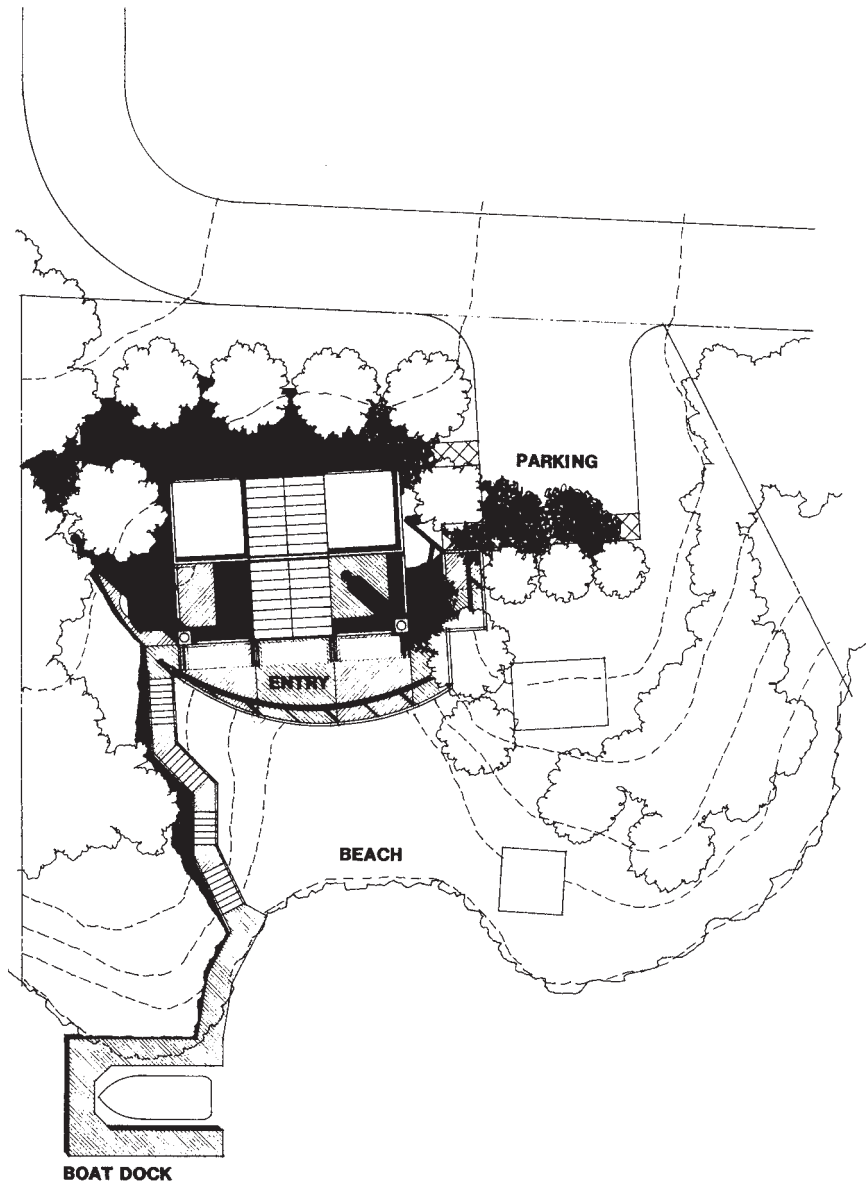
The central south-facing solarium/entry and spiral stair is the organizational and visual focal point of the plan and volume and provides a serving area for entertaining.

The upper glazing continues second-floor views to the south via louvered doors and frames to Goat Mountain and the National Forest and maximizes solar gain in winter. The side windows are placed for cross-ventilation and intimate views of landscape elements. Bedrooms on the second level have private decks, which also have southerly views and exposure. Corner forms house stove flues and create supports for light globes and pennants.

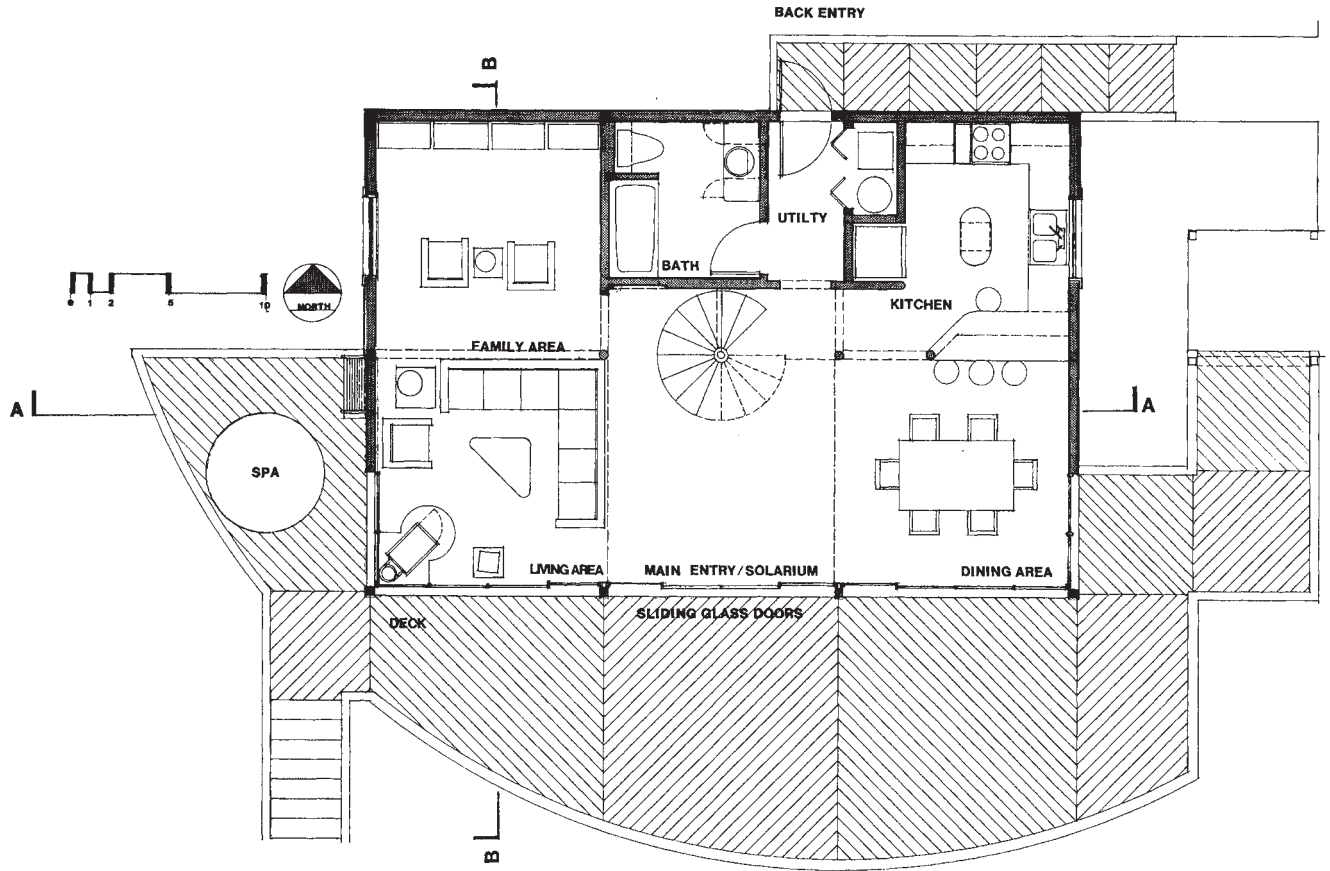
David A. Harris



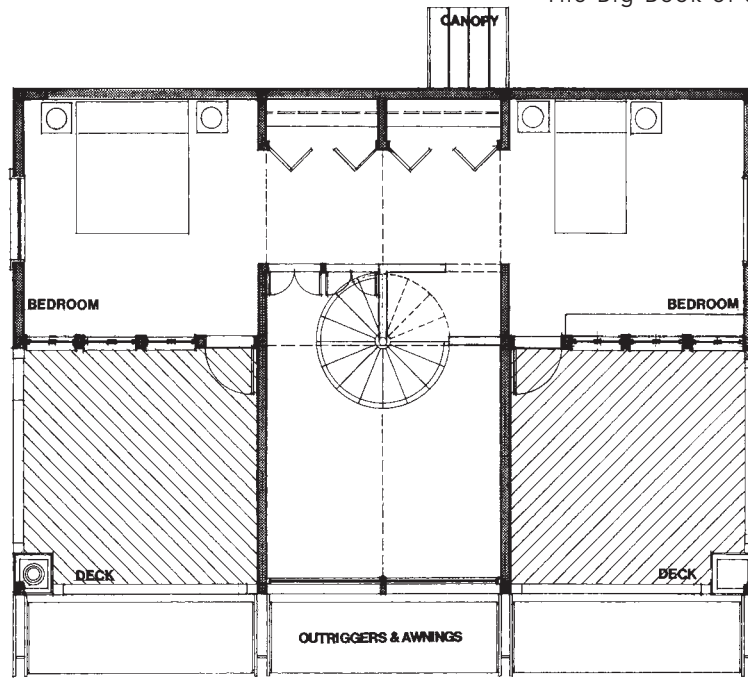
**Perspective
(Axonometric)**



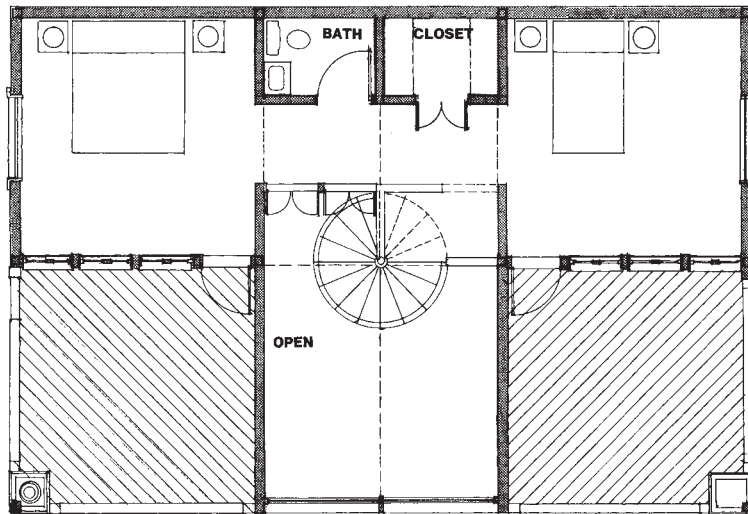
Site Plan



First Floor Plan

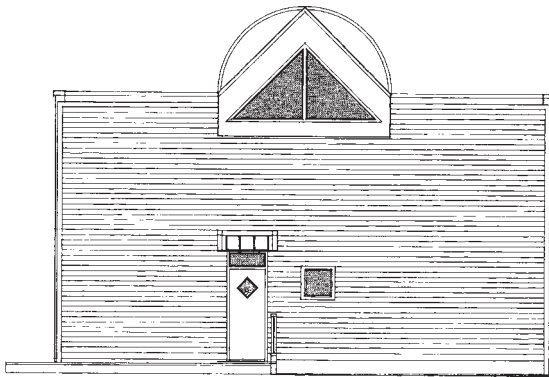


Second Floor Plan

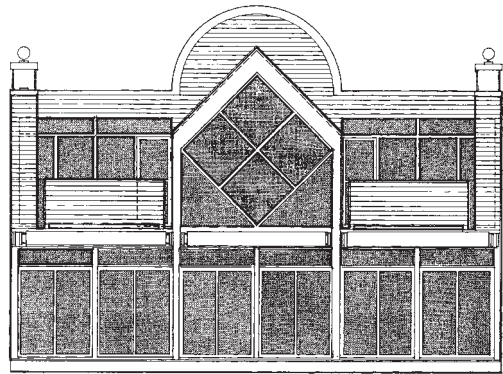


Alternate
Second Floor Plan

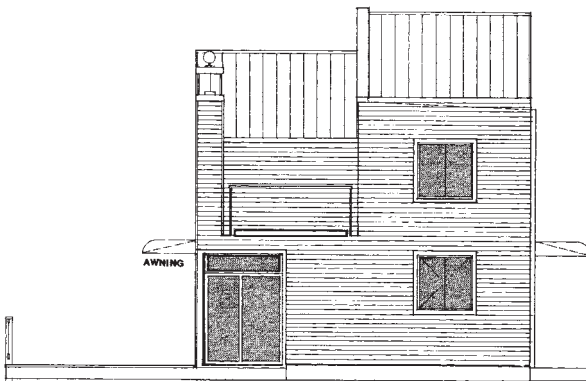
Vertical Space



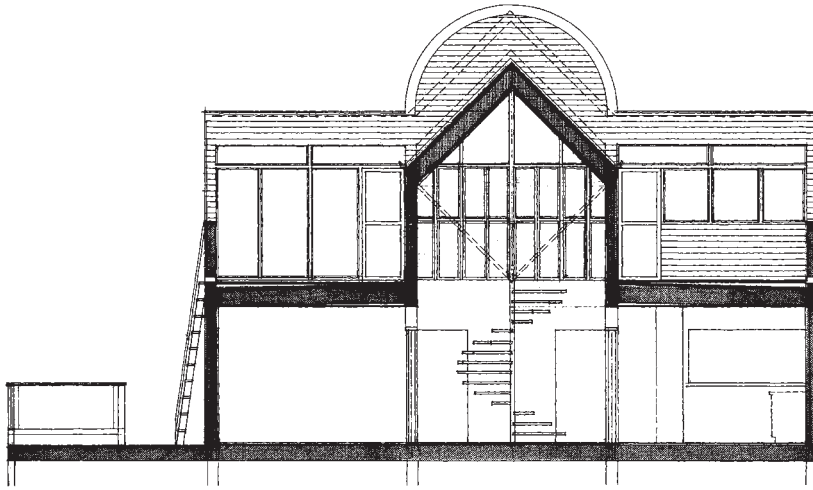
North Elevation



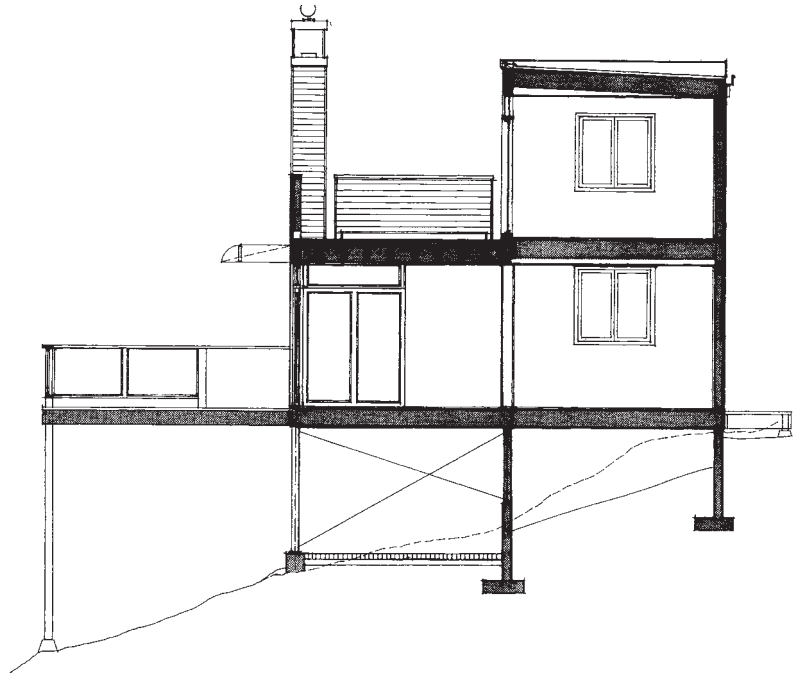
South Elevation



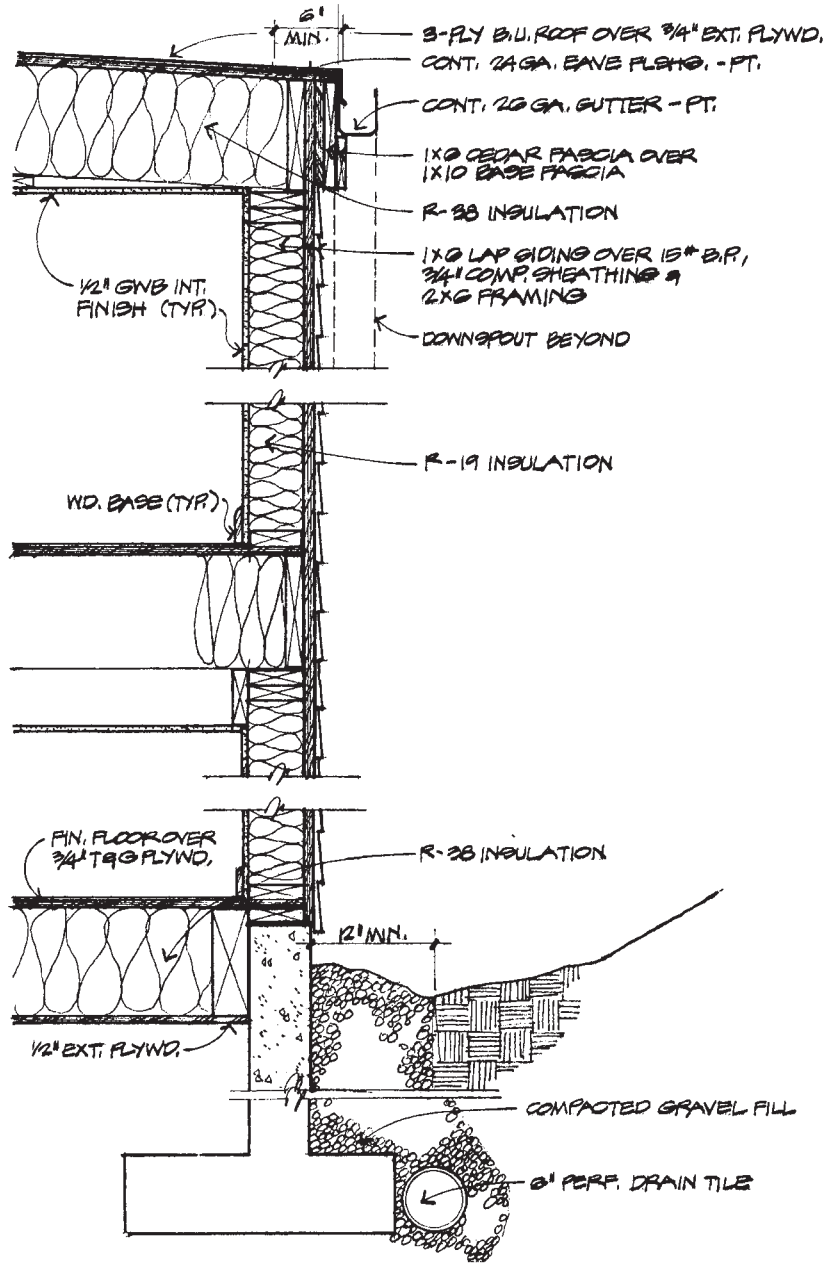
East Elevation



Section A-A



Section B-B



Wall Section

Victorian Barn

Non-specific Location

1,136 gross square feet

Although suitable for most regions of the United States, this house design is reminiscent of the farmhouses and barns which dot the New England countryside. A cruciform plan clusters functions around a compact service core. Rooms are clearly defined while maintaining a sense of spatial continuity. Circulation square footage is minimized. Living areas extend outside to trellised porches. An unfinished basement provides convenient expansion opportunities.

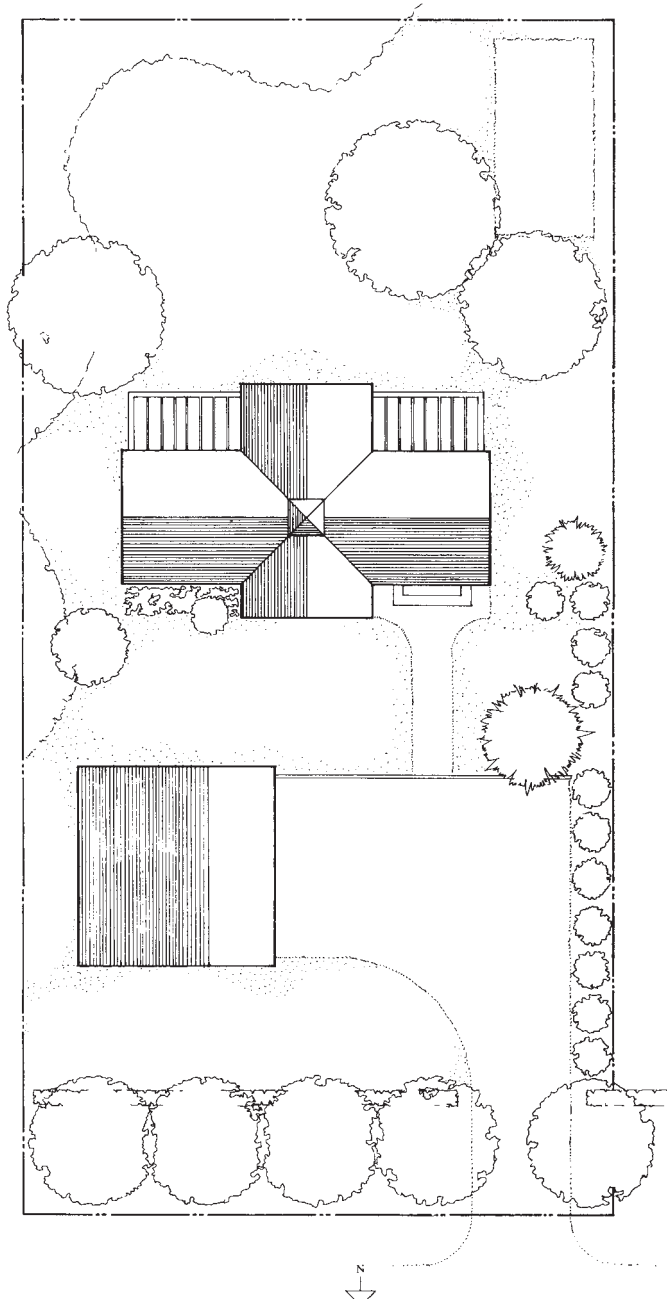
Windows are located to catch southern sun and promote cross-ventilation. A cupola introduces daylight to the center of the house. East and west facades are windowless to ensure privacy from neighboring dwellings or to facilitate connection as a multiple unit structure (with minor modification).

