

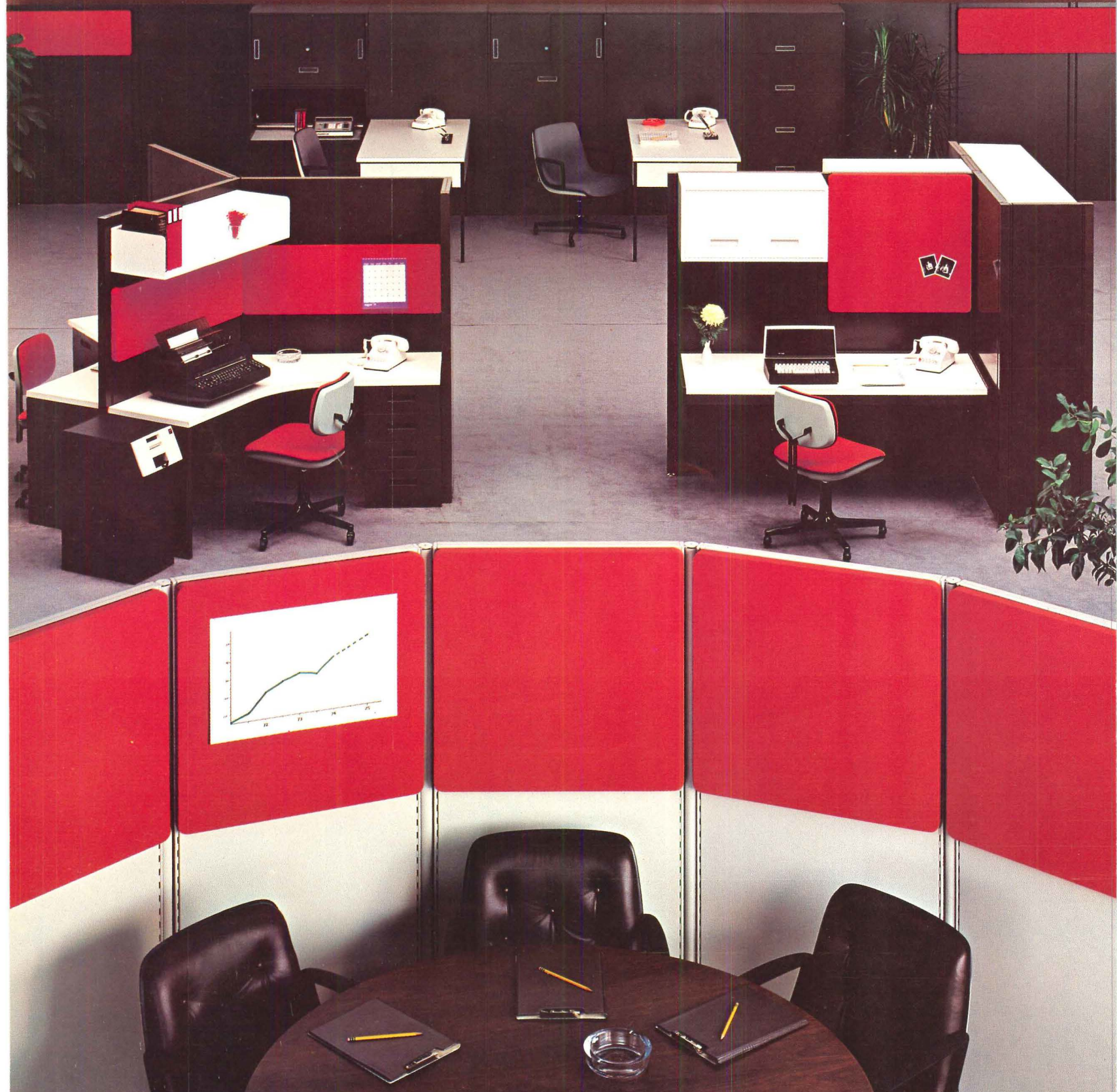


COLUMBUS EAST HIGH SCHOOL, COLUMBUS, INDIANA, BY MITCHELL/GIURGOLA ASSOCIATES
THE NEW HARMONY INN, NEW HARMONY, INDIANA, BY WOOLLEN ASSOCIATES
THREE BENCH MARK BUILDINGS BY MITCHELL/GIURGOLA ASSOCIATES
BUILDING TYPES STUDY: STORES AND SHOPS
FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD

APRIL 1976 **4** A MCGRAW-HILL PUBLICATION FOUR DOLLARS PER COPY

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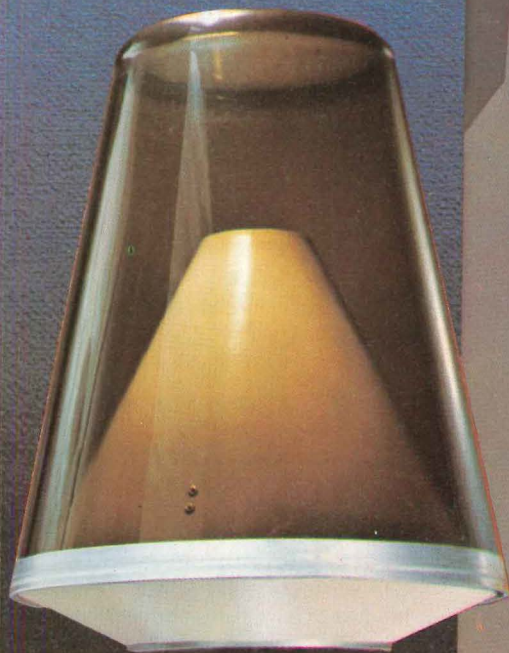
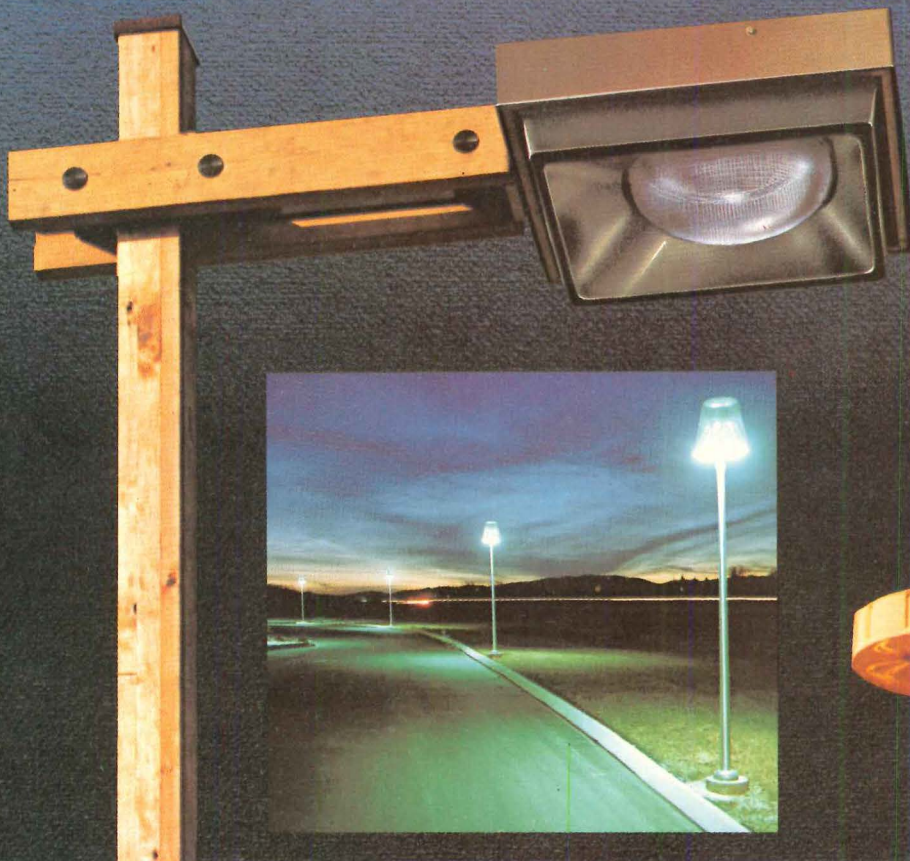
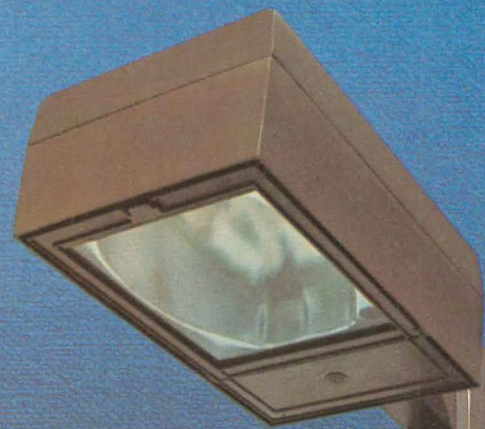
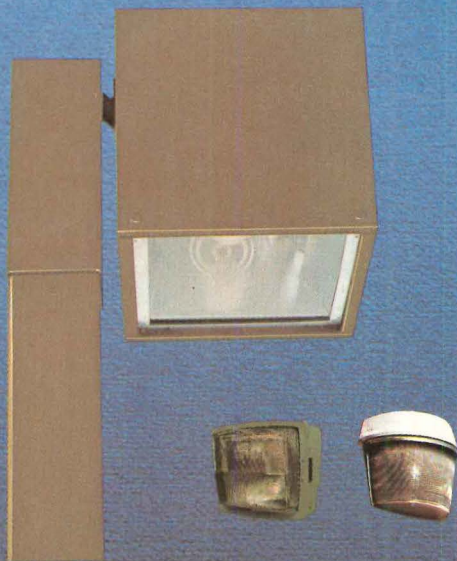
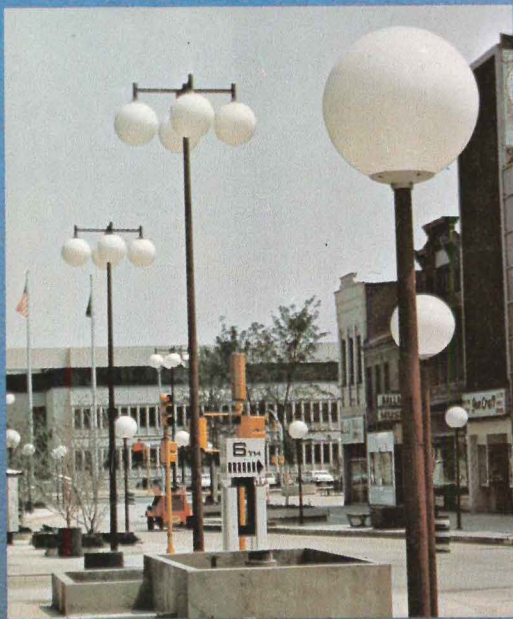
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That's the beauty of these General Electric luminaires. At the heart of every one of them is an energy-efficiency system that delivers the maximum in light output per watt of electricity used.

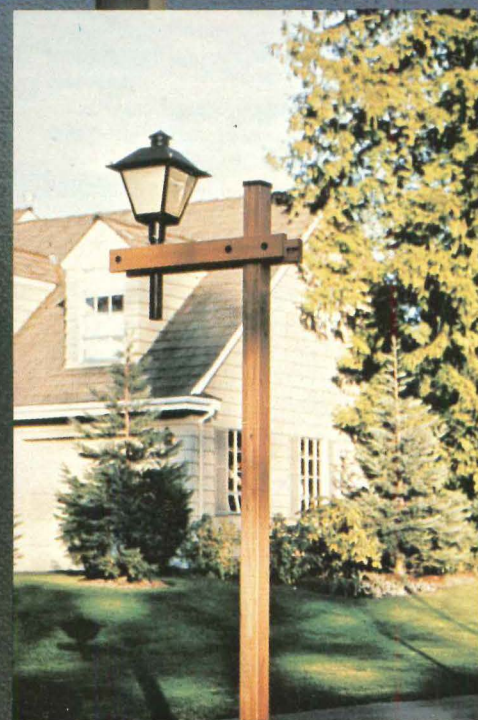
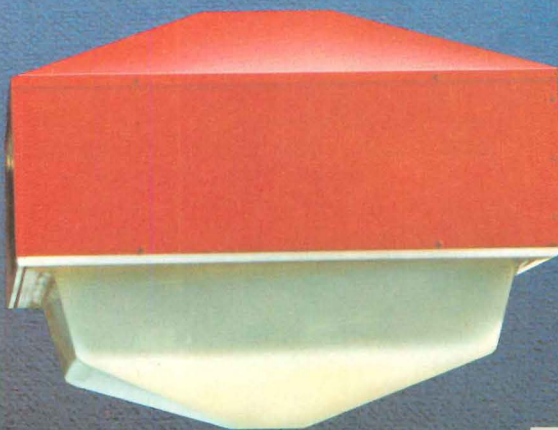
All of the GE luminaires you see

above use High Intensity Discharge (HID) light sources — mercury, metal halide or Lucalox®. That means more efficiency is built in at the design stage than with conventional lighting.

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So you save a pretty penny in operating costs, too.

That's just one example of beautiful efficiency in outdoor lighting from General Electric. If you'd like more information about GE decorative post-top or floodlighting systems, write: General Electric Company, Lighting Systems, Section 460-03, Hendersonville, N. C. 28739



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MAKES THE
DIFFERENCE

GENERAL  ELECTRIC

For more data, circle 3 on inquiry card

ARCHITECTURAL RECORD April 1976 3

Letters to the editor

Robert A. M. Stern's thoughtful review of Andrew Alpern's "Apartments for the Affluent" (RECORD, February 1976) is most appreciated. Nonetheless, as Alpern's publisher, I must take the blame for many of the faults Stern cites. I chose the title, "off-putting," as Mr. Stern finds it. I insisted on illustrative content at the expense of text.

But I join with Stern in hoping that this will be the first of many books to celebrate styles in housing other than the modern. When I proposed that we publish "Apartments for the Affluent," I was warned by my colleagues that it could never succeed. I am (and they are) delighted by the enthusiastic response to the book which thus far has exceeded all our expectations.

Jeremy Robinson
Architecture Editor
McGraw-Hill Book Company

The December editorial "Progress report: selecting the public architect," leaves the impression that the NSPE antitrust case involves fee schedules or fee guides by its reference to NSPE's willingness to "outlaw" such schedules.

To keep the record straight, NSPE does not have a fee schedule; the issue in the case is whether the NSPE ethical provision opposing competitive bidding for engineering services is legally permissible.

At the second hearing on the NSPE case before the District Court following the Supreme Court action vacating the first decision against NSPE and remanding the case for further consideration, our attorneys did comment that NSPE would be willing to delete the reference to fee schedules of other societies in the NSPE code provision opposing competitive bidding if this would clarify the issue. All that the language in the code provision says is that it is not considered to be competitive bidding for an engineer to give a prospective client a copy of a fee document of another society as general information.

We hope that your readers do not get the impression that NSPE is backing off of its position opposing competitive bidding for engineering services. So far as we can prevent it, the way is not being cleared for some price competition. Whether we ultimately win or lose the legal battle, we will continue to do everything possible to prevent the imposition of competitive bidding for engineering services on the public and the profession in the firm conviction that selection on the basis of price competition (which will

invariably follow if there is any degree of price in the selection process) will lead to shoddy, inadequate and incompetent professional services.

Milton F. Lunch, General Counsel,
National Society for
Professional Engineers

I have read Robert Stern's well written and comprehensive review of *Apartments for the Affluent* by Andrew Alpern. While Mr. Stern is obviously skilled in the use of words, I disagree strongly with what he has to say. I do not have Mr. Stern's architectural training and experience, but as an architectural photographer I deal with architects and architecture continually. I have photographed many residences and they have fascinated me, but until the Alpern book came along there was nothing to enable me to broaden my knowledge of apartment living beyond my very limited personal experience.

Architectural analysis and compass points on the plans may be necessary for scholars, but for us mortals, Mr. Alpern's book is right on target. The photographs are a delight, the text just enough to tell as much of the story as I'd care to hear, and the plans give a fascinating insight into the ways in which the rich and the middle-income people of New York City have lived for the past hundred years. Of course I'd like to see more, but isn't that always the mark of a good book, as a good meal? As for Stern's complaints about the Goldstone foreword, I thought the foreword made a perfect entré to the book. It would have been grossly inappropriate for Goldstone *films* to use the opportunity to laud the accomplishments of Goldstone *père*.

If Alpern's book can stimulate others to write books more to Stern's liking, well and good. In the meantime, "Apartments for the Affluent" is an excellent book which fills a long standing gap in the documentation of both the history of New York and the history of architecture.

Gil Amiaga
Architectural photography
New York City

Calendar

APRIL

19-23 Second Southeastern Conference on Application of Solar Energy, Baton Rouge, Louisiana. Meetings will be held at the Hilton Inn and sponsored by Louisiana State University. Contact: Dr. Arnas, Department of Mechanical Engineering, Louisiana State University, Baton Rouge, Louisiana 70803.

MAY

2-6 Annual convention, American Institute of Architects, Philadelphia.

4-6 Regional Highway Transportation Congresses. Contact: John H. Jenrich, Highway Users Federation, 1776 Massachusetts Avenue, N.W., Washington, D.C., 20036.

19-24 Bicentennial Annual Meeting, The Society of Architectural Historians, Philadelphia.

31-June 3 1976 Architects' Workshop, Glorieta Conference Center near Santa Fe, New Mexico. Sponsored by The Church Architecture Department of the Southern Baptist Sunday School Board. Contact: Howard McAdams, AIA, Church Architecture Department, 127 Ninth Avenue North, Nashville, Tennessee 37234.

31-June 11 Habitat, the UN Conference-Exposition on Human Settlements, Vancouver, British Columbia. (The Exposition will include an exhibit at the Vancouver Art Gallery of submissions in the International Design Competition for the Urban Environment of Developing Countries Focused on Manila, conceived by ARCHITECTURAL RECORD and *L'Architecture d'Aujourd'hui* and sponsored by The International Architectural Foundation.)

JUNE

23-25 NEOCON, National Exposition of Contract Interior Furnishings, Merchandise Mart, Chicago.

JULY

4-9 International Association of Shell and Spatial Structure World Congress on Space Enclosures, Montreal. Host is the Building Research Centre, Concordia University, Montreal, in cooperation with the Department of Mechanical Engineering, Ecole Polytechnique, Montreal, and Form Studies Unit, Architectural Research Group, Carleton University, Ottawa. The Congress is also sponsored by departments of the federal government, Ottawa, and the Quebec Ministry of Education. Contact: Dr. Paul Fazio, Chairman, Congress Committee, WCOSE-76, Building Research Centre, Concordia University, Sir George Williams Campus, 1455 de Maisonneuve Boulevard West, Montreal, Quebec, Canada.

