

ARCHITECTURAL
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Business Design Engineering
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Record Houses 1983

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Not just another pretty face.

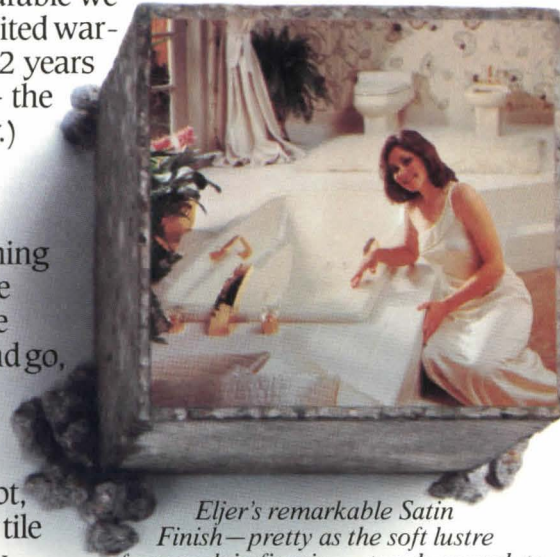
You see, making something merely pretty isn't enough. To be really good, a product's got to be practical, too. Fashions come and go, but function is made of sterner stuff. For example, ceramic tile has been around since Roman times. The Romans, a sensible lot, knew that part of the beauty of tile was its durability and versatility.

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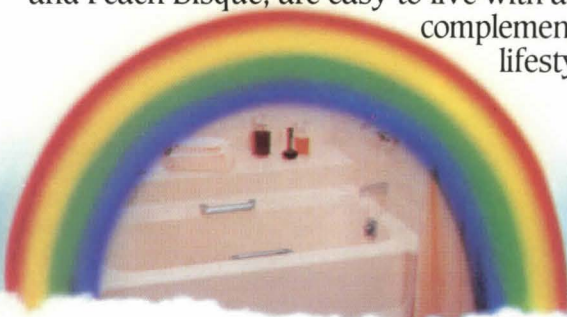
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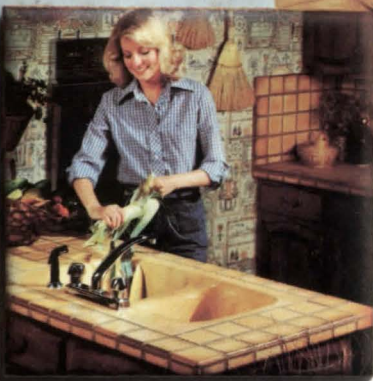
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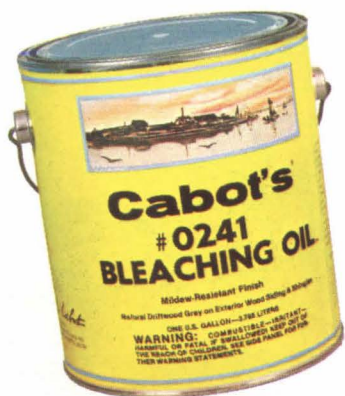
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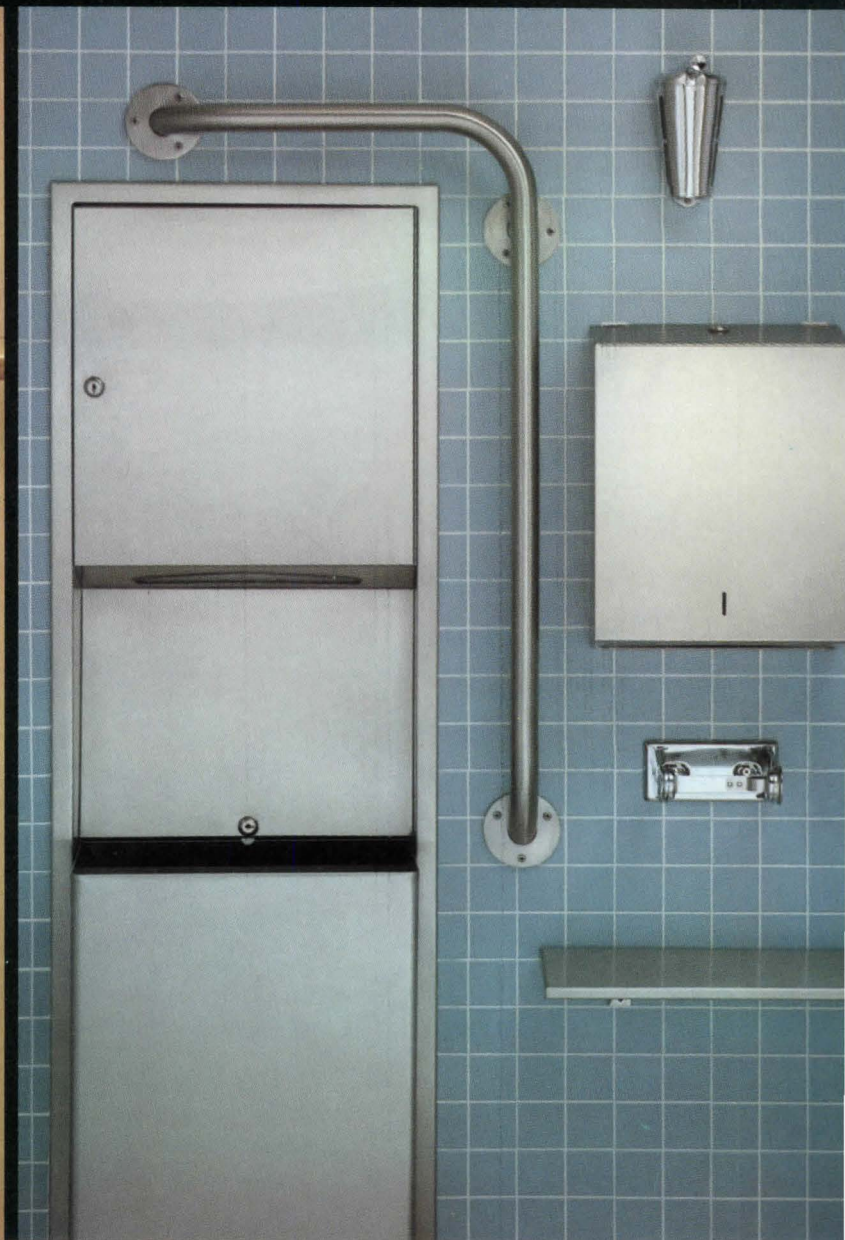
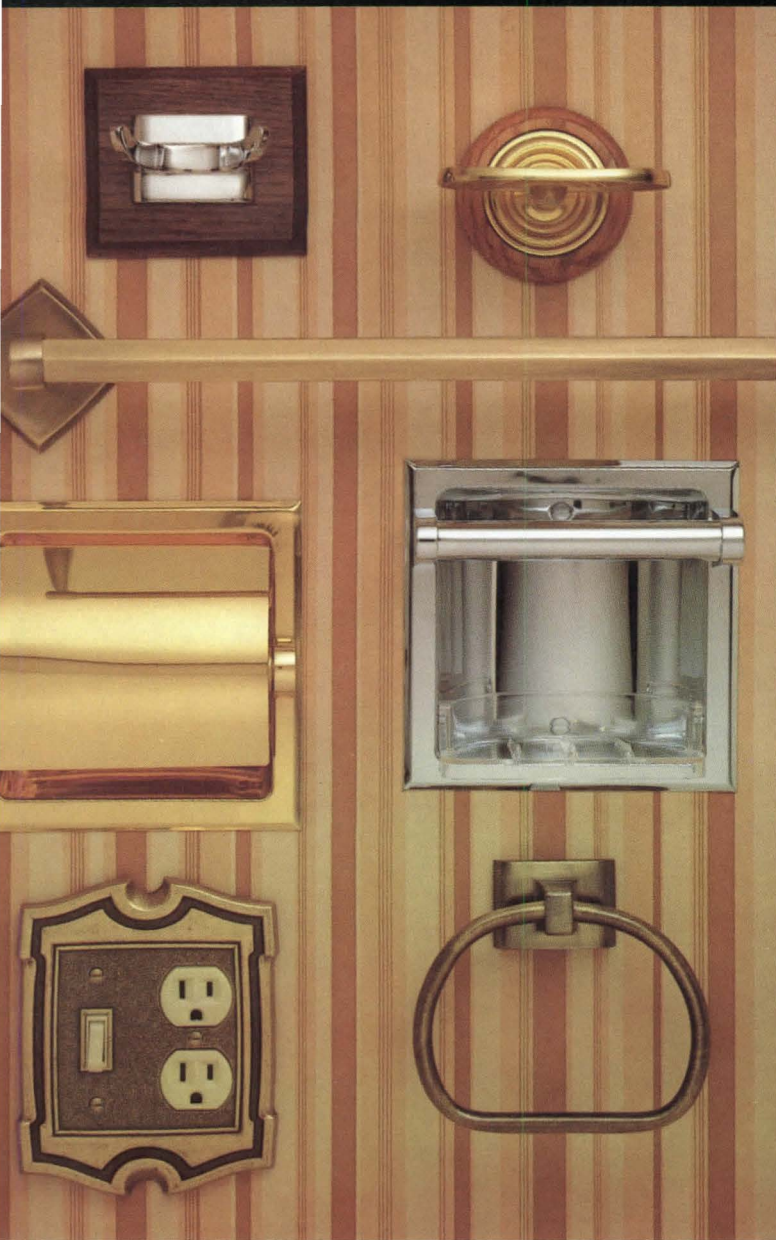
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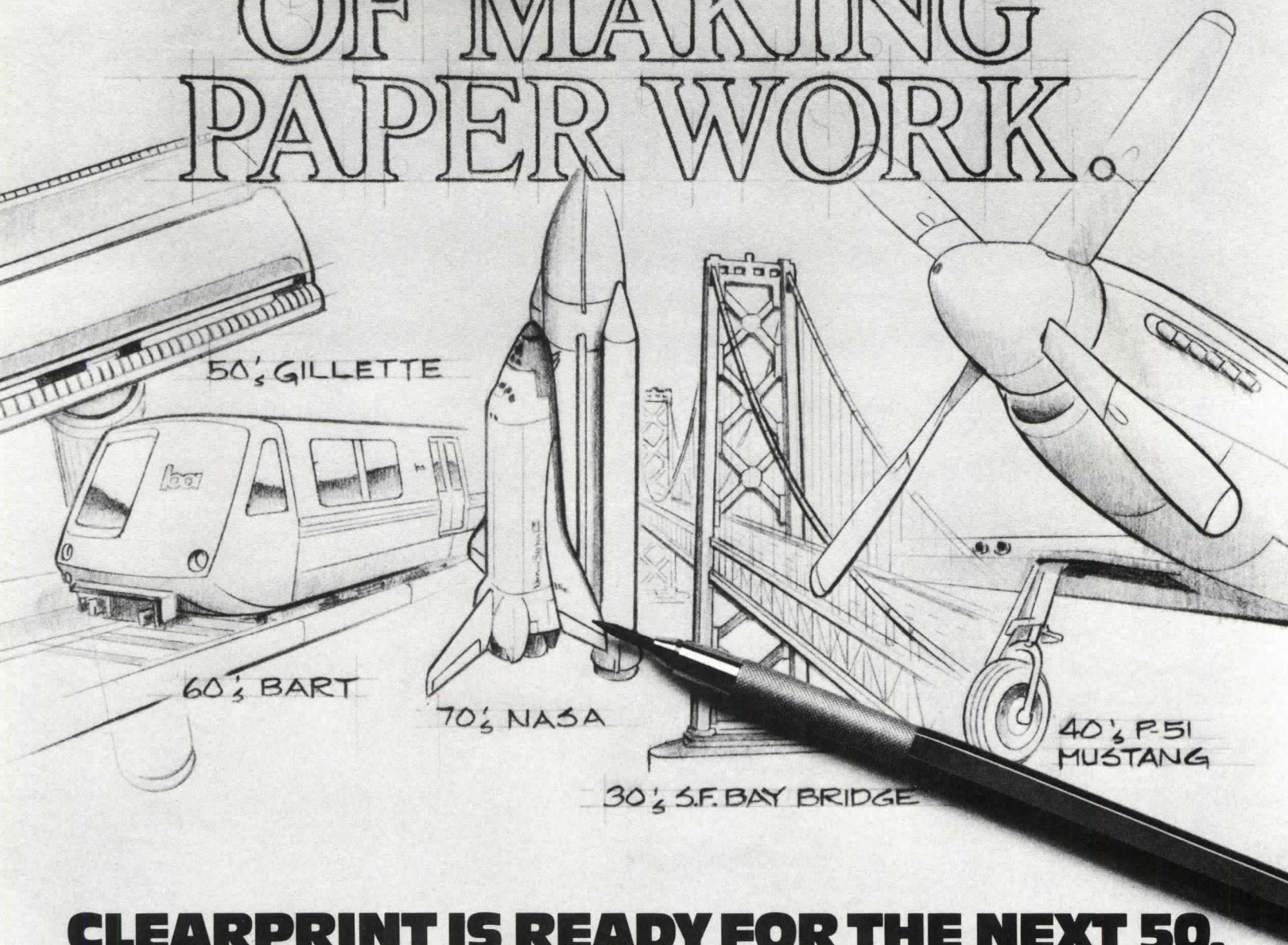
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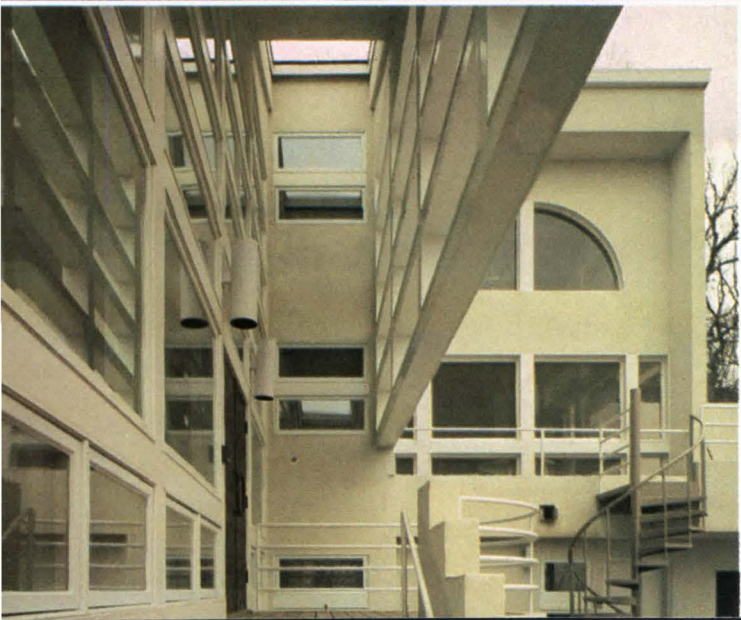
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HORDIS BROTHERS

Circle 13 on inquiry card





In this house, form and counterform engage in a lively dialogue.

And the Pella Clad Windows quote Wright.

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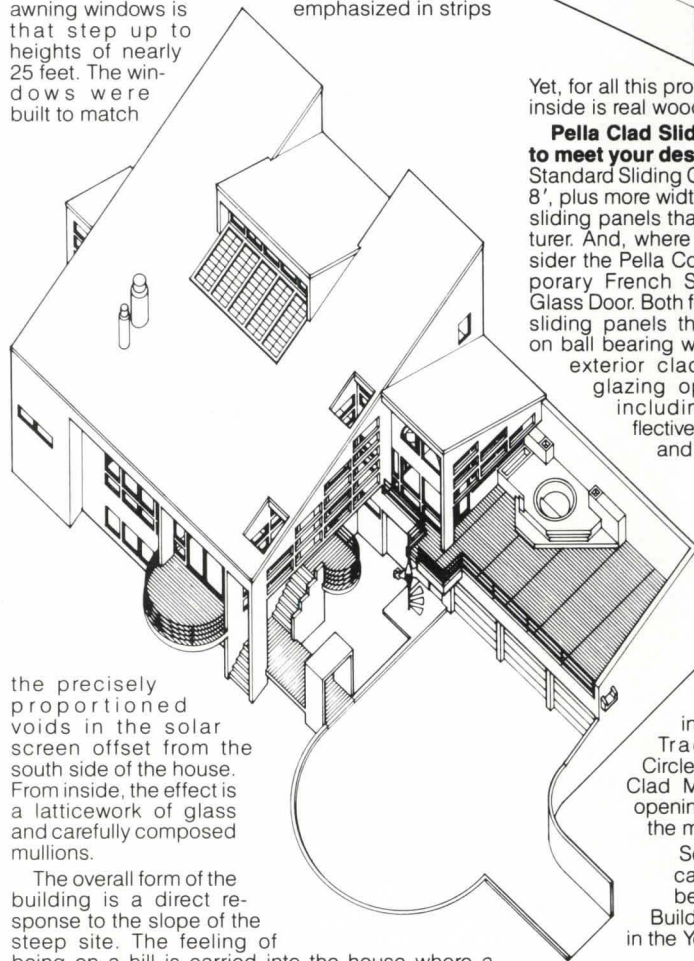


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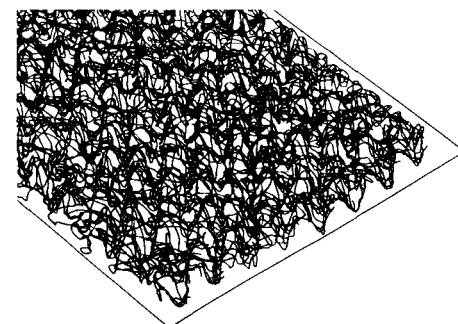
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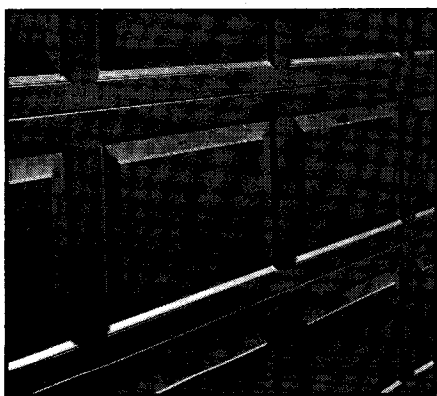
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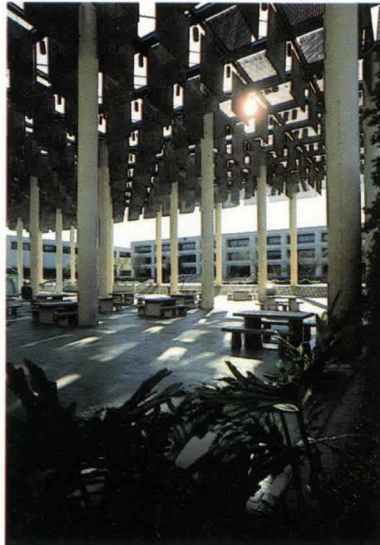
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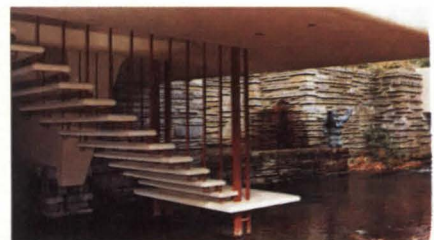
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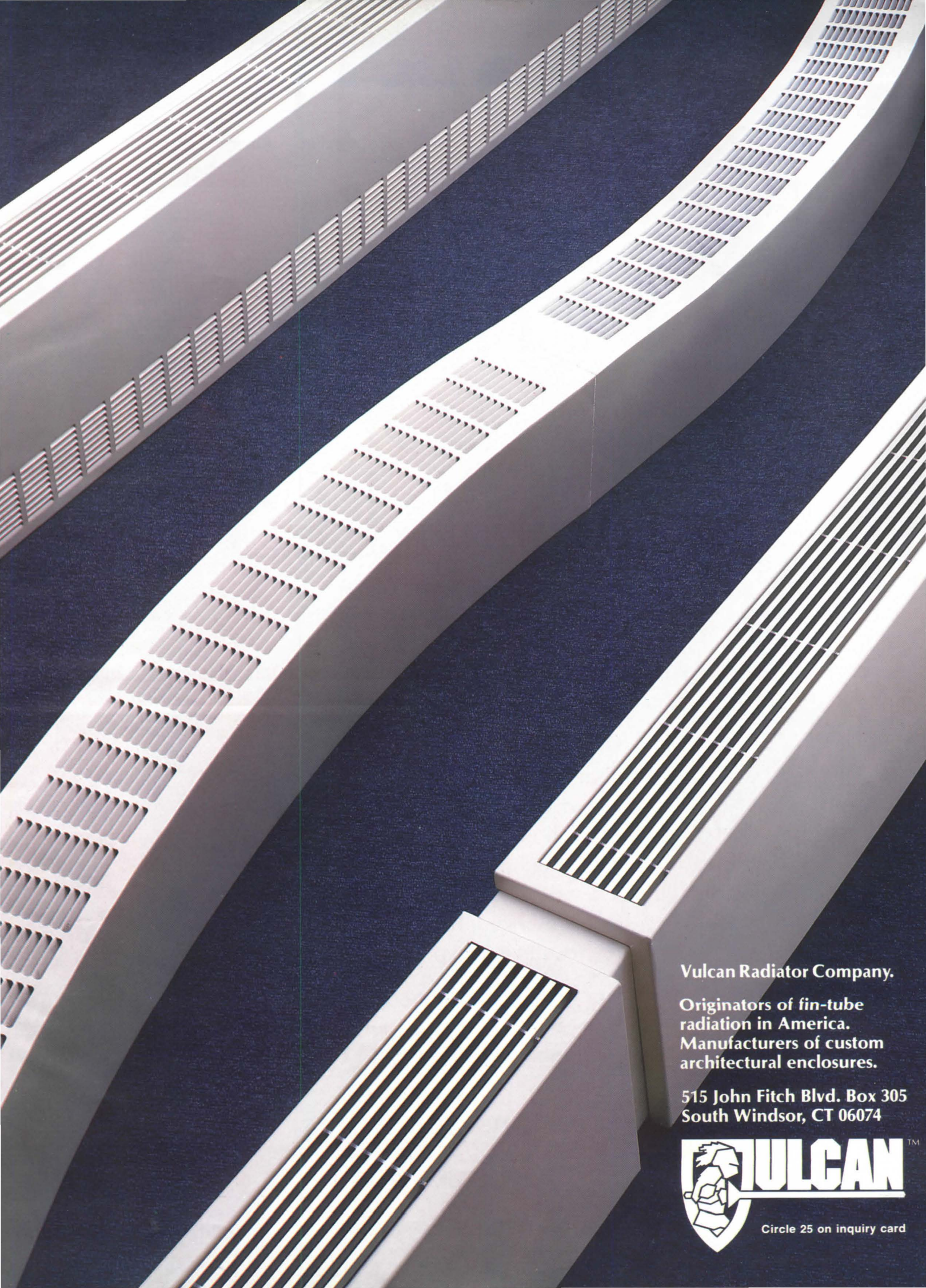
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ARCHITECTURAL RECORD

Round Table:

The architect's role in built-for-sale housing

RECORD assembled a Round Table of architects and builders in San Francisco to explore the architect-builder relationship in building production housing. The group included some architects who are also builders—and one marketing consultant (who was trained as an architect). As most were from California—which has a productive tradition of architect-designed production housing—almost everyone knew each other and many had worked together. Not surprisingly, everyone present endorsed a team approach. But there were as many opinions as there were participants as to exactly how that team should work.

The Round Table opened with a discussion about whether the public would benefit if there were more architect involvement in built-for-sale housing. Moderator Wagner asked:

Could we have much better housing if we had better cooperation and understanding between those two branches of the housing industry?

Rodney Friedman, of Fisher-Friedman Associates, began by restating the problem. Of the audience that had come to hear him speak at the recent National Association of Home Builders Convention, he said, about 80 per cent lived in cities of less than a quarter of a million, most did projects of five acres or less, built fewer than 25 homes per year—primarily detached or duplexes—and sold these homes for about \$55,000. "I don't have any clients who fall into that group," said Friedman, "and yet I think it would be fair to say that about 80 per cent of the work done nationwide is done by developers very much like the ones I surveyed. . . . So the problem is, how can we as professionals make ourselves available to this enormous body of developers who don't use us, and who can't afford us at the rates we charge because we're not geared to doing projects of 25 units or less?"

"What we really need to be concerned about is all those people out there who wouldn't dream of hiring an architect,"

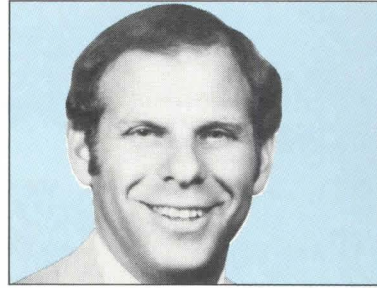
said Ralph Bender, of Ralph C. Bender & Associates of San Antonio. "To most of those people we represent exactly the same thing as a roofer: If they didn't have to put a roof on the house they wouldn't hire a roofer, and if they don't have to hire an architect to sell their product, they're not going to hire an architect. It's that simple."

"Most of the people in this room probably deal with well educated, successful, wealthier clients," said James Olson of Olson/Walker Architects of Seattle. "But to think that the world is going by without us is not correct. It's like an Italian clothes designer thinking that he doesn't have any influence on what people are wearing in the Midwest, because essentially it kind of trickles down. I think that architects need to concern themselves more with pilot projects and prototypes so that other people on other levels can pick up the idea and take it further."

Warren Callister of Callister Gately & Bischoff, a San Francisco architect who had enormous influence on house design with his Heritage Village development in Connecticut, voiced another problem: "Developers come to our firm and ask us to do something in the way of architecture after they have already done the planning. . . . I like to be involved in the conceptualization of the whole project. . . . Even if I were only a consultant and didn't do the architecture, I would feel that the most important thing I could do would be to express a point of view, to get a motif, a feeling of showmanship, a concept that's strong enough to carry me through all the questions that come up and give me a basis upon which to answer them."

The Round Table began exploring alternatives to the usual architect-builder contract and conflict

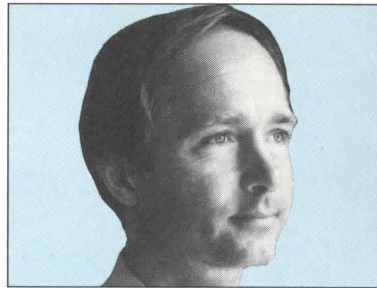
"In the last couple of years we have worked with a number of younger developers," said Donald Sandy of Sandy & Babcock. "We have given them purely conceptual designs, freehand floor plans, freehand elevations, and then let them go their way and hire a younger group of architects who don't have the expertise that we have. We require that they send us drawings that we check for design only. The younger architects do the full working drawings and we take no responsibility for them. And granted that the plans may not



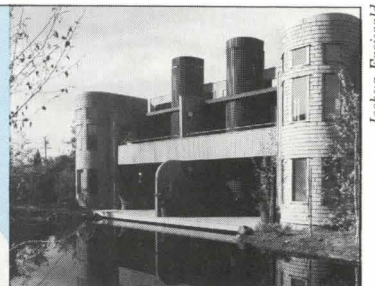
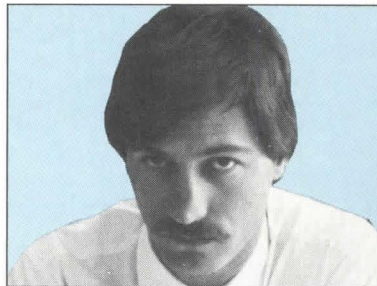
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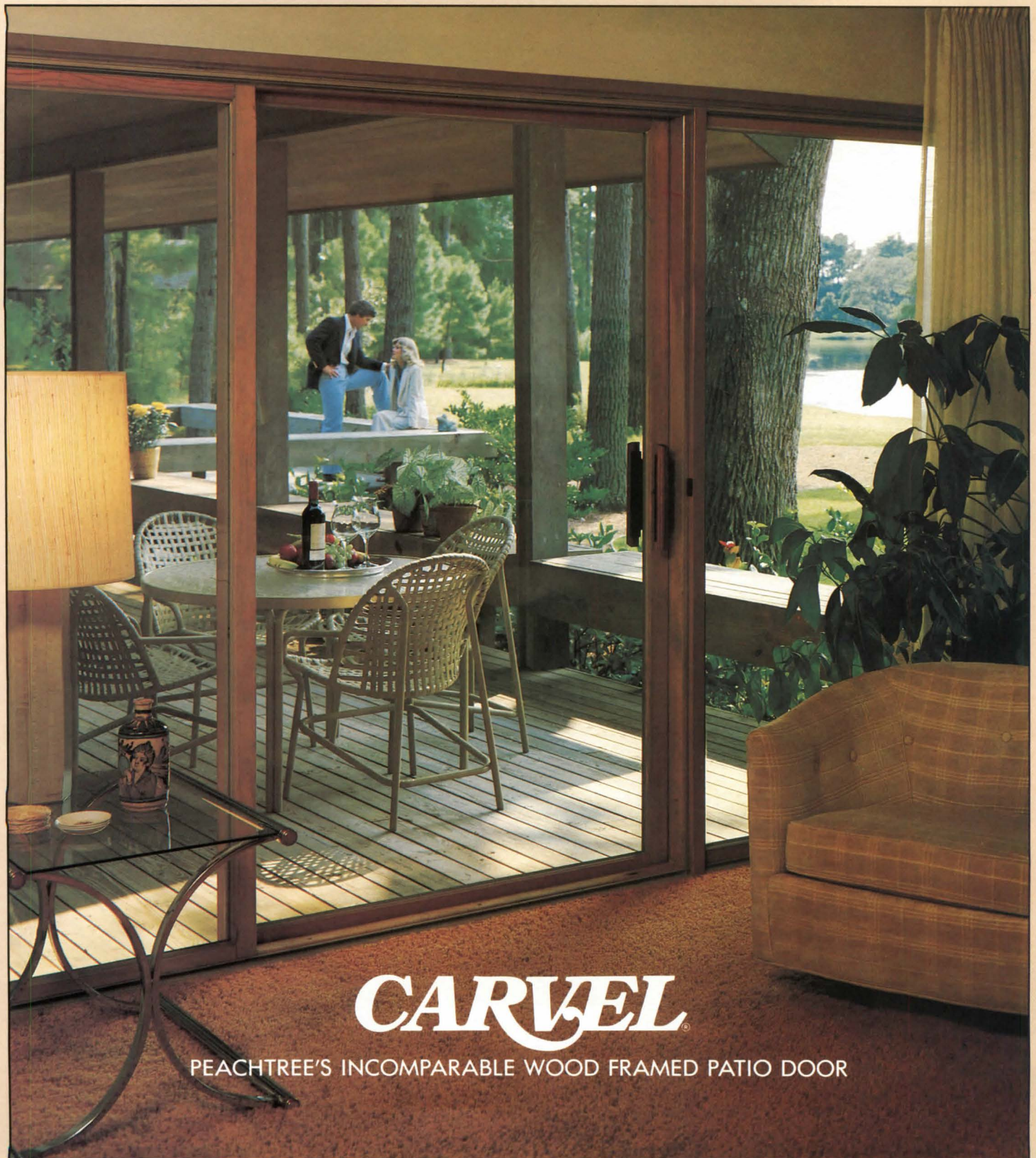


Joshua Fretwald

Round Table participants, shown here with recent projects, include (top to bottom):

- Ira Norris**, president
INCO Homes
Upland, Calif.
- Barry Berkus**
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Santa Barbara
- James Olson**
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"What we really need to be concerned about is all those people out there who wouldn't dream of hiring an architect."—Ralph Bender

be as good as if they had gone through our office completely, I feel they're a lot better than what these developers would have gotten without us. So this is one alternative. We're talking about a few thousand dollars cost to the developer, and the architect is still getting his full hourly rate."

"We bill about 80 clients a month, so we're working on a great number of projects for the kind of clients Rodney was addressing at that NAHB meeting," said Ralph Bender. "Probably over 50 per cent of our clients build less than 150 units a year. But we have found that the way to respond to them is to be knowledgeable about their problems and to work extremely fast and inexpensively. . . . Most builders budget absolutely nothing for design, so you have to start with the very basic things they're concerned with and then, hopefully, pull them up and raise their consciousness. Many times we as architects attempt to push that kind of builder into multifamily housing far earlier than they're prepared to accept it. We ought to be thinking about how to exploit what they know how to do. . . . I think it's significant that, working with that clientele, our business has expanded tremendously during these very hard times. It means that that group of builders is much more concerned with the market (and I hope with design) now than they have ever been, and that they are aware of the changing economic circumstances that exist across the country. . . ."

It was the first of many times the marketing aspects of designing built-for-sale housing would be mentioned. Developer Ira Norris, of INCO Homes, elaborated: "We look at the architect not as just an architect but as an essential part of the marketing team," he said. "The first thing I require of an architect is that he get in the car with me and look at my competition. We have the most creative time walking through models, taking pictures, understanding what the other guy is doing, deciding what we like, what's missing that might be important to the market. We may then spend days and weeks analyzing our pictures and the

brochures we've collected before the architect puts the first line on paper."

Early in the Round Table, the builders and developers sounded their frustrations in working with architects

Developer Niel Davidson sounded a common complaint: "When you start dealing with relatively small pieces of property, small projects, you want to be able to go to an architect and say: 'Here's something you did. It's right down the street. I want the same thing.' But when you go to the architect, he says, 'No. We can't do that. We've got a different concept, we've got to come up with something new and exciting here.' It makes the builder want to say 'I'm going to go to somebody who can produce something that I've seen before. I know it'll work. It's been done. The people want it.' Builders don't want to experiment. We don't want a statement, that kind of thing. Why can't architects go in and do something inexpensive, something that's been done before?"

"It seems to me that the real question is whether you lead the market or follow it in terms of your designs," said Richard Weiss of DIXCO. "If an architect is seeking to make a statement for his style of architecture that may not at the moment be marketable, the entrepreneur is going to have a hard time grabbing it and running with it. But if the architect recognizes that one does have to follow the market as well as present innovations for it to absorb, you can have a happy relationship between the architect and the builder and the marketing consultant who is seeking to define the market. Architects and marketing consultants can be wrong about their perspective of the market, and it's really the entrepreneur, the risk-taker, who has to pay the bill. That gives him the right to participate in the development of that design and in designing for the marketplace."

Developer Rubin Glickman offered an illustration: "I'm doing a project in downtown Sacramento—an air-rights project on a ground lease over a one-story state building," he said. "And after spending time there, I know that nothing else is as important as keeping the costs down below a certain figure; otherwise the housing won't sell no matter what we do. And it's important that architects understand that. Those fancy curlicues and extra space that

they feel is important aren't going to work, because no one can afford to buy that housing. I have to develop a space that sells for 'X' dollars; if it goes to 'Y' dollars, I'm not going to be around. The architect will get paid, but I'll be the one to go under. It's the developer's responsibility to educate the architect on what's necessary dollarwise, and it's the architect's responsibility to listen and pay attention to those areas, not just style or high tech, but dollars and cents."

The developers got some support from the architects' side of the table. "The public would be better off only if the architects had a sense for how people live, and I think that an awful lot of architects—including many who are published—really don't," said Henrik Bull, of Bull Volkmann Stockwell. "I think that if the architect works in a vacuum and only designs what he thinks is right and proper, we then get what we see in looking back through three decades of architectural magazines: a lot of fads, trends. The developer can be a very positive control on this. That's why, as far as I'm concerned, the ideal client is someone who's part of the design team. We're not there to preach to them."

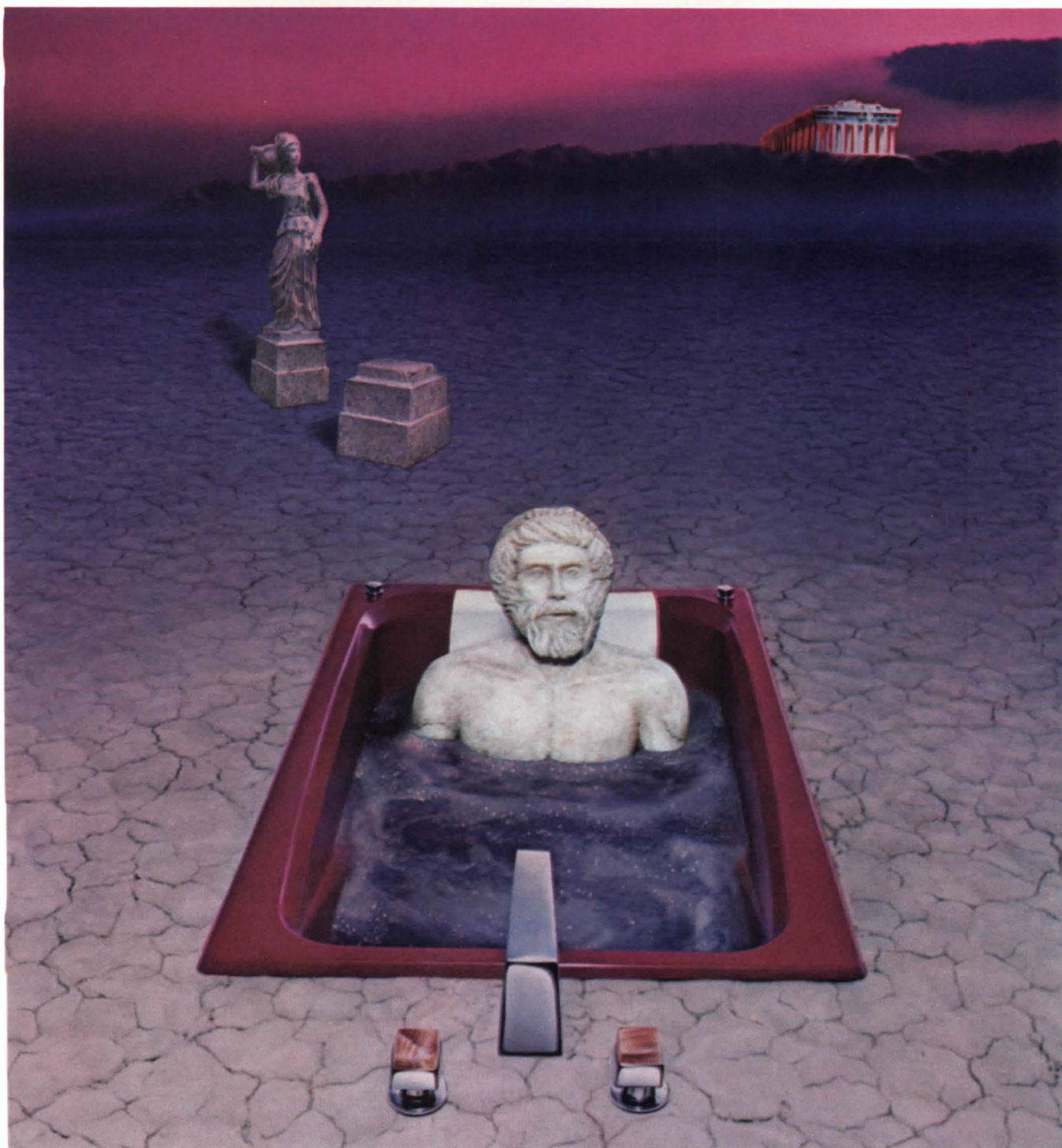
"I think two things are happening to change this very quickly," said Walter Richardson, of Richardson-Nagy-Martin. "The first is education—and I'm going to rank competition with education. By education I mean magazines, seminars, the NAHB conventions. Barry Berkus and I have shared a seminar series for about four years now, and we're not dealing just with the West Coast or California, but small towns, big cities all over the country. . . . We've talked to many people during critique sessions where we help them with their plans. They may be small builders doing single-family detached and dying to do something bigger where they can hire an architect. They're anxious to do it. And two years later our phone will ring and somebody will say: 'I was in Denver at your seminar. I finally got a 10-acre piece of land, and I want to start from scratch and do it right.'"

"The other thing that's happening is a tremendous change in the kind of housing that's being built. We're talking about single-family-detached, and that's always going to be a big part of the market. But I've seen projections that 750,000 of the dwelling units to be built this year will be multiple. That's about half of the housing to be built. Well, maybe we're backing into this, but they can't get along without us anymore."

Question: Families are changing—which means housing design will change. Does that suggest more architect involvement?

"I believe the change in the family structure is the key to the change in the products we're designing today," said Barry Berkus, of Berkus Group Architects. "We're designing now for singles, professionals, divorced people with a teen at home, two elderly people, somebody sharing a mortgage payment—a different type of space relationship than we had a decade ago when there were a lot of single-family dwellings being done by designers. One reason the architect really was not that involved in housing across the United States was that it wasn't that complex. . . . Today we're looking at a new vocabulary of higher density in order to reduce the cost of housing—getting more units per acre, smaller square footage. Dealing with privacy in small square footage is something that takes a lot of knowledge of housing, and a lot of design skill."

"A problem I've seen in architecture over the years is that a good proportion of the trained architects are not sensitive to housing. . . . A lot of them are fish out of water when they get into housing. Housing is a science, particularly when we get into smaller spaces. . . . Many architects put volume in a unit and then hide it. They don't lead your eye through to a source of light to make it feel as though there's a lot more to the unit than just that contained box or envelope. And I think that as we move forward we're going to see more and more involvement of the architect as planner. Ten or 15 years ago, the planner did a site plan and the architect was asked to do a building envelope. Today most of the jobs on our boards are a combination of planning and architecture, so the architect is more than just an architect of structure, he's a planner from the first phase all the way through the project. . . ."



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"We look at the architect not just as an architect but as an essential part of the marketing team."—Ira Norris

Herbert McLaughlin, of Kaplan/McLaughlin/Diaz, who is both an architect and a developer, pointed out another recent change: "Instead of housing following jobs, jobs are following housing. We've got something like a million square feet of office space under design in Walnut Creek and Concord, which are suburban areas here in San Francisco, and the reason companies are putting their offices out there is because that's where people can begin to afford housing. I think we're going to see more of that as we shift the employment base from industrial to service, and office work becomes more common. So for better or for worse, we're going to continue to see a reopening of the suburban situation, and we're going to continue to see that in many instances the single-family house is the cheapest solution."

Moderator Wagner then turned to the marketing consultant, Robert Lesser, of Robert Charles Lesser and Co.: "Barry Berkus made the point in his remark that he saw the bulk of development as being closer in, which is something architects have long argued for. But Herb McLaughlin is seeing a new kind of work in the suburbs. What do you see happening?"

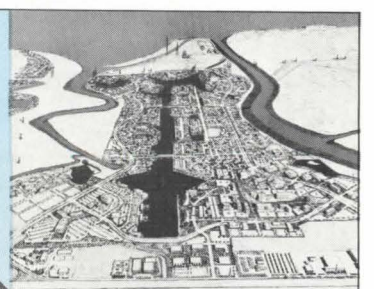
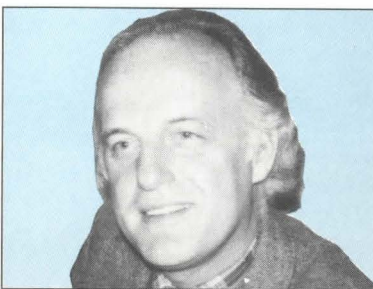
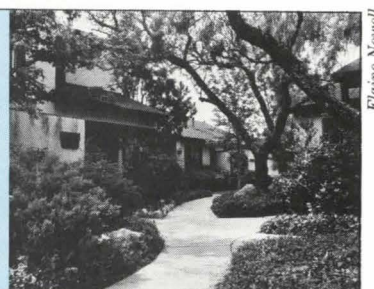
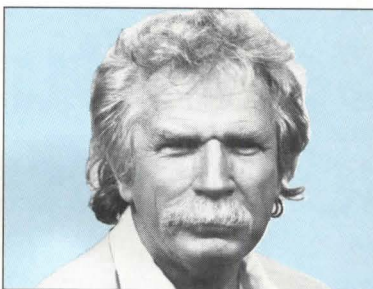
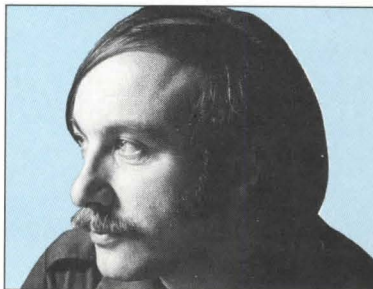
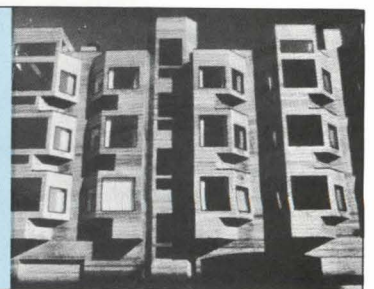
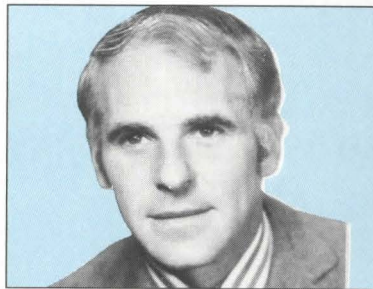
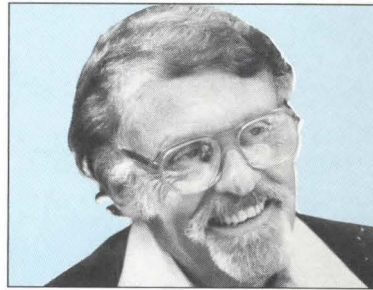
"I think both answers are correct," said Lesser. "In suburban areas we're seeing less land being used for more units—but not necessarily the kind of overkill that puts 25 or 30 or 50 units on an acre. In the more urban or close-in suburban areas, we're seeing more recycling, more infill, that type of thing. What the public wants is always relative to what it sees around it. If single-family is the thing, then maybe they're going to smaller single-family houses if affordability is the issue. And if multifamily housing is a way of life in a particular community, we're starting to see more intensive multifamily—where townhouses at 10 per acre used to be terrific, now people are going into townhouses at 20 to the acre. But if demographics and social preferences are the issues, houses may be smaller because that's what people want to live in—its

not just a question of that being all they can afford."