Thomas McClellan Haskell

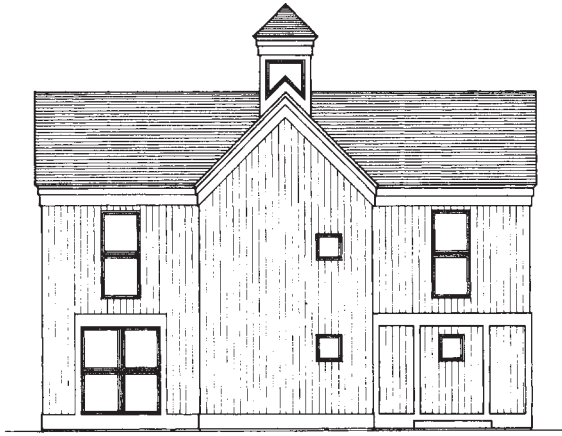


Perspective

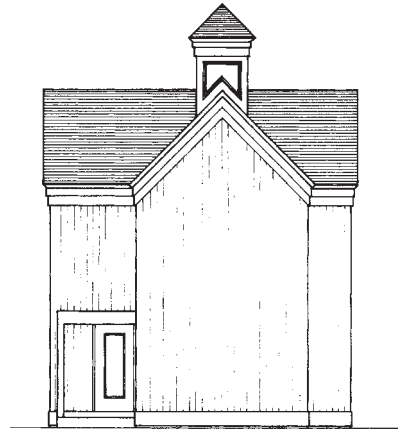
Victorian Barn



Site Plan



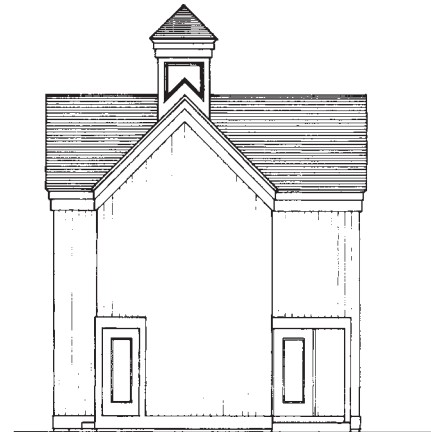
North Elevation



East Elevation

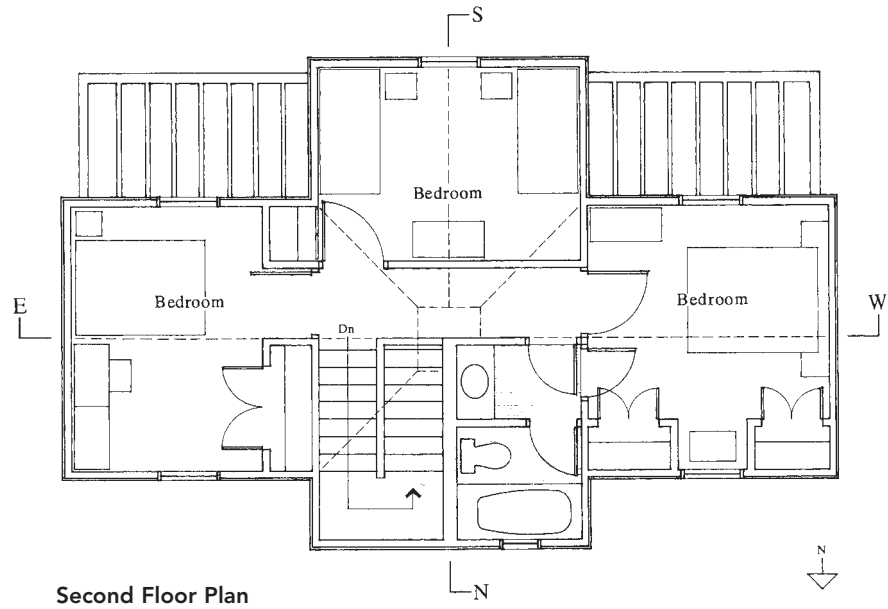
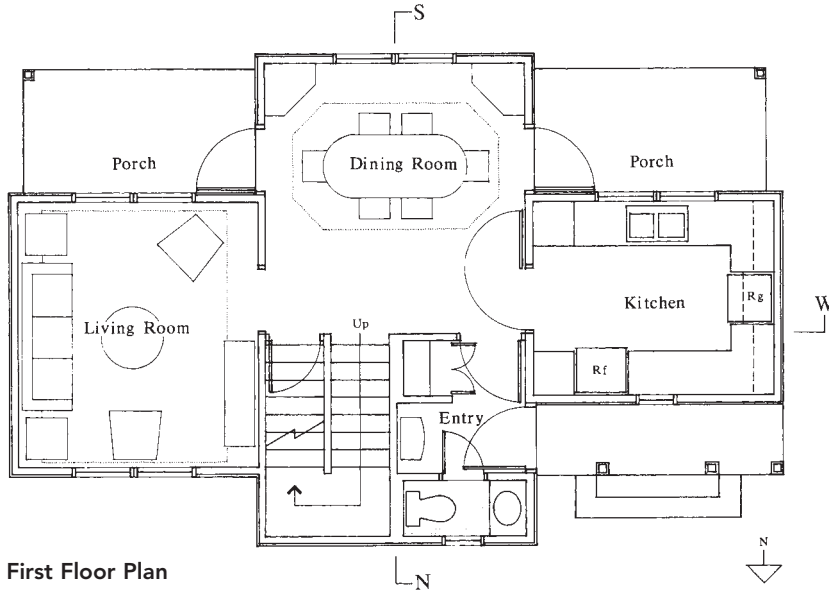


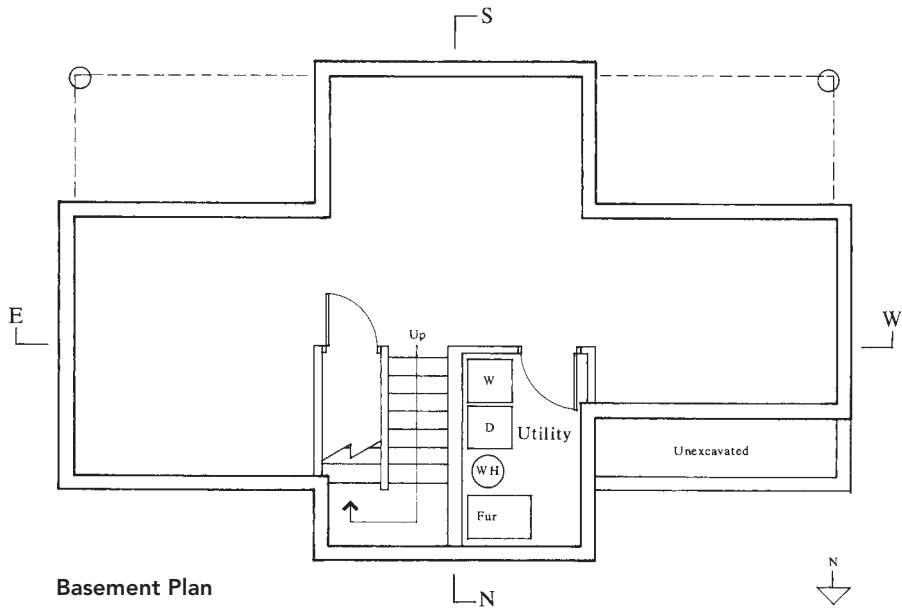
South Elevation



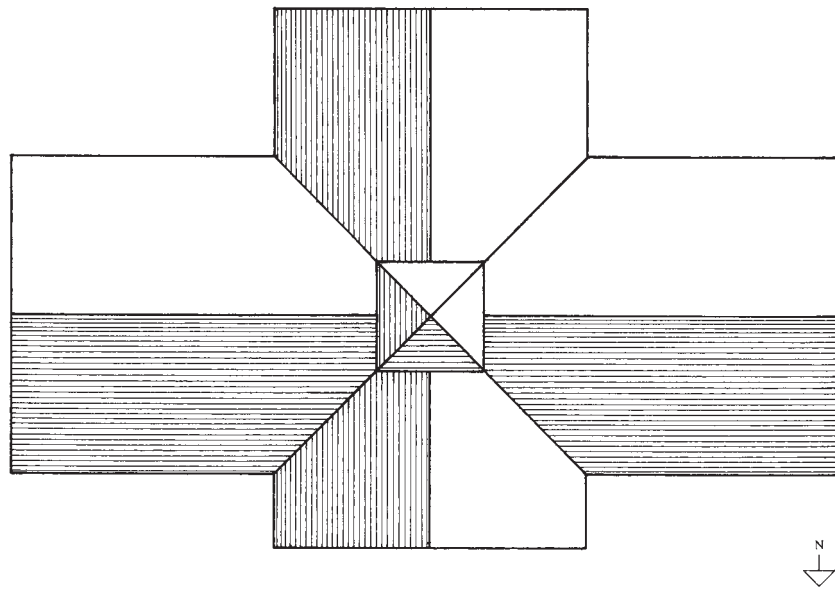
West Elevation

Victorian Barn





Basement Plan

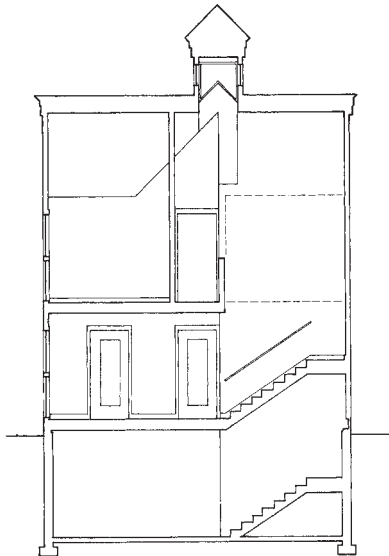


Roof Plan

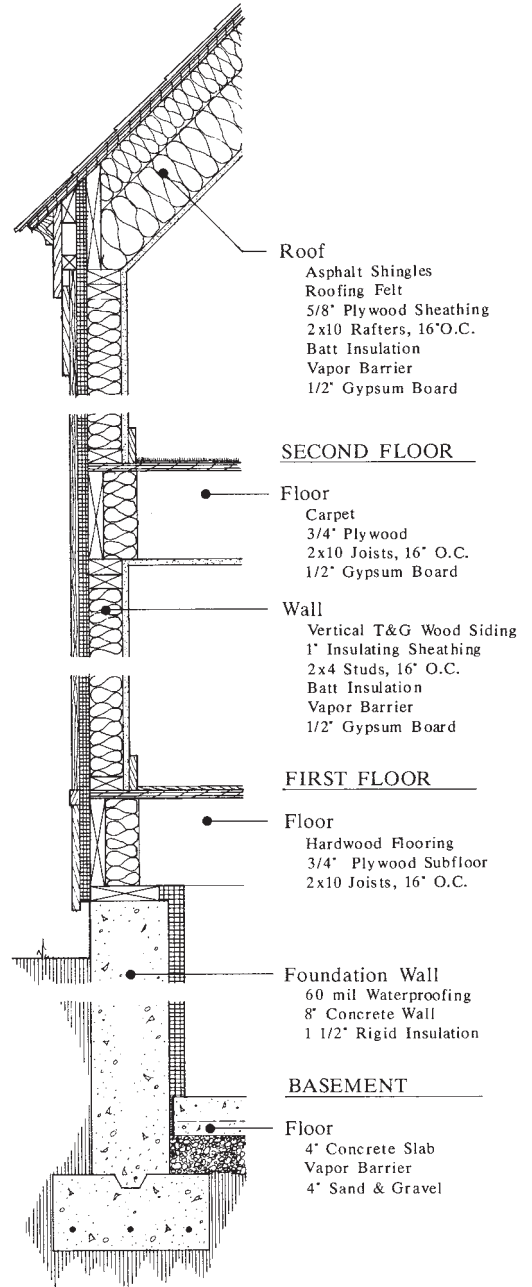
Victorian Barn



E-W Section



N-S Section



Wall Section

Classic Rural Style

Mouth of the Connecticut River

1,250 gross square feet

The house is composed of a compact, two-level block of bedrooms and baths attached to a comparatively voluminous living/dining/kitchen room. The house entry is a contained, low-ceilinged space that opens to the upward and outward expansion of the living space — the effect is to diminish the feeling of smallness in the compact spaces of the house. The supporting truss spanning the living space implies a

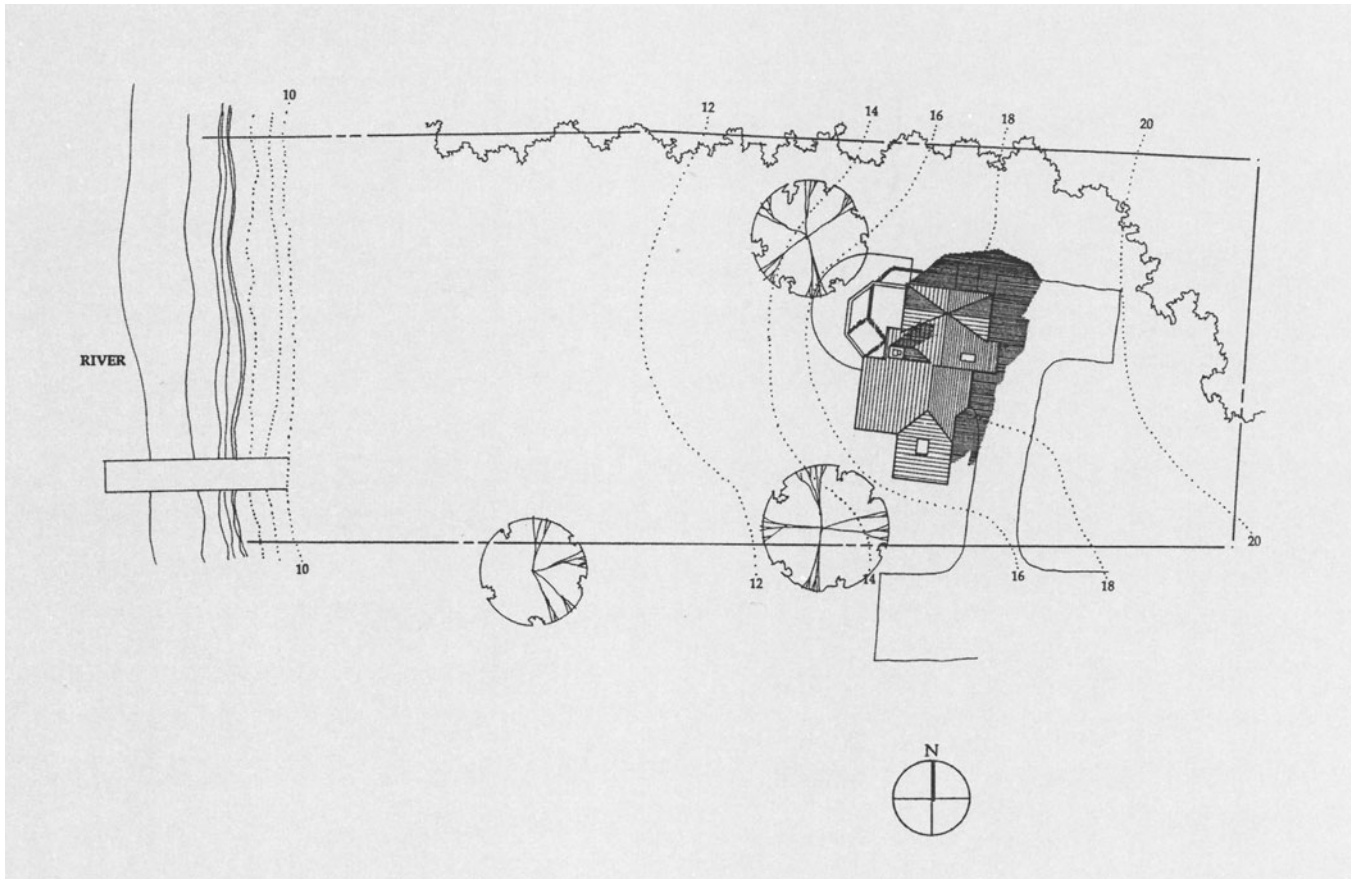
separation of living and dining spaces within the large room. The fireplace is a major focus of the living space that encourages a grouping of furniture around it. The exterior massing and detailing of the house has its roots in the Shingle-style beach cottages that are part of the history of this area of the Connecticut coast.