6-8 Annual conference conducted by The Guild for Religious Architecture, Copley-Plaza Hotel, Boston, Massachusetts. Contact: The Guild for Religious Architecture, 1777 Church Street, N.W., Washington, D.C. 20036.
26-30 Institute on Industrial Archaeology, Rensselaer Polytechnic Institute. Contact: RPI Office of Continuing Studies, Troy, New York 12181

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER)

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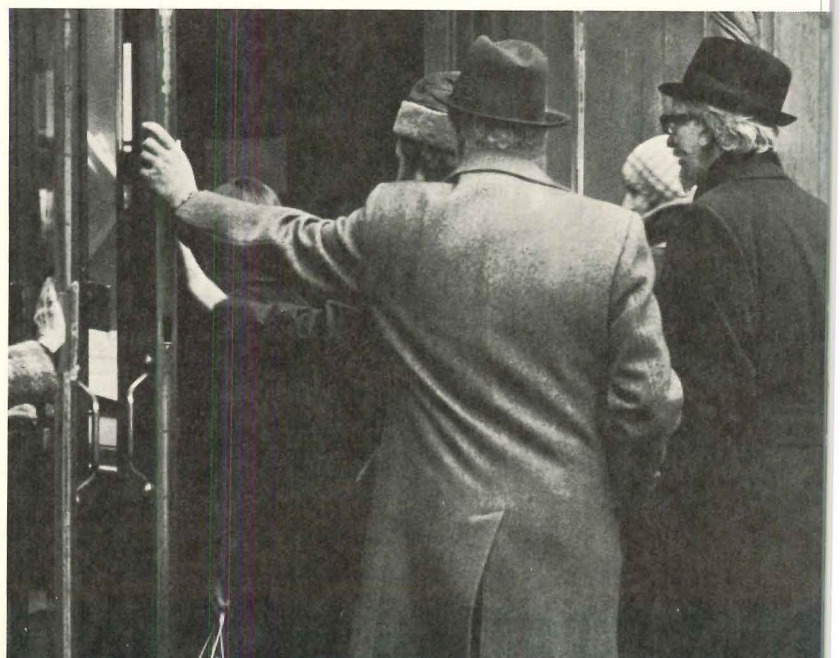
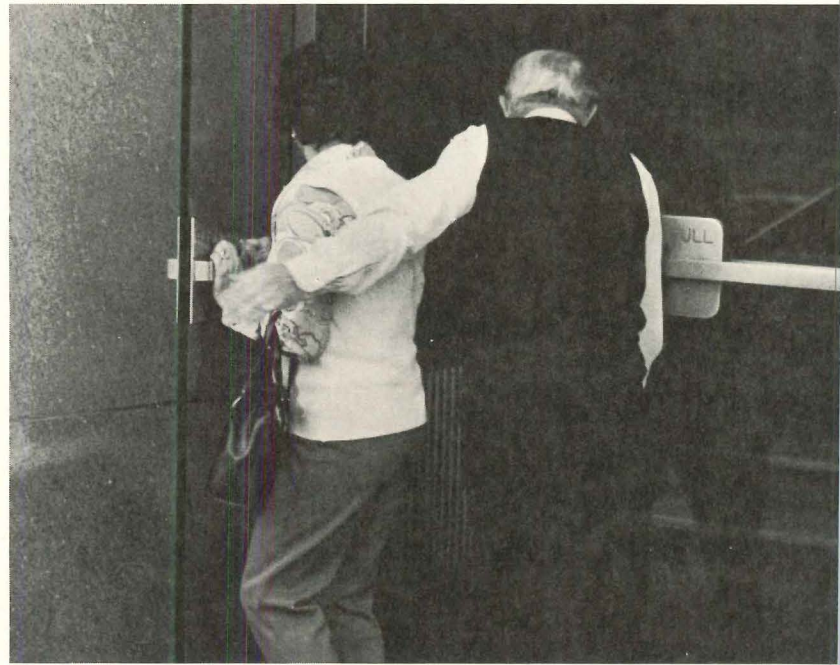
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For more data, circle 4 on inquiry card

RUSSWIN

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to cope with. Or do we?



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Then think how an automatic entrance could eliminate all that congestion. Keep traffic moving. Even enhance the very look of the building.

Obviously you devote a lot of time to an entrance. You probably consider it the symbol, the focus of your building. By thinking one step further, you could make it all the more inviting.

Next time, think of the Stanley Magic-Door[®] people. The people who originated the whole idea of automatic entrances some forty-five years ago. And are still the leaders in the business. Stanley Door Operating Equipment, Division of The Stanley Works, Farmington, Connecticut 06032.

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Rimrock Mall, Billings, Montana

Architect: Charles Kober Associates

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GLULAM—Structural Glued Laminated Timber—offers architects as much in cost efficiency appeal as it does in aesthetic qualities. And that's an established fact! Yet, some specifiers still aren't convinced that glulam can be both appealing and economical.

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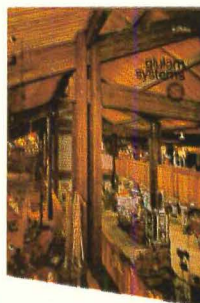
Wrong!

virtually any size or shape presents you with design opportunities limited only by your creative imagination. Cost efficient glulam?

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Now, Computerized Building Automation at an Affordable Price.

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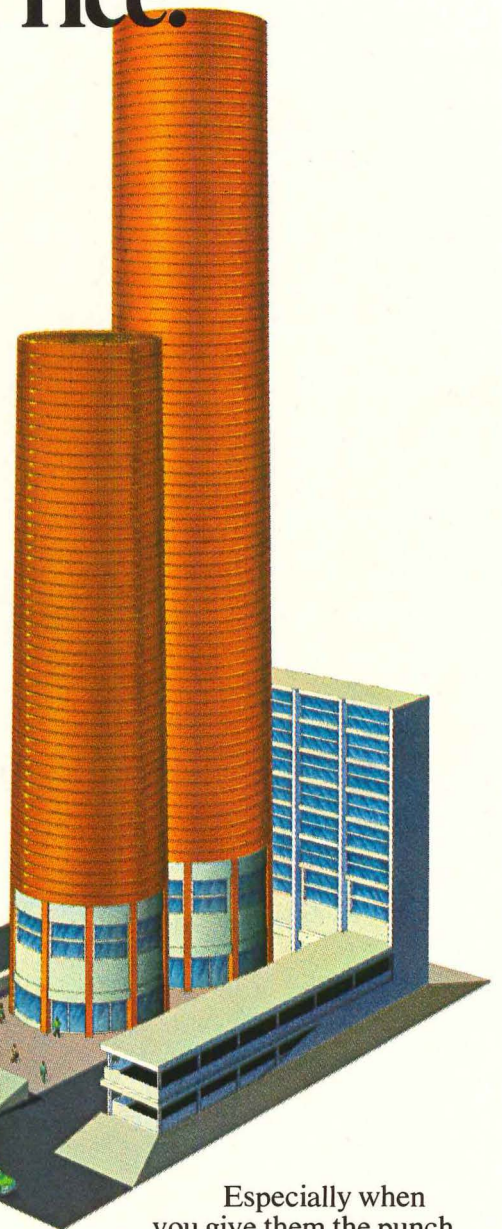
How JC/80 Cuts Operating Costs

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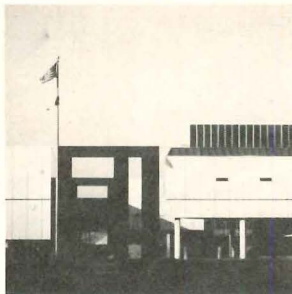


Especially when you give them the punch line: *51¢ a square foot*. For more information call your local Johnson Controls office. And send for Johnson Controls 12-page booklet, "JC/80 Computerized Building Automation." Write R.J. Caffrey, Vice President-Marketing, Systems & Services Division, Johnson Controls, Inc., Reference M-2, P.O. Box 423, Milwaukee, Wisconsin 53201.

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THE RECORD REPORTS

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Architects, houses,
and involvement with people

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33 News in brief

Short items of major
national interest.

34 News reports

The AIA Board has endorsed sweeping changes in professional ethics, including permission to advertise and to design-build. Manhattan Regency Hyatt proposed next to Grand Central. Congress and Administration push an assortment of energy bills.

37 Human settlements: world news

40 Buildings in the news

For architectural sightseers at the AIA convention, Philadelphia offers a profusion of new and noteworthy buildings.



43 Required reading

165 Office notes

ARCHITECTURAL BUSINESS

65 The small firm is alive and well, and furthermore . . .

Firm size and design quality seem difficult to separate. An informal RECORD survey of a cross-section of firms reveals that architects have an unshakable faith in the future of the small firm as the place in which design quality flourishes best.

Building costs

Because of computer problems, RECORD is unable to supply the April building cost indexes normally found in this section. We will resume this service, provided by the Dodge Building Cost Services, in the May issue.—Ed.

73 Building activity

A new look at 1976, and some good news for architects. George A. Christie, chief economist for the McGraw-Hill Information Systems Company, offers the first update of the Dodge/Sweet's Construction Outlook for 1976, and suggests the end of decline in the nonresidential building market.

FEATURES

**95 University of Petroleum and Minerals
Dhahran, Saudi Arabia
Caudill Rowlett Scott, architects**

With over \$50 million worth of construction in place on the not-half-complete University of Petroleum and Minerals in Dhahran, CRS have compiled a vast amount of knowledge in the previously unexplored requirements of local practice—both in terms of technical knowledge and relevant architectural expression. Their experiences and their notable buildings should be of special interest to architects entering this “unexplored” territory.



**101 New Harmony Inn
New Harmony, Indiana
Woollen Associates, Architects**

“Situational architecture” is how the designers of the new 45-room New Harmony Inn describe their work. The situation is the historic town of New Harmony, Indiana, and the result is, in the best sense, a triumph of modesty.

**107 Mitchell/Giurgola Associates
three bench mark buildings**

The reddish-pink color of local clay infuses the enveloping stucco walls of Casa Thomas Jefferson, a bi-national enclave at Brasilia (page 108). Columbus East High School kicks up the sod of rural Indiana with the civility of a gentleman farmer (page 110). In Philadelphia, the taut metallic skin of INA Tower displays Quaker-correct manners toward the urban environment. (page 113).

**119 “The American Environment”
by Ashok Davar**

Ashok Davar, a young architect, artist, and author, born in India, presents here—in simple words and revealing drawings—some of his initial impressions while traveling through various parts of the United States.

BUILDING TYPES STUDY 486

125 Stores and Shops

Consumer buying power has expanded and retail store owners have expanded and revitalized their facilities to attract shoppers. These six projects are examples of some more successful ventures.

**126 Jack London Village
Oakland, California**

Frank Laulainen & Associates, architects.

**130 Lee’s Art Shop
New York, New York**

Macfadyen De Vido, architects.

**132 The Gap
San Francisco, California**

Bull Field Volkmann Stockwell, architects.

**134 The Record Store
Palo Alto, California**

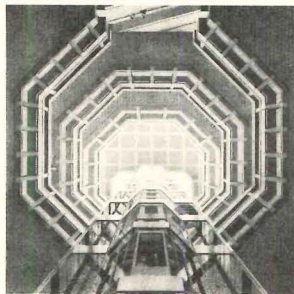
Whisler-Patri and Thomas Aidala, architects.

**135 Bookstore for Museum of Modern Art
New York, New York**

Abraham Rothenberg Associates and Thomas Lowrie, architects.

**136 Retail spaces at
Water Tower Place
Chicago, Illinois**

Warren Platner Associates, architects.



ARCHITECTURAL ENGINEERING

**141 Store’s plug-in lighting system
saves both time and money**

Time was short and the electrical engineer had to lay out the distribution system for Luetzgen’s specialty store before the designer had done the lighting. A plug-in above-ceiling raceway not only gave flexibility but cut labor cost.

**143 Superdome’s seating rolls into place
to suit the activity**

Movable stands seating 15,000, supported by a pipe-support understructure, move on rollers when pulled by a cable-driven system.

151 Product reports

153 Office literature

206 Advertising Index

208 Classified Advertising

209 Reader service inquiry card

NEXT MONTH IN RECORD

In May 1976 RECORD will concentrate on one of the most urgent problems of our time: the accelerating urban crisis in developing countries.

Within the context of this crisis, the RECORD will present the results of its unprecedented International Design Competition for the Urban Environment of Developing Countries.

This “Human Settlements” issue will be published just prior to the opening of Habitat ‘76, the major U.N. Conference-Exposition, to be held in Vancouver, May 31-June 11.

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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 Showrooms in New York, Los Angeles, Chicago, Aurora. In Canada, All-Steel Canada, Ltd. One of the **CIT** Companies.

For more data, circle 8 on inquiry card

Architects, houses, and involvement with people

It is in vogue to put down houses as irrelevant—not part of “what’s happening in society, or architecture, today.” And, even in these days of tough-to-find commissions, more than a few architects continue to say that they “won’t touch houses because you just can’t make money on them.”

Well, if I were king, I think I would make it a rule that every architect had to design a house every year; and I would surely make it a rule that any client who wanted a custom house would have to be served.

It is, of course, true that houses do not solve any of the world’s ills—house people living in sub-standard conditions; or help the poor, or the sick, or the under-educated. It is also true that houses probably do take more planning time and design time and hassle time—on a percentage basis—than any other building type. But whether “you can’t make money on them” is true or not depends more, I think, on your accounting practice than anything else. Sure it is true that you can make more money per hour doing an office building or an industrial plant; but isn’t it true that you can make a fair day’s pay for a fair day’s work doing a house for someone who desperately wants it? I think it is.

All this comes up in my mind for three reasons: For one thing, a book on houses I edited, entitled, to the despair of catalogers everywhere, “Great Houses for View Sites, Beach Sites, Sites in the Woods, Meadow Sites, Small Sites, Sloping Sites, Steep Sites and Flat Sites” (ARCHITECTURAL RECORD BOOKS, 214 pages, \$16.95) (Advt.) has just come out, and I’m full of writing about the delights of houses that are just right for their site, that promise real enjoyment for their owners, and which had to be a joy for the architects to design. For another thing, we’re in the final stages of writing RECORD HOUSES 1976 (our 20th Anniversary RECORD HOUSES, believe that?) and we’re all excited about that. The houses—varied and different and responsive to hundreds of different demands of sites and ways of living—are absolutely great! And for a final thing, I’ve just come back from helping judge the “Homes for Better Living Competition” jointly sponsored by AIA and our sister publication *House & Home*. We chose three Honor Awards and five Awards of Merit—which will be published soon in *House & Home*—and they too are absolutely top rank houses.

So I’m full of the feeling that architects ought to do houses whenever they have a

chance—and surely whenever they’re asked.

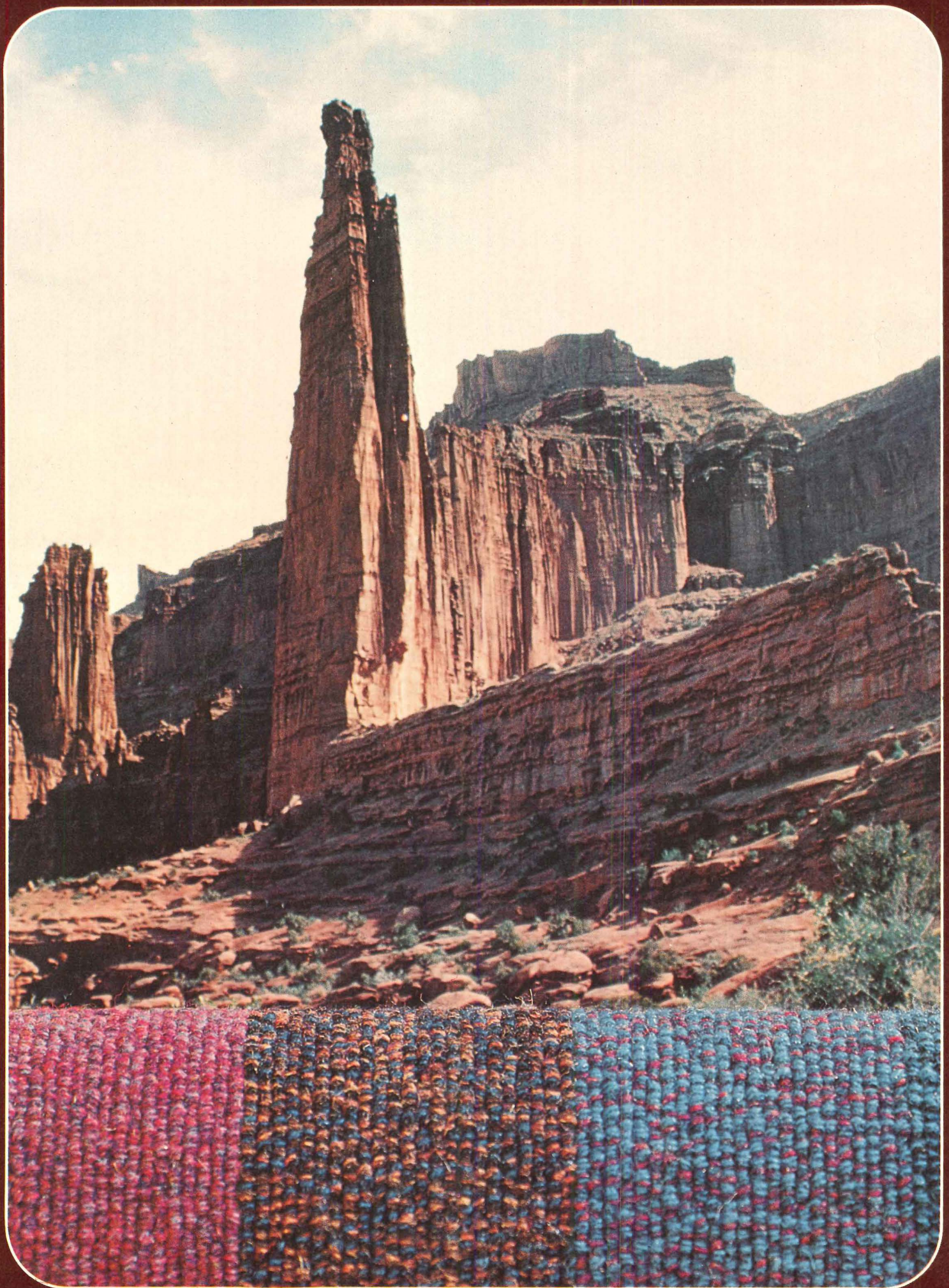
Reason 1. Houses offer a chance to design something fresh and relaxed and innovative and free of the thousands of constraints that now surround nearly every job in the public or commercial sector; and conversely they usually demand that work be done within a budget that is tight and inflexible—there is usually no money for “overruns” in a family’s budget. (Sidelight: There’s a lesson for architects in the fact that nearly half of the RECORD HOUSES and five out of eight of the *House & Home* winners are vacation houses or second houses. One theory, of course, is that the client is less concerned with his image or “status” in a vacation house. But I also like the theory that limited budgets provide a constraint that leads to 1) an essential simplicity, 2) freedom of design but careful development of a single design idea, and 3) an attention to detail and detailing that sets these houses apart.)

Reason 2. Houses offer an ideal opportunity for architects to demonstrate their wares—their skills and their talent—in a way that anyone can understand and relate to. The average person probably finds it difficult to form an opinion on whether or not he likes this office building or another better; or whether he likes the Boston City Hall. But everyone who lives in a house is by virtue of that fact “an expert”: or at least capable of comparing the experience of a well designed house with his own house. Sometimes it takes explanation or reassurance to make someone understand why a good contemporary house is the way it is—and a real alternative to an overscaled fake colonial house “with good resale value.” But it is a chance for an architect or his “agent”—a delighted owner—to expose more and more people to the values of good design; what it means to their way of living and feeling about themselves.

Houses are the form of architecture closest to people. When people understand about good design—whether they want the contemporary design that most architects want to do for them, or perhaps a remodeling of a worthwhile older house, or even (dammit) a *good*, in-scale, properly detailed version of Colonial—everyone benefits. Architects get to do their thing; and the homeowner benefits, as the saying goes, forever after.

Houses are for people; and designing them is a worthwhile reminder that architecture is first and foremost for people.

—Walter F. Wagner Jr.