Said Ira Norris: "Your question on changing markets brought back some basic thinking from my old marketing days: The sale of a house begins when a prospect becomes dissatisfied with his present set of circumstances. That means what you design creates a level of satisfaction or dissatisfaction in the consumer's mind. If what he sees is much nicer than his present home, he becomes motivated to buy. If you combined that with today's much more sophisticated consumer—to me, sophisticated equates to value, and today's consumer is amazingly accurate at spotting value—the architect's role is obvious: He must believe in giving that consumer the best possible value, and that means more footage and more amenities at fewer dollars."

Dick Weiss disagreed: "I think that the opportunity is available to builders, and particularly to architects who work with builders, to provide *apparent* value and apparent space. In a project that I've been developing for the last three years, the house that has been selling best is that house that offers the highest profit and perhaps the least value (at least it is the least costly to build) in the series of four models. Why? Because of the way the architect has created the most apparent spaciousness and the most apparent value in that house. Pressed for details, Weiss mentioned the avoidance of "wasted space, space that does not have a functional use," such as eliminating lengthy hallways and also creating volume, giving a sense of openness and quality. "Too many architects," he continued, "tack add-ons to the elevations of the house to provide what seems to be 'an architectural appeal.' But the fewer jogs, the more economical the house is to build. That again is the function of an architect: It's an understanding of the materials and of the opportunities that those materials afford that allow him to design a house that is efficient to build and also provides a feeling of openness and spaciousness."

"I agree that the buyer is looking for value," said Rob Steinberg, of Goodwin B. Steinberg Associates, another architect/developer. "People aren't looking for luxury housing now; the market has changed and people are groping for shelter. In the small unit, I don't believe they're looking for more



From top to bottom:
Warren Callister
Callister Gately & Bischoff
Tiburon, Calif.
Rubin Glickman
Rubin Glickman & Associates
San Francisco
Rodney Friedman
Fisher-Friedman Associates
San Francisco

Ralph Bender
Ralph C. Bender & Associates
San Antonio
Darryl A. Foreman
Manager, Architecture & Design
Mobil Land Development Corp.
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"The real question for the builder/developer is whether you lead the market or follow it with your designs."—Dick Weiss

expensive finishes, they're not concerned about hardware. In planning for that new market, architects are going to get away from the architectural gymnastics that we've been used to and that we enjoy. We're going to start working much more carefully. There's going to be a lot more sensitivity about how the space works, how functional it is."

Steinberg then pointed out that the buyer or renter of the future represents a variety of markets. "We've all been talking about the small unit for the first-time buyer, the family that wants its own house with on-grade living. But there are also other very interesting markets, such as the senior market. The senior population in this country is growing phenomenally, and it has very special requirements. So it means more than just designing small units. . . . The problem of socialization, for example: How do you get them to interact with other people?"

"We do have a growing elderly population right now which has very different needs, and we don't have the extended family that we had in the past, so housing that accommodates elderly people in group situations is very important," said Jim Olson. "A similar thing happens with young singles, because they don't have the money; they're alone, so they need a situation that again provides companionship, affordability and other things. We have a lot of single parents who can't survive in a typical standard house, or if they can survive end up having to take the kid to the babysitter, then go to work, then to the store and the cleaner's—all those things. It becomes terribly complex living in a 1950s fashion when you're a single parent, or even a working couple. I think we ought to be thinking about new communities that essentially take different members of society and put them all together so they can be mutually supportive. . . ."

"I also think we're missing the boat if we don't get more involved in the overview. The things that we build are going to have to last for years and years, and I get the impression that the marketing studies and all the things we're talking about today are what's happening right now

rather than planning for what's going to be happening in 10 years, in 20 years, in 30 years. It's the architects' and marketing people's responsibility to think on that level. Banks and developers and builders, because of financial short-term needs, tend to put a damper on pilot projects that deal with real needs versus what people seem to want. Sometimes what people think they want is limited by what they know. But if you can show them something that makes their life work better, they will respond to it. Maybe we need some kind of tax incentive or something similar to the way historic properties are encouraged. There might be some way to make it financially feasible to push things into a little more of a progressive approach rather than simply go from year to year with 'what do people want this year?'"

Walt Richardson cautioned: "It's nice to talk about planning 10 or 20 years ahead, but I think it's difficult to determine what the market is going to be three or four years down the line. Which means an enormous amount of flexibility in any planning that's being done. . . . It's another responsibility for the planner and architect not to lock the client into a plan that he can't back out of somewhere down the line, because the market is changing too fast today."

Moderator Wagner asked for more discussion on the subject:

How can we show alternatives to people whose experience is relatively limited? Are there mechanisms for pilot projects to explore alternative kinds of housing?

Indeed, three of the participants were already working on such projects.

Jim Olson: "In Seattle, there's a very large piece of property owned by King County—which is unusual—and it's right next to downtown. And basically we have sort of started to take that property and with the help of the county and the city we're developing such a community. It's like a large, extended family sort of situation. But the problem is convincing a banker who is used to dealing in single-family houses in a traditional way that it will work, because they don't feel that anything works unless it's been done before. Sometimes that's the opposite of the truth because what was done before doesn't necessarily work now or in 20 years."

Niel Davidson, a developer who had just gone to work for

Stanford University as director of housing development, said that Stanford is typical of some of the major institutions that are addressing the need for housing for their employees. "We have the land and the facilities and also, perhaps, the foresight. And we're coming up with some fairly sophisticated types of housing to address the current issue. The biggest experiment is a form of congregate housing: a unit with one kitchen, one dining room and four separate bedrooms, to be rented or perhaps sold to four different people in condominium. I don't know if we're going to be able to do it or not—the jury is still out. But it's being designed as housing for the Stanford Hospital staff—nurses, interns, where there's some high turnover. These people simply cannot afford to buy housing, and as it is right now, they can't afford to live within miles of the campus. The jury is still out because even with whatever subsidies or support or free land and all the sophisticated financing techniques that we have right now, it still has to work from a cost-return basis. This is not to say that we have to get 'X' rate of return, but whatever criteria the university sets up have to be met. It appears right now that it will cost as much to produce four bedrooms with baths and a common kitchen and dining room as it would cost to produce four separate little studios. So the question is, will people pay the same amount to have a bedroom where they live with four other people as they would for their own private studio [efficiency apartment]?"

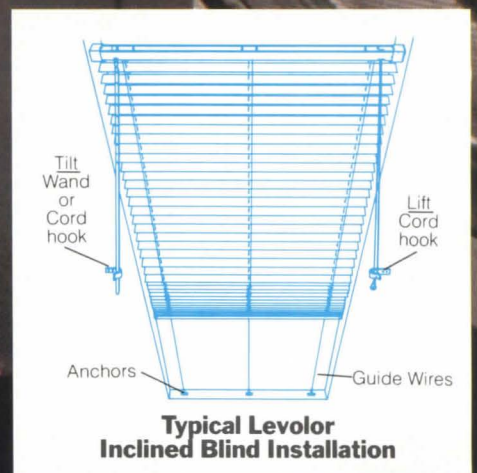
Rob Steinberg: "Our firm has been involved with a project on land owned by a mental hospital—80 acres of prime real estate in the middle of Silicon Valley. The city of Santa Clara wants high-density, affordable housing for the people who drive into the community every day, and the hospital wants housing for its staff. We have done a master plan for a variety of different housing groups. We're providing some luxury housing, some for outpatient living situations for the hospital that could be monitored, some housing for seniors and some housing for moderate-income housing, and they have been set up in the senior area, for example, where the seniors would be given some benefit on their housing cost for providing services for single-parent families. There are single-parent clusters of housing and after-school activities where

parents could have the ability—for example, there are dining facilities in the single-parents' area where a mother who comes home could go and eat there, pick up the food and bring it back to the house—it's quite a novel project. What makes it economically viable is the writedown of the land—basically a leased-land situation from the state. . . . We don't know yet whether or not it actually will happen, but the notion was to take all of these different housing groups and see that one group could offset and help another group."

Darryl Foreman, an architect who serves as manager, architecture and design, for Mobil's large development at Redwood Shores: "During our first presentation to Redwood City after Mobil purchased the Redwood Shores land, we offered to put aside some land for free, and also throw in our expertise, to help the city develop a pilot project that we hoped would provide enough information so that they could take the idea forward into other projects to be done without the subsidy of the land gift. That was in 1973. It took the city about a year and a half to warm up to the idea and put a committee together. Then we began to thrash out what the sociological design parameters should be, and what segment of the community this project would speak to—seniors, families, etc. . . ."

"I guess we began to focus on the nature of the project after the Section 8 subsidies recognized the notion of cooperative home ownership . . . and the sociologists we were working with deemed that people who perceived that they owned the house in which they lived treated it better and had a different sense of being part of the community than people who didn't. . . . But the perception of the other parts of the community was interesting: They said that if you didn't make a profit on the house in which you lived, then you really weren't truly an owner, you were a renter. And if the equity accrued to the nonprofit corporation and not to the individual householder, you were something of an oddball and didn't belong in that community."

"We went through a court battle with the local residents who had the perception that in



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"A good proportion of the trained architects are not sensitive to housing. They're fish out of water when they get into housing."—Barry Berkus

no way, shape or form were any people who would move into a cooperative going to be like them. Now we've finally got the pilot project under construction and we're selecting the various tenants. It will be 104 units—25 per cent elderly and 75 per cent family oriented. . . . The physical design is very much geared to the budget. But just bringing it about—that was the important thing."

The Round Table then turned to the question of specifications—specifically the common perception that builders choose products and materials with little advice from architects:

To what extent in the design of housing do architects have the kind of role in product selection that they do in nonresidential building?

"In recent years there's been a lot of innovation in material development—roof tiles, ceramic tiles, brick textures, a lot of finishes that we are now able to design to," said Barry Berkus. "So I'd say the architect today is specifying a lot more in residential architecture than he did five or 10 years ago, because we have new materials to choose from that really make the design happen."

Arthur Danielian, of Danielian Associates, brought up another point: "We're finding that most builders will follow our specifications on a nuts-and-bolts aspect—mechanical, electrical, that type of thing. But with kitchen appliances, bathroom fixtures and other touch-and-feel items, marketing consultants have a lot of influence. . . . So I think that it's kind of a shared responsibility now in production housing as to who actually is doing the specifying."

Rod Friedman agreed that specifying was a shared responsibility. "Much of the success of projects we've done comes from the materials selection and the cooperation we've had with a client," he said. "Promontory Point, for example, wouldn't be what it is if we hadn't had a cooperative client who got us very involved in the final material selection, the detailing of how the lighting

worked, the graphics, and the interior specifications."

"Forget kitchen appliances," Walt Richardson interjected. "But when it comes to multifamily or high-density projects, the architect absolutely has to select the exterior lighting. It becomes a theme of the project almost. We've had projects ruined by the \$3.95 glass ball."

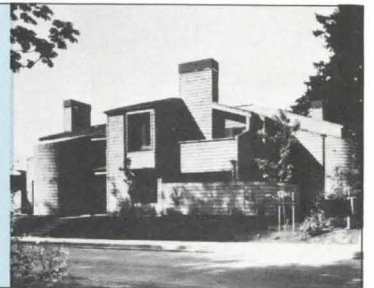
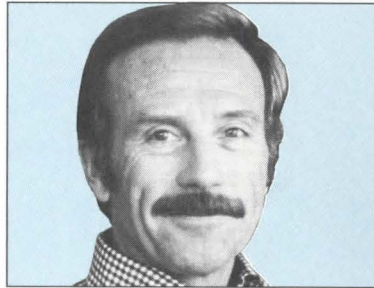
Needless to say, the developers had a somewhat different view. Said Dick Weiss: "My experience in dealing with a number of architects is that they overspecify and they ignore the role of the subcontractor, which I think is a substantial one in the housing industry. Typically no mechanical or electrical engineer—and in many instances no structural engineer—is used in a house. So the influence, if you will, of a subcontractor is a substantial."

Petros Panagopoulos, project director, affordable housing, for the Irvine Pacific Development Co., added one of his frustrations: "I would emphasize the importance of listening to the people who are actually going to build the product, and determine their common practices. We've had problems with using architects from northern California in southern California because we simply build things a little differently down there. The more experienced architects interview the vice president of operations and learn exactly what techniques he wants to use, whether it be trussed roofs or anything else. . . . It may add to the architect's over-all influence in the program if he learns to give in on those points that really don't matter to him and understands that they're important to someone else."

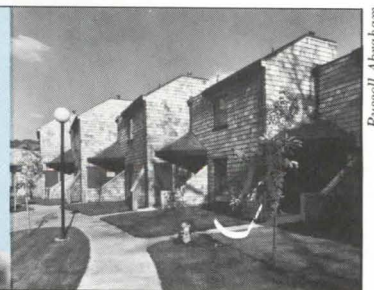
"Let me respond as one of Rodney's clients," said Niel Davidson. "The architect designs the project and specifies some lighting fixtures. They're generally very modest fixtures that don't stand out a lot. Then the job gets put out for bids, and half a dozen different subs come in with different fixtures. You're going to pick one, and generally you'll do it on the basis of cost. It would be very helpful if the builder could come to the architect and say 'I want to use this one instead of that one. Is it okay?' That doesn't always happen. And problems arise because the architect designs and the builder then says, 'Hey, I can get this cheaper and it looks the same.' But what he *thinks* is the same is not."



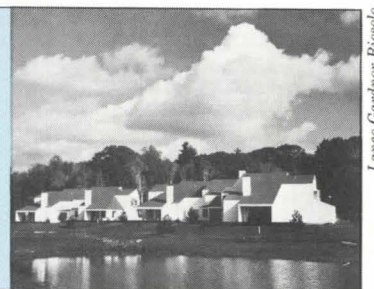
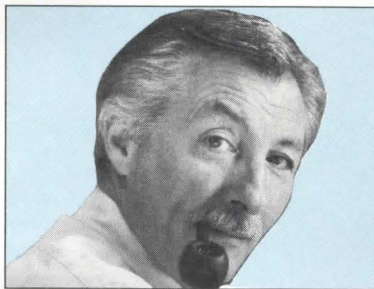
David Ross



Russell Abraham



Lance Gardner Biesele



From top to bottom:
Arthur C. Danielian
Danielian Associates
Newport Beach
Walter J. Richardson
Richardson-Nagy-Martin
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Henrik Bull
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"We're missing the boat if we don't become more involved in the overview. The things that we build are going to have to last for years and years..."—Jim Olson

This last statement brought vigorous nods of assent from the architects. "We've been hurt, and I guess a number of you around this table have been, where there is switching of materials over the advice of the architect, and the material then fails in the field," said Rod Friedman. "... Take an area like hardware: we like a particular manufacturer because it has always stood behind its product. But occasionally we use a substitute, Brand X. And Brand X rusts and doesn't survive the life of the sales model. And we get sued for that, because Brand X was shoved under our nose and we were told 'This is terrific stuff, you have to give Brand X a try.'

"There's another area that's becoming crucial: There are some substitutes for shingles that we've seen that we don't think will perform as well, but a contractor will say, 'You've specified six inches to the weather, but we've got this terrific thing...' We had windows in one project over in Marin County where the glass was blown right out of the frame and wound up across the room 15 feet away. It turned out the manufacturer had just glued the glass in four spots and put a little rubber bead around them—no positive retention. It's those areas where the builder and the architect are most vulnerable, because none of these products are tested in the field before installation. I wish there were a way of finding a logical remedy, because the ultimate user, the homeowners' association, comes back to us because we're the insured—the contractor may be gone—and asks us to make repairs."

Jim Olson and Warren Callister offered a different perspective on product selection: both thought that the individual owners were left with too little freedom to express their tastes. Said Callister: "Sometimes emphasis is given to details—wrong emphasis, like too much emphasis on things people really find quite personal and would do differently.... Sometimes I feel superficial in some of the things we have to work with. It all starts with the marketing and sales people."

This offered a good opportunity to go deeper into a

topic that had already been touched on many times: market research. Moderator Wagner turned to Bob Lesser and asked:

Market research is frequently criticized as establishing too many rules and constraints. True?

Lesser's response: "In some cases market research can provide some specific opportunities that can be picked up in the design and translated into a winning project. For example, there were some things that weren't mentioned at all in our discussion about products. But in some recent research we did in half a dozen different locations around the country for attached, not-particularly-high-density suburban housing, the four items that were the most important to the market were: security, noise, storage and energy conservation.

"What those of us who do market research try to understand is what's out in the market, who the potential customers are, what their motivations may be, what the competition is—demographically, statistically and so on—to size up this market and its potential and to estimate and forecast what the share of market is going to be for a particular project. And out of all that we generate specific recommendations—what you probably call a design program—that translates what the market is saying into very specific product input so that you can get on with the job of being planners and architects and not have to wonder what's on the mind of the client or what's on the mind of the people the project is going to serve....

"We have found that early on a decision should be made as to whether the project under consideration is really a project or whether it's a series of dwelling units. People seem to respond to different criteria: For example, they react much more to the benefits they can derive from the community environment than they do when they are buying individual houses in a subdivision where there may be a half-dozen builders represented. There, research indicates, it's more important to worry about kitchen appliances and interior finishes and things of that nature. At a community level or even a project level, on the other hand, the market will respond much more to an over-all sense of well-being, identity, prestige, security, landscaping, lighting, and the general feeling of the place. So early on in the process we try to determine what

it is that we're going to sell and whether we're selling benefits or features, so the market research can be far more definitive from a programming standpoint."

Art Danielian: "Sense of place becomes increasingly important in the high-density areas, and I think the market researcher is a fundamental resource to tell you what people are looking for because different age groups and different lifestyles do require different amenities and pricing."

Rob Steinberg: "Market research is an outgrowth of the developer trying to reduce his risk, plain and simply. And there are good market studies and there are bad market studies. I've had developers come in and say I have my market study, no problem. It's important to point out that just having a market study is not the answer. Where it becomes successful is where there's a dialogue between the market-research person and the architect. If he gives you a booklet and walks out and says 'I'm done,' I don't think it's going to work."

Warren Callister: "I agree that we should work together, but somehow or other that has changed, and the banks are conservative, the lender is conservative, the developer is conservative, and the whole thing reinforces itself into an unimaginative solution to things. I just wish we could somehow move that up."

Don Sandy: "I think that every person at this table has become a success through innovation—through innovative concepts within the housing sector before there was any marketing.... If marketing has the effect of stopping the creative and innovative things we started with, we are losing a lot. It's just that simple."

Developer Niel Davidson: "Innovation is relatively easy when we're in an up market. In the five to seven years preceding the recent recession, there was a lot of innovation, and it happened because the market would absorb innovation. Innovation is going to be a lot harder in the next 10 years, because it's going to have to come from being able to provide housing at a price that people can afford."

The discussion then moved on to the topic of constraints to innovation. Number one on the list: the regulatory process

"I truly believe it's gotten out of hand," said Darryl Foreman, "and I'm speaking as a designer, an architect, and a developer. Regulation has put those decisions about liveability away from the group of professionals who have a body of knowledge and who over the years have developed a way to design buildings in such a way that people can live in them comfortably. This regulatory process has put those decisions into the hands of bureaucrats and elected officials who really have no expertise.... There doesn't seem to be, built into the regulatory process, the notion that we'll solve the problem when it appears; they all want it solved ahead of time. This contributes to increased cost; it contributes to the paving over of the environment; and it's the consumer's loss for it limits his choice of how he wants to live and raise his children."

"Many regulations are counterproductive to the quality of life," added Henrik Bull, "and I think most of us here would agree that the market can and should decide many of these issues. Such things as land-coverage ratios, parking requirements and all the stuff that went into the minimum property standards should not be covered by regulations. They're pure nonsense and they make for cookbook architecture and dull living at the very least...."

Ralph Bender offered one solution: "It would help tremendously if architects would serve in government, on zoning commissions, planning commissions, city councils.... It's a tremendous opportunity to get our point of view across, and I don't think enough of us spend enough time in that sector."

And Art Danielian offered another: "We have informal workshops with the city council and planning commission ahead of the actual submittal so that we can give them a chance to get their minds grooving in a more positive direction rather than facing a kangaroo court on one day when the room is full of biased people."

Ira Norris described how the building industry in San Bernardino County had banded together to elect officials who understood the building industry's point of view.

And Barry Berkus pointed out that often it is not the officials who impede progress: "Many times we get the green light from

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“The banks are conservative, the lender is conservative, the developer is conservative—it all reinforces itself into unimaginative solutions.”—Warren Callister

the staff; they want us to do innovative product, to develop new building forms and increased density. We get to the planning commission and then the neighbors come out; they're the ones who stop us today. In the 1960s, the architect and the developer created a great big Frankenstein. We did PUDs, and then the cities turned around and said 'We will not accept your greenbelts, your streets.' So we formed associations. We polarized a political group. Much of the litigation we're facing today as architects and planners comes from that polarized group, the new political entity."

"Let's switch gears a little bit and talk about a different set of constraints to innovation," said moderator Wagner:

For a long time it was conventional wisdom that contemporary architecture didn't sell. Still true? Why?

Robert Lesser: "Getting away from the West Coast, the East Coast, and maybe the Rocky Mountain states, our experience has been that the major impediment to innovation is that person who's between the user and the designer: the builder. You do not necessarily refrain from doing contemporary housing because everybody in the area—including the bankers and the builders—says you can't. But you do pay a lot more attention to who your market is and what's on people's minds."

Warren Callister did not find the builder an impediment to innovation when he planned and designed the pioneering Heritage Village, in Southbury, Connecticut, back in the early '60s: "When we first went to Connecticut, we were very impressed by the New England architecture that existed there. So we made something quite derivative. . . . But the client group said no, that sort of motif had been used so often and so badly in New England that they didn't want to use it. They said 'We came to you in California because you would bring something else to New England.'

"Still, we felt that we should keep some of the mood of the

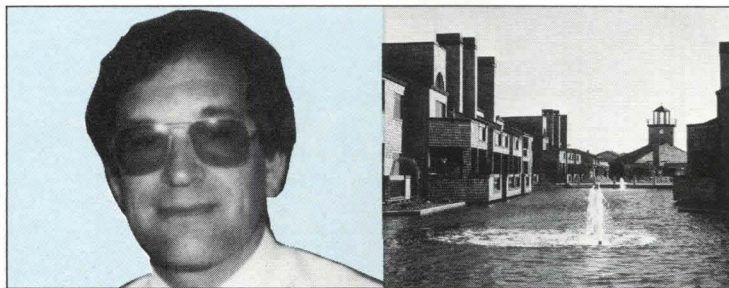
barns and the houses and the way they were placed on the ground. We did use different materials and we didn't paint them white as most houses are in New England. . . . And some people think it's a New England style and some people think it's California; some think it's modern—it's one of those things that didn't declare itself so strongly that people objected. And it did meet a larger market, and I was delighted that we had compromised with the developer in this case. . . .

"I feel we have many markets, and if you can reach just a portion, it's a valuable portion. The response you generate often raises the value of the project so high that if you do something that you consider to be in good taste—good design—you actually attract people who have good taste and they make a good community. It does help, it does influence."

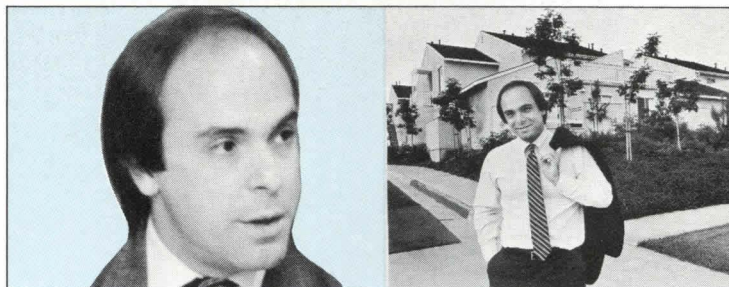
Dick Weiss: "I've had the experience of having developed in the major market areas throughout the United States [Mr. Weiss was president of The Larwin Co., a major multimarket builder, during the '70s] and I can tell you that when we brought the California contemporary into the Chicago marketplace, it was not as acceptable as when we came from the East with the Levitt Colonial. This style was very acceptable in the Middle West, and we sold it head-on-head against the midwestern classic split ranch. . . . There are still areas where if it's not brick it won't sell, and I think it's important to recognize that."

Barry Berkus: "Essentially the mass-market builder has become very sensitive to regionalism. Contemporary architecture in Virginia and Washington, D.C. means taking the shutters off. If you try to do something more than that, you're really butting your head against the wall. Because of the media, there's a great move across the nation to make the space inside these dwellings something that suits today's lifestyle. But the exterior of the building is going to be an envelope that reflects the tradition of the area. . . ."

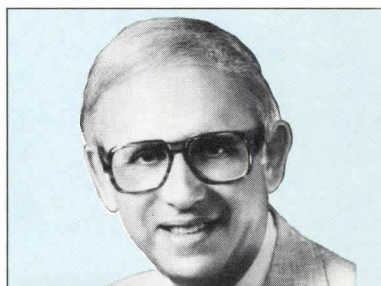
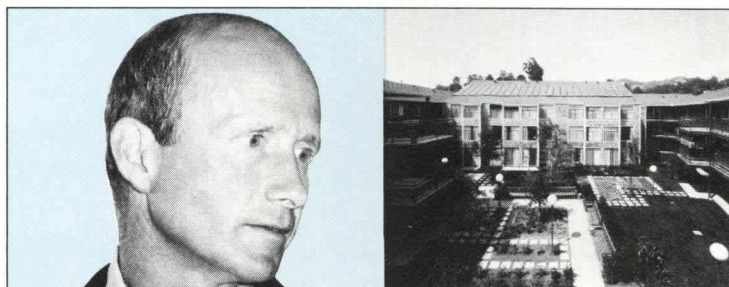
Henrik Bull: "There is still a feeling that if the general public likes a piece of art, it's got to be bad. The fashion magazines in architecture go through styles every two years. Every few years they discover a new decade. They keep rediscovering Le Corbusier. I haven't been able to figure out why; nobody outside the profession takes it seriously. It's what works that I think is most



Joshua Fretwald



Jane Lutz



From top to bottom:
 Niel Davidson
 Director of Housing Development
 Stanford University
 Palo Alto
 Petros Panagopoulos
 Project Director
 Irvine Affordable Housing
 Irvine Pacific Development Co.
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"Innovation will be a lot harder in the next ten years, because it will have to come from being able to provide housing at a price that people can afford."—Niel Davidson

important. If the building makes sense, then maybe people will feel that it has some value. It's not important whether it has a flat roof or not. Rather, is it a liveable space? ... My wife and I spent seven years in 330 square feet of absolutely wonderful space. Not designed by an architect. Fireplace, view, all of the amenities that we really wanted. And not legal, speaking of impediments."

Walt Richardson: "There's a danger in names—contemporary, traditional, whatever—I just dread every survey that comes out and gives people choices. You have ranch, Tudor, and when it comes to contemporary or modern, invariably there's a shed roof or some awful-looking thing. Architecturally it could be the cover of a magazine, but to the general public it's a real turn-off. Those surveys are so loaded by the drawings they use; Heritage Village is a beautiful example of that. If you took a black-line drawing of one of the buildings there and put it in a survey, people wouldn't understand it. It wouldn't read. And if they saw it in the project, they'd fall in love with it."

It was Rodney Friedman who had the last word on the subject: "Beyond these factors that relate to economics and geography, the buyer is really pretty malleable. He wants to feel comfortable in his residence, so it can't be an architecture so extreme that he's going to be the subject of ridicule by his peers. We have started to survey our projects. ... The truth is, most of the people can't identify the architecture of their homes. But they do know whether they enjoy living there or not, and they recite the specific examples which relate to the ambience, the landscaping, etc. They want to feel good and we want to be part of the process to allow that to happen. And that's what the surveys have a hard time communicating, because they're stuck with the graphic process of illustrating some kind of a design in a questionnaire."

Moderator Wagner then asked for more details on a subject that had been touched on early in the Round Table:

Does it make sense for architects to work on a front-end creative design basis only, leaving the builder to do his own working drawings?

And if so, he added, how much could fees be reduced? How might the architect be held harmless for failures?

The architects divided on whether this was a good way to work. Said Barry Berkus: "We have been doing that for a long time, and we found we had to go to a tight design development package which would unwrap the full building, cut the sections, do everything in quarter-inch, tie it together so that someone without a tremendous amount of talent would not take too long to put it together. This way we can usually get a job that resembles what we had in design."

This system, says Berkus, cuts his fees exactly in half. He deals with the liability question by staying off the title block: "Basically it says 'construction documents by' and it gives the other architect's name. We may put in something that says 'designed by,' but the disclaimer is very important."

"Is it a satisfying experience to you as an architect to work that way?" asked Rob Steinberg.

"I get the greatest satisfaction in the schematic and design phases," answered Berkus. "In large project architecture, if the massing is correct, there can be some problems in the details and the project will still be pretty strong. And putting on a business hat for a second, we make all our money in design and lose it in working drawings."

One more advantage, Berkus pointed out: Working this way educates the young architects who are drawing the work. The biggest problem: Some of them don't think they need the education. "Sometimes the firm has a tremendous ego to begin with, and they start massaging that design and change it without saying anything until all of a sudden you walk in the field and it's not your design anymore. However, some developers have good drafting staffs, and they're easier to work with because they'll ask questions where an architect might just jump in and interpret."

Does the builder save anything if there is a second architect doing the working drawings?

"He saves so little it's not worth the loss of coordination,"

said Walt Richardson.

And Rod Friedman agreed: "It's been a disaster every time we've tried it. In fact, we've had our clients volunteer to pay for putting a temporary team of people in a different city or state because they wanted the continuity with their local contractors."

Berkus argued the point: "Take Texas, for example, where the fee structures are 10 or 20 per cent of what they are here in California. If we give a small developer our fee, it will blow him out of the saddle. But if we say 'design only' and cut the fee in half, he'll get the whole thing drafted for \$5,000. So he's able to afford our services to design something that's decent."

Ralph Bender had found another way to take advantage of the low drafting fees in Texas: "In our town [San Antonio] we have about 50 one-man firms who don't get big jobs because they're one-man firms, but they're extremely capable architects and many of them are particularly capable at doing production drawings. So we've formed what we call a consortium: Under the umbrella of our firm and the consortium, these architects retain their identity but work for us almost continuously in production, design, supervision or specifications. We were able to get our production drawing costs down because they're not carrying the overhead that we're carrying."

At the moment, however, Bender is concerned not only with cost but with speed: "We're hoping that the introduction of computer-assisted drafting equipment may give us a lot more design time and cut the working-drawing time down."

Henrik Bull sounded a note of warning on computerization: "We have had both very good experience and disastrous experience, and everything depends on who's doing the work. Unless you're very different from us, you can't afford to buy the equipment yourself, so you'd better know who is doing the programming and the quality of their hardware and software. We had one project that was a total disaster because they did not have the capability of making the kinds of changes that are really the key to success. And in another case—a large hotel that was fiercely repetitive—we were able to make minor changes on all 400 rooms overnight."

An end-of-the-day round robin focused on the practical aspects of the architect-builder relationship ...

Ralph Bender: "If we would educate our architects to run their own businesses better, if we would be not just architects, but businessmen-architects... we would be better respected by the business and building communities, and we'd have a far better understanding of the problems those business people are confronted with every day."

... And it focused on the social responsibility of the architect

Warren Callister: "The architect's responsibility is as a creative person. Architecture can be more of a creative art than it is, and I think it has to be in order to attract the kind of people we'd like to see in the profession. ... We're teaching professionalism, which is not necessarily helpful when you're really working on a project and you're asking for some perception of how society should perhaps express itself."

But in the end, one thing was painfully clear:

While there was plenty of good will about working as a team, the real question was who would lead that team?

Niel Davidson: "I think in the future, as the architects realize that the developers of today are in fact relatively sophisticated and capable of participating in the design and being a manager of the other consultants that play a role, we'll make great strides in what is ultimately presented to the market."

Warren Callister: "I think the architect might very well hire the developer, hire the builder, the market analyst and might also arrange for the financing and take a risk. We're failing because we are becoming more and more adept at doing the least important role."

For the moment, at least, the answer can only be to keep talking. *Natalie Gerardi*

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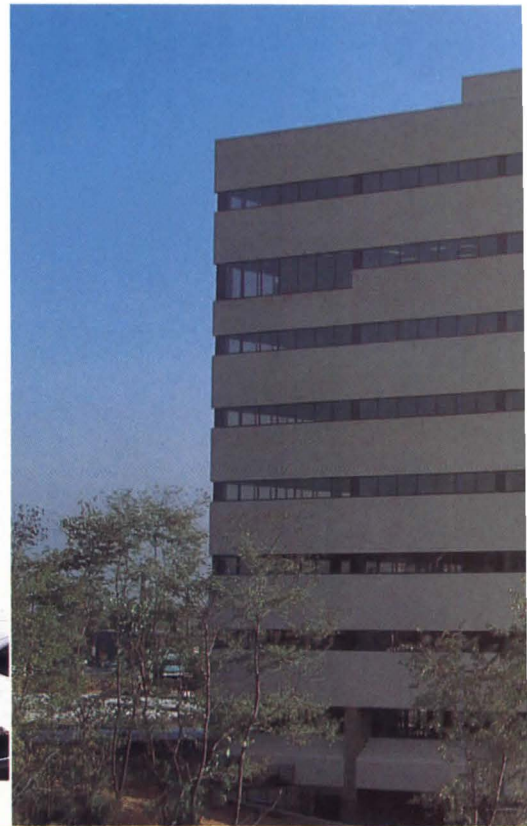


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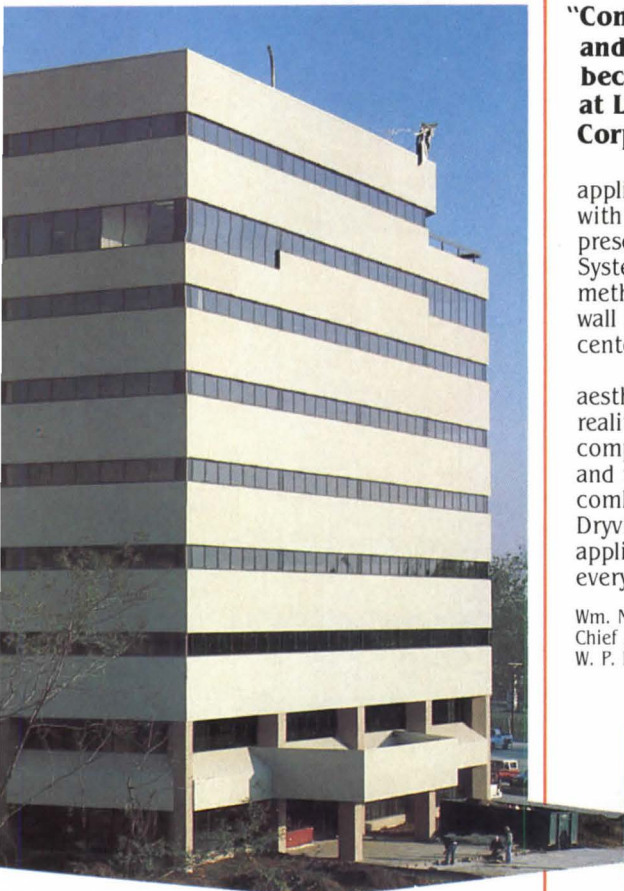
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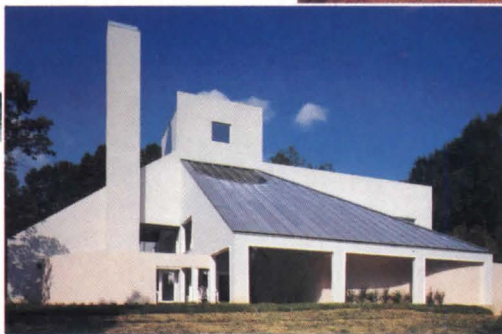


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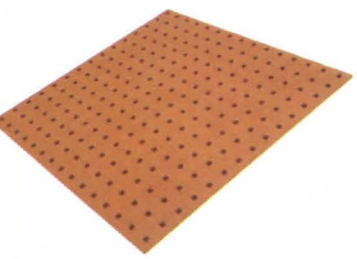
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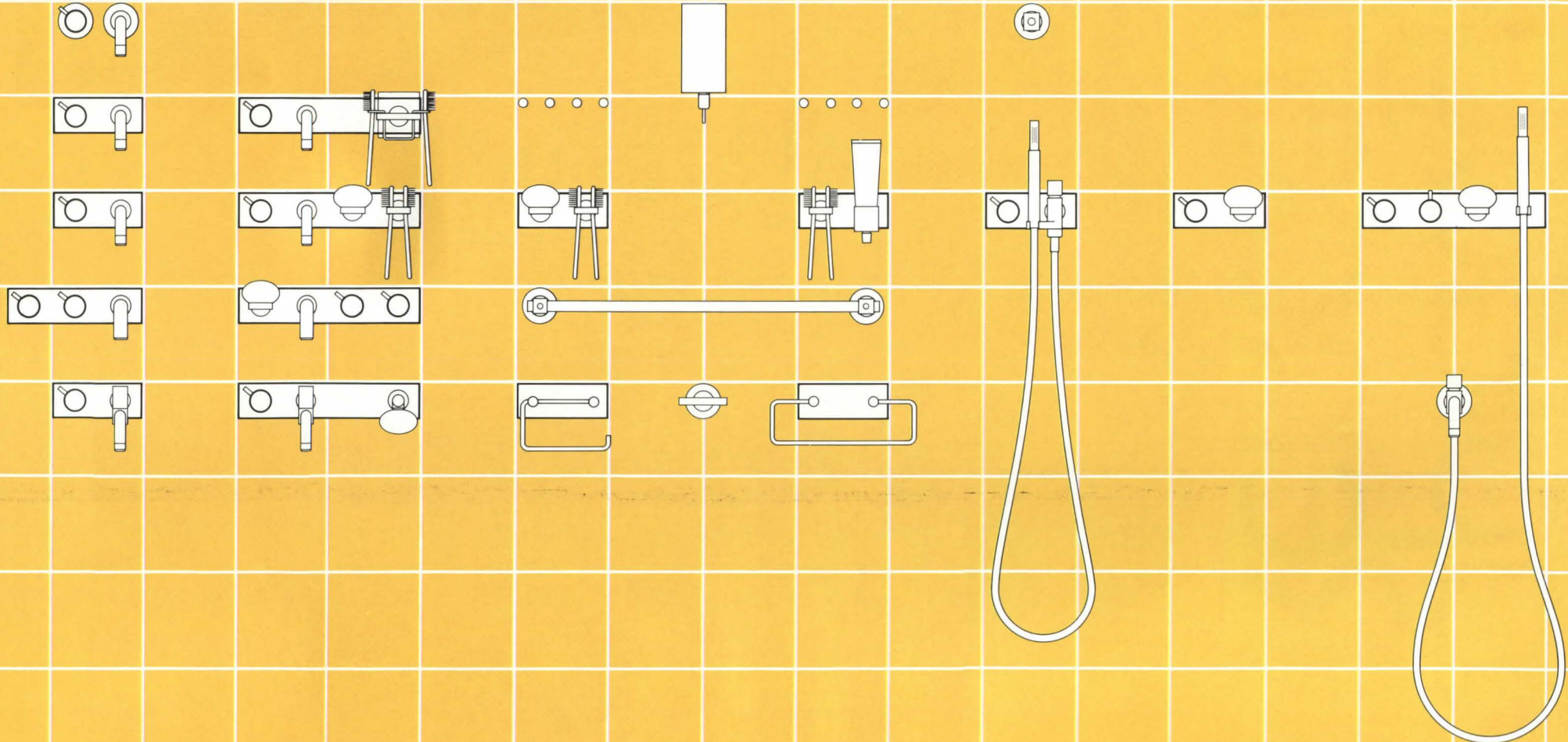
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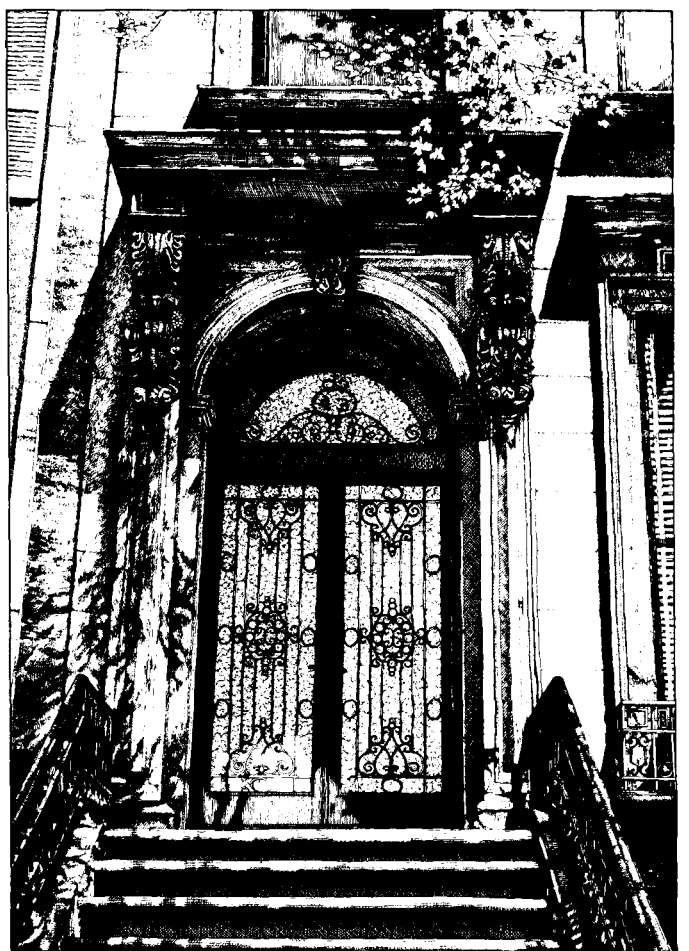
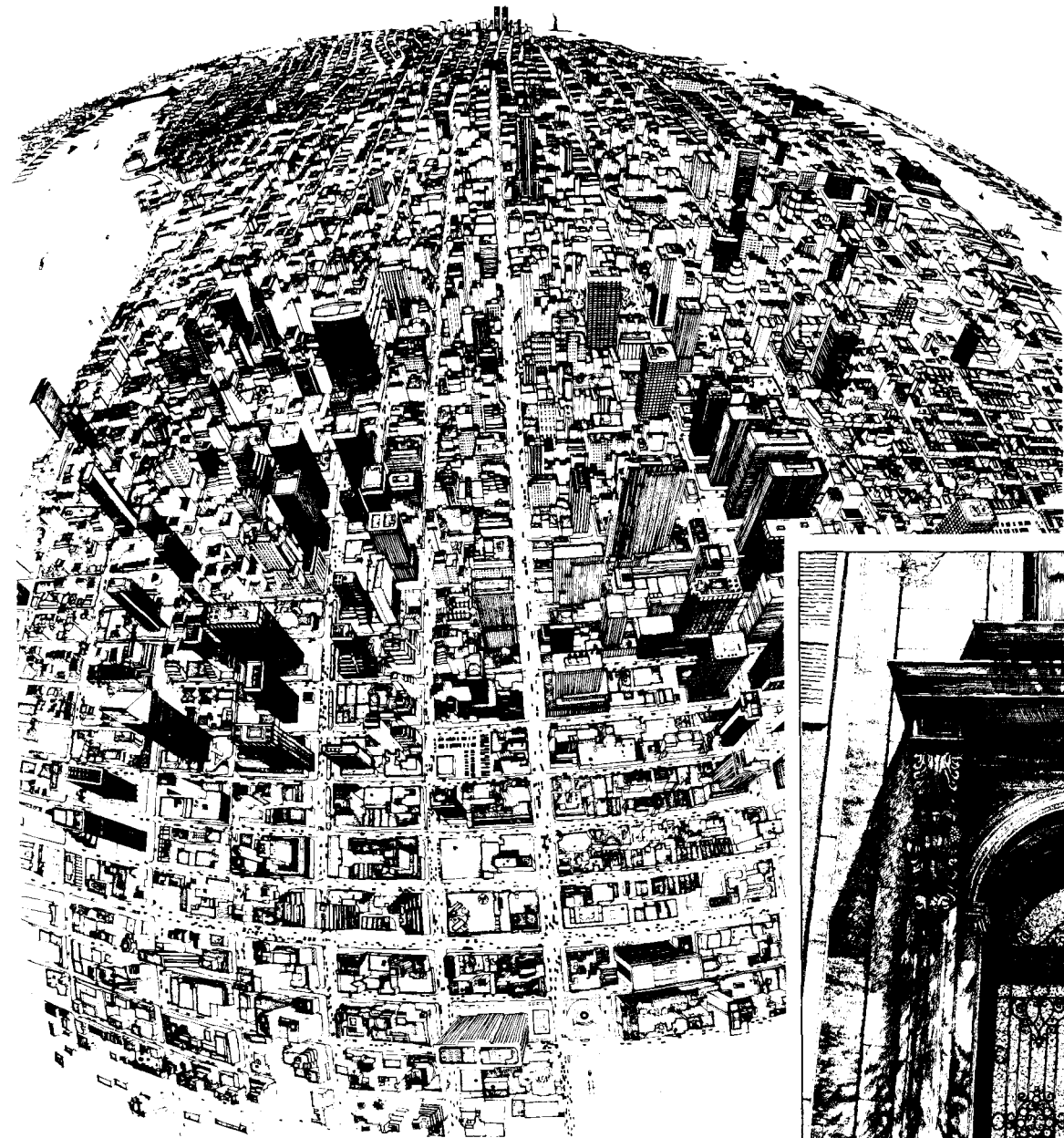
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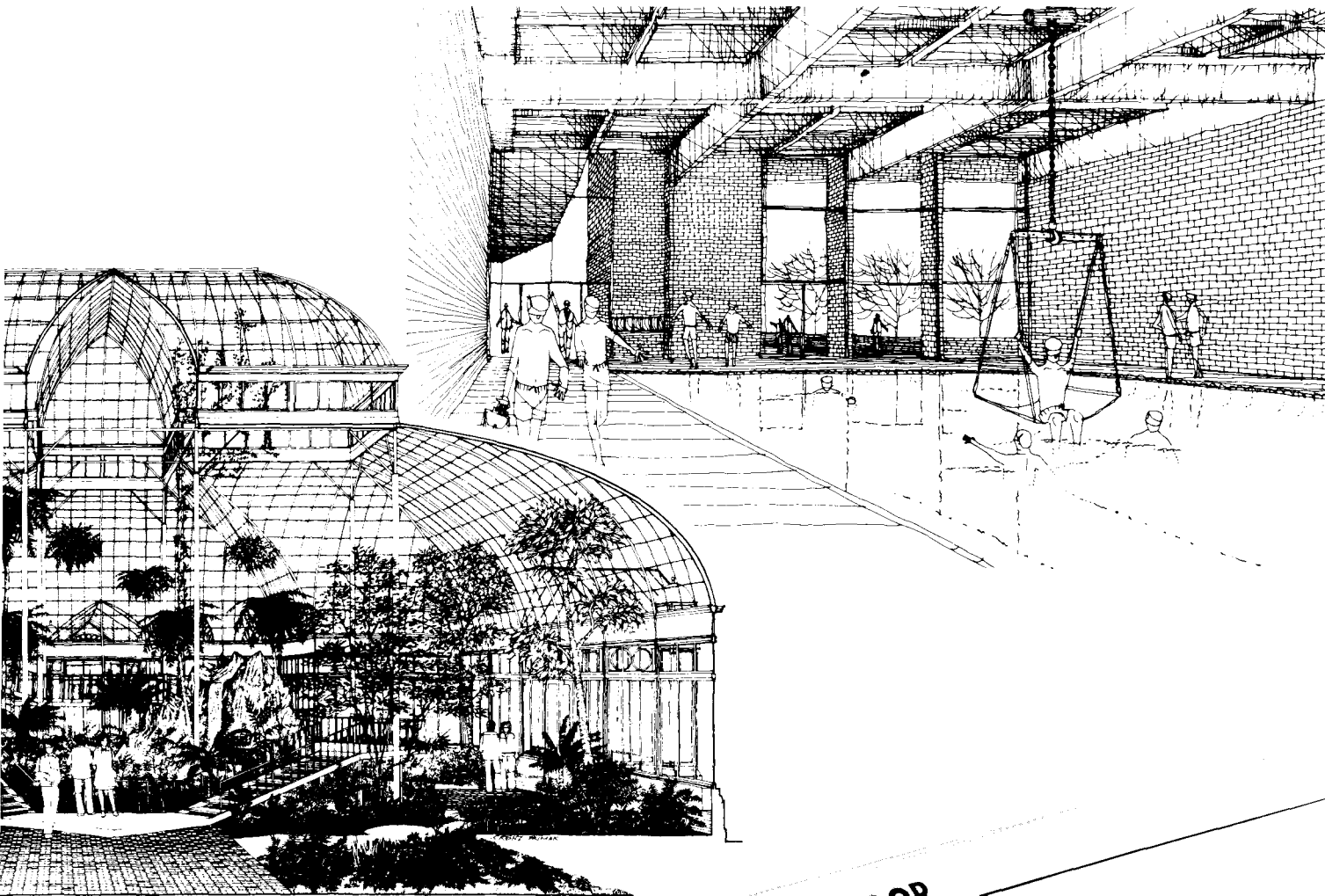
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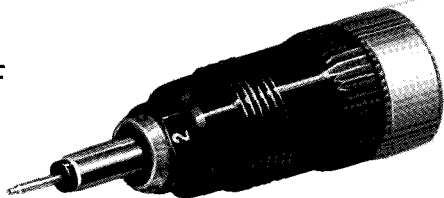


