AIA JOURNAL

AWARDS

WHEN PANKOW NEEDED TO SAVE MONTHS, VULCRAFT SAVED THE DAY.

In June 1974, Pankow Construction Company needed to begin erection of the structural steel framing for the Penn-Can Shopping Mall in Cicero, New York.

The plans called for both steel joists and wide flange beams.

Pankow had no problem getting the joists. But then they got some bad news about the beams. Steel mills were back ordered, and could not supply them before the first quarter of 1975.

A costly delay stared Pankow right in the face.

So Pankow and the design team including McLean Steel of Hayward, California, redesigned the structural framing to use Vulcraft open web joist girders, for both floor and roof, to replace wide flange beams.

Vulcraft joist girders were chosen for a number of reasons.

They could be quickly and easily designed to take the place of beams.

Vulcraft could deliver them fast.

And Vulcraft joist girders were competitively priced.

The change to Vulcraft joist girders enabled Pankow to finish the structural framing right on schedule.

Vulcraft joists and joist girders had saved the day.

And they can do the same for you.

For more information, just contact your local Vulcraft representative. Or write Vulcraft, P.O. Box 17656, Charlotte, North Carolina 28211 for your Joist & Joist Girder Guide. (See Sweets 5.2/Vu.) Or call (704) 366-7000.

It could make your day.

Circle 1 on information card

Use of 100' long span joists and 30' joist girders created a large clear span area in the center section of this enclosed shopping mall.

Wide spacing of deep steel joists (6'8" in floors and 7'6" in roofs) resulted in stiffer floor system and saving in the cost of joists.

Vulcraft steel joists and joist girders allowed for simple and fast column connections.

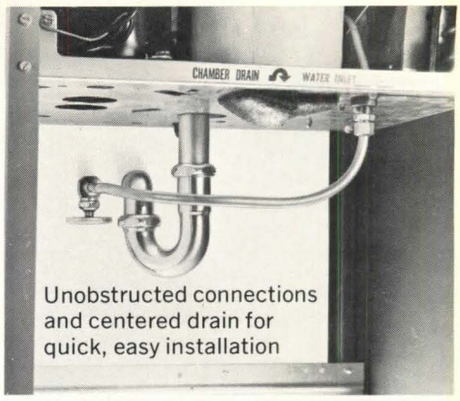
Joist girder design flexability provided for a wide range of load support, from normal roof loads to heavy mechanical equipment loads.

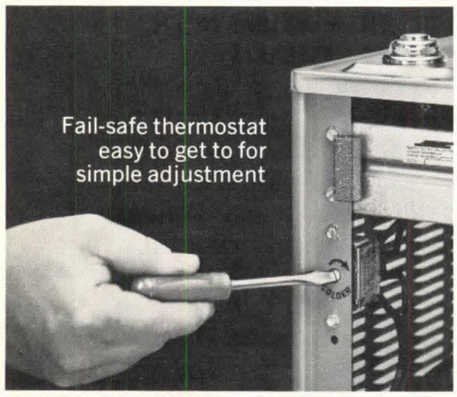
VULCRAFT

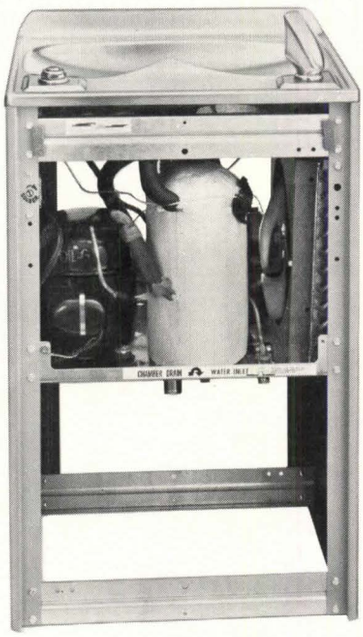
A Division of Nucor Corporation

Owner: Penn-Can Shopping Mall *General Contractor:* Pankow Construction Company, Altadena and San Francisco, California, Seattle and Honolulu *Architect:* Welton Becket & Assoc., Los Angeles *Structural Engineer:* Johnson & Neilsen, Los Angeles *Steel Framing System:* McLean Steel, Hayward, California *Steel Fabricator and Erector:* Rebco Steel Corp., Niagara Falls, New York

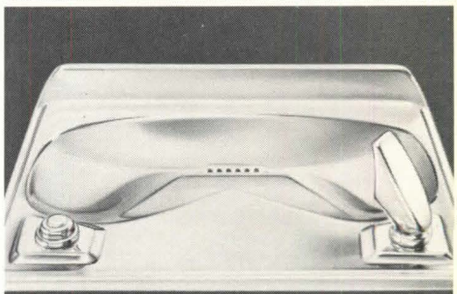
Why only Elkay water coolers can give you all these features







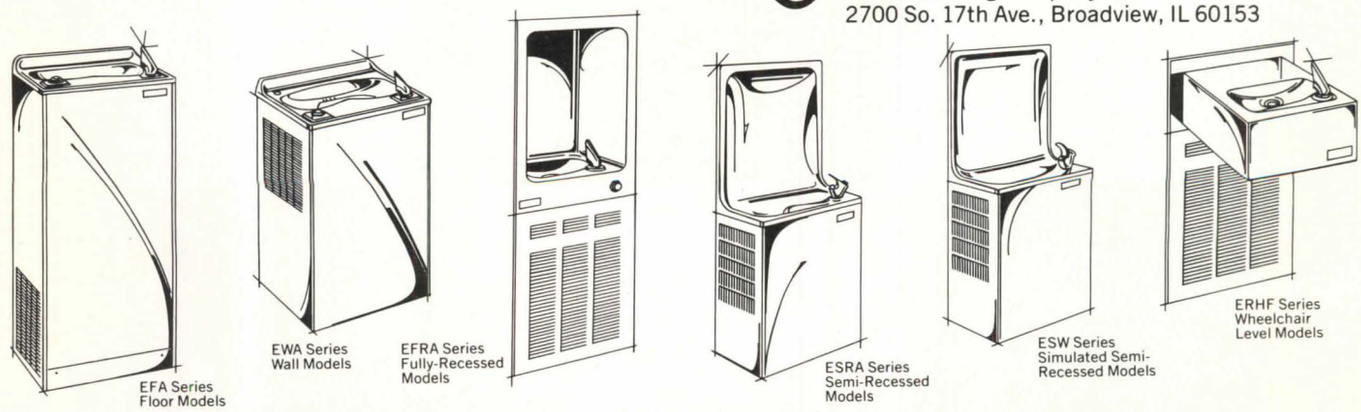
Features standard on most deluxe series models



Cascade basin with anti-splash design and easy-to-clean surface

Elkay is constantly looking for new ways to make water coolers more efficient to use—easier and faster to install, adjust and service. Out of this research have come the advanced design features you see above, the combination of which is available to you in no other water cooler. For complete information, write today for free up-to-date literature on Elkay water coolers.

ELKAY®
Manufacturing Company
2700 So. 17th Ave., Broadview, IL 60153



Elkay offers a complete line of water cooler models for every requirement

Circle 2 on information card

AIA JOURNAL

Donald Canty, Editor; **Mary E. Osman, Andrea O. Dean, Allen Freeman,** Associate Editors; **Stephen A. Kliment, AIA,** Contributing Editor; **Suzy Thomas,** Art Director; **Sudsy Banks,** Editorial Assistant; **Michael J. Hanley,** Publisher; **Michael M. Wood,** Sales Manager; **George L. Dant,** Production and Business; **Gloria J. Smith,** Circulation Manager; **Pam A. Honeyman,** Administrative Assistant.

AIA JOURNAL, official magazine of The American Institute of Architects, published monthly at 1735 New York Ave. N.W., Washington, D.C. 20006. Telephone: (202) 785-7300. Subscriptions: for those who are, by title, architects, architectural employees, and to those in architectural education (faculty and schools), and to libraries, building construction trade associations and building product manufacturers: basic rate $12 a year; $20 two years; $8 to architectural students in the U.S., its possessions and Canada. For all others: $18 a year in the U.S., its possessions and Canada; other countries to those who are by title, architects: $18 a year. All others outside the U.S., its possessions and Canada: $30 a year. Single copy: $2, payable in advance. Publisher reserves the right to refuse unqualified subscriptions. For subscriptions: write Circulation Department; for change of address: send Circulation Department both old and new addresses; allow six weeks. Second class postage paid at Washington, D.C. Quotations on reprints of articles available. Microfilm copies available from University Microfilm, 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Referenced in *The Architectural Index, Architectural Periodicals Index, Art Index, Avery Index to Architectural Periodicals.*

VOL. 65 NO. 4

Wellco carpets Super.

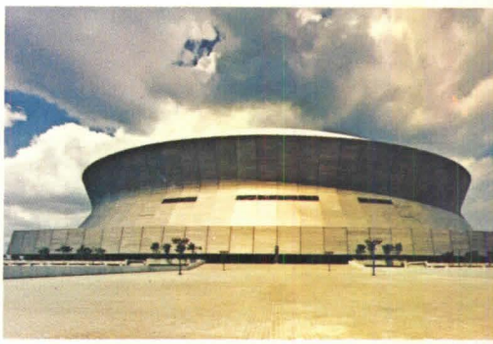
Carpeting the Louisiana Superdome was no small challenge.

The world's largest enclosed stadium, in the heart of downtown New Orleans, is ringed with 55,000 square yards of carpeted hallways and ramps that twist, taper, and turn from ground level to dome.

What could have been a designer and installer nightmare went off without a hitch. The colors were right. The precise quantities of each grade, design, and color came through the tricky installation right on target.

All 55,000 square yards look absolutely super!

Wellco carpets in special stripe designs, color-keyed to seating levels, cross the ramp surfaces



the Superdome.

and climb partway up the walls. Stop off at any level and you step on a bright solid-tone Wellco carpet color-keyed to the striped ramps.

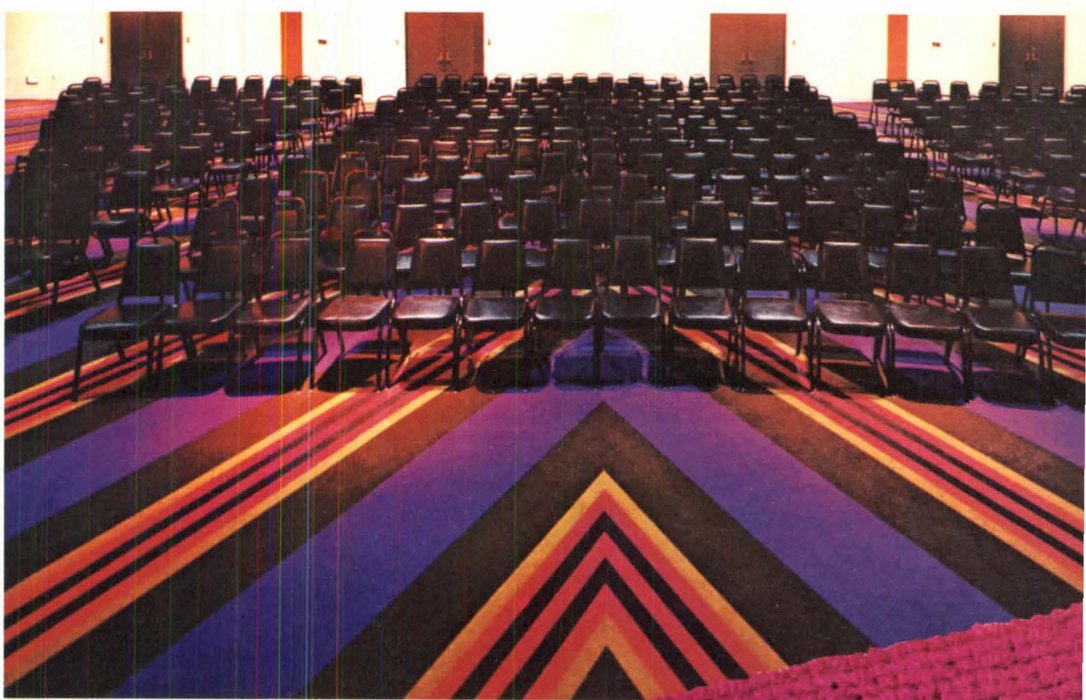
The meeting and banquet rooms have a festive air thanks to the same gaily striped carpet.

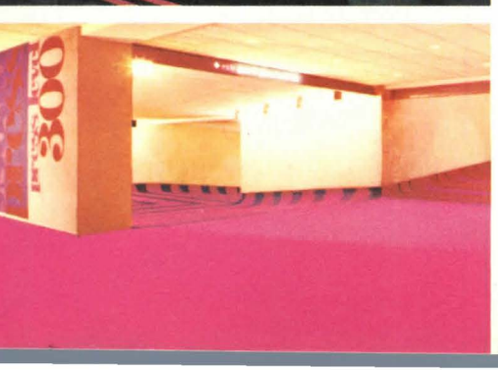
In the luxurious superboxes, a Wellco cut pile in several hues matched to decor.

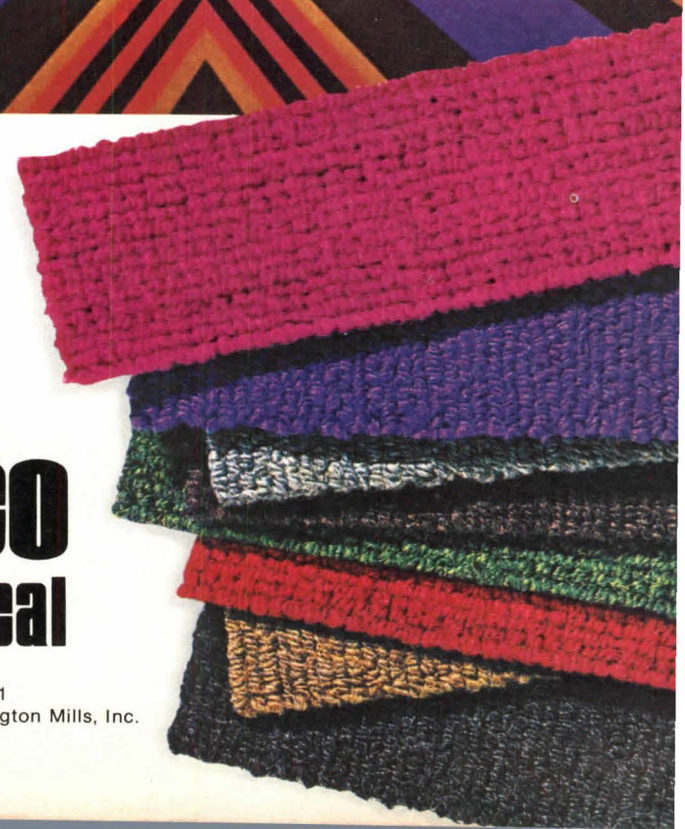
And in office reception areas and offices, area rugs in neutral shades.

Why Wellco? Because we give the designer great flexibility in special face weights, colorations, and quantities . . . all within budget. Call or write for our Contract Manual and information on our Architechnical Service.

If we can make it for the Superdome... we can make it for you.







wellco
architechnical

Wellco Carpet Corporation
P.O. Box 281, Calhoun, Georgia 30701
A wholly owned subsidiary of Mannington Mills, Inc.

Circle 3 on information card

Preservationist Berates Tax Policies as Harmful To the Fabric of Cities

Existing tax policy has "injurious effects" on cities, neighborhoods and buildings, James Biddle, president of the National Trust for Historic Preservation, told participants at a recent conference on the effects of public tax policy on the conservation of the built environment. Held in Washington, D.C., the conference was sponsored by the National Trust.

Biddle said survey techniques to document historic structures had been perfected and protective legal controls had been enacted. The "last crucial frontier," he said, is to solve the problems of economics and finance. "Overall policies of the tax system today," said Biddle, "still encourage demolition and penalize those who seek to retain old structures."

Mortimer Caplan, former commissioner of the Internal Revenue Service, agreed that the present tax code "does little to encourage preservation in the private sector." Although the code does not "consciously frustrate preservation activities," he said, "there are some provisions in the code which are clearly intended as incentives for new construction and others which simply have that effect."

An owner, for example, "may depreciate the cost of a used commercial building, which includes any part of the cost provided by a mortgage, only on a straight-line basis, that is, the owner may annually deduct an equal portion of the cost spread over the remaining years of the building's 'useful life, ' " Caplan said. If a new building were purchased, however, the owner "would have been able to deduct the cost on the declining balance method at a rate equal to 150 percent of the stright-line rate."

Another provision that works against preservation, Caplan said, is the "allowance of a loss deduction when a commercial building is demolished," providing the owner did not have demolition in mind when he bought the structure.

Saying that the tax laws do accommodate the "traditional phase of historic preservation," in that buildings operated as museums on a nonprofit basis may qualify for tax exemption, and may receive tax-deductible contributions as well as grants from tax-exempt foundations, Caplan pointed out that since 1964, a taxpayer's "gratuitous conveyance" to the U.S. or any other governmental unit of a "restrictive easement in real property to preserve a scenic view is a charitable contribution."

And just this year, he said, IRS ruled that an "individual who owned a mansion and land declared to be a state landmark because of its unique architectural features and who granted an easement to the state restricting alteration and further development of the property could claim a charitable deduction for the easement."

Now that preservationists have broadened their concern to embrace neighborhoods and districts, as well as buildings, more difficult tax problems are introduced, Caplan said. He warned that "any enthusiasm for preservationist tax incentives" had to "be tempered by a realistic view of the pitfalls . . . along the legislative route and by the need to make a sober cost-benefit analysis of each of the alternatives at hand." Any ultimate loss in taxes has to be paid by the average taxpayer, and even though a tax incentive may not involve a significant number of revenue dollars, "we must consider the intangible cost of further disillusionment over the fairness of our tax laws and possible adverse impact on our self-assessment tax system."

Any tax incentive, Caplan said, must meet two preconditions: It must be of "overriding importance to our society" and its achievement must be "effectively realized through the tax system." We must ask "whether tax incentives will better achieve the desired results than alternative governmental programs and whether they will accomplish this result without substantially higher cost or waste of resources."

Congressmen Joseph L. Fisher of Virginia and Barber B. Conable Jr. of New York urged that support be given to pending legislation before Congress which would permit historic preservation costs to qualify for the same tax benefits now enjoyed by owners of new structures.

The conference participants heard some 20 speakers who examined tax policy on federal, state and local levels. Three areas of concern for preservationists were identified: treatment of demolition costs and losses; depreciation and amoritization of rehabilitation expenses, and tax treatment of gifts of interests in property.

Caplan seemed to sound the opinion of most participants when he said that "it is far better to live and work where the building heritage of many years is still alive than in the dead monotony that characterizes so much of modern development." Tax laws by themselves are not enough, he said. "They can be only a part of an overall preservation strategy."

Exhibition Will Survey Jefferson Contributions

"Happy news" was the phrase used by the *Washington Post* recently in the headline for an editorial about an innovative bicentennial exhibition scheduled for the National Gallery of Art from June 5-Sept. 6. Titled "The Eyes of Jefferson," the exhibition, said the newspaper, "will evoke the cultural, social and esthetic environment in which Jefferson conceived his philosophy on 'The Pursuit of Happiness' and his dream of 'civilization.' "

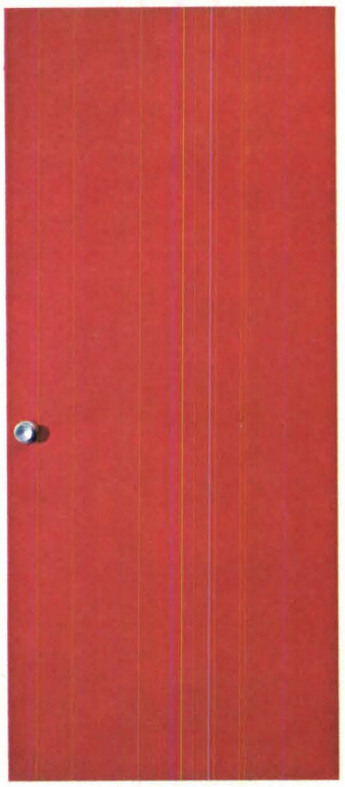
The exhibition will include original materials from worldwide sources and will explore Jefferson's contributions to architecture, the decorative arts, the planning of cities and landscape design. Examples will range from Jefferson's own drawings to silver and furniture.

Also included will be large-scale models of buildings significant in Jefferson's life, such as Monticello; the river facade of the Hotel de Salm in Paris, because of its influence on the rebuilding of Monticello; Poplar Forest, believed by many to be Jefferson's finest design, and Rosewell, a manor house he designed that was constructed in 1726. The exhibition will include the "largest exhibition of Jefferson's own drawings ever organized," said a spokesman for the gallery. There will be designs for such public buildings as the capitols of Virginia and of the nation, and

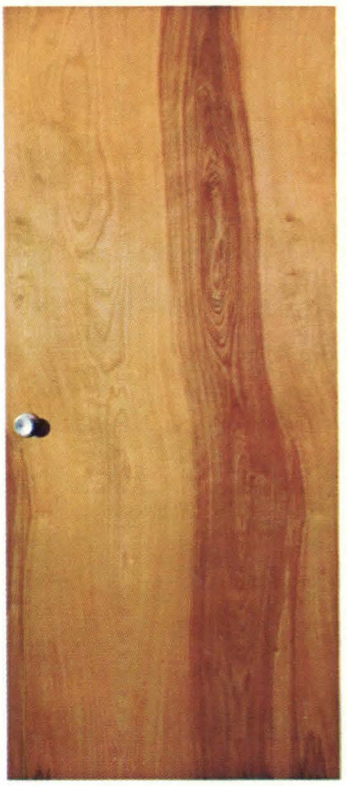
continued on page 10

IN CASE OF FIRE, PICK THE FIRE DOORS THAT WON'T TRANSMIT HEAT LIKE HOLLOW METAL DOORS.

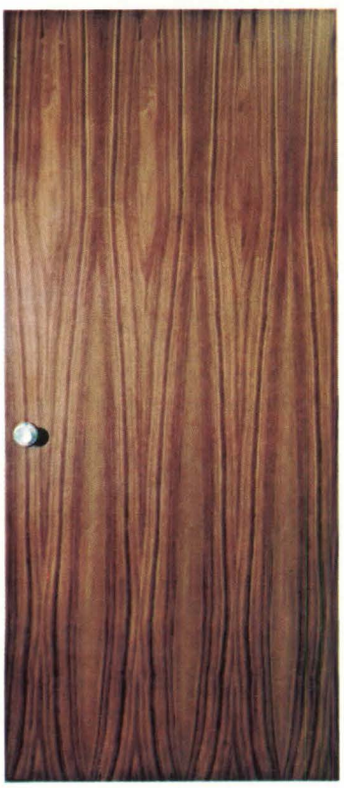
1.



2.



3.



4.

Weldwood® Fire Doors have an extra degree of protection. They won't transmit heat like hollow metal doors. So, the unexposed side doesn't get hot enough to be dangerous.

U.S. Plywood's insulation is the reason why. It's Weldrok,® an amazing incombustible mineral core that retards heat transmission.

Covering this built-in safety feature are some of the world's most beautiful wood veneers.

Look at doors numbered 1, 3 and 4. They come in cherry, birch and walnut. Perfect for executive offices, hotel lobbies, restaurants and apartment buildings.

While door numbered 2 is ideal for schools, hospitals or wherever a colorful but tough laminated fire door is needed. Besides vermillion, they're available in blue, gold, black and yellow plastic surfaces.

U.S. Plywood makes Weldwood Fire Doors in a complete range of time ratings including ¾ hour, 1 hour and 1½ hours.

When your specifications call for a fire door, ask for Weldwood. And make sure to look for this label on a Weldwood Fire Door. It's your proof that you're getting an extra degree of protection.

For everything else you need to know about Weldwood Fire Doors, call your local U.S. Plywood Branch Office.

WELDWOOD FIRE DOORS

U.S. Plywood
Champion International Corporation

Circle 4 on information card

Expressions in Masonry

A biological research tower, a building for which there is no historical precedent, is given human scale and historic reference by brick.

Concrete masonry units enclosing apartments provide protective firmness and the detail interest of hand-layed units.

Two expressions of the beauty and flexibility of masonry by Ulrich Franzen, FAIA.

International Masonry Institute
Suite 1001, 823 15th Street, N.W.
Washington, D.C. 20005
202-783-3908

Research Tower, College of Veterinary Medicine, State Colleges, Cornell University, Ithaca, N.Y.
Architect: Ulrich Franzen & Associates

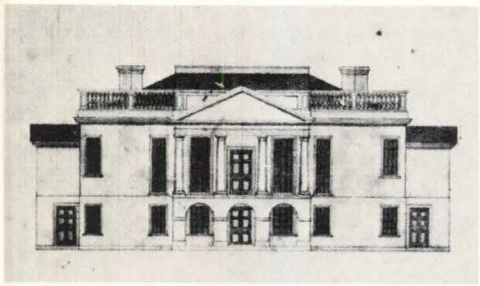
William Street Apartments, Wesleyan University Middletown, Conn.
Architect: Ulrich Franzen & Associates

Photographs: David Franzen

Circle 6 on information card

Going On from page 6
photographs of surviving buildings. In addition, a small temple will be constructed from one of Jefferson's surviving designs to house the Venus de' Medici, which will be brought to this country from Florence, Italy.

To present Jefferson's contributions to city planning, there will be a large selec-



tion of drawings by Latrobe, who was appointed by Jefferson as the first surveyor of public buildings for the federal government. Another highlight will be a Jeffersonian botanical garden court, with specimens of his favorite plants.

A film on the exhibition's general theme is being produced and will be distributed free of charge to schools and colleges across the nation.

Arts Project to Invite Architects into Schools

Architects will be brought into elementary and secondary schools in more than 20 states this coming fall to help make children more aware of the built environment and to help them realize their potential in shaping it. The project is a component of the artists-in-schools program of the National Endowment for the Arts which was "created to broaden the sensitivity of students to the arts and the role arts play in our daily lives." To date, poets, painters, dancers, musicians and other artists and craftsmen have been brought into some 7,500 schools.

In extending the program to include architects, Nancy Hanks, Hon. AIA, chairman of the endowment, said: "Architecture is an art, one that is frequently neglected when we consider our environment. Buildings play a major role in our lives—we work, play and sleep in them. They are all around us and it is important for people to understand how their design affects our environment and, indeed, the quality of life."

John Kerr, who oversees the artists-in-schools program, will work with Bill Lacy, FAIA, and Roy Knight, AIA, of the endowment's architecture + environmental arts program in planning individual programs with state art agencies. Kerr says that the new facet of the larger program "offers young people a new avenue of exploration, learning and appreciation." Speaking from the viewpoint of an architect, Knight says that the program "will provide a national focus for a trend toward involving citizens in the many issues which affect the design of our environment."

The national coordinator of the architectural program is Aase Eriksen, of Educational Futures, Inc., in Philadelphia. He has worked with James E. Ellison, AIA, administrator of education and research at the Institute. Ellison has enlisted the support and interest of members of the AIA committee for environment education in sponsoring training workshops for the project's architects and in evaluating individual programs.

Program Will Promote Women in Architecture

Only 1.2 percent of all registered architects are women, according to an AIA survey, and only 3.7 percent of the entire architectural work force. Salaries for women architects are 28.64 percent lower than men's salaries.

To ameliorate these and other discriminatory practices, AIA has launched a broad affirmative action program. The result of two years of work by a special task force on women in architecture, the plan was recently approved by the AIA board of directors and is presently being circulated to AIA members. Institute President Louis de Moll, FAIA, in an accompanying statement, called for "positive effort at every level" to implement the provisions of the plan.

A provision is included in the plan which states that any practices which deny women equal participation in the profession will be construed as violations of AIA's ethical code. The plan also calls for:

- Increasing the percentage enrollment of women in all architectural programs to 10 percent in 1976-77 and to 23 percent by 1979-80.
- Increasing the proportion of women faculty members to 10 percent of total faculty the first year and to 15 percent by the third year.
- Narrowing the salary gap so that women's salaries reach 70 percent of men's salaries in 1976, 90 percent in 1979 and complete parity beyond.
- Increasing the proportion of women among the ranks of registered architects to 2.5 percent in 1976 and 5 percent by 1979.
- Promoting an increase in women members of AIA at a rate faster than the overall rate of membership, along with an increase (in percentage and number) in the women chairing or serving on national AIA committees. The plan calls for 19.5 percent of the women members to be on committees by the end of 1976, and 25 percent by 1979.
- Promoting state registration laws that will not discriminate against women.
- Involving more women in the AIA intern development program.

AIA also reiterated a policy statement adopted by the board in March 1975, affirming that the profession is "entirely and equally open to women and men . . . (and) that societal prejudices and the traditional views of the role of women are not justification for perpetuation of discriminatory treatment of women."

De Moll called for the goals to be met over a four-year period, asking for state components to take action to bring about changes in registration laws that are discriminatory and for chapters to make a particular effort to identify and recruit women professionals into their membership at every level. "Perhaps more important," he said, "principals in firms must wholeheartedly accept the responsibility for recruiting and hiring qualified women, for encouraging their professional development and for providing the same financial incentives and advancement opportunities that are provided for male employees."

Quake-Hazard Buildings Called Widespread Peril

"Excluding single-family wood-framed construction, approximately 50 percent of the total population of this country is living or working in seismically hazardous buildings," said Elmer E. Botsai, FAIA, vice president of the Institute, in recent testimony before the Senate committee on commerce. Calling this statement a "personal opinion," Botsai added that the "real tragedy is that we do not know the true magnitude of this problem."

Botsai, representing AIA and the Joint Committee on Hazardous Buildings, a cooperative activity of the California Council/AIA and the structural engineers of California, commended the sponsors of the Earthquake Disaster Mitigation Act (S. 1174) for their "comprehensive analysis of the earthquake hazard and their breadth and scope of interest and detail toward the alleviation of the problem." He cited specifically the "balance of effort between the potential long-range life safety issue of prediction and the equally important long- and short-range protection of both public and private property in basic building performance development."

Botsai said that a recent survey of government bodies in California reveals that even in that state the "majority of public officials has no idea what constitutes a hazardous building." Also, he said, there is "almost a total void in the knowledge of large-scale soil problems in much of the country, including such heavily populated seismic risk areas as New Madrid, Mo.; Charleston, S.C., and Boston."

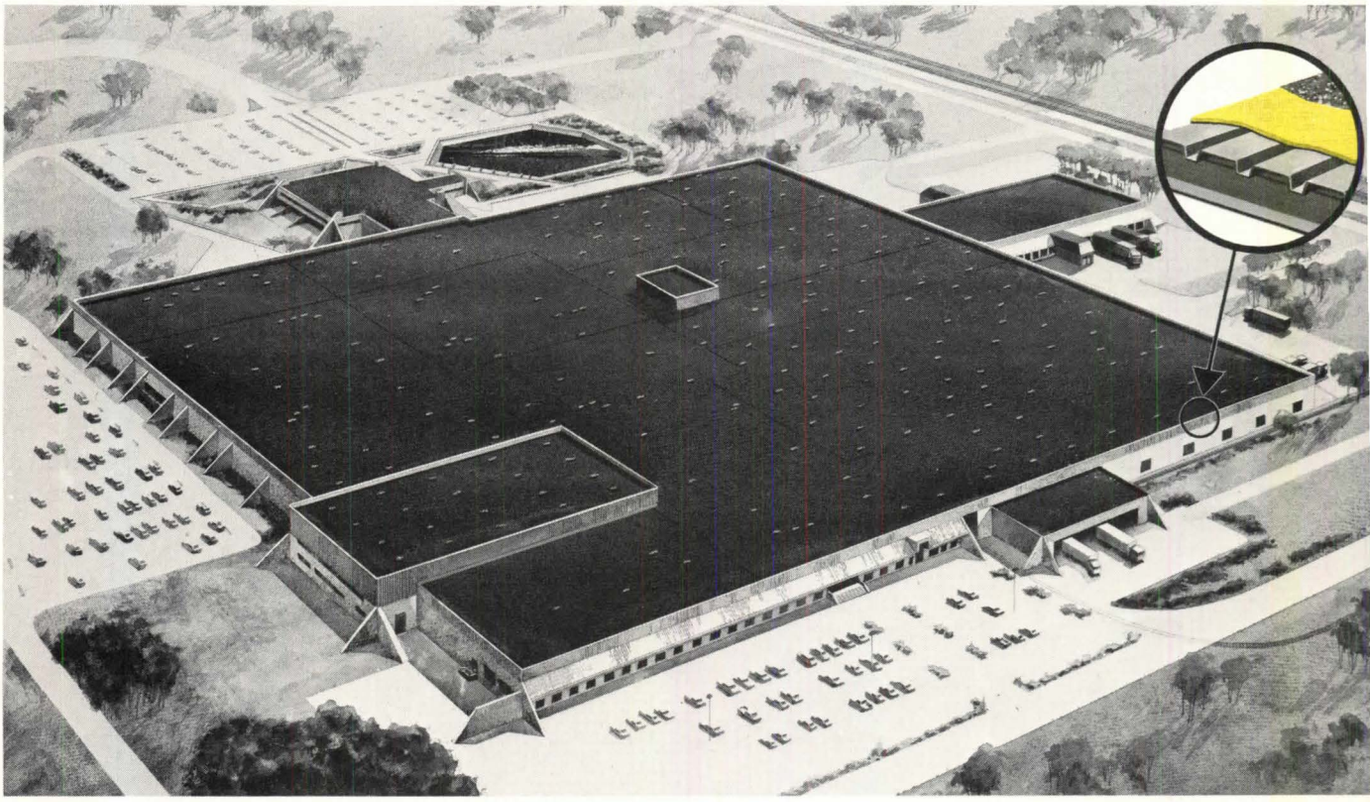
Declaring that architects are in "desperate need of the knowledge that currently exists in the cloistered halls of the research

continued on page 16

Insulation is

$1,849,996

Projected cost to heat and cool the 46-acre J.C. Penney warehouse for 20 years with only 15/16-inch Fiberglas roof insulation.



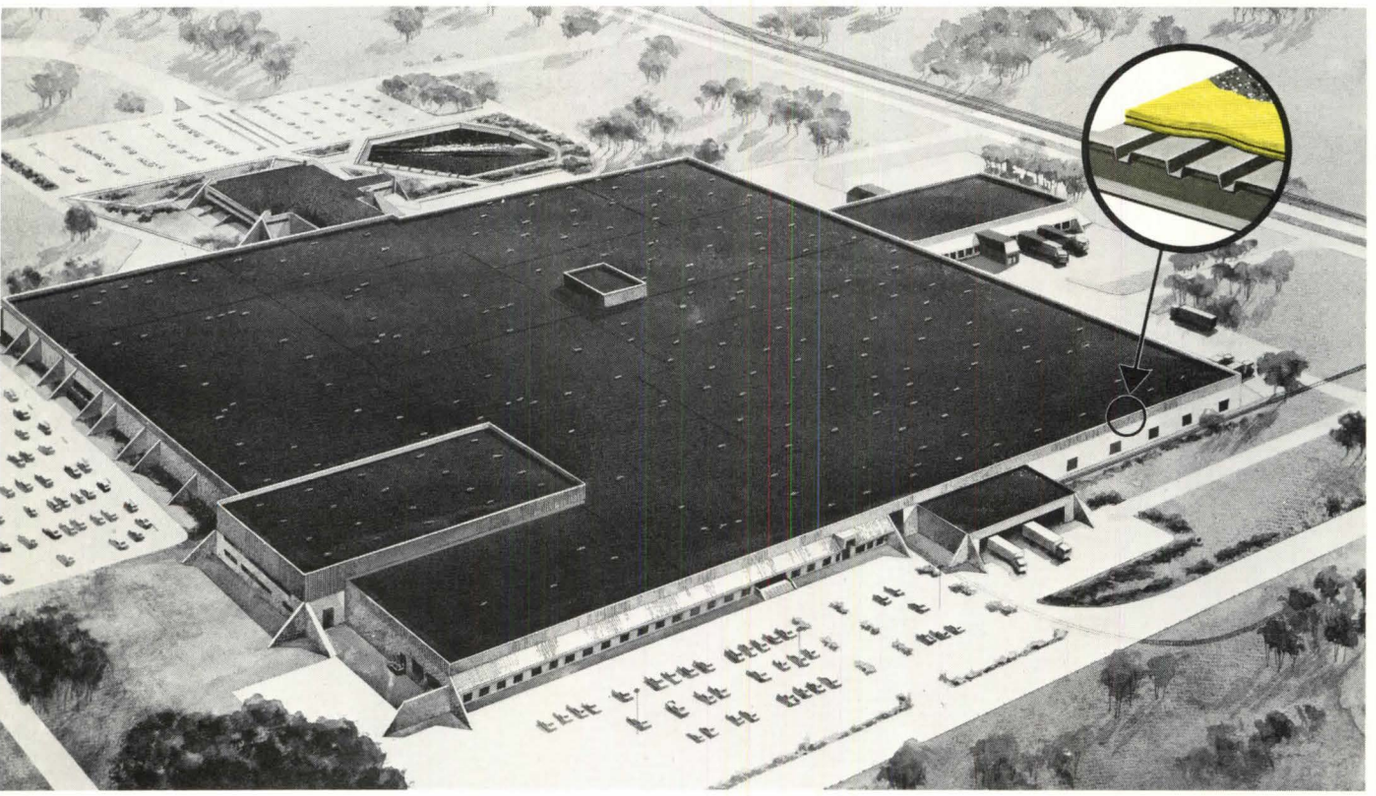
Owens-Corning Fiberglas roof insulation—the only glass fiber roof insulation on the market. Dimensionally stable. Retains thermal value. Easier and less expensive to apply than organic/mineral boards. For over 30 years, the *best* base for built-up roof decks.

*T.M. Reg. O.-C.F.

cheaper than oil

$877,972

Projected cost to heat and cool the 46-acre J.C. Penney warehouse for 20 years with thicker 2¼-inch Fiberglas roof insulation. (After allowing for the added cost of thicker insulation!)



A remarkable savings of $972,024! With it, architect Paul Slusarev, Project Manager of the massive new J.C. Penney warehouse/office in Lenexa, Kansas, is helping to point the way for designers of schools, offices, stores, and other commercial buildings everywhere.

Saves money two ways

Using 2¼ inches of Fiberglas* roof insulation vs. a conventional thinner layer saves money two ways:

1. It saves on energy costs. Estimated savings per year, based on gas heating and electric cooling in Kansas City, Kansas, with a projected increase in energy costs at 7% per year and future savings discounted at 10% per year: $64,160—or $972,024 every 20 years.

(Due to present availability of natural gas, propane and fuel oil are used as additional fuels for heating, and as a result of using these higher-priced fuels, actual savings may vary.)

2. It saves on construction costs. The first cost of this energy-tight warehouse is actually lower than if a less efficient version had been built! Reason: the improved thermal performance of the roof permits use of less costly heating and cooling equipment. The savings are large enough to cover the added cost of the thicker roof insulation *twice* over.

Smart for re-roofing, too

Thicker Fiberglas roof insulation also makes sense when it's time to re-roof *existing* buildings. It should pay for itself within a few years, then go on saving thousands in fuel bills for years to come.

Find out the recommended amount of Fiberglas roof insulation to use to save *your* clients money. Call your Owens-Corning representative, or write F.I. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

Owens-Corning is Fiberglas

OWENS/CORNING FIBERGLAS TRADEMARK®

depend on Bethlehem

Preliminary frame analysis showed a steel core would provide significant savings

A preliminary frame analysis, conducted by Bethlehem's Sales Engineering Buildings Group, helped the architects of First Federal Plaza Bank building in Rochester, N.Y., to achieve optimum framing economy.

At the outset of the building's design, a concrete core was considered. But the preliminary framing analysis, requested by the project's structural engineers, Rupley Bahler Blake, showed a steel core would provide significant savings.

John Goodman of the consulting engineers says, "The structure was designed in steel with four wind bents in each direction. Two are located at the exterior face of the tower and two at the interior face of the core."

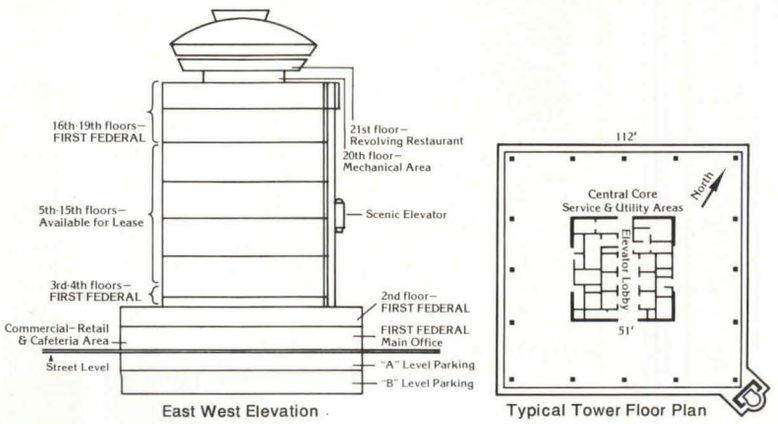
These rigid bents are used to resist the horizontal force of the wind. Because of the spacing of the columns within the two interior bents, vertical X-bracing was needed in two of the bays in each bent to limit total sidesway at the tower roof to five inches.

A control joint, surrounding the tower and low rise, isolates the tower so that low-rise columns will not have to resist tower movements, Mr. Goodman said. At each of the tower's exterior columns there is a second column supporting the two levels of the low rise. These double columns are joined to a common concrete pier below the plaza.

Bethlehem Steel provided 3,050 tons of structural shapes and 40 tons of high-strength bolts for the building frame. The floor system is lightweight concrete slab on steel deck.

Early involvement helpful. Our preliminary framing analysis program can be most beneficial to you and your client if the study is conducted before finalization of architectural parameters. This way, our Buildings Group and your structural engineer can develop an optimum frame design with minimum restrictions.

We'll be happy to tell you more about our preliminary framing analysis program along with the other technical and advisory services we can offer. Just ask for the sales engineer at the Bethlehem Sales Office nearest you. Bethlehem Steel Corporation, Bethlehem, PA 18016.



Owner: First Federal Savings & Loan Association, Rochester, New York; *Architect:* Corgan & Balestiere, P.C., Rochester, New York; *Project Manager:* Balcor Assoc., Rochester, N.Y.; *Structural Engineer:* Rupley Bahler Blake, Rochester, New York; *Fabricator-Erector:* F. L. Heughes & Co., Inc., Rochester, New York; *General Contractor:* Stewart & Bennett, Inc., Rochester, New York.

Architect's rendering depicts the First Federal Savings and Loan office building in Rochester, N.Y. When completed in late 1976, the structure will feature a revolving roof-top restaurant, an outside glass-enclosed elevator, and a mirror exterior which will reflect the surrounding community.

Architectural building description

Rising twenty-one stories on the west bank of the Genesee River, the $20-million First Federal Plaza adds its unique statement to the skyline of Rochester, New York. It acts as a terminal at the south end of the attractive Genesee Crossroads Park. With its completion, it will make this park accessible to pedestrians from Main Street, one of the main arteries across the City. The project site is located within one of Rochester's Urban Renewal Districts.