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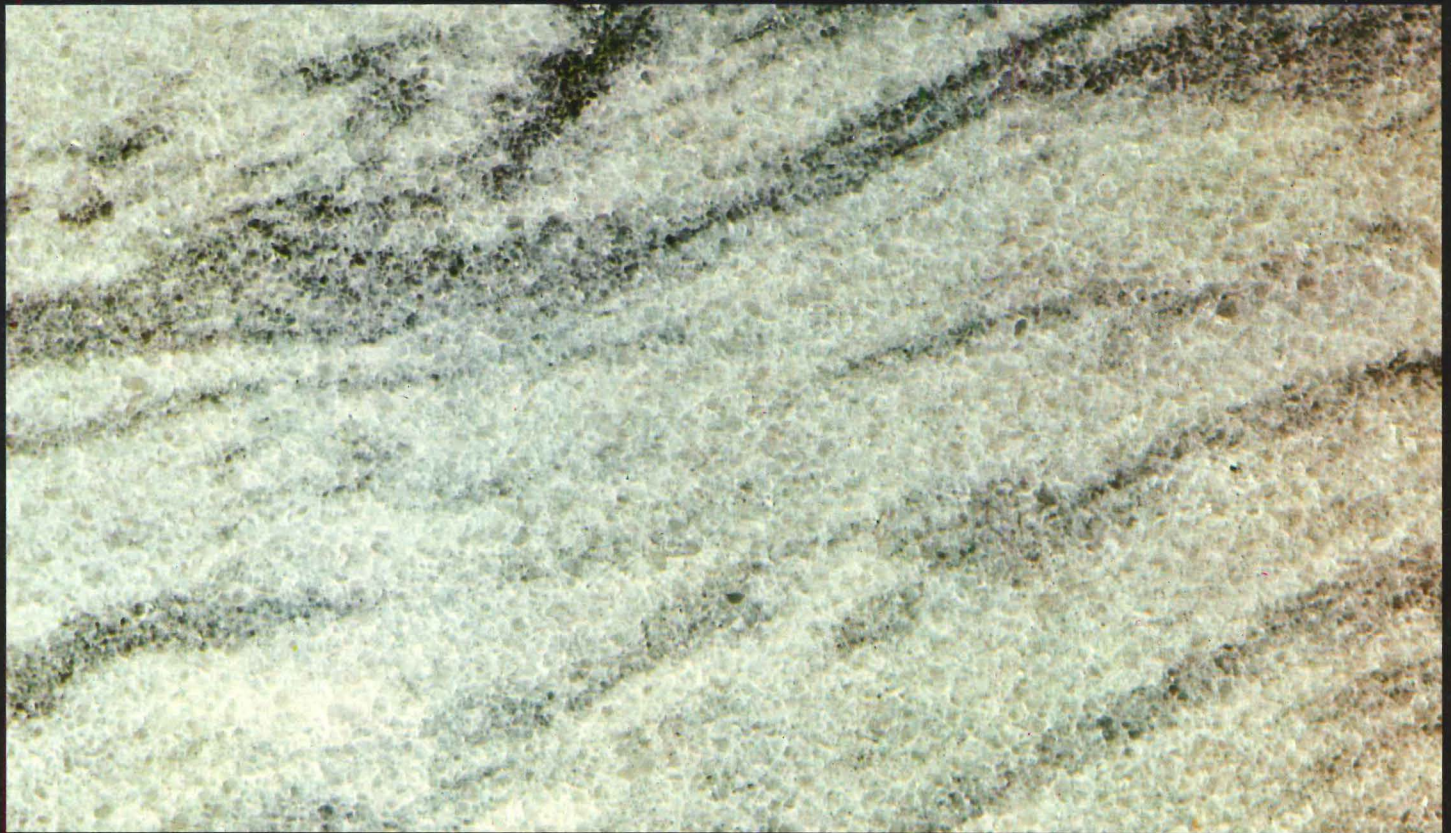
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Building: First International Building, Dallas, Texas, completed and occupied late 1974. Architects: Helmut, Obata & Kassabaum, Inc., Harwood K. Smith & Partners, Inc., Dallas; Consulting Engineers: Ellisor & Tanner, Dallas; General Contractor: Henry C. Beck Co., Dallas; Fireproofing Contractor: Carpenter Plastering Co., Dallas.



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THE ONE PART ONE

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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.
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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?

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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.

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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.
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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.

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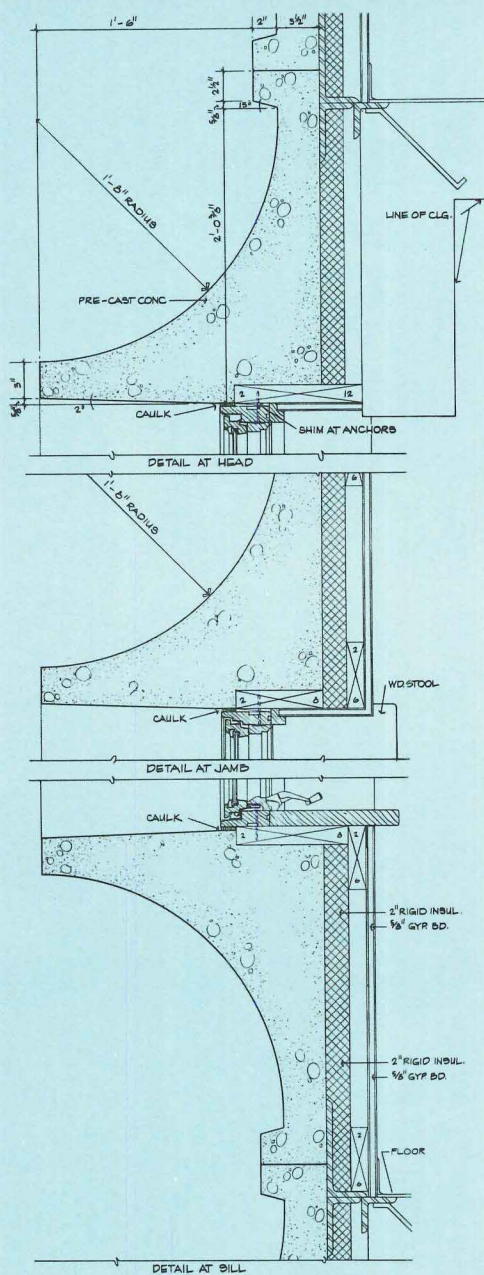


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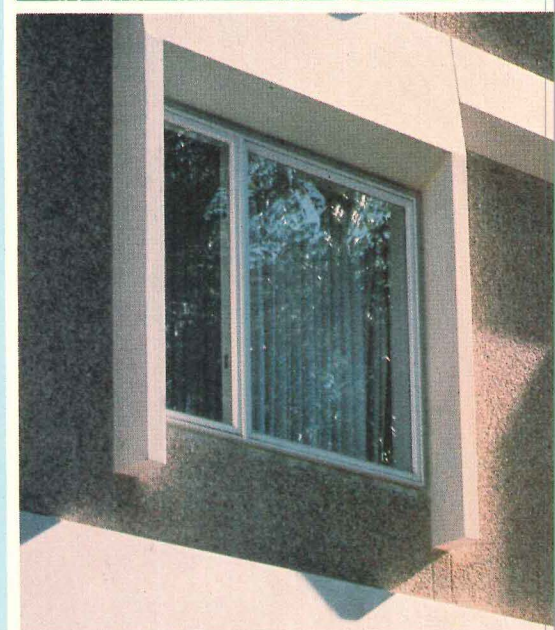
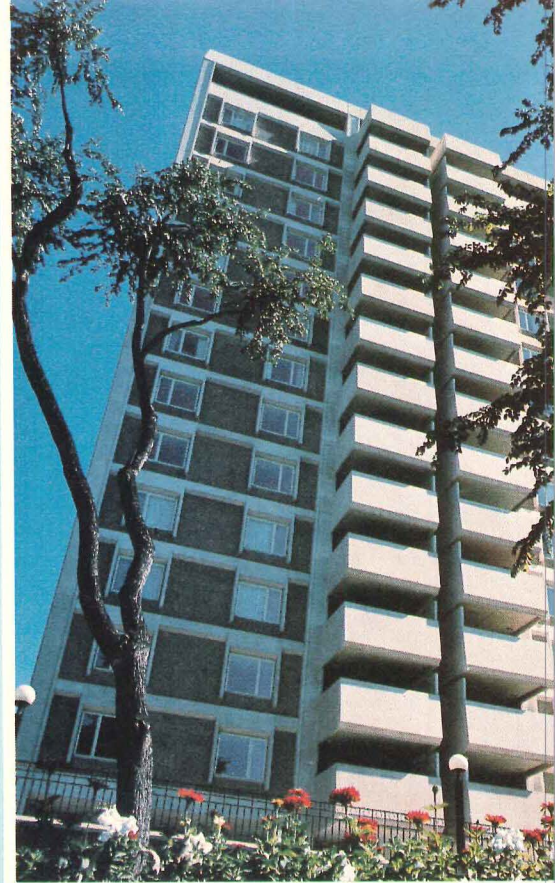
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Columbia Court—Housing for the Elderly
Muskegon Heights, Michigan
Architect: Haughey, Black & Associates;
Battle Creek
Installation: Perma-Shield Casements
in precast panels

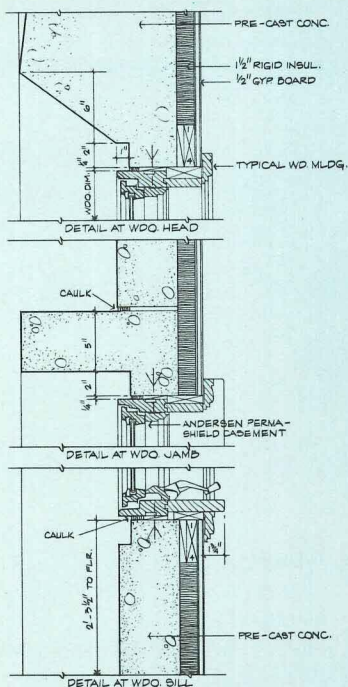


Concrete evidence

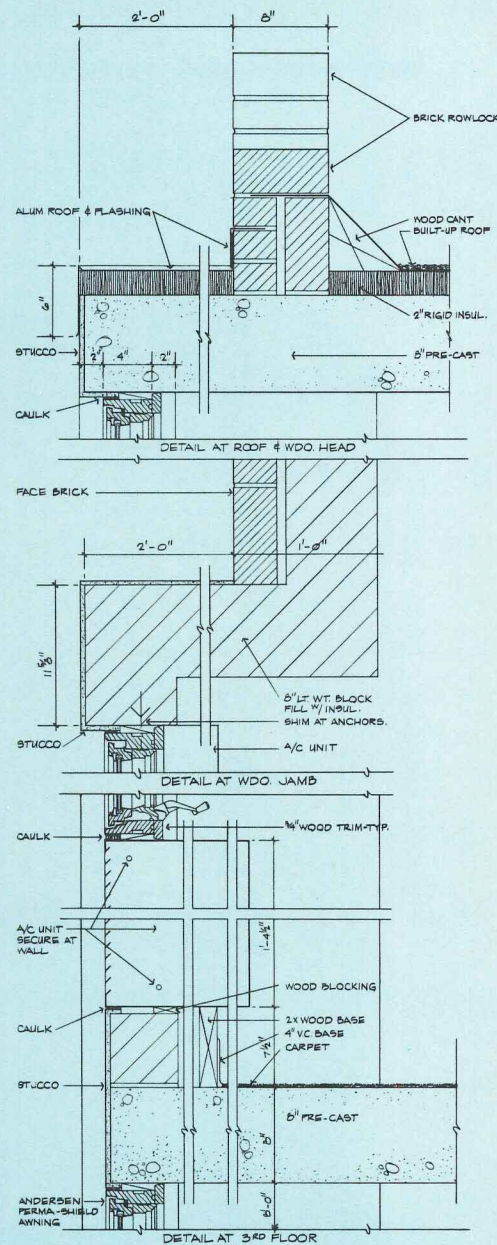
Structural harmony was only one of the beautiful reasons why these project architects chose Andersen® Perma-Shield® Windows.

They also knew Perma-Shield Windows have many of the same long-lasting qualities as their concrete surroundings. Because their tough, protective sheath of long-life, low-maintenance rigid vinyl is designed not to rust, pit or corrode. Not to chip, flake, peel or blister.

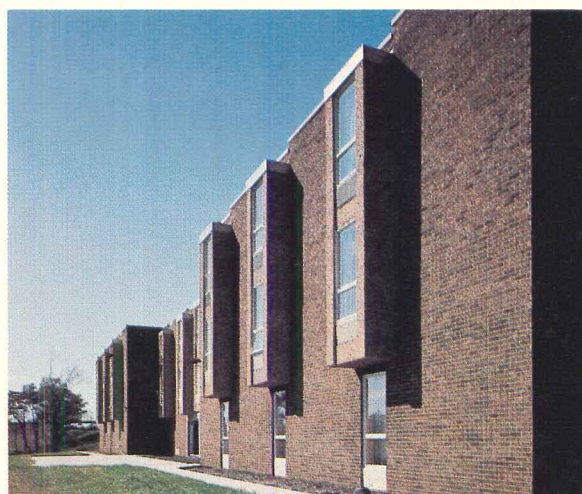
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Cheesman Garden Apartments,
Denver, Colorado
Architect: Slater, Small & Spent; Denver
Installation: Perma-Shield Casement
operating and fixed units in precast frames



Shenandoah College Residence Hall
Winchester, Virginia
Architect: Keith Williams & Associates;
Winchester
Installation: Perma-Shield Awning
Windows in masonry frame, with
stucco facing.



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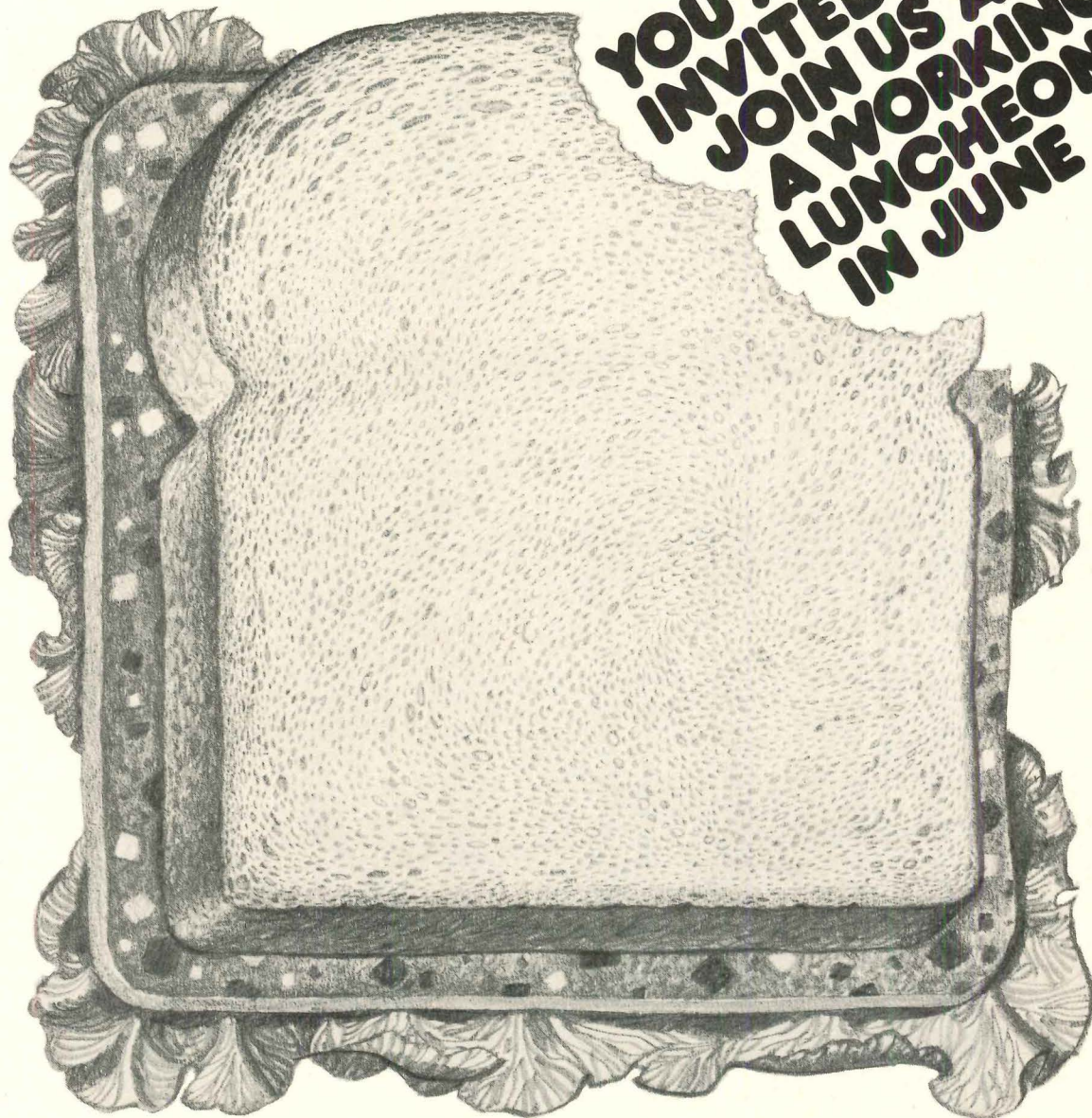
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The Background

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

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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

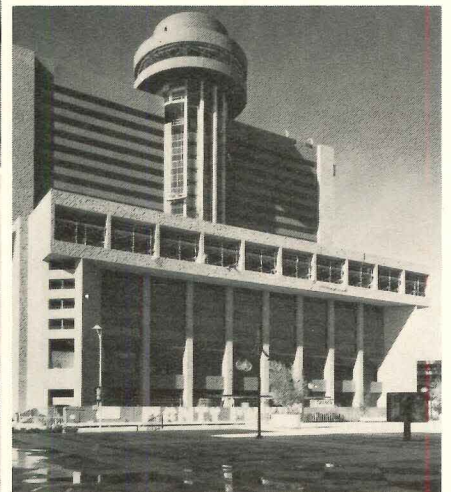
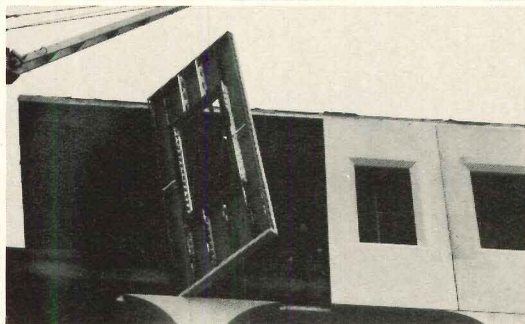
Reservation Deadline—May 1

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.



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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.