J. Whitney Huber

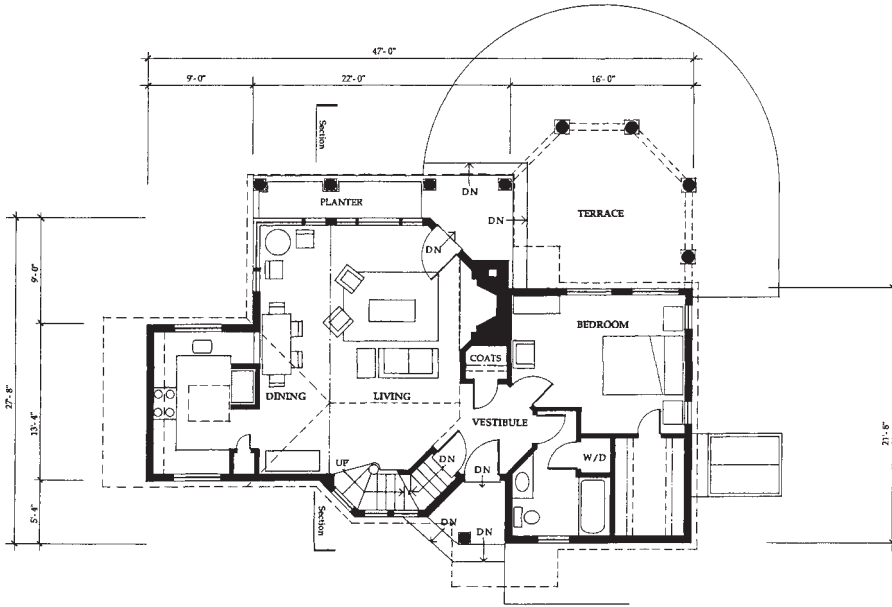


Perspective

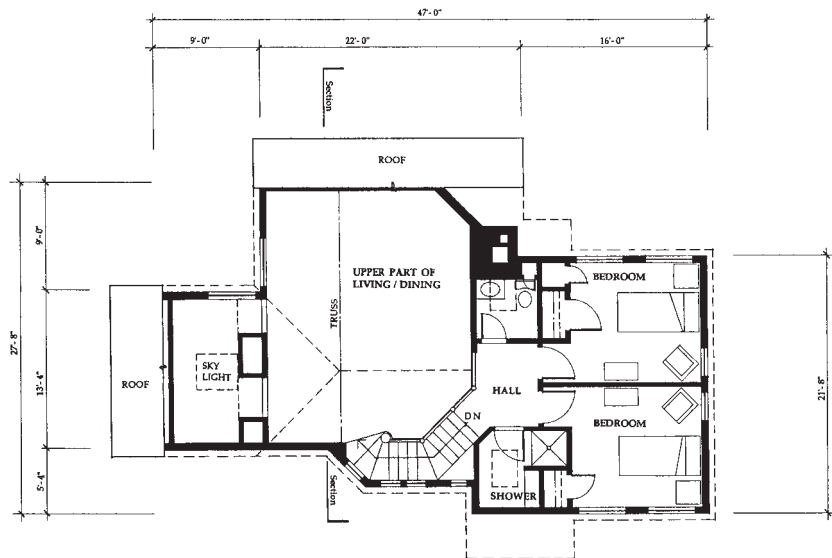
Classic Rural Style



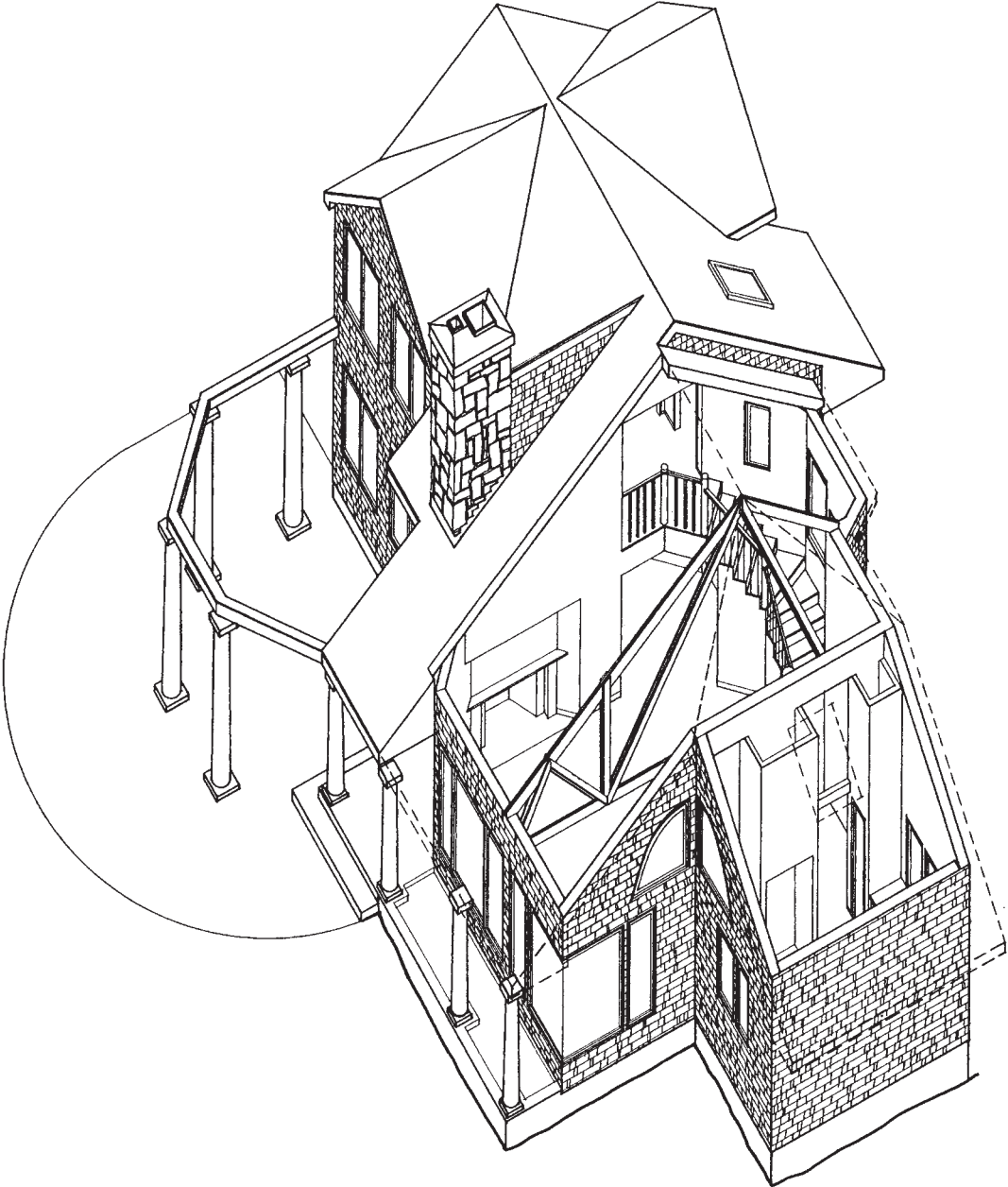
Site Plan



First Floor Plan



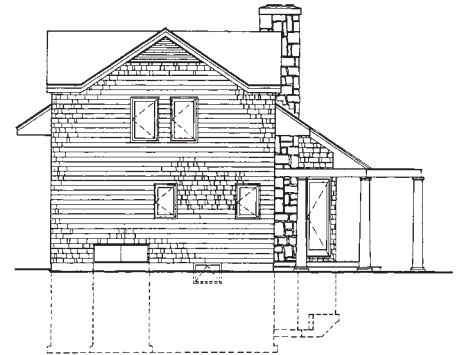
Second Floor Plan



Axonometric



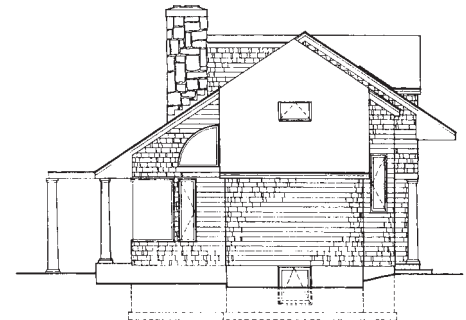
East Elevation



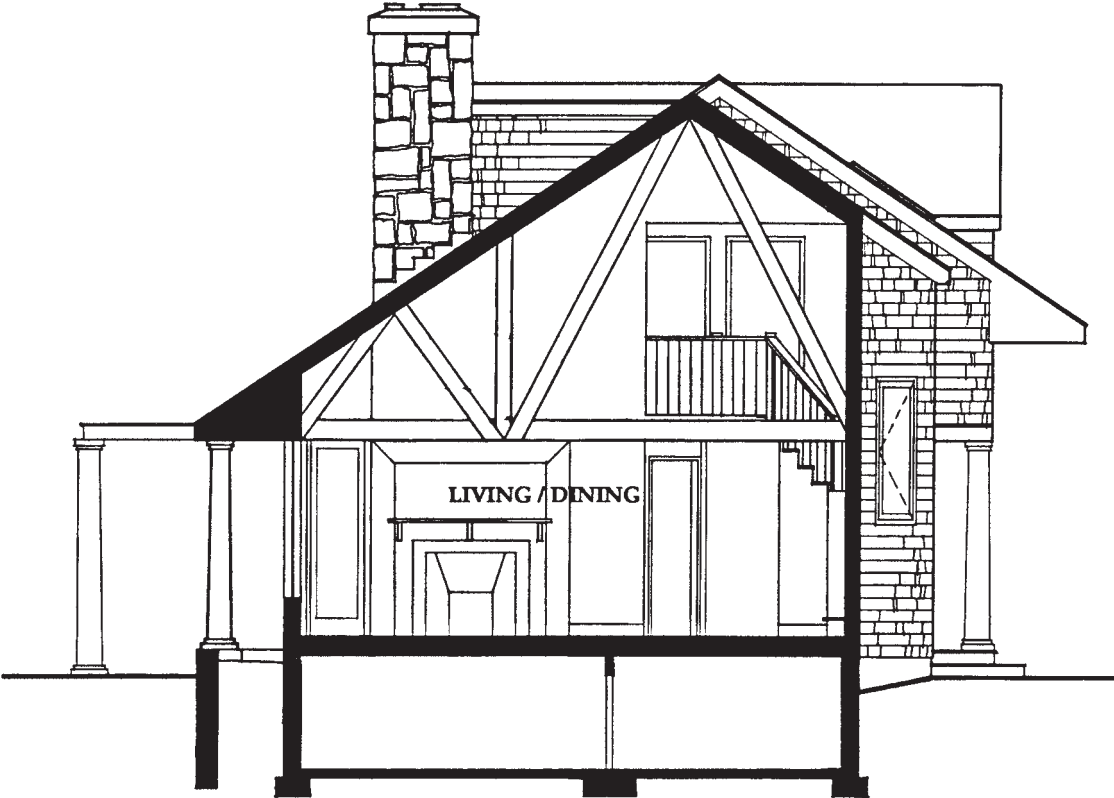
North Elevation



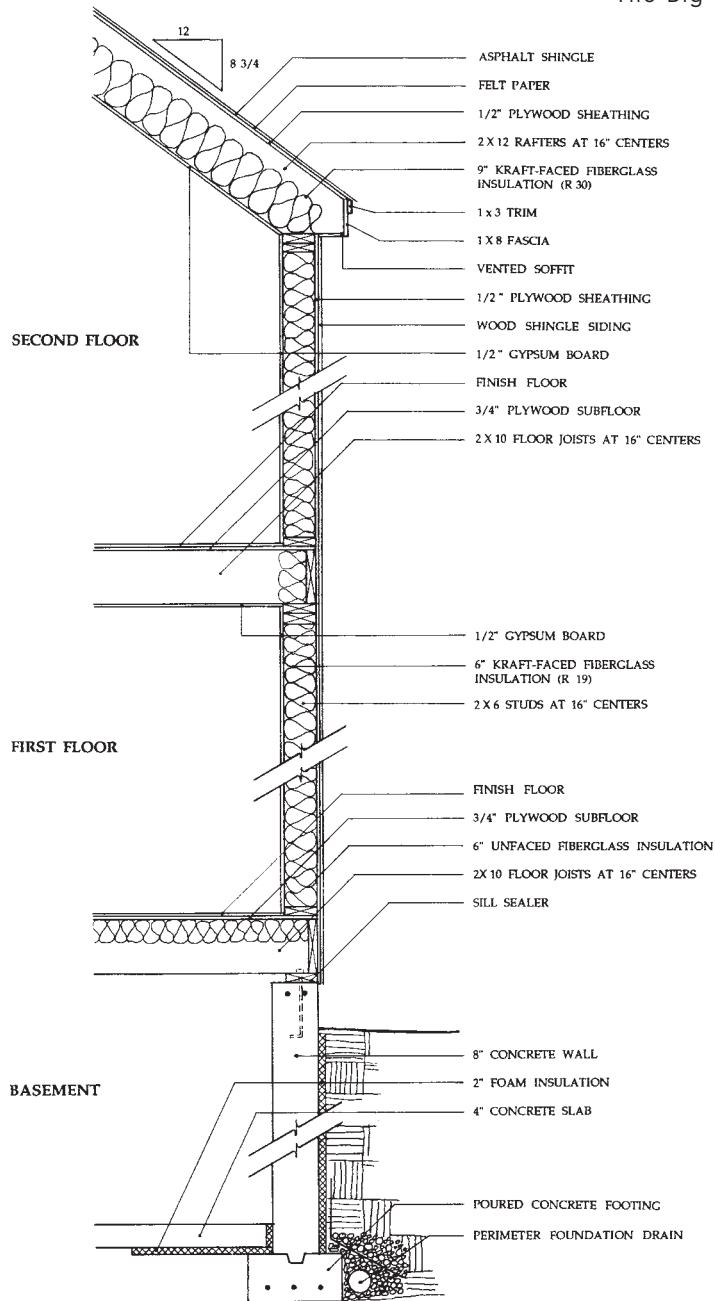
West Elevation



South Elevation



Section



Wall Section

Clean and Simple Living

Southern U.S. or Caribbean

1,248 gross square feet (house) and 448 gross square feet (terrace and entry)

This house is designed to provide exciting and comfortable living amenities within a small footprint.

The spaces are articulated into two zones defining the various activities of daily life. These zones are expressed as linked volumes containing public and private functions. The foyer, providing the circulation linkage between the two, also contains the mechanical core.

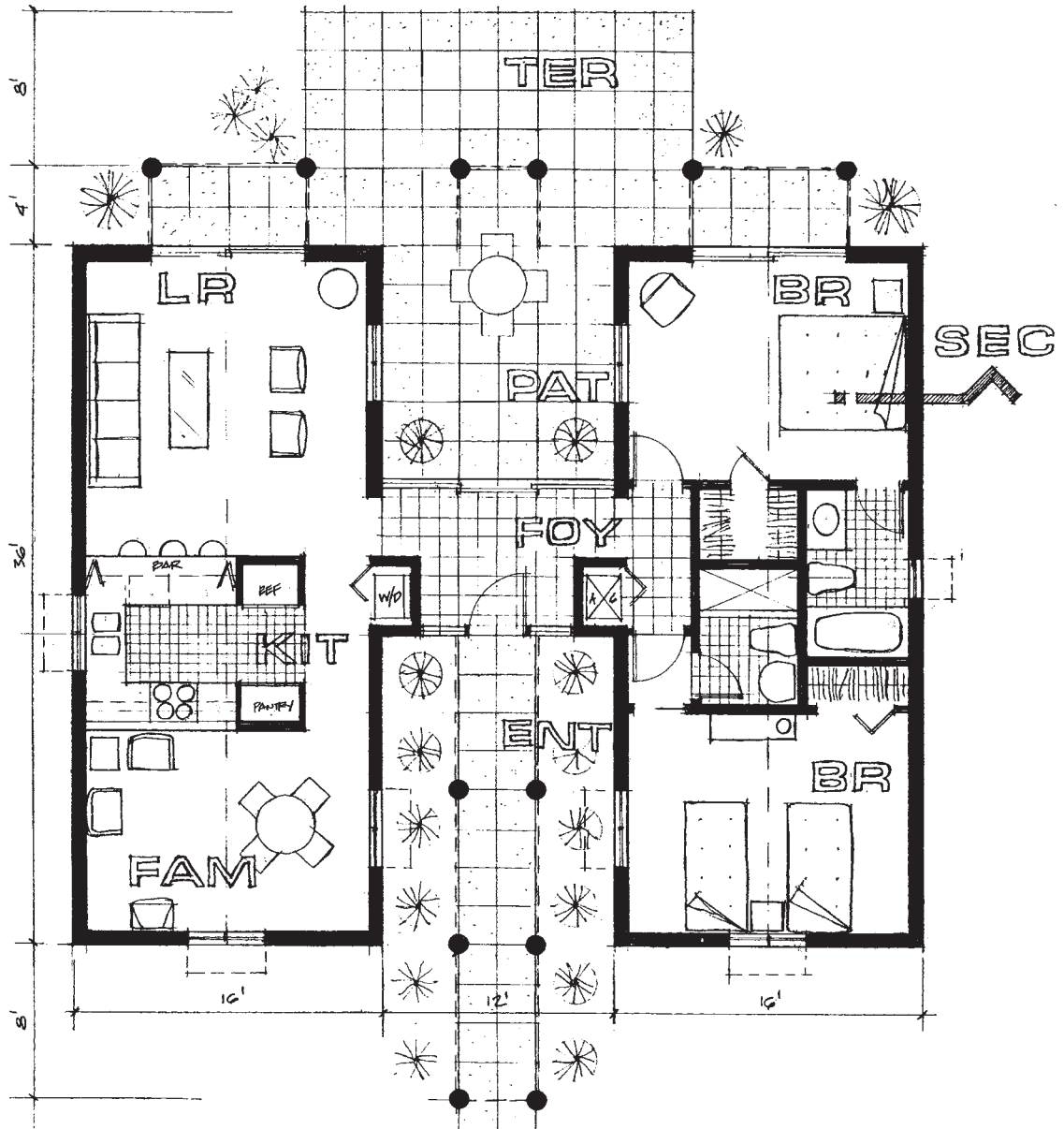
Separating the plan into two basic elements provides a protected central entry courtyard and a covered terrace. These exterior spaces expand the living space visually and literally and create private views inward from most rooms, minimizing exterior openings toward neighbors in close proximity.

The kitchen is central to both living and family room and is open for ease of service to both areas, and through patio doors to the terrace. Partitions are door height to allow the vaulted ceiling to flow uninterrupted. Roofs are steeply pitched to create interior volumes and promote air circulation.

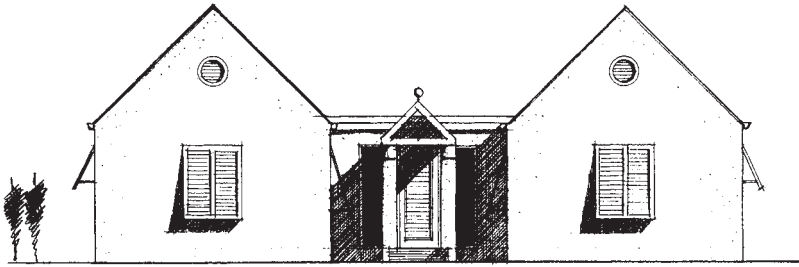
Paul Robin John



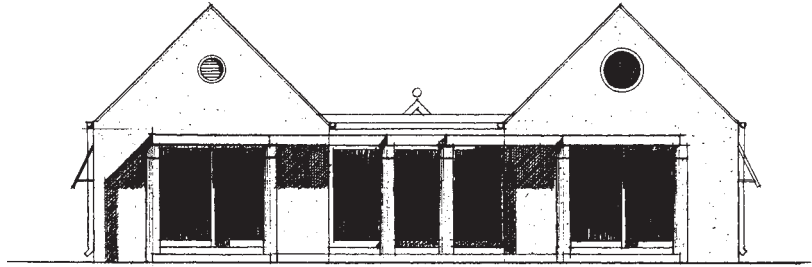
Perspective



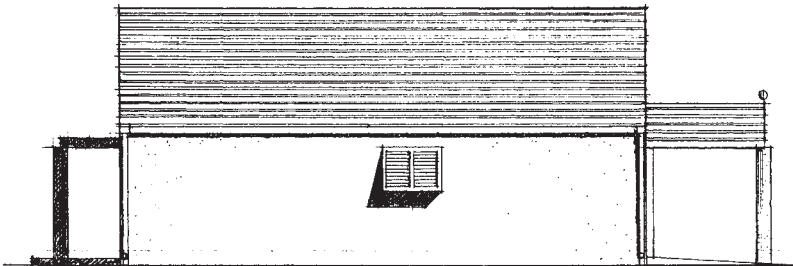
Floor Plan



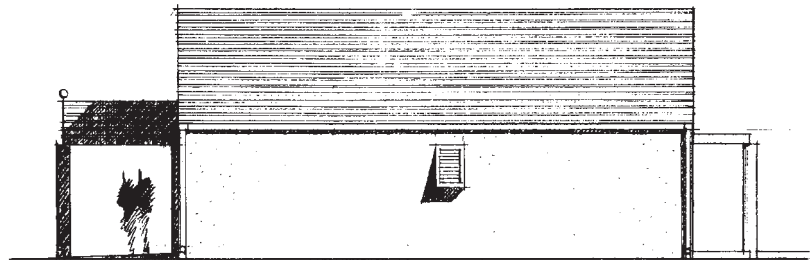
Front Elevation



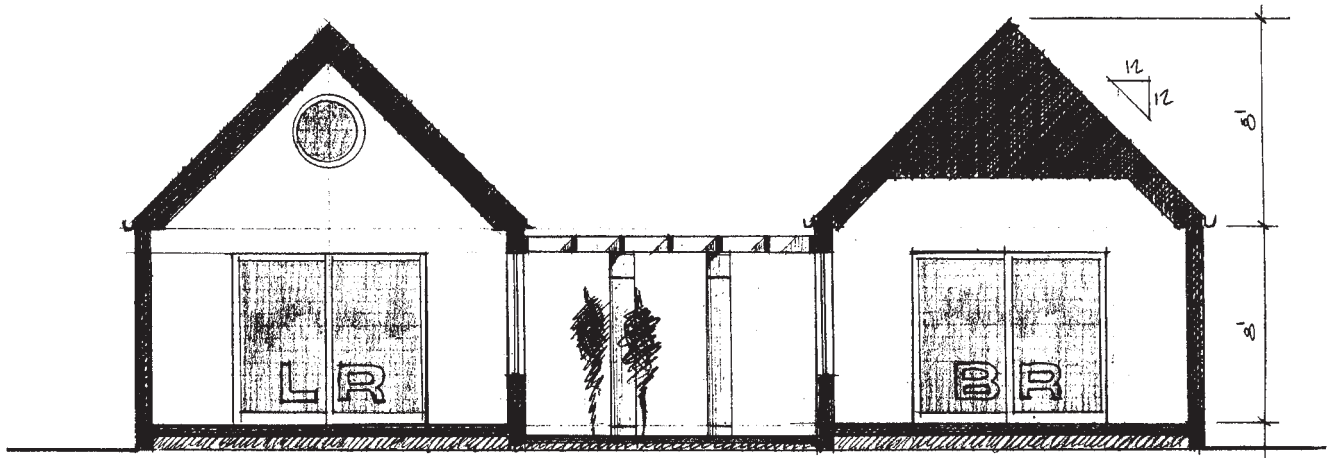
Rear Elevation



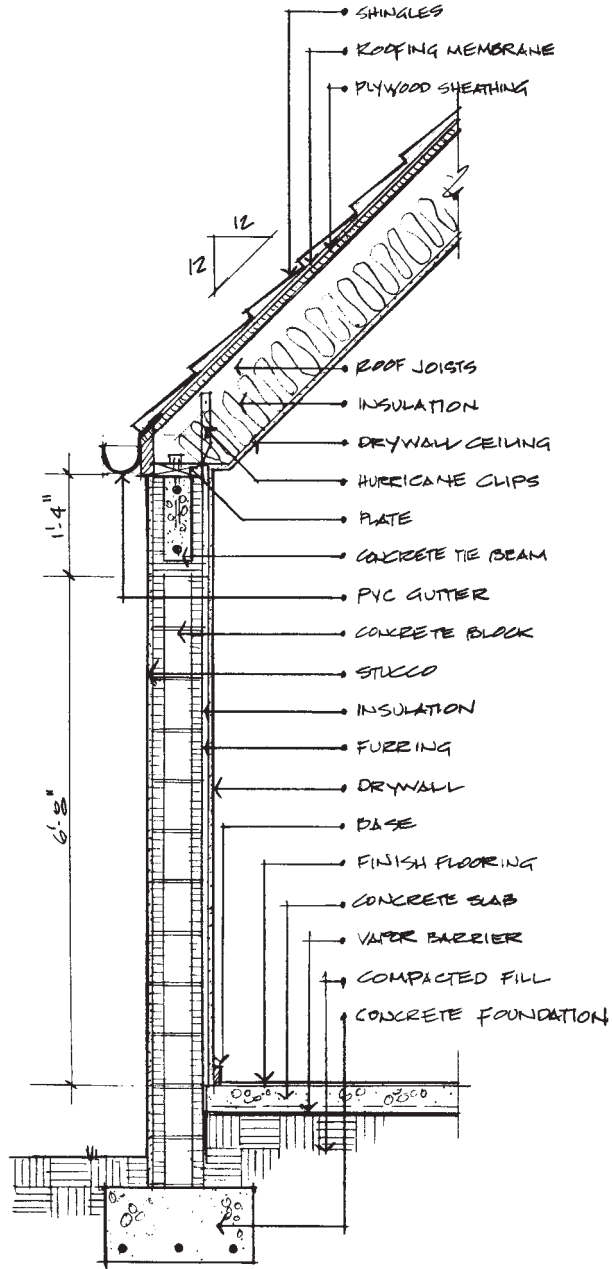
Side Elevation 1



Side Elevation 2



Section



Wall Section

Classic Ranch

Black Forest, Colorado

1,248 gross square feet

A gabled roof and false beams were substituted for the flat roof and vigas of the conventional Santa Fe home due to the high snow loads in this area. Peeled ponderosa pine logs were used at the front and rear portals, however, as they grow in abundance on the property.

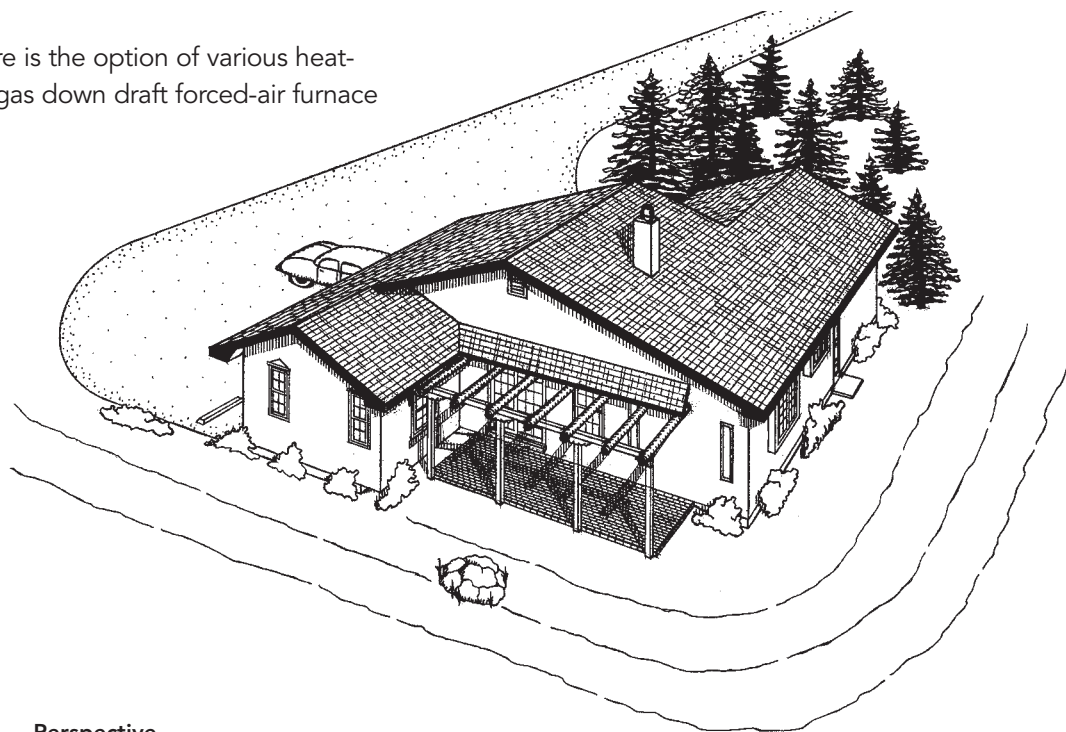
Window trim, shutters, doors, base, and casing will be shop-built by the owner in order to follow through on the Southwest style.

