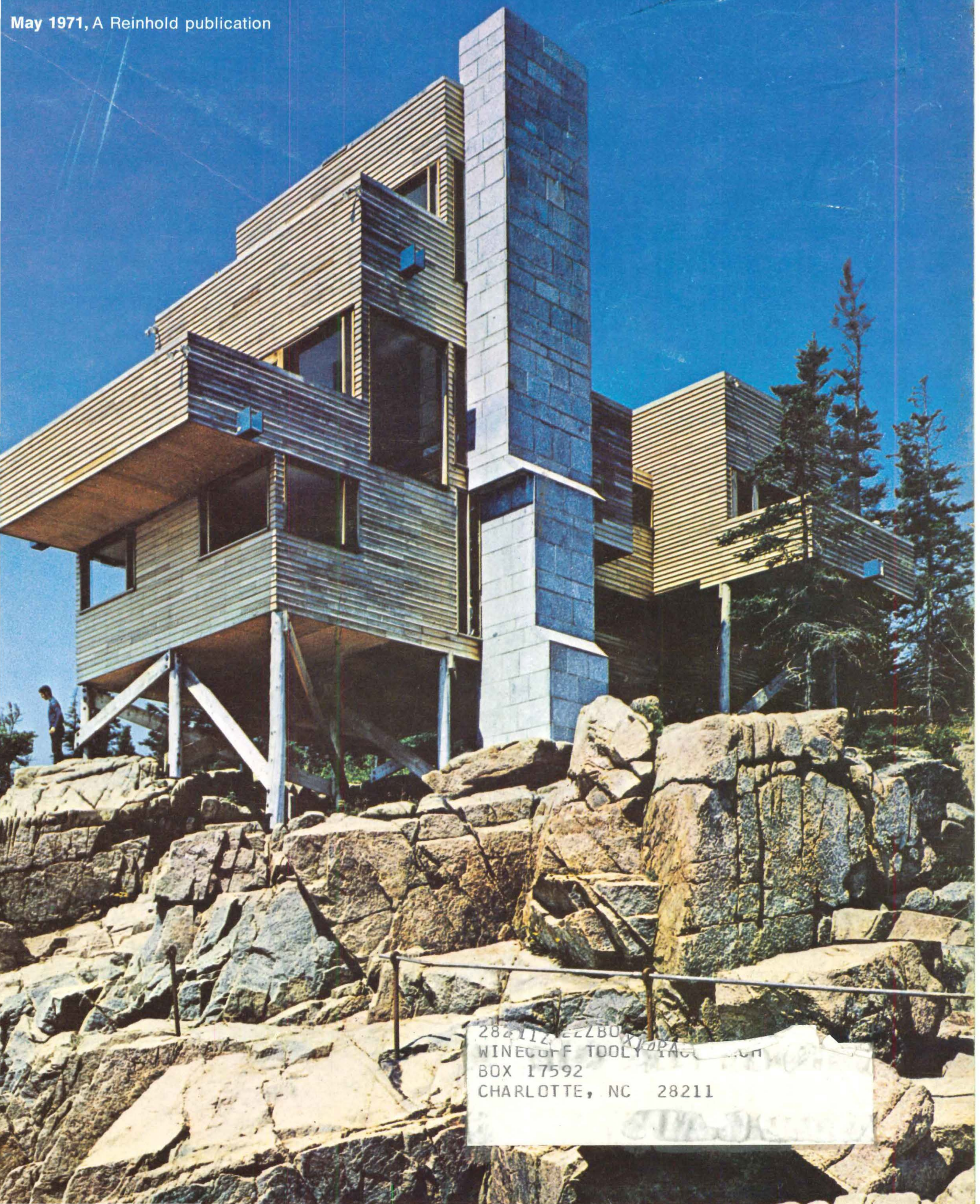
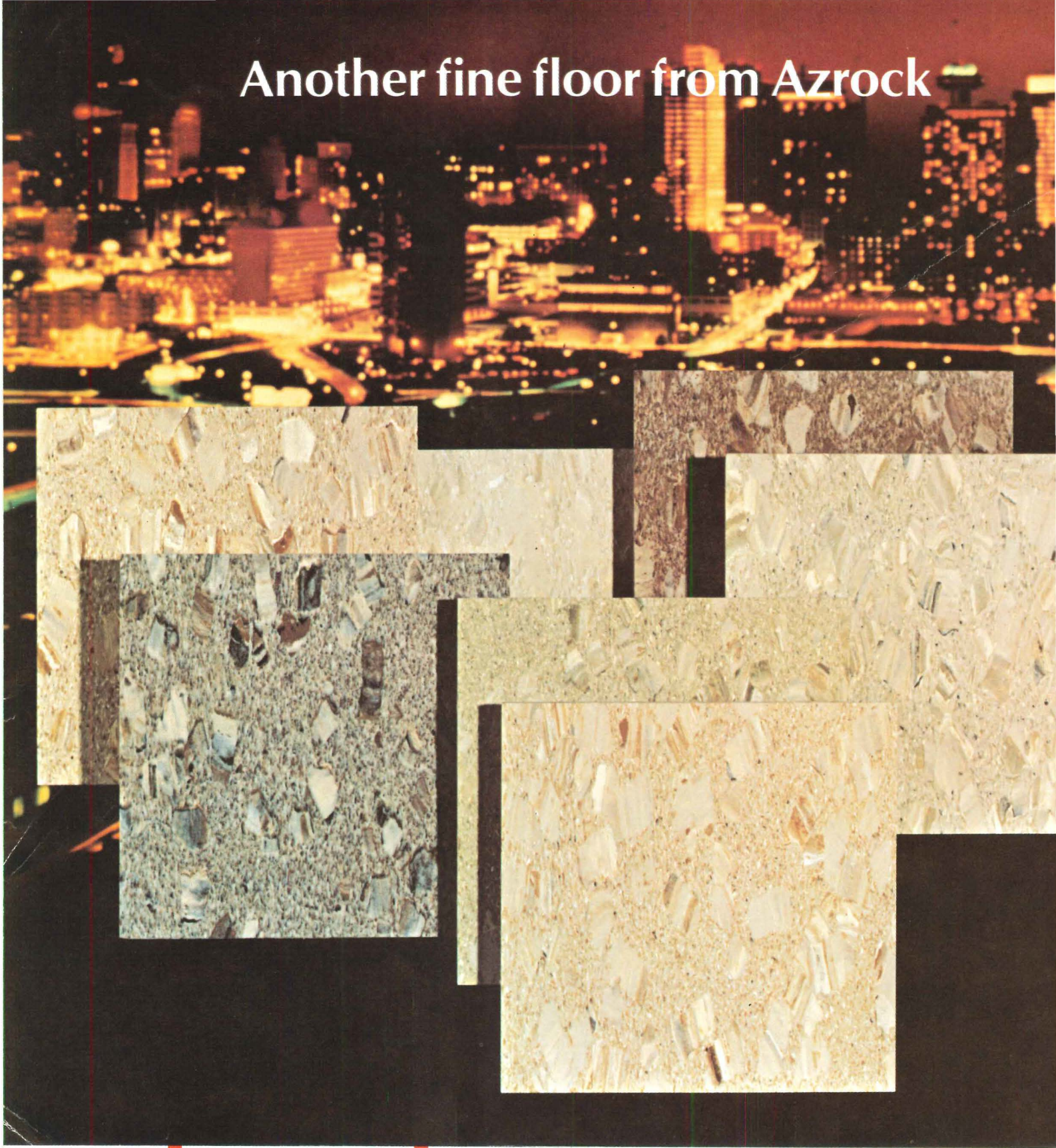
Progressive Architecture

May 1971, A Reinhold publication



Another fine floor from Azrock



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Patterns designed for maximum strength, yet unobstructed vision

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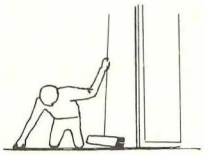
Daily labor lost on folding or sliding doors

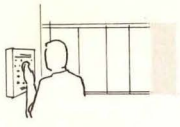


Ever-present dirt in floor track hampers door operation

Door storage space at side steals display and sales space

Lost time of employees' labor at opening and closing time

Door guard irritates and discourages last-minute customers



Nightly closing throws air conditioning and heating out of balance

With Kinnear Upward Rolling Grilles you gain many convenience features and added merchandise display not available with other methods of store front closures. You **save** every time you open or close the Grilles. Day or night the public has full vision of stores' interior merchandise displays. Whether arranged for manual or motor operation, Kinnear Grilles are counterbalanced to raise or lower quickly and most conveniently. They roll up out of the way, completely concealed above the doorway. No display space is lost for door storage. When closed, they are an artistic barricade that is tough enough to insure positive after-hour protection. And their closure does not affect the air conditioning system. In every detail, Kinnear Rolling Grilles are perfect for todays' enclosed mall, and they can be engineered to fit any opening. Even service is as close as your telephone, since Kinnear Service Centers are located in metropolitan areas coast to coast. Call Kinnear in on your next store front installation. Kinnear is as modern as tomorrows' mall.

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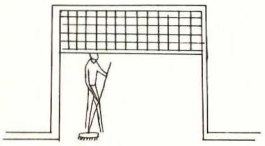
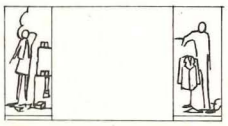
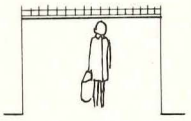
Convenient time-saving push-button operation



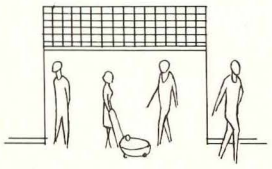
No dirt catching floor track to hamper operation



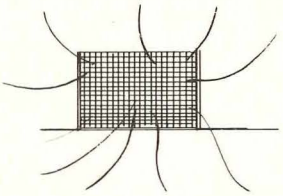
Added square footage of **Sales Space** — right out to the lease line



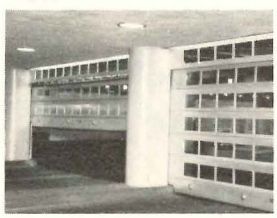
Provides more shopping time for last-minute customers



Partial closure of grille serves as courteous closing signal



Uninterrupted air circulation maintains overall climate control



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May 1971

Progressive Architecture

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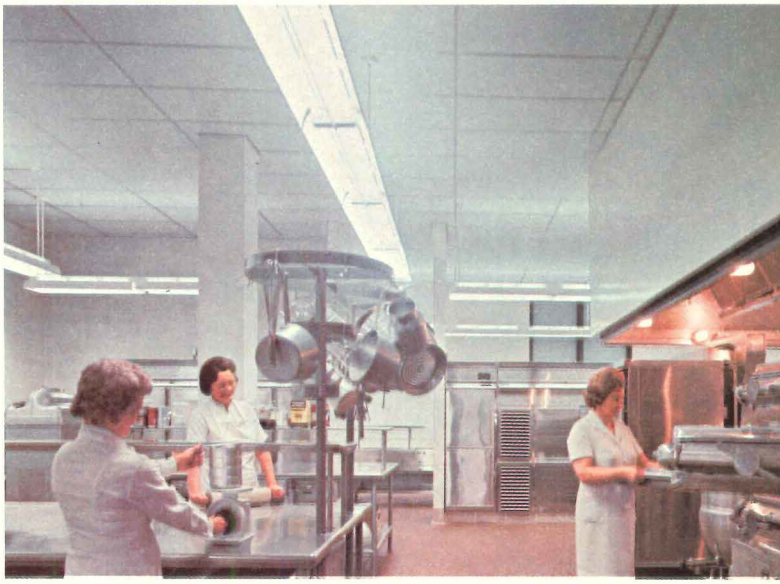
Cover: Habidu at Seal Harbor, Me., photographed by Norman McGrath

What makes these ceilings right for this job?



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Views

Architect as sociologist

Dear Editor: "I think any architect that thinks he's a sociologist ought to be locked up." So said U. Franzen as one of the jurors for the 1971 P/A Award competition, (P/A, Jan. p. 61).

I wish to take the strongest exception to Franzen's statement, not because it may not have some validity (few architects have time in their training to devote to a second specialized endeavor), but because it fails totally to place the correct emphasis on a very important relationship, that between the architect and sociologist.

In my opinion the critical fact to remember is that architects, for too many generations, had little or no interest in society's substantial work, with often architecturally inauspicious and at times disastrous results (and from the statement one might surmise that such architects still exist). My own belief is that the new interest in sociology among the younger generation of architects is, for the profession, one of the healthiest possible signs.

In sum I should like to counter Franzen's statement with one of my own: I think any architect who does not have a profound concern with the sociological trends and problems of his time should definitely be locked up.

George W. Conklin AIA
New Haven, Conn.

The licensing question continues

Dear Editor: I thoroughly disagree with Mr. Isaacs' letter suggesting some sort of nexus between liberalization of licensing examination requirements and the quality of persons practicing architecture (P/A, Feb. 1971, p. 7).

The idea that a college degree sans practical experience fails to produce cc petent architects has no basis in fact. L yers, dentists and other professional groups allow license examinations with so-called "practical experience" and th respective fields of endeavor are none t worse for it.

The practice of architecture undoubt is becoming more complex but to force new graduates to comply with an archa quasi-apprenticeship program so that members of our profession can have a source of cheap labor is absurd.

Could it be that architects are more afraid of losing their "slave laborers" th of improving the profession, or is it a ca of "I've suffered so you'll suffer too"?

Dr. Cyril Chern
Hollywood, Calif.

Ecology

Dear Editor: My hearty congratulations your January issue with its coverage of Awards Program.

I was particularly interested in your in

[continued on page 11]

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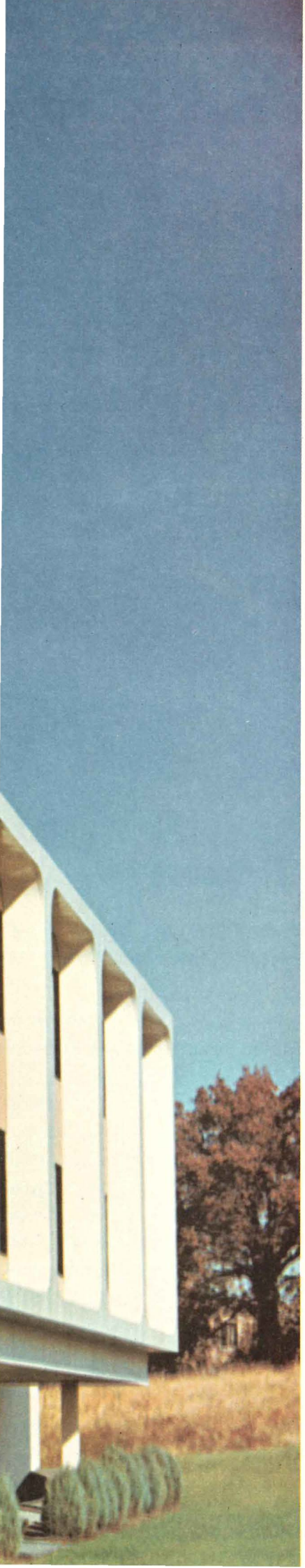

can this really be porcelain-enameled steel?

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Steel

HOPE'S ALUMINUM WINDOWS

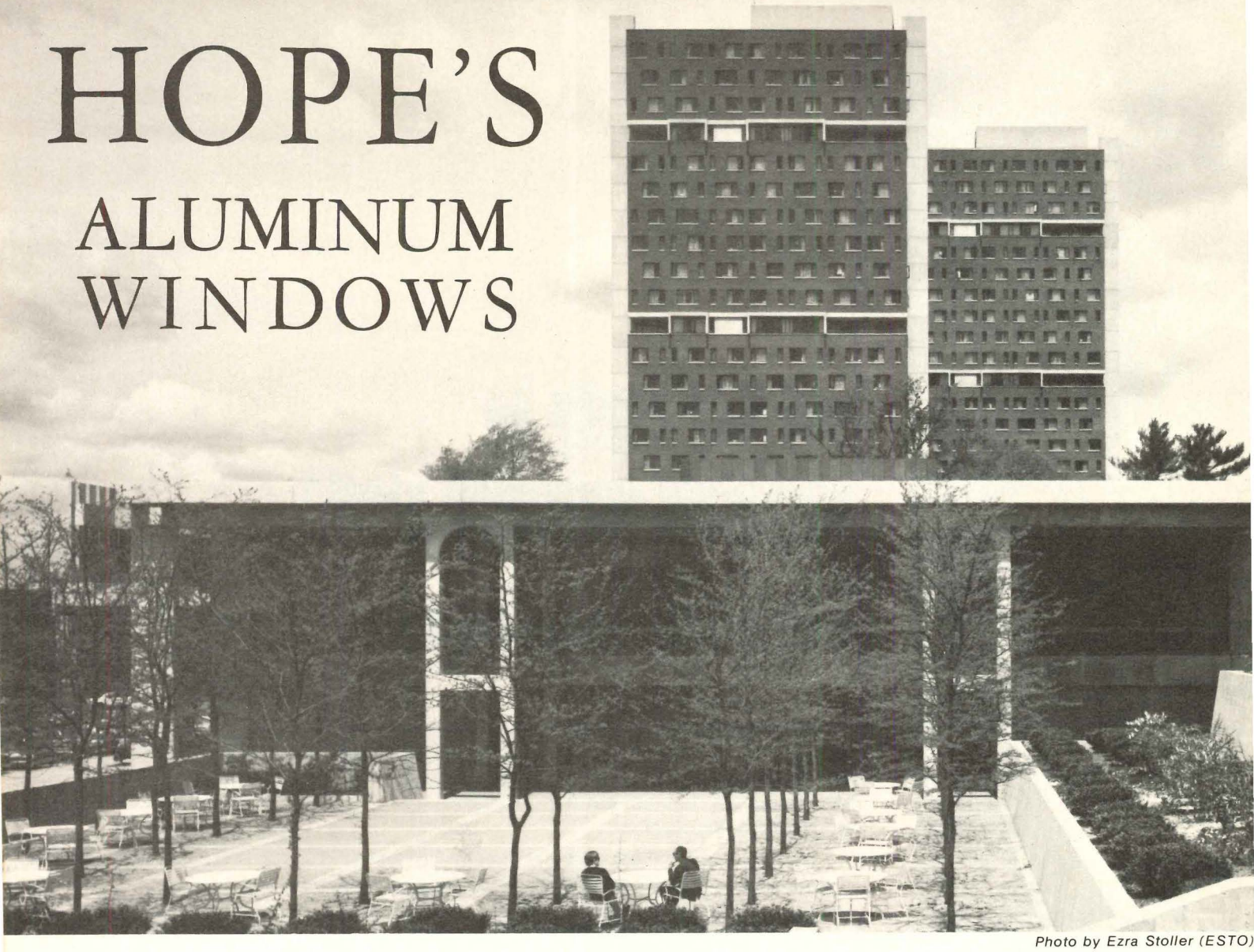

Photo by Ezra Stoller (ESTO)

University of Massachusetts, Southwest Quadrangle, Amherst, Massachusetts • Hugh Stubbins and Associates *Architects* • Daniel O'Connell's Sons, Inc., and George F. Driscoll Company, *Joint Venture General Contractors*

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HOPE'S WINDOWS

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ıs continued from page 6

ion of planning and urban design sub-
ions. The statement in your editorial
architecture is broadening, and
"the processes that generate archi-
ure, whether they be art, advocacy or
in, are the concern of the archi-
' establishes the foundation for a phi-
phy of architecture that reasonably
d incorporate an almost complete
ogical matrix for any architectural
eavor.
s man lives less and less in a vacuum,
more and more in juxtaposition with
ellowmen, it is incumbent on all dis-
nes to progress with this interaction in
d. Architecture as an inclusive act of
tion will go forward best as it accepts
validity of honoring, as you suggest,
n-architecture of 55 acres of un-
urbed Texas bush." In line with this
king I was particularly happy with the
tion of the E. Islip Residential Devel-
ent (p. 100) which so respects its
ogical environment of marshland and
ds. I have used these two pages which
ude the planner's sketch and a brief description of the development in promoting the adoption of a local P.R.D. in Buckingham Township, Bucks County, that will provide for just such innovative development while at the same time preserving our heritage of open farmland and wooded areas. My thanks go to you and to your staff for this thrust in the direction of preserving ecological balance.

Margaret Richie
Holicong, Pa.

Dear Editor: It was my pleasure to read and study Mr. Wells' excellent article "The Absolutely Constant Incontestably Stable Architectural Value Scale" (P/A, Mar. 71, p. 92), and the effect on my thinking prompted this note.

Mr. Wells has been a pioneer in ecological awareness for some years now, but I have felt this very condition has hindered him greatly in conveying the impressions he obviously senses to a greater degree than most of us. He has been bucking the tide of public and professional thinking partially because his message was difficult to convey in everyday, understandable terms which would offer something positive to grasp.

In this article I feel Malcolm Wells has delivered just such an understandable message. His value scale not only offers us a positive reading, it serves as a guide for us to follow. Conservation and ecological awareness have emerged with broader meanings in just the past few years, and I'm sure Mr. Wells' consistent efforts have played an important part in this emergence. The crystallizing of his thoughts in practical terms accompanied by a practical example mark a high point in his continuing campaign.

With this manner of delivery the skepticism of "hard knock" detail men like myself can be transformed into progressive and realistic detail solutions. Since skepticism is born of economic factors as well as workability factors, I recommend this article (and hopefully, subsequent articles of similar vein) be made available to other elements of the construction industry as well as to the design element. Perhaps *Progressive Architecture* could take a unique step and cooperate with Mr. Wells in broadening the publication exposure of this type of positive thinking.

Gary Evans Ryan
Willingboro, N.J.

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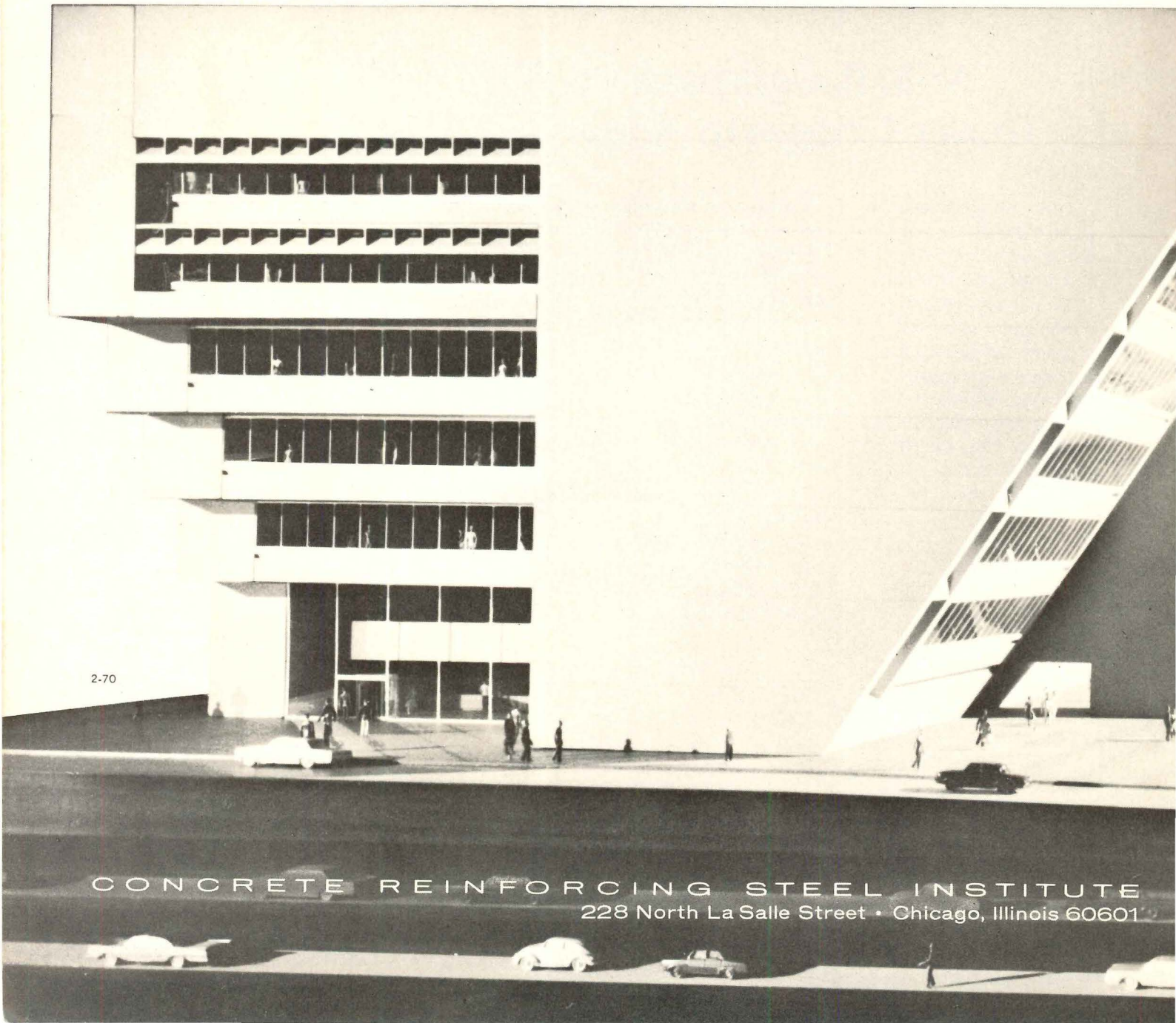

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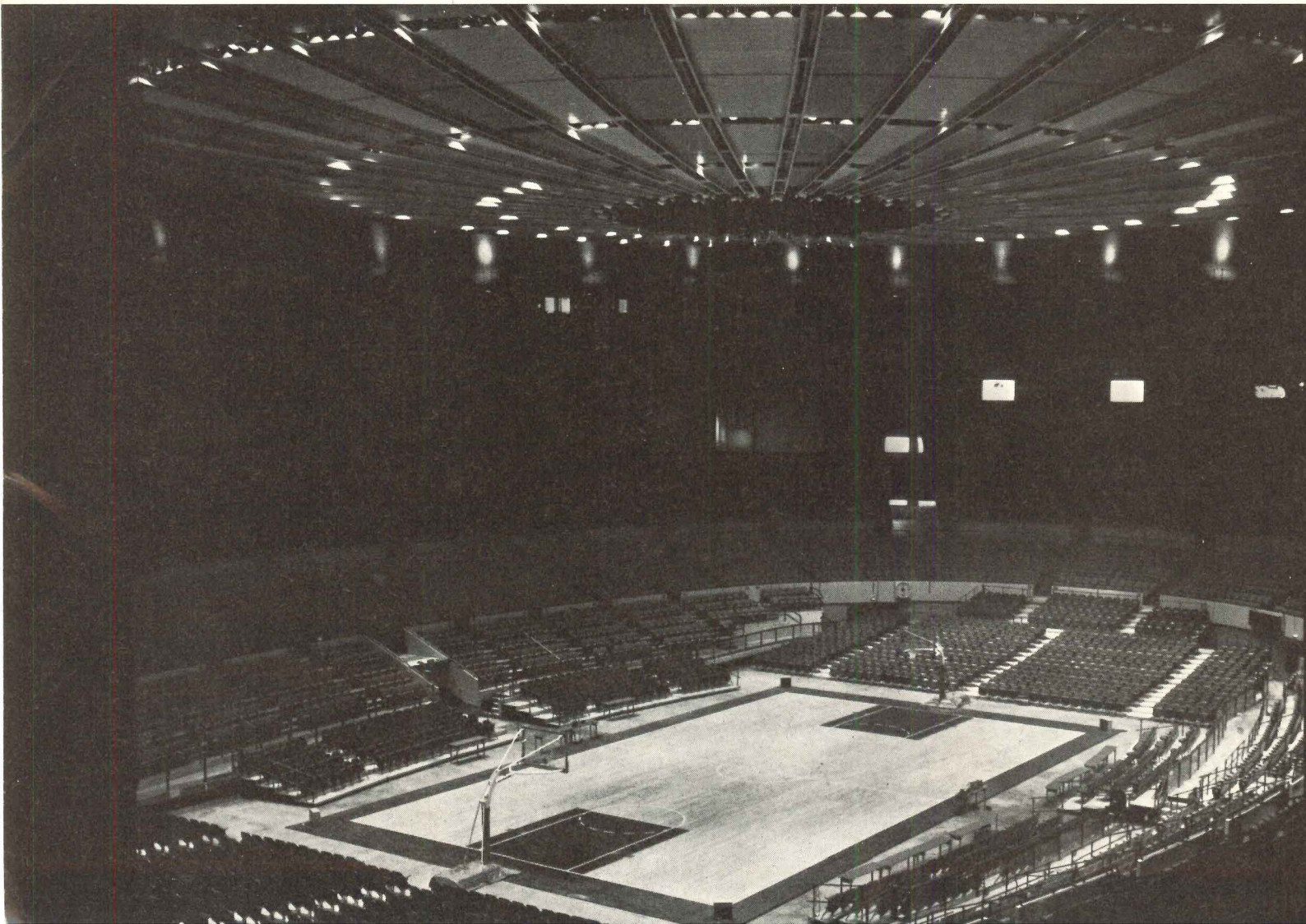

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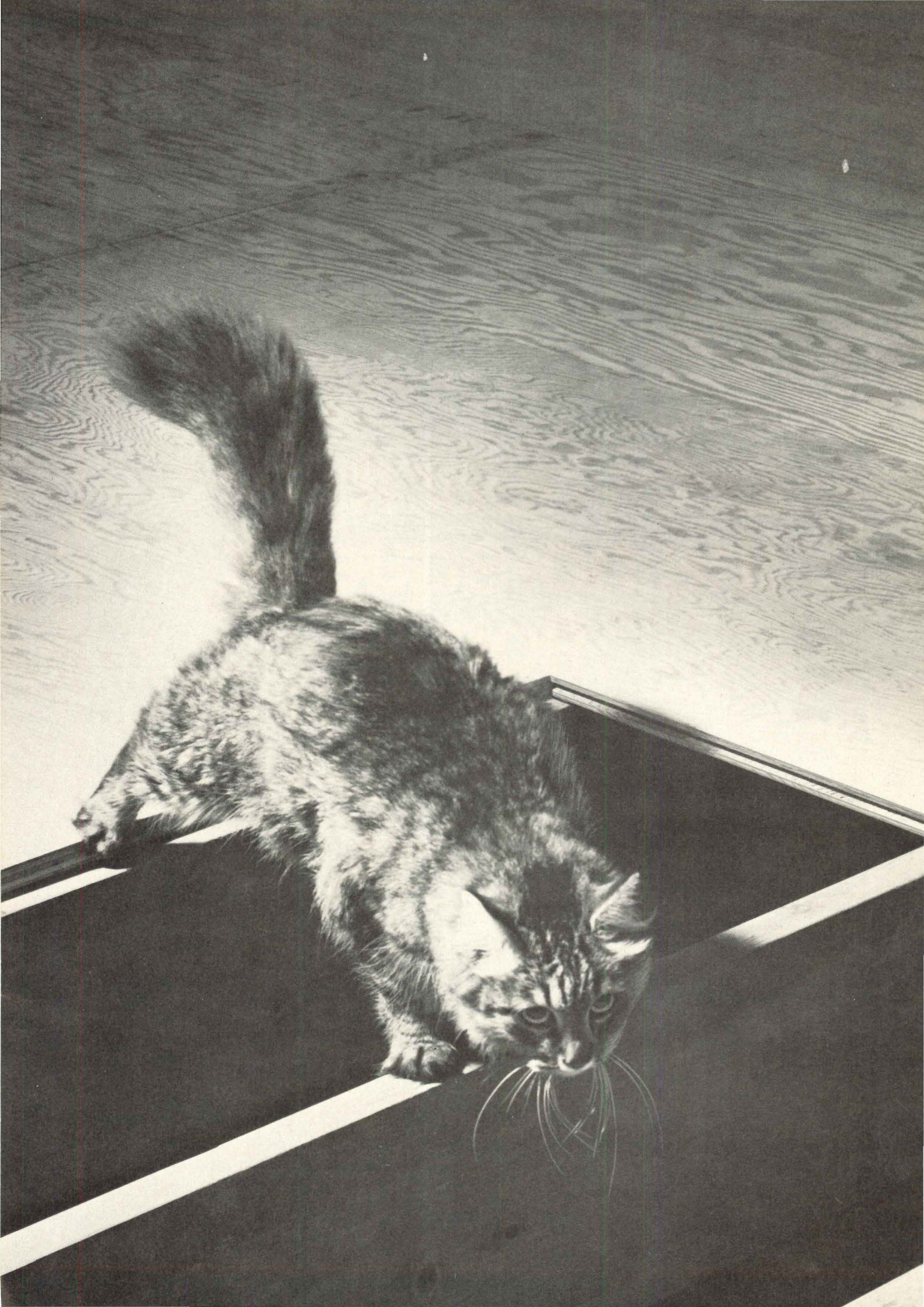

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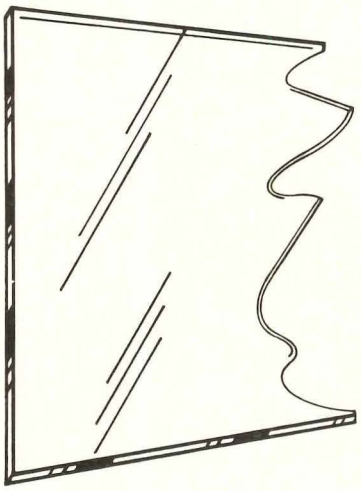

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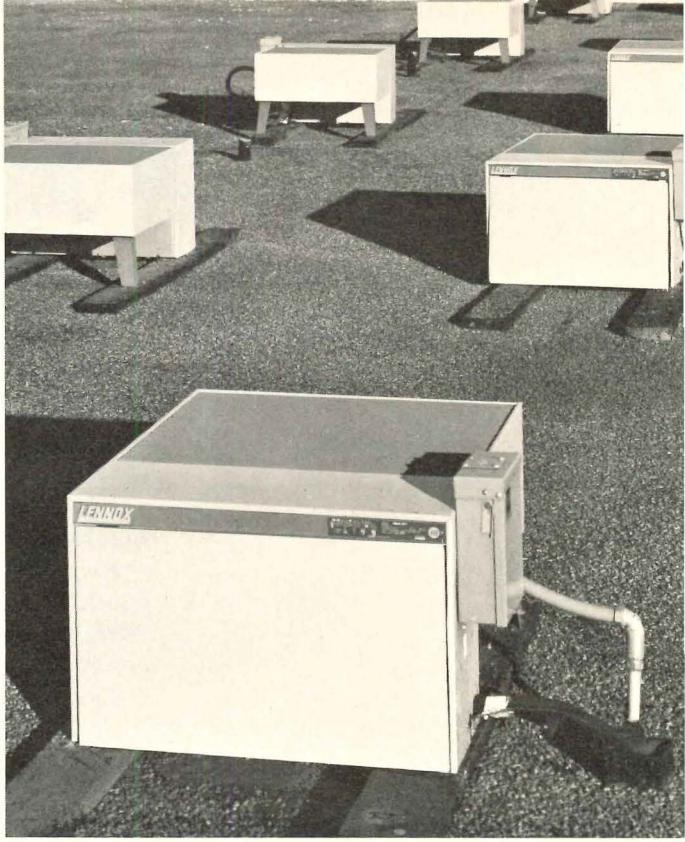
Rooftop systems save floor space, and permit complete design freedom. Distribution systems are available which permit walls to be moved, thus allowing change in the office spaces when desired. Occupancy can be progressive as the building is constructed. And a future expansion program requires only that new units be added as floor space enlarges.

(continued overleaf . . .)

The 2800 Center Building, an office building in Tulsa, Oklahoma, provides each of its 50 lease spaces with a private climate. And clients leasing several spaces have a series of individually controlled zones. Architect: Marion R. Stauffer; Owner/ Developer: Weir Construction Company.

The 24,000 square foot building of Cole & Weber, Inc., a Seattle advertising agency with a staff of 120. Three gas fired Lennox DMS1 units—with 66 tons of cooling—divide the first floor into 7 zones and the second floor into 9 zones. The DMS units are equipped with POWER SAVER (free cooling), ideal for Seattle climate. Also shown: conference room and reception room. Architect: Harris, Reed & Litzenberger, Inc.; Engineer: Arnold N. Bogue & Associates.

Tulsa's 2800 Center Building is heated and cooled by 50 Lennox blower-coil-filter units with resistance electric heating and . . .



. . . remote Lennox condensing units located on the roof.

continued

private climates for offices...

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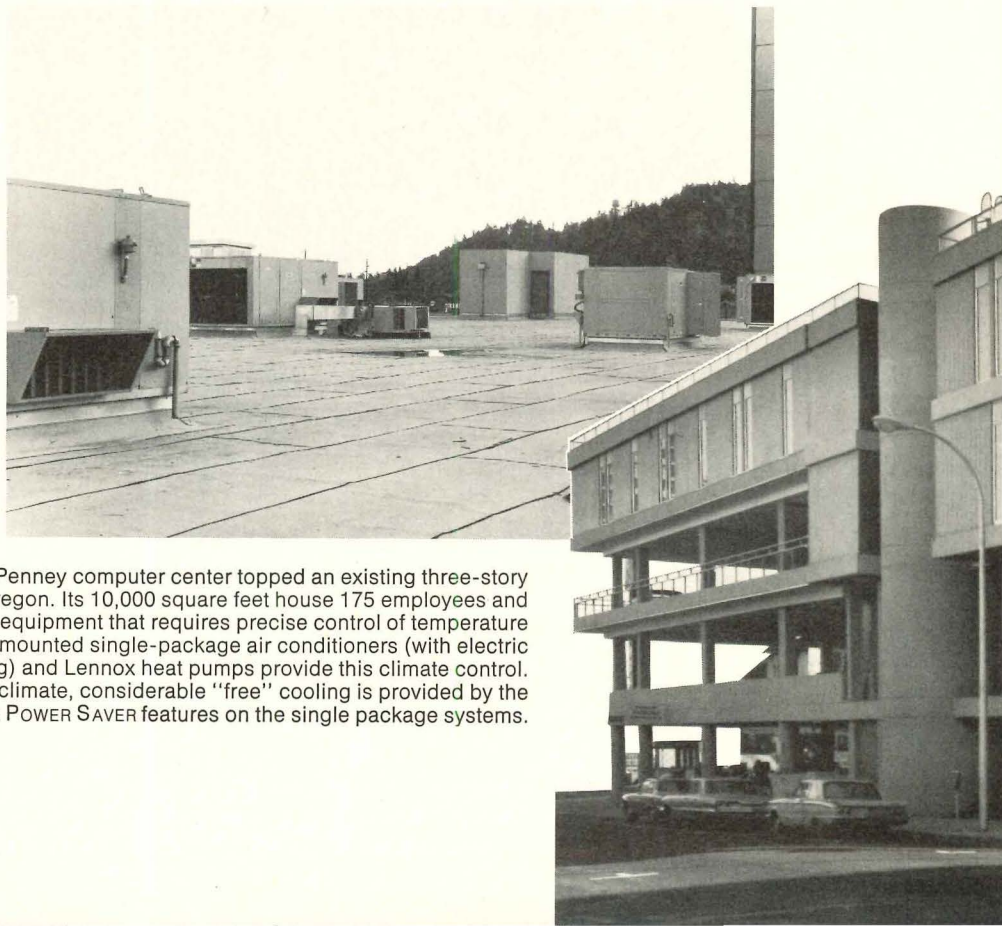

This new J. C. Penney computer center topped an existing three-story building in Portland, Oregon. Its 10,000 square feet house 175 employees and delicate computer equipment that requires precise control of temperature and humidity. Lennox roof-mounted single-package air conditioners (with electric resistance heating) and Lennox heat pumps provide this climate control. Because of Portland's climate, considerable "free" cooling is provided by the Lennox POWER SAVER features on the single package systems.

Williams Cadillac, in Portland, Oregon, uses a Lennox roof mounted, gas-electric, single package air conditioner to heat and cool this showroom and office.

perature drops below 57°F. And with new Lennox multizone units, heat removed by igeration is recovered to reduce fuel costs. Routine servicing can be accomplished naintenance staff. But service contracts are also available. There are more than 00 Lennox dealers authorized to serve you.

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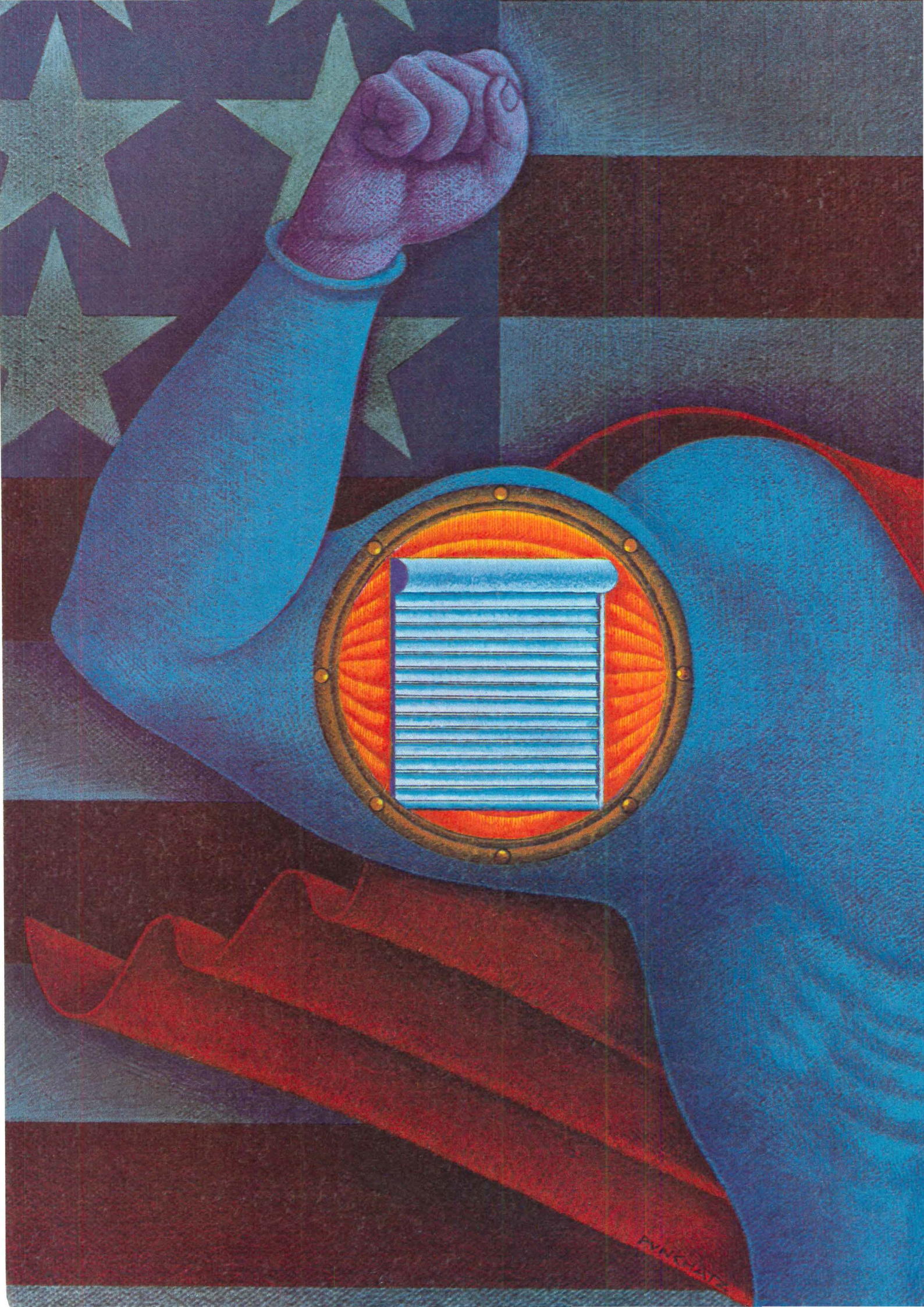

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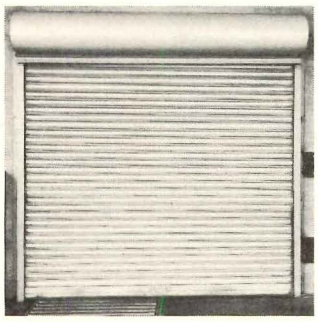

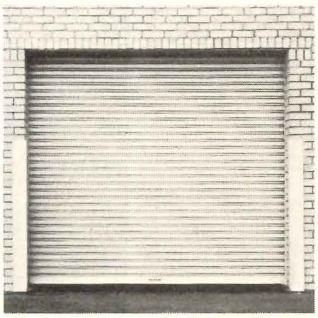

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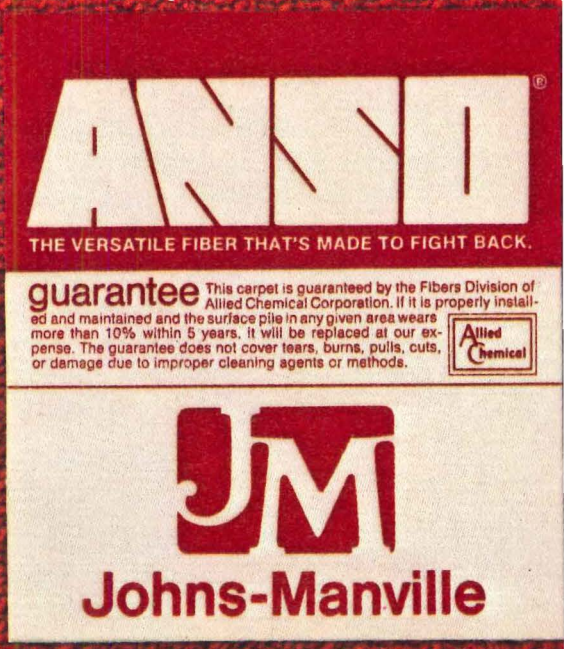

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News report

Parking lot into park, and a new old building

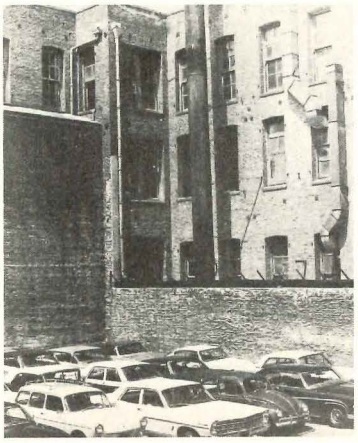
The gnashing of teeth when a park is destroyed for a parking lot or a historic old building is replaced with a new one often drowns out the applause when the reverse happens. Herewith, then, two changes in the right direction.

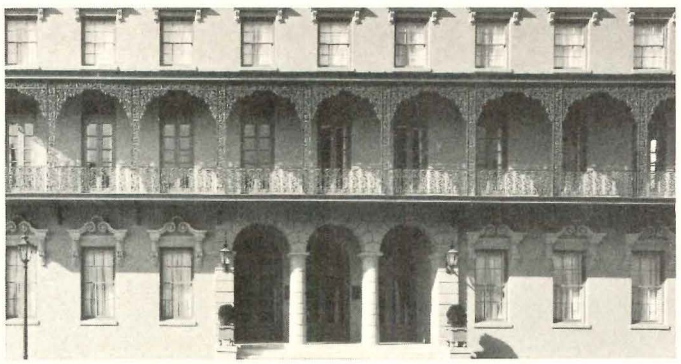
The old parking lot into park trick was pulled off by Bull Field Volkmann Stockwell in San Francisco, as part of the renovation of an old warehouse loft into an office building. The sunken parking lot was filled in, wide terraced steps were added, and the resulting plaza was paved with brick and landscaped; then it was turned over to the city. The building, which houses the architects' offices, was without heating, electricity and plumbing at first, and the remodeling took eight months. The original high ceilings were kept, and the brick exterior was painted white; skylights and supergraphics finished off the job.

Topping that trick, perhaps, is the brand new Mills Hyatt House, a 250-room hotel recently completed in Charleston, S.C. It stands on the site of a former Mills House that opened its doors to guests in 1853. Although the hotel is brand new, it is faithful enough in its exterior and interior details to keep the city and local preservationists happy.

During the razing of the old structure, which proved unsavable, cornices, pediments and other architectural elements were saved; they later were replaced in the new building, or used as models for replacements. The old Victorian style lives on in Charleston's historic district, even if Curtis & Davis (with Simon, Lapham, Mitchell & Small who were consultants on the exterior and historic details) had to design a brand new building.

Parking lot into park





New hotel for old

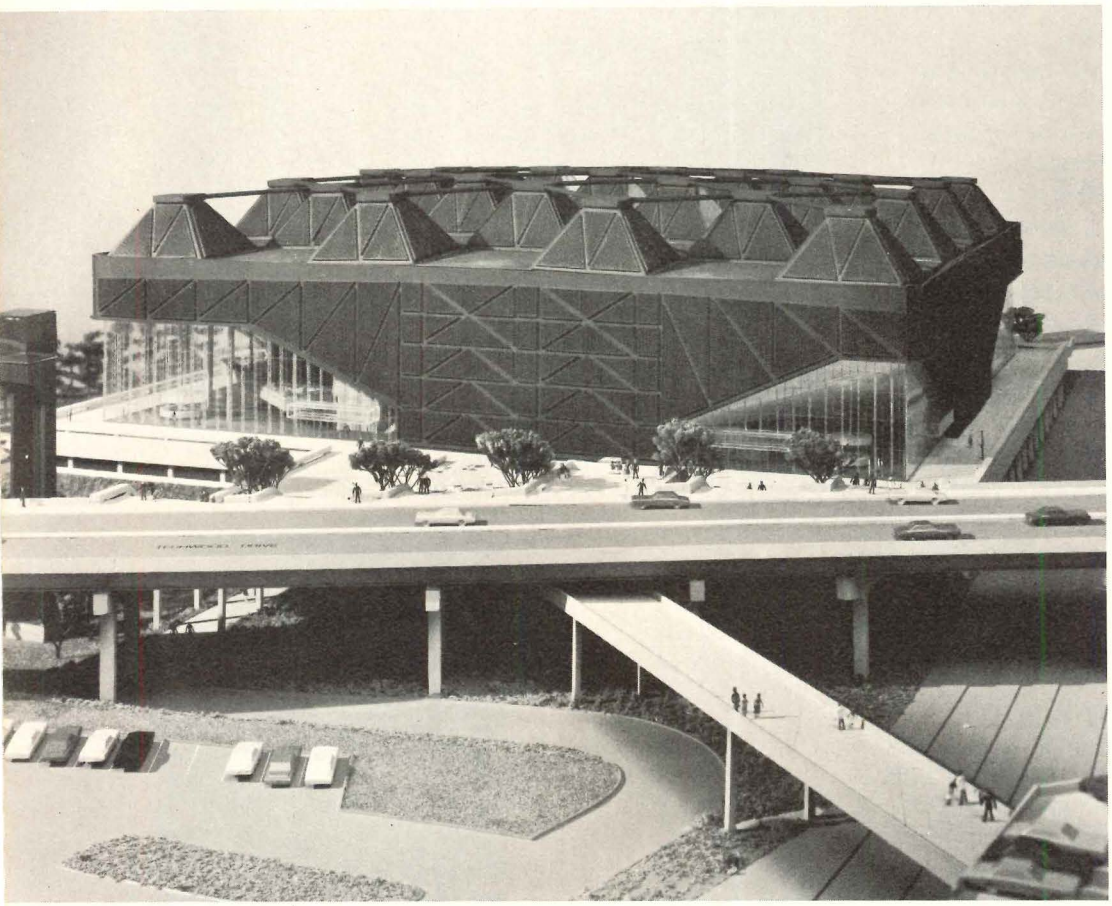
AIA Convention will look at 'Hard Choices'

This year's AIA Convention (Detroit, June 20–24) promises to be something different. The first two days will be devoted to business topics, the last two to philosophy, running under the heading "National Forum."

Monday and Tuesday will be the days of the business sessions, but on those two days architects will also be able to attend technical seminars sponsored by the AIA and the Producers' Council. These seminars are part of a new conference and exposition series being inaugurated this year; theme will be "The Building Team," and Roger Blough, chair-

[Continued on page 33]

Buildings on the way up



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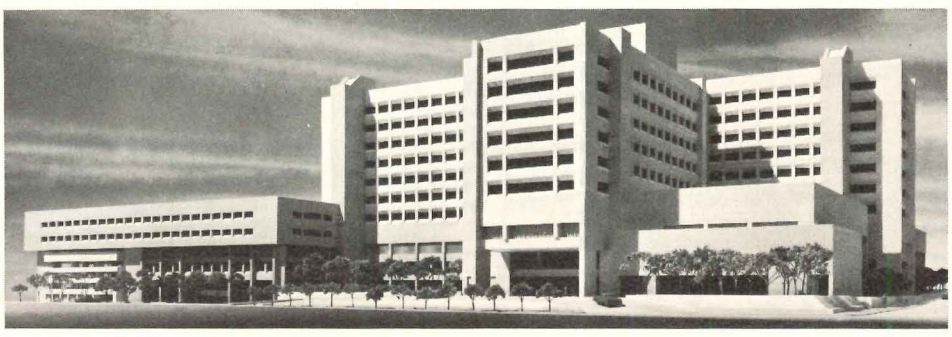

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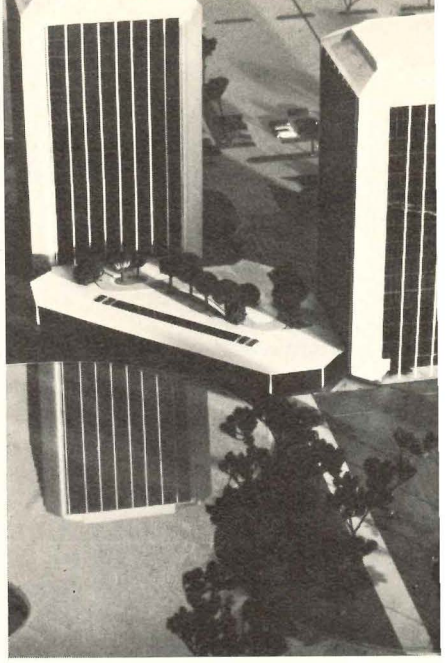

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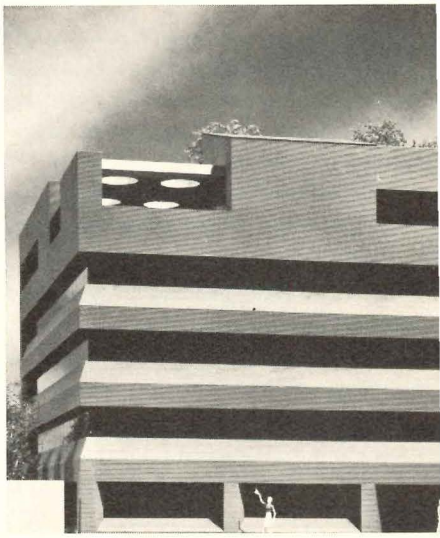

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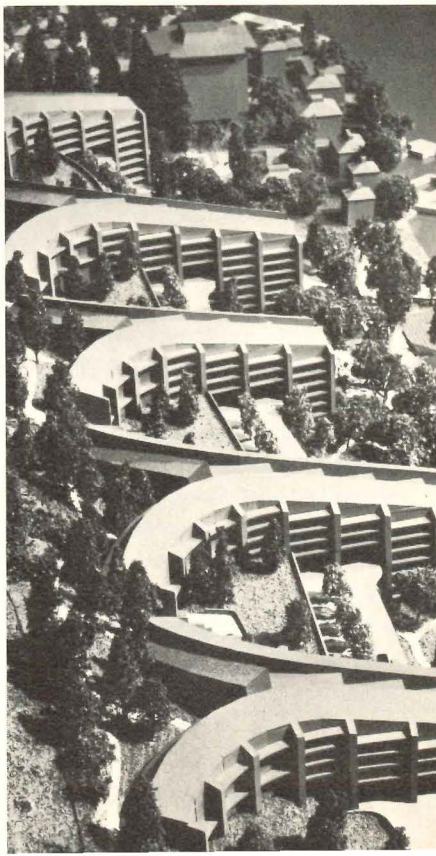

1 Bowl in a box is the simplest description of the proposed Atlanta Fulton County Arena. Seating bowl will be placed on diagonal of square structure; roof, made up of 50-ft square pods supported by ortho-quad truss system, will bear on four wall trusses, whose shapes are determined by seating bowl. Structure will be steel, and weathering steel will be used on exterior, except for glassed-in corners. Building will be 326 ft on a side and 130 ft high. Architects are Thompson, Ventulett & Stainback, Inc.; engineers: Prybylowski & Gravino (s), Hartrampf, Powell & Associates (m), and Morris E. Harrison & Associates (e).

2 Replacement for Lincoln Hospital in New York City will provide 950 beds for inpatients; outpatient visits will number 400,000 a year. Designed by Max O. Urbahn Associates, hospital will include 120-bed community mental health center. Ten-story structure will be of red-brown brick; cost is put at $120 million. (Louis Checkman photo)

3 Twin towers set tone for Fort Motor Co.'s 2300-acre Fairlane development near Detroit. Designed by Rossetti/Associates, 15-story office towers offer 260,000 sq ft each and are connected by 30,000 sq ft commercial plaza. Diagonally oriented steel frames provide wind bracing in corners. Engineers: McClurg & Associates (s), DiClemente-Siegel Engineering, Inc. (m,e).

4 Union hall was designed for International Brotherhood of Pulp, Sulphite and Paper Mill Workers by Freiden, Kleiman, Kelleher; it will be built in residential neighborhood midway between Kennedy and LaGuardia airports. Façade is hard burned iron-spot brick; horizontal ribbons of windows will be glazed with gray solar glass. Top floor and roof of 5-story, 43,000 sq ft building will include terrace, skylights and roof garden.

5 Access road passes under horseshoe shaped apartment buildings planned for north shore of Lake Tahoe; condominium apartments are part of California development called Brockway Springs, designed by Bull Field Volkmann Stockwell. Scenic values influenced design: buildings are set back from lake, kept low so they don't block view from nearby highway. Construction is to be of heavy timber, and parking will be hidden under landscaped roofs. Only 5.3 acres of 37-acre site will be developed; rest will be green belt and open space. Cost is estimated at $30 million.

6 Addition to Erb Memorial Student Union at University of Oregon provides hypotenuse of triangle. Designed by Colburn & Sheldon and Lutes & Amundson, new spaces will include arts and crafts center, cafe, married students center, complete with day care facilities.

7 In the far corner (and the others, too) of Merchants Convention City, proposed for New York's old Madison Square Garden site, would be department stores; in the center a convention hall with seats for 50,000 people. Rounding out the proposal, designed by Katz Waisman Weber Strauss for client Stephen Klein, would be three hotels, two 40-story office buildings, shops, restaurants, six theaters, two double cinemas; all of this, plus more, would be on top of six levels of underground parking.

8 School for teachers at University of Nevada will house undergraduate, graduate and special research programs of College of Education. Complex consists of two 1-story buildings of reinforced concrete that flank main buildings of reinforced and precast concrete. Ground floors are for research, testing and special education; second floor of main building contains 20 classrooms and 10 teaching labs; third floor is for faculty and administration offices. Architect is Jack Miller and Associates.

9 Old estate provides Ramapo College, now under construction in N.J., with fully landscaped site. Two-story L-shaped building is to be sheathed in mirror glass, built from readily available manufactured components; components were pre-bid before design was complete, with final contract coming in at $9,537,689. Old mansion will be renovated for use as administration offices. First phase will serve 1900 of eventual 8000 students. Architects are Mahony & Zvosec/Sasaki, Dawson, DeMay. (Louis Checkman photo)

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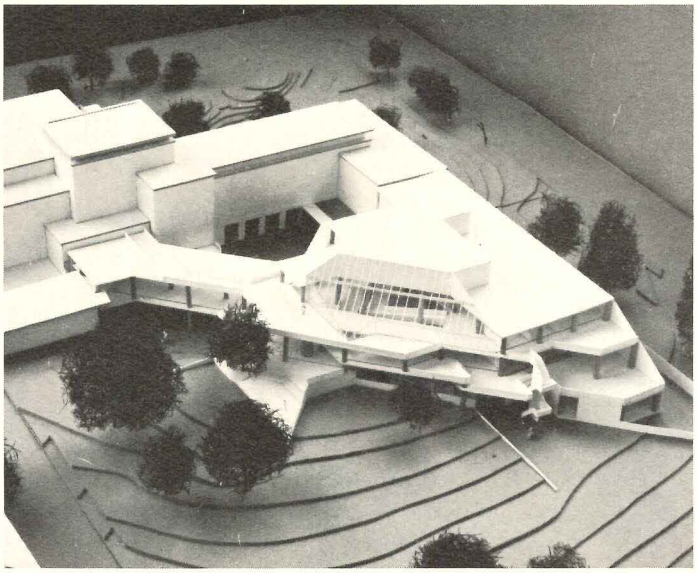

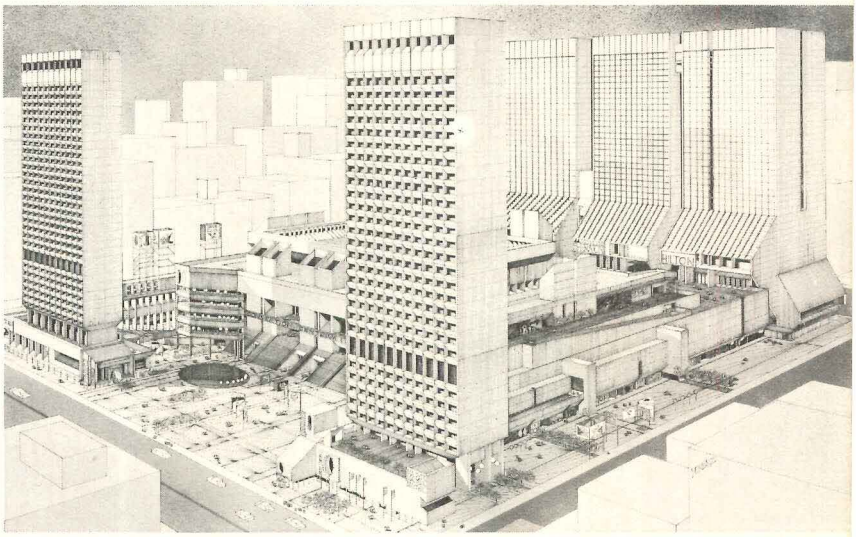

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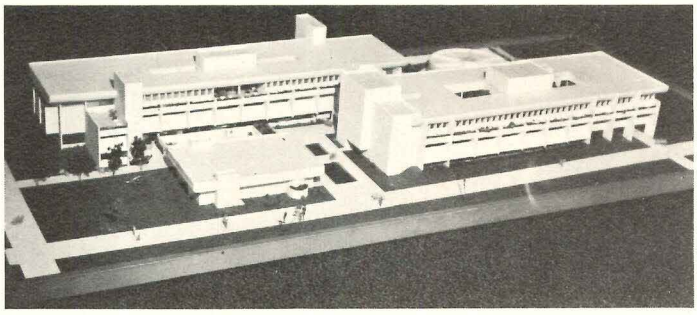

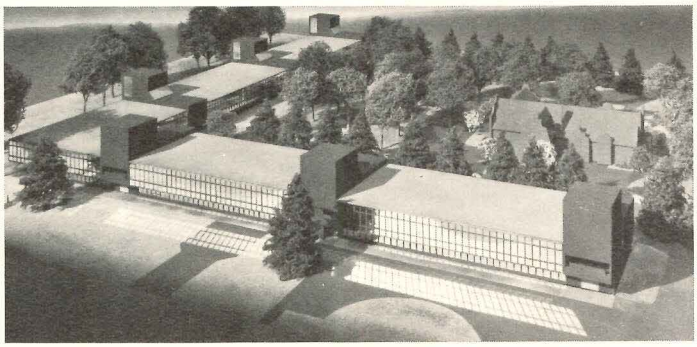

9

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Ellipsoids! Spheres! Cubes! Cylinders! Hadco brings you these crisply-designed luminaires in bracket and pole-mounted models in a variety of styles and sizes to meet your modern lighting needs. Choice of incandescent or mercury vapor models, too! ☐All, of course, are made with Hadco's concern for quality, with cast aluminum con- struction, virgin acrylic luminaires tha ultraviolet stabilized, and a unique pos that grips the post from the inside to r tampering. ☐For all the facts on Hadc new Contemporary 4400 Series, see your Hadco Dealer, or write Dept. 22A-155.

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News report continued from page 29

man of the Construction Users Anti-Inflation Roundtable, will be the keynote speaker. Panel discussions will deal with team management, systems building and other problems, and the product exhibit will have a strong systems slant.

The philosophy comes later during the convention, and it will center on the convention's theme "The Hard Choices." AIA President Robert F. Hastings will define the theme, and other speakers will cover "hard choices" created by changing patterns of settlement, use of human resources and national priorities. Among the speakers: John W. Gardner, chairman of Common Cause; Russell E. Train, chairman of the Council on Environmental Quality; Paul N. Ylvisaker, professor of public affairs and urban planning at Princeton; and Robert Andras, Canadian minister without portfolio. The last morning session, at which Train and Ylvisaker are to speak on environmental problems, will also include a high ranking auto industry spokesman.

There will, of course, be the usual round of parties and social events, tours and trips. Following the convention, some delegates and families will fly to Copenhagen, there to reconvene the program, which will continue in London and Stockholm.