With more than a dozen easements, it created a structural and architectural challenge. Adequate access to the park from Main Street was one of the main concerns to the architects, Corgan & Balestiere, P.C., of Rochester. To accommodate this, almost one third of the site would have to be dedicated as park access. This turned out to be impossible since the remaining space would not have been adequate for placing a high-rise building, or it would be within 30 ft of a six-story building to the west of the site. To provide the desired leasing area and maintain adequate access to the park from Main Street, the architect provided a covered arcade on the Plaza level with parking below and second floor overhang above.

In order to retain unobstructed views from the neighboring buildings to the west and the lower tower floors, the architect rotated the tower 45 degrees to Main Street. Contributing to this strong design solution are the diagonal shapes in the park to the north and a Y-shaped pedestrian bridge across the river.

The exterior of the two story base will be clad with precast concrete with tan aggregate, and glass.

The tower skin consists of bronze reflective insulating glass with matching spandrel sections. The skin is interrupted every three floors by a recessed colored band that matches the curtain wall mullions and extends to support the precast concrete shaft that contains an exterior glass-enclosed elevator cab. A circular revolving restaurant cantilevers above the nineteen-story tower, separated by a mechanical floor.

The reflective insulated mirror exterior is more than an aesthetic item, says Richard Cott, representative for First Federal. "It has great energy saving qualities. This glass reduces the amount of heat transmission by two-thirds. Thus, there is much less heat loss in the winter and much less heat gain in the summer."

Going On from page 10

community," Botsai pointed to the growing concern for our existing building stock, especially unreinforced and minimally reinforced masonry construction. Also, he said, there is "strong evidence to suggest that the current test criteria for fire safety of many building components are in conflict with the best known practice of seismic safety, and vice versa."

Even if experts become able to predict earthquakes in shallow Western faults as well as in the "more difficult, deep-seated Eastern faults, what about the economic and social consequences of a major quake in any populated area?" Botsai asked. Pointing to the projected shortage of capital funds, he asked what would happen "to these already short funds if the majority of Los Angeles, St. Louis or Boston is wiped out in 20 to 40 seconds of tremor?" It would bankrupt both cities and states, and "how would survivors survive?"

Hence, he asked the senators "to go beyond this bill and consider the ramifications that our property tax base for local government financing has on the necessary upgrading of our existing physical plant. The very nature of this tax and its enforcement deter some of the major goals of this bill and therefore warrant your additional evaluation."

Bill Would Protect Olmsted's Home Site

Fairsted on Warren Street in Brookline, Mass., is a small estate where Frederick Law Olmsted lived and worked. Within the house is a three-story vault which contains hundreds of thousands of drawings by Olmsted and his firm members, as well as drawings by many architects with whom the firm collaborated. There are also thousands of photographs and other important materials pertaining to the accomplishments of a man who "almost single-handed," says Lewis Mumford, "laid the foundations for a better order in city building."

The materials at Fairsted mesh with the massive Olmsted collection at the Library of Congress which consists of about 200,000 items, plus 90 volumes of letterbooks with 40,000 pages of outgoing correspondence.

Fairsted's land and structures, as well as the drawings and other materials there, are privately owned and in danger of being sold and dispersed. Hence, the American Society of Landscape Architects has formally asked its membership to support a bill before Congress (S. 400 and H.R. 1600) which would ensure federal acquisition of Fairsted and the possessions there. Other professional societies, environmental groups, garden clubs, com-

continued on page 25

Circle 10 on information card

LOOK INSIDE THE INDOOR WORLD® OF ARMSTRONG

LOOK INSIDE THE INDOOR WORLD OF ARMSTRONG
LOOK INSIDE THE INDOOR WORLD OF ARMSTRONG
LOOK INSIDE THE INDOOR WORLD OF ARMSTRONG

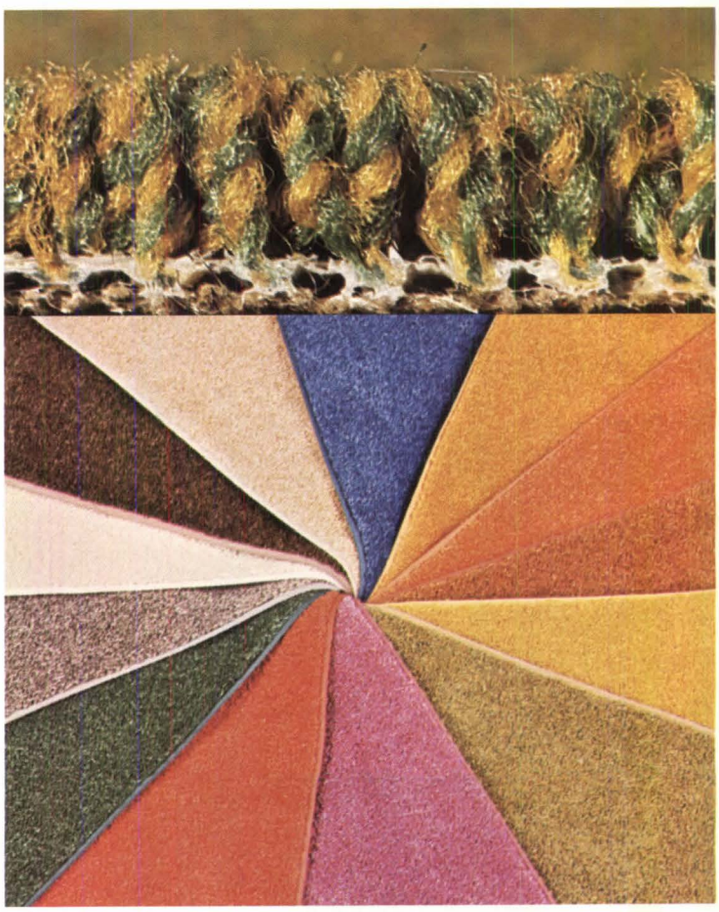
Commercial carpeting that stands up strong in the underfoot world.

Election from Armstrong. The new cut-pile candidate that promises outstanding durability. And delivers it in 13 colors.

Here's an unusual choice you'll be especially proud to nominate. Election is dense cut-pile carpeting—a beautiful alternative to level-loop carpets for heavy-traffic areas in offices, schools, and other commercial installations. Its continuous filament soil-hiding nylon pile stands 12/32" high. And Election comes in 13 rich accent and earth tones that blend with the latest colors in office furnishings.

But don't let the luxurious appearance fool you. Election really stands up to heavy traffic. Its dense nylon pile resists abrasion, has outstanding soil-hiding ability. Plus built-in static control.

And if the installation is large, matching problems are minimized. Because Election colors are created on a continuous dye range in large lots.



Election. Just one of many Armstrong commercial quality carpets that let you do more than simply cover a floor.
For our carpet catalog, write Armstrong, 4804 Sage Street, Lancaster, Pa. 17604.

FROM THE INDOOR WORLD® OF Armstrong

Integrated ceiling systems that offer unmatched design flexibility.

When you want a ceiling system that gives your ingenuit full rein, come to the source. Armstrong.

More architects use Armstrong Luminaire Ceiling Systems because what they get is more than just a ceiling.

They get flexibility. Flexibility that translates into the kind of freedom they need to carry out their most innovative ideas. The kind of freedom that makes it relatively simple to design, specify, control, coordinate, and install a dramatic ceiling in any building. Like the four striking solutions shown on these pages.

Midland College, Midland, Texas, Architect: Preston M. Geren Architect & Engineer and Associates, Fort Worth, Texas, Ceiling System: Armstrong Symmetry Luminaire

What you get with Luminaire is truly a system. A system that combines lighting air diffusion, fire protection, and acoustical control in one integrated assembly. Bu what you also get is versatility. Versatility that allows you to handle these functions in many different ways.

Datacenter/The Equitable Life Assurance Society of the United States, Easton, Pennsylvania, Architects: Kahn and Jacobs, New York City, Ceiling System: Armstrong C-60/60 Luminaire

There are five Luminaire Ceiling Systems: C-60/30, C-60/60, AW 3600, Symmetry® and Pentaflex™. Each is basical scaled to a 5′-square module but is also available in custom variations to meet just about an requirement.

Each can offer you not onl a choice of lighting patterns and a wide range of illuminatio but a flexibility of module, troffe and panel arrangement that

Security National Bank, San Antonio, Texas, Architects: Environmental Professionals Corporation, San Antonio, Texas, Ceiling System: Armstrong AW 3600 Luminaire

results in almost unlimited design possibilities.

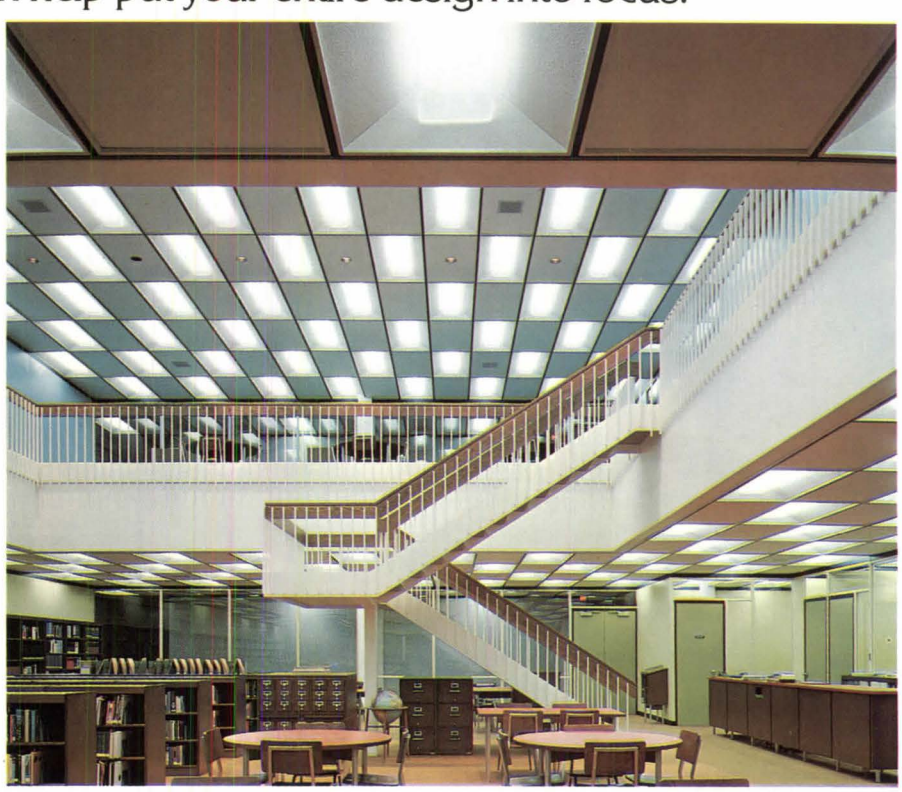
For instance, you can choose from three vaulted systems as well as two flat-type systems that provide either exposed or concealed grids. You can vault your entire ceiling or mix your vaults with flat types. You can light all the vaults or space your lighting to meet specific requirements of the job. Within a vaulted system like the C-60/60, you can even choose various light options—including square light fixtures 2′ x 2′, 2½′ x 2½′, 3′ x 3′, or rectangular fixtures 1′ x 4′ and 2′ x 4′. All of which adds up to a freedom of choice you'd be hard put to match.

Also available from Armstrong, of course, is the Armstrong man—bringing you the technical assistance that can help put your entire design into focus.

Add this kind of people support to the most advanced ceiling materials available, and you can see why Armstrong Luminaire provides you with the esthetic and performance characteristics you require in any building environment that bears your name and displays your talent.

To learn more about our integrated ceiling systems, send today for our 80-page ceilings catalog.

Write Armstrong, 4204 Sage Street, Lancaster, Pennsylvania 17604.



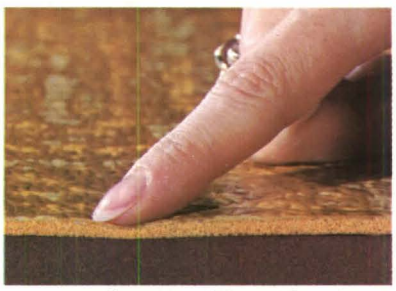
Palmyra Area High School, Palmyra, Pennsylvania, Architects: Lawrie and Green, Harrisburg, Pennsylvania, Ceiling System: Armstrong C-60/30 Luminaire

FROM THE INDOOR WORLD® OF Armstrong

Vinyl floor coverings that are as practical as they are handsome.

Introducing Quiet Zone® II from Armstrong. Step on it and it feels like carpet; spill on it and you know it's vinyl.

Made to "give" for comfort, this quiet resilient flooring is also made to give you all the maintenance advantages of vinyl.



It takes more than just another floor covering to meet the needs of today's busy offices—to simultaneously resist the impact and quiet the noise of countless shoes. It takes a resilient floor covering with the special character of Quiet Zone II. A mighty tough customer with one of the softest hearts in the business.

In Quiet Zone II, an ingenious combination of materials provides a unique combination of benefits for tenants and custodians alike: the built-in comfort that cushions all-day walking and standing, the special composition that helps muffle underfoot noise, the long life and minimum maintenance that are synonymous with vinyl.

How's it done? We start with a tough, virtually nonporous layer of vinyl that stands up brave and strong to heavy traffic. And then we back it up with a layer of foam vinyl one-eighth-inch thick that provides a nice cushion with each step you take.

The fact is, Quiet Zone II has a lot going for it. Because it's vinyl, it resists staining. Because it's vinyl, spills can't soak in. Because it's vinyl, keeping it clean is a relatively simple matter. What's more, it's as easy to work on as it is to walk on. Most wheeled equipment—copy machines, typewriter tables, mail carts—rolls smoothly across its surface. Available in rolls six feet wide and up to 75 feet long that eliminate a lot of seams, Quiet Zone II comes in a number of richly textured patterns and attractive colors that help disguise the everyday dirt and traffic marks any flooring material has to live with.

Once you take a walk on Quiet Zone II, once you experience its special underfoot feel for yourself and see how remarkably easy it is to care for, we think you'll agree that nothing else comes close in terms of comfort and practicality. For a copy of our resilient flooring catalog, write Armstrong, 304 Sage Street, Lancaster, Pennsylvania 17604.

Shown left to right are the three Quiet Zone II patterns: Houndstooth Check, Random Texture, and Grand Central—each available in a range of colors to complement your decor.

FROM THE INDOOR WORLD® OF

Armstrong

A whole family of products that make your indoor world come alive.

The Open Plan package from Armstrong. One sound solution for five environmental considerations.

What you get from Armstrong are the five basics you need for a successful Open Plan office. Pre-engineered to fit and work together.

In the Armstrong Open Plan, almost every unit performs more than one function. Our integrated Luminaire Ceiling System, acoustically efficient Soundsoak™ Divider Screens, and Soundsoak Wall Panels combine to provide a remarkably comfortable level of speech privacy. Because they offer maximum placement flexibility, the Divider Screens also contribute to visual privacy. And when you come back to the Luminaire Ceiling System, you add both draft-free air distribution and superb lighting. Put them all together, and the esthetics speak for themselves.

Armstrong's complete package also includes an electronic sound-masking system that helps achieve an even greater level of speech privacy. And you can place your complete package on a beautiful foundation by selecting from a broad range of Armstrong commercial carpeting or Vinyl Corlon® floor covering.

For more information, write Armstrong, 4204 Sage Street, Lancaster, Pennsylvania 17604.

FROM THE INDOOR WORLD® OF Armstrong

Going On from page 16
mercial associations and interested persons are asked to join in the effort to establish Fairsted as a national historic site.

It is suggested that letters be sent to Sen. Henry M. Jackson and Sen. J. Bennett Johnston and to Rep. James A. Haley and Rep. Roy A. Taylor, all of whom are chairmen of committees concerned. Also, copies of such letters may be sent to any interested person's own representatives in Congress.

For information about the Olmsted home and office and contents, write to William Alex, 250 W. 105th St., New York, N.Y. 10025.

'Humane Scale' Cited In '76 Library Awards

A converted branch of the New York Public Library, a new public library in Pekin, Ill., and a college library have won first honors in the 1976 library buildings award program sponsored jointly by AIA and the American Library Association. Five other public libraries and four institutional libraries have received awards of merit. Exhibit panels of the winning designs will be displayed at the AIA convention in Philadelphia next month.

It was feasible for form to ignore function in favor of symbolism in the library architecture of the past, but demands placed upon the contemporary library have increased dramatically; completely different forces now shape the architecture.

Collections, once relatively small and limited primarily to books and periodicals, have expanded into an array of many kinds of materials, and the information explosion has caused an upsurge in the publication of even the old printed-matter standbys. Once operating costs were low compared with initial construction costs, but new demands and services have resulted in the reverse. These are the "new realities" of library architecture, says the jury of this year's program, which was chaired by John F. Hartray Jr., AIA, of Chicago. Architects, says the jury, "are only beginning to understand" these realities.

The desire to make the library a symbol continues, and it stimulated "both the best and the worst of the solutions presented in the program. Success or failure depended on whether the form chosen reflected an important and permanent function within the floor plan."

In the "worst" solutions to library spatial problems, the jury points to the "terrifying environments" of acres of "uniformly lighted acoustical ceilings," under which library card catalogs, etc., are "distributed at random." Unrelated architectural elements only serve to "amplify the visual anarchy at eye level."

The best of the entries, however, "achieved a humane and understandable scale . . . ." Most of the projects selected for awards were "obvious choices" of both architects and library consultants on the jury, "indicating that responsible attention to program and competent architectural design are mutually supportive."

First honors went to:

- Pekin Public Library and Everett McKinley Dirksen Congressional Leadership Research Center, Pekin, Ill. Architects: John Hackler & Co., Peoria, Ill.
- Jefferson Market Branch Library, New York City. Architect: Giorgio Cavaglieri, FAIA, New York City.
- Bates College Library, Lewiston, Me. Architects: The Architects Collaborative Inc., Cambridge, Mass., principal in charge, Sarah P. Harkness, AIA.

Awards of merit went to:

- Hapeville Public Library, Hapeville, Ga. Architects: Stevens & Wilkinson, Atlanta.
- Randall Memorial Library, Stow, Mass. Architects: Finegold & Bullis, Boston.
- Marin County Library, Novato, Calif.

continued on page 28

CONSTRUCTIVE IDEAS

There are a great many structural concepts, gaining wide acceptance around the country, that owe their commercial feasibility—or their very existence—to extensive pioneering by United States Steel.

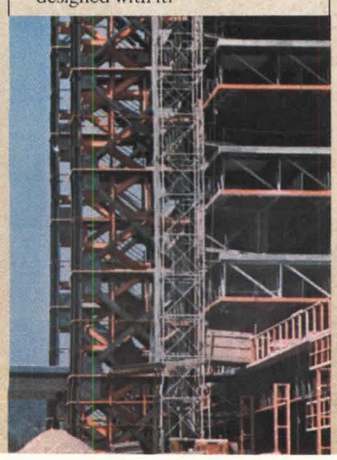
Some of them are shown here. You'll recognize most of these ideas—you have probably utilized some of them. Of course, they help us sell steel in construction. But they also help you—by giving you more freedom in your designs, and more flexibility and economy in your buildings.

U.S. Steel has years of in-depth experience with these concepts, and we'd like to share our expertise with you. Check the concepts that interest you on the coupon below—we'll send you structural reports or other technical information on each of them. Or contact a USS Construction Representative through your nearest USS Sales Office.

USS and COR-TEN are registered trademarks.

USS TRADEMARK **United States Steel**

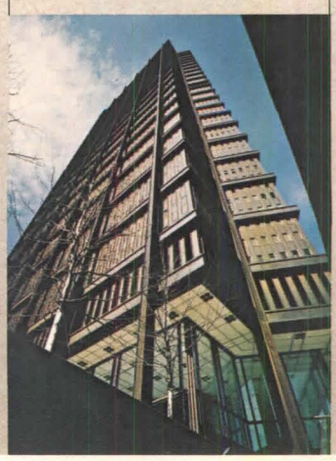
Interstitial Space Design. A series of structural steel 'sandwiches' or full height service levels between working floors—in which mechanical, electrical communication lines and distribution and collection systems can be housed and maintained. Over the past 6 years, 35 hospitals have been designed with it.



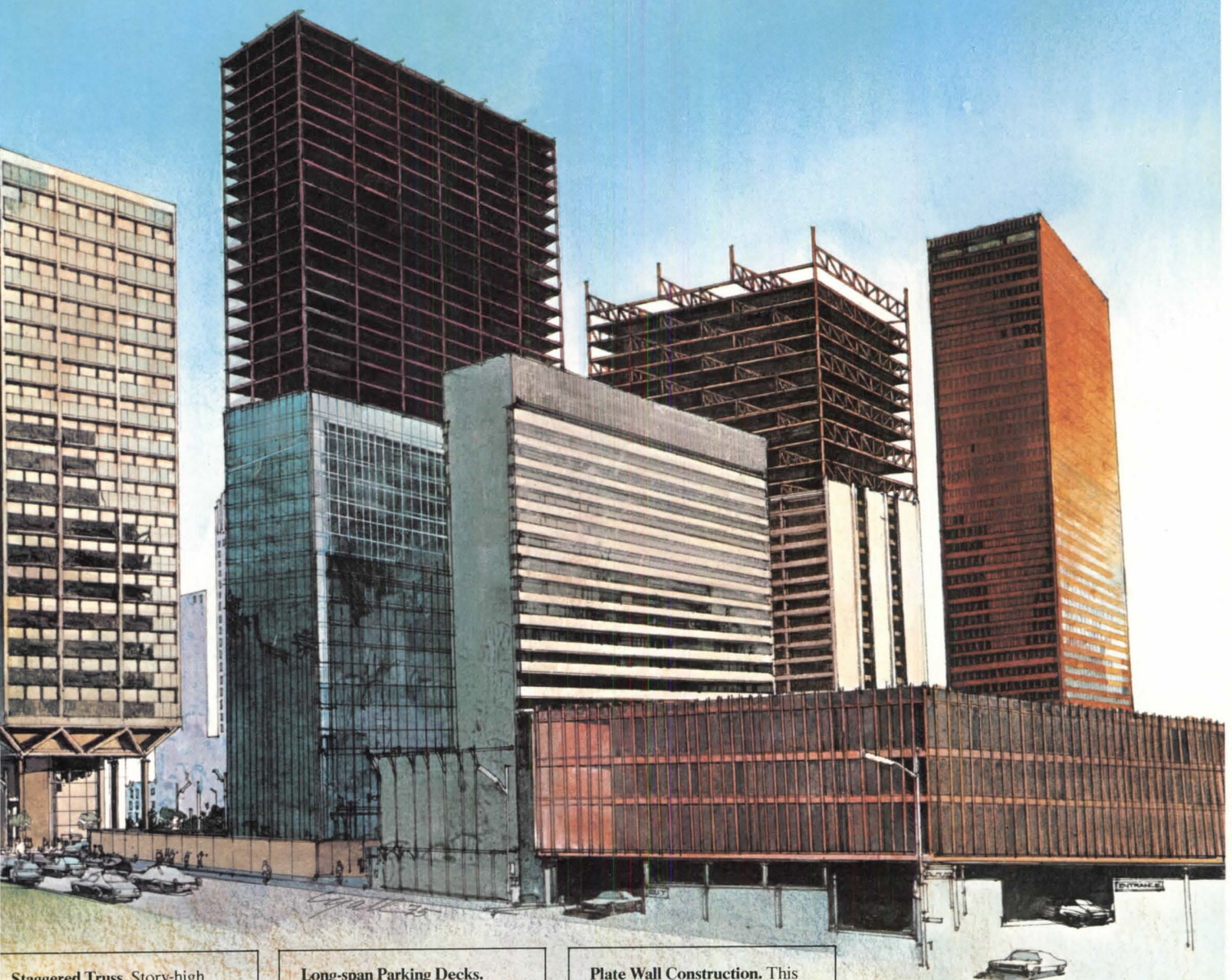
Flame-Shielding. Another fire-protection concept developed by U.S. Steel. Flame shielding eliminates having to cover perimeter structural steel members with fireproofing materials. Spandrels are protected by shields attached to the flanges of girders. The shields deflect the flames outward and away from the steel.

Fluid-Filled Columns. U.S. Steel advanced this unique method of providing fire protection for exposed steel columns. The hollow columns contain water, antifreeze and corrosion inhibitors. In case of fire, the fluid absorbs the heat and circulates within the closed-loop system.

Bare USS COR-TEN Steel. When boldly exposed to the atmosphere, USS COR-TEN High-Strength, Low-Alloy Steel weathers to a dark, earthy color that only nature imparts. The oxide patina inhibits further atmospheric corrosion. Unlike most materials, its appearance improves with age.



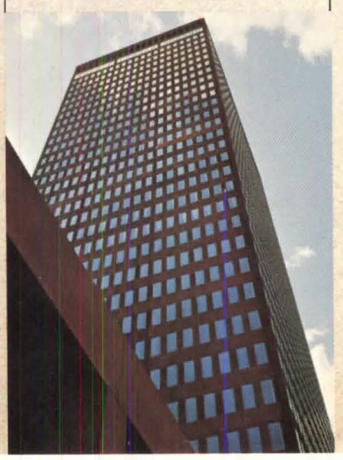
FROM U.S. STEEL.



Staggered Truss. Story-high trusses that span transversely between exterior steel columns, in a staggered pattern, from floor to floor. Provides column-free interiors with less steel and simpler foundations. Speeds construction and permits earlier occupancy.

Long-span Parking Decks. Highly economical in steel, this concept has replaced precast or poured-in-place concrete in many new open-deck parking structures—because it results in more open space with a minimum of interior columns, and speeds construction time.

Plate Wall Construction. This system utilizes steel plates which have been shop-fabricated to form large exterior wall sections. These sections, which are generally a full story high and a bay wide, are fastened directly to the structural frame.



United States Steel
P.O. Box 86 (USS C 553)
Pittsburgh, Pa. 15230.

Please send me information on the items checked:

- ☐ Interstitial Space Design.*
- ☐ Flame-Shielding.
- ☐ Fluid-Filled Columns.
- ☐ Bare USS COR-TEN Steel.
- ☐ Staggered Truss.
- ☐ Long-span Parking Decks.
- ☐ Plate Wall Construction.*

*Case History

Name_____

Title_____

Company_____

Address_____

City_____

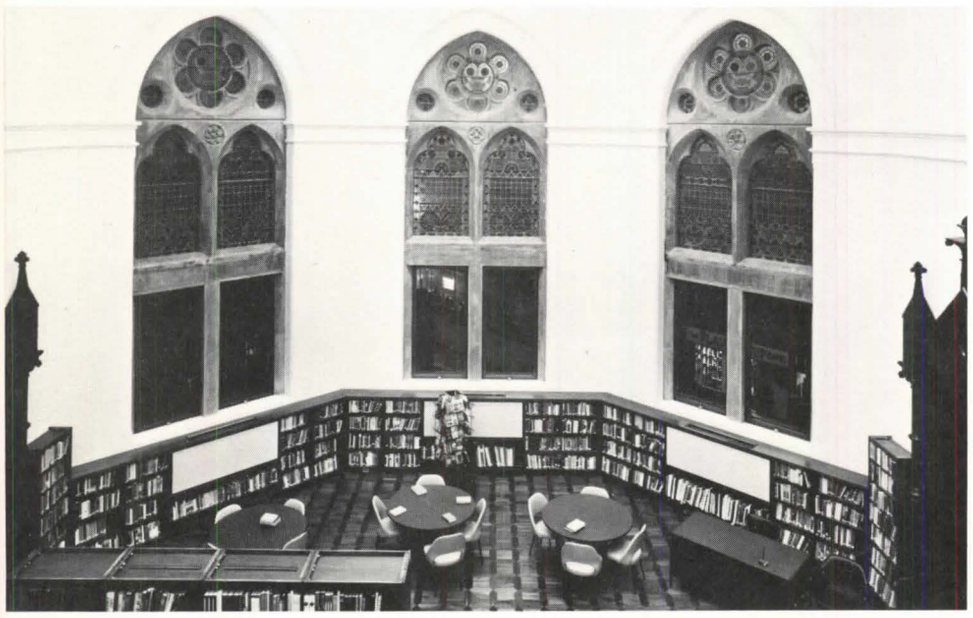
State_____ Zip_____

Going On from page 25

Architects: Marquis & Stoller, San Francisco, project architect, Julian F. Knox, AIA.

- Rockford Road Branch, Hennepin County Library, Crystal, Minn. Architects: Parker Klein Associates, Minneapolis.
- Corning Public Library and Southern Tier Library System, Corning, N.Y. Architects: RTKL Associates Inc., Baltimore, principals in charge, Ted A. Niederman, AIA, and Edward P. Haladay, AIA.
- Fort Schuyler Library, State University Maritime College, Bronx, N.Y. Architects: William A. Hall & Associates, New York City.
- Lineberger Memorial Library, Lutheran Theological Southern Seminary, Columbia, S.C. Architects: Walter Dodd Ramberg, Sparks, Md.
- Joseph Mark Lauinger Memorial Library, Georgetown University, Washington, D.C. Architects: John Carl Warnecke & Associates, Washington, D.C.
- Nathan Marsh Pusey Library, Harvard College, Cambridge, Mass. Architects: Hugh Stubbins & Associates, Inc., Cambridge, Mass.

First honors in library awards: Pekin Public Library/Dirksen Research Center, Pekin, Ill. (top); Bates College Library, Lewiston, Me. (above), and Jefferson Market Branch Library, New York City (below). Hapeville Public Library, Hapeville, Ga. (bottom) is one of 11 merit award winners.



Administrators Honor Schools in Mass., Va.

A completed community school in Springfield, Mass., and an energy-conserving elementary school now under construction in Reston, Va., have been singled out by the American Association of School Administrators for awards for "outstanding educational environment." The award-winning schools are two of the entries in the annual exhibition of school architecture sponsored jointly by AASA and AIA. The awards are named in honor of Shirley Cooper (AASA) and Walter Taylor (AIA), founders of the exhibition.

The Cooper award went to the New North Community School in Springfield (architects: Perkins & Will of White Plains, N.Y.), which was praised by the jury of architects and educators as a "people-serving community center." The school is a "sensitive and far-sighted solution to providing multiuse facilities that can change with the times," the jury said.

The Terraset Elementary School in Reston (architects: Davis, Smith & Carter of Reston) received the Taylor award. The jury commended the school "for its unique concern with energy conservation," saying that "it is a school that looks to the future and that promises harmonious relationships between the natural environment and the people who live there."

From about 300 preliminary entries, the jury chose 235 educational facilities for the 1976 exhibition. In addition to the two award winners, 25 other projects in the exhibition received special citations for outstanding features in school architecture.

Vermont Timber Yields New Homes and Jobs

Up in Vermont, there is an abundance of towns and lakes that provide recreational opportunities in both summer and winter, and there are many quaint little towns set in valleys. But, said correspondent Roger Peterson on ABC News recently, northern Vermont "also has an abundance of unemployment," as well as the dubious distinction of being "one of the nation's 25 officially designated poverty pockets."

With the "judicious use of federal grants," the Orleans County Council of Social Agencies is doing something about unemployment. It set up a program that would provide jobs "and turn standing timber into finished low-cost homes." The council gives on-the-job training in logging. It also, said Peterson, "reactivated an ancient sawmill to cut the timber into rough lumber."

From the sawmill the lumber goes to a mill and is planed into standard sizes, and then it's used in the construction of three-bedroom homes that are sold to low-income families. According to Peterson, such homes usually sell for about $27,000, but with the government picking up the labor costs, they sell for about $19,500.

The numbers of people who have found jobs—and homes—"aren't large enough to startle anyone," Peterson reported, "but they do show what can be done with imaginative use of federal programs and basic natural resources."

continued on page 32

Georgia-Pacific has more than 100 fire and sound rated wall, column and ceiling/floor systems. And a great delivery system, too.

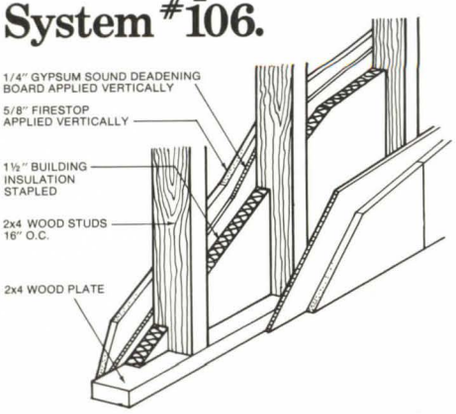
Our new 1976 catalog tells the whole story.

With our new catalog of gypsum systems, you can probably preselect a system that meets your requirements for sound and fire rating exactly. And meets your cost, weight and thickness needs, too.

Our catalog has dozens of different systems, some with fire ratings as high as 3 hours and STC ratings as high as 57. So we probably have something very close to what you had in mind. Or something better.

And it's all clearly shown with the specific information you need to make decisions in seconds.

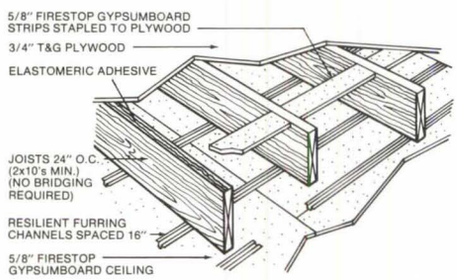
For example: System #106.



This interior wall system combines a layer of ¼" gypsum sound deadening board with an overlay of ⅝" Firestop® Eternawall™ gypsum board. When combined with 2" insulation bats, the system provides a 1-hr. fire rating and an STC of 50.

The Firestop® Eternawall™ gypsum board also provides you with beauty. The vinyl-coated surface comes in 30 different colors and textures. (All of which are shown in full color—right in the catalog.)

For another example: System #475.



This is a floor/ceiling system that's excellent for most low-rise construction.

The system combines a 1-hr. combustible fire rating with an STC of 50. And remember, the basis for every rating shown is clearly explained right in the catalog. One more "system" we're proud of.

It's our distribution system. A network of distribution centers that stretches all across the nation.

A system that assures you of consistent product quality and availability wherever you order it . . . coast to coast.

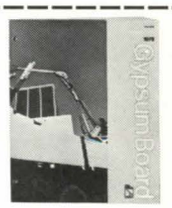
At competitive prices, too.

So, if you don't already have a copy, write us for the 1976 edition of our Gypsum Board systems catalog.

Get it . . . and everything that comes with it.

Georgia-Pacific
900 S.W. Fifth Avenue
Portland, Oregon 97204

Please mail me ___ copies of your 1976 Gypsum Board systems catalog.



(Name) _____

(Company) _____

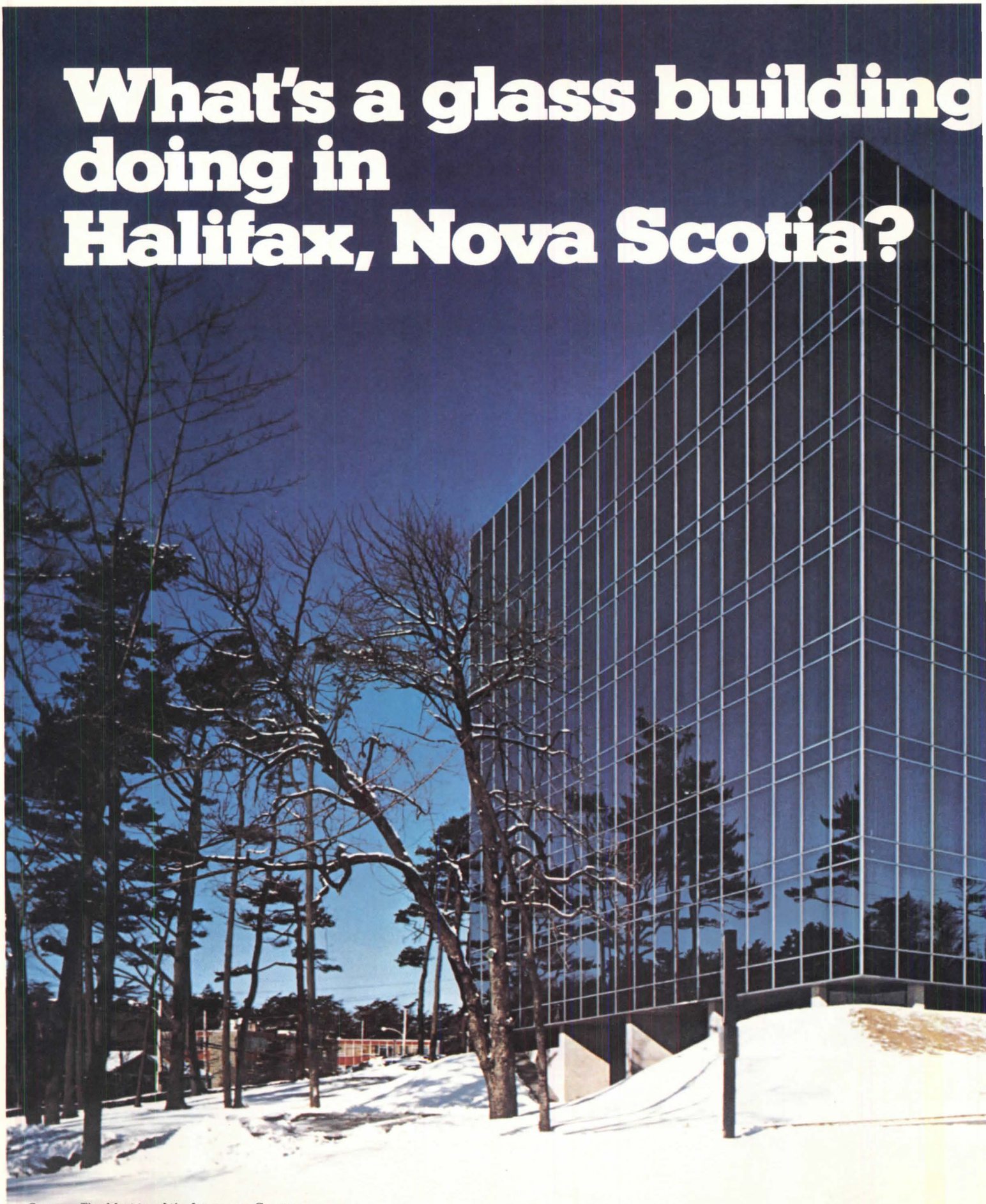
(Address) _____

(State) _____ (Zip) _____

Georgia-Pacific
The Growth Company

Circle 13 on information card

What's a glass building doing in Halifax, Nova Scotia?



Owner—The Maritime Life Assurance Company
Architect—The Webb Zerafa Menkes Housden Partnership, Toronto, Ontario, Canada
Associate Architects—Dumaresq & Byrne, Halifax, Nova Scotia, Canada
Glazier—Zimmcor Co., Lachine, Quebec, Canada
General Contractor—Fraser-Brace Ltd., Halifax, Nova Scotia, Canada

Saving money.

Even before the ribbon-cutting ceremony, reflective Vari-Tran® coated glass in Thermopane® insulating units was cutting costs for The Maritime Life Assurance Company.

Using 1" Bronze Thermopane as a base for comparison, the owner can expect Vari-Tran 1-114 coated glass in Thermopane insulating units to save 49% of the initial cost for air conditioning, heating and distribution equipment. On top of this savings, the owner can expect an equally impressive savings in *annual* operating costs.

Check the beautiful efficiency of those figures on the chart. If you like what you see, contact one of our architectural representatives. He'll be glad to put our computers to work on a spec sheet for a building you have in the works. For more detailed information on LOF glass products, please refer to LOF's Sweet's Catalogue—(Glass for Construction).

Or you can write Marty Wenzler at Libbey-Owens-Ford Company, 811 Madison Avenue, Toledo, Ohio 43695. We want you to know the energy and dollar savings LOF high-performance glass can mean for your clients.

	1" Bronze Thermopane	Vari-Tran 1-114 Glass in Thermopane Insulating Units	Savings
Glass Cost	$110,700	$164,819	
Heating, Cooling and Distribution Equipment	350,853	180,649	$170,204
Comparative Initial Construction Costs	461,553	345,468	116,085
Annual Heating Costs	2,266	2,059	207
Annual Air Conditioning Costs	3,385	1,778	1,607
Annual Insurance Premium	18,462	13,826	4,636
Annual Property Taxes	13,847	10,369	3,478

LOF

Circle 14 on information card

Going On from page 28

Fire Study Stresses Single-Family Houses

Some of the people who looked in horror at the movie "The Towering Inferno" and swore never again to enter a highrise building may not know of the dangers lurking in their own single-family house or lowrise apartment building. The National Bureau of Standards in its 1974 "Fire Sheet on Highrise Fires" points out that research reveals that in the 10-year period from 1962 to 1972 there were 6,000 fatalities per year in residential fires, contrasted with only 12 fatalities in the same period in highrise building fires.

James R. Dowling, head of the AIA codes and building regulations center, says that since 1972 AIA has strongly advocated the use of products of combustion detectors to help reduce fatalities. Of the one million building fires annually, he says, 70 percent occur in residences and 90 percent of those residential fires occur in single-family houses, common-wall townhouses and three- to four-story apartments.

Recently, the concrete and masonry industry fire safety committee of the Portland Cement Association released a report which contains the results of a study it made. The report emphasizes that "concern over fire safety in building codes centers on highrise buildings," despite the statistical information available. The committee suggests five steps to upgrade building and fire construction codes:

- "Require noncombustible materials for building envelopes, floors and party walls.
- "Provide proper exits, building separations and compartmentation.
- "Provide combustion detectors and alarms to warn residents of danger from smoke and toxic fumes.
- "Provide flame-suppressant systems to control damage within a compartment and to help fire fighters. The committee emphasizes, however, that codes should not permit substituting sprinkler systems for adequate structural fire resistance and compartmentation since safety would not be provided if such devices failed to operate.
- "Careful examination of fire-testing provisions for the selection of materials to ensure that testing reflects actual conditions."

The committee calls upon building code and fire officials to take the leadership in the development and enforcement of upgraded codes, but it also emphasizes that every sector of the construction industry must assume responsibility for safety in residential buildings.

In a recent address to the American Association for the Advancement of Science, Charles E. Peck, vice president of Owens-Corning Fiberglas Corp., also pointed to the major misconception about fire safety in highrises. He quoted from studies conducted by the National Commission on Fire Prevention and Control which show that "residential fires account for about 70 percent of an annual one million building fires, 85 to 90 percent of all fire deaths and about 40 percent of all property losses due to fire."

Why, Peck asked, has "so much effort been expended the past few years in an attempt to deal with the highrise fire problem, while very little has been done with respect to residential fire safety?" He called for a "valid data base to help us understand the complex fire problems we are facing." And beyond the collection of a data base, he emphasized the need for more basic research on fire safety, recommending "a focus on fire problems in residential housing rather than in highrises, on fire detection and suppression systems and on other means of reducing the costs of efficient fire safety."

Solar Collectors Going Atop School in Atlanta

An experiment in the use of solar energy for both heating and cooling, said to be the "largest undertaken to date," is underway at the 12-year-old George A. Towns Elementary School in Atlanta. About 10,000 square feet of flat-plate solar collectors have been installed on the roof of the one-story structure. The collector field consists of 576 panels, arrayed in 12 rows on the roof.