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Name _____ Title _____

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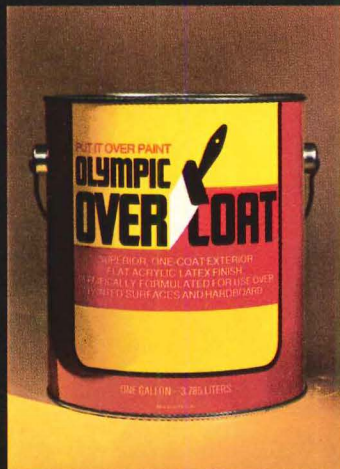
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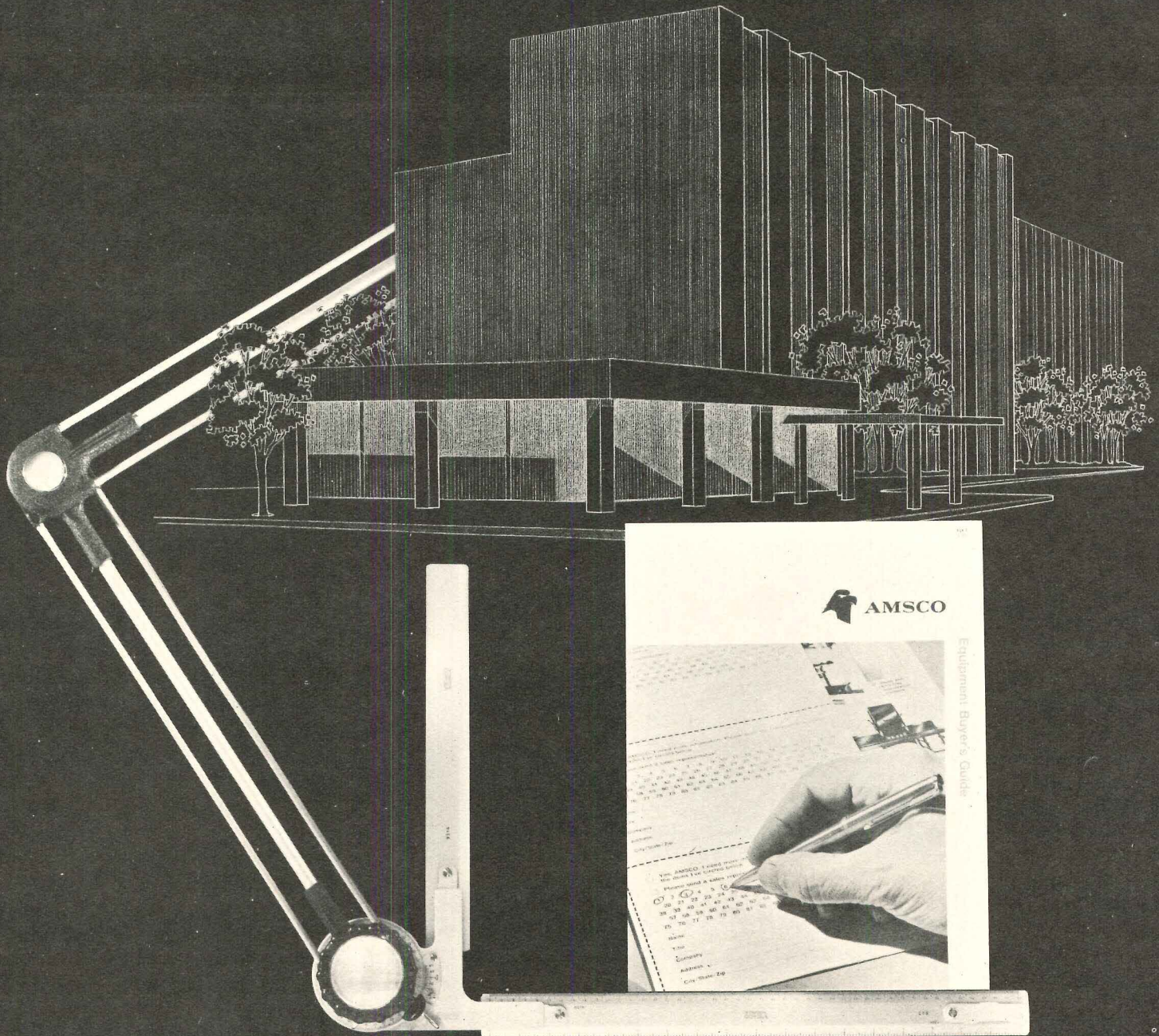


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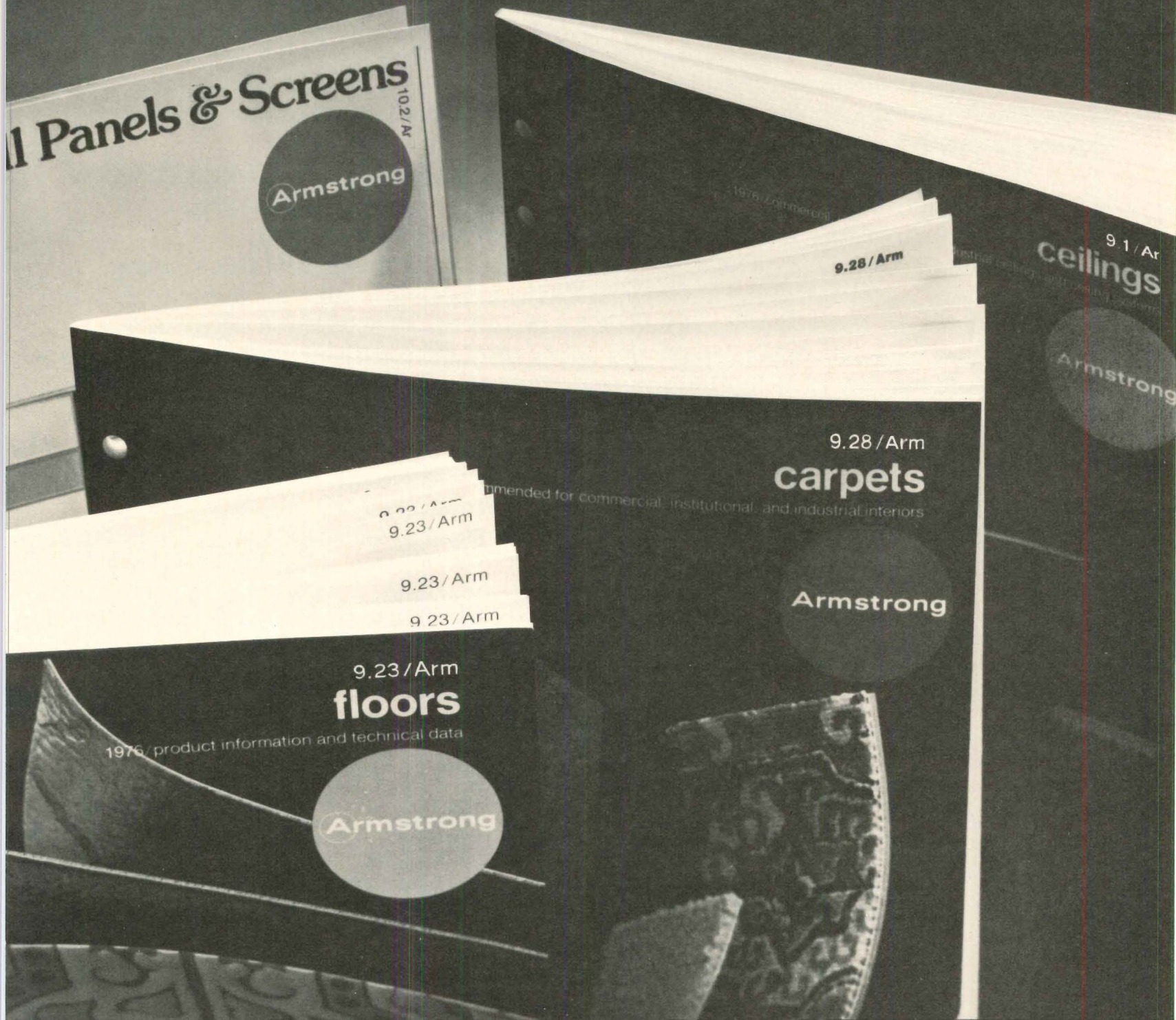
narrow-grooved to prevent small objects from wedging into the moving surfaces. The steps are supported by four, neoprene-tired wheels to minimize rocking and to give smooth, quiet operation.

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You'll find 180 pages of Armstrong product information in Sweet's Architectural File.

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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.

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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 more information, write Armstrong, 301 Rock St., Lancaster, Pa. 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.

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Residence, Highland Park, Ill. Architect: Robert M. Roloson.

Red cedar complements a modern mansion.

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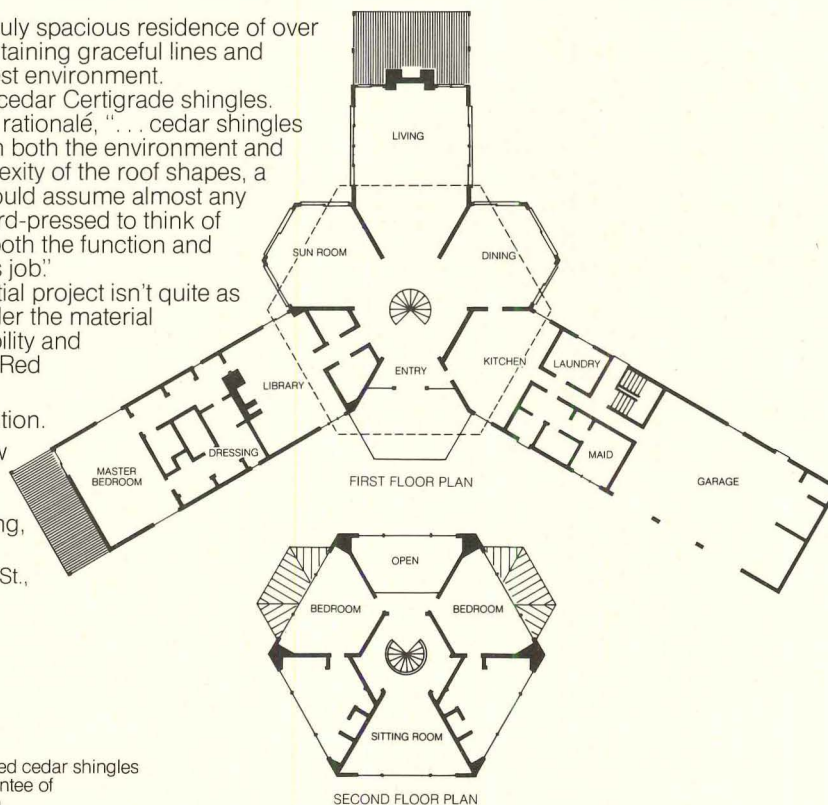
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NEWS REPORTS
 BUILDINGS IN THE NEWS
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 REQUIRED READING

Directors of the AIA endorsed a resolution that would allow architects to advertise and to engage in design-build, if members voting at next month's national convention adopt these changes in the Institute's Standards of Professional Ethics. Details on page 34.

The AIA has bestowed its 1976 Architectural Firm Award on Mitchell/Giurgola, Architects, of Philadelphia. Leo A. Daly, FAIA, will receive the Institute's Edward C. Kemper Award for significant contribution to the Institute and especially for his work on the AIA Task Force on Energy Conservation, while Wendell J. Campbell, AIA, founder and former president of the National Organization for Minority Architects, will receive the Whitney M. Young, Jr., Medal. At its national convention in Philadelphia next month, the Institute will also present AIA Medals to the following: Edmund N. Bacon, FAIA, former executive director of the Philadelphia City Planning Commission; Charles A. Blessing, FAIA, for his drawings in *Cities in Perspective*; artist Saul Steinberg; James Marston Fitch of Columbia University for his work as teacher, author and critic; Robert Le Ricolais, Hon. FAIA, of the University of Pennsylvania for architectural research; Vincent J. Scully of Yale University for his work as architectural historian; and Gordon Cullen, British artist and author of *Townscape*. Institutions receiving Medals include the New York City Planning Commission for the establishment of SoHo, a residential quarter for artists, and the Institute for Architecture and Urban Studies of New York City for its research and education programs.

Walter A. Meisen has resigned as assistant commissioner, construction management, Public Buildings Service, to take a position with the architectural and planning firm Daniel Mann Johnson & Mendenhall. According to Nicholas A. Panuzio, PBS Commissioner, Mr. Meisen will be succeeded by a career Federal employee, whom Mr. Panuzio "hopes" will be either an architect or an engineer.

The updated 1976 Dodge/Sweet's Construction Outlook predicts a 12 per cent gain in construction contract value over last year's figure, with a projected total of \$102.5 billion. The figure is down somewhat from the 15 per cent gain predicted last October, but nonetheless, say Dodge economists, signals that the long decline in the nonresidential building market may finally have hit bottom. The revised Outlook, published by the McGraw-Hill Information Systems Company, also sees a shift in the composition of nonresidential building, with institutional construction receding, commercial work gaining, and general manufacturing taking up some of the slack produced by declining energy-related construction. Dodge figures for January 1976 construction jumped 25 per cent up from the January 1975 total. In the building categories, nonresidential contracts dropped 17 per cent, to \$1,939,053,000, while residential contracts increased 40 per cent for the month, to \$2,157,040,000, reflecting gains in single- and multi-family construction.

The NCARB, changing its rules for registration exams, has announced the subject of its 1976 test—correctional institutions—well in advance of examination time. The NCARB *Test Guide*, available to candidates in midsummer, will include the "mission statement" (program) and a bibliography on correctional institutions. (The *Test Guide* may be obtained from Architectural Record Books, 1221 Avenue of the Americas, New York, New York 10020.)

The Pennsylvania Academy of Fine Arts, a National Landmark Building designed by Frank Furness, will open its restored and renovated public spaces in Philadelphia April 24, exactly a hundred years after the building's first opening. The restoration was directed by architect Hyman Myers, a Furness scholar, of the firm Day & Zimmerman.

In its Second Biennial Design Awards Program, the General Services Administration honored seven buildings, one interior, one sculpture, and one research project: the Renwick Gallery restoration, Washington, D.C.—John Carl Warnecke and Associates and Hugh Newell Jacobsen, FAIA, architects; U.S. Pavilion, Expo '74, Spokane, Washington—Naramore, Bain, Brady and Johanson, architects; Federal Office Building, Portland, Oregon—Skidmore, Owings & Merrill, architects; Landmark Center for the St. Paul (Minnesota) Arts and Science Council—Stahl/Bennett and Winsor/Faricy, architects; Cafeteria Remodeling and Upgrading, West Los Angeles Federal Building, Los Angeles—Ronald S. Wallace, architect; Federal Youth Center, Pleasanton, California—Frank L. Hope and Associates, architects; Mann Lion and Tiger Exhibit, National Zoological Park, Washington, D.C.—Faulkner, Fryer and Vanderpool, architects; Interior Design, Law Enforcement Assistance Administration, Seattle—Dennis Green and Dennis Neifer, architects; *The Flamingo*, Chicago—Alexander Calder, sculptor; and *Day on Wheels*, a report on the findings of designers who spent a day in wheelchairs—architect Dianne Walter, editor.

The National Science Foundation has provided funds to establish the Center for Earth Covered Buildings at the University of Texas, Arlington. The Center will be part of the Center for Energy Policy Studies, directed by Frank L. Moreland, in the Institute of Urban Studies, and will function initially as a clearing-house for information and research on earth-covered buildings.

The New York Landmarks Preservation Commission has named William Lescaze's House and Office a landmark. The building, called by the Commission a "pioneer example" of the International Style, was built in 1933-34. Two other Manhattan buildings were designated landmarks at the same time: the Municipal Asphalt Plant, a parabolic arch designed by Kahn and Jacobs in 1941, and the Rotunda and other interiors of City Hall.

AIA Board approves radical changes in ethical standards for advertising and design-build

Sweeping changes in the Standards of Professional Ethics will be offered for members' approval at the Philadelphia convention of the American Institute of Architects, May 2-5.

After more than a year of debate, the AIA Board of Directors last month endorsed, by a 20-15 vote, an Executive Committee draft resolution that would eliminate the ban on advertising by member architects and that would allow member architects to engage in design-build activities. (The prohibition against accepting consideration for a product endorsement would still stand.)

Closely linked to these changes in the ethical code is a provision that would require an architect to be competent in anything he does—that is to say, an architect who undertakes contracting or other nontraditional services should be competent in those fields. Louis de Moll, AIA president, comments, "Competency has not been considered as part of our ethical standards before. That's why some of us feel that this is really an advanced set of standards—though others feel we're letting down the bars."

Asked why the Board is submitting such controversial issues so quickly to this convention, Mr. de Moll in a recent interview said the evidence is strong that the profession is ready at least to discuss these issues.

Of the 34 resolutions submitted by chapters and other Institute components for consideration at the convention, two—one from Pittsburgh, the

other from the California Council—call for withdrawal of the ban on advertising, and Pittsburgh also asks for elimination of the ban on design-build practice. Since the convention must deal with these resolutions in any event, says Mr. de Moll, "One reason to go ahead with a Board resolution is to tie it all up in one package."

These issues were, moreover, debated at Grassroots meetings held earlier this year, and members of the AIA Executive Committee perceived a consensus strong enough to prompt a draft resolution for consideration by the Board. Says Mr. de Moll: "The resolution sums up what we think we're hearing, which is difficult to tell because proponents sometimes speak out more loudly than opponents. We did not take a show of hands. We may be wrong. We may find when we get to the convention that there is strong opposition." But he feels that the resolution has a good chance of succeeding.

(Though Mr. de Moll did not labor the point, the Board was conscious that the government has recently taken aim at professional prohibition of advertising—the American Medical Association is defending a Federal Trade Commission suit, and the American Bar Association recently eased its rules in an effort to forestall similar action against the lawyers.)

Opponents of the ethics change say that advertising would demean the profession, and that its cost, furthermore, would add significantly to the

architects' overhead. But, says Mr. de Moll, "I don't think there are going to be many firms that will be doing any real advertising."

The chief objection to the design-build resolution is the fear that it would draw great numbers of architects into contracting and development work, raising complex conflict-of-interest issues. Mr. de Moll does not think so: "If someone does want to get involved, to have a financial interest in a project, that doesn't mean he's unethical. It also doesn't mean that suddenly everybody's going to get into contracting."

One remedy for conflicts of interest is full disclosure, and the ethical provision does require that an architect involved in any business activity disclose his financial interest to his client or employer.

Discussing the ethics changes, Mr. de Moll says that a major question is, who should AIA represent? "Under current ethical standards, we represent a fairly narrow spectrum of architects who practice in the traditional way. We hope we can represent a broader spectrum of design professionals—although getting new members is not our intention. We may even lose some members who feel strongly on the question."

He goes on to point out that only in the United States and Canada do architectural associations forbid members to engage in design-build activity on the ground of professional conflict of interest.—*Charles E. Hamlin.*

Hartford v. suburbs: provide housing for the poor

Some 1,300 communities across the country with pending applications—and HUD officials—were told by a Federal District Court judge that if the communities want to continue to get their share of HUD's \$3-billion community development block grants, they must have a valid plan to provide housing for low-income families.

The decision came on a case in which the city of Hartford, Connecticut, went to court to assert that seven suburban towns were not entitled to some \$4.4 million of HUD block grant money because their housing plans were defective.

HUD was brought into the case for waiving a requirement of the law that the suburbs must, among other requirements, estimate as part of their plan how many low-income families might live in the town if housing were available.

Hartford—and the judge—pointed out that one specific purpose of the 1974 legislation was to de-concentrate low-income families outside the central city. Hartford said it had 90 per cent of the poor in its region because there was no housing for them elsewhere. Hartford further said that it did not want to prevent the suburbs from getting their \$4.4 million—but that it did want them to come up with a proper housing plan, as the law required. HUD officials admitted that they had approved the first-year applications under the new law without being overly sticky on technicalities, in order to get the program under way as quickly as possible. But Housing Secretary Carla Hills also pointed out that some 200 applications for funds had been turned back to the localities because of deficiencies.

Only three towns were actually turned down, however: Bloomfield, New Jersey, Maple Shade Township, New Jersey, and Parma, Ohio. All told, 19 localities went without their first-year block grant entitlements—most of them deciding they would pass up the money rather than plan to bring in low-income families.

The Suburban Action Institute, a civil rights group in the housing field, was jubilant about the Hartford decision "opening up the suburbs." Others say that the main effect will be to stiffen HUD's processing of applications from the cities, towns and counties now preparing applications.

Herbert Franklin, a Washington housing consultant, doubts that the decision will have much immediate impact, mainly because there is no effective Federal program to subsidize low-income housing construction. The Section 8 leased housing program has been very slow getting off the ground. Most industry experts say that the program just doesn't have the built-in incentive that will make it a significant lever in spreading low-income families outside the central cities.—*Donald Loomis, World News, Washington.*



PCI annual awards program honors seven buildings

The Prestressed Concrete Institute singled out seven buildings in its 13th annual awards program recognizing excellence in architectural and engineering design using precast and prestressed concrete.

Among the buildings honored were the Edwin J. Thomas Performing Arts Hall, University of Akron, Ohio—Caudill Rowlett Scott, and Dalton, van Dijk, Johnson & Partners, architects, and Gensert Peller Associates, structural engineers; Richland (Washington) Branch, First Federal Savings & Loan (shown here)—Waldron & Pomeroy, architects, and Olen, Ratti & Fosatti, structural engineers; Parking Garages, Knoxville, Tennessee—McCarty Bullock Holsapple, Inc., Francis F. Painter, and Weeks & Ambrose, associated architects, and J. T. Warren,

structural engineer; Rhode Island Avenue Station Canopy, Washington, D.C.—Harry Weese & Associates and De Leuw Cather & Co., architectural and structural concept development, Howard, Needles, Tammen & Bergendoff, project engineers, and The Perkins & Will Partnership, project architects; Colony Square, Phase II, Atlanta—Jova/Daniels/Busby, Inc., architects, and Prybylowski & Gravino, Inc., and Bennett and Pless, engineers; United Nations International School, New York City—Harrison & Abramovitz & Harris, architects, and Weidlinger Associates, structural engineers; and Hirschhorn Museum and Sculpture Garden, Washington, D.C.—Skidmore, Owings & Merrill, architects, and Weidlinger Associates, structural engineers.

Wright Prairie house burns in Oak Park

Forest Avenue in Oak Park, Illinois, boasts no fewer than seven Frank Lloyd Wright houses in a three-block stretch, including Wright's own house, plus a Wright garage, plus a number of noteworthy non-Wright houses of the late 19th and early 20th centuries.