With a crawl space there is the option of various heating systems, such as a gas down draft forced-air furnace

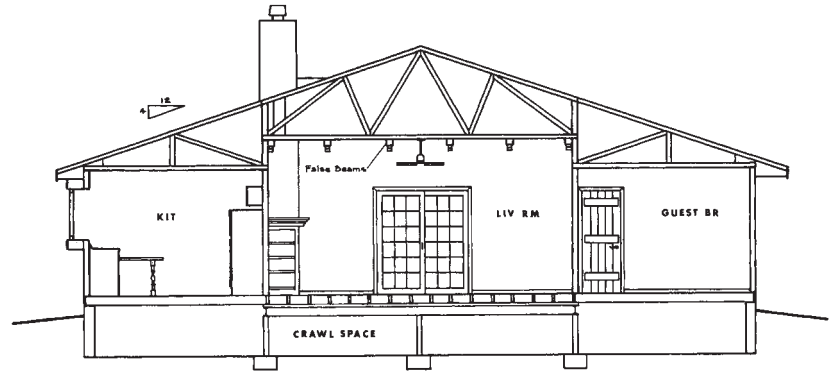
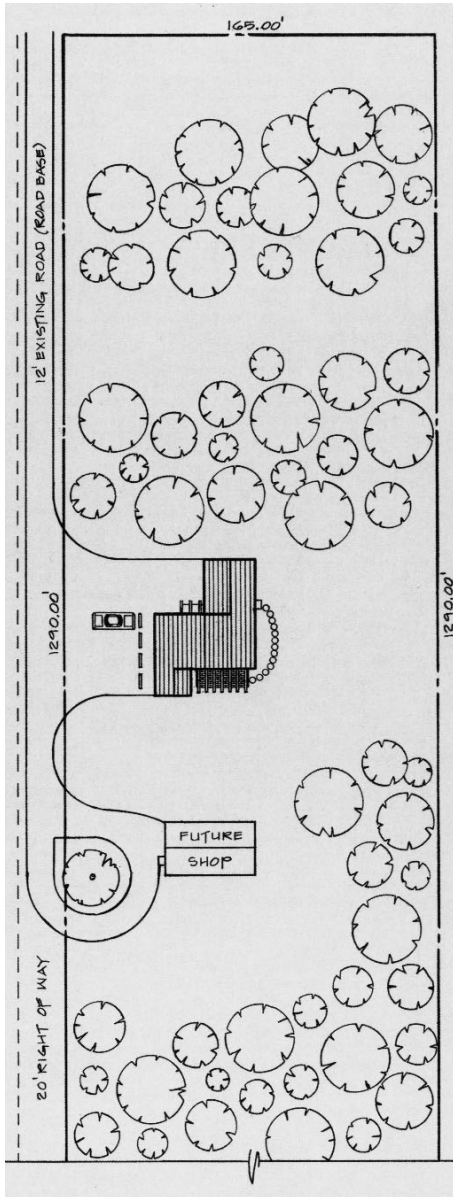
with metal ductwork, or a "plenwood" system. Another option would be an "in-floor" hot water radiant floor system using poured gyp-crete over plastic pipe.

A good part of the heating requirement will be provided by an efficient zero-clearance fireplace insert, which can be finished with tiles in the traditional manner.

Charles H. Ludeke

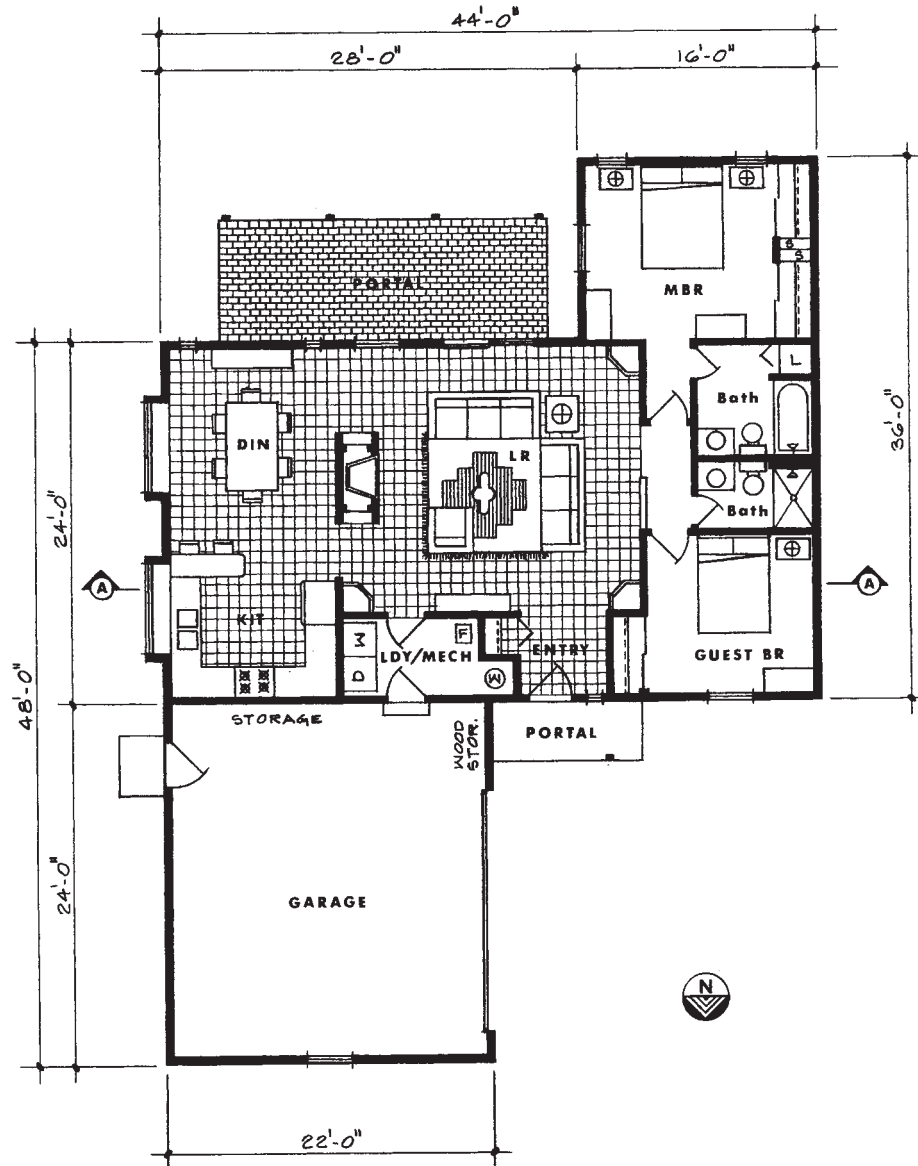


Perspective



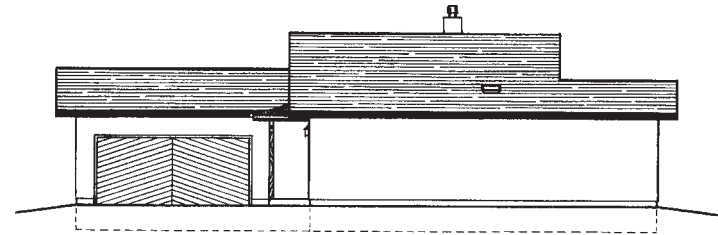
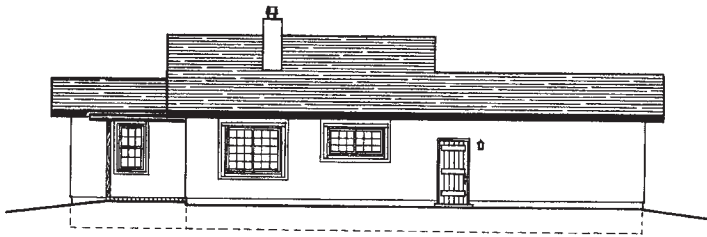
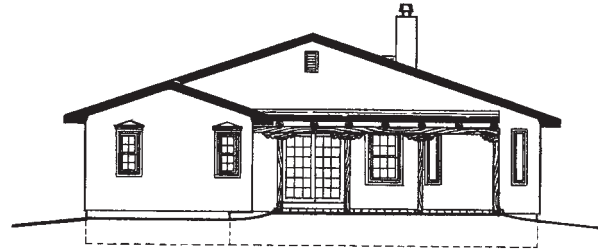
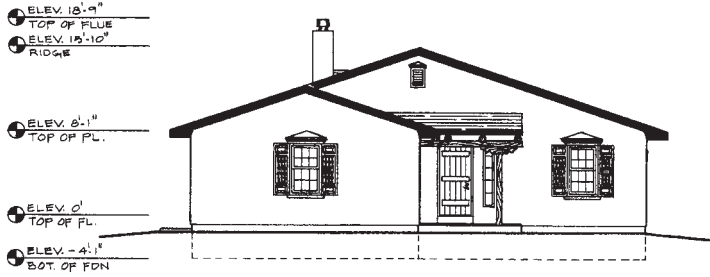
Section

Site Plan



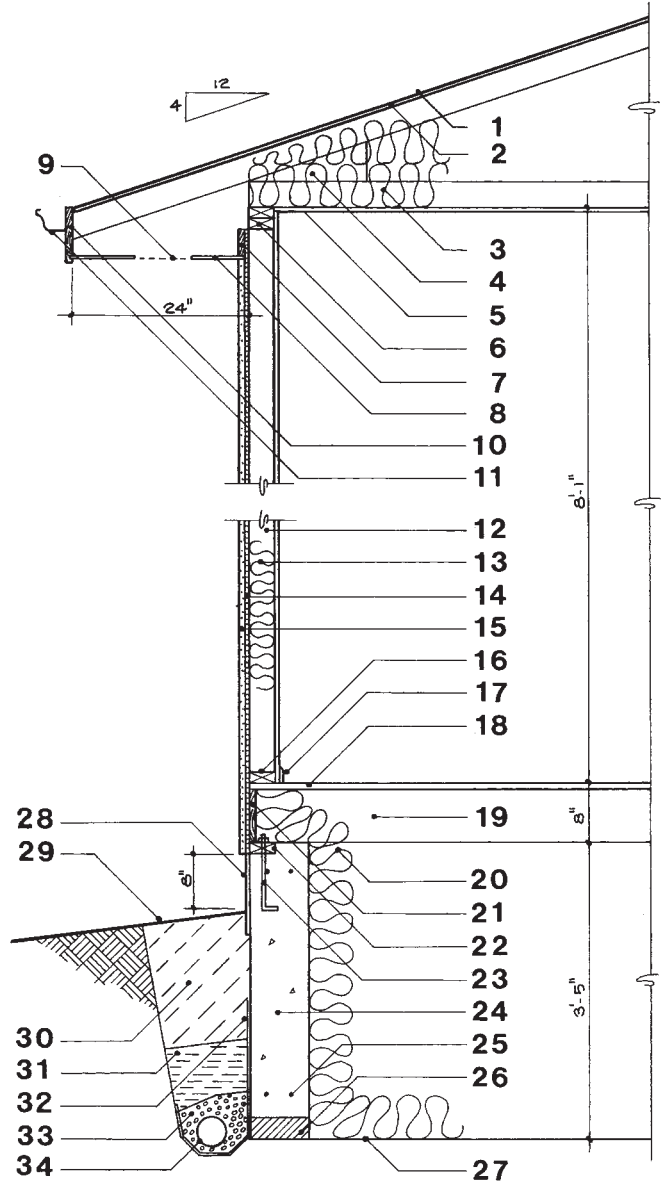
Floor Plan

Classic Ranch



Wall Section

- 1 220# fiberglass/asphalt 3-tab shingles over 15# asphalt felt
- 2 7/16" waferboard roof sheathing
- 3 Double-thick 6" fiberglass batt. insulation, installed at 90° to each other for a total of R-38
- 4 Scarfed 2" x 4" trusses @ 24" o.c.
- 5 1/2" gypsum board, taped and "Spanish lace" textured
- 6 Double 2" x 4" top plates
- 7 1" x 4" #3 spruce continuous ledger
- 8 3/8" Cladwood textured soffit
- 9 8" x 16" G.I. soffit vents
- 10 1" x 8" primed pine, 3/8" plowed fascia
- 11 4" x 3" OG galvanized iron gutters connected to 3" x 2" rectangular downspouts
- 12 2" x 4" 92 5/8" S&B white wood studs at 16" o.c.
- 13 R-13 fiberglass batt. insulation
- 14 1/2" Styrofoam "blue board"
- 15 2 coat stucco
- 16 2" x 4" sole plate
- 17 2 1/4" #0366 oak baseboard
- 18 3/4" T & G oriented strand board subfloor, glued in joints over joists and nailed; 1/4" luan mahogany plywood underlayment stapled over it where tile or vinyl finish floor is used
- 19 2" x 8" H.F. #2 joists @ 16" o.c.
- 20 R-19 fiberglass batt insulation
- 21 1" x 8" #3 spruce rim joist
- 22 2" x 4" construction common redwood
- 23 1/2" diameter x 10" anchor bolts @ 6'0" o.c. (max.)
- 24 8" x 41" poured concrete stem wall
- 25 2 - #4 grade 60 rebar at top and bottom
- 26 3" x 8" cardboard voids or footers as per engineer
- 27 30# asphalt felt, lapped and sealed
- 28 Brown coat stucco
- 29 Finished grade
- 30 Compacted earth fill
- 31 Sand
- 32 36" - 6 mil. black visqueen mopped to wall and carried under drain
- 33 Pea gravel
- 34 4" perforated ADS pipe to daylight



More Than a Cabin

Lake Champlain, New York

1,230 gross square feet

This camp building, located in New York State's Adirondack Park, was developed for a club that was founded in 1890. The building is one of several new prototype camps to be proposed for new development on 1- to 3-acre lots. Most existing buildings in the club were built between 1890 and 1930; some atypical structures/remodels were built in later years.

Sites are on a variable degree slope on the western shore of Lake Champlain, overlooking the lake and the mountains on the opposite shore. The site for the specific design shown is on the shoreline, with an average slope of 10 percent.

Interior Considerations

Interior functions are grouped in four quarters: entry; utility; food preparation; laundry, dining, living, and sleeping.

For summer use, "porch walls" fold away and screens are installed on first-floor porches. By opening all casement windows, combined spaces form one large "porch."

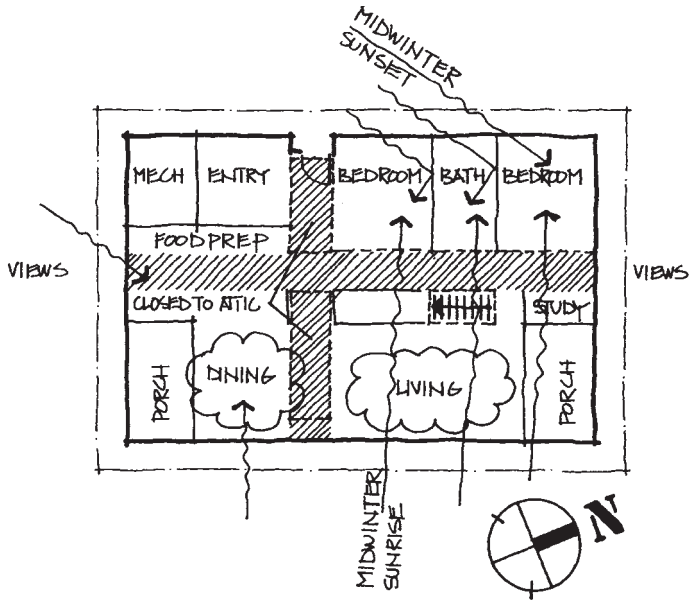
Two axis paths form a direct pattern of circulation, also providing alternate access and privacy, all at the discretion of the dweller.

The long paths, with framed views at each end, and the upper dormer lights, along with interior walls selectively terminating at 6 feet, 6 inches, allow awareness of nature, time, and light at all times of the day, perhaps giving an illusion of grandeur in a very small and humble building.