It is estimated that sunlight will provide about 60 percent of the energy needed to heat and cool the building and 80 percent of the energy required for the domestic hot water supply. Assuming that the modular solar collectors are about 50 percent efficient in the conversion of solar radiation into heat energy, the collector system, during a period of three hours around noon on a clear day, will supply 2 million Btu's of heat per hour (586 kilowatt hours of heat energy).

The design, installation and analysis of data for the large solar system are under the direction of the Westinghouse Electric Corporation, under a cost-sharing, no-fee contract from the Energy Research and Development Administration. Cooperating in the experiment are Burt, Hill & Associates and the Georgia Institute of Technology.

Albert Weinstein, manager of Westinghouse's special energy systems department, says that the cost of the total system is "relatively high" because of the use of commercially available components and techniques. "However, the information and experience gained . . . will be useful in the development of economically competitive systems."

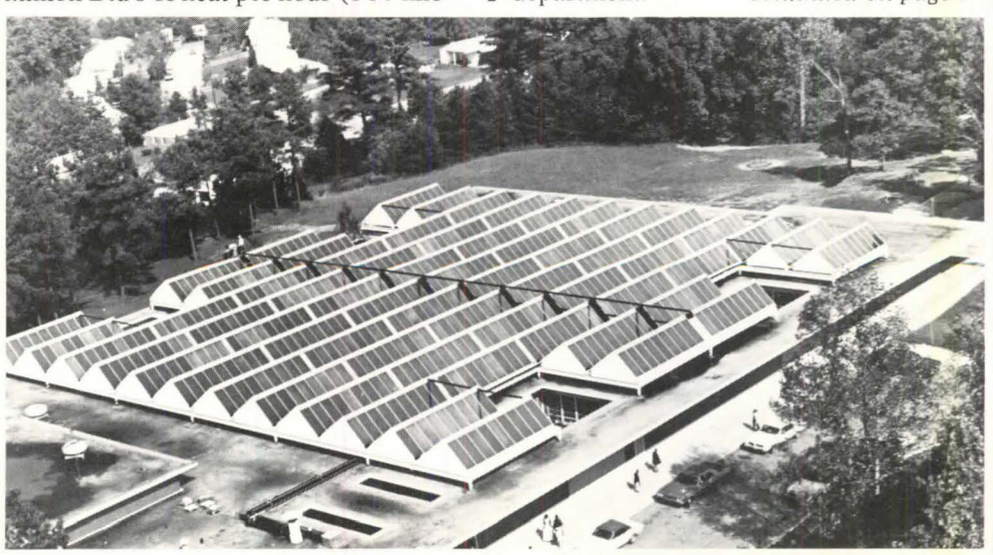
A major goal of the experiment, he says, "is to gain experience with a large solar-powered cooling system." The principal components of the system designed for the school are the solar collector array, an existing gas-filled boiler, an absorption chiller and underground tanks to store hot and cold water to provide thermal storage.

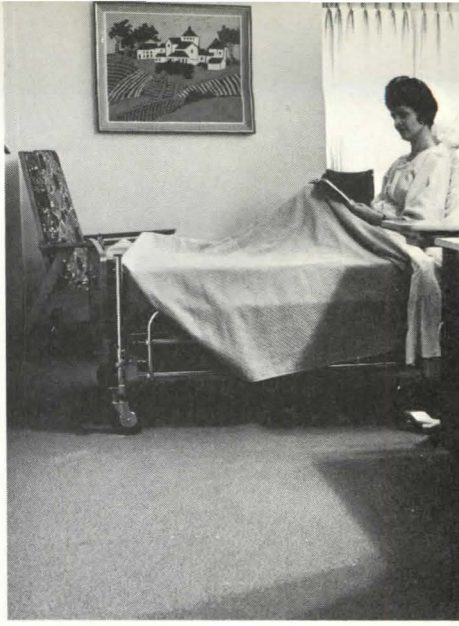
The system is instrumented for accurate measurement of performance. About every five minutes, data samples are taken, processed by an on-site minicomputer and transmitted via telephone lines to a central computer for analysis at Georgia Tech. Performance will be monitored for 12 months and the findings reported to ERDA.

New at the Journal

Allen Freeman has joined the AIA JOURNAL staff as an associate editor. He previously was managing editor of *Southern Voices,* a general interest-literary magazine in Atlanta, and prior to that was on the staff of *The Atlanta Journal.*

Sudsy Banks has been appointed editorial assistant for the JOURNAL. She was formerly employed by the Washington School for Secretaries and before that was a staff member in the AIA public relations department. *continued on page 94*





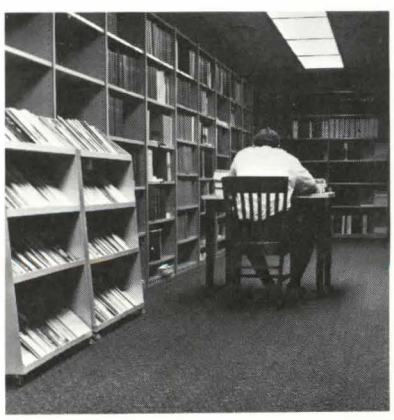
Hospital after hospital after hospital prescribed proven carpet by Bigelow.

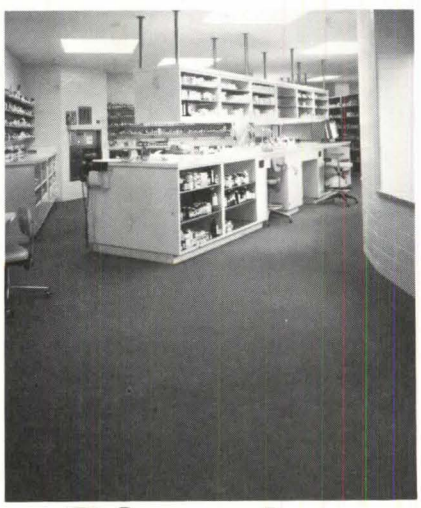
If you're doing a hospital job, you can create your own specifications for the carpet you want. And we can make it for you.

However, Bigelow has another practical suggestion: specify carpeting that has already proven it can take the hard use (not to mention abuse) patients, visitors and staff deal out. Carpet that has repeatedly demonstrated it can take a beating year after year after year.

Bigelow has that kind of proven in actual hospital use carpeting ready for you in a wide selection of carpet styles and patterns. Carpet that is the result of research and development combined with the realistic experience gained in hundreds of hospital installations.

And Bigelow will do more than just sell you proven carpet. We'll give you expert counselling in installation and the best advice available on maintenance. It's a total package designed to assure you that you can specify Bigelow with total confidence.





Bigelow®

RUGS & CARPETS SINCE 1825
A SPERRY AND HUTCHINSON COMPANY

AMERICA'S MOST EXPERIENCED CARPET MAKER

Bigelow-Sanford, Inc., Dept. N
P.O. Box 3089, Greenville, SC 29602

I'd like to hear the proof on Bigelow's proven carpets for hospitals.

NAME_____
Print Clearly

TITLE_____

ADDRESS_____

CITY_____

STATE_____ ZIP_____

Circle 15 on information card

Is the ball park

Robert F. Kennedy Memorial Stadium
Washington, D.C.
Architect-Engineers: Dahl Esm-Osborn
General Contractor: McCloskey & Company
Photo: A Aerial Photography

close enough?

Your drawings are at the schematic stage. A loan may be sought or secured. Now the job is for your *team* to bring your building within budget.

This time is perhaps the most critical of all. It's your turn *at bat.* It's a point where the wrong design decisions can make you *strike out* or *walk.* A time where inadequate financing based on low estimates may keep you from making it to *first base.*

It's the time when a *Ball Park Estimate* is not close enough.

There are many types of *Ball Park Estimates* which can give a rough approximation of cost:

Apartments by the *Dwelling Unit.*

Hospitals by the *Bed.*

Schools by the *Classroom.*

Any building by the *Square Foot.*

These methods have sometimes proved accurate on a *hit* or *miss* basis. But you can get thrown a *curve* because they have also been very *in*accurate—even where precedents were established. Which results in your costs being way *off base.*

There are many factors *Ball Park Estimates* cannot account for. Among them—design differences, geographical area, site adaptation and current labor/material prices. Any one of these can keep you from *scoring.*

Here's our *pitch:* A *Detailed Quantitative Estimate* is an entirely different ball game. Its trade-by-trade breakdown enables you to control your costs through substitutions of materials and systems. Like a *relief hitter* keeping you within your budget.

For example. Should your structural system be steel with plaster ceilings and beam fire-proofing? Or a poured-in-place flat plate concrete slab? Should your exterior wall treatment be brick and block? Or precast concrete? Or job-poured sand-blasted concrete?

From a *Detailed Quantitative Estimate* you know exactly where your money's going and how to make cuts if necessary. Which helps raise your *batting average.*

If you're afraid of *dropping the ball* on your next building call us in for cost assistance. Many architects and owners value our *independent* judgement of comparative costs.

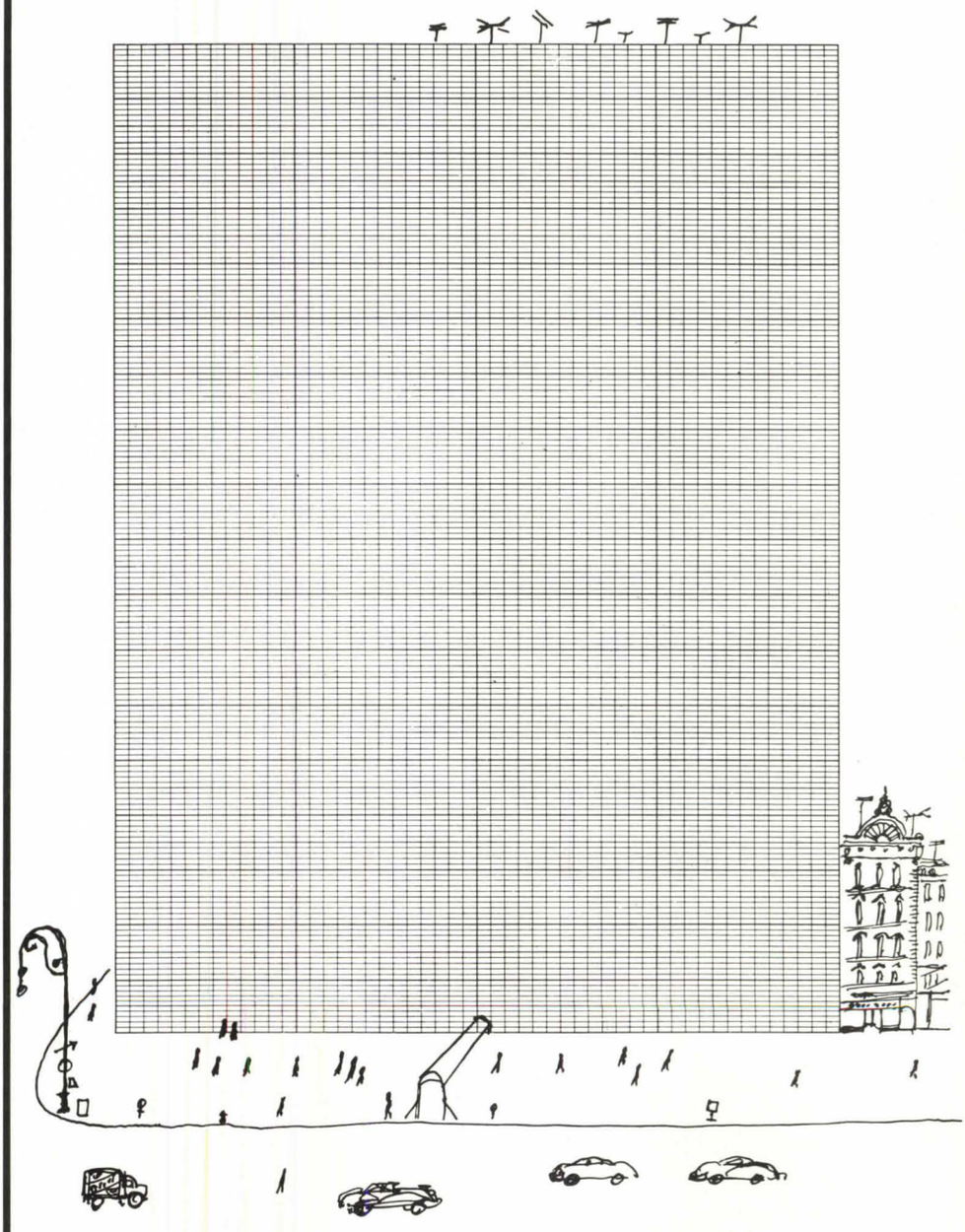
Because we call 'em as we see 'em—no matter who's standing at the plate.

SCHARF-McINTIRE DIV.
905 MOZART STREET
TELL CITY, INDIANA 47586
(812) 547-7063

EDWARD G. SCHARF & SONS
Construction Cost Consultants
8555 Connecticut Ave. N.W.
Washington, D.C. 20015
(301) 652-2622
Cable SHARFEST

members
American Association
of Cost Engineers
National Association of
Construction Cost Consultants

since 1920



An editorial without words by Saul Steinberg, who will receive an AIA medal next month for "the incisive wit and consummate artistry" that characterize his view of the built environment. This drawing, from his book "The Passport," was chosen by Mr. Steinberg when asked for permission to present an example of his work.—Ed.

Honor Awards: Six New Buildings, Four Recyclings and Mies

Ten buildings have been chosen to receive 1976 AIA honor awards, one more than last year. Included are four old buildings put to new uses, more renovations than in any previous year. Also for the first time, a separate jury was appointed to make selections in the "extended use" category. The winners—old and new—are shown on the following pages.

The 25-year award, given each year to a building of "enduring significance," went to Mies van der Rohe's twin apartment towers at 860-880 Lakeshore Drive, in Chicago. Welding vertical I-beam rails in a pattern of closely spaced vertical strips, Mies here for the first time used steel (a structural element) as applied ornament—horrifying the functionalists, and making the towers "the most vertical-looking skyscrapers ever built," or so architectural critic Peter Blake, FAIA, wrote in 1960. He called the structures the "strongest, purest and most deceptively simple statement" of Mies' ideas.

The 1976 extended use jury commented: "Through the restrained simplicity of its massing, the evident clarity of its materials, the honesty of expression of its materials, the refined precision of its detailing, this elegant group of structures set a standard of achievement in the design of highrise apartment buildings that many successors strove to emulate, few equalled and almost none ever surpassed."

In choosing among the extended use entries, this jury "sought to reward those projects which were imaginative in their approach, creative in their solution and skillful in their execution."

The overall report of the jury on new buildings stated: "As the jury met this year to review the nearly 500 entrants, it became more and more apparent that architecture has reached a point of divergence. The old formulas are no longer valid. In fact, it would seem that some architects set out to violate as many conventions as possible. Walls become opaque while roofs are transparent; mechanical equipment becomes decoration while structural systems are hidden. The glass box has been broken. Sculptural shapes abound. Form follows function, as long as it has a form; or function follows form, it doesn't seem to make much difference. Is it exciting or confusing, or exciting confusion, or perhaps, confusing excitement? We are in a searching period; a questioning of the rules; purposeful breaking from convention. There is no direction that is right and there is no direction that is wrong.

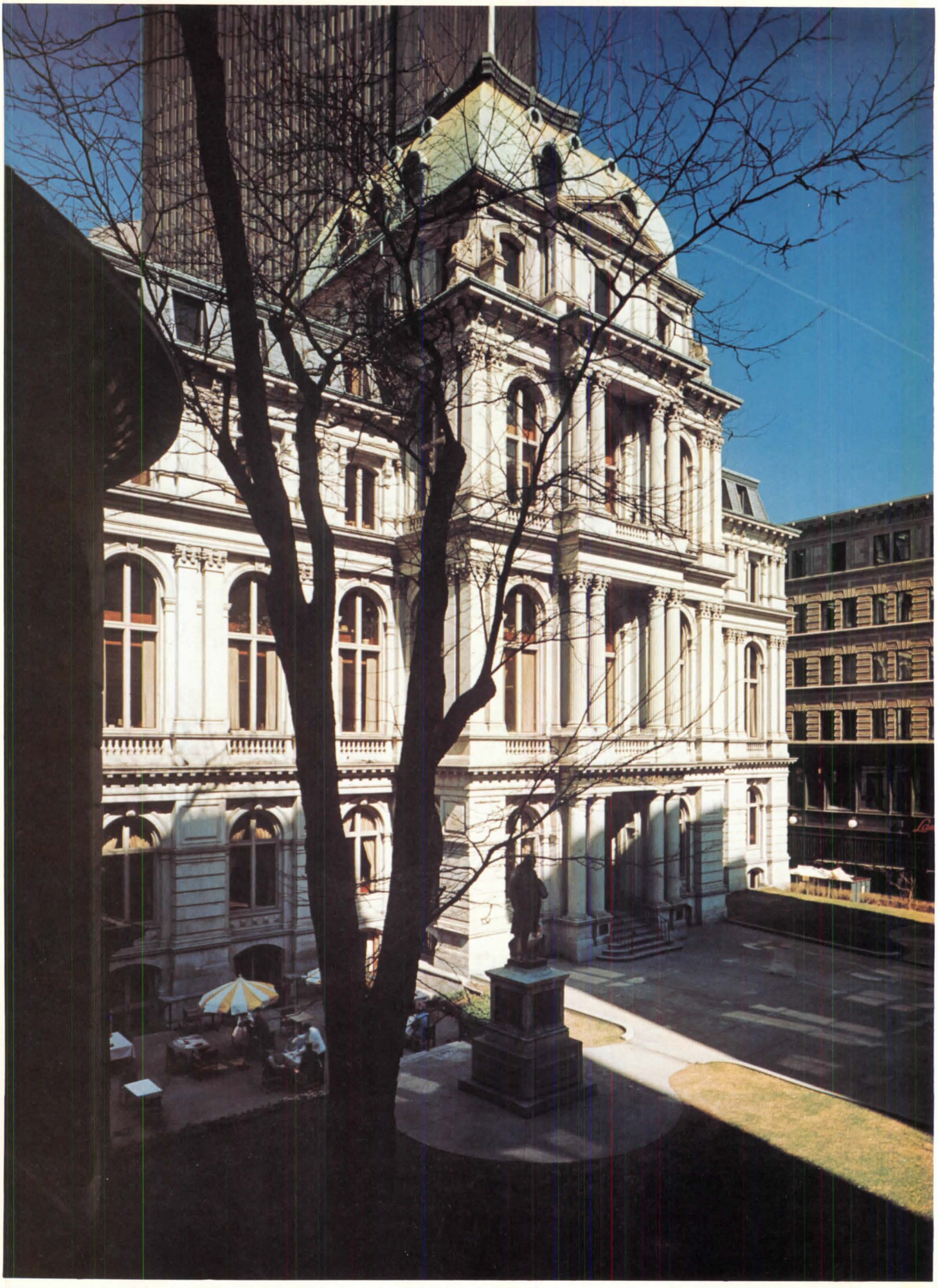
"How then do we go about judging those projects deserving of the honor award? Yet, in all the projects reviewed there are those that stand out—not locked to convention, not lost in clichés, but solid in the basic understanding of architecture—answering the program, relating to the site, respecting their environment, understanding the building process.

"The six buildings chosen represent several different directions. Some derivative, some boldly revolutionary, yet all adding to the enrichment of the building art. Many projects exhibited great competence and some showed great inventiveness, perhaps even forecasting things to come. The award winners, in the opinion of the jury, represent the highest standard of where we are today."

On the jury for new buildings were John Burgee, AIA (New York City); Francis P. Gassner, FAIA (Memphis); Gerald M. McCue, FAIA (Berkeley, Calif.); Harold E. Nash (Boston Architectural Center) and Peter Tarapata, FAIA (Bloomfield Hills, Mich.).

The extended use jury was comprised of Jean Paul Carlhian, FAIA (Boston); Giorgio Cavaglieri, FAIA (New York City); J. Everette Fauber, FAIA (Richmond, Va.); John Graves (University of California, Berkeley) and Ralph Youngren, FAIA (Chicago).

A full six of the 10 winners (five new and one renovation) also received the Bartlett award, which honors buildings that show a conscious effort to eliminate barriers to the handicapped. The buildings chosen were the dormitory, dining and student union facility; the Center for Creative Studies; Waterside; R. Crosby Kemper Memorial Arena; Columbus Occupational Health Center, and Butler Square. The Bartlett awards jury was comprised of William Baltzer Fox, AIA; Richard Downing, AIA, and Edward H. Noakes, AIA, all of the Potomac Valley chapter. *Andrea O. Dean*



Old Boston City Hall. Architects: Anderson Notter Associates Inc.

With the adaptation of Boston's old City Hall for private commercial use, a historic landmark was preserved which Edmund O'Connor in his *Last Hurrah* affectionately described as "a lunatic pile of a building; a great, grim, resolutely ugly dust catcher."

To make the venture possible, the city leased the property to a private developer for 99 years at a nominal sum, and the developer financed the renovation for lease to commercial tenants.

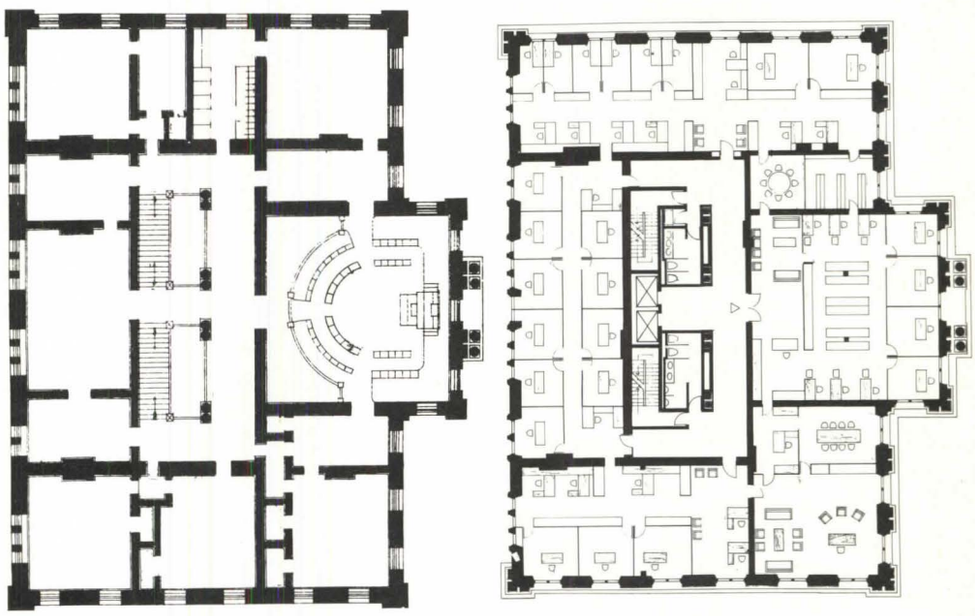
Says the jury: "This is a very successful example of preservation and adaptive reuse of an existing structure which brings favorable financial results to an investor through sensitive modifications of a contemporary nature without destroying the quality of the elegant and historically important original building."

The exterior of the building was left virtually untouched. The basic plan for the renovation, say the architects, was developed from an understanding of the structure of the existing building, consisting of exterior bearing walls and interior bearing walls around an open central stairway.

The four-story stairway could not meet code requirements, but the space was left as a central element and now houses egress stairs, toilets, circulation corridors, elevators and mechanical chases. After having first gutted the interior of the building, the architects fitted new offices around this central enclosure, an arrangement that resulted in as efficient and flexible use of floor space as would be possible in a new building.

The generous arched windows have been glazed with single sheets of glass to accentuate the arch, and reframed with natural oak boards also in arched shapes. In some places arched doorways and openings were worked into the interior partitions, echoing again the pattern of the windows.

Client: Roger S. Webb, President, Old City Hall Landmark Corp.; Graham Gund, Boston, Mass. Structural engineers: LeMessurier Associates, Inc. Mechanical engineers: Progressive Consulting Engineer, Inc. Electrical engineers: Herosy Associates, Inc. General contractor: Kirkland Construction Co., Inc.



Whig Hall, Princeton University. Architects: Gwathmey Siegel.

After the interior of Whig Hall, home of the Princeton University debating society, was destroyed by fire, the architects were called on to reconstruct it, and replace the original 7,000 square feet with 10,000 square feet of space for classrooms, reception and meeting rooms. Despite the increase in floor space, the renovated building remains within Whig Hall's original shell. The architects assumed "that to add or extend our design beyond the existing structure would be disastrous."

The logistic problem, as they defined it, "was to maintain the privacy and integrity of the Whig facilities while making the remaining spaces accessible and inviting to the rest of the university." They sought a solution that would be "simple, unified and faithful" to the original.

One entire side wall has been removed, exposing the new work. Despite this and the fact that the building now has four floors instead of the original three, and a new column system independent of the old walls around it, the architects feel their remodeling is more respectful of the historical shell than even the original contents had been. For the exposed interior contrasts with and draws attention to the shell; and for the first time the shell is now perceptible from the interior also. The main floor extends, partly as an open terrace, to all four corners, and the spaces on the upper floors have a variety of views through the open area to the edges of the original box.

The jury has called this renovation, "A rather elaborate, yet remarkably sensitive, and uncompromisingly contemporary solution to the challenging problem of adapting a classically formal structure to modern uses in accordance with the exacting requirements of our time."

The existing shell is brick bearing walls with marble veneer. The new walls are concrete block with stucco finish on the exterior and interior. Floors in public areas are slate. The new structure is reinforced concrete columns and floor slabs.

Client: Princeton University. Structural engineers: Geiger Berger Associates. Mechanical engineers: Langer Polise. General contractor: Lewis C. Bowers & Sons, Inc.

Butler Square, Minneapolis. Architects: Miller Hanson Westerbeck Bell.

The conversion for commercial use of this 500,000-square-foot warehouse, built in 1906 and located on prime downtown land, is Minneapolis' first major recycling effort. The structure has been adapted to accommodate retail shops and office space in one half of its space; a modern luxury hotel is planned for the second half.

The major design consideration was to maintain the original character of the exterior, while exploiting the look of the heavy timber structural system of the interior.

The jury comments: "Without altering in any degree the skeletal structures, the designer has returned this impressive, mill-type structure to work on an interesting and totally realistic purpose."

The facade and patina were left untouched, and the only visible alteration to the exterior was the lowering of spandrels to give pedestrians access at the ground level and provide floor-to-ceiling windows in the peripheral offices.

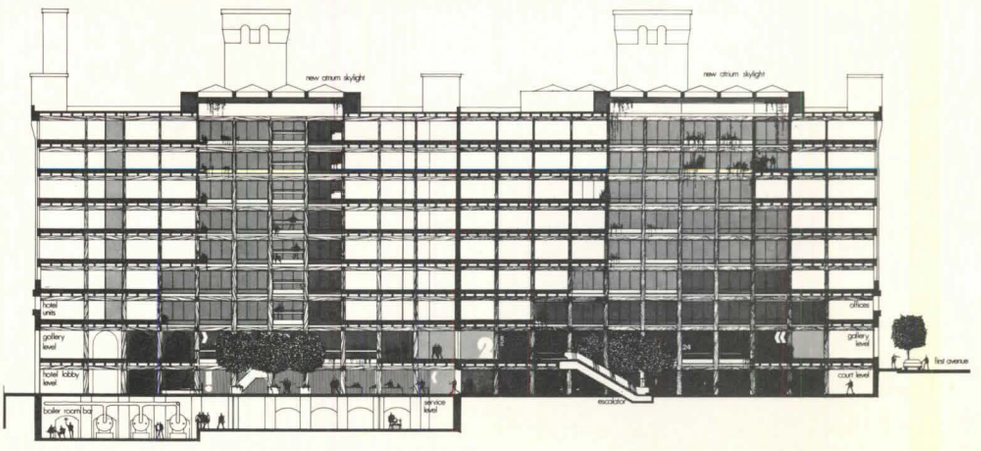
The interior was sandblasted to recapture the original look of the materials. Several structural bays were removed to create an atrium, which, climaxing in a new skylight, is the focal point of the building.

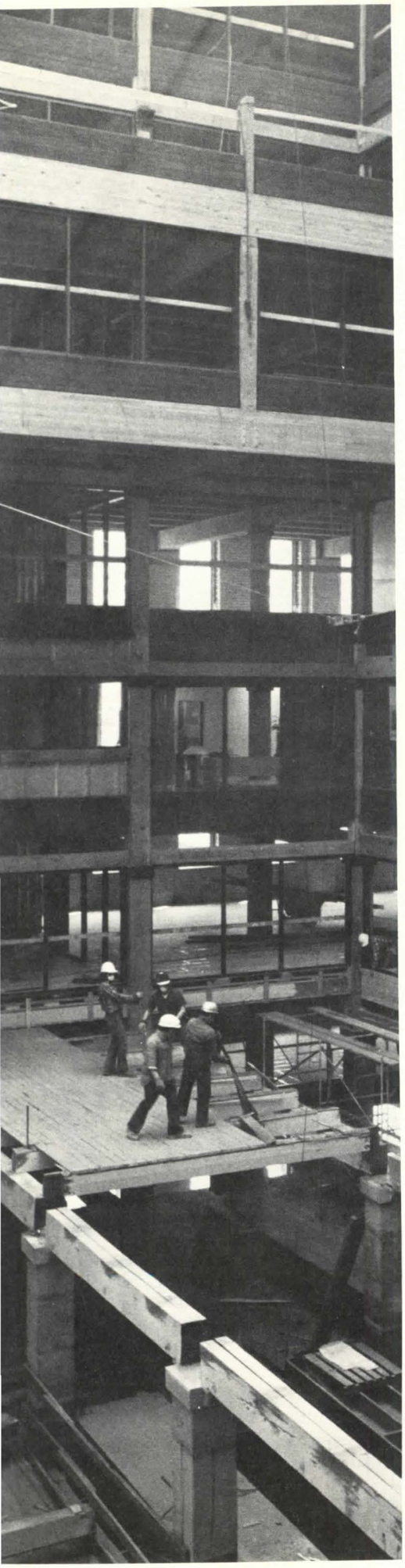
The first two floors house small retail shops, surrounding the tiled, light- and tree-filled atrium; the top seven contain offices that are separated from the atrium only by a curtain wall.

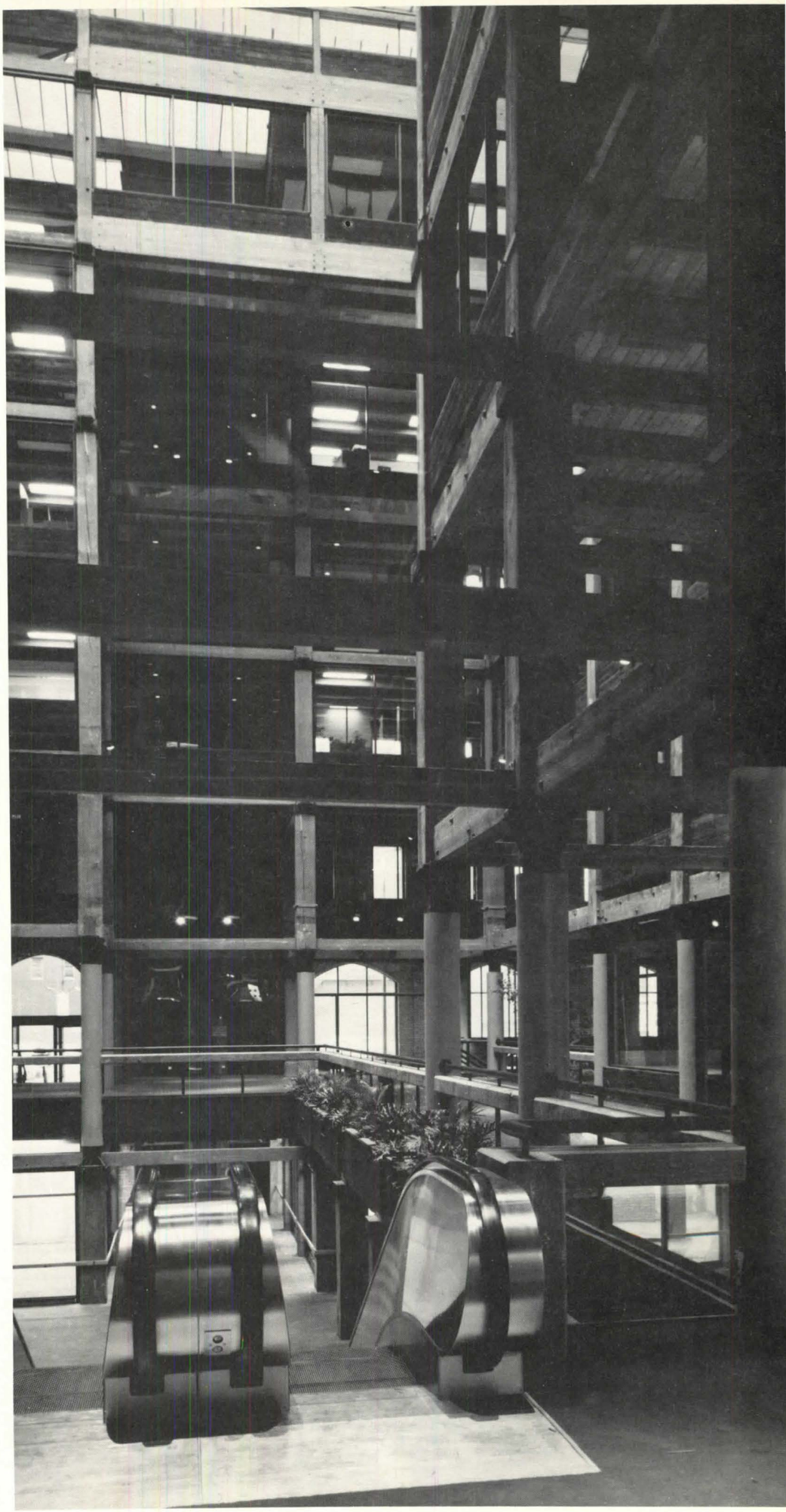
Wherever possible original materials have been restored, or removed and reused in detailing other parts of the building. For instance, columns and beams removed to create the atrium were reused to form details in the new construction.

Warm colors, glass and textured materials were selected to complement, through contrast, the rugged look of the building. A raised floor was developed to accommodate the mechanical systems, thereby leaving the beams, purlins and the decking of the ceilings exposed.

Client: Charles B. Coyer. Structural engineer: Frank Horner. Mechanical engineers: HVAC Temperature Engineering Corp. Electrical and plumbing: TAC Engineering Co., Inc. Landscape architect: Miller Hanson Westerbeck Bell. General contractor: The Knutson Companies, Inc.







Marcus house, Bedford, N.Y. Architect: Myron Goldfinger, AIA.

Originally this 40-foot by 100-foot, early 20th century structure served as a carriage house, with garage and attic in the central space, and chauffeur's quarters and a stable on either side. The program called for conversion into a residence with spacious living and entertainment areas.

The central element was converted into a large living room and master bedroom suite. The stable was adapted for use as a gallery, the former chauffeur's quarters for use as guest and study rooms.

The major space was designed, says the architect, "as a contradiction of formalism of design and informality of living." Without doing damage to either the form or spirit of the original building, he enlarged the existing central barn door openings and dormer to provide natural illumination. A very large-scale sunken sitting area was created to serve as the major focal point. It is topped by an open well and thus suffused with natural light.

The architect has also tried to preserve and accentuate details of the original building. Original elements left intact include the major south dormer; wood sliding doors between the major space and gallery; a hand-operated elevator platform with elaborate controls, and massive truss timbers.

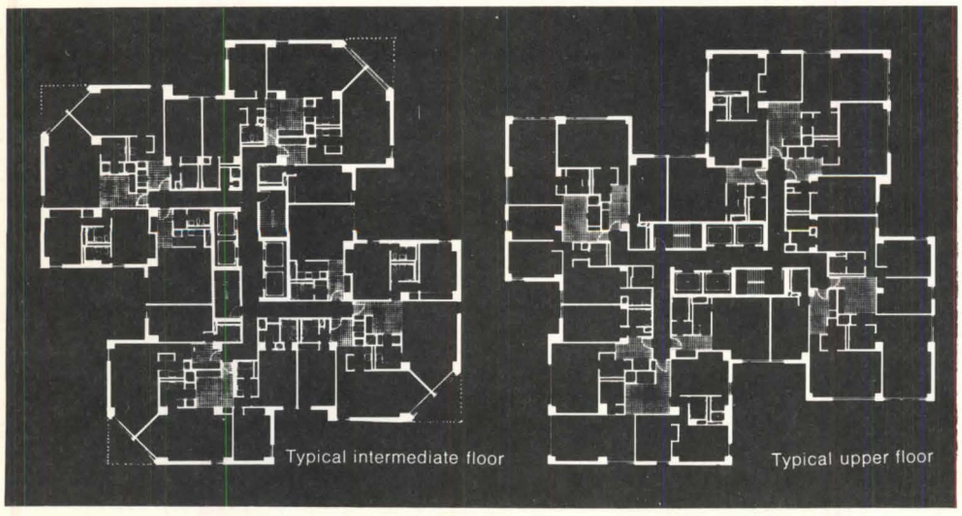
New additions include: wood reframing where necessary; wallboard finish for walls and ceilings; semiglazed structural stoneware tile flooring for the living area (on the mezzanine floor existing pine flooring was restored); a block and stucco masonry fireplace; glass and aluminum sliding doors and skylight; a circular metal stairway, and plastic laminate built-in units.

The gross area is 8,000 feet; the cost of remodeling was $85,000. The architect claims that the cost of comparable new construction would have been three times that of renovation.

The jury calls the Marcus house "an example of how to make the most of an unassumingly modest structure on an unpromising site. A solution displaying the architect's polite and restrained treatment of the facade in contrast with an exciting and beautifully detailed handling of inside space."

Client: Ira Marcus. General contractor: John Allen.

Waterside, N.Y. City. Architects: Davis, Brody & Associates.



This development of 1,440 apartment units plus office and retail spaces is built over 2,000 piles driven 80 feet into the bed of the East River. It serves to extend the land's edge virtually into the river.

Waterside has apartments for people of widely differing income levels, and the pinwheel-like, stepped-out shape of the four towers provides a greater than usual variety of types and sizes of apartments. The lower buildings contain duplexes. Outdoor spaces are clearly differentiated between private and public, with each duplex tenant having a small private area outdoors.

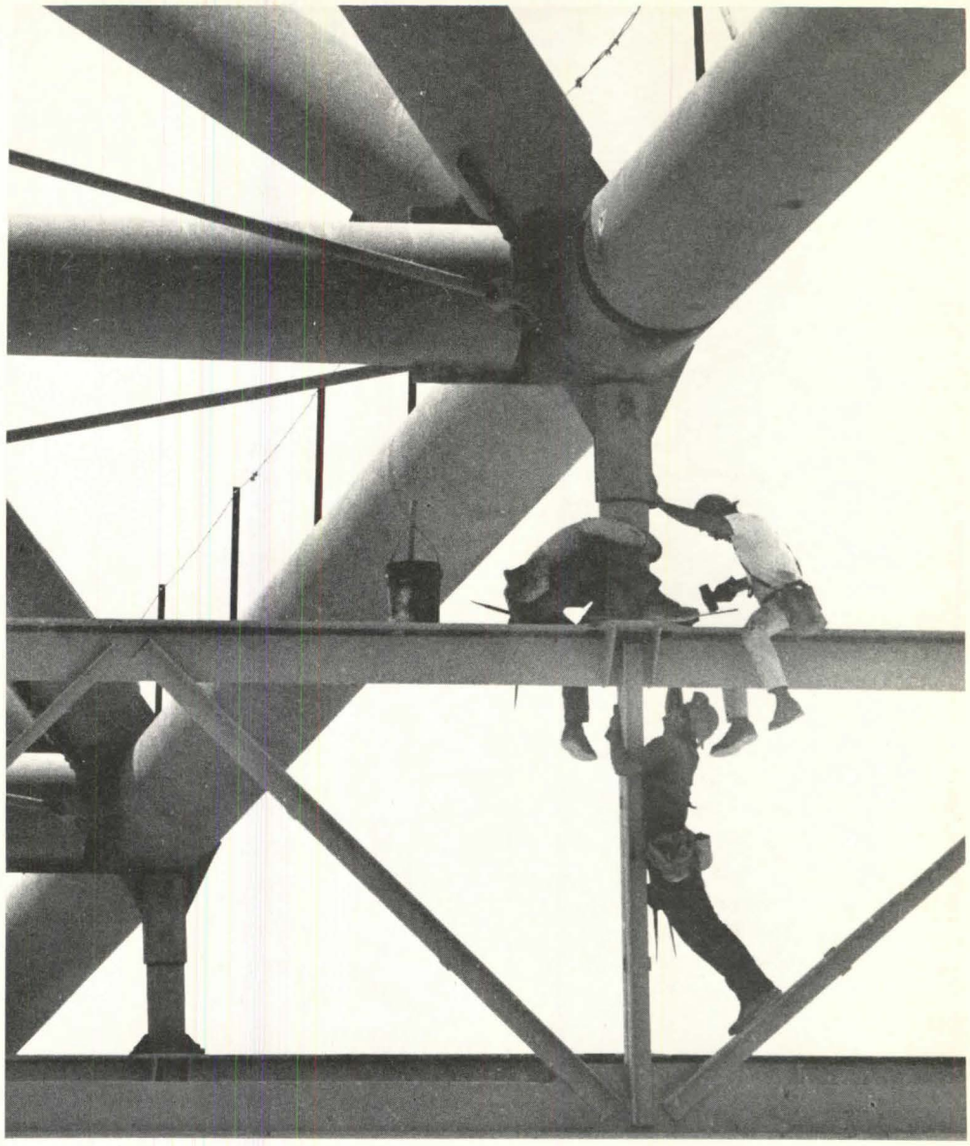
The Waterside complex also houses a large shopping center, underground service roads, garage space for 900 cars and a landscaped public plaza. The two-and-a-half acre open plaza is used as an outdoor gallery for changing exhibitions of large-scale sculpture.