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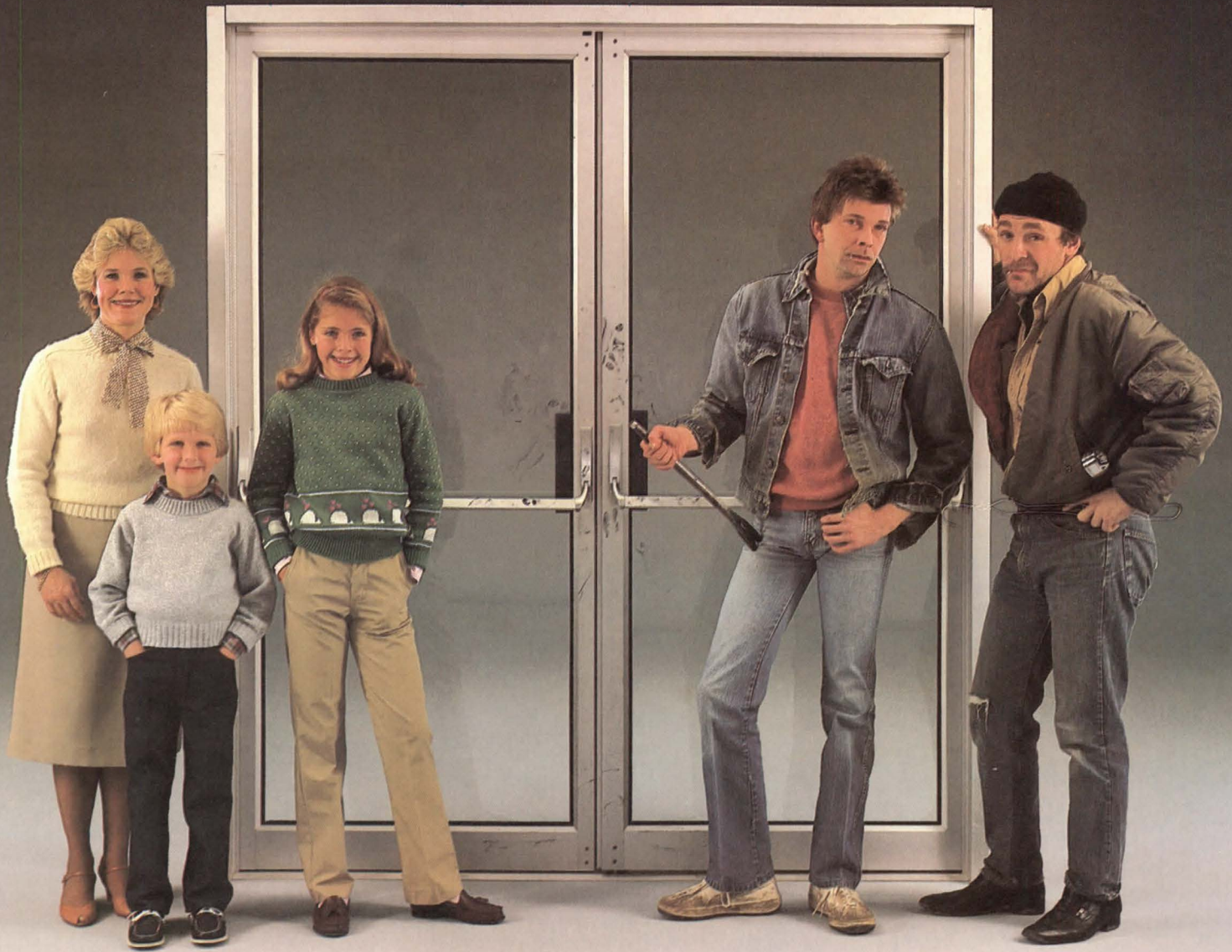
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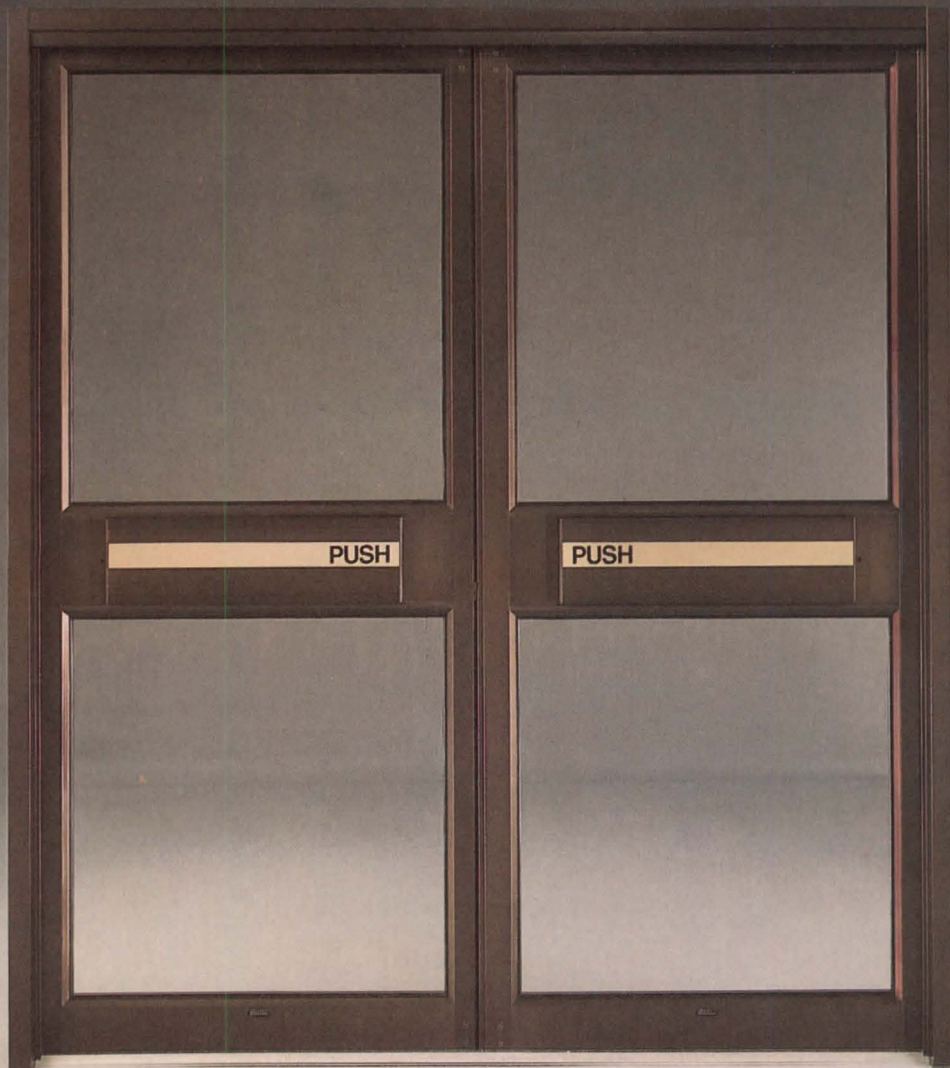
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AR-5/83



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Kawneer Panic Guard® with Paneline®

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And speaking of security, Kawneer Panic Guard ingeniously defeats the intrusion of wires or coat hangers. The patented astragal bar design blocks insertion of devices to release the exit mechanism while continuous stops at the jamb and threshold prevent foreign object entry at these points. The recessed lock cylinder, which is also protected by the pull handles, prevents lock removal by tongs, pipe wrenches, or other burglary tools. And, Kawneer Sealair® weathering in the frame and an exclusive adjustable weathering between the door leafs help make the entrance secure against the elements, too.

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The designer's element

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photo: PETER PAIGE

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Model: Glacé
Designer: Luigi Massoni

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tel: 213/659-1387

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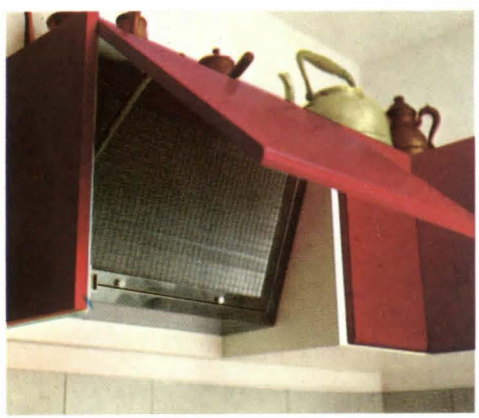
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Because Luigi Massoni pays attention to details.



Because, not only is the Glacé kitchen made in several genuine wood veneers, it is also offered in polished high-gloss colors (a finish that requires 43 separate hand operations to achieve).
 ... for each size cabinet, there is a wide selection of interior components, to utilize optimum storage space efficiently.

Because there is no visible hardware to detract from a clean-line minimalist design.
 ... the structural panels are 3/4" thick (unlike most others which are 5/8" or less).
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Because custom-size cabinets are offered to create wall-to-wall, floor-to-ceiling installation.
 ... spare parts are always available to make later changes or to move to a new house.
 We hope you'll agree, an ICF Kitchen is not just a little bit better, an ICF Kitchen is the best!



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The designers and developers of Three Village II condominiums in Lyndhurst, Ohio did just that, and they decided Osmose FLAME PROOF LHC fire retardant treated wood provided the superior qualities they required for their luxurious development. Not only did it meet their tough fire retardancy needs, including its use in the two-hour rated fire wall systems, but it also gave them a product free of blooming and corrosion problems. Price, availability and insurance savings were other deciding factors in the selection of FLAME PROOF LHC.

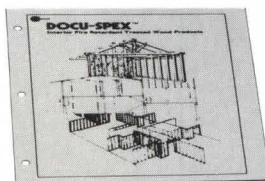
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Send for full details on all the advantages of Osmose FLAME PROOF LHC fire retardant treated wood. It will make your decision easier when specifying FLAME PROOF LHC.

Three Village II condominiums have custom-built interiors suited to individual life-styles. Set into beautiful surroundings, they incorporate superior systems for security and fire safety.

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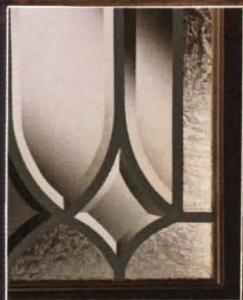
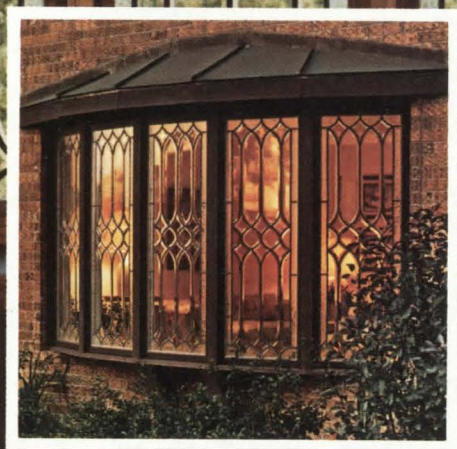


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It's a rebirth of the art, offering your customers the look of real leaded glass windows. Hand-beveled glass is polished to a sparkling luster and solidly joined together. The decorative border glass has a subtly marbled finish that complements the traditional character of each window.

The American Renaissance series marries Old World



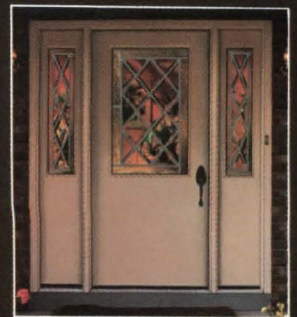
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charm with modern technology. Insulated glass, and a tight seal between panes produce an

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The American Renaissance series is the newest addition to Norco's line of window and door products.



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Case Study No.1



It's Beating Delays To Fasten Over 1000 Custom Windows On Schedule — While Saving At Least 50% On Labor.

An actual account of how Hilti's complete system of products and services makes a positive difference to your business.

Architecture throughout the Las Colinas Urban Center in Irving, Texas is unique and distinctive. Office space is in demand. Any construction delay puts extra pressure on every contractor. That's what the Dallas glazier firm of Payne and Howard wanted to avoid when installation of custom windows at the 511 Carpenter Freeway Building was slowed because of material problems.

When the shipment did arrive, there were over 1000 units to be placed in the seven story building. And other contractors were waiting for the building to be enclosed.

The Hilti Solution

Payne and Howard chose Hilti's DX 451 Powder Actuated Fastening System to do the job. The 59" x 79" steel window frames (including

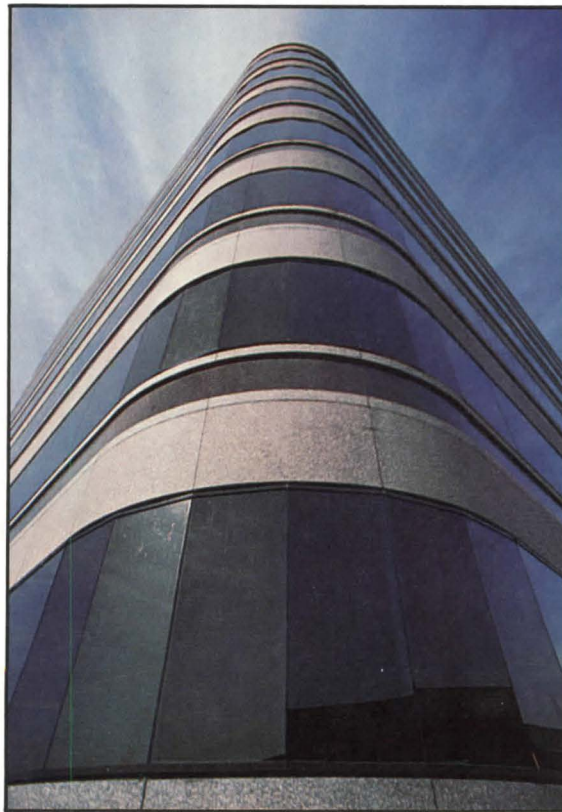
glass) were fastened into 1/2" structural steel beams. Each frame required ten fasteners.

- Fastening labor time was about one minute per window. That's 60 times

System brought Payne and Howard from delayed to on schedule. Hilti EDN 22 pins handled the steel without a hitch. And the DX 451 tool was fast, dependable and convenient. From start to finish.

No building goes according to plan. That's why planning with Hilti pays off in performance and dependability.

Quality products, backed by technical experience and direct service, meant beating delays and huge labor savings in this case.



SEE WHAT WE CAN DO IN YOUR CASE

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faster than the fastening method originally considered for the project.

Hilti's DX 451 Powder Actuated

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Record Houses 1983

Judging by the Record House on our cover, the reader might well expect a commentary that begins "Once upon a time...". There is an aura of imagined childhood haunts about this gabled cottage in the snow that gives Bentley/LaRosa/Salasky's design the appeal of a timeless archetype. Each of the 15 other houses we have selected conveys altogether different associations, yet each in its own way also represents some essential image of home. Whether constructed for \$19 per square foot or \$100, these buildings impress us with a solid individuality that transcends mere novelty. The following pages graphically demonstrate that such oft-repeated architectural themes as the primitive hut, the Palladian villa, and even the modern "box" still bear restatement—and can still inspire creativity in those who master their lessons.

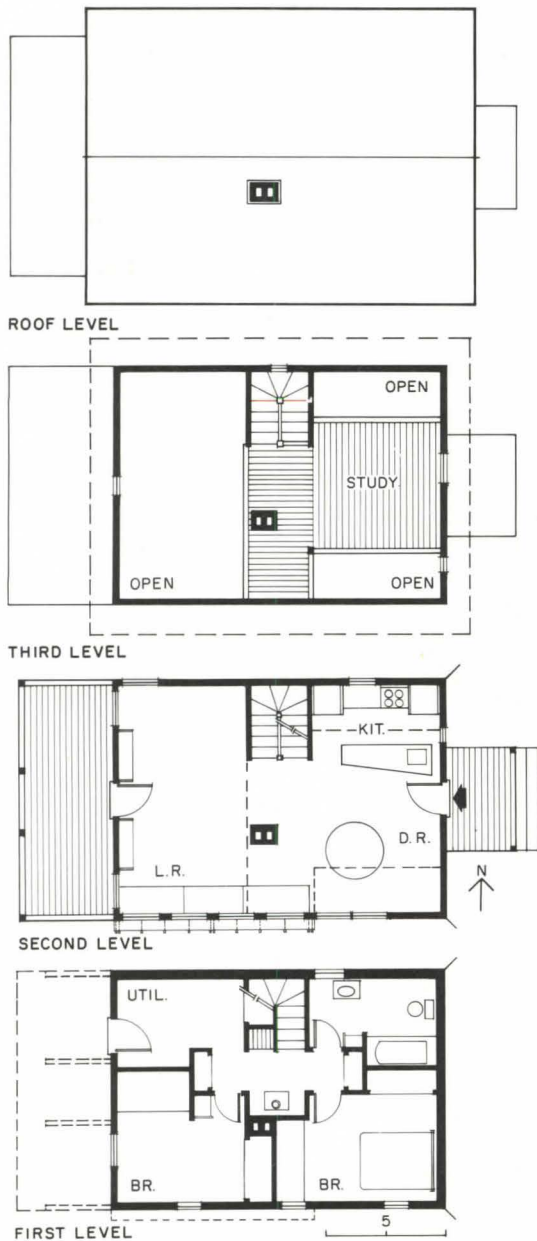
Veronda Associates and Morgan and Lindstrom, for example, have inverted the Late Modernist preoccupation with "breaking the box" by seeking instead to reassemble rectangular volumes in pristine counterpoint to natural surroundings. Frank Gehry has transformed a simple pair of boxes into a tense sculptural ensemble by exploiting humble building techniques and materials. Though he drew upon the utilitarian vernacular of his California setting with provocative originality, Gehry has convincingly invoked the spirit of the place—a time-honored procedure that also yielded the latticed lanai of MLTW/Turnbull's pavilion in Hawaii, the Jeffersonian temple front of BumpZoid's Virginia homestead, and the stucco loggia of Duany and Plater-Zyberk's Florida villa. Several of the most engaging projects juxtapose diverse styles to piquant effect—such as Graham Gund's eclectic stable renovation in Boston and Chrysalis's skyscraper-within-a-town-house in Chicago. Here, as in the South Carolina residence by Stephen Tilly and Alan Buchsbaum, the channeling of solar energy is integral to the visual drama of the design. For all-out spectacle, though, few houses can rival the concluding virtuoso piece by Jim Strasman. Like an extravagant Miesian bridge to nowhere, the glass-and-steel living space soars above cavelike bedrooms—in one bold stroke, an alpha and omega of domestic design. Not everyone's idea of a happy ending, perhaps, but a reminder that no chapter of our story is really closed forever after. *Douglas Brenner*



Hog Hill House

East Holden, Maine

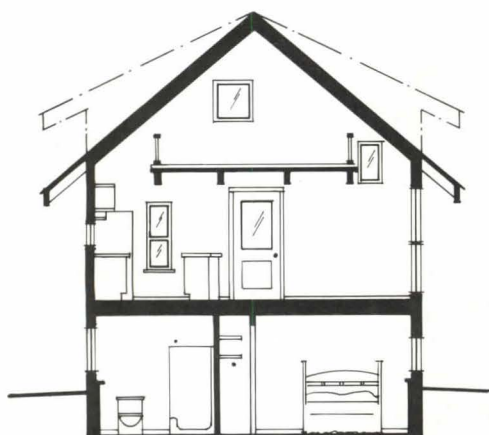
By Bentley/LaRosa/Salasky Design



Perhaps we never outgrow the childhood fantasy that some buildings have the faces and personalities of people or animals. Surely we know that if Hog Hill House could talk it would speak with the laconic wit of Maine. The young college professor who lives here with his wife and child grew up nearby, and the designers of their house, though not themselves Down Easters, have mastered the local vernacular with artful economy. The project was modest from the start, owing to a tight budget (well under \$50,000) and the clients' taste for rural ways.

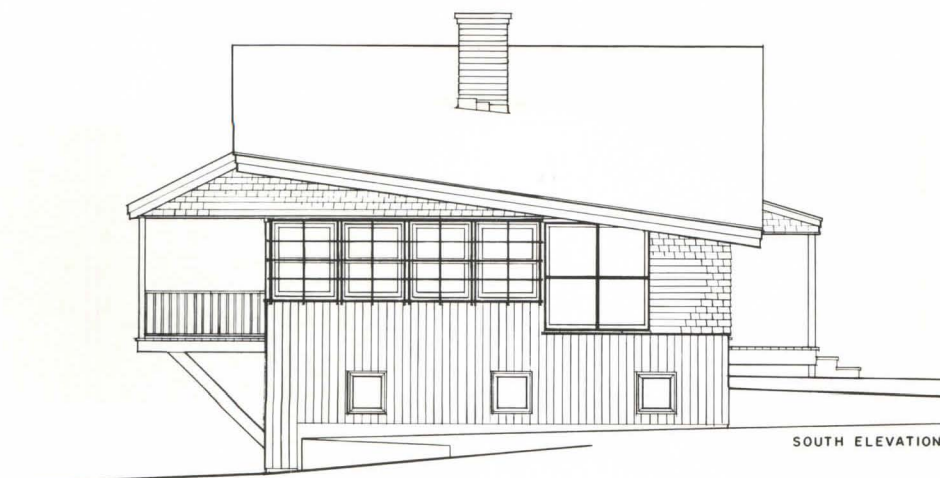
The couple's affection for Shingle Style cottages, and the contractor's insistence on plain stud-frame construction, led Bentley/La Rosa/Salasky to the basic concept of a rectangular volume with a peaked roof. To minimize clearing on the 26-acre wooded site, designers and owners agreed to build the house at the property's edge, facing a quiet road to the east, and looking out on Hog Hill through forests to the west. Old New England barns suggested the device of a ground floor partially embedded into a gentle slope, with an uphill entrance facing the road and downhill access on grade (see section overleaf). As the plan evolved, a stairwell and chimney (for the wood stove that heats the entire dwelling) became organizing elements within the interior, defining a vestigial "center hall." Living areas and a loft study/music room occupy the upper levels and, to take full advantage of the maximum 1,400 square feet the budget allowed, bedrooms were tucked in below, where south windows admit sunlight and meadow views.

Convinced that the exterior needed some distinguishing feature to raise it beyond the banal neatness of a human-size wren house, Ronald Bentley made models to experiment with variations on the peaked roof, even trying on a saltbox for size. In the end, he settled on a symmetrically warped pitch, created by increasing the height of the side walls from front to back and connecting the rafters from the level ridge beam to the sloping plate atop the walls. The effect is uncannily suggestive of lifting wings, particularly when seen from the north (overleaf). "Suddenly, the house seemed to have a definite motion," says Bentley, "as though it were ready to jump off the ground and over the trees to Hog Hill." The taut banded skin of shingles and vertical boards, the beaklike profile of the rear balcony, and corner windows like open eyes reinforce this abstract image of poised animate energy. Here, the house seems to say, is a place where you can rest snug at home, and still hear the call of the wild. *D.B.*





Hog Hill House
East Holden, Maine
Designers:
Bentley/LaRosa/Salasky Design
160 Fifth Avenue
New York, New York 10010
Ronald Bentley, Salvatore LaRosa,
Franklin Salasky, project team
Engineer:
Thomas D. Reilly, P.E.
General contractor:
R.H. Campbell Associates
Photographer:
Timothy Hursley

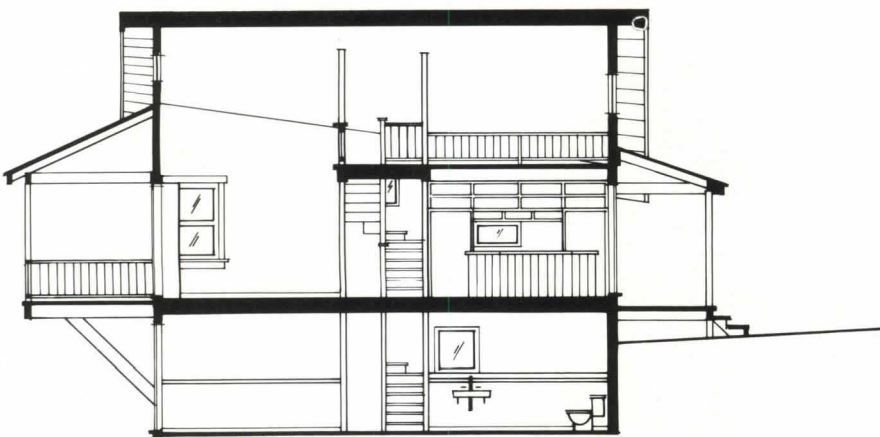
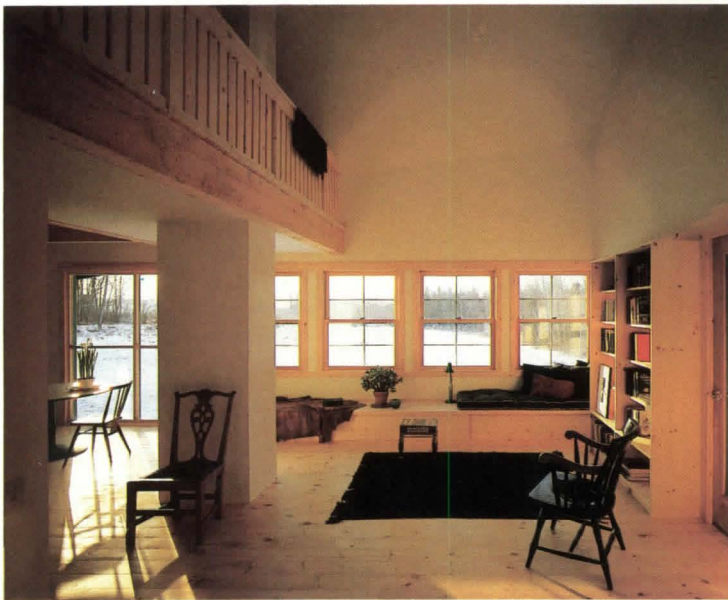
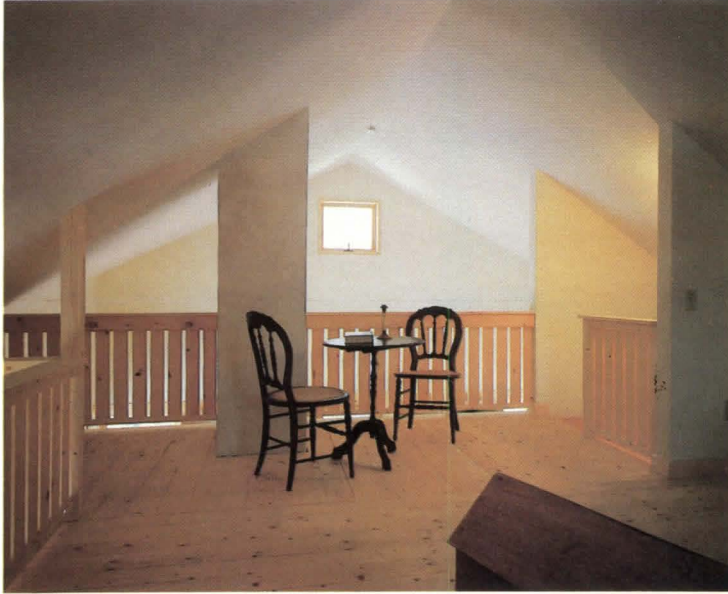


"Nobody quite understood what we had in mind," says Ronald Bentley, recalling the first time the builders saw working drawings of the roof, "but they took it as a challenge and had fun with it." A sheathing of 1x6s was easily fitted to the contour of the warped slopes. The directional thrust implied by the roof line and the axis from front door to back extends westward along a straight avenue cut deep

into the woods. The owner intends to carry out the designers' landscape plan for a pond to terminate the vista (Bentley/LaRosa/Salasky jocularly refer to the prospect from the back porch as their "homage to Versailles"). In its orientation for solar gain, the house obeys common wisdom, with few windows on its north face (photo opposite) and expansive openings to the south (elevation opposite below).

Flower boxes under the simple grid trellis outside the living-room windows will be planted with a summer sun-screen of morning glory or hops (for home brew). The square windows at the base of the south side light ground-level bedrooms which, after the spring thaw, overlook Queen Anne's lace and wildflowers in the field beyond. At the clients' request, all of the precious space in the upper levels

was devoted to family living and dining areas (lower photos below). The garret loft (top) serves as a study, a playroom, and on occasion, a music room.



Private house
New Buffalo, Michigan
By Veronda Associates





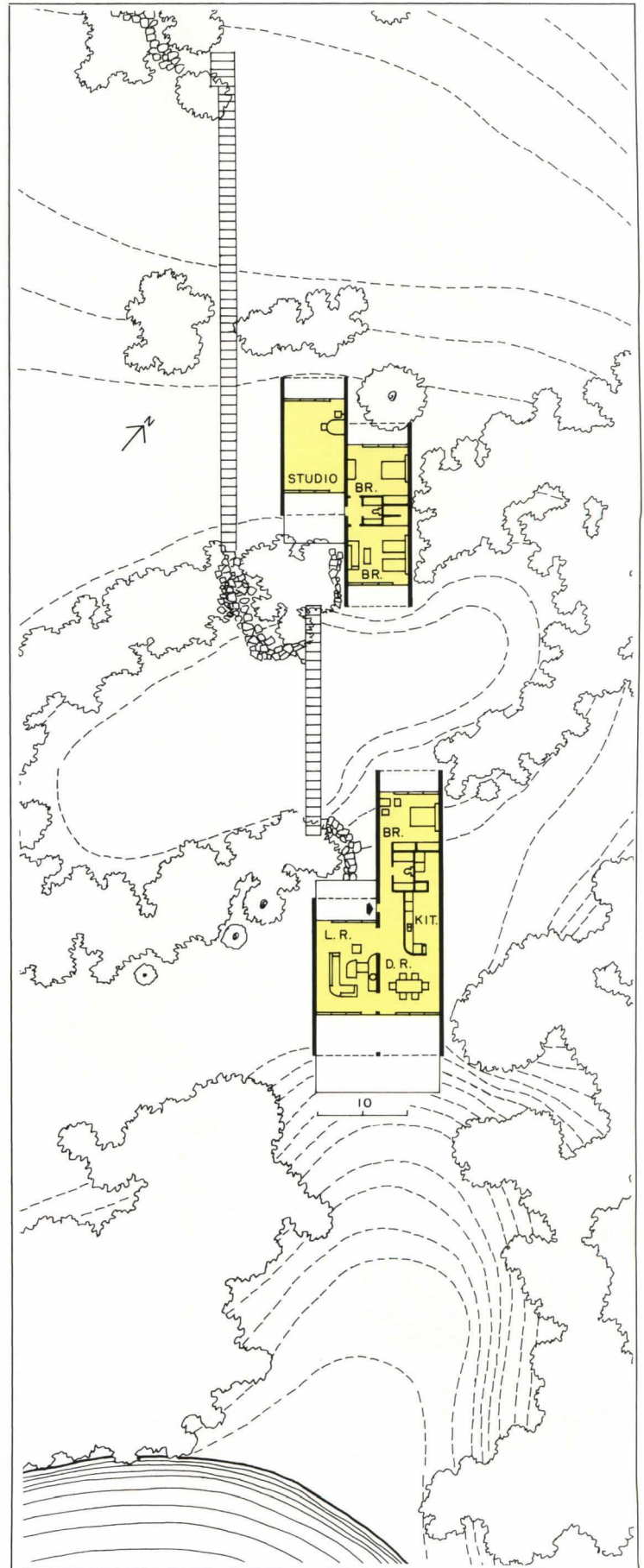
In the midst of a wilderness in the Michigan Dunes, architect George Veronda set an ineffably man-made object of the strictest proportions and crispest finish. Man-made qualities are ruthlessly cut off at the edges of the house, and the owner, an artist and ardent amateur naturalist, has intensified the wilderness by cultivating and transplanting wild grasses and flowers indigenous to the dunes.

Used as a weekend and summer house, the building has been split into two parts: the larger living area and the smaller studio and guest house. The division responds not only to the site but to programmatic desiderata. The artist prefers to work, if not exactly in an office, at least out of the house. Moreover, he believes that host and guests find occasional separation a relief.

The two halves face each other across a shallow depression at the top of the site, an oval hemmed with willows and turned into what Veronda terms "a private, natural and somewhat mysterious interior garden." The visitor, leaving his car in the parking area (out of sight at the top of the site plan), approaches the complex on a long, narrow planked walkway that skims the grass along one side of the studio. Only after breaking through the trees, skirting the corner of the studio and starting down the planking that traverses the interior garden can he perceive the relationship of the buildings to each other and to the site—or even the fact that there are two buildings.

Organized on a rigorous 30-inch module, the house has steel panels on its long walls, glass panels on the short end walls below wood lattices. Like the panels, floors and ceilings obey the discipline of the module: steel trusses are set on 30-inch centers, exactly above teak strips inlaid every 30 inches in the white oak floor. Even outdoors the built environment adheres to the module, with planks on decks and walkways stained a darker color at the prescribed intervals. Though the materials are, generally speaking, standard, the architect's adherence to the module gives the small house unexpected intellectual elegance.

Veronda chose the panels partly because steel, like the grasses, is indigenous—the steel towns of northern Indiana are nearby—but mostly because their smooth surfaces stand in direct antithesis to the untamed site. At first he resisted stark white as a color, trying out a range of bright and natural colors. But ultimately he concluded that "white works best," emphasizing the linearity of the building even as it sets off the many and subtle colors of the wild flowers. *G. A.*



From the guest house at an artist's residence on the Michigan Dunes, living quarters are viewed across a secluded garden of wild grasses and flowers (directly below). The swagged drapery in the bedroom window is manually operated, walked from one side to a hook on the other. In the dining room (bottom left), all elements comply with the strict 30-inch module: steel panels, glass panels, truss joists and

inlaid teak planks. A large deck at the back (below and on preceding pages) overhangs a river bank. Here the domesticated petunia marks the meeting of sophistication and wilderness. To protect the owner's art collection, the house was oriented against the harmful southwest sun.





The artist's painting, "Cattails and Cardinal Flowers," which hangs on one wall of his studio (top above), reflects his lasting fascination with wild plants. The living room (bottom) looks out on a large deck (opposite) that vividly demonstrates why Veronda calls this "a striped house." Construction cost was approximately \$45 a square foot.

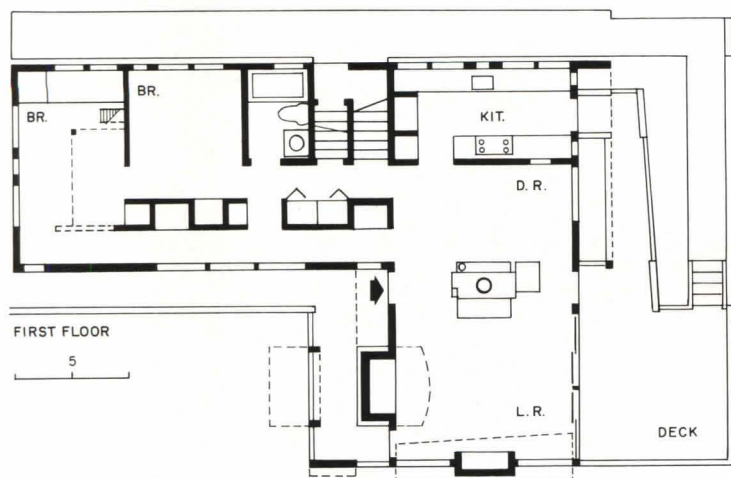
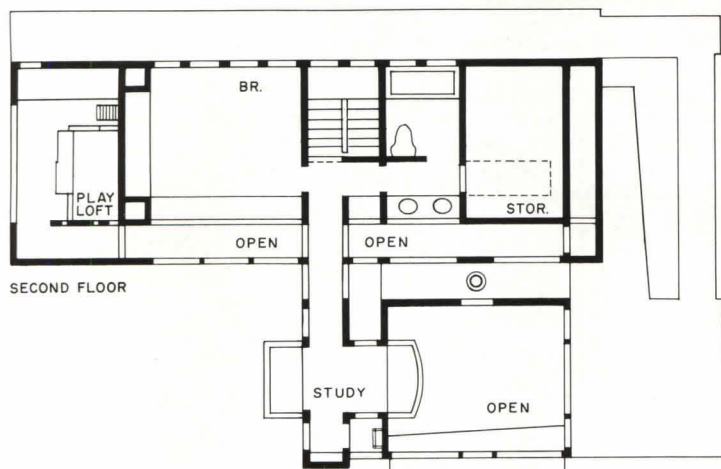
*Private house
New Buffalo, Michigan*
Architects:
*Veronda Associates
 365 West Chicago Avenue
 Chicago, Illinois 60610*
Engineers:
*S. P. Asrow Associates, Ltd.
 (structural)*
Master carpenter:
Stanley Pukelis
General contractor:
Owner
Photographer:
Bill Hedrich, Hedrich-Blessing



Private house

Fire Island, New York

By Rivkin/Weisman Architects



Along with the Walkman, the acrostics, and chilled Macon that help the weary New Yorker forget his cares on the sand at Fire Island, few pastimes are quite so diverting (for the architecturally inclined) as a round of beach-blanket *baukunst*. Even seasoned house-watchers are apt to find some novel twist to the Shingle Style Revival or an unimagined Corbusian maneuver among the latest cottages behind the dunes. That there are still new gambits to be tried, without breaking the rules, has been demonstrated handily by Rivkin/Weisman Architects, who in a stroke of one-upmanship have united the bungalow and the *machine-à-habiter* in a single dwelling.

It all started unremarkably enough with a classic program for the contemporary beach house. A young married couple who live in Manhattan with their daughter Katy wanted an all-season second home to share with weekend guests. Undaunted by a small inland lot (60 by 100 feet) zoned for a maximum floor area of 1,800 square feet (including decks), and neighbors on every side, the owners asked for interiors with a sense of open space, where adult and child, host and guest could each enjoy his privacy. Rivkin/Weisman's device of one new house masquerading as two—an "old" gabled cottage clad with shingles and a "modern" flat-roofed villa sheathed in vertical sliding—interweaves elements of open plan and traditional suites of rooms to create the illusion of more extensive space.