In January, the Hills house, designed by Wright in 1901 and now owned by Mr. and Mrs. Thomas DeCaro, burned, the fire gutting the third story and causing considerable damage to the second.

The DeCaros have retained architect John Tilton—himself the owner of Wright's Beachy house on Forest Avenue—to restore the house. Because Wright's own 1901 drawings are available in plan and elevation and for interior detail, Tilton's firm will be able to effect the repairs and some remodeling in the spirit of the original.

The cost of repairs on the 19-room house is estimated at \$160,000. To make up the "substantial difference" between this figure and insurance compensation, the DeCaro's neighbors and the Forest Avenue Historic District Association will have a "housewalk" on May 8. Twelve houses along Forest Avenue, including five by Wright, will be open.—*Dan Brown, World News, Chicago.*

Congress ponders perplexities of energy use in buildings

If energy inefficiency in buildings can be outlawed, Congress will surely do it this session. After months of wrestling with the problems of increasing energy supplies, the attention of the lawmakers is turning increasingly to proposals for curbing energy consumption. Attention focuses on energy consumed in buildings—one-third of the energy used in the country.

Congress is clogged with proposals and counter-proposals directed at different facets of the energy inefficiency problem. There is little apparent coordination of the efforts, but it seems likely that several proposals could become law by summer.

The measure that probably will have the greatest long-term significance would establish Federal energy efficiency building standards for new houses and buildings. It has the firm endorsement of the Ford Administration, which originally proposed it, and the American Institute of Architects, which has sought and won inclusion of a requirement for the eventual use of performance standards.

Another bill, proposed by Sen. Edward M. Kennedy (D.-Mass.), is directed at improving energy efficiency in existing buildings. It would offer owners of those structures Federal loan guarantees and subsidized interest rates. While the bill could provide up to \$10 billion in loan guarantees, it would never cost the taxpayers more than \$140 million annually, Kennedy says, because the loans would be repaid.

The AIA says Kennedy's bill is "an important first step," but feels an energy efficiency retrofit program should be coupled with tax credits as well.

The Administration also favors tax credits, but without loan guarantees. The guarantees program, White House officials say, is "premature." The insulation tax-credit proposal has cleared the House, and the Senate will act on it this spring. Homeowners would be able to deduct a percentage of the costs for energy conservation improvements, up to \$500.

And in another assist for homeowners, the Administration is pushing a bill that would provide grants to help low-income and elderly people improve the thermal efficiency of their dwellings.

The Administration stresses that all its proposals for energy conservation in buildings use definitions that include insulating materials to improve the thermal properties of buildings, rather than heating or processing equipment. The Kennedy bill, by contrast, would provide the loan guarantees and subsidized interest rates for a wider range of purchases, including heat pumps and solar collectors.

The smaller scope of the Administration proposal is explained by John A. Hill, Deputy Administrator of the Federal Energy Administration: "We are concerned that a definition that includes such equipment [as heat pumps

and solar collectors] will open up our proposals to abuse; outmoded and inefficient equipment, which would have been replaced through a normal process of modernization, would be subsidized—and unmerited windfall paid for by the Treasury."

AIA President Louis de Moll has been the most persistent spokesman on energy conservation legislative matters. He won the battle for performance codes that will ensure more design flexibility in the standards bill.

Mr. de Moll has now turned his attention to what he calls "quality control" in energy conservation efforts. Specifically, he is asking Congress to make sure that energy audits are conducted by "a qualified person," who is defined as a "professional in the construction field who is licensed by the state."—*William Hickman, World News, Washington.*

NCIC elects new officers, expands legislative program

The National Construction Industry Council (NCIC), now one year old, has a new set of officers and intentions of making its feelings known in Federal law-making circles.

The new chairman is Philip Abrams, an open-shop contractor from Needham Heights, Massachusetts. He succeeds Charles W. Yoder, a consulting engineer.

The 36-year-old Abrams, a past president of the Associated Builders and Contractors, has headed the legislative committee for the 30-member council and intends to increase the council's legislative efforts.

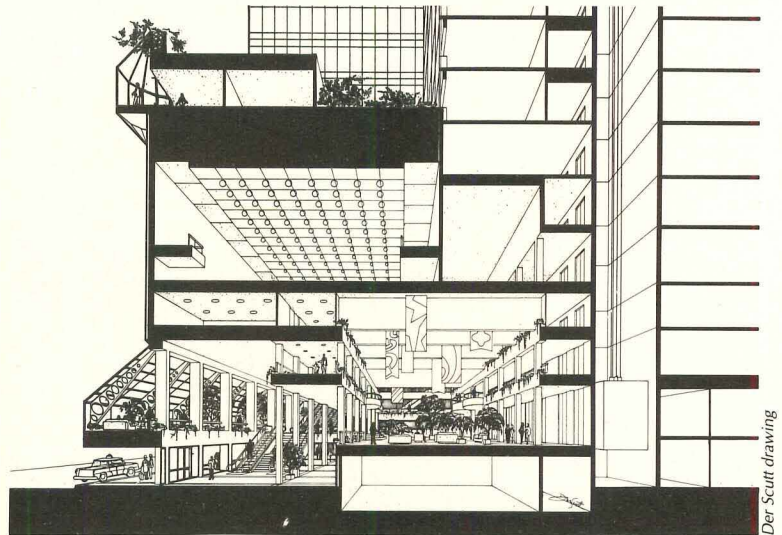
NCIC is composed of trade and professional groups in construction that attempt to speak with a single voice on some construction matters.

Other officers elected at the meeting include G. Paul Jones, Jr., of the Prestressed Concrete Institute as vice chairman, and Samuel M. Torrence of the National Asphalt Pavement Association as secretary-treasurer.

In addition, the council voted to establish an executive committee that will be composed of Mr. Jones and Mr. Torrence, plus two members-at-large. The at-large members will be Arthur J. Fox, Jr., of the American Society of Civil Engineers and Ben M. Hogan of the Associated General Contractors.

In steering the council toward greater legislative involvement, Abrams wants it to begin by fighting changes in worker's compensation laws. If the Congress undertakes to make proposed changes, which would in effect nationalize the program, the NCIC hopes it will also grant immunity against third parties. This includes architects and engineers.

Additionally, Abrams wants the council involved in Congressional changes to the Federal procurement laws. The council delegates turned down his suggestion that he be authorized to hire a legal counsel to help assess, monitor and suggest modifications to the legislation.—*William Hickman, World News, Washington.*



Der Scutt drawing

Manhattan Hyatt Regency proposed for 42nd Street

Developer Donald J. Trump, who a couple of months ago proposed a major convention center for Manhattan (see RECORD, February 1976, page 35), has put forward another proposal for the enrichment of midtown New York—the transformation of the moribund Commodore Hotel into a shiny new Hyatt Regency next door to Grand Central Station. (The Commodore, now losing well over \$1 million a year and carrying \$6 million in tax arrears, plans to close its doors next month.)

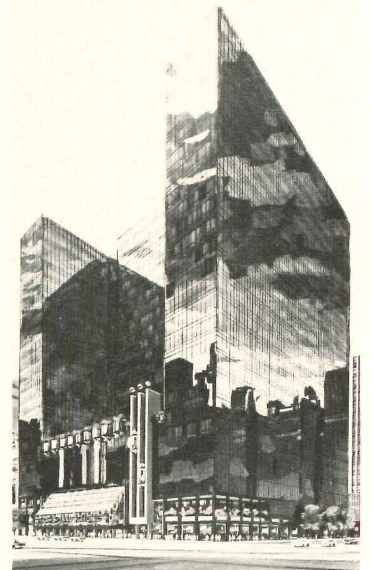
The development will be the first to take advantage of the city's Business Investment Incentive Policy under its Economic Development Administration. In a complex procedure designed to offer developers tax relief, the Trump Organization will first buy the Commodore from its present owner, the bankrupt Penn Central Transportation Company, for \$10 million and will then sell it to the city for \$1, thus removing the property from the tax rolls. The city will thereupon lease the property to Trump for 99 years. Rents will increase on a sliding scale, starting at \$250,000 annually and finally reaching full tax-rate equivalency (estimated \$4.2 million) after 50 years. A "no windfall" provision will give the city a percentage of net profits, and, if the new hotel is successful, the developers say, may return rent equivalent to taxes well before the 50-year limit.

In addition, the Trump Organization will contribute \$250,000 for the improvement of Grand Central, the money to be spent as Trump and the

Landmarks Commission deem best.

The design for the new hotel, by Gruzen & Partners with Der Scutt as consulting architect, retains only the steel framing of the old building. A bronze-colored glass skin will replace the Commodore's stone and brick facade. The present lobby and lower floors will be opened up to accommodate a high atrium-like space and a 50,000-sq-ft ballroom, and glassed cafes, restaurants and elevator cages will overhang 42nd Street.

If the New York City Board of Estimate approves the tax-abatement scheme fairly quickly, the developers hope to begin construction this fall.



GAO studies computer-aided building design

The General Accounting Office (GAO), a government "watchdog" arm of the Congress, wants to know more about computer-aided design (CAD) for buildings. Its Office of Logistics and Communications is exploring the benefits, problems and "inhibitors" that might be slowing expansion of the technique.

Louis H. Klotz, GAO's team leader on the project, says, "There appears to be a lack of a central focal point for realizing the potential of

CAD and resolving CAD problems in areas such as funding, contracting, implementation, development and research."

Klotz worries that some members of the construction team will be unaware of his project and will miss an opportunity to discuss the effort. He invites inquiries at the GAO, Washington, D.C. 20548. He stresses that his probe has nothing to do with GAO's "audit" functions.—*William Hickman, World News, Washington.*

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Employer-employee relations studied by California AIA

Members of Southern California Chapter of the American Institute of Architects are studying a committee report that suggests three ways of tackling employer-employee relations, which have for some time been a source of contention in the area. The proposed alternatives include: measures to be taken by the Institute, restructuring of the chapter and the Institute—and unionization.

For two years the chapter's Employer-Employee Relations Committee (EERC), under the chairmanship of George Terpasi, has been studying such things as poor fees and wages, widespread unemployment, insufficient commissions, comparatively poor profits (and, thus, poor benefits packages for employees).

The profession's goals, says EERC's report, should include immediate and effective action by the AIA to achieve maximum demand for architects' services, full employment of architects, and status and benefits for employees at least equivalent to those in comparable fields.

The EERC proposal for trying to solve problems within the existing AIA structure suggests that the chapter:

- take a public stand to encourage enforcement of laws relating to service of non-architects and support new laws to restrict them further, to publicize the need for architectural control over the built environment, and to reduce in-house professional services;
- increase skill and efficiency by supporting improvement of curricula for professionals and technicians, backing the continuing education series, and exerting influence on the content of professional examinations;
- support or implement an active job-placement service, endorse CCAIA's basic personnel practices, encourage portable insurance programs as well as promote broader plans, encourage the employee's professional and educational activities without loss of pay, and promote profit-sharing and retirement programs.

In its second alternative, looking to significant structural changes in the AIA, the EERC suggests:

- setting up a committee to administer standards of employer-employee practices; (it should be appointed by a board consisting of a chapter director, an employer and an employee representative, a member of EERC, and a nonprofessional from the community);
- requiring all AIA firms to establish and clarify personnel practices;
- funding and staffing an AIA-sponsored employment agency or job clearing-house;
- enlarging the status, privileges and eligibility of associate membership to encourage employees to become members of the Institute. Associate membership should be inviting to all professional members of AIA firms, and they should have all the rights of corporate members, including the right to vote.

Because early feedback on the report was almost nil, EERC staffers conducted a telephone survey of architects. "We're waiting for some kind of ground swell of response," says Joseph Amestoy, EERC member and a chapter director. "However, it doesn't look as if there is going to be any consensus."

This month, however, the chapter will hold a Priorities Workshop to determine pressing problems—and the employer-employee issue is expected to come up.

Says Mr. Amestoy, "I personally, would expect unionization to become a relevant issue once the economy bounces back and draftsmen are in demand. Right now, it's not likely to be an issue.

"The essential problem is that a majority of people in the profession do not want the union but are unwilling to take steps to prevent it. I think people are leaving the profession because of inadequate compensation and reduced opportunities. AIA can only do so much, but I think something has to be done."—*Barbara Lamb, World News, Los Angeles.*

High Court to rule on prefab and "work preservation"

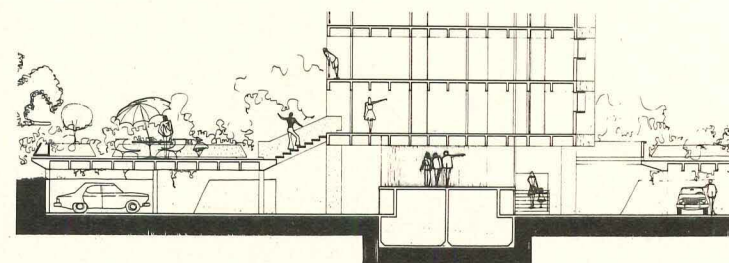
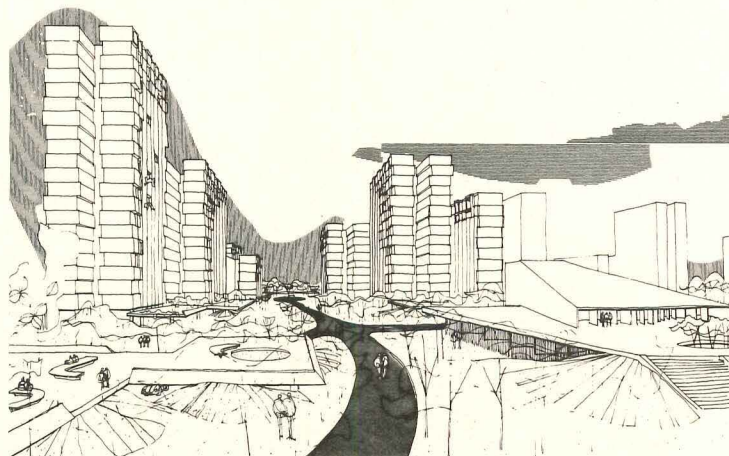
To what extent can an architect's specification of prefabricated components involve a general contractor in disputes with the building trades unions? The U.S. Supreme Court has agreed to listen to arguments this fall on that question and to hand down an answer sometime in 1977.

The issue revolves around the "work preservation" clauses won in collective bargaining contracts by many craft unions for the clear purpose of discouraging a shift to factories of work traditionally done in the field. In 1967, the High Court upheld the legality of such agreements as far as the company with whom the union has a contract goes. But the Justices specifically declined then to rule on whether the impact on other contractors of a refusal to handle prefab items would be an illegal secondary boycott. That is the issue they will now decide.

The case involves a dispute that arose four years ago at a Brooklyn home for the aged. The Austin Co., A/E as well as general contractor on the job, specified window air conditioning manufactured by Slant/Fin, Greenvale, New York. But plumbers working for the subcontractor who had the installation contract—Hudik-Ross Co. of New York City—refused to handle the units, claiming they included interior pipefitting that it was their right to do on site.

Austin took the matter to the National Labor Relations Board, which called the plumbers' action unlawful since Hudik-Ross had, under the terms of its subcontract, no authority to design the work. But, by a 5-4 vote, the Court of Appeals overturned the board, ruling the union action was legal.—*Dan Moskowitz, World News, Washington.*

HUMAN SETTLEMENTS: WORLD NEWS



Brazilian boomtown will build new residential projects

Vitória, capital of the Brazilian state of Espírito Santo, is in the midst of a development boom that is expected to increase its population from its present 450,000 to 1 million by 1980. The expansion has been stimulated by industrial growth and mineral resource development. The Praio do Suá Housing Project is the first of a number of residential projects planned to absorb new population. Designed by architects Vasco de Mello, Roberto Bicca, Maria Elizabeth Ramos Peirão and

Imre Szolt Magyar, it will occupy land-fill at the seaside. So that most of the available land will be open for parks and playgrounds, the 2,082 residential units will be accommodated in high-rise buildings, which will range from eight to 19 stories to provide variation in the over-all composition. Common facilities, such as the Cultural and Teaching Center, will be located at the center of the project. The developer is Urbe S.A. of Vitória, and the contractor is Formaespaço S.A. of Sao Paulo.

UN plans international seminar on the building industry

An intergovernmental seminar, Building for a Sound Environment, will meet October 4-8 in Budapest. The meeting, organized by the Committee on Housing, Building and Planning of the United Nations Economic Commission for Europe (ECE), is the fifth ECE Seminar on the Building Industry.


The first of four topics to be taken up by participants will concern the interrelationship between construction, the industrialization of building, and the environment. Questions will include the internal and external environmental performance of building and the environmental impact of construction activities, as well as legislation, design and performance criteria. An introductory paper will be read by G. Sebestyen of Hungary and L. Sundbom of Sweden.

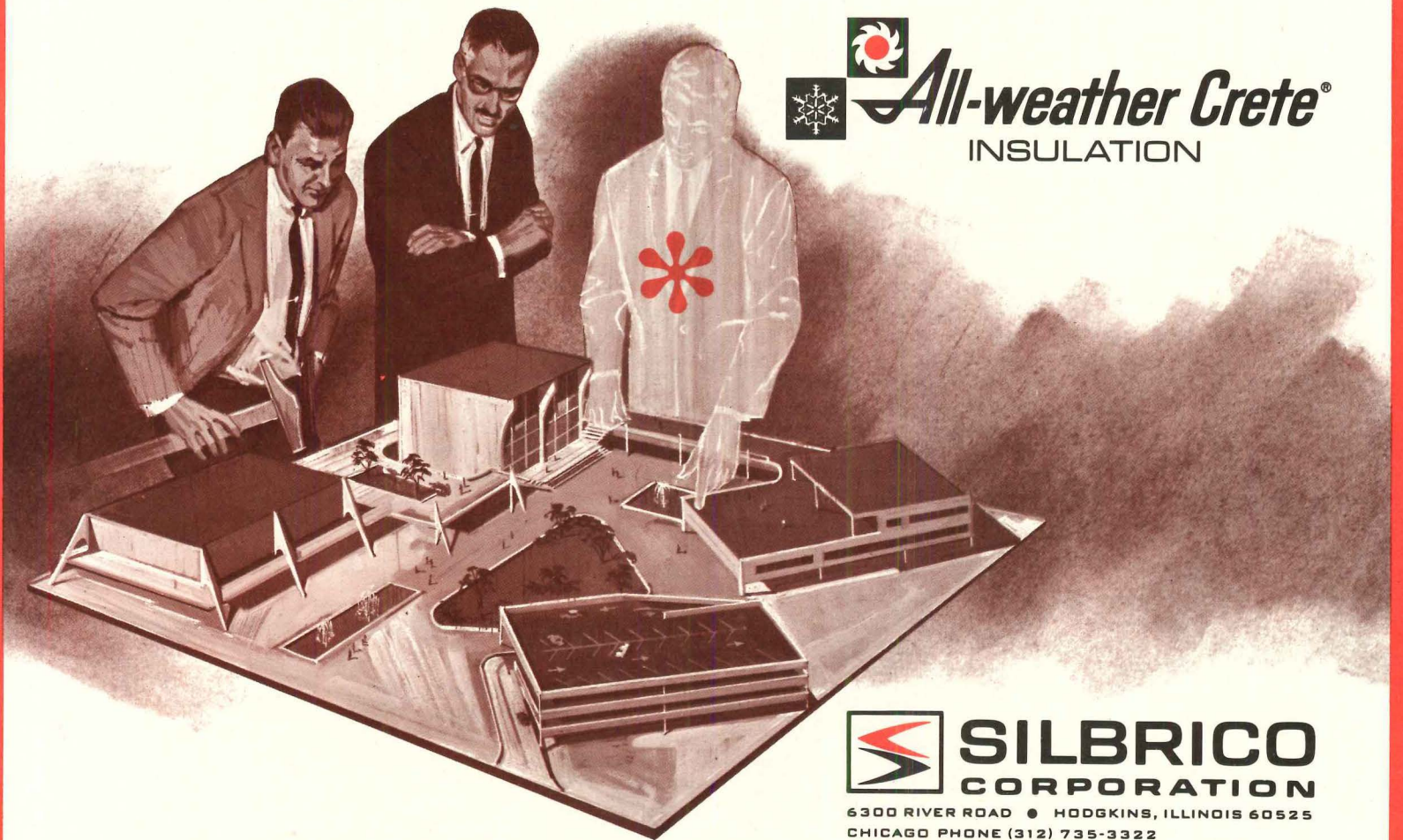
The second topic will be the consideration of the sources, the production and the use of traditional building materials—cement, lime, gypsum, bricks, timber, ceramics and stone. The session will take up the problems raised by the exploitation of minerals for building products, as well as those of restoring depleted land. A. Alexsan-

drescu of Romania and J. Row of the United Kingdom will read the introductory paper.