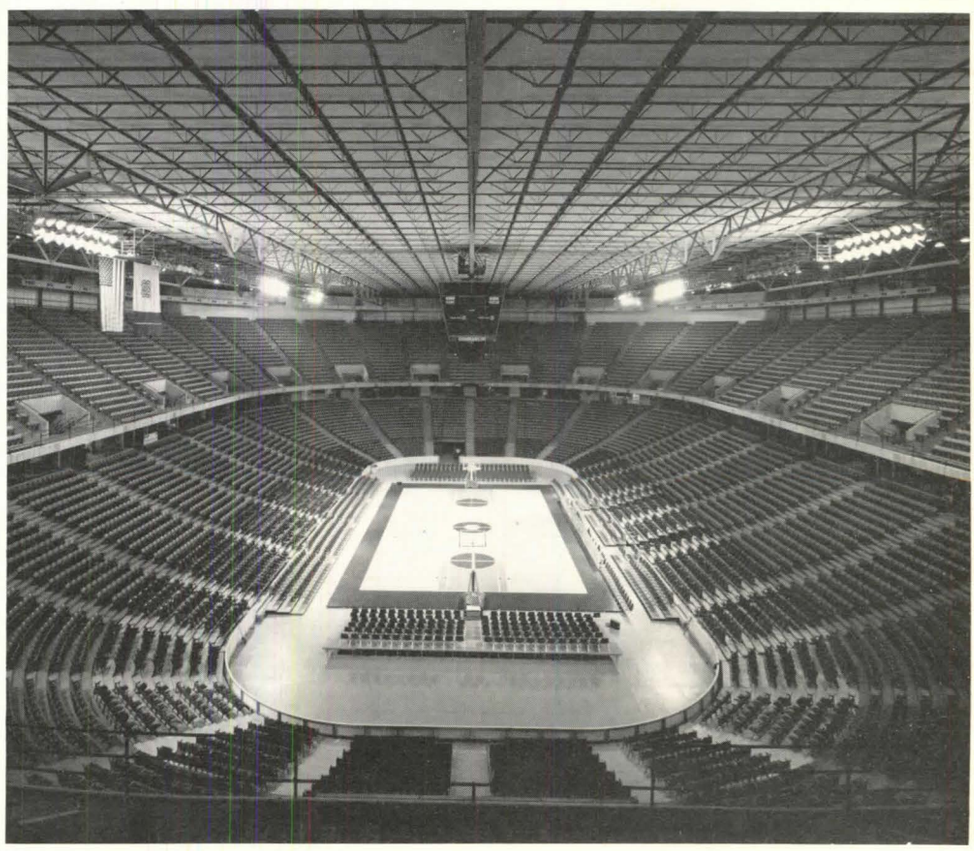
The jury comments that "this complex of buildings creates a community feeling within itself while adding to the architectural quality of the city. Standard building elements are used with understanding and care to achieve an overall quality not found in the usual highrise apartment building. The ground plan integrates urban life with a neighborhood feeling, a break from the stereotype. The economics of modern apartment buildings usually results in the sameness of stacking one typical floor above the other with little variation."

Although the towers are separated from the surrounding cityscape, it was not the architects' intention to create a wall cutting Waterside's landlocked neighbors from the river. The development was, in fact, intended to be an integral part of its surroundings. By erecting only four thin towers, they have obstructed the view as little as possible; and pedestrian and bicycle paths along the water's edge have been placed so as to create a continuous network which will link Waterside with the adjoining areas as they develop.

Client: Waterside Redevelopment Co. Structural engineers: Robert Rosenwasser, PE. Mechanical engineers: Cosentini Associates. Electrical engineers: Cosentini Associates. General contractor: HRH Construction Corp.

Crosby Kemper Arena, Kansas City, Mo. Architects: C. F. Murphy Associates.





Intended for a variety of sports, shows and conventions, this arena seats 16,000 to 18,000 people. It is the first step in the redevelopment for use as an industrial park of land formerly occupied by the Kansas City stockyards.

The oval shape of the interior, with overlapping upper and lower seating tiers, brings the spectator as close as possible to the arena floor, while keeping to a minimum the expanse of the structural span of the roof. Four rooms for mechanicals at the upper level give the building a rectangular shape and create overhangs providing cover for the spectator entrances.

In an effort to provide as much interior space as possible without encumbering it with bulk and distracting structural supports or having to wrap it in a bulky envelope, the architects have used three primary, rigid steel structural bents on the outside. These are 27 feet deep, with panel points 54 on center, and are braced on the diagonal with three-inch rods. The arrangement of these supports gives the interior great stability and wind resistance.

The roof is framed by nine-foot secondary trusses, suspended from the primary structural bents. Steel supports are made of tubes, which are relatively inexpensive and fire resistant, and provide maximum buckling resistance with minimum amounts of materials.

On the inside, technical and structural components have been left exposed and painted bright colors "to create an environment which reflects the recreational character of the building," according to the architects.

The three qualities found most outstanding by the jury are "strength, clarity and integrity." The jury says, "Giant trusses, carefully scaled and detailed, combine with the subtly articulated metal siding to make a powerful and elegant architectural statement rarely found in this building type."

Client: American Royal Arena Corp. Structural engineers: C. F. Murphy Associates. Mechanical engineers: C. F. Murphy Associates. Electrical engineers: C. F. Murphy Associates. Landscape architect: Parks and Recreation Department. General contractor: J. E. Dunn Construction Co.

Center for Creative Studies, Detroit. Architects: William Kessler & Associates.

To accommodate possible future growth in enrollment and additions of new departments, the arts center was planned as an expandable building to be erected in stages as funds and logistics may dictate. The completed portion is composed of approximately 120,000 square feet and houses the departments of sculpture, painting, graphics, advertising art, photography and industrial design, with additional spaces being devoted to students' services, library and administration.

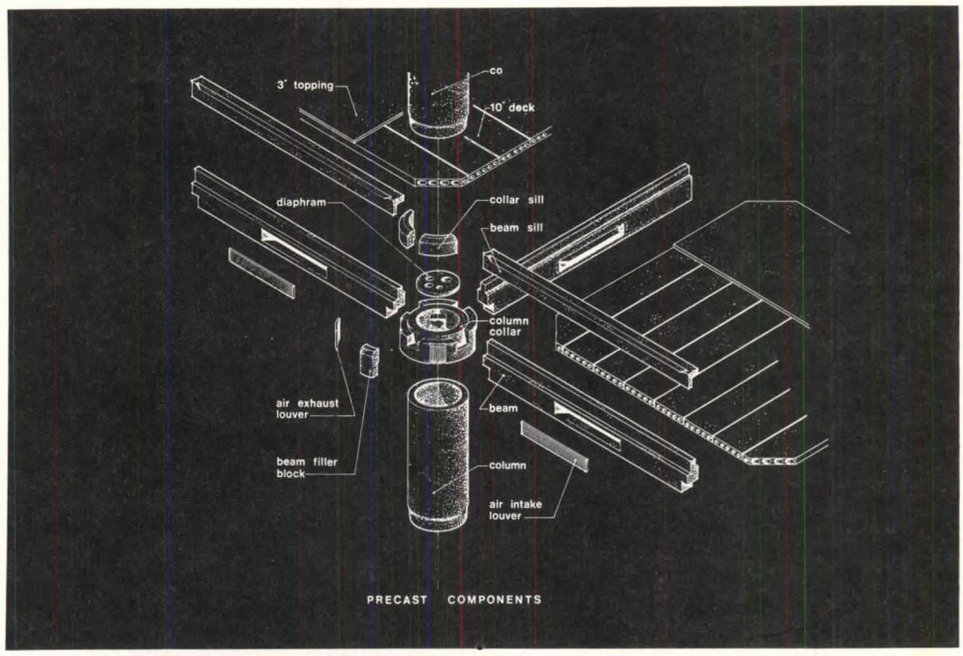
The jury remarks, "This building responds remarkably well to the unpredictable nature of its program. The building must be large, yet, at the same time, relate to the scale of the adjacent residential neighborhood. The structural system becomes the organizing element. It provides unpredictable extension without seeming incomplete in its first phase. . . . The system provides total flexibility without restraint. The interiors are subdued and understated providing the proper setting for the art produced therein."

The precast concrete structural system defines the basic 32-foot square building module. Components of the precast system include hollow columns, column collars, beams and planks, all lightly sandblasted to expose the natural aggregate. Four columns, between which span beams that slip into notches in the column collars, form the 32-foot square module. Precast planks arranged in a basketweave pattern provide the floor framing.

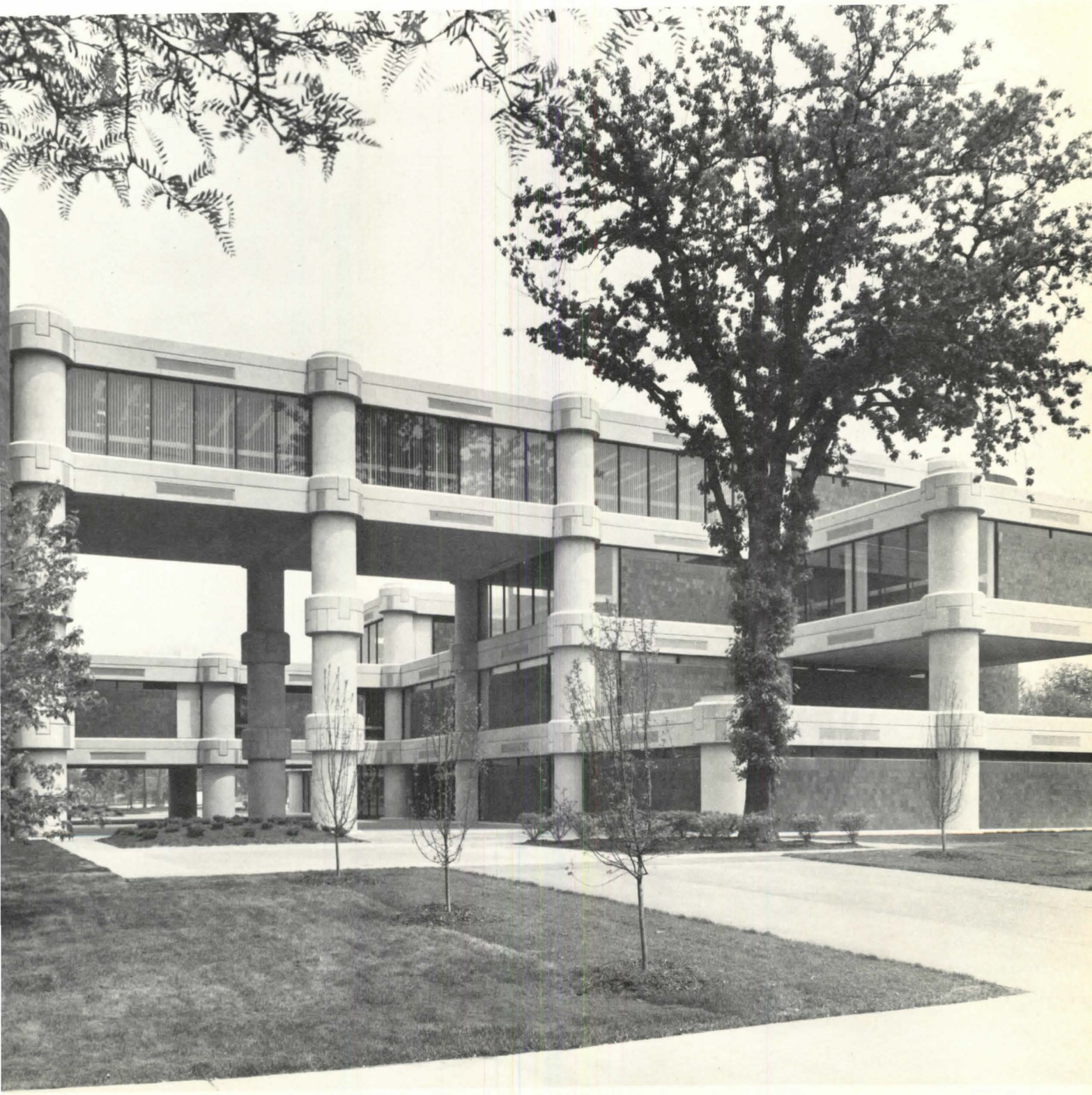
One of the main ideas guiding the design was to provide maximum interaction between the various arts, which is accomplished in part, according to the architects, by a grade level pedestrian plaza, allowing students and visitors to view the work process and activities of many departments.

Interior partitions consist of buff-colored concrete block. Mechanical equipment has been left unexposed as part of an attempt to create a casual and uninhibiting atmosphere.

Client: Center for Creative Studies. Structural engineers: Robert Darvas & Associates. Mechanical engineers: Hoyem Associates, Inc. Electrical engineers: Hoyem Associates, Inc. Landscape architect: William Kessler & Associates.



PRECAST COMPONENTS



Douglas house, Harbor Springs, Mich. Architects: Richard Meier & Associates.

"The basic architectural problem is still the single family dwelling. Yet, often it is questioned if it is important enough to merit serious architectural attention. This house surely removes any doubt. Proudly standing on a cliff overlooking a Great Lake, this structure while making use of, also adds to, the surrounding natural beauty," remarks the jury.

The Douglas house on Lake Michigan was designed for a family with three children, and is perched on a steep, densely wooded site that drops 45 degrees toward the shore of the lake. On one side is a county road.

The arrangement on four vertical levels was influenced mainly by a desire to disrupt the natural landscape as little as possible; it was also intended to relate to the verticality of the site itself. The theme of verticality is carried through in the interior by creating a light monitor at the upper level, which illuminates and vertically connects the public living area.

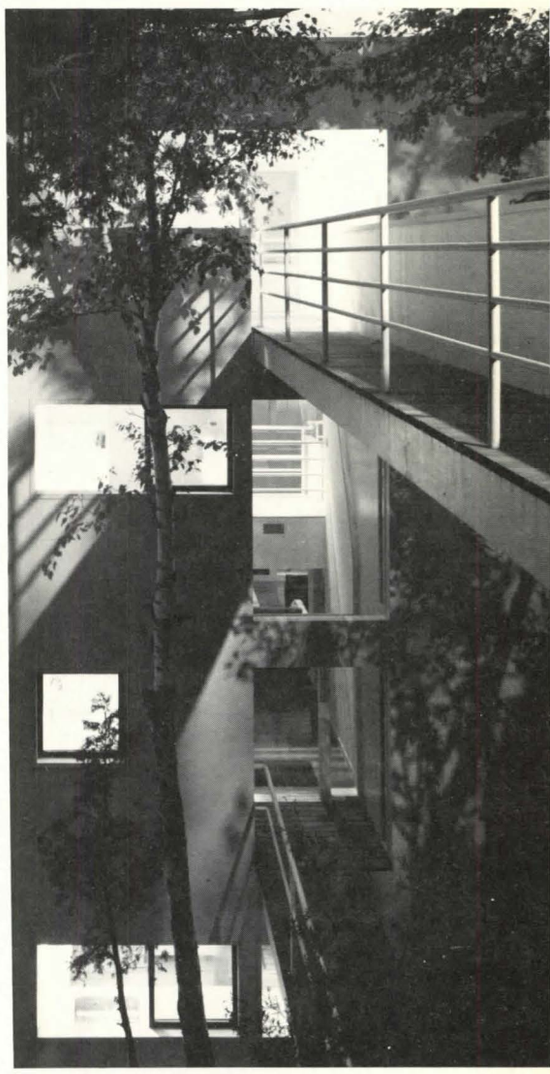
The house has also been given horizontal emphasis—echoing the plane of the lake, the shoreline, the road—by being layered according to functions, private, semiprivate and public, which range from closed, to transparent, to open.

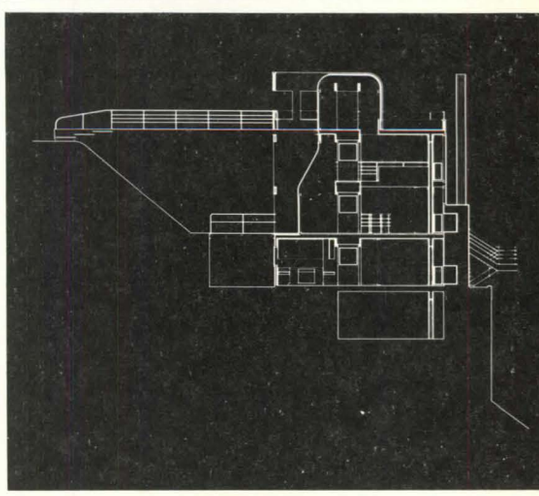
A wood bearing wall element contains private bedrooms and service spaces, and forms a solid shield against the raised road. It encloses two children's rooms at the upper level, which are separated from parents' quarters on the middle level, and guests and kitchen on the lower.

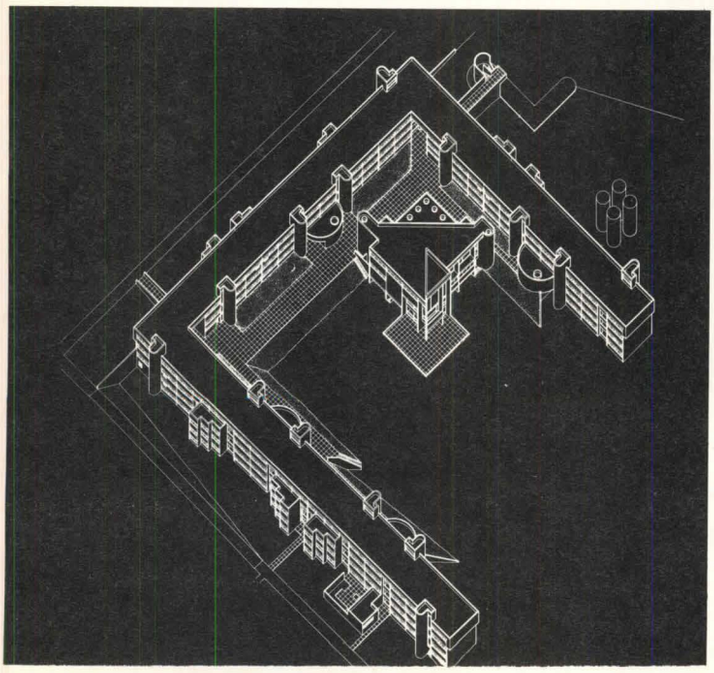
Coming from the road on an elevated bridge, one passes by the opaque bearing wall and a panoramic view of the lake opens up across the double-height, middle level living area. The public side of the house thus becomes a transparent cage. Lower level dining and guest areas have direct access to the beach.

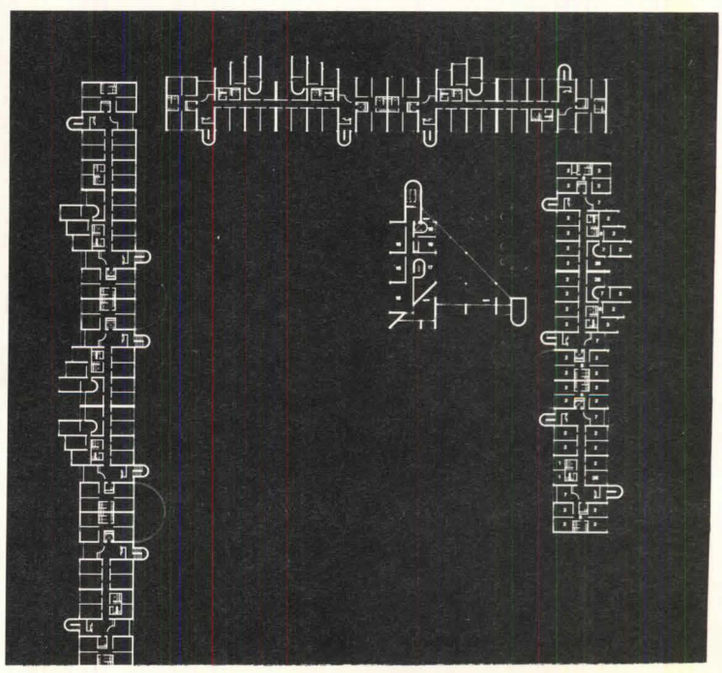
Fireplace, balconies, stairs and even mullions and columns are arranged so as to define for the viewer his relationship to the outdoors.

Client: Mr. and Mrs. James Douglas. Structural engineers: Severud-Perrone-Sturm-Bandel. Mechanical engineers: Dalton & Dunne. Landscape architect: Richard Meier & Associates. General contractor: Jordan Shepard, Inc.









Dormitory facility, State University of New York, Purchase. Architects: Gwathmey Siegel.

One of the two elements of this complex is a dormitory for 800 students; the other contains a dining facility that serves 400 at a time, and student activity rooms on both the ground floor and on the second level surrounding the dining area.

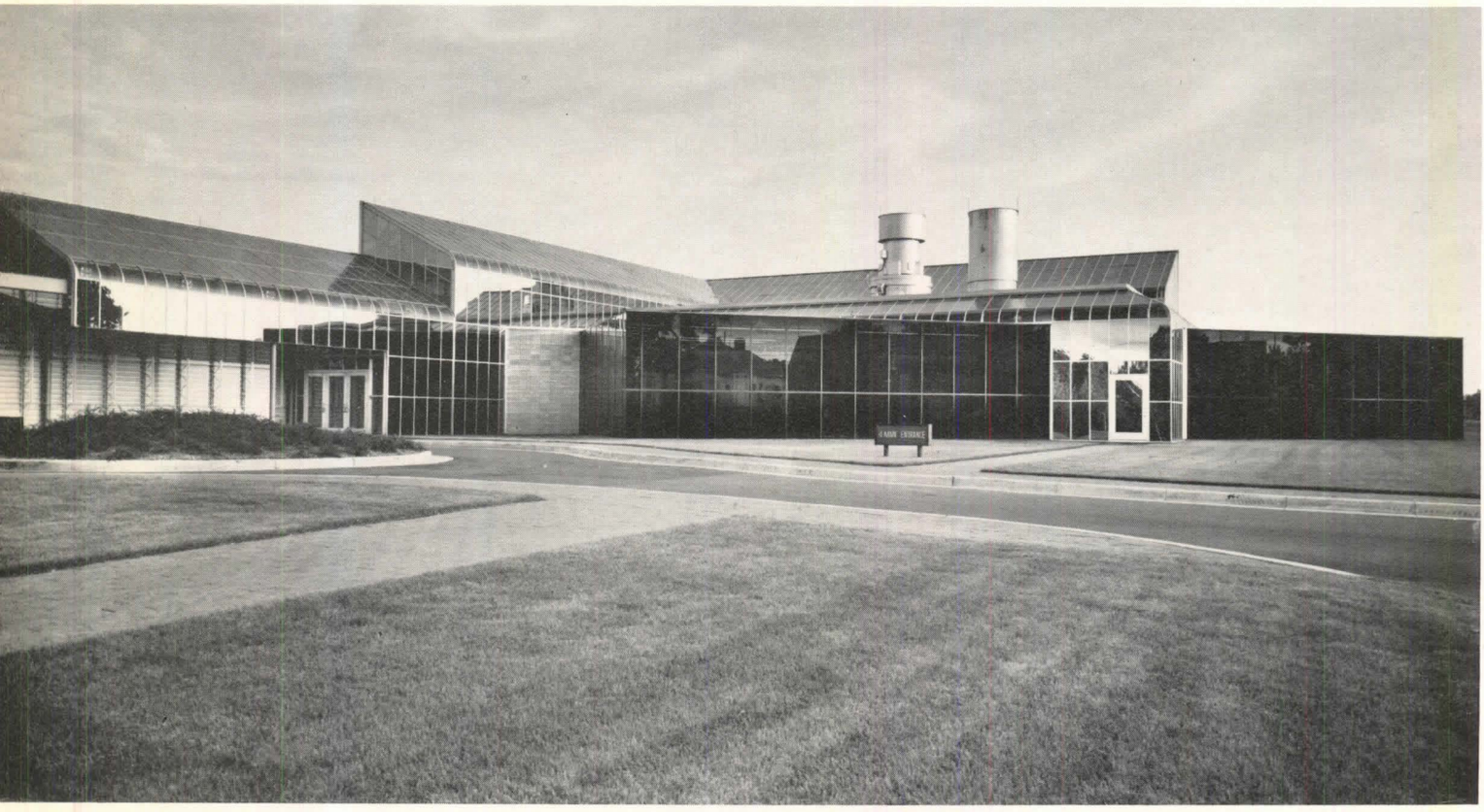
The jury felt that "this building responds remarkably well to a most difficult program. . . . Planning was restricted by a rigid campus plan which even dictates the exterior materials to be used. This building responds by aligning with the campus on the west and enclosing a private courtyard which opens on a natural meadow on the east. Residential scale is maintained by grouping living units around the circulation elements. Expression of the circulation elements articulates the facades and establishes the residential scale of this very large building."

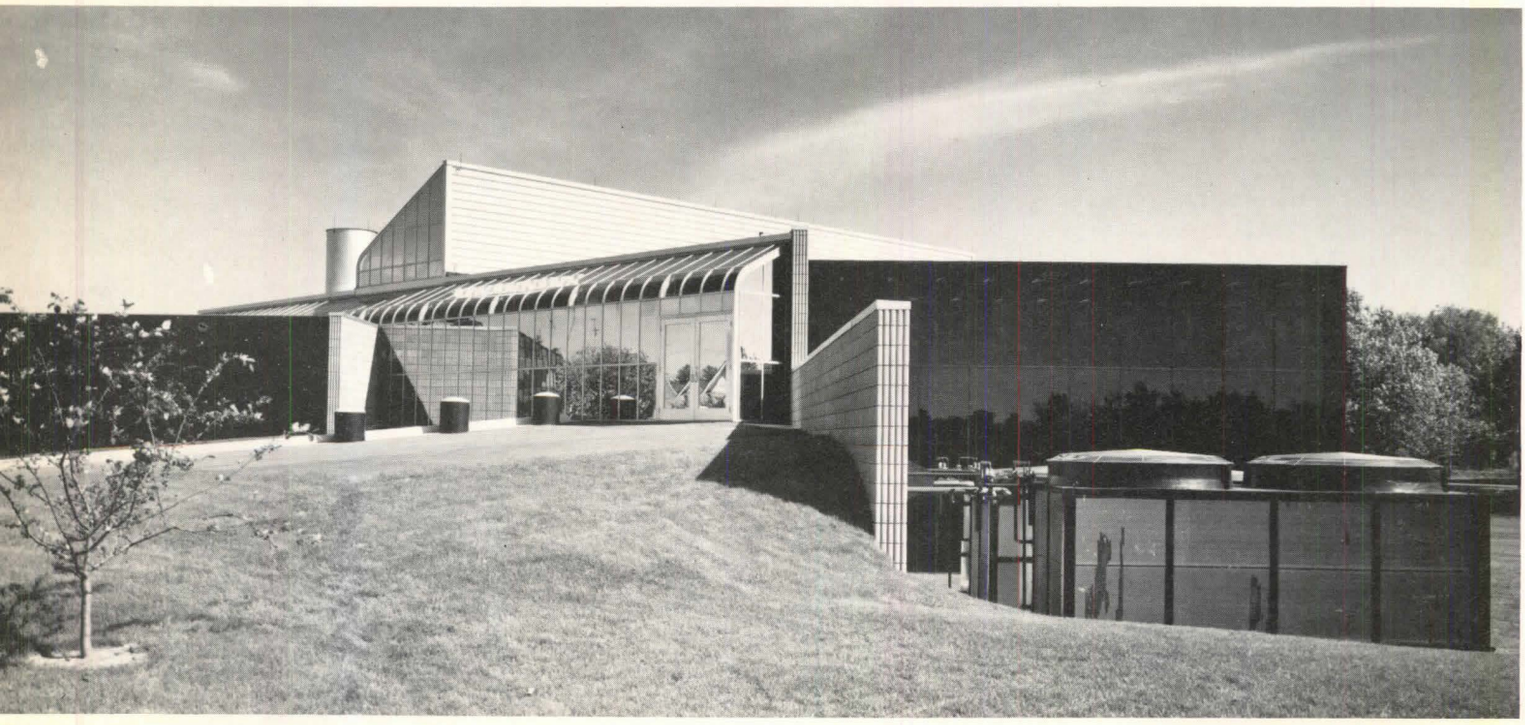
Divided at entry points, the dormitory divides student accommodations into groups of about 60, 20 to a floor. There are entrances from outdoors at the corners of the main structure and along it wherever there are quarters for faculty. Each floor unit for 20 contains several types of accommodation: four-, six- and eight-person suites, corridor doubles and singles and a public lounge.

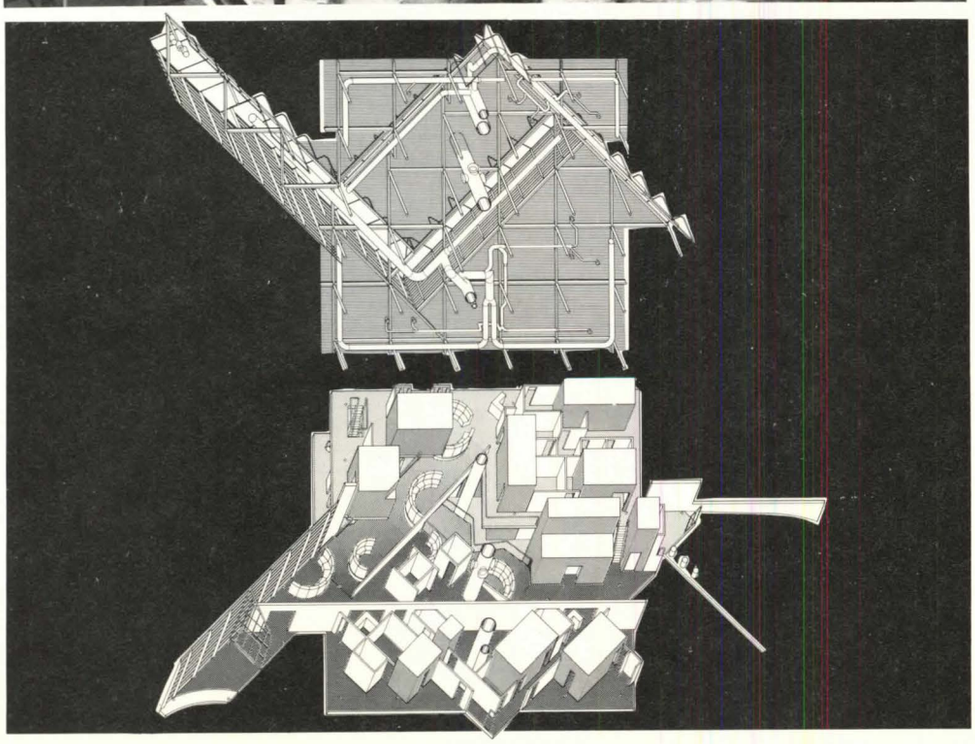
Corridors on upper floors are cul-de-sacs and lead to a stairtower. Circulation on each level is restricted to outdoor walk systems, which are elevated by earth berms. At the lower level there is a continuous, enclosed walkway.

A main requirement in choosing materials was to utilize products largely completed in the factory, so as to reduce the need for field labor. Therefore, a modular, clay structural wall unit was chosen, which satisfies structural, finish and weathering requirements. Floors are precast concrete, stair systems are a standardized precast unit. Says the jury, "Use of the required campus materials is handled with care to remove as much as possible the institutional drabness."

Client: Dormitory Authority of the State of New York. Structural engineers: Geiger Berger Associates. Mechanical engineer: William Kaplan. Landscape architect: Peter Rolland & Associates. General contractor: Joseph L. Muscarelle, Inc.







Columbus Occupational Health Center, Columbus, Ind. Architects: Hardy Holzman Pfeiffer Associates.

This health center was built after 15 nearby industrial organizations joined to form a health care association. Its purpose is to provide physical examinations and care for occupational injuries and illnesses.

Guiding the design of the building were the ideas that it should be a flexible structure, should be expandable, should not be foreboding and should make "a sophisticated statement without overwhelming the adjacent residential community," according to the architects.

The jury comments: "Careful organization of the ordinary mechanical and structural elements brings interest and excitement to this small health center which serves the adjacent industries. A well-organized plan exposes routine medical functions to both patient and technician which relieves the tedium of clinical work and the anxiety of patients. . . . The first stage is a complete statement, yet, a major addition of unknown proportions can be accommodated without compromise."

The building is arranged on a split-level scheme. All medical functions surround a large open waiting space, which is bisected by two gently sloping ramps connecting the three half-levels of the center. A second, more private circulation system of stairways is used mainly during examination and treatment. Color is used liberally throughout for decoration and to make clear the differences between structure, infill and mechanical systems, say the architects. All mechanical systems are exposed, partly to make them easily accessible as program changes require adjustments.

An exposed, square grid-steel system resting on a concrete foundation supports the eight-inch steel roof deck, the skylight and the three intermediate levels within the building. The large L-shaped skylight, which also forms the porte-cochere main entrance, is constructed of vertical bar joists and steel deck. Black reflecting glass sheaths the exterior.

Client: Cummins Engine Co. Structural engineers: Arthur Miller Associates, Inc. Mechanical engineers: Ziel-Blossom Associates. Electrical engineers: Ziel-Blossom Associates. Landscape architects: Dan Kiley & Partners. General contractor: Repp & Mundt, Inc.

Profile of the Firm Award Recipient: Mitchell/Giurgola

In a number of ways, Mitchell/Giurgola Associates, winner of this year's AIA firm award, has managed consistently to strike a strategic balance rarely achieved by American architectural firms. *New York Times* critic Paul Goldberger, a sensitive observer of the firm for several years, calls Mitchell/Giurgola "one of the very finest design firms in the country." A large and long-time corporate client, meanwhile, testifies that the firm "has never promised what it could not deliver."

With more than 60 professionals in its employ, Mitchell/Giurgola has managed to combine the advantages of a large office with a seriousness of intent and personal working style more characteristic of small architectural ventures. Its credits include headquarters for major corporations, government office buildings, schools and housing in 11 states, Brazil and Colombia.

Still another feat in balance, and an essential ingredient to Mitchell/Giurgola's achievements, is the unusually harmonious and complementary relationship its two founders, now both fellows of the Institute, have built up over the years.

The firm was established in 1958 when Romaldo Giurgola (a recent immigrant from Italy) and Ehrman B. Mitchell decided to set off on their own after working together in a Philadelphia architectual office which both had outgrown. According to Mitchell, who speaks for the firm on matters of architectural practice while leaving theory to his partner, the new venture was launched something like this: "I said, 'Hey Aldo, why don't we try a project together,' and he answered, 'Hey Meetch, I tink we do, eh?' "

The small Philadelphia firm first received prominent national attention in 1964 when it won the design competition for the new AIA headquarters building. Ada Louise Huxtable of the *New York Times* still refers to their entry as "brilliant." It was, however, rejected by the District of Columbia fine arts commission, then chaired by Gordon Bunshaft, FAIA, for being "out of keeping with the feeling of the Octagon." A revised design was again rejected, this time because of a controversial "notch" at the intersection of the building's two wings. The stance adhered to by the fine arts commission and the AIA, in acceding to the commission, has been called "morally reprehensible" by Huxtable and less polite epithets by others.

Aldo Giurgola's appointment, in 1966, as chairman of Columbia University's department of architecture, significantly expanded the firm's influence and work opportunities. Mitchell/Giurgola opened a New York office while still maintaining its roots in Philadelphia.

"After Aldo went to Columbia," says Mitchell, "I was working full time being Mitchell/Giurgola while he was working being a professor, and designing for the firm. He gave me his faith and vice verse." In 1974, the principals elevated their original five associates to partnership "to tell them 'we want you to stay with us, to do our architecture,' and to tell the client, 'we have enough confidence in this man to put him on our letterhead, and he's going to be your man to do this project.' " Nine younger men now hold the title of associate. Since 1974, Mitchell has turned over most of the day-to-day operations of the firm to the five junior partners, and devotes much of his time to AIA as a member of the board of directors and chairman of the commission on Institute and component affairs.

The firm operates on a principle of flexible design teams which see a project through all its phases from beginning to completion. They are selected on the basis of who is available and has the required skills, experience, talent. "Aldo and I have tried desperately, and I think successfully, to give each man a sense of contributing his thought and approach to the project," says Mitchell.

Although the firm members have gravitated toward particular niches for which they are best suited by training and inclination, there is no formal division of responsibilities, no strict heirarchy, at least on paper; there is a positive distaste for typecasting of any kind. Says partner Peter Parsons, "We like to think of everyone as a total architect, which is the reason why we don't spread out into construction management, for example. No one is interested."

The open arrangement of Mitchell/Giurgola's office space, both in New York and Philadelphia, also reflects the firm's

Ehrman B. Mitchell (facing page, left photo) and Romaldo Giurgola (facing page, center of right photo) oversee work teams tailored to projects. On this page, a diagonally cut courtyard (above) forms the off-center nucleus for a pair of Mitchell/Giurgola buildings, a student union and library, at the State University College, Plattsburgh, N.Y. Angular spaces (top right and right) wrap around the student union courtyard.

working style. The New York office, though, has a more formal look than the undivided converted loft space in Philadelphia.

Both in their 50s now, Mitchell and Giurgola have, at least to some extent, passed on the torch, but both nevertheless continue to exert an unquestionably strong influence over the life of the office. E. B. Mitchell is a large-boned, easy-mannered, pipe-smoking man who grew up on a farm in Harrisburg, Pa. At least on first impression he is more down-to-earth, immediately accessible and open than Aldo Giurgola. "I'm the troubleshooter around here," he says, "the guy who works out the strategy for getting things done and getting us out of jams. Mostly my area of concern has been implementation—the development of drawings, general production, specifications, field supervision."

He is also a modest man who forgets to mention that he was the one who blew the whistle on kickbacks on construction commissions in the city of Philadelphia by testifying about their existence before a grand jury some three years ago.

In written and oral commentaries about the firm, it seems to be Giurgola who is quoted and mentioned, and the erroneous impression is that he alone is responsible for the firm's design work while Mitchell is the "outside man." In fact, however, Mitchell, a summa cum laude graduate of the University of Pennsylvania's department of architecture, is influential in design as well as production. Meanwhile, Giurgola, a soft-spoken man who tends to talk and write in a kind of free verse, is certainly the firm's principal spokesman and designer, but he can also be very adept at politics and business. "Aldo can be very practical," says New York partner Dan Perry, "but he'd rather not be." And usually he doesn't need to be since Mitchell and others are both willing and able to take care of the firm's daily and mundane concerns.

The philosophy that underlies and characterizes Mitchell/Giurgola's work is essentially pragmatic and influenced most strongly by the work and thought of Louis Kahn. "Order must not be confused with theory elaboration and its consequence: visual formalism," wrote Giurgola in his 1965 essay, "Reflections on Buildings and the City." "Order comes, rather, from a realistic apprehension of the facts that make the city—facts that extend from the historical experience of human events to the functional logic of its structure."

As he rejects single-minded abstractions, he similarly eschews the building of monuments, preferring to regard the building as a "fragment," relating to everything around it, a transition, an element in an

The United Fund building in Philadelphia borders the Benjamin Franklin Parkway. Its western wall (left) is a concrete sunscreen; the southern wall (above) is exposed concrete.

episode. He talks about architecture as providing "an itinerary among fragments, always different, always responding to differing instances of life and to natural conditions." It is for him an accommodation to a multitude of factors having complex interrelationships—program, site, available materials, social, political and historical contexts.

"Architecture," he says, "is not a matter of value engineering. You have to have broad judgment. Since architecture is a harmonious system of relationships, the architect must have a mental attitude capable of coordinating not just the political perception of architecture, but the historical. There is also the perception of the critic, the historian. Then there is the craftsman's perception—how do you make the building so it doesn't leak, doesn't fall down, so it has the classic American requirement of comfort? The art of architecture is really an art, part intellectual, partly having to do with the dynamic of life." His is an inclusivist view, in which everything is related to everything else.

In terms of design, the result of such thinking is frequently an understatement, complex and subtle in approach. Ironically perhaps, the firm's work usually has a rather cerebral, sometimes mannered quality about it. As Paul Goldberger says, "Everything they do has a reason behind it; they are so competent."

A look at four different buildings done by the firm gives some idea of the scope and salient characteristics of the work.

- MDRT Hall of the American College of Life Underwriters in Bryn Mawr, Pa., was Mitchell/Giurgola's first major project. Set in an idyllic landscape, it is made of simple geometric rectangles twisted in perspective, their surfaces precise and gleaming. It is a reflection of the client's desired image and of the work that goes on inside. Composed of two wings joined by a central core, the building fulfills Giurgola's requirement that architecture be "easily read." Since the elements of both the plan and modular construction developed out of a need for future expansion, the building is a "fragment," yet characteristically assertive in its own right.
- The student union at the New York State University at Plattsburgh demonstrates, among other things, the firm's typical emphasis on the diagonal. It indicates movement and transition between more stable elements while acting as an important design feature in itself. Says Goldberger, "It embodies the cohesiveness that Mitchell/Giurgola strives for as well as the fragmentary quality of a section of continuum." The pivotal point of this plan is a diagonal, two-story, skylit stairwell opposite the main entrance, which serves as a link between the grid of the campus and that of the surrounding town, 45 degrees apart from one another. The building is typically understated, with "everything happening inside," as Giurgola puts it.
- The United Fund building in Philadelphia is, according to Giurgola, "a glass box surrounded by concrete screens where they are needed." Almost everything about the building was determined by its highly strategic location along Benjamin Franklin Parkway, which shaped the trapezoidal site, leaving a small triangular park next to it. Along with the parkway location came a city-imposed height limit of 80 feet, and within this restriction the architects had to design a building visually strong enough to "prop up all those giants around it," in the words of Giurgola. The location also determined the widely differing treatments given to the building's three exposed exterior walls. On the north side, the whole facade is of gray-tinted glass in thin aluminum frames, which allows floor-to-ceiling views over the roofs of the nearby cathedral; on the west side, offices are given full exposure to a panoramic view and shaded from the sun by a horizontal concrete screen. On the south, a bearing wall was used as protection against the sun. Yet, despite its disparate elements, the building reads as a coherent totality.

The Swarthmore College music building (above) and its concert hall (right).

In fact, a hallmark of Mitchell/Giurgola's work has been an ability to create a clear and strong whole out of a series of divergent parts—mainly through the consistent use of materials and careful detailing.

• The Swarthmore College music building is literally a "fragment," the first part of a planned new arts complex for the 1,200-student campus. The exterior is exposed concrete, a material almost never entirely absent in the firm's work. Windows are flush to the exterior plane, which gives the building a taut look—another characteristic of Mitchell/Giurgola's work. This somewhat hard look is justified by Giurgola with ideas about the "dynamics of life." He says, "Expressions may be harsh and difficult to take; they bring, however . . . a sense of a new and valuable presence which is the true aspect of any great architecture." Although the forms are typically hard-edged, they are carefully detailed and modestly scaled, making it relatively easy for the layman to relate to them. The geometry of the parts is easily read, with two large rectangular spaces dividing the volume; one for a concert hall, the other for an exhibition, circulation and reception space. The building overlooks the woods, but the main entrance faces the rest of the campus; outside stairs at either end form points of connection for possible bridges over the road to the projected drama building. Mainly to underscore the beauty of the surrounding woods, the building has been understated, and tucked mostly out of sight. Though not entirely unassertive, it is a relatively modest statement.

It's rare, says Paul Goldberger, "that Mitchell/Giurgola designs something that drives you to passion, but it doesn't matter, because they're always so intelligent. The only criticism one can think of is that they goad you on to a level of great expectation that they don't attain." For Huxtable their work is summed up in the words "sensitivity" and "sophistication."

The awards jury said that the firm "reflects the best qualities and concerns influencing architecture today in America. Continuing collaboration among individuals of the firm has been the principal force in consistently producing architecture which includes both isolated monuments of splendid ingenuity and modest fragments of a larger urban fabric. We honor them as dedicated architects and enlightened citizens who have contributed generously to the broader public and academic worlds that surround our profession." *Andrea O. Dean*

An Interview with the Commissioner Of Curiosity and Imagination Of the City of Could Be

Setting for this interview is the mythical city of Could Be, a city very unlike Philadelphia as it is today, but more like what Philadelphia will be during the week of this year's AIA convention.

JOURNAL: *Mr. Commissioner, I wonder if you could tell us how Could Be came to be the city that it is.*

Commissioner: It began with the realization that, as our problems kept piling up like those of most cities, we weren't finding solutions because we hadn't really defined the problems.