Contract furnishings expo competes with AIA convention

It's only 30 minutes by air from Detroit to Chicago, says the management of Chicago's Merchandise Mart, so architects attending the AIA Convention will be able to take in NEOCON, or the National Exposition of Contract Interior Furnishings, too. NEOCON runs from June 23–25.

Besides offering more contract furniture and furnishings than you can shake a stick at, NEOCON includes a program of speakers and panels on a range of subjects. Included are sessions on Information Handling in the Health Care Field, Projected Changes in Hospital Construction, Student Life Styles and Their Impact on College Union Planning, The Development of a New Charisma in Shopping Centers, Turn Key Housing, Selling and Strengthening Professional Services and Techniques of Large Office Space Planning, and so on. The appeal, however, is to a broad audience ranging from architects and interior designers to purchasing officers for schools, hospitals and businesses. Speakers will include leading architects and interior designers, as well as specialists in the various subjects.

Architects, engineers get the word on Washington

Once a year the AIA and Consulting Engineers Council invite members to come to Washington for briefings on public affairs and visits with their Congressmen. This year some 400 took AIA and CEC up on their offer, and during the day of talks by government leaders, they heard about government bidding for contracts, product boycotts and national building standards among other topics.

Texas Congressman Jack Brooks was one of the more popular speakers again this year, getting a standing ovation when he told the crowd that he was reintroducing his A-E selection bill; it died in the last Senate adjournment rush after being passed in the House. Product boycotts, or rather their prevention, was the subject of California Congressman Bob Wil-

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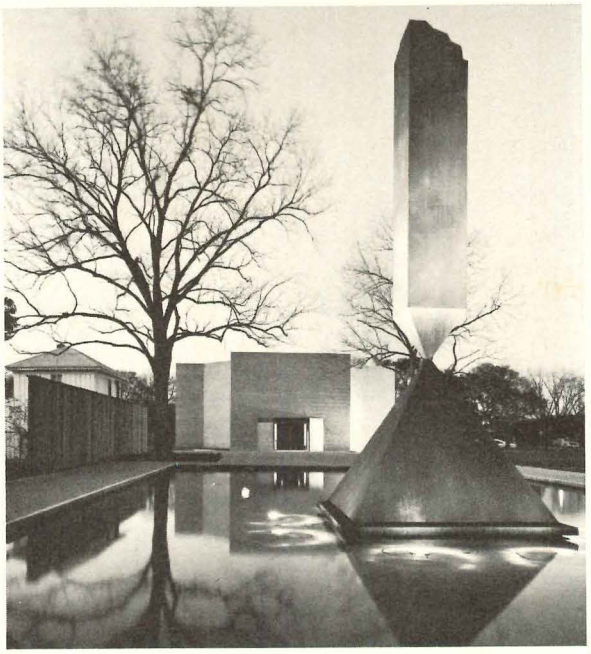
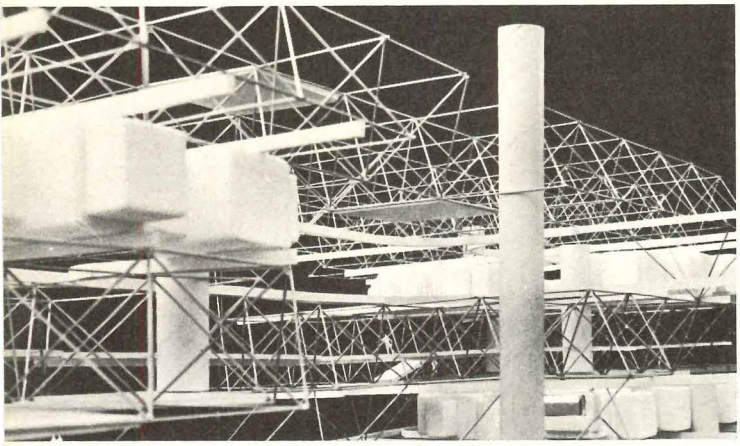
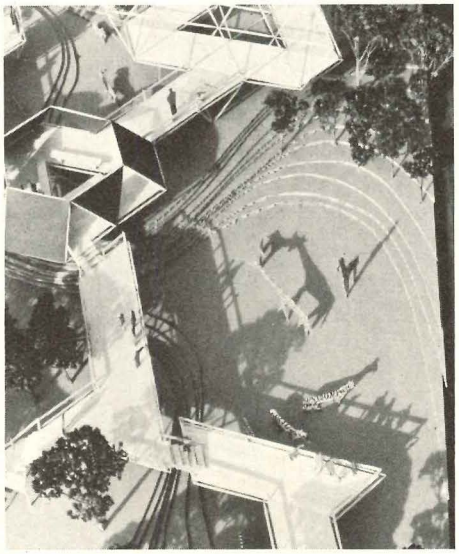
News report continued from page 33



Rothko Chapel





Prize winning megastructure, zoo

son, who along with 30 other Representatives has introduced a bill to prohibit them. Senator Jacob Javits (R–N.Y.) announced that he plans to introduce a bill to Establish a National Institute of Building Sciences which will advise architects, engineers and the housing industry on new materials and techniques and propose nationally accepted building standards.

Plans to share Federal tax revenues were discussed by Murray L. Weidenbaum, Assistant Secretary of the Treasury, and Presidential Assistant Dwight A. Ink outlined the proposed streamlining of the Federal departments. Other speakers dealt with urban redevelopment and housing, public works, water pollution and an overall recap of the past year's legislative business.

Rothko Chapel opened in Houston

A simple octagonal chapel at the Institute of Religion and Human Development in Houston houses 14 paintings of the late Mark Rothko. The chapel, a concrete block structure sheathed in natural brick, was designed by Houston architect Howard Barnstone and Eugene Aubry. It stands near a reflecting pool in which is a 26-ft-high weathering steel sculpture by Barnett Newman.

Megastructure community wins Reynolds student prize

Two University of Arkansas students have walked off with the $5000 national award in the 1971 Reynolds Aluminum Prize for architectural students. Rick W. Redden and Hugh L. McMillan designed a megastructure community on stilts, complete with movable modular houses.

Their design consists of clusters of housing and service modules in an above ground aluminum space frame; the mass-produced units would allow a great deal of flexibility—fireplaces, picture windows and other options would be offered. Transportation is in the form of an electrically powered, computer controlled capsule that joins directly to each dwelling unit. The aluminum space frame that supports the community would have room for pedestrian walks and suspended yards.

Honorable mention went to G. Stanton Mason and Joseph Valerio of UCLA for a free-form outdoor design made up of 200 8-ft-long aluminum strips placed in the ground, and to Leon Goldenberg of the University of Illinois for a demountable zoo complex. Goldenberg's design provides movable aluminum walkways for viewing animals in a natural setting.

AISI awards program features Soleri, Toffler

Awards for design and engineering in steel were presented to a number of architects and engineers in the 1970–71 Design in Steel Award Program of the American Iron and Steel Institute. To celebrate the program, AISI presented a daylong seminar dealing with design problems in architecture and product design; speakers included Paulo Soleri, Richard Saul, Jay Doblin and Alvin Toffler.

Top winner in the housing category was Harry Weese & Associates, taking the prize for design and engineering with a cliffhanger of a study for a house in Wisconsin. Citations of Excellence went to Ronald Goodfellow Architects and Planners for design and engineering of Huron Apartments, Michigan City, Ind. and Alfred Newman Beadle and Harry B. Kohl. Gene W. Lam received a citation of excellence for engineer-

[continued on page 40]

Credits: Haines, Lundberg & Waehler, New York City—Architects • Conforti & Eisele, New York City—General Contractors • Jacobson & Company, Inc., Elizabeth, N.J.—Lead Work • E. F. Hauserman Co., New York City—Interior Partitions

Lead solves unusual construction problem in a brand new way.

Hoffmann-La Roche, major manufacturers of pharmaceuticals and fine chemicals, turned to traditional sheet lead — to solve a new and unusual construction problem.

Design of the firm's new Research and Quality Control Building in Nutley, New Jersey, included the necessary provision for continually changing conditioned air in each laboratory. The problem: how to seal most effectively and economically, the air conditioning distribution system from potential leakage when the plenum space above each ceiling in the nine story building contained myriad pipes, conduits and ducts required for laboratories.

The dual problem of controlling air flow in the plenum and preventing sound transmission from laboratory to laboratory was solved architecturally by the selection of sheet lead — after consideration of various possible alternatives.

One-pound sheet lead (1/64-in. thick), offered its notable workability and ease of installation to solve the seal problem — its superior sound attenuation capability to solve the noise problem. And the choice of lead provided still another bonus: the low in-place cost.

For further information on the use of lead to solve diverse construction problems — old and new — write for data sheet A-15. Lead Industries Association, Inc., Dept. M-5, 292 Madison Avenue, New York, New York 10017.

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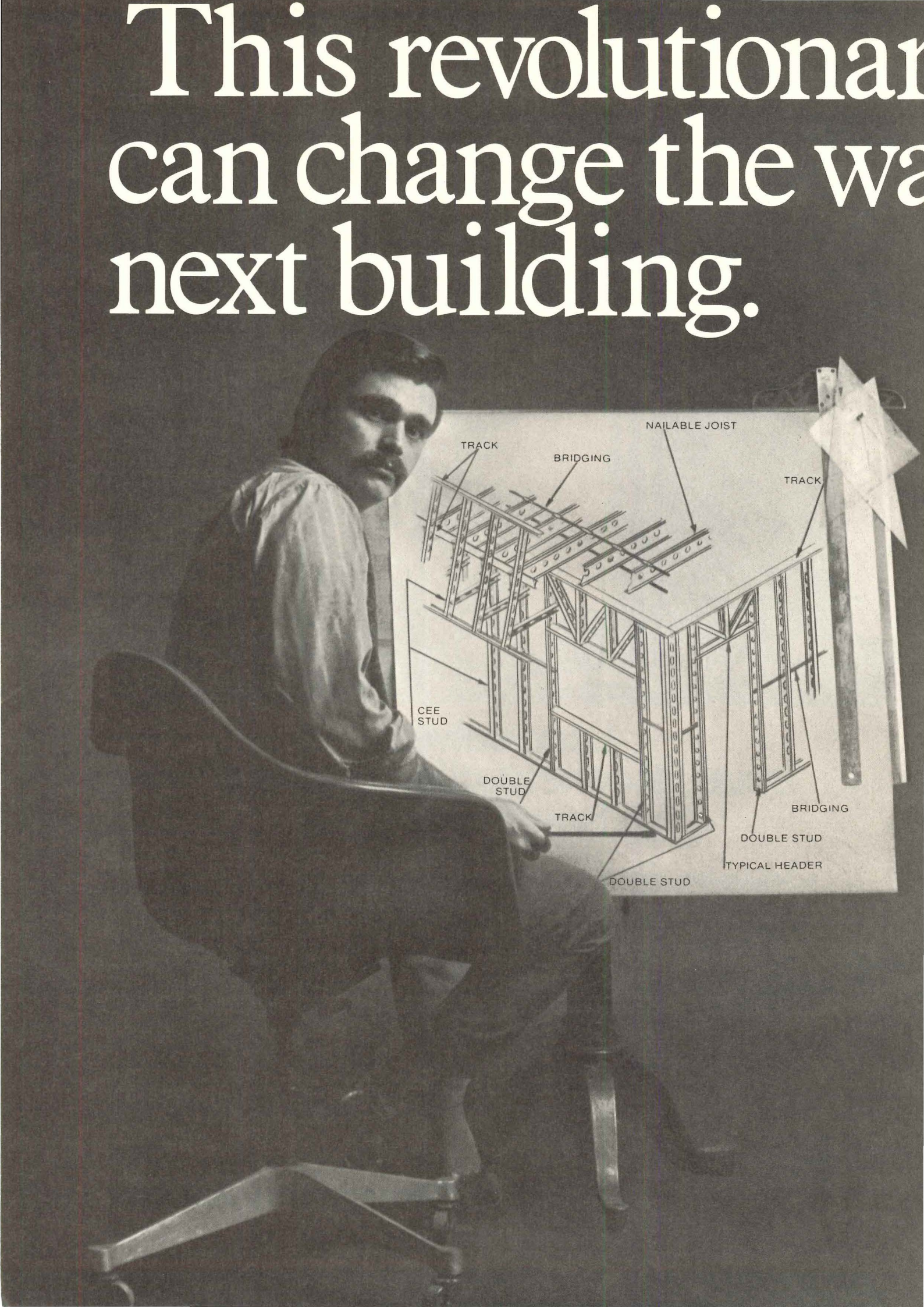

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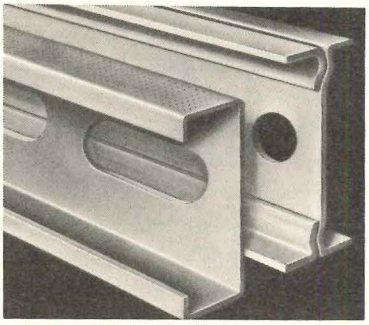
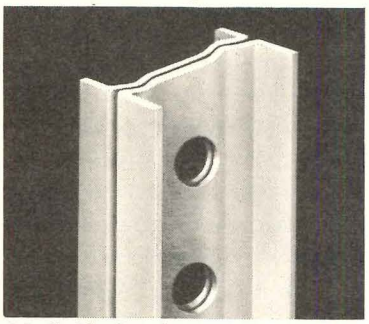
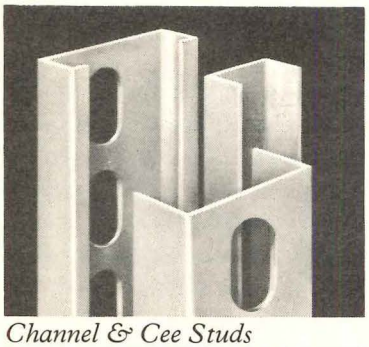


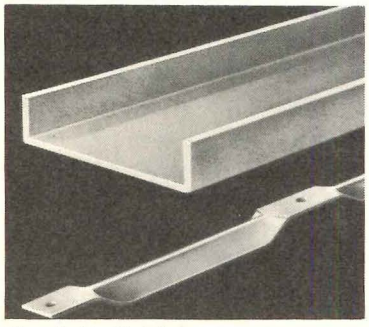
Cee & Nailable Joists



Nailable Studs



Channel & Cee Studs



Track & Bridging

At last there's a framing system that's going to help you beat today's "cost squeeze"–the increasing cost of labor, money, and the wildly fluctuating cost of lumber.

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So now that you know a little about our system, we'd like you to learn a lot more. The best way is to send for our complete brochure WC 455, which has all the physical and structural properties and load tables that'll interest you. Write now. And start designing your own revolution.

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News report continued from page 34

ing for Broadway Terrace Apartments in Oakland, Calif.

The winner in the low-rise construction category also walked off with both design and engineering honors; the project was Denver's Currigan Exhibition Hall and the architects were a joint venture known as Muchow, Ream & Larson. Ketchum-Konkel-Barrett-Nickel-Austin shared in the honors for engineering. Citations of excellence in design went to Sasaki Dawson, DeMay Associates (Hazel Hotchkiss Wightman Tennis Center, Watertown, Mass.) and John Lyon Reid and Dr. Alexander G. Tarics (the student center of new Greenwich, Conn. High School). Hellmuth, Obata & Kassabaum received a citation for excellence in engineering for the American Zinc Building in St. Louis (P/A, Mar. 71, p. 82).

Best Design in high-rise construction went to Wurster, Bernardi and Emmons; Skidmore, Owings & Merrill; and Pietro Belluschi, consulting architect for the 52-story Bank of America World Headquarters in San Francisco. Citations of excellence in design were given to Maurice B. Allen, Jr. of Tarapata-MacMahon-Paulsen Associates for a carillon tower for the General Motors Institute, Flint, Mich. and to William Kessler and Associates for the Bundy Corp. building in Warren, Mich. The citation for excellence in engineering went to Samuel V. Tavernit for the General Motors Carillon.

The program celebrating the awards was built on the theme "America: Two Hundred Years Later," and the four speakers looked at the past and the future. Soleri didn't read his prepared paper (he said it would take two weeks) but instead showed slides of work being done at his Cosanti Foundation. The work ranged from actual construction of facilities for the Foundation to models and plans of his responses to the problems of cities. It is his arcologies, as he calls them, that have captured widespread public fancy; he pointed out, however, they are symbols of ideas, not structures that he recommends. It's worth noting that most of Soleri's buildings are built of concrete, with structural bracing often consisting of telephone poles.

Philadelphia architect Richard Saul Wurman noted that cities are hard for their inhabitants to understand, and that architects and designers should work to make the city more comprehensible. Courses on the urban environment for grade schoolers, easy to read subway maps, clearly written ballots, helpful guidebooks—all were cited as steps in the right direction. Too often, he said, we are concerned only with looks, not performance of cities; with stylish graphics, not communication.

After a luncheon talk describing the myriad types of steel available to today's designers and a film of Expo 70 in Osaka, the seminar continued with a talk by industrial designer Jay Doblin. Doblin, president of Unimark International, in a talk punctuated by laughter, linked industrial design and Dr. Eric Berne's thoughts on transactional analysis (as in *Games People Play*). Some products, Doblin noted, are designed for the adult in each individual, some for the parent, some for the child; the resulting products are purchased respectively as tools, totems or toys.

The last speaker of the day was Alvin Toffler, author of *Future Shock*. More and more change and mobility lie ahead, he suggested, and more and more modularism. This does not mean greater standardization: "We can safely predict, there-

← On Reader Service Card, circle no. 324

ore, that when the construction industry catches up with manufacturing in technological sophistication, gas stations, airports and hotels, as well as supermarkets, will stop looking as if they had been poured from the same mold. Uniformity will give way to diversity."

The diversity of the day, however, gave way to a certain amount of sartorial uniformity that evening, as the awards were presented at a black-tie reception and dinner.

BIRD Group to study quality in building construction

Finished with its two-year study on joints in industrialized building, the Building Industrialization Research and Development Group (BIRD) at Washington University is turning its attention to the question of who is responsible for quality in building. The study is directed by Colin H. Davidson of the school of architecture and Lewis R. Mills of the law school.

The first phase of the study will examine existing quality standards, how they are set and who is responsible for them; it will also look at practices and procedures in foreign countries where technological changes are leading to the introduction of quality assessment procedures. The second stage will suggest ways to set up quality standards in the U.S. Funds for the study, which is called "Industrialization in Building: Quality Assessment and Responsibility," are coming from the National Science Foundation.

New York Chapter AIA bars political contributions

Spurred by a series of articles in the Long Island daily paper Newsday, the New York Chapter AIA started an investigation of its own last fall. The result is that the chapter has amended the AIA Standards of Ethical Practice as they apply to the chapter to prohibit architectural firms from making political contributions.

Besides barring contributions by firms, the chapter has asked members to limit personal and family contributions to party war chests to $500. These contributions are to be reported to the chapter once a year, and they will be published in the chapter newsletter; a list of those not reporting will also be published.

The articles that led to the ban on contributions by firms appeared last fall. A team of Newsday reporters spent nine months digging into contracts awarded by the Nassau (Long Island) County Department of Public Works, and found that of 134 firms and individuals and 20 subconsulting firms that received contracts since 1962, 128 had been contributors to the county Democratic party. According to the paper, county officials denied any systematic approach, but architects, engineers and others told of being pressured for contributions: some said that they were told contributions were the only way to be considered for contracts, others just said they knew how the system worked.

In his letter to members announcing the ban, NYC/AIA President Giorgio Cavaglieri termed the situation a "special opportunity to lead and perhaps break new ground as citizens." The chapter is trying to have similar amendments made to the national AIA Standards of Ethical Practice.

June, the convention month, starts with CSI

Kicking off the summer's convention series is the annual affair of the Construction Specifications Institute, slated for June 7–9 in Anaheim, Calif. The general theme is Construc-

[Continued on page 42]

News report continued from page 41

tion Industry Communications, and panel discussions will focus on "Communication, the Computer and the Specifier," "Tools for the Specifier," and "Auxiliary Programs—New Tools."

The keynote speaker, Robert J. Oster of the Bank of America, will deal with changes in the construction industry as a result of industrialization and automation. Specifying systems, such as COMSPEC and SPEC-DATA II, will be presented during the convention, and the audience will put them to work.

Foundation set up for interior design education

Architects aren't the only design professionals concerned about the education of future colleagues. The interior design profession has recently set up the Foundation for Interior Design Education Research; sponsors are the American Institute of Interior Designers, the Interior Design Educators Council and the National Society of Interior Designers.

The Foundation will establish and administer a voluntary plan for accrediting interior design programs at colleges and universities. It also plans to study current educational programs to see that they meet the needs of professionals, students and, according to the Foundation, society as a whole.

Monitoring the slump

Concern over recent economic problems has prompted the New York City Chapter AIA to begin a regular survey of activity levels in Gotham's architectural firms. Member firms are being asked to compare gross fees, number of technical employees and categories of work for the past three years and the first quarter of this year; a summary of the results will be published regularly in the chapter newsletter.

Awards programs

July 1 applications due. Senior Fulbright-Hays awards for lecturing and teaching during 1972–73 in over 75 countries. Limited to architects who are U.S. citizens, and have a master's or doctor's degree or college teaching experience. Contact: Senior Fulbright-Hays Program, 2101 Constitution Ave., N.W., Washington, D.C.20418.

Calendar

May 19–21. American Management Association, two seminars: Engineers and Architects Liability and Legal Responsibilities; Effective Marketing of Professional Services. AMA Headquarters, New York City.

May 26–27. Building Research Institute/National Academy of Sciences: Air-Supported Structures Forum, Hyatt House Hotel, Chicago.

June 7–9. Construction Specifications' Institute, 15th Annual Convention and Exhibit, Anaheim, Calif.

June 18–19. Association of Collegiate Schools of Architecture Annual Meeting, Detroit Hilton Hotel, Detroit.

June 20–24. American Institute of Architects, 103rd Convention, Detroit.

June 20–25. The 21st Annual International Design Conference, Aspen, Colo.

June 21–25. National Conference and Exposition sponsored by the AIA and the Producers' Council, Cobo Hall, Detroit.

June 22–30. CIB 5th Congress, Versailles, France.

June 23–25. National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago.

June 28–30. Eighth Annual Design Automation Workshop, sponsored by SHARE/ACM/IEEE, The Shelburne Hotel, Atlantic City, N.J.

July 5–24. Athens Ekistics Month, Athens Technological Organization, Athens, Greece.

Aug. 23–24, Aug. 26–28. Two courses on industrialization in the construction industry. Washington University, St. Louis.

Personalities

M. Paul Friedberg has been appointed by Mayor John V. Lindsay to the Art Commission of the City of New York. Friedberg will head the new Department of Landscape Architecture in the School of Architecture at the City College of New York when it opens in the fall, 1971.

Harold Box of Pratt, Box, Henderson & Partners, Dallas, has been appointed professor of architecture and chairman of the architecture department at the University of Texas at Arlington, effective June 1.

Sidney W. Little, who has served as dean of the College of Fine Arts and dean of the College of Architecture of the University of Arizona will retire as administrator June 30. He will remain as professor of architecture.

The Royal Gold Medal for Architecture has been presented to **Hubert De Cronin Hastings**, chairman of the Architectural Press. The Medal, instituted in 1848 by Queen Victoria, is conferred annually by the sovereign on "some distinquished architect, or group of architects, for work of high merit or on some other distinguished person or group whose work has promoted directly or indirectly the advancement of architecture."

Albert G.H. Dietz, professor of Building Engineering, Department of Architecture, MIT, will receive the annual international award in Plastics Science and Engineering.

Washington report

Revenue sharing: reasonable bet

Given the realities of the current and foreseeable economic and political situation, it's a reasonable bet that Congress will approve some version of the President's revenue-sharing proposals this session.

That version could vary considerably, all the way from having the Federal government assume all of the annual $8 billion cost of relief and welfare payments (thus freeing state and local money for other purposes) to the President's own scheme of turning over some $16 billion of federal revenues to states and cities. However it finally comes out, the result will be a major change in the manner—and with whom—the construction industry does business. City and state officials would suddenly become more important as sources of business and direction; health, safety, other regulations would apply fairly uniformly; projects could move faster from conception to design to construction stages; local interests and desires would have a stronger effect on the final designs.

Very briefly, what has been proposed is this:

1 A total of about $5 billion would be turned over to the states and municipalities on a "no strings" basis. This "new money" could be spent by local jurisdictions as they see fit.

2 A total of about $11 billion (in the first years of the pro-

[Continued on page 44]

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News report continued from page 42

gram), would be sent down both to states and municipa with a few strings: the funds (which would encompass n programs now in existence) would be for use within a sp area (housing, urban renewal, or transportation for inst but actual spending within these broad categories woul be largely at the discretion of local authorities.

It is this second category that has drawn most of the c rent fire in Congress. For example, 23 existing transport programs would be consolidated into an eventual $2.56 lion program, including all money now in the Highway T Fund (other than for the Interstate work)—to be distribut a complex formula, with about 35 percent of the total to rectly to local communities. Opponents argue that the " strings" approach here—simply requiring that the mone used for "transportation"—would permit using money fr highway-user taxes for mass-transit, subway-station par lots and other purposes.

Other broad categories would include Community De opment—a $2.1 billion consolidation of programs like HU urban renewal, model cities, water and sewer programs others—with $1.6 billion going directly to central cities o 50,000 population, the rest to states for distribution to sm municipal units; and Rural Community development, a $ billion consolidation of 11 programs such as provision o water and sewerage services, the Appalachian regional gram, various educational programs (for public service ployees) and the like.

One key matter of interest to local governments (in ad to the fact that they would have closer control of work in own jurisdictions) is that the requirement for local "matc ing" funds would be dropped in most cases. One notabl ception: the Interstate highway program; the current 90 cent federal-10 percent state contribution would remain

Major restraints on local governments would be perio reports on how money was being used, and compliance health, safety, employment and other federal legislation

Not much noted in the general press discussions of th plan is its close tie with the President's most recent reor nization schemes, which would consolidate activities of Cabinet departments except State, Defense and Justice way that would fit very well with the revenue-sharing cor by bringing activities together by function.

And there's still further Presidential planning: Almost only practicable way in which costs of the federal estab- lishment can be brought down is to reduce its size. That not possible under existing organization: The more than separate grant, loan and other "help" programs—on top normal departmental duties—just won't allow it. But if th huge supervisory staff is no longer needed, and if progr are consolidated by function to eliminate overlapping (a huge organizations devoted to coordination), then the o payroll and cost can be reduced.

The reasons for opposition to the plan are obvious: Th clude the real fear of loss of jobs and prestige, plus relu tance to let Nixon get credit for such a move, plus the ne for a lot of thought as to mechanics. But the needs of the and municipalities are also desperately real—and they're being helped by one of the most intensive campaigns ev mounted by the White House. [E.E. Halmos]

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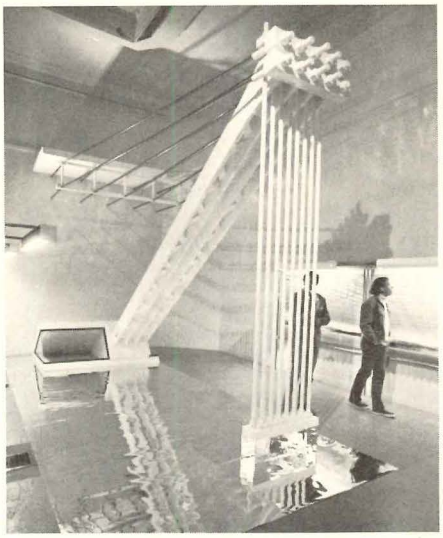
Architecture west



Detail of cable structure

The word love came up at a dinner honoring Konrad Wachsmann on the opening night of his retrospective show last month at USC. The dinner was at the venerable Jonathan Club, where women go by separate elevator to the dining room. The word came from Bucky Fuller: what he, Wachsmann, Gropius and a few others had in common was love.

The small band of men whose obedience has been to the industrial process has something else in common: they are great teachers. Of his students, Wachsmann says that none is handpicked and that he insists on a cross section; he isn't trying to breed talent but assist them "in reaching a position that science and technology has prepared for them."

Soon after he came to USC to found the Building Institute, I attended a discussion session where the subject was systems in relation to supports. As three teams compared versions of the same industrial process, Wachsmann as leader asked questions only. Nevertheless his faith in the industrialized system was a presence in the room.

The exhibition is a documentation of faith. Sponsored jointly by the Graham Foundation and USC School of Architecture and Fine Arts, many of the projects shown come out of student seminars dating back to the 1940s. Whether the project was from a summer seminar in Salzburg, Karlsruhe or full-time students at USC, it bears the Wachsmann stamp—inevitable with the same technique of research for all.

In the show is the 1939 General Panel System developed with Gropius. Panels and connectors for a two-bedroom house were designed to be set up without carpenters, and the production plant was designed to produce the elements with unskilled labor. The system is still valid, housing still needed, and the labor unions the system bypassed still here.

A production plant was also planned for a 1953 project with Chicago Institute of Design students. The elements were sandwich panels of honeycomb paper and stressed plastic skin and aluminum connector tubes which worked vertically and horizontally.

There were his space frames, the 1951 hangar designed for the Air Force, and others; his harbor development for Genoa which included designs of factory fabricated increments for a high-rise building. His details, as well known as the total projects, are recognizable as a Wachsmann structural element and stand alone as graphic poetry.

From 1966 to the present, Wachsmann has developed a high tension cable structure comissioned for the California City Civic Center. The 200-ft-long fiberglass roof is suspended above a columnless space; walls can be inserted in an unlimited number of combinations.

Fuller and Wachsmann

Many of the students at the opening were gathered around a computer-guided machine which takes a cube or any three-dimensional object and performs motion studies in time and space. The location orientation manipulator, as it's called, was built by graduate students John Bollinger and Xavier Mendoza under Wachsmann's direction. He plans to develop it for stress deformation studies, acoustic and light studies.

"Objects in relation to others, bouncing reflections—the possibilities are endless," Wachsmann said. "They won't be finished in my lifetime" (a reminder that the occasion for the show was his 70th birthday).

But what pleased him most in the show were the blowups of his photographs of historic buildings—Romanesque, Gothic, Baroque. His camera eye is as good as his scholarship. [Esther McCoy]

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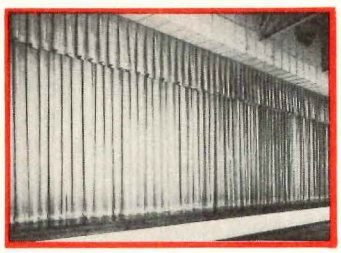

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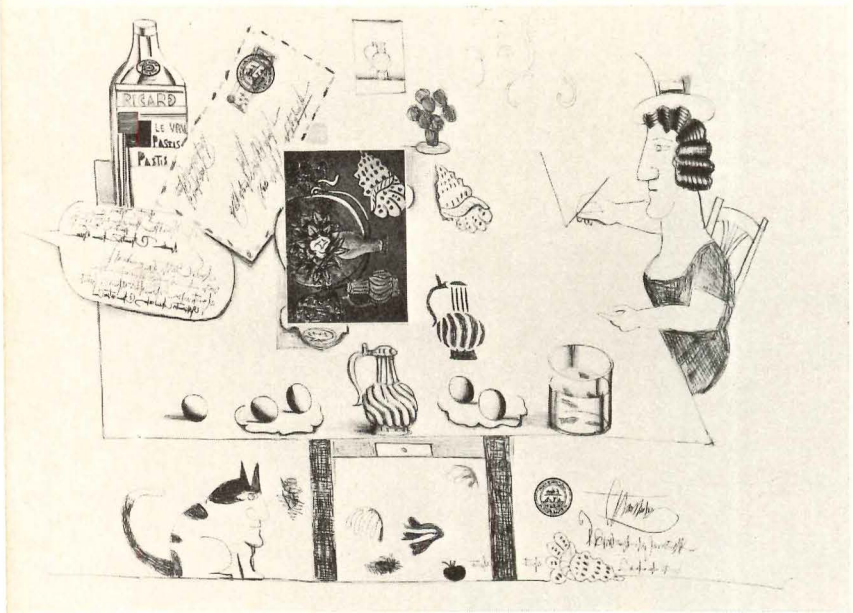
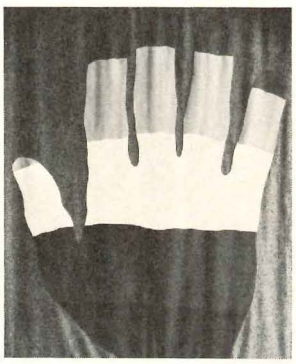


Signed originals



Banners

Add-on chairs

Original editions. Numbered and signed original art works by recognized contemporary artists are available in a series of limited editions. Among the portfolios: four pochoirs by Helen Frankenthaler, size 22″ x 30″ (edition of 50); six collage-lithographs in three colors by Saul Steinberg, 22″ x 30″ (edition of 100); a sculptural fishing object cast in tinted acrylic by Marisol (edition of 45); an 82″ square made up of four porcelain enamel panels by Richard Anuszkiewicz (edition of 40). Other works also available. Abrams Original Editions.
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Art banners. Wall hangings created in felt and vinyl by contemporary artists come in signed, limited editions of 20 or 30. Artists represented include Anuszkiewicz, Arman, Chermayeff, Frankenthaler, Lichtenstein, Rivers, Warhol and many more. Banners, in sizes from 60″ x 60″ to 144″ x 192″, are considered art works that should appreciate in value. New portfolio of silkscreens. Multiples Inc.
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[Continued on page 52]

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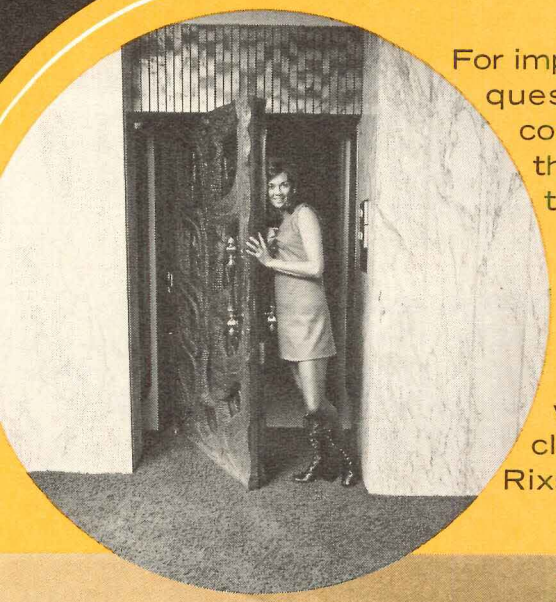

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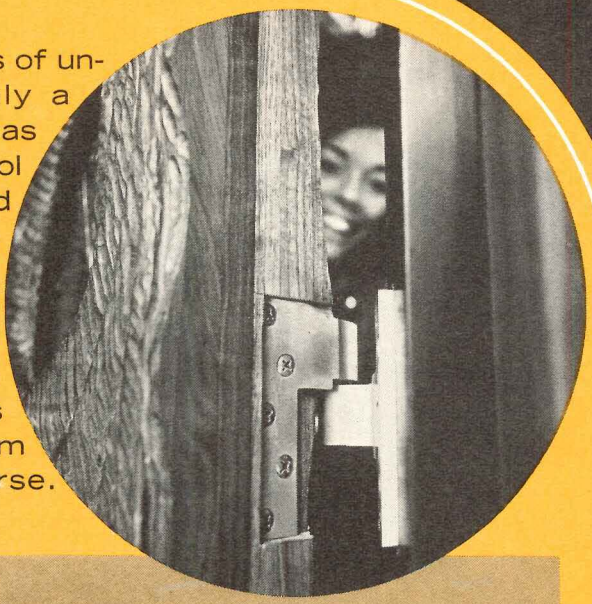

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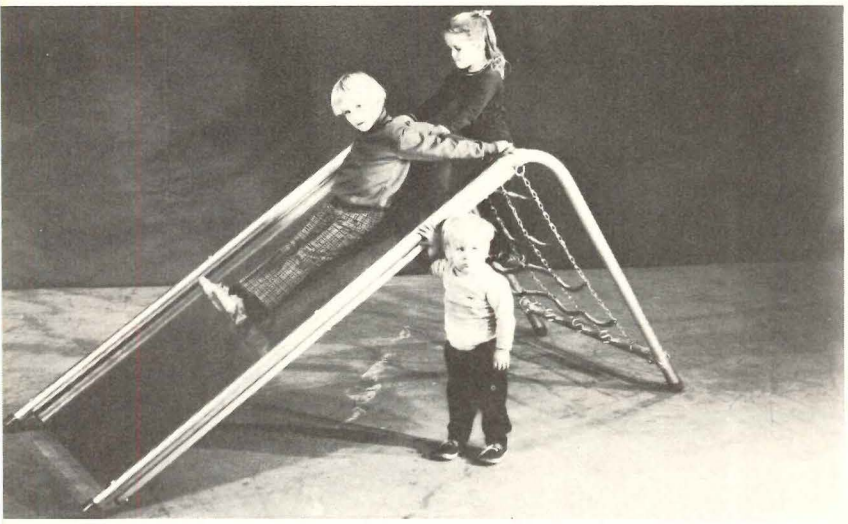
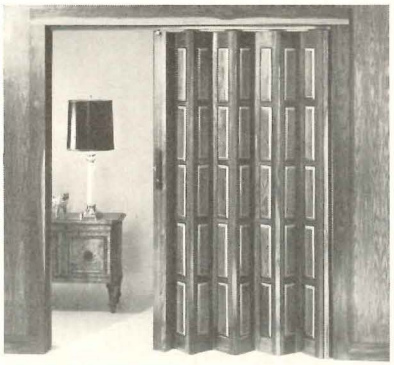
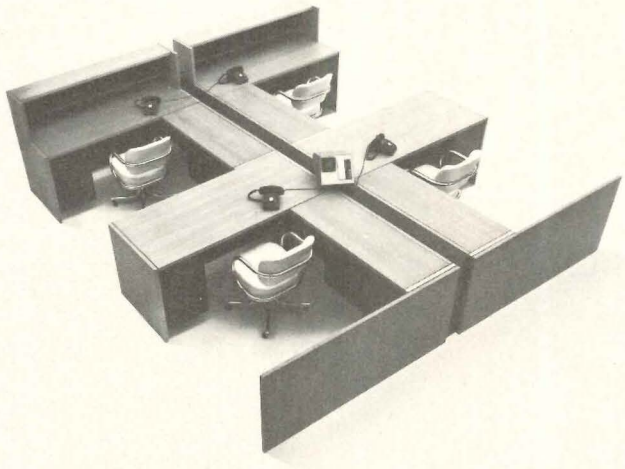


Small slide

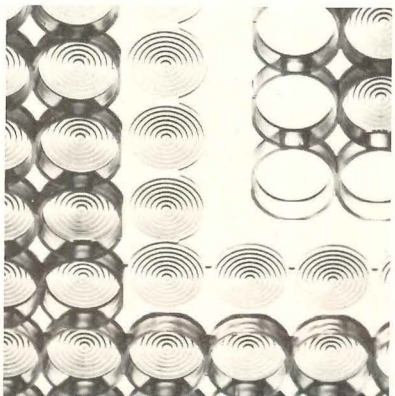


Folding doors



Wired desks

Prism lens



Slide with net ladder. For outdoor or indoor play by preschool age children, this slide has an extra wide slide bed—3′ across—and a linked chain ladder with colorful rubber encased rungs. Its 3½′ height is a safety factor. Available in permanent or portable models. Salsich Recreation, Inc.
Circle 109 on reader service card

Looks like stained glass. Break-resistant panels made of polystyrene look like multicolored stained glass, are suitable for use as room dividers and in window treatments. Standard panel sizes are 24″ x 48″ and 24″ x 72″. Diffusa-Lite Co.
Circle 110 on reader service card

Door release. This fail-safe door release combines the door holding and closing function in a single unit. Surface-mounted, it permits doors to remain open until the Smok-Check is actuated. Available with 85°, 90° and 100° hold open with maximum opening of 150°. Firemark of Rixson Inc.
Circle 111 on reader service card

Whirlpool tub. Luxury-sized bathtub — 66″ x 33″ x 19 3/16″ deep — has a ⅓ hp motor. Sculptured side contours, hand bars and slip retardant bottom. Briggs Manufacturing Co.
Circle 112 on reader service card

Wood folding doors. Raised solid wood panels accent these wood folding doors, available in mahogany, oak, pine or walnut with clear lacquer finish. In heights to 12′-1″ — any width. Radial track, curves and switches allow variations in positioning and stacking. Rolscreen Co.
Circle 113 on reader service card

Mercury lighting. Recommended for use in commercial and institutional interiors, these light bulbs in 175- and 400-watt sizes are said to give light of a warmer color quality than has been available in the past from mercury light sources. The light is described as especially complimentary to complexions, woods, foods, fabrics. General Electric Co.
Circle 114 on reader service card

Raceway system. Wire-concealing elements deliver electric power and electronic and telephone hook-ups to each desk in a series, with only one input point for each service. It is possible to relocate desks and still have constant access to all wires and services with minimum structural interference. Selection of pedestal configurations, sizes and finishes. Adjustable Bentube chair available. JG Furniture Co.
Circle 115 on reader service card

No light pallor. A color-corrected lens unit is said to eliminate "office pallor" and offer a textured, glareless lighted surface. Known as "Prisma-Lok," the unit has a prismatic lens control plus a bronze tint designed to produce better flesh tones and warmer interiors. A continuous pattern of tangent 1″ prism cells provides two-way light control: the prisms control light by refraction, the cylindrical louver blades shield the circular prisms and reduce glare. Can be used with either standard cool white or warm white lamps and is suitable for monolithic ceilings, fixtures or grid ceiling. United Lighting and Ceiling Corp.
Circle 116 on reader service card
[Continued on page 63]

Products continued from page 52

Variety. The basic components of this group of modular furniture are sliding door, drawer and glass front cabinets, magazine and book shelves, desk tops and wall or island units, to be grouped to answer varied office landscape needs. Screens come in either curved or straight lines, have tubular steel frame, hand-rubbed walnut shelves and cabinets. The Peterson Group by Vogel-Peterson Co.
Circle 117 on reader service card

Tempered glass doors. Of ½" tempered glass, with controlled metal-to-glass bonding and with sidelights of the same glass, these doors come assembled and complete with push/pull hardware. This company manufactures rolling locks and panic devices, with key cylinders all positioned within standing reach. Blumcraft of Pittsburgh.
Circle 118 on reader service card

Literature

Look likes. What looks like a wood shingle roof is made of Timberline asphalt roof shingles, shown in varied applications in a color booklet. Also available is a color brochure featuring Stratalite thatch siding which also looks like wood but is a pressure rolled mineral product said to be totally maintenance free. GAF Corp.
Circle 119 on reader service card

Reroofing aid. Ways and means to eliminate roof leaks, cracked felts, tar drippage and water stains are described in this brochure. Included are reroofing procedures as well as those for replacing faulty gravel stops without reroofing. W.P. Hickman Co.
Circle 120 on reader service card

Ceilings. A 67-page color booklet presents ceiling products including a luminaire series, tile, ceramic, fire-resistant and mineral fiber ceilings and lighting fixtures. Flame-spread class ratings given. Armstrong Cork Co.
Circle 121 on reader service card

Masonry construction. Two new publications — "Recommended Practices for Cold Weather Masonry Construction" and "Guide Specifications for Cold Weather Masonry Construction" are offered. International Masonry Industry, All-Weather Council.
Circle 122 on reader service card

Washroom equipment. A 44-page catalog shows more than 500 stainless steel washroom accessories for commercial use and for hospitals, nursing homes and other medical facilities. Bobrick Washroom Equipment Co.
Circle 123 on reader service card

Laminated glass. "Environmental Control Through Glass" is the title of a 12-page catalog that suggests solutions: quiet glass for noise control, safety glass for riot and fire bomb protection, glass to protect against ultraviolet fading and glass to cut air-conditioning costs. Amerada Glass Co.
Circle 124 on reader service card

Security. Applications, operation and design features of a reader/recorder "Card-Key" on-line access control system, designed for security control in areas with multiple access points, are described in a four-page brochure. The system operates by means of high speed data collection and transmission to a central control unit; magnetically coded cards are used to gain access. Card Key Systems.
Circle 125 on reader service card

Aluminum Sheet Metal Work in Building Construction. This 32-page booklet offers guidance on alloy and gauge selection, design and installation details in the use of aluminum sheet in building construction. Focus is on aluminum sheet metal work for roofing and flashing; specifications are given on alloys most commonly used. Aluminum Association.
Circle 126 on reader service card

Horizontal doors. Specifications and data on metals, gauges, and weights for spring-operated floor, pit and sidewalk doors, roof scuttles, ceiling access doors and labeled automatic heat and smoke vents are given in this 16-page catalog. Bilco Co.
Circle 127 on reader service card

Air distribution. A 356-page bound catalog describes this line of air diffusion products which includes air grilles, registers and diffusers; air diffusing ceiling suspension systems; outside louvers and penthouses; air terminal mixing boxes. Titus Manufacturing Corp.
Circle 128 on reader service card

Window problems. Solutions to such common window problems as water infiltration, noise and cold are defined in this brochure, with applications in schools, hotels, hospitals, offices and public buildings illustrated. DeVac, Inc.
Circle 129 on reader service card

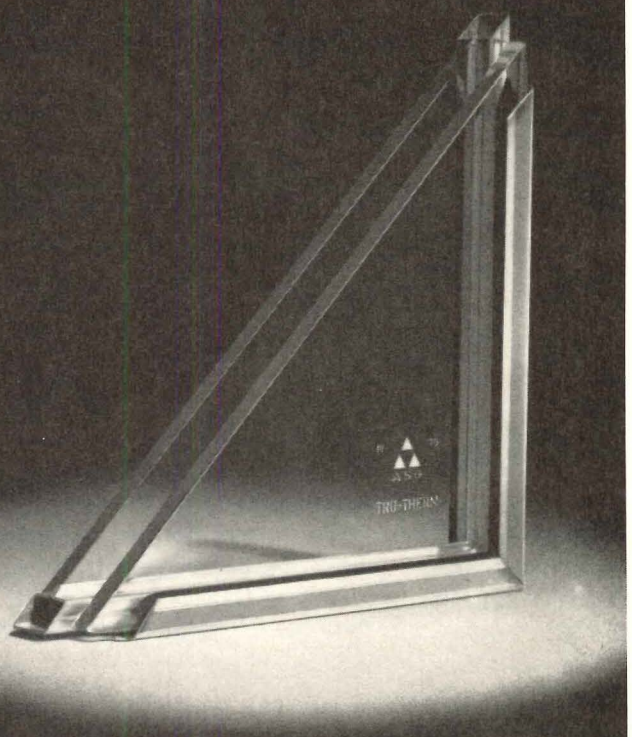
Noise-control louvers. An eight-page bulletin describes louvers that permit air flow and control noise. Of heavy gauge galvanized steel, also available in stainless steel, aluminum or other materials, louvers come in two models and 66 modular sizes. Industrial Acoustics Co., Inc.
Circle 131 on reader service card

Light. Color catalog features lighting fixtures for homes, apartments, motels. Chandeliers, bathroom fixtures and outdoor lighting included. Lightcraft of California.
Circle 132 on reader service card

Incinerator. Brochure describes this incinerator as offering an economical, pollution-free means of solid waste disposal. Waste material is "cooked" in the main combustion chamber, driving off gases; by-product left in the combustion chamber is inorganic ash. Kelley-Hoskinson, Kelley Co., Inc.
Circle 133 on reader service card

Consulting service. A service for nonroutine analysis and design problems in concrete will use computer programs wherever possible — a benefit to small- and medium-sized offices that lack facilities to produce or verify specific design solutions for unusual problems. More information from Cement and Concrete Research Institute.
Circle 134 on reader service card

In insulating glass, too... the difference is made by ASG. We call it Tru-Therm®



Tru-Therm sells better because it performs better. And it performs better because no other thermal glass in the country gives you all five of these advantages:

1. A choice of glasses.
Choose from Starlux® twin-ground, polished plate in combinations of clear, bronze and gray, or fire-polished Lustraglass® sheet. They give superb transparency and clarity, free of distortion.

2. A sealant that stays flexible permanently.
Tru-Therm is sealed with polyisobutylene, the sealant with the lowest moisture barrier transmission rate in the industry. It stands up to year after year of ultra-violet radiation, stays permanently flexible wherever it's installed.

3. The best lock-seam spacer.
To make Tru-Therm work even better, ASG delivers the best lock-seam spacer made to provide added strength and eliminate squeaks under high wind load. Its special shape locks the sealant permanently in place and keeps the interglazial area pure and dry. Joints are silver-soldered for maximum strength.

4. A superior desiccant.
ASG removes all moisture between the lites with a superior desiccant, and provides vapor-free performance for the life of the unit. It works together with the polyisobutylene sealant and lock-seam spacer to insure a care-free window with no costly call-backs.

5. A stainless steel edge protector.
ASG gives you an extra edge with this stainless steel band around each Tru-Therm unit. It protects the unit during installation and exerts a continuous pressure to assure a permanent seal regardless of temperature or atmospheric conditions. ASG places an extra barrier of sealant around all edges for further protection.

And we warrant every Tru-Therm unit for 20 years. You can't do better. Send for complete specs.

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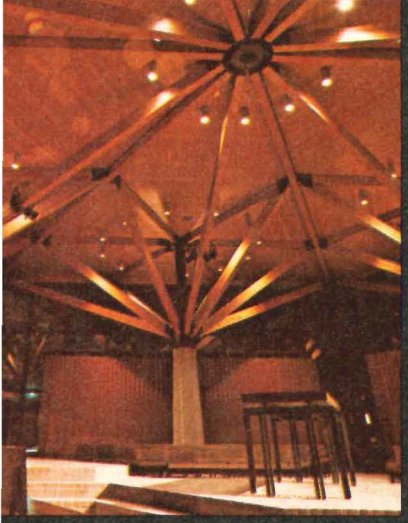

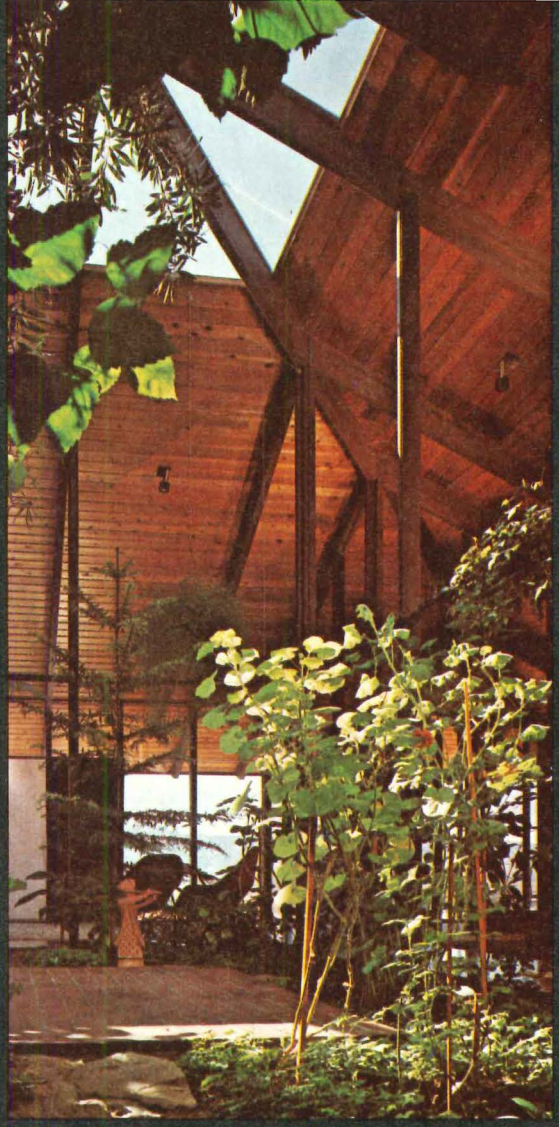

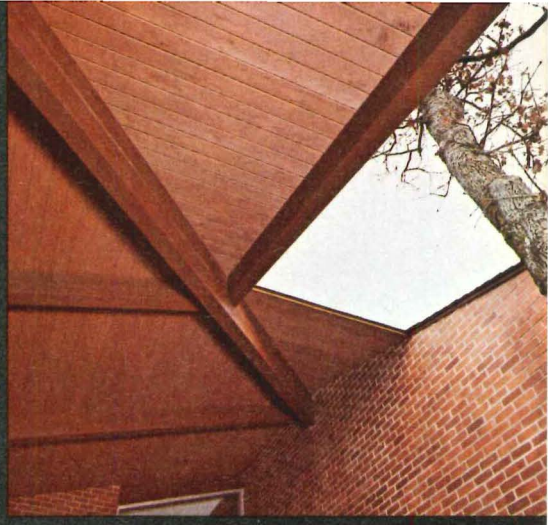

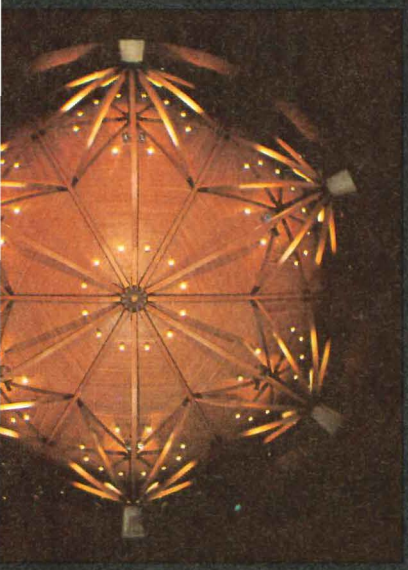

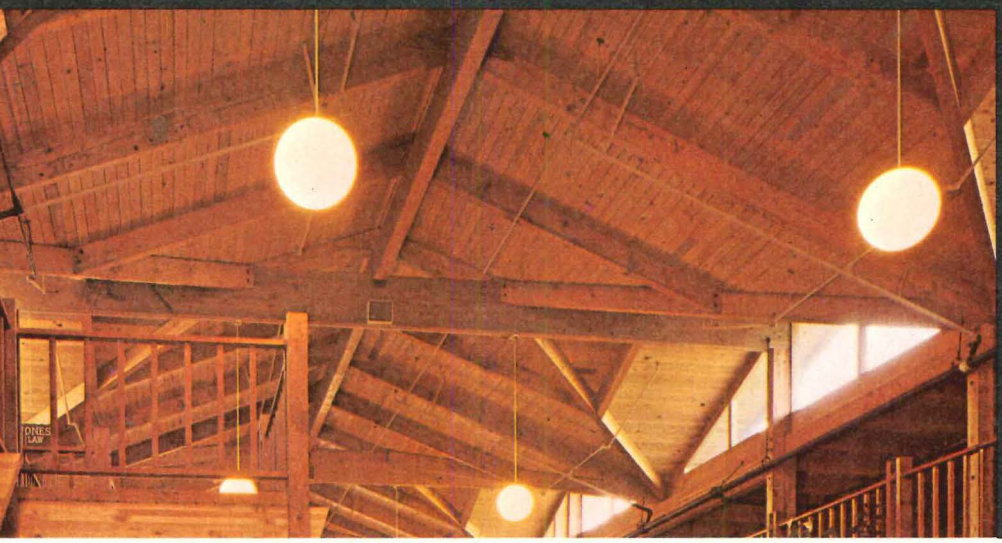

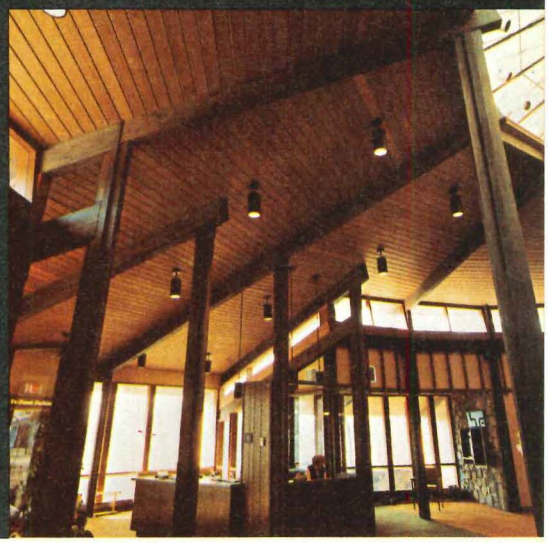

The Weyerhaeuser Laminated Decking story in full color.

The facts in black & white.

You have a choice of Weyerhaeuser Laminated Decking in ponderosa pine, hemlock and cedar. Unfinished. Or prestained in any of 37 Olympic semi-transparent stains to save your client time and money.

We offer four patterns, five thicknesses; premium, architectural and standard appearance grades.

There's the smooth machine-sanded finish. Or the faces can be wire-brushed or cross-sanded if you want texture.

Not only does laminated decking give you all the warmth and friendliness of wood, it does several jobs in one application—insulation, roof underlayment and ceiling.

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With Eagle Turquoise, there's only one question. Which grade of pencils and leads t choose. Once you pick 2B or 2H or any one of the 17 grades, you can be sure of exactly what you'll get.

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But none of the problems of wood.

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GAF Corporation
Building Products Division, Dept. P-5
140 West 51 Street
New York, N.Y. 10020

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☐ Please send further details, including specifications and application data.

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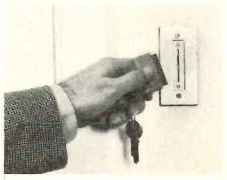
IDENTI-LOCK access control is a breakthrough in electronic security. It is used to protect sensitive areas like computer centers . . . whole buildings, offices . . . even safes and desks.



When an IDENTI-KEY® controller is inserted into a special electronic keyway either the lock controlled by that keyway opens immediately or an alarm output may be triggered. An electronic logic device has identified and either accepted or rejected the IDENTI-KEY controller that was inserted into the keyway. There is no way the IDENTI-LOCK logic control board can be fooled — and it has no friends.

A central unit, the IDENTI-PRINT® printer, records the date, time, IDENTI-KEY controller ID number and door number of each entry. If an alarm is triggered the date, time and location is also recorded. You have a permanent record of every entry — and of every attempted entry that triggered an alarm.

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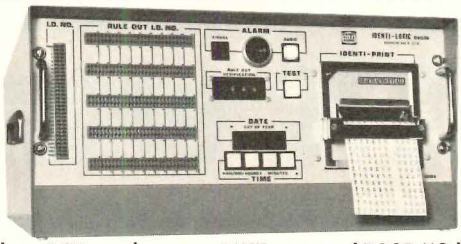
The patented IDENTI-KEY controller is available in over 1 million code combinations and in a version that cannot be duplicated without destroying the controller itself. The central unit can be programmed to accept or refuse any IDENTI-KEY controller — and the program can be changed from hour to hour, shift to shift, day to day.

You can have the security of IDENTI-LOCK access control at a surprisingly low cost. A Model 1001 Single Door Entry Control costs under $200 and can be installed in a morning. A complete access control system for your plant or building, including an IDENTI-PRINT printer, is available at reasonable cost and can be installed in a few days.

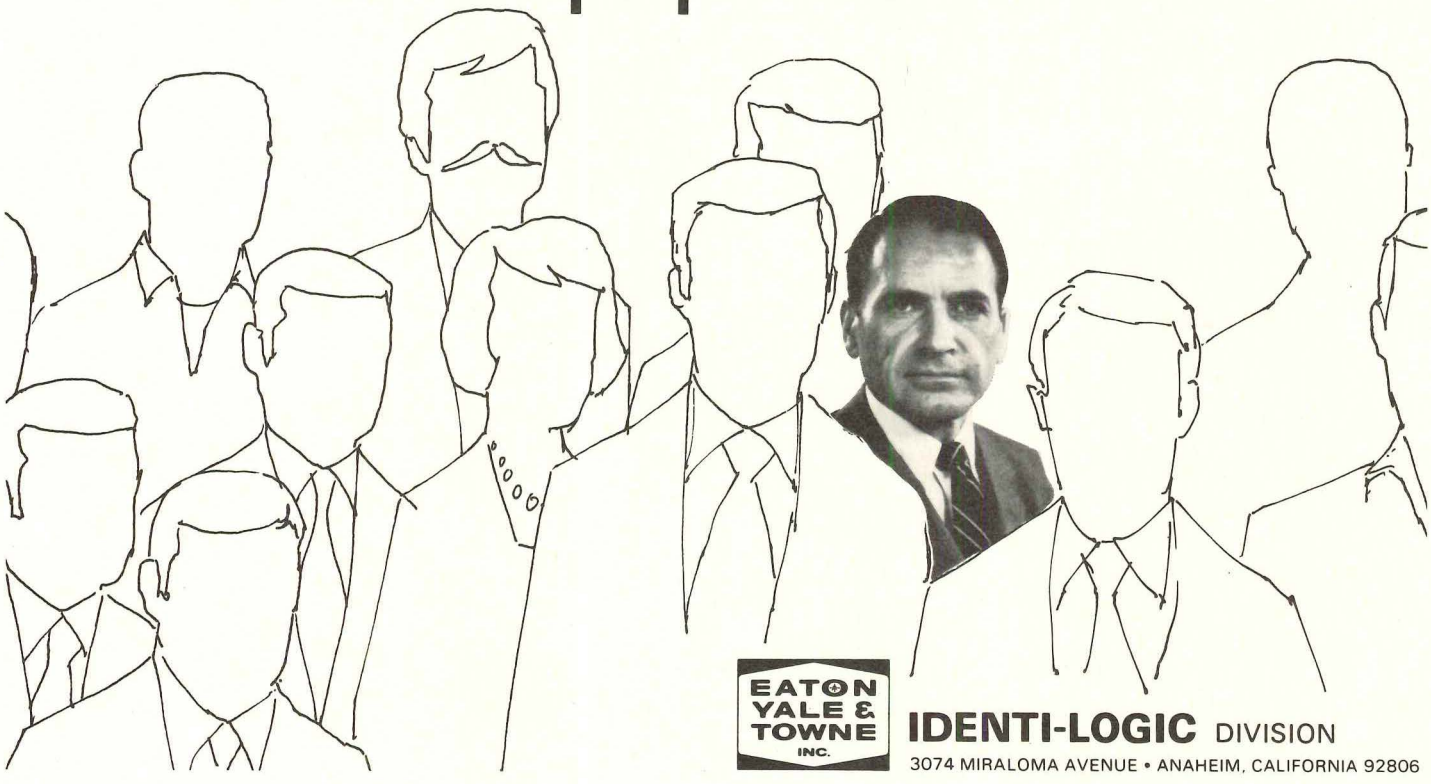
For more information on IDENTI-LOCK access control write or call John F. Regan, Manager of Marketing, Identi-Logic Division, Eaton, Yale & Towne, Box E, 3074 Miraloma Avenue, Anaheim, CA 92806. The telephone number is (714) 630-1350.



DAY			TIME			DOOR NO.			KEY NO.		
2	1	4	AM	11	:0	1	6	5	1	3	7
2	1	4	AM	11	:0	8	4	3	0	2	6
2	**1**	**4**	**AM**	**11**	**:0**	**9**	**6**	**5**	**0**	**7**	**4**

ON THE 214th DAY (August 2nd) AT 11:09 A.M., DOOR NO. 65 WAS OPENED WITH IDENTI-KEY CONTROLLER NO. 074 (issued to J. Doe). NO ALARM WAS TRIGGERED SINCE LOCK NO. 65 HAD BEEN PROGRAMMED TO ALLOW J. DOE ACCESS AT THAT TIME ON THAT DAY.

IDENTI-LOCK® access control keeps out some of the people all of the time and all of the people some of the time– or all of the people all of the time.



EATON YALE & TOWNE INC.