The contrast of "old" and "new" plays out a lively visual game as one glimpses one "house" from the other, or from the bridge that links them. But passing back and forth between these two realms, one never feels they are mismatched partners, since the L-shaped layout affords considerable flexibility in the assignment of shared and private spaces, and the life of the inhabitants has not been divided along simple stylistic lines. Projecting into the two-story living room, the most public area in the house, is the study-balcony, its inner sanctum—a multilevel arrangement that recurs in the child's room, where Katy can retreat to a tree-house loft.

A balance of team spirit and individual style also distinguishes the exterior. Paneled gables and dove-colored siding defer to the prevailing form of older cottages up and down the block, and even the flat roof, though exceptional in its immediate surroundings, seems only sporting. Given its proper role as a sun deck, this is the best place in the house for an ocean view—which, after all, is strictly according to Corb. *D.B.*

Private house
Fire Island, New York

Architects:

Rivkin/Weisman P.C. Architects

17 West 54th Street

New York, New York 10019

William Rivkin, Hugh Weisman,
Stephen Lesser, principals; Philippe
Dordai, Erik Hansell, Kathy Kling,
Jonathan Stark, Lisa Reindorf,
project team

Structural engineers:

Robert Silman Associates

Interiors consultant:

Laurie Rolfe

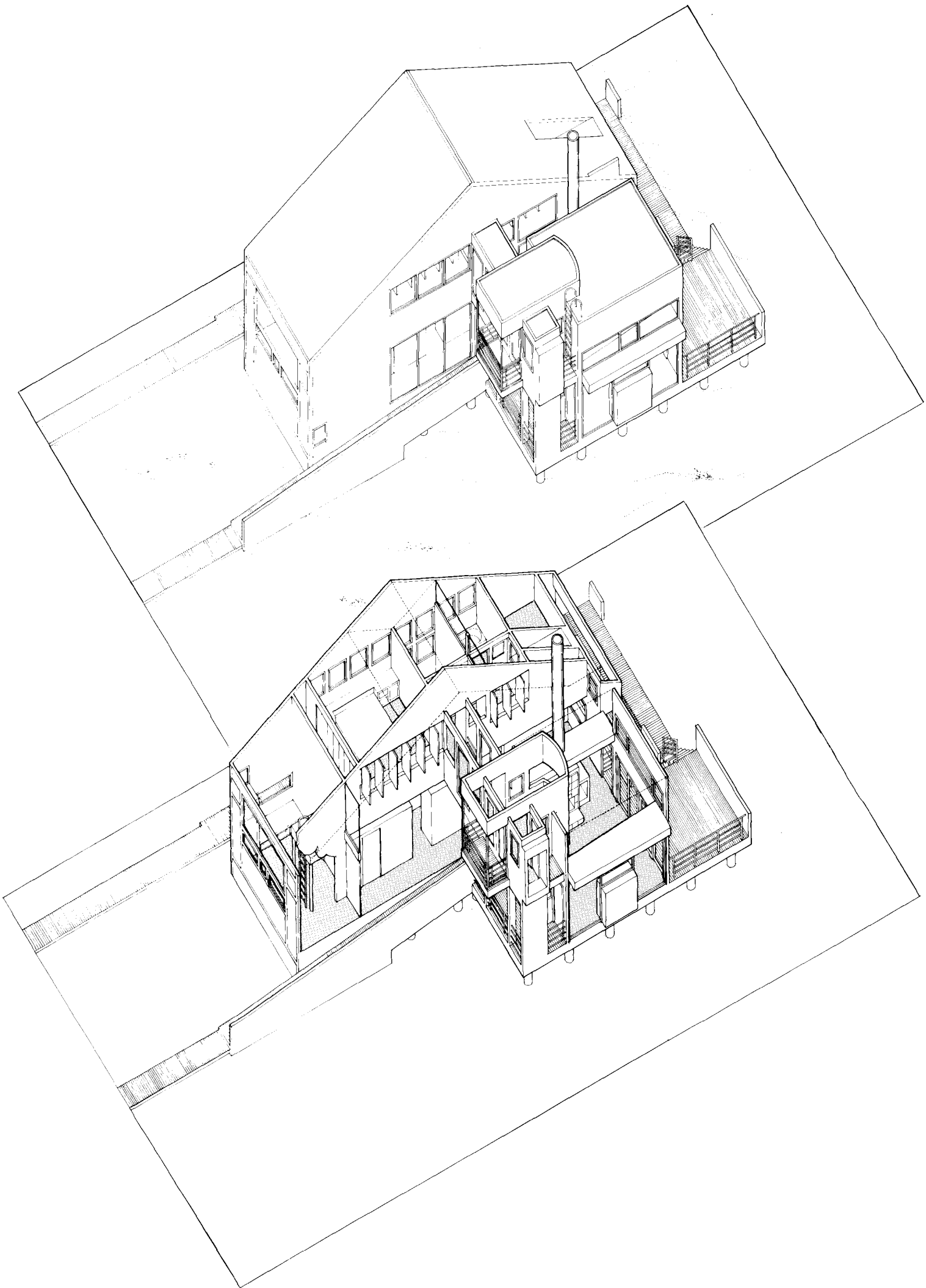
Contractors:

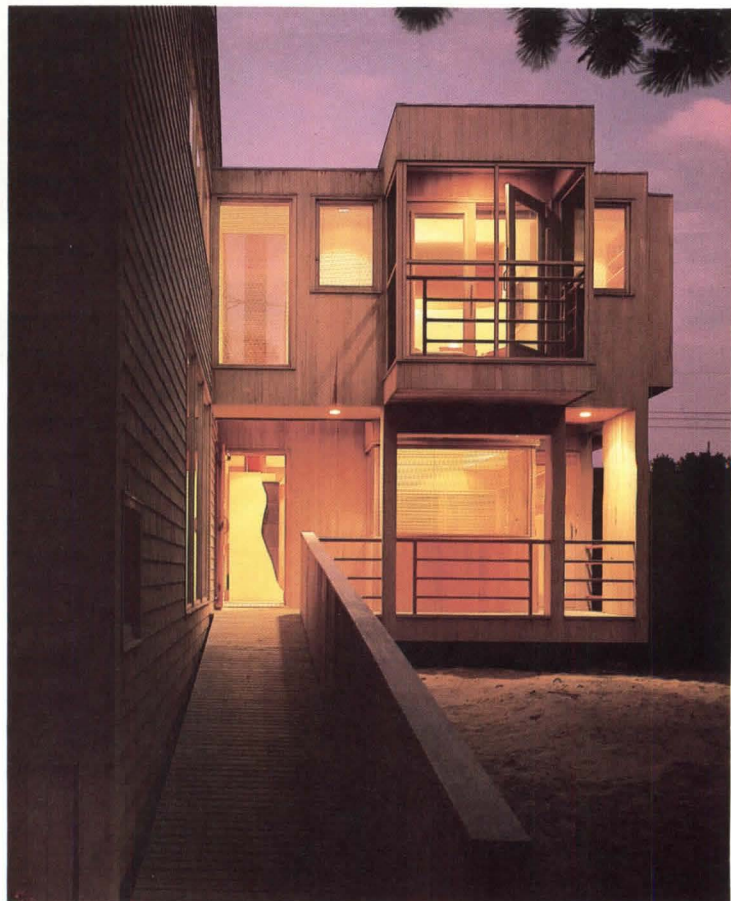
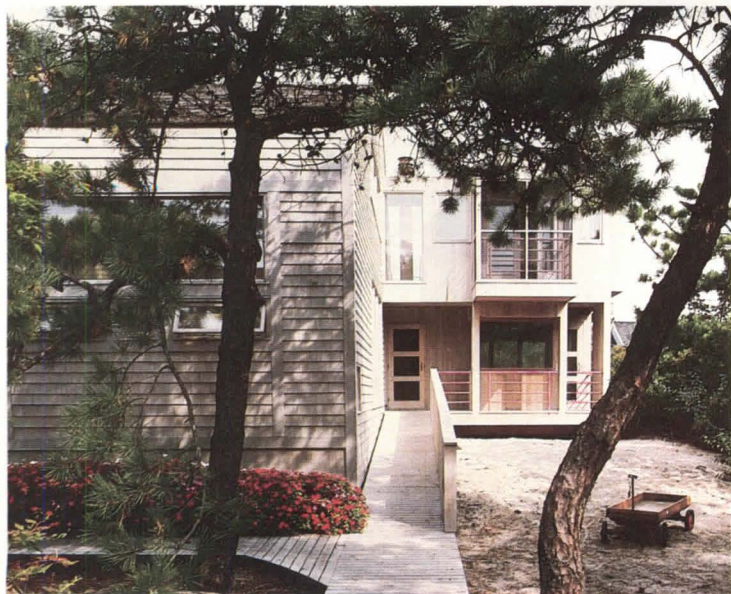
Joseph LaFata (general); Materials
Design Workshop (cabinetwork)

Photographer:

© Peter Aaron/ESTO







A ramped boardwalk leads from the pedestrian street (cars are not allowed on Fire Island) to the front door, situated where the "old" and "new" houses connect (above). Though contrasting roof silhouettes, volumes, and siding textures clarify this stylistic duality, monochrome facades and harmonious proportions reinforce the architectural coherence of the entire building. Through the open

front door, and the transparent "bridge" above it, one glimpses the fireplace and the flue that rises between the two ells. Eroded in a wavy profile designed to recall a wisp of smoke, the slate-paneled chimney-breast forms a pivot for circulation.



Various compartments of the L-shaped plan are linked by multilevel vistas, enfilades, and interior windows, although sliding doors and pivoting shutters allow for variable privacy (notably, in the master bedroom and bath—above right). The railed bridge in the foreground (photo uppermost right) extends to the study balcony, whose soffit appears in the photo of the living room (top left). On rainy

days, the daughter of the house and her guests can escape from their elders in a stylized tree-house loft, with square red “apple” cutouts and a surreal window frame, complete with shade (left center and below).

Spiller Houses

Venice, California

By Frank O. Gehry & Associates

Jane Spiller first met Frank Gehry when she was researching a film about Los Angeles artists and he was building a house and studio for the painter Ron Davis. Impressed by Gehry's enthusiasm and the sculptural vigor of his work, Spiller sought him out several years later when she decided to build a house of her own in Venice. The project was a test of skill (and enthusiasm) for architect and owner alike. Gehry adroitly satisfied his client's program for two dwellings (one for rental tenants) on a 30- by 90-foot urban lot *and* gave her privacy, sunshine, and views of the Pacific shore a block away. Spiller successfully interpreted Gehry's schematic design to city and state zoning authorities and later helped supervise construction.

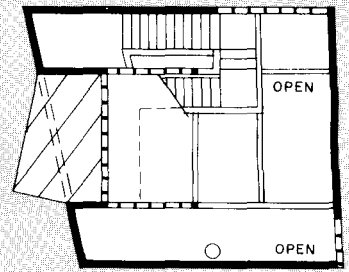
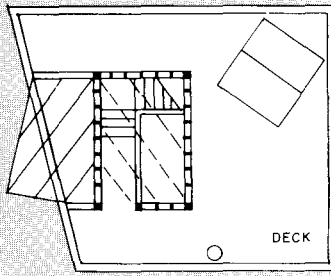
Gehry's earliest model roughed out two rectangular boxes of different heights—the lower rental house to the south, and Spiller's towerlike residence to the north—linked across one side of a courtyard. Besides forming a visual transition between existing bungalows to the east and a four-story apartment building to the west, this staggered setback combined maximum density and favorable exposures. As the design evolved, it became ever more sculptural in the interlocking of corrugated-metal-clad volumes and the penetration of light through structure. In plan, the completed pair of houses is virtually devoid of right angles, echoing the slanted parallelogram of the site and Gehry's abiding preoccupation with oblique Constructivist form. The interior is essentially an open loft, with circulation and specific functional compartments deployed at the edges of a vertical core. Skylights and windows animate this space with shifting patterns cast by the sun—an almost cinematic effect that marks a logical step beyond Gehry's previous experiments with direct and reflected light in his own Santa Monica house. The exposed-stud structure that constituted only one element in that busy collage has expanded here into an all-inclusive aesthetic. Gehry has long admired the balloon-frame construction characteristic of the Los Angeles area, and believes it has an inherent beauty that too often disappears when it is covered up. In revealing the skeleton of the Venice house he produced a tectonic analogue to the ever changing light show within, a quality he describes as “the spontaneity of wood. . . . I wanted the whole house to look as if it was in process.” Such spontaneity is, of course, hardly ingenious. When Jane Spiller and the contractor began selecting lumber, Gehry recalls, “I was worried they'd make it more finished than I intended.” *D.B.*



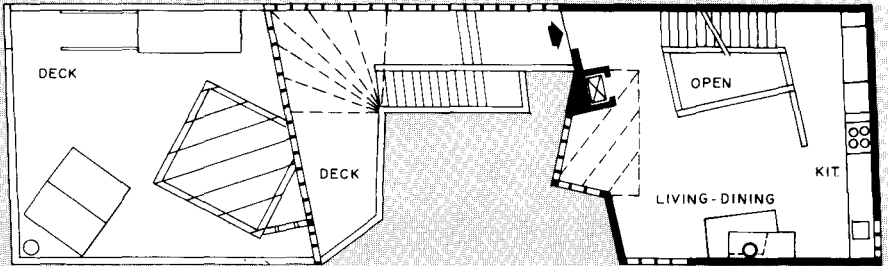


ROOF LEVEL

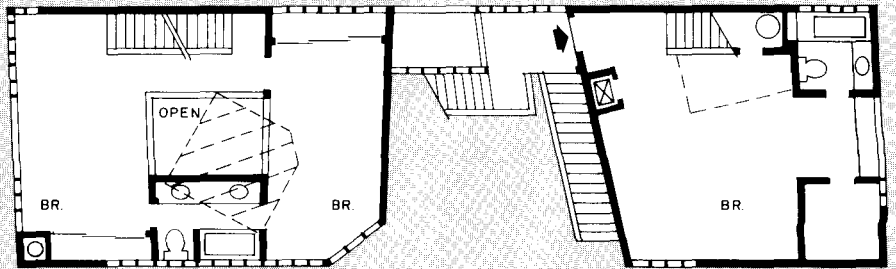
FOURTH LEVEL (UPPER LIVING)



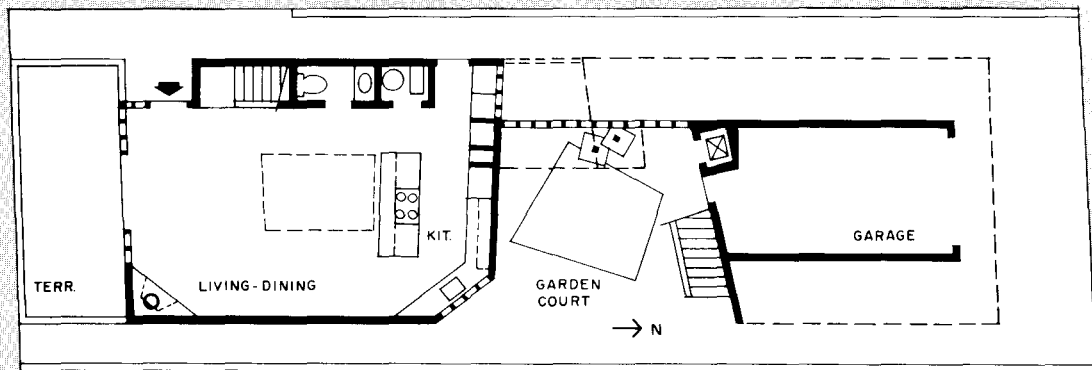
THIRD LEVEL



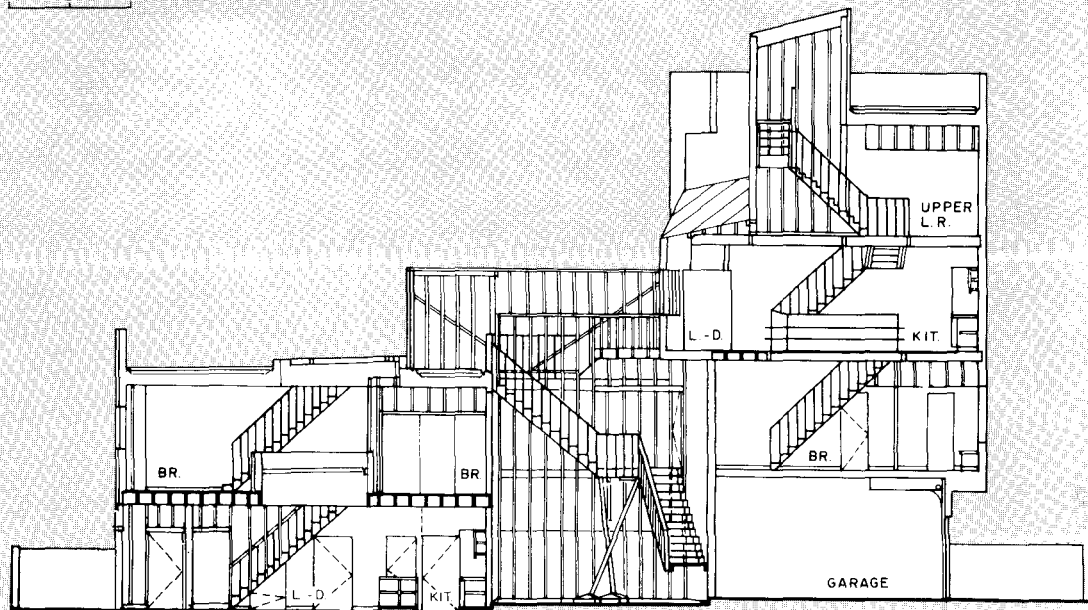
SECOND LEVEL

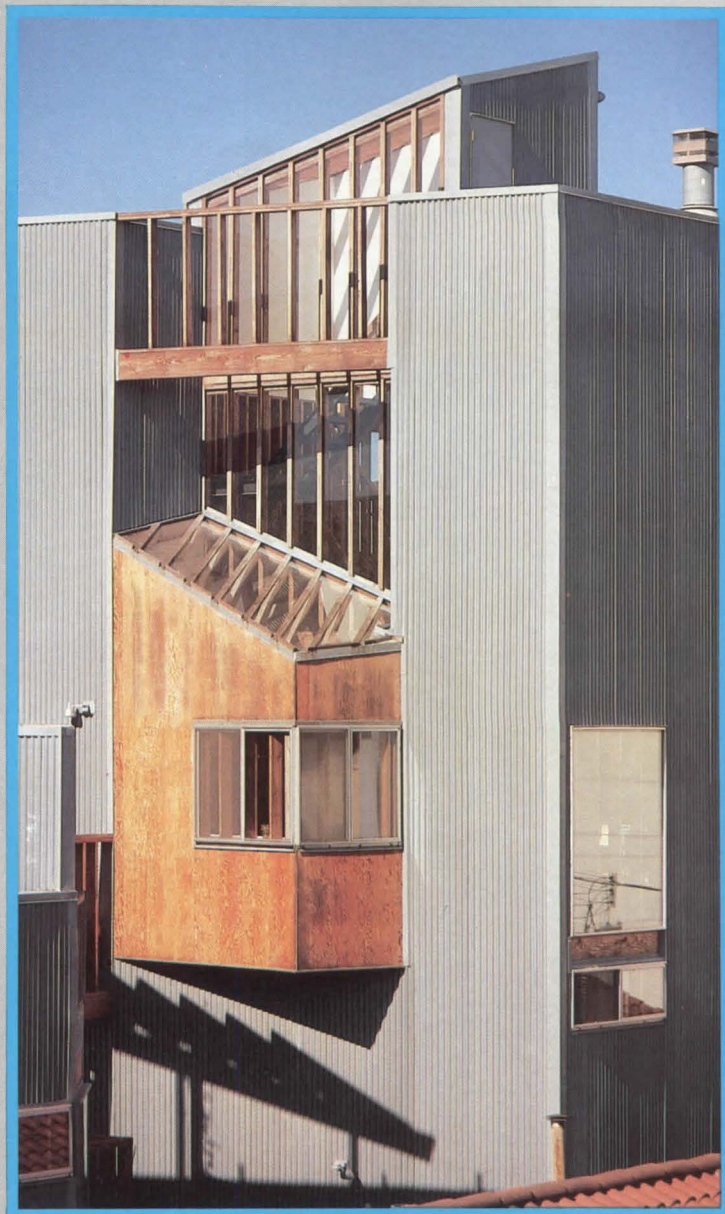
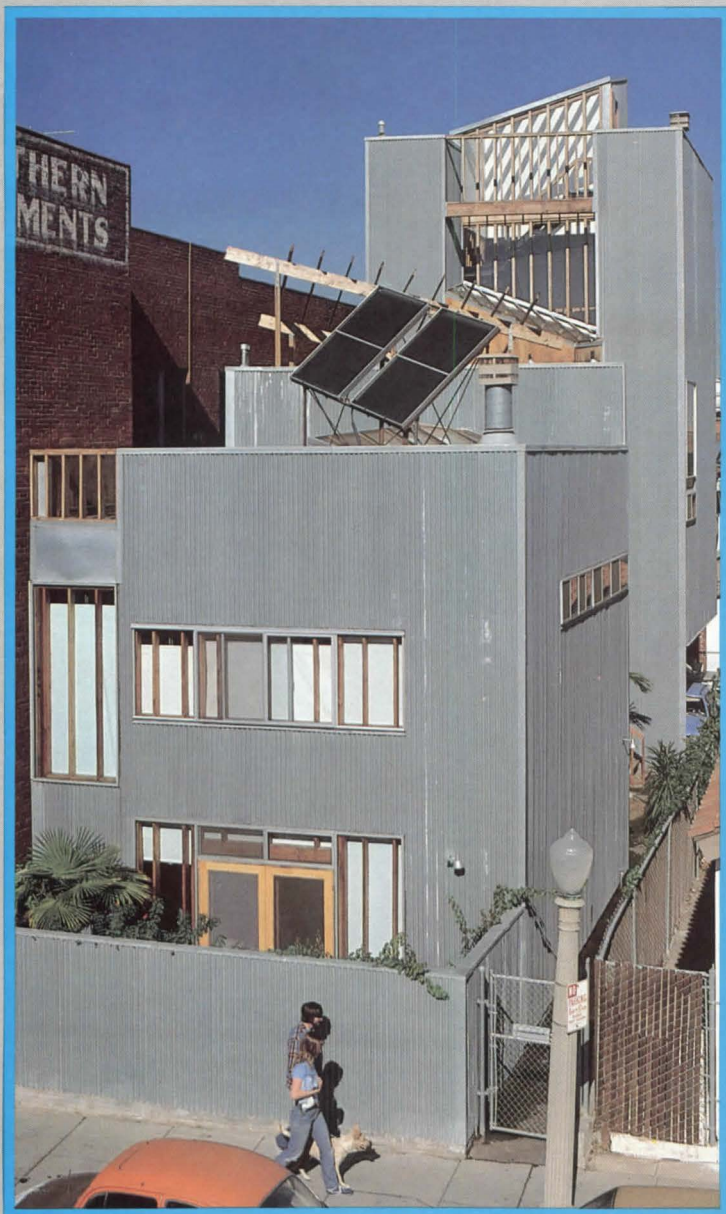


FIRST LEVEL



SECTION





When film-maker Jane Spiller acquired her property it was a vacant lot, having been cleared in the 1960s as part of an urban renewal scheme. Spiller was intent on exploiting the 30- by 90-foot site to the fullest, and initially hoped to erect two rental units in addition to her own residence. However, because her land is only a block from the beach, it falls within the purview of the California Coastal Commission, which imposed a two-dwelling limit. Even though the commission granted a variance to exceed the mandated height limit, it required four on-site parking spaces, further complicating an already difficult program. Gehry slotted a garage into the northern end of the site, off a back alley, and

cantilevered the upper stories to form partially sheltered lateral carports. Skylights helped to meet energy requirements, as did solar panels for hot water, mounted above the tenant house (above left, foreground). Exterior walls (six inches thick for thorough insulation) are clad in galvanized corrugated metal cut into special 47-inch lengths. In his explicit use of utilitarian materials and stick-building techniques, Gehry's architectural lineage can be traced back through Charles Eames to Maybeck, Greene & Greene, and other California forebears.



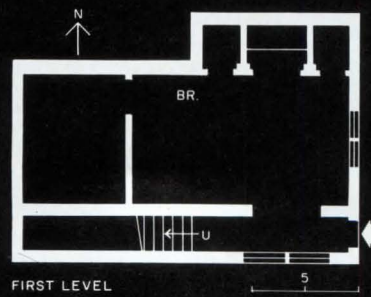
"I told Frank I wanted a lot of light," says Spiller, "and this translated into the whole house being a greenhouse." Gehry found her request congenial to his own interest in "stick building," since the balloon frame allows considerable flexibility in the placement of windows. The exposed structure of skylights and trusses casts bold striated shadows across the main living space (above opposite), suggesting the Venetian-blind-filtered illumination in vintage Hollywood movies. (The

bedroom on the floor below is suffused with gentler light. The sunrise glows through a small eastern window to wash the opposite wall pink.) The dumbwaiter in the corner (above), which hauls up groceries from the garage, recalls a similar pulley device in a house where the owner summered as a child. All interior wood was coated with a mixture of wood preservative and linseed oil.



Architect and client took special pains to preserve serendipitous details of construction. "The drywall contractor had to learn that we were seeing his work as an esthetic," says Spiller. "We told him, 'We want the corner beads exposed.'" She has carefully preserved the plumbing subcontractor's red-crayon scrawl on a duct in her bedroom.

Spiller Houses
 Venice, California
Owner:
 Jane Spiller
Architects:
 Frank O. Gehry & Associates
 11 Brooks Avenue
 Venice, California 90291
 Frank O. Gehry, Greg Walsh, Rene
 Illustre, Jane Spiller, design team
Engineers:
 Kurily & Szymanski
Consultant:
 Vincent Whitney Co. (dumbwaiter)
General contractor:
 Carde-Killefer
Photographer:
 Tim Street-Porter



Mere House

Flint Hill, Virginia

By BumpZoid

When people build a house for future retirement, they tend to think of something comfortable in the country. A farm, maybe, but not really rustic. Beautiful, actually, and rather impressive. But not too big. Though roomy, of course. And easy to take care of. Oh—and near the water.

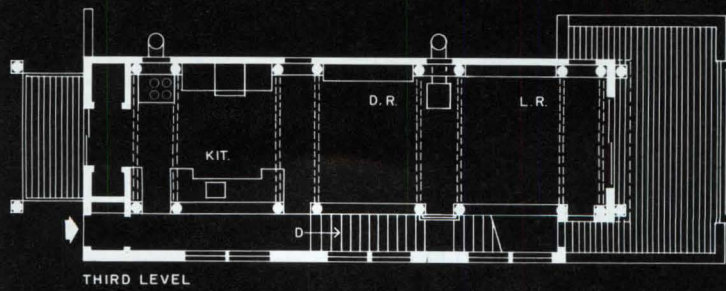
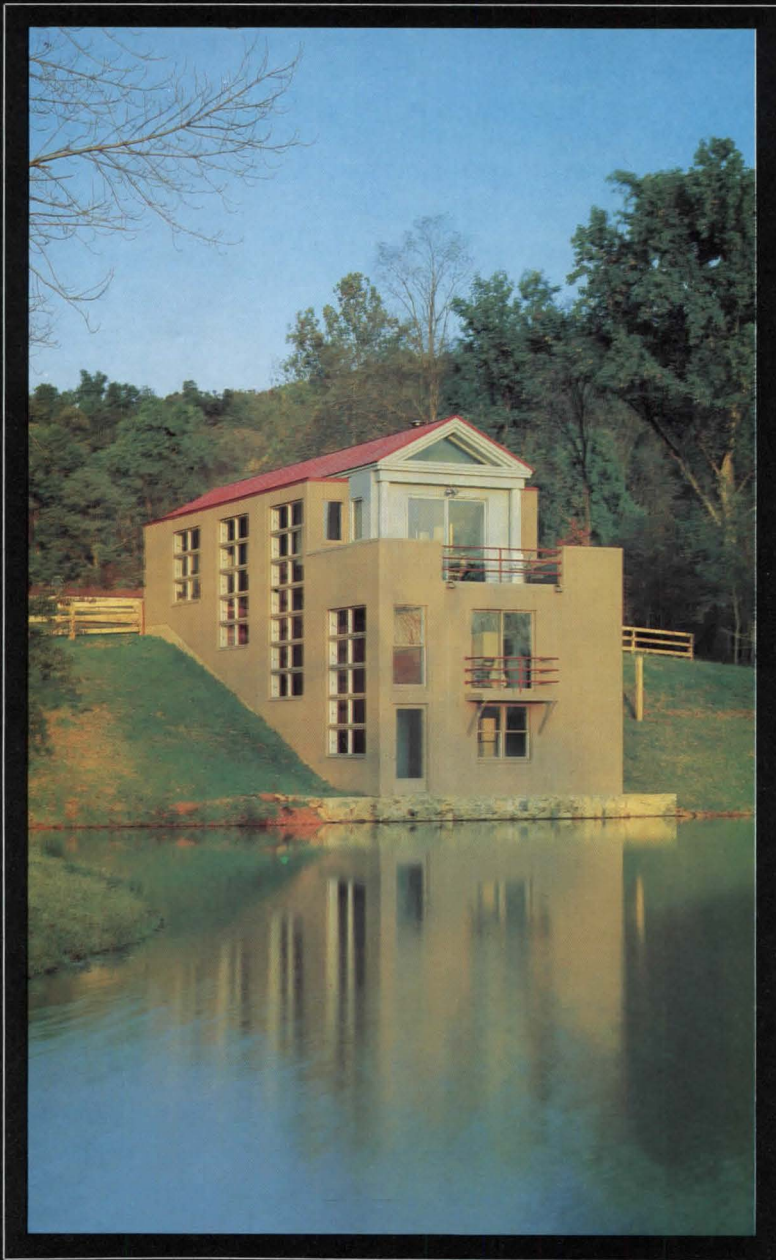
Built on 200 acres near the Blue Ridge Mountains, Mere House adroitly satisfies these sometimes conflicting dreams, combining rural comfort and safely grazing sheep with the Greek Revival style associated with the region. Indeed, the young BumpZoid partnership sees nothing new in this union of style and ease. As the two architects describe their design, "The tradition of Classic meeting Farm that seems to run in a direct line from Vicenza to Virginia has not been ignored."

The design's Greek Revival aspect is the first thing to catch one's eye: a little white temple at each end of the main floor, on grade at the front entrance, three stories up on the side facing the mere. These facades are not simply knock-offs of older forms, however. The 20th century manifests itself in the glazed pediment and, where one might expect a colonnade, a screened porch in front and a sliding glass door opening to a balcony in back. In the meantime, on the second floor above the water, an unassertive balcony supported by consoles juts out to yield a private outdoor overlook for the master bedroom.

Because the site is steep as it descends to the man-made pond, the house nestles into the earth. Main living quarters occupy the top floor, with access at grade; the lower two floors contain bedrooms, a general household workroom for utilities, and a sauna. The main floor, like the exterior, unites the Classic and the Farm. The elongated room—11½ feet wide and 50 feet long—conveys both the consequence of a formal drawing room and the down-home comfort of a keeping room. Paired columns extend down each side of the space to define separate activity areas, eliminating the partitions that might interrupt the flow of space.

The house even has a grand staircase, a passage that sweeps from top to bottom of the building along one wall and that gives access as it passes to bedrooms on the first and second floors. A row of tall paned windows expresses the stairway on the exterior (see overleaf), as well as offering light, views and added grandeur to the interior. The large windows, which face south, allow the tiled passage and the wall opposite to act as a heat sink during the winter months. (BumpZoid says it is only happy when its architecture does at least two things at one time.) *G. A.*





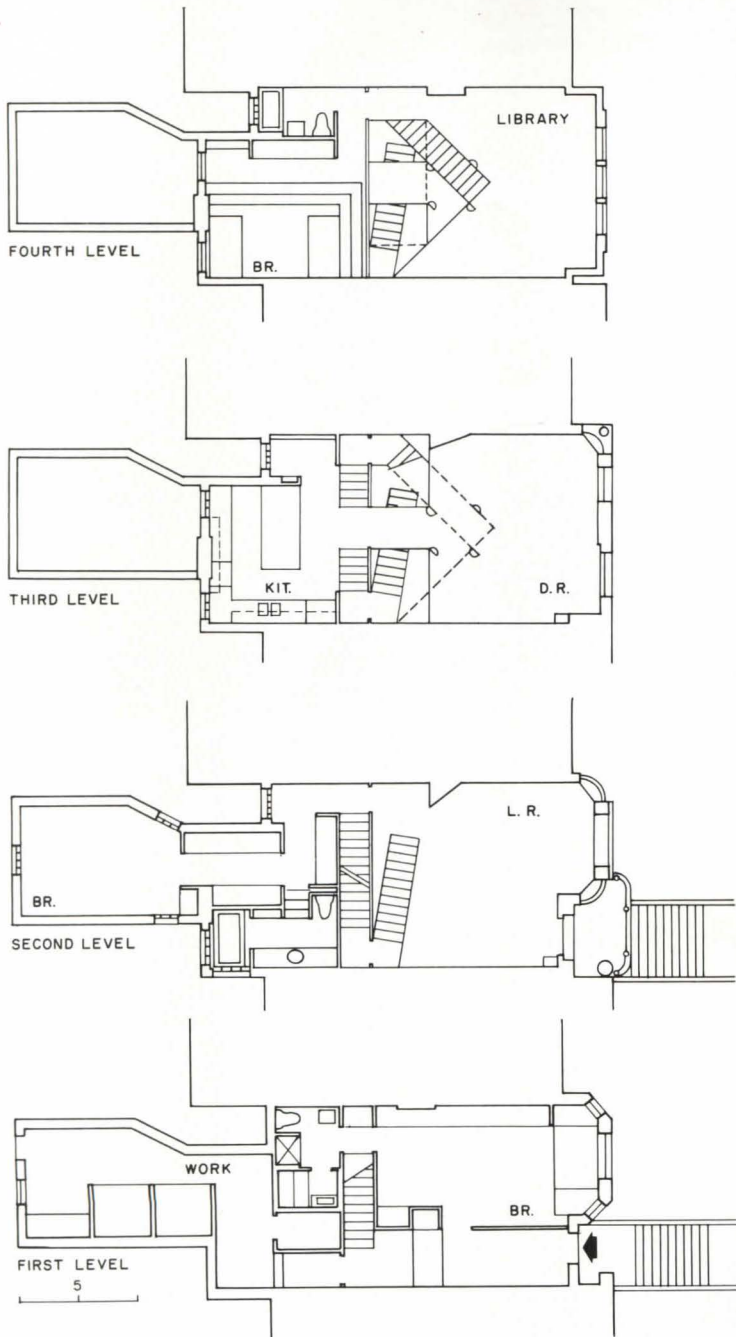


Mere House
 Flint Hill, Virginia
Owners:
 Linda and William Dietel
Architects:
 BumpZoid
 1200 Broadway
 New York, New York 10001
 Ben Benedict & Carl Pucci,
 partners-in-charge
Engineers:
 Robert Silman (structural); E. O.
 Gooch & Associates (soil)
Consultant:
 One Design (energy)—Peter
 Arsenault
General contractor:
 Coburn & Clay Builders, Inc.—
 Mike Cornicle
Photographer:
 © Langdon Clay

The exterior of Mere House (opposite) weaves two styles: a pedimented temple (Classic) set as a medallion at the top of a weathered wood house (Farm). The main room (top above) stretches 50 feet and contains (from front to back) living room, dining room and kitchen, with a screened eating porch at the far end. On one side, paired columns frame windows on an outside wall. On the other side,

identical columns frame open balconies and low walls allowing views into the stairway and through tall windows. A tiled grand stairway runs the height and length of the house (bottom above), giving access to bedrooms on the lower floors and providing heat storage for sunshine transmitted through south-facing windows.

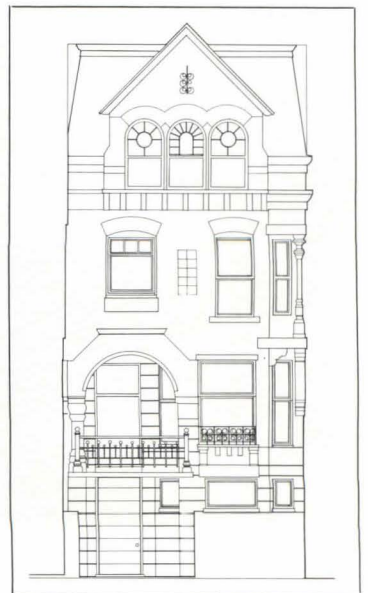
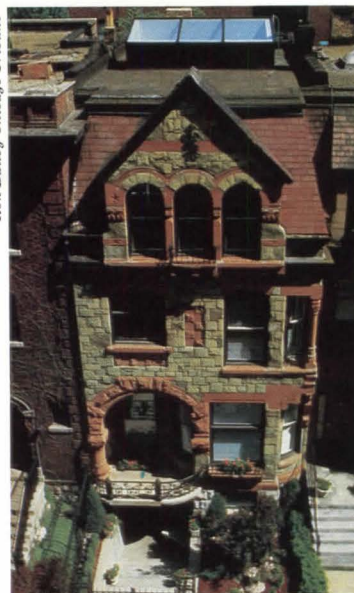
Reinhard House Chicago, Illinois By Chrysalis Corp. Architects



Combining late 20th-century forms and building techniques with those of another era always presents a design challenge—most exacting, perhaps, at the smaller scales of residential renovation. All that is left of the 19th century in this little town house is its Richardsonian Romanesque stone facade (below). Architect Joseph M. Valerio, partner-in-charge of the remodeling for Chrysalis, gutted the rest and inserted a vertical plane of mirrored glass, framed by a steel grid, through the second, third and fourth floors of the house. This slick, high-tech device separates the space in which guests are welcome—the second-floor living room, the third-floor dining room and the fourth-floor library—from the kitchen and bedroom areas to the rear. As the plans (left), the perspective (right), and photos (next pages) indicate, the stair that interconnects the floor levels parallels the glass wall on its private side, but interrupts the gregarious spaces opposite in a series of dramatic diagonal thrusts. This stair, as it passes back and forth through the glass wall, is a celebration of the act of moving through the house. On floors one and two it starts out calmly enough. In contrast, between floors three and four, it vaults across the living room 20 feet below. Each landing and floor level offers intricate perspectives in all directions, which become more expansive the higher one climbs. The communal and private spaces interconnect at each landing through glass doors designed within the module of the steel-and-glass skin.

Valerio's success with the town house derives in part from this single inspired and deceptively simple idea—preserving one facade, inventing the other and weaving together the severed space with an ingeniously plotted stair. Doing it with such panache was probably intuitive, but Valerio also had conscious reasons: "The use of the glass wall and its relationship to the stone face of the town house touches upon a number of issues which interest me. The contrast emphasizes some of the differences between 19th- and 20th-century building. It also emphasizes the difference between a response in stone to the real problem of enclosure and the abstract idea represented by the glass grid. The stone fortresslike wall provides a secure separation between the private world of the house and the public world of the street. The thin, ephemeral glass plane defines degrees of privacy within. I think the glass wall in the house has the characteristics of an object in a museum—an infinite grid sliced from some skyscraper and preserved." *M. F. S.*

Ron Bailey-Chicago Tribune





At the third-floor level a bridge (opposite page) interconnects the kitchen (right) and dining room (below right). The glass wall is mirrored on one side, transparent on the other. Playing a passive solar role, it reflects light and heat from a skylight directly above.

Reinhard House
Chicago, Illinois

Owners:
Mr. and Mrs. Keith Reinhard

Architects:
Chrysalis Corp. Architects
205 West Highland
Milwaukee, Wisconsin 53203
Joseph M. Valerio, partner-in-charge; Kent Hubbell, Henry Grabowski, Mark Ernst, project team; Marg Davis, interiors

Engineers:
Anthony Schnarsky Associates

General contractor:
Stanley Construction

Photographers:
Sadin-Karant
Ron Bailey-Chicago Tribune



Karant + Associates photos except where noted





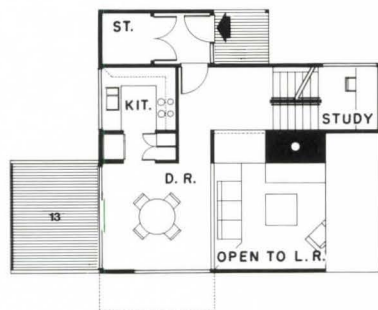
Dattelbaum House

Kezar Lake, Center Lovell, Maine

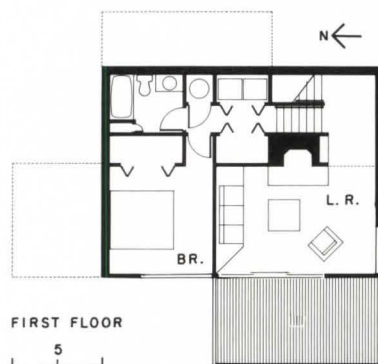
By Crissman & Solomon Architects



THIRD FLOOR



SECOND FLOOR



FIRST FLOOR

The architectonic success of this little house, located upon a steeply sloping site in a dark pine and oak woods and comprised of roughly 1,800 square feet distributed through six levels, is the sum of skillful juxtapositions of opposing themes. Compact, the house seems to be filled with space; tucked into shadowed surroundings, its interiors are awash with daylight. The one- by four-inch shiplapped pine exterior walls and red cedar shingle roofs are inconspicuously at peace with the woods, but the interiors (overleaf) are as sophisticated as an urban penthouse. Deliberately designed to be the opposite of rustic, rooms are surfaced with gypsum drywall painted white and furnished with fine pieces by Alvar Aalto. Finally, the house plans, simple at first glance, are actually as intricate as a Chinese puzzle.

Architects Crissman and Solomon have cleverly devised a vertical section that allows important spaces to seem to share a portion of the cubic volume of the living room and to be lit by high windows or skylights, which catch the daylight within the house's small clearing or above the surrounding tall trees. From the entrance vestibule, one enters the stair hall lit by a band of windows at the sixth level of the house. Near the entry are the kitchen and the dining area, the latter overlooking the volume and sharing the skylight of the living room one-half level below. Stretching the apparent size of the dining room is a deck cantilevered into the trees. Up half a level from the entry is a small study and up another is the master bedroom floor. Up once again is a small sleeping loft. The bedroom, like the dining room just below, overlooks the living room volume and shares the skylight. It has, in addition, a pair of high windows at the fifth level of the house and its own small balcony. Down one-half flight from the entry, the living room is just a little bigger than it needs to be to allow a built-in sofa, a coffee table and two chairs to comfortably surround the fireplace. The volume of the room, however, soars to the peak of the sloped skylit ceiling and the floor extends outward to include another deck, thereby making the space seem generous. Another half flight leads downward to a guest room, bath, and a utility area.