J. *I'm afraid you'll have to be more specific than that to be understood by my readers who are, after all, architects.*

C. That's one problem I do understand. Some of my best friends are architects. But anyway, everything flowed from the concept that "the issue is performance, not products."

J. *Just a little more specificity, sir?*

C. Some of the things that flowed were, for example, that the issue was learning, not schools; the issue was mobility, not more highways; the issue was safety, not the size of the police force; the issue was recreation, not parks, and so on.

J. *That's better, sir, but having defined the issues, where did you find the answers?*

C. That's easy. In a single word, information.

J. *Now that you mention it, I remember your issuing some kind of proclamation to that effect.*

C. Glad to see you've done some homework. Yes, the proclamation was that "Public Information Must be Public."

What it said, very simply, was that all information about Could Be was the property of its citizens, and that both the government and the people had a responsibility to make this information accessible —that is, not just available but understandable as well.

J. *A noble sentiment, sir, but did anything happen as a result?*

C. We wouldn't be talking now if it hadn't. The first thing that happened was the creation of the Urban Observatory. In it we used all the sophisticated techniques of information storage, retrieval and display previously available only to corporations, universities and such for the benefit of all the people.

Computers were used to classify and update all sorts of information about the city, and to generate maps, graphs and diagrams that could be displayed on video terminals or printed out for a small charge.

For example, if you were looking for a house to buy, a series of maps would display the location of all residences for sale in Could Be, and a screen or printer would supply all the pertinent information about each one and its neighborhood.

J. *Sounds very helpful, but a little like something Big Brother would do in 1984.*

C. Actually, it was very democratic because, after all, information is the essense of democracy. In fact, through closed-circuit television we had a kind of permanent town meeting going in the observatory. All public events were televised and citizens had access to cameras as well as receivers so that they could have dialogue among themselves and with our local officials.

J. *You must have a very enlightened city government. But how did the private sector respond to your proclamation?*

C. Very well. Our privately owned buses, whose sides had been dedicated more to selling frozen pizzas than helping people get where they were going, soon were festooned with maps of their routes and information about points of interest along the way.

Many of our manufacturers replaced their walls with windows, so that their plants became living exhibits of the processes by which our goods are made. Not only did this please passers-by, but it soon began attracting school children by the busload.

J. *The proclamation must have been very popular with all that happening.*

C. Not with everybody, I'm afraid. The museum directors objected to the competition from the plants and other newly revealed attractions in the city. Some teachers complained that, now that their pupils had so much to see in the city and

understood the transportation system well enough to get around it, they were coming back to class with questions about it that were hard to answer.

J. *Were you able to win these people over?*

C. Easily, once they got the hang of what we were doing. The museum directors, in fact, discovered that the entire ground floor of the city could be theirs to use, and soon satellite displays began showing up in storefronts and other street-facing spaces all over the place.

The teachers also began to take the experience of learning beyond the walls of the schools. Before long the three Rs were complemented by the three Ps—learning from Persons, at Places, about Processes.

And even the schools that held to more traditional approaches made their very buildings into resources for learning. Blueprints of the schools were displayed in corridors and glass plates were cut into walls and ceilings so that students would see how the buildings' services worked. The very ways that the schools' spaces were arranged and used were discussed and evaluated in class.

J. *Did all this have any permanent impact on the environment of the city?*

C. A great deal. Now that so many people were out and walking around in the streets, enjoying the city and exploring, Could Be became a safer place. Other people and their eyes, it turned out, were the best safety devices ever invented.

Soon more and more people and businesses wanted to move back into the center of the city. This meant more highrise buildings, so we set about a search for ways to make these buildings serve public as well as private needs.

The result was an ordinance requiring that in exchange for permission to build a tall building the owner was obligated to make both the street floor and the roof available for public use—for purposes of information, recreation and entertainment. So the public was not losing a plot of ground but gaining a sheltered plaza and a penthouse, too.

The ordinance also created incentives for owners of existing buildings to provide similar amenities. Soon the city was flourishing with rooftop gardens, observation decks and cafes, and the streets wended their ways among vest-pocket parks and places for display, performance, refreshment and simply resting.

J. *Along with these incentives for creation of public spaces, did you have any incentives for public art?*

C. As a matter of fact, I shocked some of my artist friends by repealing the ordinance that set aside 1 percent of the budgets for public buildings for the purchase of art. They felt better when I told them that what I really had in mind was increasing the figure to 100 percent.

After all, the public environment is not separable from public artworks, so you can't arbitrarily allocate 99 percent of the funding to the one and 1 percent to the other. All art is by definition public, and the public environment, by definition, should be artful.

To plan, design and construct additions to the public environment which are repulsively ugly, or even minimally mediocre, is an abuse of responsibility and an affront to the public. Dropping in a fine piece of sculpture doesn't help.

J. *I've noticed that the center of your city is unusually colorful. Is that the result of your seeking a more artful environment?*

C. Partly, but it is also an important element of our public information program. You may have noticed that certain colors prevail in certain parts of the city.

This is the result of an ordinance that divides the city into five color zones. Businessmen can make their signs in any size or style provided that they are in the color assigned their particular zones. Different shades of each color indicate in which direction you are moving. The same colors are used to designate the direction of the city's bus and subway lines, and main arteries cutting through the zones have a color all their own.

J. *You and Could Be have accomplished a great deal. Could you summarize some of the lessons that you have learned from the experience?*

C. That's easy. I'll just read from this sampler on my wall, which says:

"What will be has always been.

"Everything that has been enacted has been stated before, only nobody had heard it.

"Everything we have done has been visible before, only nobody has seen it.

"Everything that seems of such uncommonly common sense seems nonsense to those who have become insensitive.

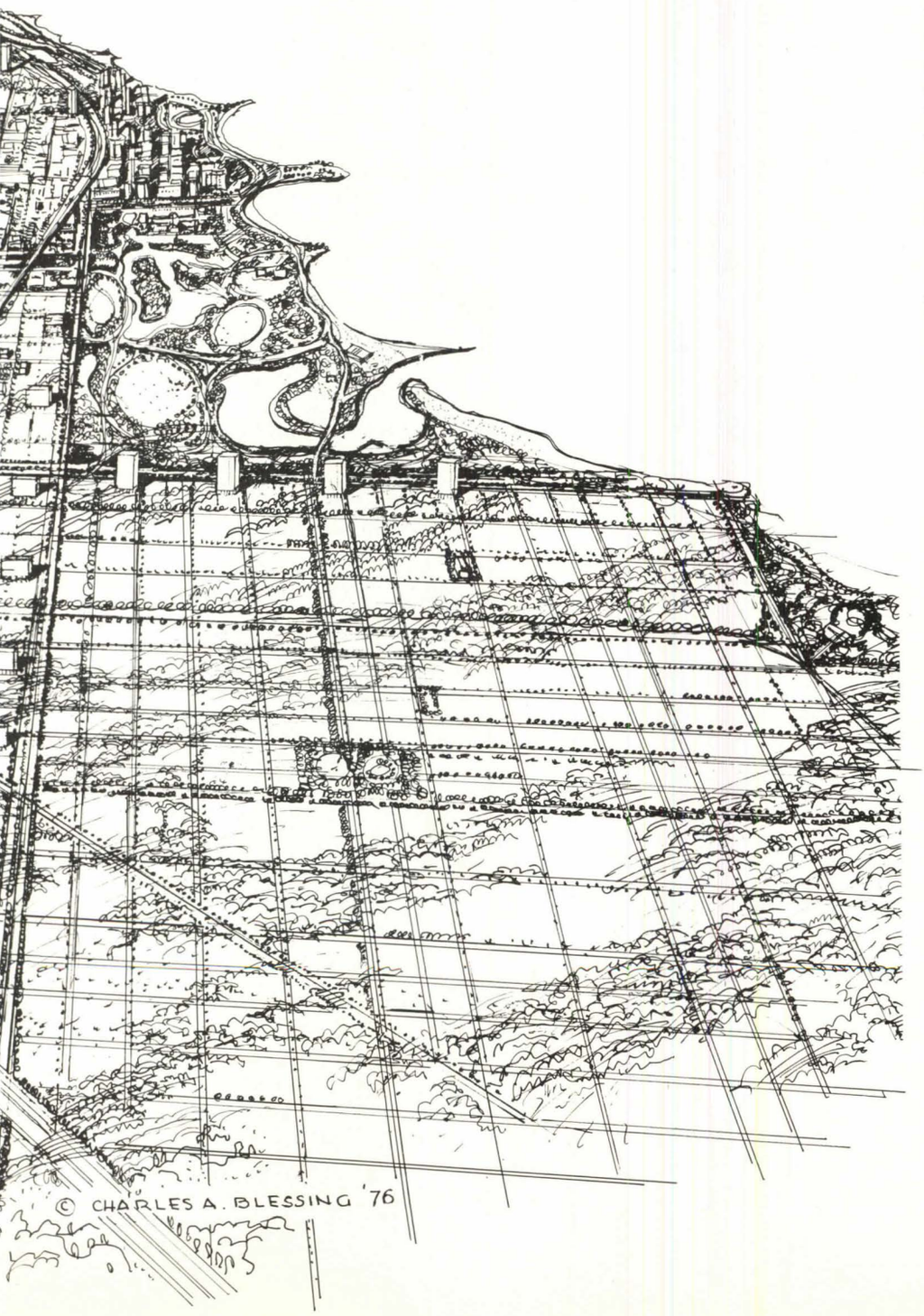
"It is necessary only to celebrate the future rather than celebrate the past; for the future is in the hands of the present, and each of us is capable of continuously and constructively changing it.

"Making public information public was not a new program that required a new budget but only a matter of a change in attitude." *D.C.*

Ed. note: At this point the commissioner turned around, and turned out to be Richard Saul Wurman, FAIA, chairman of this year's national convention in Philadelphia. The above tale is drawn from a "fable" which Wurman has written as the keynote for the convention.

Seeing the City Whole: Chicago

Charles A. Blessing, FAIA



Chicago is a city of extremes—wealth and poverty, beauty and squalor, diversity and sameness. The endless repetition of Chicago's standard gridiron pattern was the dream of the speculative real estate developer but resulted in a dreary monotony of environment for most of Chicago's citizens. The rigid pattern of five-acre blocks was extravagant, excessive in street area, unsafe for pedestrians and incapable of design variety.

In so many ways, in transportation, in industry, in commerce, Chicago has been first. Chicago developed the first Pullman car, the first reaper, the first great mail order house. In architecture, too, Chicago has been the innovator. Chicago developed the first skyscraper and now claims the tallest. No less the pioneer in city planning, Chicago produced perhaps the most famous plan in the history of cities, the 1909 plan of Chicago by Daniel Burnham.

The air traveler, approaching Chicago from high over Lake Michigan, is suspended in admiration and awe by the beauty, the vastness and the grandeur of Chicago's world-famous lakefront park extending from Evanston on the north to the Calumet River industrial district on the south. The total urban region extends around the lake more than 100 miles from Michigan City, Ind., on the south to Waukegan, Ill. on the north, and inland 50 miles to the Fox River Valley on the west.

Appreciating the vast scale of this exciting panorama, one begins to understand why Chicago is so often described in superlatives—greatest railroad hub in the world, busiest airport in the world, longest straight street in the world, tallest office building in the world.

How might Chicago become also the world's most beautiful city? While preserving its beautiful lakefront, parks and notable architectural heritage, Chicago must find a way to make each of its 500 neighborhoods safer, more attractive, more livable and more evocative of a sense of place.

Mr. Blessing, Detroit director of city planning since 1953, will receive an AIA medal next month for "his unique and artistic documentation of many of the world's cities."

Organizing for Practice: An Array of Options

David R. Dibner, FAIA

In March, the JOURNAL *published condensations of two chapters from the forthcoming book* Current Techniques in Architectural Practice, *prepared by the Institute and edited by Robert Allan Class, AIA, and Robert E. Koehler, Hon. AIA. This service to our readers is continued this month with the publication of condensations of the chapters on professional organization and on insurance guidelines for architects.*

All four articles were condensed and adapted by Stephen A. Kliment, AIA, contributing editor to the JOURNAL.

The book will be ready for distribution at the time of the AIA convention in Philadelphia in May. Ed.

The chapter on professional organization offers some basic pointers to the employed architect with an eye on his own shingle, to the established single proprietorship or partnership contemplating corporate practice and to all firms sifting the lure of joint ventures and other forms of more or less permanent "marriage."

When principals select a form of organization for their firm, they vitally influence not only themselves, but also their clients, employees and even their heirs. Yet, while the choices to be made are relatively simple, the process for determining which form the firm should take requires much investigation and review. Consultation with legal, financial and insurance counsel is essential.

Direct or group ownership?: In choosing a form of organization, the architect must decide whether to practice alone or to share ownership with others. A number of considerations must be pondered.

- Goals: If the desire is to retain a small practice and be completely absorbed in all aspects, then sole proprietorship is the answer. If, however, the desire is to grow and expand into new fields, or branch out into new geographic locations, the responsibilities and liabilities are often best shared with others in the form of group ownership—partnership or corporation. This makes for broader coverage by dividing activities, increasing the firm's capital and broadening the potential for employees to share the leadership. Principals are able to manage remote offices, provide varieties of expertise and share new work development.
- Personality: It may be that the individual can truly share leadership with others, or he or she may be a loner. There may be areas of practice in which architects prefer not to engage. Due to the diversity of requirements within an architectural office, co-owners may often be found who complement each other's strengths, thus forming a cohesive firm. The designer type may combine with a production type to provide complete services. Or the "inside" man may join the "outside" salesman type. In any event, individual personalities should be carefully weighed in the selection of coprincipals.
- Financial aspects: Sharing of ownership of the firm also means sharing its financial responsibilities. This allows for the acquisition of additional capital to operate the firm and to expand, and to provide the holding power necessary to overcome the inevitable valleys of reduced income.
- Age: The older a professional gets, the more important a factor age becomes. Group ownership offers the chance to convert into hard cash the goodwill and reputation which a personal practice has developed through the years. If, however, the essence of the firm is vested in one individual around whom its entire identity revolves, then the value of the firm to others is open to question.
- Firm size: At one time, only the largest firms incorporated. Recently, however, many small- and medium-size firms have done so for tax or legal reasons. There are notable exceptions, however. One of the country's largest and best-known firms deliberately continues as a partnership.
- Practice mix: The type of services which the firm offers in large part depends on the expertise of its principals. For instance, if architecture and engineering are to be provided in-house, it may be best to

Mr. Dibner, author of *Joint Ventures for Architects and Engineers* and a former member of the AIA documents board, is a principal in the Grad Partnership, Newark, and vice president of Walker-Grad Inc. This article has been condensed and adapted by Stephen A. Kliment, AIA, from the chapter on professional organization.

consider matching principals to the expertise required. Similarly, if a firm engages in a specific area of architectural practice, such as health care facilities or shopping centers, it may be helpful to have experts in these fields as part of the ownership team. Still, such distribution of expertise among the principals is not essential—these positions may be filled in by employees. It does help, however, to establish credibility with a client when the coowners possess these varied backgrounds.

• Geographic location: The choice of a firm's location may be a factor in choosing the form of organization. If the goal is to have a multioffice operation, it may help to have at least one principal in charge of each office. This may help ensure greater productivity and efficiency in the branches and make it easier to develop new business.

All these factors are involved in whether a firm chooses to be a proprietorship, partnership or corporation.

Proprietorship is the simplest form of organization. The firm is owned by one person who has complete, undiluted control, as well as personal legal and financial responsibility for all the firm's actions. There are disadvantages, however. The sole owner must rely on personal expertise, except for the advice of employees, and a single person's talents may be stretched too thin because of many demands. Key staff members may feel limited in their ability to move up in the firm and may leave because of lack of incentive. Firm growth may suffer because an individual owner often has limited resources. Also, full control means full liability for all losses of the firm, claims against the firm and actions of the firm.

A partnership is still the most commonly used form of organization. As partners, several individuals share both the ownership of the firm and the liability for its acts. The partnership's profits or losses are credited or debited each year to each partner's account. Each partner's share of distributed or undistributed profit or loss from the partnership must be reported on the individual's income tax return. The partnership itself does not pay income tax. State licensing laws may differ as to the name under which a partnership may practice, but no state law prevents the practice of architecture by a partnership so long as the partners are licensed to practice in the state.

The corporate form of practice is fast becoming more popular. The corporation is a separate legal, taxable entity. The principals who form the corporation become its employees and as such are eligible for employee benefits programs; these, along with tax benefits, are usually the greatest advantages to be derived from incorporation. Not until recently did many states pass legislation allowing the incorporation of professional practice. Under such legislation, there may or may not be some protection from certain liabilities; this depends on each state's applicable law.

Partnership or corporation?: Once the issue of group ownership has been resolved, there comes the question of whether or not to incorporate. Incorporation is not for every architectural firm. Pros and cons must be weighed carefully. The firm contemplating incorporation should proceed cautiously, aided by competent, unbiased legal and financial advisers.

In over half the states, architects may practice as a general business corporation. In nearly every state, they may operate as a professional corporation. The main difference between the two types is the allowable makeup of the shareholders. In a professional corporation (PC)—known in some states as a professional association (PA)—only licensed professionals may hold stock. Most states limit an association or corporation to members of the same profession. This restriction may not seem severe to those contemplating a change from partnership to a professional corporation until they realize that individuals, such as a valued business manager, landscape architect or planner, would not be eligible to participate in the ownership of the architectural PC. Further, state laws have different definitions as to which disciplines constitute the "same profession"; many do not permit engineers, landscape architects, planners, et al., to join with architects.

Financial benefits to principals: A key factor in deciding to incorporate rather than form a partnership is the ability, through the corporation, to provide under current law several forms of protection, while enjoying a tax deduction. Such provisions include health care and disability insurance. When death occurs, insurance also can protect the survivors and the estate. The cost of these benefits would be paid for by the corporation and deductible to it, and would be free of income tax to the professional. This would not hold true in a partnership.

Contributions made by the corporation to an approved pension or profit-sharing plan are tax deductible by the corporation, and the earnings are free of personal income tax until the benefits are withdrawn after retirement. The benefits to participants are taxable only when and as received. As employees of the corporation, the principals stand to gain the most from incorporation. Contributions to a profit-sharing plan can be up to 15 percent of the employee's compensation or up to 25 percent if combined with a pension plan. Principals may obtain proportionately greater benefits by "integrating" the corporation's retirement plan with Social Security payments or by use of fixed benefit pension plans in which older employees have larger amounts set aside.

On the surface, these financial benefits seem to favor corporate rather than partnership practice. Yet, principals should take several other factors into account. First, the principal who contributes to a corporate pension and/or profit-sharing plan gives up some spendable income. Is the individual willing to accept this reduced income in favor of long-term benefits? While a tax-free corporate retirement plan may look attractive, there are ways, such as investing in real estate, that may produce a better appreciation and return on the same money. (The risk of such a decision should be carefully evaluated, however.) In addition, *all* regular employees of the firm must be included in these plans; since architectural firms usually have a high ratio of employees to principals, the cost on behalf of nonprincipals can become very high.

A retirement plan is also available for sole proprietors and for anyone who owns more than 10 percent of a business. It is

known as the Keogh Plan. Through this plan, principals may establish an individual tax-saving retirement fund for which they may set aside up to 15 percent of their earnings—with a top investment at this writing of $7,500 a year. In addition, any employee of a corporation (which could include the principals), or a partnership without a retirement plan, may start an individual retirement plan. The yearly contribution to this plan is limited to 15 percent of the employee's salary with a maximum of $1,500. The money for both types of retirement plans is not payable until after the age 59½, and *must* be paid starting at age 70½. Otherwise, penalities result.

Under all of these plans, a key advantage is postponement of income tax on moneys invested, as well as the interest or dividend income for the period. There is often a matter of decades between the time of contribution and the ultimate distribution after retirement.

One advantage of incorporation is that it is an effective way of perpetuating the firm. A process can be set up to have the younger principals buy out the stock of retiring principals so that each senior owner will be taxed on its appreciation in value as capital gains. Further, it is possible for the corporation to take out life insurance at its own expense to provide cash to purchase a deceased principal's stock.

Some architects object to the corporate form of practice because they feel the image of a personal service profession, such as architecture, is tarnished by practicing as a corporation. No such evidence has emerged despite the growing number of professional corporations.

There are several negative aspects of incorporation, including:

- Compensation to officers of the corporation must be fixed at what the Internal Revenue Service considers "reasonable" levels in order not to be taxed as dividend income. No such problem exists with partnerships.
- The costs of incorporating are usually much higher than those of forming a partnership due to the need to respond to numerous legal and filing requirements with state authorities.

TABLE I

	Proprietorship	Partnership	Professional Corporation	Business Corporation
Usual Firm Size	Generally small	Small to large	Medium to large	Medium to large
States Which Permit This Form of Practice	All	All	Virtually all *	Some
Personal Involvement of Principal	Maximum	Varies	Varies	Varies
Extent of Personal Liability (Business)	Maximum	Shared	Usually minimum	Minimum
Extent of Personal Liability (Professional)	Maximum	Maximum but subject to contribution	Slightly reduced	Slightly reduced
Potential Personal Tax Advantage for Principals	Minimum	Minimum	Maximum	Maximum
Potential Benefits for Employees	Usually minimum	Varies	Maximum	Maximum

* State laws vary, some providing for professional associations.

- Corporations cannot accumulate too much income without a penalty. On the other hand, since partnerships must treat *all* income as though it had actually been distributed to the partners at the end of each fiscal year, no tax-free accumulation in partnerships is possible.
- Corporations as legal, taxable entities pay taxes on income *in addition* to the personal income taxes that their employees and stockholders pay on salaries and dividends. Partnerships are not subject to this dual taxation.
- The corporate form is much more rigid than the partnership and requires many more technicalities, such as accounting reports, board of directors' and stockholders' meetings, etc. Corporations tend to receive close scrutiny by the IRS.

In addition to the three basic forms of organization, there are variations which may be used in professional practice.

Joint ventures: This is a temporary association of two or more firms formed for the expressed purpose of providing services on a specific project. The venturing firm may be in any of the three basic organizational forms, but their combination is considered similar to a partnership. This is a useful device for a firm eager to handle a project larger than it can itself produce, or to work in an alien field of practice or expertise or in a remote location. The venture is formed using the Joint Venture Agreement (AIA document C801), or a similar agreement. Once the

Basic to the management of any firm is the form of organization chosen by its principals. The organizational form opted for requires the most painstaking investigation, as well as legal, financial and insurance counsel. One thing is sure: Complexities in the practice of architecture reflect increasing complexities in organizational form.

project is over, the venture is dissolved. The same care should be given in choosing partners for a joint venture as in developing a partnership or corporation.

Associated professional firms: Sometimes several firms of varying disciplines associate to develop new business together, and, if successful, join in providing a continuation of services. Such an associated professional firm is often a rather loose arrangement which evolves into a joint venture for a specific project. It is worthwhile, before a commission is received, to bind the interrelationship with a written agreement, thereby avoiding controversy when the work has to be done together.

Mergers and acquisitions: For the professional, there are two basic types of mergers: interprofessional and those between a professional and a nonprofessional firm. The advantages of a merger include such benefits as broadening technical services, acquiring better management techniques, expanding markets and gaining financial security.

Nonprofessional ownership has the risk of loss of independence, undue emphasis on profit, less professional objectivity and possible future conflicts of interest. When asked why he had repurchased his engineering firm from a major conglomerate, a professional principal summed it up: "Its people just don't speak our language." This is typical of the problems of mixed mergers.

While the interprofessional merger would appear to have fewer of these problems, some still arise, especially with respect to who makes the management decisions. Mergers involving the receipt of securities require special care in view of the dependency on future income and capital value. It is always prudent to allow enough time for all parties to change their minds.

Team endeavors: With the broadening scope of architectural services into fields such as construction management, development building, design-build and turnkey operations, the architect is often involved in joint team effort with other professionals and nonprofessionals. In providing a broad range of services, the architect must develop a relationship based on a firmly defined delineation of the individual roles of the project's various participants.

This relationship must be reduced to writing, with all parties agreeing to their individual and collective responsibilities, both technical and financial. In this instance, too, the architect must seek out competent legal and financial counsel.

The architect must also observe the requirements of the state in which the project is being carried out to make sure that registration laws are not being violated. Furthermore, when the architect's seal is attached to the drawings produced on behalf of the entire team, the practitioner must realize that a responsibility is assumed beyond the compensation and interest in the project. Above all, professional liability insurance should be checked before entering into any contractual obligation. This is to ensure that coverage has not been forfeited because of the relationship itself or participation in project ownership. (*See also* the companion practice aid on insurance in this issue. Ed.)

Branch offices: A common way for a firm to grow is to establish branch offices in different parts of the country or overseas. This is often done by acquiring another professional firm in another area and operating it as a branch office of the expanded parent firm. At other times, branches are established when a large project opens up a new geographic area.

Of extreme importance in the establishment of branch offices is the need for proper management controls. The individual in charge must have a carefully defined scope of responsibility and the ability to act in carefully delimited areas. Often, to assess the value of branch offices, each is made a separate profit center. Other factors beside the business aspects are also very important. Is the design quality of the new office consistent with that of the parent firm? Is it necessary to duplicate the various disciplines and administrative office functions in each branch as opposed to providing central services?

Public ownership: A few architectural firms have been restructured so as to offer shares for sale to the public. A publicly owned corporation must be a general business corporation. While it may practice in the state in which incorporated, it may have difficulty (without changing form) in practicing in states not allowing general architectural corporation practice. Among the advantages of "going public" are:

- The capital base expands and increases the firm's financial resources to expand, develop and acquire other firms.
- A method is provided to capitalize on a firm's reputation and goodwill.
- Supplementary compensation is available through stock option plans so that ownership can be spread widely, thereby reinforcing employee incentive.
- Continuous control can be maintained when principals retain a majority ownership in the corporate stock.
- Public scrutiny tends to promote greater efficiency.

There are several disadvantages in public ownership, however. High cost is involved in reorganizing the firm and in maintaining its records; difficulty may exist in establishing a broad market for the stock, and the constant pressure to show good earnings may affect the firm's professional practice.

Combinations of forms: Many a firm has found that combining several forms of organization best serves its purposes. A simple example is the partnership with an incorporated drafting room. The professional services partnership is maintained for personal client relationship; the production arm is a corporation. Another example is establishment of separate corporations to provide construction phase services, interior design services or construction management. These entities may be subsidiaries of the parent firm or they may be held by one holding company.

Because of the legal and financial complications involved, as well as variations in state laws, careful study must go into any decisions regarding multiple organizations. Tax treatment of holding companies must be carefully investigated, in particular the especially high rates assessed against the firms treated as personal holding companies.

With the field of architecture becoming ever broader, the trend is for forms of organization to become similarly more complex. □

Insurance: The Fine Art Of Managing Risk

Bernard B. Rothschild, FAIA

This chapter is not a textbook on insurance. Rather, it offers the practicing architect guidelines on how to go about obtaining suitable insurance coverage—all the way from identifying insurance objectives and selecting insurance counsel to developing the right program from the many kinds of coverage available. Policy pitfalls are covered, as are some features of related insurance as furnished by the owner and contractor.

Although the services rendered are by nature professional, the architect's office operation is in fact a business enterprise. The practitioner is thus subject to the usual risk incurred by any other business venture, commercial or industrial. In addition to these normal exposures, the architect is also faced with the unique area of liability that is assigned to professionals.

None of these perils is a respecter of size. The one-person firm is exposed to the same hazards as the practice with hundreds of employees. Slippery floors or misplaced decimal points are ready to haunt any office. Fire, smoke and water can play equal havoc with the drawings for a summer cottage as for a large industrial complex. Juries return verdicts in amounts far beyond the most alarming expectations for loss or injuries that all too often appear not to be the responsibility of the architect-defendant. The practitioner must be prepared to evaluate these many exposures, whether usual or unique, and must be prepared to make risk management decisions on how potential losses are to be offset.

Evaluating the program: When considering risk management, there are several alternative methods of approach:

- Avoid risk by eliminating from the firm's practice those factors which create a hazard.
- Ignore risk by accepting the fact that a loss may occur—in effect, be self-insuring.
- Reduce risk by taking loss-prevention steps to lessen the chance that a loss would occur.
- Transfer risk by making another party accept responsibility for the chance of loss, via a hold-harmless agreement.
- Insure the risk.

Any one of these may be a valid method for handling a given type of peril, but all should be duly considered when evaluating the overall program of risk management.

For most architects, insurance programs are generally used as the principal risk management tool. Most design firms do not have sufficient capital assets to set up self-insurance programs and, more often than not, it would be impossible to revise an existing practice so that exposure to claims of liability are minimized or eliminated. There is no hard and fast rule as to what coverages must be carried and what the limits of liability should be. Insurance programs for the architect's practice are as varied as the individual firm. They will be determined by size of the office, size and scope of the practice, capital assets and number of employees, as well as the economic status of the practitioner and the office.

Even so, there are still certain basic coverages which apply to every firm, such as public liability, professional liability and fire.

Selecting the insurance counselor: The architect must first make certain basic management decisions concerning the handling of perils—looking to legal counsel, the accountant and occasionally even the banker for assistance in determining the exact extent of overall exposure. Not until this determination is made should the practitioner move to obtain qualified insurance counseling.

Insurance is a highly complex subject, and architects often tend to view the advice of people in the insurance business as mainly sales-oriented. Yet, this is more the exception than the rule, and the practitioner must have confidence that what the competent insurance counsel recommends is in the architect's best interests. Just as an accountant and an attorney are retained because they are skilled professionals in their fields, so also should qualified professional insurance counselors be engaged to help in establishing the needs of that program.

Note that an individual who specializes in one field of insurance does not necessarily have the qualifications to provide overall counseling service in all areas of coverage. In selecting an insurance counselor, one important factor is whether or not the individual or firm being considered has any of the professional designations used within the insurance industry. This would include, for example, those who are designated chartered property and casualty underwriter (CPCU); this marks persons who, in addition to having met certain experience requirements, have also passed a comprehensive set of five examinations in insurance-related subjects. Individuals with this designation can be expected to provide counsel in areas involving property and casualty insurance. A similar designation is provided within the life insurance industry; it is known as chartered life underwriter (CLU).

An important responsibility of the insurance counselor is to have a thorough knowledge of the actual business of insurance, especially if he is the broker or agent placing the coverage. (There are firms which give advice, evaluate risks and analyze available coverage, but do not actually sell insurance.) The insurance industry is regulated by the individual states. Each has its own insurance code, as well as a regulatory body which deals with policy terms, rates and licenses, and stipulates the resources and assets of insurance companies which qualify to do business within the state. That is why the insurance counselor should have the necessary background information about the various insurance companies under consideration for the architect's insurance program.

In addition, the insurance counselor should have broad experience in the processing of claims so as to advise the architect about the claims-handling needs of the various insurance companies and, in the event of a claim, help vigorously to

Mr. Rothschild is senior vice president/secretary of Finch, Alexander, Barnes, Rothschild & Paschal, Inc., Atlanta. He is author of *Construction Bonds and Insurance Guide*. This article has been condensed and adapted by Stephen A. Kliment, AIA, from the chapter on insurance management which is part of the forthcoming book titled *Current Techniques in Architectural Practice*. The book was prepared by AIA.

negotiate a settlement. Just because a company is licensed in a state and can meet the regulatory requirements does not mean necessarily that it will provide the type of service which the architect may need for a given type of insurance. Nor does the mere existence of a policy and continued premium payments guarantee prompt settlement of a claimed loss. One may need to investigate circumstances, the extent claimed and whether the loss is covered.

Hence, an insurance counselor in whom the architect places complete trust can help immeasurably in looking out for the latter's interests during the investigative and settlement phases of a claim.

Developing the program: The insurance which the architect buys directly can be broken down into four categories: property damage—including consequential loss, third party legal liability coverages, crime coverages and employee benefits. (*See* listing in Table 1.)

While no one can foresee all problems, the practitioner in the role of business manager must take the time to see to it that all areas of exposure have been analyzed. The necessary insurance must then be selected to assure that, except under the most unusual and totally unforeseen circumstances, the architect will "survive" comparatively minor claims which are the most common.

In making this analysis, the practitioner and the insurance counsel, along with the accountant and the attorney, should seek to pinpoint the various potential risk sources as well as the potential extent of liability. This procedure should be a continuing one so that all the architect's advisers can be kept alert to any changes which might require new or different coverage.

This is best illustrated by casualty policies, which are generally written on a limited, relatively short-term basis. This permits changing conditions to be covered with reasonable frequency. When at any time during the specified term, a situation develops which changes the conditions existing at the start of the policy, the new facts can be discussed with the insurance counselor to see if there is need for an amendment. This is especially true

TABLE 1
COMPONENTS OF AN ARCHITECT'S INSURANCE PROGRAM

Property damage coverages
Fire Insurance
—Extended coverage
—Vandalism and malicious mischief
—Improvements and betterments coverage
—Sprinkler leakage coverage
—Business interruption
—Extra expense
—Demolition endorsement
—Electronic data processing equipment
Valuable Papers
Boiler and Machinery Policy
Fine Arts
All Risk Policy

Third party legal liability coverages
Comprehensive General Liability Policy
—Operations-premises
—Fire legal liability
—Contractual
—Premises medical payments
—Personal injury endorsement
—Host liquor liability
—Nuclear energy liability exclusion
Professional Liability Insurance
—Contractual liability
—Joint ventures
—Retroactive coverage
—Retired or inactive architects coverage
—Nuclear energy liability exclusion
Directors and Officers Liability Policy
Umbrella Excess Liability Policy
Workmen's (Workers') Compensation
—Employer's liability
—Longshoremen's and Harbor Workers Act coverage
—Additional medical benefits endorsement
—Executive officers endorsement
Automobile Physical Damage
Comprehensive Automobile Liability
—Protection against uninsured motorists
—No-fault automobile insurance
—Fleet automatic coverage (Automobile)
Aircraft Insurance
Watercraft Insurance

Crime coverages
Mercantile Robbery Policy
Mercantile Safe Burglary Policy
Paymaster Robbery Policy
Broad Form Money and Securities
—Broad Form Personal Theft
Comprehensive Dishonesty, Disappearance and Destruction Policy
Fidelity Bond
—Individual and scheduled bond
—Commercial blanket bond
—Depositors forgery bond
—Credit card rider
Package Policies

Employee benefits
Key Man Life Insurance
—Waiver of premium
Group Life Insurance
Key Man Disability Income Protection
Group Disability Income Protection Plan
Accidental Death and Dismemberment Insurance Protection
Basic Medical Plan
—Basic hospital insurance
—Surgical insurance
—Major medical plan
In-Hospital Income Plan
Retirement Programs
Employee Benefit Plans Liability

of fire insurance, which is most often written on a three-year term.

If the policy's terms require coinsurance, it could be important, in view of escalating costs, to evaluate the replacement costs on an annual basis and, if warranted, increase the value shown in the policy. Some insurance companies offer an automatic escalation endorsement, e.g., 1 percent every three months, to reduce the possiblity of being underinsured.

Risk analysis: The process of developing insurance coverage is called risk analysis. Risk analysis must probe deeply into every potential area of exposure. Items seemingly unrelated to the practice of architecture—as, for example, an office-sponsored baseball team or a reflecting pool next to a suburban office—can produce risks which must be evaluated.

In addition to insurance per se, the architect must consider other methods of handling the risk of perils. These include self-insurance by way of deductibles and/or transferring the risk, if possible, by contractual agreement.

As various kinds of insurance coverage are determined to be necessary, the broker or agent will present an insurance package to provide the needed protection. The architect should demand to see several alternatives. This way, premium dollars paid out for coverage may be evaluated in relation to the self-insured loss potential to arrive at maximum acceptable protection with lowest overall costs.

For example, in establishing the amount of professional liability insurance, quotations of premium costs would be obtained for various top limits of coverage with varying amounts of self-insurance (deductibles) in order to determine the best coverage for the maximum economically acceptable premium dollar. A smaller firm, with restricted capital funds and relatively modest exposure to loss, may prefer to pay a few extra dollars in premium cost for adequate coverage containing a comparatively small deductible sum which, if paid, would do minimum damage to the firm's cash position.

Conversely, a larger firm, with a strong fiscal background and with relatively greater exposure potential, may prefer to take the premium savings brought about by a substantial deductible sum and pay toward higher limits. It could also put the full amount of the self-insurance or deductibility for one claim into an interest-bearing account and use the earnings to help offset the premium cost.

In this analysis, all firms, small and large, should look into the possibility of having clients, by terms of the agreements for professional services, reimburse the architect's cost for professional liability insurance coverage for specific projects, thereby effectively reducing the practitioner's insurance costs.

Policy pitfalls: The architect should not assume that, merely because policies exist, the coverages are assured. Changed circumstances, often occurring innocently, can nullify the terms of the coverage—e.g., driving a car across the border into Mexico which is outside the territorial limits of the usual automobile liability policy. Knowing what a policy does *not* cover matters almost more than knowing what is covered. This can be illustrated best by means of a few situations not unusual for many architectural firms:

- The large firm with offices in several states needs to be concerned with each jurisdiction's requirements for workmen's compensation, particularly if one of its offices is in a state which has a monopolistic insurance fund and will not accept the otherwise practical all-states workmen's compensation policy endorsement.
- When firms work abroad, especially if a temporary office is set up in another country, all policies should be checked for "policy territory." Most policies, including professional liability insurance, limit coverage to the U.S., its possessions and territories and Canada.
- The incorporated firm may not be able to practice as a corporation in a given state and must create a partnership to do so. The corporation's professional liability policy would have to acknowledge, as an additional named insured, such other partnership.
- The firm which takes all or a part of its compensation in the form of stock or capital interest in a project may find that, depending on the percentage of ownership, it is not covered by the professional liability policy for damages for negligence attributed to performance under the owner-architect agreement. The same would be true in case of a partnership between a contractor and an architect jointly involved in a project, since the architect's *professional* acts are not covered if the firm is in any way related to the construction process.
- In preparing agreements for joint work with other firms where the intent is a "master-servant" relationship, the terms may well create a joint venture. In this event, the basic professional liability insurance would not provide coverage unless modified by specific endorsement.

It is no coincidence that most of these examples relate to the professional liability policy. Many insured practitioners—and perhaps equally important, their key personnel responsible for preparation of construction documents—do not realize that the statement of what is covered by that policy takes one-half column of print, whereas what is excluded takes one and one-half columns! One may correctly assume that losses attributable to errors and omissions committed in the course of one's practice are properly insured against; yet, a quick reading will show that such items as patent infringement, insurance advice, timely completion of drawings and specifications and express warranties are *not* covered.

Reading the restricting clauses in *all* insurance policies is crucial if one is to avoid that bone-chilling answer to a claimed loss: "Coverage is excluded under the terms of your policy." If the circumstances of a firm's practice include situations or risks which are normally excluded, the insurance counselor should be asked if removing the exclusion from policy by endorsement and paying the additional premium is economically justified.

One cannot insure against all possible risks or magnitude of loss: The cost would be prohibitive. There are ways, however, such as umbrella policies, that provide more than mere minimum protection, both in terms of dollars and exposure. Such policies should be explored before any basic insurance is bought or existing policies modified.

Basic coverages: There is no hard rule or outline for the architect's insurance pro-

Disaster is no respecter of persons or of firms; hence, a carefully conceived insurance program is a necessity for even the smallest architectural office. The "best" program protects against errors and omissions, eliminates design risks from drawings and specifications due to carelessness and provides a safe place for employees to work.

gram. In addition to professional liability insurance, there are basic needed coverages which should always be considered in initial program development.

The general method of providing these basic coverages is to place them in combination or comprehensive policies. These cover several perils under one broad insurance contract. For the architect, this could include the following types of package policies:

- Comprehensive general liability.
- Comprehensive general-automobile liability and physical damage.
- Comprehensive dishonesty, disappearance and destruction (3D).
- Blanket crime.
- Office package special multiperil.

Related insurance: Simply stated, the purpose of insurance purchased by the architect is chiefly to protect both the firm and its employees from risks attributable to the operation at the physical location of the office. When a project enters the construction phase, the architect is exposed to a different class of risk, arising out of work performed by other parties.

The third party legal liability insurance carried by the architect will cover only in a general way some of the aspects of liability exposure during this phase. To have some protection under the terms of a contract to which the architect is not a party, he/she must rely on special reference to be included in the insurance coverage carried by the owner and the contractor. Usually, the insurance furnished by these on a specific project will more directly protect the architect from alleged job-related involvement. These coverages are property insurance (builder's risk), owner's protective liability and contractual liability.

If the General Conditions of the Contract for Construction (AIA document A201) is used, Article 11 deals with insurance in broad terms. The architect incorporates in the supplementary conditions the decisions of the owner and the owner's insurance counselor with regard to specific kinds of insurance, as well as dollar limits for each coverage. In property insurance, the architect can be protected, as the owner's representative, by the waiver of subrogation (subparagraph 11.3.6). The owner's protective liability coverage can be written to include the architect in the event of nondesign-related claims. The contractor by agreement holds the architect harmless, along with the owner, from job-related lawsuits and insures this via contractual liability coverage.

Such kinds of coverage are not specifically part of the architect's insurance portfolio, and should not be considered a substitute for the architect's own insurance.

On any project where the owner requires the use of general conditions other than the AIA document A201, the architect should make sure that the waiver of subrogation (subparagraph 11.3.6) and indemnification (paragraph 4.18 and subparagraph 11.1.2) provisions appear in the documents used. These could have an important bearing on the architect's own insurance coverage; inadvertent omission of either could possibly be reflected in higher premium costs in the future.

During construction, the owner is usually the insurer of the property against loss by fire and other related perils. Assuming that AIA document A201 (1970 edition) is a part of the contract documents, paragraph 11.3 refers to this insurance requirement; subparagraph 11.3.6 requires the owner, contractor and all subcontractors to waive their rights, each against the other, in case of an insured loss.

By modification in the supplementary conditions, the architectural firm and its employees should also be included in this waiver as the owner's representative. This way the architect, being specifically included, can avoid such a suit should the architect's negligence be alleged as a contributing factor in the loss. This may be said to be "insurance coverage by inference" rather than direct policy protection.

Assuming use of AIA standard construction-phase documents, paragraph 4.18 of the general conditions requires the contractor to hold the owner and architect harmless from "claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the work." This is insured by furnishing contractual liability coverage as an extension of the contractor's comprehensive general liability policy. The requirements of paragraph 4.18 as written constitute an intermediate form of hold-harmless agreement, indemnifying the owner and architect from acts of negligence on the part of the contractor and even their own acts when these are only partially contributory to the particular damage.

If this is expanded at the direction of the owner to include coverage of acts which are the sole negligence of the owner and architect, it then becomes a broad form hold-harmless agreement which is void by statute in several states. The architect would then not be protected from suits arising out of the contractor's performance and would have to look to the adequacy of the firm's own insurance program to be certain of coverage for any situation which may arise.

In any case, none of the insurance protection provided under coverages furnished by the owner or contractor—including the hold-harmless agreement—cover claims alleged to be on account of the architect's professional negligence. Such claims would be defended in accordance with the terms of any professional liability policy the architect carries.