Third, the seminar will consider the development of new materials, components and processes, including attendant environmental disadvantages. Participants will study trends in the use of spatial structures, partitions, floorings and floor coverings, windows and ceilings. The introductory discussion paper will be presented by J. Tutenuit of France and E. Kalandarev of the Soviet Union.

The last item on the agenda is the influence of energy conservation and of the mechanization of building on the environment. Among the subjects for discussion: the mechanization of building, its harmful environmental effects, and possible steps for their reduction; the creation of uniform standards and measurements for noise levels; energy conservation in terms of building design, equipment and materials; the determination of areas requiring further research. S.S. Atayev of Byelorussian S.S.R. and J.A. McCullough of the United States will read the introductory paper.

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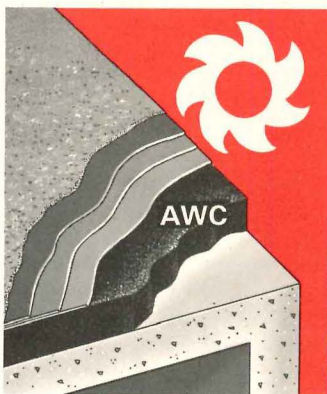
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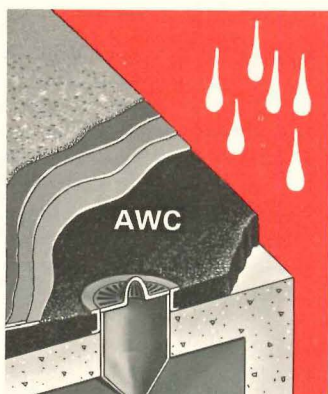
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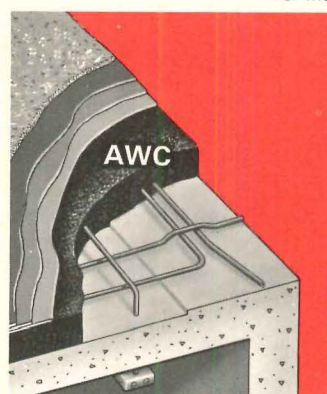
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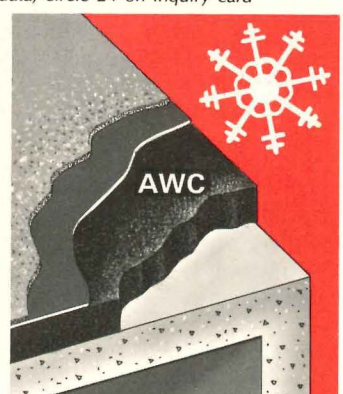
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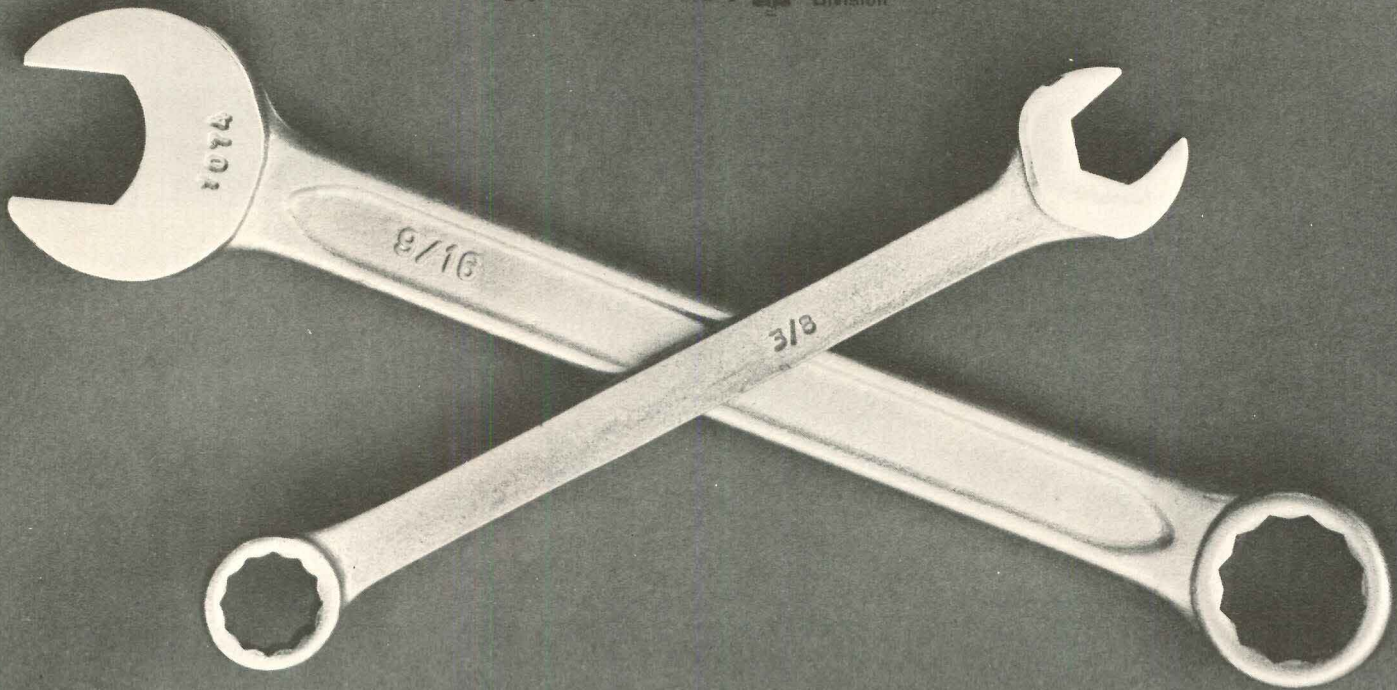
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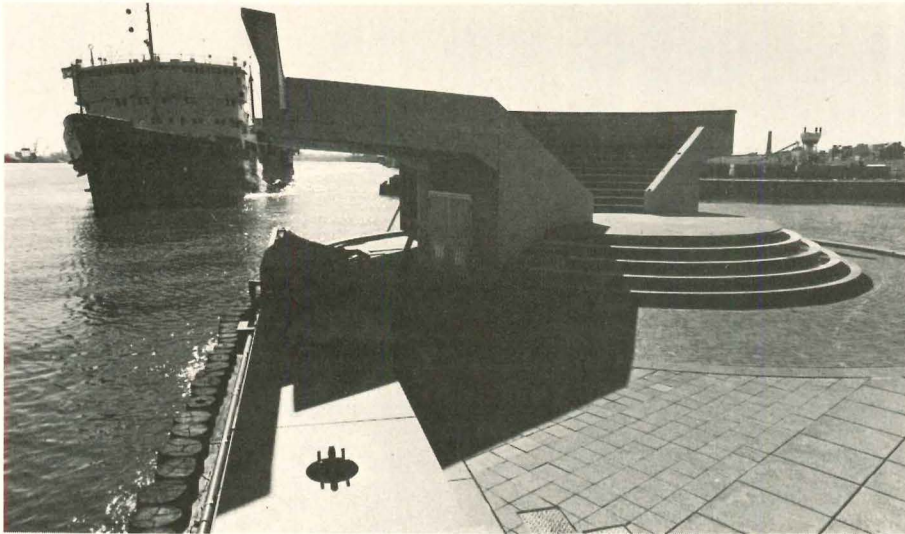
For more data, circle 25 on inquiry card

For architectural sightseers at the AIA convention, Philadelphia concentrates noteworthy building within walking distance

Sightseers at the American Institute of Architects' convention in Philadelphia next month will find plenty of architecture to look at. After making their pilgrimages to such patriotic and architectural shrines as Independence Hall and the PSFS Building, visitors can tour the city's many noteworthy new

buildings—some of them permanent parts of Philadelphia's cultural and commercial life, some of them temporary structures built especially for the Bicentennial celebration. The Philadelphia Chapter AIA offers this sampling of recent building about which conventioners may feel professional curiosity, most

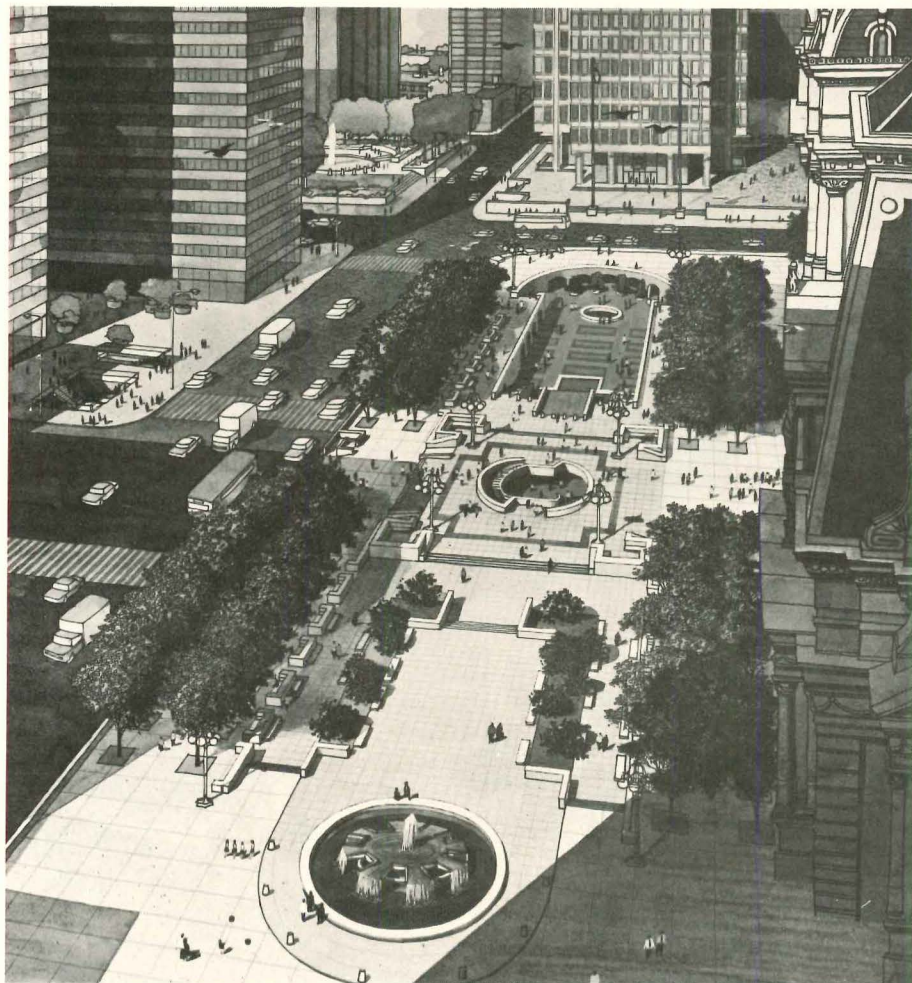
of them conveniently located in the vicinity of either City Hall or Independence Mall. Points of interest we were unable to show here include Mitchell/Giurgola's Penn Mutual Building and INA (but see page 113), Ueland & Junker's Chestnut Street Transitway, and H2L2's Graff house reconstruction.



Penn's Landing Overlook at the end of the long Quay that thrusts into the Delaware River was designed by Murphy Levy Wur-

man, as were the adjacent Esplanade and a Sculpture Garden on the other side of the Boat Basin from the Quay. Penn's

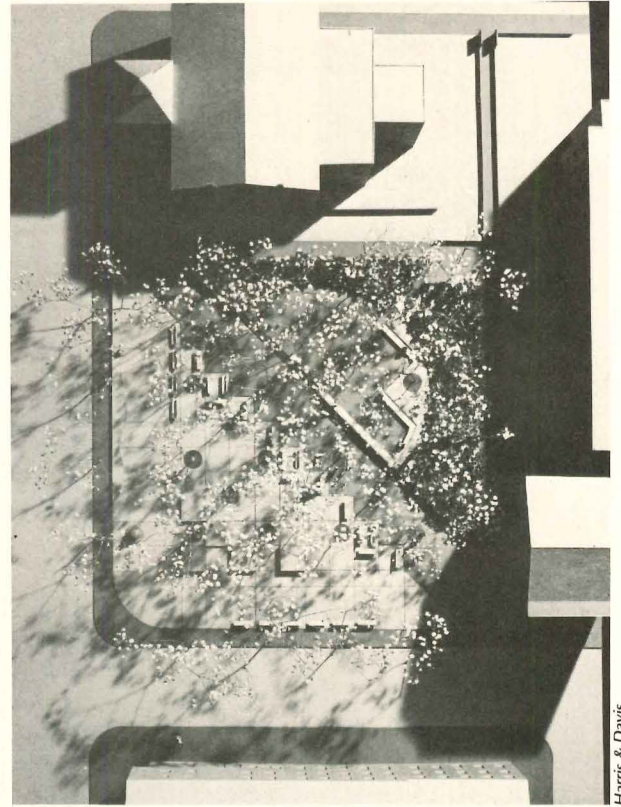
Landing, a 38-acre waterfront development, will comprise offices, apartments and hotels as well as public spaces.



Richardson Dilworth Plaza, designed by Vincent G. Kling & Partners, forms a nexus for Kling's Municipal Services

Building, Kling's Penn Center, Kling's Centre Square (see top left corner) and Kling's Fidelity Mutual Life Building.

Lawrence S. Williams, Inc.

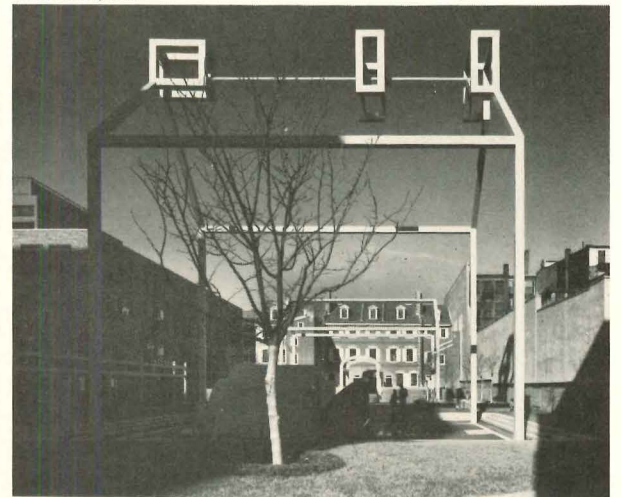


Harris & Davis

Louis I. Kahn Memorial Park, part of the Washington Square Park West renewal, was de-

signed by Dagit & Saylor with a grid of trees creating a "cloud of green," per Kahn's imagery.

© Mark Cohn, 1976

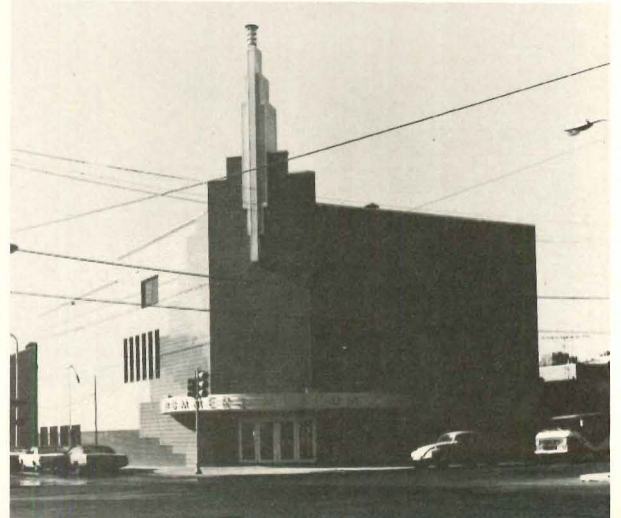


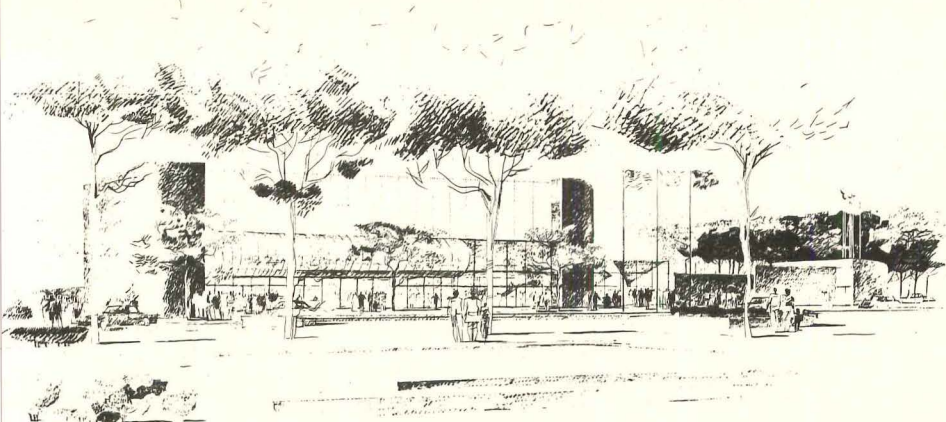
The "ghost" of Ben Franklin's house, hovering above the original foundation, haunts Venturi

and Rauch's Franklin Court. Beneath the garden, a museum contains Franklin memorabilia.

Ueland & Junker designed the group's famous New Year's

parade costumes and to provide social facilities. Tower lights "scintillate" on New Year's Eve.





P-76 Living History Center, adjacent to Independence Mall, will feature an historical documentary film projected on a screen 73- by 90-feet; sound equipment will match these heroic dimensions. The building, designed by Mitchell/Giurgola, houses exhibits and cafes.



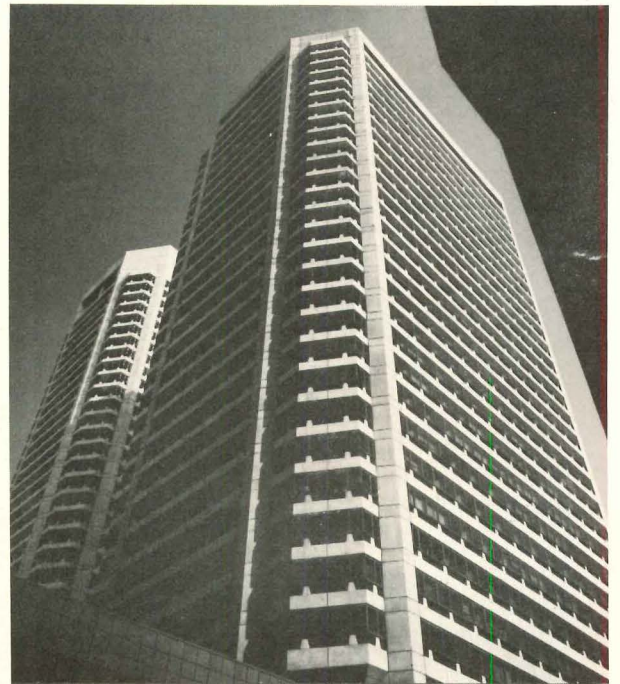
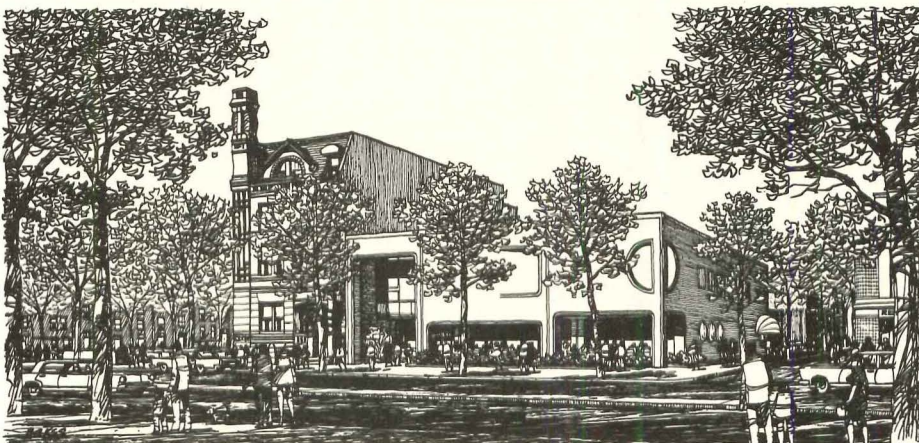
A newly founded Liberty Bell Center near Independence Hall. The bell, a Bicentennial gift of the British Government, will be dedicated July 4, 1976. The Cambridge Seven were architects of the exhibition building.

