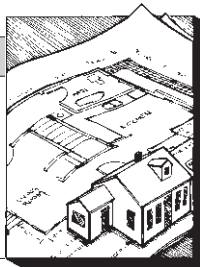


High Style, Low Costs

by John A. Sharratt



Everyone agrees that there is a tremendous need for affordable housing. But what does "affordable" mean? Since federal subsidies for housing have dwindled to almost nothing, and state subsidies barely exist, the term affordable can only mean good housing that is delivered to the home buyer at the lowest possible cost.

It seems clear that the housing industry's contribution will be to produce the most cost-efficient housing possible. Design plays an important role in providing such housing.

Design: What's Best?

The design for this market must be simple, but there are other considerations as well. First, the space will necessarily be small, but the product must maintain quality and competitiveness. Second, if financing subsidies are involved, there will be state and federal design standards to meet. These standards are often time-consuming, but they do serve to eliminate bad products. Ultimately they protect not only the consumer, but the builder and designer as well.

Affordable projects are usually built on a fixed limited budget, so the problem for the designer is to use the available funds creatively to produce the largest, most useful, and attractive home. Standard design solutions are all around us. Though good ones are rare, common characteristics of successful design are: a working understanding of the prospective homeowner, an ability to use available materials best, and good site design. Always, the designer has to keep the design simple and only add complexity where it helps save space or improves the appearance at minimum cost.

An Award-Winning Affordable Housing Project: A Closer Look

Figures 1 to 3 display an award-winning affordable housing project and design. This project was built in Concord, New Hampshire, and the units eventually sold for between \$62,500 to \$68,500. (It was stick-built because of the nature of the lot, at a cost of about \$35 a square foot.)

With this project—or affordable projects like it—the designer is challenged with making the project look rich and interesting without running up the square foot costs. This particular design won a competition and was awarded a zoning variance for a higher density than was normally allowed in Concord. The design appealed to the town for two main reasons: It looked interesting and elegant, and despite the unusually high density—18 units in a half-acre lot—each unit had its own front and back yards, private entrance, and parking space.

A number of things worked in our favor here. Our design firm was given a great deal of freedom by the developer, a local contractor. He had already been involved with other federally assisted and state-assisted projects and understood the dialogue that must go on between designer and builder on projects like these.

When we first talked with the builder, we were told the economics of the project: the amount of funding available, the projected rental and sale prices, the size of the kitchens and baths, etc. The challenge with this project was to try to use the available funds creatively. We were given a target budget, and our design aimed to meet it. If we could not, then any increase had to be justified.

Depending on the market you are designing for, things change. If you are working in a subsidized housing market, you know that people are ready to move into the project. If it's an open market, privately financed—as this project was—you maybe able to add a feature that costs \$10 but will bring \$25 more in rent or sales price.

Some design features are particular to this kind of housing and worth pointing out. Figure 1 shows how the arrangement of the units, a duplex over a flat, allows for high density, while preserving privacy and quality living space. And with this particular design, both units have private entrances, with no common stairways.

Because we've staggered these units (see Figures 2 and 3), we avoided the barracks-like line of front entrances. Notice also that this staggered-design structure allows for windows that only look out onto one unit's yard. Through this kind of inventive design, these features add privacy in an unusually small space.

We didn't build with cathedral ceilings. Instead we used trusses, to save costs. Figure 1 shows how the trussed ceilings are opened up on either side of the roof for skylights. This gives the upper level the feeling of openness that cathedral ceilings offer, without the cathedral ceiling costs.

Pitched roofs and a variety of windows take this basic box construction—typical in affordable housing units—and make it an interesting, handsome, highly livable space.

To further add to the privacy of these units, we designed a bridge that allows the duplex units outside access through a private stairway (see Figures 1 and 3). We decided to frame a small decorative square on this bridge, as another feature to add elegance to the design without adding much cost.

Cantilevers were used because they make the structure look interesting (see Figure 2), and they actually save money. Cantilevers effectively give you free foundation by extending out over the foundation for extra living space. (On this project, the foundations are simple rectangles, which are cheapest). Not only do cantilevers add that extra space, but they allow you to have longer interior spans, because they act as a counterweight.

In the end, each unit has one parking space, private front and rear entrances, and private exterior living space (see Figure 3). Architects can use these and other techniques to make simple basic box structures interesting, livable, and attractive not only to prospective buyers, but to towns considering projects such as this one.



Figure 1. The arrangement shown here, a duplex over a flat, allows for a great deal of living space to be concentrated in a small area, while preserving privacy and quality of living space.

Construction: What method is best?

There are new construction materials and techniques to consider. Stick-built construction methods have already begun to feel the pressure of "component" and "modular" building techniques. In areas where labor is expensive or in short supply, modular construction can have a real economic advantage because of modular's low product cost and the reduced time required for the builder to be on site. This can mean reduced finance costs, and it reduces the possibility of vandalism and the cost of security. This project was stick-built, but if it had been built with modular units, savings could have ranged from 15 to 30 percent.

There is a pervasive belief that modular units cannot compete on small

projects, because they are of poor quality and inferior design. This may have been true in the past, but it is rapidly changing. The key issues on the stick-built versus modular construction argument will be the cost of labor, and time to be spent on site. Materials and design costs basically vary little.

Finally, affordable housing builders must avoid the temptation to cut corners. Costs must be saved in organization, schedule, methods, and materials, not at the expense of good standards, codes, or agency requirements. ■

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Figure 2. Cantilevers were used both to add interest to the building design and to increase living space. Also, because they act as a counterweight, they allow for longer interior spans.

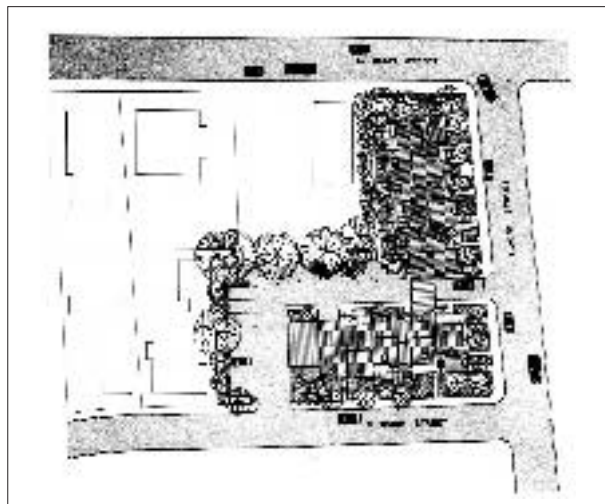


Figure 3. This award-winning Concord, New Hampshire housing project managed to place 18 units—with private yards and parking—on a half-acre plot. The units eventually sold for between \$62,000 and \$68,500.