IDENTI-LOGIC DIVISION

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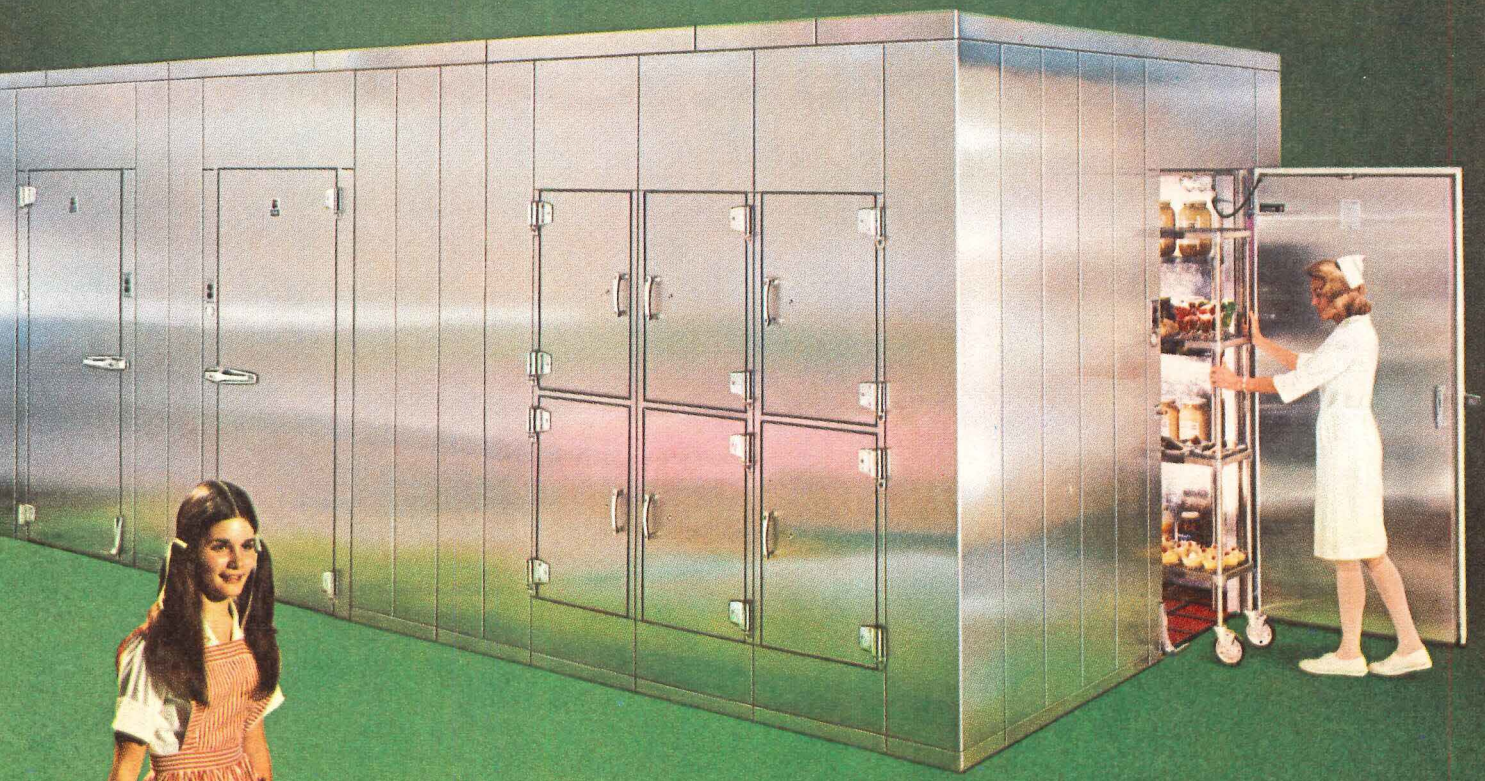

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1

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Editorial

Progressive Architecture

May 1971

This issue of P/A is devoted to houses and housing. The individual architect is expected to solve the problem of the house, and technology the problem of housing, but neither has proved capable of solving our urban housing problems. Although this month's pages are full of finely designed individual houses and excellent multiple dwelling units, the major problem of our time, urban housing, is barely mentioned.

Architecturally designed houses were never intended to solve other than individual housing problems. What we should realize is that urban housing problems will not be solved by the invention of new technologies. The game that every young architecture student plays in designing "modular" industrialized housing is just that—a game. It involves his ability to manipulate a few known, or imagined, design and production factors to test his knowledge and that of his professors. This seems to be a contemporary architectural exercise equivalent to the design of a gazebo during the Beaux Arts period of architectural education.

Housing technology is peripheral to the problem of urban housing because the people most in need of housing cannot afford the product that results. The marketing surveys of the private sector have little to do with the essential housing market. Those who need housing the most, the disadvantaged, are rarely surveyed, even for public housing, as we show elsewhere in this issue of P/A.

Recent articles in *The New York Times* and other publications point up what we all know: renewal, model cities and community organizations have made little change despite the best of intentions. Housing fails because of landlord abandonment, tenant neglect, lack of bank financing, block busting, high interest rates, disinterest of the private sector, useless demolition of sound buildings and countless other factors that have nothing to do with either the art or with the technology of building. Housing fails for want of better ideas about the entire housing process, not for want of the housing product alone.

The answer to too many automobiles is not bigger highways; it is too many automobiles. The answer to too little housing is not the construction of more housing that only the upper middle class can afford, but a new way to evaluate housing ownership, responsibility and land use. It is ironic that many of the most important and workable ideas do not come from those involved in the design and manufacture of the housing product.

Paul Hellyer, a member of the Canadian Parliament and head of the task force investigating Canada's urban ills until he resigned in 1969, exemplifies the kind of thinker needed. Public agencies, he notes, are not reluctant to pass regulations for highway safety. Automobiles must be inspected and when a car reaches the point where it cannot meet these standards, it is taken off the streets and highways.

The public, Hellyer claims, has the same interest in building. When a permit is issued, the proposed building must meet set standards for safety and protection of life. There is no reason the public authorities cannot also say that the plumbing, wiring and structure must be maintained to meet these standards. It would be a legitimate exercise of legislation to set standards that would keep buildings out of the slum class so that they would never deteriorate beyond a certain point.

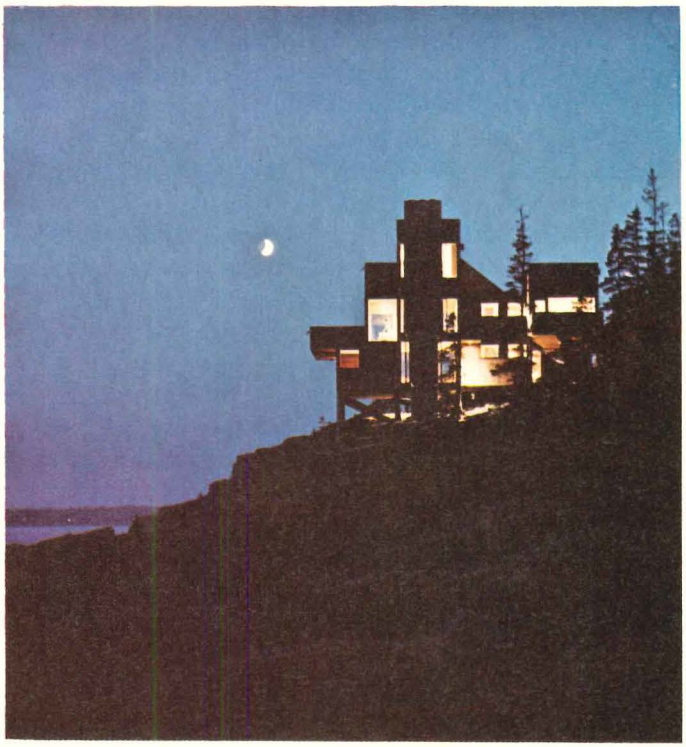
Why are taxpayers, Hellyer asks, required to buy up old houses or theaters or warehouses simply because they are rotten and decrepit? This is the owner's, not the public's responsibility.

This is, as Hellyer is quick to admit, just one aspect of the overall problem. We need more such thinking and phrasing of questions which examine the urban housing problem in terms of affecting the process in its entirety. This type of thinking seems beyond the ken of the bureaucrat who thinks in terms of limited objectives, the private builder who thinks in terms of the housing product, or the architect involved in designing individual houses or seduced by technological panaceas.

Forrest Wilson

Habidu at Seal Harbor

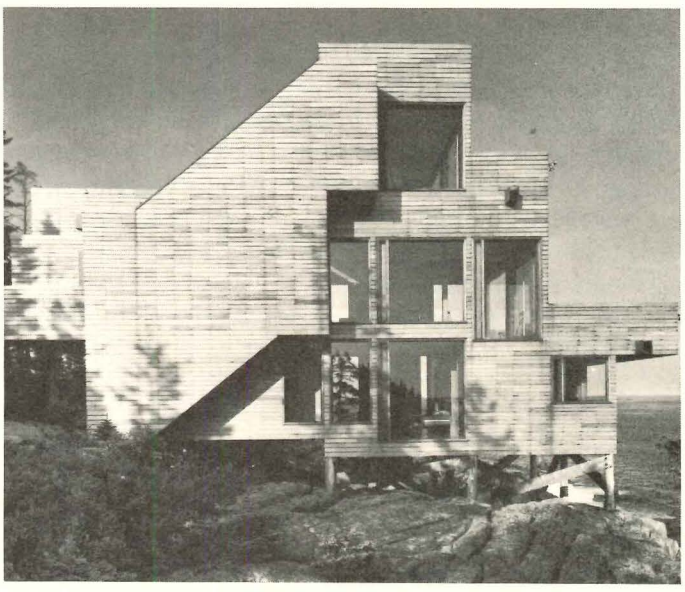
The subject of a P/A Design Award is completed as designed allowing dramatic views from a rugged coastal site, while combining secluded and open spaces for an active family

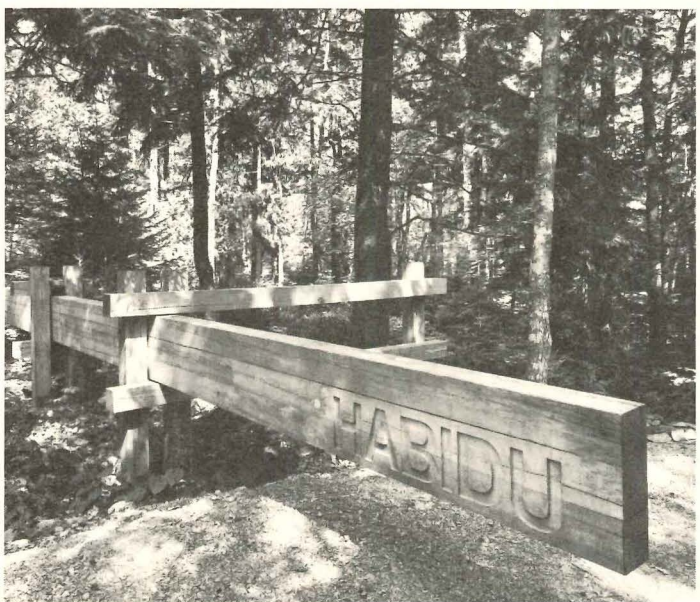


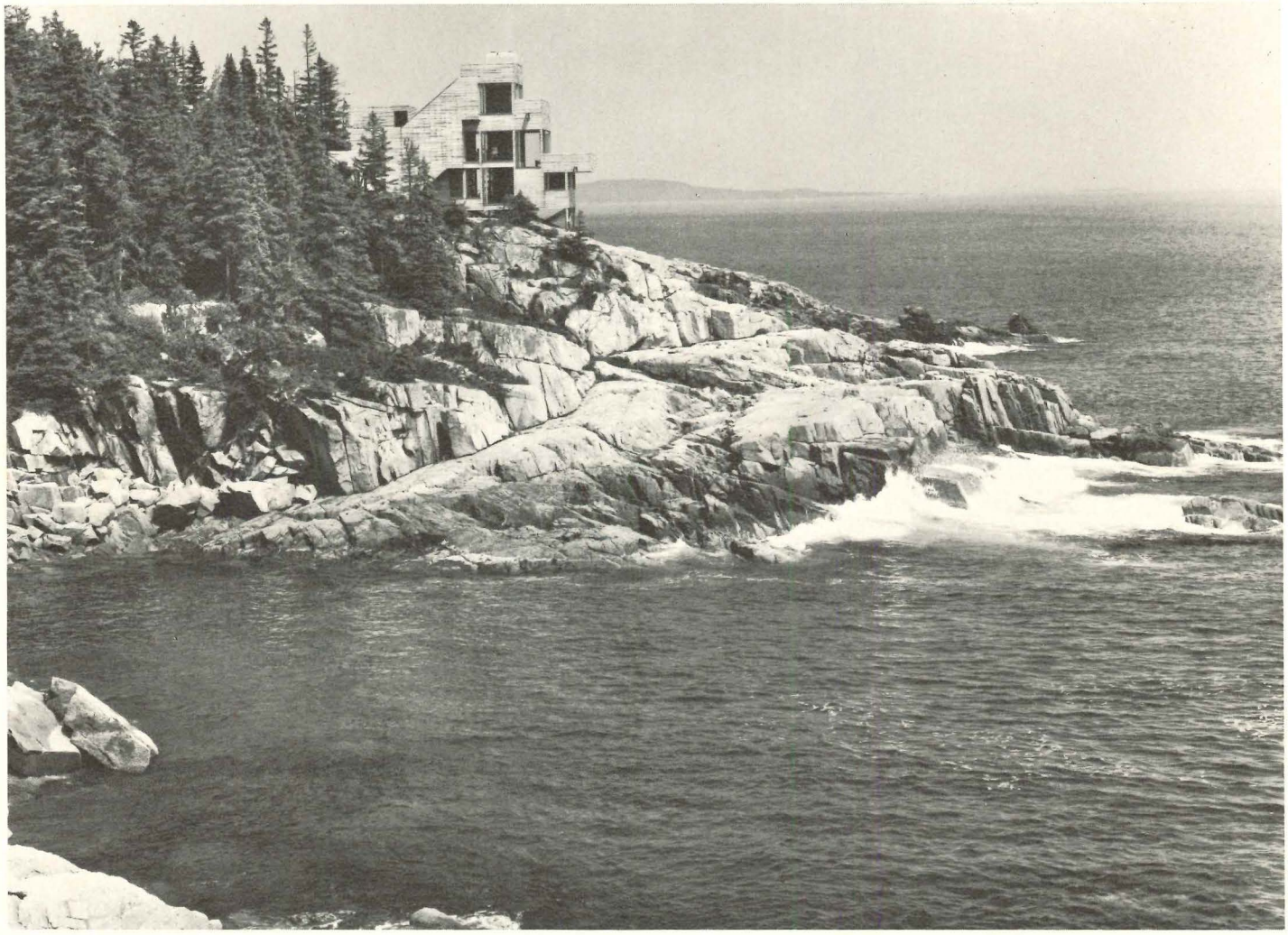
The completion of a project exactly as designed is a rare and beautiful thing. Architect John Fowler has achieved that with a year-round weekend and vacation house, a 1969 P/A Design Award winner. Built for a physicist-mathematician and his family, the house emerges from a narrow, heavily wooded site to top a rock ledge overlooking the Atlantic Ocean some 40 ft below.

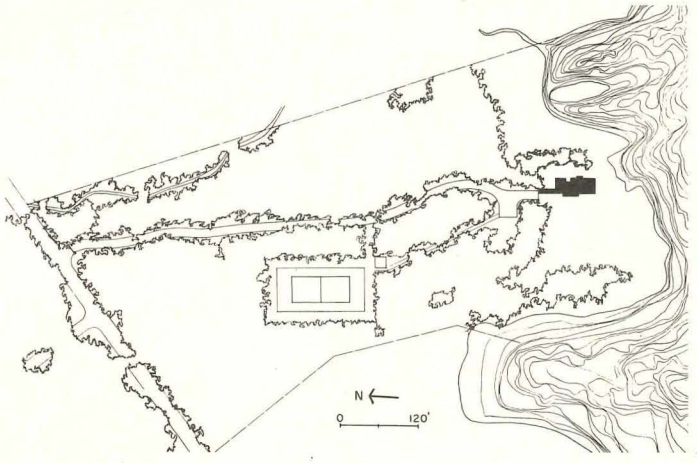
Main living areas, master bedroom and bath are on the entry, or middle, level. The living-dining areas form one space, with kitchen functions lining one wall. On the lower level, the children's bedrooms adjoin a recreation room and have access through it to covered play space on grade level under the master bedroom. The upper floor is devoted to a study/guest room requiring separation from both living and children's areas. Fireplaces in the living area provide the heating through built-in hot air convectors.

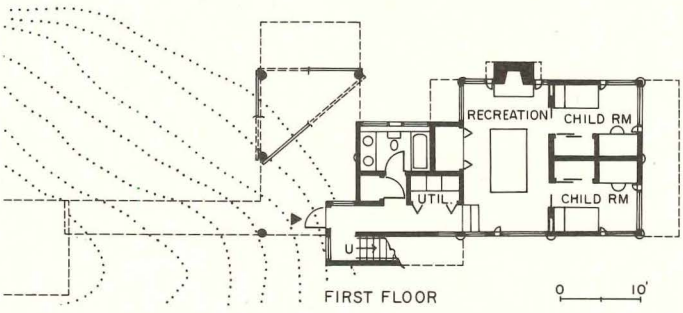
Anchored by the granite buttress of the fireplaces, the house is supported off the ledge by cedar posts, cross-braced. The remainder of the house is timber framed, with red cedar clapboards inside and out. Three main rooms have access to terraces affording spectacular views of the ocean and the Cranberry Islands. [JM]

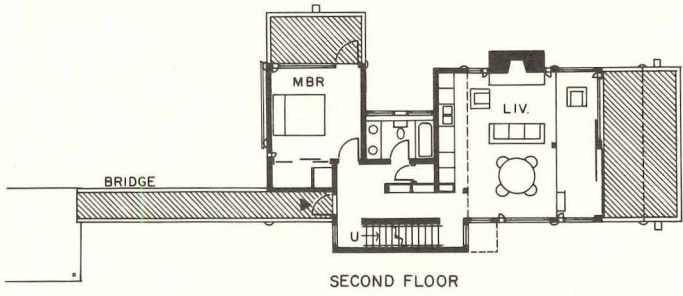


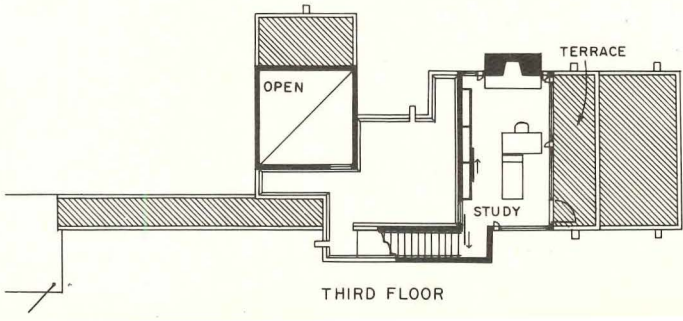








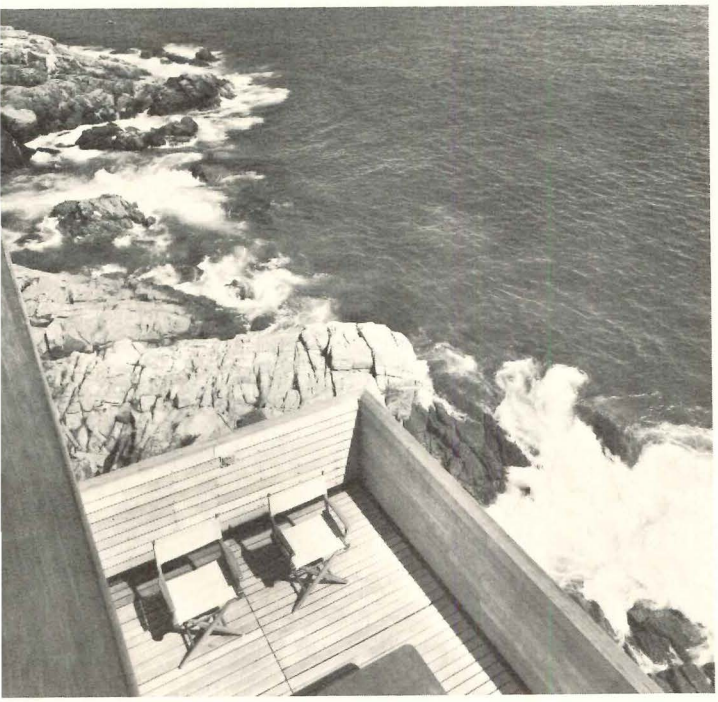


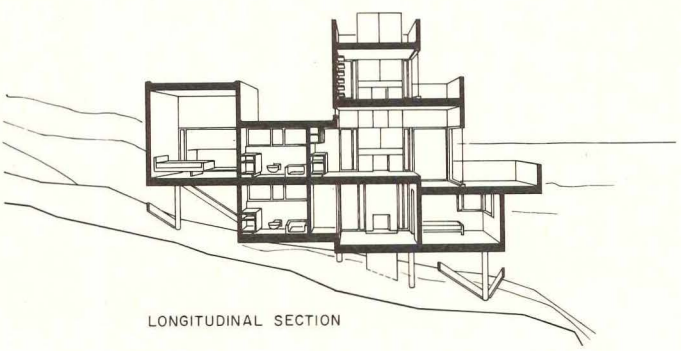


Data

Project: Klema residence.
Architect: John Fowler.
Site: six acres, wooded; Seal Harbor, Me.
Structural system: wood framing, plywood membrane, stone chimney buttress.
Mechanical system: hot-air convectors built into fireplaces.
Major materials: red cedar, granite.
Costs: not available.
Consultants: structural, Associated Engineering, Herman D. J. Spiegel.
Photography: Norman McGrath.

The house is a natural transition from woods to cliff (opposite). Cabinets and appliances underwent a color transformation in an auto paint shop to provide cooking area with bright accents.





LONGITUDINAL SECTION

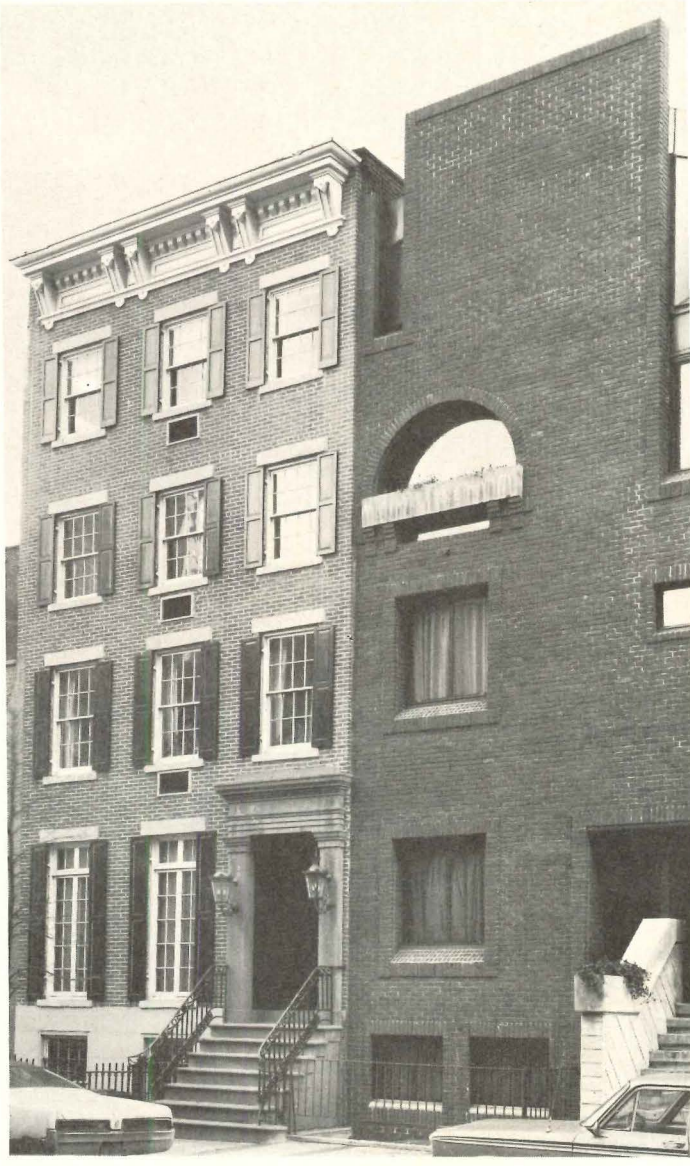
Turning on Chelsea

Greek revival row house in midtown Manhattan is renovated and enlarged by owner-architect to become a profitable income-producing multiple dwelling

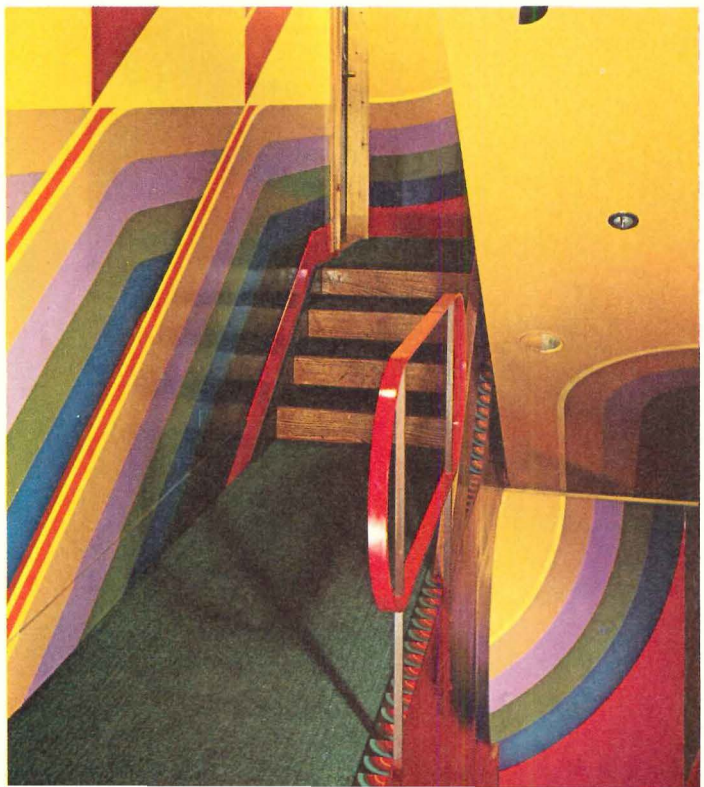
The house at 365 West 19th Street is in the heart of Manhattan's old Chelsea district, an area that grew up as the result of a serious housing shortage during the middle of the last century when the rage for Greek revival was at its height. Although the district declined after World War II, it is now very much, as New Yorkers say, "on the way up." Most of its single-family row houses were originally built as speculative ventures by contractors who purchased the Greek designs directly from architects as quickly as they could be turned out. Fortunately, many of the houses are intact today, and some entire streets have been restored to their past elegance.

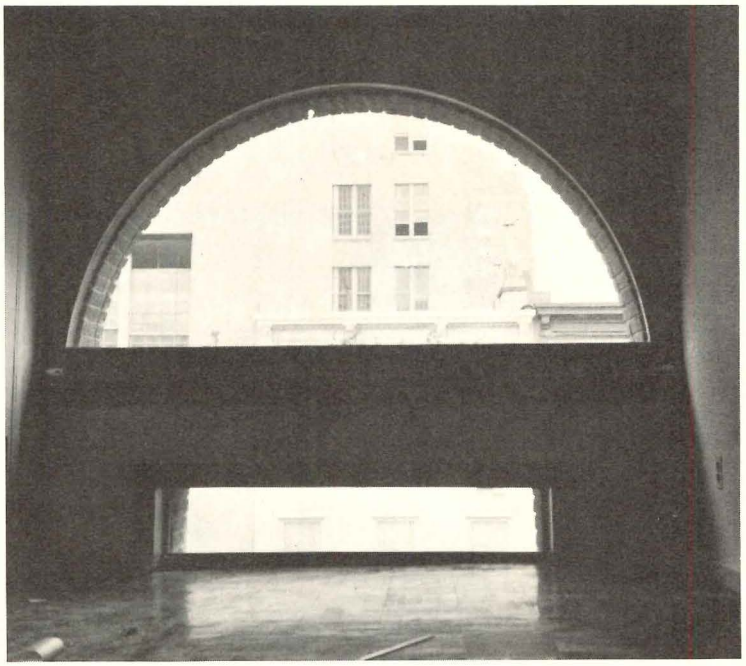
The rebirth of Chelsea began for three reasons: houses were relatively inexpensive by New York standards, public transportation was extremely good, and there were enough adventurous individuals who were challenged by the potential of the neighborhood to move in early and start the revitalization. These were not people who could be satisfied with the typical sterile, luxury high-rise, small-box apartment in the fashionable parts of town. For the most part they were artists and intellectuals who could find the space they needed for studios, darkrooms, libraries and studies.

Unfortunately, some of the houses were in such bad condition that restoration would have been prohibitively costly; 365 West 19th Street was one of those. The house had been vacant, subject to vandalism and the normal deterioration of any unoccupied building, for several years before the architect purchased it in 1967. His desire was to develop it into a profitable income-producing multiple dwelling. Costly restoration of the house could only have yielded one efficiency and seven small one-bedroom apartments. By completely gutting the building (leaving only the joists framed into the party walls), extending all floors 10 ft to the rear, adding a wing into part of the garden as an extension of the basement (ground) floor, and raising front and back façades to the four-story height typical of the neighborhood, the architect was able to realize two large two-bedroom units, two duplex units with sleeping mezzanines, and three large one-bedroom units. Robert Ostrow began renovation of the 19th Street house



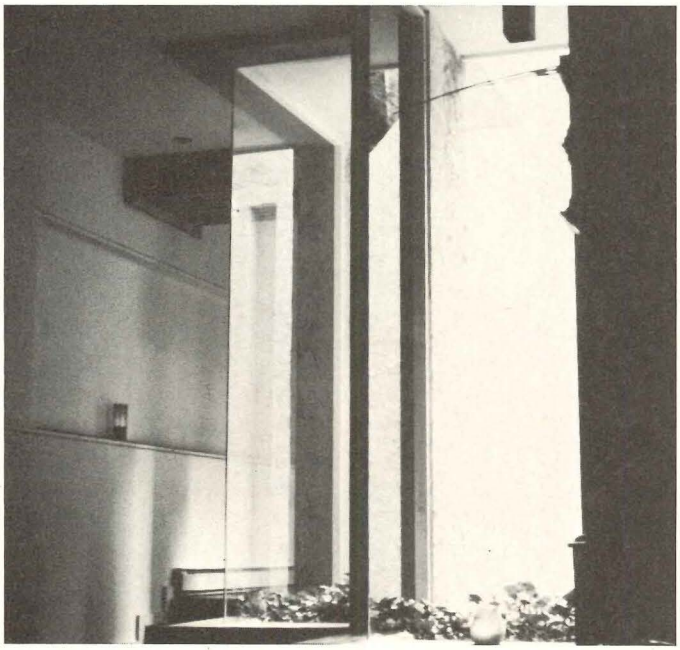
In renovating the mid-19th Century row house in New York's historic Chelsea section, the architect gained an additional floor by raising the roofline to match that of the beautifully restored house to its west, which is typical of the neighborhood. Decayed condition of Ostrow house before renovation on facing page.

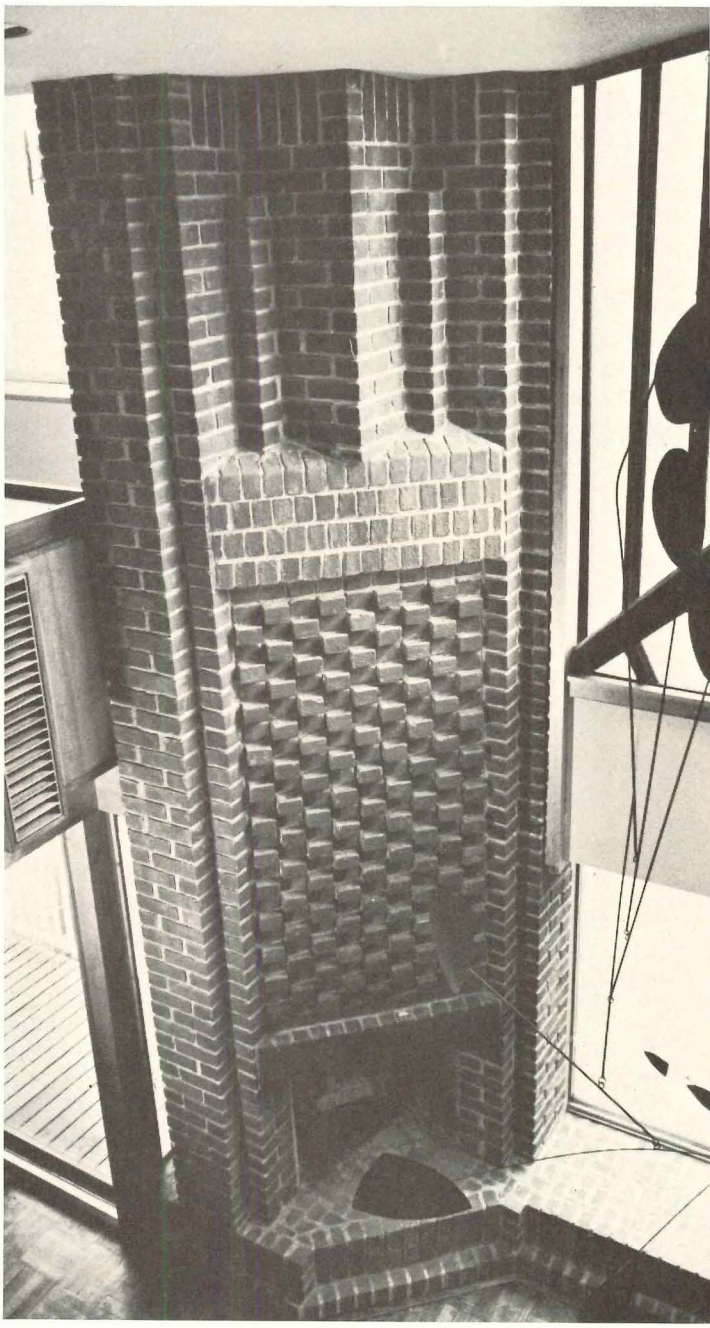




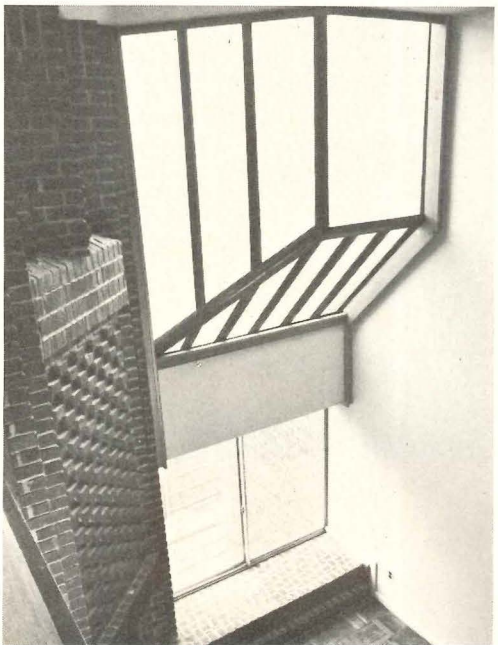
knowing that he could carry design ideas further than might be possible in other parts of the city. He consciously set out to develop details, fenestration and spaces in a sophisticated and unique manner that would appeal to the type of people who were attracted to Chelsea. All of the specialized brick work, wood detailing and partitioning was either done by Ostrow himself or by masons and carpenters under his close and constant supervision, without detailed working drawings. Common aluminum sliding doors and windows are used throughout the house, and industrial sash has been transformed into dramatic skylights in the duplex units. To avoid grilles that would mar both the exterior and interior of the building, each apartment is equipped with an individually controlled, hidden, ceiling-mounted air handler with refrigeration and heating coils connected to a rooftop condenser and compressor.

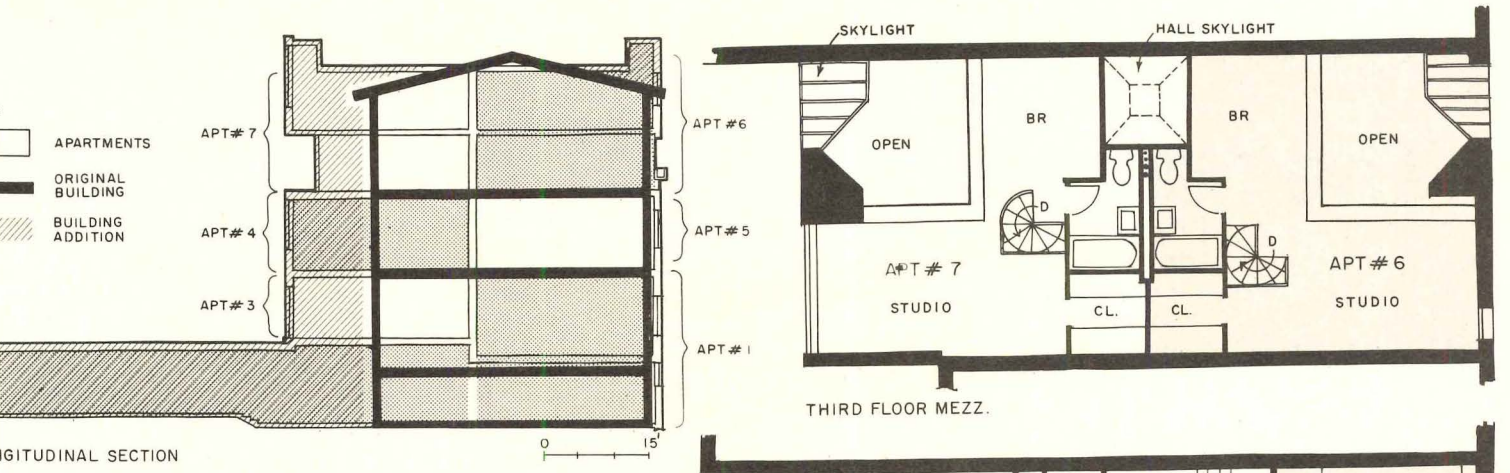
The high point of the house is the public hallway which is, in fact, a painting that begins in the outside vestibule, sweeps inside down to the ground level, up through the three floors and then terminates in the skylight. Artist William Tapley, who is also a musician, wanted to give a lyricism to the halls by "tuning" them with orchestrated color. The red handrail sounds the first dominant note upon entering. A chord is then picked up on one sidewall in horizontal bands that repeat a three-note phrase to compose the space, with additional notes interspersed as one ascends the stairs. The other wall, which remains dark green throughout the house, represents the last color of the chord. The tone color of the halls, which were hand painted without stencils, seems to go far beyond the current fashion of supergraphics. To cap it all off, with what can only be described as inspired madness, the hall is carpeted in brilliant green astroturf. [DM]





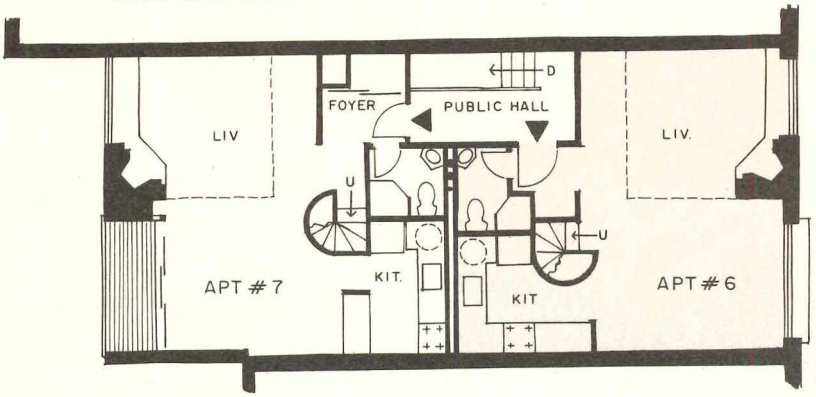
Sawtooth pattern of windows in ground floor addition (above) repeats theme of fireplace detailing (right) which varies in each unit. Industrial sash is used throughout the house, but with particularly dramatic effect in duplex units (below).



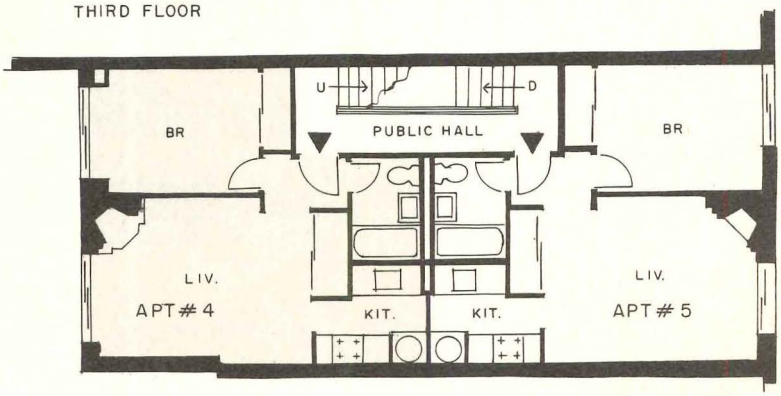


GITUDINAL SECTION

THIRD FLOOR MEZZ.



THIRD FLOOR



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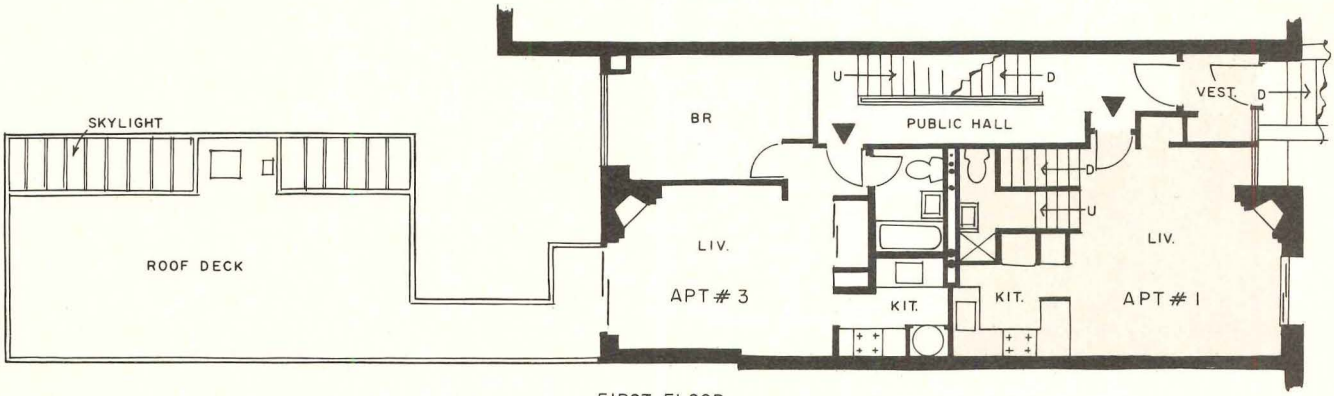
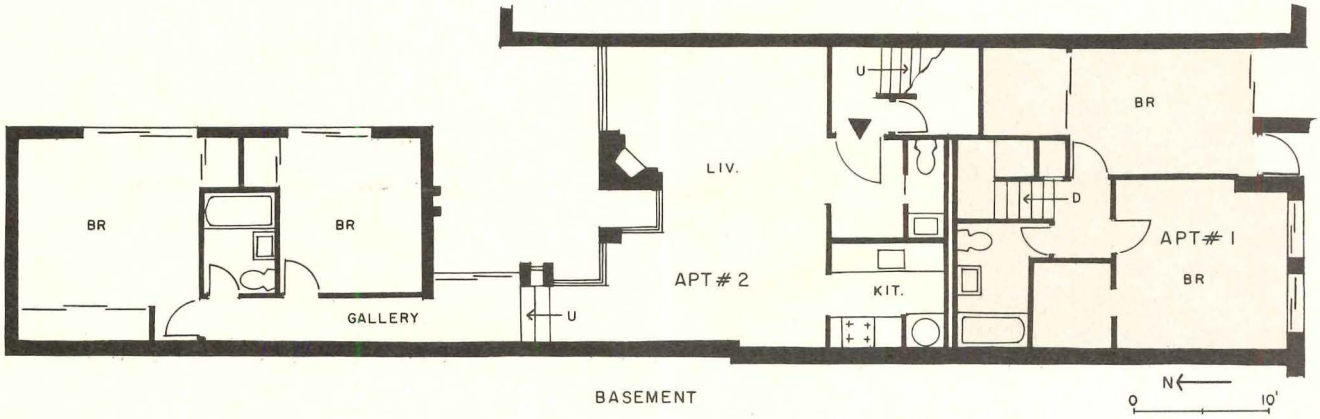


FIRST FLOOR

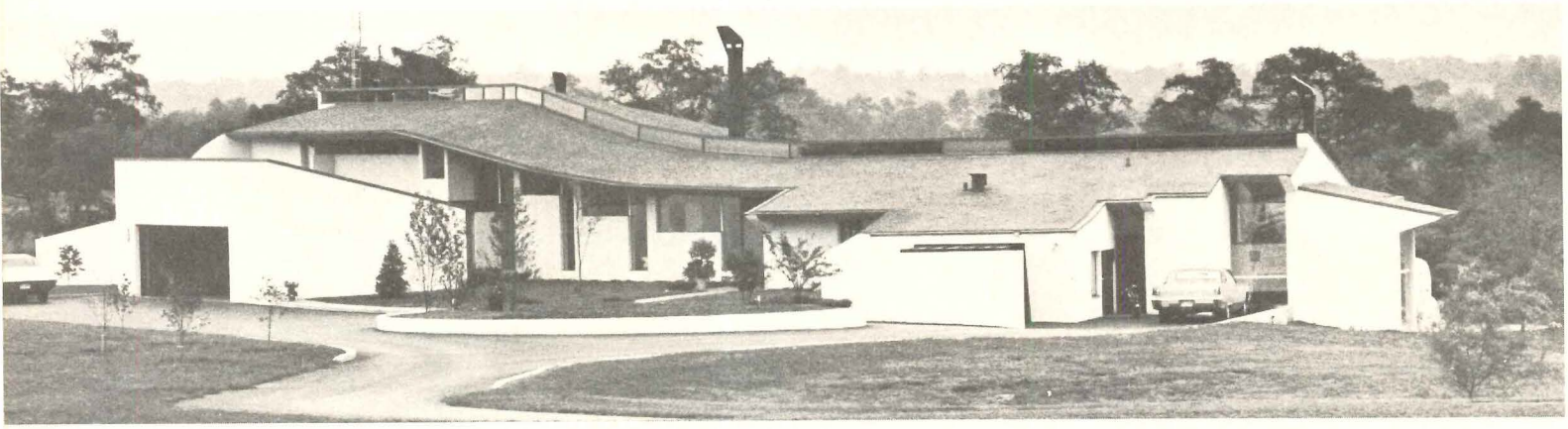


BASEMENT

Data

Project: Renovation of mid-19th Century rowhouse.
Architect and client: Robert Ostrow.
Advisor: David Marshall.
Site: 22-ft urban lot on West Side of New York City.
Structural system: masonry party walls with wood joists spanning between.
Mechanical system: each living unit has individually controlled, ceiling-mounted air handler with refrigeration and heating coils, connected to rooftop condenser and compressor.
Major materials: concrete foundation, red brick walls, wood beams, industrial sash and anodized aluminum sliding windows.
Costs: $165,000, including $40,000 for building.
Hall painting: William Tapley.
Photography: Chris Richie; except middle left, p. 77, Gil Amiaga; middle left, p. 78, Chet Mantolesky.

The house as image



A large house in the blue grass country of Kentucky carefully mixes images of regional architecture with Spanish design elements to establish an ecology for the mind

Herb Greene does not believe that a house is only a house. Depending upon the client's particular set of references it can, he believes, pass beyond its simple utilitarian nature of providing a particular kind or style of shelter to become the repository of a rewarding repertory of psychologically satisfying images. As an example, the clients of this house wished it to have a Spanish feeling, but they also wanted it to relate to other buildings in the surrounding Kentucky countryside. This would not mean, however, slavish rendering of the obvious into the kind of simplistically conceived metaphors that would result in the usual modern Spanish villa—a kind of thinking which, when carried to its extreme, produces a teepee motel or a colonial gas station.

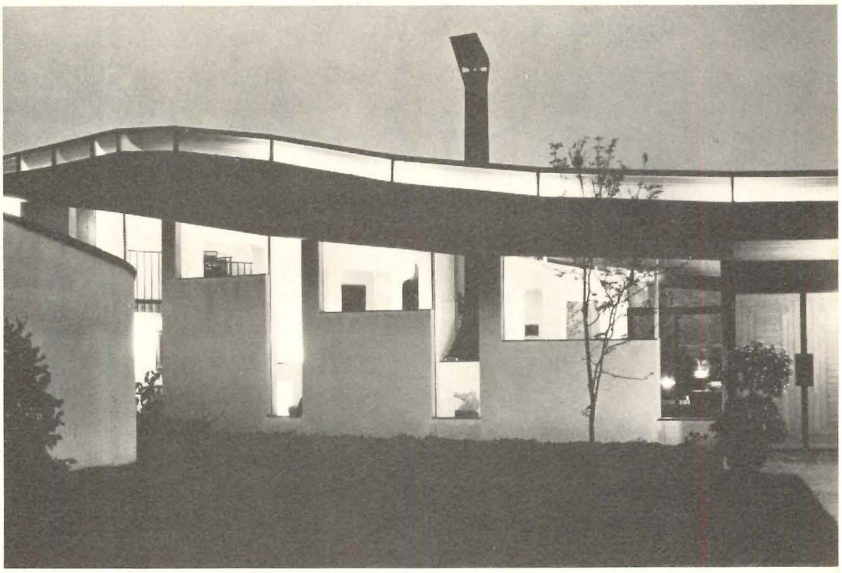
Herb Greene's concern is with the psychic or metaphorical cues, the sense objects, that any architectural aesthetic—either vernacular or highly sophisticated—might provide. For it is through the architect's understanding and application of these images, in accordance with the client's wishes, that unusually rich harmonies of experiences can be initiated which could play an important role in establishing an "ecology" for the mind. However, the artful application of cues, or images of regional architecture, have been lost, Greene believes, because of the prevailing attitude toward technology that does not recognize their contextual relevance for the occupants. To him this is unfortunate because he believes that to dismiss metaphor as inconsequential is to misconstrue the operations of our normal mental life.

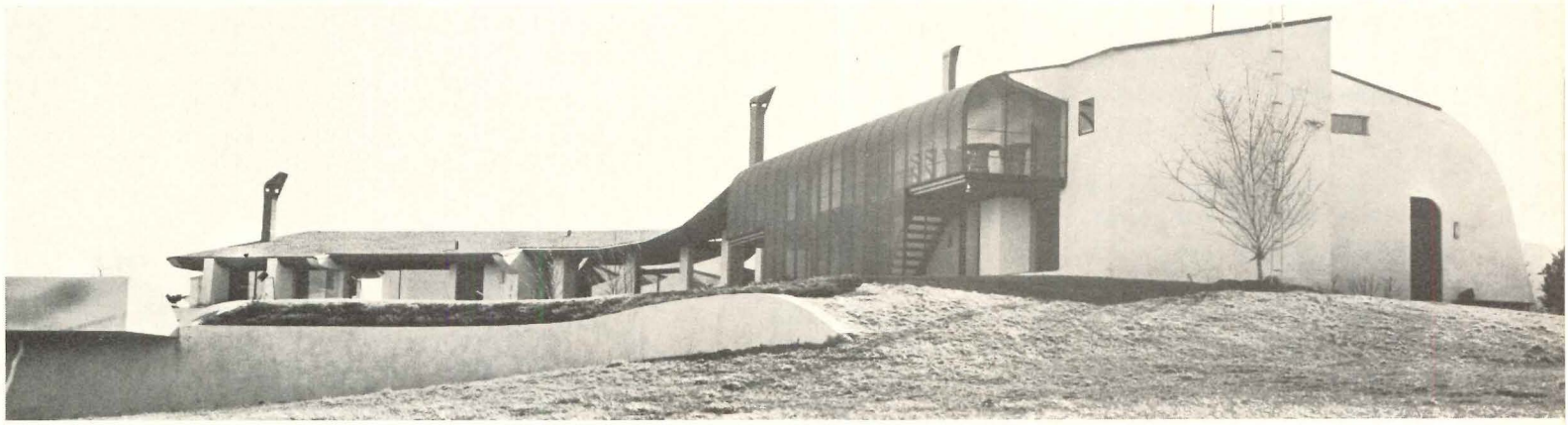
In the case of the Lovaas residence, the Spanish and Kentucky cues are picked up, integrated and reinstated into a milieu of architectural originality. Some of the Spanish cues are revealed in the 12-in.-thick masonry walls, the various window forms and sizes, the white stucco and curving walls. Images characteristic of local buildings are seen in the absence of overhangs on end walls, the black roof, and in the spreading, ranchlike quality of the house.

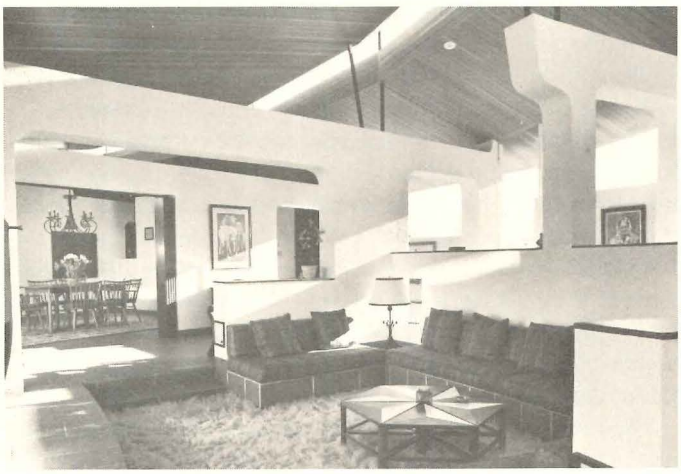
The spacious house was built for a family of six who are outdoors-oriented, casual and relaxed. They wanted the house to avoid large, formal areas that might make them feel uncomfortable and, because they are a tight-knit family, they did not want the house to contribute in any way to a separateness that might be characteristic of a home of this size; rather, they wanted it planned so that the family could be in frequent contact with each other. This was done by laying the rooms out along a "street" with a centrally located living room that must be traversed many times during the day. The living room is a complex space that changes from one to two stories and has various windows, niches, forms and ledges; the 160-ft corridor-street, punctuated by entrances, is defined by a clerestory window that runs the length of the pitched roof. To further encourage a sense of family unity, all of the bedrooms share a common screened porch. [DM]

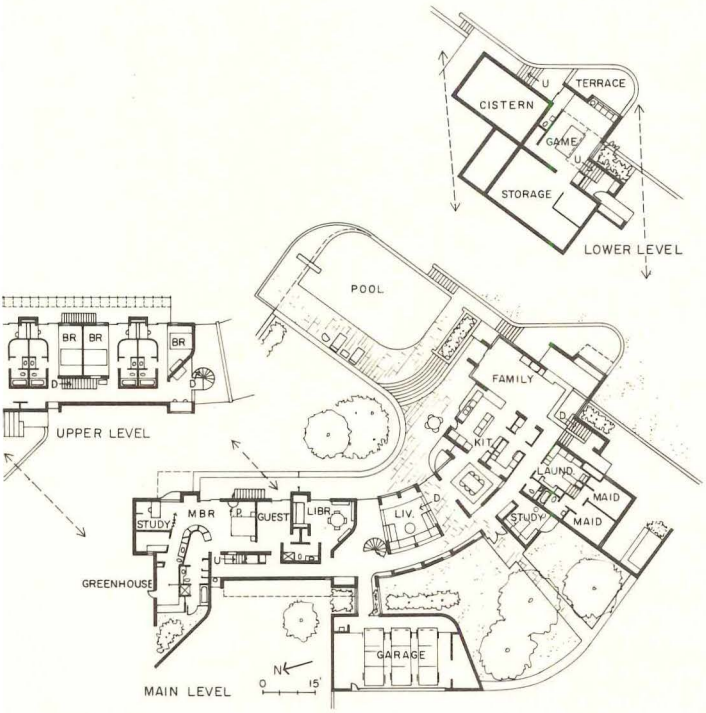
Data

Project: residence, Big Bluff Farm, Lexington, Ky.
Architect: Herb Greene.
Associate architect: C.A. Coleman, Jr.
Structural system: loadbearing walls support laminated beams and wood joists of roof at perimeter; roof divided by clerestory at pitch where it is supported by iron rods extending from interior partitions.
Major materials: reinforced concrete foundation and floors; 12-in.-thick concrete masonry and reinforced concrete walls; wood beams and joists; Vermont slate floor surfacing; stucco exterior finishing; built-up black marble chips form roof surfacing.
Mechanical system: oil-fired boiler supplies three strategically located fan coil units. Ducts and electrical runs concealed in walls.
Costs: withheld at request of client.
Consultants: J. Palmer Boggs, structural.
Photography: Bill Strode.



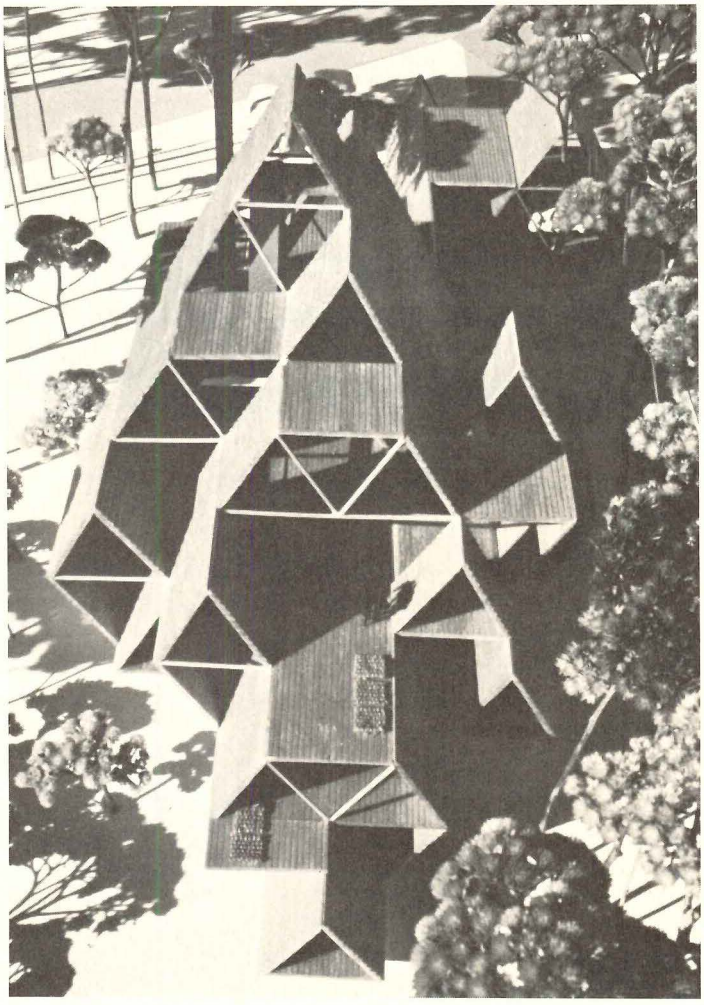






Wood crystals

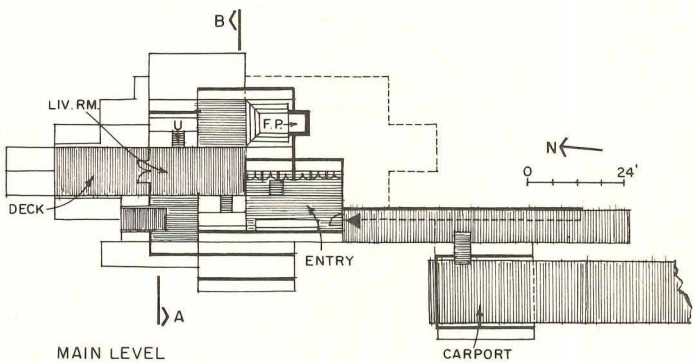
A system of trusses and panels, designed to be put together at the site, is the basis of a proposed mountainside retreat that respects clients, site and neighbors alike

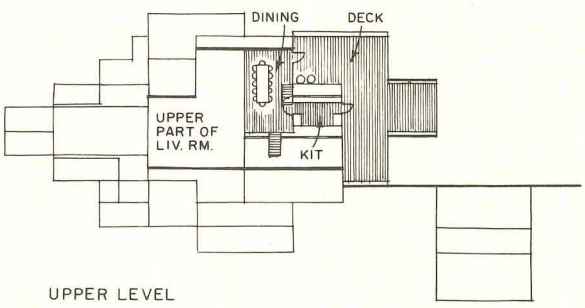


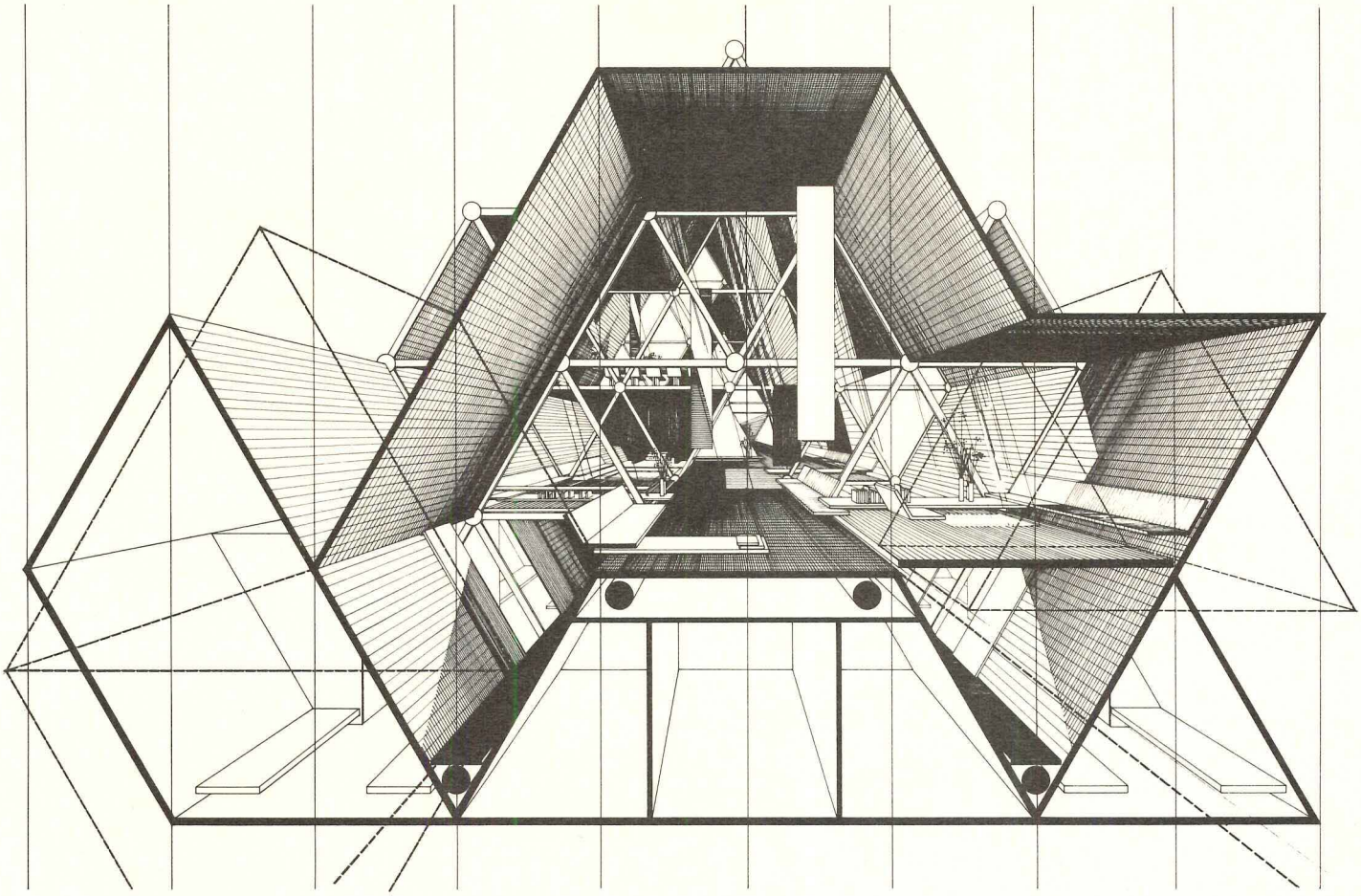
It was clear from the start that the vacation house would have to be modular, prefabricated or both, but not "boxy." The site was Snowmass, Colo., where a local design covenant requires sloping wood roofs and non-boxlike structures. The construction crew must commute weekly from towns a few hundred miles away, and a prefabricated system would let them work most efficiently. The other strong influence on the design was the site itself, heavily wooded and on the north slope of the mountain. The view northward is through the trees and across the valley; the house would have to be placed to make the most of the view and available sunshine, while disturbing the ground surface as little as possible.

As it turned out, the house was never built—architects Muchow Associates won this year's P/A First Design Award for a subsequent design on another site for the same clients, the Marshall Bennetts. The design solution, however, met the constraints of the program: a kit of parts to be put together at the site. Triangularly trussed steel frames, made of 12-ft sections of steel tubing, are spaced 12 ft on centers; spaces between them are spanned by stressed plywood and urethane sandwich panels measuring 4′ x 12′. The resulting triangular openings are closed with preglazed triangular window units.