Hans Namuth

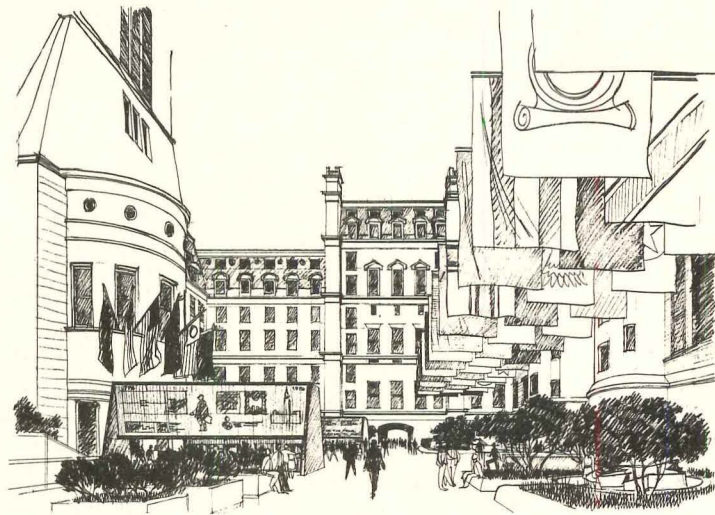
The Liberty Bell Pavilion in Independence Mall was designed by Mitchell/Giurgola as a permanent home for the bell, formerly housed inside Independence Hall. The pavilion, with its lead-coated fascias and granite and oak interiors, provides shelter and exhibits for waiting lines, while glass walls provide a view of the bell for passers-by.



Near City Hall in the downtown central business district, the Philadelphia Center for Older People, a sort of "Y" for the elderly, offers an auditorium, lounges, and studios for arts and crafts, as well as a restaurant. Joe J. Jordan was the architect.



Centre Square, opposite City Hall, comprises two speculative office towers embracing a four-story galleria, all designed by Vincent G. Kling & Partners. The complex gives access to an extensive pedestrian concourse, trains and parking.

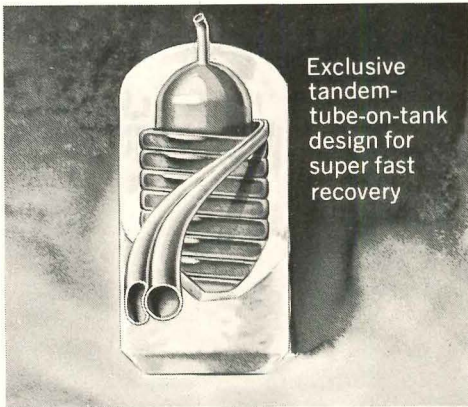


City Hall Courtyard, which lies at the geometric center of William Penn's city plan, is undergoing a \$500,000 renovation at the hands of architects Murphy Levy Wurman.

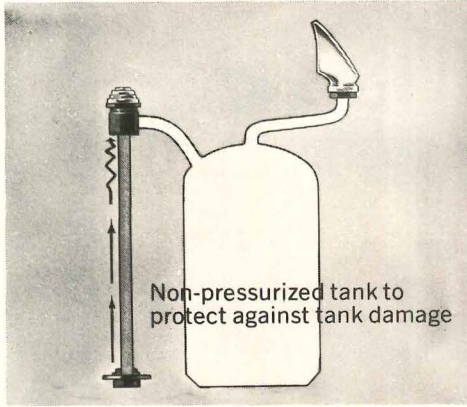


The Marketplace, on the bank of the Schuylkill at the end of Market Street, was converted from an assembly plant. Occupied by architectural and decorator wholesale showrooms, it was designed by architects Levinson Lebowitz & Zapruskis.

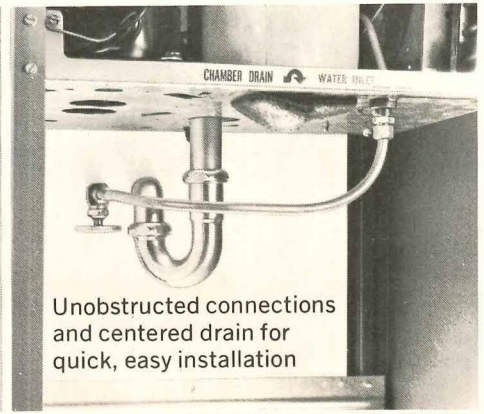
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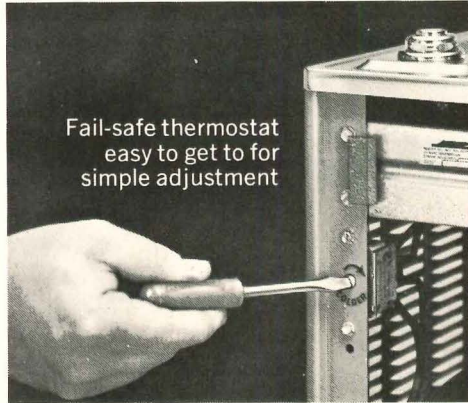
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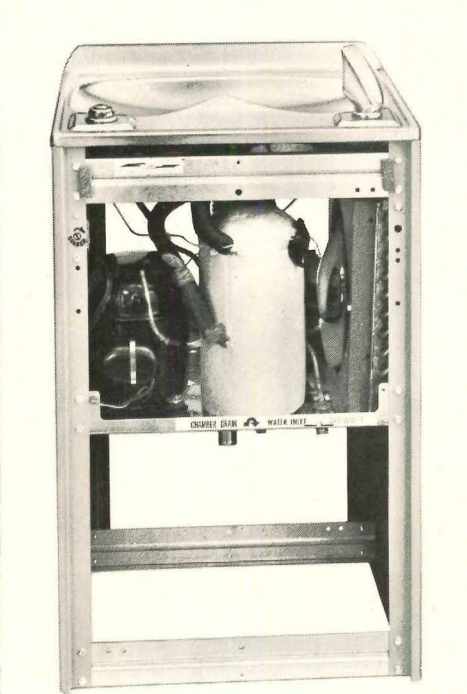
Non-pressurized tank to protect against tank damage



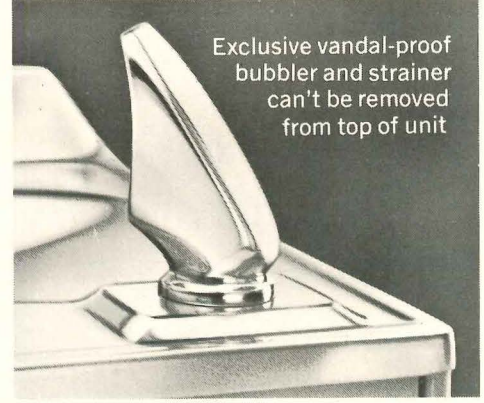
Unobstructed connections and centered drain for quick, easy installation



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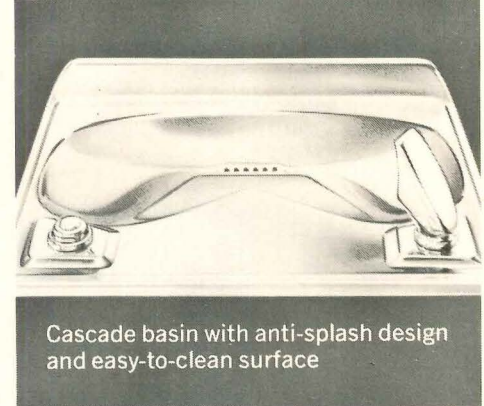
Features standard on most deluxe series models



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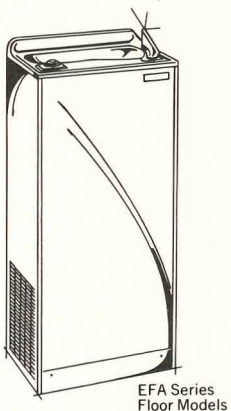
Regulator cartridge located "topside" for maximum accessibility



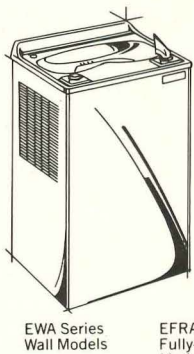
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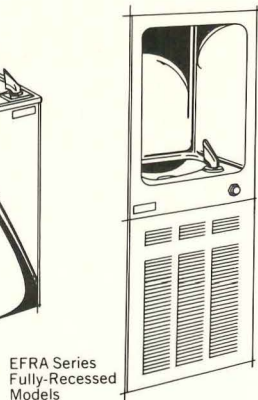
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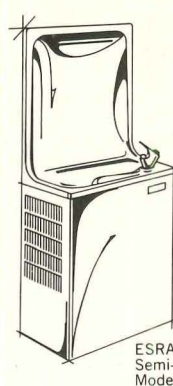
EFA Series Floor Models



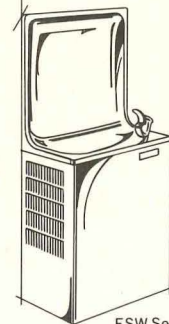
EWA Series Wall Models



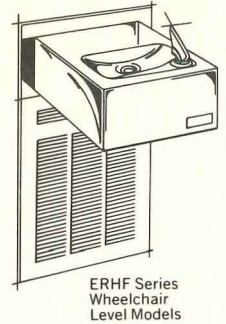
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Energetic arguments

ON SITE ON ENERGY, edited by Alison Sky and Michelle Stone; New York, Site, Inc., 1974, 125 pages, illustrations, \$6.95 (distributed by Charles Scribner's Sons, and also available by mail from Site, Inc., 61 Greene Street, New York, New York 10012).

Reviewed by Mark Simon

On Site is an annual publication that is trying to relate the environmental arts and architecture. With each issue devoted to a specific topic, the publication is more a series of books than a magazine. *On Site on Energy* is aimed at a discussion of the energy question from points of view other than purely pragmatic ones. It is composed of more than 30 essays, both written and visual, produced by artists, architects, social scientists and other thinkers. Form and content range widely. It is an important and impressive collection of comments on energy that presents at times terrifying facts or predictions and elsewhere hopeful inspirations. In his introduction, James Wines is troubled by the variation in response to our energy problems: "What emerges from this collective dialogue is a sinister impression, not only of the magnitude of the crisis itself, but of the inability of intelligence to concur on the nature of the questions, much less the answers." The problem is obviously serious and is bound to seem sinister initially, but it is encouraging to find here so many vigorous personal points of view and efforts. The general awareness of the energy crisis has only recently arrived; and general concurrence on solutions so soon would seem blind and scary. Indeed, only a multitude of personal energies will find solutions.

The following is a collage of quotes from *On Site on Energy*, taken from the various articles; they are thrown at one another in, it is hoped, an inspired way:

Richard G. Stein:

"In those objects from which we demand high performance, there is a perfection and refinement of the object for the task it is expected to perform, and a careful material selection and use that results in an unmistakable esthetic. Examples are abundant. Gliders, concrete dams, racing bicycles, portable tents, sailboats. And yet we tolerate forms in our buildings and cities that perform very badly. There are, in fact, several underlying principles that would fundamentally reshape our buildings and cities, if applied. First is the building of build-

Mark Simon is a project manager at Moore, Grover, Harper, P.C. in Essex, Connecticut, and has worked on a number of energy-conserving and solar-heated projects.

ings that are more responsive to orientation, to breezes, to sun penetration (or rejection) and to view. Obvious enough. Second, the acknowledgment that the occupants of buildings are individuals with an infinite number of special requirements, preferences, activity patterns and physiological differences. Delivery systems for environmental control must recognize this. Third, the great urban densities of the world's largest cities require substantial and possibly unacceptable per capita energy premiums."

Jeffrey Cook:

"What we might call the 'new energy-conservative environment' is an environment that does more with less. It is based on a time value appraisal of building investment. Thus simultaneously a more stable and permanent architectural design might depend upon large integrated water tank or rock beds for thermal storage, and might also become much more dynamic and variable by the articulation of such movable elements as roof covers and wall shutters. Overhangs, pergolas and reflecting surfaces enliven thermal conditioning as well as visual environment. Architectural elements have purpose. Visual stimulation has energy meaning."

Denise Scott Brown:

"My fear is that architects will not meet the present crisis realistically, but will use it as an excuse for a new wave of authoritarian declarations on how people should live, a new set of unrealistically defined 'problems' and a new spate of expressionistic, pseudo-technological architectural gimmicks."

Alan H. Balfour:

"Corporations survive by selling more and more of something in order to grow. The problem with solar energy is that unlike oil and gas it cannot be wrapped up in a bottle and sold. The stuff itself, at least for the present, is free. What then must capitalism do with it? Ways are devised to create proprietary and costly applications of high technology, and there is in the process of conversion a need to satisfy return on investment which far outweighs the need to supply the energy in the most appropriate general form. The consumer is forced to pay not for the converted energy, but for the supposed research, risk and profit by the manufacturer."

Rene Dubos:

"Neglect of local constraints has many objectionable aspects. It generates much higher costs of operation, especially as energy becomes more expensive, and it destroys values with regard to esthetic quality and human relationships. Buildings become stereotyped, landscapes become spotted with tacky houses,

their occupants lose contact with other people and with the environment, communities disintegrate."

Percival Goodman:

"We have all heard 'less is more,' which speaks for an esthetic dogma whose aim was to have matter give way to spirit. Or 'more with less.' This describes 'ephemeralization,' a theory of miniaturization based on the observation that a technical change is an advance when it requires less material or labor or power input to achieve an equivalent result. It is said that Henry Ford, when deciding between engines of equal performance characteristics always chose the smaller or lighter model. A third phase which my brother and I use is in the form of a question: 'Do you really need it?'"

Hugh Hardy:

"'Environmental control' is based upon the arrogant assumption that any interior space can be made habitable, whether it is a windowless box four stories below grade, or a greenhouse perch 60 floors above the street. It assumes the virtue of fixed temperature and humidity year round, an engineering ideal only achievable through wasteful energy consumption. We can, however, begin to re-establish the relationship between buildings and their sites, and use this to house an overlapping variety of activities based upon community interest as well as personal gain. We can look upon existing buildings as man-made resources of great value, and irreplaceable cultural prizes too significant to discard. And, perhaps most important, we can better understand how the economics of re-use will increasingly offer a realistic alternative to demolition and new construction. If not, we will have destroyed an essential link with the past in favor of buildings which limited energy supplies may soon make uninhabitable."

Lewis Mumford:

"Every power-centered civilization has made its imperious conquests of nature and man at the expense of its own continuity, and usually at a sacrifice of its many genuine, long-term benefits. We shall not understand the real nature of the energy crisis unless we realize that it comes from the fact that our historic power systems, by their hostility to organic limitations, have still no means of balancing production against consumption against creativity."

Using the above quotations out of context may be unfair to their authors and arguments. It is hoped that they are not. It is also hoped that they make clearer the qualities of "*On Site on Energy*," a most effective and useful book for anyone concerned with energy.

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The job: Federal Savings and Loan in Mesa, Arizona.

As if a cost-cutting plywood roof system wasn't enough, architect Peter A. Lendrum Associates and J.R. Porter Construction Company, both of Phoenix, decided to build the roof on the ground, and hoist it into place with two huge cranes.

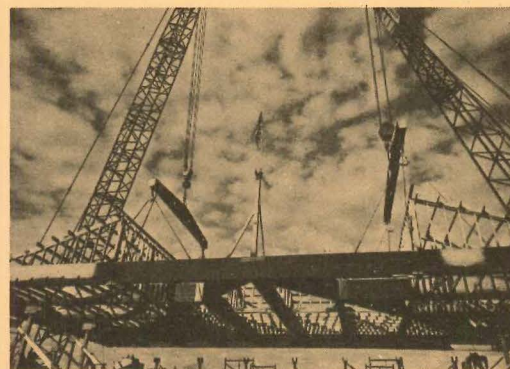
Why would they build the roof on the ground? Because they could save two weeks construction time

and \$4,000 to \$5,000.

There were other advantages.

"Ground-fabrication also allows construction of the building at the same time as roof framing without crew conflict," said Robert D. Smith of Peter A. Lendrum Associates.

"In addition, a number of trades such as framing



and electrical can work simultaneously on the roof at ground level."

Electrical wiring was installed on the ground and so was the air conditioning system, which eliminated a lot of the up-and-down movement in roof construction.



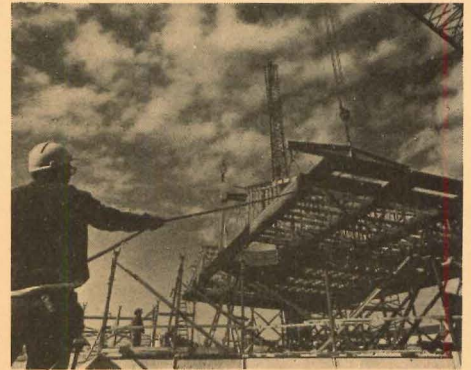
A 60-TON ROOF IDEA THAT SAVED TWO WEEKS.

"By fabricating on the ground, we eliminated scaffolding, which increases worker safety and decreases material handling," said Smith.

After the corner of the roof sections were sheathed with APA grade-trademarked plywood to keep the sections in square, the airlift was ready. Two huge cranes were used, one with a 125-ton capacity, and the other—Arizona's largest—at 150 tons, to lift the two 30-ton roof sections into place at the same time.

Structural engineers Magadini-Alagia Associates of Phoenix played a vital role in making sure the roof could withstand the rigors of crane erection. Once in place, the plywood roof sheathing was completed, cov-

ered with roofing felt and finished off with flat clay roofing tile. The system: glulam beams (6¾ x 21 inches) placed on 8-foot centers with bolted bent plate and hanger connections. Intermediate framing consists of 2 x 6's 24 inches o.c. Roof sheathing was half-inch STRUCTURAL I C-D plywood. There are two essentials in building a big roof on the ground, according to the architects.



(1) Construction has to be precise to insure the proper alignment of supports and beams. (2) Good schedule coordination is important in construction.

Overall, the idea worked so well that the architects plan to use it in the future whenever possible.