The house is constructed on a small earth-covered rock outcrop, one of the few places on the site where it could perch on a foundation rather than on posts. So far, the only effort to tame nature has been to construct a steep path to the beach made of stone and railroad ties. The owners wanted to get close to the rocks and trees. They couldn't be closer. *M.F.S.*





Dattelbaum House
Kezar Lake, Center Lovell, Maine
Owners:
Mr. And Mrs. Charles Dattelbaum
Architects:
Crissman & Solomon
Architects Inc.
44 Hunt Street
Watertown, Massachusetts 02172
Engineer:
Charles Chaloff (structural)

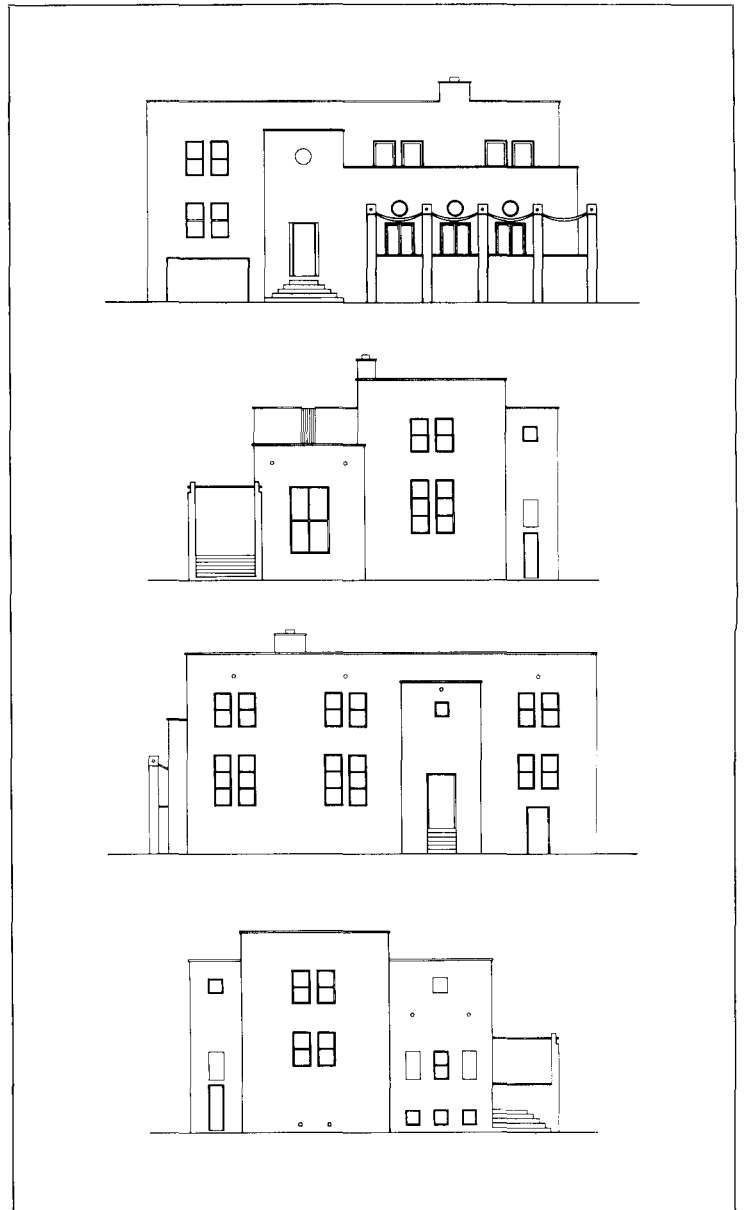
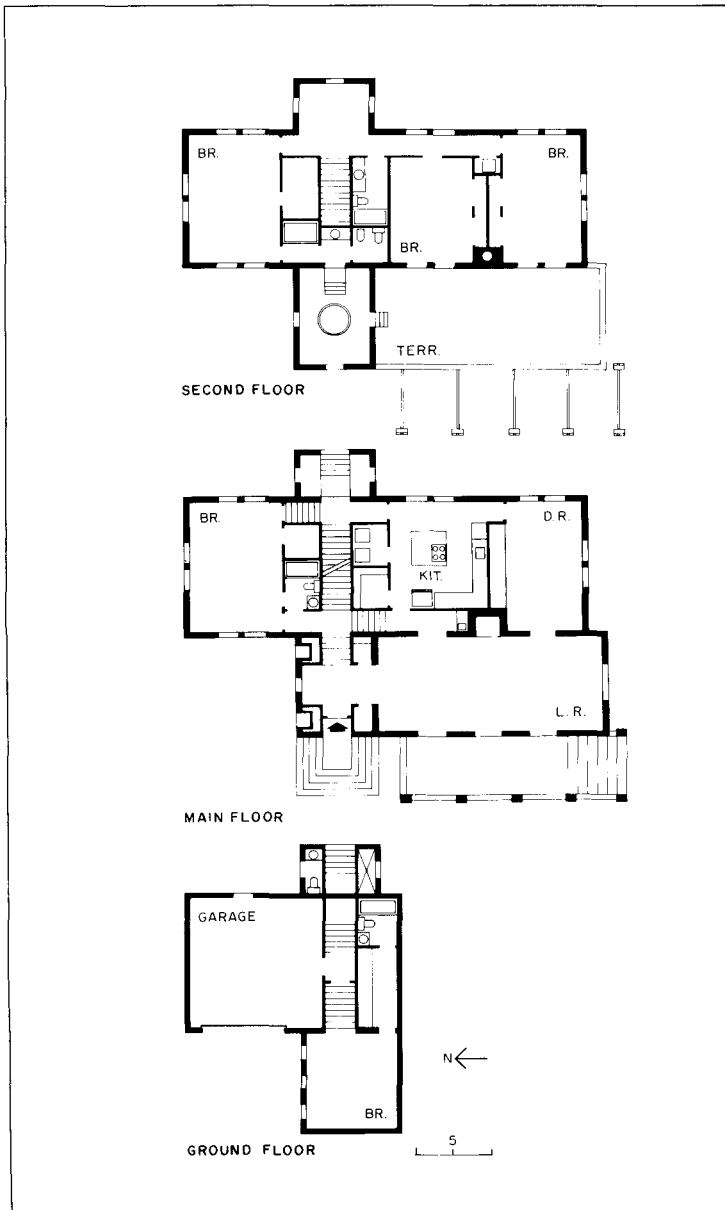
Interiors:
Lynda Lloy Hack
General contractor:
Donald W. Simmons
Photographer:
©Steve Rosenthal



Hibiscus House

Coconut Grove, Florida

By Andres Duany and Elizabeth Plater-Zyberk, Architects

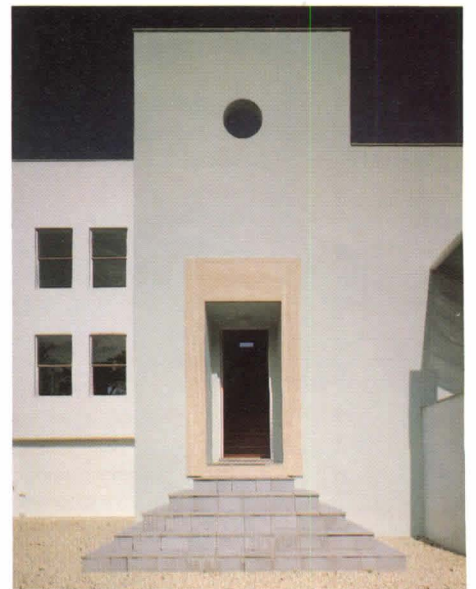


Discipline, subtlety, restraint, and modesty are qualities all too rare among ambitious young architects, who all too frequently accept their first commission as an invitation to pull out more design stops than is prudent, with results more cacophonous than harmonious. Such is not the case with 33-year-old Andres Duany and 32-year-old Elizabeth Plater-Zyberk, co-founders of the three-year-old Miami firm that bears their names: "We are committed to an architecture which, if not spectacular, promises to be of lasting value." And while the Hibiscus House does fall into that dubious first-commission category, and while Duany and Plater-Zyberk are comfortably "young" and duly ambitious, the speculative residence they began their portfolio with is, true to the promise, "not spectacular." Conversely, it is neat and serene and elegant. Though neat and serene and elegant do not generally constitute high architectural praise, they do if the architecture is an unwelcome late entry into a venerable (by Miami standards) neighborhood that already has all the housing stock it would like, thank you, and would have preferred the private tennis court on Hibiscus Street to remain a private tennis court. South Florida real estate, however. . .

Minus the "real" client and/or program that would have helped



shape the Hibiscus House, Duany and Plater-Zyberk looked to the immediate neighborhood for design inspiration. The local 1930s Spanish vernacular, with its faint tinge of Bauhaus, clearly caught their eye—and their design, quite intentionally, looks as if Addison Mizner had met Adolf Loos on Hibiscus Street. The stripped-down, flat-roofed, modified-hacienda style is not only appropriate to Coconut Grove, but to the “rich South American family” targeted for the house; the smooth stucco-over-concrete block, no less appropriate to the developer’s \$52-per-square-foot budget. Duany and Plater-Zyberk attacked the problem of how to squeeze a 4,020-square-foot house onto a small and awkward triangular site by breaking down the mass—dividing the house into three graduated volumes that “gesture to the site.” However, this slipped geometry contains an axial, somewhat formal plan, with the entry raised a half level above grade (allowing a maid’s room to be tucked underneath), and floor-level changes between first-floor living areas and bedroom offering clear separation of public and private spaces. The symmetry and enfilades of the plan reinforce the air of formality—more in keeping with Latin American tradition than the open plans typical of recent South Florida construction. *C. K. G.*



Hibiscus House
Coconut Grove, Florida

Owner:
Hibiscus Development Corporation

Architects:
Andres Duany and Elizabeth
Plater-Zyberk, Architects
3302 S.W. 27th Avenue
Coconut Grove, Florida 33133
Rafael Sixto, assistant

Engineer:
Juan Vazquez (structural/
electrical/mechanical)

General contractor:
Gamma Construction Company



Because the Hibiscus House defers to its triangular site and very-near neighbors by stepping back away from the street in three distinct, slipped, and graduated volumes (photo facing page), the size of the house is not instantly revealed—a welcome device, considering the high ratio of 4,020-square-foot house to 7,100-square-foot site. An added benefit of the stepped parti is the open-air roof deck above the living room—a most welcome amenity for occupants of the two adjacent bedrooms (plans page 102). A no less welcome amenity for occupants of the master bedroom is the hot tub—“de-California-ized,” according to Duany—(photo top right) crowning the entry tower (photo left). A travertine frame surrounds the main entry below, adding a hint of luxe to an otherwise modest palette of materials. The obligatory pool is

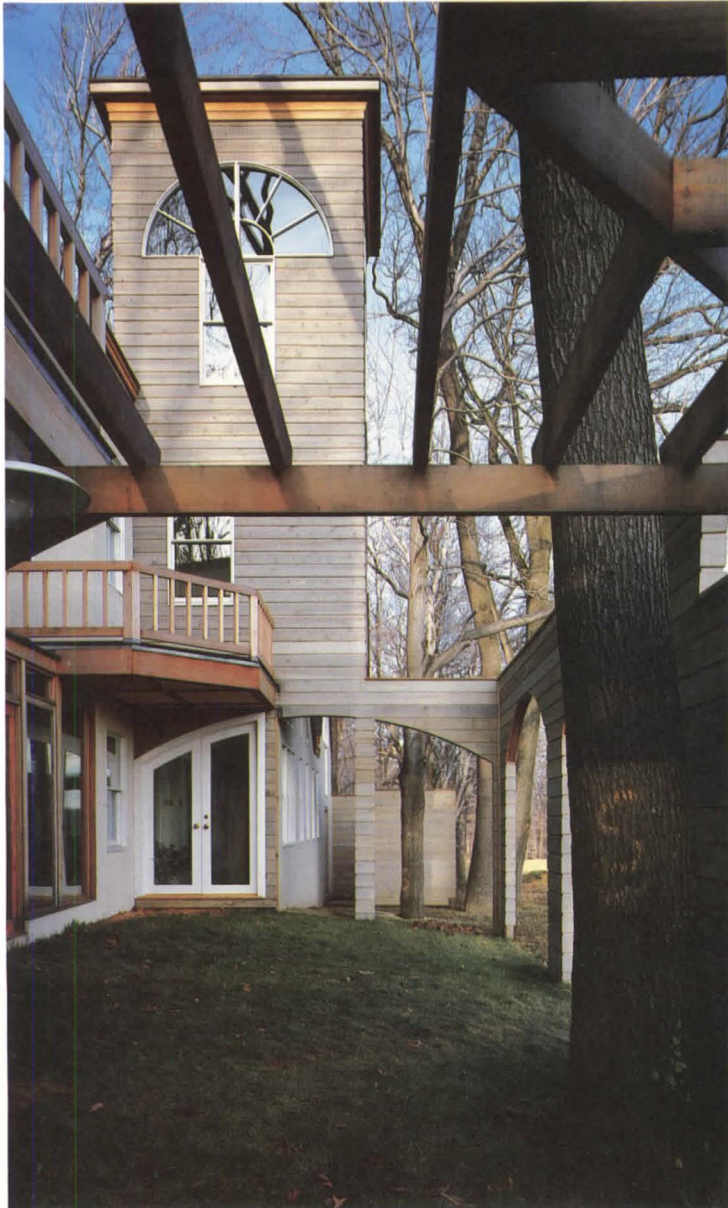
directly on axis with the loggia (photo above right), the latter shielded from the relentless Florida sun by means of a luxuriant drape of woven plastic. The living room (photo top) and dining room (photo above) offer 12-foot-high ceilings and more than generous views to South Florida’s near-tropical flora and fauna.

**Elliott House
Western Pennsylvania
By Jefferson B. Riley of Moore Grover Harper**





At the Gruen house in Pennsylvania, hunters, horses and hounds assemble in season on mown crop land (preceding pages). A private outdoor street runs between the house and a fence bordering the field (below). The entrance court serves the main entry between overhanging balconies as well as French doors leading to the gallery.



William F. Robinson on preceding pages

Norman McGrath photos except as noted

A richness of associations, from childhood memories to architectural thoughts, shaped Elliott House. Built for a writer, a sculptor and their small daughter, the three buildings—house, writer's cottage and artist's studio—stretch across the crest of a hill in western Pennsylvania.

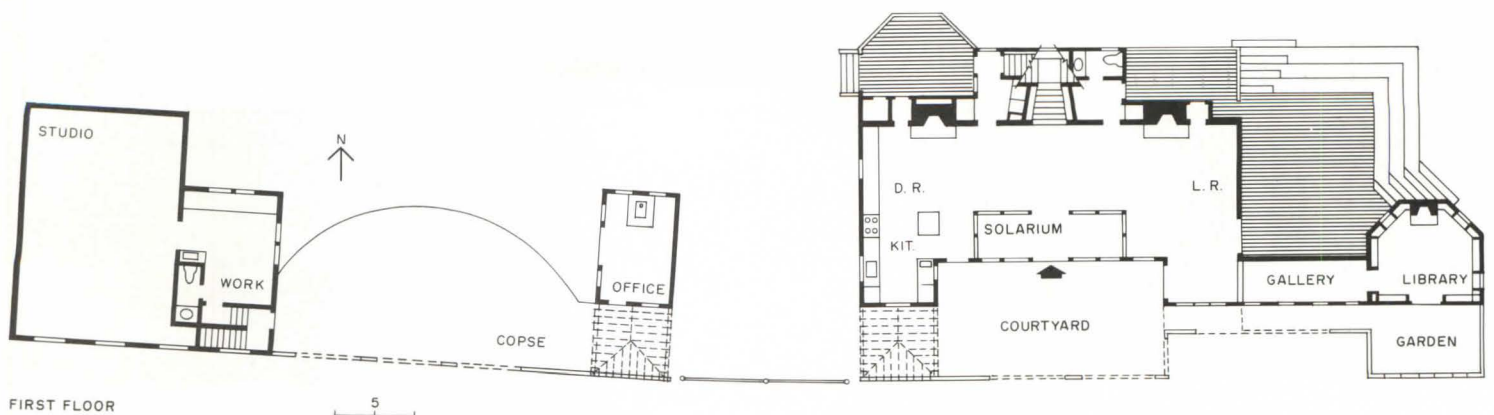
The immediate topographical context that determined form is the wood into which the buildings nestle and from which they take their slightly curved site plan. Of greater emotional importance was a split rail fence, which Mrs. Gruen, who grew up on this land, regularly headed for on walks as a child. Architect Jefferson Riley not only retained the rails but turned them into a major element at the exact center of the composition—the visual as well as symbolic heart of the house.

Riley, who has reflected at length on the visual and social nature of villages, has before now put external devices to internal use, bringing villagelike qualities indoors with operable windows and balconies to allow casual glimpses of courtyard/living rooms and of townspeople/family. Here, because of the separation of units, he could create a "street," outdoors but within the long arched front fence; a stone path connects house and studios, crossing courtyards and ducking beneath latticed arches. The path, bending with the site, is sometimes narrow, sometimes wide, and the ambler must proceed in a more or less crooked line that offers many little scenes to admire.

At the main entrance, visitors come rather formally into a central hall through a greenhouse. But Riley points out that the entrance is not on axis with the paired arches in the fence; rather, the arches shift slightly to the left of anyone exiting and so draw attention to the trellis and to the split rail fence on the right as the eye redresses the imbalance.

In addition to expected domestic facilities, the house provides for the owners' individual artistic interests. Mrs. Gruen, apart from her studio, has a long tiled gallery at the front of the house to display her own and collected works of art. And Mr. Gruen, apart from his writing cottage, has a quiet library at one corner to shelve his book collection.

The horses and hounds shown on the preceding pages are less surprising at this house than in this magazine. The stubbled field that abuts the front fence can serve as an assembly point for the local hunt, and though neither of the Gruens rides, they have a first-rate view of riders from a deck overlooking the hunt trail at the back of the house. G. A.



FIRST FLOOR

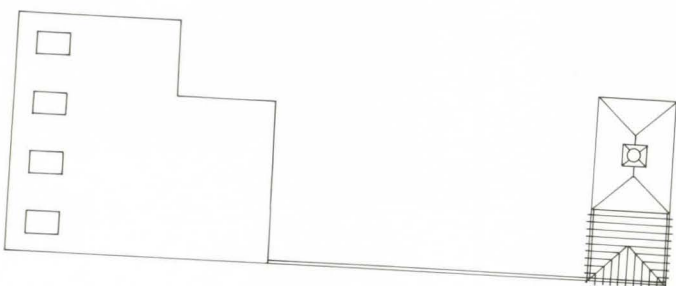
The towers and turrets that set the house apart each have their own shape and content. The tallest, a flat-topped Italianate structure, houses the master bedroom suite at its top (directly below), while an apsidal roof next to it covers the library (top right). At another corner, an angular tower encloses a back porch and a hexagonal bedroom (bottom right). And in yet another variation, a cupola caps the

hipped roof on the writer's cottage (top left). The outdoor street, seen here as it passes an open courtyard between the writer's cottage and the kitchen (bottom left), was paved by the owner-sculptor with flat stones. Arches, trellises and the split rail fence open views of distant hills.

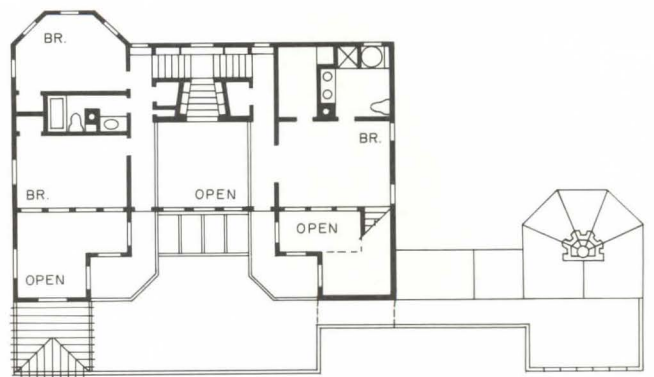
William F. Robinson

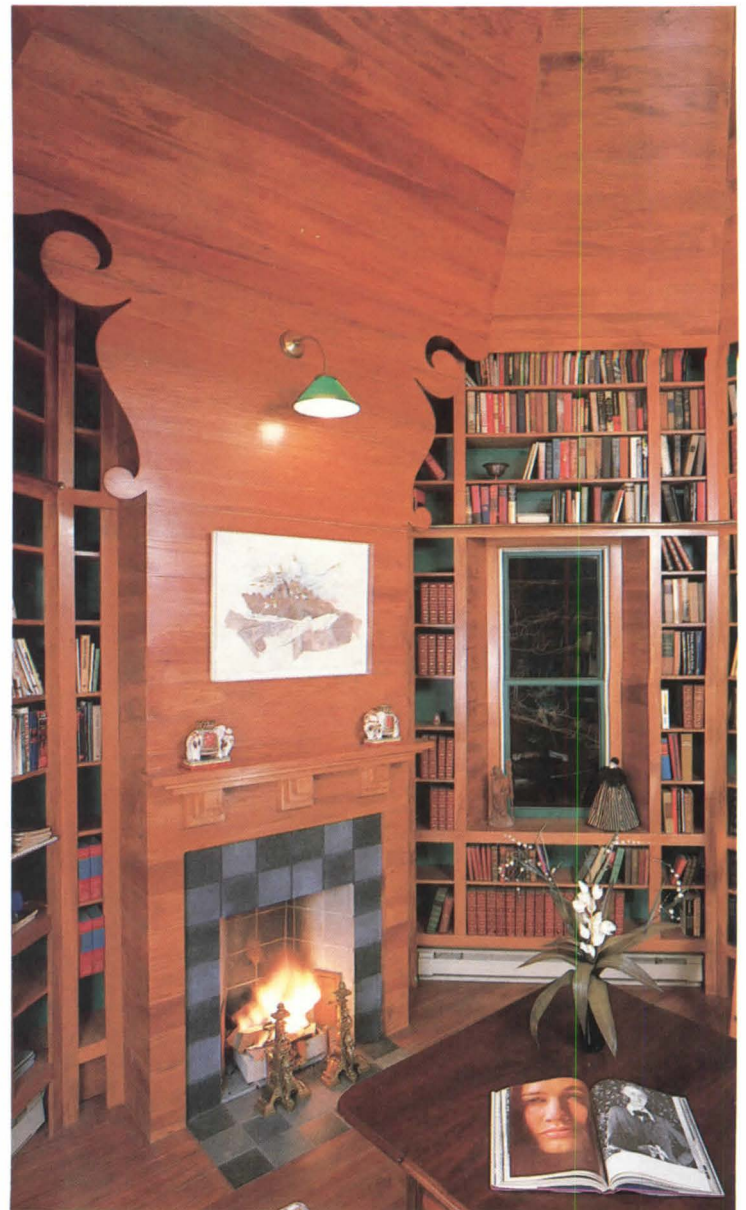


William F. Robinson



SECOND FLOOR





To invest the major stairway with a degree of grandeur, the architect funneled its volume through converging walls to force the perspective and add apparent length as it approaches the landing (above left). Ledges graduating upward along the dark green stair walls support Mrs. Gruen's collection of Himalayan pottery, as shelves in the library support Mr. Gruen's book collection (above

right). Bluish-gray tiles surround the fireplace below a wood chimney breast whose arabesqued edges suggest the profile of a fanciful column.

*Elliott House
Western Pennsylvania*

Owners:

Anne and Peter Gruen

Architect:

Jefferson B. Riley of Moore Grover

Harper, P. C.

Essex, Connecticut 06426

*Julie H. Miner, designer and
project manager*

General contractors:

Nicely and Nicely

Photographers:

Norman McGrath and

William F. Robinson



The living room extends from the central hall, looking through a glass wall to the greenhouse. The balcony overhanging the living room opens to a sitting room in the master bedroom suite. The thick gray wall that runs the length of the house (see plan) is built of concrete block to retain heat received from the south-facing solarium. The wall, plastered with gray cement, was ornamented with shadowy etching by the owner and the architect.

Mrs. Gruen, who uses the name Anne Elliott professionally, also sculptured the colored rice paper hanging on the living room wall.

Davidow House

Kauai, Hawaii

By MLTW/Turnbull Associates



You'd want a very special kind of house if you lived in a clearing in a tropical forest, where the temperature is between 70 and 80 degrees almost all the time, where the northeast trades blow in from the beach just 200 feet away, and where there are views of mountains as well as the sea. And a very special house is just what William and Sonja Davidow got—at the hands of architect William Turnbull—for their beautiful site on the north coast of Kauai. The living spaces are sheltered under an enormous corrugated-fiberglass umbrella, cruciform in shape, which sheds the frequent and sometimes fierce rains, and filters the sunlight through what is at this scale an almost lacy framework of 2x6 rafters and 2x2 purlins. On the north-south axis is a lanai (see photos)—nearly 50 feet long, open at both gable ends and thus swept by the breeze, and the core of the informal, open-to-nature living style desired by the owners. Off this grand space open all the other living spaces of the house (see plan and photos, next pages). The master bedroom, its bath, and the kitchen are in the east wing; opposite are a guest bedroom and bath, and the living room. Each of these rooms opens—via sliding glass doors and wooden sliding “barn doors”—to a private section of the porch which nearly surrounds the house. Sliding wood lattice panels form an outer skin at the periphery of the porch roof. Thus, every room can individually be opened wide to the breeze and the views; or the lattice panels can be shut to filter the sun, diminish the breeze, or create privacy; and/or the sliding glass walls of the rooms themselves can be shut against storms.

Above this “inner house” is a very special place for the teenage children and overflow visitors. There are two sleeping lofts above the east and west wings of the house, just under the roof framing and the fiberglass umbrella. These greenhouse-like spaces are filled with plants, ventilated by jalousie windows at the gable ends. Each loft is reached by a separate stair from the central lanai (again, see photo left), and at the top of both stairs is a planter and balcony overlook. A third stair leads down from the lanai to the space under the house where cars are parked out of sight and out of mind.

The house is raised above the forest floor on wooden poles—not just to encourage the breeze and create a tree-house feeling in all of the spaces, but because this section of the island is subject to *tsunami*, or tidal-wave action. The house survived without damage the devastating hurricane of last fall.

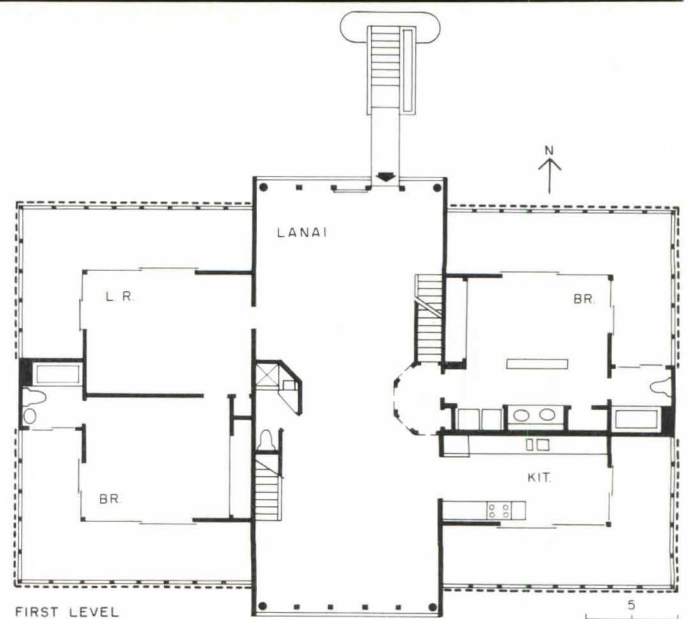
Ah, to be in Hawaii now that Spring is here. *W.W.*





Below, the beach side of the house is shown with the porch lattice shut. The entrance stair to the house can be seen at the right of the photo. A drawbridge from this stair to the house porch can be raised when the owners are away—probably more a romantic notion than a functional one, though it does discourage passersby from walking through the open lanai. The interior photos opposite show one of the sleeping

lofts and a good roof detail; the living room; and the kitchen. Both of the "inner house" photos suggest the ways the various rooms can be open or closed to the views and breeze. The lanai is 895 square feet; the enclosed rooms total 1,000 square feet; the lofts total another 1,000. The porches add another seven feet around the perimeter. The house is finished in cedar.



Davidow house
Kauai, Hawaii

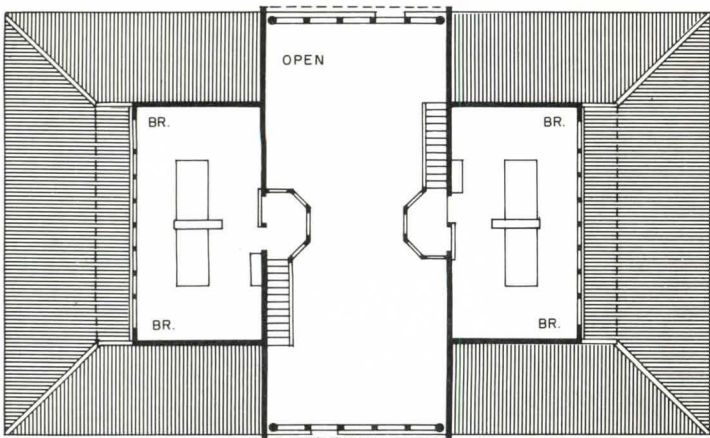
Owners:
Sonja and William Davidow

Architects:
MLTW/Turnbull Associates
Pier 1 1/2, The Embarcadero,
San Francisco, California 94111
William Turnbull, Jr., designer;
Robert Simpson, project designer;
Heather Trossman, job captain

Structural engineer:
Peter Culley and Associates

General contractor:
Consolidated Corporation

Photographer:
© David Franzen



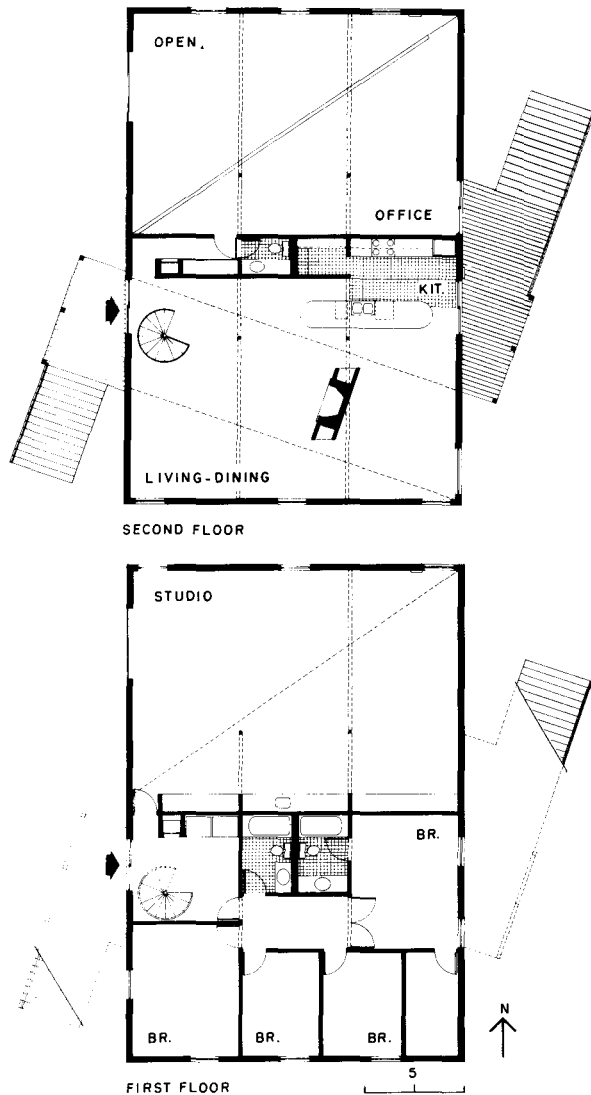
SECOND LEVEL



Villa Barr

Northville, Michigan

By Booth/Hansen & Associates



At the Villa Barr, the architect and the owner, a sculptor, found their respective mathematical esthetic theories working hand in glove. David Barr, whose sculpture falls within a movement identified as constructivist-structuralist, has taken much of his inspiration from a numerical progression fixed by Leonardo Fibonacci in the Middle Ages (the series runs 0, 1, 1, 2, 3, 5, 8, 13...). Laurence Booth, as might be expected of an architect, prefers the equally stringent, if less open-ended, 2-to-3 ratio of Palladio. The shared fascination with art and numbers was particularly lucky in this case since Booth had to design the house so that Barr could build it himself, acting as "general contractor and laborer, all trades."

Given the site, four acres in the rural Midwest, the architect aimed for a seemingly modest farmhouse. The owner, true to his profession and a newly discovered love of gardening, has shaped and enhanced the land with sculpture and plants. But the purpose here is not agricultural, and Booth remembered the American tradition of the gentleman farmer—notably Jefferson at Monticello, with a whiff of Washington at Mount Vernon.

Booth's plan expresses the building's dual nature exactly: half the space to house, half the space to studio. This duality shows again in the roofline: partly a peaked ridge emblemizing house, partly a flat roof emblemizing workplace. And the symbolism is carried still further in the clerestory built diagonally athwart the house: it has only half a gable beneath the portico (see overleaf).

The geometric complexity imposed on the Palladian rationale becomes most evident on the interior. Though the dimensions of the 36- by 54-foot house derive from the strict 12- by 18-foot structural grid, the floor and, especially, the ceiling are fractured by the diagonal clerestory (see page 119). Because the grid is not square—only the windows are—the diagonal is not the familiar 45 degrees. Rather, two disparate diagonals cross the house, one drawn from corner to corner of the studio for the edge of a workroom balcony overlooking it, the other drawn across the living area by the width of clerestory.

The studio, which requires access at grade for shipping Barr's sometimes extremely large metal sculptures, shares the lower floor with bedrooms for the owner and his wife and for visiting children. The upstairs can thus be turned over to living quarters, the aforementioned geometric complexity, and the pastoral views. The house cost an estimated \$19 per square foot, plus the equivalent of the owner's labor. *G. A.*

The structure of Villa Barr, steel pipe columns and timber beams, reveals itself in the porticos that angle away from the front and back of the house (below) and in the tie beams across the living room beneath the clerestory (opposite). Since these photographs were taken, pipe railings have been added at the edge of the outdoor balconies.



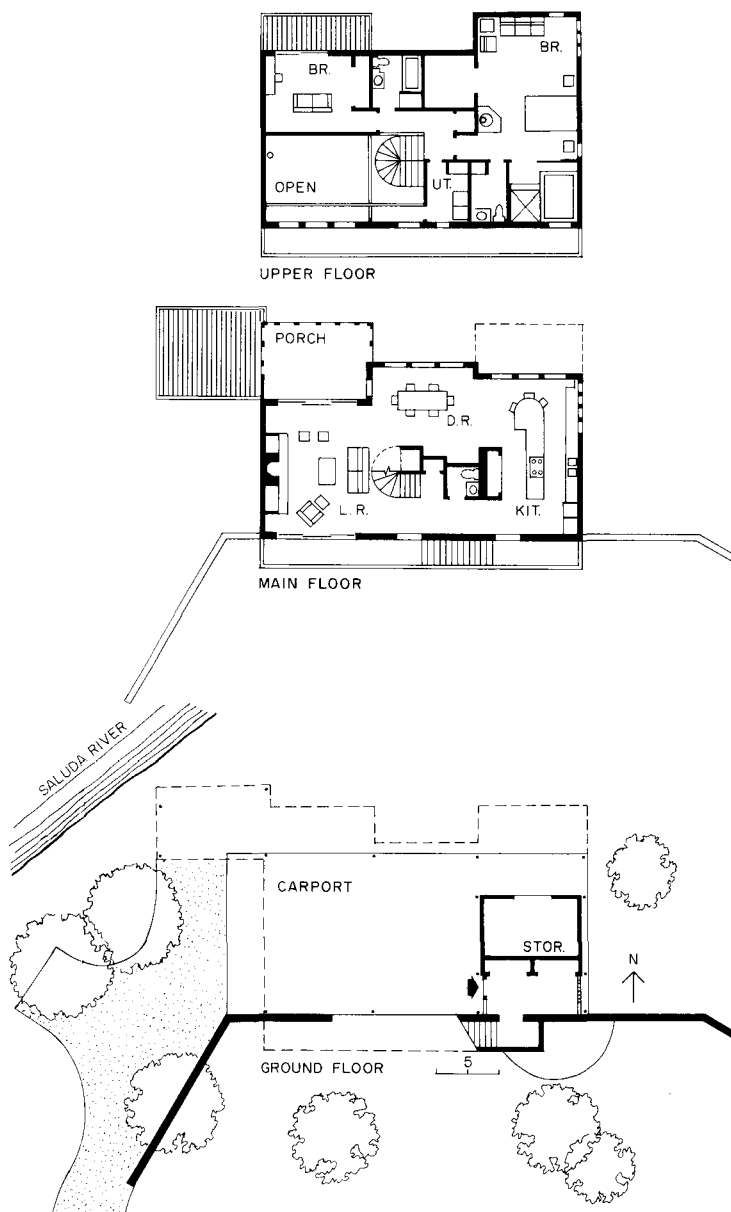
*Villa Barr
Northville, Michigan
Owner:
David Barr
Architects:
Booth/Hansen & Associates
555 South Dearborn Street
Chicago, Illinois 60605
Laurence Booth, assisted by
Steve Rugo
Contractor:
Owner
Photographer:
© Henry M. Bowles, Jr.*



Samuel Tenenbaum House
Lexington, South Carolina
By Stephen Tilly & Alan Buchsbaum

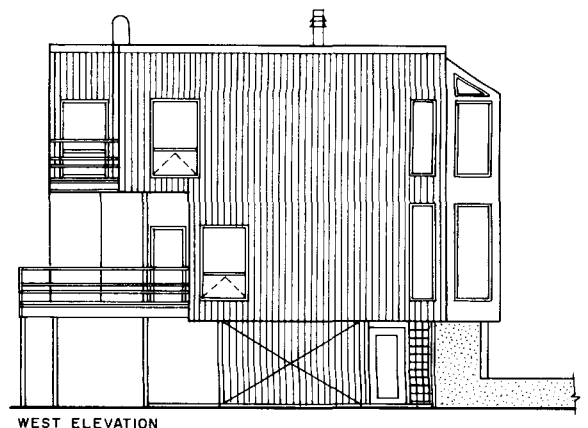
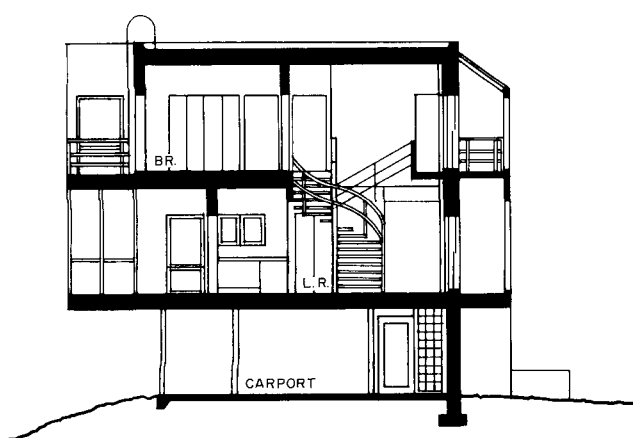






Samuel Tenenbaum calls the Saluda River “my Walden Pond,” while acknowledging with a laugh that he is hardly a recluse, and that his home on the river bank is no humble cabin. Though the young South Carolinian’s wooded property lies at the end of a country lane, it is barely a 15-minute drive from Columbia, the state capital, where he owns a steel warehouse and is active in politics and the arts. Until recently, Tenenbaum lived in a one-bedroom apartment, but found he needed more space for entertaining, and a change of scene after hectic days downtown. He asked architects Stephen Tilly and Alan Buchsbaum to design an energy-efficient house that would combine the convenience of a bachelor flat with the amenities of a suburban villa. And if the result should proclaim its individuality (and its owner’s) among the white columns and pediments of more conventional neighbors, so much the better.

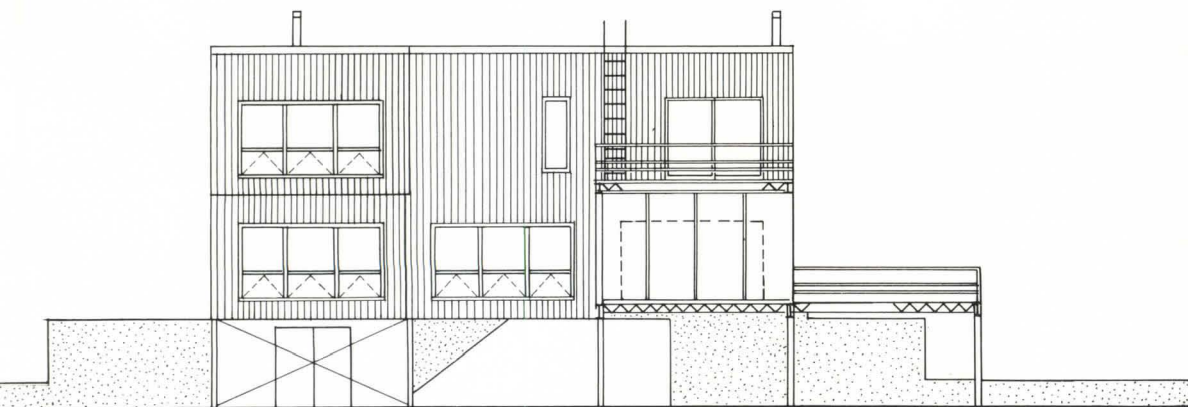
Since they were building in a flood plain, Buchsbaum and Tilly began with the classic parti of a box raised up on stilts (the ground level became a carport *entre les pilotis*); and given their client’s stock in trade, it seemed appropriate to frame the house in steel—albeit tempered with the rustic texture of cypress siding on the north-facing river facade and flanking end-walls. Altogether different is the bold spectacle of red-painted concrete set behind shimmering glass that confronts the visitor who approaches the southern entry facade (preceding page). The luminous carmine screen is, quite prosaically, a walk-through, easy-to-clean solar collector, paralleled by a curtain wall assembled from storefront sections and sliding patio doors. But the sheer visual impact of this hybrid Trombe wall bespeaks Tilly and Buchsbaum’s determination to infuse solar technology with architectural character. While sacrificing a few percentage points of strict efficiency through departures from standard Trombe-wall specifications—such as painting the thermal mass red instead of black, and penetrating it with large windows and a door—the architects gained visual warmth, south views, and natural light for lofty interiors. The insertion of stairs and catwalks into the four-foot space between the masonry and its glazed envelope transforms the normally inaccessible Trombe-wall void into a dramatic winter garden (trees to the south filter the summer sun). As he heads downstairs through this gallery in the morning, the owner looks out for a tame fawn who sometimes comes to nibble Cheerios. “Imagine me,” Tenenbaum says, “a city boy making friends with a deer.” *D.B.*



As befits a single man accustomed to 16-hour workdays, Tenenbaum's master bedroom is laid out like a first-class hotel suite (see second-floor plan, opposite). Otherwise, except for a small guest bedroom, the interior is modeled on an urban loft, to accommodate generous hospitality, with elegantly domesticated industrial components that attest to lessons learned from the California Case Study Houses

of the 1940s and '50s. (Tenenbaum may have second thoughts about the catwalks and flying beams should he ever need to convert the guest room into a nursery.) The openness of the living areas maximizes thermal efficiency, permitting solar heat to be radiated and convected directly from the south-facing red wall during the cold months. Besides supplying nearly 70 per cent of the annual heating load, the

south wall acts as a year-round "thermal flywheel," moderating any extreme variations in temperature. In warm weather, fans, operable interior windows, and sliding doors help to circulate breezes.



NORTH ELEVATION

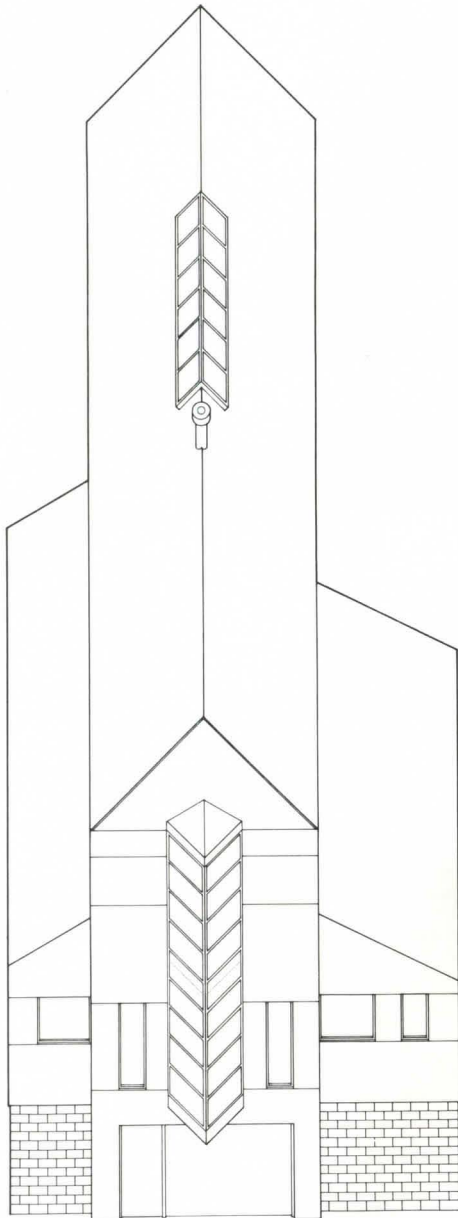
Samuel Tenenbaum House
Lexington, South Carolina
Owner:
Samuel Tenenbaum
Architects:
Stephen Tilly & Alan Buchsbaum
12 Greene Street
New York, New York 10013
Associated architect:
Richard Lamar
Engineers:
Ronald Mayrbaul (structural);
Seymour Berkowitz (mechanical)
Consultants:
Robert Friedman (lighting);
Elizabeth Martin (landscape)
General contractor:
Jim Pitts, Columbia Builders and
Remodelers
Photographer:
Oberto Gili



Wharton House

Seal Cove, Mt. Desert Island, Maine

By Peter Forbes and Associates



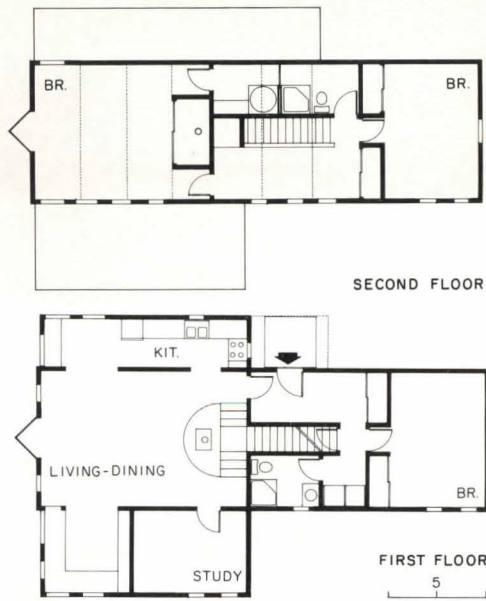
"There is a narrow line between Spartan and mean," avers architect Peter Forbes, for whom this frugal summer house is emphatically the former. Because of the client's very limited budget, the house is being completed slowly.