The house, an assemblage of triangular modules, perches above the ground on concrete piers, letting ground water run unimpeded down the undistrubed slope. Inside, the triangular modules form spaces of great complexity and variety. [CP]

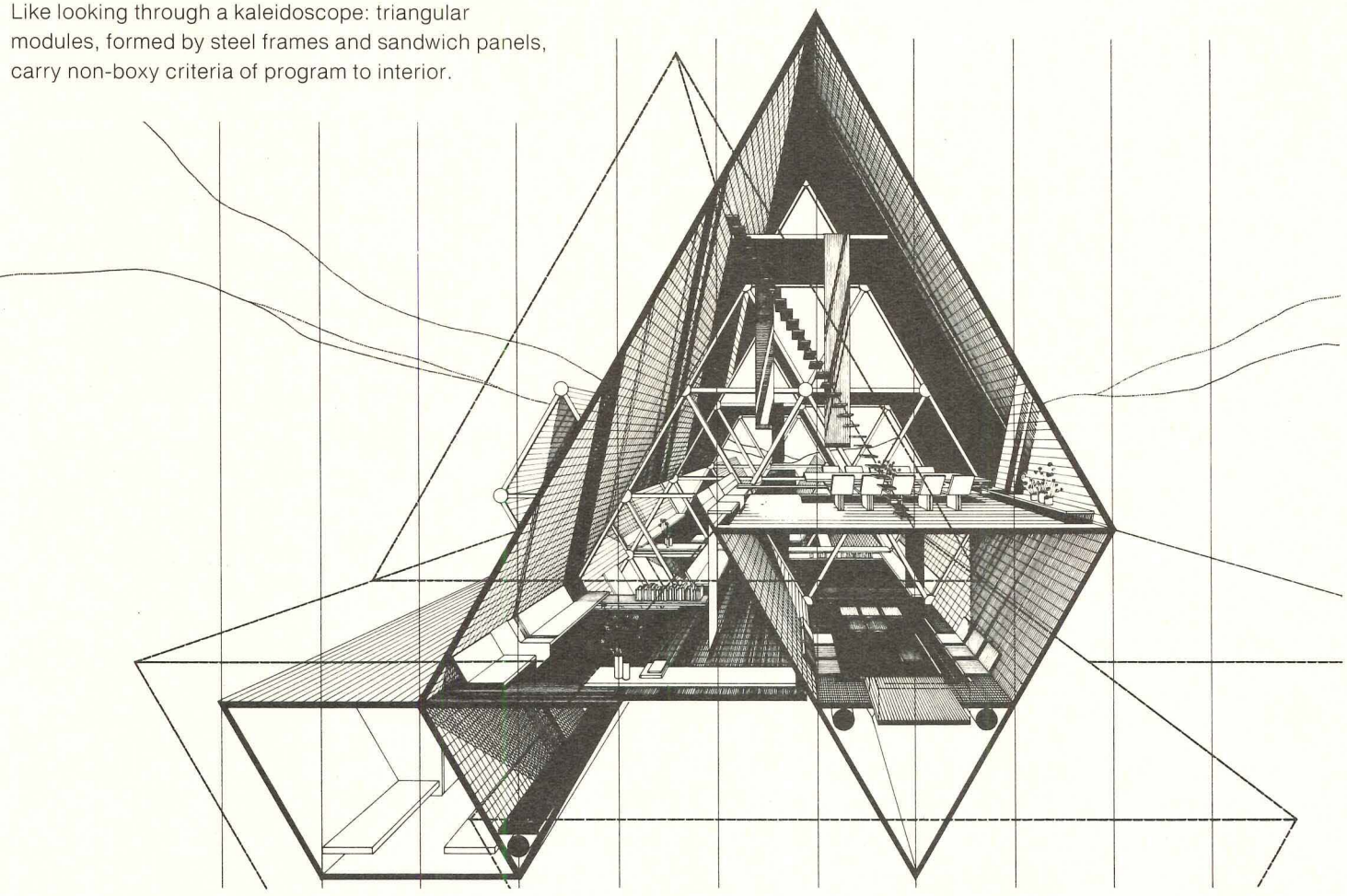






SECTION A

Like looking through a kaleidoscope: triangular modules, formed by steel frames and sandwich panels, carry non-boxy criteria of program to interior.



SECTION B

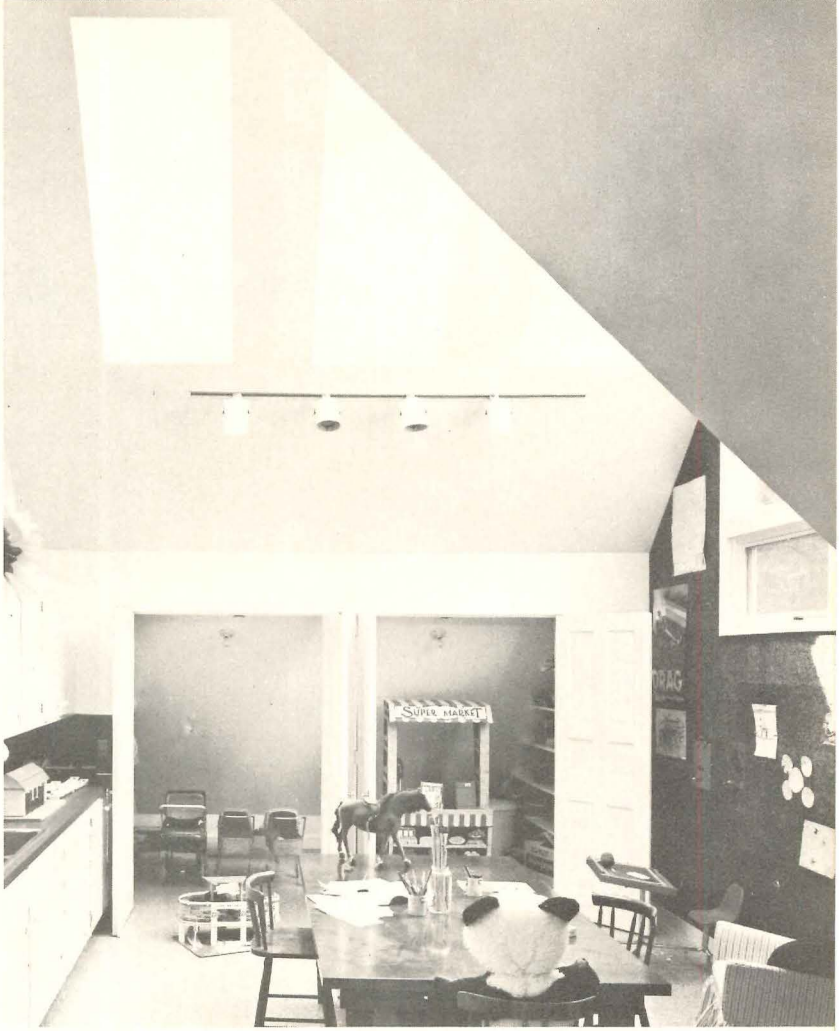
Connecticut residence

The farmer in the dell

The desire of a young family to be close to trees, grass and animals in rural Connecticut, produced a house with a strong regional aesthetic

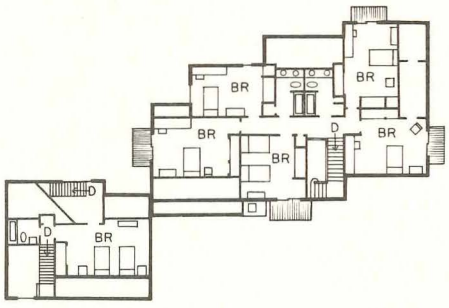
Edward Colwell Collins' design for this house grew out of the strong tradition of the New England farmhouse architecture in rural Connecticut. The approach to the house is by a dirt road that winds past a farm fence and stone walls, past barn buildings, across a field and pond and through a pine grove. Sited on a gently sloping knoll, the house overlooks three ponds, the barn complex, grazing cows and corn. The multiple forms of the house suggest the additive quality of the farmhouse style. The choice of materials—wood clapboard, shingles and stone—and the indigenous landscaping with dry load stone walls also reflect that tradition. In keeping with the preservation of the landscape, the swimming pool bottom is painted black to give the appearance of a natural pond.

The clients are young with three (or more) children, four dogs, numerous cats and a barnyard full of animals, and the house was built to bring all of these together. The interior is planned in three sections: the center section with common living spaces and children's sleeping above, the north section with parents' sleeping and guest room, and the south service section. Below is a full basement with a wine cellar, bicycle course and 3-car garage. A potting shed and a dog's bath-room and sleeping room are at grade level. [SLR]

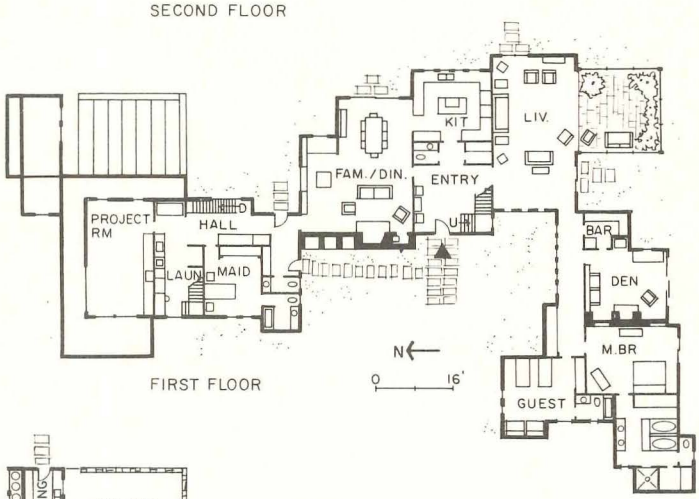


Data

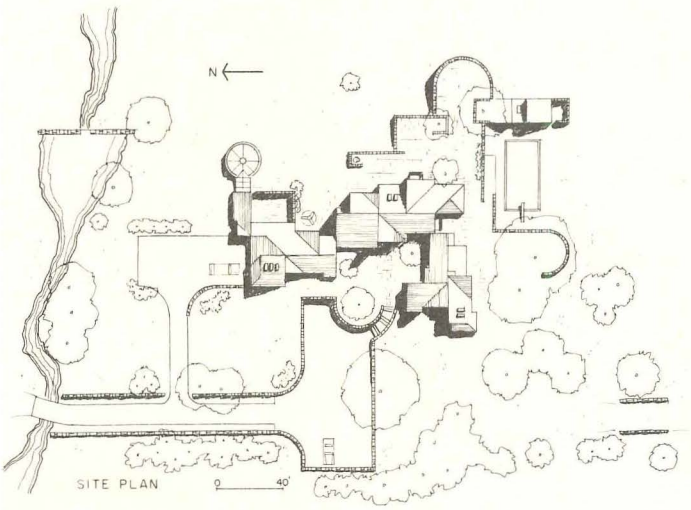
Architect: Edward Colwell Collins.
Site: rural Connecticut.
Structural system: standard wood frame construction.
Mechanical system: oil-fired 5-zone heating/cooling with central boiler.
Major materials: cedar clapboards with transparent gray stain. Red cedar roof shingles. Dry wall interior with random oak flooring.
Consultants: Edward D. Stone, Jr., landscape; Audrey Koehler, interiors.
Costs: withheld at request of client.
Photography: Ezra Stoller.

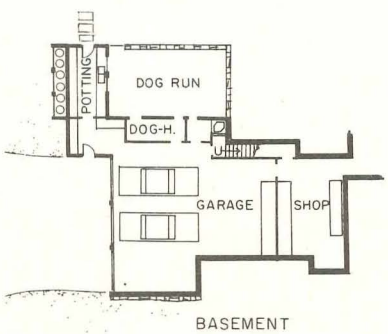


SECOND FLOOR



FIRST FLOOR





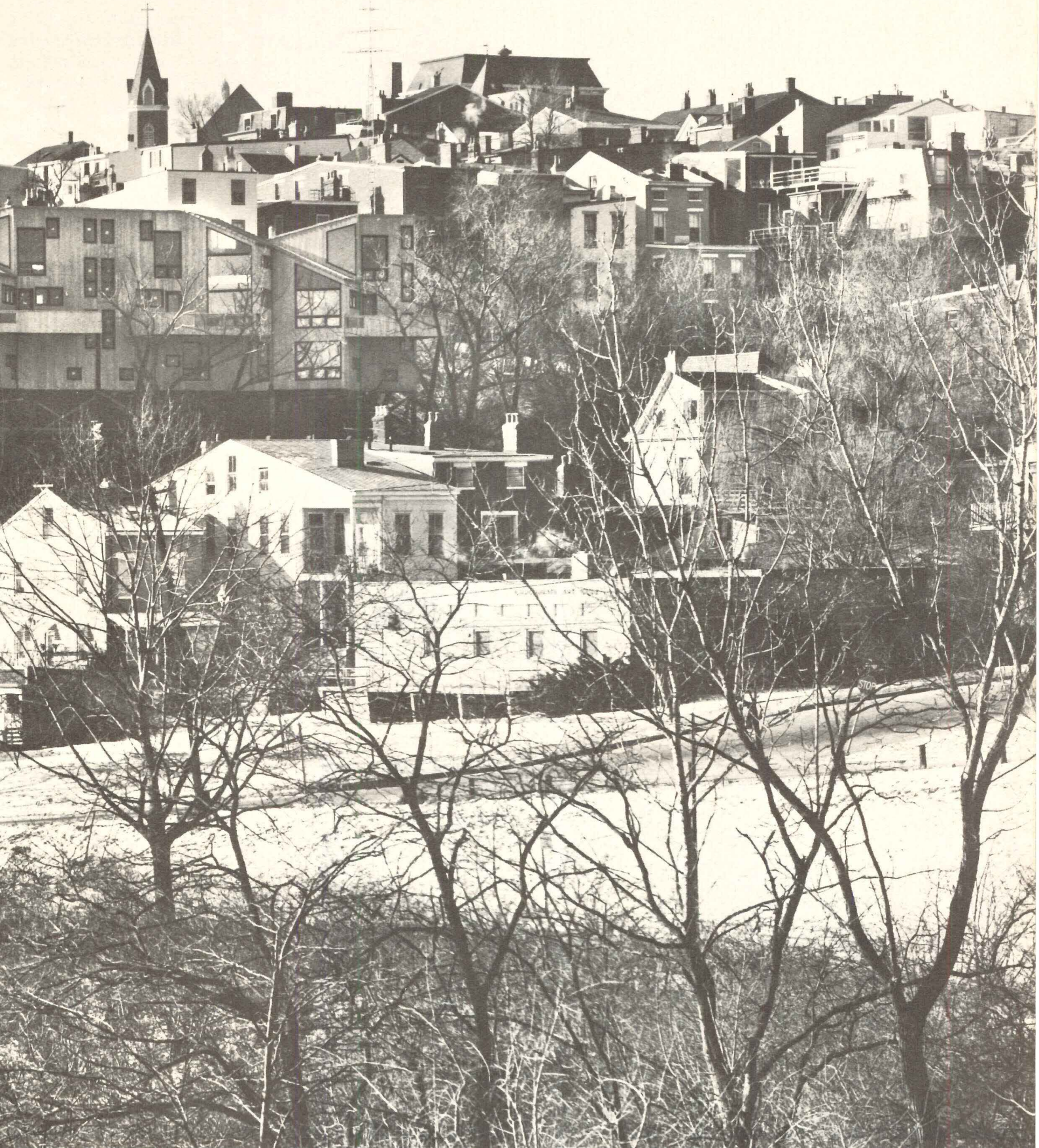
BASEMENT

Outcrop on Mt. Adams

A Cincinnati developer commissions luxury townhouses that take advantage of the site to provide a view and variety for each unit, using just two repetitive floor plans

In view of what most developers produce when planning condominium units, "The Cloisters" in Cincinnati is a radical departure. Stepping the units down a steep site, Hardy Holzman Pfeiffer Associates gained for each unit unobstructed views from the south slope of Mt. Adams across the Ohio River into Kentucky. Near downtown Cincinnati, yet retaining a secluded character, the site is in an area growing in vitality. It is similar in feeling, the architects say, to the Telegraph Hill section of San Francisco.

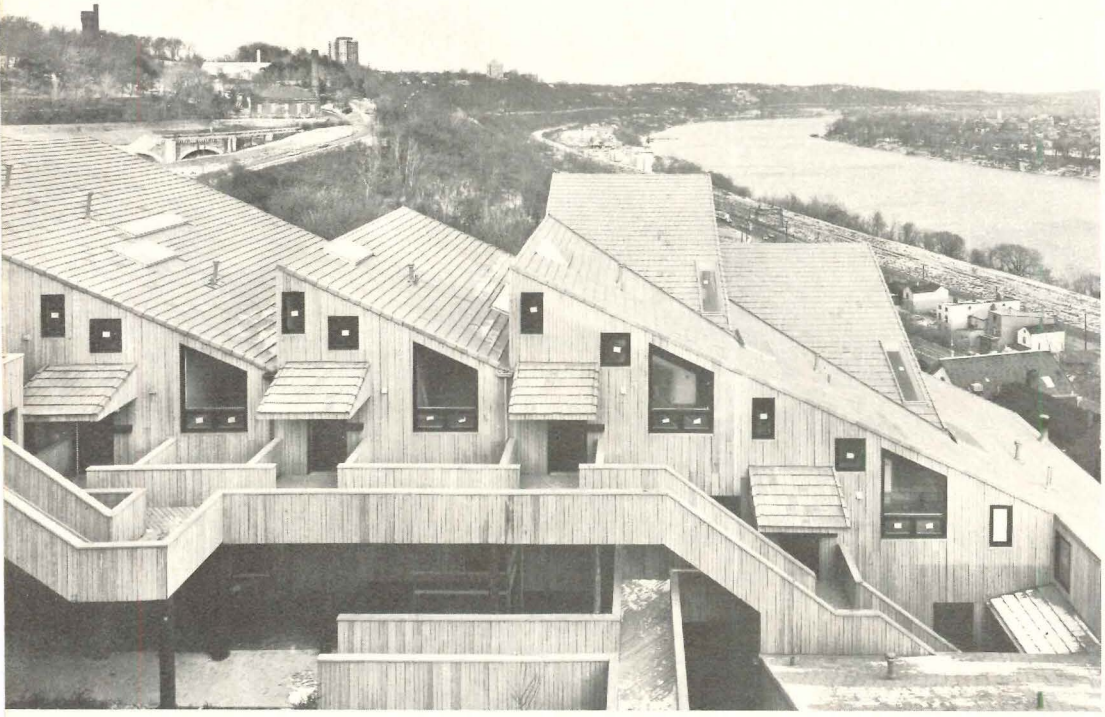
Although The Cloisters is a luxury development, it was designed to take advantage of savings inherent in repetitive unit planning. Strong emphasis was placed on providing large spaces, since most tenants had been accustomed to such standards in previous homes. Living areas have been left open for maximum flexibility. The typical A unit, on the flatter

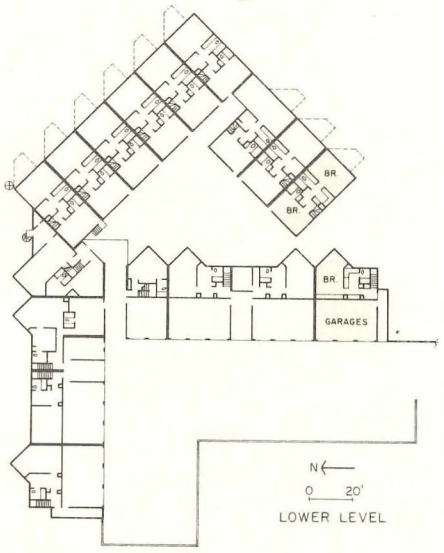


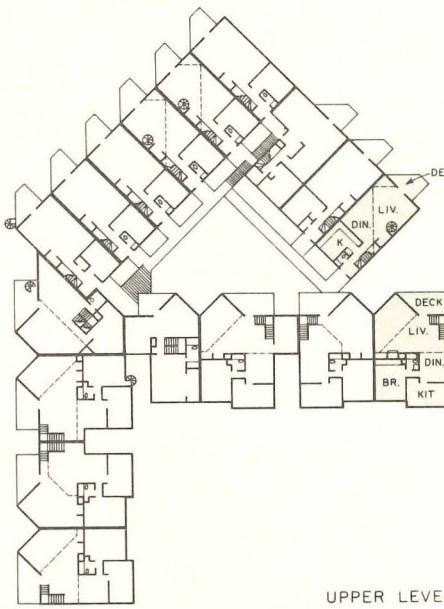
portion of the site, is two stories, with garages below. B units step down the hill, and the junction between the two types is formed of nontypical spaces for specific clients. An elevator connects the uphill parking area with those units that are on lower levels.

View "grabbers," angular projections glazed to take full advantage of the view, are provided on the A units. They also serve to modify the plan away from the basic rectangle. Changes in roof pitch directions and in balcony-to-living-area relationships add further variations in the spaces. (By building balconies in a constant location, but reversing the living area plan, an entirely different space results.) Balconies serve either as another bedroom or an extension of the living area. While B units have no view "grabber," their siting allows them good vantage points, and access to gardens from the lower level. Both A and B units have outdoor decks.

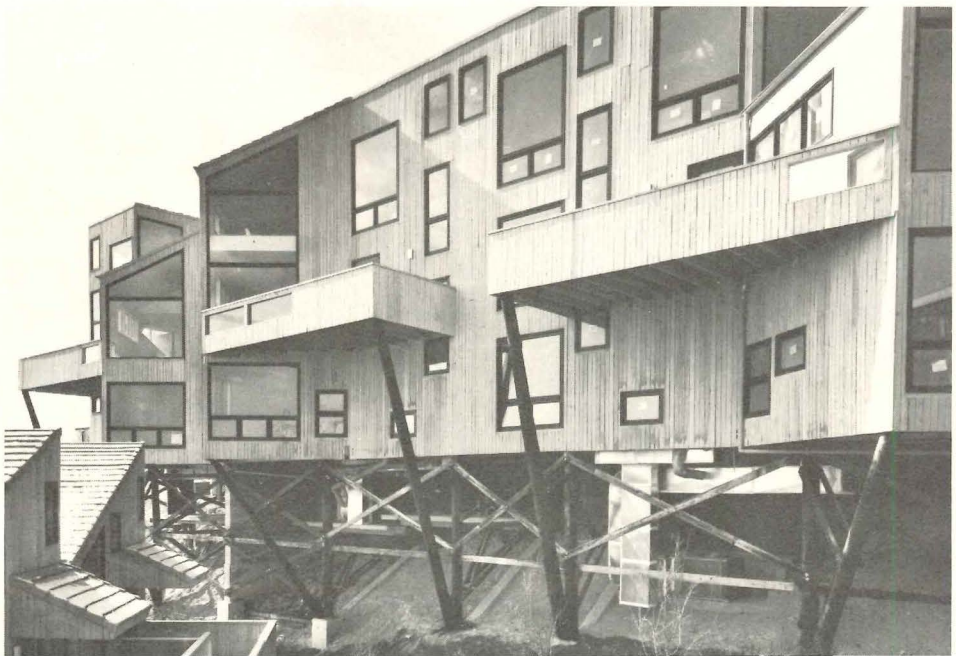
The wood framed structure is supported above the sloping site on wood posts, with masonry party walls dividing the units as required by fire codes. Cypress siding and red-orange masonry roof tile are the predominant exterior materials, giving the complex a continuity of warm color. On the inside, however, some leeway has been left for individual tenants to select the finishes. Most units have gypsum board interior walls and ceilings, with brick exposed where party walls occur. Some units continue the typical wood flooring up the wall surface at selected points, and tenants may choose exposed, stained roof structure if they desire. Additional units may be added as more property is acquired. [JM]



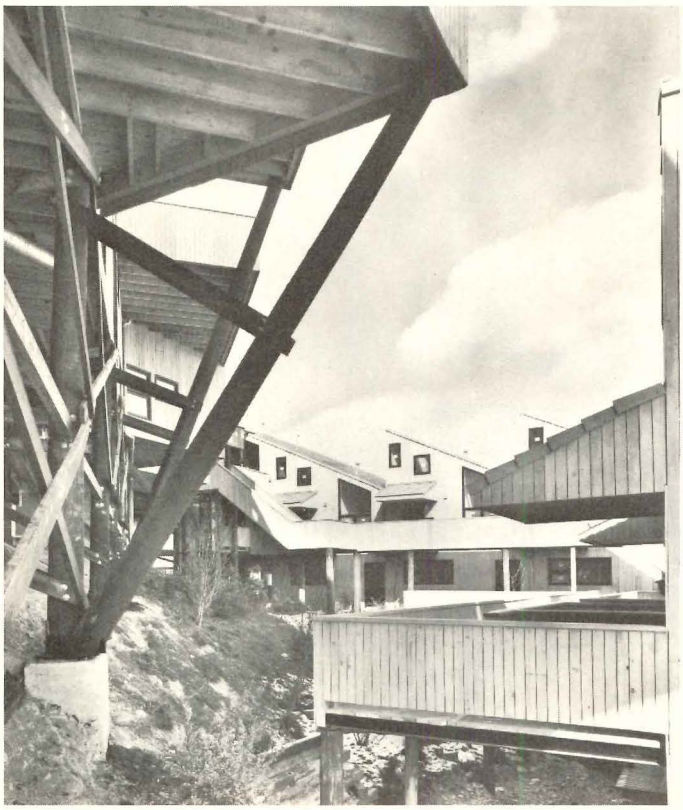


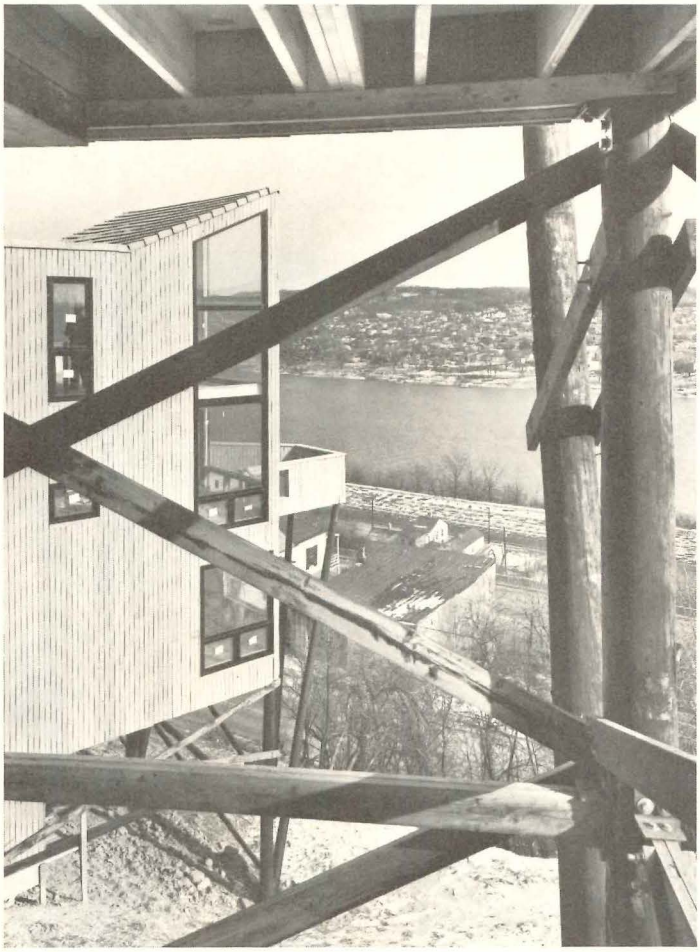


Entry to B units is on the middle level (above). Units are stepped down the hill, giving facing A units access to the view.

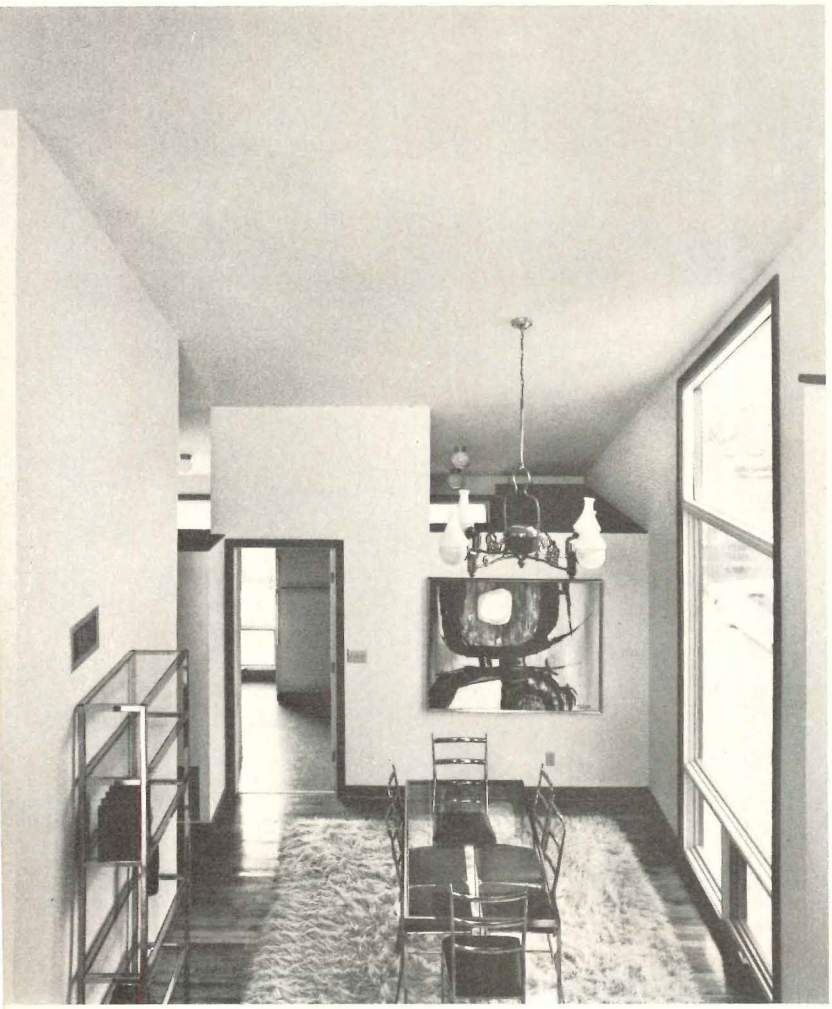


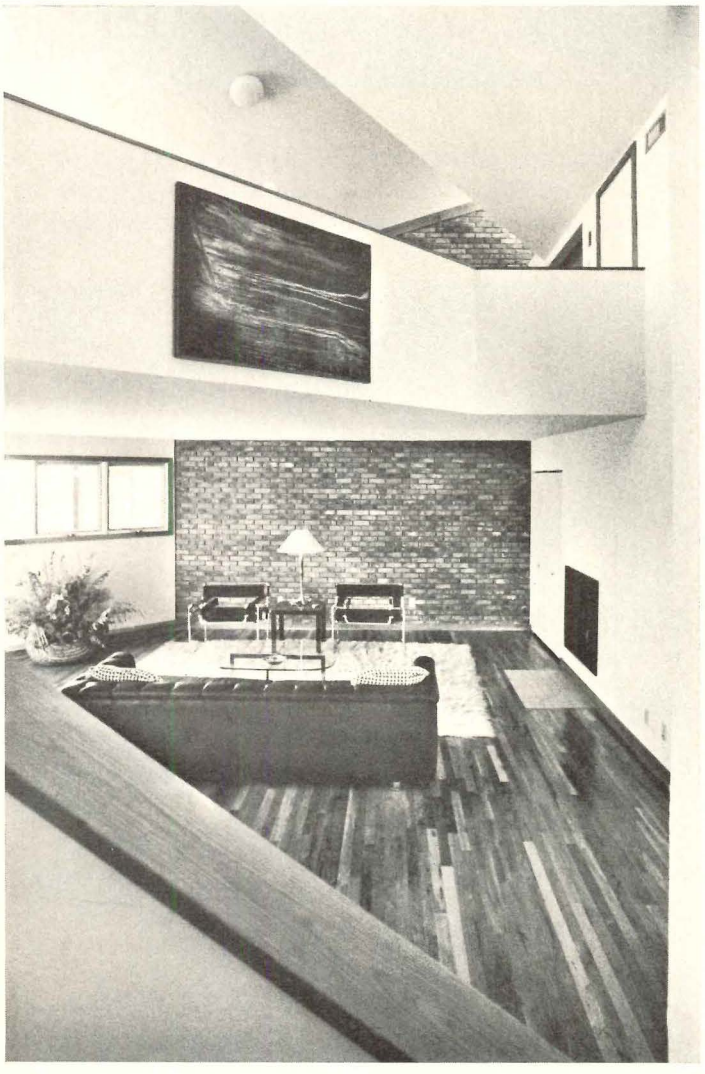
Upper level parking area is reached by either stair or elevator from B units (above). Mechanical equipment and wood pole structure will remain exposed, at least until the ivy takes over.



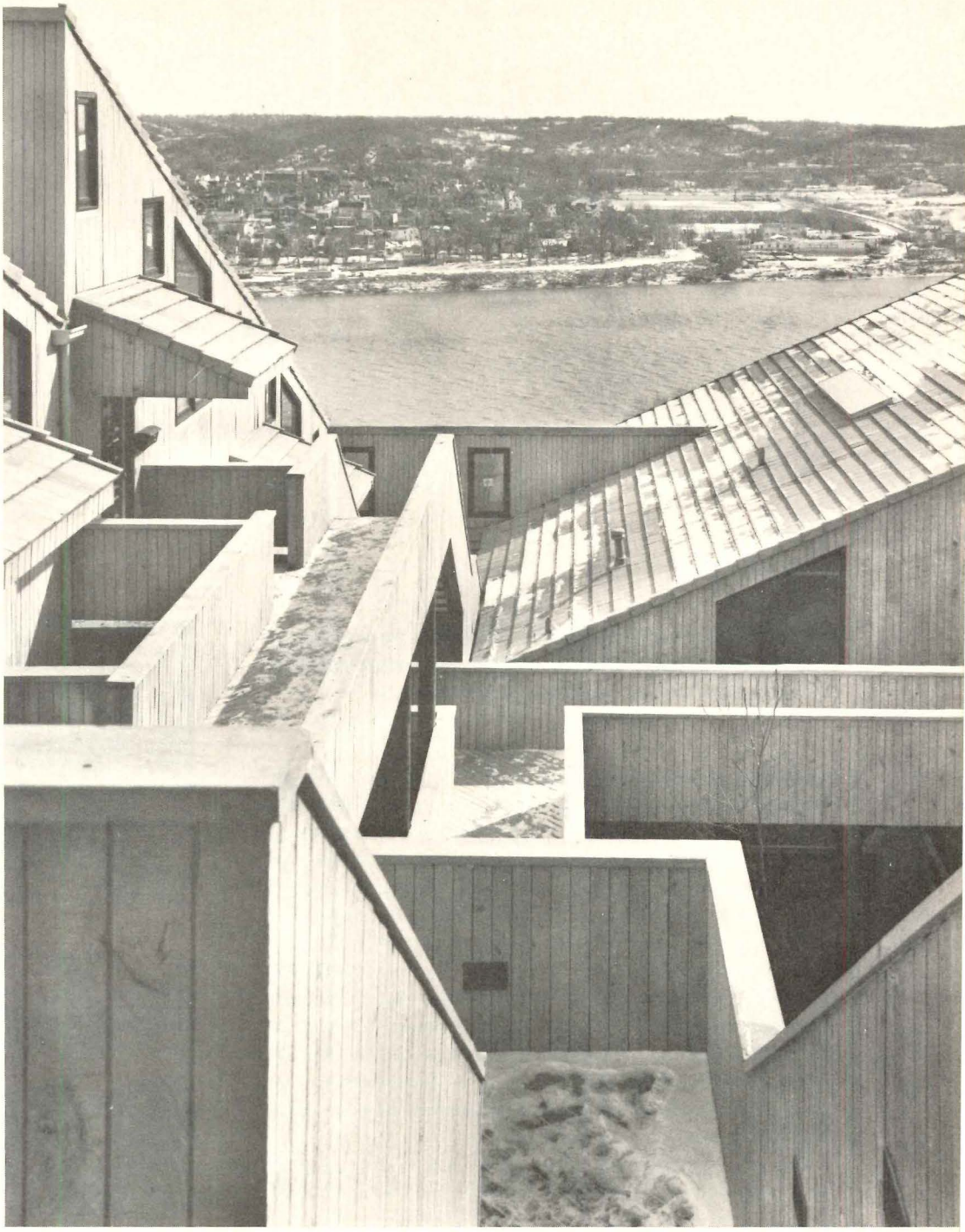


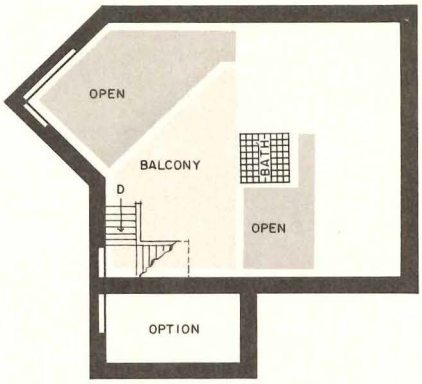
Outcrop on Mt. Adams



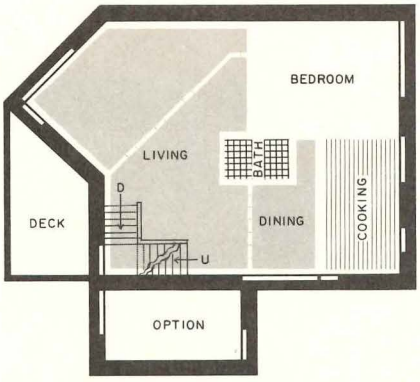


Balcony offers both interior and exterior views (top photos). Varying balcony position in other units creates a different sense of space, providing double height areas over alternate ends of living areas. The living area of an A unit is shown.

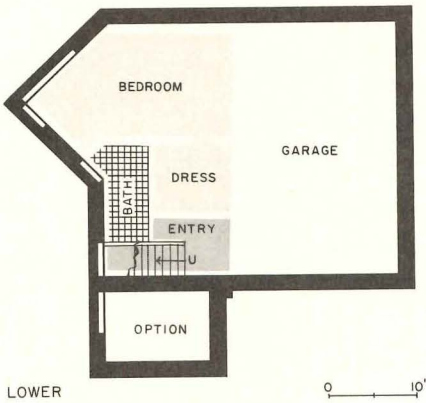




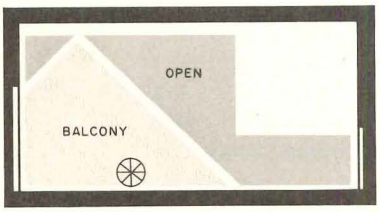
BALCONY



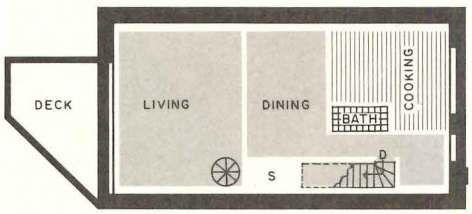
UPPER



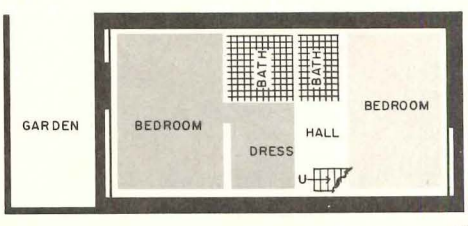
LOWER



BALCONY



UPPER



LOWER

0 10'

Credits

Project: The Cloisters condominium.
Architect: Hardy Holzman Pfeiffer Associates.
Site: Mt. Adams, Cincinnati, Ohio.
Structural system: wood frame, supported on round timber poles and masonry party walls; concrete foundations.
Mechanical system: gas-fired forced air.
Major materials: cypress siding, masonry roof tile, exterior; gypsum board, natural wood floors, brick and masonry party walls, interior.
Costs: actual $777,543 or $21.13/sq ft.
Consultants: mechanical, WHB Associates; structural, Miller, Tallarico, McNinch & Hoeffel.
Developer: Towne Properties, Inc.
Photography: Norman McGrath.

Rezoning suburbia

Zoning problems overshadow architectural problems as a developer and his design team persuade conservative suburbanites to allow apartments in their town

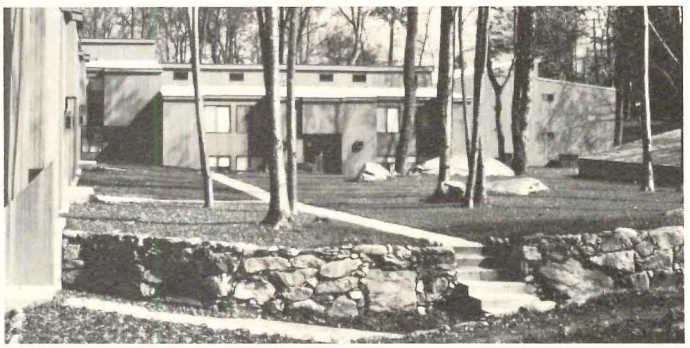
It has been pretty well agreed that cluster planning is the best way to provide housing while keeping large tracts of land as open as possible—but not in "our town." Some residents of Ridgefield, Conn. still feel this way, but enough others now accept multifamily zoning so that the small, century-old village will soon see its second clustered rental project.

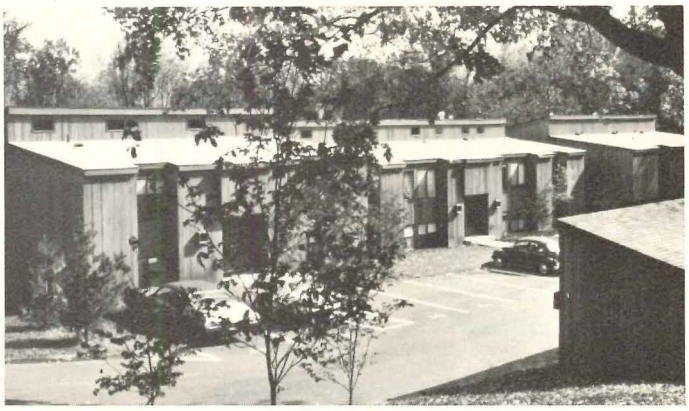
The first, 307 apartments on 30.7 acres (a precise 10 per acre), has 26 buildings and 16 acres of open space. Called Casagmo after its name as a former estate, the project is screened from the town's main roads by trees, stone walls and a 250-ft setback. A garden designed in 1892 by Frederick Law Olmstead is being restored, a small Revolutionary War graveyard is preserved and a barn that dates back to 1840 was remodeled as a community center.

Although the Casagmo tract had been previously rezoned for an apartment project that was never built, the developer, David L. Paul, and the architect, Lee Harris Pomeroy, approached the town just as if they were seeking a new zoning approval. Some $25,000 was invested in two documents prepared by the developer and his design team. In addition to Pomeroy, the team included a Connecticut architect, James A. Evans; landscape architects D.C. Richardson and Jack Vreeland; graphics designer Keith Goddard; traffic consultants Wilbur Smith Associates and a Connecticut lawyer who presented the permit arguments to the town commission.

One document outlined the existing zoning and town master plan (most of the zoning is for two-acre plots) with suggestions for alternate uses for the Casagmo tract. It not only pointed out the growing need for multifamily units (census figures show few young adults and retired people living in Ridgefield), but detailed potential tax and cost revenue figures for multifamily, single family, manufacturing and "research and development" uses. Aside from a utopian R&D facility that would pay high taxes and create no demands, the multifamily project would yield the highest ratio of tax revenues to town expenses for services. Apartments put far fewer children into local schools, for instance, than do single houses.

The second document contained specifics on the proposed

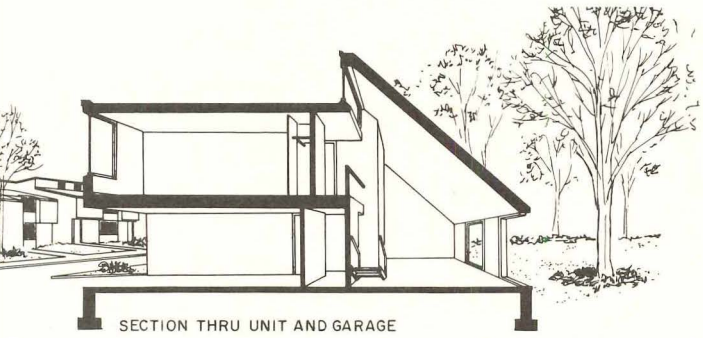




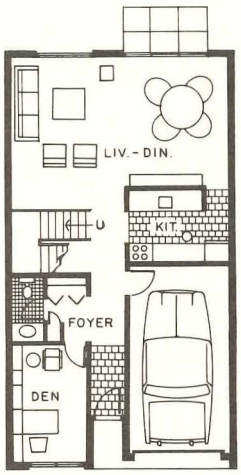
Each apartment at Casagmo goes through the building, with a "hard side" for parking and a "soft side" of turf, trees and water. Original barn was remodeled into community center.

Unit system of design was intended for prefabrication, with placement of various units dictated by ground conditions. The developer chose to build conventionally to the same plans.

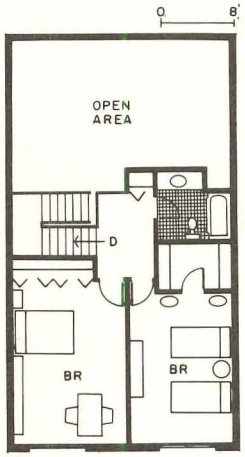
Photography: Lothar Frank



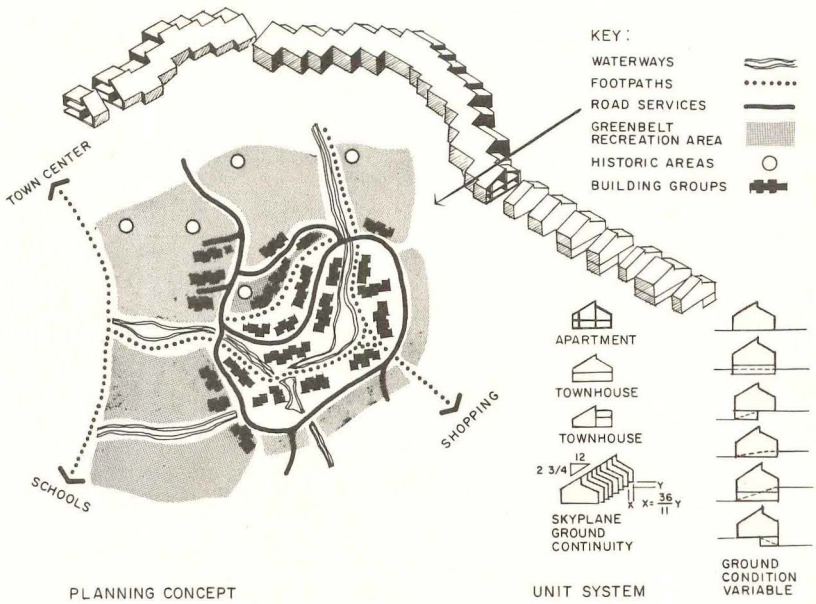
SECTION THRU UNIT AND GARAGE



LOWER FLOOR

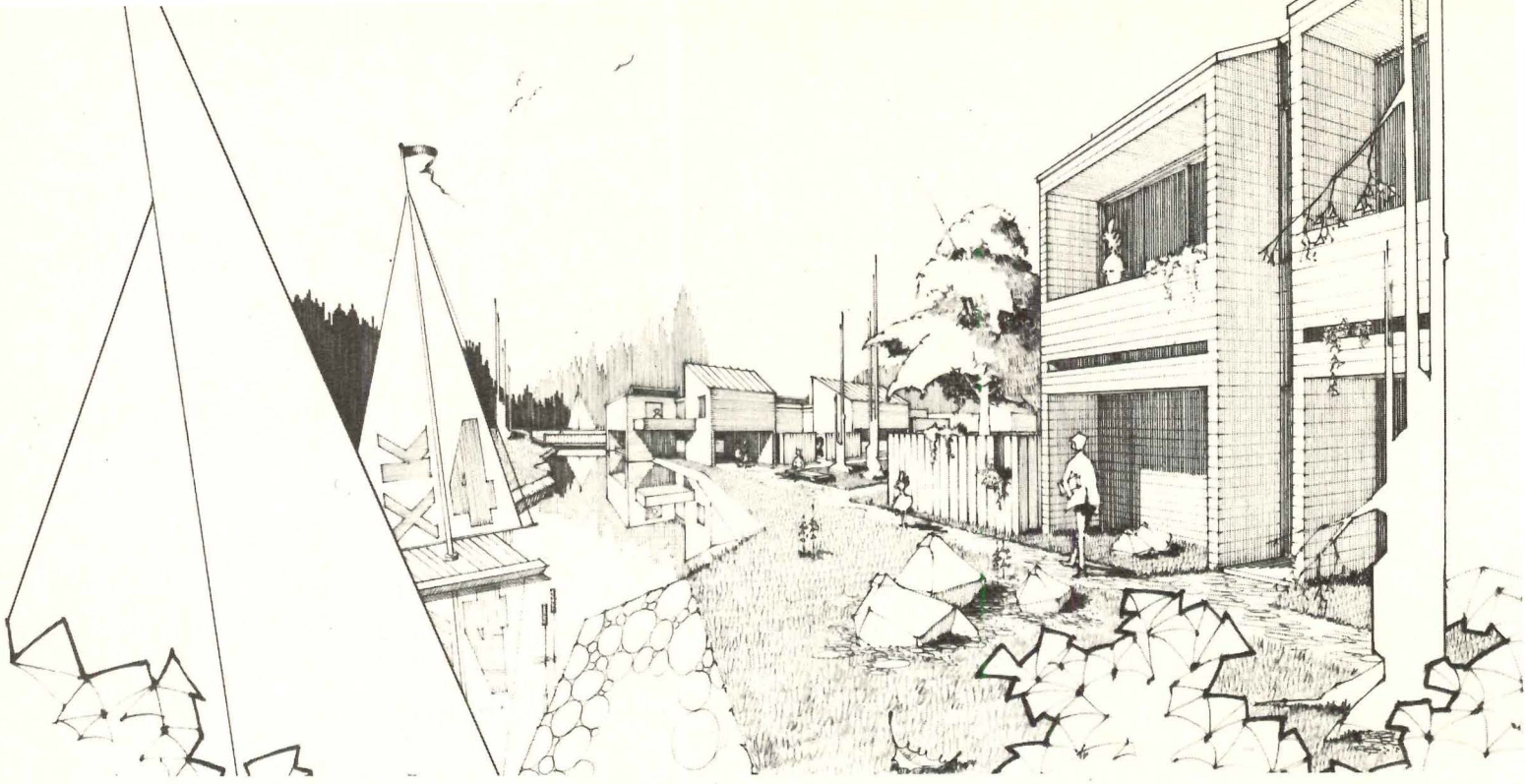


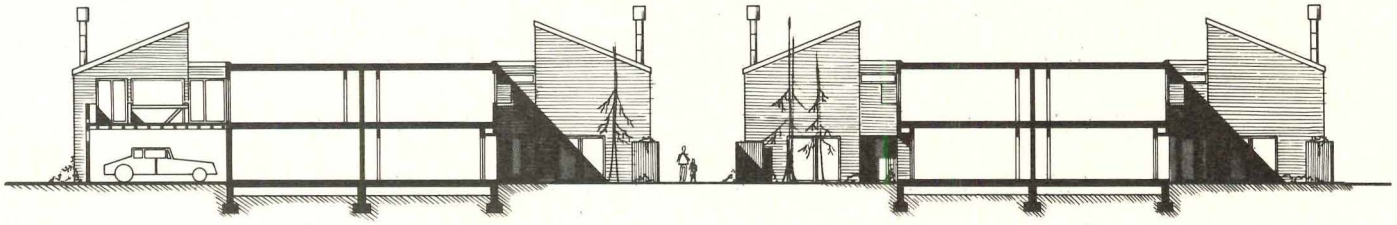
UPPER FLOOR



PLANNING CONCEPT

UNIT SYSTEM





Proposal

Planning criteria

Interest groups

Owner | **Resident** | **Town** | **Regional**

Develop an economically sound community to function as a subsystem in the town of Ridgefield and regional network

Economic

- Market
- Demography
- Land cost/value
- Location
- General construction cost
- Cost time sequence
- Rental/sales
- Unit distribution
- Cash flow — in/out
- Profit

Shelter
Food
Clothing
Taxes

Expanding consumers market (B)
Municipal revenue

Shopping characteristics
Industrial development pattern
Communications: Auto · Rail Telephone (B)
Population intensity demography
Conservation
Open space
Vegetation
Water resources
Soil erosion
Solid waste
Waste disposal

Social

Desire to contribute to a better way of life

Urban-rural life style (B)(D)(E)(H)(I)
Age group orientation Children · Adults Senior citizens
Recreation (B)(C)(H)(I)(K)
Status

Community growth
Prestige
Historic importance (H)(K)

Physical

Site

- Topography (A)(J)(K)(L)(d6)
- Water (C)(E)(K)
- Trees (A)(H)(J)(K)
- Rock outcroppings (A)(J)(L)
- Barn (I)
- Olmstead gardens (H)
- Olcott estate
- Sewer-water (G)
- Soil characteristics (J)(C)

"Home" (Where I live)
Convenience Access · Circulation Facilities (B)(C)(D)(E)(F)

Shopping (B)
Education (E)
Town center (B)
Roads (B)(E)(F)

Controls

Deed restrictions (C)(J)(K)
Institutional constraints

Market demand (L)
Density (J)(K)

Zoning regulations (J)(K)
Building code (L)(M)

State-federal regulatory agencies

Casagmo

Paul Properties, Ridgefield

development, with renderings and sketches of the land plan and the architecture. The documents, says Pomeroy, were no surprise to most townspeople and the zoning board. "We involved the officials in the process from the beginning, and they came to see it differently than if we had just brought in a total package and demanded acceptance. This way, the board was almost on our side."

The same procedure was followed to obtain a zoning change for the second apartment project. This one, Oreneca, will contain 276 units, treated in a far more urban manner than was Casagmo. Site and drainage conditions caused the units to be tightly clustered around a small lake and between rock outcroppings, an orchard and stands of trees. A recreation building will be at the top of a sloped "village green." The apartments are designed in a dense, courtyard scheme, and Pomeroy hopes they can be prefabricated.

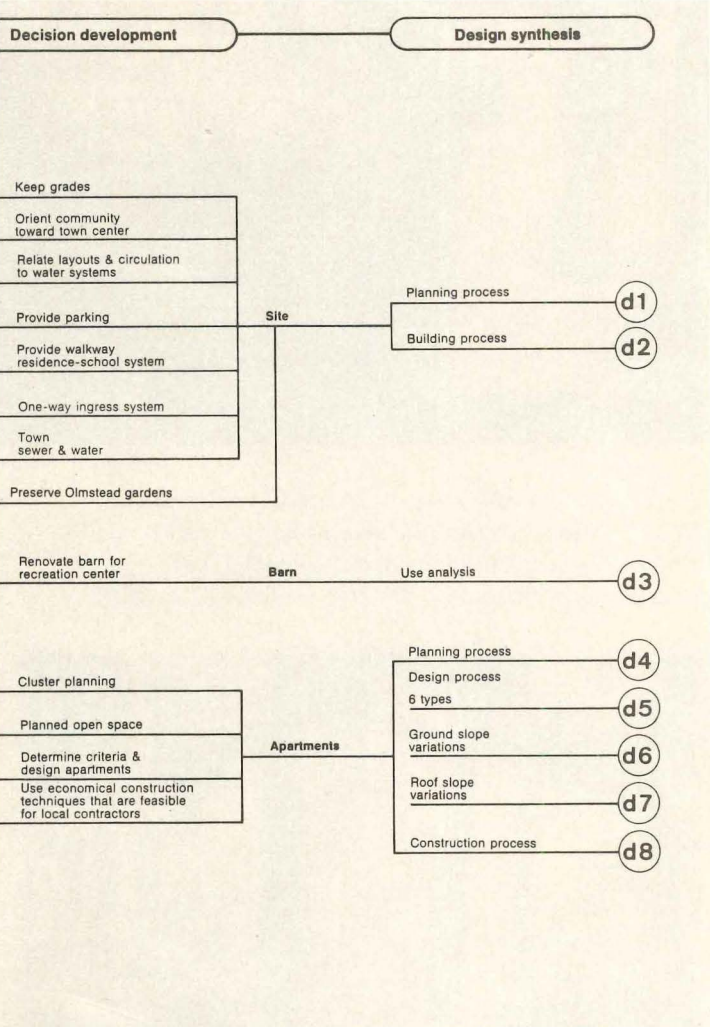
Casagmo was also designed for prefabrication, but the owner opted for conventional construction. He found that Pomeroy's basic unit system worked equally well for a project constructed in stages; it was flexible enough to hold up even though the mix of the units changed and buildings were placed differently than they appeared on the site plan. "You can't really survey everything at first on a project like this," says Pomeroy. "The roof line holds but the setbacks vary to leave trees standing and to take advantage of the terrain."

Every apartment goes through the building and has a "hard side" for parking and a "soft side" of turf and trees. Walkways, courtyards, streams and ponds wind between buildings.

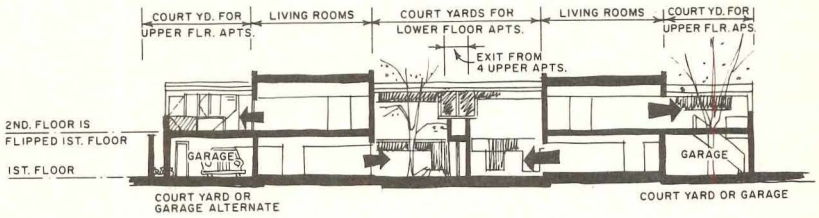
Opposition to apartments has not totally died down in Ridgefield. Some residents still struggle to keep the town suspended in its "rural New England traditions" and others fear any tax rise. For Paul, Pomeroy and other developers with whom he works, the pressure is never off.

Pomeroy believes it doesn't have to be this way, however. Towns should, and could, switch from negative planning that merely responds to development proposals to incentive zoning that attracts development to fulfill predetermined goals. Instead of asking for plazas or theaters, as do some cities, a town could get schools, open spaces, recreation or almost anything it asked for. "The weapon is money," says Pomeroy. Incentive zoning would involve a design team working for the town, and its fees would be passed on to the developers who respond to the town's proposals. In addition to the design professionals the team should include scientists, engineers and sociologists. "The team should work for the town, and the town, not the developers, should make the proposals."

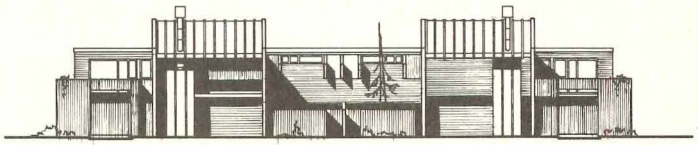
Exhibit A for the team approach to land use proposals is Pomeroy's chart (below) of the design methodology used for Casagmo. The chart reads both ways: from left to right it shows the proposal, design criteria, development decisions and, finally, the design synthesis. These are keyed, right to left, by numbers and letters that refer back to the planning criteria. There is no reason, he says, why towns should not adopt a similar process. [RR]



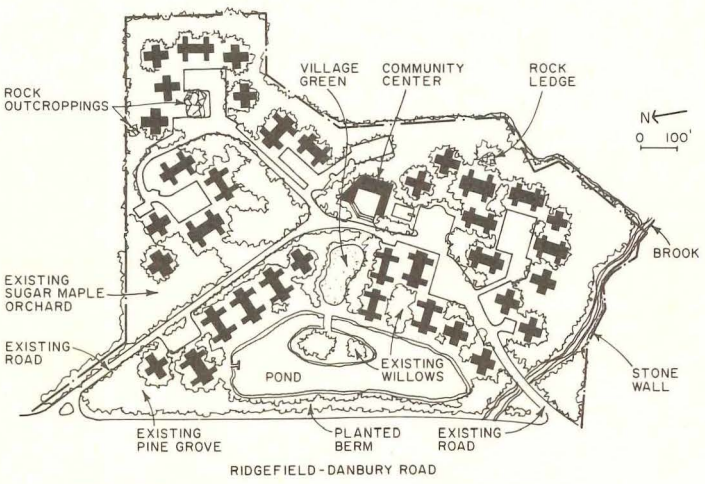
Lee Harris Pomeroy Architects-Planners



SCHEMATIC SECTION STUDY

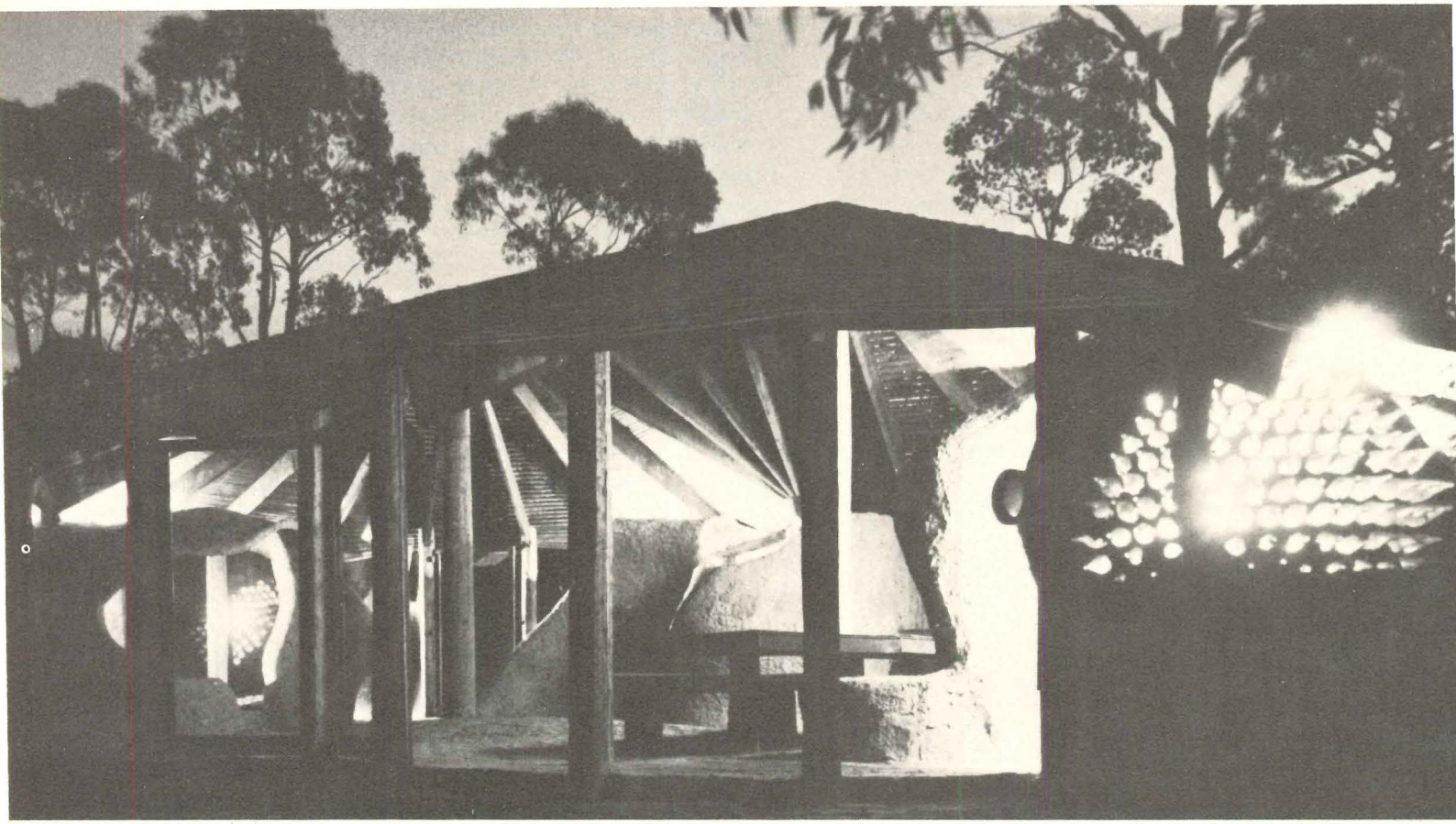


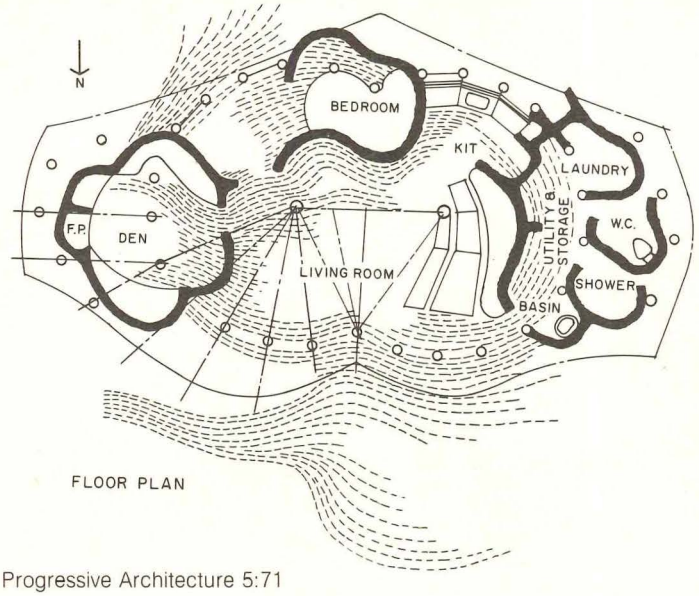
Second apartment project, Oreneca, will have 276 units clustered tightly in an urban scheme. Existing pond, orchard, rock outcroppings and trees will form basic landscaping.



SITE PLAN

Bachelor house in the Outback





FLOOR PLAN

At nighttime, spotlights from nearby trees are trained on the amber beer bottles to create a warm glow inside the house. Structural supports are old telephone poles, interior walls are local clay stabilized with cement and wire mesh.