The end result: Although insurance may appear merely to create a nonproductive outflow of cash, so far as the architect's fiscal position is concerned, its value is never realized until a crisis arises. Insurance is not an investment; it is not a scheme to make money; it cannot be counted on for windfall profits. Rather, it is a method of spreading risk among many parties, thus protecting any one of them from being wiped out should a catastrophic loss be sustained.

The best "insurance" program any architect can make is to eliminate from the drawings and specifications design risks brought about through carelessness in the drafting room. This is closely followed by providing employees with a truly safe place in which to work. When these two goals are achieved, the architect's insurance programs really become what they are intended to be: a hedged bet against unforeseen disaster. □

Le Corbusier and the Tragic View of Architecture. Charles Jencks. Cambridge, Mass.: Harvard University Press, 1974. 198 pp. $13.95.

I am not sure of the place of this book. It does not seem to be a definitive biography nor is it a complete documentation of designs. It is a selective book with a point of view, but the psychological point of view that the title suggests is touched upon only lightly. The book, of course, certifies its author as a genuine Le Corbusier scholar, which, admittedly, I am not.

The work presents material and ideas that were new to me. As in all his writings, Jencks' personal attitude can be stimulating. I consider him the Kurt Vonnegut of architectural writers: He searches for the ultimate values while knowing they are not to be found.

Jencks admits to an inability to define an essential contribution of Le Corbusier (or Corbusier, or Corbu, or now Corb—or Cor?). Jencks says that the work is to be approached like Shakespeare's. Too bad. I am left with the inability to see the buildings for the mystique. He further compares Corb to Hamlet. But is he really suggesting that the tragic view, caused by conflicts, was the reason for Corb's greatness?

I am not sure what the first sentence of the introduction means. It reads: "Le Corbusier is arguably the greatest architect of the 20th century." Is he or isn't he? If he is, what does *that* mean? Jencks mentions and disparages Lewis Mumford's formidable disagreement (if being the greatest means producing the most goodness or the best buildings). But Jencks equates being the greatest with having the most influence, saying that Corb was comparable only to Palladio on this score. He is herein credited with changing the direction of modern architecture twice with his own esthetic languages and with contributing at least 40 new "words." Yet, as Jencks restates for us, the writings had more effect than the buildings. Why then is he called the greatest architect rather than the most widespread influencer of architecture?

Although we can agree that certain people merit being called great, we really know that their contributions cannot all be weighed on some fish-scale to determine the greatest. (Dave Clarke in the Apr. '74 AIA JOURNAL had the guts to say so in his review of *Conversations with Architects.)*

Jenck's present book is not in the current mode of showing how unrealistic many of Corb's ideas were. There was more criticism in his *Modern Movements in Architecture (see* Feb. '75, p. 54). Instead, he extends the old idea, fostered by Corb himself, of the architect as hero. It is difficult not to be intimidated by a possible sequence of thought: (1) This is what Le Corbusier was, thought and did; (2) Le Corbusier was the greatest; (3) therefore, what *he* thought and did are the elements of greatness.

Richard Neutra once said that the great study of Le Corbusier would be on the clients who backed him. I admit unashamedly that I do not care about interpreting the spiritual values in his work. It seems to me that he was a spiritual shepherd not because his ideas were necessarily the best, but because he had so many conspicuous ones. Perhaps he is honored mostly for not being a sheep. Spiritually, he was a wolf as well as shepherd. Jencks writes, "As with Nietzsche's Superman, the creator [Le Corbusier] had to master his opponents' power, their ideas, before he would go on to destroy them in order to recreate them in a new synthesis."

We can no longer agree with Emerson that art is part of the divine mind. Art is a man-made label, and we are free to stick it where we please. Beyond craftsmanship, we can honor whatever we find most honorable. The unique greatness of a man like Le Corbusier is that he successfully fought to do the defining of art for us. His definition, of course, suited his own abilities, opportunities and even his own personality as it was shaped in part by his conflicts. He defined the duty of an architect as being to create a new architectural language. Since, according to Jencks, he did this twice, he was therefore the greatest—but by his own definition. Did he really do this, however? How many architects did he influence and what percentage of buildings? In any case, did it really matter if *his* language was followed rather than another's? Do sheep select the best shepherd?

Le Corbusier appears to have been an old-fashioned elitist snob, culturally and even politically, as Jencks shows. He was a bore who generalized from his own case with his own muscle-bound logic. For example, he "even credited playing basketball in the evenings with giving him the moral security which was reflected in his work!" And to quote Corb: "The man of initiative, of action, of thought, the *leader* demands shelter for his meditations in a quiet and sure spot." He was, of course, justifying his own isolation, as though he needed to.

Jencks seems to credit the personal conflicts of this architect as expressed in *his buildings* as the element of greatness. There is certainly much work, sweat and suffering in the process of being an architect, and certainly any architect will bring his own suffering from his own conflicts to this process. But to glorify, project or express them in buildings is not the greatest of values to me. That they may be a motivating factor in such greatly motivated producer-publicists as Corb would seem to be their proper place. If we value the conflicts and their expression, are we not valuing the artist for suffering for us? As the ad might say, "Take two Corbus for instant temporary relief."

Jencks glorifies the fact that Corb not only personally expressed his conflicts but actually insulted his clients as well. This he contrasts with the usual self-presentation of an architect as a reasonable mediator. What is wrong with the latter? Everything seems right about it if really carried through. This is not the same as *giving* the client what he wants, as is the case too often, or of giving him what he *says* he wants in an ironic manner, or yet giving him what he *should* want in a heroic manner. I mean, rather, having an open creative confrontation between sincere working members of the human race. The result is *appropriateness* in a building, as defined by the results of the honest confrontation, keeping in mind the technical and economic possibilities of the available contractors. This process does

continued on page 76

Books from page 74
occur even though its praises are not being sung. When it happens successfully, the client claims *his* architect to be the greatest of the 20th century. That's the way it should be. Right? When the architect takes away all the decisions concerning values from the client, he finds them taken away from him, in turn, by the critic.

Although admitting that Corb's contributions are not as inventive as airconditioning, for example, Jencks outlines many of them. Chiefly, he says, as with the roof garden, Corb redefined existing ideas into the modern vocabulary. This would be true for the open frame structure, no matter how poorly it was integrated into the Villa Savoye. Certainly, Gothic cathedrals were frame structures as also were many early modern precedents, but Corb's clear use and persistent advertising helped to redefine buildings in new structural terms, no matter how inevitable. It also seems to me that the *brise-soleil,* or sunscreen for multistory glass buildings, was a genuine and valuable contribution, especially as an expression of an attitude. But if invention is the preferred thing, why is not Frantz Jourdain, whom Jencks mentioned, better known for his "revoluntionary use of glass and steel in Art Nouveau work?"

The author makes definite statements as to the esthetic value of Corb's proportional system, the Modulor. He offers no evidence. I wish he had, as I am still annoyed by not being able to experience it for myself. If it is a valuable harmonizing device, as claimed, why hasn't it been copied even more than the superficial forms?

Although Jencks is by no means snowed by Le Corbusier's ideas about himself, he accepts his assessment of being a complete rationalist. Jencks claims Ronchamp is a "rationally perfected piece of sculpture," and he also accepts Corb's calling its form an "answer to a psychophysiology of the feelings." Oh!

For argument's sake, I propose that his early buildings were neither completely pure in form (or unambiguous) or entirely rational in their development, although these were certainly his conscious intents. Probably his persistent mystical leanings stood in his way. You only have to examine his writings to see how much illogical faith he had in his own ideas. When he shocked and delighted the world with Ronchamp, he was trying to integrate this personal mystical quality and also his own great sculptural ability with his strong rational attitude. He was contributing in *his* way, without any party line attached this time. Le Corbusier, unarguably, was being the greatest Le Corbusier. Thank you for this, Monsieur Corb; it should happen to us all.

John Blanton, AIA

Healing the Hospital: McMaster Health Science Centre, Its Conception and Evolution. Eberhard H. Zeidler. Toronto: Zeidler Partnership, 1975. 168 pp. $15.95.

The Health Science Centre at McMaster University in Hamilton, Ontario, represents a very significant advance in the state of the art of the design of large university related health science centers. This book describes why and how the McMaster facility came about. The book is an important one, and it is complete with photos, plans, sections, detailed descriptions and a clear and well-organized narrative.

A university teaching hospital is the most complex health facility type that can be undertaken. It incorporates not only comprehensive patient care, but also research and teaching. It must be responsive to change, and yet be a human place. Zeidler met this challenge by designing a building that is both an optimum technical solution and a response to human needs.

McMaster represents a total building of 1,761,500 gross square feet for a total construction cost of $61,424,500. The facility opened in 1972, but it is, as Zeidler points out, "still not completed because it has been designed never to be finished." McMaster's unique structure and mechanical system design allow it to respond to change in unique new ways. It has 40 acres of floor space; 5,000 people use it daily. It is designed for horizontal and vertical integration of the complex elements of a health service center. It has 49 independent, yet intrinsically related, departments.

The book is organized into two basic sections. The first describes the overall concept, including specific conceptual principles, external influences, explanation of the plans, design for human needs, the planning process, historical synopsis and design development. Part 2 describes the mechanical services; electrical, structural, external wall, ceiling, material handling and sub-servo laboratory systems, and in-patient units.

The contribution that Zeidler has made by designing McMaster and writing this description of the project is most notable, because it synthesizes and expresses many problems, concepts and ideas that were discussed for years among health and hospital facility architects but heretofore not realized in an actual demonstration.

One of the principal innovations at McMaster is the "servo system" concept. "It provides the framework and the services for an environment that fulfills today's needs and that can also readily adjust to future requirements without destroying the basic integrity of the system. This is possible because the system clearly separates all parts of the building into permanent and nonpermanent elements. Nonpermanent elements are those that serve only special functions and that would have to be disposed of should the use of a space change. The permanent elements include the structure, the prime mechanical-electrical spine system and other elements that can be reused even if relocated. Thus, in the course of change or growth, the total McMaster building will never be disposable," writes Zeidler. There is no question that McMaster is a step forward in the continuing evolution of structures for health facilities.

One always has the concern about whether this kind of megastructure responds to what the health problems really are. What is missing is an in-depth analysis of health problems and health needs in the region which McMaster serves. Such an analysis might have yielded quite a different solution, or it might have yielded McMaster as actually built. The $61.4 million to build the facility represents an enormous capital investment. What about the operating costs? Are these sums for building megastructures yielding improved health care?

Zeidler's project and book are highly significant for health facility planners and architects, deans of medical schools and health and hospital administrators.

George J. Mann, AIA

Indianapolis Architecture. Indianapolis: Indiana Architectural Foundation, 1975. 261 pp. $4.95.

It's easy to understand why this book was a best seller in Indianapolis for weeks after its publication. Anyone who has lived in that city will surely find the book rewarding. It's interesting as well to guidebook buffs everywhere for its excellent presentation of a city's architectural heritage.

"Enjoy this book," advises the writer of the preface. "It is the collective thoughts and experiences of 12 people committed to the improvement of the physical environment, both the preservation of the God-given elements and the development of the architecture." Among the 12 contributors are local AIA members, and there's also a splendid "conversation" with Nathaniel A. Owings, FAIA, who puts the architecture of his home town in a national context.

The book, says Wayne S. Schmidt, AIA, who served as chairman of this multifaceted enterprise, "was made possible by contributions totaling $43,000, plus 9,000 hours donated time by Nathaniel Owings, the 11 authors and the graphic consultant." Such effort resulted in a guidebook that is exemplary. The text is most readable and well organized, and there are numerous illustrations. In brief, congratulations to all concerned for an excellent guidebook. It may be ordered from the Indiana Architectural Foundation, 1403 N. Delaware St., Indianapolis, Ind. 46202. *continued on page 78*

It pays to know our multiplication tables.

You know how table shape, size and surface can vary according to application.

You know that tables designed by Charles Eames set a standard for classic design, function and durability.

What you may not know is that Eames tables offer what is possibly the broadest range of size, color and finish options in the industry—150 standard, 500 variations.

Now it should be easy to figure which table is the best for you.

For more information on Eames tables contact your Herman Miller dealer, or write or phone the Herman Miller Sales Aid Center, (616) 772-9585, Zeeland, Michigan 49464.

herman miller

Circle 17 on information card

Books from page 76

Architecture, Mysticism and Myth. W. R. Lethaby. New York: Braziller, 1975. 280 pp. $10.

William Lethaby, author of this book which was first published in 1891, was the exponent of the idea that architecture and symbolism are one. In the introduction to this reprint, Godfrey Rubens, who is currently working on a book on Lethaby and his circle, makes the comment that the 1891 book "has a unique place in the history of architectural theory for it advanced the then new idea that psychological and philosophical notions found symbolic expression in architectural form." These "notions" of Lethaby's, says Ruben, were part of a "general *fin-de-siècle* interest in symbolism."

Forty years after the book was first published, Lethaby wrote that its "main thesis was that the development of building practice and ideas of world structure acted and reacted on each other." Such "mature retrospection," says Rubens, shouldn't detract the contemporary reader from "the fascination of the work . . . as a document of the 1890s with its rag-bag of fact and fiction and its mixture of colonially-inspired travellers' tales and scientific enquiry, or from the resounding impact it had on Lethaby's avant-garde contemporaries who were its first audience."

This 20th century reader, at any rate, found the book extremely difficult to plow through and, indeed, resorted to skimming to get through it at all. The references to such topics as "planetary spheres," "the golden gate of the sun," "the jewel-bearing tree" and "windows of heaven" are, frankly, not of widespread interest.

The blurb on the book's jacket says that the book has a growing "underground reputation" because of today's "fascination with all aspects of the occult." For those with this "fascination," this reprint may be welcome because the book has been almost impossible to find for many years. It also may interest scholars of architectural theory.

Chinese Pavilion Architecture: Quality, Design, Structure Exemplified by China. Werner Blaser. New York: Architectural Book Publishing Co., 1974. 192 pp. $45.

This picture-book concentrates on the classical pavilion architecture of the 14th and 15th centuries. Blaser, who traveled to China in 1972, was deeply impressed with pavilion buildings and gardens, and he believes that this integration of structure and space has meaning for today's architect. "China," he says, "could inspire the West with new ways of looking at things and shaping them."

Blaser traces the theme of pavilion architecture through three groups of buildings: the religious and secular structures in Hangchow, the Imperial Palace and Summer Garden in Peking and the residential and garden pavilions in Suchow. In them, "order and truth are law, structure and modulation are freedom."

Blaser believes that there is a lesson in pavilion architecture for the contemporary architect. He writes, "My photographs try to present the concept and design of Chinese pavilion structure and to show its refinements, which are reflected down to the smallest detail. It is only when the various purposes, materials and methods of construction are coordinated in a system that modulations are possible with proportion, rhythms, colors and surface characteristics. And this is what I found in China in an architectural system in which each building acquires its own scale by modulated coordinations in the direct fulfillment of its needs."

Barrier-Free Design: Report of a United Nations Expert Group Meeting. Editors: Susan Hammerman and Barbara Duncan. New York: Rehabilitation International, 1975. 36 pp. $5.

Rome, Italy, is noted for its splendid museums, and yet 83 percent of the museums are totally inaccessible to people in wheelchairs. It's easy to comprehend, then, as this excellent publication points out, that more people lead limited lives because of man-made obstacles than because of any specific mental or physical disability. Because of this sad fact, people the world over should understand the problems created by physical and social barriers and work to encourage creation of a barrier-free environment.

The basic information presented in this brochure was derived from a United Nations meeting held in 1974 on barrier-free design. In order to make the meeting's report available in a form that would attract a large audience, Rehabilitation International offered to publish it in a "more popular style" than the basic report.

The result is a graphically attractive pamphlet. More important is that the publication is filled with valuable information presented in concise and easy-to-understand language. The reader gains valuable information about what is going on in other countries to provide a barrier-free environment and what the UN experts recommend to hasten this end. There is a great deal of information about how to eliminate barriers in public buildings, in housing and in transportation facilities. There is information also about architectural barriers that affect special groups of people, such as the blind, the deaf and the elderly. Particularly helpful are the summary of legislation about barriers, the checklist for planning a barrier-free urban environment and the selected international bibliography on barrier-free design.

The booklet may be ordered from Rehabilitation International, 122 E. 23rd St., New York, N.Y. 10010.

Building Construction Handbook. 3d edition. Frederick S. Merritt. New York: McGraw-Hill, 1975. $34.50.

This new edition of a work that is well known to architects is completely revised, with new sections added and nearly complete revisions of previous sections.

The book begins with an excellent section by William E. Diamond II, AIA, on "Business, Art and Profession of Architecture" in which he discusses such topics as selection of the architect, liability, design by team, additional services, contract documents and conditions affecting architectural practice (economic factors, changing construction market, construction management, etc.).

Chapters follow, written by 26 experts in the specific areas covered, on building materials; stresses in structure; soil mechanics and foundations; concrete, steel and wood construction; acoustics; HVAC systems, etc. In other words, the book is comprehensive.

Mies van der Rohe at Work. Peter Carter. New York: Praeger, 1974. 196 pp. $30.

Meticulously documented, this analysis of Mies van der Rohe's projects is a valuable contribution to an understanding of "this master of steel and glass," whose accomplishments have had such a significant impact on 20th century architecture. Carter, an English architect who was student, associate and friend of Mies, is objective nonetheless in his approach. He gives consideration to the architect's structural and spatial concepts; to building types (highrise and low-rise skeleton frame buildings and clear span buildings); and urban spaces. There is also a section on Mies' ideas about architectural education. The text is supplemented with diagrams and plans and more than 200 photographs.

Dampness in Buildings. R. T. Gratwick. New York: Wiley, 1975. 375 pp. $23.

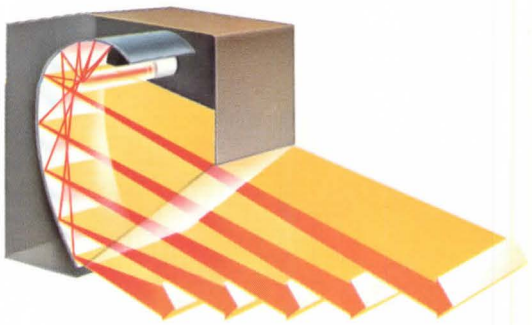
There are two reasons why the subject of dampness in buildings is perennially interesting, says Gratwick. First, "moisture in the wrong places is a very real and continuing problem to many who build and maintain all kinds of buildings" and, second, how and why the moisture got there is not understood by many people. To conquer the problem, the architect must have an understanding of building materials and their response to the environment, "individually and in concert." The architect also must "recognize the effects and possible progress of dampness in the given circumstances." Then remedies can be applied and the cause of the dampness removed, or at least controlled. This book is devoted to bringing about this happy condition. The first part considers basement and ground floor conditions and the second part is given over to condensation and penetration above ground.

continued on page 82

CROUSE-HINDS ANNOUNCES

The Precise Light.

A BETTER WAY TO GET LIGHT PRECISELY WHERE YOU WANT IT.



Knife-edge beam...

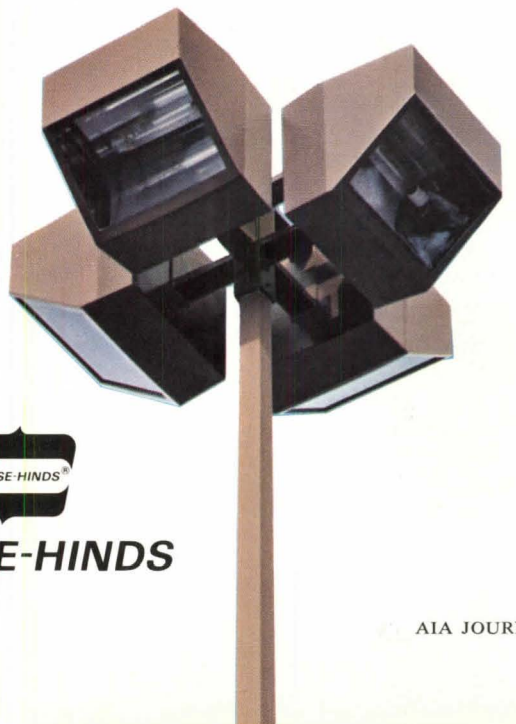
Unique reflector curvature builds single-reflected and double-reflected light rays into a powerful beam peak. Front of housing conceals lamp and provides knife-edge cutoff.

Provides cutoff on the ground...

The CLX respects property lines with light precisely where you want it, not trespassing on adjacent property. This sharp cutoff does not rely on energy-absorbing louvers or shields.

The Precise Light™ Model CLX is designed to optimize energy-efficient high-pressure sodium lamps up to 1000 watts . . . metal halide optional. Multiple mounting arrangements and design-integrated mounting hardware and poles are available for small or large areas. Fiberglass-reinforced polyester housing has integral bronze color. All components are readily accessible for low maintenance.

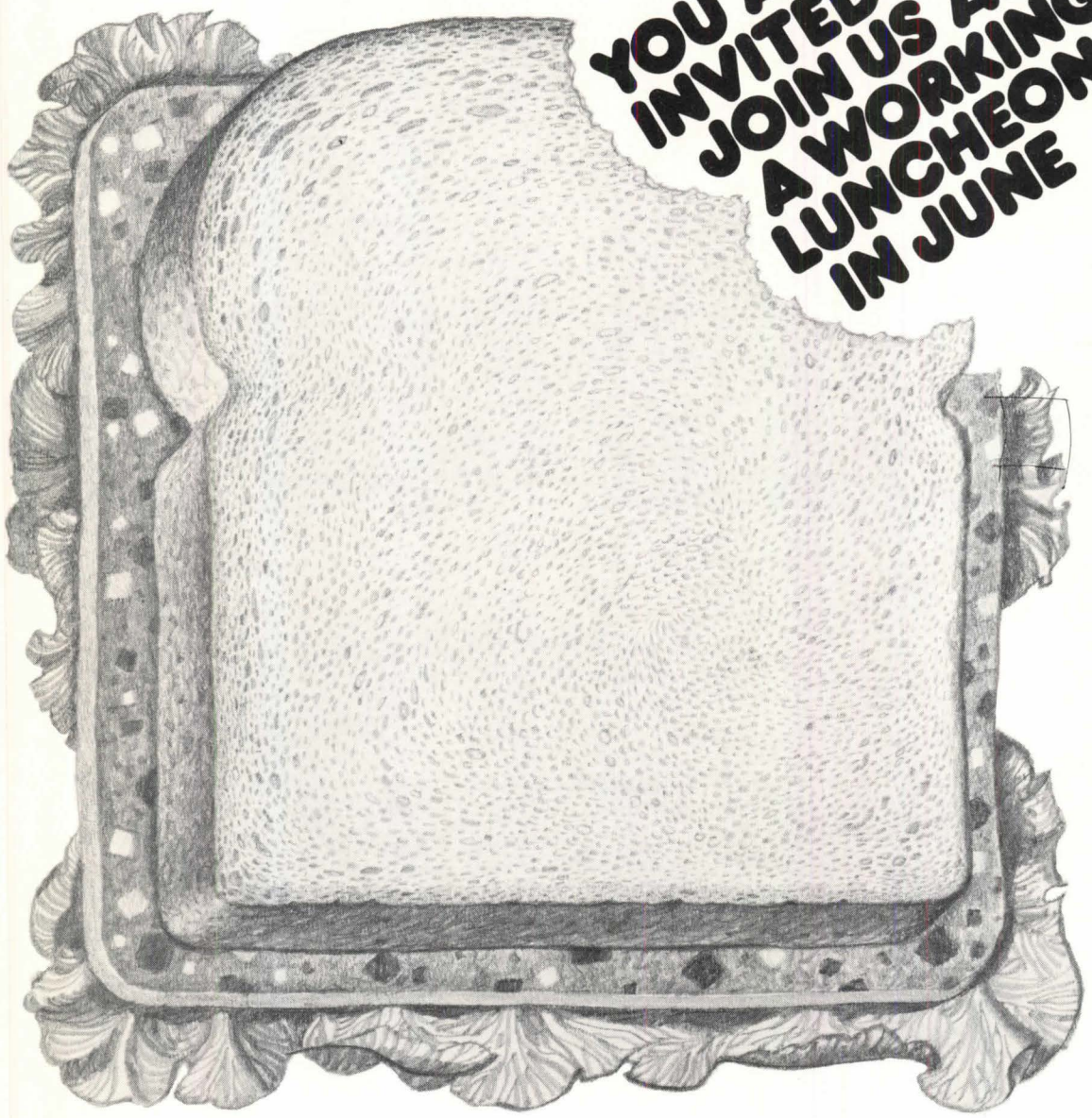
But don't take our pictures for it. Ask for a demonstration. And full facts. Contact your Crouse-Hinds lighting representative or call (315) 477-8241. Crouse-Hinds Company, Lighting Products Division, Syracuse, N.Y. 13201.



CROUSE-HINDS®

CROUSE-HINDS

Circle 18 on information card



YOU ARE INVITED TO JOIN US AT A WORKING LUNCHEON IN JUNE

A SHORT COURSE IN "STEEL FRAMING SYSTEMS" FOR ARCHITECTS, ENGINEERS AND DEVELOPERS

The Background
Steel framing systems composed of cold formed steel studs and joists afford time and cost savings for all types of building construction...residential, commercial, institutional and industrial...of almost any size. Their remarkable growth in acceptance and use over the past ten years attests to that. Yet many designers and others involved in the selection of construction materials still overlook the potentials they offer.

Our Purpose
If you are concerned about soaring building costs and open to new ideas on ways to economize while maintaining construction quality, we'd like to tell you about steel framing systems...give you a concise understanding of what they are...how product diversification has extended their range of application...how innovations in installation techniques have simplified and speeded erection...how and where their many benefits can be applied to advantage on your projects.

Our Proposal
Come and spend two hours and fifteen minutes with us—over a noon hour—at an informative, no frills, no nonsense meeting. The location will be an easy to reach, downtown hotel. There'll be no time-wasting cocktail hour. We'll provide a tasty box lunch and appropriate beverages so we can eat while working. We'll start promptly at 11:45 a.m. and end promptly at 2:00 p.m.

The Program
These are some of the topics we plan to cover:

1. Description of the components.
2. Low rise load bearing applications.
3. High rise curtain wall, spandrel wall and other applications.
4. Structural savings through weight reduction.
5. Thermal value comparisons.
6. Prefabrication and panelization techniques.
7. Design flexibility.
8. Other cost saving considerations.
9. Examples of completed projects.

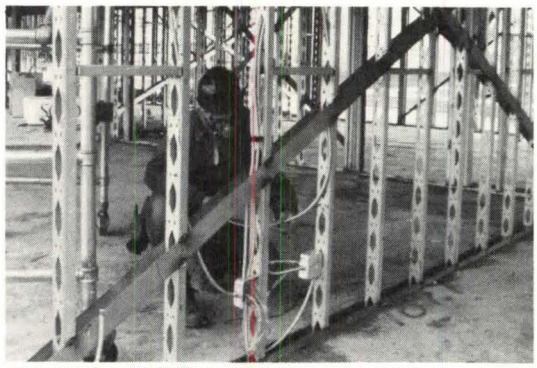
Our Qualifications
Inryco is recognized as a nationwide leader in the steel framing field. In addition to manufacturing the product, we have acted as subcontractors for framing systems erection and have provided technical assistance for designers on hundreds of projects. Thus we can share actual experience with you on all aspects of the subject.

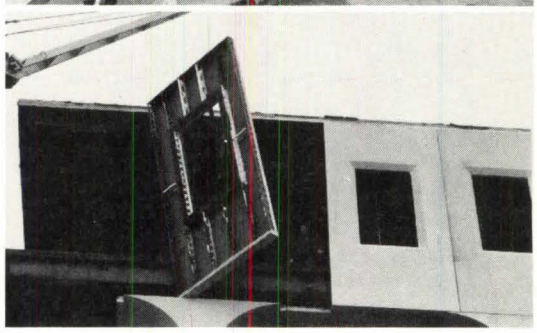
The Times And Places
Tuesday—June 1—Philadelphia
Thursday—June 3—Washington, D.C.
Tuesday—June 8—Los Angeles
Thursday—June 10—San Francisco
Tuesday—June 15—Dallas
Thursday—June 17—Chicago

Reservation Deadline—May 1
Our meetings are open to all interested architects, engineers and project developers. Please use the coupon on the facing page to request a reservation, and please send it in promptly. In order to properly organize our arrangements, we must hear from you by May 1.

Inryco
an Inland Steel company

General Offices: Melrose Park, Ill.
Formerly INLAND-RYERSON CONSTRUCTION PRODUCTS CO.





ECONOMIES OF INRYCO/ MILCOR® STEEL FRAMING APPLY TO A WIDE RANGE OF WALL CONDITIONS

Steel studs provided the entire structural support for the top three floors and heliport on this office building. Exterior facing material was metal wall panels.

Steel framing for interior load bearing wall is shown with wind bracing installed. Punchouts in the steel studs make installation of piping and wiring simpler and faster than with wood or masonry construction.

Steel stud panels pre-finished with cementitious facing expedited installation of the top floor curtain wall and the column covers on intermediate floors of this six story bank building.

During construction of this hotel, spandrel panels (steel framed and with cementitious facing in place) were fabricated on each floor, moved out to the perimeter, lowered over the edge and secured. Revolving restaurant on top has similar exterior construction.

NOTE: Inryco/Milcor steel framing systems have also been used in many apartments, motels, and other residential applications.

INRYCO, Inc.
Dept. D, 4127 W. Burnham St.
P.O. Box 393
Milwaukee, WI 53201

Please reserve a space for me at the Inryco/Milcor Steel Framing luncheon scheduled for the city of _____

Name _____ Title _____

Firm Name _____

Address _____ Phone No. _____

City _____ State _____ Zip _____

The following additional people from my firm also wish to attend:

Name _____ Title _____

Name _____ Title _____

DEADLINE FOR RECEIPT OF RESERVATIONS – MAY 1.

SEND YOURS IN TODAY.

Books from page 78

Planning and Managing Housing for the Elderly. M. Powell Lawton. New York: Wiley, 1975. 329 pp. No price given.

This book, written by a highly respected individual in the field of gerontology, is very broad in its approach. The author himself admits this fact and that the book is "quite sketchy" in parts.

There are three main divisions: (1) Background, (2) The Planning and Designing Phase and (3) Management, Tenants and Programs. At the end of some chapters are helpful summary outlines which could be used as quick references.

Part 1 is the "sketchy" presentation, though it does provide information about federally sponsored housing programs. It also orients the reader to roles of the elderly that might influence planning.

Part 2 provides some basic principles for determining needs, locations and services for planning housing for the elderly. Chapter 7 on "Designing the Building" reflects the background of the psychologist and emphasizes the need for security or protective designing and socialization opportunities. The discussion on designing to promote socialization is outstanding. Although this chapter is 100 pages in length, there are major omissions in designing houses for the aged in relation to the process of aging, such as factors which influence lighting of the visual pathway, color contrast in so many important areas and the change in muscular strength, which has direct bearing on the weight of doors.

Part 3 is devoted mostly to the role of the administrator and the complexity of his position. Though his relationships with boards of directors and tenants' councils are discussed, no mention is made of the need for an advisory council. Yet, many of the decisions to be made by the administrator are usually not within his realm of knowledge and, therefore, there is a need for an advisory council to assist him in making decisions.

The document is slanted toward public housing and management. Complete references are often omitted. It becomes difficult to discern if most of the informal observations arose from the author's experience and study at the Philadelphia Geriatric Center or from the nation.

There is an absence of discussion of future trends. Those entering the elderly category in the next decades may have a different orientation to housing. Already there is an increase in demand for efficiency apartments due, in part, to changes in the economy. New patterns of health care delivery are emerging which could obviate the "clinic" atmosphere in a housing project.

The author realizes that the book has deficits and recognizes the need for another book. Such a book, it is hoped, will be wider in scope and futuristic and will include references based on wide research findings. *Dr. Virginia Stone, Scientific Associate, Center for Aging and Human Development, Duke University*

Preservation & Building Codes. Washington, D.C.: Preservation Press, National Trust for Historic Preservation, 1975. 96 pp. $4, plus 50 cents postage.

Giorgio Cavaglieri, FAIA, a specialist in the restoration and adaptive use of urban public structures, comments in this book that laymen often suggest that special waivers be given historic buildings in order to preserve original designs. But, he says, even if code requirements sometimes seem "oppressive and disturbing," the safety and comfort of users cannot be disregarded. It is the duty of the restoration architect "to make preservation compatible with code requirements and when selecting the design items of secondary importance to carefully choose those that can be changed in order to permit the required or desired protection." If an historic structure is spared, what is gained if the whole thing goes up in smoke and fire?

The many problems of adapting old buildings to new uses and of making the structures safe are considered in this volume. It is the report of a conference on preservation and building codes which was sponsored by the National Trust for Historic Preservation; cosponsors were AIA and 10 other organizations. The book contains the 25 papers presented at the conference by architects, building code officials and preservationists.

Recommended to all those concerned with preservation problems, the report may be obtained from the Preservation Bookshop, NTHP, 740-748 Jackson Place N.W., Washington, D.C. 20006.

School Zone: Learning Environments for Children. Anne P. Taylor and George Vlastos. New York: Van Nostrand Reinhold, 1975. 144 pp. $7.95.

This profusely illustrated book is for architects who want to know more about education, educators who want to know more about architecture and lay people interested in school design. The authors, both of whom are designers of schools, contend that despite great changes in educational methods "we have closeted our children for years in sterile monochrome classroom boxes which house antiquated desks, tables and inadequate storage systems." Instead of being just a thing in which learning takes place, the classroom should be an integral part of the learning process, they say.

The book is straightforward and not at all technical. It suggests, for example, that today's learning environment should be "multisensory," incorporating elements which appeal to the child's sight, hearing, touch, smell and taste. "We consider classroom environments and outdoor play areas as functional art forms—we see them as three-dimensional textbooks. And, we have learned through our research that better environments promote better learning. . . ."

Plan Graphics: Drawing, Delineation, Lettering. Theodore D. Walker. West Lafayette, Ind.: PDA Publishers, 1975. 219 pp. $18 hardbound, $12 paperbound.

"Good graphics are impressive to clients whether we like it or not," says Walker. He goes on to say that graphic skills are perceptual motor skills. They can be acquired through patient hours of practice, although some people learn more quickly than others.

Very little text is in this book, as Walker explains, because "perceptual motor skills are almost impossible to describe in words." What the book does is to show nearly 200 pages of illustrations from 36 individuals and professional offices which may be used by a person in experimenting with the development of his own skills.

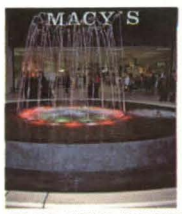
The book opens with graphic techniques for site analysis, and chapters follow on design concepts, master plans, freehand plans, elevations and sections, and lettering. The illustrations have been masterfully prepared by David Linstrum. The book may be bought from PDA Publishers, Box 3075, West Lafayette, Ind. 47906.

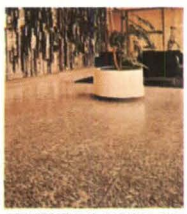
The Architecture of Arthur Erickson, with text by the architect. Montreal: Tundra Books, 1975. 228 pp. No price given.

Arthur Erickson is a Canadian who was the architect of such widely acclaimed complexes as Simon Fraser University, the Canadian Pavilion for Expo '70, the University of Lethbridge and many other award-winning buildings and houses. Erickson says that certain concerns determine the character of an architect's work. Those important to him are site, light and cadence, and he discusses each and then describes his individual projects.

The book is important because of its insights into the creative processes of architecture. It is also a tour de force in modern bookmaking. It was five years in preparation. "Every component, from format to paper and binding," says the publisher, "has been carefully chosen and supervised to meet the highest standards of bookmaking." Erickson collaborated on the design, selecting the beautiful photographs and writing the lucid text. The 44 color photographs were printed by five-color offset "to suggest the depth, texture and space of the buildings," and the 91 black and white photographs were reproduced by sheet-fed gravure. Such careful attention to every detail results in a stunningly beautiful book. *continued on page 92*

terrazzo





SEE OUR CATALOG IN SWEET'S ARCHITECTURAL CATALOG FILE

HATCH SOMETHING DIFFERENT.

Few materials give you the design freedom that terrazzo does. Put terrazzo on the floor. On a wall. On stairs. Make decorative structures and centerpieces. Use it indoors, outdoors. For accents. For large areas. In smooth textures or rough, rustic textures. Put designs in it. Create magnificent contrasts. □ You can be different with terrazzo for less than you think. Many select terrazzo simply because long life and low maintenance make it the economical choice. Terrazzo's total annual cost can be less than half that of nylon carpet. Send for literature now. Write **terrazzo** 2A West Loudoun Street, Leesburg, VA 22075. Or call (703) 777-7683.

its low annual cost is beautiful too.

Circle 20 on information card

Eight very different structures with one important thing in common:

they're all winners of 1975 CRSI design awards.

From diversity, excellence. The Second Annual CRSI Design Awards Program drew a large number of entries from through out the nation. From this distinguished group of structures demonstrating the versatility of reinforced concrete, eight were chosen winners of 1975 CRSI Design Awards. They were selected by our panel of jurists for innovative excellence in their diverse uses of cast-in-place reinforced concrete.

All winners share equally in the Awards. There are no categories of award recognition in this program. All winners are considered equal in their achievements.

Write for the Awards Portfolio. It gives complete details on the award-winning structures. For your copy, write CRSI, at the address below, attention Victor A. Walther, Jr., Director of Marketing.

The jurists:

William Marshall, Jr., FAIA
Past President (1975) of AIA
McGaughy, Marshall and McMillan
Norfolk, Virginia

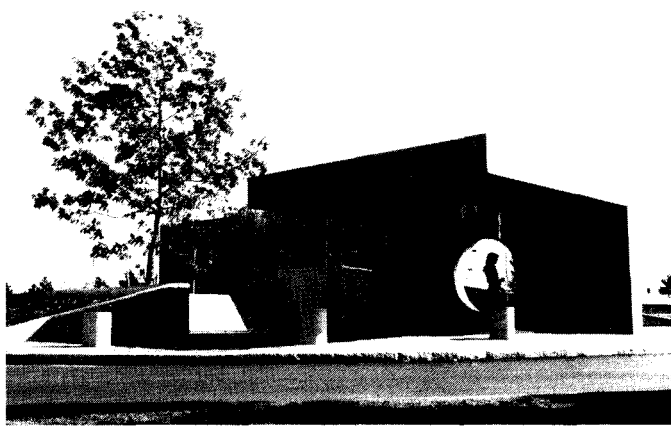
Arthur J. Fox, Jr.
President of ASCE
New York, New York

Edward Killingsworth, FAIA
Killingsworth, Brady & Associates, Architects
Long Beach, California

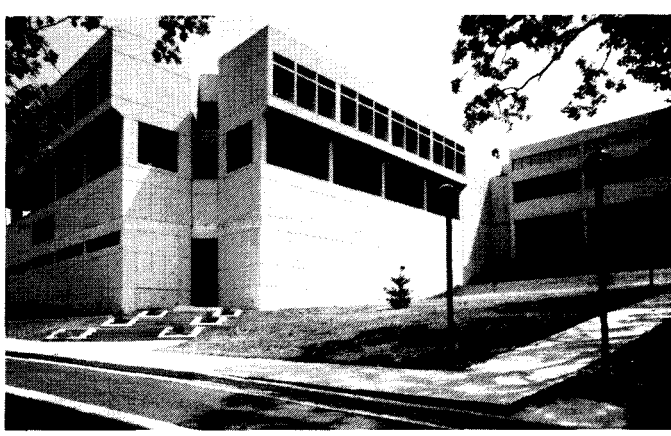
William C. Muchow, FAIA
Muchow Associates, Architects
Denver, Colorado

Richard Whitaker, AIA
Head, Department of Architecture
University of Illinois
Chicago, Illinois

Special Design Awards Consultant:
Mrs. Maria F. Murray
Director, Awards Program, AIA
Washington, D.C.

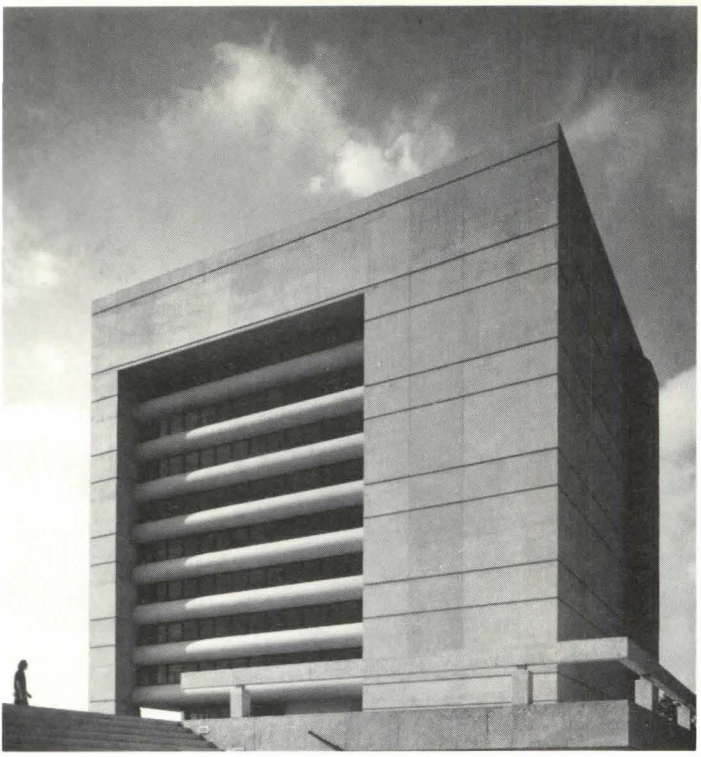


INFORMATION CENTER, Rochester, New York
Jury Comments: "Great imagination . . . quality of execution . . . creative site design . . . great visual impact."
Owner: Rochester Institute of Technology, Rochester, N.Y.
Architect: Robert Macon & Associates, Rochester, N.Y.
Structural Engineer: Raymond DiPasquale & Associates, Ithaca, N.Y.
General Contractor: The LeCesse Corp., Rochester, N.Y.