About \$50,000 has been spent so far to enclose 2,700 square feet on two floors and provide a kitchen, a single bathroom and a few partitions. Another \$5,000 went for the V-shaped, projecting industrial-sash window, a critical focal point of the design, which extends from the main-floor level to the rafters on the west facade. But the skylight has yet to go in and window openings on the south wall, framed for stock sizes to be purchased and installed at a later date, are presently covered by the house's Texture 1-11 plywood skin. The centerpiece of the living room, a cast-iron stove, is still to come.

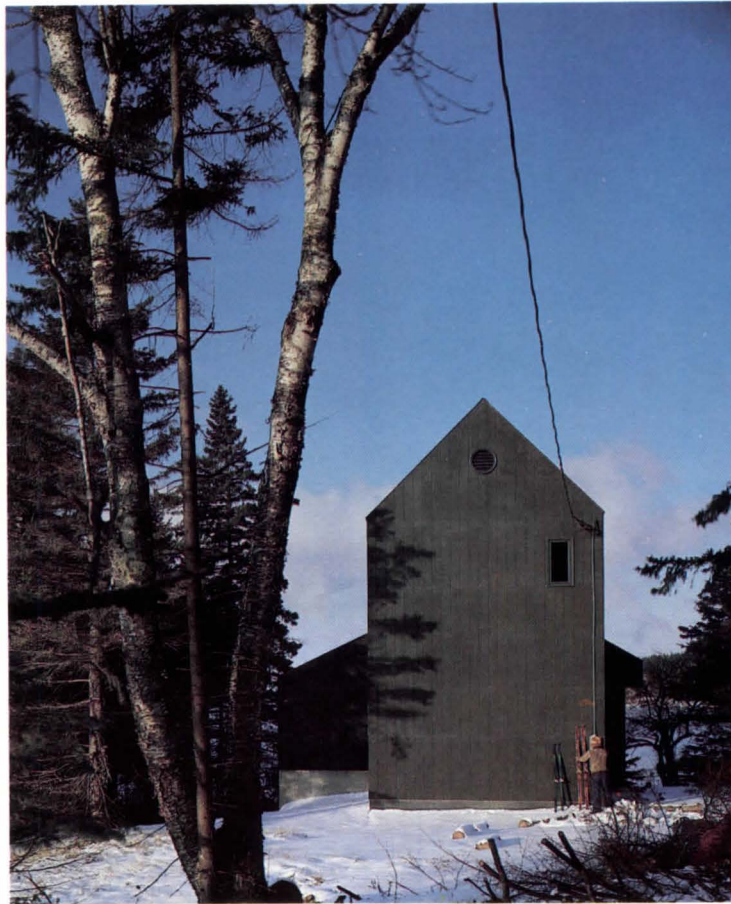
But Forbes, his clients and contractor are completing each stage of construction with a high degree of craftsmanship and care. Says Forbes: "The trick is to do what you can afford by easy stages, as well as it can be done, instead of doing everything fast, cheap and not so well." The carpenter, for example, accepted the fact that the rough stud framing was going to be "expressed" on the interior (overleaf), at least until the client wished to add insulation and sheathing. So he framed the building more precisely than he might have otherwise.

Today, life among expressed studs, 16 inches on center, can be a deliberate, modish choice. The style is sometimes called *arte povera* and it transforms humble inexpensive materials in ways which make us change our habitual response to them and enjoy their intrinsic qualities. Forbes has raised from the commonplace materials and a form of exposed construction locally considered appropriate for a Maine boat shed. He didn't, however, perform this architectonic legerdemain by any of the in-vogue methods that interest some architects: dignifying a low-status material by using it in a high-status way; defamiliarizing it by means of an unusual or unorthodox application; or changing its character by changing its scale.

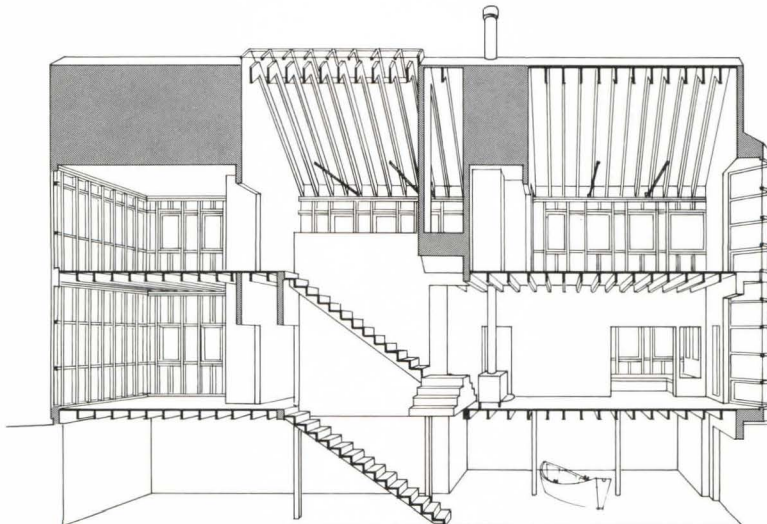
Instead, Forbes took a more traditional approach and summoned an esthetic from mundane products and building methods by paying attention to the proportions and details. And he rigorously excluded nonessentials: "In my work I am trying to reduce the number of things that get introduced into a building, and then I put back what has particular meaning to me or to my client and the work becomes very strong." *M.F.S.*



The couple uses the main floor and will rent the second when the partitions and facilities shown in the plan are installed. Constructed on all of the existing foundations of a proposed dwelling that never got framed, the orientation and the basic shape of the new house was foreordained, but its splendid command of the surroundings is the work of Forbes. His major artifice was to emphasize the house's axial relationship to the coast by creating the prow-like window. This suits the owner, a former naval officer who likes to think of his new summer home as the bridge of a ship. Forbes made the house almost invisible within the dark pine woods and the bordering black volcanic basalt rocks of the cove by staining it dark gray. The steep, black, asphalt shingle roof sheds water and snow quickly. Forbes wanted the house to appear to be wrapped in a thin, tight, dark skin so there are no corner boards and the roof has the tiniest of overhangs.



Wharton House
 Seal Cove, Mt. Desert Island, Maine
Owners:
 Mr. and Mrs. E. K. Wharton
Architects:
 Peter Forbes and Associates Inc.
 124 Myrtle Street
 Boston, Massachusetts, 02114
 Peter Forbes, partner-in-charge;
 Patrick C. Hickox and David
 Tobias, design team
Engineer:
 Louis Conklin (structural)
General contractor:
 Victor W. Mercer
Photographer:
 Paul Ferrino



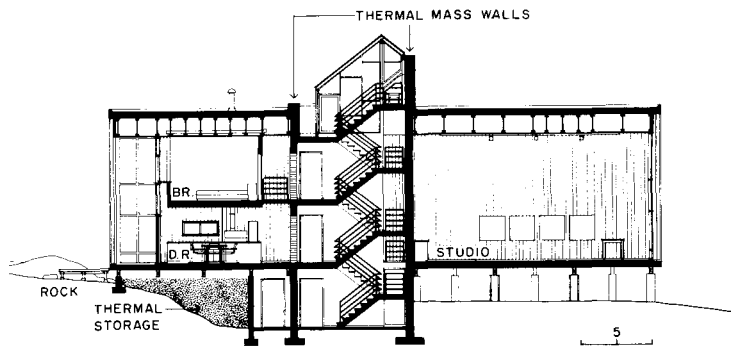
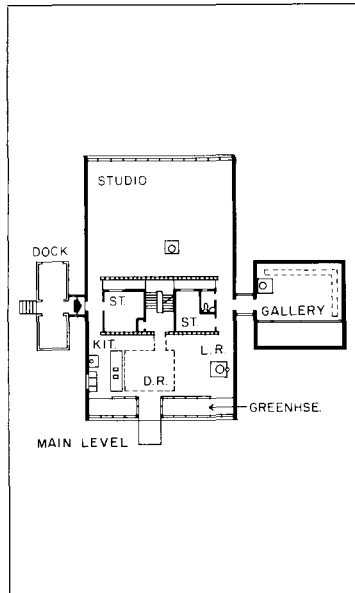
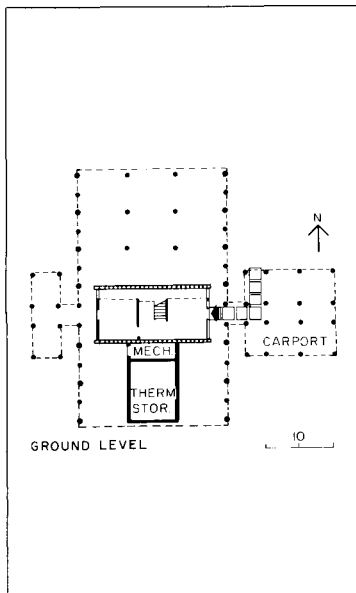
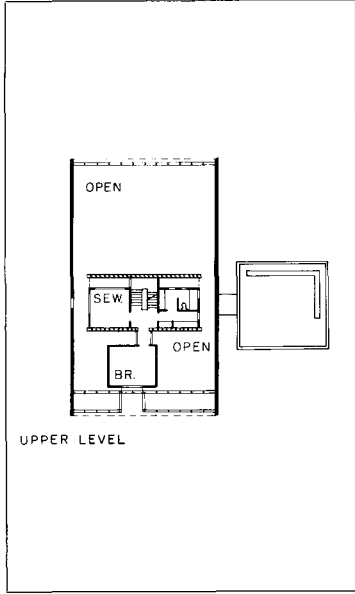
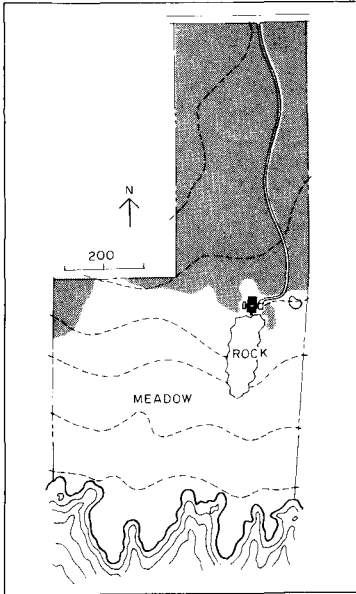




Private house

San Juan Islands, Washington

By Morgan and Lindstrom, Architects

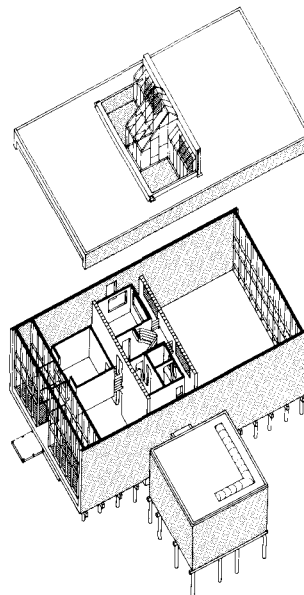


The couple who live here, a painter and his wife, have dubbed the ancient fir beside their house "the eagle tree," after the bird they often sighted in its branches. Trees, rocks, open water, and mountains are the only landmarks in this island domain in the Strait of Juan de Fuca, and the pavilion that now stands among them honors their primacy. When architects Morgan and Lindstrom first saw the site, they were tempted to build square upon a great stone outcropping at the forest's edge. Wisely, they chose instead to place the house where it would barely touch the rock—at once an act of reverence and a quiet affirmation of their own art.

Raised off the ground on concrete piers like a symbolic bridge between woods and meadow, the cedar-clad structure orients living areas to the south for waterfront views and solar gain, while exposing the studio at the opposite end to the painter's ideal north light. A central light well rising the full height of the house brings the sun deep inside, where its energy is absorbed by two concrete-block walls (see section). Fans force warm air through cavities in this thermal mass to a basement rock bin, from which heat is distributed as needed.

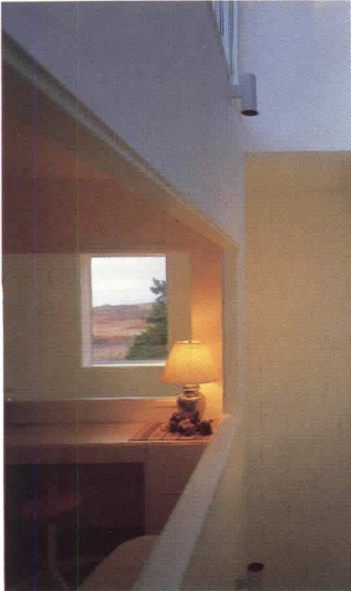
The exquisite logic of plan and section is not immediately apparent to the visitor who arrives from the forest. Indeed, this aspect of the house is tantalizingly enigmatic. Entering through a sunken portico beneath the gallery, one's view beyond the building is obstructed by dense vegetation and rocks. Inside the vestibule, one is drawn upward by the brilliant shaft of the skylighted stairwell, and only as one emerges into the living room is the panorama of water, mountains, and sky revealed through the southern windows. Further ascent leads to the bedroom—a private aerie hung from steel trusses—and the glazed penthouse that is a solarium by day and an observatory by night.

Contrasts of light and darkness are the substance of the painter-client's work, and his esthetic directly shaped Morgan and Lindstrom's design. The influence reaches beyond a general taste for subtly graduated luminosity, flawless surfaces, and a palette of white, gray, and black. Studio floor areas, for example, mark the exact distance required to view a canvas of a certain size, and ceiling heights accommodate the precise angle of illumination that ensures a balanced spectrum of reflectance. Such dimensions in turn define a proportional system that unifies the entire house; and in the perfection of this intrinsic order, the building is an island within an island. *D.B.*



Private house
 San Juan Islands, Washington
Architects:
 Morgan and Lindstrom, Architects
 P.O. Box 10610
 Bainbridge Island,
 Washington 98110
 Christopher C. Morgan, architect-
 in-charge; Richard D. Lindstrom,
 project designer
Interior consultant:
 Roger Bullock

General contractor:
 Francis Schelm
Photographer:
 Timothy Hursley



The double layer of insulated curtain walls on the south facade (above right and opposite) forms a greenhouse for direct solar gain and small-scale horticulture (the opaque spandrel across the top is dark tan coated glass, expressing the presence of the truss behind it). Framed by the grid of aluminum mullions, and a foreground of gnarled trees and lichen-crusting rock, the Strait of Juan de Fuca and the distant Olympic Mountains assume the ethereal beauty of a Sung Dynasty scroll. Just as the house is a discrete presence in the landscape, isolated by its geometry and physical elevation, particular rooms exist as distinct objects within the building's lofty interior volume. Suspended from the 42-foot span of a metal-and-wood trussed-joist roof structure, and accessible only from a narrow bridge, the bedroom seems to hover within the

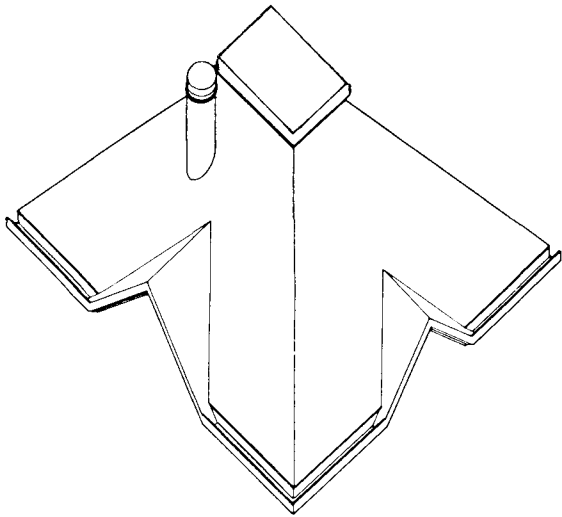
main living space (above right). The adjacent sewing room has views out to the coast and into the central light well (upper left). Black antique stoves collected by the owners take on the authority of totemic sculpture against the pale background of white-painted Douglas fir wall paneling and Swedish-finished maple floors. Subtle reversals of figure and ground recur in the owner-artist's paintings, seen in the living room (above) and in the studio (overleaf), where the tools of his trade compose an everyday still life. Canvases ready for shipment to the mainland are loaded onto trucks from a platform on the west side of the house.







Town-house renovation Boston, Massachusetts By Graham Gund Associates

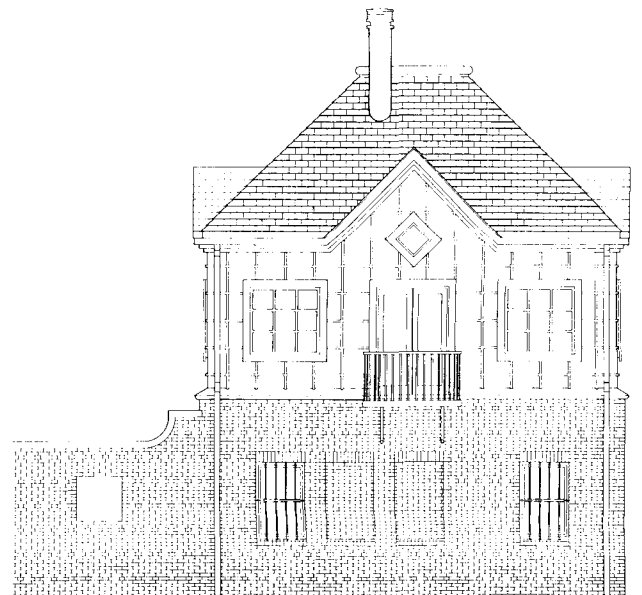
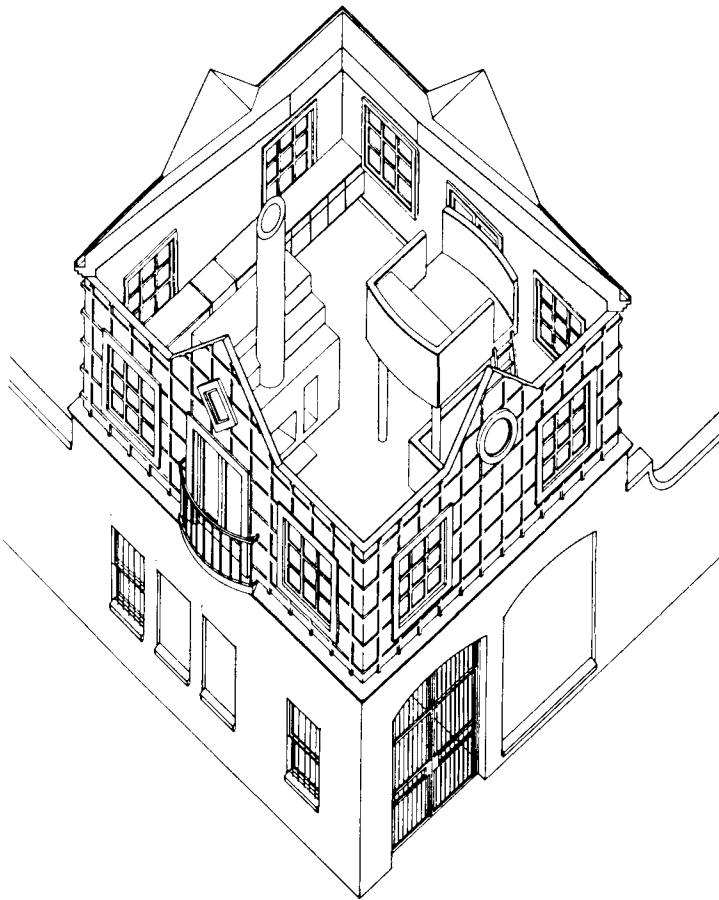


As full of charm and surprise as the famed half-timbered house in Wales of the "Ladies of Llangollen" (a 19th-century fantasy made of an incredible collection of ancient architectural tidbits), this addition and renovation of a former stable provides a lively new focal point for an old street cluttered with the back-end additions of large town houses.

The original brick-enclosed lower floor had previously been converted by the owners into a two-room studio with garage and court, and fitted with needed plumbing, heating, air conditioning and the like. The rather pedestrian but solid enclosure was little altered. This placid base has now been sparked by topping it with a sprightly, symmetrical pavilion with many discrete allusions to the walled gardens and houses of the Colonial, Federal, Neo-classic and Victorian periods which surround it in a sort of congenially chaotic, eclectic harmony.

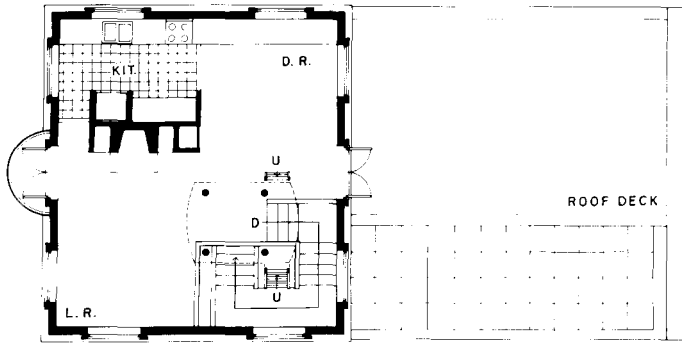
The "allusions" are many: a tall, mansarded, shingle roof; cornices and gables; a tall chimney flue; boldly projected and mullioned windows, with protective grilles on the lower level; an oculus or two; a little balcony with French windows; and a stuccoed exterior clad with a stained wood trellis (half-timbering?) to "transform the brick enclosure into a garden wall." The whole design, however, is carried off with a simplified clarity that smacks less of historicism than—could one say—a "revivified Victorian" approach to post-modernism.

Within the small, compact house (there are only 1,500 square feet of enclosed living space) are the major surprises. An entirely unexpected sense of spaciousness has been developed by the architects by some repartitioning of the first floor to create very private, but interconnecting, bedrooms, studio, and an entry big enough to be usable; and by using a lot of "open-planning" devices to visually expand the new second level—a two-story open stairwell, partial partitions, roof-hugging ceilings, a canopylike loft study, lots of windows and light, and "indoor-outdoor" connections to roof deck, little balcony and ground-floor courtyard. Each use area is clearly defined and partially screened, but the visual space flows continuously throughout the house. Use of the grille-gated garage as a covered "carriage entrance" to the house also contributes an extra, quite special, spatial filip to the little compound. *H.L.S.*

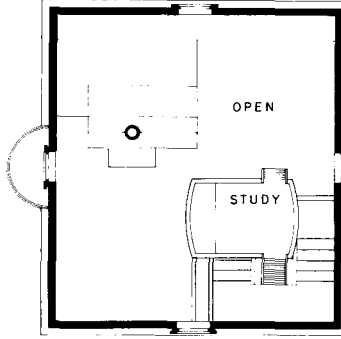


In contrast to its small dimensions and modest cost, a lot of care and thought went into the planning and detailing of this perky town house, as can be seen in the drawings shown here. A faceted, sculptural quality has been developed by the architects to add eye-catching interest to the house. Apart from the byplay of the basic shapes, materials and textures of the exterior, a three-dimensional—ever

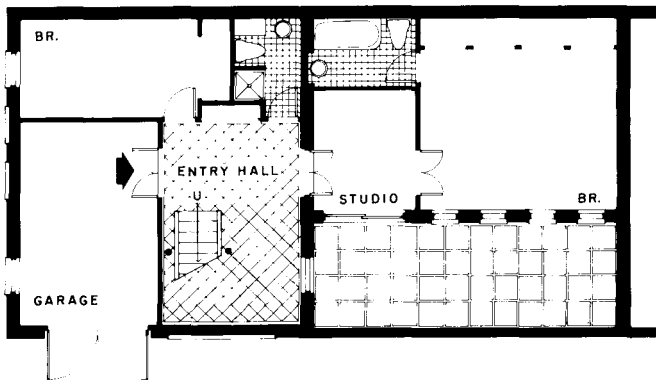
changing—shadow emphasis has been created by the projections of the window surrounds, the cornices, and the second-floor trellis. The materials used are those common to the neighborhood: old brick, cream stucco, dark-stained wood, light-gray mineral-fiber shingles, copper flashing, and simple black-painted iron grillwork. For all of its elements of "recall," the end result is one of freshness.



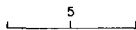
SECOND LEVEL



LOFT LEVEL



FIRST LEVEL





*Town-house renovation
Boston, Massachusetts*
Architects:
*Graham Gund Associates, Inc.
12 Arrow Street
Cambridge, Massachusetts 02138
Graham Gund and David Perry,
principals; Len Bertaux and Eric
Hollenberg, project team*
Engineers:
LeMessurier Associates (structural)
Contractors:
Frost Construction Co.
Furnishings:
Crate and Barrel
Photographer:
© Steve Rosenthal

An exceptionally fine example of what a sensitive remodeling can add to an existing neighborhood, this little four-square pavilion not only reinforces the street corner with a decorative, free-standing object, but does much to uplift the surrounding panorama of backyards as the photo at left so clearly shows. On the inside, an informal, very contemporary decorative quality has been

developed by sprightly shapes and faceted surfaces (photos below). These, together with a number of custom-designed built-ins minimize the need for furnishings and furbelows. Walls and ceilings are white-painted wallboard, and floors are oak or quarry tile (in kitchen and entry). Oak is also used for doors, stair rails, framing for the bay-like windows, and the ladder to the loft-study.



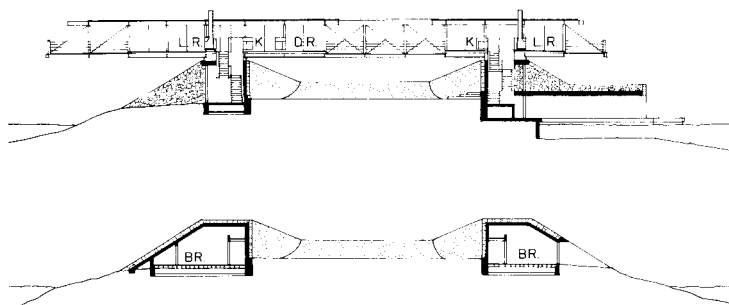
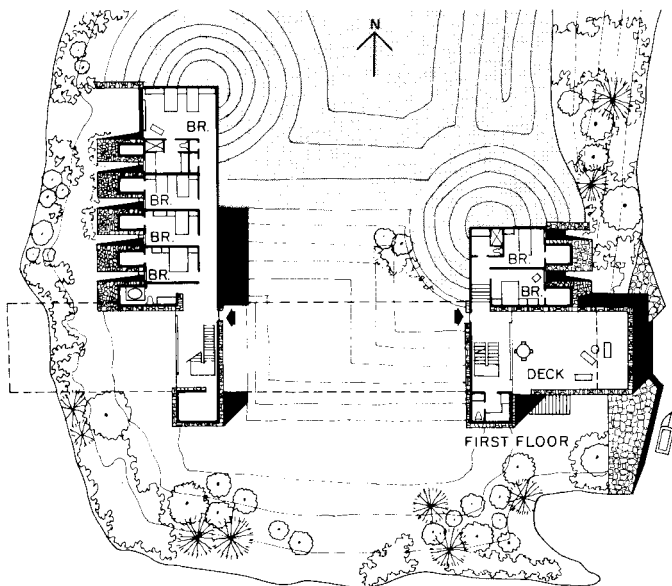
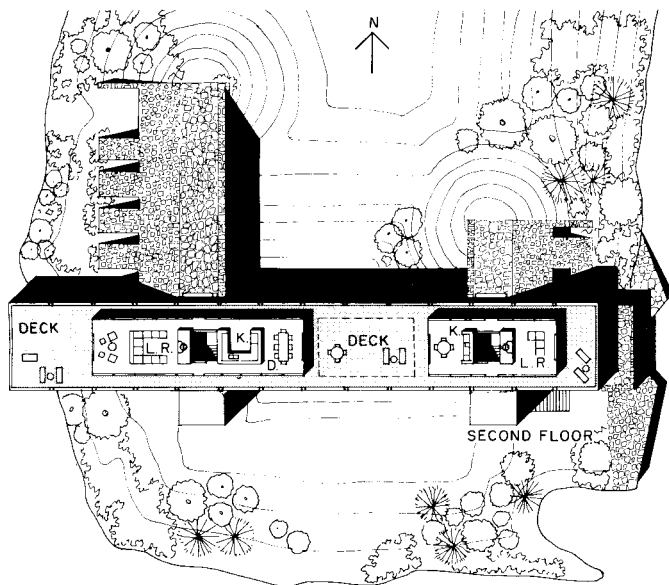
**Wandich House
Peterborough, Ontario
By Jim Strasman, Architects**





Plans and sections below show two separate living areas, set on a deck that extends the width of the peninsula, reached by stairways from semi-underground bedroom structures. The guest house stairway on the east continues down to the boathouse. The deck is 170 feet long and 23 feet wide, with a 50-foot cantilever to the west and a span of 72 feet between the two supports. Twelve-foot-deep trusses

made it "an easy structural problem," says architect Strasman. The bedroom roofs, covered in stone blasted from the site, serve as a visual link between deck and ground. Notice the small rectangular projections to the south: the tops of these have been turned into water lily pools that attract birds to the living area. The bridge offers a covered entry; parking is on another part of the site.



A 170-foot sweep of steel and glass spans a remote granite peninsula and ends in a stunning 50-foot cantilever that projects the living room of the Wandich house out over the lake (photo preceding pages). Exciting. . .luxurious. . .and yet, appropriate.

For the house, a year-round retreat for a Toronto developer and his family, was designed with one idea foremost: to intrude on the terrain as little as possible. No small feat, when the program called for a main house suitable for two adults, two children and a guest, a guest house, and a boathouse. "It was such a gorgeous little peninsula that it would have been ludicrous to scatter buildings all over the site," says architect Jim Strasman. "My main problem was to avoid building a camp."

Strasman's solution is partly Miesian—he sited two glass boxes, each with living room, dining room and kitchen, on a bridge, which is really a giant sundeck overlooking the lake and green hillside farms to the south, open water, islands and sunsets to the west, a tranquil water lily pond to the east, and thick woods to the north (plan top left and photos page 142). And it is partly, well. . .primeval—he placed the bedrooms in concrete cave-like structures covered with granite stones and plantings (plan bottom left; exterior photo foreground facing page; interior photo page 143). Thus the living areas, poised 24 feet in the air, not only command panoramic views, but they appear almost linear, blending with the sky, while the bedrooms merge with the peninsula. It's hard to believe that over 7000 square feet of space (including boathouse) were built here.

Paradoxically, the industrial steel (painted a flat charcoal brown) and glass (set in dark, anodized aluminum frames) intrude less on the landscape than traditional white clapboard would have. At the same time, these hard-edged materials generate excitement juxtaposed against the rough-sawn cedar of the ceiling, the pressure-treated cedar of the deck, and the stonework and plantings of the bedroom areas, which visually link the deck to the ground. Ironically, Strasman had turned to steel reluctantly, because a wood truss had proved too expensive: "Then I began to get excited by it."

For all of the grandeur of the house and its vistas, it is also a place where one might feel comfortable alone. Sitting in the living room watching the boats on the lake, or, in winter, listening to music by the fire while snow swirls all around, one feels "protected, on top of everything, in control," says Strasman. And that, after all, is what a house is all about. *N.G.G.*



Wandich House
Peterborough, Ontario, Canada

Owner:

Al Wandich

Architects:

Jim Strasman, Architects
167 Avenue Road
Toronto, Ontario, Canada M5R2H7

Engineers:

Robert Halsall & Associates
(structural); *Kalns Associates*
Limited (electrical); *Shawinigan*
Engineering Ontario Limited
(mechanical)

Consultant:

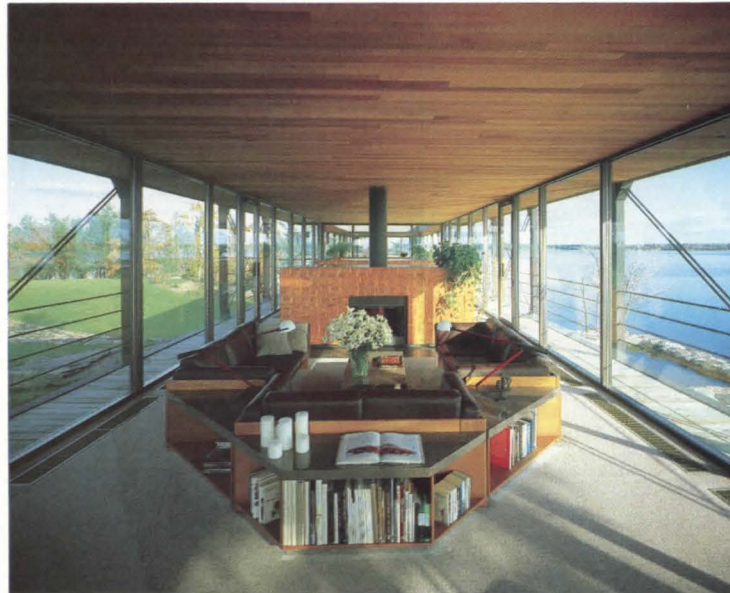
Gerritt Gosker (landscaping)

Contractor:

West End Construction Ltd.

Photographer:

Otto Baitz



Shown above: the living and dining areas of the main house. The open plan offered a way to avoid a typical summer house problem, says Strasman: "The wife is generally unenthusiastic about going there because she spends most of her time in the kitchen cut off from the view and activity." The cave-like bedrooms, with their slot windows, each framing one small, perfect view, offer a respite from the visual

excitement of the day (photo opposite). Because of their mass, the bedroom areas also act as heat sinks, with the stairways providing natural convection. Wide overhangs protect the living areas from summer sun and allow winter sun to penetrate, while screen doors at both ends provide cross ventilation. Budget for the house was \$100 a square foot.

Otto Baitz, Courtesy House & Garden © 1982 by the Conde Nast Publications Inc.



A new direction in passive solar heating storage

With the introduction of *Enerphase* brand thermal energy storage panels, Dow Chemical has put its research development capability—and also its distribution network—to work in an area that has long been the province mainly of smaller, local, “alternative energy” companies.

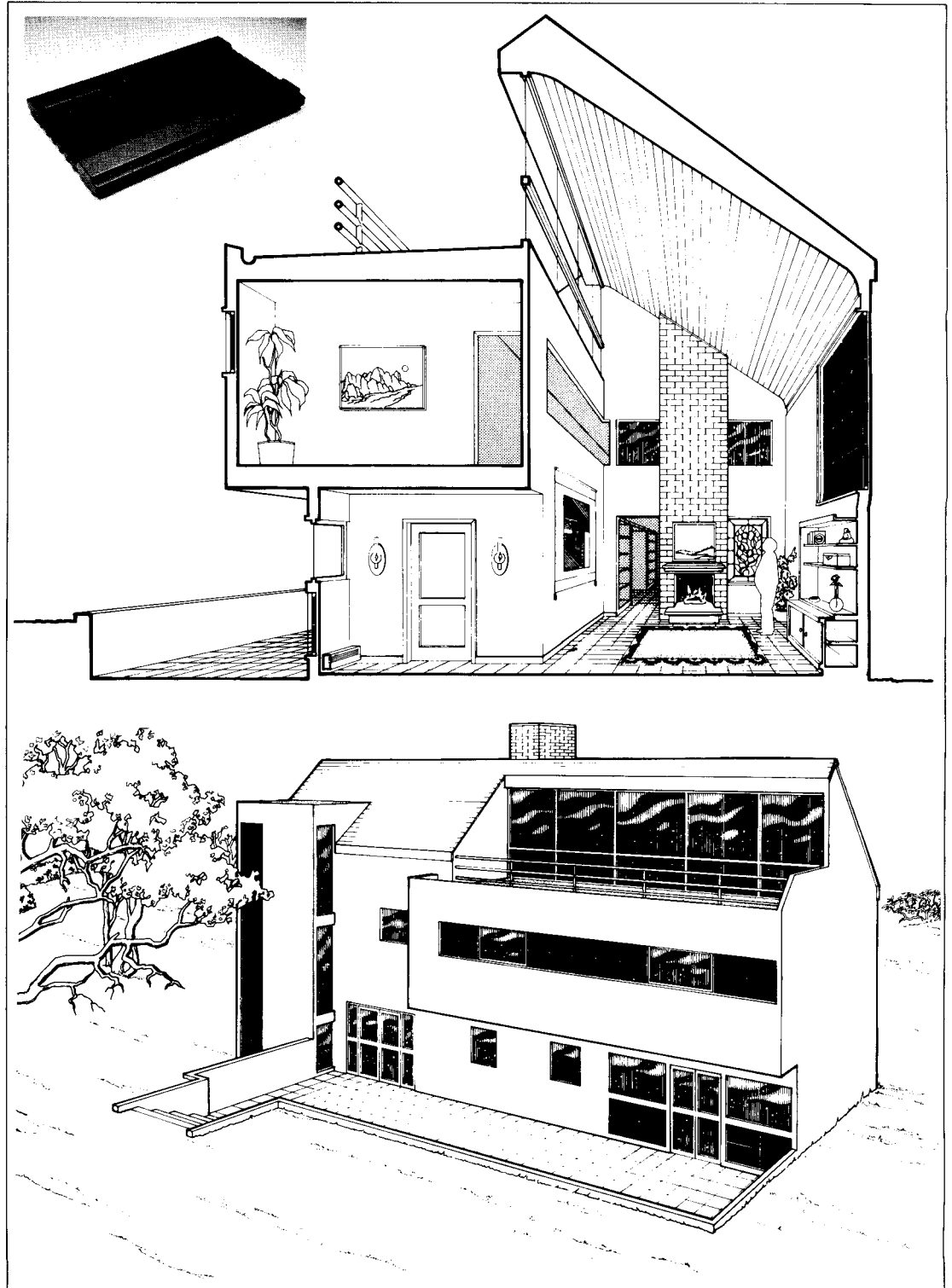
The panels, which are filled with a phase change compound with a melting point of 81 deg, offer a number of advantages over conventional rock, masonry or water solar storage:

- They offer design flexibility. Panels are only 2 in. thick, and thus can be used anywhere (assuming proper orientation to the sun) in the walls or the roof of a conventional frame house. When used on the exterior they must be covered with double glazing.
- They are easy to install. Panels measure 14 by 22 in. so that they can be placed between the studs whether the house is framed 16 in. on center or 24 in. on center.
- They are lighter than most materials with comparable heat-storage capabilities, weighing only 25 lb.
- They are efficient; the manufacturer claims that 1 gal. of TESC-81, the phase change compound, can store as much energy as 7 gal. of water or 51 bricks.

Dow claims that 60 *Enerphase* panels used in a 1,500-sq-ft house could store enough energy to supply up to 50 per cent of the daily heating requirement, depending, of course, on climate, the amount of direct sunlight, energy-efficient construction, occupants' lifestyle, etc. Panels are designed to discharge heat over approximately a 12-hour heating cycle with a 65 deg indoor temperature. They will have 2,000 Btu's of effective storage capacity when used in a typical sunspace for passive solar applications.

Enerphase panels will be available in July. Dow Chemical U.S.A., Midland, Mich.

Circle 300 on reader service card
More products on page 153



Panel (top left) is made of molded Dowlex resin, a black linear low-density polyethylene, and is filled with a proprietary calcium chloride hexahydrate formulation which Dow calls TESC-81. The compound contains nucleators to suppress supercooling, and it is said to be chemically stable to repeated freeze-thaw cycling, nonflammable, nonvolatile and low in toxicity.

Renderings show how *Enerphase* brand thermal storage panels can be integrated into a house design. Panels, covered with double glazing, were used on the south elevation to heat stairwell, bedrooms and entry area. To heat the living room they were placed in the north wall, receiving the sunlight from a south-facing clerestory window.

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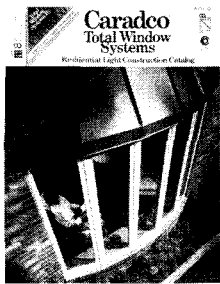
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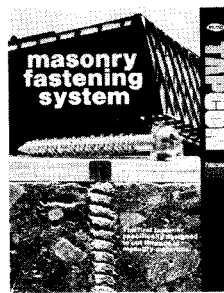


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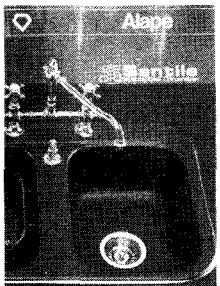
Product literature



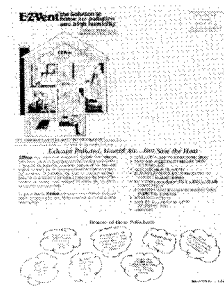
Windows and doors
Primed and clad casement, awning, double-hung and slider windows and patio doors are shown in a color catalog of products for residential and light construction. Section details illustrate installations and charts show dimensions. Caradco Corp., Rantoul, Ill.
Circle 400 on reader service card



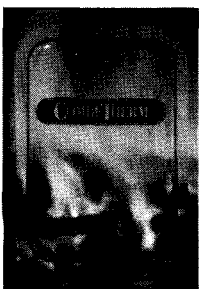
Masonry fastening system
A 4-page color brochure describes the Tapcon system, designed specifically to cut threads in masonry materials. Installation tools are shown as well as the 2 available fastener head styles—slotted hex washer and Phillips flat head. Elco Industries, Inc., Rockford, Ill.
Circle 403 on reader service card



Sinks
A 12-page color brochure features 7 models of kitchen sinks and lavatories. Alape sinks, made in West Germany, are of seamless, high-grade steel finished with vitreous enamel inside and out. Photographs show accessories and diagrams give dimensions. Santile International Corp., Houston, Texas.
Circle 401 on reader service card



Residential heat exchanger
A residential air-to-air heat exchanger for the control of air pollution and humidity is described in a 4-page brochure. An air-flow diagram, dimensions, specifications and installation considerations are included. Des Champs Laboratories, East Hanover, N.J.
Circle 404 on reader service card



Wood-burning stove
The Swedish Combi-Therm home heating system is described in a 6-page color foldout brochure. Diagrams show dimensions and illustrate how natural convection circulates warm air through a house. The stove can be installed within 4 in. of walls. Classic Stove Works, New Britain, Conn.
Circle 402 on reader service card



Cabinets
A color leaflet shows construction and assembly details of a line of ready-to-assemble kitchen cabinets and illustrates 4 door styles and various accessories. Connor Forest Industries, Wausau, Wis.
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Architectural Calculations at the Touch of a Button



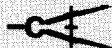
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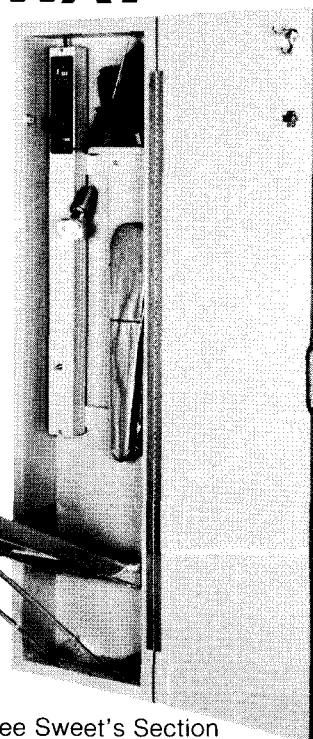
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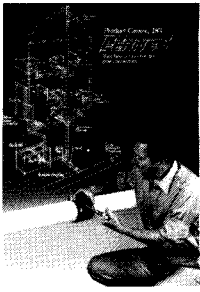
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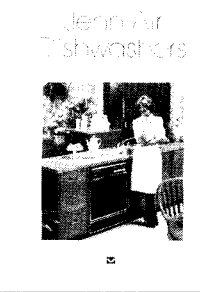
For more information, circle item numbers on Reader Service Card, pages 183-184



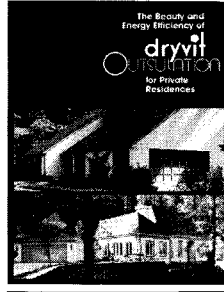
Flexible pipe connectors
A new product catalog covers a line of more than 5,000 flexible plumbing pipe connectors and adaptors. Suggested applications, installation instructions and technical data are included. Fernco, Inc., Davison, Mich.
Circle 406 on reader service card



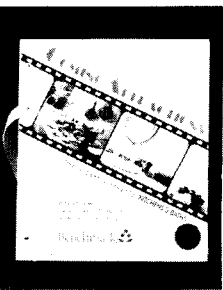
Sun screen hardware
An 8-page brochure describes a device that extends and retracts any fabric, over any surface, at any angle, with constant, uniform tension. Possible applications include passive solar shielding, greenhouse insulation and loading dock closures. John Boyle & Co., Elmsford, N.Y.
Circle 409 on reader service card



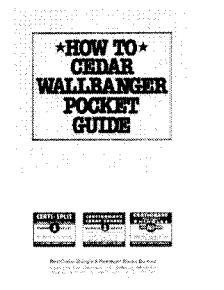
Appliances
Built-in and portable dishwashers and food-waste disposers are shown in a 12-page color brochure. Diagrams detail dishwasher design features, such as protection of the motor against pump seal failure and double sound insulation. Specifications are included. Jenn-Air Corp., Indianapolis, Ind.
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Insulation and finish
A 4-page color brochure covers *Outsulation*, an exterior wall insulation and finish system for new and retrofit residential construction. Included are descriptions of the components of the system and photographs of typical installations. Dryvit System, Inc., West Warwick, R.I.
Circle 410 on reader service card



Wallcoverings
A catalog features 136 designs in fabric-backed vinyl wallcoverings and companion fabrics, which are of screen-printed cotton/polyester in 48-in. widths. Photographs show typical kitchen and bath installations. Benchmark Wallcoverings, Burlington, Mass.
Circle 408 on reader service card



Shingles and shakes
A 20-page step-by-step illustrated booklet on sidewall application of red cedar shingles or shakes includes information on tools, grades and lengths, weathering, applications and finishes. Red Cedar Shingle & Handsplit Shake Bureau, Bellevue, Wash.
Circle 411 on reader service card
More literature on page 157

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Offer your clients Europe's beautiful, efficient alternatives to an ordinary woodstove or conventional energy-wasting fireplace.