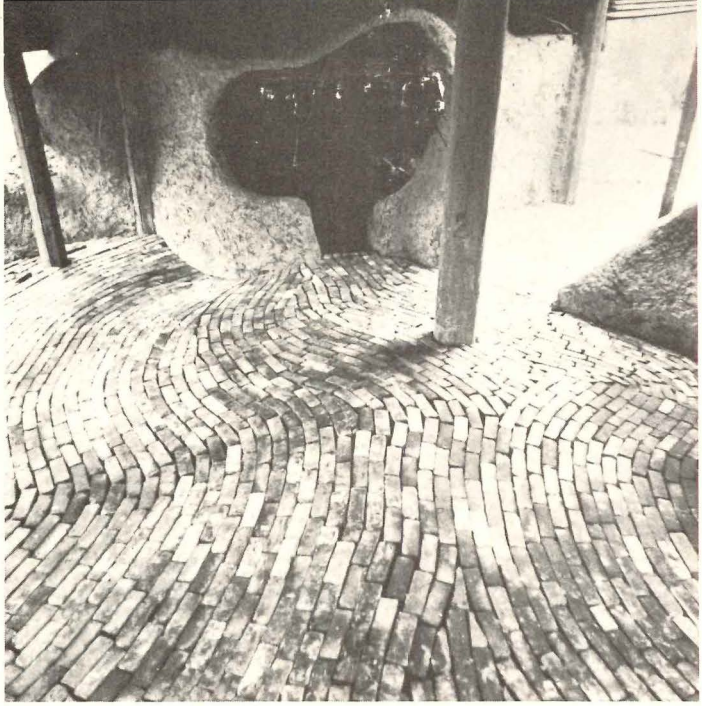
In the virgin bushland of Australia, an architect designs and builds a bachelor's residence at low cost with telephone poles, beer bottles and rammed earth

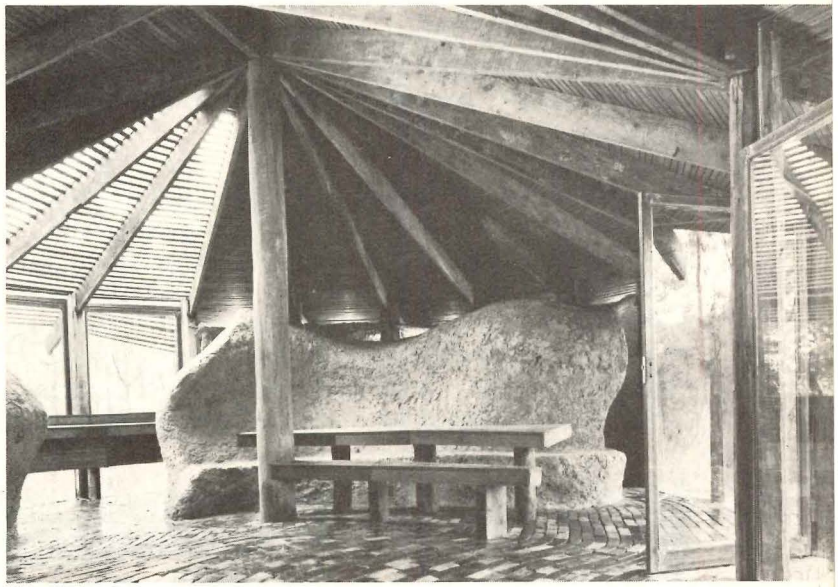
Morrice Shaw had worked for several years turning out houses with neat, modular design for an architect in Australia when, one day, a friend asked if it would be possible to build a permanent residence for only $1000, on land already owned. The client would give him a free hand; the only requirement was that there be a large open space for entertaining, along with some closed off, intimate spaces. The challenge appealed to the architect, who subsequently quit his office job to devote all of his time to designing, and actually building, this first independent commission. By using cheap or free materials, help from friends and $5 to $10 a day labor, Cottlesbridge House was built within its budget.

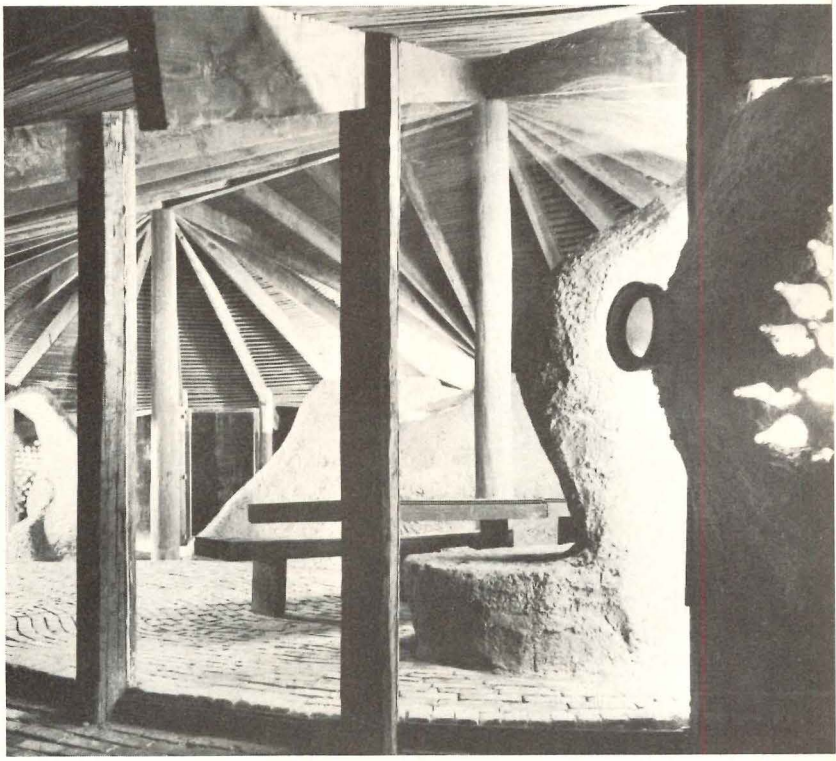
Old telephone poles, costing 50¢ each, are used for structural supports. They are arranged in plan to form a figure 8 of two intersecting circles, with rafters radiating from central posts. Outlying segmental colonnades of telephone poles support the ends of the low roof that is draped over the rafters. Covering the roof with shingles was the only professional job—$400 for labor and materials.

Undersides of the roof are partly lined with old red gum flooring, partly glazed in a lath-house pattern. The interstices between the posts are filled mostly with plate glass sheets and French doors. Free-form enclosures of local clay, stabilized with cement and wire mesh, define three private areas: a fire den at one end of the house, a bath, storage and utility area at the other, and a sleeping alcove in the center. The exteriors of these areas, bulging beyond the outer line of posts, are filled with rows of amber, quart-sized beer bottles which are lit from the outside at night to give a warm glow to the interior.

By establishing a simple structural skeleton at the start, Shaw was able to treat the rest of the problem in the sketchiest way, proceeding without working drawings, trying things out and changing them if they seemed not to be right. Furniture is kept to a bare minimum with a few built-in pieces. The sleeping alcove contains a free-form depression that houses a foam-rubber mattress, and large areas of the floor were kept soft beneath the loose brick paving so they could be contoured in a way to encourage sitting. [DM]







Data

Project: Cottlesbridge House, Victoria, Australia.
Architect: Morrice Shaw.
Site: 30 acres of virgin bushland, 25 miles from Melbourne.
Structural system: umbrella post and rafter system over nonload-bearing walls.
Mechanical system: electrical conduit and water piping concealed in floor and walls.
Major materials: hardwood telephone poles, Canadian redwood shingles, brick floors, stabilized clay partitions, plate glass, quart-size beer bottles.
Costs: $1,000.
Client: Leon Sapir.
Photography: Mark Strizig.

Owen residence

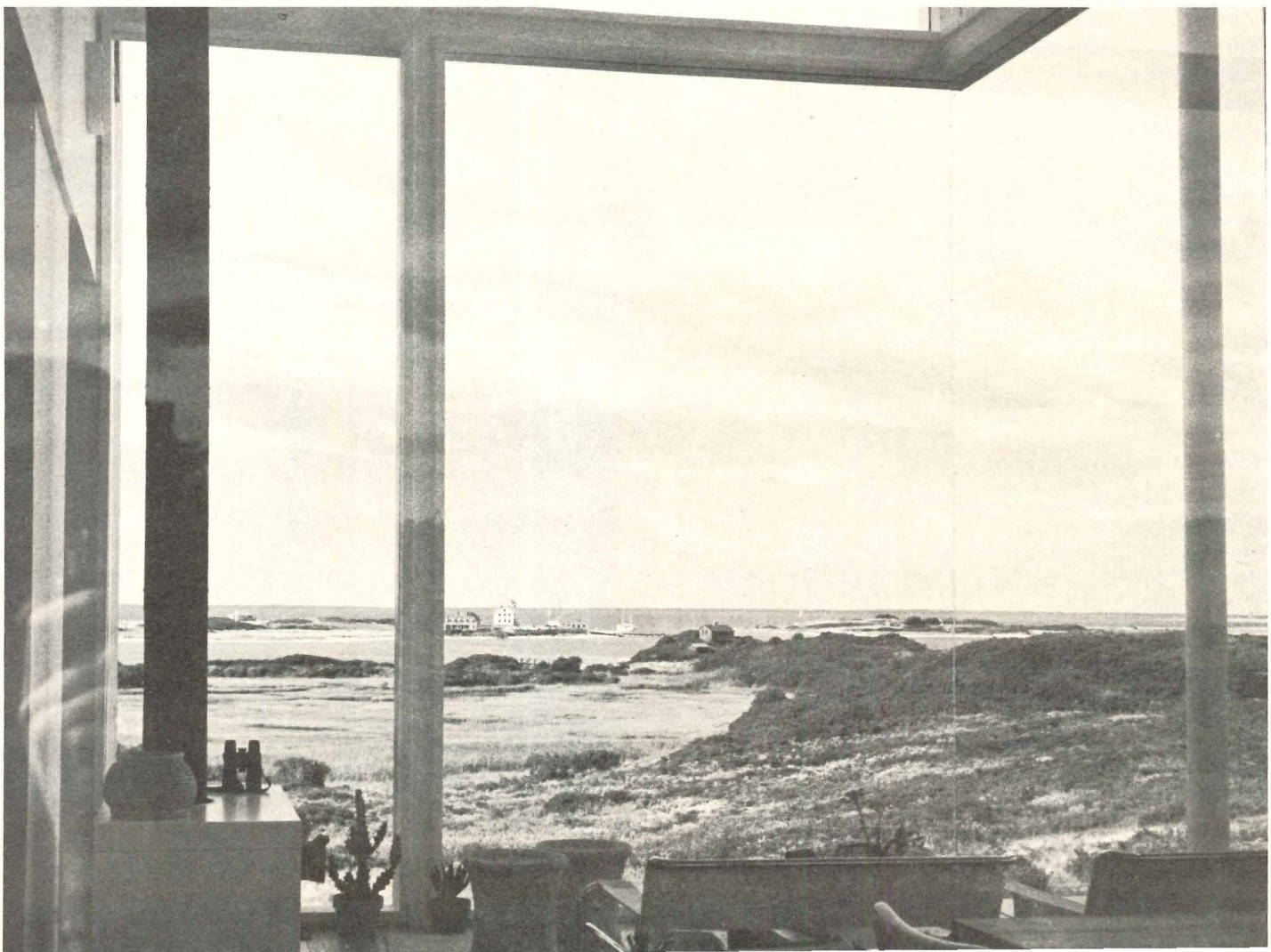
Open and closed

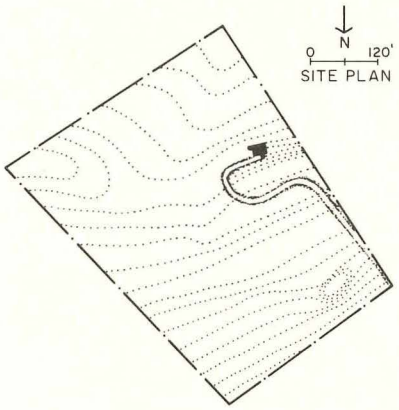
Bayberry, blackberry and natural land forms of Block Island are preserved by careful siting of an architect's vacation house oriented to avoid future development and direct sun

An effort to make the most of a dramatic view, yet to screen out direct sun and future development on adjacent sites, prompted the orientation of this vacation house by architect-owner Christopher H.L. Owen. By turning its back to the southwest, the house effectively blocks both sun and unwanted views, while opening up to the water. The sense of openness is increased by the lack of an interrupting corner support in the living area. The entire northeast corner of the house is supported on a 6-in. steel tube column beyond the wall plane, allowing the 8′ x 12′ glass sections to be butted without further structural members.

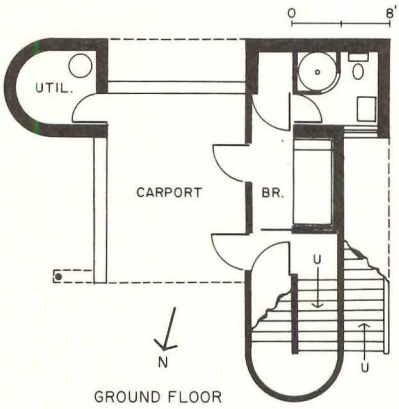
Red cedar siding, weathering to gray, is the main exterior material of the balloon framed structure. Interior finishes, primarily white with light prefinished wood floors, are accented by furnishings and art. Steel railings and pipe column are painted bright "equipment" yellow.

Bunk-type sleeping areas were acceptable, since the house is strictly for holiday and weekend periods. On the second floor, the two small bedrooms are entered from a walkway overlooking the living area, and the master bedroom shares that view through openings with wood shutter doors. [JM]

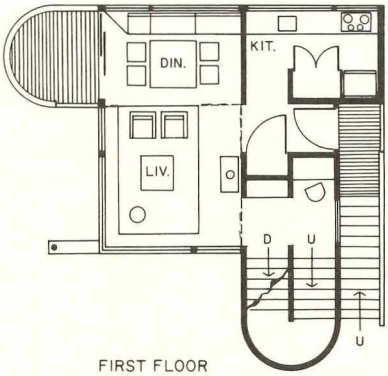




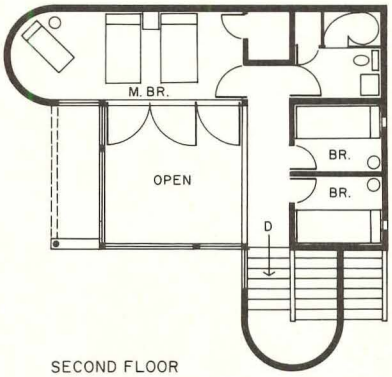
SITE PLAN



GROUND FLOOR



FIRST FLOOR

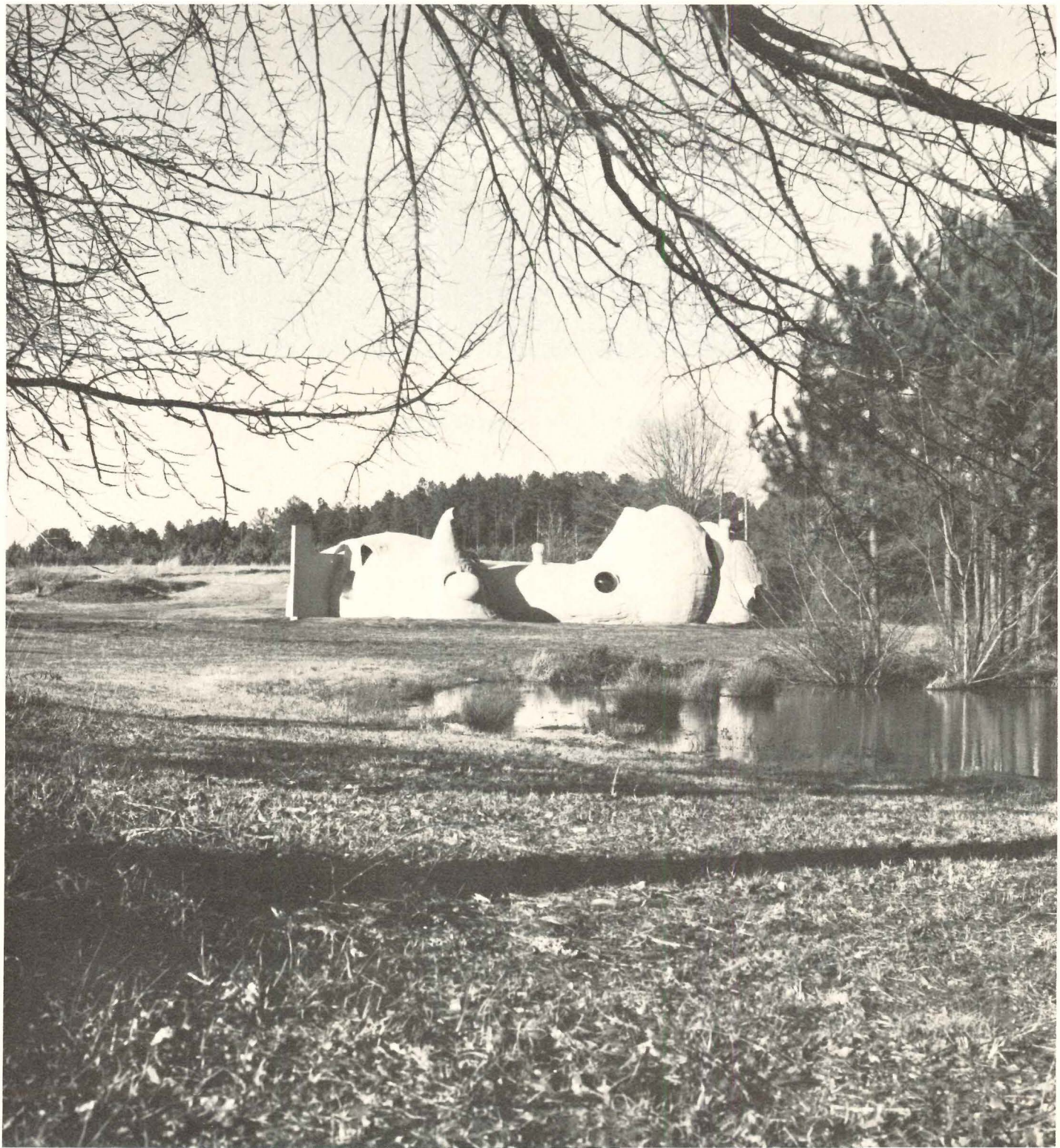


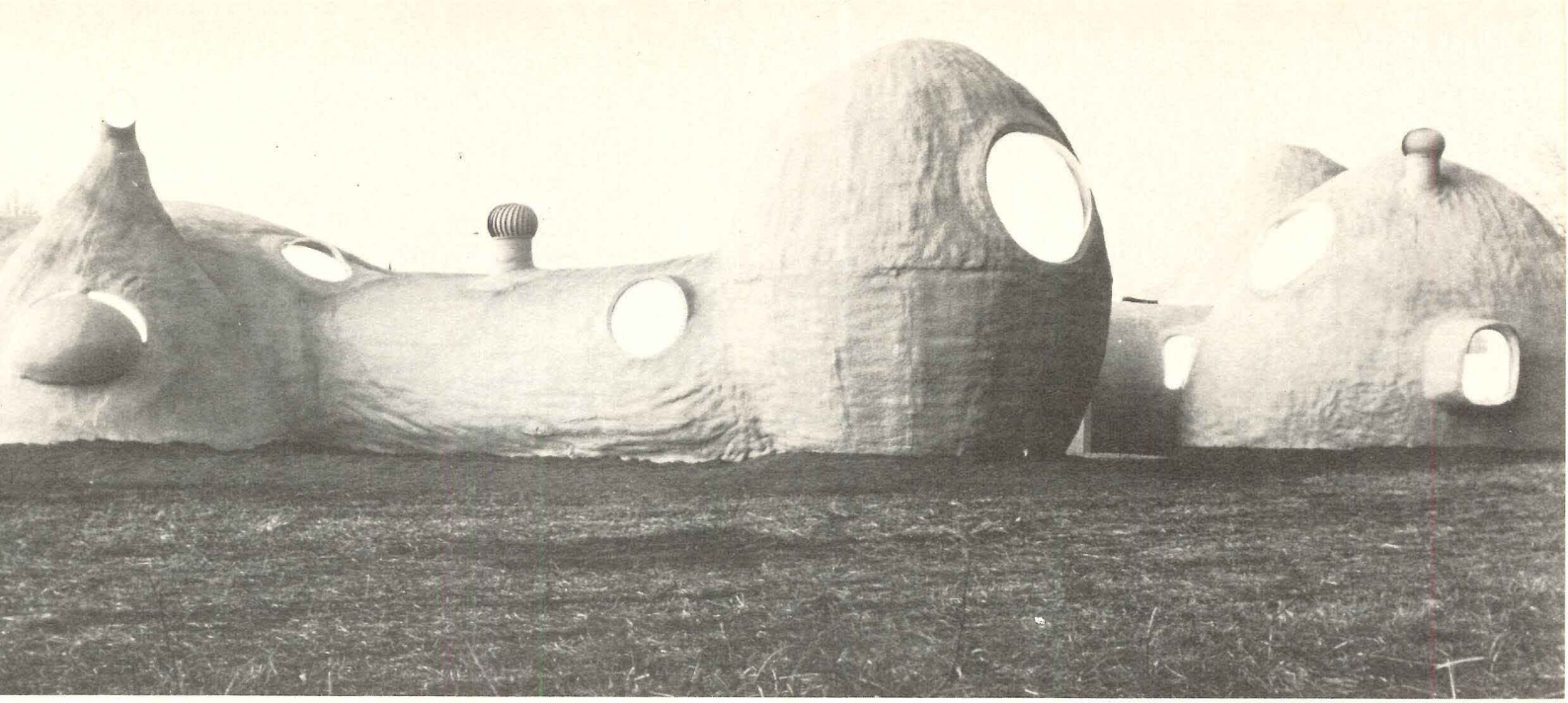
SECOND FLOOR

Data

Project: Owen residence.
Architect: Christopher H.L. Owen.
Site: rural, open site, Block Island, R.I.
Structural system: wood balloon framing with one steel tube column, concrete footings and slab.
Mechanical system: electric heating units.
Major materials: exterior, red cedar; interior, gypsum board, oak flooring.
Costs: $46,000 ($30/sq ft).
Photography: Christopher H.L. Owen.

Foam home





A corporate guest house in Alabama is shot from a gun, a spray gun. Urethane foam sprayed over fabric forms gives structural strength, insulation and unusual shapes

The guest house that architect Felix Drury designed for the West Point Pepperell corporate headquarters at Langdale, Ala. represents a just-beginning technology—the use of foamed plastics as structural materials in housing.

In this case, the material is rigid urethane foam, sprayed over forms made either of heavy paper reinforced with polypropylene fibers, or a heavy nylon fabric made by West Point Pepperell. The major forms were manufactured by the Bemis Co. from Drury's drawings, but, according to Drury, they were improperly made and had to be reworked at the construction site, with the reworking resulting in the "strange shape of the living room dome."

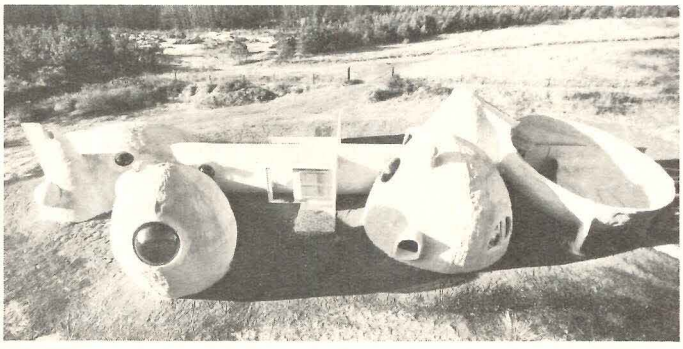
The forms were inflated after being stapled to the formwork of the concrete floor slabs, which had been poured on a grade level gravel base. They were then sprayed from the outside with a "cold weather" urethane foam of about 3-lb density. A 4-lb foam would have been his normal selection, says Drury, but it was cold at the time. The average structural thickness is about 4 in.

Forms were designed to be left in place to add skin strength, but the reinforced paper forms were "entirely unsatisfactory," according to the architect. It seems that the heat of the chemical interaction during foaming delaminated the layers of paper and polypropylene fiber, leaving a partially loose interior surface. The fabric worked well, and Drury plans to continue using it.

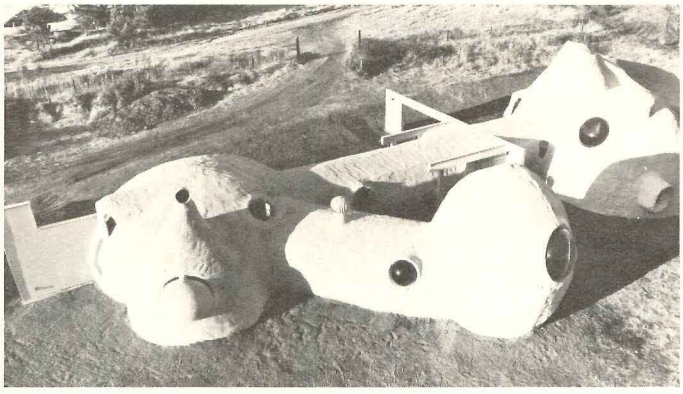
Once the foaming was complete, an inch-thick coat of fire-resistant foam was sprayed onto the interior. Drury sees great promise in this layering of foams with different characteristics, not only for fire resistance, but also for strength and resistance to abrasion and vandalism. Drury's subsequent projects call for reducing the thick coat to 2-lb foam, with exterior coatings of 20- to 30-lb foam ("which is hardly foam at that density," says Drury).

The exterior is painted with acrylic latex house paint to protect against ultraviolet radiation. The interior was completely painted with fire retarding intumescent paint.

Heating and cooling is not done the way Drury would have



Urethane foam house, a collection of dome-shaped rooms and tunnels, was built quickly (six weeks, including bad weather) at about half the cost of conventional construction.



liked. Two window units were provided free for the project, and those were what Drury had to work with. One is mounted high in the living room, the other between the bedrooms. "My first design called for a central air conditioning system using foam ducts formed by cloth tubes and laid over the main forms, or sewn into them, in some cases. This is an extremely cheap and flexible system of ducting anything, and it also adds rib strength to the building. Nobody would give us the air conditioning equipment for the central system, and we could not afford to buy it."

Windows, all but one of them fixed, are acrylic, cut from sheet stock and set in a zippered neoprene gasket. The windows were then set in holes cut in the walls and foamed in place. Excess foam was trimmed away. With only a small window in the bathroom operable, ventilation comes from the air conditioning units and rotating roof vents in the kitchen and bathroom.

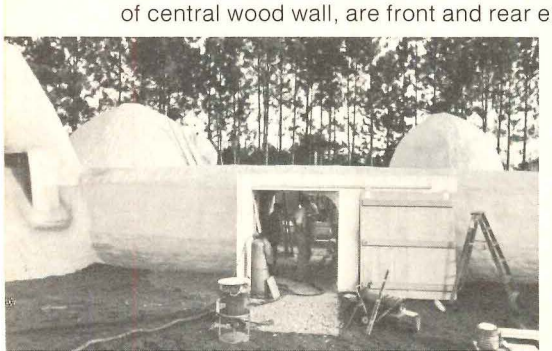
Since the house is on one level, all plumbing was cast into the floor slab, although Drury says it is possible to foam in the plumbing lines, either early in the job against the forms, or later on in chases cut or formed in the plastic shell. Bath and shower lines in the large bathing egg were foamed into an interior partition. The slab also carries some of the electrical wiring; the rest of the wiring was either attached to the forms before spraying or carried in a wood wall that runs the length of the house. High temperature wiring cable was taped directly to the forms in order to offset the overinsulating effect of the foam. Standard electrical boxes were also taped to the inflated forms and foamed in.

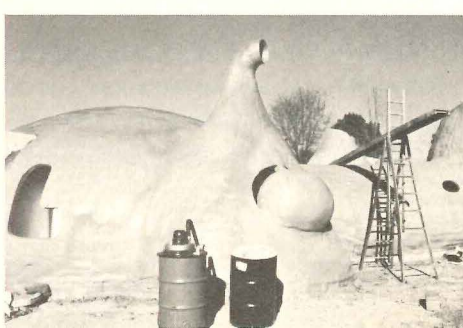
"The wood wall was introduced to give scale and gravity references to the curved surfaces," Drury explains. "it takes different shapes and performs different functions as it lopes through the rooms. It carries a lot of the lighting, and in the living room it is the framework for the audio visual center." It also supports the two air conditioning units, and the main doors.

"This is the tenth foam building for me in three years," says Drury. "Everybody asks me 'Will you keep doing it? Is this the material of the future? Will we have to live in buildings that look like that?'

"It has high potential both for field application and factory production. Its technology is just beginning. It is not the magic material, but it can do things no other material can do. Never before has an architect been able to freely work with curved surfaces. As drastic changes occur in man's use and sense of time and scale and place, foam allows the architect to experiment with conditions which might accommodate these changes. Why worry whether or not it's forever?" [CP]

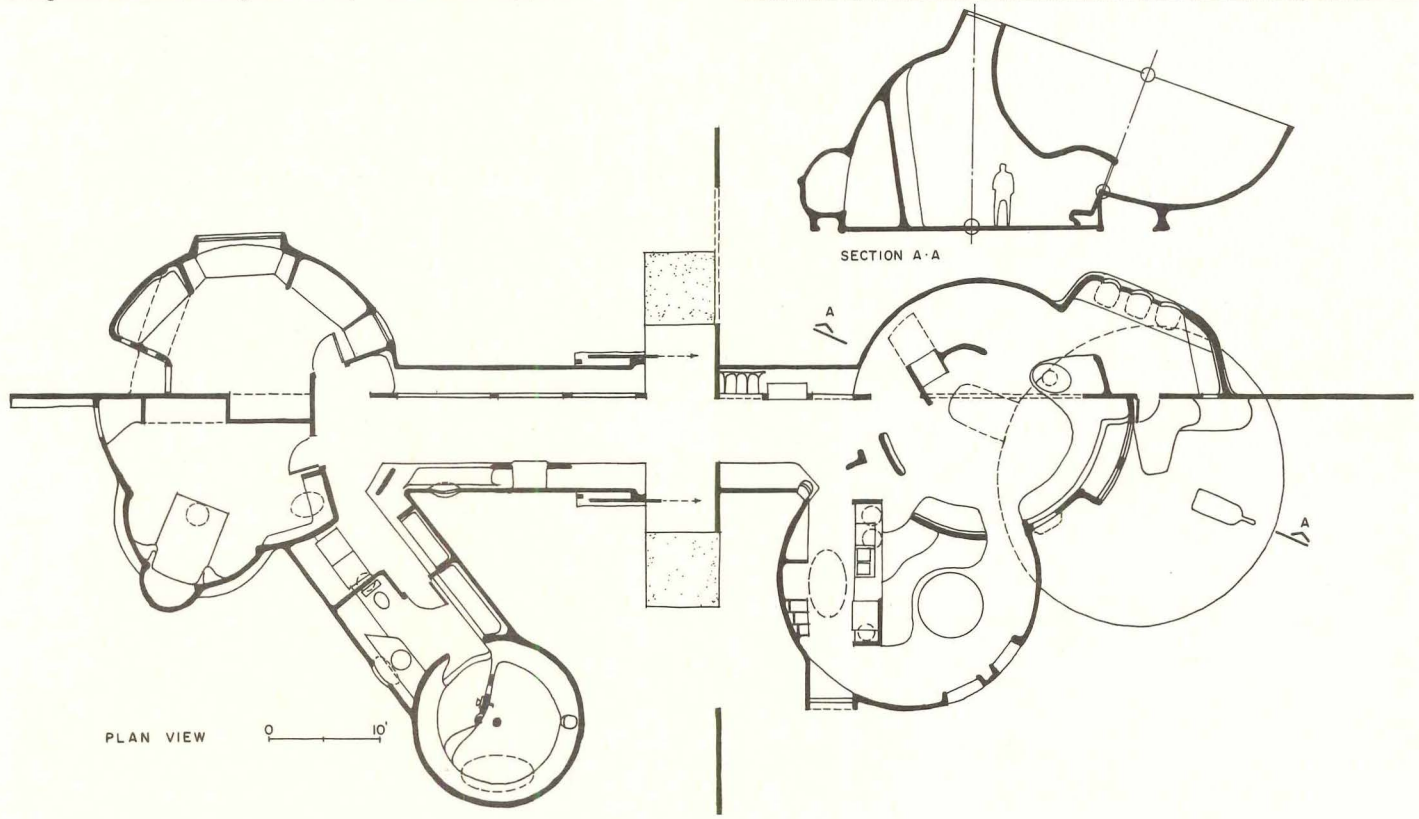
Drums, pumps and hoses give construction site a different look. Sliding doors (left), hung on extensions of central wood wall, are front and rear entrances.





Photos: John Zimmerman

Central wall, running length of the house, carries lighting in living room (top) and children's room (above); wall of closets separates children from master bedroom (right). Tubes foamed in place became kitchen cabinets. Vera Hahn designed interior, using fabrics by West Point Pepperell.



Rural free geometry

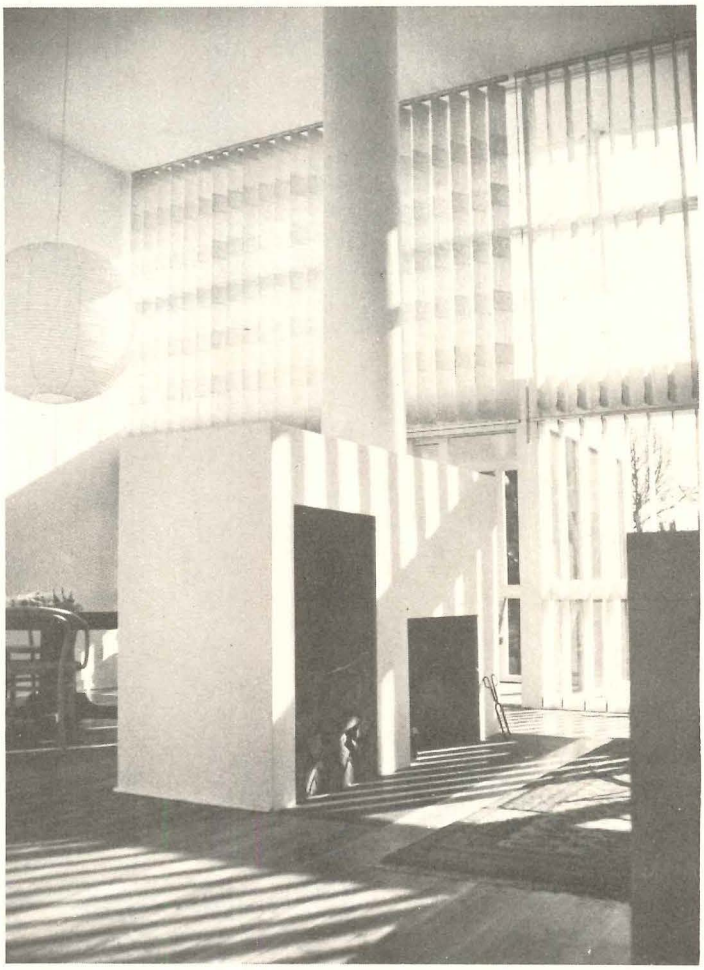
The form of this South Carolina house, a year-round vacation retreat for an urbanite, is as uncommon for the area as its wood frame construction is common

The Savannah River flows along one side of South Carolina's Allendale County. The countryside is mostly rolling farmland and pine forest, good country for horseback riding, hunting and hiking; in short, a good spot for a year-round vacation house for an outdoor-minded city dweller. The site that architects Hedman, Mackintosh and Steinglass helped their client (who lives and works in Washington, D.C.) select is bounded by cultivated fields and a cypress pond. The house the architects designed makes the most of the openness, breezes and dramatic views that are unique to the area.

The house, of conventional wood frame construction, takes its unconventional (for that area) form from a rectangular first level topped by a triangular second level. The first level, several steps up from the ground, is living space—kitchen, utility room and a living/dining room that reaches up to the second floor. In addition to the upper part of the living room, the second level contains private wings for the master bedroom and study and the two guest bedrooms. The master bedroom provides a roof for an open ground-level patio, while the guest wing tops off a carport. The two bedroom wings have their own corner fireplaces, baths, carpeted floors and large windows to take advantage of the view.

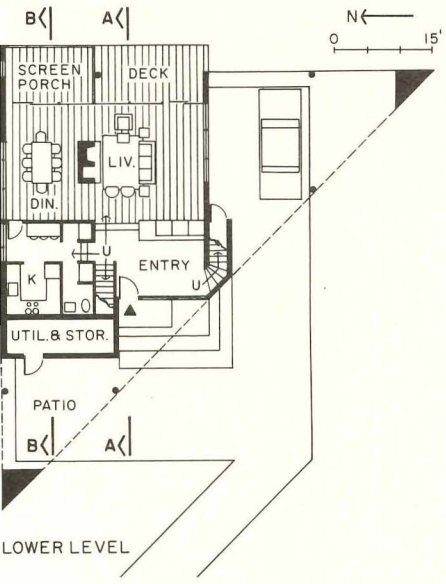
The living/dining room is the major space in the house. Almost completely enclosed with glass, it offers views in all directions, with the east wall opening onto a deck and screened porch. A large fireplace in the middle separates the living and dining areas. Walls are painted white, as they are throughout the house, and the floors are oak planking, except in the entry and kitchen, where they are Welsh quarry tile. The living area and the kitchen are each one step up from the indented glass-walled entry.

With the exception of the guest wing, which has its own individual through-wall air conditioners and baseboard convectors, the entire house is centrally heated and cooled by a forced air system; electricity is the only power source. Interior partitions are white painted gypsum board; the exterior is stucco over conventional wood framing. [CP]

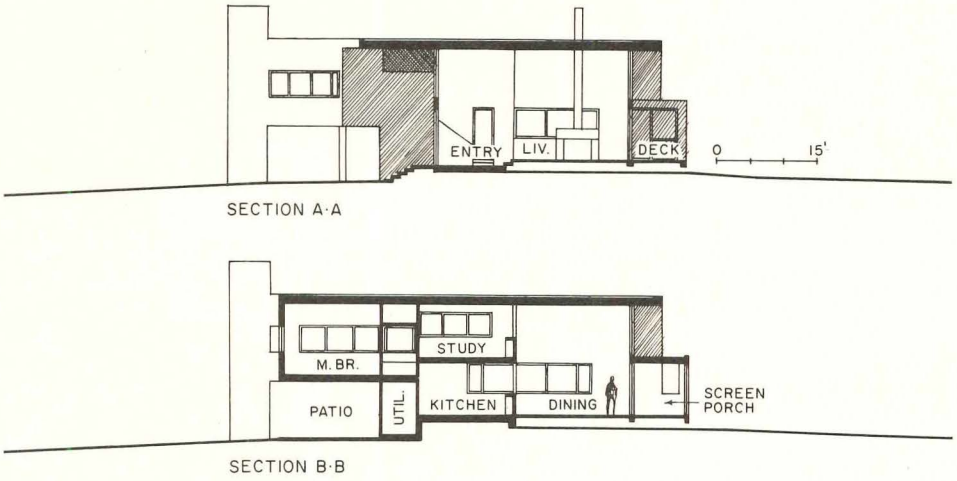


Data

Project: residence, South Carolina.
Architect: Hedman, Mackintosh and Steinglass.
Site: farmland, Allendale County, S.C.
Structural system: wood frame.
Mechanical system: electric forced air heating and cooling.
Major materials: exterior, stucco; interior, gypsum board, oak flooring, quarry tile and carpet.
Costs: $60,000 ($30.00/sq ft).
Photography: Hedman, Mackintosh and Steinglass.

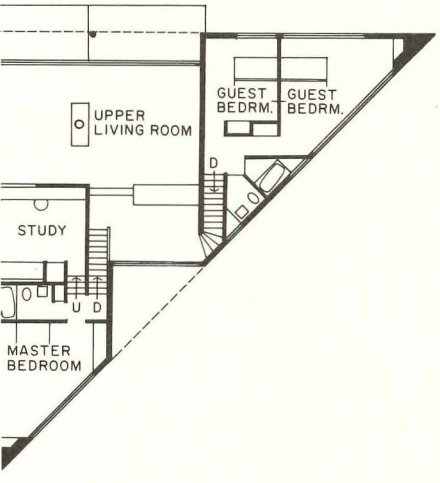


LOWER LEVEL

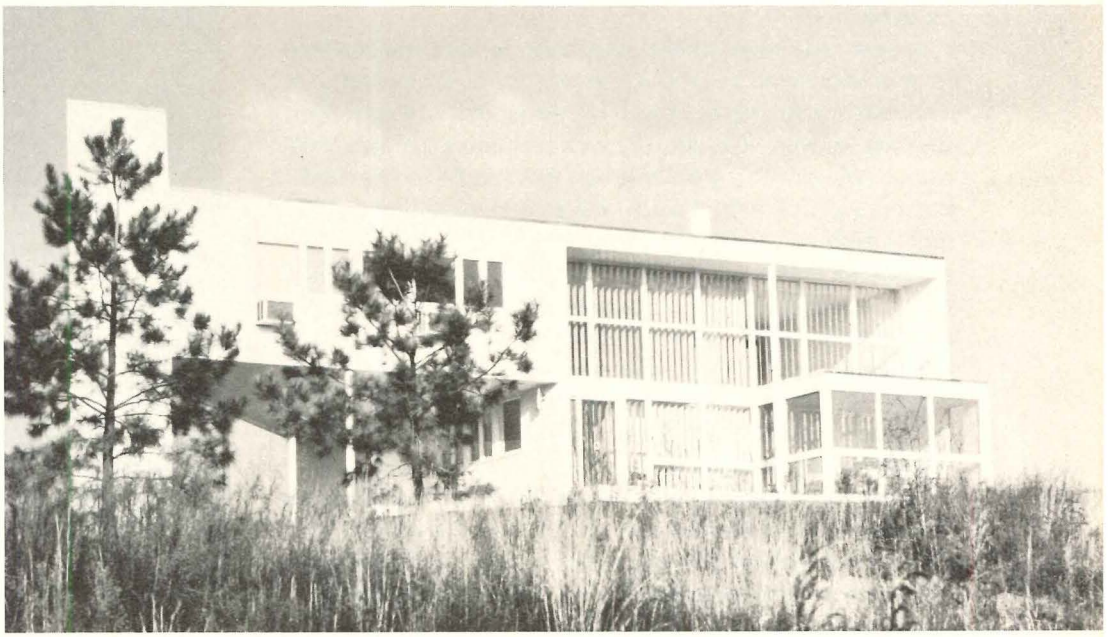


SECTION A·A

SECTION B·B



UPPER LEVEL



Who's going to live here, anyhow?

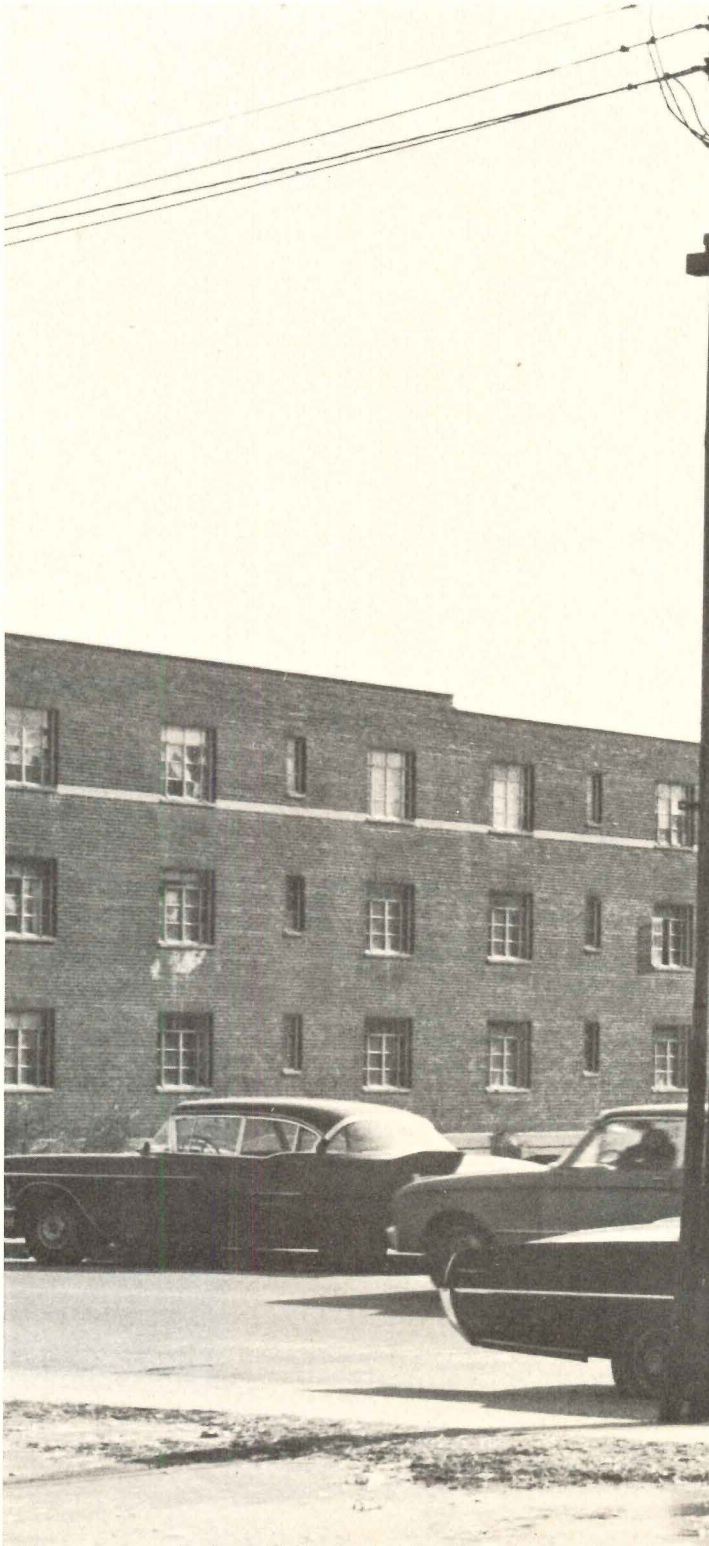
A long overdue gesture that recognizes low-income tenants as residents with distinctive life styles, the user-need study becomes a useful tool for design of public housing

For the low income family, housing choices are few—tenements in declining economic areas of the city or housing projects. Housing projects are built to house low income families, but these families are rarely considered as "clients." Louis Sauer has said, "Programs for presently proposed projects are established without consulting the families that might be occupying the housing, and therefore are not necessarily related to the lifestyles of the families or to the living patterns of the community."

Low income families are made up of a variety of ethnic groups whose social needs are different from those who are designing for them. If FHA intends to encourage home ownership for low income families, if $7.5 million is spent on one housing project of 350 units, then obviously housing ought to reflect the needs of the occupants. In practice, however, it is not obvious to many architects. When asked to describe on what basis they designed interiors of their housing projects, several architects responded that it was "just conventional housing."

Several user-need studies have been funded, the most extensive sponsored by HUD in the "In Cities" experiment. "An Architectural Survey of How Six Families Use Space in Their Existing Houses" was done by architect Louis Sauer, on his own initiative, with a grant through the New Haven Redevelopment Agency. A third study was an assessment of the Easter Hill project in California by Claire Cooper.

The area most explored by these surveys is the main living area. Contrary to the assumed preference for a separate dining or living/dining, the surveys show a need for a large kitchen/dining. This is where the family gathers at meal time, the mother spends most of the day, friends are entertained. Since the kitchen/dining is the main social space, parents feel it is important that the living room be separate to allow another activity to take place simultaneously. Because most of those interviewed live in overcrowded conditions, the need for privacy has a very high priority. If given a choice between a few big bedrooms and many small ones, tenants prefer many small ones. Those who needed four or five bedrooms wanted

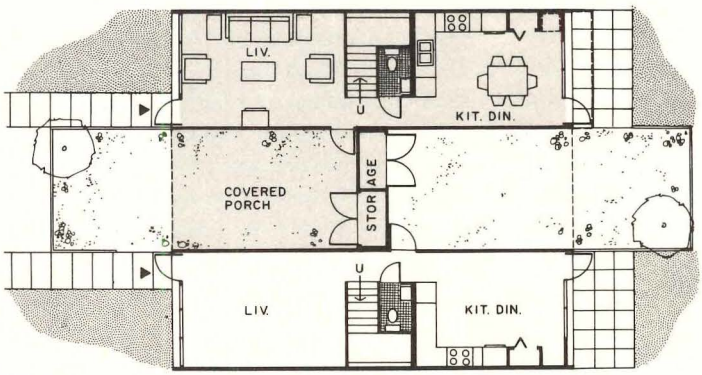


the parents' bedroom downstairs, as the father often worked irregular hours and would need to sleep when the children were playing in their rooms. Regardless of the separation of bedrooms, all tenants felt that at least a half-bath was necessary on the first floor. The most convenient place for the laundry facilities is in the kitchen or the half-bath.

Another area of the HUD study is open space needs. This gives some clue to the social use of outdoor space. Tenants' first priority is a private yard for each family. A front porch is essential so tenants can watch the goings-on of the neighborhood. The remaining common space should be used for recreation. When asked about the neighborhoods they were presently living in, tenants are most critical of the lack of planned play areas. No one liked the idea of shared facilities—parking or laundry. Lack of security, vandalism, theft and inadequate lighting were more criticisms of their neighborhoods. These criticisms reflect the need for strong territorial limits—front porch and private yard.

According to tenants, housing sites usually lack nearby commercial facilities, particularly supermarkets. Since only 66 percent of the tenants own a car, which is used by the father to get to work, they must depend on often inadequate public transportation, making daily tasks bothersome chores. At the inception of Paul Rudolph's Wilmont Road project in New Haven, residents opposed the site because there were no commercial facilities and public transportation was inadequate. The city chose to build there anyway. Now that the project is nearing completion, the city has undertaken a feasibility study to find out if it is possible to encourage commercial facilities on this site. Beyond these few questions of

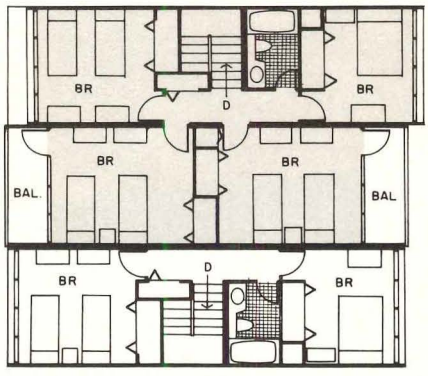
Parkview, Bridgeport, Conn.



GROUND FLOOR

Winning project from the HUD program, sponsored by Housing Corporation of America, Treister and Acosta, Architects, is standard factory fabricated units.

THREE BEDROOM UNITS



TWO AND FOUR BEDROOM UNITS

convenience, there was no attempt by the HUD survey to find out how people felt about living in a "a project." When asked, however, what they would miss if they moved from their present neighborhood, 43 percent responded to 9 different choices; 58 percent said, "Nothing."

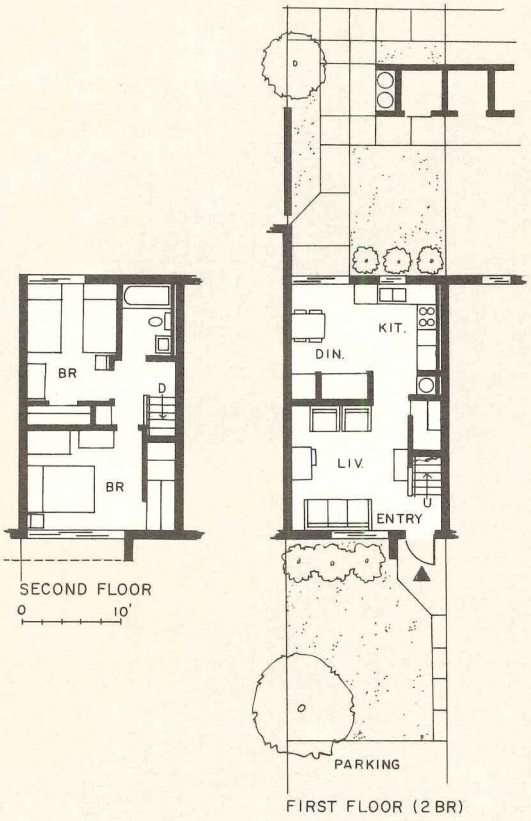
From the HUD study came an architectural program that included as design criteria the findings of the user-need survey. The site chosen was in Dade County, Fla. Developers were asked to submit proposals for 342 units to be built under the Turnkey III program for low income homeownership. The project (far right) sponsored by Multicon Properties with Trott and Bean, Architects, was developed from the HUD program. It incorporates both the user-need requirements and the FHA standards while staying within the financing limits. The floor area of the common spaces increases as the size of the family increases. In the 5-bedroom unit the fifth bedroom is downstairs with a second full bath. The yard includes drying space and a locked storage unit with provision for trash barrels. It did not win the competition. The project which did (right), won on the merits of being factory fabricated. Standardization is evident in the plans.

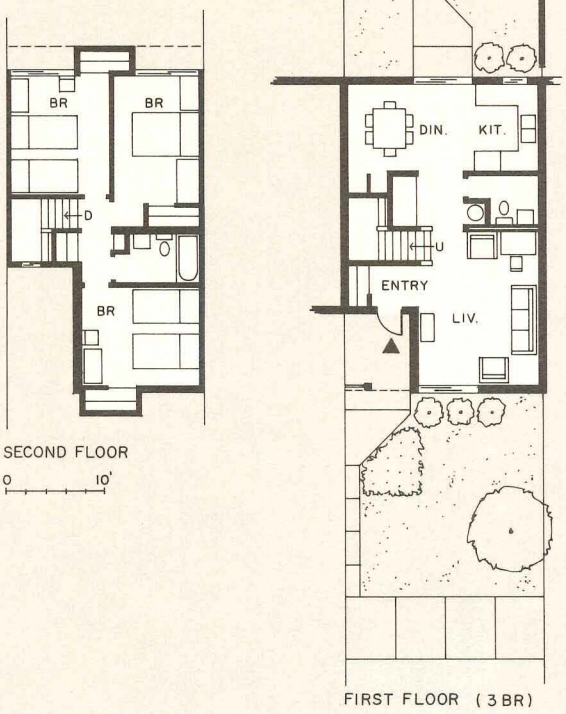
The maximum financing limits on FHA housing are updated every two years. The quality of the materials and construction necessarily remains low and it is estimated that major rehabilitation will be necessary within another 15 years. For the low income homeowner this means continual maintenance problems and ultimately the refinancing of a 40-year mortgage. "If redevelopment housing is going to be something other than a place families leave as soon as they can afford it," says Sauer, "then those responsible for planning the projects must try to produce housing which relates to what the community is. . . ."

These user-need studies deal with some basic questions about specific living preferences. The Sauer study dealt with black Americans in a New England climate and lifestyle; the HUD study with black Americans in a southern climate and way of life. Regional climates and attitudes will produce a variety of lifestyles and generalizations should not be made to produce yet another rigid architectural program for the design of low income housing.

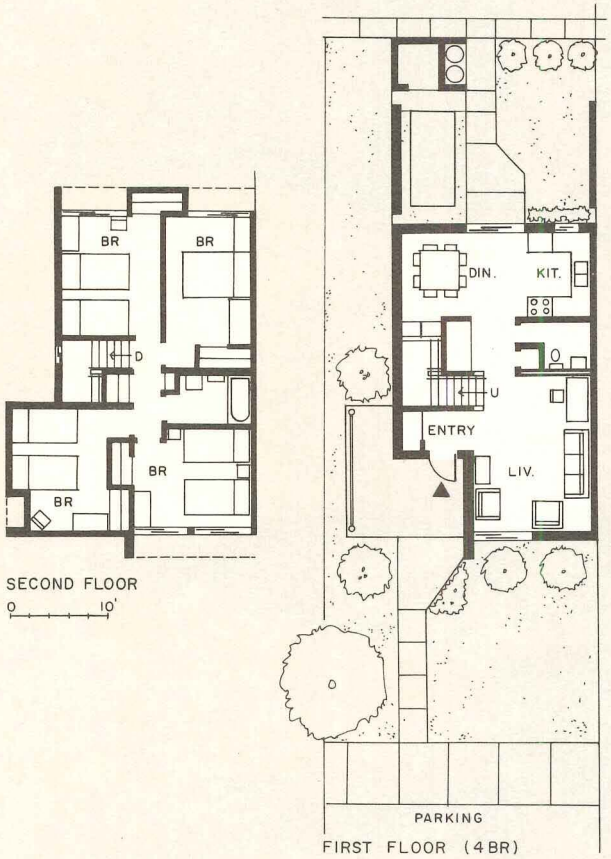
Studies in North Carolina by Henry Sanoff and the Community Design Group produced less conclusive results: 59 percent preferred living and dining/kitchen, 26 percent preferred living/dining and kitchen while 15 percent wanted three separate rooms. These data are being used in the design of prefabricated components which after standardization will allow each family to choose his own preference. The most important aspect of the user-need study is its use as a tool toward the involvement of people in making decisions about housing that they will occupy.

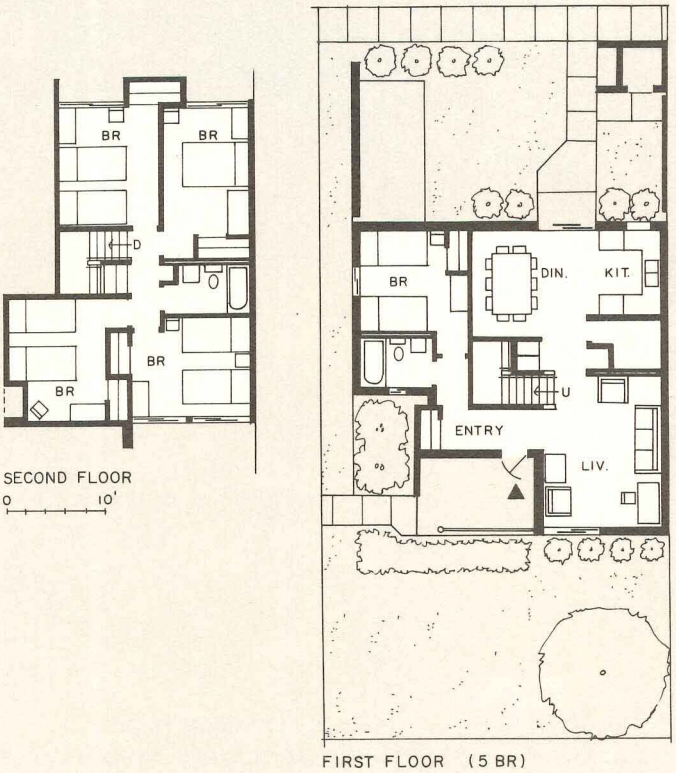
On the following page is 1969 P/A award project (P/A Jan. 1969) low income housing sponsored under the Section 221(d) (3) program for low-moderate income families. [SLR]



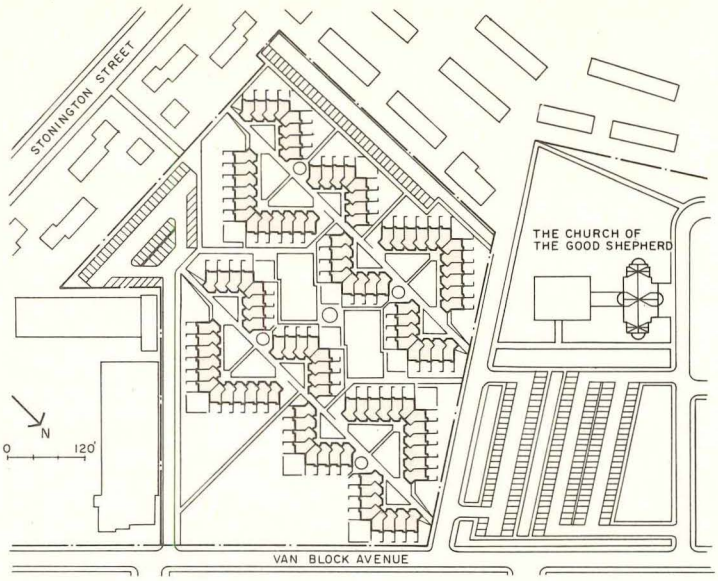


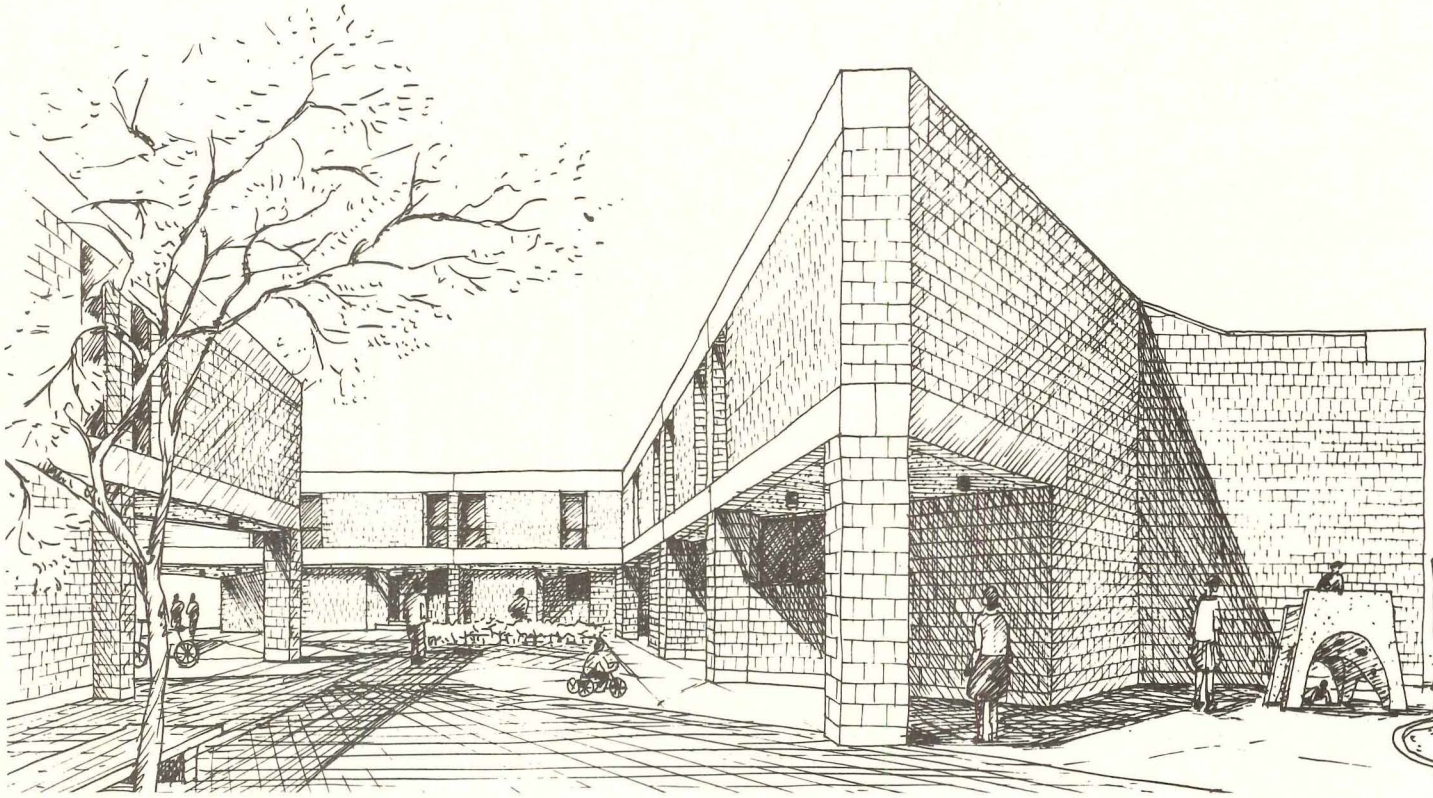
Project by Multicon Properties, Inc., Trott and Bean, Architects, utilizes all the user need preferences in the HUD program with a varied two- five-bedroom unit design.

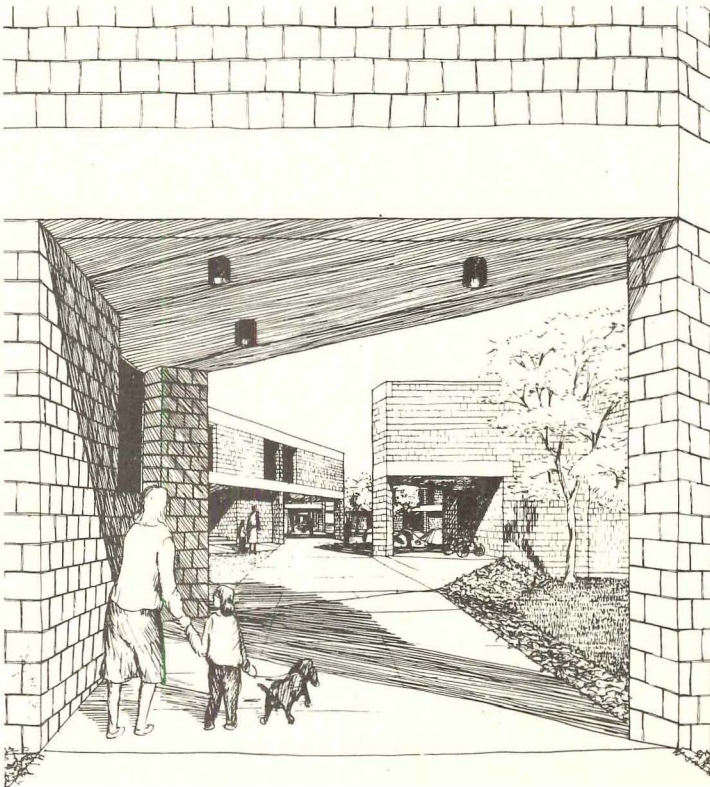




As designed, as built







Martin Luther King, Jr. Community in Hartford, Conn. is a 221(d)(3) housing project which won a 1969 P/A Design Award. It is shown here first as submitted, with the jury comment, and as a completed project with comment by the architect.