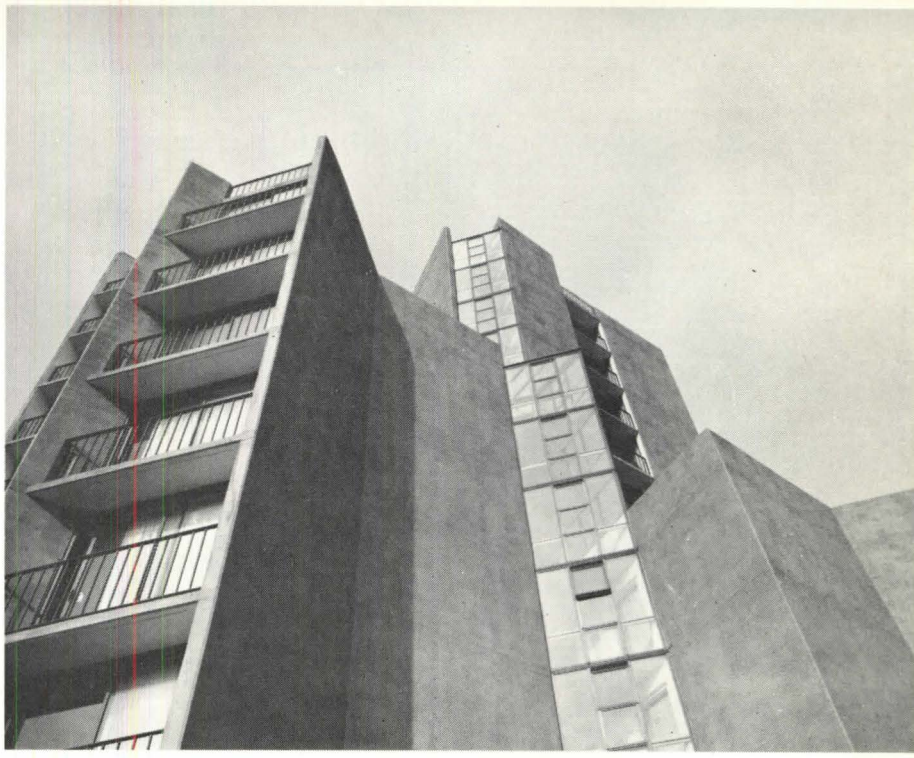


ARKANSAS UNION, Fayetteville, Arkansas.
Jury Comments: "A complex building . . . very competently conceived and detailed . . . uses simple forms to create order."
Owner: University of Arkansas, Fayetteville, Arkansas.
Architect: Wittenberg, Delony & Davidson, Inc., Little Rock, Arkansas.
Structural Engineer: Engineering Consultants, Inc., Little Rock, Arkansas.
General Contractor: Manhattan Construction Co., Manhattan, Kansas.

CRSI CONCRETE REINFORCING STEEL INSTITUTE
180 North LaSalle Street, Room 2111-D,
Chicago, Illinois 60601



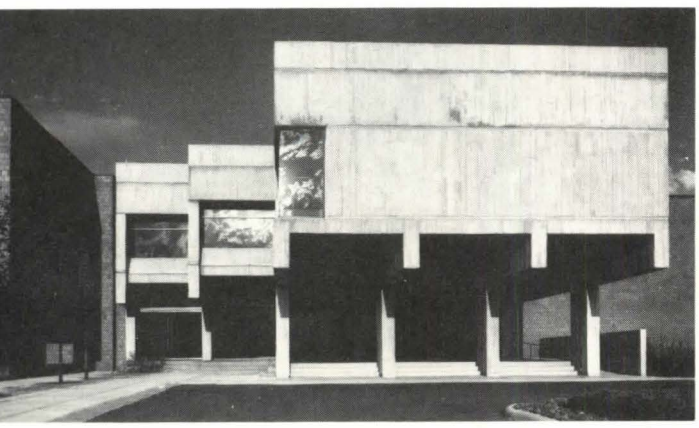
AGRICULTURAL SCIENCES BUILDING-SOUTH, University of Kentucky, Lexington, Kentucky.
Jury Comments: "Crisp, simple, and eloquent . . . fully functional . . . very expressive of its purpose . . . restrained design."
Owner: Commonwealth of Kentucky (Div. of Engineering), Frankfort, Ky.
Architect: Bickel-Gibson Associates, Architects, Inc., Louisville, Kentucky.
Structural Engineer: White, Walker and McReynolds, Lexington, Kentucky.
General Contractor: John Wile Construction Company, Louisville, Kentucky.



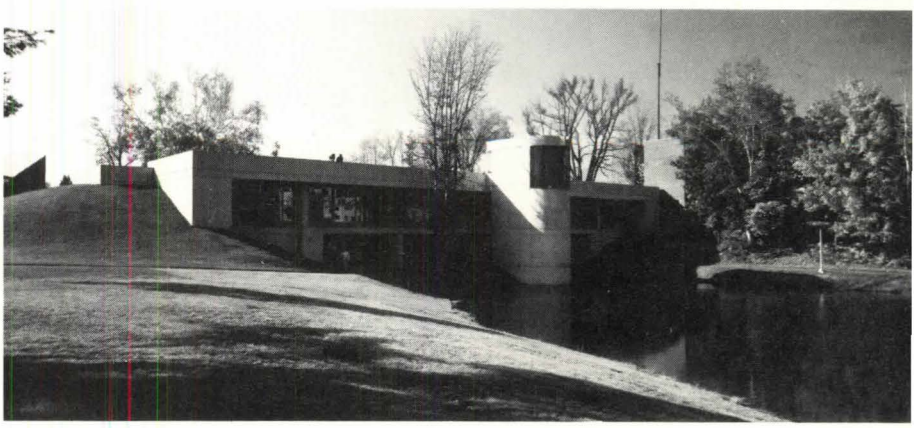
HOUSING FOR THE ELDERLY, San Francisco, California.
Jury Comments: "Deft and imaginative . . . refreshing break from sterile box-like forms . . . nicely set into low-density urban site."
Owner: San Francisco Housing Authority, San Francisco, Calif.
Architect: Marquis and Stoller, Architects & Planners, San Francisco, Calif.
Structural Engineer: Forell/Elsesser Engineers, Inc., San Francisco, Calif.
General Contractor: The Pacific Co., Engineers & Builders, Berkeley, Calif.

SHERMAN FAIRCHILD PHYSICAL SCIENCES CENTER, Hanover, New Hampshire.
Jury Comments: "Handsome linkage of older existing buildings . . . greatly enhances whole . . . very effective functional solution."
Owner: Dartmouth College, Hanover, New Hampshire.
Architect: Shepley Bulfinch Richardson and Abbott, Architects, Boston, Mass.
Structural Engineer: Nichols, Norton and Zaldastani, Inc., Boston, Mass.
General Contractor: Jackson Construction Co., Boston, Mass.

EDWIN J. THOMAS PERFORMING ARTS HALL, Akron, Ohio.
Jury Comments: "Extremely competent in the planning and use of the site in a congested urban area . . . achieves human scale."
Owner: University of Akron, Akron, Ohio.
Architects: Caudill Rowlett Scott, Houston, New York, Los Angeles.
Dalton, Van Dijk, Johnson & Partners, Cleveland, Ohio.
Structural Engineers: R. M. Gensert and Associates, Cleveland, Ohio.
General Contractor: Mosser Construction, Inc., Fremont, Ohio.



DAKOTA COUNTY GOVERNMENT CENTER, Hastings, Minnesota.
Jury Comments: "Imaginative use of concrete textures . . . incredible consistency . . . appealing forms and spaces of great strength."
Owner: The County of Dakota, Hastings, Minn.
Architect and Structural Engineer: Ellerbe, Inc., Bloomington, Minn.
General Contractor: Sheehy Construction Co., St. Paul, Minn.



LYNDON STATE COLLEGE LIBRARY, Lyndonville, Vermont.
Jury Comments: "Low-key . . . beautifully executed . . . most successful combining of nature and architecture."
Owner: Vermont State Colleges, Burlington, Vermont.
Architect: The Perkins & Will Partnership, White Plains, N.Y.
Structural Engineer: Sol Marenberg Associates, New York, N.Y.
General Contractor: R. E. Bean Construction Co., Inc., Keene, New Hampshire.

Another Paddock First

A SURGE CONTROL RECIRCULATION SYSTEM THAT WORKS AUTOMATICALLY AND INSTANTANEOUSLY

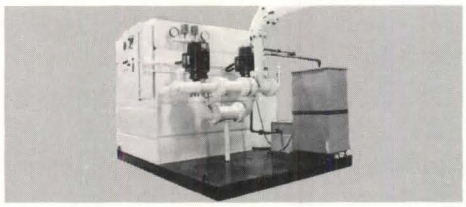
Revolutionary New System Activated By Number of Swimmers and Type of Activity

The Paddock SCRS® Perimeter System responds automatically to dynamic impulses activated by the swimmers in the pool. The following recirculation phases are maintained continuously and automatically for the life of the pool:

- Pool water level to provide a constant minimum flow rate from pool surface at all times.
- Surge weirs that open and close as use dictates to provide instantaneous "in-pool" surge capacity when required.
- Action of main drain for most efficient channel flow.
- Increase or decrease recirculation rate to prevent gutter overflow.
- Push button water level control for competitive swimming.

In addition to automatic control, the Paddock SCRS System also provides surge containment capacity and flow rates up to 3,000 gallons per minute right in the pool wall.

Check out Paddock's new surge control recirculation system for new construction or renovation today. It offers untold economies and efficiencies now and for the life of the pool. Write Vice President, Marketing; Paddock Pool Equipment Company, Inc., P.O. Box 511, Rock Hill, So. Carolina 29730.



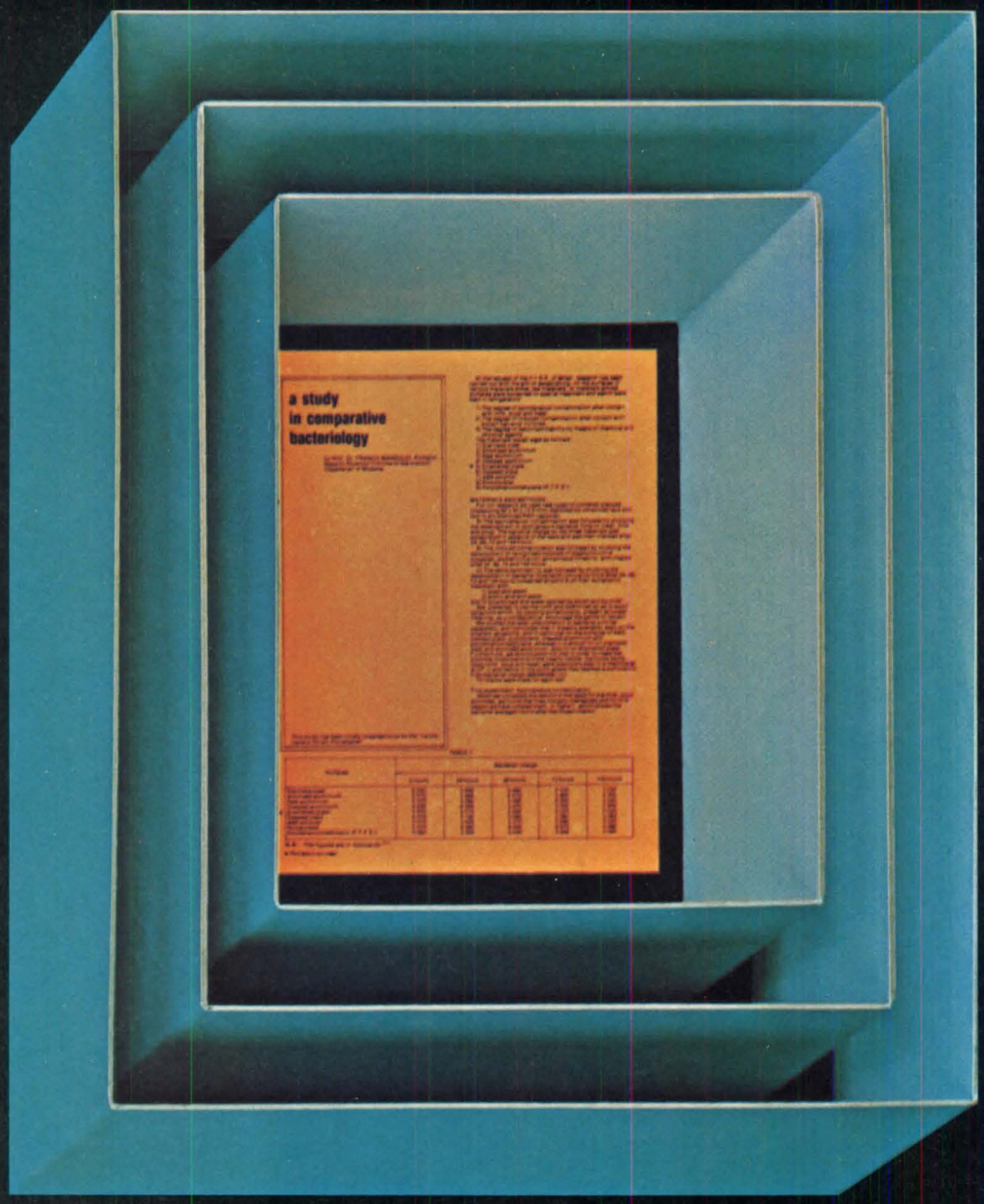
▲ *Paddock's Hydro-Analyzer automatically controls pH level and chlorine residual in your pool and saves you thousands of dollars annually.*

◀ *Paddock can supply the total Mechanical Package—skid mounted and pre-wired—eliminates field errors.*

Paddock
OF CALIFORNIA, INC.

Circle 22 on information card


Compare the
ALL·STEEL executive look
for design and value.
All-Steel's new 1600 Series offers you the many advantages of *steel* with the executive look. Desk and table back-panels available in choice of recessed or flush design. Three panel styles: To-the-floor, 18 inches and 12 inches high. "Floating" top set off with black reveal. Specify with double, single, or no pedestals. Desks and credenzas offered with choice of 9 pedestals, including EDP for printout storage. Concealed wiring channels hide telephone and machine cords. Flush bases in mirror or brushed chrome. Flush drawer pulls.
Desks and tables are available with or without center drawer.
For more information on the 1600 Series write: All-Steel Inc., Aurora, Illinois 60507.
ALL·STEEL
All-Steel Showrooms in New York, Los Angeles, Chicago, Aurora. In Canada, All-Steel Canada, Ltd. One of the CIT Companies.
Circle 23 on information card



NOW! A NEW WALL COVERING THAT FURTHER INHIBITS THE GROWTH OF INFECTIOUS BACTERIA.

Bacteria never did have much of a chance for staging a population explosion on porcelainized steel. And now, with the introduction of Vitriform 90, bacteria have even less chance for survival.

This amazing new material, with its non-porous, glass-smooth surface, requires no moldings in its installation. And only a minimum number of groutlines (1 every 4 feet on vertical joints). Elimination of moldings means the bacteria have virtually no place to nest and multiply.

Vitriform 90 can be formed at 90° angles with the porcelain already applied - - without spalling, chipping or crazing. Panels butt right up against each other. A special adhesive is used for installation that supplants the need for moldings. Vitriform 90 can be installed over existing walls; is guaranteed for 50 years, and never requires painting or expensive maintenance.

Laminated to Type X fire-coded gypsum board, Vitriform 90 creates a fire-proof barrier that won't degenerate like woods, plastics, vinyls and resins.

Recommended For Interior Walls And Ceilings Of: Hospitals, operating rooms, doctors' offices, clinics, nursing homes, infirmaries, restaurants, kitchens, dining rooms, food processing plants . . . anywhere control of bacteria is essential.

Send For Your Free Copy. The Clinical Research Department, Hospital Institute of Modena, Italy has issued a detailed report on the growth of bacteria on various building materials. Titled "A Study in Comparative Bacteriology," reprints are being offered free by the AllianceWall Corporation.

AllianceWall® Corporation
Box 247, Alliance, Ohio 44601

Manufacturing plants in Alliance, Ohio; Okmulgee, Oklahoma; Odense, Denmark and Genk, Belgium.

Circle 24 on information card

This full-recessed drinking fountain

Goes on Giving!

Model 2510

A drink of water now, when the building is new, and for years to come. Haws incorporates this unparalleled product reliability within a *smoothly* molded receptor of Polymarble. Suit your decorating fancy with Tan, or give some thought to Satin Gray, Yellow Mist, Cerulean Blue, Pistachio Green or White. With any Polymarble fountain you choose, there's luster that lasts, to resist bumps, abrasion, chalking; plus the cleanly swept appearance of recessed bubbler and flush-mounted push-button valve.

Polymarble drinking fountains, part of the Haws experience in reliability since 1909. For full product information and Polymarble Color Selector, contact your nearest Haws Representative or Haws Drinking Faucet Co., 1441 Fourth Street, Berkeley, CA 94710.

Haws®

DRINKING FOUNTAINS

Circle 25 on information card

NEW! LEES UNIBOND CARPETS.

A system for making carpet better than ever before. Better for schools, for offices, nearly everywhere.

Tuft Bind—it takes more than double the effort to pull out a tuft. In fact, most times the yarn breaks first. Virtually eliminates the problem of deliberate or accidental snagging and unraveling of yarn.

Delamination—Unibond prevents separation of face and backing. Eliminates need for chair pads. Allows use of carpet where rolling traffic prohibited it previously.

Because Unibond carpets are completely man-made, they are impervious to moisture, not subject to problems arising from excessive moisture during cleaning.

See how well it can work for you. Call 800-523-5647 (toll free) or write for a demonstration in your office or a brochure.

When measured with a scale it takes an average pull of 20 lbs. to dislodge a tuft from a Unibond carpet. Normal carpets average less than 10 lbs.

LEES carpets

A DIVISION OF BURLINGTON INDUSTRIES, INC.
Contract Dept., Valley Forge Corporate Center
King of Prussia, Pa. 19406

UNIBOND
UNIBOND
CARPET BONDING SYSTEM

TRY TO PULL OUT A TUFT... MOST TIMES THE YARN WILL BREAK FIRST.

Do you own a small business?

Go over these 6 questions with your group insurance agent.

If you don't get 6 "Yesses"– call Allstate.

CLIP HERE

1. Does my present group Major Medical benefit *keep on paying,* no matter how expensive the illness or accident becomes? YES NO

2. Does my present basic medical expense insurance pay the very first dollar (so I pay no deductible) for expenses such as surgery, room and board, X-ray and lab, and in-hospital doctor fees? YES NO

3. Is my present plan designed to pay up to 95% of hospital expenses? YES NO

4. Does my present plan cover all X-rays and lab tests other than routine physical exams? YES NO

5. Does my present plan provide disability income protection to help replace my employees' paychecks and mine? YES NO

6. Does my present plan provide coverage for maternity expenses? YES NO

How to answer "Yes" to every one.

You'll be able to answer "Yes" to all these questions—and quite a few more—if you have the Allstate Small Employer Group Medical Plan A, with disability income, maternity expense coverage, and life insurance. We also offer alternative plans. All include life and accidental death and dismemberment insurance.

What do we call a "small" business?

At least three employees (including yourself), and fewer than 26. If your company fits in here, you're probably eligible for an Allstate Small Employer Group Plan.*

How to call Allstate.

Simply look in your phone book under "Allstate." An agent will gladly come out and talk to you at your convenience.

See your Allstate agent for costs, details of the coverage, exclusions, reductions, limitations and terms under which insurance may be continued in force. Or just write Allstate.

*Available in most states to businesses that qualify.

Allstate®
You're in good hands.

Allstate Insurance Co., Allstate Life Insurance Co., Northbrook, IL.

Circle 27 on information card

Books from page 82

Architect: Cleveland, Ohio: Educational Research Council of America, 1975. 35 pp. $1.65.

"Is it worth it to become an architect?" This question is asked in a recommended booklet on "real people at work" titled *Architect*. The answer to this query is: "Architects receive much pleasure in seeing their designs become real buildings. Architects usually work 40 hours a week, but sometimes they work longer. . . . Most architects fall in the upper income groups."

Appropriate for the above-average reader in the fourth grade reading level, the booklet tells about what an architect does to bring a structure from idea to reality. In simple language, it describes such things as site selection, specifications, building codes and construction.

The booklet may be ordered for $1.65 from the Changing Times Educational Service, 1729 H St. N.W., Washington, D.C. 20006.

The 1866 Guide to New York City: New York as It Is; or, Stranger's Guide-Book to the Cities of New York, Brooklyn and Adjacent Places. New York: Schocken Books, 1975. 141 pp. $2.50.

New York city in the latter part of the 19th century, as this reprint of a guidebook published in 1866 reveals, was even then "justly regarded as the metropolitan city of the new world."

The guide leads the stranger into the city's parks and squares; informs him of the "benevolent institutions," such as the Magdalen Female Asylum; tells him of the literary and scientific institutions, with reference to Columbia College, which boasted about its 12 professors; describes the places of amusement, including Barnum's American Museum, with its "curiosities of every description"; lists churches and hotels, and guides the visitor into the city's notable stores, "celebrated alike for the beauty of their architecture and variety of their stock."

Particularly interesting are the advertisements in the back of the book: one for the *Phrenological Journal;* another for Peter Cooper's "refined gelatine, a prime article," and yet another for "gents' hats and caps."

Altogether, the little guide to a city's yesterday will provide the casual reader with a few hours of entertainment; for the social scientist, it's worth much more.

Office Building Design. 2nd edition. Edited by Mildred F. Schmertz, AIA. New York: McGraw-Hill, 1975. $21.50.

The 28 office buildings discussed in this volume "are among the best of those designed by U. S. and Canadian architects and completed in the past five years," writes the editor. Included among them is the AIA headquarters building in Washington, D.C., (The Architects Collaborative). All the articles collected here first appeared in *Architectural Record*. The book is useful in that it brings together in one copiously illustrated volume a great deal of information about the design of office buildings, presenting it in a case study fashion.

Architectural Photography. Eric de Maré. London: Batsford (distributed by Hippocrene Books, 171 Madison Ave., New York, N.Y. 10016), 1975. 96 pp. $12.50.

The first 18 pages of this little book is an essay on architectural photography in which a master of the art discusses such things as composition, cameras, lenses, lighting. The major portion of the book is given over to photographs, the majority the work of the author. The selection has been made, he says, "to interpret the word architecture as widely as possible and at the same time to serve, it is hoped, as stimulating exemplars of the art of building with light." The lengthy captions to the photographs comment on the architecture and explain the kind of camera and type of lens used to take the photograph.

Design Considerations for a Precast Prestressed Apartment Building. Chicago: Prestressed Concrete Institute, 1975. 224 pp. $10.

Fifteen consulting engineers have contributed to this book which gives from concept to final construction the step-by-step design procedure to follow in the erection of a 24-story apartment building in Atlanta (seismic zone 1). The building was chosen "in an attempt to present the majority of design considerations which would be required for most highrise buildings." For an actual structure, variations would be based on the basis of cost and availability of materials. The book's eight chapters consider the design problem; analysis of lateral load resisting elements; design of load bearing wall panels; design of secondary floor members; design of frame; design of prestressed concrete pile foundations; design for erection consideration, and design against progressive collapse. The result, as PCI says, is a "clear picture of the design procedure following the usual order of solution by a designer in a typical engineering office."

Environmental Impact Statement: A Reference Manual for the Architect/Planner. Kaiman Lee, AIA. Boston: Environmental Design & Research Center (940 Park Square Building, Boston, Mass. 02116), 1974. 254 pp. $52. **Federal Environmental Impact Statements Related to Buildings, 1973-1974.** Kaiman Lee, AIA. Boston: Environmental Design & Research Center, 1975. 102 pp. $30.

The National Environmental Policy Act of 1969 requires the preparation of environmental impact statements on "proposals for legislation and other major federal actions significantly affecting the quality of the human environment." And, as Lee points out, agencies and private developers are increasingly considering environmental impact analysis even when the preparation of an EIS is not required by law.

These two volumes cover procedures to be undertaken in the preparation of an EIS, giving detailed information on every step in the process. The first volume includes federal acts, state acts, information matrix content, project type checklist and a list of EIS reports from June to December 1973. The second book is a supplement and enables the user to find easily appropriate existing environmental impact statements. It lists 190 statements related to buildings. As Lee explains, the user has information on how to order the documents. "Once he has a reference statement in front of him, he will feel like having his own statement already half completed. He can quickly go through a representative list of impact criteria, and quickly identify those potential adverse impacts. He then will have plenty of time to concentrate on solving the potentially controversial issues."

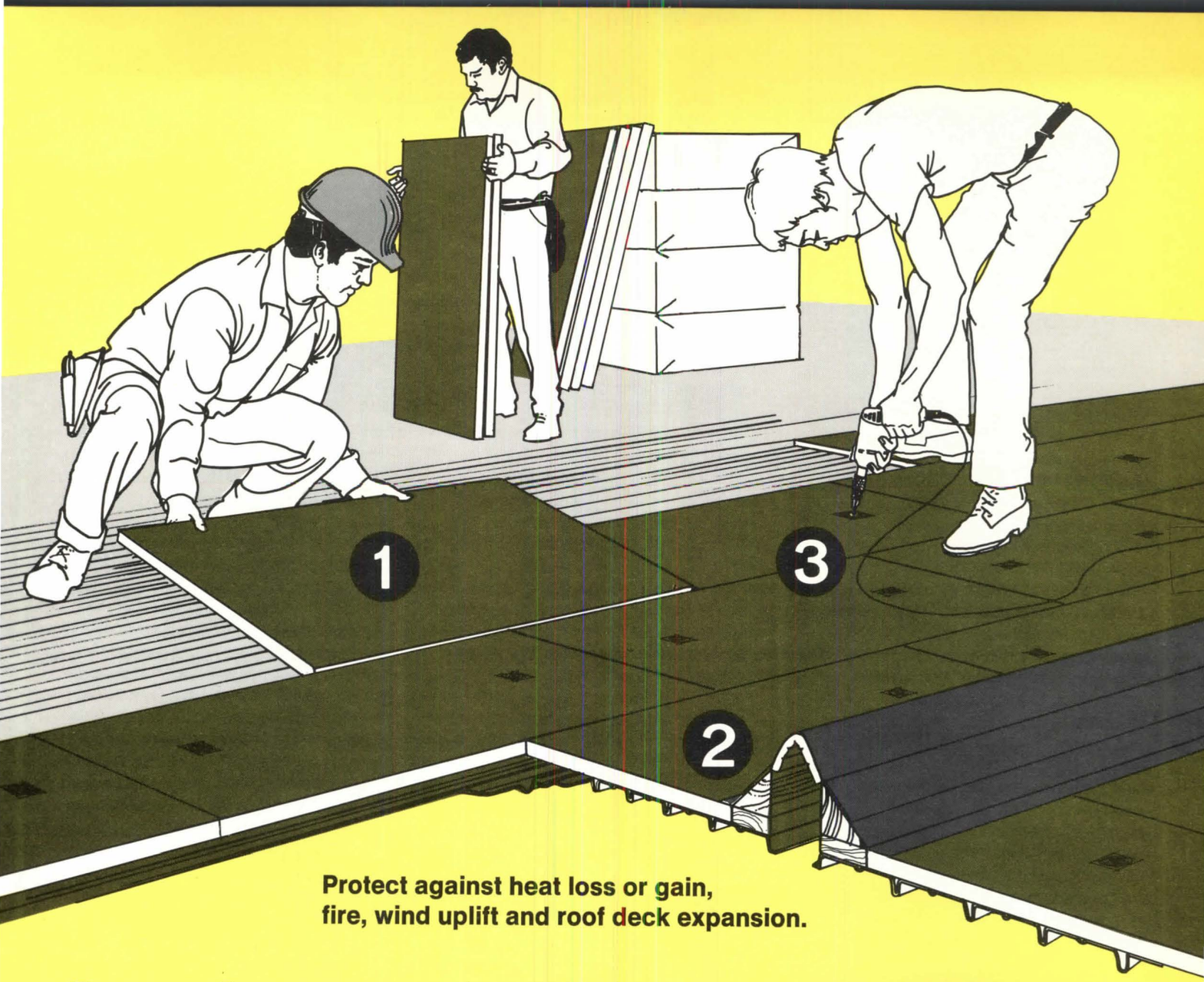
Landscape Assessment: Values, Perceptions and Resources. Edited by Ervin H. Zube, Robert O. Brush and Julius Gy. Fabos. Stroudsburg, Pa.: Dowden, Hutchinson & Ross (distributed by Halsted Press), 1975. 367 pp. $35.

Policy makers are recognizing increasingly the importance of the landscape as a scenic resource, say the editors of this book. They believe that "a considerable amount of work has been done in landscape perception and in the development of landscape-assessment methods by individuals working collaboratively and individually in a number of disciplines." Hence, this state-of-the-art report has been prepared to benefit both practitioners and researchers.

The authors of the collected papers come from many disciplines: the behavioral, social and natural sciences; the humanities; the planning and design professions. Each was asked to report on the current status of his own field of expertise. Each reviews recent literature, the current status of his own research and his view of landscape assessment.

The papers are arranged around three central themes: landscape values, where the emphasis is upon "traditional qualitative values associated with the landscape as they are expressed in contemporary culture"; perceptions, where the focus is upon human responses to the visual landscape, and resources, where the stress is on application—models developed for landscape planning and management.

The book will be of value to both practitioners and researchers.



Protect against heat loss or gain, fire, wind uplift and roof deck expansion.

Security starts at the roof with GREFCO

1 Permalite® Sealskin® Rigid Roof Insulation

provides a better insulated roof for a longer time with less trouble. Composed of feather-light, non-combustible perlite, waterproofing agents and binder. Integral Sealskin surface treatment provides both resistance to bitumen soak-up and a superior bond of roofing felts to insulation. Resistant to vermin, mildew and rot. Easy to lay and fit. Non-irritating. FM and UL listed.

2 Metalastic® Expansion Joint Cover

is the only expansion joint cover that has a seamless extrusion. Perforated 2″-wide tempered steel nailing strip in each flexible vinyl flange provides positive fastening and avoids concern of use with dissimilar metals. Flexible at temperatures down to −50°F. and resistant to aging, cracking and atmospheric pollutants. Will not loosen, shrink or corrode. Splicing takes only seconds regardless of temperature.

3 Perma-Fastner™ Roof Insulation Attachment System

holds better — saves bitumen. One specially designed, patented Perma-Fastner every four square feet holds board tightly to deck without adhesive — hot or cold — and provides positive protection against wind uplift, vibration and construction movement. Strong 3″ x 3″ steel distribution plates — not tin tabs — secure boards firmly without damage to insulation or felts. Self-drilling, self-tapping screws completely fill holes they make in deck. Perma-Fastner is FM and UL approved for use with GREFCO and other insulations.

Circle 28 on information card

A subsidiary of General Refractories Company

GET ALL THE FACTS FROM
GREFCO, Inc./Building Products Division
2111 Enco Drive, Oak Brook, Illinois 60521 — (312) 654-4500

LETTERS

NCARB Examinations: A letter to the editor in the January issue concerning the NCARB examinations creates several false impressions. It misleads exam candidates by suggesting that one could adequately prepare for the exam merely by reading more than 70 books and articles recommended by NCARB.

Our experience over the past eight years indicates that this is just not so. To begin with, a great deal of the material covered by the exams simply cannot be found in any of these publications. Furthermore, among the thousands of candidates whom we've helped over the past several years, we have yet to find one who could devote the tremendous amount of time required by this undertaking.

The writer of the letter goes on to suggest that no "special preparation is necessary other than that recommended by the examination boards." The thousands of candidates who fail each year would undoubtedly disagree with this assessment.

Our experience in the field of licensing preparation has made one fact quite clear —the exams are tough. The candidates who use our material, however, invariably score much higher than those who do not. If the writer of that misguided letter were re-examined on the basis of today's examination, he might be grateful for the work we are doing at Architectural License Seminars. *Lester Wertheimer, AIA*
Director
Architectural License Seminars
Los Angeles

Information Requested: I am writing a book on interstitial space, a relatively new design and construction technique. I would like to receive correspondence from anyone who has designed or knows of any such facility. Although this principle has been used primarily for health facilities, information about its utilization in other building types is also sought.

Lloyd H. Seigel, AIA
1411 N. State Parkway
Chicago, Ill. 60610

Youth and Electric Cars: While it is true that many 15-year-olds presently operate such "hazardous contrivances as motorboats and tractors," as Sumner Myers says in his article titled "Urban Transportation Policy" in the Dec. 1975 issue, this is a poor rationale for suggesting that this segment of the population be used to bail out a possibly unsuccessful electric car venture.

To license a 15-year-old with no experience in "defensive driving" to drive a tiny, low-performance, low-speed vehicle on roads that must be shared with full-size, full-speed vehicles is insanity. Most nonfreeway roadways, regardless of posted speed limits, carry traffic that regularly moves well in excess of 35-miles-per-hour. That traffic is composed of vehicles ranging in size from the Honda Civic to the largest tractor-trailer.

Electric cars may, at some future time, prove to be a limited solution to urban transportation problems, but if they are not successful, one cannot erase the failure by sending them out onto the roads to be effectively wiped out, along with their young drivers, by faster, heavier vehicles whose drivers are notoriously and agressively impatient with small, slow-moving cars.

Not *my* 15-year-old, thank you!

Sue Tathwell Hewitt
Barrington, Ill.

Author's note: *The errors in the "Project Delivery Approaches" article (Feb. '76) resulted, alas, not from "creative exuberance," which even if inappropriate may provide a measure of verve. The explanation is more mundane: Eye and brain fatigue when proofreading.*

EVENTS

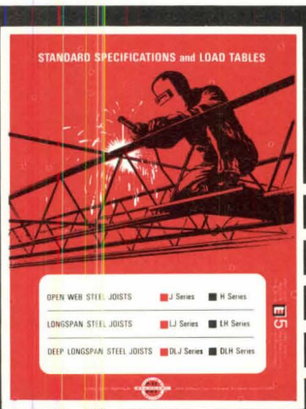
May 2-5: AIA annual convention, Sheraton Hotel, Philadelphia. (Reconvened session, May 7-18, London and Edinburgh.)
May 2-6: Architectural Secretaries Association annual convention, Holiday Inn, Penn Center, Philadelphia.
May 4-5: Institute on docks and marinas, University of Wisconsin, Madison, Wis.
May 12-14: Annual national engineering conference sponsored by the American Institute of Steel Construction, Peachtree Plaza Hotel, Atlanta. Contact: AISC, 1221 Avenue of the Americas, New York, N.Y. 10020.
May 13-14: Professional marketing workshop, Kansas City, Mo. (Repeat workshops on June 3-4, Toronto; Sept. 9-10, Newark/New York; Oct. 7-8, Chicago; Nov. 4-5, Phoenix; Dec. 3-4, New Orleans.) Contact: Building Industry Development Services, 1301 20 St. N.W., Suite 104, Washington, D.C. 20036.
May 14: Seminar on professional liability, Milwaukee (repeat seminar on June 4, Columbus, Ohio). Contact: Jack McKee, National Society of Professional Engineers, 2029 K St. N.W., Washington, D.C. 20006.
May 16-18: Workshop on solar energy in cold climates, University of Detroit, School of Architecture.
May 17-20: National plant engineering and maintenance show, Civic Center, Philadelphia. Contact: Clapp & Poliak, 245 Park Ave., New York, N.Y. 10017.
May 19-20: International symposium on organization and management of construction, National Academy of Sciences, Washington, D.C. Contact: S. M. Charlesworth, USNCCIB Secretariat, 2101 Constitution Ave. N.W., Washington, D.C. 20418.
May 19-20: Institute on structural design loads, University of Wisconsin, Madison, Wis.
May 24-26: International Security Conference, Conrad Hilton Hotel, Chicago. Contact: Art Lilienthal, ISC, 2639 S. La Cienega Boulevard, Los Angeles, Calif. 90034.
May 24-28: International Association for Housing Science biannual meeting, Atlanta. Contact: Office of Continuing Engineering Education, 116 Riggs Hall, Clemson University, Clemson, S.C. 29631.
May 25-28: Environmental Design Research Association annual conference, University of British Columbia, Vancouver, B.C. Contact: EDRA, Department of Psychology, University of British Columbia, Vancouver, B.C., Canada V6T 1W5.
May 31: Postmark deadline, biennial HUD awards for design excellence/bicentennial citations program. Contact: Biennial Design Awards Program/Bicentennial Design Citations Program, Department of Housing and Urban Development, Washington, D.C. 20410.
May 31-June 3: Architects' workshop on religious architecture, Glorieta Conference Center, Santa Fe, N.M. Contact: Howard McAdams, AIA, Church Architecture Department, 127 Ninth Ave. N., Nashville, Tenn. 37234.
June 7-18: Design graphics workshop, University of Arizona.
June 13-July 5: International design tour. Contact: Richard D. Roselle, Seattle-First National Bank Building, Seattle, Wash. 98154.
June 13-18: Building Officials & Code Administrators International annual conference, Atlanta. Contact: BOCA, 1313 E. 60 St., Chicago, Ill. 60637.
June 13-18: International Design Conference, Aspen, Colo. Contact: Mary Apple, IDCA, P.O. Box 664, Aspen, Colo. 81611.
June 21-July 9: Institute in environmental planning and design, University of California at Berkeley.
June 21-25: Architectural psychology conference, University Louis Pasteur, Strasbourg, France. Contact: Institute de Psychologie Sociale, 12 Rue Goethe, 67000 Strasbourg, France.
June 21-23: Construction Specifications Institute annual convention, Civic Center, Philadelphia.
June 22-24: Symposium on tornadoes: assessment of knowledge and implications for man, Texas Tech University, Lubbock.

Baker's Bay builders chose steel joists "for economy and speedy construction."

"Ease" readily describes Baker's Bay Condominium. Set in a relaxing rural atmosphere on the banks of the Delaware River, 144 spacious units provide the utmost in easy living.

Ease of construction—with the help of steel joists—is part of the Baker's Bay story, too. Open web steel joists support a corrugated metal deck and two-and-a-half inch concrete slab. Morton J. Berman, president of Arthur A Kober Construction Company of Bala Cynwyd, Pa., chose steel joists "because they were the most economical means of construction and allowed for fast construction." Joseph L. Hoffman and Associates were the structural engineers; Richard E. Martin and Associates were the architects.

Steel joists are the practical choice for more reasons than speed and ease. We've gathered together lots of facts on the advantages of using steel joists in all types of construction. Send for our latest edition of Specifications and Load Tables for Open Web Steel Joists, Longspan Joists and Deep Longspan Joists.



STEEL JOIST INSTITUTE
2001 Jefferson Davis Hwy.
Arlington, Virginia 22202

Mail to:
STEEL JOIST INSTITUTE
Suite 707-E, 2001 Jefferson Davis Hwy.
Arlington, Va. 22202

Please send me your new copy of Specifications and Load Tables.

NAME _____
TITLE _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

75007

Circle 29 on information card

Going On from page 32

Illinois Achievements In Architecture Cited

"Illinois Architecture: Revolution on the Prairie" is the title of a multifaceted program prepared by the Illinois Arts Council in honor of the nation's bicentennial. The project includes an "ArchiCenter" in downtown Chicago, a traveling van museum carrying specially organized exhibits throughout the state, a minicourse on architecture designed for use in schools, film and slide shows and conferences on planning and preservation.

The $567,000 program, said Bruce Saigon, chairman of the council, "tells the story of how and why our architecture has changed the face of cities everywhere." Illinois boasts a large number of architectural achievements, including the stud wall, the steel-frame skeleton, building on pilings and, later on, caissons, diagonal windbracing and the glass curtain wall.

The ArchiCenter opened in March at 111 S. Dearborn St., and features four permanent exhibits developed by architectural historian John Vinci. The exhibits include photographs and biographies of prominent Illinois architects, diagrams and photographs of Chicago and a "tallest building" chart with a time line extending from 1880 to 1976. Daily architectural tours of the Chicago Loop are preceded by a 28-minute film on the city's commercial architecture. The center, administered by the Chicago School of Architecture Foundation, also has rotating exhibits by neighborhood groups and by the Illinois Arts Council.

The traveling van is a mobile extension of the center. It can accommodate 18 to 20 visitors at a time and carries exhibits on architecture in general, the impact of Illinois architecture and historic preservation.

In addition, a major exhibit on "100 Years of Chicago Architecture—Continuity of Structure and Form" is shown at the Museum of Contemporary Art in Chicago.

After its showing in Chicago the exhibit will travel across the country, beginning June 20.

Employment Exchange

Employment notices, for AIA members and firms, are published without charge. The ground rules are: (1) Only one notice will be published in any given issue for an individual or firm; (2) each notice will be limited to 24 words, exclusive of address; (3) copy will be received between the 1st and the 15th of each month for publication in the following month's issue; (4) notices will be published on a first-come, first-served basis.

Positions Wanted

Architect licensed many yrs. Calif., project architect, production chief, office management. Had small office; diversified experience specializing all types residential. Résumé on request. Robert E. Nofer, AIA, 18740 Haynes St., Reseda, Calif. 91335, (213) 344-6353 or 889-4884.

Architect, Va. registration, 4 yrs. varied experience seeks responsible position in Northeast/Northwest. Résumé P.O. Box 1482, Roanoke, Va. 24007.

Deaths

Richard E. Bennett, Trenton
Jack L. Boller, Houston
Francis W. Bricker, Phoenix
Warren Dedrick, Long Beach, Calif.
Nicholas Isaak, Manchester, N.H.
John J. Kewell, Pasadena, Calif.
David Kraus, New York City
Lester N. Lechter, Dedham, Mass.
Sidney T. Miller III, Keene Valley, N.Y.
Paul M. Murphy, Phoenix
D. A. Polychrone, Atlanta
E. Dudley Watkins Jr., College Station, Tex.
W. H. Wyeth, Port Huron, Mich.

Knute A. Henning, AIA: Retired since 1968, Mr. Henning was a professor emeritus of North Dakota State University, where he was on the faculty for 38 years. For 25 of those years, he served as chairman of the department of architecture. Mr. Henning, who died on Jan. 29 at the age of 70, was instrumental in the organization of the North Dakota chapter/AIA and was its president. He was a chairman of the North Dakota State Board of Architecture and a secretary for the National Council of Architectural Registration Boards. He was also a vice president in the Fargo firm of Mooney, Henning & Metz.

Newslines

A "super architect" emblem adorns a white T-shirt available at $5 in all sizes from the New Jersey Society of Architects, 110 Halsted St., East Orange, N.J. 07018. It's just the thing to wear sailing on a summer's day.

John Henderson, AIA, an architect with the San Diego, Calif., firm of Delawie, Macy & Henderson, has been appointed to the California State Historical Buildings Code Advisory Board. The board, established by the state in 1975, will advise the state architect on "providing

continued on page 108

When Kresge Company selected Roper Eastern's Snaplock ceiling grid system for this Kmart store in Pottstown, Pennsylvania, they knew they could count on Snaplock's good looks as well as its ability to easily accommodate the many lights required to keep such a large store bright and cheerful.

And the architect and contractors involved knew they could count on quick, dependable delivery and easy, trouble-free installation with Snaplock's unique method of joining cross tees and beams.

Snaplock is just one of Roper Eastern's five distinctive ceiling grid systems. We also offer today's building professionals a demountable wall system for even greater design flexibility.

Ask for details about Roper Eastern ceiling grid and wall systems. Write us on your company's letterhead and we'll send you a free copy of our full color publication "Insight —A Report on Ceilings & Walls for National Accounts" plus a copy of our 1976 Sweets catalogue insert.

Contact: Marketing Director

ROPER EASTERN
BUILDING SYSTEMS

9325 Snowden River Parkway
Columbia, Maryland 21046
Telephone: 301/730-8800

Architect: Richard L. Bowen & Associates, General Contractor: Hannon Construction Company, Ceiling Contractor: T&F Systems—Cleveland, Ceiling: Roper Eastern Snaplock.

Kresge Company specified Roper Eastern ceiling grid for this K mart store in Pennsylvania.

Circle 31 on information card

YOU SAVE WITH GLAZED

Spectra-Glaze II®

CONCRETE BLOCK WALLS

and meet new USDA and OSHA regulations for sanitary surfaces!

BUILD & FINISH PERMANENT, SANITARY WALLS IN ONE OPERATION!