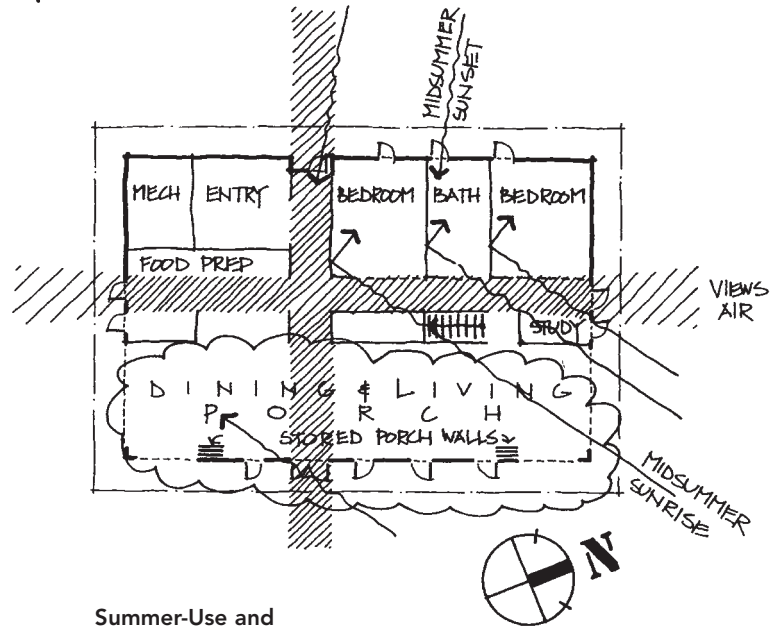
Nils Luderowski



Perspective

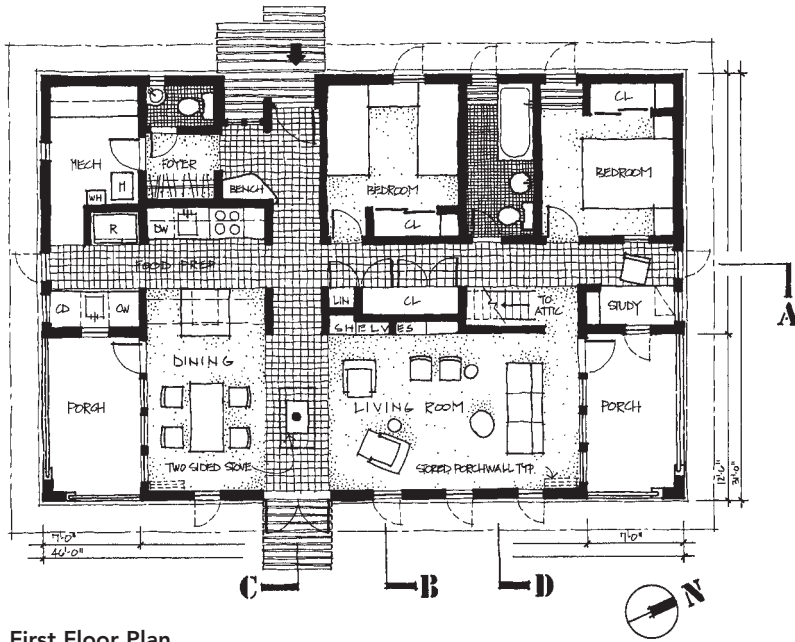


Winter-Use and Light Diagram

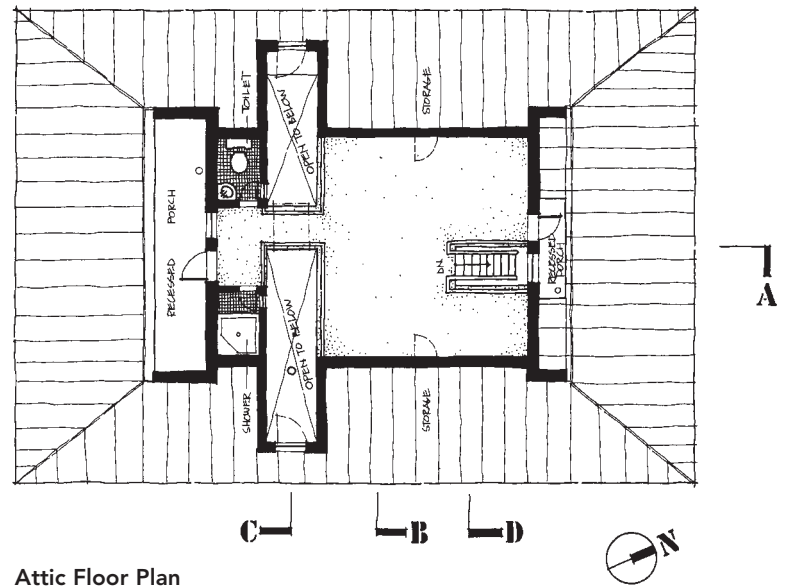


Summer-Use and Light Diagram

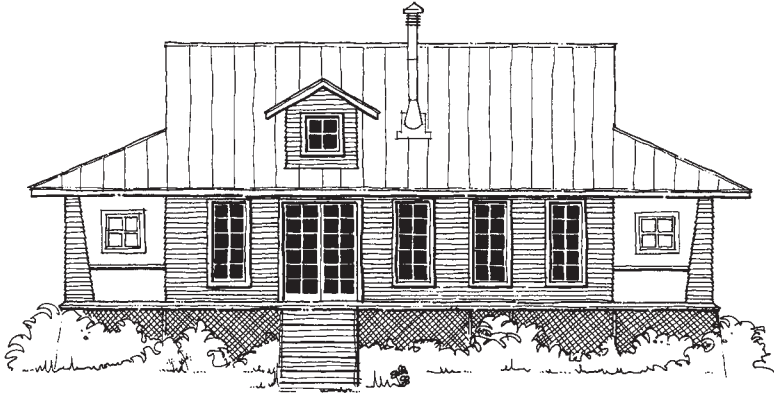
More Than a Cabin



First Floor Plan



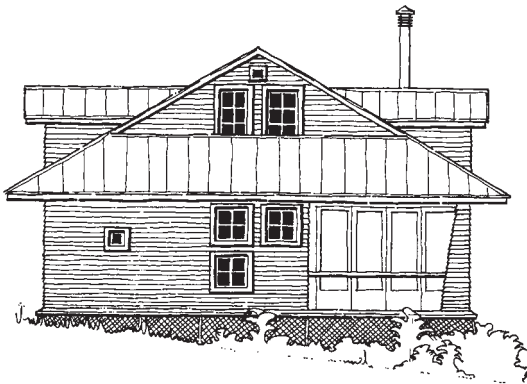
Attic Floor Plan



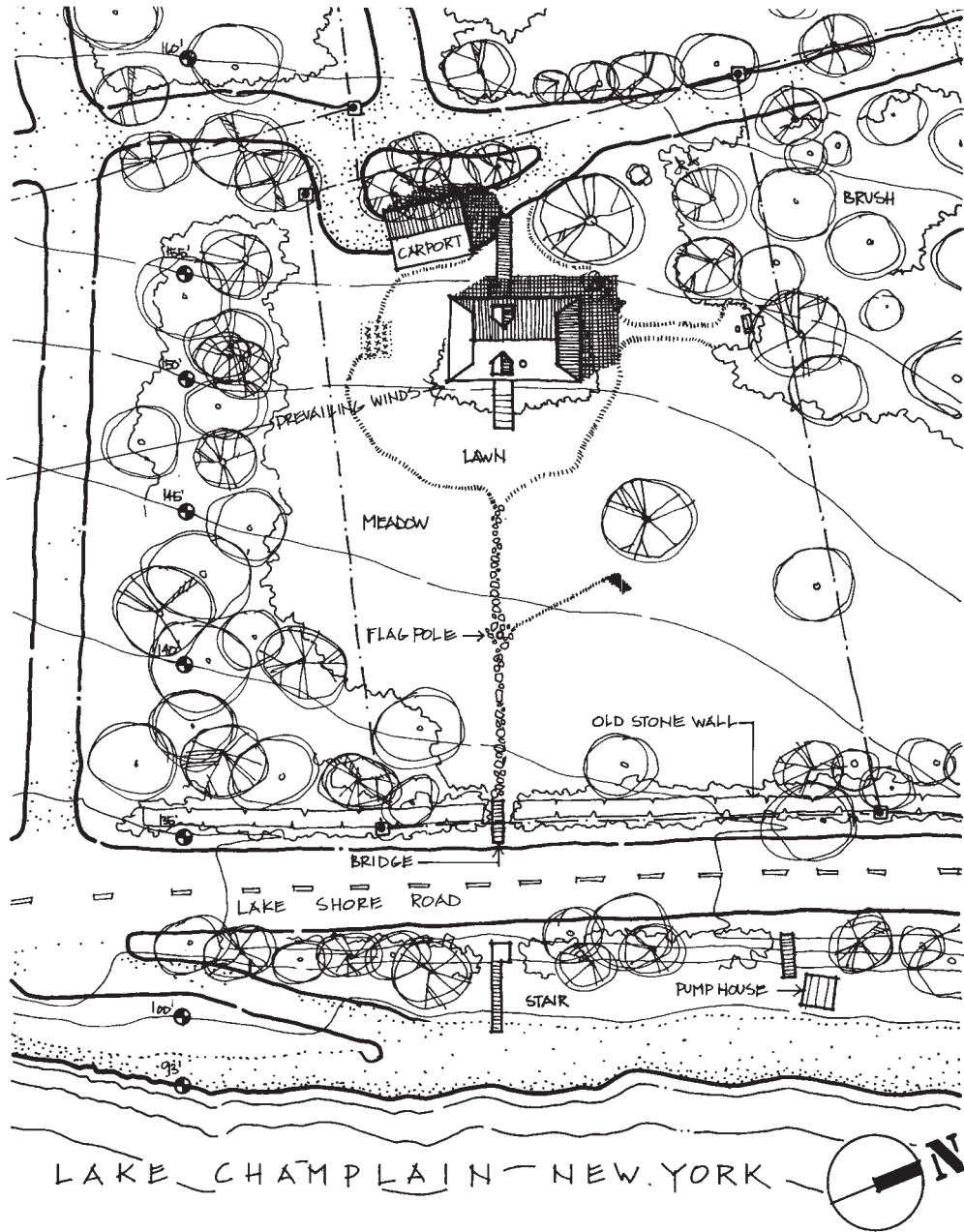
East Elevation



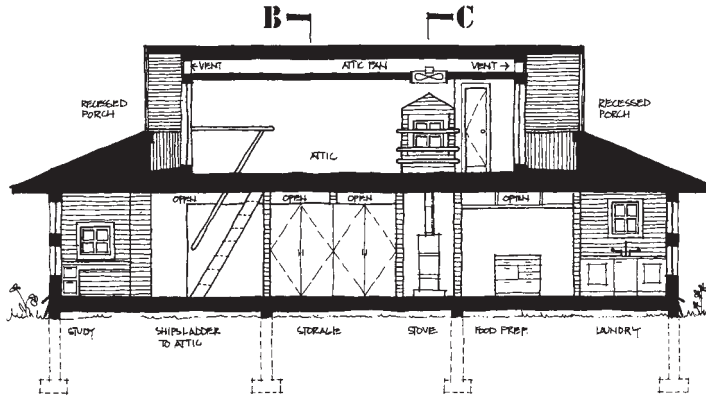
West Elevation



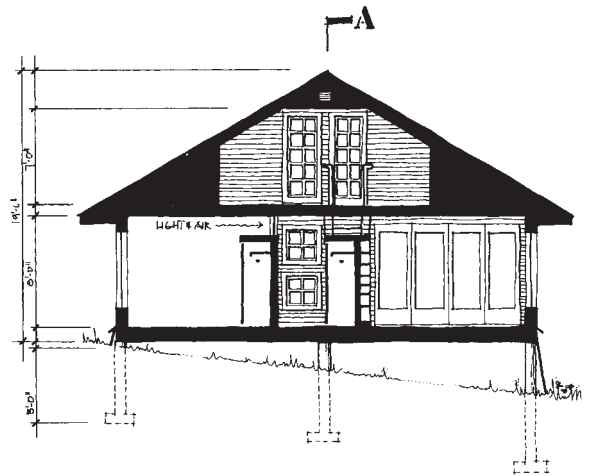
South Elevation



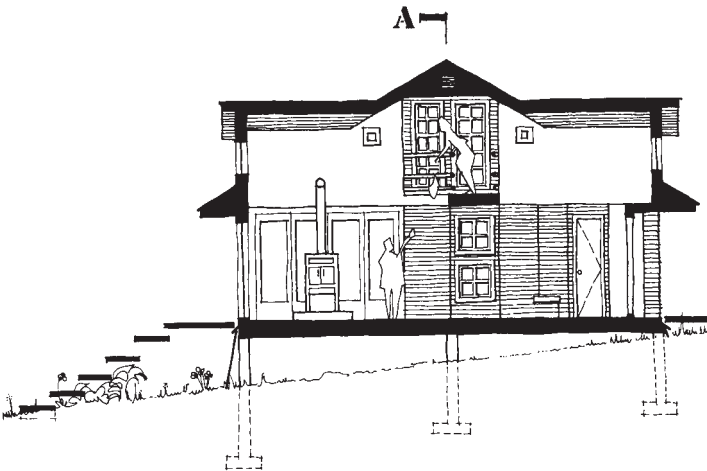
Site Plan



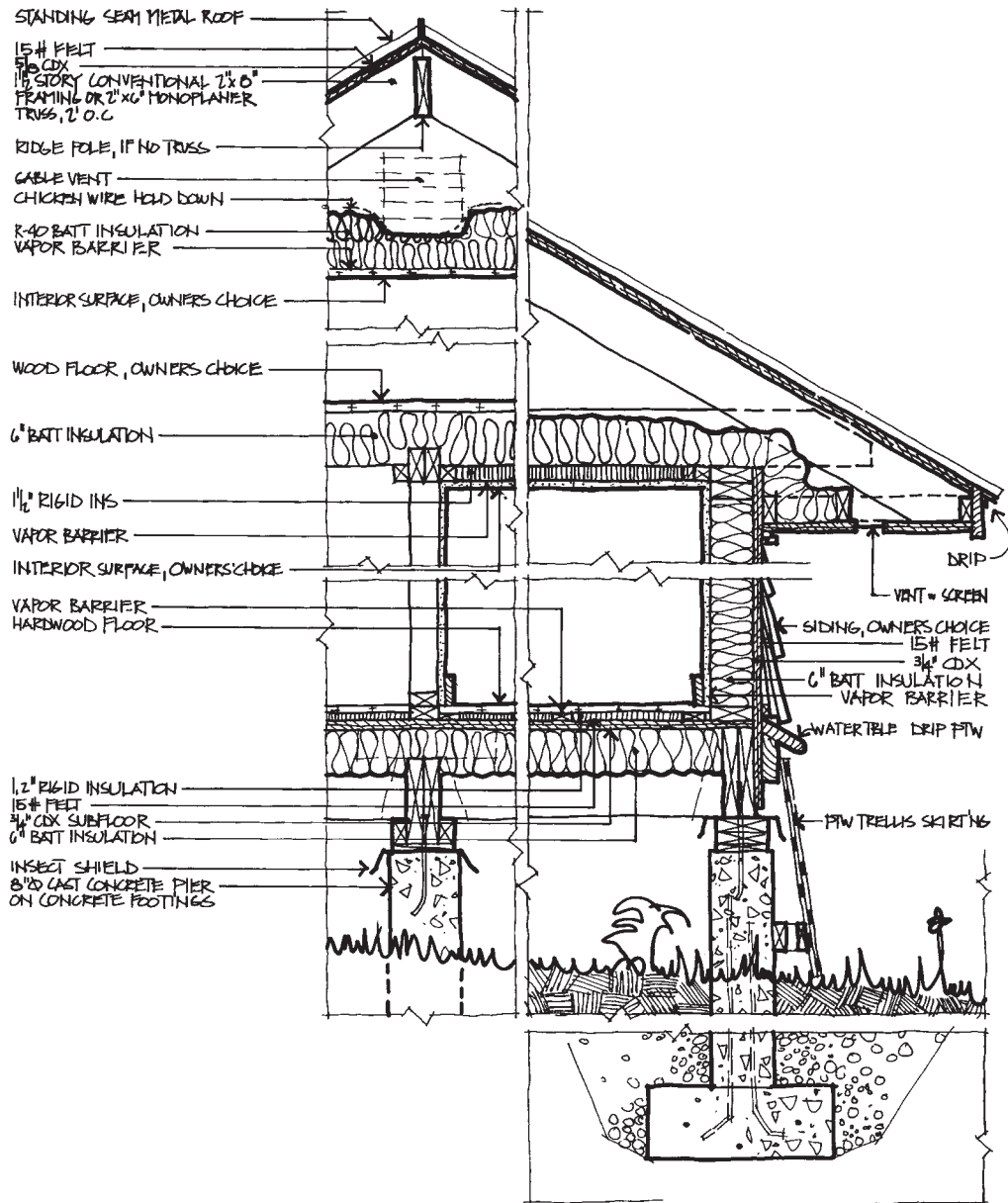
Section A-A



Section B-B



Section C-C



Wall Section

Urban Geometry

Dhaka, Bangladesh

1,050 gross square feet

This compact house is designed for a tropical climate, but it might be implemented with little modification anywhere in the world where justified by the site, access, orientation, etc.

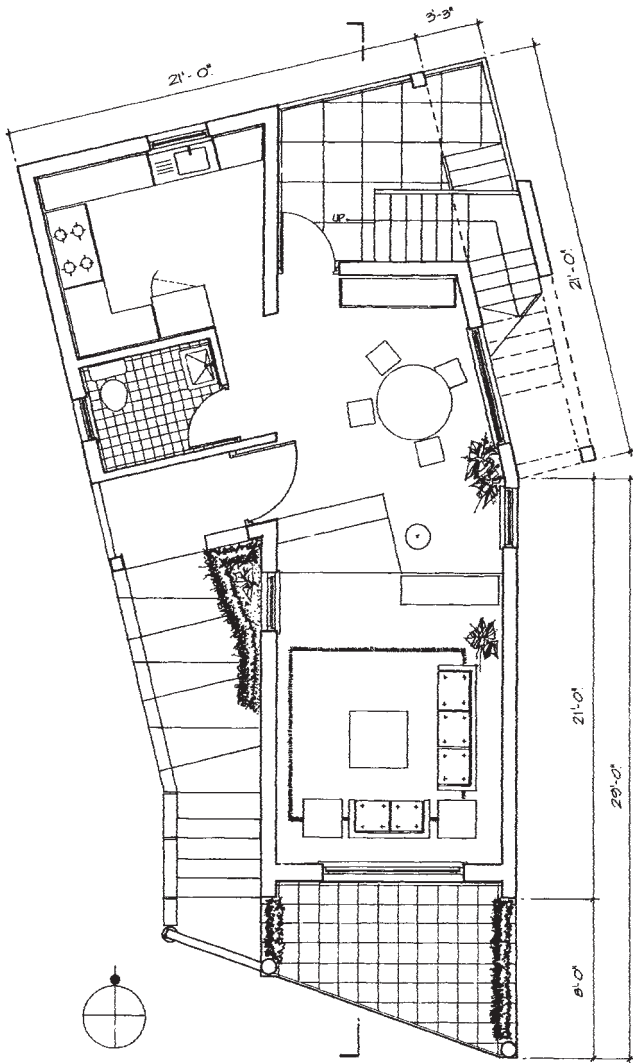
The elevations are simple geometric forms: a rectangle with a vaulted roof, a cube with a pitched roof, square openings, terraces, and an external stair make for varied perspectives from different angles. The whole building is framed by a free-standing column with beam, which creates a homogeneous facade in the urban context.

The most important aspects of this design are the interior circulation, the definition of space (private, semiprivate, public, etc.), and the sequence of space according to its function. The flow of space, the openness of the design, and the different levels create a cozy, intimate home environment.

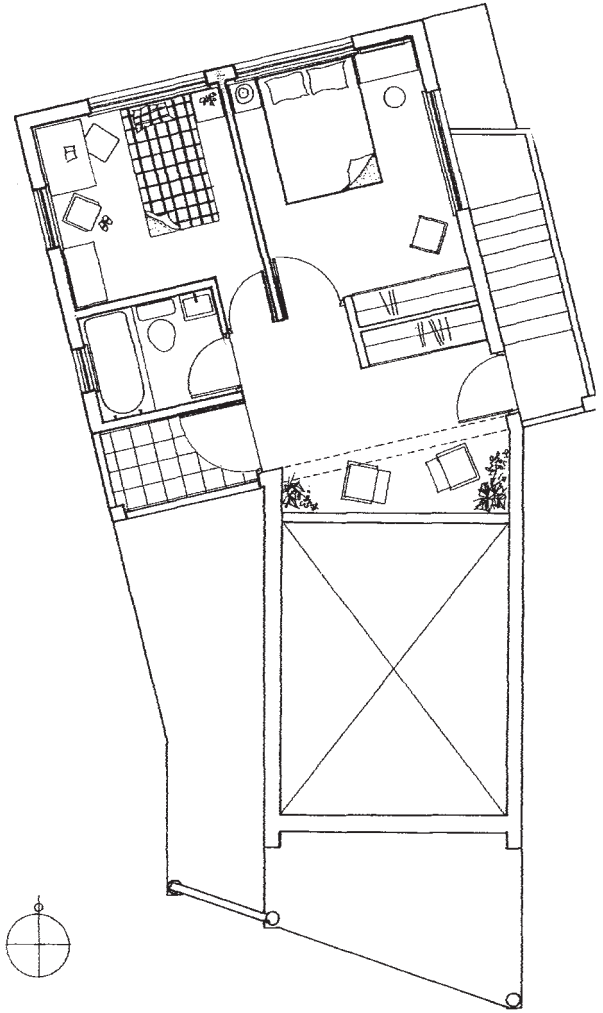
Atiqur Rahman



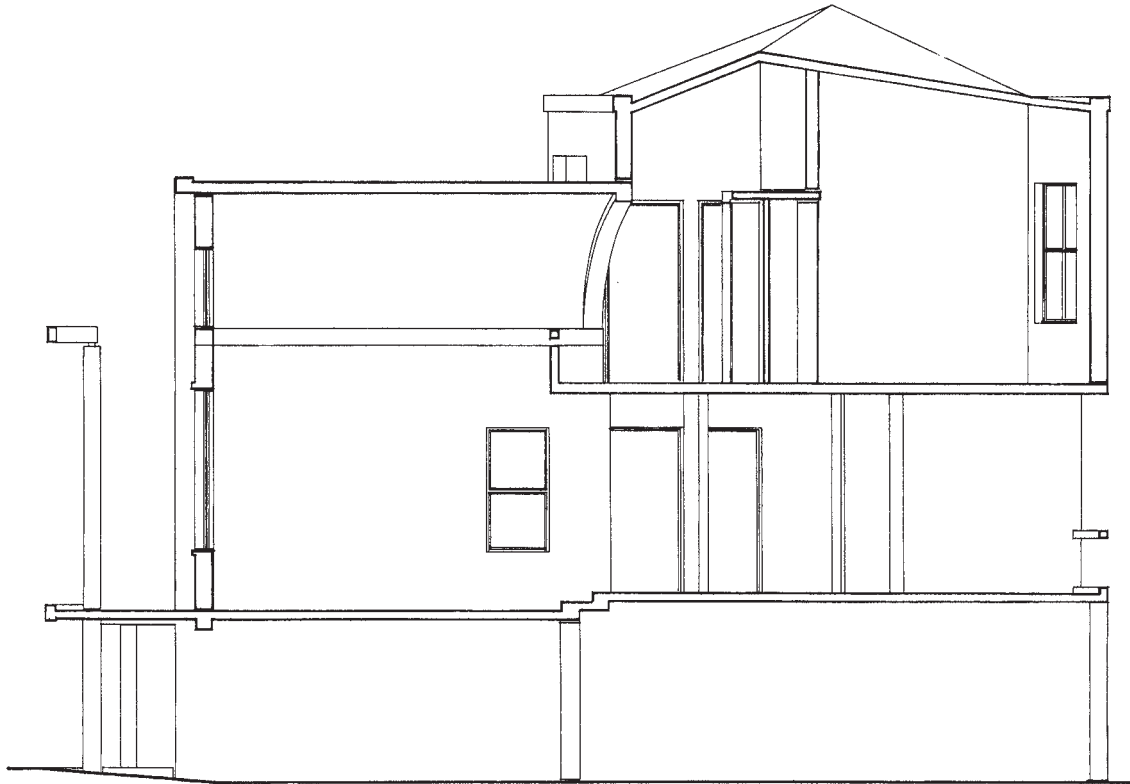
Perspective



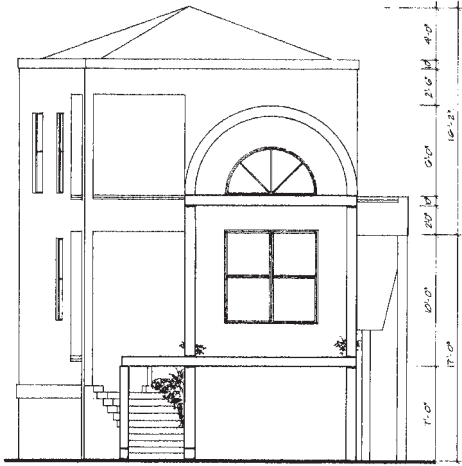
First Floor Plan



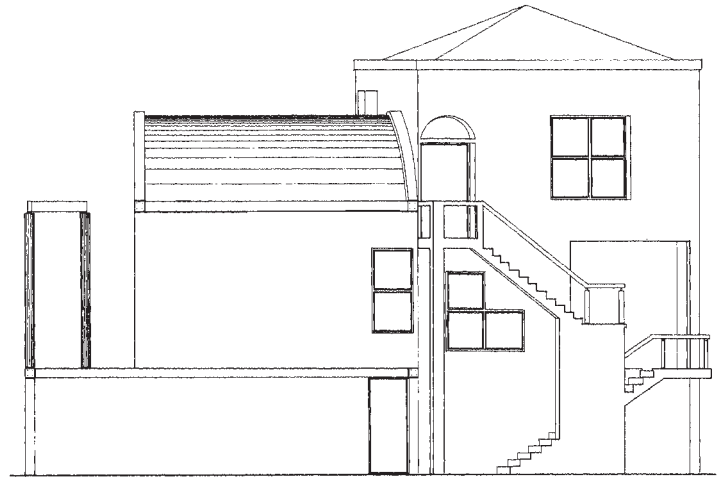
Second Floor Plan



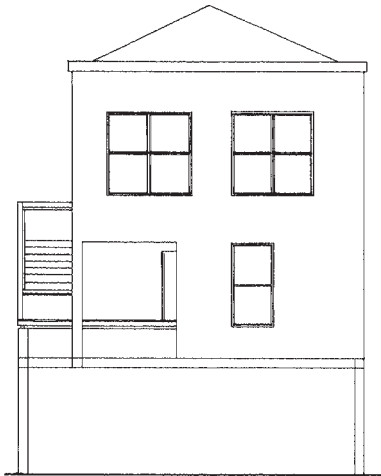
Section



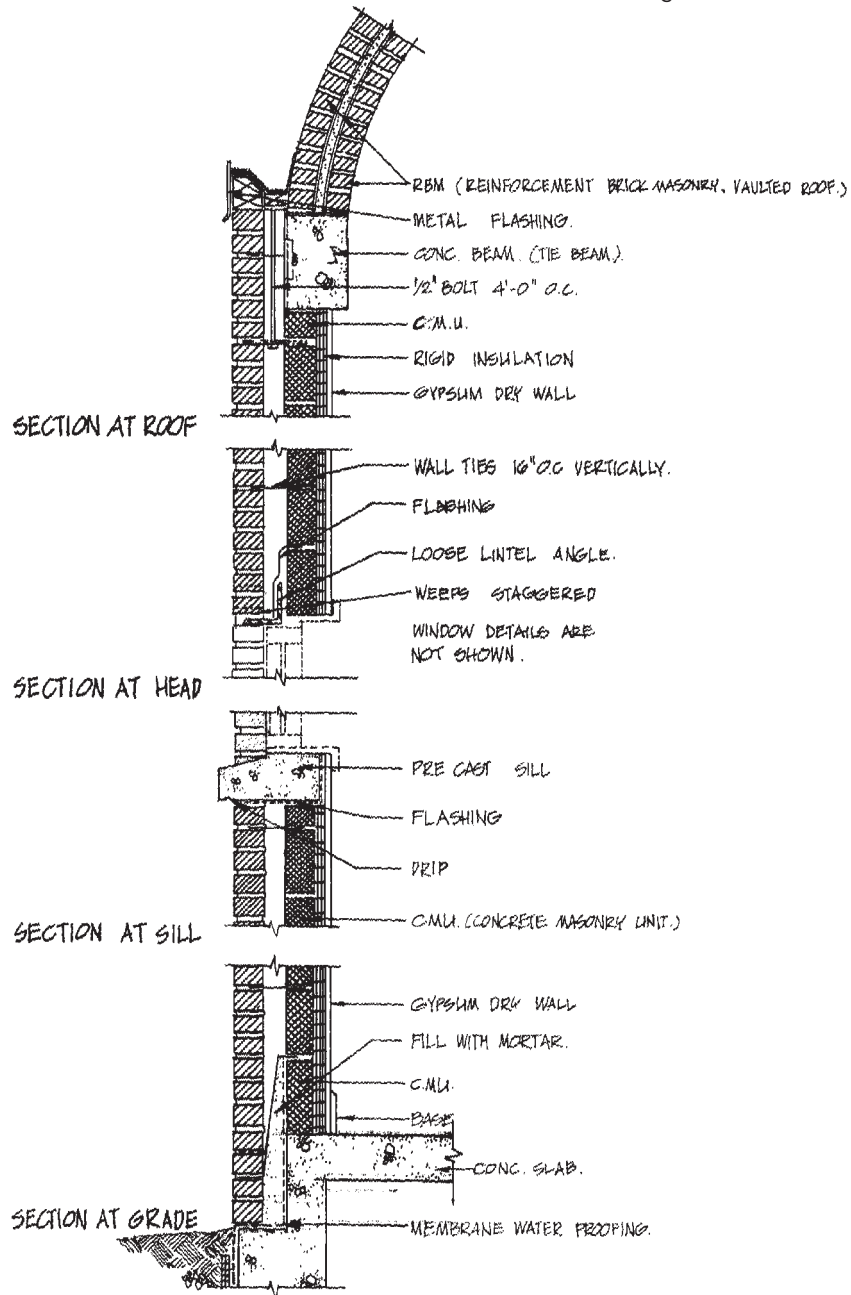
South Elevation



East Elevation



North Elevation



Wall Section

Pretty and Practical

Upper Peninsula, Michigan
1,250 (excluding basement and garage)