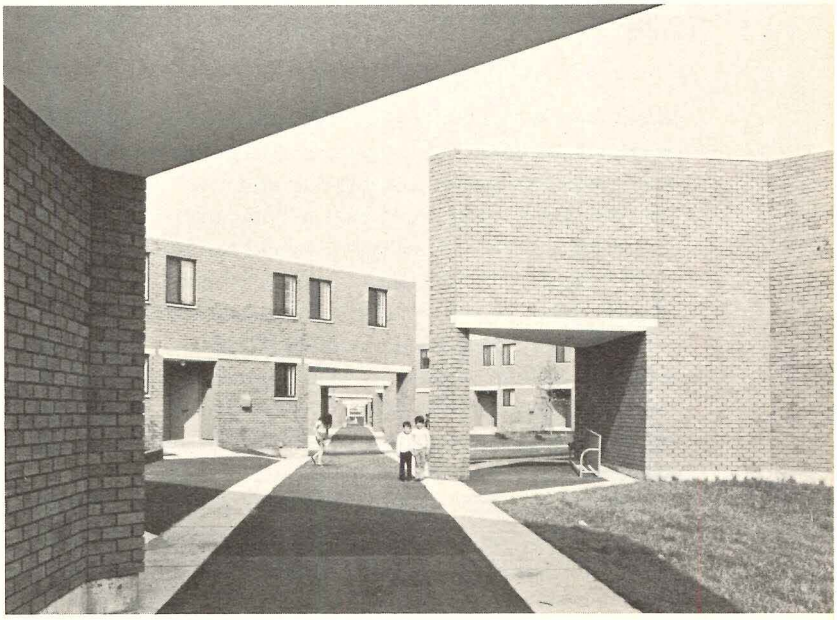
Comments from the 1969 P/A Awards Jury

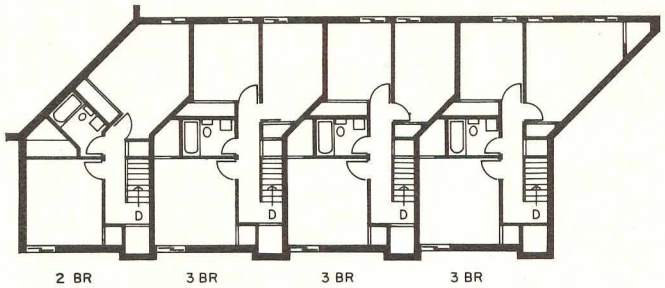
"The architect has succeeded in achieving a relevance between overall building form and internal planning of buildings. . . . I think it's almost unique in our day of pedestrian housing."

"Since we are beginning to enter a stage where man loses his individual identity, perhaps the constancy of this scheme is in accord with the times."

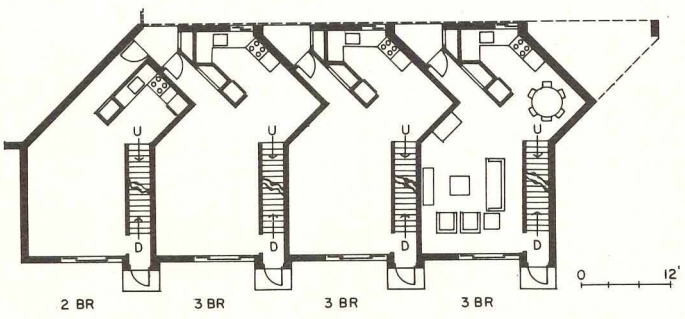
Comments from the architect after completion of the project

"This project gives a great deal of satisfaction in actual every day living, especially on the emotional level. Architecturally, I am most satisfied to experience the endless different exterior spaces created by the identical building blocks. The project has been very well built with adequate landscaping and play areas. Many feel this project is one of the best among all low and middle income housing built in the country. Considering the construction cost ($18,700) . . . under FHA 221(d)(3) program, this project is really significant."





SECOND FLOOR PLAN



FIRST FLOOR PLAN

Data

Project: Martin Luther King, Jr. Community. Hartford, Conn.
Architect: Hartford Design Group Tai Soo Kim, designer Neil R. Taty, project manager.
Program: 221(d)(3) low-rising housing. To establish a well defined community and to relate form and circulation to surrounding neighborhood.
Site: urban low density in a mixed industrial and residential neighborhood.
Structural system: poured in place reinforced concrete foundation walls with spread footings. Eight-in. masonry block bearing walls and wood floor joists.
Mechanical systems: central heating plant with hot water baseboard heating and individual thermostats.
Major materials: red brick and concrete lintels, exterior; painted wallboard and hardwood flooring, interior.
Costs: $2.1 million. $18,700 per unit ($16.50/sq ft).
Consultants: Bounds & Griffes, structural; Jacob Koton Associates, mechanical.
Photography: Robert Perron.

Reflecting images

A design by an architect for himself, drawing as it must on his developing theories, uses reflective glazing and a steep site to expose the effects of illusion and space

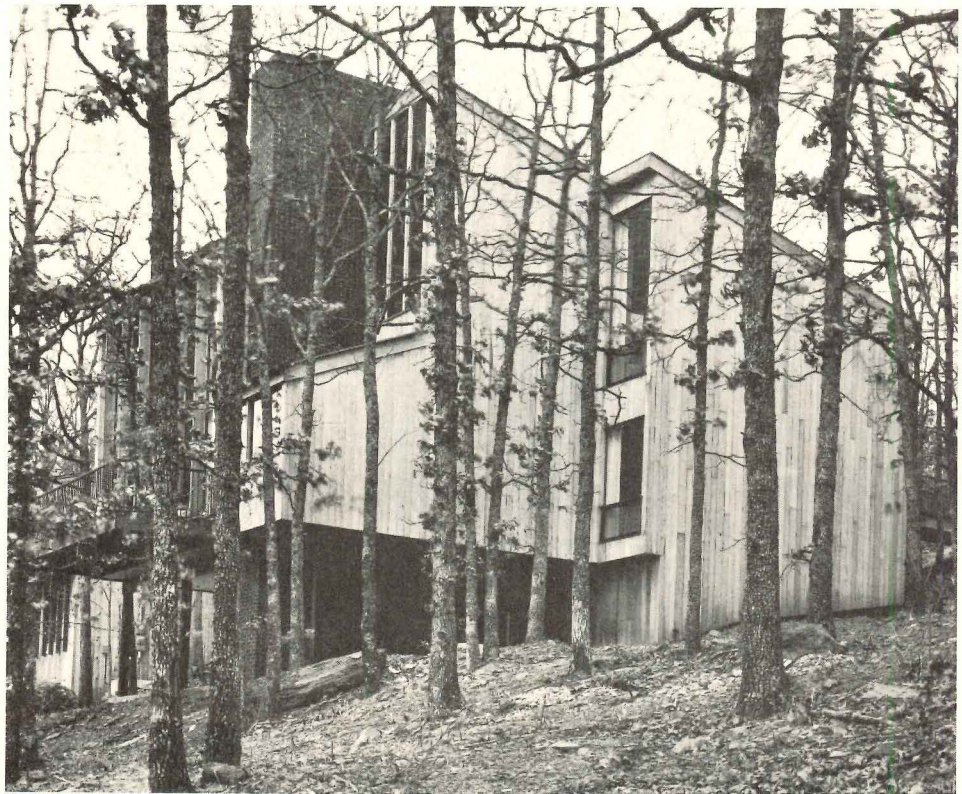
Architect James Lambeth, an assistant professor at the University of Arkansas, has based his own house on "a pursuit for human involvement in both real and illusionary architectural space." Beginning with a "mass transit object" (P/A, Oct. 1968, p. 174), his efforts to involve the observer led to the entry sequence in his house. Gold mirror glass of the type used in space helmets makes the splayed walls surrounding the public entry space into multiple image-producing media. As the entrance bridge is crossed, the reflected images of the visitor converge on the focus. Once past the bombardment by his mirrored self, the observer enters a lobby overlooking the living area and the valley beyond.

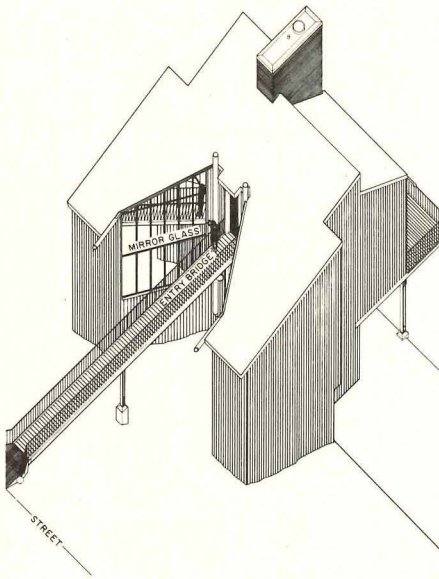
The site, with the highest elevation in the region, falls steeply to the south. Public entry and bridge are uphill, the private entry is from the downhill side. Lambeth intends to allow the wooded land to return to its natural condition, the house having been designed to stand apart from the site. Redwood tongue and groove siding is used on conventional wood framing, combined with laminated wood beams and steel columns. Dark-fired brick surfaces of the fireplace pylon carry through the window plane from inside to outside.

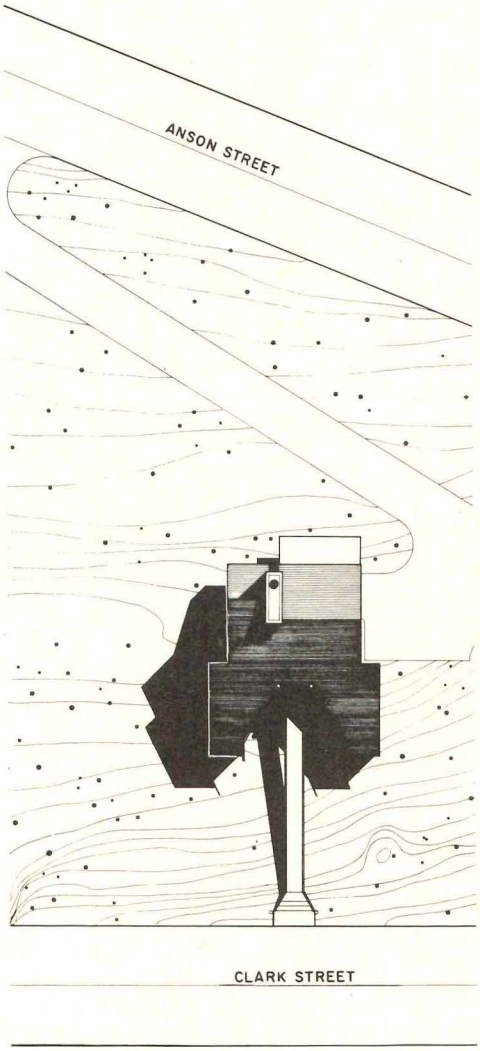
As the family collection of paintings was to play a very important part inside the house, interior surfaces were kept neutral—light painted gypsum board and hardwood floors. Interiors were done by the architect's wife, Joyce, who also is responsible for the banners that fly the front entry. [JM]

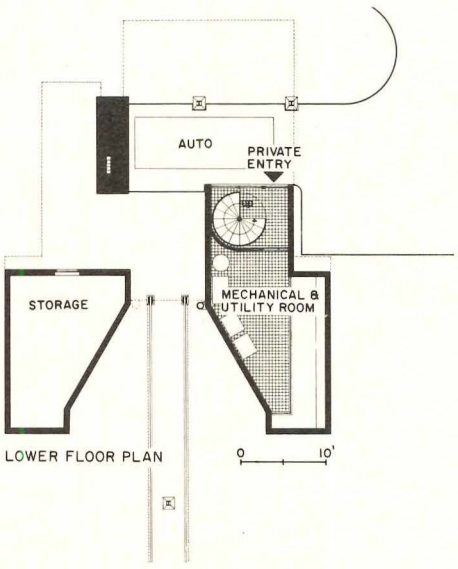
Data

Project: Lambeth residence.
Architect: James Lambeth, designer.
Site: Fayetteville, Ark.
Structural system: steel columns, wood frame, concrete foundation.
Mechanical system: gas-fired forced air.
Major materials: mirror glass, red cedar, exterior; gypsum board, oak flooring, interior.
Costs: $30,000 not including land ($15.79/sq ft).
Photography: James Lambeth

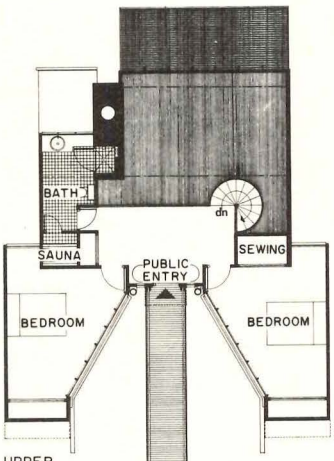




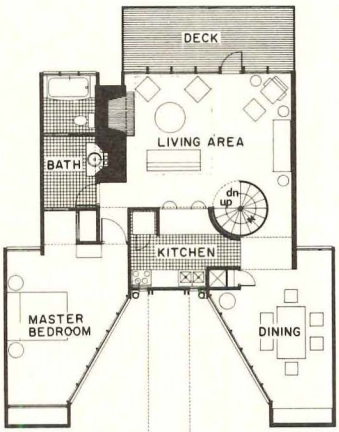




LOWER FLOOR PLAN



UPPER FLOOR PLAN



MIDDLE FLOOR PLAN

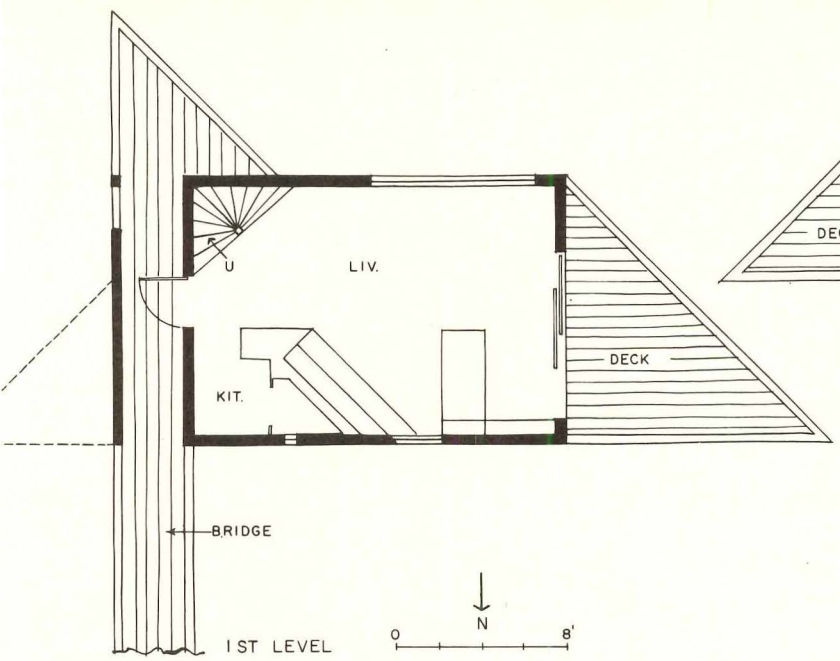
Making it happen

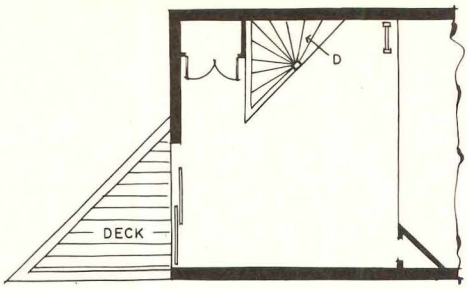
The woods of rural New England, a vulnerable commodity with a need for involved people in place of mindless speculation see examples of an alternative architecture

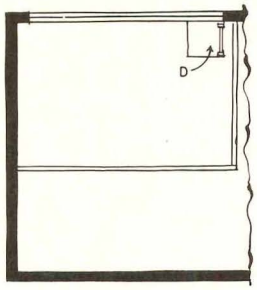
Lifestyle architecture in rural New England has not been asleep since Prickly Mountain (P/A, May 1966), even though the casual observer would have difficulty perceiving the continued activity. It is happening on many levels and in many quiet ways. One direction, being carried on by Bill Reed and Ed D'Andrea in Franconia, New Hampshire, is at once akin to the spirit of Prickly yet apart from it. In addition to their land planning studies, Reed & D'Andrea are designing, prefabricating and building houses. Prefabrication is the principal difference from Prickly. The example shown here is a small year-round house for Donald Robie, a Boston land investor. It is not Robie's intent to follow the all-too-common patterns of many land developers, however. The minimum disturbance of the site for his house testifies to the concern he and the designers have for the land.

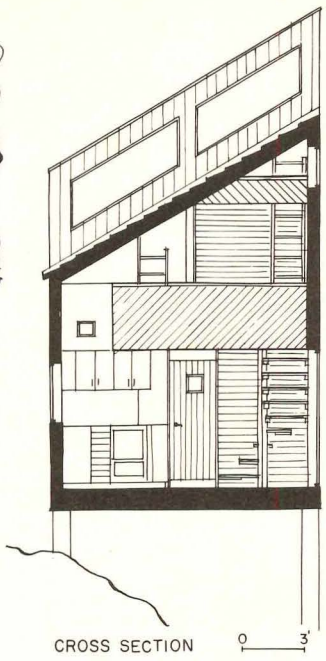
Design and prefabrication phases were carried out at the farmhouse-workshop by Bill, Ed and friends, with the help of the pot-bellied stove, and limited equipment. Entire sections of this house (and others) were preassembled, then trucked to the secluded site, either on one of the designers' two trucks or on a loader-equipped hired log truck. Tube formed concrete piers, one of which contains the electric service entry, were poured earlier and support the wood structure above the site. Following the assembly sequence (shown in photos), the finish detailing is worked out on the job, as are some final design decisions.

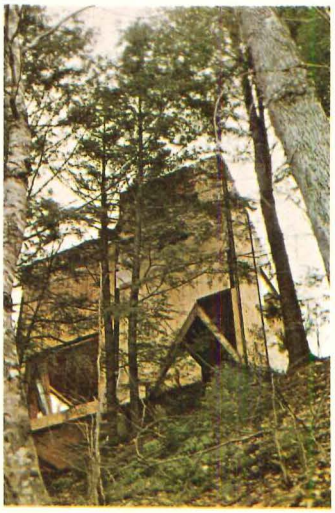
Probably the most important comment made by the work of Reed & D'Andrea is that of involvement. Tiring of the second- or third-hand experience they felt was their future at the larger architectural firms, they decided instead to see their ideas through by actually building. By allowing themselves room to make some of the design commitments in the field, the actual feel of the space makes its contribution to the process. While teaching at Franconia College, D'Andrea designed and, with a student crew, built a dormitory for the school (P/A, Sept. 1968, p. 161). Although the scope of their building operation is limited, they intend to carry the same sense of involvement into regional planning studies now on their boards. [JM]

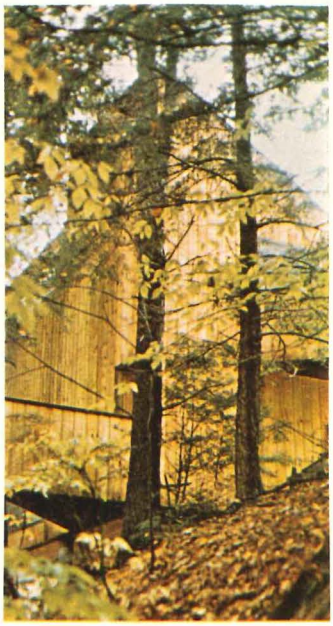












Data

Project: a house.
Designers: Reed & D'Andrea.
Site: part of 275 acres of wooded land near Campton, N.H.
Structural system: prefabricated wood framed panels supported on tube-formed concrete piers.
Mechanical system: electric heating.
Major materials: pine siding, concrete piers.
Costs: $15,500 ($29.50/sq ft).
Photography: Reed & D'Andrea.

The mod business

Production of modular housing doubled from 1969 to 1970; with around 28,000 units produced last year, it is a force to be reckoned with in the business of housing people

The modular housing industry has one thing in common with the bumblebee: it, too, probably shouldn't fly, but it does. It has become a phenomenally popular business since HUD's Operation Breakthrough put the stamp of approval on mass produced factory fabricated housing. The impetus given by Breakthrough, on top of the all too real facts of the short supply of housing in the country, has given a lot of businessmen reason to think that there's money to be made in modular housing. And while things haven't looked exactly like the gold rush, there has been a steady flow of announcements heralding the start of new plans and new companies, each boasting its "own unique modular systems approach."

With so many people going into the business, is there really room for them all? "Basically yes," is the answer that housing consultant Jack Warner gives, and what he means is that by the numbers there is room. Warner's clients range from government agencies to manufacturers.

"Here are some figures I pulled together from different surveys," offered Warner. "In 1969 Al Reidelbach (another modular housing consultant, whose book is reviewed in this issue) surveyed around 100 producers who had turned out 13,000 houses; they projected their 1970 production at three times that. Another survey by K.E. Campbell covered 30 producers with a total output of around 10,000 units; they figured their maximum capacity at 30,000 units. And other figures from other surveys back those up.

"So it looks like the modular housing industry can produce somewhere from 10,000 to 30- or 40,000 units in a year. The companies Reidelbach surveyed produced an average of 130 units each in 1969, and their projected average for 1970 would be 390 units each. Campbell's figures show an average of 600 units per producer, which is at least in the same ball park. There are some big outfits, of course, that turn out 1000 or more units a year, but they are the exceptions.

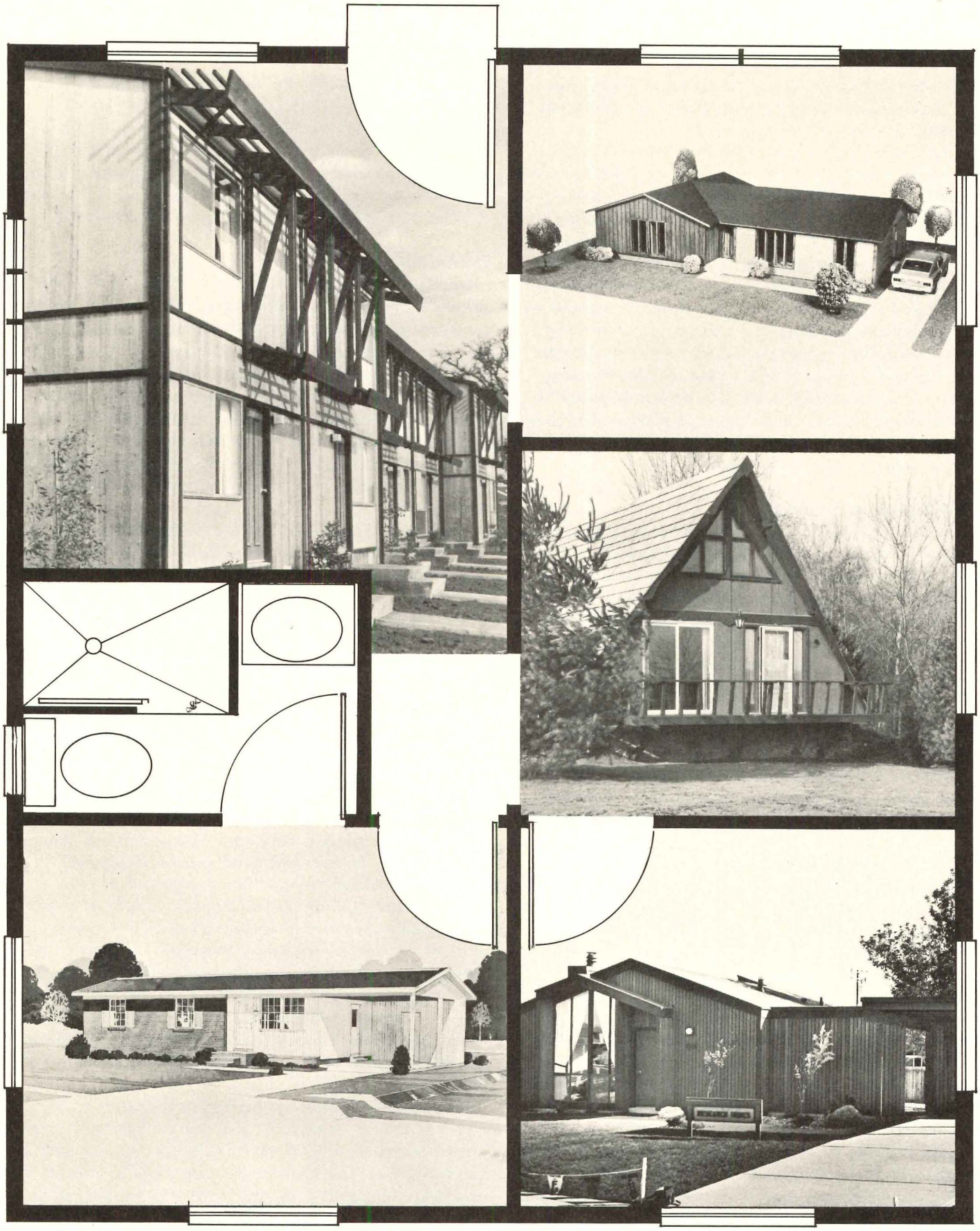
"Now look at the market. Congress has set a goal of 2.6 million dwelling units a year during this decade. If you figure that a good year in housing these days ends up close to 2 million units, there is still a shortage of 600,000 units. And that's a good year; in a bad year the shortage is even larger. Some of that shortage will go to mobile homes, some to conventional builders and who knows what. But for the sake of argument, let's say that maybe 500,000 of that shortage can be picked up by the mod business. At around 100 units a year per producer, that leaves room for 5000 manufacturers. And if everybody were really turning them out, say around 500 units a year per producer, there would still be room for 1000 companies in the business."

That is a lot of modular housing producers, and it's a figure that probably won't be reached. For one thing, it is optimistic to assume that an industry now turning out a maximum of 40,000 units a year is going to suddenly find a demand for more than 10 times that figure; 500,000 is pretty high, even for the sake of argument. Warner admits this, and he has no illusions about the industry growing to the size he suggested. Neither does Richard Bullock, the executive vice president of the National Association of Building Manufacturers. What looks like a spectacular jump in the number of modular manufacturers really isn't, Bullock suggests. "A lot of the recent entries are mobile home manufacturers who have converted their facilities to produce modulars, and some are just name conversions. There is no quicker way to raise money from public sources than to put 'modular' in your title."

During the past year, says Bullock, an estimated 200 new modular plants have started up. The total in the country right now is about 350, and he sees no increase; if anything, he says, there will be a fall out. "Many of these new companies come in with very little marketing ability, and that's true even for some large outfits. That showed up in some of the Breakthrough proposals. Marketing plans were required as part of the proposals, and some of them were nothing more than three-line statements like 'We propose to sell houses in the tradition of American business.' They just felt that marketing would take care of itself."

It doesn't, of course, and neither does management, which Warner puts as the single biggest reason for failure in the mod business. And the failure rate is fairly high. If previous experience is any guide, only about 75 percent of the companies now in business will survive the next couple of years.

It is a more complicated business than many people think. Just about every architecture student and just about every practicing architect has at one time or another wanted to de-



Features

Unique modular system
Wood frame construction, using kiln dried lumber
24 ft wide, 42 to 44 ft long
Comes in two pieces for easy transportation, assembly
Spacious closets
Suitable for transportation over public roads
Insulated walls
Factory applied siding for lasting strength and beauty
Cabinets, sinks, tubs, counters already installed
Wall finishes in eye-catching decorator colors

velop a system that will "solve" the housing problem. However, success is much more than just a kit of parts or a box, no matter how well designed.

How complex it can get is pretty clearly outlined by C.F. Dally in a chapter he contributed to Reidelbach's study of the industry. "The newcomer," he writes, "will learn, painfully, that he has all the inherent problems of a manufacturing business, plus those of a new industry striving for volume production and public acceptance. Also, he must learn that the mechanics of modular design and manufacture are far more intricate than those of conventional structures. Tolerances are finer, errors are more costly and planning is less forgiving."

All of which really means that the architect who wants to solve the housing problem with a mass produced housing scheme of his own design must do far more than design an architecturally excellent dwelling unit. A modular unit, Dally says, is not a factory produced individual dwelling, but a product designed to be manufactured.

Designing a salable product

The traditional architect also runs into other problems in designing modules. Not only must the unit be mass producible, it must be salable, for that is the name of the game. Which means that mass produced housing has to look and function very much like conventionally built housing. It is an industry that follows the public taste, rather than leads it. When it takes sales of somewhere between 300 to 400 units a year to sustain a manufacturer, a producer cannot afford to gamble on leading the public; he had to produce what he is sure they will buy. But as public tastes change, manufactured housing will change, too.

At the present time, the typical manufactured modular house, according to Reidelbach's survey, is not too different from the conventionally built house in structure, materials or appearance. Similar techniques are used for wall stud spacing, floor joists, trussed rafter roof and other wood framing, and the slightly lower roofline may be the only thing that sets the modular house apart from the ever popular suburban ranch house.

For those who like statistics, the average modular house stacks up like this: 24 ft wide and 42 to 44 ft long, for about 1050 sq ft of floor space in a wood framed, two-piece sectional house. There are three bedrooms, a living room, dining room, bath, kitchen and utility space. Over half are erected over a crawl space; the rest are built on basement foundations. The house has had to travel 200 to 250 miles from the factory to the site, where it was placed on a previously prepared foundation.

Inside, the walls are factory-finished drywall or prefinished plywood paneling; ceilings are drywall. Floors are tile, linoleum, carpeting or maybe hardwood; vinyl tile and carpet are tied for most common. Fixtures like kitchen cabinets, sinks, tubs and counters are factory installed.

Walls are fully insulated, with windows, doors, asphalt roof shingles and a variety of exterior sidings installed at the factory. Sometimes, however, the siding is left off at the factory so that a brick veneer can be applied at the site. The heating system is either hot air or electric baseboard; like the plumbing and wiring, it is factory installed.

In 1969, the year of Reidelbach's survey, about one-third of the housing units manufactured were made up of three or more modules, with stack-on apartments accounting for about 10 percent of the total. For 1970, his survey indicated a slight shift: stack-ons were expected to jump upwards in number, while houses of three or more modules would drop. The two-piece sectional house would continue predominant.

Moving into town

Another interesting note from Reidelbach's survey is that in 1969 the market for the typical modular house was out in the country. It has been there for some time, thanks to a freedom from building codes and other regulations that tend to hold back factory produced housing. However, as urban housing problems became more prominent, and as codes and regulations began to relax a bit, the projected market has shown a move towards the cities. But not all the way: manufacturers rated suburban areas as their prime future markets, rural areas second, and urban and vacation sites tagging along behind.

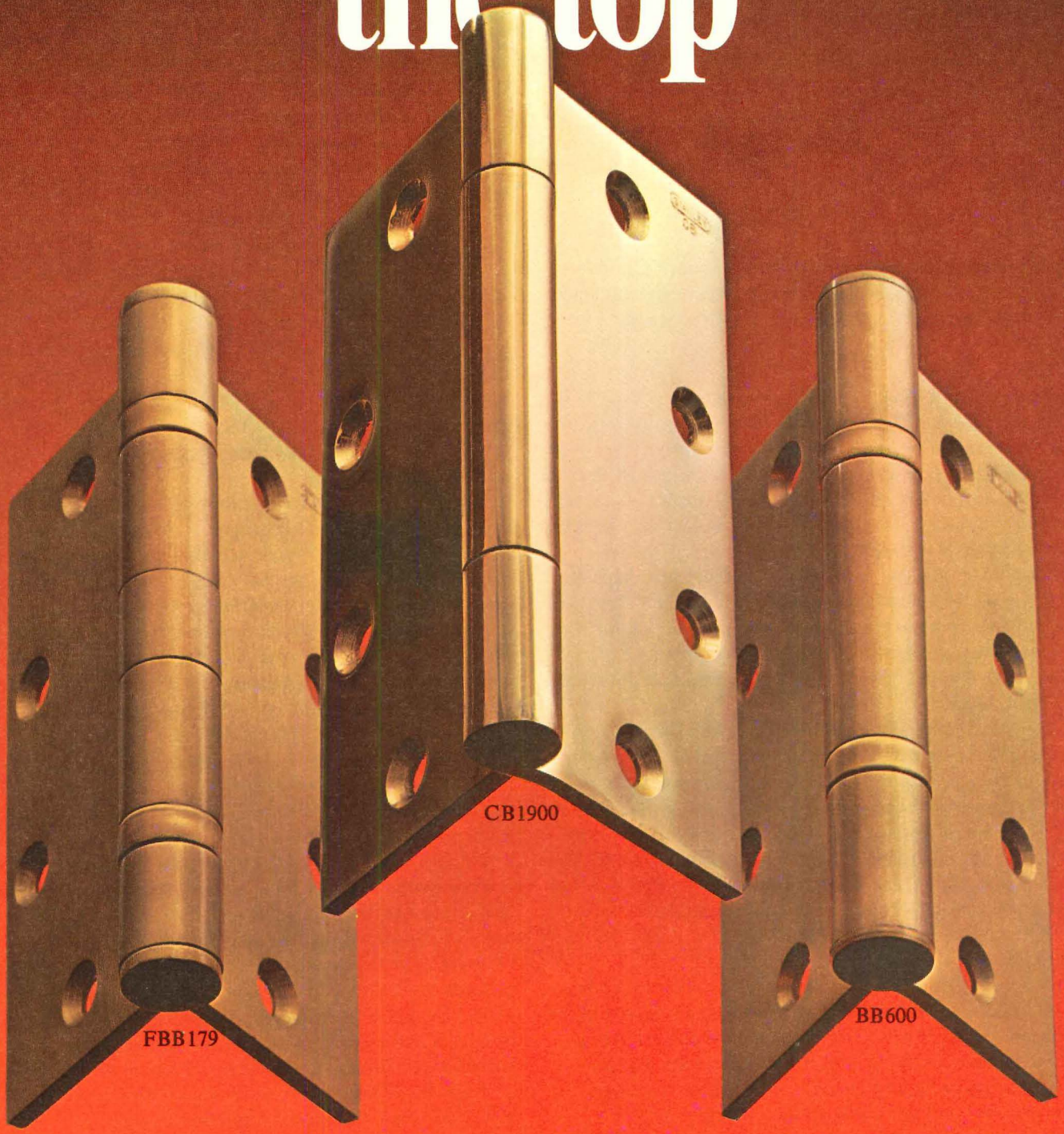
Costs? Prices ranged from $7 per sq ft to as high as $13 per sq ft, with an average sq-ft-cost of $8.78. The median FOB price was $9629. That, of course, doesn't include shipping or land which could push the total price up to almost twice the cost of the house alone.

Like the conventional home building industry, the mod industry is quite fragmented. Its 350 producers are scattered about the country, serving relatively small regional markets, and Jack Warner feels it will stay that way. "We'll continue to have small regional producers for a number of reasons," he says. "The demand is regional, and the economics of shipping modulars will limit the area a producer can cover. The rule of thumb of a 300-mile radius is pretty accurate. Then, too, the growth of new communities, with their demand for 'instant people' will help keep up a regional demand." Simple structures will also help keep producers relatively small. "Structures will stay simple for three reasons. One is local codes, which will force manufacturers to stick as close to conventional construction as they can; another is appearance, or the need to look like a conventional house; and the other is the general labor intensiveness of homebuilding, either on site, or in a factory. Because of the uneven financial flow for mortgages, and because of competition from conventional builders, manufacturers can't afford to get too complex or costly and run the risk of being underpriced by the on-site builders."

So, says Warner, although there are a few giants in the business, they probably won't dominate modular housing the way General Motors, Ford and Chrysler dominate the auto industry. For quite some time to come, the modular industry will resemble perhaps the early days of the auto industry, with a goodly crowd of relatively small manufacturers scattered about the country.

Like the homebuilding industry of which it is a rapidly growing part, the modular housing business will remain fragmented; it will be at the mercy of money and labor problems. But like its entomological counterpart, the bumblebee, nobody ever told them it wouldn't work, and so it probably will go right on. [CP]

Let's take it from the top



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Space planning for HVAC systems

Sital Daryanani, PE

Allowance for mechanical and electrical spaces should be determined during the initial design stages of a building, since these affect ultimate size and overall planning

An architect, in developing his initial schematic design for a project, often postpones providing adequate space for the mechanical and electrical facilities. Unfortunately, an owner—not realizing that a schematic presentation is only the first step toward a completely developed ultimate plan—computes the area and prices it roughly. When the project advances to the preliminary stages and the mechanical and electrical spaces are included, he is frequently astounded at the substantial increase in the gross area of the building. For this reason, proper allowance for space should be made during the schematic design phase or, better still, the programming phase, so that the building under design always approximates its ultimate size.

The planning information presented here is based on building types not having overly complex mechanical systems or heavy loads, such as commercial buildings. Space requirements for laboratory and technical buildings may be as much as double that for commercial buildings, depending on heat loads and the number of exhaust hoods. On the other hand, a building type having simple functional requirements, such as a department store, may need 30 percent less space.

Fan rooms

The major share of the mechanical space is occupied by the fan rooms, which house the air handling equipment of the air conditioning system. Assuming that the central cooling and heating equipment is installed remotely from the fan rooms, the space taken by the fan rooms may only be as much as 4 to 7 percent of the gross building area. The optimum clear height of a fan room is about 15 ft, while the width is about 30 ft. If the height of the fan room is reduced, the floor area will have to be greater.

The large air ducts originating from the fan rooms are not as easy to maneuver as the relatively smaller pipes from the boiler or the refrigeration plants. The location of the fan rooms should be thoroughly evaluated to minimize unnecessary loss of space caused by an inefficient arrangement of the duct distribution system. The fan room location should follow the geometry of the main distribution system, since criss-crossing large ducts with equipment and structural interferences will result in waste of both usable area and volume. Furthermore, the location of the fan rooms should permit convenient connection for outside air intakes and discharge outlets. A fan room in the basement, as compared to one above grade, may occupy as much as 20 percent more space because of outside air intake and exhaust plenums.

Distribution system

The success of the design of the HVAC facilities will depend on how well the HVAC distribution system is organized in relation to the structural system. The distribution system affects the planning of spaces inside the building, the façade, the appearance of the ceiling spaces and the space occupied by the mechanical facilities. The total size of the shafts for the ductwork and piping will be about 3 to 4 sq ft for every 1000 sq ft of floor space served by the shafts.

There are two basic schemes for the distribution system:

1. Vertical distribution: small local vertical risers modularly placed to serve designated modular spaces with no, or limited, horizontal distribution. When this distribution is employed, the risers can be integrated with the structural elements (the columns), or with elements of fixed planning, such as the core or fixed partitions. The vertical risers can also be located on the exterior of the building, in which case the building façade will be affected by the placement and size of the risers.

With completely vertical distribution, horizontal distribution is eliminated or reduced to a point where the only interaction in the ceiling space is that of structural elements and the lighting system. These two important elements of the ceiling can now by synthesized with relative ease.

Purely vertical distribution is limited by the type of services to be distributed. In the case of air distribution, the limiting width from the exterior to the vertical elements on the interior will be about 40 ft, assuming that the vertical distribution shafts are also located at the exterior.

2. Horizontal distribution: extensive horizontal, originating from few, but large, vertical risers. If the distance from the exterior to the core of the building exceeds 40 ft, or if the space is subdivided into more than two areas, it will be essential to introduce this distribution system. A completely horizontal system will have to be synthesized with the horizontal structure or floor system, and location of the main vertical risers is critical for proper organization of the total system.

Space allowance should also be made for the central mechanical facilities for housing the boilers and the refrigeration plant. The actual space requirements will involve such factors as type of energy system, configuration of equipment, and provisions necessary for expansion. In general, an allowance of 2 percent of the gross area for the central mechanical facilities will assure adequate flexibility of design.

The actual space requirements for the HVAC systems will depend on an engineering analysis of the mechanical systems and will have to be confirmed by detailed layouts. If proper space allowance is made at the initial stage, later design changes will be minimized.

Author: Sital Daryanani is Chief Mechanical Engineer for Syska & Hennessy, Inc., Consulting Engineers, New York City.

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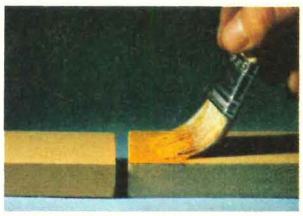

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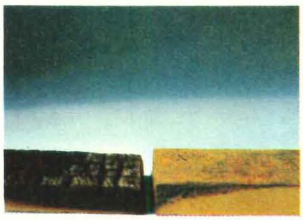

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New concepts for roofing and waterproofing

Harold J. Rosen, PE, FCSI

Where to place insulation in built-up roofing systems and in areas that require waterproofing is the subject here, with a review of improvements in materials and methods

With the introduction of insulation under built-up bituminous roofing, roofing failures have increased immeasurably. The failures have been associated with a temperature increase in the roofing membrane when exposed to the sun, since the insulation has divorced the membrane from the moderating temperature of the structure. The temperature differences between the sunlight hours and nighttime have been increased, with resultant wider expansion and contraction movements in the bitumen leading to cracks in the built-up membrane.

To overcome these problems, vapor barriers have been introduced to minimize vapor transmission into the insulation and the built-up roofing membrane. Asphalt saturated 40-lb base sheets reduce the prevalence of tension splitting of the membrane. At one time, water cutoffs were recommended to close off the areas of insulation into smaller segments in order to reduce the damage to insulation from water penetration above and from water vapor below.

In plaza waterproofing a somewhat analogous situation developed. Primarily this was brought about as a result of increasingly large plazas designed above occupied spaces which needed insulation below the built-up waterproofing membrane. The designer could use the slab beneath the plaza for application of insulation on the slab soffit but the economics usually dictated it be installed above the slab. Plaza membrane waterproofing failure is the result of the expansion and contraction of the paving material above the built-up waterproofing membrane; the resultant movement causes rupture of the membrane.

In the case of built-up roofing and in the case of built-up waterproofing membranes, the introduction of insulation occurred when the type of insulation available required protection from wetting. The only available insulation was the wood fiber type and the technology at the time would allow its use only below the built-up membrane. Even after the introduction of cellular glass and plastic types of insulation, which were more resistant to the detrimental effects of water, designers still detailed the insulation as beneath and protected by the membrane.

Within the last year or so, some waterproofing consultants have begun to recommend the placement of insulation above the waterproofing membrane. Obviously, only those insulations that would be relatively unaffected by water could be so placed. This concept provides thermal protection to the membrane. Movement of the paving above the insulation is not transmitted to the membrane since the insulation would shear before inducing a stress in the membrane. In addition, to provide a path for water drainage, a layer of gravel is placed between the waterproofing membrane and the insulation. The important factor is the type of insulation used. Its K factor should not be materially altered by the presence of water, nor should alternate freezing and thawing cause rupture of the insulation. Only certain closed cell plastic type of insulations can meet this requirement. Obviously, a number of such projects should be monitored over the next few years, in order to check the validity of this idea, and to make necessary improvements.

A similar concept is now being applied to built-up roofing membranes. Again the theory is to divorce the membrane from the deleterious effects of major thermal changes. By placing the insulation over the membrane the net thermal difference in temperature is reduced from 150 F or more to about 30 F. The built-up roofing membrane is no longer subjected to thermal cycling, the effects of ultraviolet degradation, migration of solvents, tension splits, ridging and other normal weathering characteristics.

One major insulation manufacturer has introduced a system with a 10-year guarantee based on this concept. The system includes a conventional 3-ply, 15-lb asphalt saturated rag felt membrane covered with a closed cell plastic insulation which is then covered with 1000 lbs of crushed stone per 100 sq ft. The increase in the amount of roofing ballast anchors the insulation so that it does not float when it is wetted. A vapor barrier is eliminated since the membrane is at the proper position in the detail and acts both as a vapor barrier and as the roofing.

In any new system there are bound to be bugs until all of the unknowns are uncovered and eliminated. Some specifiers may prefer to use coal tar systems for the membrane instead of the asphalt system. Some may want to provide for more positive drainage between the membrane and the insulation. This may be accomplished by introducing a gravel bed between the membrane and the insulation or by chamfering the bottom edges of the insulation to form paths for the water.

In any event, a new era may be opening in the field of built-up roofing and waterproofing membranes. Only time and experience will tell what refinements should be made to make these new concepts more workable than previous systems.

Author: Harold Rosen is Chief Specifications Writer of Skidmore, Owings & Merrill, New York City.

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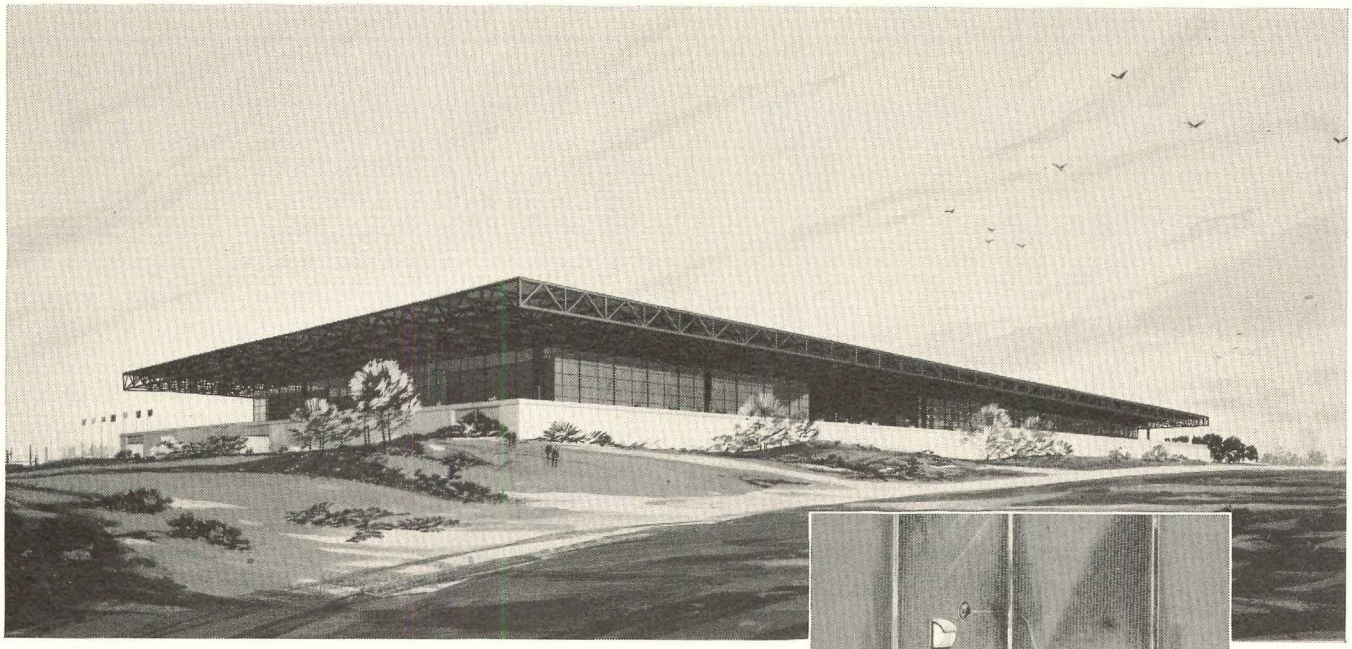

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The architect as agent for the owner

Bernard Tomson and Norman Coplan

P/A's legal team discusses a case bearing on the relationship between owner and architect and its influence upon owner-contractor-subcontractor dealings

The relationship between owner and architect is that of principal and agent in respect to many of the architect's functions. Some actions of the architect may bind or commit the owner to third persons and other actions may not. The line of demarcation is not always clear, as is illustrated by a recent case which was determined by the United States Circuit Court of Appeals for the Second Circuit. *(Bethlehem Fabricators, Inc.* v. *British Overseas Airways Corporation)*

The events leading to the above suit originated in the decision of British Overseas Airways to construct a cargo building at Kennedy Airport in New York City. After the project design was completed by the architect who had been retained by the owner, the bid documents were sent to several general contractors, the owner intending to use one contractor.

The bid proposal form required separate bids for certain work rather than an aggregate price for all of the work. One of the items for which a separate price was specifically requested was for a performance and payment bond if one was required by the architect. The specific requirement stated that "if required by the architect, the general contractor shall supply a satisfactory performance bond and labor and material bond in the form currently issued by the AIA in an amount equal to 50 percent of the contract sum." The successful bidder entered into a general construction contract with the owner on the standard form of agreement issued by the AIA and this contract included the contractor's proposal which contained a quote of $4250 for the bond.

Prior to submitting a bid, the general contractor had circulated the bid documents to prospective subcontractors and Bethlehem Steel had submitted a bid for the structural steel work. The general contractor awarded the structural steel subcontract to Bethlehem but before Bethlehem entered into that contract, it communicated with the architect and, according to the testimony of the Bethlehem representative, advised the architect that unless the general contractor was required to furnish a payment bond, Bethlehem would not accept the subcontract. The apparent reason for this position was that Bethlehem had subcontracted with this general contractor on other contracts and on one of these projects had to be paid by the bonding company. According to the testimony, the architect informed the Bethlehem representative that BOAC had made the decision to require the general contractor to obtain such a payment bond. Thereafter, Bethlehem accepted the subcontract and immediately began to work on the structural steel for the cargo building. Subsequently, without advising Bethlehem, BOAC, in order to save the cost of a premium, decided not to require a payment bond.

The general contractor failed to make timely payments to its subcontractors and eventually filed a petition in bankruptcy. Bethlehem, after receiving a distribution in said bankruptcy, was owed a balance of approximately $78,000 under its subcontract. It then instituted an action against the owner for the monies owed to it by the general contractor, which action was premised on the claim that the owner was guilty of a breach of an agreement in having failed to require the general contractor to furnish a payment bond. The jury found that, in fact, the architect had advised Bethlehem that there would be a payment bond but that the architect was not authorized to inform subcontractors of the decision to require such a bond. The Trial Court, however, set aside this latter finding and awarded a judgment to the plaintiff, affirmed an appeal.

The United States Circuit Court, in concluding that Bethlehem was entitled to recover from BOAC the balance of its unpaid compensation, stated the following:

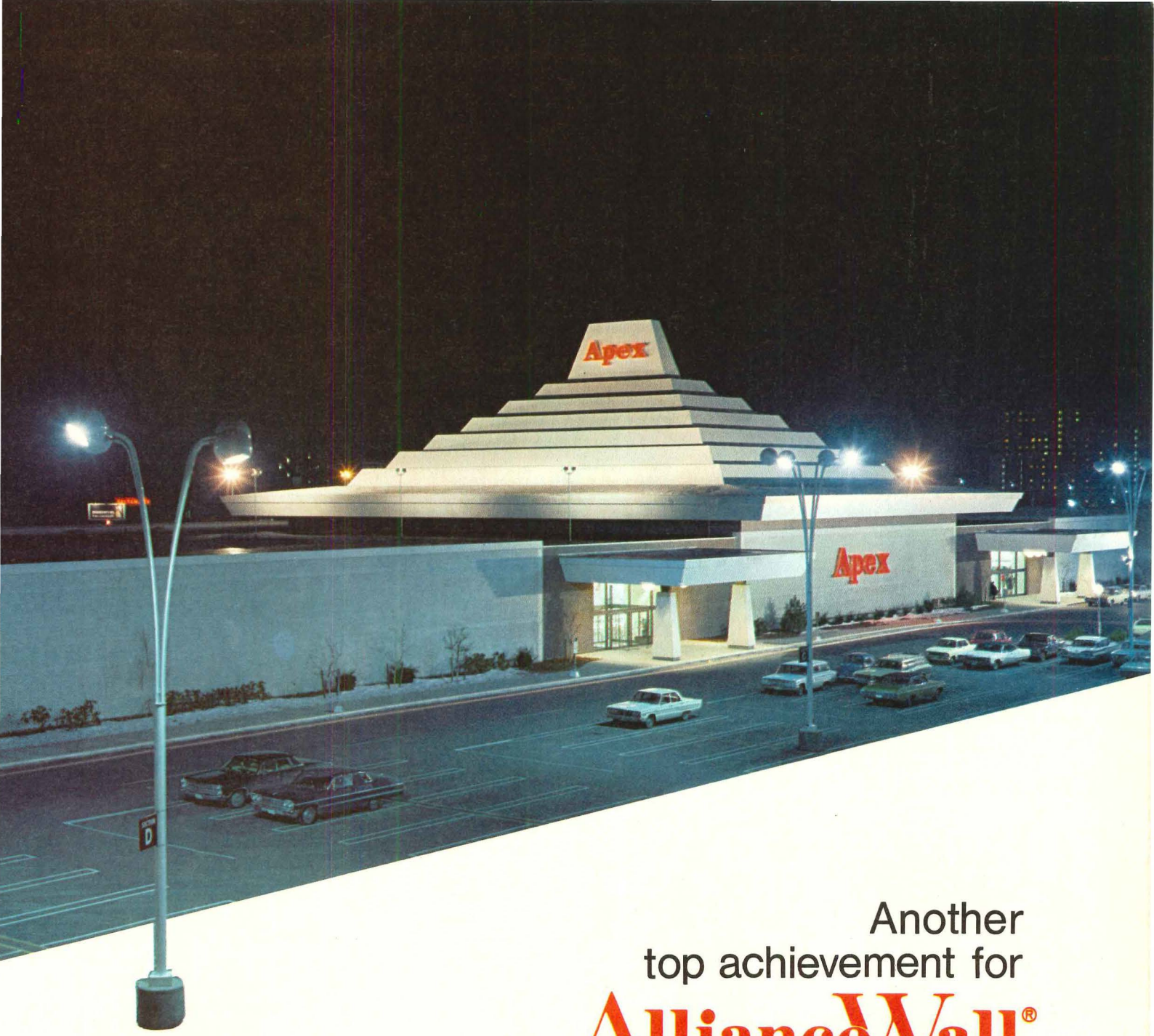
"Although the court below and the parties spend much time discussing innocent and negligent misrepresentation, fraud, deceit and other theories of recovery, the search for a sufficient legal theory to impose liability upon BOAC need go no further than simple contract. BOAC, through its agent, the architect, promised as part of the consideration for Bethlehem's undertaking to perform the work covered by the subcontract to require a payment bond. Upon Bethlehem's performance BOAC became bound by its promise and must now respond in damages for breach of that promise.

"The record contains ample evidence to support the jury's finding that the architect had the authority to promise that there would be a payment bond. Item 6, quoted above, was included in the documents furnished to Bethlehem. It gave the architect the power to decide whether there was to be a payment bond. This power included the authority to bind BOAC to subcontractors by promises and representations as to the bond.

"As the District Court held, the authority of the architect to decide whether a bond would be required also includes, as a matter of law, the authority to inform subcontractors of its decision. The District Court correctly rejected the jury's aberrant finding to the contrary."

The defendant in the action had sought to rely upon Article 36 of the AIA's General Conditions of the Contract, which provides that "nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the owner." The Federal Court, however, pointed out that this argument missed the point for it was not the "Contract Documents" upon which liability was based, but rather upon an independent contract between Bethlehem and the architect as agent for BOAC.

Authors: Bernard Tomson is County Court Judge, Nassau County, N.Y., Hon. AIA. Norman Coplan, Attorney, is Counsel to the New York State Chapter of the AIA.



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The utopians

Emerging Methods in Environmental Design and Planning *edited by Gary T. Moore. Cambridge: MIT Press, 1970. 410 pp. $22.50.*

Reviewed by James M. Addiss. The reviewer, an architect in New York City, formerly taught at the Rhode Island School of Design.

There are those who think that our treatment of our environment has resembled the Mock Turtle's branches of arithmetic—Ambition, Distraction, Uglification and Derision. But at this juncture there are some who have the courage and optimism to go back to the beginning and ask *how* are things done, on what principles, by what means? What they get, if lucky and good, is not an immediate solution to the crisis, but new ways of seeing and acting. And beyond that, new see-ers, new do-ers.

This is a book about tools rather than solutions; means rather than ends. Ably edited by Gary Moore, it presents the papers and proceedings of a conference design methodology in 1968, sponsore the Design Methods Group; some thirty pers together with nine commentaries them, by Americans and Britons, with a strong although not exclusively acade emphasis.

The authors all try, more or less explicitly, to make public the design proce to clarify what the designer does, not o in order to explain his efforts to others also to make him accessible to the poss contributions of others. This potential logue is particularly important now, wh complex designs, offering valid solutio may be rejected because their program cannot be communicated or understoo

The introductory essay by J. Christop Jones defines the basic types of design methods, "intuitive" (black-box) and "rational" (glass-box), and points the difficulties in choosing among the v ety of solutions generated. A section fo lows examining actual designs and des ers at work (intuitive design), five sectio on rational design, with a heavy empha on technological aids including compu ers, a section on form as generated by man activities, a major section presenti four theories of design methodology, a final varied section entitled "Reflection There is a cross-referenced bibliograph and an index.

The commentaries on each section v according to the commentators' degre acceptance of the presuppositions of t papers. Kaplan, for instance, refreshing relates the papers on intuitive design t whole field of perception and knowledg Fleisher questions the very possibility, though not the value, of an inclusive pr lem-solving process for the environmen sciences. The question of how to judge values of solutions which are essentiall new, not predetermined, remains basic throughout the book.

The computerniks consume the most space, and as in most anthologies, the mulative effect of the papers is to flatte out the primary issues and hence disto priorities. All the theories at this point i their development require radical simplifications of the issues involved. The choice of issues and the method of sim plification are crucial, more so than so of the authors believe. This helps accou for differences in methods and confide in the explicitness of the results.

This contrast is clearest between the systems analysts, on the one hand, and the behaviorists on the other. For syst

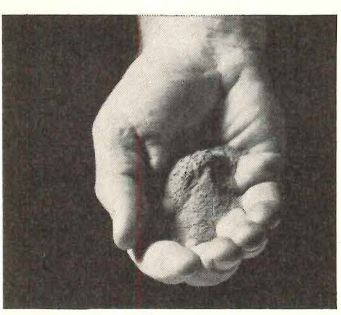
[continued on page 131]

s continued from page 126

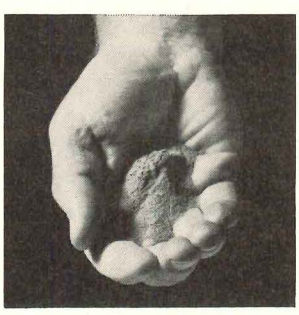
eering (Nadler), design is the speci-
on of a system consisting of seven
nents"—function, inputs, outputs,
ence, environment, physical catalysts
uman agents—each existing in
'dimensions": physical, rate, control,
An optimal system solution is speci-
and a feasible one compared to it.
icting alternatives are resolved by
-offs evaluated on the basis of cost or
other energy equivalent. Stafford, de
ville and Hester's paper on improving
York's water supply system offers a
example of this approach.
e "behaviorists," all based on Christ-
r Alexander, start, and end, at another
entirely. Alexander and Poyner's idea
t a clear relation exists between hu-
behavior and the forms it requires.
look for and specify the observed
s or tendencies of the users of an en-
ment, and state these tendencies to
rate a spatial form. The environment,
this way, is not an object but a field of
n, in which people can meet their own
s. Design is the formulation of geo-
c relations which prevent conflicts,
library of these relations or patterns
be built up. Examples are given: an of-
ntrance and a house entrance. Carte-
n its emphasis on clear and distinct
ons, it is also Aristotelian: art (design)
tes nature in her mode of operation.
like nature and, potentially, as part of
e, channels forces to create forms.
orms then are not inert, but manifes-
ns of equilibrium. This beautiful idea
s one to understand cities, for ex-
e, as systems analysis does not.
e five sections on rational design are
means restricted to systems analysis.
deal with computer-aided design,
sis of problem structure and building
it models, and, in a limited way, with
ation systems. The first, for example,
es from the lovingly acronymed ICES
DL, an effective computer program for
tural design of buildings, through DIS-
SE, a program for urban design, to UR-
(since superseded) in which the com-
evolves along with the designer.
e emphasis on current methodology,
ever, means that traditional methods
lighted and implies that this heritage
be jettisoned. This is certainly a mis-
although perhaps a natural one. The
t is not to avoid new possibilities but to
ribute one's past to the future. There
erious limitations and gaps in the new
methodologies. With no sense of the past, there can be none of the future, only a precarious present. There is also little sense of physical nature, hence a curious bodilessness, little sense of people (except for Anthony Ward and the Alexandrians). Hence, the solutions seem impervious to ongoing change by the human agency, and there is no concern for the sensory impact of the physical results of designs. "How does it look and feel?" is rejected as a relevant question, which implies that architects and designers have wasted a lot of time throughout history.

The one panel discussion also makes it clear that the whole question of social and political implementation is barely touched. Finally, the new approaches deal with environments which encompass the whole sensory range, especially the visual, but the approaches themselves, amazingly, remain wholly literary and mathematical. It is as if camera, telegraph, telephone and tube had not yet remade both our landscape and our perception of it. Seen in this light, systems analysis seems as old-fashioned as Henry Ford's assembly line of
[Continued on page 144]

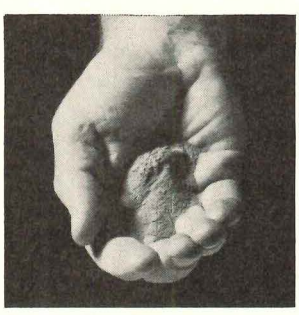
If you're interested in a construction material



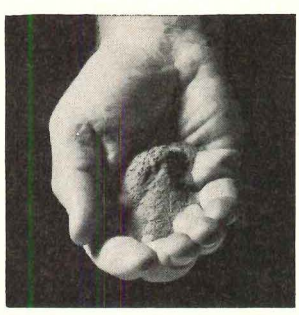
that won't support combustion



that has a dry bulk density of 70-80 lbs./cu. ft.

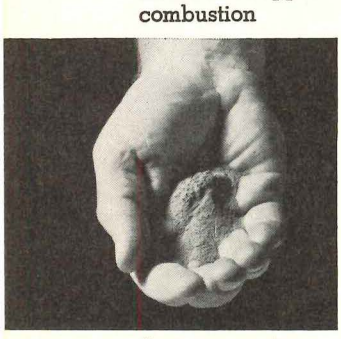


that is ultra fine, 95% passing 325 mesh

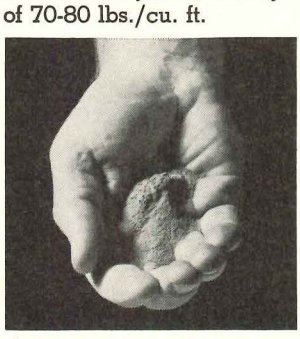


that has particles shaped for "ball bearing" action

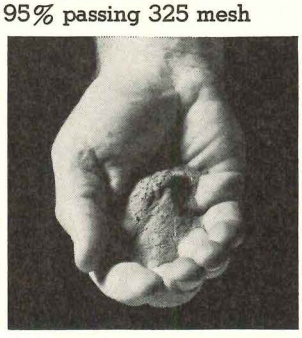
that's compatible with cement, plastics, metals..



that imparts low permeability



that improves resistance to acids, sulfates...