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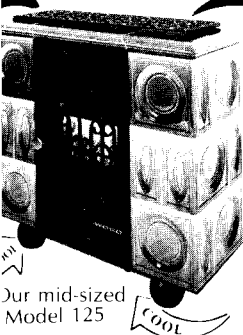
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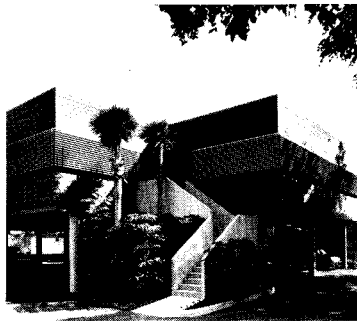
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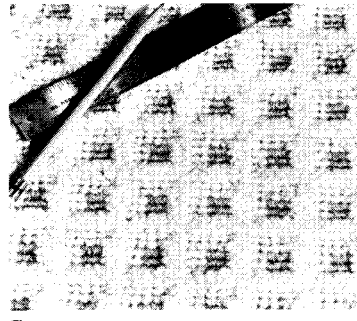


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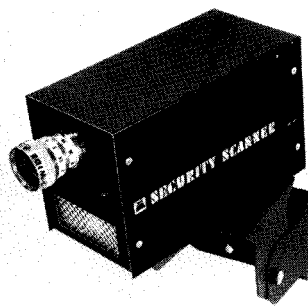
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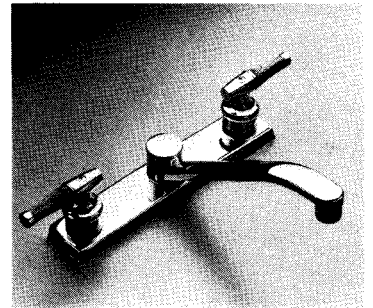
Blinds
Luxalon Sun Louver systems consist of aluminum alloy panel carriers and panel louvers. Panels are available in a variety of colors with the side facing the window always white to increase natural illumination. The company has developed a sun path diagram, which enables architects to calculate the projection of louver panels and the sunscreen effect the system will have. Hunter Douglas, Inc., Maywood, N.J.
 Circle 301 on reader service card



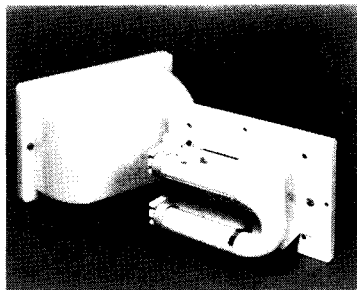
Carpet
Checkpoint, part of the *Kalahari II* collection, is a Wilton in a cut-and-loop-patterned broadloom, woven from 100 per cent wool. Available in a 12-ft width, the carpet is offered in 3 tone-on-tone Berber shades and is suitable for commercial traffic. Couristan, New York City.
 Circle 304 on reader service card



Simulated camera
 The model 1500 dummy surveillance camera plugs into a standard 120-V outlet and has both a strobe light and buzzer to flash and sound at regular intervals. The simulated camera may be used by itself or to supplement actual cameras in banks, stores and warehouses. EDD Security, Inc., Portland, Ore.
 Circle 305 on reader service card



Faucet
 A 2-handle washerless kitchen faucet from the *Valleycrest* collection features oak handles. All faucets in the collection are solid brass and come in polished or antiqued brass finishes for the bath and in chrome finish for the kitchen. U.S. Brass, Plano, Texas.
 Circle 306 on reader service card
 Continued on page 155

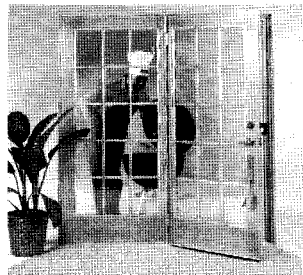


Outdoor fluorescents
 Designed to be the same size as Luminaire Lighting Company's outdoor incandescent lighting fixtures, U-lamps consume only 13W. Because more lamp surface is employed in illuminating the fixture, U-lamp fixtures are said to cast better light than standard straight fluorescent lamps. They produce about the same light as a 40-W incandescent and may be used in hallways and entrances as well as in all outdoor applications. Voltarc Tubes, Inc., Fairfield, Conn.
 Circle 302 on reader service card



Energy performance design
 The *Energy Performance Design System* is composed of a computer software program and a manual that allow a designer to predict the energy performance of any house design in different geographic locations throughout the country. The program assesses thermal performance data based on design elements such as size, shape, insulation levels, windows, air infiltration, thermostat settings, occupancy and hvac. Owens-Corning Fiberglas Corp., Toledo, Ohio.
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The Courtyard II Sliding Door



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Sized for replacement or new construction.

Malta has the door that's right for you.

For the name of your nearest distributor, contact MALTA at 614 962-3131, or write P.O. Box 397, Malta, OH 43758.

Circle 59 on inquiry card

M E R I L L A T

OMNI



MERILLAT INTRODUCES "OMNI."

We've solved the three problems of European styled cabinetry: price, installation and alignment.

Price: Imagine, a European look cabinet with all the Merillat quality features at a fraction of the European price.

Installation: Omni cabinetry features a solid oak front frame which allows ease of installation. Omni will arrive "on the job" ready to install because Merillat's front frame double dowelled construction withstands the stress of shipping.

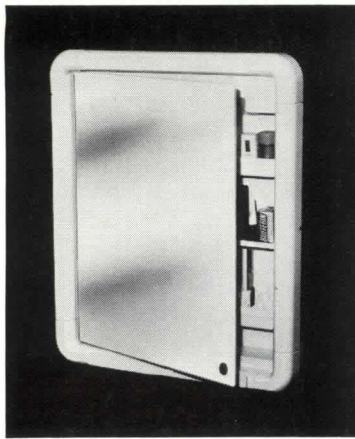
Alignment: Omni doors are precision aligned at the factory. Fine tuning in the field is easy because Omni

cabinetry features a unique four-way hinge with "micrometer type" adjustability.

For full details on the new Omni product line contact Merillat today.

Merillat[®]

Merillat Industries, Inc., Adrian, Michigan 49221
Circle 50 on Reader Service Card.



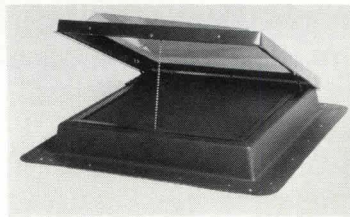
Bathroom cabinet

The *Starlight 600* 1-door cabinet can be recessed or surface-mounted. Adjustable shelves are 3 in. deep. Other features include a removable tray with several compartments and magnetic door latches. The cabinet measures 28 1/4 by 23 1/2 by 4 1/2 in. on the outside while the recessed section is 25 1/8 by 19 by 2 3/4 in. The cabinets are made of polystyrene with a lacquer-white finish. Allibert, Inc., Edison, N.J.
 Circle 307 on reader service card



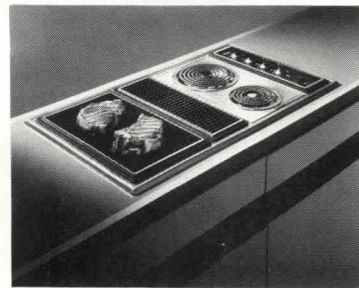
Faucets

Kohler's *IV Georges Brass* line has been expanded to include bathroom faucets and accessories. In addition, both black satin and polished brass accents are available. The line now includes faucets for sinks, baths and showers, whirlpool trim kits and grip rails. Accessories include towel rings and bars, tumbler/toothbrush holders, soap dishes, mirrors and toilet-tissue holders. Kohler Co., Kohler, Wis.
 Circle 310 on reader service card



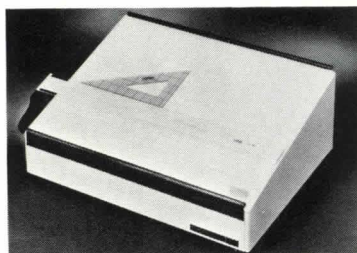
Self-opening skylight

Pneumatic cylinders open the *V-FRP* skylight automatically to provide a cross-ventilating updraft that reduces air conditioning loads. A 4-in. fiberglass-reinforced-plastic insulated curb prevents air infiltration. Skylights are available in a low-profile hyperbolic paraboloid or in the traditional dome model with either double or triple insulating layers. Kenergy Corp., Orlando, Fla.
 Circle 311 on reader service card



Cooktops

Electric cooktops, with down draft vent systems that require no hood, come in 2 standard modules: one with 2 surface units and one with a grill. Options include a motorized rotisserie, a griddle and black smooth-top surface units. Whirlpool Corp., Benton Harbor, Mich.
 Circle 312 on reader service card
 More products on page 159



Self-healing grid overlay

A translucent vinyl overlay that heals itself when cut fits this manufacturer's *Acculight* viewer to provide a surface for paste-ups, keylining and other uses. The overlay is marked with a grid to be used as a guide. The viewer has a color-correct lighted surface measuring 24 by 18 in., and is made of heavy-gauge steel with a frosted acrylic plastic surface angled at 15 deg. Knox Manufacturing, Wood Dale, Ill.
 Circle 308 on reader service card



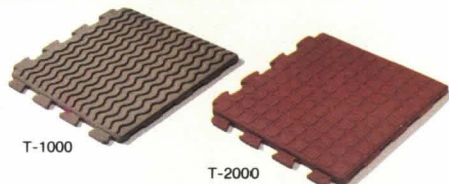
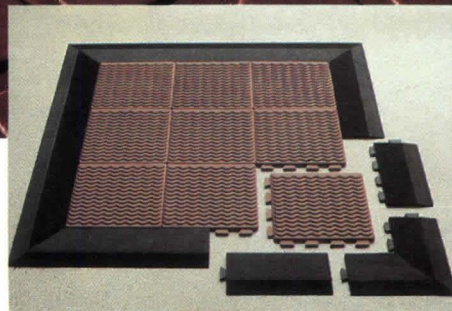
Residential fire sprinkler

The *Omega* pendent sprinkler is designed to use domestic water supplies with minimum pressure requirements of 22 psi to flow 18 gpm from a single head, covering an area up to 196 sq ft, or an area up to 256 sq ft at 39 psi at 24 gpm with a k-factor of 3.85. The head has a low-profile design, extending only 5/8 to 3/4 in. below the ceiling, with a 2 9/16-in.-diameter escutcheon plate. Central Sprinkler Corp., Lansdale, Pa.
 Circle 309 on reader service card



CONDOR® Interlocking Rubber Tiles

New 5/8" thick, 12" x 12" high traffic lobby tiles are easy to install without adhesives. Easy maintenance, long lasting and ideal for sound absorption. The hidden interlocking tabs assure tight connections between tiles. The knob back provides aeration under tiles - no odor or mildew. They may be installed on the surface with a contrasting beveled border for safety. Recessed installations also available. Write or call Standard Products Division for full details.



Available in 2 surfaces: T-1000 - curvilinear is 1/8" deep x 1/4" wide. T-2000 - 1/16" raised, 3/4" x 3/4" cubes. Both surfaces supplied in black, brown, terra cotta, tan, gray, blue, green.

STANDARD PRODUCTS DIVISION

Pawling Rubber Corporation



P.O.Box X, Pawling, New York 12564 / 914-855-1000

SWEET'S CATALOG (12.17/Pa)

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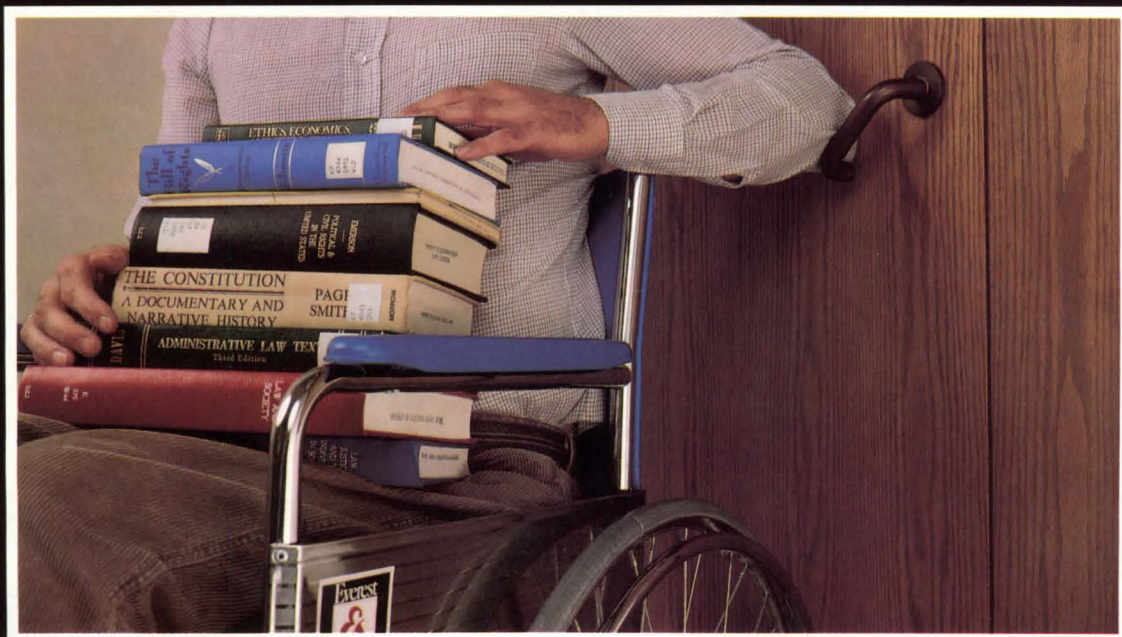


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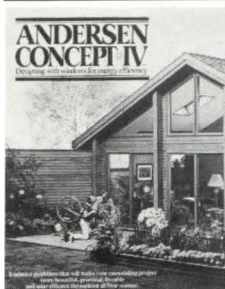
Schlage Lock Company, P.O. Box 3324, San Francisco, CA 94119, U.S.A., (415) 467-1100, Telex: 340-409,
Cable: Schlage SFO Sweets Catalog File 8.30/Sc Canadian Sweets Catalogue File 8h/SC

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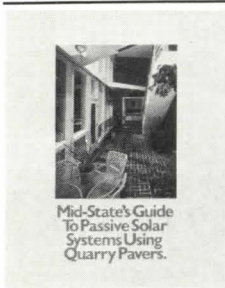
For more information, circle item numbers on Reader Service Card, pages 183-184



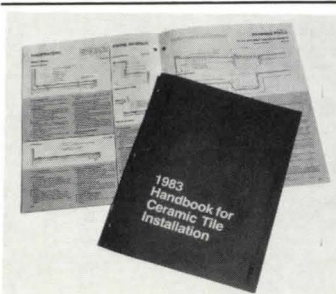
Closed panel system
A folder of literature includes engineering data and typical connection details for *Super-Struct* panels, which include insulation, exterior finishes and drywall. National Thermatron Industries, Inc., Carson, Calif.
Circle 412 on reader service card



Windows
A 128-page book describes *Concept IV*, guidelines to energy conservation and passive solar design in additions or remodelings. Included are color photos of design ideas, climatic charts and a glossary of terms. Price is \$6.95; available from Anderson Corp., Bayport, Minn. 55003



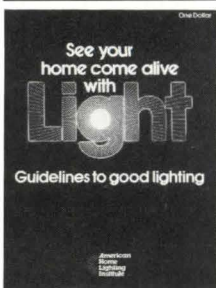
Quarry pavers
A 4-page brochure focuses on the use of quarry pavers in passive solar designs. Included are a site plan showing solar-efficient landscaping, and a diagram showing a thermal mass laid beneath quarry tiles to form a heat sink. Mid-State Tile Co., Lexington, N.C.
Circle 413 on reader service card



Ceramic tile installation
The 32-page 1983 *Handbook for Ceramic Tile Installation* has details, outlines and charts to cover methods and conditions of installation. Standard specifications and grouting materials are listed. Price is \$1.00; available from Tile Council of America, P.O. Box 326, Princeton, N.J. 08540



Storage
A color catalog contains specifications, photos and line drawings of *Closet Maid* storage products including shelving, sliding baskets and racks. Charts illustrate load-bearing capacities and dimensions and a design section gives sample closet layouts. Clairson International, Ocala, Fla.
Circle 414 on reader service card



Lighting
Guidelines to Good Lighting is a 20-page color booklet that illustrates general, task and accent lighting for any room in a house. Basic information on types of lighting fixtures and light sources is included. Price is \$1.00; available from American Home Lighting Institute, Suite 1717, 435 North Michigan Ave., Chicago, Ill. 60611
More literature on page 169

Skylighting with **VENTARAMA**[®]

Skylights give interiors an effect which no regular window can offer. Now with Ventarama's new low-profile dome, homes of any style are graciously complemented.

Our extensive experience manufacturing ventilating skylights which can be conveniently opened from any distance has kept us in builders' and architects' favor for over 33 years.

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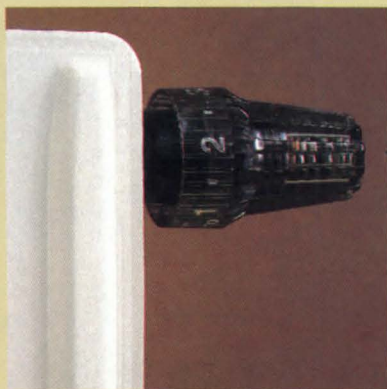
Suddenly... everything else seems old heat.



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It's the future, and it's beautiful...offering advantages welcomed by every thoughtful architect. Faithful to the Swedish tradition of excellence, Thermopanel introduces a new standard of hydronic radiation quality. Its economy of installation (saves a full day of labor) plus its aesthetic refinements and high performance characteristics will influence heat planning for years to come.



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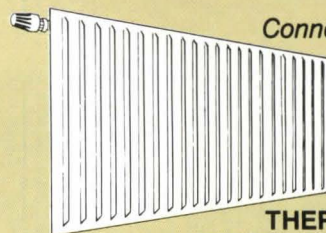
smaller and fewer Thermopanel units outperform conventional types. Used as 'modulars', they combine easily to meet any heating requirement—and provide a ready solution to difficult space challenges.

Each one its own zone...the non-electric thermostat (accurate to $1/2^{\circ}$) allows every area to be individually regulated for comfort and energy savings of 20% to 30%!

Enduring trouble-free operation...

silently, without soiling walls. Performance, versatility, a clean streamlined profile, everything to make Thermopanel ideal for a broad diversity of architectural concepts and projects—homes to apartment and office buildings to industrial structures. In every way, the superior choice an architect can be proud to specify!

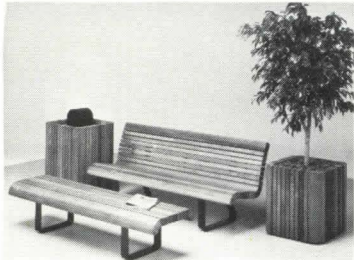
Thermopanel is 11 7/8" high, comes in nine lengths from 15 3/4" to 110 1/4" in both single and double widths: a total of 18 sizes, providing a wide range of capacities.



Connect with tomorrow...today!



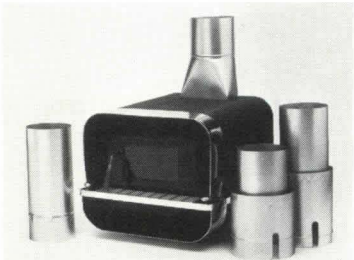
THERMAL CONCEPTS, INC.
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Site furnishings

The *CornerForm* line includes contour benches with and without backs, several standard planter designs (as well as custom designs) and a litter receptacle. All are available in redwood or mahogany and have shaped, laminated corner pieces as the common feature of their design. Slats are 2 by 3 in., with 1/4-in. nylon spacers, and are finished with a clear nontoxic water repellent and wood preservative. Benches can be ordered with brown powder-coated or polished chrome legs. Landscape Structures, Inc., Delano, Minn.

Circle 313 on reader service card



Fireplace insert

The *Hotshot* is a wood-burning fireplace insert designed to fit over 20 models of factory-built metal fireplaces and most masonry fireplaces. It is light enough for 2 adults to carry and comes with flue adaptors which slide into the chimney to provide positive flue connection. The unit has been tested to UL standards. Other features include a tile-covered ash shield, heat-resistant glass doors, a 2-speed fan and a firebrick lining. Earth Stove East, Atlanta, Ga.

Circle 314 on reader service card



Pipe joints

Made of flexible PVC with extra length to allow easy replacement of fittings that have been removed during alteration or repair of drain, waste and vent systems, *Quik Tees* and *Quik Elbows* are available in diameters of 1 1/2, 2, 3 and 4 in. Fittings are installed by tightening a stainless-steel clamp. Bushings are available for size reductions. Fernco, Inc., Davison, Mich.

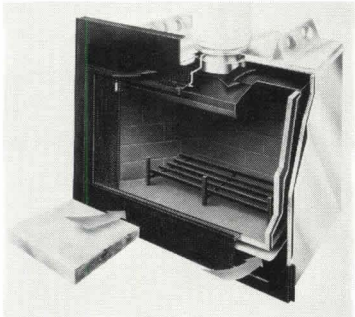
Circle 315 on reader service card



Sump pump

The *Wet Willie* is a 1 1/4-in. submersible sump pump. It pumps up to 3,600 GPH and may be used in sumps as small as 8 in. in diameter. It has an oil-cooled, 1/2 HP motor, which is permanently sealed in a leak-free housing. Stow Manufacturing Co., Binghamton, N.Y.

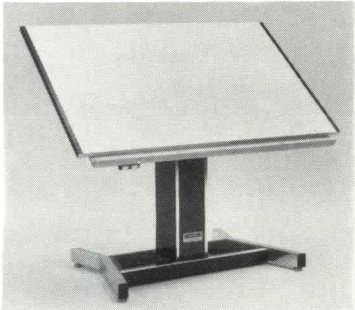
Circle 316 on reader service card



Fireplace

The design of the lower-priced *Model BF36* fireplace features inlet vents below the firebox opening to allow cool air to enter. The air is warmed and circulated by convective heating and returned to the room through outlet vents above the firebox. Other features include an outside air-combustion kit and glass doors. Finishing materials may include wood paneling and wallboard. Heatilator, Inc., Mount Pleasant, Iowa.

Circle 317 on reader service card



Power-adjustable table

The *Futur-Matic T/C* features a power pedestal for automatic elevation and tilt control. An independent bearing-actuated drive system offers 250 lb of lifting capacity with a 30- to 50-in. height adjustment and 150 lb of tilting torque with 80-deg of angle adjustment. The system is designed to support digital tablets and CAD/CAM components. Mayline Co., Sheboygan, Wis.

Circle 318 on reader service card
Continued on page 161

Bright Idea

Introducing The LIGHTHOUSE

New fixture for low level lighting. Handsome bollard design. Laminated of custom selected, kiln dried *Western Red Cedar*. Easy access to lamp and ballast compartment. Incandescent, mercury vapor or high pressure sodium.

Write on letterhead for catalog of wood lighting standards and accessories.

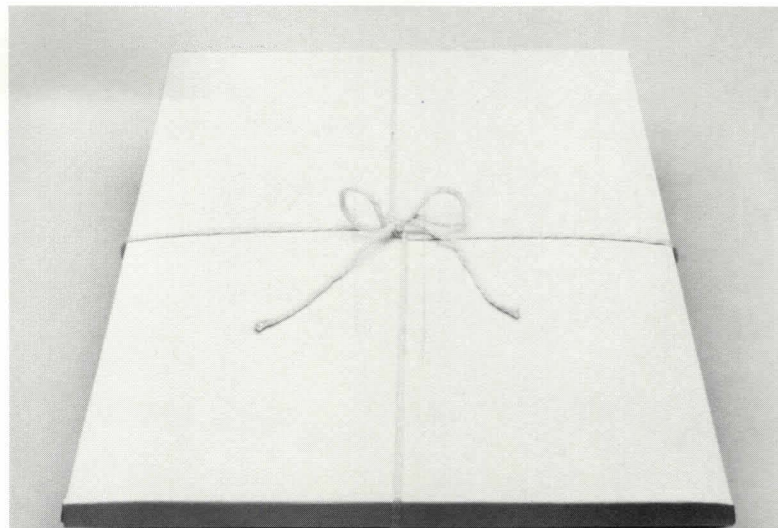
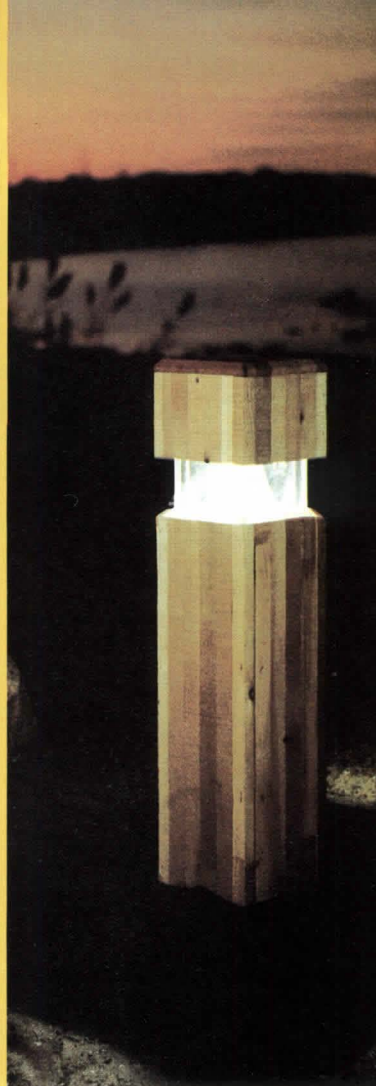
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Lighting Standards
Fixtures • Signs
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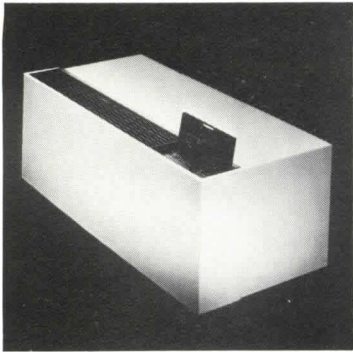
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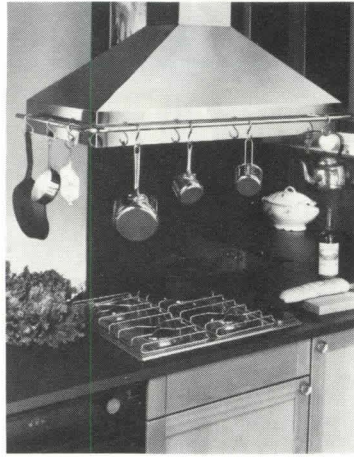
Architect:
D. F. Trees Associates
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Circle 66 on inquiry card



Heat pump

The *Zoneline IV* electronic heat pump monitors frost conditions more accurately than previous models and thus can operate at temperatures as low as 15-25F. It is also suitable for apartments, hotels and offices as it can be connected to a central energy management system that individually controls all units from one location, and upper and lower temperature limits can be preset to conserve energy. A solid state compressor protector circuit automatically shuts a unit down after 9 failed attempts to operate. Available cooling capacities are 6,000; 9,000; 12,000 and 14,000 Btu/hr at 230V. Energy-efficient ratios range up to 9.1 and co-efficients of performance range to 2.6 at ARI standard rating conditions. General Electric Co., Louisville, Ky.
 Circle 319 on reader service card



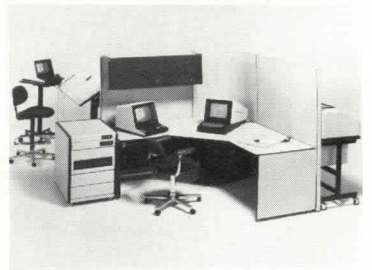
Range hoods

Range hoods are available in pure copper with a mirror finish or in steel with enamel finishes in matte black, gloss white and brown. All hoods are formed from solid metal sheets, fusion welded for seamless surfaces. Models are offered with or without control housings and ventilators, for wall mounts or island installations. A polished-brass utensil rail is included. Abbaka Trading Co., Inc., San Francisco, Calif.
 Circle 320 on reader service card



Oven, range and dishwasher

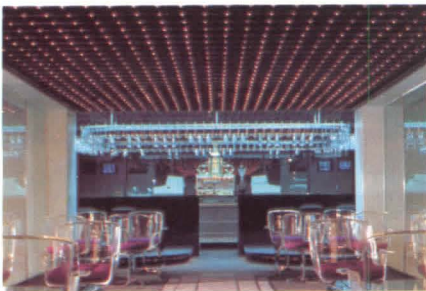
The 30-in. *Cook-n-Clean* includes an eye-level gas or electric continuous-cleaning oven, a cooktop and a dishwasher. The oven has an internal venting system that exhausts heat and smoke, and the dishwasher has an energy-saving switch that allows drying without the heat on. Modern Maid Co., Tipton, Pa.
 Circle 321 on reader service card



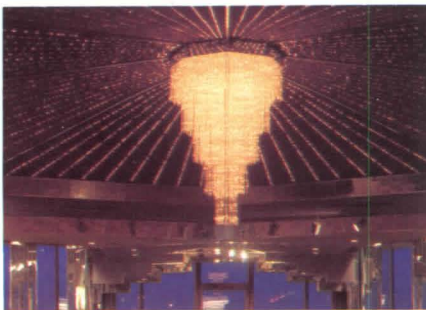
Drafting system

The *Producer* is a high-speed turnkey drafting system that has an electronic library with thousands of predrawn symbols and figures, over a dozen lettering styles and more than 25 crosshatch patterns. Other features are an interactive drawing station, a digitizer station with an alphanumeric terminal and a plotter station capable of handling "A" to "E" size drawings. An automatic dimensioning package may be added which calculates and displays degrees for angles and English/metric units for lines and figures. Bausch & Lomb, Austin, Texas.
 Circle 322 on reader service card
 Continued on page 163

Designers Portfolio



New 1983 Designers Portfolio, setting high standards for innovative, energy efficient, lighting design. 68 pages of stunning lighting products, allowing you to keep a sharp edge on your creativity. Send for it . . . It's grand!



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Simpson Chateau entry doors have long helped beautiful homes say "welcome" with style. And now, with the addition of new Interior Chateau doors, the great first impression created by a Chateau entry door can be carried indoors, too.

Simpson's new Interior Chateau door features richly detailed carvings matching all the Chateau entry doors. These carvings, which are on both sides of the interior door, give it a graceful and delicate look.

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For a beautiful entry, specify the brilliance of genuine cut glass and matching sidelights in three distinctive Simpson designs: Chateau Michelle, Chateau Bordeaux or Chateau Orleans. Or specify the solid good looks of the all-wood Chateau entry door. Then, for matching interior doorways, specify the beauty of Simpson's new Interior Chateau door.

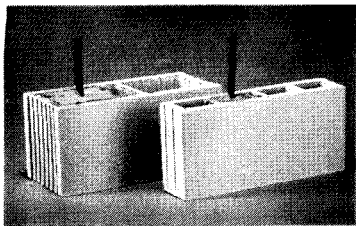
For more information, write Simpson Timber Company, 900 Fourth Avenue, Seattle, WA 98164.

International Doors

Simpson

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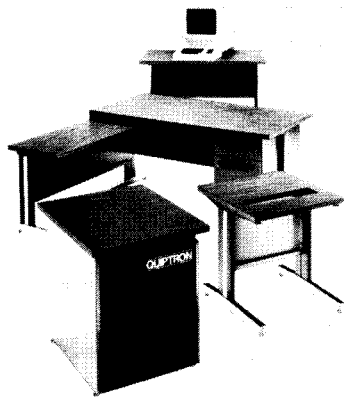
Circle 68 on inquiry card



Seismic facing tile

Manufactured by ASTM C-126 with a guaranteed minimum compressive strength of over 2500 psi, a structural glazed facing tile can be laid in either running or stack bond to provide continuous vertical core areas into which reinforcing rods and concrete grout can be inserted. The tile is available in 4-, 6- and 8-in. bed depths with an 8- by 16-in. ceramic glazed face. Normal spacing is 4 ft on center, but the tile allows as close as 8 in. on center reinforcing. Stark Ceramics, Inc., Canton, Ohio.

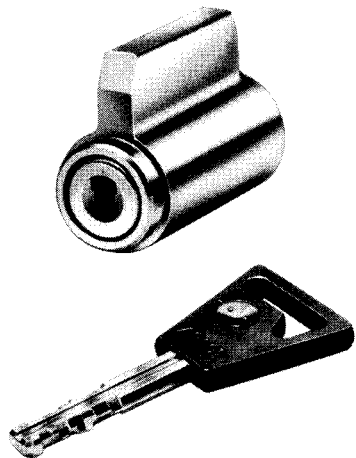
Circle 323 on reader service card



Computer support

The *Quipton* line of modular computer furniture includes workstations with electronic compartments featuring E.I.A. hole spacing, CRT terminal stands, printer stands and pedestal and angular work stations. All are available in 8 standard colors and any custom color. Also available are conductive floor and table mats, grounding kits and operator heel and wrist straps. Equipto Electronics Corp., Aurora, Ill.

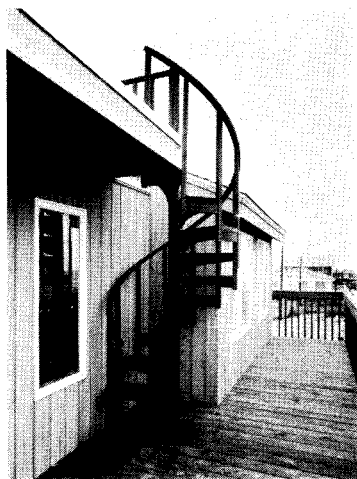
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Replacement cylinders

Featuring rotating discs that operate like tumblers, *DiskLock* cylinders are compatible with all standard mortise and rim locks. They also fit most heavy- and medium-duty key-in-knob locks and will soon be available for *Yale* and *Sargent* lock series. Cylinders are available in chrome, bronze and brass finishes. Abloy Security Locks, Niles, Ill.

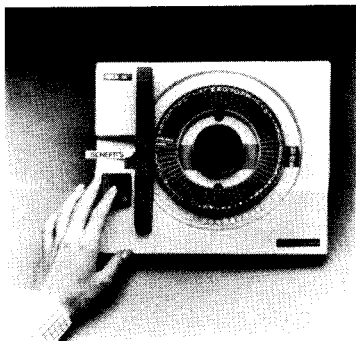
Circle 324 on reader service card



Outdoor spiral stairs

Spiral stairs designed for outdoor use are made of Philippine mahogany and come in 3 sizes—4-ft, 4-ft 6-in., and 5-ft diameters. Stairs are assembled with brass hardware, and each tread has two 3/4-in.-thick radial brackets and a 1 1/2-in. curved bracket on the outer edge to prevent warping. Stair-Pak, Union, N.J.

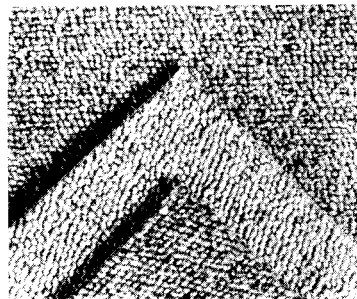
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Compact lettering system

Measuring 10 1/2 in. by 10 in., with a self-loading cartridge, the *Kroy 24* desktop lettering system uses interchangeable typediscs to create a variety of typefaces and sizes from 8 pt to 24 pt. The system produces automatically spaced and aligned type on adhesive-backed tape. Kroy, Inc., St. Paul, Minn.

Circle 325 on reader service card



Carpet

Naturaltex is a wool/acrylic blend in the Berber style. It comes in 4 colors in a 13-ft 2-in. width. Weave-Tuft Carpet Corp., New York City.

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Continued on page 165

METTLE micaTM
a decorative laminating material

SOLID EDGED

Nothing matches the quality, feel and look of solid metal. And, because METTLE MICATM is anodized aluminum, it gives you a solid edge over foil laminates.

METTLE MICA is available in a variety of beautifully polished and brushed anodized finishes that are not flammable and won't chip or peel. METTLE MICA has no unsightly edge lines, won't pit or deteriorate and is impervious to water, alcohol and cigarettes. Although METTLE MICA is solid metal, it can be worked with standard woodworking tools, easily conforms to radius corners and can be applied with standard cements or adhesives.

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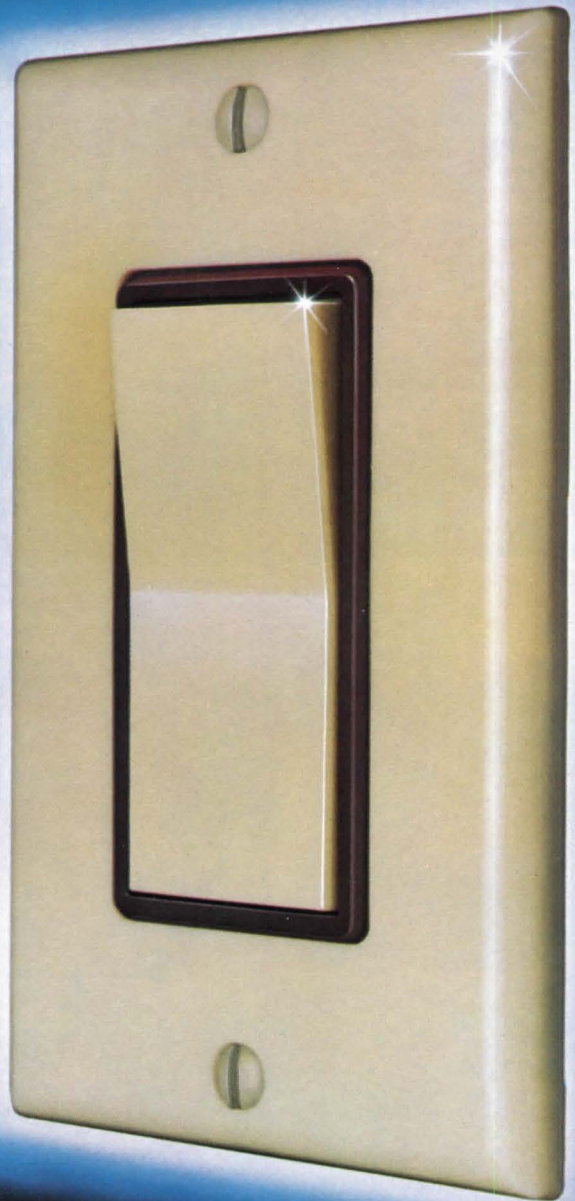
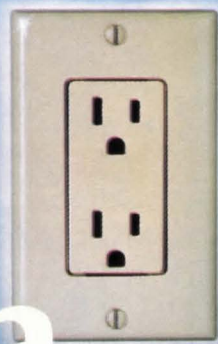
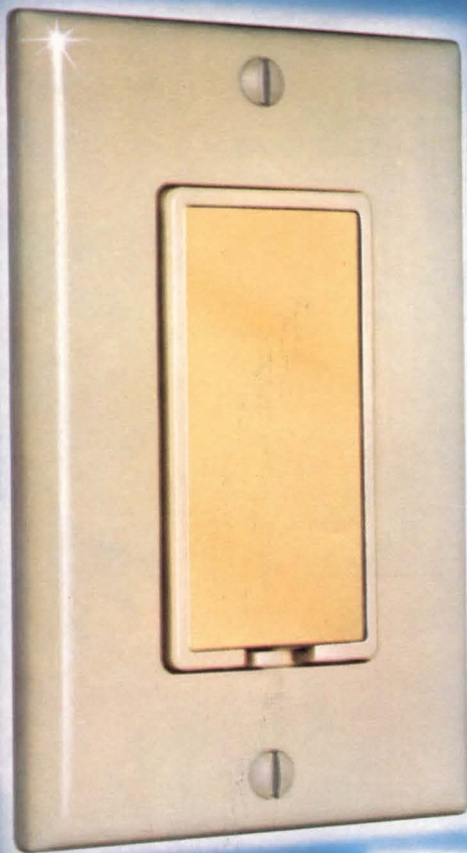
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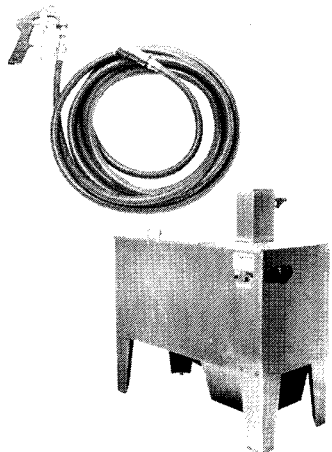
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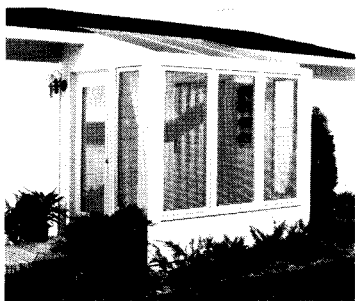
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Centralized sanitizing system

The *Centro 23* pump delivers water and detergent/disinfectant to a piping system which can serve up to 100 cleaning stations. As many as 6 stations can be operated simultaneously. At each station a hose leads from a wall valve connection to a spray wand with a pistol-grip handle and hand-pressure control. The tank for the system can be located in any area convenient to bulk storage of the detergent/disinfectant. A water line and detergent/disinfectant line from a storage reservoir (50 gal. drum) lead into the unit from which a solution is fed to a stainless-steel holding tank where it may be heated. The Spencer Turbine Co., Windsor, Conn.

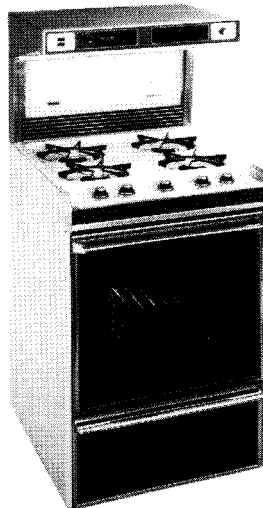
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Sunrooms

Instead of standard-sized prefab units, this manufacturer offers an engineered component system of sloped glazing, skylights, windows, patio doors and accessories for sunrooms tailored to user needs. Sunrooms are constructed of solid wood, with exteriors protected by aluminum cladding in white or dark-brown baked enamel. Rectangular windows, French sliding doors and French swinging doors feature double-glass insulation, while roof units use 1/2-in. tempered insulating glass. Slimshade narrow-slat blinds below roof glazing and between double panes on doors and rectangular windows are useful in passive solar designs. Pella/Rolscreen Co., Pella, Iowa.