Approaching this house from the east, the expansive, linear porch suggests, not a “compact” house, but a large home. This initial perception is carried through the inside of the house with the manipulation of form and space. Through this

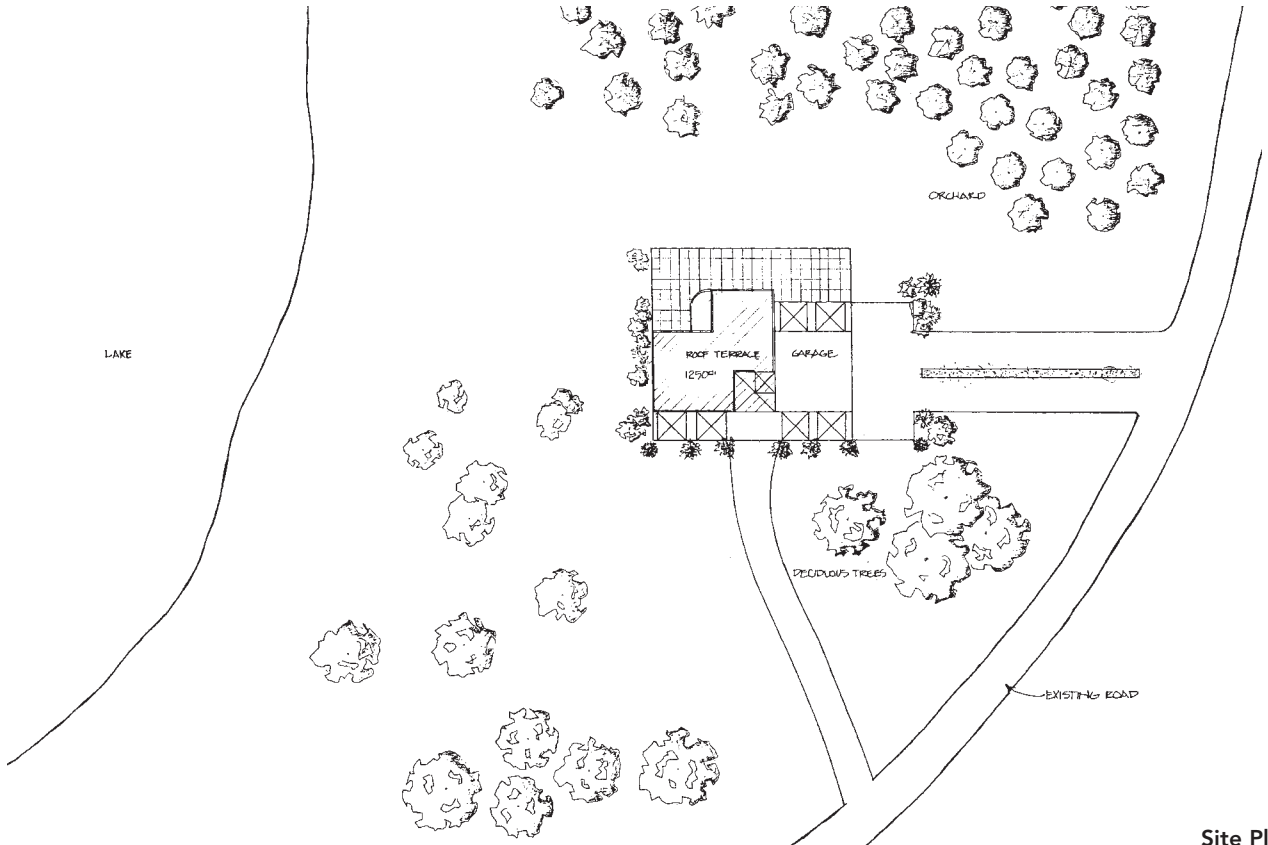
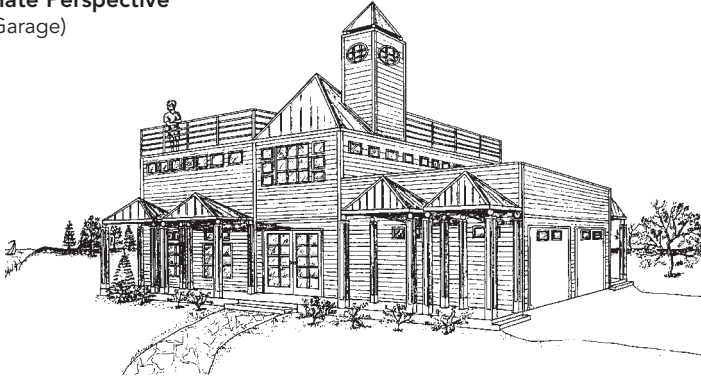
manipulation the “typical” compact house, often dominated (out of necessity) by function, becomes a creative integration of aesthetics with the functional, cost-saving requirements.

Lisa Raskin

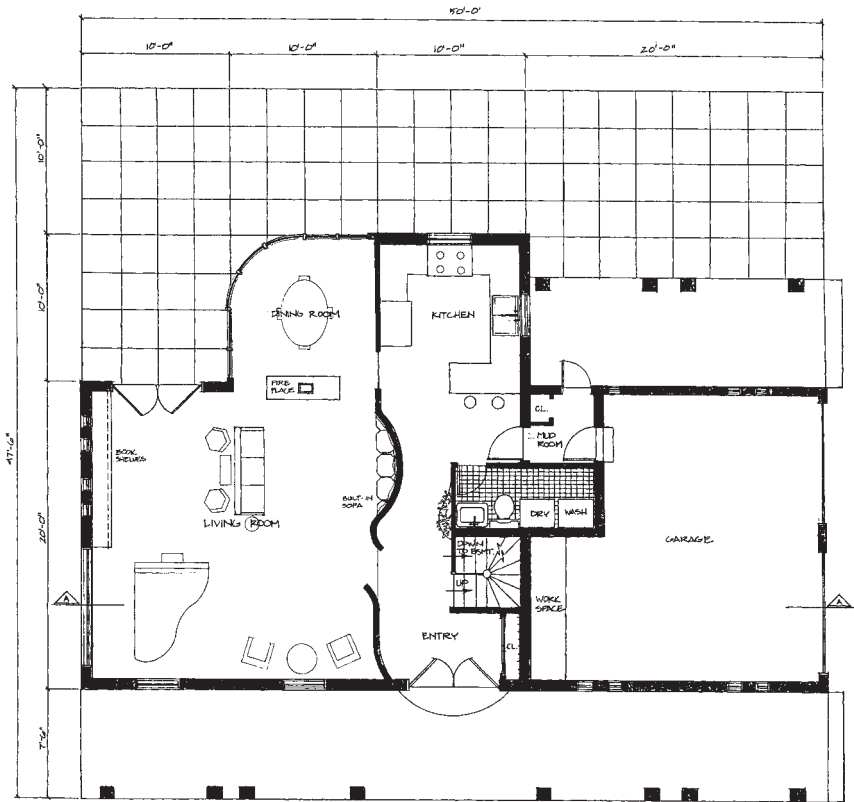


Perspective

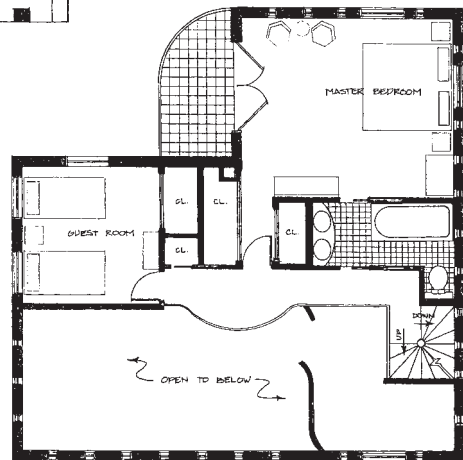
Alternate Perspective
(with Garage)



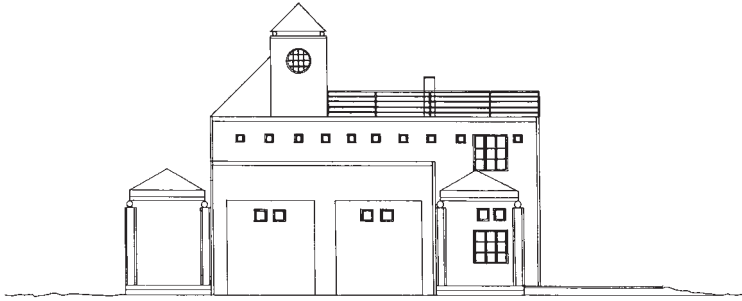
Site Plan



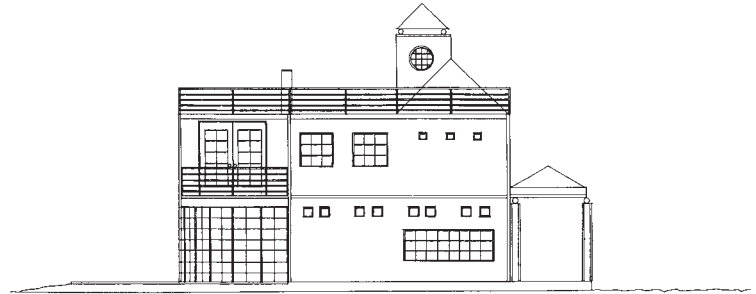
First Floor Plan



Second Floor Plan



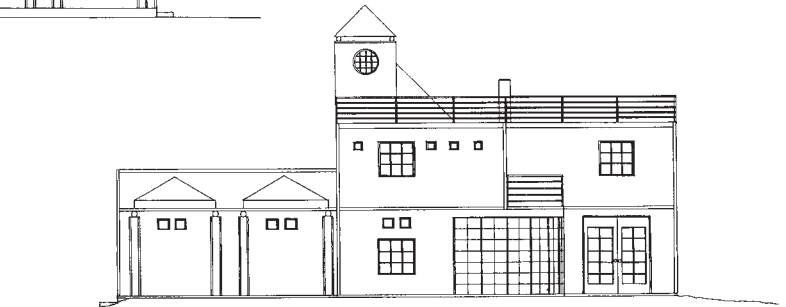
North Elevation



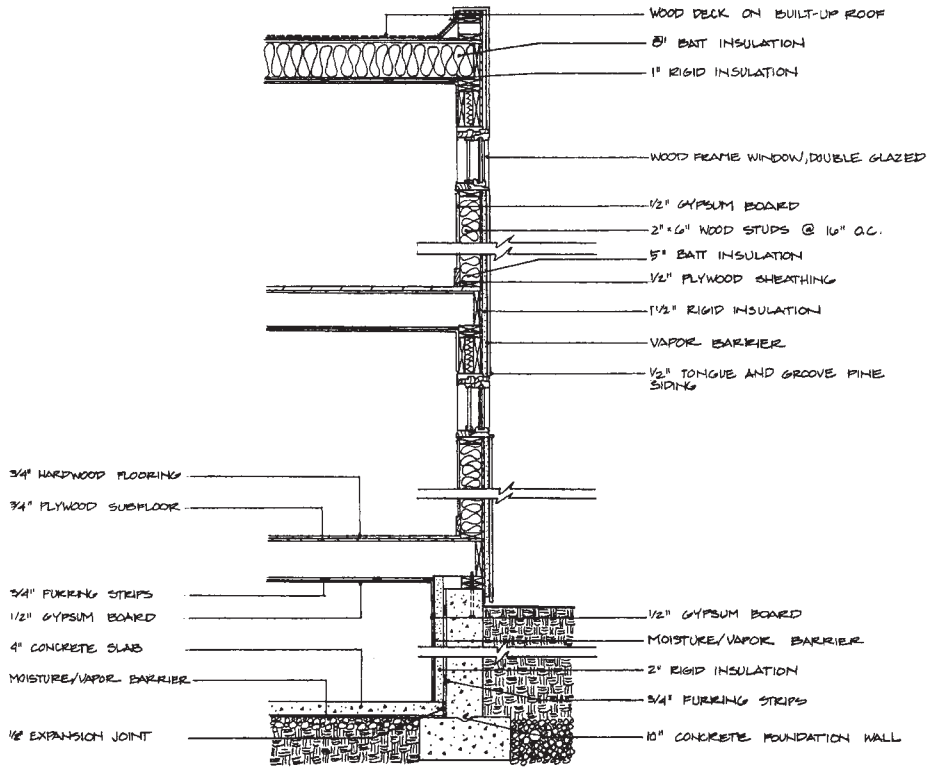
South Elevation



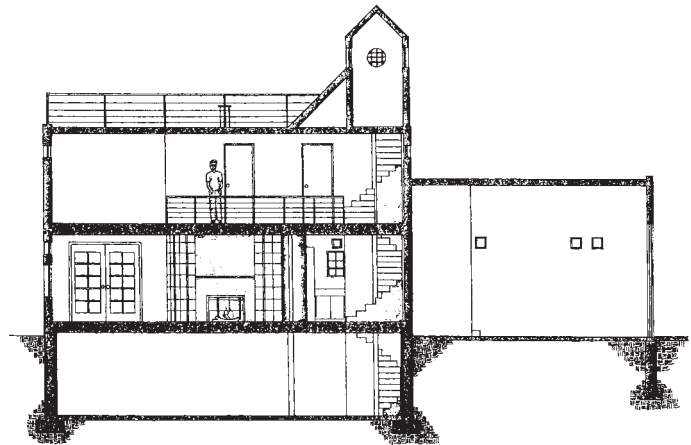
East Elevation



West Elevation



Wall Section



Modern Tudor

Suburbia

1,250 gross square feet

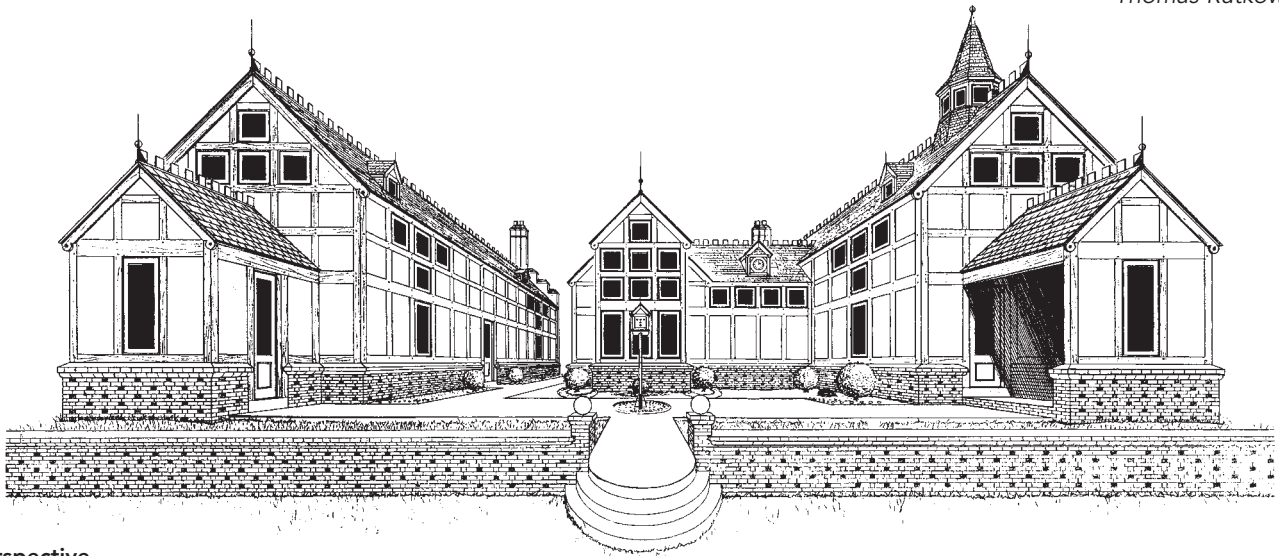
This compact house was designed to be sensitive to contemporary living, yet maintain traditional elegance at the same time. Though cottage-like, there's an aura of stateliness to the exterior appearance. Traditional materials such as brick, wood, and stucco are combined to form a contemporary timber-framed house. Contrary to traditional Tudor-style homes, which use heavy, dark timbers, this design uses timbers that are lighter, both in weight and color.

In keeping with the sophistication of the exterior, the interior projects a formal sense combined with casual living capabilities. Upon entering the house, you're greeted by a stair hall with a cathedral ceiling and a balcony

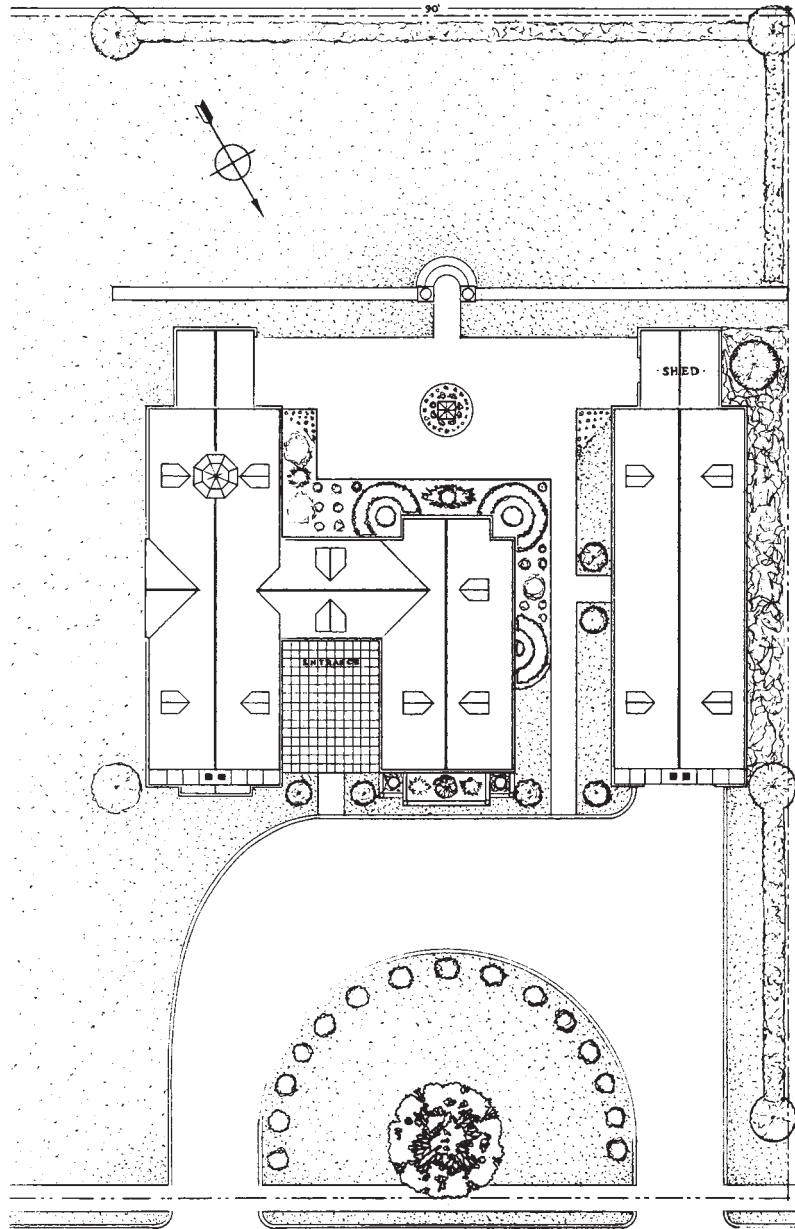
overlook. From here, a narrow passageway opens up into a large living area. The primary living space is comprised of the living room, dining room, and kitchen—all of which contribute to a spacious "great room" atmosphere since there are no partition walls.