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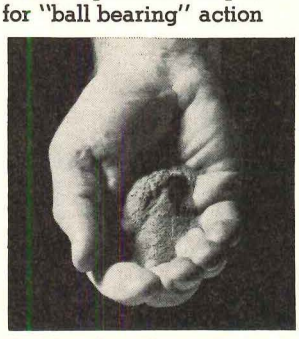

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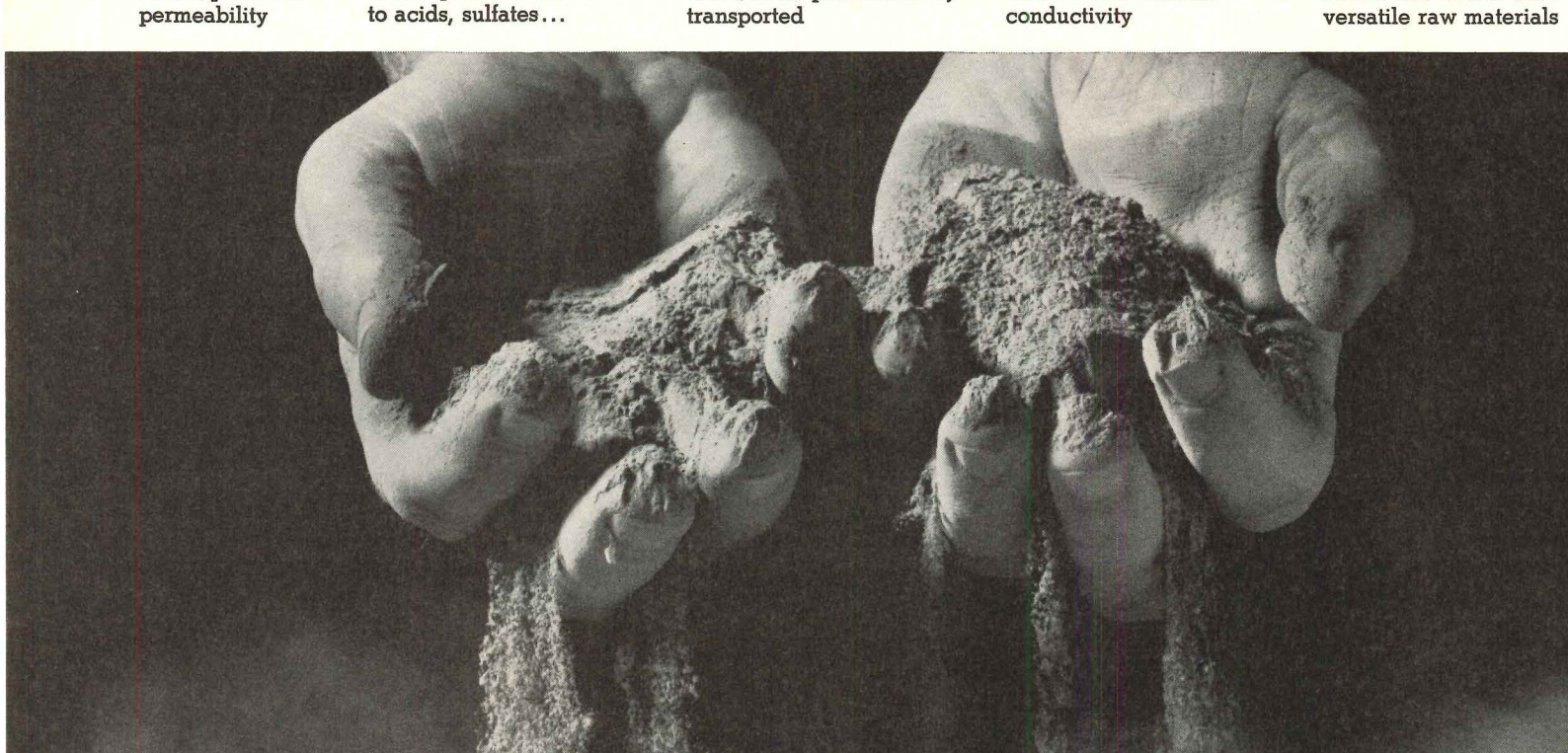

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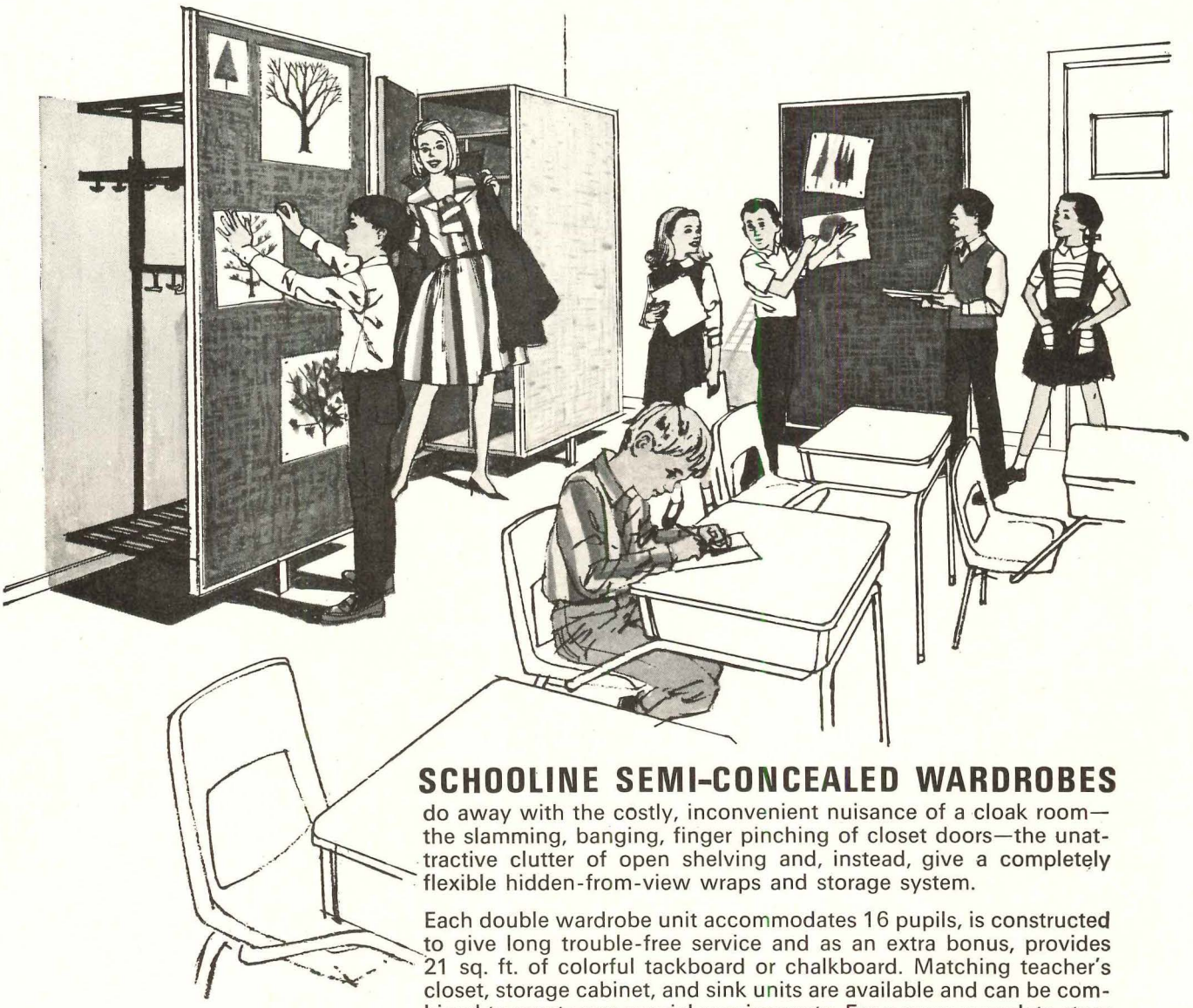

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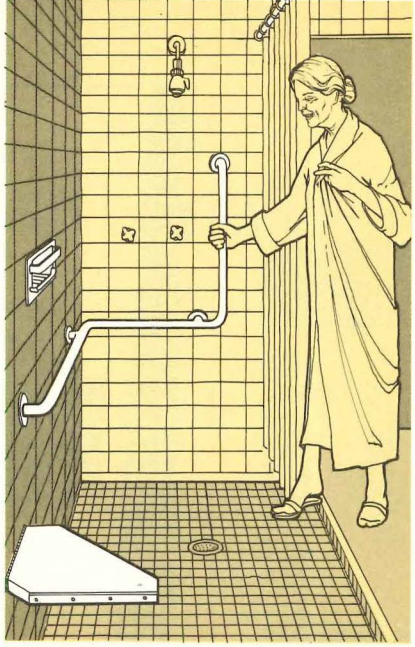

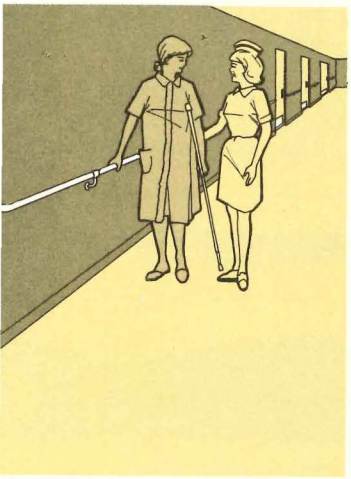

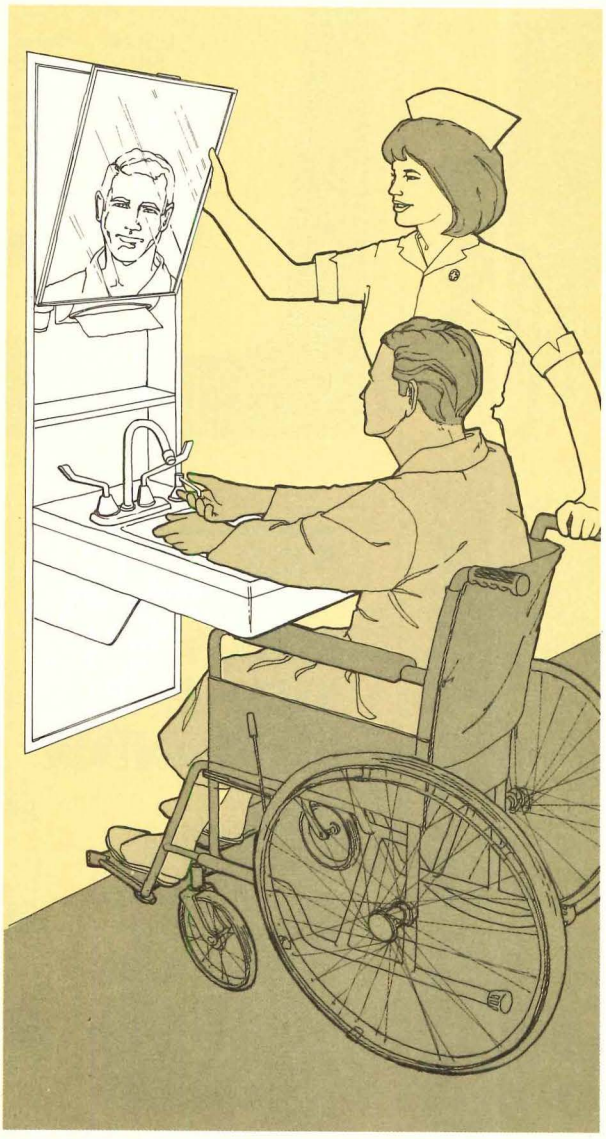

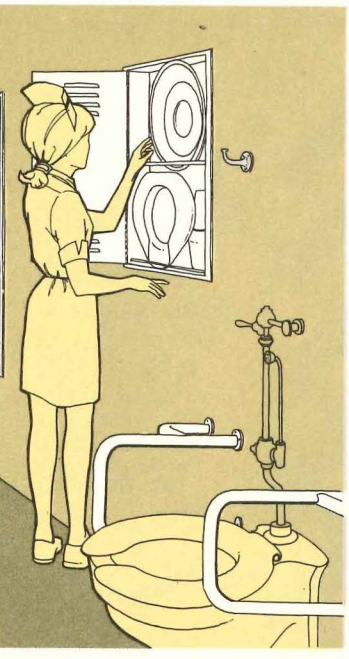

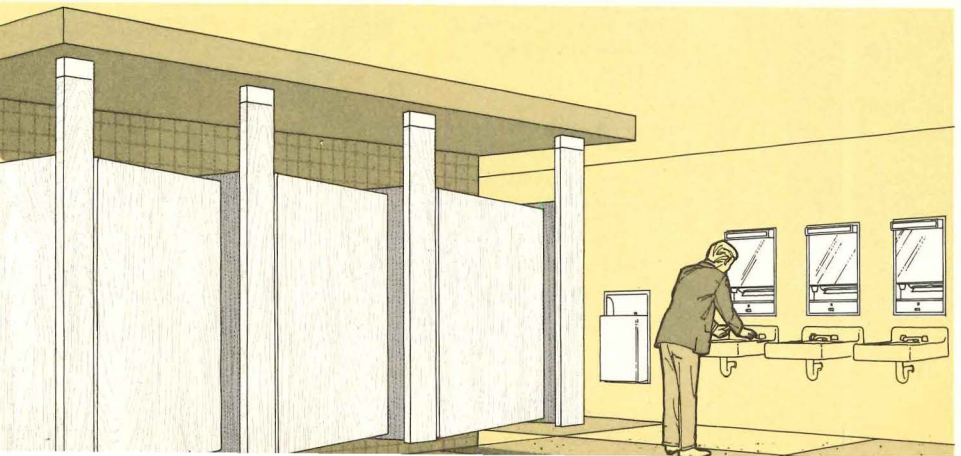

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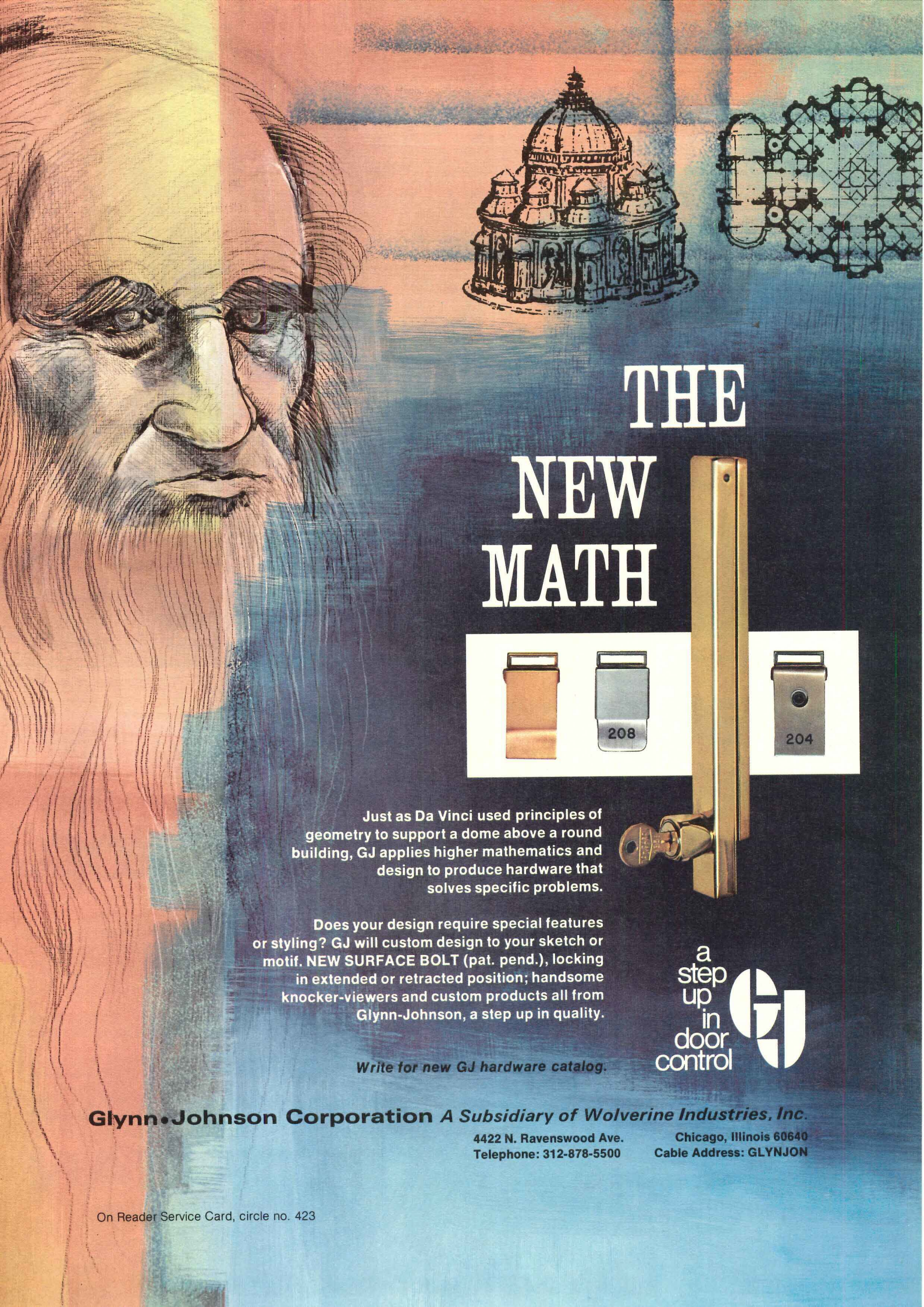

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see page 22

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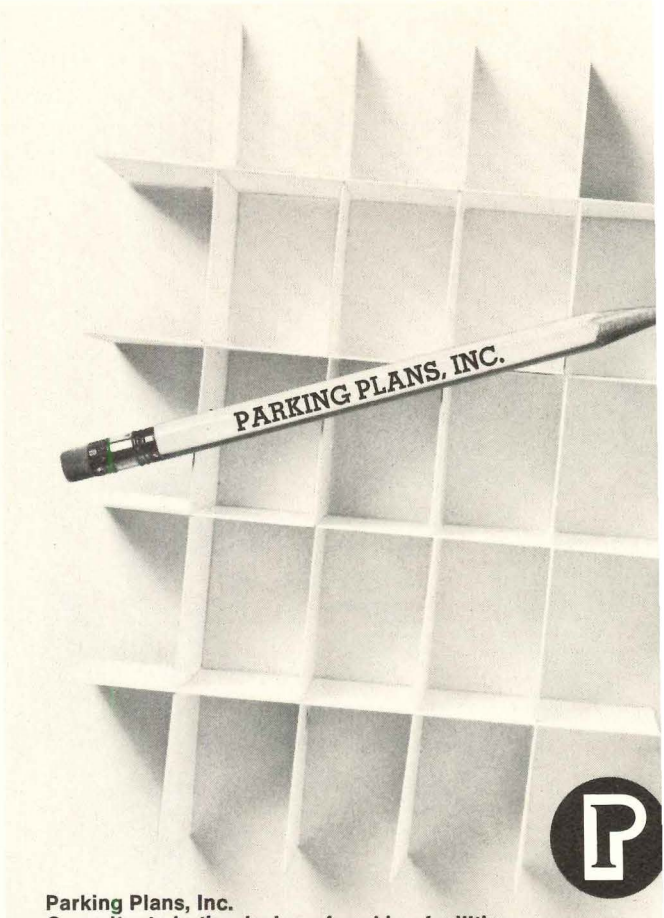

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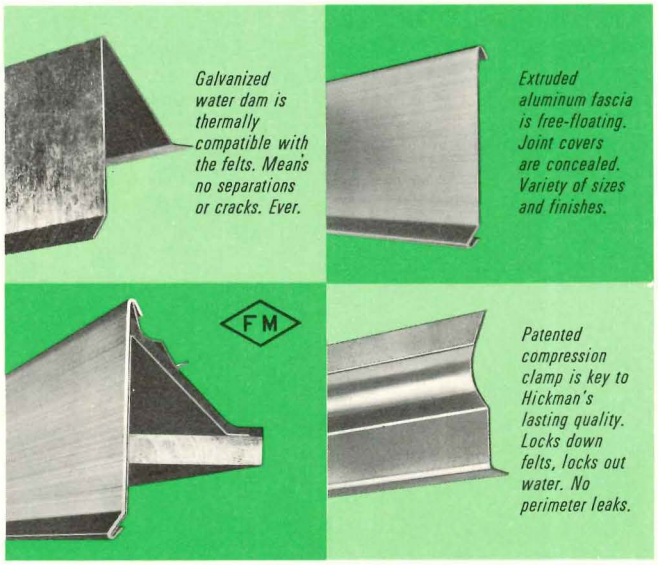

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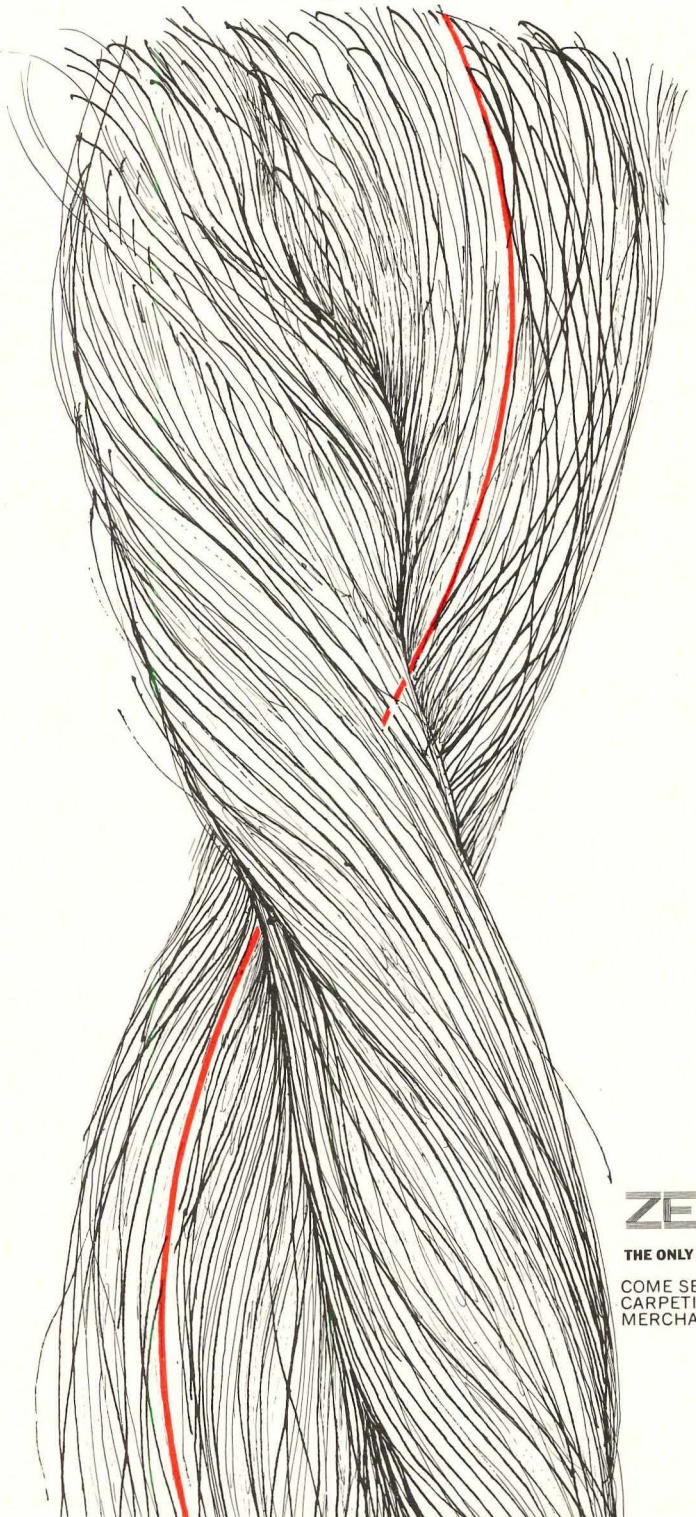

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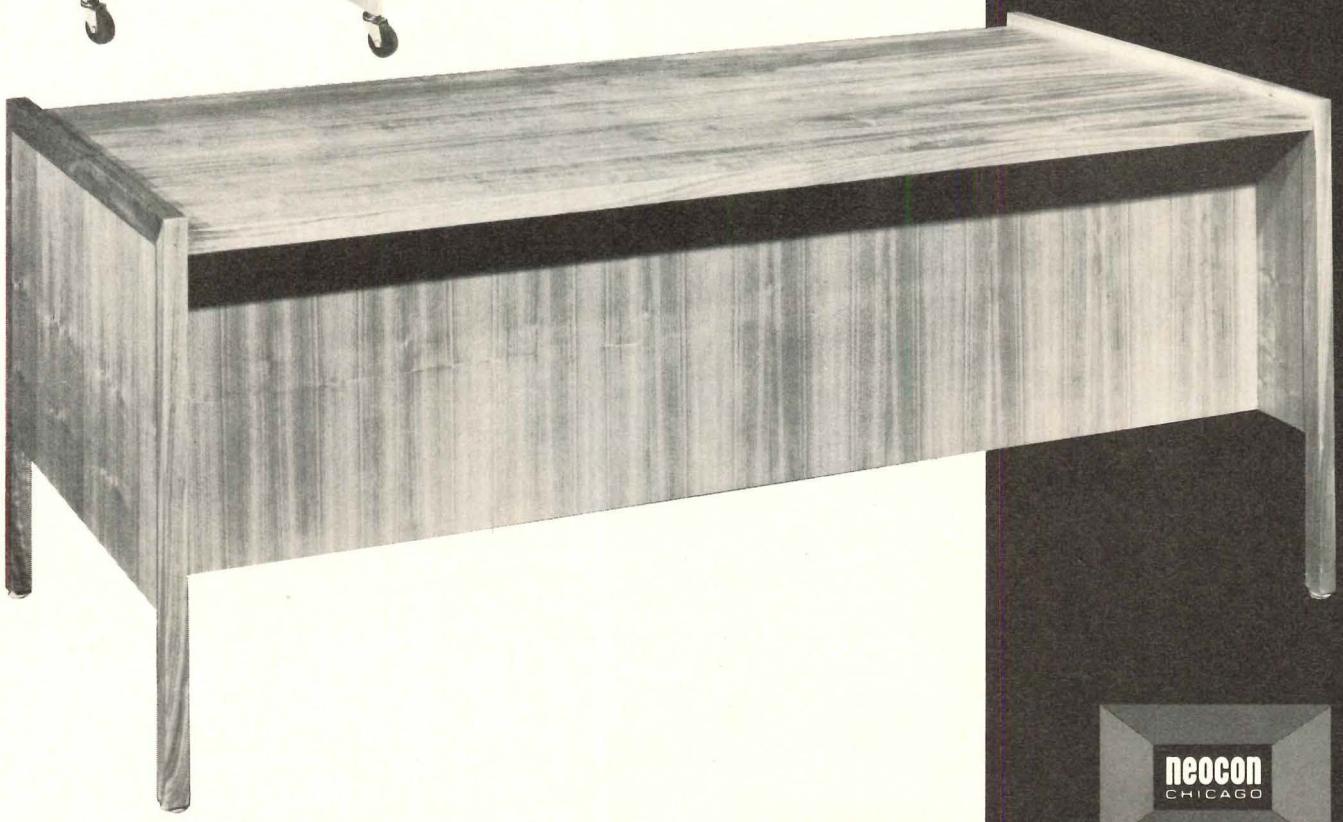

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hat's Sanspray's large aggregate ictured above. There's also a small ggregate (equally distinctive). And a range of colors you have to see to appreciate; like Tangerine, Pearl Gray, Gaelic Green, Monterey Sand . . . and others.

But the hidden beauty of Sanspray lies in its low cost—far less than most stone and masonry wall claddings. Far lighter, too, and much easier to install. Saw it. Drill it. Glue it. Nail it directly to framing members. Then forget it. Because Sanspray is virtually maintenance-free, in all climates. Sanspray. The beauty treatment for all residential, light commercial and industrial buildings. Find out more about it at your local U.S. Plywood Branch Office.

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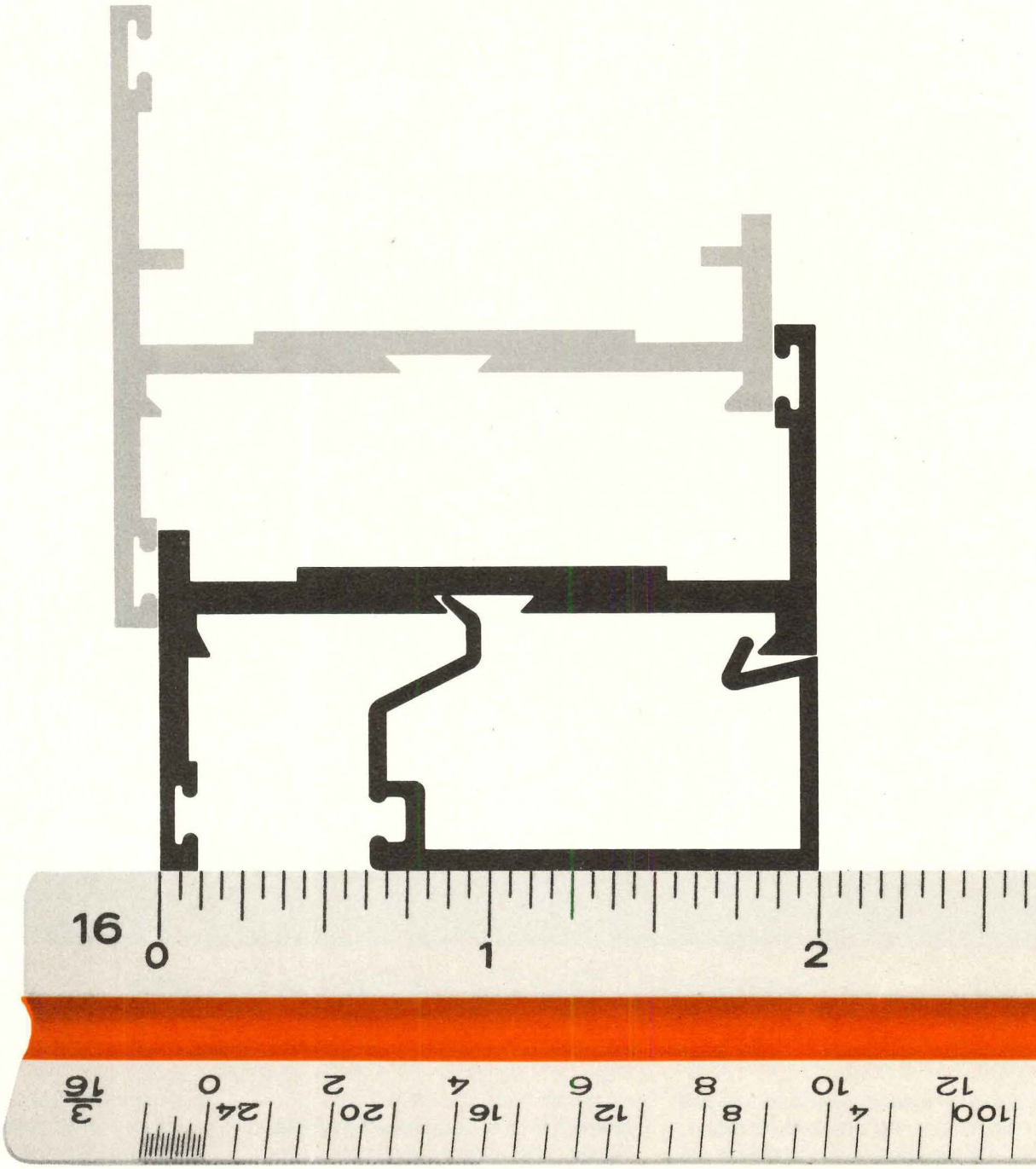
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That's right. Kawneer's new Sealair window gives you a monumental option . . . a 2″ window system that you can specify within commercial installation budget requirements.

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What does the new 2″ Sealair system mean to you? Fewer decisions and less confusion as to dimensions—1½″ or 2″. Now you can specify a 2″ window and always be right . . . in performance and in budget.

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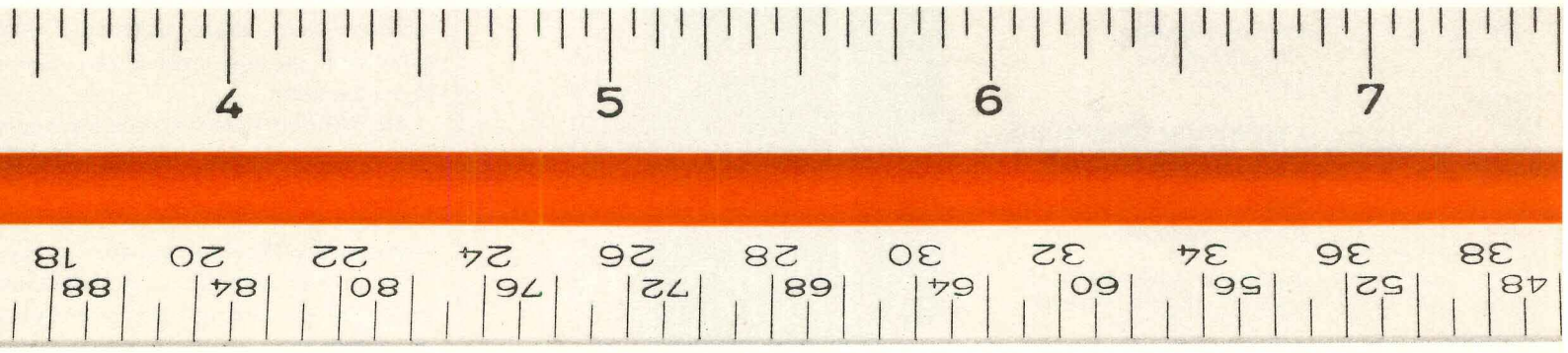
Finishes: 201R1, 204R1, 215R1 or Permanodic® hard colors in #28 Medium Bronze, #29 Black or #40 Dark Bronze.

The 2″ Sealair window . . . a monumental step forward in window systems from Kawneer technology. Get full information now! See your nearest Kawneer representative . . . or write Kawneer Product Information, 1105 N. Front Street, Niles, Michigan 49120.



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Books continued from page 131

1920 or Oliver Evans' of 1783, though not, therefore, the less useful. Architects as well as artists can contribute in these areas, but they haven't yet started.

Those who share their field of concern cannot ignore these utopians, who believe that the process of creation can be understood and recreated, that nature is subject to us as we are to her, that man's thought can transform the world. Brave men—we need them.

Modular Housing in the Real *by J. A. Reidelbach, Jr. Annandale, Va.: Modco, Inc., 1970. 213 pp. $22.50.*

One of the interesting side effects of the surge in manufactured housing that has followed Operation Breakthrough has been the growth of a small corps of industrialized housing consultants. They have come from the ranks of the homebuilding industry, from government agencies or from both, and they stay busy evaluating systems and proposals, helping develop components and whole systems, solving marketing, management, plant layout and design problems—in short, all the varied things that consultants are called on to

One of the industrialized housing con sultants that the others all mention is J. Reidelbach, Jr. He has, in his more than years in the industry: worked for a numb of firms, including his own; headed the dustry trade organization; patented buil ing products; served as a Congressiona lobbyist; and written a book.

What he has done in *Modular Housing the Real* is sketch the outlines of modul housing in the U.S. The book grew out study done for Weyerhauser Corp. in 19 and 1970, and the results of a survey of more than 100 modular housing produc are tabulated and discussed. Along with the statistics goes a discussion that cov ers, in simple and basic form, almost ev thing there is to know about modular ho ing, starting with what it is (and isn't) an going clear to the problems of producin and selling it. Building codes, union pro lems, plant layout, quality control, mark ing, transportation and shipping consid erations, erection and construction de- tails—everything is touched on, althoug there probably is not enough detail to e able the reader to go into business. The book, however, is a good way to learn a about modular housing as it is com- mercially produced, a subject about wh there has probably been more talk than real knowledge. [CP]

Three manuals: **Architectural Materials Failure. Architectural Planning. Creativ Problem Solving Techniques.** *Berkeley Guidelines Publications. $2 each.*

The longest of these informative man uals is a big 28 pages—the shortest runs 18, yet a wealth of useful information is packed into their stapled pages. *Architectural Materials Failures* deals with jus that and reports on concrete, brick and concrete block, wood, roofing and weat protection, glazing, finishes and materia in combination.

Architectural Planning reviews simple and effective planning solutions in use architects, industrial designers and spa planners. Problem solving is based on t mathematical theory of systematic plan- ning, on "human engineering" and com puter science, and on elaborations of tr tional systems.

Creative Problem Solving Techniques applies a basic psychological approach solving some common architectural and office problems. Chapter titles offer a vi creative short cuts; brainstorming; syne

[Continued on page 154]

You can get three acres in one dye lot.

Up to 10,000 yards of wheat, maize or whatever color you come up with. Our new technique should take care of the biggest expanse you'll ever have to carpet. With no color or texture variation whatsoever. And just as important, the carpet we make uniform, will stay uniform. Because it's made of Antron II*, the new nylon fiber that resists fading, stains, wear and actually minimizes soil appearance. We've put a lot more into this carpet, including Brunslon for effectıve static control. Send for specs on grades available. And reap the rewards.

Carpet by Roxbury

Framingham, Massachusetts

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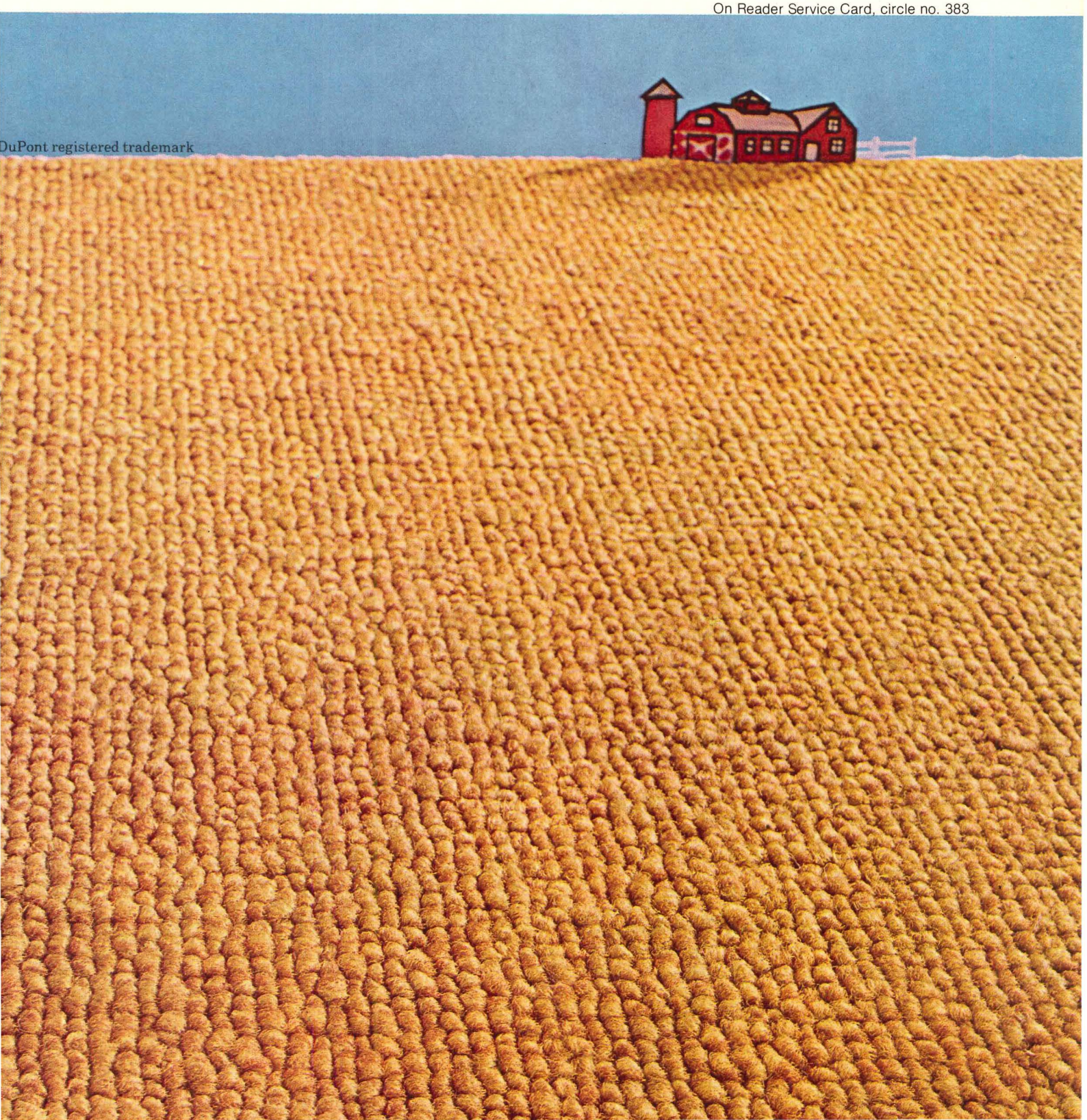

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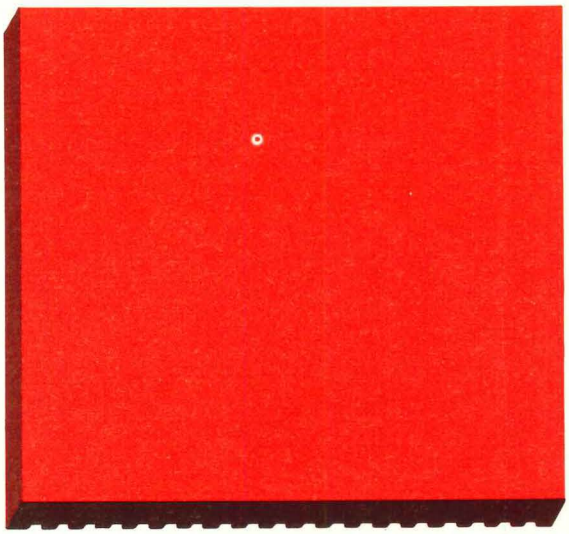
To make sure tile



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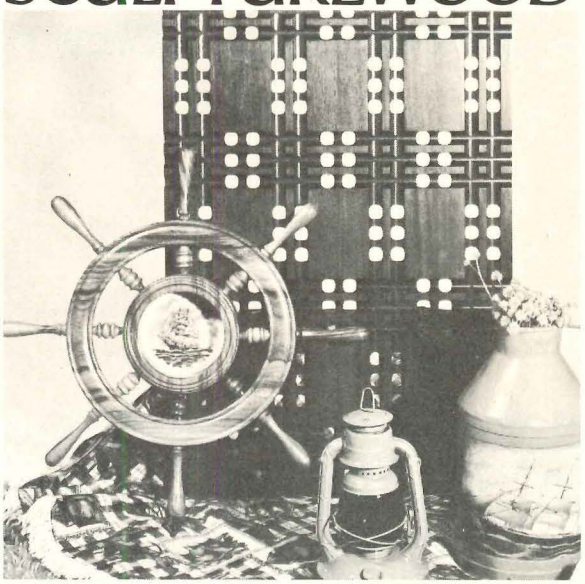

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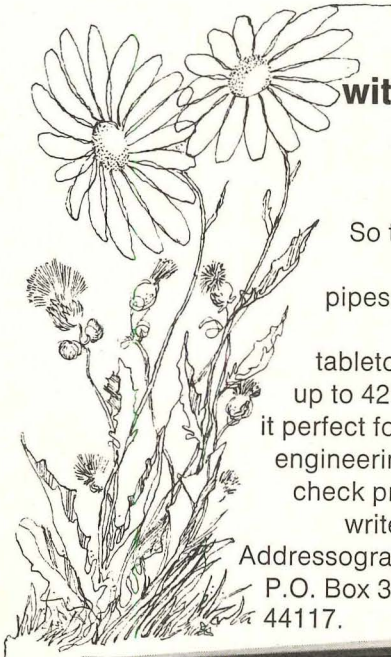

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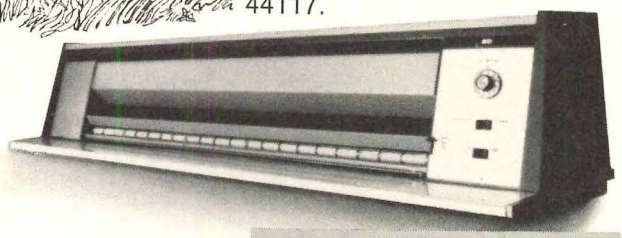

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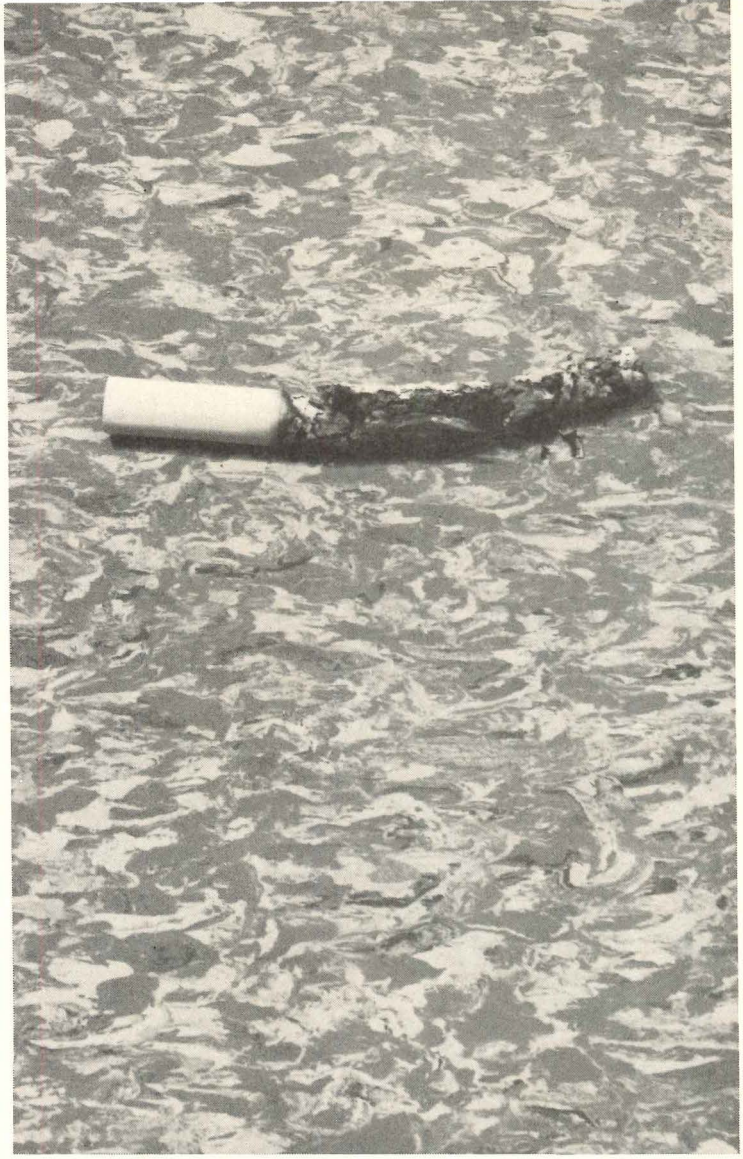

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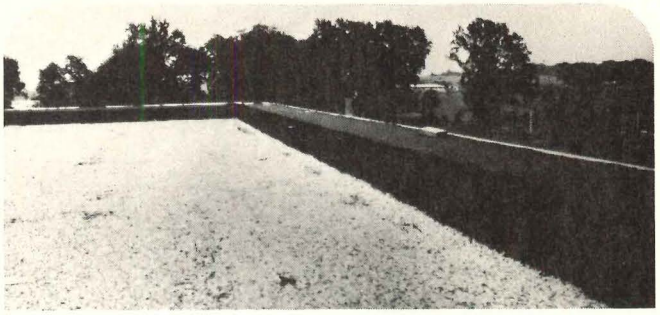
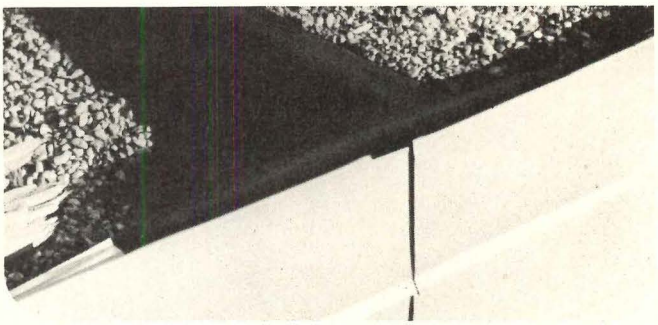
Stop Flashing Failures-



install Gacoflex Contourflash!



You can stop flashing failures at roof terminations, parapets, curbs, penetration joints and expansion joints with Gacoflex Contourflash.

Contourflash is a specially formulated elastomeric sheet material designed for use in all flashing applications. It is self-curing, is easily and permanently adhered to concrete, wood and metal surfaces, regular or irregular in shape.

The natural elasticity of Contourflash allows expansion and contraction with the substrate and it remains flexible from -40°F to +220°F without getting soft or brittle!

Gacoflex Contourflash is in use in buildings all over the country — commercial, monumental and institutional. You can find out why by checking Sweets, Section 7-10 Ga or writing for the Contourflash Bulletin.

SCM GATES ENGINEERING—
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GACO

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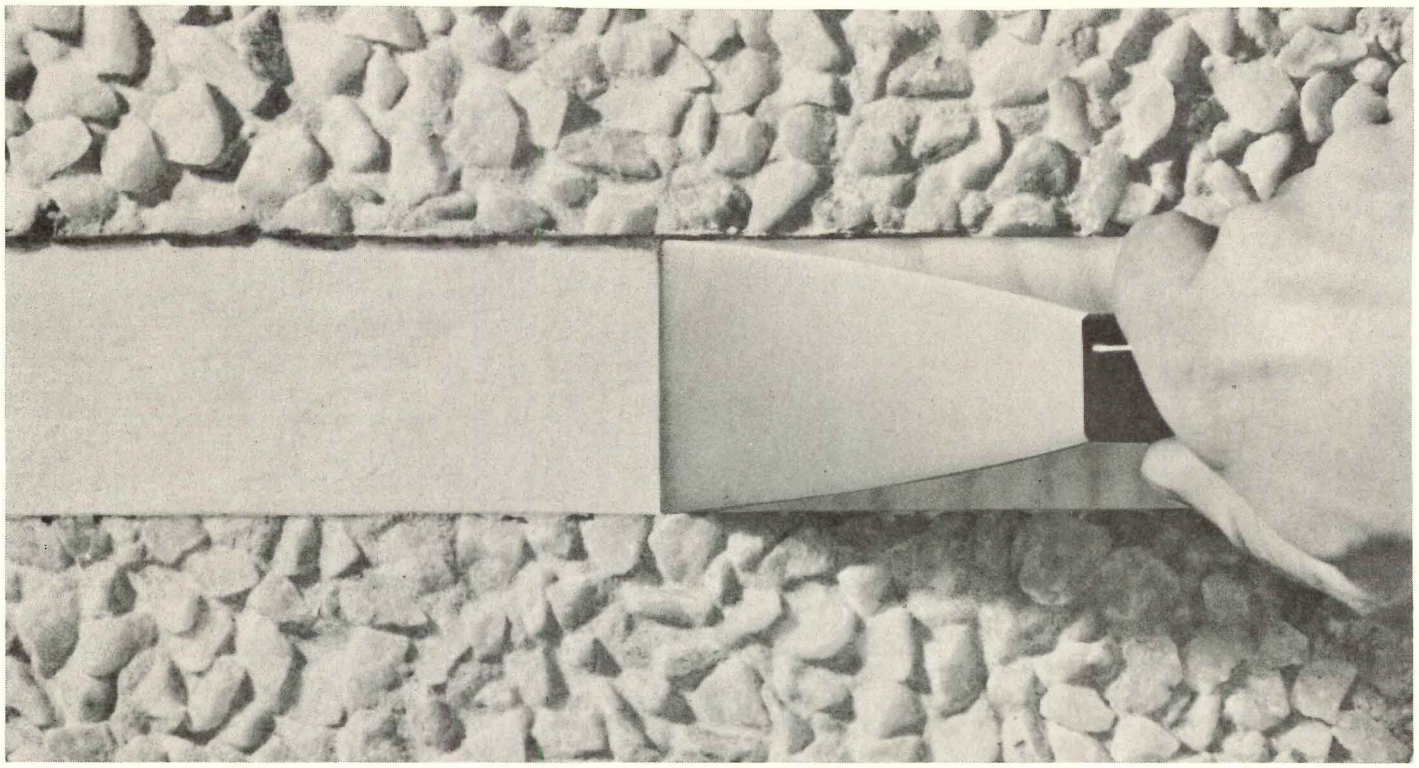
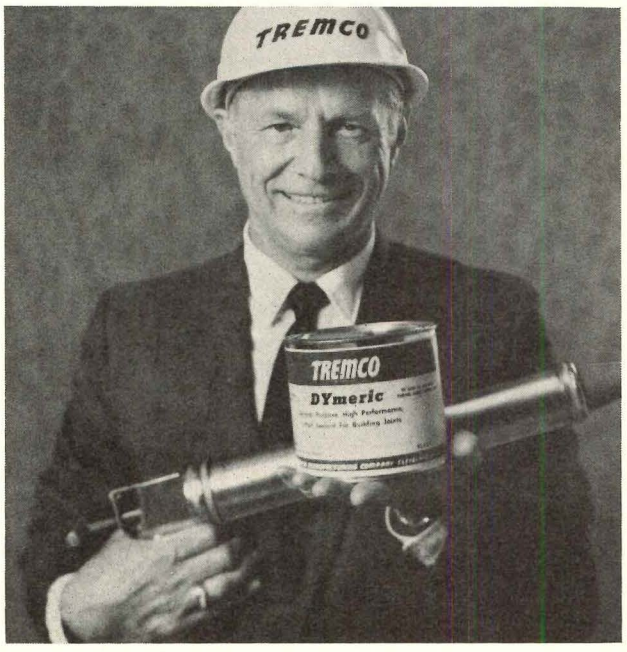


DYmeric® keeps tough joints beautiful.

And comes with a man who makes sure it does.



The oversize joint is too much for most sealants. But not DYmeric. DYmeric is a unique polymer sealant. And it moves with, not against dynamic movement. It won't weep, won't sag—not even when the joints wind up wider than you designed them. DYmeric hangs in there, too. For up to 20 years and more. It tools off flat and smooth, weathers beautifully, and has exceptional adhesion characteristics. It meets the requirements of Federal Specification TT-S-00227E. It is easy to use, too. Mixing, gunning and tooling are a breeze. (This may not mean much to you but the contractor will praise your sealant selection for years to come.) Good as it is, DYmeric can't handle every sealant job you come up with. And that's where your Tremco sealant specialist comes in. Along with DYmeric, he's got 14 other Tremco sealants to choose from. And the experience to know which one to use where. That way, you get the right sealant for every application. Plus his job-site assistance before, during and after every project. Next time you run into dynamic movement, call the Tremco man. If DYmeric can't handle the problem, he'll tell you exactly what will. □ The Tremco Manufacturing Company, Cleveland, Ohio 44104; Toronto 17, Ontario.

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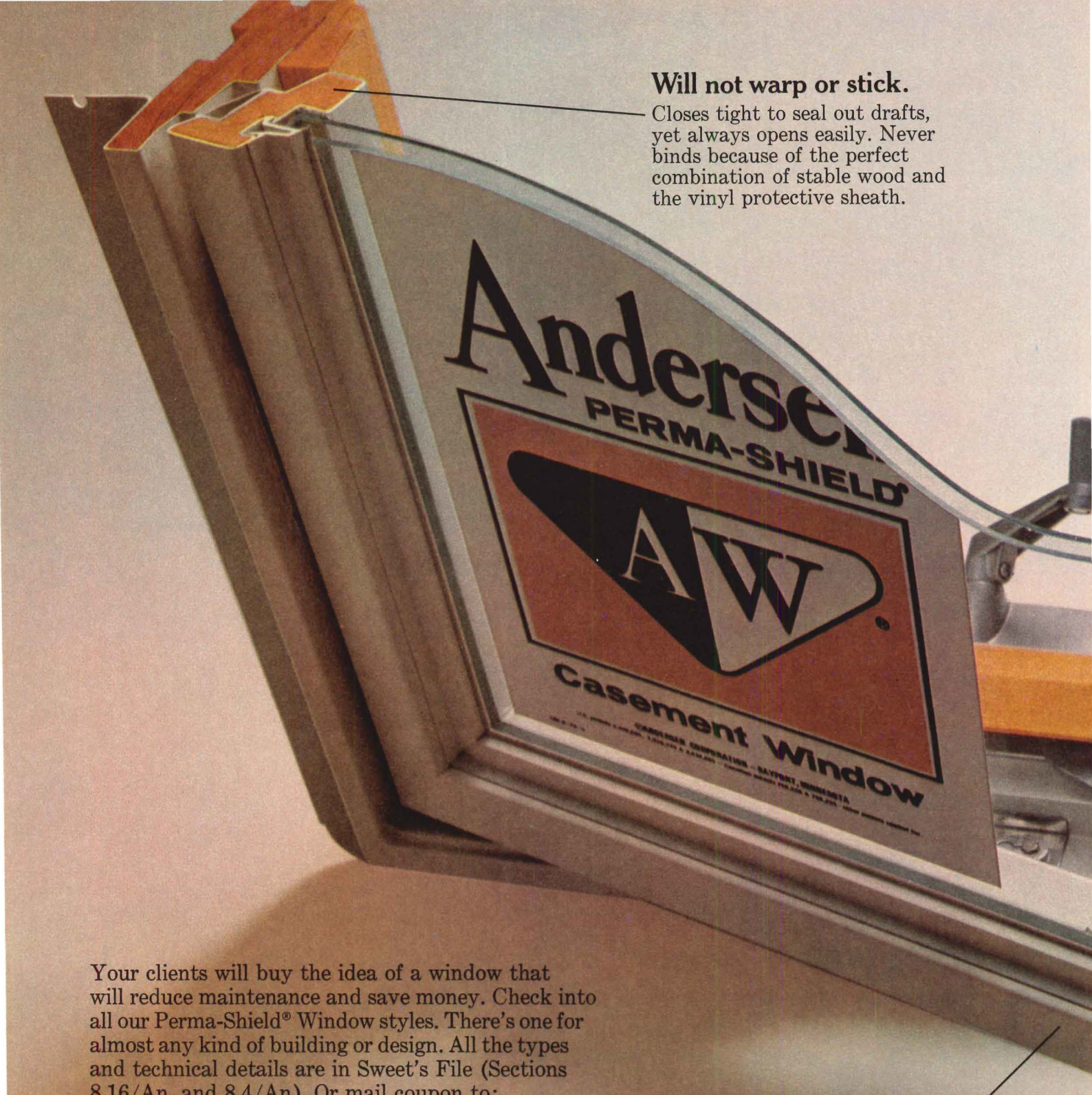
The water stoppers



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Closes tight to seal out drafts, yet always opens easily. Never binds because of the perfect combination of stable wood and the vinyl protective sheath.

Your clients will buy the idea of a window that will reduce maintenance and save money. Check into all our Perma-Shield® Window styles. There's one for almost any kind of building or design. All the types and technical details are in Sweet's File (Sections 8.16/An. and 8.4/An). Or mail coupon to: Andersen Corporation, Bayport, Minnesota 55003.

Doesn't need paintin or scraping.
This tough, durable vinyl protective shield won't pe crack, or blister, nor rust, and corrode like metal—e costly maintenance.

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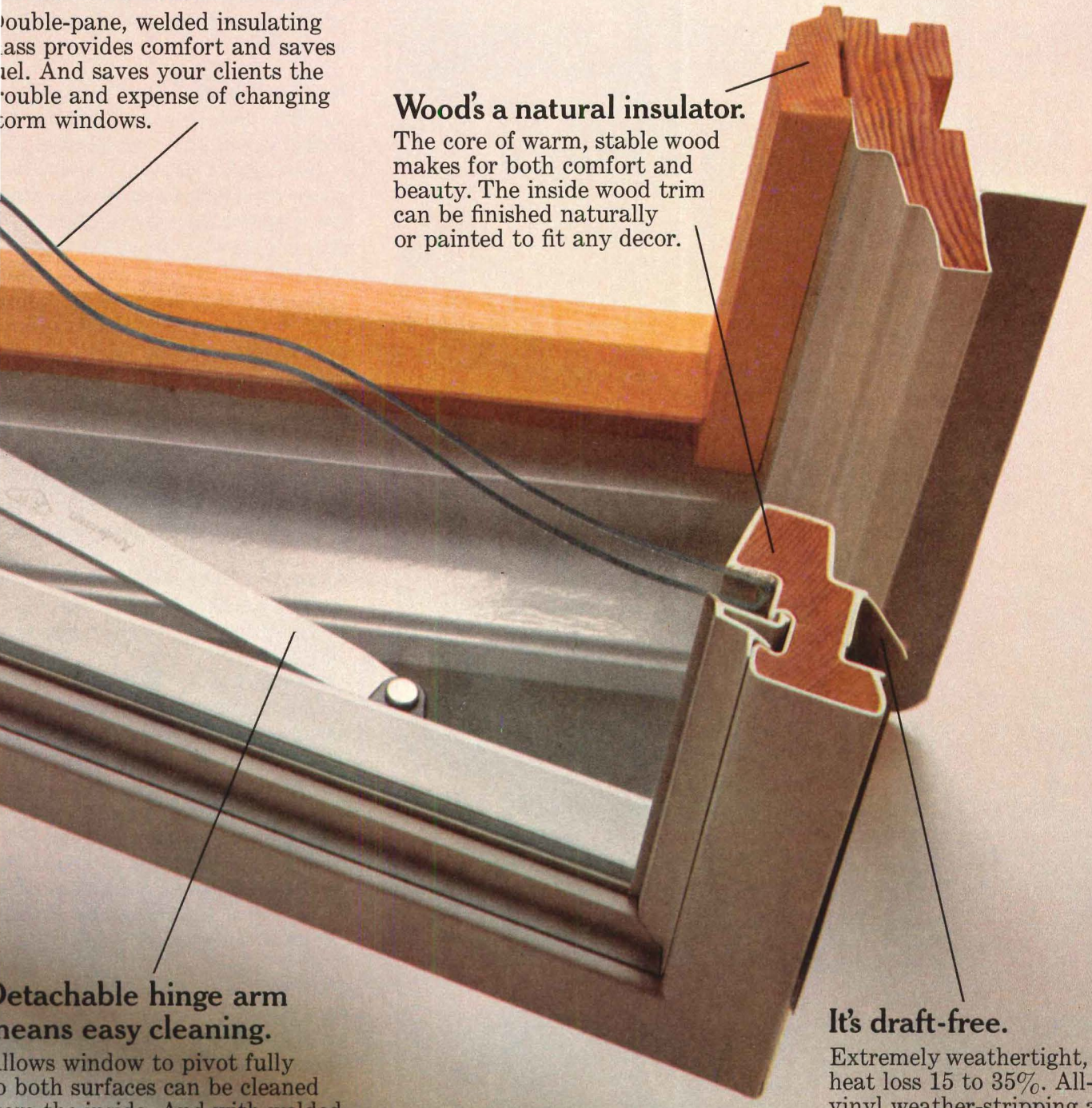
Here's the window that takes care of itself.

No need for storm windows.
Double-pane, welded insulating glass provides comfort and saves fuel. And saves your clients the trouble and expense of changing storm windows.

Wood's a natural insulator.
The core of warm, stable wood makes for both comfort and beauty. The inside wood trim can be finished naturally or painted to fit any decor.



Detachable hinge arm means easy cleaning.
Allows window to pivot fully so both surfaces can be cleaned from the inside. And with welded insulating glass, there are only two surfaces to clean, not four.

It's draft-free.
Extremely weathertight, it reduces heat loss 15 to 35%. All-around vinyl weather-stripping always keeps its shape. And chemically-treated wood is dimensionally stable.

Books continued from page 144

tics; value engineering; finding the alternatives; problems with problem solving.

A History of Design from the Victorian Era to the Present *by Ann Ferebee. New York: Van Nostrand Reinhold Co., 1971. 128 pp. $8.95.*

A glance at the index of this well organized little book is the clue to its thesis. Using the umbrella of three recent philosophies of design—Victorian, Art Nouveau and Modern—architecture, interior design, industrial design, graphic design and photography are surveyed. The result is a visual record of artifacts of what the author calls the "first industrial society" now viewed as giving way to the second. That these three philosophies were not only consecutive but are connected is portrayed graphically and succinctly.

Principles of Hotel Design. *Edited by the Architects' Journal. London: Architectural Press, 1970. 87 pp. 50 shillings.*

Based upon material originally published in two special issues of the *Architects' Journal,* this book deals with "middle range" hotel buildings, which involve t highest percentage of the market. Luxu and inexpensive hotels are omitted. Wi the rise in world tourism and a shortag hotel space, the architect working with new hotels should find much to interes him here.

Market feasibility studies, profitability and investment, the problems of cateri and, of course, the principles of hotel d sign are considered. The central core c the book is a briefing guide, intended t smooth the initial dialogue between arc tect and client. A series of information sheets gives specific data for bedroom sign and public service areas, includin the special problems of hotel services a circulation.

Play and Interplay *by M. Paul Friedberg with Ellen Perry Berkeley. New York: Th Macmillan Co., 1970. 192 pp. $9.95.*

This is a book well worth reading. Th design of recreational facilities in urban areas is approached philosophically an sensitively in this part-picture part-text book. Viewing recreation as one of the cities' many problems, yet a way to alle viate other problems, the focus is on th recreational needs of those who can't g out of the city, or who don't want to. Re ognizing that the environment is differe for all age groups, *Play and Interplay* su gests recreational planning for "the chi "the teenager" and "the adult," not in terms of swings and seesaws but in the context of broad community planning.

Roma Barocca *by Paolo Portoghesi. Tra lated from the Italian by Barbara Luigia Penta. Cambridge: The MIT Press, 1970 569 pp. $55.*

Described as the "history of an archi tectonic culture," this limited edition co tains 325 gravure plates and 79 line dra ings, and an accompanying text that presents the history of architecture in Rome from 1600 to 1750. It is a study of forces that created the Roman Ba roque—religious, political, aesthetic—a the reasons this "magnificent revolutio failed. Bernini, Borromini and Cortona are studied in individual chapters.

Northwest Coast Indian Art: An Analysi Form *by Bill Holm. Seattle, Wash.: Univ sity of Washington Press, 1970. 93 pp. $4.95 (paperback edition).*

The complex art of the Northwest Co

[Continued on page 164]

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THIS'LL FINISH YOU, BEN-HIM!

CHOKE

GASP

AARGHHH

HOT PEANUT BUTTER!

HOT PEANUT BUTTER

MISSED HIM!

HERE COMES THE MOP-UP CREW

THEY'RE WASHING THE PEANUT-BUTTER RIGHT OFF

THE CARPET ISN'T EVEN STAINED!

