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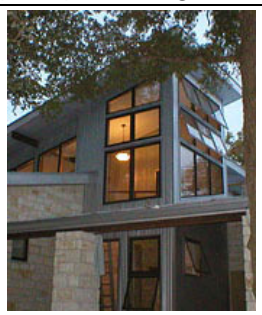
SMITH-ZIMMERMAN RESIDENCE PROJECT PROFILE



GENERAL DATA:

PROJECT WEB SITE: https://www.moonmountaingroup.com/home/

All photos and web site development were created by the Owners, Herb Smith and Susan Zimmerman.

LOCATION: BLANCO RIVER FRONT LOT, WEST OF WIMBERLEY, HAYS COUNTY, TEXAS
TOTAL PROJECT AREA: 5,278 SQ. FT.
HEATED AREA: 2,318 SQ. FT.

Multi-level, industrial contemporary design featuring a modern interpretation of the traditional Texas Hill Country "Dog Run" entrance, with stacked stairways for access to all levels.
3 Bedrooms, 3 full baths, Office.
Great room including kitchen and dining.
Carport with adjacent workshop.
Extensive outdoor decks, patios, planters.
Rainwater collection system

SITE PLANNING:

A narrow, restricted access riverfront lot on the Blanco River with heavy tree cover dictated the vehicular access to the building. Site access is by a shared concrete ramp, too steep for large trucks and equipment to navigate. The river side faces due southeast with over a mile of un-buildable flood plain beyond. The 100-year flood plain elevation was determined using a GPS survey. The main level is raised 2 feet above this elevation.

DESIGN FEATURES:

The site's narrow dimensions dictated a vertical design solution. The restricted long distance sight lines to the south-east led to a layout that required interior spaces along the north side of the house to view across the major rooms aligned with the river. At my suggestion, the Owners studied and referred extensively to the book "A Pattern Language" in defining the program for their house.

Prevailing southeast breezes wash over the river and the entire southeast deck and living spaces with pleasant breezes in the warmer months of the year. The site abuts a steep hillside on the north, which helps protect the site from northern cold fronts in the cooler times of the year. The "dog run" entrance is aligned southeast to northwest and is designed to pull ventilation from the entire structure to assist with natural cooling by thermal chimney effect.

Insulated concrete walls and steel superstructure provide sheer structural strength and mass to the building. The ICF walls go all the way to grade to enclose the spaces below the main level to protect the structure from rapid water rises the site periodically experiences. The basement space contains the lift station holding tanks for the rainwater collection system.

Designed for low to zero maintenance: Exterior materials consist of concrete, native limestone, galvalume coated steel, glass and Ipe wood decks – painted surfaces consist of exposed structural steel beams most of which are protected from the weather. Interior finishes consist of stained concrete, cork and linoleum floors, clear coated pine trim, door and window trim, low VOC painted drywall, tile in baths, concrete counter tops.

Exterior doors & windows: Aluminum clad awning, casement and fixed windows; clad slider and swinging doors.

Careful consideration was given to the placement of all windows to promote natural ventilation of the house.

STRUCTURAL COMPONENTS:

Foundation: Monolithic concrete perimeter beams and column pads on grade.
Main floor: 2 1/2" concrete over Vulcraft decking and bar joists.
Exterior walls: 6" core ICE Block insulated concrete forms @ grade up to main level, light gauge Berridge Space Frame prefabricated steel stud panels @ upper levels.
Interior walls: Light gauge Berridge Space Frame prefabricated steel stud panels.
Ceiling insulating panels: EPS foam panels installed between the webs of TJI engineered wood I joist rafters.
Structural beams, deck framing: Wide flange steel beams, 16 gauge "C" joists.
Roof structure: TJI rafters over heated spaces, steel framing over unheated areas.
Roof decking: 5/8" plywood radiant barrier roof decking.

MECHANICAL SYSTEMS:

Air Conditioning system: (3) zone 2 speed 14.0 SEER rated heat pump systems with thermidistat controls. The system runs on low speed most of the time, but will increase capacity when occupant load increases.

Hot water heating system: 85% efficient gas water heater provides domestic hot water.

WATER SYSTEM:






Water supply and wastewater disposal are critical issues in this part of Texas. The Owners are committed to conservation in resources, energy and water.

Water Supply: Rainwater is collected from all of the roof area of the building. The collected water is piped from around the complex to a lift station under the main level on the south-east side of the house. Unique German-made roof washer / leaf filters prevent large debris from entering the 3,000 gallon lift station tanks. The tanks provide enough intermittent storage capacity to receive and hold periodic bursts of rainfall to allow the transfer pump to operate at its rated capacity without losing water to overflow. The transfer pump moves the collected water uphill through a sand filter. The collected rainwater is then stored in a 15,000 gallon fiberglass cistern. The stored water is pressurized and sanitized at the house for domestic use.

The existing water well is used is used for irrigation and also provides a back-up indoor water supply if necessary.

Septic System: A standard absorption septic system disposes the waste water.