Upstairs, a loft hallway looks down on the grand living room fireplace. The second-floor bedroom is cozy with clipped ceilings leading to an octagonal lookout cupola. The master bedroom and bath are richly proportioned with high ceilings, generous storage, and large floor space. The compact house offers the characteristics of a large home with the intimacy of a smaller one.

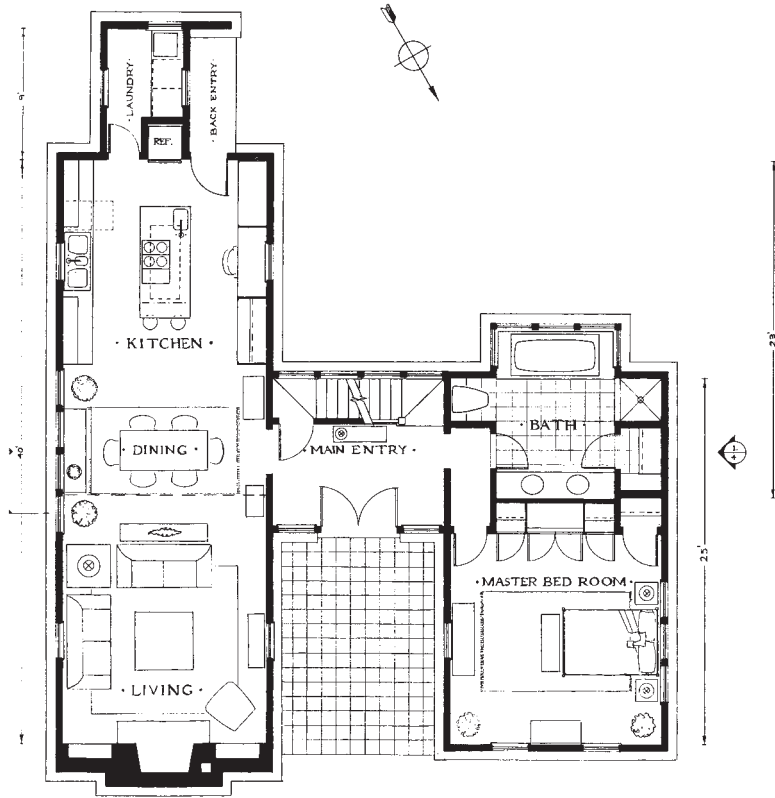
Thomas Rutkowski



Perspective

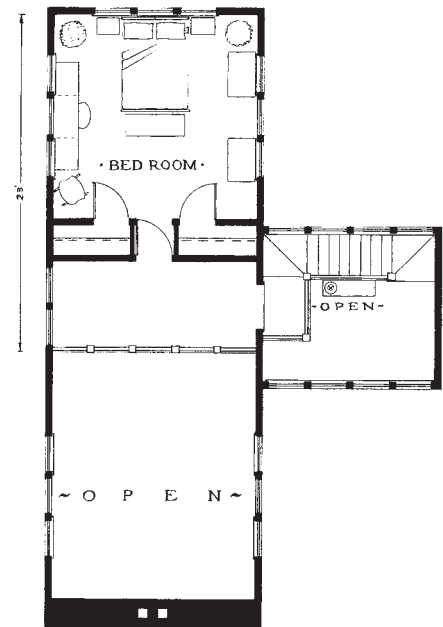


Site Plan

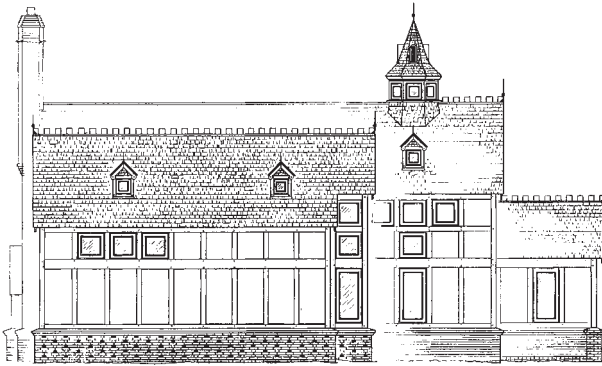


First Floor Plan

Second Floor Plan



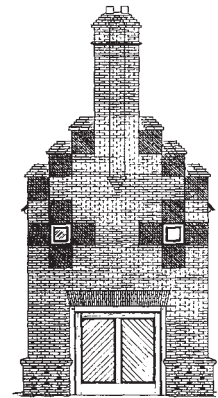
Modern Tudor



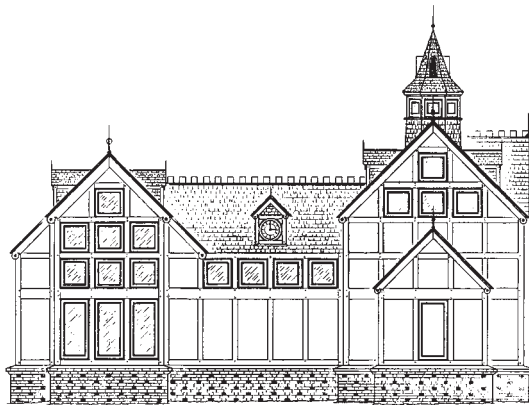
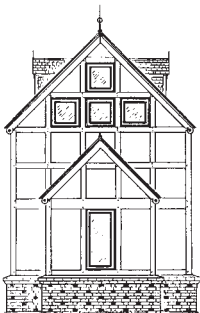
Side Elevation 1



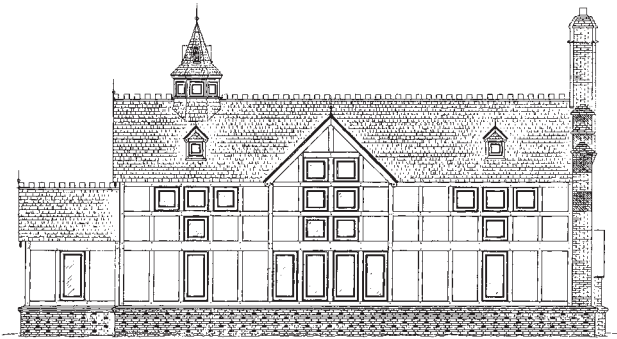
Front Elevation



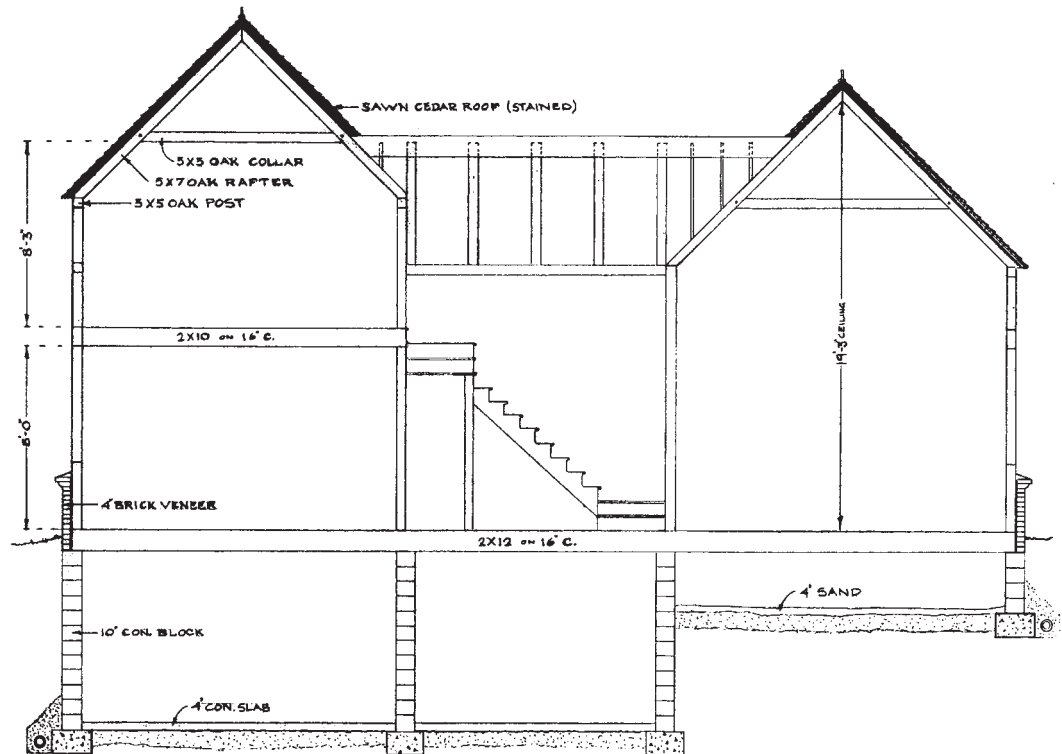
Optional Garage
with Studio Above



Rear Elevation



Side Elevation 2



Section

Ecology House

North America

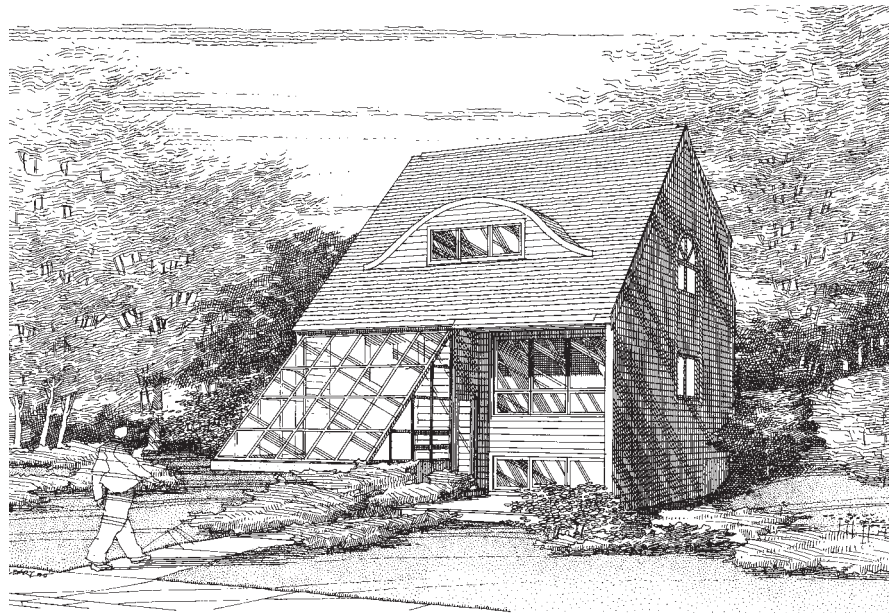
1,035 gross square feet (plus 162 sq. ft. greenhouse)

The Ecology House design is a plan designed in collaboration with the New Alchemy Institute of East Falmouth, Massachusetts, as an affordable “starter home” that is energy-efficient and environmentally wise.

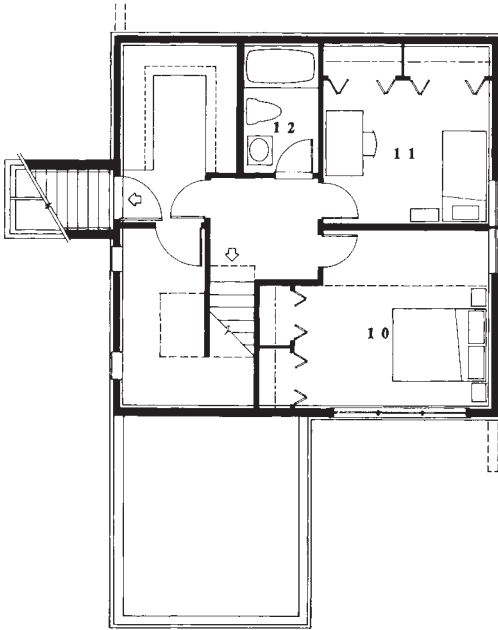
The home is designed for maximum energy efficiency for North American temperate and cold climates (above 40° latitude). Energy-efficient specifications include high insulation standards, south-facing windows and greenhouse, and an optional solar hot water system. The double-height living room and open stair provide a simple means by which solar heat is distributed throughout the house. Clerestory windows allow winter sun to reach throughout the interior. The south-facing windows are shaded in summer.

The plan allows three options for arranging the living, dining, and kitchen areas, either as separate areas or combined as a “great room.” The greenhouse option—also earth-bermed—provides space for an interior working garden or a sun room/family room. Outside the greenhouse is a wind-protected sun patio. The design is easily adapted to flat or sloped sites and can also be used with attached housing in duplex and triplex arrangements.

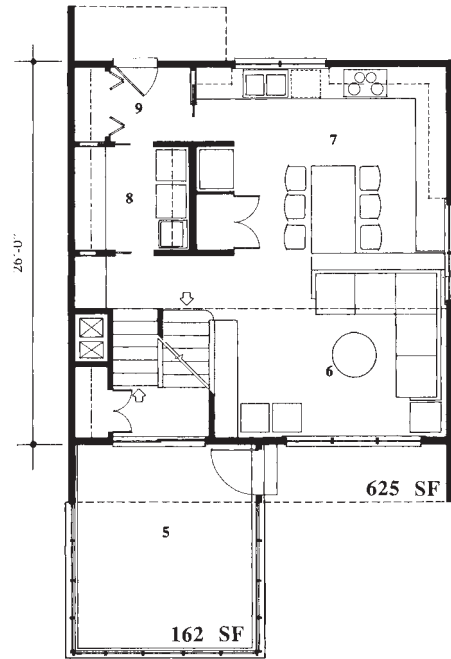
Donald Watson



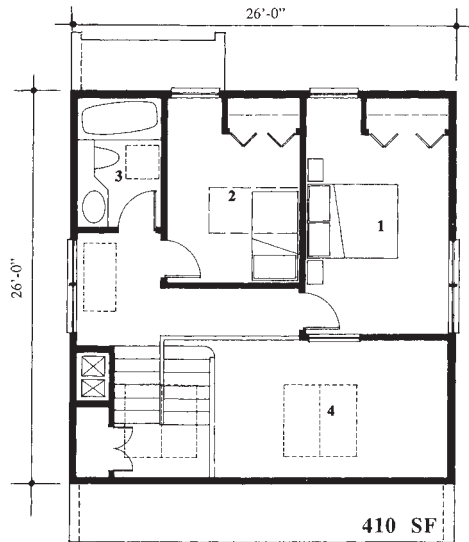
Perspective



Basement Plan (Future Options)

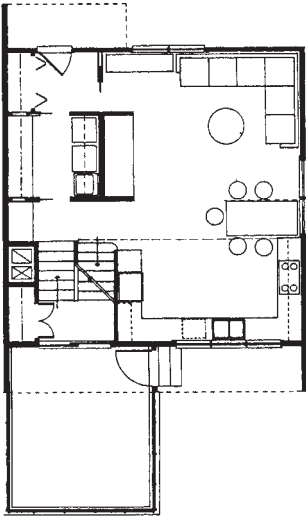


First Floor Plan

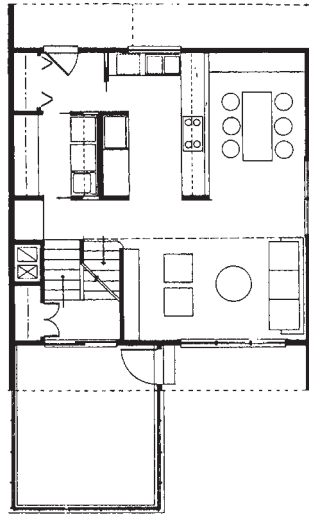


Second Floor Plan

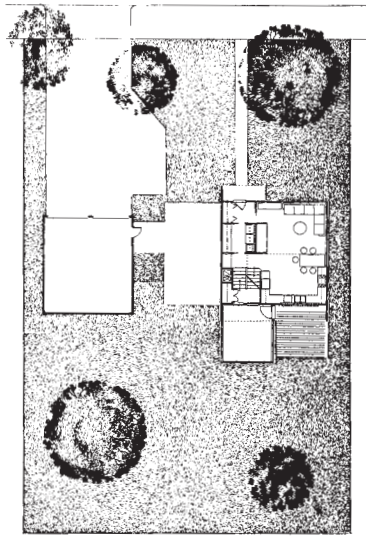
Ecology House



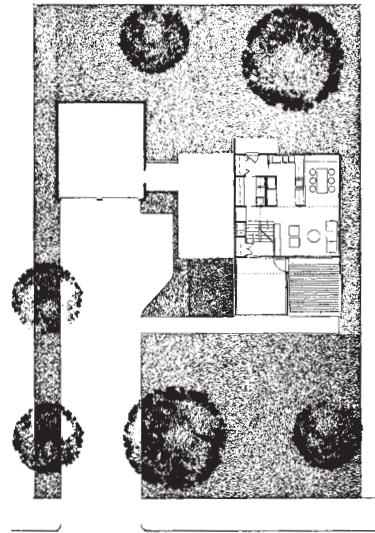
Plan Option
(Kitchen on South)



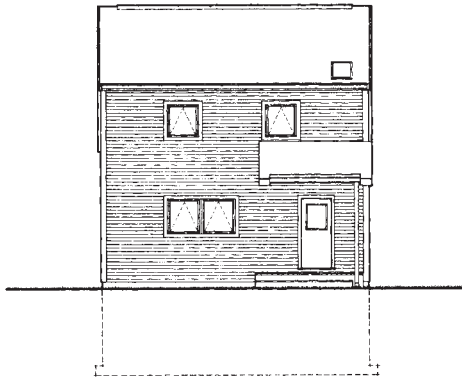
Plan Option
(Kitchen and Dining)



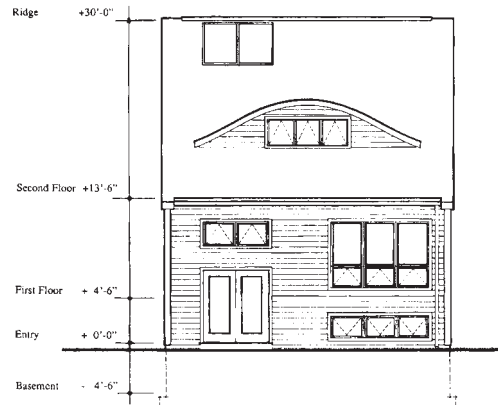
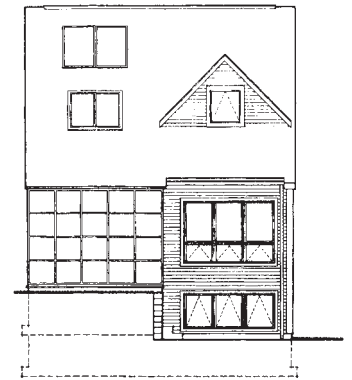
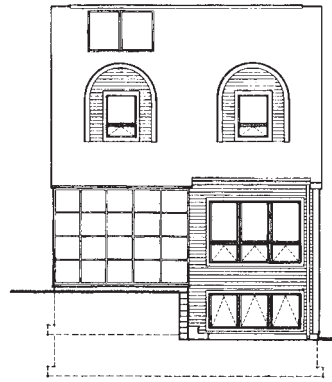
Site Options/Street to North



Site Options/Street to South

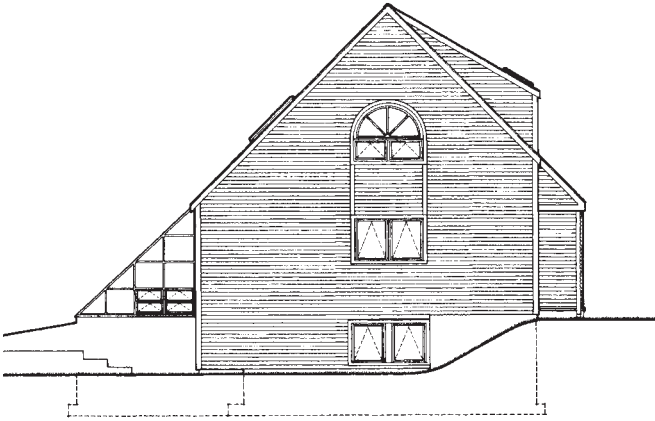


North Elevation

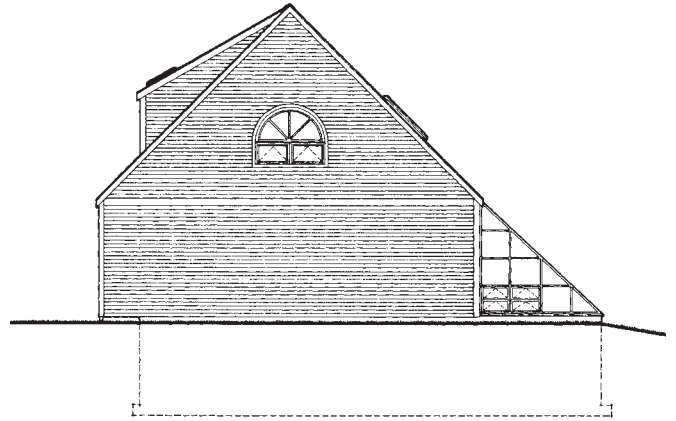


South Elevation
(Various Options)