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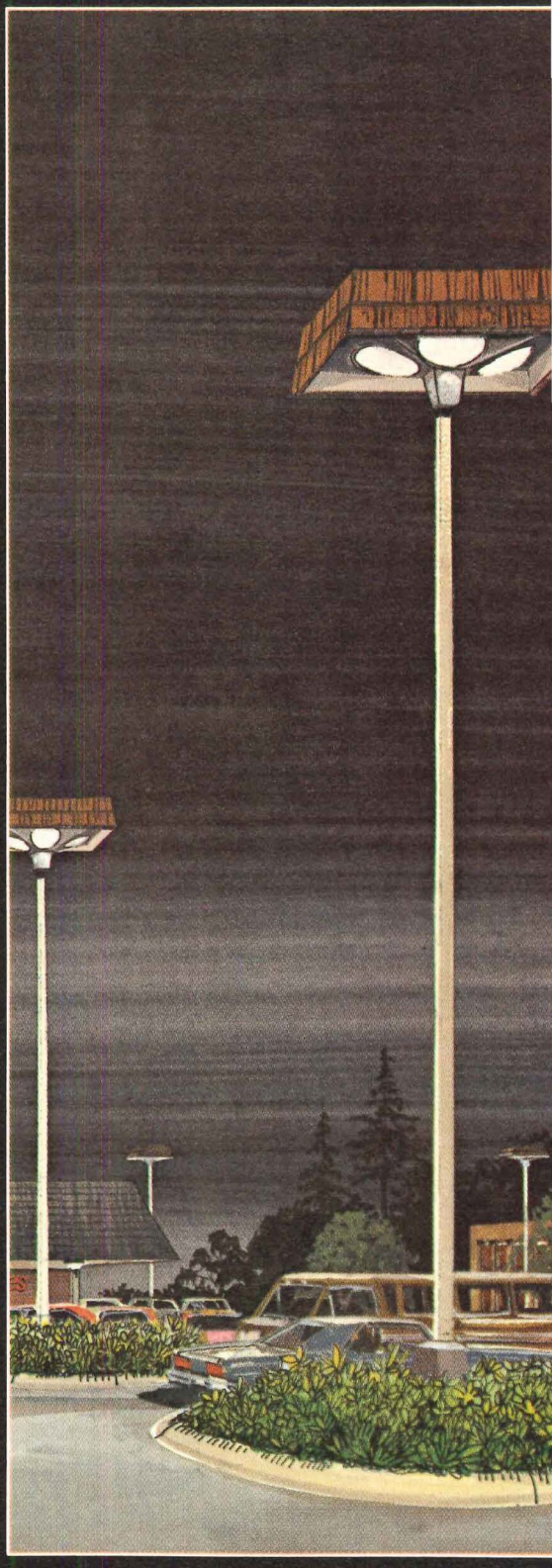
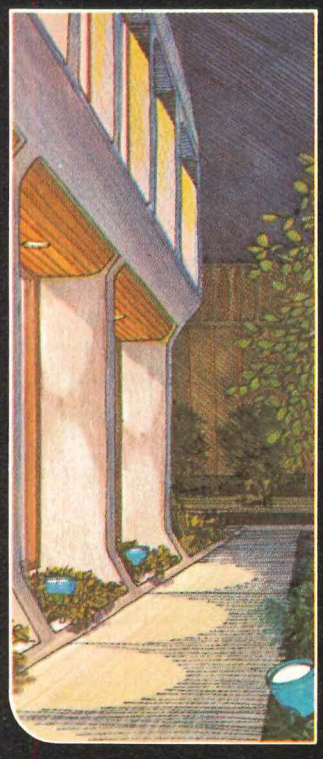
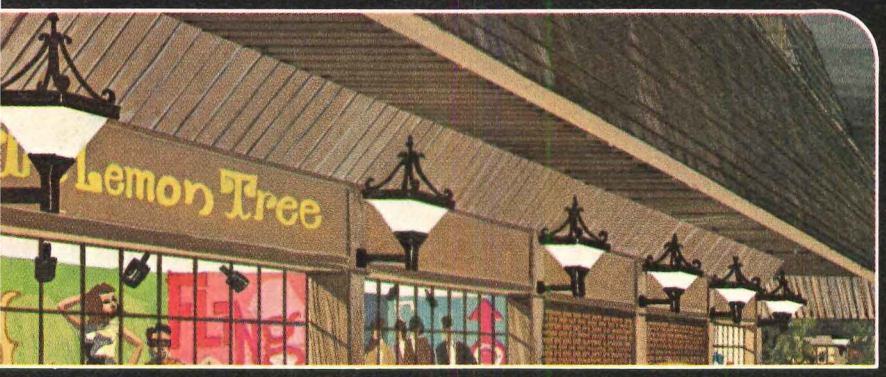
Light takes on form.
By day, as well as nigh





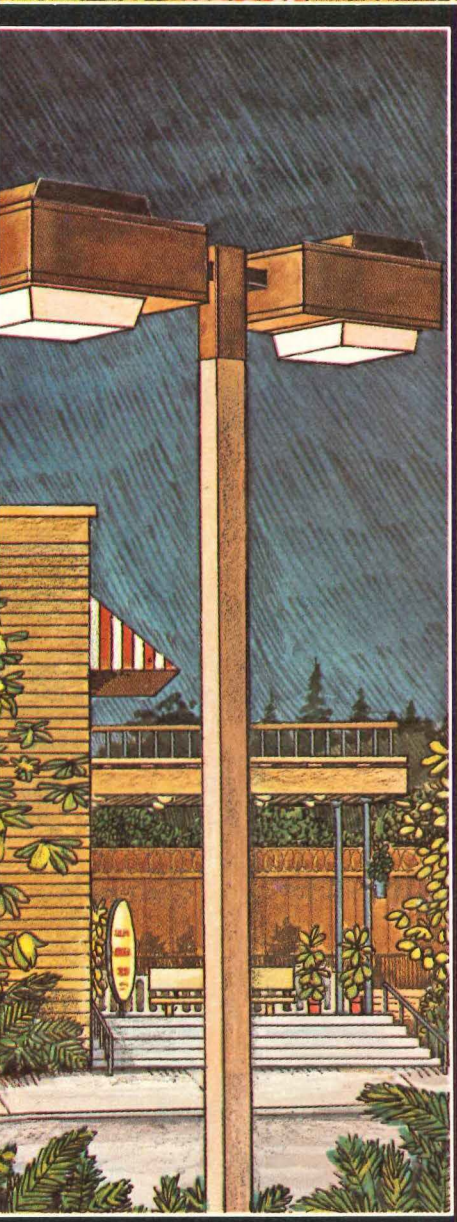
ish a brick facade. Splash safety on a footpath. Make bold a bas relief. Shine security on parking areas.

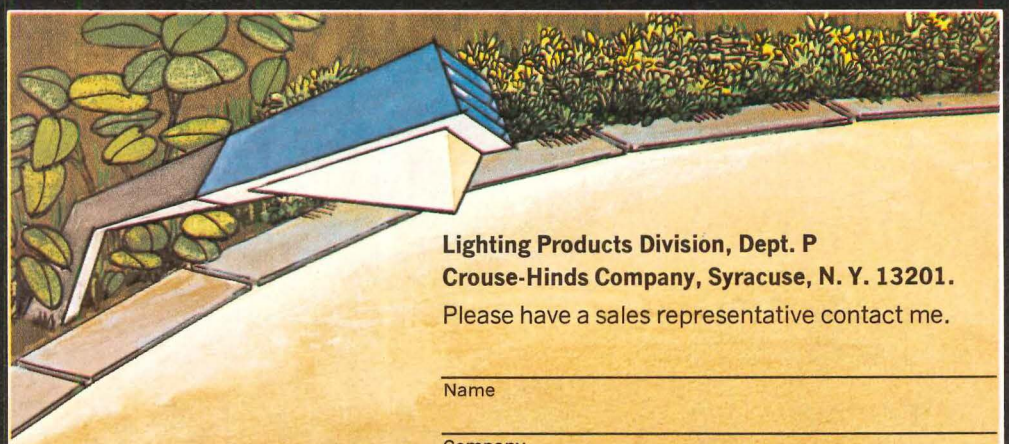


Until now that sort of lighting all too often came in ugly packages. The photometrics were nice. The esthetics weren't.

That's no longer true, as you can see on these pages. Good looks by day complement good light by night. Now, fixture designs complement architectural creativity, complement landscape features, complement other lighting.

We've packaged lighting function inside lighting form in many new ways. Let us show you. And let's talk about creative custom designs, too. The coupon opens the conversation. Send it now.





Lighting Products Division, Dept. P
Crouse-Hinds Company, Syracuse, N. Y. 13201.
Please have a sales representative contact me.

Name

Company

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Telephone

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CROUSE-HINDS

This advertisement has no headline. It is merely a factual statement, but one that we believe is of vital import to every architect and engineer.

TCS is stainless steel coated on both sides with a terne alloy of 80% lead and 20% tin.

TCS has no equal among standard architectural metals in resistance to atmospheric corrosion.

TCS solders perfectly without the need for expensive pre-tinning, acid fluxes or neutralizing agents.

TCS weathers naturally to a uniform dark gray.

TCS provides built-in safeguards against failure which no competitive roofing or weathersealing material can match.

TCS is a product of the Follansbee Steel Corporation, Follansbee, W. Va.

The Tectum II idea has already caught on. Big.

Only months ago, we introduced Tectum II roof decking with factory-applied polyurethane foam. It made so much sense that acceptance was immediate and today it's "on the job".

We're not surprised. Tectum II eliminates on-site insulation, can be installed quickly, is immediately ready for the application of any conventional roofing system.

Tectum II with factory-applied foam, is roof deck, acoustical ceiling, vapor barrier and more; all in one beautiful, strong, lightweight, efficient insulating material.

The ¾" of polyurethane foam and 2" Tectum, produces a low "U" value of .10. And inside — same beautiful Tectum® texture to dress up the ceiling. May we send you details? National Gypsum Company, Dept. PA-51T, Buffalo, New York 14225.

Gold Bond
TECTUM

Books continued from page 154

Indians is analyzed with sensitivity and clarity, contributing to a basic understanding of the elements of form which characterize the work of these primitive tisans. The author is lecturer and curato of Northwest Coast Indian Art at the Tho as Burke Memorial Washington State M seum at the University of Washington.

Le Corbusier as Artist and Writer *by Le Corbusier and Marcel Joray. New York: George Wittenborn Inc., 1970. 131 pp. $22.50.*

Each of the beautiful photographs in book of the works of Le Corbusier are a companied by his philosophical comments. Two sections focus on the devel opment of Ronchamp and Chandigarh; others present "The maturing of an Arc tectural Expression." The photographs Lucien Hervé offer excellent close-up views of paintings, sculpture and house

Documents

[The documents listed below are availa from the associations and agencies cite Request for such documents should be rected accordingly.]

Publications Catalog. *American Concr Institute, P.O. Box 4754, Redford Statio Detroit, Mich. 48219. On request.*

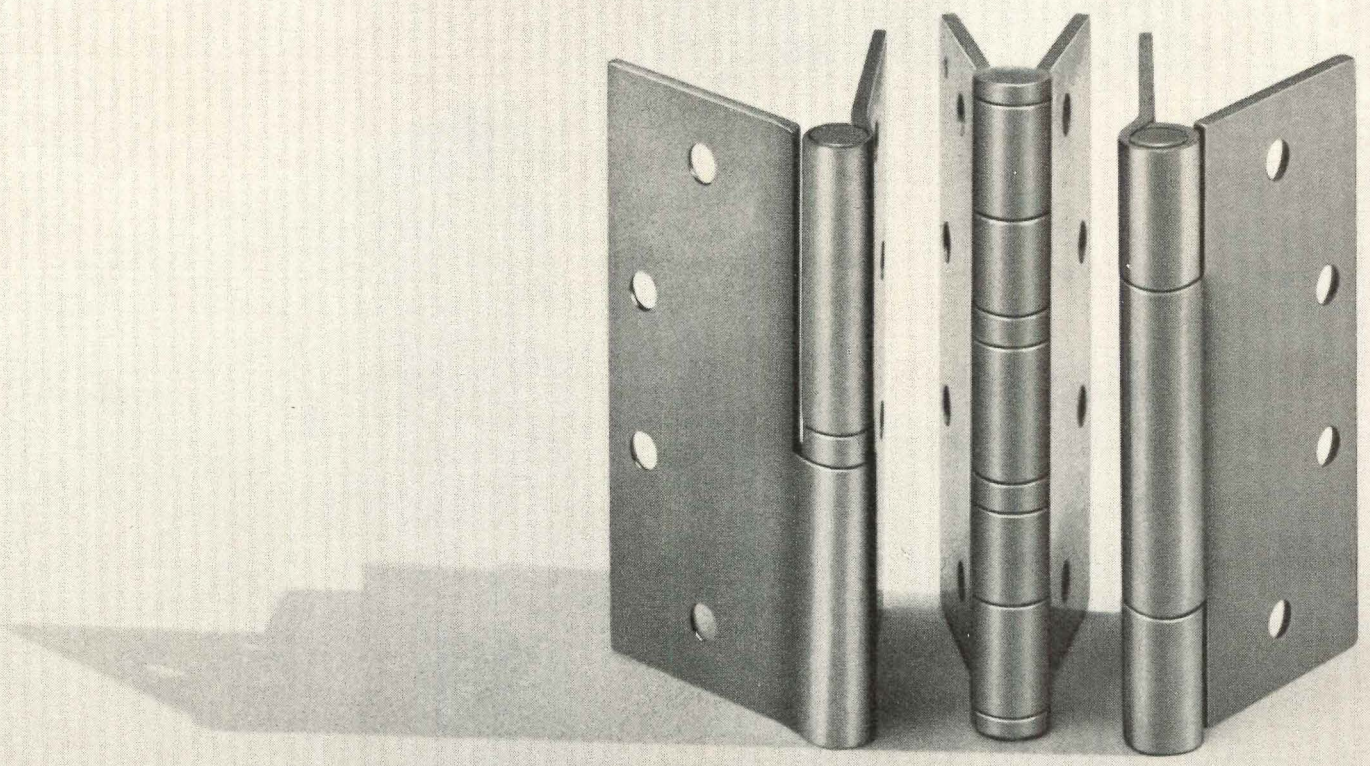
ACI has nearly 300 publications cove all phases of the cement and concrete i dustry; codes, standards, committee re ports, Journal reprints, definitive works world experts.

Supplement to The CSI Format for Con struction Specifications. *Construction Specifications Institute, 1717 Massachu setts Ave., N.W., Washington, D.C. 200 $2 (members), $2.50, (nonmembers).*

Causes, Mechanism, and Control of Cracking in Concrete. *ACI Bibliograph No. 9, 287 entries. $7.*

Publication Dept., American Concret Institute, P.O. Box 4754, Detroit, Mich. 48219.

This bibliography gives an annotated compilation of selected references on different aspects of cracking in concrete—mass concrete or thin sections, plain or reinforced systems. Reference are to: general, flexural, volumetric cha and corrosion cracking.



Only McKinney gives you all three, a two ...a five ...and a three!

McKinney...and only McKinney...offers you three basic hinges: a two, a five, and a three knuckle hinge. Your job is easier. No need to make compromises. McKinney leads the way by giving you more to work with in specifying, for any building design, the hinge that best meets requirements.

Being an industry leader is nothing new for McKinney. For generations, McKinney lead the way with constant improvements in the quality, performance and versatility of the five-knuckle hinge, the hinge that was long the standard of the industry. Then, several years ago, McKinney revolutionized hinge design by introducing Moderne, the first and only two-knuckle hinge...the hinge with simplified lines, slim barrel and integrated pin which eliminated the intermeshing of knuckles. McKinney, with the trim three-knuckle line, provides a choice of three basic hinges...**a diversity that no other manufacturer can offer.**

COMPLETE RANGES IN ALL THREE

Each basic hinge design comes in a complete range of sizes and types in Standard and Extra Heavy Weight, plain and with bearings for widely varying applications.

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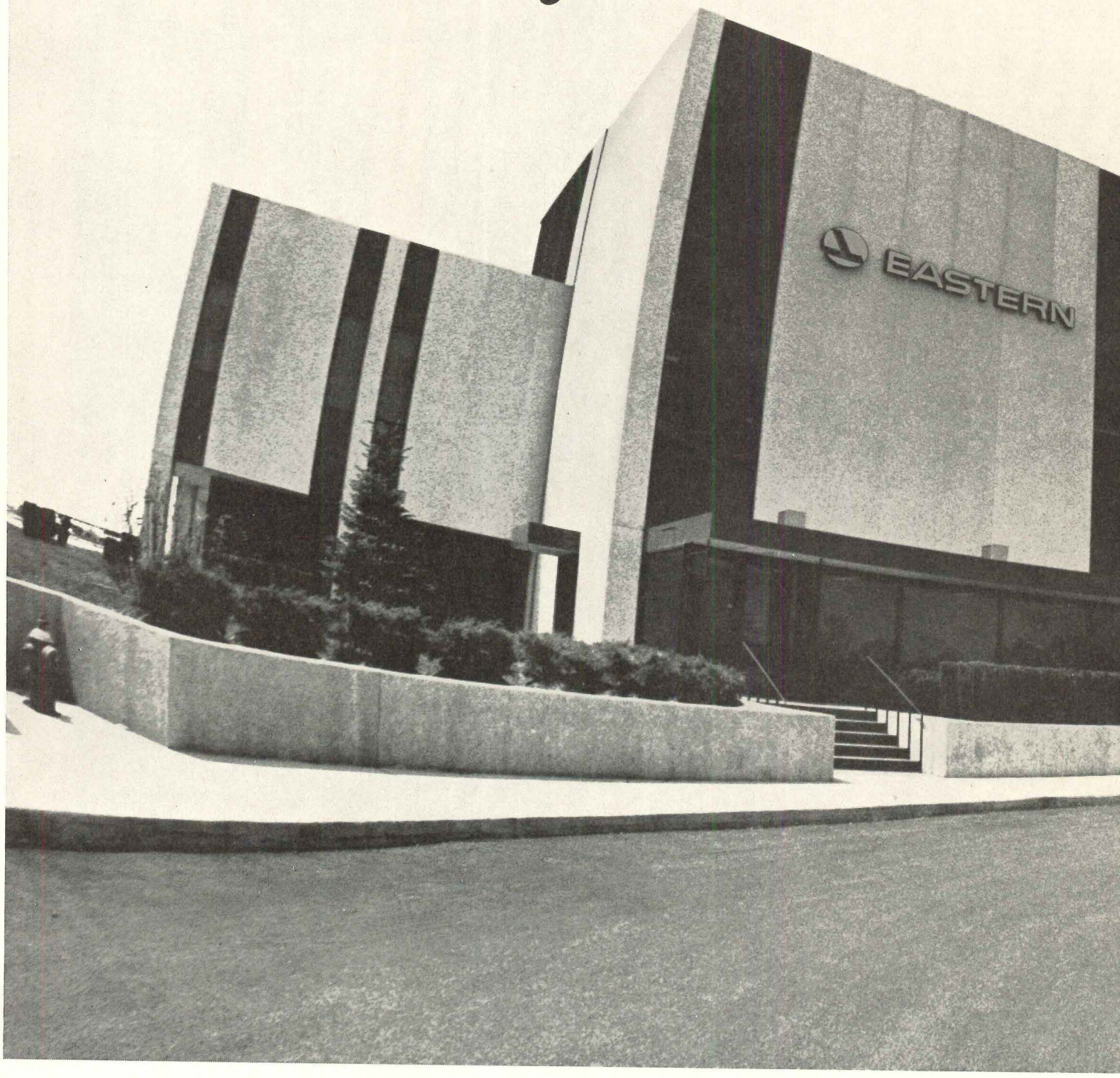
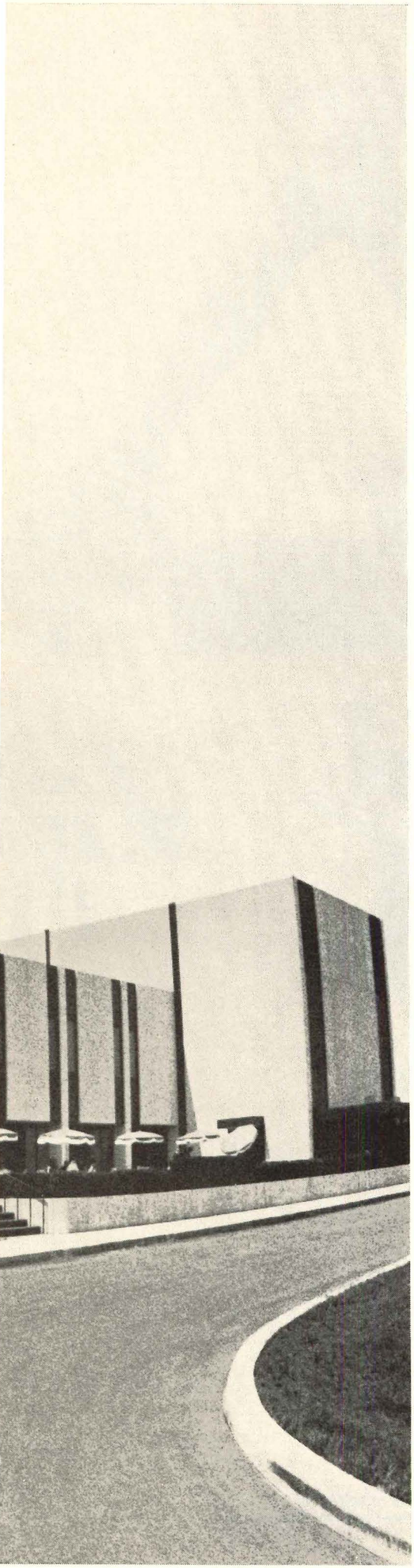
BUILDERS HARDWARE MANUFACTURERS ASSOCIATION MEMBER bhma

The electric climate is for architects who want unlimited design flexibility.





Read how it helped Holabird & Root design a 5-million dollar airline reservation center that saves thousands of dollars annually for its owners.

Before designing the new Eastern Airlines' reservation center in Oak Brook, Illinois, architect-engineers Holabird & Root of Chicago had studies done to determine the most favorable environmental system for their client. The findings? *The electric climate* won out over all other systems.

By planning everything electric, including the heat, the architect-engineers *and* their client benefited. The architects could design with unlimited imagination because there's an electric system to fit any building. And Eastern Airlines? They got first cost savings with *the electric climate*! Furthermore, they saved time, space and money–because electrical equipment is easy and fast to install, is compact and doesn't require a large maintenance staff.

Your electric utility company can tell you how *the electric climate* can add new flexibility to your next architectural assignment. Call them today.

ALL-ELECTRIC BUILDING AWARD ®

Live better electrically

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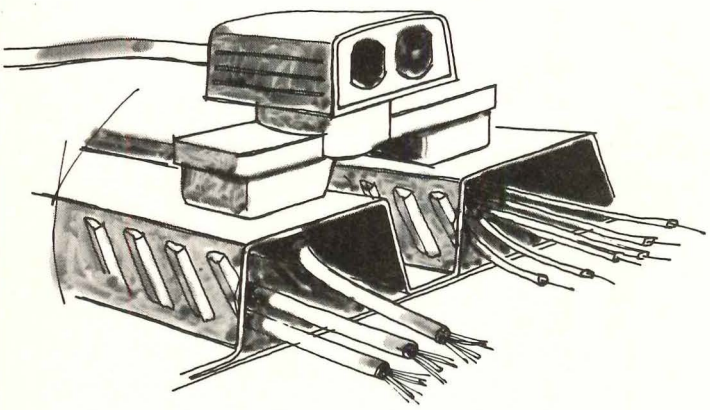
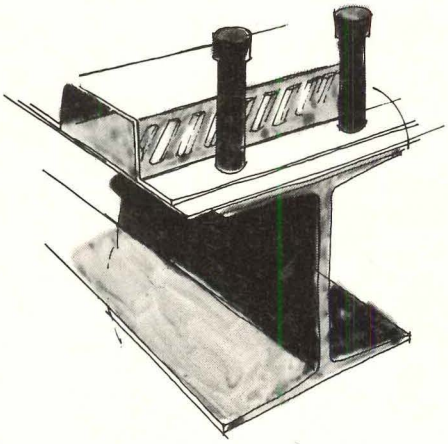
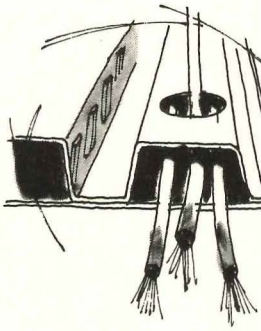
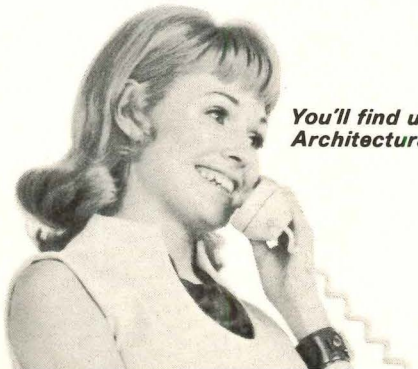


PRE-SET INSERTS
Eliminate costly drilling and installation... one fixture for both power and telephone.

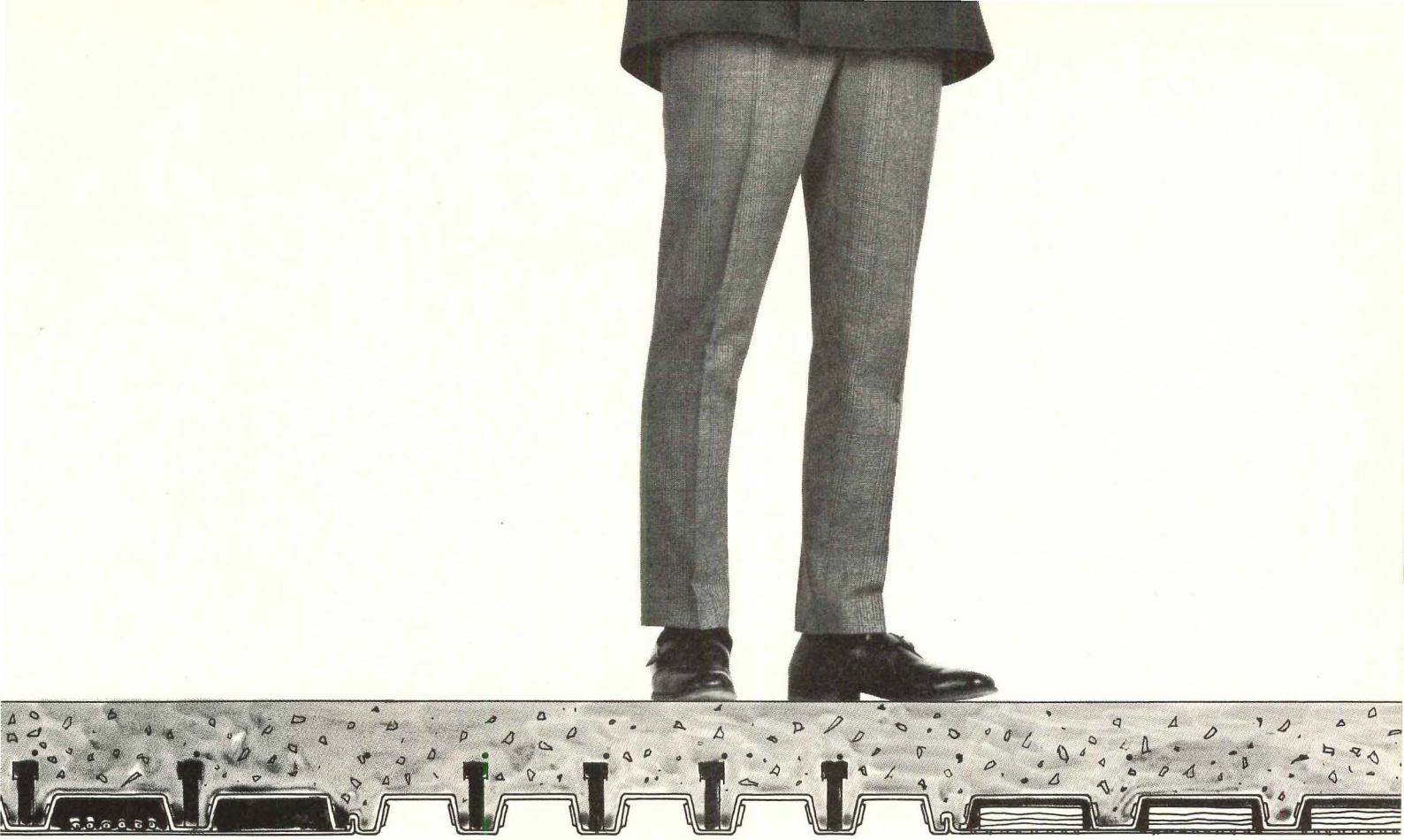


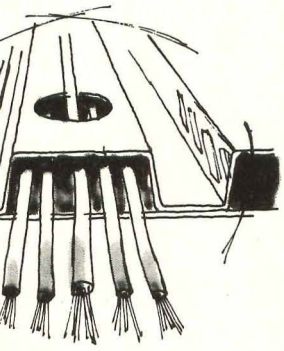
COMPOSITE BEAM DESIGN
Hi-Bond® lugs, special side lock designs...comprehensive design data and assistance.





You'll find us in Sweet's Architectural Catalog, Section 5.





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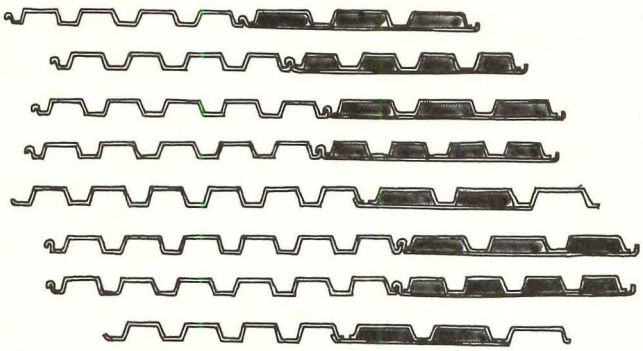
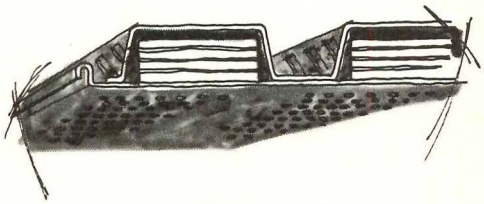
Provides 66% more wiring space per cell... many more Celluflor profiles to choose from.



BLENDS MEET ANY MODULE
Mix Celluflor® and non-cellular decks... provide economical electrification to meet any architectural module.



ACOUSTIFLOR™
Doubles as structural floor and acoustical ceiling... eliminates separate suspended ceiling.

Whatever your floor system requirements, there's an Inland-Ryerson floor deck specialist to help you. He's backed by an engineering department known for its ingenuity and ready to provide assistance in testing and specialized design. To contact him, and for a copy of Catalog 21-1, write Inland-Ryerson Construction Products Company, Department E, 4069 W. Burnham St., Milwaukee, Wis. 53201.

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General Offices: Chicago, Illinois

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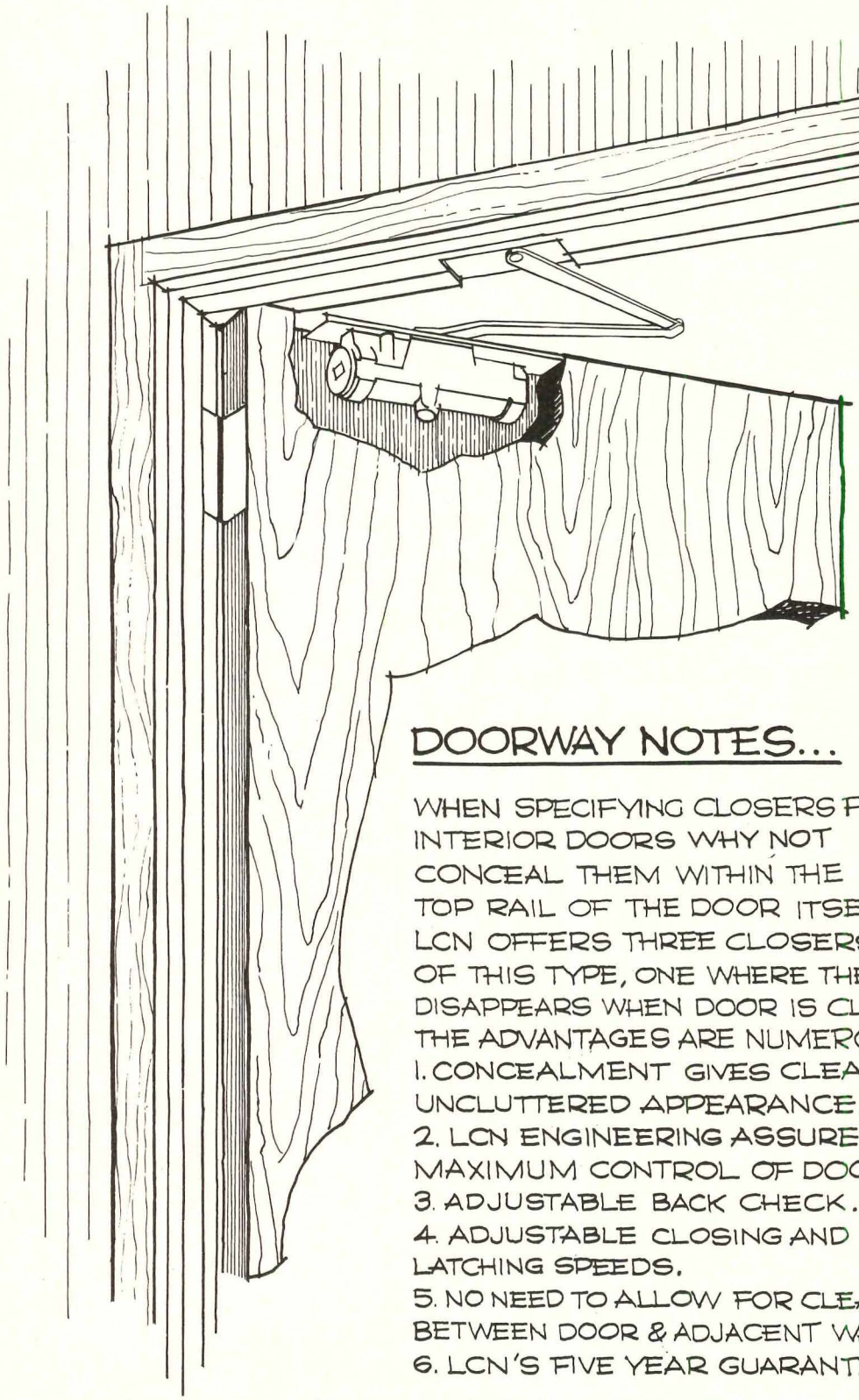
Memorial Art Gallery of the University of Rochester,
Rochester, New York. Waasdorp Northrup and Kaelber,
Architects, Rochester, New York.



LCN

DOORWAY NOTES...

WHEN SPECIFYING CLOSERS FOR INTERIOR DOORS WHY NOT CONCEAL THEM WITHIN THE TOP RAIL OF THE DOOR ITSELF. LCN OFFERS THREE CLOSERS OF THIS TYPE, ONE WHERE THE ARM DISAPPEARS WHEN DOOR IS CLOSED. THE ADVANTAGES ARE NUMEROUS:

1. CONCEALMENT GIVES CLEAN UNCLUTTERED APPEARANCE.
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3. ADJUSTABLE BACK CHECK.
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5. NO NEED TO ALLOW FOR CLEARANCE BETWEEN DOOR & ADJACENT WALL.
6. LCN'S FIVE YEAR GUARANTEE.

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Notices

Appointments

Schwarz & Henmi, St. Louis, announces **Heinz E. Zobel** as a partner.

Hill Miller Friedlaender Hollander, Inc., Cambridge, Mass., announces **Mario J. Torroella**, associate in architecture, **Richard R. Strother**, associate in education.

Robert William Anderson has been named an associate with Jack D. Pickett and Associates, Hinsdale, Ill.

N. William Marsh, AIA is director of production and consulting services for Charles Luckman Associates, Los Angeles.

Arnold Thompson Associates, Inc., White Plains, N.Y. and San Francisco, names **D.L. Stafford** as assistant vice president.

Odell Associates Inc., Charlotte, N.C., has named **David N. Shultz** and **Robert M. Jordan** as associates.

Lee Gibson, AIA has become a principal, **Richard H. Cowan, AIA** and **Bertram S. Koslen, AIA** associates of William Dorsky and Associates, Inc., Cleveland.

Robert D. Espeseth has joined Ellis, Arndt & Truesdell, Inc., Flint, Mich.

Name changes

Frank Grad & Sons, Newark, to **The Grad Partnership.**

Roman Scholtz AIA Architect, Davenport, Iowa to **Roman Scholtz & Associates, Architects.**

Crittenden, Cassetta, Wirum & Cannon, Anchorage, Alaska to **CCWC/HOK.**

New addresses

Hill Miller Friedlaender Hollander, Inc., 543 Green St., Cambridge, Mass. 02139.

Good Design Associates and **Trace Christenson, Jr.,** 310 Lafayette Building, South Bend, Ind. 46601.

Bolling & Klenk AIA, 48 Spruce St., Oakland, N.J. 07436.

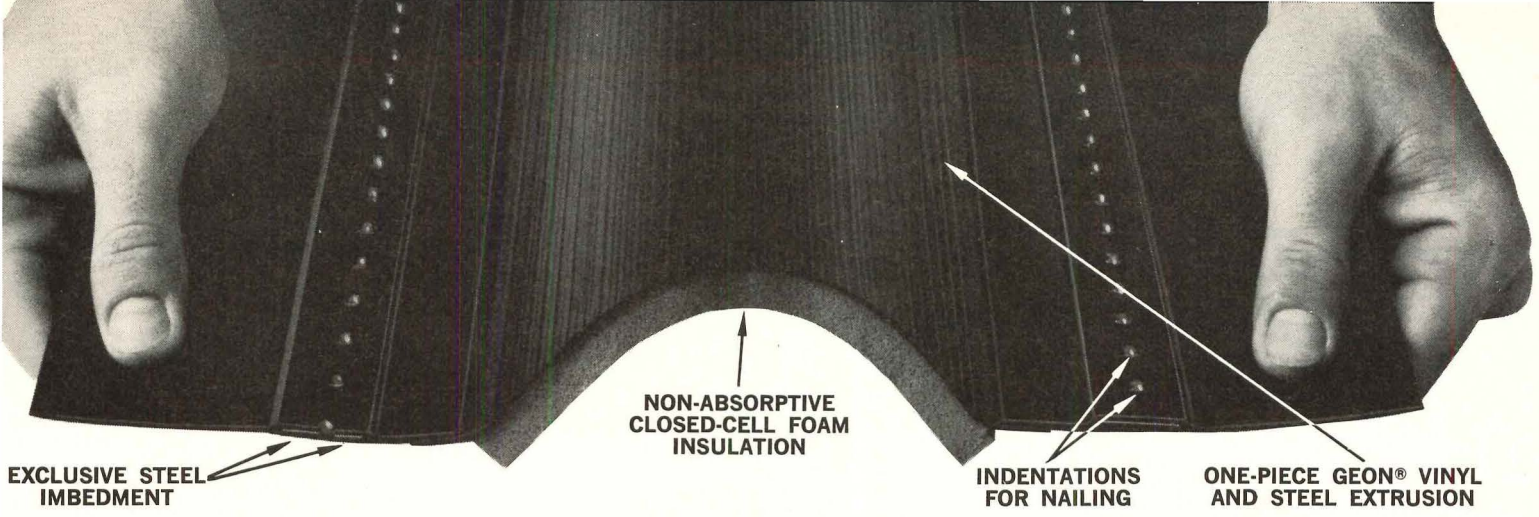
New firms

Henry F. Arnold landscape architecture, Box 622, Princeton, N.J. 08540.

Planners Incorporated, 1339 Wisconsin Ave. NW, Georgetown, Washington, D.C. 20007.

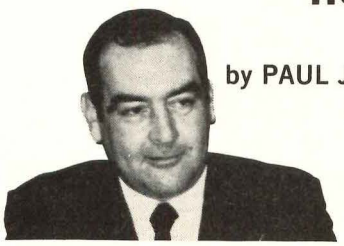
Wilson & Snibbe, Architects/Planners/Engineers, 128 E. 24 St., New York, N.Y. 10010.

Antranig Der Marderosian—Designs for Education, Hospital and Business Facilities, 126 Brookline Ave., Boston, Mass. 02215.



ANSWERS TO YOUR QUESTIONS ABOUT METALASTIC® MARK II

new principle expansion joint cover



by **PAUL J. RAABE**, Products Manager, Building Products Division, GREFCO, Inc.

A subsidiary of General Refractories Company

YOU: **What is Metalastic Mark II?**

PAUL: It is a new type of expansion joint cover that assures your clients of weatherproof joints in rooftop construction. It permits roof sections to expand, contract and distort without causing breaks in the joint cover.

YOU: **How is Metalastic Mark II made?**

PAUL: By a new principle. Extruded simultaneously through a single die is a Geon* vinyl bellows flanked by two semi-rigid flanges containing continuous metal imbedments. After extrusion, the bellows is lined with closed-cell vinyl foam insulation.

YOU: **What is meant by metal imbedment?**

PAUL: It is a continuous perforated strip of steel that controls the expansion and contraction of the joint cover; the vinyl flange and the metal assume identical coefficients. This metal strip is an integral extruded part of the flange. It has neither been glued nor crimped in place. It won't work loose. It can't rust. It can't corrode.

YOU: **Why is this strip perforated?**

PAUL: Molten vinyl flowing through the perforations "keys" the metal in place. The slight indentations occurring every ¾" along the imbedment show where nails can be driven.

YOU: **Do these perforations have other advantages?**

PAUL: In addition to speeding nailing, nails driven through the perforations are automatically sealed tightly against entrance of water.

YOU: **What about the "dissimilar metals" problem?**

PAUL: Metalastic Mark II solves that because its metal imbedments, as the term implies, are completely encased in Geon* vinyl, which is compatible with any metal.

YOU: **How is Metalastic Mark II packaged?**

PAUL: Straight flange Metalastic Mark II comes packaged in 50-ft. rolls together with nails and splicing kit. Curb-shape is available in 10-ft. lengths. Also available are cross-over, tee and corner transition pieces, which lap over straight runs and eliminate butt joints and splices.

YOU: **Is there an advantage to roll material?**

PAUL: Sure, it eliminates most of the splicing.

YOU: **What is the splicing procedure?**

PAUL: It's as simple as putting a patch over a joint and takes less than five minutes under most weather conditions. A properly executed splice is almost impossible to remove after 24 hours.

YOU: **Why a 50-ft. roll and not 100-ft.?**

PAUL: We can supply 100-ft. and 150-ft. rolls if you order them. The 50-ft. roll is the result of conferences with roofers. Since the 50-ft. roll fits in a carton less than 20 in. square and 14 in. high, roofers found it easier to handle. They like its light weight—only 45 lbs. In addition, they can now purchase closer to the exact footage required and eliminate waste.

YOU: **Why furnish nails?**

PAUL: To make sure the proper size and type of nail is used.

YOU: **Has Metalastic Mark II been thoroughly tested?**

PAUL: Yes, in both field and laboratory and in testing programs set up with the Illinois Institute of Technology as well as GREFCO's own Research and Development Laboratory. Many roofers participated in our initial testing program, and we benefited greatly from their experiences.

YOU: **What are architects' reactions?**

PAUL: They appreciate the ability of Metalastic Mark II to conform to unusual roof design.They like Geon* vinyl's established resistance to industrial and atmospheric pollutants, its toughness and its flame-retardance.

YOU: **Is there any significance to the word "Mark" instead of just Metalastic II?**

PAUL: My boss, Mr. B, insisted on it. Everyone else was against it.

YOU: **Is the name set?**

PAUL: Looks like it. Metalastic Mark II is a registered trademark.

YOU: **Sounds great! How can I secure a free sample and technical data?**

PAUL: I thought you'd never ask. Write GREFCO, Inc./ Building Products Division, Dept. PA-3, 333 N. Michigan Ave., Chicago, Illinois 60601.

*Registered Trade Mark of B. F. Goodrich Chemical Company

GO AHEAD... SPECIFY METALASTIC MARK II

don't be half-glassed

see page 22

On Reader Service Card, circle no. 410

New from Progressive Architecture

'Details from the Industry'

Now, four times a year, P/A will feature a select group of advertisements showing professional architectural details of buildings.

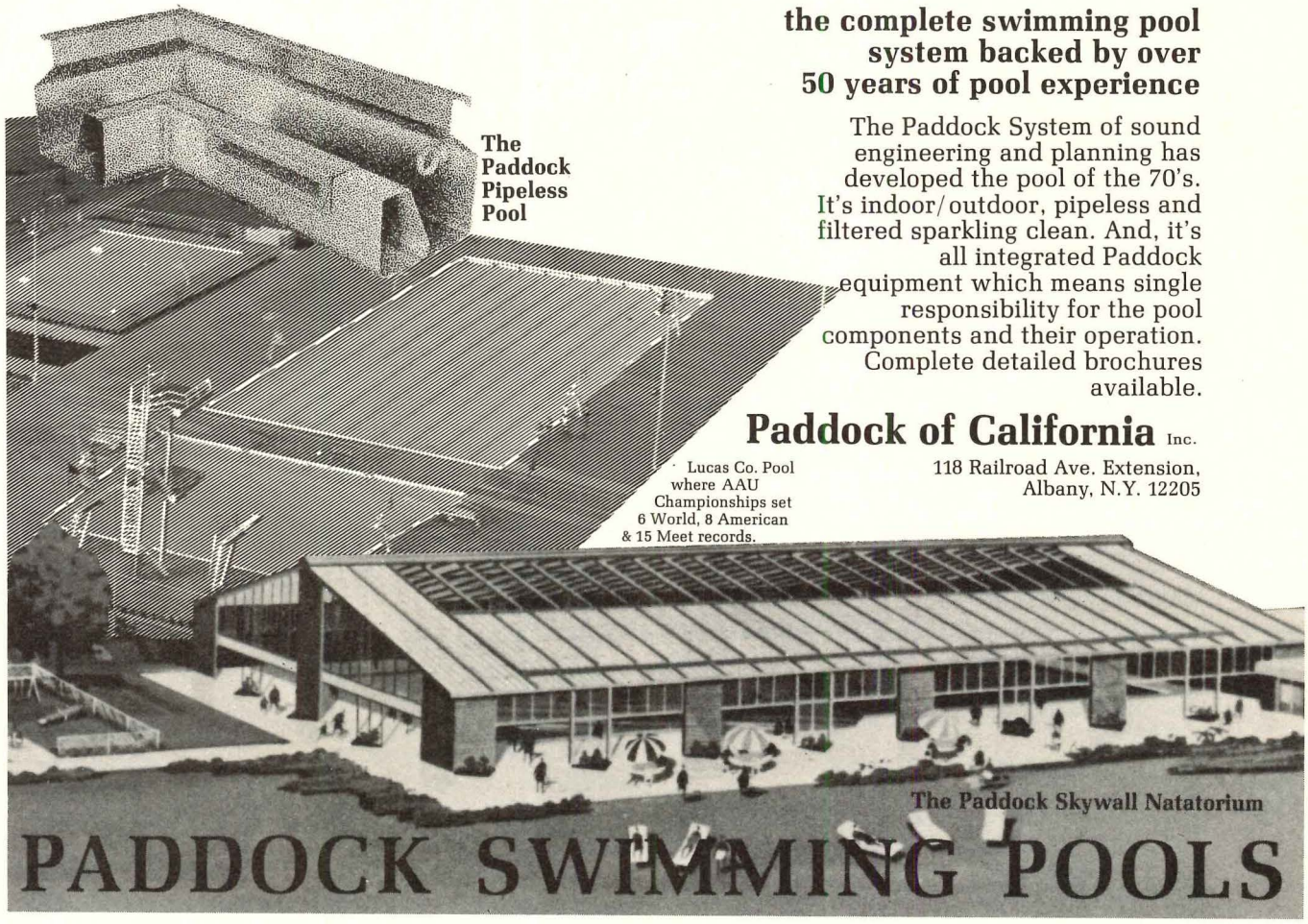
The 'Details' gives the manufacturer the opportunity to advertise products within the framework of a working draw giving advertising a new dimension.

Remember, once a product is in the working drawing, it's in the building.

To insure the use of these pages, they have been designed for easy removal and filing under the Uniform Filing Syster adopted by AIA, CSI and the Producer's Council.

Call your P/A representative, get the details on 'Details', and arrange to use this important new program in your 197 schedule.

Progressive Architecture 600 Summer Street Stamford, Connecticut 0



the complete swimming pool system backed by over 50 years of pool experience

The Paddock System of sound engineering and planning has developed the pool of the 70's. It's indoor/outdoor, pipeless and filtered sparkling clean. And, it's all integrated Paddock equipment which means single responsibility for the pool components and their operation. Complete detailed brochures available.

Paddock of California Inc.

118 Railroad Ave. Extension, Albany, N.Y. 12205

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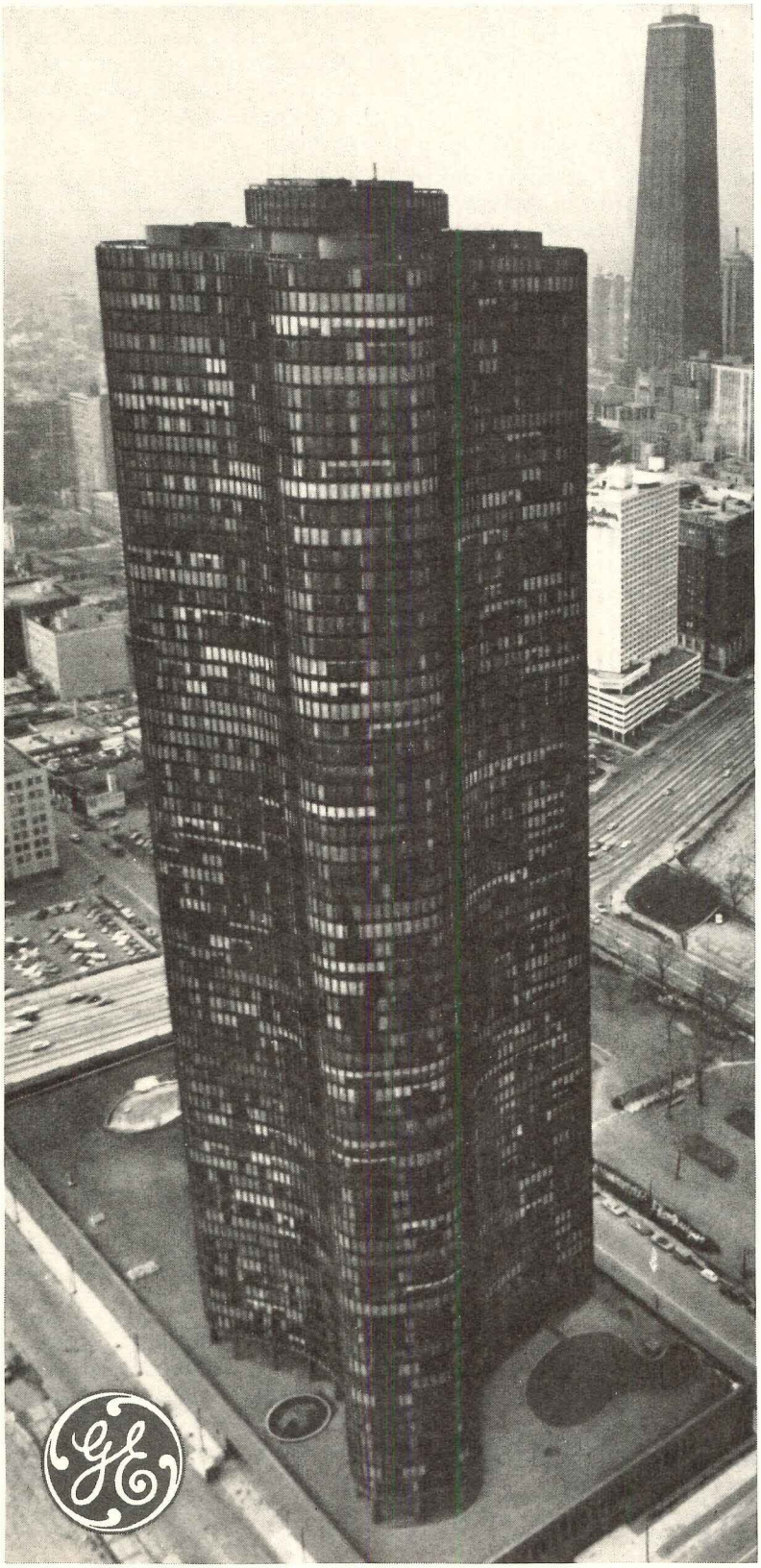
We gave the most beautiful building in Chicago the air.



The architects of Chicago's award-winning Lake Point Tower apartments needed a heating and air conditioning system that would allow them to keep the smooth, flowing design of their building.

General Electric custom designed our Zoneline™ heating-cooling unit to meet their needs.

They had their luxurious-looking building and solved some other problems, too. Like the problem of the sunny side of the building being too hot while the shady side was too cool. Our Zoneline units just cooled one side of the building while heating the other.

And with hundreds of different people living in the apartments, there were lots of different temperature demands. Everyone isn't happy with a 75-degree norm. Our Zoneline units allow each tenant to set his own temperature. Whether he faces the sun and wants the temperature cooler or doesn't and wants it warmer.

At GE we have many types of Zoneline terminal package air conditioners. One of them solved a problem in Chicago. But all of them are flexible enough to solve heating or air conditioning problems in any structure, anywhere.

Look up your GE Air Conditioner distributor in the Yellow Pages, and give him a call. He'll be glad to give you the air.

GENERAL ELECTRIC

Lake Point Tower, Chicago
Developers: Hartnett-Shaw & Associates
Architects: Schipporeit-Heinrich, Inc.
Structural Engineer: William Schmidt & Associates
General Contractor: Crane Construction Company, Inc.
Mechanical Engineer: William Goodman

Job mart

Situations open

Architect: Or architectural graduate—three years experience. Position open in small expanding office in central Connecticut. Must be able to design and produce working drawings. Qualified man will work directly with clients and supervise construction. Send complete resume and salary expected. Box # 1361-210, *Progressive Architecture.*

Architects: Architectural/engineering firm ranking in top ENR with excellent future growth potential and individual advancement opportunities needs qualified candidates to fill challenging positions. Must be design oriented towards medical, educational, commercial and industrial facilities. Liberal benefits package. Within one hour of a variety of sports and cultural activities. Please send confidential resume including salary requirement to Box # 1361-200, *Progressive Architecture.*

Project architect designer: Expanding firm has openings for project architect, senior designers and draftsmen for key roles on hospital design team. Submit resume in confidence to Box # 1361-227, *Progressive Architecture.*

Situations wanted

Architect: After 15 years in private practice successful architect wishes to relocate because of unstable political climate. Wants to invest, buy shares or join in active partnership where own record of excellent performance in design and promotion can be of value. Broad experience in design, management and production of residential, multifamily, hi-rise and commercial work. Winner of design awards and author of nationally published articles. Large metropolitan areas preferred. All replies strictly confidential. Box # 1361-228, *Progressive Architecture.*

Architect: A. I. A., NCARB certificate, family. Education: Bachelor or architecture, master of business administration, technical training in real estate. 13 years comprehensive and diversified experience all phases of architecture. Desire responsible position related to architecture in business management and/or organizational effectiveness. Resume on request. Box # 1361-229, *Progressive Architecture.*

Architect: A. I. A., registered in D. C., Pa., N. J. NCARB, 18 years experience in design, production, and administration in private and municipal service seeks responsible position with progressive organization. Box # 1361-230, *Progressive Architecture.*

Architect/designer: NCARB, AIA, 40, family, Illinois graduate. Fifteen years diversified, comprehensive experience, organizational ability. Desire position (with partnership potential) directing design and production in ethical, progressive, medium to small firm interested in producing best contemporary architecture. Prefer rocky mountain area—will consider others. Box # 1361-232, *Progressive Architecture.*

Architect/urban designer: B. arch., M. urban planning, registered. 30, 4½ years in design type private firms. 1½ years in design group of metropolitan planning agency. Seeking responsible design position with a ten to thirty man firm focusing on urban projects. Location open. Resume on request. Box # 1361-234, *Progressive Architecture.*

Architectural designer: VPI graduate, single, hardworking, thorough with consuming interest in building systems design and background in design offices on both large and small projects seeks position with private firm doing only serious contemporary work —prefer Connecticut, lower Westchester or NYC but will relocate. Resume upon request. Box # 1361-235, *Progressive Architecture.*

College graduate: With 15 years experience in tropical, resort and hotel design, development and construction will be traveling to South Pacific and Australia June 1971. Would like to represent or affiliate with any interested firm or company. J. Deller, 200 E. 71 St., N. Y., N. Y. 10021.

Executive secretary: Widow. No dependents. Bachelor of science degree in secretarial science. Fifteen years experience working for architects, engineers and contractors. Wish to relieve harassed boss of detail work. Well traveled. Willing to relocate anywhere in English speaking world. Resume sent upon request. Box 1361-236, *Progressive Architecture.*

Interior designer: BS interior design, 5 yrs exp. interior design, color co-ordination and functional color planning. Seeking responsible position with progressive firm. Single, young lady, willing to relocate. Resume on request. B. Bledsoe, 2118 Lathrop, South Bend, Indiana 46628.

Management-international-design/construction: 18 years USA, Latin America, Far East experience—Florida registration—FARA—Havana University M. A.—all phases architectural, construction, planning—experience top level overseas governmental client contact—IDB, AID, AIFLD, FHA projects—trouble shooting—will relocate to firm with international ties. Box # 1361-237, *Progressive Architecture.*

Project manager: CSI, 36, married: 4 children 17 years experience in institutional, educational, commercial and industrial building Seek employment with varied duties. Presently seeking architectural license. Background includes working drawings, administration, field supervision, specifications, system background, client contact and total project responsibility. Midwest or west area only. Box # 1361-238, *Progressive Architecture.*

Unique architectural designer: University of Pennsylvania master of architecture with varied experience with computer applications in architecture and planning, strong design ability, three years experience in architect and planning offices seeks design position: Planning, new towns, largescale development Will relocate. Resume on request. 76 Nepe Road, Tarrytown, N. Y. 10591.

Miscellaneous

Public relations/marketing: Is your architectural practice growing? Are you well known and highly regarded in your market? Is the best of your work published on a continuing basis? Excluding staff and clients, are at least 200 people currently familiar with your office and its work? Does your brochure represent you as well as your most successful project? If you answer "no" to any of these questions, professional public relations/marketing service may be of immense value to you. We would be pleased to discuss your growth plans. David S. Wachsman Associates Inc., 51 East 42nd St., New York, N.Y. 10017 (212) 687-1196.

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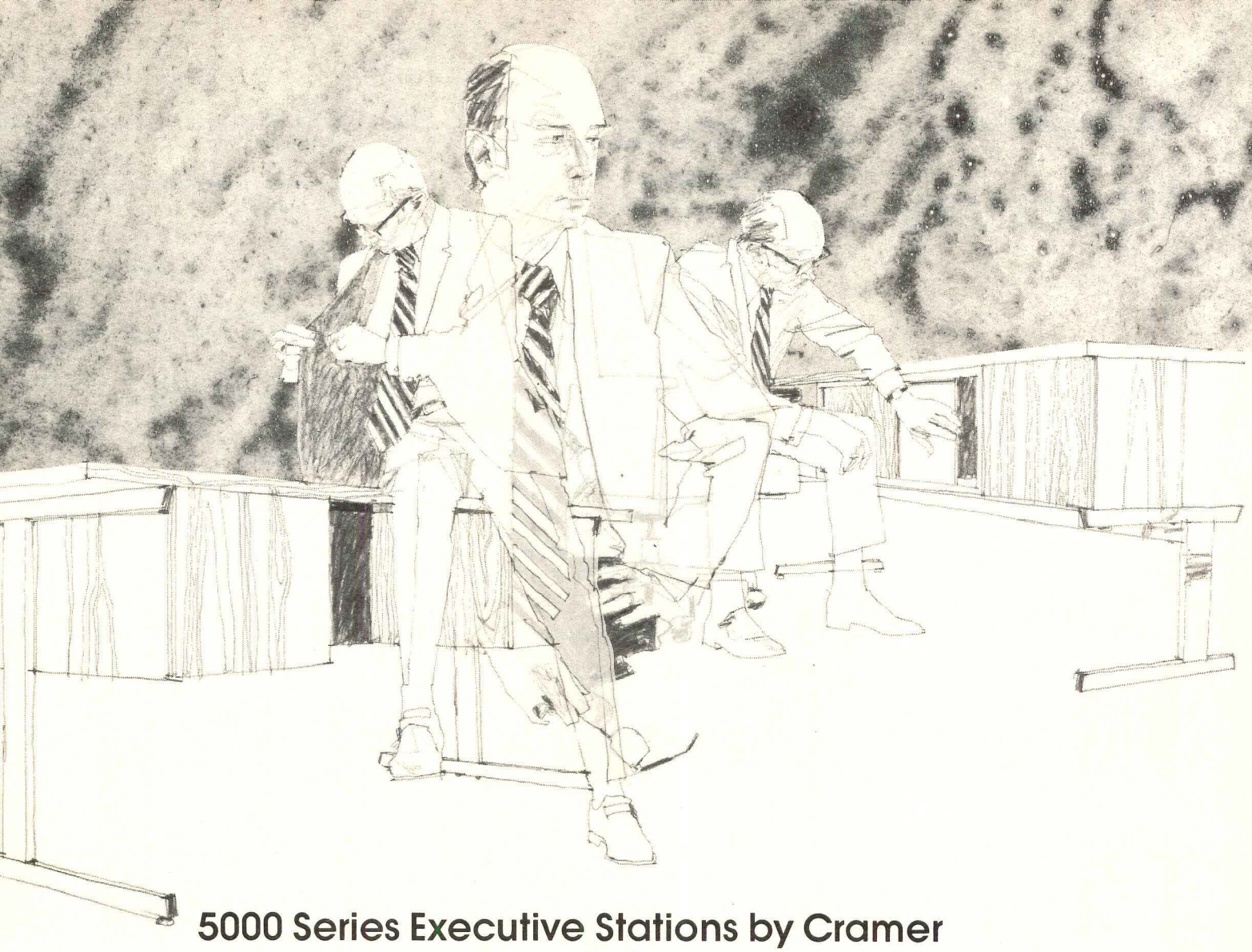

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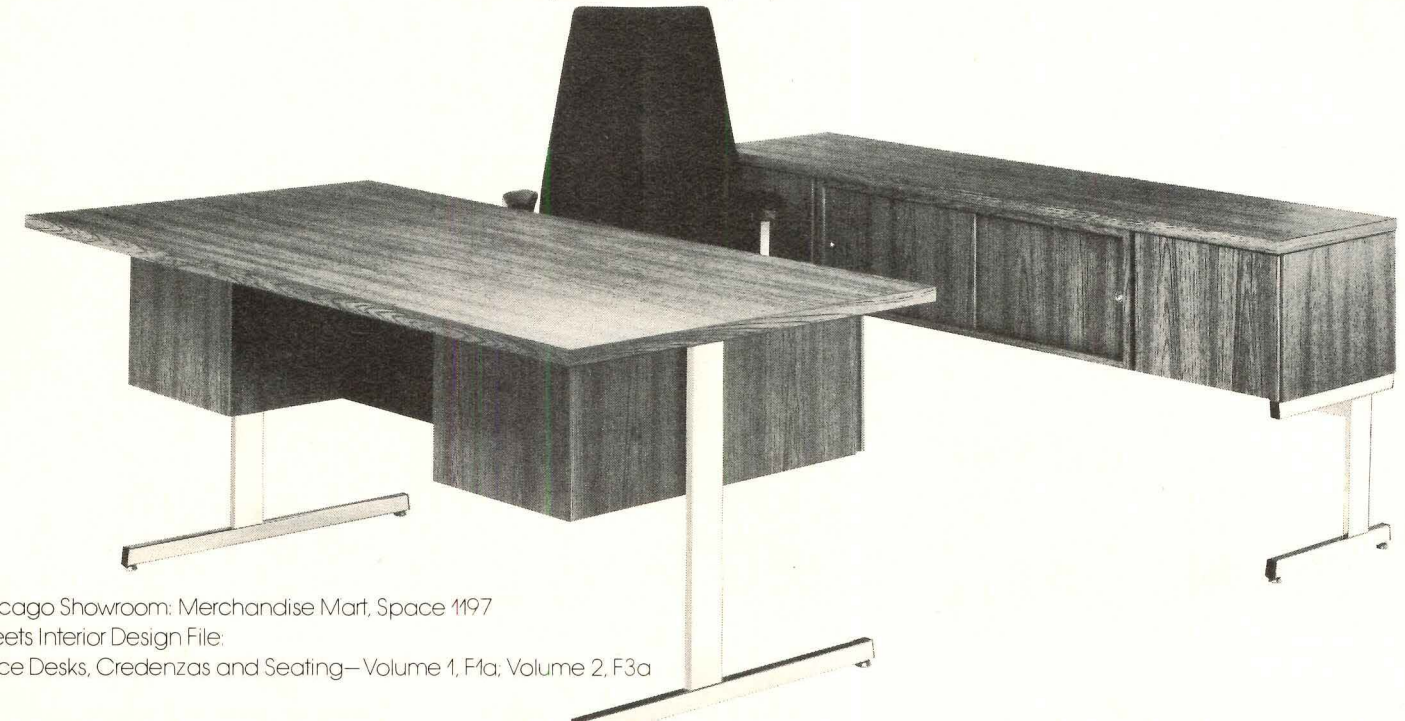

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