

# The Hillside Fourplex Housing Demonstration

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To encourage home designs that would provide quality housing at affordable prices, HUD, in 1980, sponsored a design competition entitled "Building Value into Housing." Of the 285 designs submitted, 19 were selected as winners. The Hillside Fourplex, designed by AHEA member Homer T. Hurst, was one of these winners.

Structurally, the two and one-half story building offers innovative alternatives to conventional building methods. Its walls are constructed of rough sawn 1" x 6" studs spaced 16" on center. Floors of 3" concrete on steel decking act as solar storage mass and are supported by rough sawn 1" x 10" joints spliced to form continuous beams.

The large south facing glass areas admit sunlight for direct heat gain during winter, while adjustable exterior shades offer summertime protection. The north elevation windows, exposed to winter winds, are appropriately reduced in number and size. To avoid the negative effects of both seasonal extremes, east and west faces are completely free of windows.

The four living units, consisting of two, two-bedroom and two duplex four-bedroom versions,

are arranged with "daytime" spaces along the southern exposure, where views and direct heat gain are most important. Clustering of baths and kitchens permit use of one economical plumbing wall to serve all four units. Each living unit has its own remote entry to maximize personal privacy. Family and living rooms can be interchangeably located.

Housing resulting from this design is expected to be worth much more than its costs for two reasons: (1) Special attention has been given to livability and desirability by large numbers of people who no longer can afford typical single family housing; and (2) Cost-effectiveness and value engineering have been achieved in many ways, initially and throughout the life-cycle of each building resulting from the design. Each unit has adequate, if not liberal, inside and outside living space with a high degree of storage.

Cost-effectiveness is achieved initially by the (1) compactness of the building, both vertically and horizontally, (2) concentration of plumbing and mechanical parts, and (3) integration of a building system that eliminates over half of the structural materials normally required in conventional construction while facilitating heat distribution by gravity and convective forces.

Operational cost-effectiveness is achieved by building each house to (1) conserve energy and (2) utilize solar energy, passively, to provide up to 40 percent of the space heat requirement. Energy conservation is accomplished by (1) eliminating windows on the east and west ends, (2) mini-

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mizing window area on the north side, and (3) thoroughly sealing and insulating against air infiltration and radiant heat loss.

The Hillside Fourplex project is a unique opportunity for product suppliers, manufacturers, and educators interested in emerging structural, mechanical, and interior environment concepts to participate in a national housing demonstration. The project also offers participation and educational opportunities to planners, zoning officials, builders, building officials, housing commissions, building code administrators, and others having concerns for today's housing.

The demonstration role in the project is designed to describe and document the project, its technical, social, and environmental aspects, and

to utilize the project as a learning tool for Extension education.

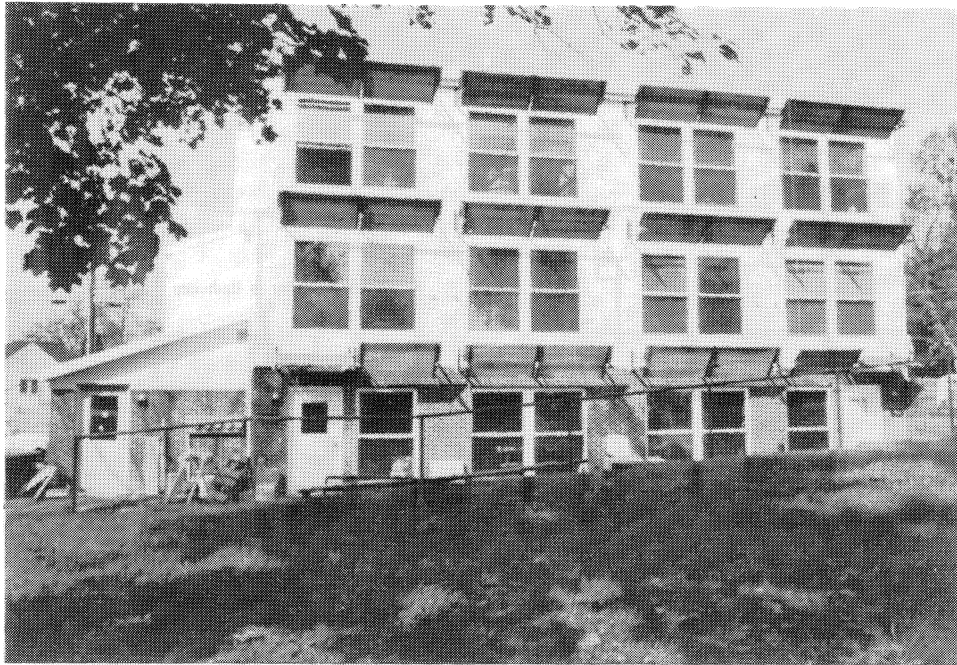
The project is open continually throughout construction with an open house planned upon completion. A photographic record is being prepared for future educational purposes.

Working drawings of all award winning designs from the 1980 and 1981 HUD design competitions are available to the general public at handling costs. Requests for designs and/or more information about the "Building Value into Housing" program should be directed to:

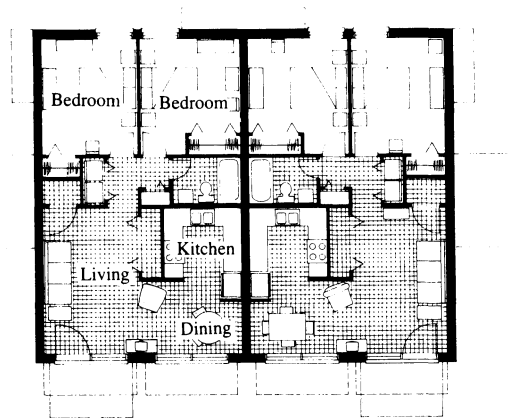
HUD USER

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Germantown, MD 20874

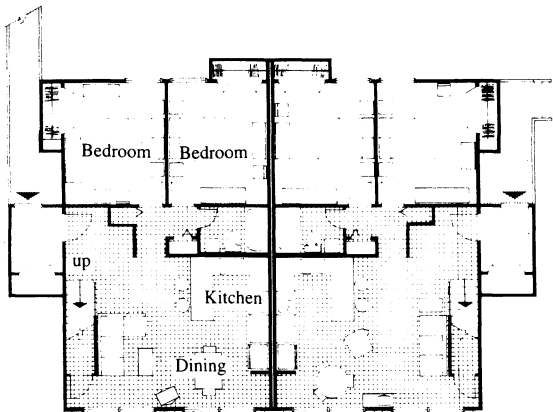


South elevation of fourplex. The four living units are arranged with "daytime" spaces along the southern exposure, where views and direct heat gain are most important. Clustering of baths and kitchens permits use of one economical plumbing wall to serve all four units.

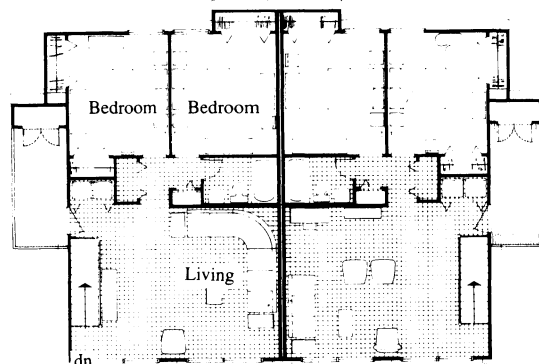


Lower Level

Lower level; two, two-bedroom living units (828 sq. ft.).



Mid-Level



Upper Level

Mid-level and upper level: two duplex four-bedroom units (1,728 sq. ft.).