Ecology House



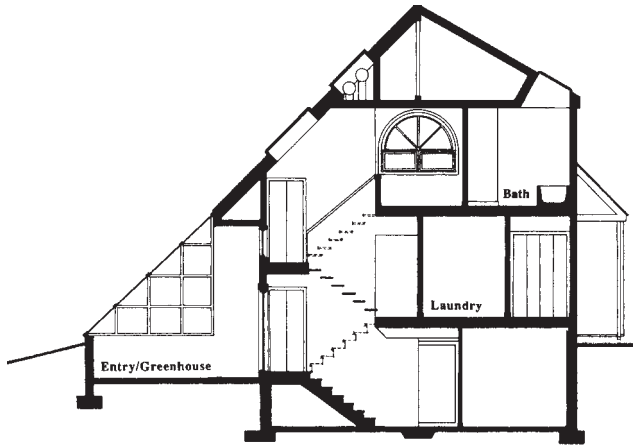
East Elevation



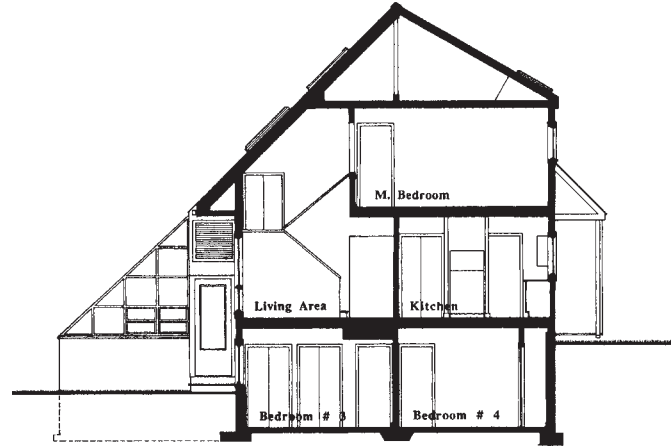
West Elevation



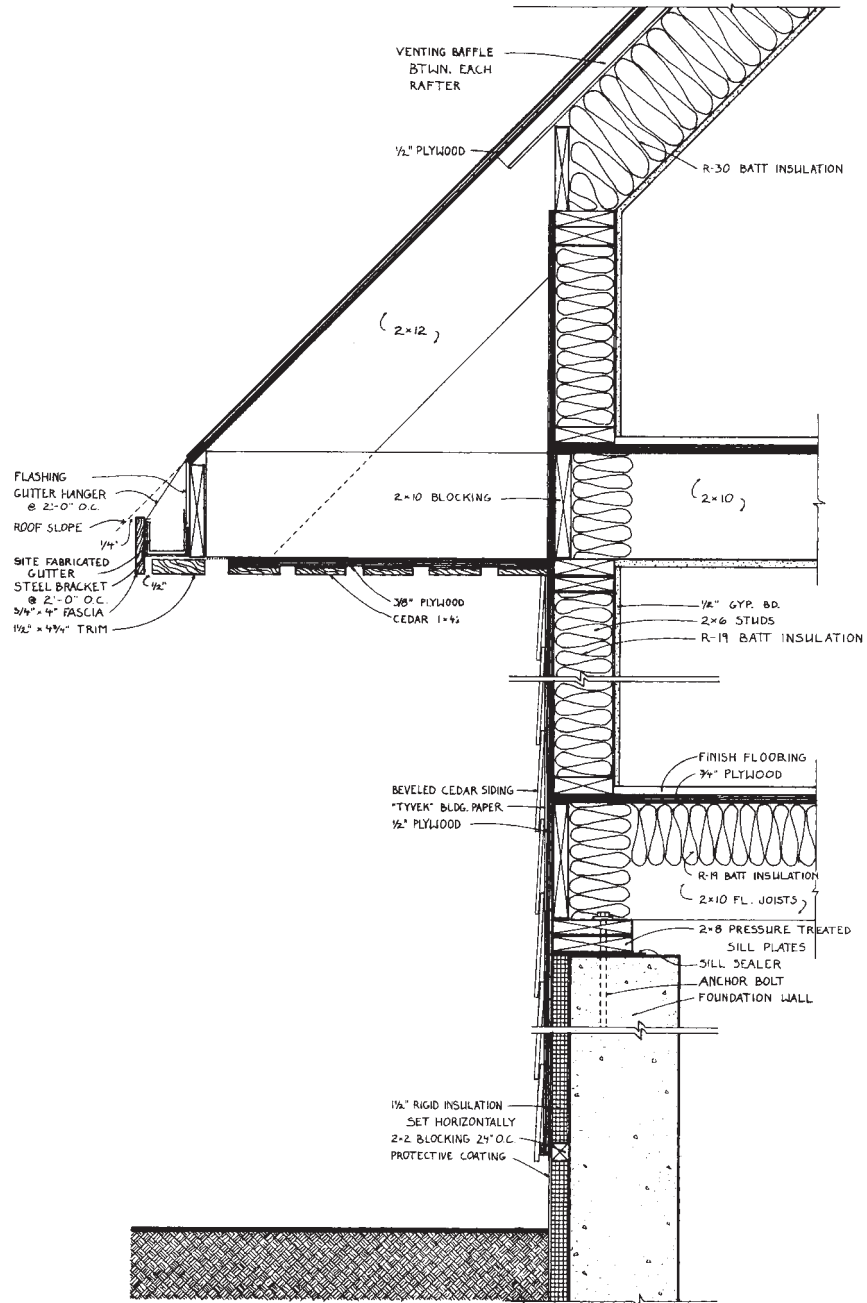
Multi-Family Option (Attached)



Section through Stairwell



Section through Living Room/Kitchen



Wall Section

Key West Cottage

Key West, Florida
801 gross square feet

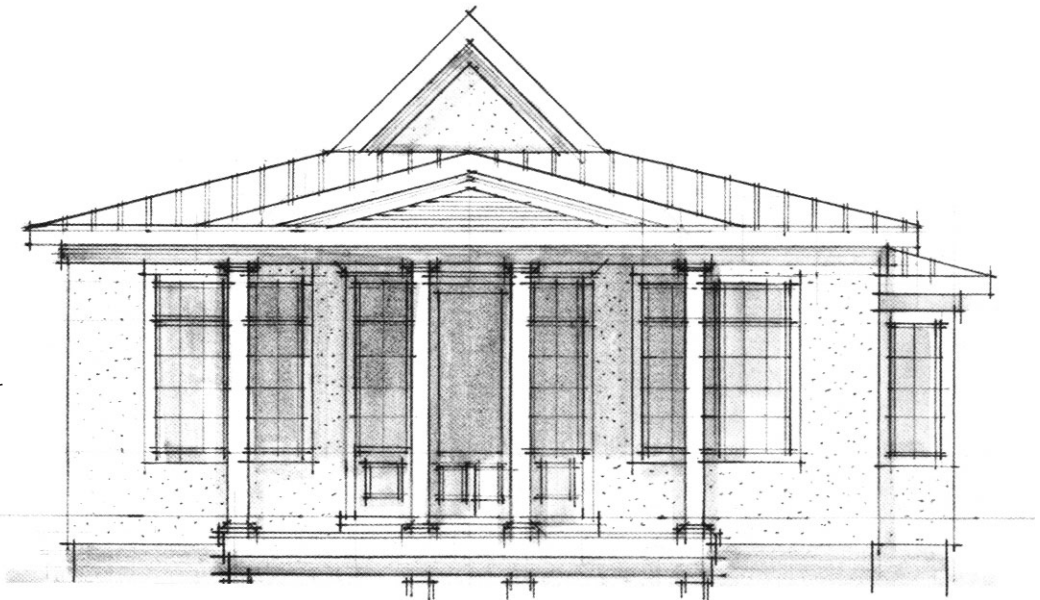
This was first inspired ten years ago when I was designing a series of cottages for a Bermuda development. Over the years various versions of this plan have sparked the interest of clients from all parts of North America. Full access front and rear, a bungalow styling, and open living areas make the cottage fit right into most landscapes. For a small building it has an interesting and functional layout.

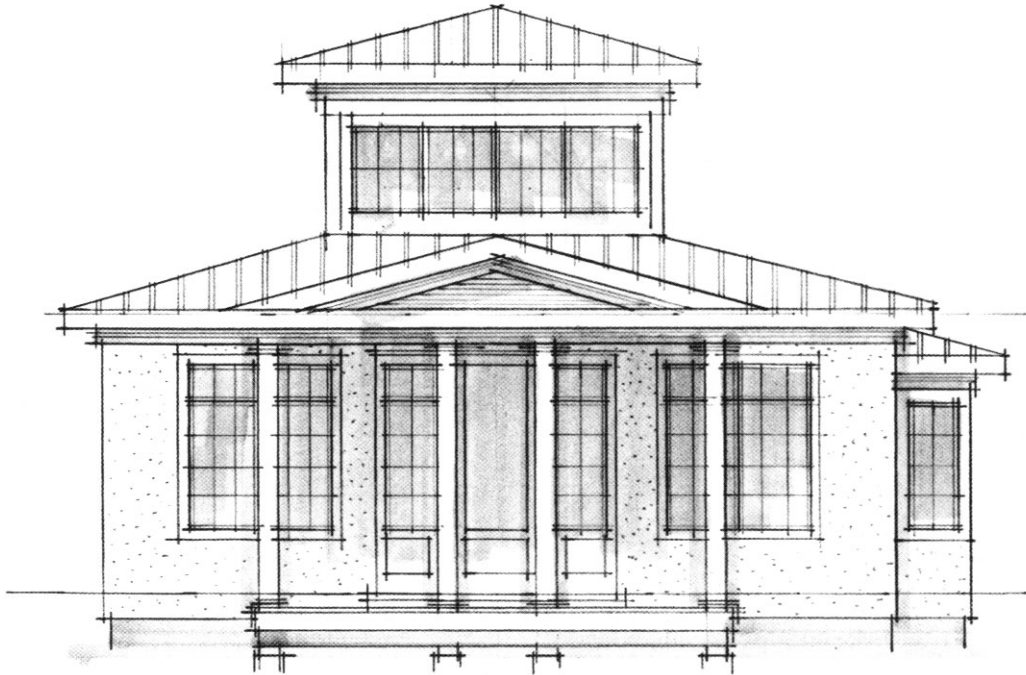
In any project, my goal is to develop a plan to meet the cultural, personal, and financial requirements of the client. The same floor plan can have many different outcomes in the elevations. With this plan I've provided two alternate possible elevations.

Catherine Tredway

Front Elevation Features, Alternative "A"

- Palladian-style front porch
- Hip-style metal roof
- Nine-foot ceiling on main floor
- Generous glazing with transom windows

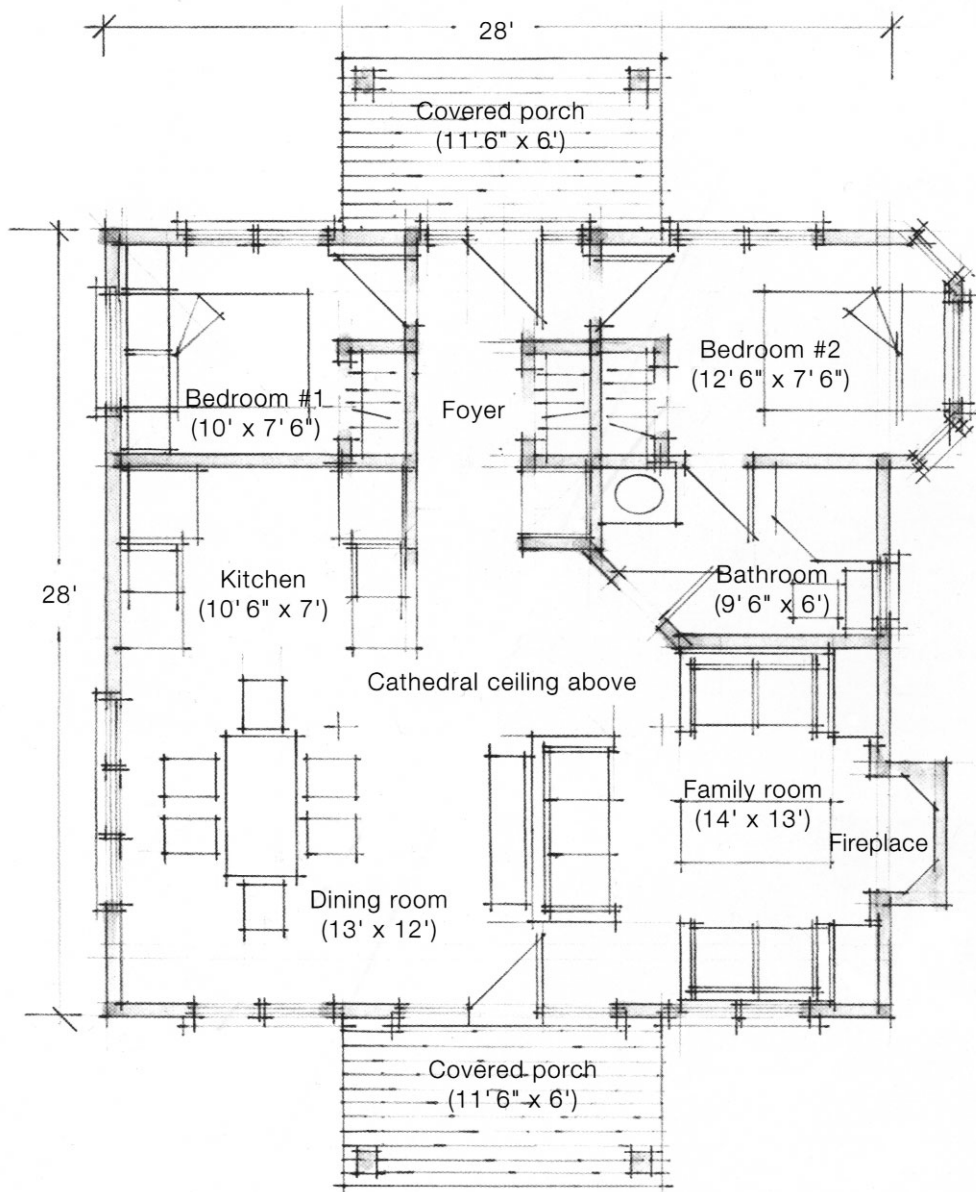




Front Elevation Features, Alternative "B"

- Lookout tower from second-floor loft
- Coastal detailing
- Square columns on optional screened porch
- Clapboard or stucco siding

General Features



Floor Plan

Desert Oasis

Taos, New Mexico

1,088 gross square feet

This cottage is a result of a trip I took to New Mexico a few years ago. I was taken with the purity of adobe structures. The buildings I saw—all set against the fleshy local sand, turquoise sky, and local brown barks—embodied a perfect marriage between built and natural things. Besides that, I just love homes where the inside spills to the outside with lush garden terraces, colorful pottery, and textiles hanging out to air.

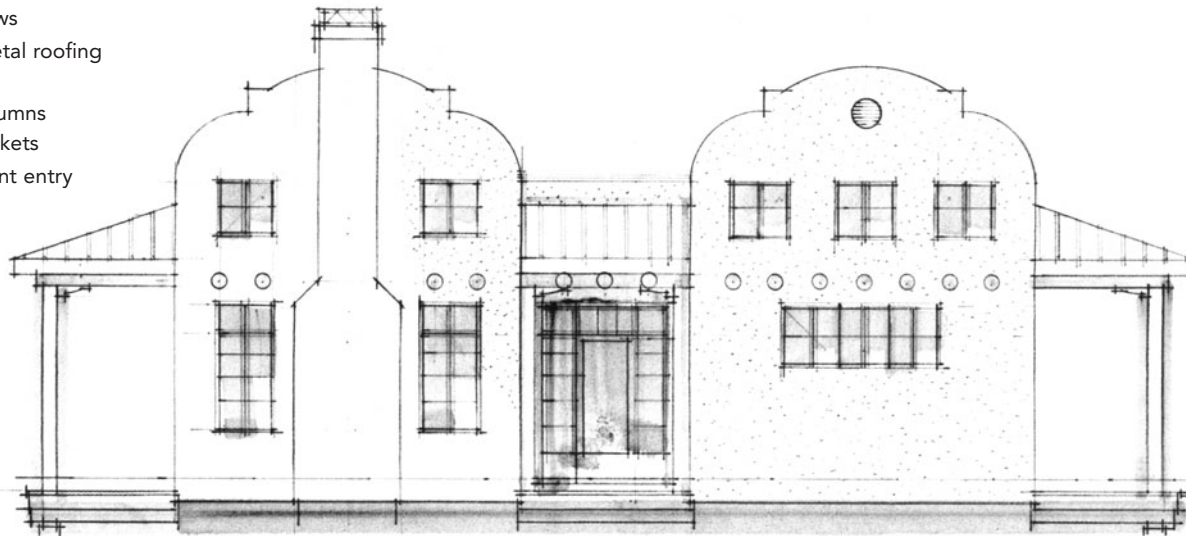
This design is inspired by the adobe method, but it could easily be built with more conventional materials. The cottage breaks down distinctions between indoors and out with its multiple French doors, its porches, and its private garden terrace. A fireplace or kiva forms the centerpiece of the open living/dining areas.

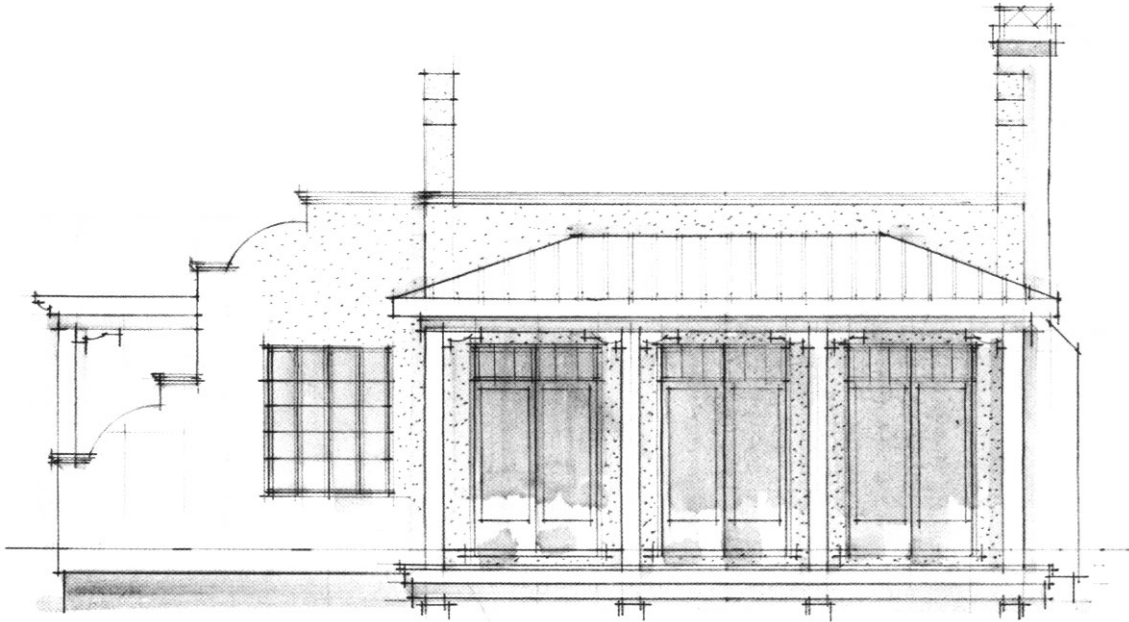
I envision high ceilings with round, rough-hewn logs stained white. Saltillo tiles and sisal rugs would cover the floor for an earthy finish.

Catherine Tredway

Front Elevation Features

- Round log detailing
- Decorative upper feature windows
- Galvanized metal roofing on all porches
- Round log columns with bold brackets
- Decorative front entry

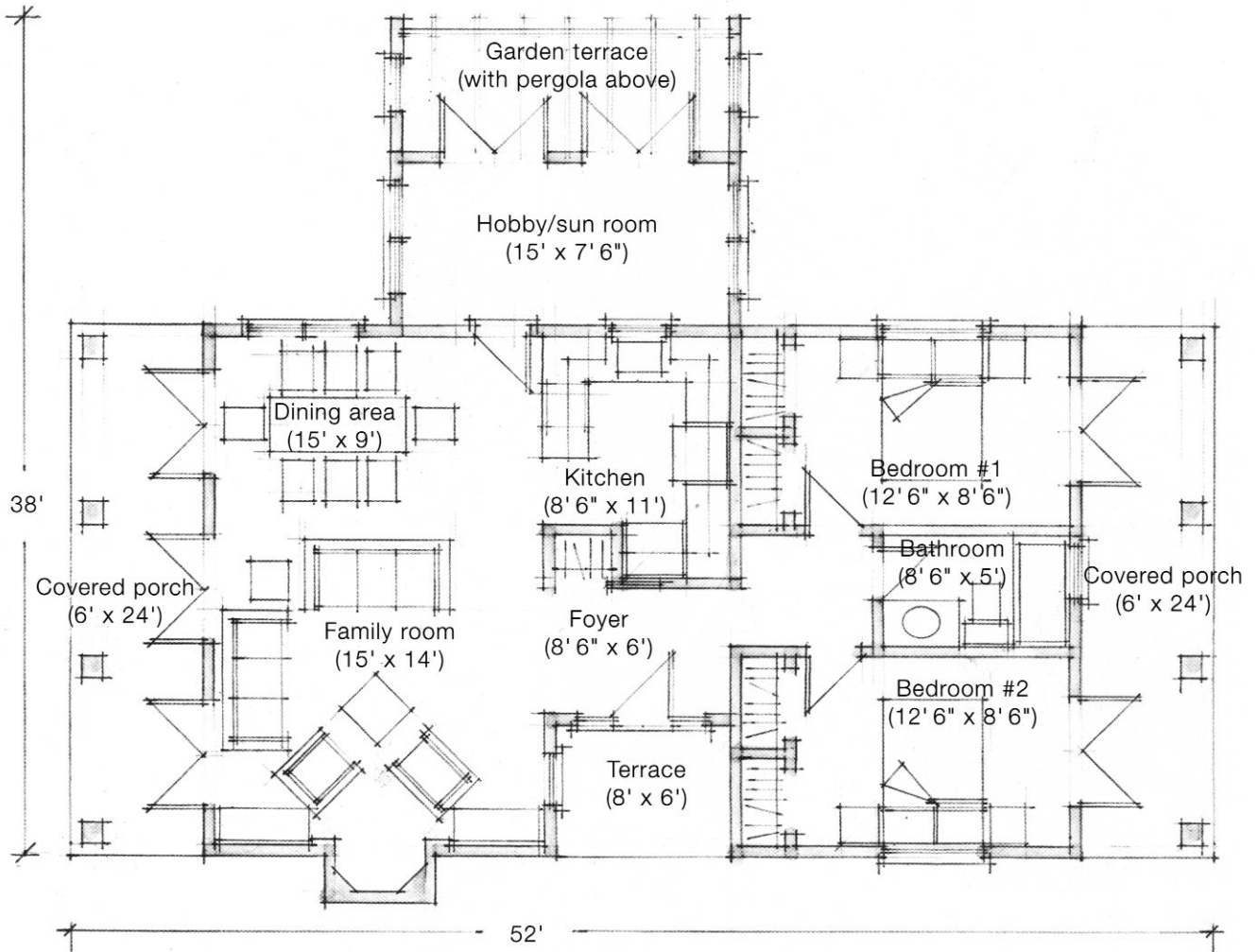




Left Elevation Features

- Full porches front and rear
- Rustic detailing with round raw columns and simple brackets
- Finely detailed transition in terrace area with matching pergola
- High ceilings for transoms above all windows
- Earth tone finishes in stucco or adobe
- Cedar decking

General Features



Floor Plan

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