Walls go up faster. One trade. No back-up wall necessary. FACTORY FINISH: Low maintenance. Can't peel or blister. No refurbishing ever! Impervious to moisture, inc. steam and most chemicals. 2-FACE UNITS available for lowest cost 2-face walls. EXCELLENT INSULATION, FIRE RATINGS & sound-proofing. 48 COLORS. Scored & Design faces too.

® Reg. U.S. Pat. Off., Canada & other countries by

THE BURNS & RUSSELL CO.
P.O. Box 6063 Baltimore, Md. 21231

Local deliver, world-wide Ⓢ 4-4/Bu in Sweet's

Circle 32 on information card

FIRST IMPRESSIONS ARE IMPORTANT!

YOUR INSIGNIA HAND CARVED IN 1¾" SOLID MAHOGANY
ADD VALUE AND PRESTIGE TO YOUR HOME OR BUSINESS

THE WORLD'S FINEST COLLECTION OF HAND-CARVED SOLID MAHOGANY DOORS

UNPRECEDENTED COLLECTION OF: Traditional Louvers; Ante-Bellum Plantation Louvers [2½" - 3½" louvers]; Decorative Window and Door Panels with genuine canes, multicolored plastics, ornamental metals, Austrian poufs, shirred curtains, laminations, wood grilles, and more; Shoji Panels; Grilles and Dividers; Folding Screens; Carved Paneling; Hand-Carved and Solid Panel Doors; Hand-Carved Crests; Spindles.

PINECREST INC.
2118 Blaisdell Avenue Dept. A
Minneapolis, Minnesota 55404
Phone: 612/871-7071

Circle 33 on information card

Keep energy bills down with a Clark 4-second door!

It's fast-moving, power-operated, insulated with urethane foam, and neoprene-sealed around the perimeter to prevent energy waste.

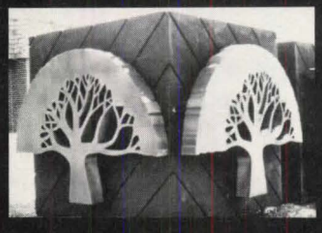
Ask the Clark Door man in your area to show you how energy-saving discipline is built-in to every Clark power-operated industrial door. Or write for more information. Today.

CLARK® DOOR

Clark Door Company, Inc.
69 Myrtle Street
Cranford, N.J. 07016
(201) 272-5100 Telex 13-8268

Circle 34 on information card

Get 'em UP



. . . The fastest, most convenient and efficient way—DMI. Design, Manufacturing, Installation is a complete one-stop service for the functional design, expert manufacturing and precision installation of architectural signage. In addition, our nationwide network of experts can provide you with professional service wherever you are located. See for yourself. Give us a call. We aren't far away. The Signage Pros.

white advertising company
APPLIED GRAPHICS

P.O. Box 238
Shelby, IN 46377
(219) 522-0500
Chicago Ph. (312) 731-1700

BOSTON (617) 482-9827 · **NEW YORK** (212) 986-1970 · **PHILADELPHIA** (215) 363-7298 · **CHARLOTTE** (704) 333-2196 (TRANS-MARK DIV.) · **CLEVELAND** (216) 861-1627 · **DETROIT** (313) 891-8889 · **SHELBY, IND.** (219) 552-0500 **CHICAGO** (312) 731-1700 · **DALLAS** (214) 264-6165 · **LOS ANGELES** (213) 686-2509 (AMERICAN SCREEN PRINT DIV.) **WHITE ADVERTISING COMPANY, P.O. BOX 238, SHELBY, IN 46377**

Circle 35 on information card

Circle 36 on information card

Fill up with Zonolite Masonry Insulation to cut rising energy, construction costs.

When used to fill cores and cavities in masonry walls, Zonolite® Masonry Insulation cuts heat transmission through walls. And that means a substantial reduction in heating and cooling costs. In fact, Zonolite Masonry Insulation meets FHA/HUD multi-family U value specifications of .17 and reduces both the need and cost of other insulation to meet .10 U value specifications.

Zonolite Masonry Insulation is lightweight, free-flowing and dust-free, installs quickly and easily by simply pouring directly into the wall. And that means low installed cost and lower construction costs.

And that's not all. An Underwriters' Laboratories, Inc. test shows that the fire rating of an 8-inch lightweight block wall is improved from two to four hours when cores are filled with Zonolite Masonry Insulation.

In addition, Zonolite Masonry Insulation virtually eliminates water permeation, increases year-round comfort and combats noise pollution by reducing the transmission of noise from room to room.

Fill up your next wall with Zonolite Masonry Insulation. It's immediately available to meet your needs. From W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Massachusetts 02140.

GRACE

PROFESSIONAL OPPORTUNITIES FOR IRANIAN NATIONALS IN TEHRAN, IRAN

The Harvard Institute for International Development is presently collaborating with the Plan and Budget Organization of the Imperial Government of Iran in the establishment of the Tehran Development Council Secretariat, an urban planning agency for the Tehran region. We are seeking IRANIAN PROFESSIONALS, who will work with our team of technical advisors, for challenging positions with the Secretariat in Tehran, Iran.

Candidates should possess terminal degrees in their respective fields plus field experience. Available positions include:

DEPUTY DIRECTOR FOR PROGRAM: Urban planning professional with substantial experience as program or project director with city, regional or state planning agency or architectural firm. (Salary commensurate with experience.)

THREE SUPERVISORY POSITIONS: Senior level professionals with experience in urban, regional or state planning agency or responsible related government position. (Salary commensurate with experience.)

SENIOR STAFF POSITIONS: Two Urban Planners, Civil Engineer Planner, Sociologist, Urban Designer, Planner Lawyer, Two Graphic Designers, Statistician, Three Economists.

Interested candidates contact: Candace Weeks, Harvard Institute for International Development, 1737 Cambridge Street, Cambridge, Massachusetts 02138. (617) 495-4268.

Questions About Your Subscription

To insure fast service on inquiries concerning your *AIA JOURNAL* subscription, please include the address label from the most recent issue received.

ATTACH LABEL HERE

Change of Address

Four weeks' notice required for change of address. Include address label from most recent issue and new address information in space provided below.

NEW SUBSCRIPTION

☐ Please check here if you wish subscription rate information.

Name_____

Address_____

City_____

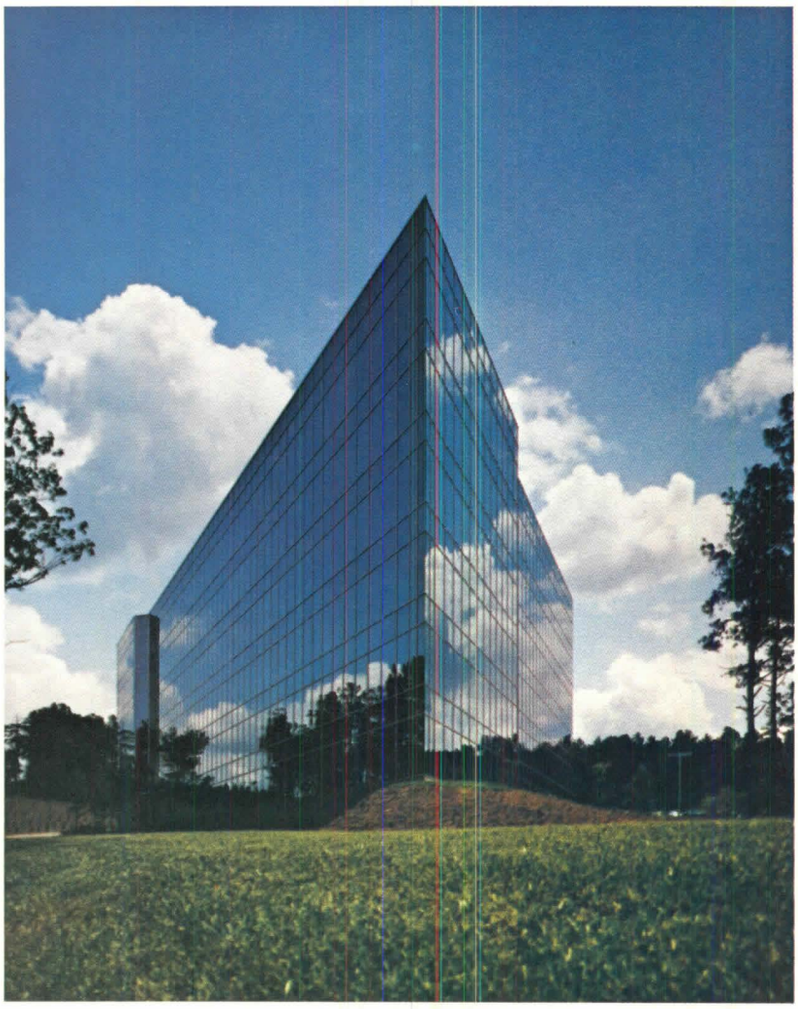
State_____ Zip_____

MAIL TO:

AIA JOURNAL
Circulation Dept.
1735 New York Ave., N.W.
Washington, D.C. 20006

Circle 39 on information card

Frozen Music



The Triangle Building, Atlanta, Ga.
Thompson, Ventulett & Stainback, Inc., Architects

"I call architecture frozen music," Johann von Goethe wrote in 1829.

Today you can express your own ideas of "frozen music" with the help of Amarlite's PBS-383 curtain wall, a thermal barrier stick-type wall system that allows you the flexibilities in design needed for any building composition.

PBS-383 uses snap-on glazing beads at the interior horizontals for either exterior or interior glazing, depending upon job conditions and building design.

A variety of mullion depths is available, as are snap-on covers with 5/8" depths to comply with requirements for a shallow-faced mullion used with environmental glass. It may be used with single or double glazing and can be adapted to various glazing thicknesses by using snap-in adapters.

PBS-383 will harmonize beautifully with your design, and you can specify with assurance of client satisfaction.

Check 8.14 AN in Sweet's or phone direct for more information about the PBS-383 curtain wall and other Amarlite architectural aluminum products.

Going places together with

AMARLITE®

Main Office: P.O. Box 1719, Atlanta, Georgia 30301— Phone: (404) 691-5750

ANACONDA Aluminum Division

Circle 40 on information card

All these new U.S.G. joint compounds are asbestos-free!

You can't tell the difference, but OSHA can!

Now you can more than meet OSHA's job requirements regarding airborne asbestos dust . . . dust raised through mixing and sanding of joint compounds. And comply without sacrificing job performance. *Asbestos-free* Joint Compounds from United States Gypsum offer the trade a full choice of ready-mixed and powder products; each formulated to highest standards by U.S.G. Research Laboratories; each field-tested nationally for a full year to merit your confidence. New asbestos-free texture finishes are the perfect companion products to meet your job requirements on walls and ceilings. Get all the details on this new generation of joint compounds and texture finishes from your U.S.G. Technical Representative. Or write to us at 101 S. Wacker Drive, Chicago, Illinois 60606, Dept. AIA-46.

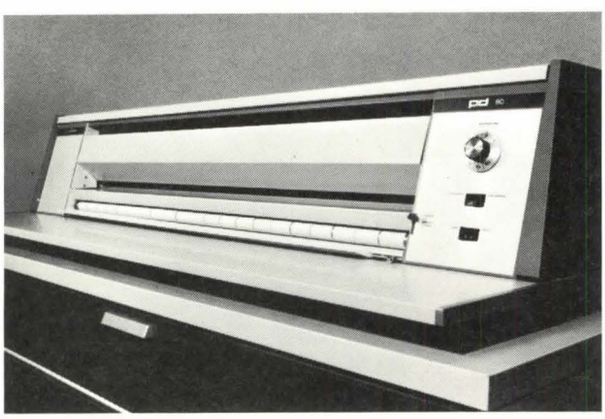
UNITED STATES GYPSUM
BUILDING AMERICA

Circle 41 on information card

Now, the way to buy a PD-80 is to rent it.

We claim the odorless, instant-on, 110-volt PD®-80 is the best thing going for quality and convenience in engineering copying. Four years in the marketplace and lots of happy customers bear us out. But you don't have to take anyone's word for it.

The good news: a unique *Rent with Option to Buy* plan for the PD-80. Yes, we understand capital is tight. You want to be sure before you commit. So rent your PD-80 for $30 a month, and make your buying decision after you realize you can't afford to be without one.



For the first three months, every cent you pay in rent is applied toward the purchase price of a PD-80. From four to six months, 75% of your rent applies. A declining scale sets in after that. Don't confuse our plan with anyone else's. Ours gives you a no-questions, no-penalty, 30 day cancellation.

The *Rent with Option to Buy* plan is our way of showing you out front that in cost, convenience and quality, the odorless PD-80 can't be beat.

Send for complete information. Or call your nearby Bruning sales office and get the whole story in a hurry. Bruning, 1834 Walden Office Square, Schaumburg, Ill. 60172.

We help engineers communicate.

® BRUNING
DIVISION OF
ADDRESSOGRAPH MULTIGRAPH

Circle 42 on information card

WHY IS EGP THE BEST "ENERGY SAVING" GLASS?

Lanham office building

Product . . . GOLD INSULATING GLASS

Environmental Glass Products uses ***REAL GOLD*** in its reflective glass. ***REAL GOLD*** stops radiant heat gain and conductive heat gain and loss, better than other metals applied to glass.

U-VALUE .30 ***SHADING COEFFICIENT .11***

Environmental Glass Products

ARCHITECTURAL DIVISION, *Shatterproof* GLASS CORPORATION

4815 CABOT AVENUE DETROIT, MICHIGAN 48210

Look for us in Sweets, section 8.26/Sh. Contact us for your local Environmental Glass representative . . . 313-582-6200

Circle 43 on information card

THE ROOF: PART ONE

CELOTEX ANSWERS ROOFING QUESTIONS ASKED BY ARCHITECTS.

Q. Can I increase roof insulation values for energy conservation purposes without substantially increasing the weight of the roof or the height of parapet walls?

A. Here is a comparison of different types of roof insulation materials showing the thickness required for each to give the same insulating value.

fiberglass	1-5/8 in.
perlite	2-1/2 in.
fiberboard	2-1/2 in.
urethane	1 in.

In addition, urethane is three to six times lighter in weight than the other materials.

Celotex makes Tempchek® urethane roof insulation. It is recommended for exactly the purpose you are asking about.

Q. I design buildings in various parts of the country in many different climates. My standard design calls for a steel deck with rigid insulation. What roofing system can I specify as a standard that will perform in all weather conditions?

A. There is a system that has been the mainstay of the industry for many years and has successfully waterproofed millions of squares of roofing in every area of the country. It is our Series 300 roofing system.

It utilizes a Vaporbar® coated base sheet and three plies of perforated asphalt felt, applied with hot asphalt. Result: a total of four waterproofing layers of hot asphalt gives the building maximum protection from the elements, while the four plies of felt material give the system maximum strength for resisting external stresses and forces that so often damage roofs. It must be recognized, however, that numerous two-ply coated felt systems have also performed well.

To give you additional reassurance, Celotex offers a Roofing Bond or Inspection and Service Contract on the completed roof when applied according to Celotex published specifications.

Q. I'm located in the upper Midwest. During cold weather there is frost on steel decks. If roof insulation is secured with asphalt, will there be positive adhesion?

A. It is doubtful. However, you can achieve positive adhesion, and a Factory Mutual Class I Rating, by fastening the roof insulation to the deck with the Insulfast Nail/Disc System from Celotex. With Insulfast Nails, your roof insulation can also be installed in a moderate wind.

Q. When are expansion joints required?

A. The responsibility for determining the need for structural expansion joints is that of the architect and/or structural engineer. However, all agree that they are needed if:

1. There is a change in direction of steel framing.
2. Deck material changes, e.g., between steel and concrete sections.
3. There is a difference in elevation of adjoining decks.
4. A single dimension of a building exceeds 200 feet.

Celotex makes a complete line of Expansion Joint Shields for waterproofing the opening created by structural roof expansion joints. For flexibility in design, they are available with copper, stainless steel, aluminum and galvanized metal flanges, and all are available with straight flange, curb flange and curb-to-wall configuration. Connecting tees, corners and crossovers are prefabricated in the same metals and designs, saving on-job labor.

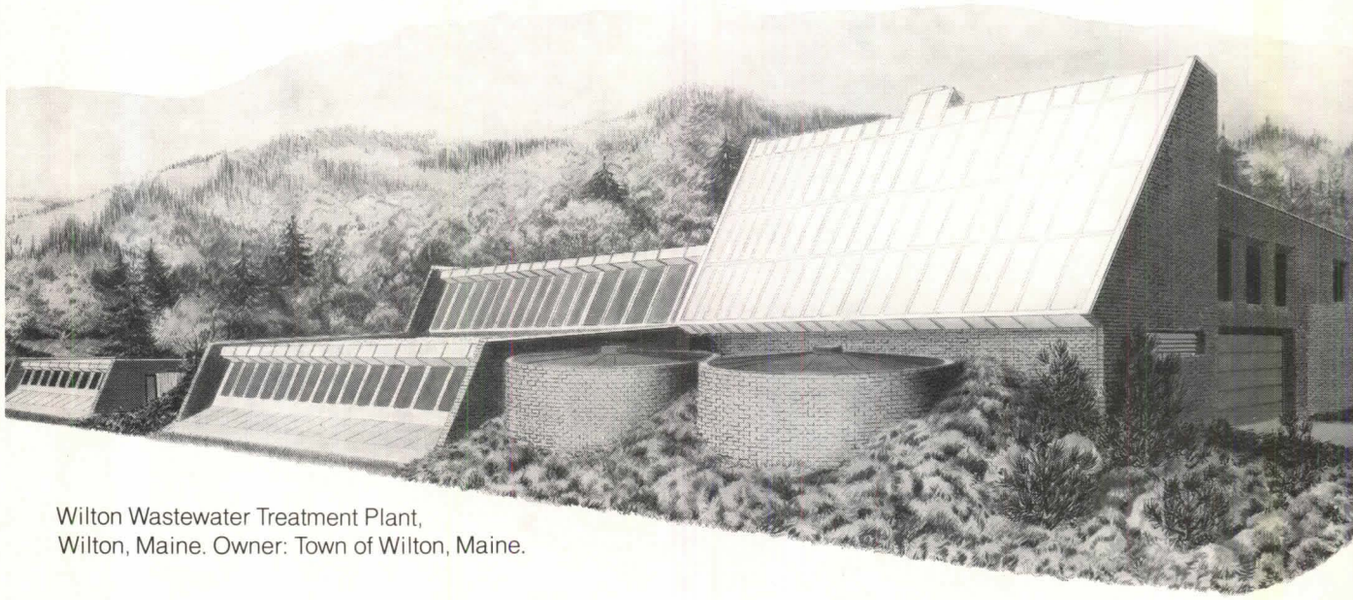
If you have questions about roofing, please send them to us. We want to assist in any way we can, and we think that starting a dialogue with you through this series of ads may prove fruitful for both of us.

Send your inquiries to John Hasselbach, Commercial Roofing Department, The Celotex Corporation, Tampa, Florida 33622.

Celotex®
BUILDING PRODUCTS
The Celotex Corporation, Tampa, Florida 33622
a Jim Walter company

Circle 44 on information card

Announcing the 1975 Owens-Corning Energy



Wilton Wastewater Treatment Plant,
Wilton, Maine. Owner: Town of Wilton, Maine.

When Owens-Corning initiated its Energy Conservation Awards Program in 1971, our first year's winners conserved energy by concentrating on ways to be more energy efficient.

Our two winners this year—plus a third building receiving honorable mention—go beyond that. They set out to be *energy independent.* At most, only 20% of their power comes from outside sources.

Read on for details. You may find a way your company can save energy.

Wilton Wastewater Treatment Plant, Wilton, Maine

Three solar collectors set at 60° southern exposure supply a large portion of the thermal energy needed by the plant. In addition, methane gas, created as a by-product of the waste treatment process, is collected and stored to power a gas boiler and an electric generator on cloudy days.

The plant is built into a hillside. This provides gravity flow for the waste treatment process, reducing energy requirements. The hillside also maximizes solar energy gain and reduces heat loss.

The plant's unusually compact design helps retain heat.

Heating costs (using solar energy, methane gas and occasional outside sources) are estimated to be 80% less than for a conventional structure heated by oil.

Design by Douglas A. Wilke, Architect and Engineer, Glen Head, N.Y., and Wright, Pierce, Barnes, Wyman Engineers, Topsham, Maine.

Terraset Elementary School, Reston, Virginia

A 7,000-sq.-ft. solar collector plays a primary role in supplying energy to heat and cool this 60,000-sq.-ft. structure.

The solar collector is complemented by a double bundle heat reclaim water chiller plus a variable-volume air distribution system. In addition, a 60-ton absorption chiller will be connected in series to a 100-ton electric-driven reciprocating water chiller unit for maximum cooling efficiency in summer.

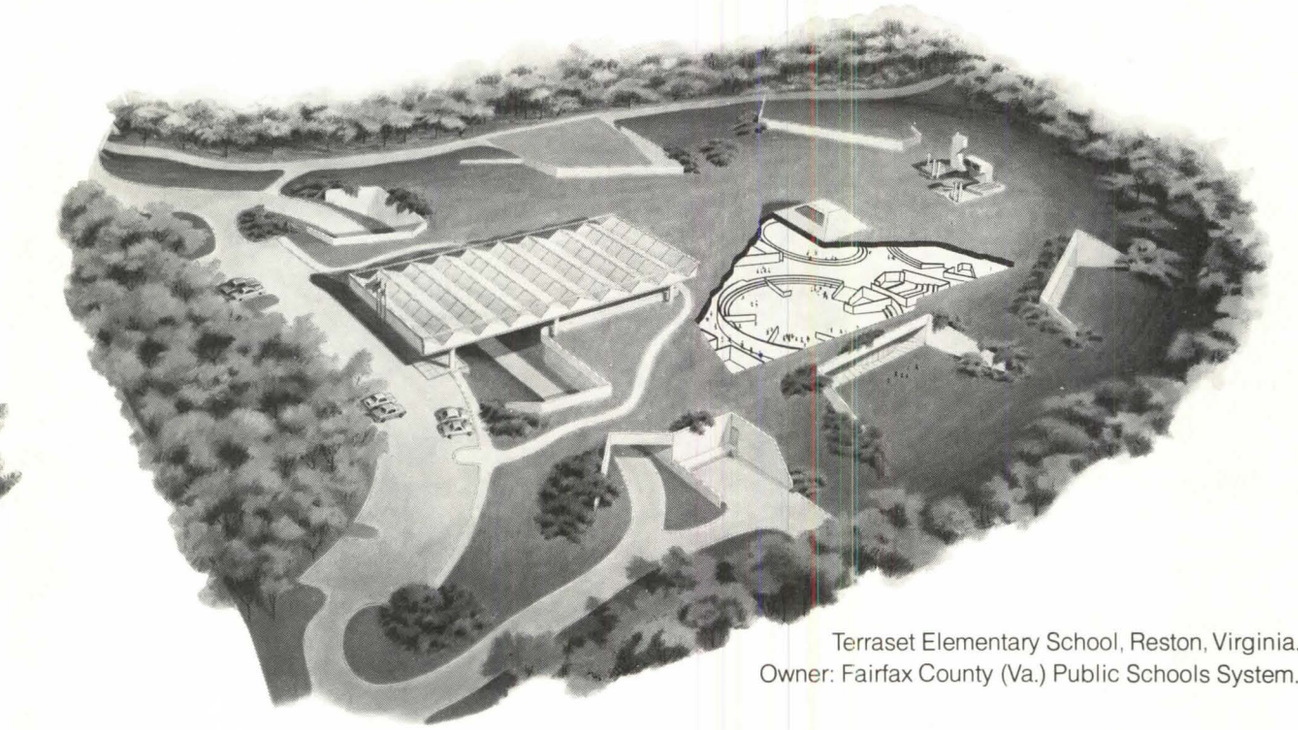
Both the solar and mechanical systems are computerized to optimize energy efficiency.

The structure is mostly below ground, which provides efficient, natural insulation. Only 20% of the wall area contains glass, with the glass recessed to minimize heat loss and gain.

Energy costs for the first year of operation are expected to be $31,600 *less* than for an all-electric system. And $19,400 *less* than for a fossil-fuel system.

Design by Davis, Smith & Carter,

winners of the Conservation Awards



Terraset Elementary School, Reston, Virginia.
Owner: Fairfax County (Va.) Public Schools System.

Inc., Architects. Mechanical system design by Vinzant Associates. Both of Reston, Virginia. Hankins and Anderson, Inc., Richmond, designed the solar energy system.

Honorable Mention

For the Princeton Education Center, Blairstown, New Jersey.

Solar collectors provide about 75% of heating load and nearly 100% of the hot water needs.

A 12-kw hydrogenerator on a nearby 12-acre lake, and a 6-kw experimental "sail wing" wind generator, provide 90% of electrical needs.

Design by Harrison Fraker, Architect, Princeton, N.J., and Flack and Kurtz, Consulting Engineers, New York.

The 1975 Energy Conservation Awards Jury

This year's winners were selected by:

Ken Mahal, President, L.K. Mahal Associates, Bloomington, Minn.

William L. Porter, Dean, School of Architecture and Planning, MIT, Cambridge, Massachusetts.

Robert R. Ramsey, V.P., Leo A. Daly Company, Omaha, Neb.

Richard E. Masters, Partner, Jaros, Baum & Bolles, New York, N.Y.

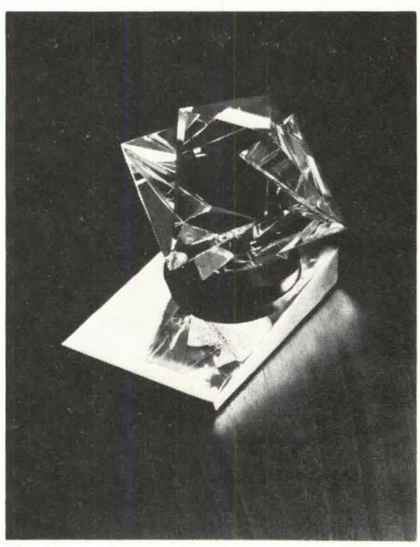
Dr. Robert Wehrli, Chief, Architectural Research Section, National Bureau of Standards, Washington, D.C.

Chih-Chen Jen, Principal in Charge of Design, Kahn and Jacobs/ Hellmuth, Obata & Kassabaum, P.C., New York, N.Y.

Free Energy Conservation Awards Program brochure

For more information about the winners and their designs, write:

Owens-Corning Fiberglas Corporation, Att. B.D. Meeks, Fiberglas Tower, Toledo, Ohio 43659.



The Owens-Corning Energy Conservation Award: "Triangles," a multi-faceted Steuben Crystal sculpture that captures and reflects light from triangular planes.

Owens-Corning is Fiberglas

OWENS/CORNING FIBERGLAS TRADEMARK®

Circle 45 on information card

Newslines continued from page 96
alternate building codes and regulations for the rehabilitation, preservation and restoration of qualified historical buildings." Henderson, who will serve for four years, is AIA deputy state preservation coordinator for California.

"Reinforced Concrete Design Idea Book" is the title of a publication available without charge from the Concrete Reinforcing Steel Institute. It brings together reprints of articles which show innovative structures in reinforced concrete that have saved money and time in a variety of applications. For a copy write CRSI, 180 N. LaSalle St., Chicago, Ill. 60601.

Texas A&M University is seeking qualified professionals to fill two senior positions in building design and interior space design in the graduate program in architecture. Send résumé and references by Apr. 19 to David G. Woodcock, Department of Architecture, Texas A&M University, College Station, Tex. 77843.

Elliott Dudnik, AIA, professor in the architecture department at the University of Illinois at Chicago Circle, has been awarded a Fulbright-Hays grant for lecturing and research in Australia. He will lecture on computer applications in architecture at the University of Sydney and will supervise student work and research projects and conduct his own research on the use of computers in architecture during his Apr.-Dec. stay in Australia.

The Japanese house and garden in Fairmount Park, Philadelphia, is being restored by a team of Japanese architects. The project, to be completed by June 30, is a gift to this nation on its 200th birthday from the people of Japan. The house, erected in 1957, shows the lifestyle of a scholar, priest or government official of the 17th century.

A "housewalk" on Forest Ave. in Oak Park, Ill., will take place on May 8 to help in the rebuilding of a Frank Lloyd Wright house that was gutted by fire in January. Twelve houses will be open to the public, many for the first time, including five designed by Wright. The event is sponsored by neighbors of the family whose Wright home at 313 Forest was burned after several months of restoration work had been completed.

Louis de Moll, FAIA, president of the Institute, and **William Marshall Jr., FAIA,** past president, have been named honorary fellows of the Mexican Society of Architects.

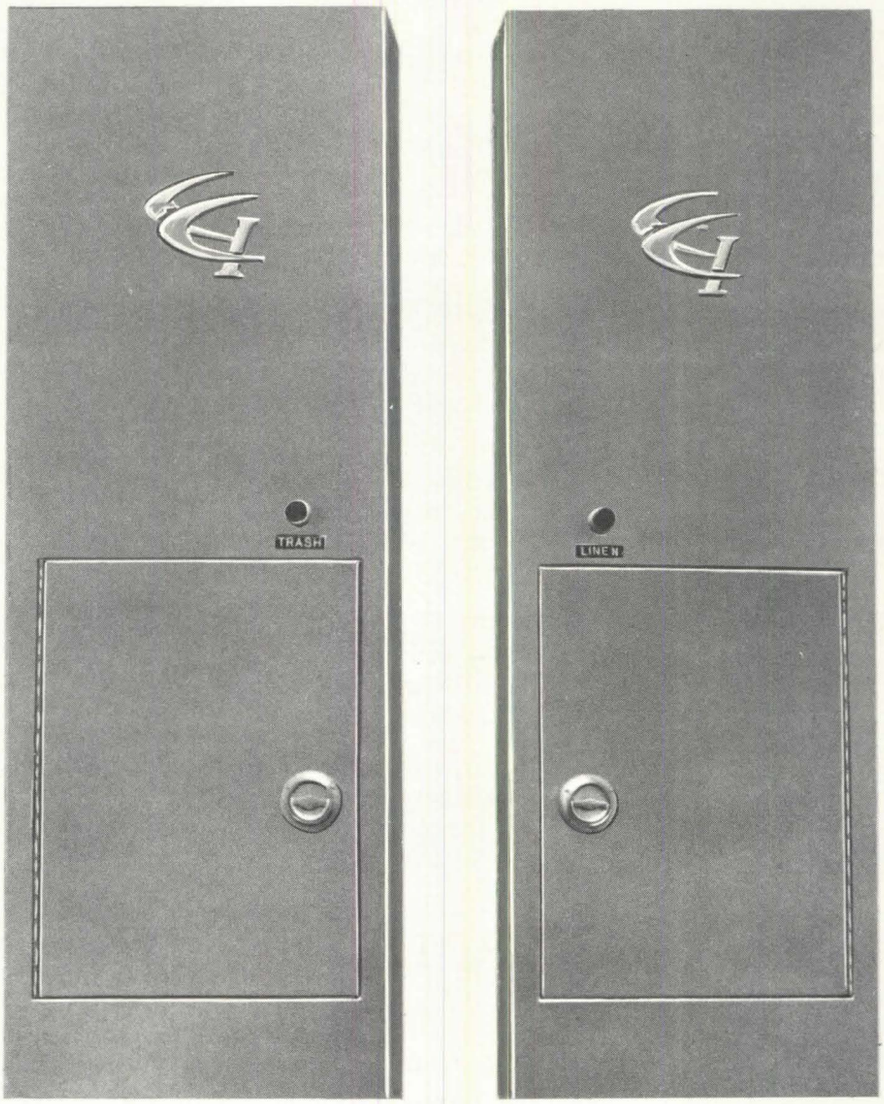
The National Fire Data Center has been established by the Department of Commerce to collect, analyze and disseminate information on fire prevention. This federal effort will be directed by B. William Rock. Information about the center may be obtained from Department of Commerce, National Fire Prevention and Control Administration, Washington, D.C. 20230.

Any question on energy and the energy industry may be referred to the Federal Energy Administration. For this free information service, write the National Energy Information Center, Room 1407, Federal Building NW, Washington, D.C. 20461 or call (202) 961-8685.

Charles Gwathmey, AIA, partner in the New York City firm of Gwathmey Siegel, has been elected to membership in the prestigious 250-member National Institute of Arts and Letters. This is considered "one of the highest honors an artist, writer or composer can receive in the U.S."

To strengthen the management capabilities of architects, the University of Utah's college of business and graduate school of architecture have launched a joint graduate program. Aimed at enhancing the business administration skills of architects, the program, says Dean Robert Bliss, FAIA, of the school of architecture, "could be especially valuable for a person going into private practice or into a management position in an existing firm." □

The doorway to healthy, inexpensive trash and linen removal...



The Automatic ECI Air-Flyte Pneumatic Conveying System.

We've opened the door to a new world in trash and linen removal. A world of lower costs and a healthier environment. Here's how. . .

The ECI Air-Flyte system carries solid waste, trash or linen automatically through tubing from any point in the building (or buildings) to a central collection point. When material is placed in conveniently located ECI depositories or gravity chutes, it need not be touched by human hands again. That's because ECI Air-Flyte uses a high velocity negative pressure principle to carry trash or linen over any distance — up, down, diagonally, around corners. . .anywhere. . . all at speeds of up to 60 m.p.h.

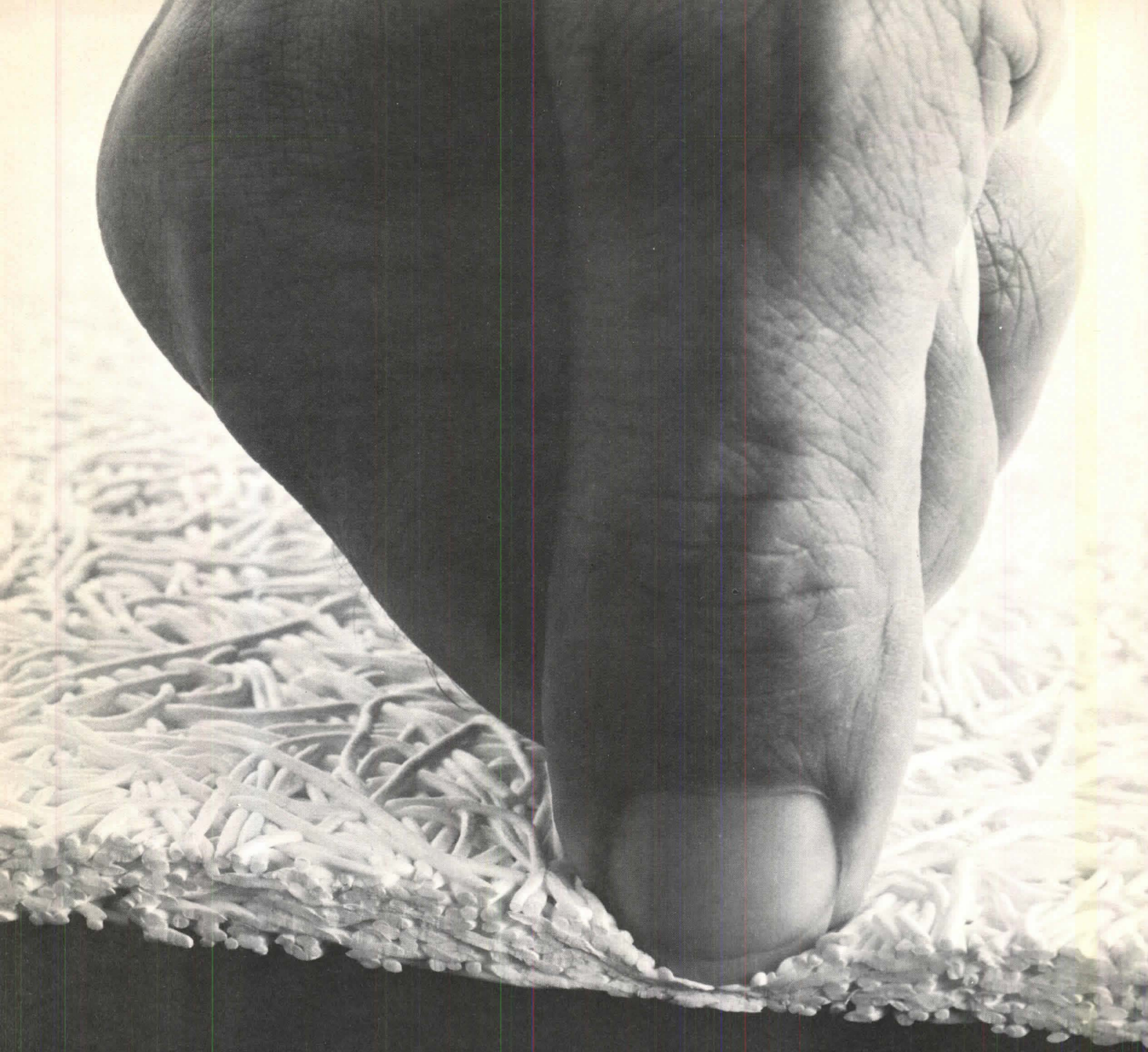
Faster removal, practically complete elimination of all odors and decreased chances of rodents and germs are only a few of the environmental reasons to investigate the new ECI Air-Flyte system. Let us help provide a healthier atmosphere in your hospital, residential, office or industrial building.

People are opening the doors of ECI Air-Flyte systems in hundreds of installations throughout the world. Start thinking about ECI Air-Flyte today for a more economical and healthier tomorrow.

ECI Air-Flyte Corp.

Subsidiary of Eastern Cyclone Industries, Inc.
15 Daniel Road • Fairfield, New Jersey 07006
Regional Sales Offices:
CHICAGO • LOS ANGELES • ATLANTA • DALLAS

Circle 46 on information card



Du Pont has invented a bottomless carpet cushion less than 1/2" thick.

Du Pont has invented a suspension system for people to walk on.

Polyester pneumacel* carpet cushion. It's neither an elastomeric foam nor a felt. Rather, it is billions of inflated cells in fiber form—masses of tiny pneumatic springs. Actually, pneumacel is a new form of matter.

Nothing cushions like pneumacel. It sinks in easily at first, then pushes back as pressure increases. Never fully compresses. Keeps its resilience.

Any carpet over pneumacel feels luxuriously thick underfoot. Pneumacel spreads the load to help prevent crushing of carpet face pile and stretching of its backing. Prolongs useful life of carpet.

Composition: Cellular polyethylene terephthalate (polyester) inflated with a fluorinated hydrocarbon and air. Fiber strands are bonded together with a thermoplastic binder.

Advantages: Outstanding cushioning together with protective firmness. High ratings as thermal insulator, and as impact-noise reducer. Highly resistant to moisture, mildew, carpet-cleaning chemicals. Unique combination of low flame spread and smoke generation characteristics. Excellent durability.

Specifications: Available through selected local dealers in two styles: "Dunleith" (0.39" thick) and "Lansdowne" (0.48" thick). Comes in rolls 72" wide.

Additional information is detailed in *Sweet's Architectural Catalog File* and *Interior Design File*, reference 9.29/Du. For further information write Du Pont, Pneumacel Marketing, Christina Site, Wilmington, Del. 19898.

*Pneumacel is the generic term for pneumatic cellular polymeric cushioning material.

DU PONT
REG. U. S. PAT. OFF.

Specify Du Pont Pneumacel Carpet Cushion

Circle 47 on information card

Michael J. Hanley
Publisher
Michael M. Wood
Sales Manager
Tom R. Crow
National Accounts Manager
Roger W. Carlson
Central Sales Manager
George L. Dant
Manager, Production and Business
1735 New York Ave. N.W.
Washington, D. C. 20006
(202) 785-7300

ADVERTISING SALES OFFICES

New York (201) 729-9331
Tom R. Crow
79 Hilltop Trail
Sparta, N.J. 07871

Washington, D. C. (202) 785-7271
Michael M. Wood
1735 New York Ave. N.W.
Washington, D. C. 20006

Central Sales Manager (312) 236-4545
Roger Carlson
20 North Wacker Drive
Room 1552
Chicago, Illinois 60606

Western Regional Manager (213) 550-8271
Richard A. Sherwood
8899 Beverly Blvd.
Suite 405
Los Angeles, California 90048

Acknowledgments: 28, second from top, Phokion Karas, third from top, Marc Neuhof, bottom, E. Allen McGee; 36, Hedrich-Blessing; 38; Jon Maguire, 39, bottom, Randolph Langenbach; 40-41, William Maris; 42-43, Philip McMillan James; 44-45, Norman McGrath; 46-47, Robert Gray and Norman McGrath; 48-49, Paul S. Kivett; 50-51, Balthazar Korab; 52-53, Ezra Stoller; 54-55, William Maris; 56-57, Norman McGrath; 59, top and right, Rollin La France, bottom right, J. Veltri; 60-61, Rollin La France.

ADVERTISERS

THE "ADD-IT-NOW" ELEVATOR

Motels, schools and other public buildings are using the Dover IVO Elevator to provide elevator service where none existed before

This is the first really new concept in vertical transportation in years.

The Dover IVO Elevator makes practical the addition of elevator service to structures built without elevators, or with insufficient capacity.

It has proved successful for motels, schools, clinics, apartments, churches and government buildings. It is satisfying the demands to provide elevator service for the handicapped, and it is making commercial buildings more attractive to tenants.

The IVO Elevator can be added to existing two and three-story buildings economically because it requires no deep excavation or machinery penthouse, and imposes no vertical load on existing building walls. Installations have been made in stairwells and at the end of a building corridor.

In performance and appearance the Dover IVO Elevator will satisfy the most critical requirements.

Contact your local Dover Elevator representative for information, or write Dover Corporation, Elevator Division, Dept. G, P. O. Box 2177, Memphis, Tn. 38101.

DOVER IVO ELEVATOR

DOVER

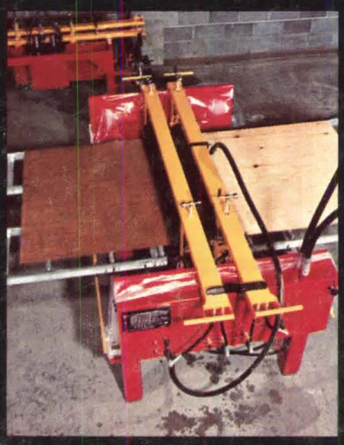
Circle 49 on information card

Olympic machine-staining:

Kirk, Wallace, McKinley & Associates, Architects.
Machine-applied by Chaussee Cedar, Inc.

A beautiful way to save money.

Olympic machine-stained wood is the most economical way to achieve a uniformly-applied stain finish while eliminating virtually all job site problems. There are no weather delays; no painting scaffolds to erect. The Olympic Stainer System assures the highest quality control standards because the stain is actually forced into the wood and allowed to dry naturally. This results in maximum stain penetration with remarkable uniformity—a finish that appears to be as natural as the wood itself.



And if the wood shrinks, there is no bare wood exposed. Use Olympic machine-stained wood for new siding, decking, trim and plywood. Choose any Olympic Stain semi-transparent or solid color. For information and the name of the Olympic Machine Stainer nearest you, call your local Olympic Central Warehouse or write:

OLYMPIC

Olympic Stain.
A division of COMERCO, INC.
Dept. MS, 1148 N.W. Leary Way,
Seattle, WA 98107. (206) 789-1000.

Circle 48 on information card