Circle 330 on reader service card



Ranges and ovens

The *Vesta Elite Series* electric and gas units are only 24 in. wide and feature a heavy-duty convenience shelf suitable for installing a microwave oven. Other features include a built-in variable-speed vent hood, digital clock, recessed lift-up brushed chrome cooktop, continuous-cleaning oven and lift-off black-glass oven door. Both gas and electric models are available in white or almond. Athens Stove Works, Athens, Tenn.

Circle 331 on reader service card



Hvac monitor and control

The *Delta 21* is an energy management system designed specifically for commercial buildings ranging from 90,000 to 300,000 sq ft. It consists of 4 key components: an energy control unit (ECU) to manage the energy for an hvac system; a color video display terminal to provide communication between the operator and the ECU; a high-speed printer to document point displays, alarms, reports, change-of-status and other building data; and a power line communications system to coordinate monitor and control functions. Honeywell, Inc., Minneapolis, Minn.

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More products on page 177

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MORE HOUSES ARCHITECTS DESIGN FOR THEMSELVES

edited by Walter F. Wagner, Jr.

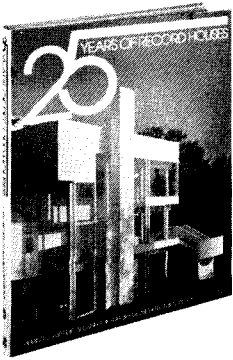


This long-awaited sequel to our bestselling *Houses Architects Design for Themselves* will aid anyone who is considering building a custom house. Distinctive and livable, these 41 houses were used as architectural laboratories to develop designs that required great imagination and ingenuity, not great sums of money. You'll find special chapters on houses for small, close-in lots, where outdoor living and privacy must be designed in; on vacation houses designed for relaxed living and low maintenance; on apartments; on houses for hot climates, where shading and ventilation are important; and on houses designed to take advantage of solar energy.

160 pgs: over 320 photos, plans and sections: 16 pgs in color
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edited by Herbert L. Smith, Jr.

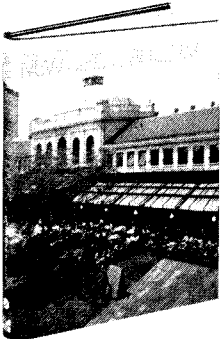


This exciting collection of 57 houses reflects the freshness, innovation, and practicality that characterize the best residential architecture of the last quarter-century. The book is organized into chapters describing major developments in the design of contemporary houses — from experiments with structure and form to the expression of new ideals of convenience and efficiency for servantless modern living. Selected from the more than 500 houses that have been designated *Record Houses* since 1956, these houses affirm the continuing inventiveness and talent of architects who design houses — and provide a valuable history of an architectural era only beginning to be documented and analyzed.

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NEW LIFE FOR OLD BUILDINGS

edited by Mildred F. Schmertz



In view of skyrocketing construction costs: the sizable savings in energy consumption offered by well-insulated, cross-ventilated older structures; and a host of new tax incentives and preservation laws, the recycling of old buildings is, more and more often, the sensible — and profitable — alternative to building anew. This handsome book presents the best recent examples of renovation, remodeling, reuse, and restoration in dozens of case histories drawn from the pages of *Architectural Record*. Urban marketplaces, such as Faneuil Hall in Boston, are spotlighted, along with museums, theaters, offices, restaurants, houses, lofts, apartments, and campus buildings.

200 pgs: over 385 photos, plans and sections: 8 pgs in color
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MORE PLACES FOR PEOPLE

edited by Charles K. Hoyt



From its initial spotlight on the exciting theater created by dramatic public spaces in hotels — lobbies that act as magnets to draw guests and passersby alike — to its exploration of stadium and arena design — where increasingly the same space must accommodate not only sports, but theater, dance, concerts, even banquets — the 43 projects in this new sequel to *Places for People* offer hundreds of ideas for designing places where people will gather for leisure events — places that are often breathtaking events in themselves. The case studies include resorts, parks, urban marketplaces, restaurants, and athletic facilities — not only new buildings, but many examples of renovation and adaptive reuse.

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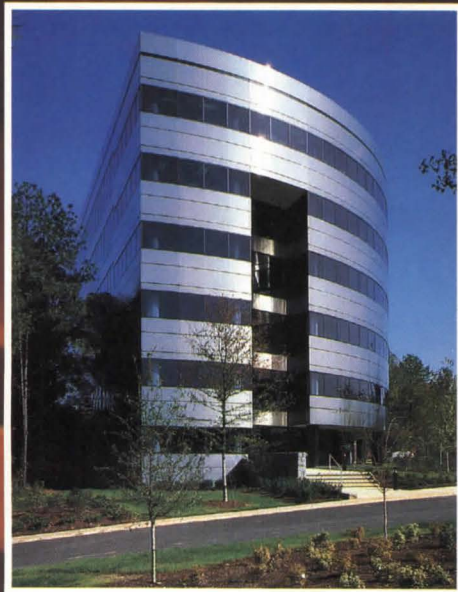
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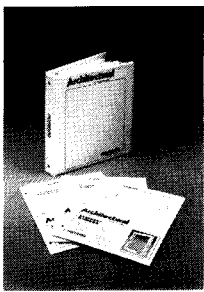
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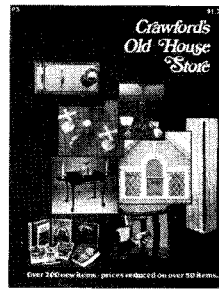
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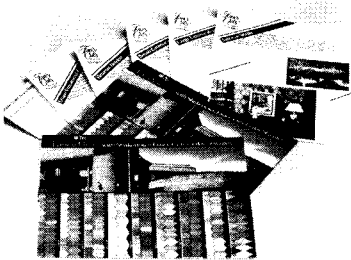
For more information, circle item numbers on Reader Service Card, pages 183-184



Windows and patio doors
A binder covers aluminum casement, horizontal slider, and single-hung windows and 2 types of patio doors. Each section includes a product photograph, installation and section details and size charts. Specifications are listed separately in the back. Noranda Building Products Co., Cleveland, Ohio.
Circle 415 on reader service card



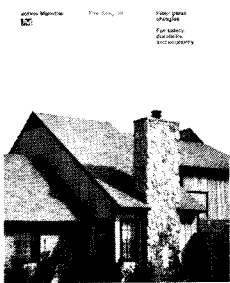
Antique reproductions
A catalog of reproductions contains sections on window and door hardware, plumbing and lighting fixtures, windows, furniture, tools and such miscellaneous items as corner beads, wood finials and marble fireplace mantels. Price is \$1.75; available from Crawford's Old House Store, 301 McCall, Waukesha, Wis. 53186



Red cedar shingles
A folder contains pages with photographs of buildings across the country to show the variety of designs achieved by using 9 different shingle styles for siding, roofing or accents. Dimensions, specifications and applications are included. Shakertown Corp., Winlock, Wash.
Circle 416 on reader service card



Early-Modern furniture
A glossy booklet contains color photographs of reproductions of furniture by Le Corbusier, Gerrit T. Rietveld and Charles Rennie Mackintosh. Included are Macintosh's Argyle Set lounge seating, G.S.A. tables and Ingram chairs and Rietveld's Schroder 1 table. Atelier International, Ltd., New York City.
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Fiberglass shingles
Fire King III fiberglass shingles are illustrated and described in a 4-page color brochure which includes information on this manufacturer's *Seal-O-Matic* adhesive strip and photos showing various shingle colors. Johns Manville Corp., Denver, Colo.
Circle 417 on reader service card



Housing resources
The Guide to Housing Resources lists organizations, publications and Federal programs in the housing field. Also included is a description of historic rehabilitation tax incentives and Federal standards for rehabilitation. National Trust for Historic Preservation, Washington, D.C.
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Continued on page 171

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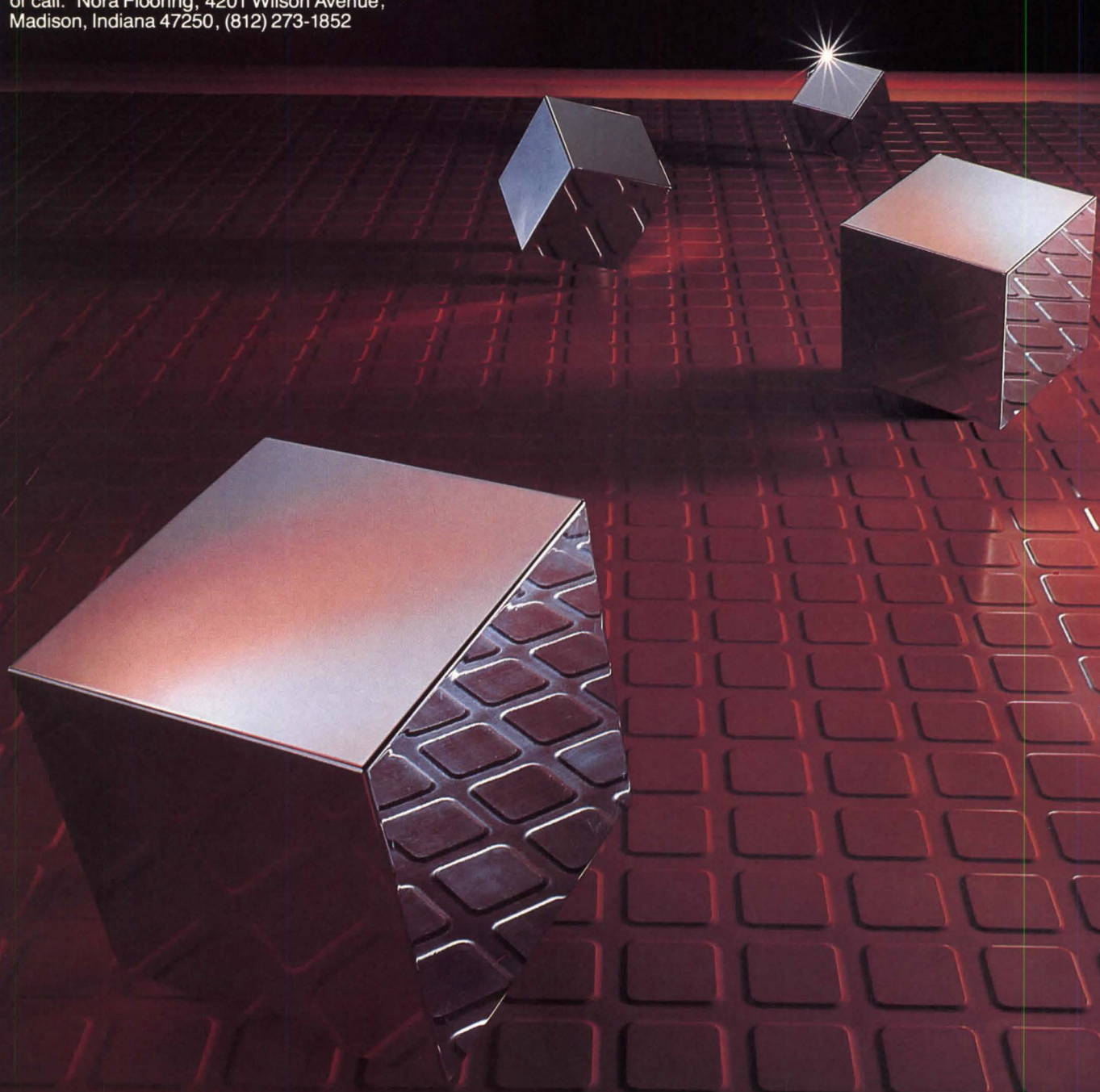
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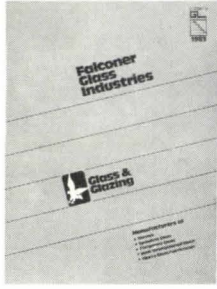
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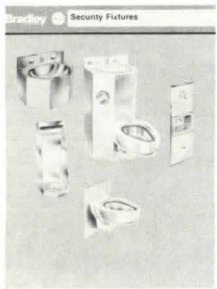
For more information, circle item numbers on Reader Service Card, pages 183-184



Glass and glazing
An 8-page color brochure shows photographs of installations of tempered glass, mirrors and spandrel glass. Indoor and outdoor applications are illustrated. Descriptions of the products and specifications are included. Falconer Glass Industries, Inc., Falconer, N.Y.
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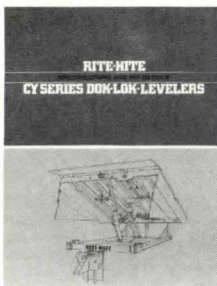
Office automation system
The components of the Exxon 8411 system and its capabilities are described in a 4-page brochure. The device described will connect from 1 to 5 Exxon 500 terminals to create a clustered office system. Specifications are included. Exxon Office System Co., Stamford, Conn.
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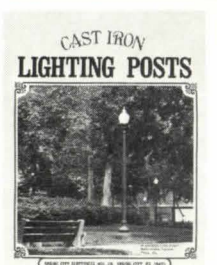
Plumbing fixtures
Lavatories, showers, water closets and combination units suitable for prisons and jails are shown in an 8-page brochure. Charts listing available models, specifications and options are included. Bradley Corp., Menomonee Falls, Wis.
Circle 422 on reader service card



Ladders
Oak, aluminum and fiberglass ladders and work platforms—including oak rolling ladders—are described and illustrated in a 24-page catalog. All conform to OSHA standards. Dimensions for all models are included. Putnam Rolling Ladder Co., Inc., New York City.
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Dock levelers
A 4-page brochure gives the specifications and pit details for Cyclomatic Series Dok-Lok-Levelers, dock levelers which automatically return to a safe position when a truck pulls away from the loading dock. Installation and operation of the levelers are described. Rite-Hite Corp., Milwaukee, Wis.
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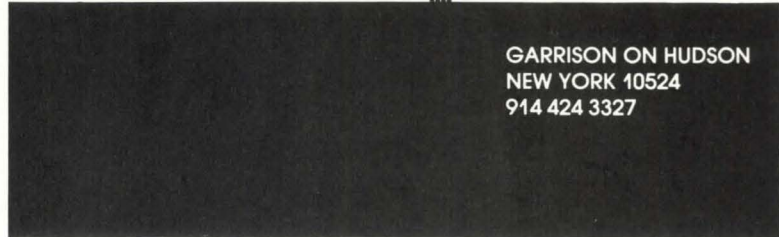


Lighting posts
Eight designs of cast-iron lighting posts are shown in a variety of settings, from housing developments to urban-renewal areas to parks. The 8-page color brochure also lists the dimensions for each design. Spring City Electrical Manufacturing Co., Spring City, Pa.
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Continued on page 173



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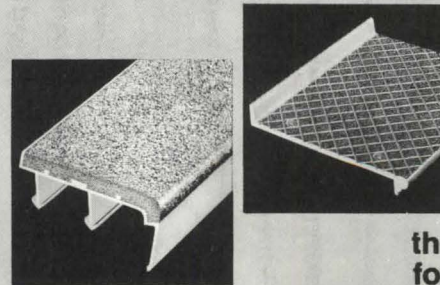
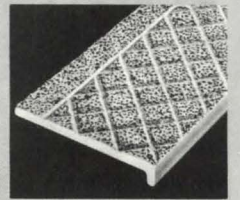
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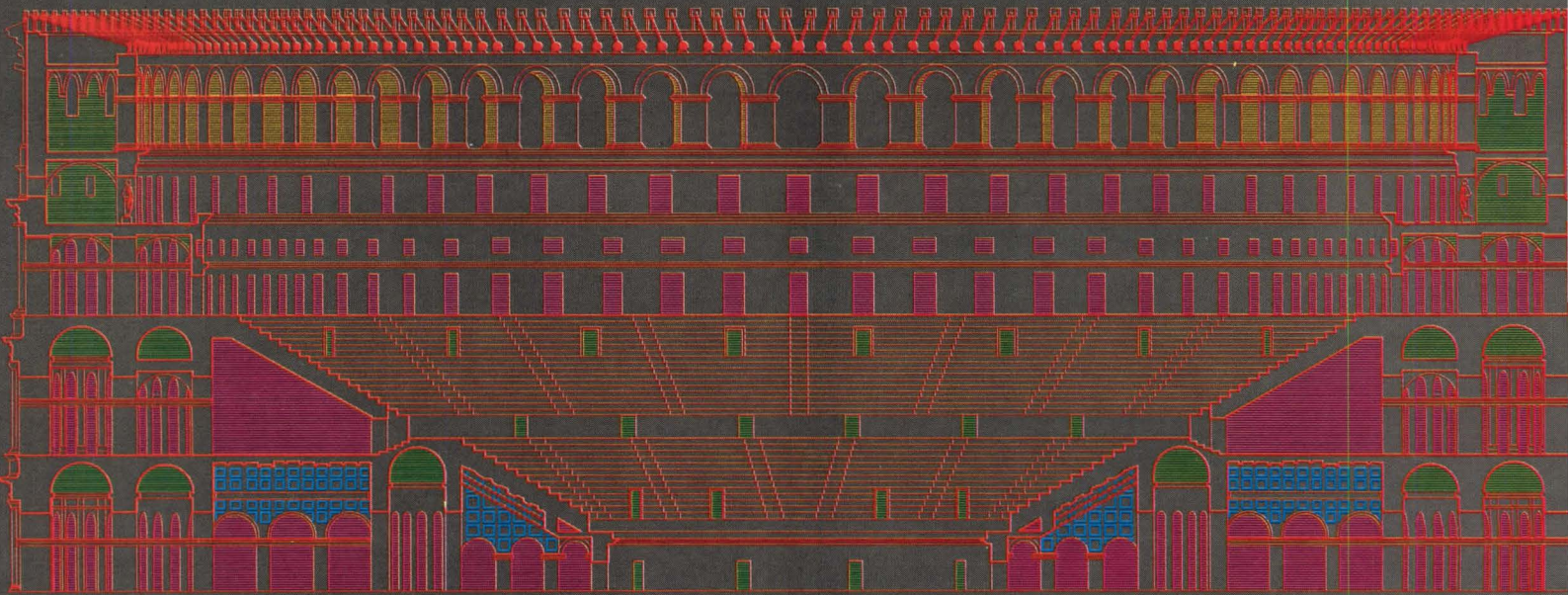
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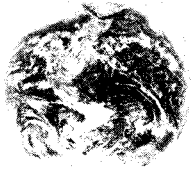
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WORLD WALL
CUPPLES PRODUCTS
PHOTO BY GREGORY WILSON

Curtain wall systems

A 24-page color booklet features a system of laminated aluminum honeycomb panels with an aluminum or stainless-steel face, said to install as a stick system yet function as a unit system. Operable windows are optional. Diagrams and charts give details. Cupples Products, St. Louis, Mo. Circle 426 on reader service card



Wallcovering

A product that adheres to very rough or very smooth surfaces, as well as to gypsum board and plaster, is featured in a 4-page color brochure. Three weave patterns are shown in a variety of colors and a number of applications are described. Flexi-wall Systems, Liberty, S.C. Circle 429 on reader service card



Granite

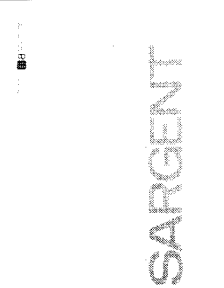
A 20-page color brochure features photographs of granite installations in buildings, parks and plazas across the country. A chart shows colors and finishes. Installation techniques, specifications and a section on pavers are also included. Cold Spring Granite Co., Cold Spring, Minn. Circle 427 on reader service card

Something you can see through will protect your client's investment for years to come.



Corner guards

A 4-page color brochure shows corner protectors installed in heavy-use areas such as hospital and hotel corridors and lobbies. The variety of colors available is illustrated and technical data are included. Tri-Guards, Inc., Wheeling, Ill. Circle 430 on reader service card



Hardware

Mortise and bored locks, door closers and exit devices are shown complete with their specifications in a 20-page brochure. Trim designs and dimensions are shown in one chart while another lists locks by their respective functions. Sargent & Co., New Haven, Conn. Circle 428 on reader service card



Curtain wall panels

New design options in color, form and texture are illustrated in photographs of Inryco installations featured in an 8-page color brochure. The use of these panels for indoor and outdoor applications and their insulating value are discussed. Inryco, Inc., Milwaukee, Wis. Circle 431 on reader service card Continued on page 175

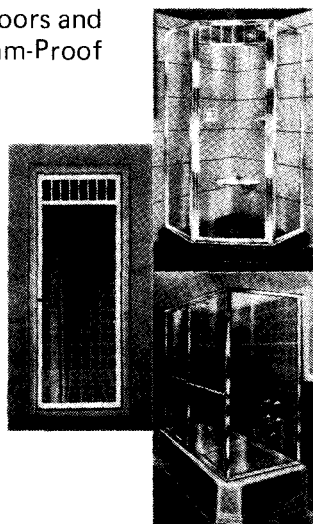
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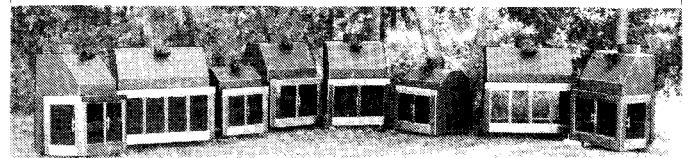
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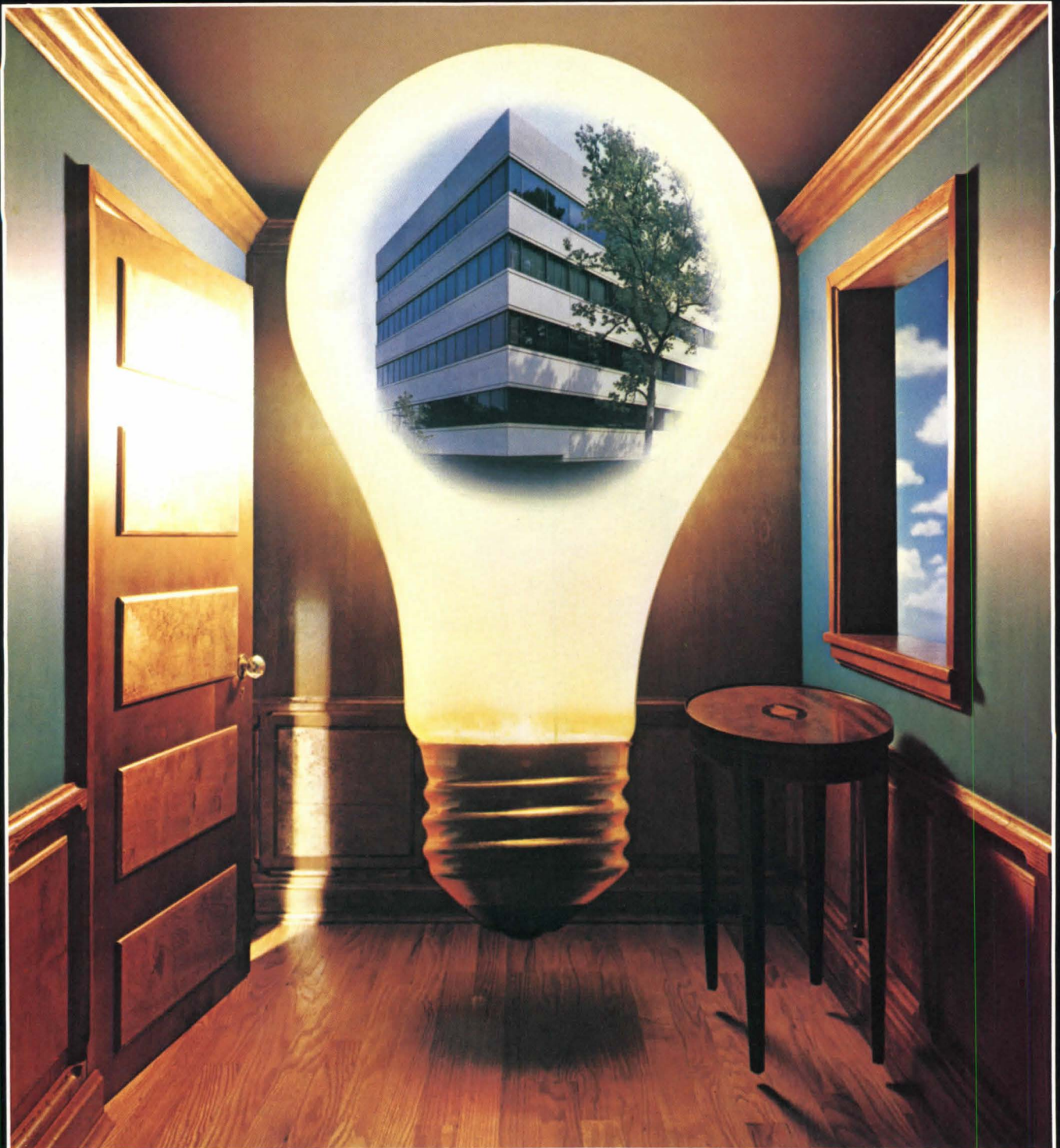
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Hwy. 60-71 North
 Window, MN 56101
 PHONE (507) 831-1904

Dept. 3

Circle 82 on inquiry card

WHATEVER STANDARD APPLICATION YOU HAVE IN MIND,
WE PROBABLY HAVE IN HOUSE.



You've got a standard application. And a deadline. And Amarlite has a full house.

For openers, you can choose from 14 different standard doors. And six regional fabrication centers to ship from: Atlanta, Chicago, Cleveland, Dallas, Paramus and Phoenix.

So you can have the standard products you

want. When you want them. At competitive prices.

Without short-changing the quality, design or selection because of a short deadline or low budget.

Is it any wonder Amarlite products are becoming the standards of the industry?

AMARLITE[®] Anaconda 
A unit of ANACONDA ALUMINUM Company

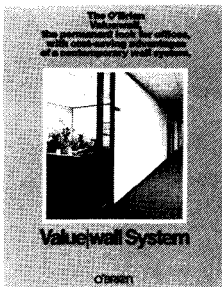
For more information, circle item numbers on Reader Service Card, pages 183-184

Grids

A foldout brochure describes 44 different designer grids that are available in 6 sets, including some for perspective drawings and elevations and others for details. Dimensions, scales and prices are given. Kleidon & Associates, Inc., Medina, Ohio. Circle 432 on reader service card

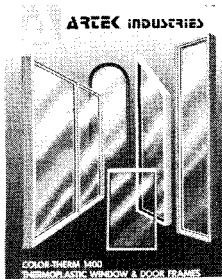
Wall system

A 6-page color brochure on the Value/wall system shows various installations and gives information on available wallcoverings and door types and finishes. Also featured is a diagram with section details and specifications. O'Brien, Kansas City, Mo. Circle 433 on reader service card



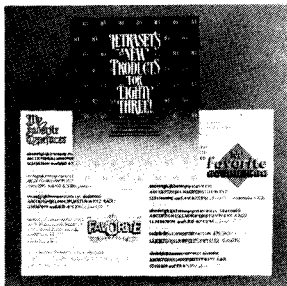
Window and door frames

Color-Therm 1400 thermo-plastic framing is described in a 4-page color brochure. Section diagrams, specifications and a chart showing 9 available colors are included as well as a wind-load chart for vertical center mullion applications. Artek Industries, Farmington, Mich. Circle 434 on reader service card



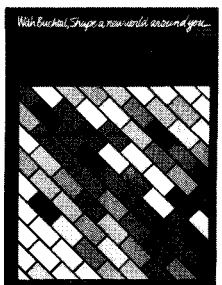
Lettering

A brochure featuring new products for 1983 includes 24 instant lettering typefaces, new Pantone colors graduated on papers and overlay, and a word positioning system. Letraset USA, Inc., Paramus, N.J. Circle 435 on reader service card



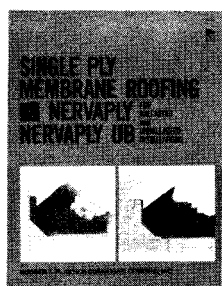
Tiles

A 16-page color brochure shows interior and exterior installations of glazed and unglazed tiles. Charts show styles, shapes, sizes and colors. Buchtal Corp. USA, Atlanta, Ga. Circle 436 on reader service card



Roofing

An 8-page brochure covers single-ply membrane roofing for ballasted and unballasted installations. A product selector chart, section details and specifications are included for both the Nervaply and the Nervaply UB systems. Rubber & Plastics Compound Co., Inc., Long Island City, N.Y. Circle 437 on reader service card. More literature on page 178



NIXALITE OF AMERICA

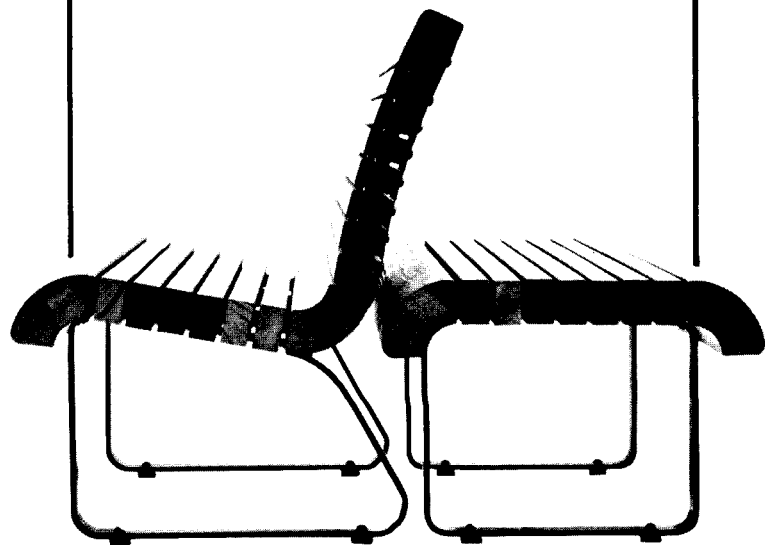
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Have a problem? Write or call for info on Nixalite stainless steel bird control

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CornerForm

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Send for our new site furnishings brochure.

Landscape Structures Inc.

Delano, Minnesota 55328 612-479-2546

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BALI IS BLIND IMAGINATION

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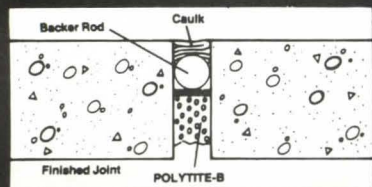
POLYTITE[®] JOINT SEALANT

PROTECTS YOUR WORK PERMANENTLY

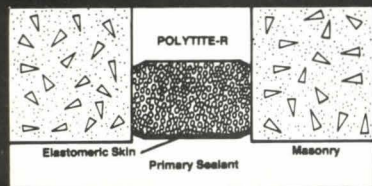
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Get a perfect, permanent seal everytime with Polytite. Not only does Polytite make vertical and horizontal joints watertight, it also prevents sealant failure - eliminating the need for costly repairs later.

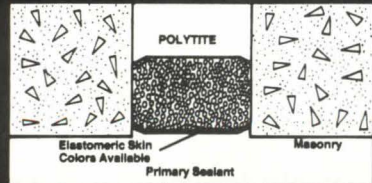
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Polytite B: An unmatched system, used with backer rod and caulk for a secure watertight seal.



Polytite R: With tough puncture-proof coating.



Standard Polytite: The original one-step joint sealer. Virtually unaffected after years of weather extremes.

Put your confidence in Sandell. For full technical information, write for our detailed brochure today.

S Sandell Manufacturing Co., Inc.
324 Rindge Ave., Cambridge, MA 02140
Telephone (617) 491-0540

Circle 87 on inquiry card



Patio doors

Courtyard wood swinging doors feature 2-point contact weatherstripping and are available with 5/8-in. double-pane or optional 3/4-in. triple-pane tempered insulating glass. Doors are available in a wide range of sizes including a 5-ft-wide model. Philips Industries, Inc., Malta, Ohio.

Circle 333 on reader service card



Oak bathroom furniture

The *Omega* line includes vanities, mirror cabinets and wall valets in unstained natural oak. Design features include tongue-in-groove construction, molded polypropylene interiors and brass hardware. Chemcraft, Inc., Elkhart, Ind.

Circle 334 on reader service card

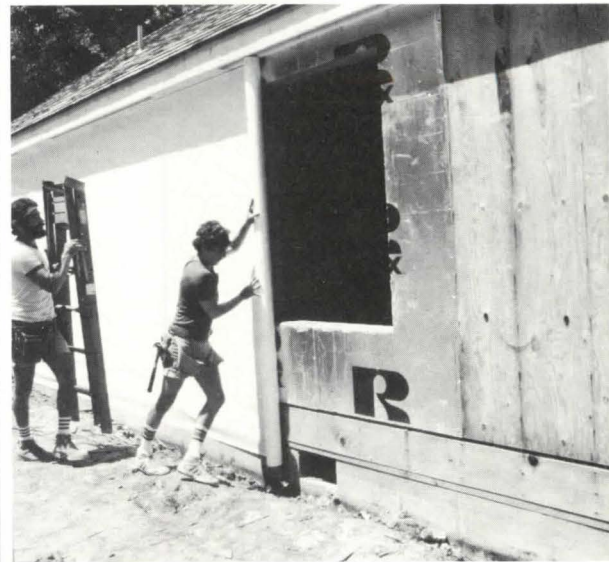


Gas range

A new gas range fits into a 1 1/2-in. countertop directly over full-sized drawers, dishwashers or cabinets. Instant spark ignition eliminates the need for a pilot light, and cooktops may be specified with an automatic shut-off feature that prevents gas from escaping. Burners are available in 3 interchangeable sizes. Cooktops come in an enamel finish in a variety of earth-tone colors. ATAG USA Corp., Evanston, Ill.

Circle 335 on reader service card

Tests prove Tyvek[®] Housewrap cuts heat loss through walls by 33%.



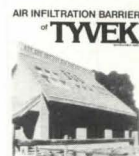
- TYVEK* stops cold air infiltration—cuts heat loss through walls 33%. Independent tests prove it.** BOCA Report 79-34 confirms it.
- Keeps cold air out of wall cavity, protecting insulation R-value.
- Moisture permeable—no danger of in-wall condensation.
- Costs about \$150 for average house.

*DuPont registered trademark.

**Independent laboratory tests using 2x4 frame wall with 3 1/2" R-11 insulation in 15 mph wind.



Circle 88 on inquiry card



FREE FACTS

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Title _____

Company Name _____

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only the finest doors
will do.

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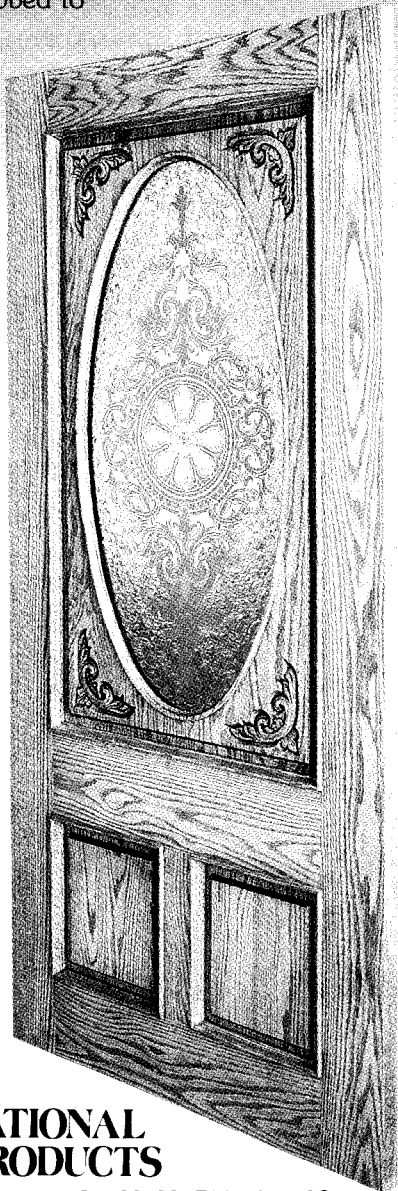
Made from carefully selected solid oak or mahogany, they glow with an affluence to grace the most prestigious residential, commercial and institutional projects.

Old-world craftsmanship all the way. Each door is hand-carved and detail hand-sanded. Then finished with our new 12-step Permalane® process and hand-rubbed to a satin-smooth, softly glowing patina.

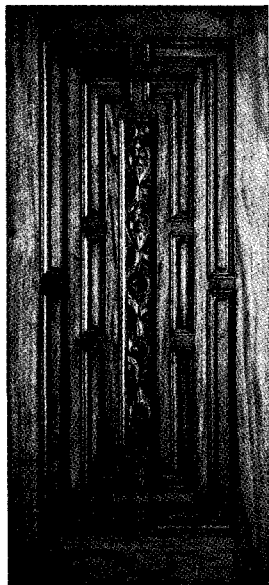
Nobody has ever made a better door.

We can design and build doors to your custom specifications. Write or phone for our catalog today.

115-EG Oak



141 Genuine Mahogany

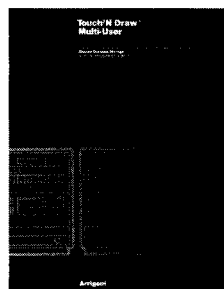


INTERNATIONAL WOOD PRODUCTS

9630 Aero Drive, San Diego, CA 92123. 714-565-1122
A division of 3D Industries, Inc.

Circle 90 on inquiry card

For more information, circle item numbers on Reader Service Card, pages 183-184.



Multi-user CAD

The Tektronix 4909 mass storage system, which provides shared access to drawings from up to 10 design workstations, is discussed in a 4-page brochure.

Performance characteristics are given in detail. Arrigoni Computer Graphics, Inc., Los Gatos, Calif.

Circle 438 on reader service card

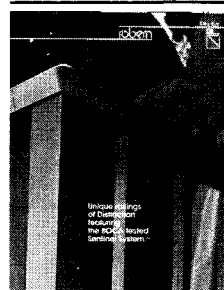


Drafting supplies

A catalog from Dataprint includes leads, pens and pencils, diazo products and drafting instruments and furniture. An index for quick reference and order forms are included.

Dataprint Corp., San Mateo, Calif.

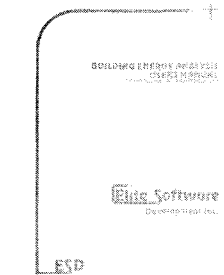
Circle 439 on reader service card



Railings

Photographs illustrate a variety of installations of aluminum railings in an 8-page color brochure. Construction details are also shown in photographs, while diagrams show options in caps, top rails, pickets and mountings. Specifications are included. Robern, Inc., Bensalem, Pa.

Circle 440 on reader service card



Building energy analysis

The 130-page *Building Energy Analysis User's Manual* describes a software program that evaluates the energy requirements of commercial buildings on a monthly and annual basis. A section on options is included. Elite Software Development Inc., College Station, Texas.

Circle 441 on reader service card

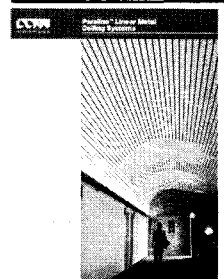


Indirect lighting

Two series of indirect lighting fixtures are illustrated and described in detail in a 16-page color brochure. A variety of fixture mounts and a typical lighting plan are shown.

Specifications are included. Guth Lighting, St. Louis, Mo.

Circle 168 on reader service card



Ceiling systems

Paraline aluminum and steel ceiling systems are featured in a 12-page color brochure. An application guide accompanies photographs of installations and information on performance and accessories. Specifications are included. Donn Corp., Westlake, Ohio.

Circle 167 on reader service card

IN A WORLD OF IMITATIONS, THERE IS ONLY ONE ORIGINAL.

Nothing adds to the room or the mood like a Heatilator fireplace.

That's been true since 1927, when we introduced the heat-circulating fireplace to America.

Others have copied our idea. But not our quality or workmanship.

Which is why HEATILATOR® remains the best known, most valued name in fireplaces.

Today a full line of advanced Heatilator fireplace systems offers new beauty, comfort and energy efficiency for your home.

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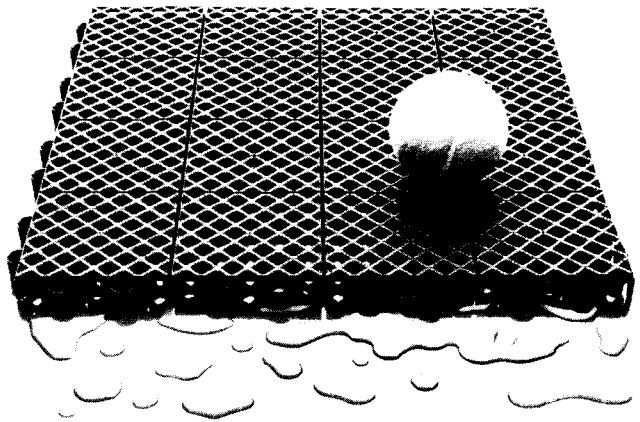
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When it rains, it drains!



The Matéflex Advantage

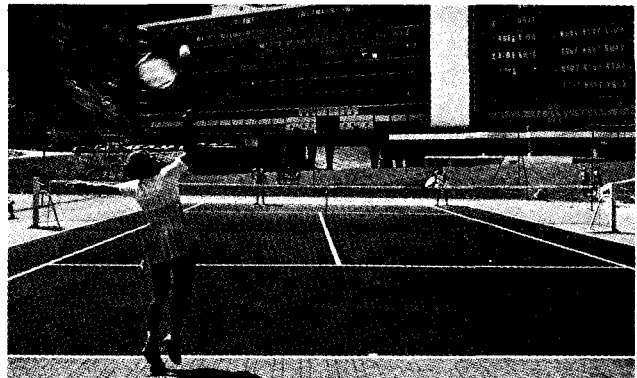
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Give life to an old surface with our flexible slip resistant rubber and polypropylene tiles. They snap together in seconds. Once installed they're practically indestructible. No more painting. No more patching. Go from season to season with little or no maintenance.

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There's finally a quick draining tennis surface with a true bounce and ideal playing speed. It's Matéflex! The original interlocking tennis court.

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Ful-O-Mite™ IDF* the exterior insulation system from H.B. Fuller that sets new performance standards.

Ful-O-Mite IDF is the most beautiful way we know to beat the heat of summer and the chill of winter.

Tested by independent laboratories, **Ful-O-Mite™ IDF*** surpasses the leading competitive exterior insulation decorative finishes for strength and durability**. It withstands impact and has the flexibility to accommodate building movement. The system stands up to airborne pollutants and salt spray.

The **Ful-O-Mite** IDF exterior insulation system forms a solid barrier against weather's worst; keeping winter's freezing temperatures and summer's scorching heat outside... where they belong, maintaining an interior atmos-



phere which is both comfortable and cost efficient.

Ful-O-Mite is not only beautiful to look at, it offers greater maintenance economy, both in time and material cost.

H.B. Fuller is not only the manufacturer of **Ful-O-Mite** IDF, we are also the manufacturer of the resin latex raw

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*Insulation Decorative Finish
**based on competitive published data

Expanded polystyrene insulation, recommended in 3/4" to 4" thicknesses.

Fiberglass reinforcing mesh for heavy-duty strength.

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OUR TERRACE DOOR NOT ONLY LETS YOU SEE THE VIEW. IT ADDS TO IT.

No door provides a more striking opening to a terrace, patio or garden.

The large glass area affords an excellent view of the outdoors. And the wood frame makes the door, itself, beautiful to look at.

THE BEAUTY ISN'T JUST IN THE EYE OF THE BEHOLDER.

It's also in the pocket of the owner.

That's because the Marvin terrace door is incredibly stingy with heat and air conditioning.

Whether it's used in new construction, or to replace old, inefficient aluminum patio doors, its heavy wood frame and double or triple glazing greatly reduce heat transmission. Even the optional true divided

lites can be insulated. And the foam-filled weatherstripping virtually eliminates air infiltration.

MADE TO ORDER. AND MADE TO LAST.

The Marvin terrace door is available with many options, including solar bronze glazing.



A 2¾ inch backset will accommodate most any style of lock. And there are a wide variety of sizes to choose from. So you can have a door made to order for your installation.

And every Marvin terrace door is built to last.

Each door features four commercial grade hinges for greater durability and smoother operation. It also features extra wide stiles and a long-wearing LEXAN® sill.

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