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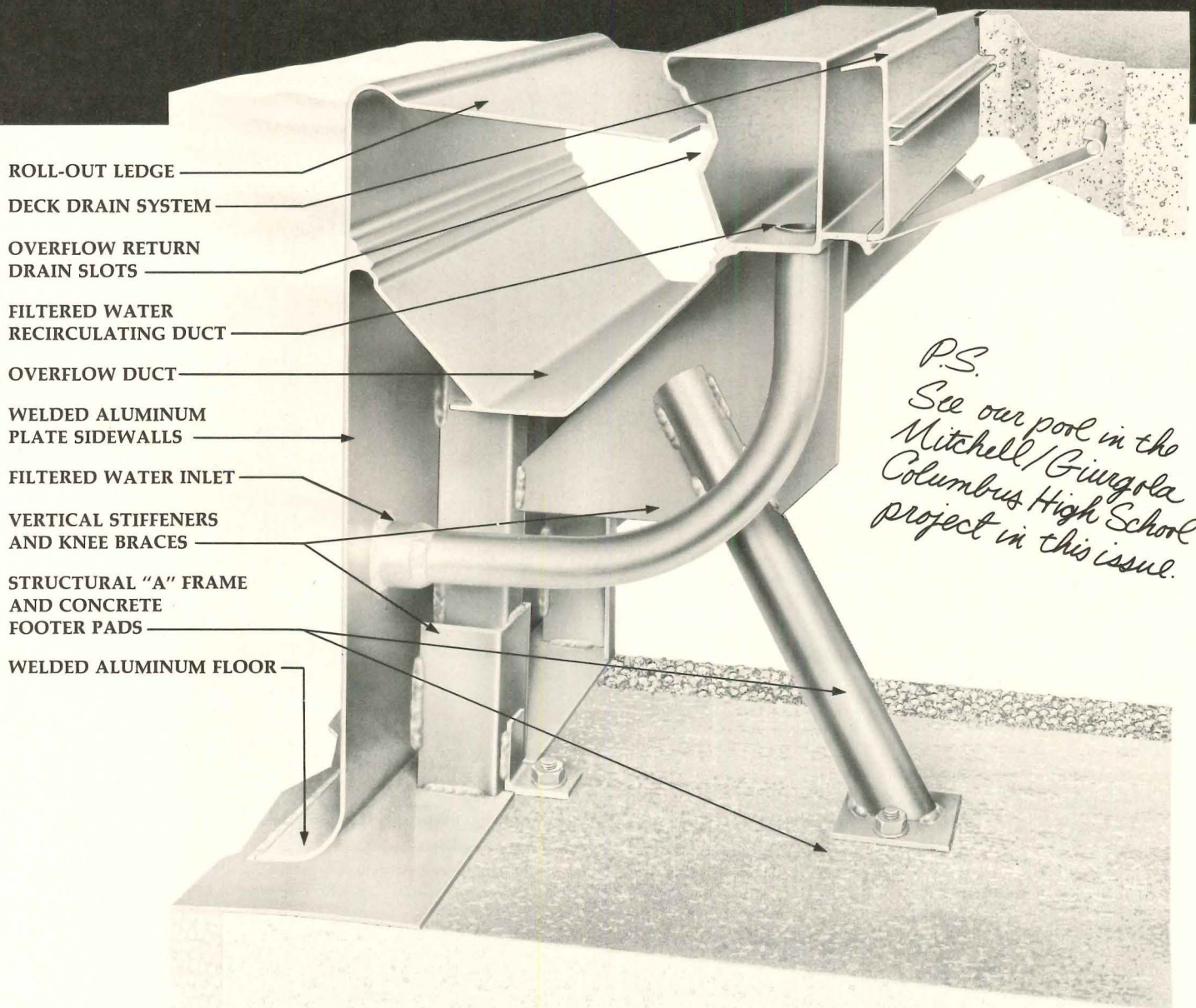
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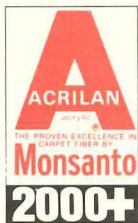
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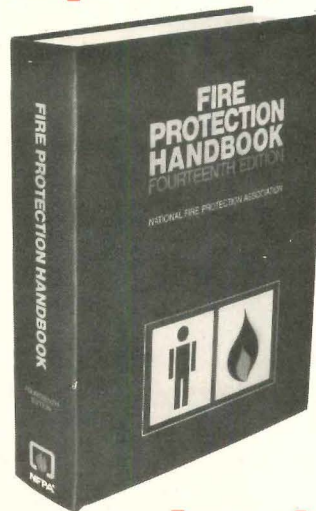
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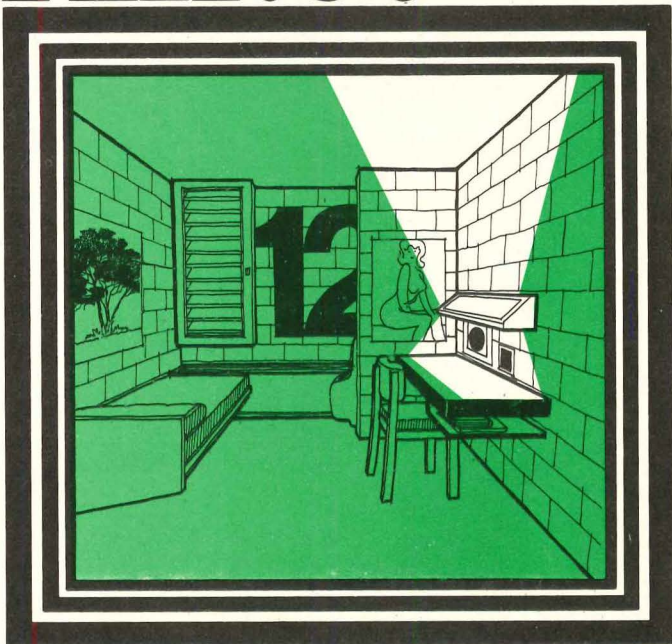
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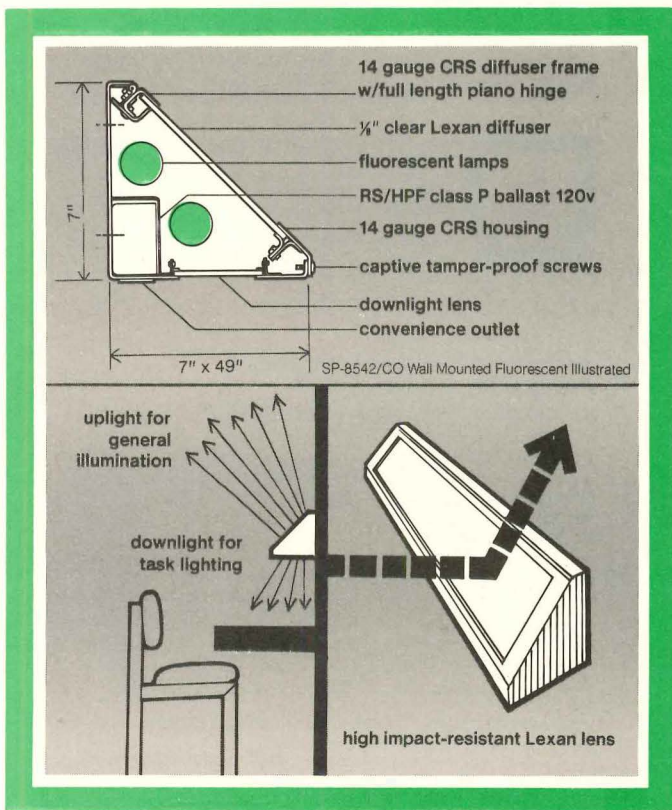
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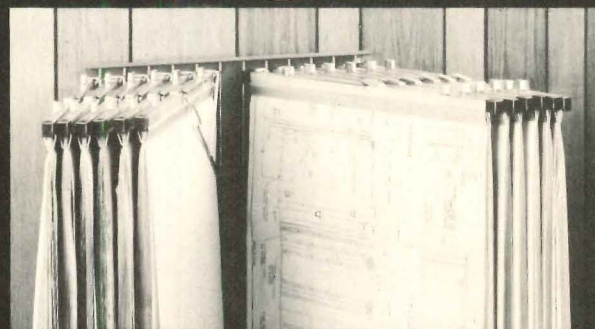
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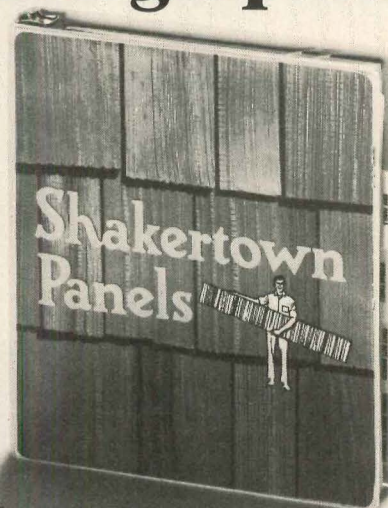


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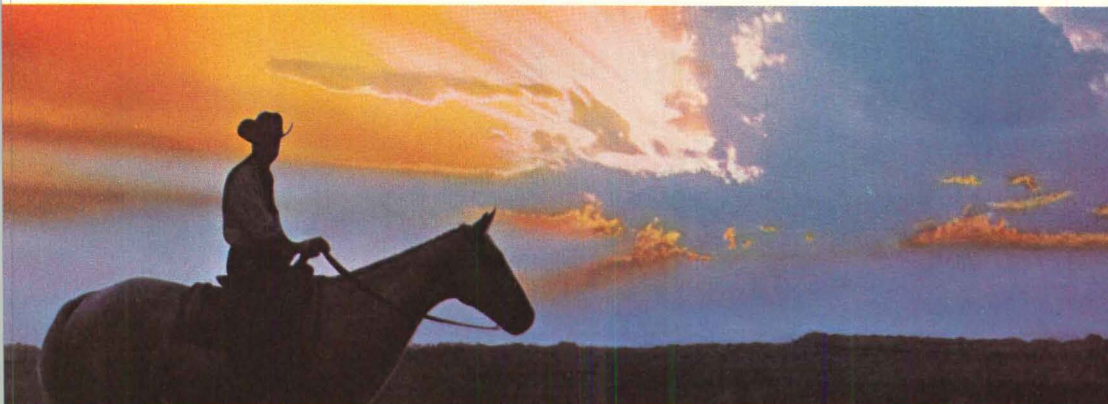
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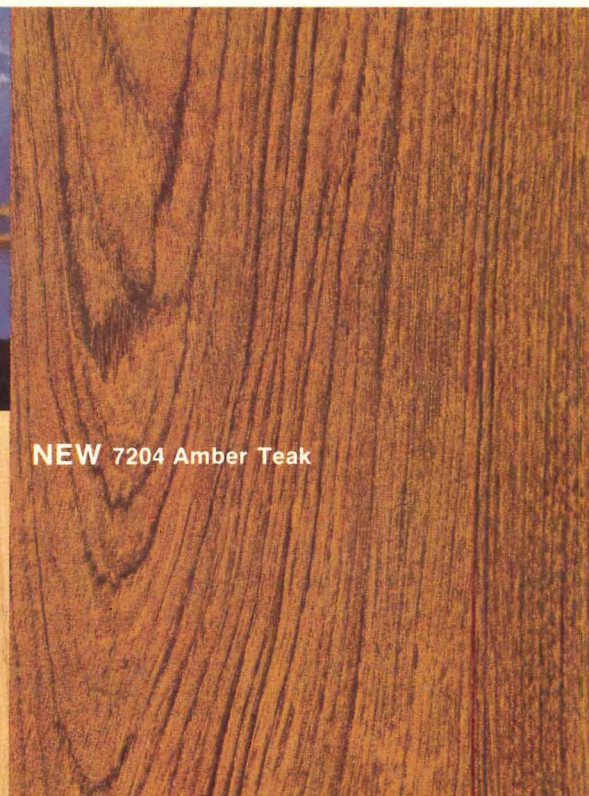
2931A Brown Leather



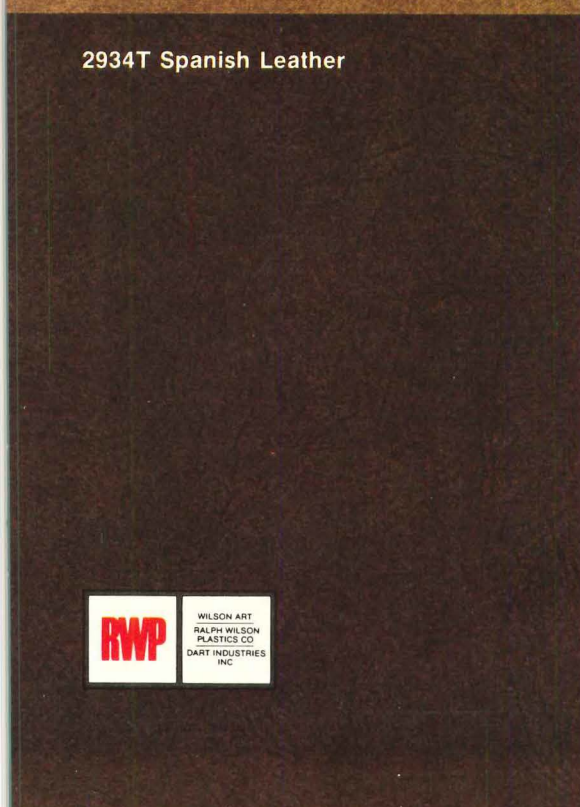
NEW 7014 Timberline



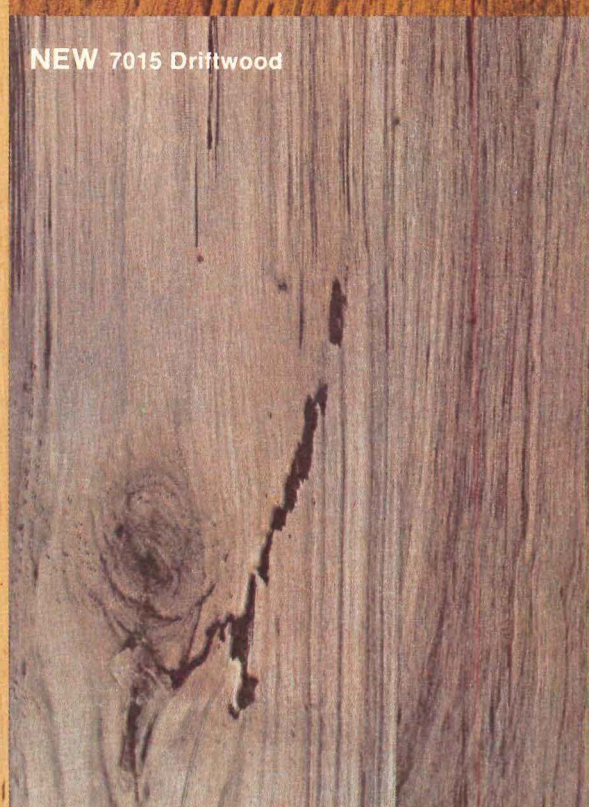
NEW 7204 Amber Teak



2934T Spanish Leather



NEW 7015 Driftwood



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

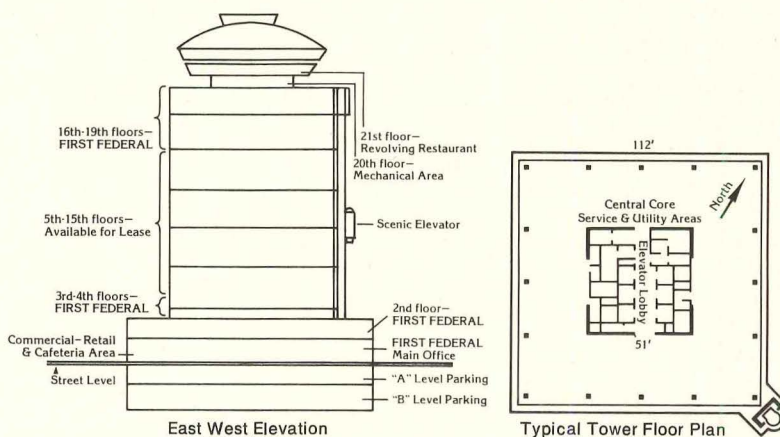
sidesway at the tower roof to five inches.

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 light-weight 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. Hughes & 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.

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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."

Bethlehem





a classic by charles eames

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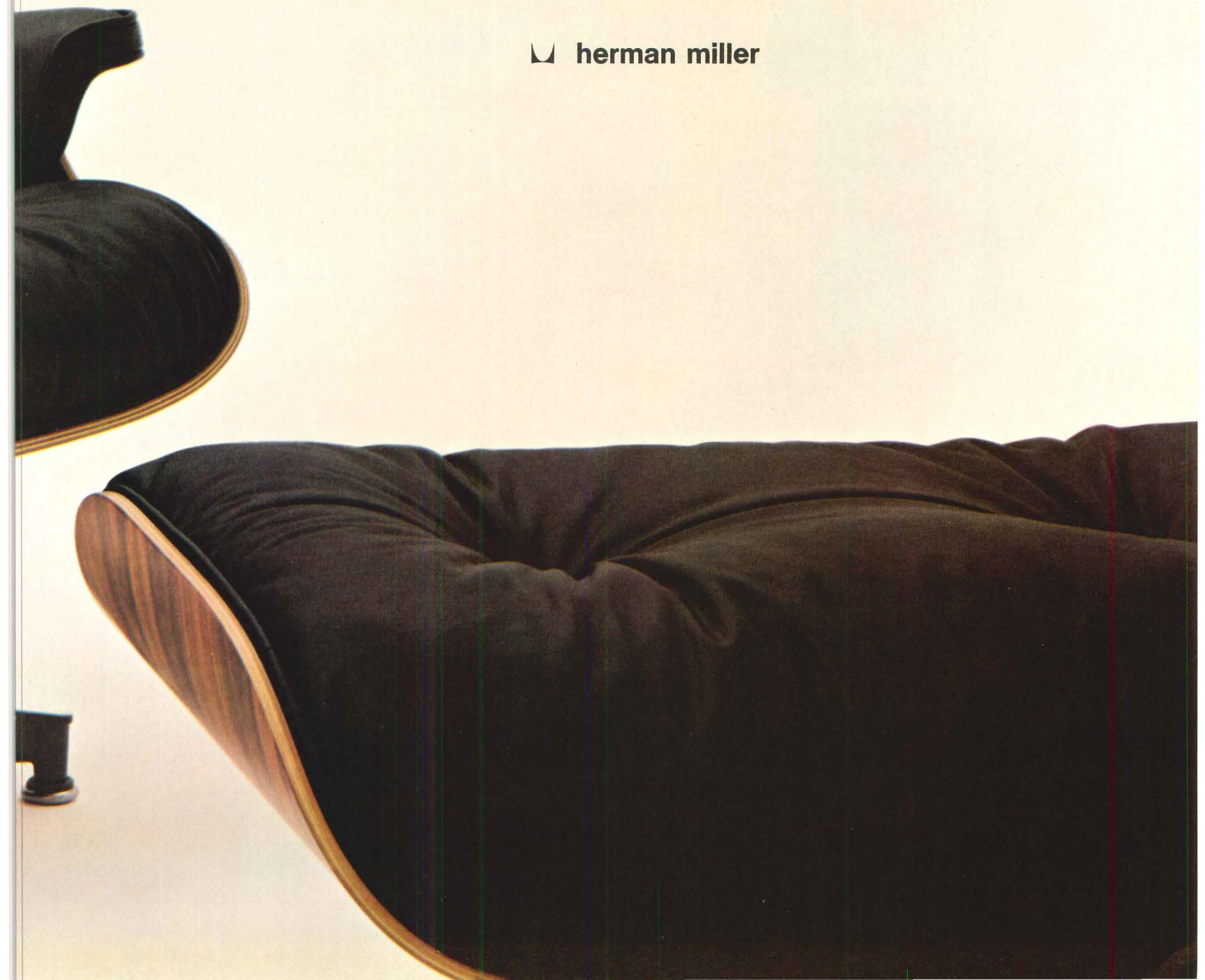
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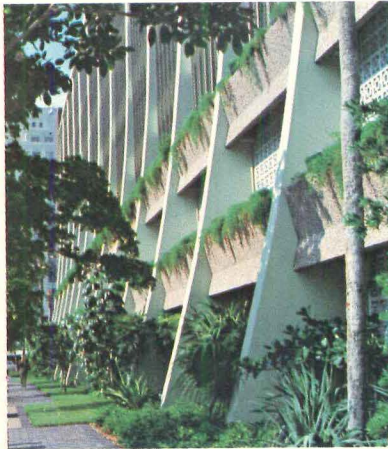
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 **herman miller**



PARKING STRUCTURE



OFFICE BUILDINGS

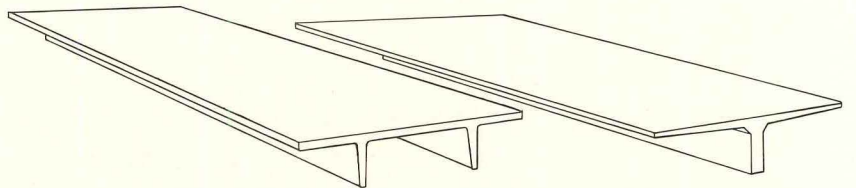


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① STANDARD PRECAST PRESTRESSED CONCRETE SHAPES SAVE TIME AND MONEY AT THE JOB SITE.



WAREHOUSES

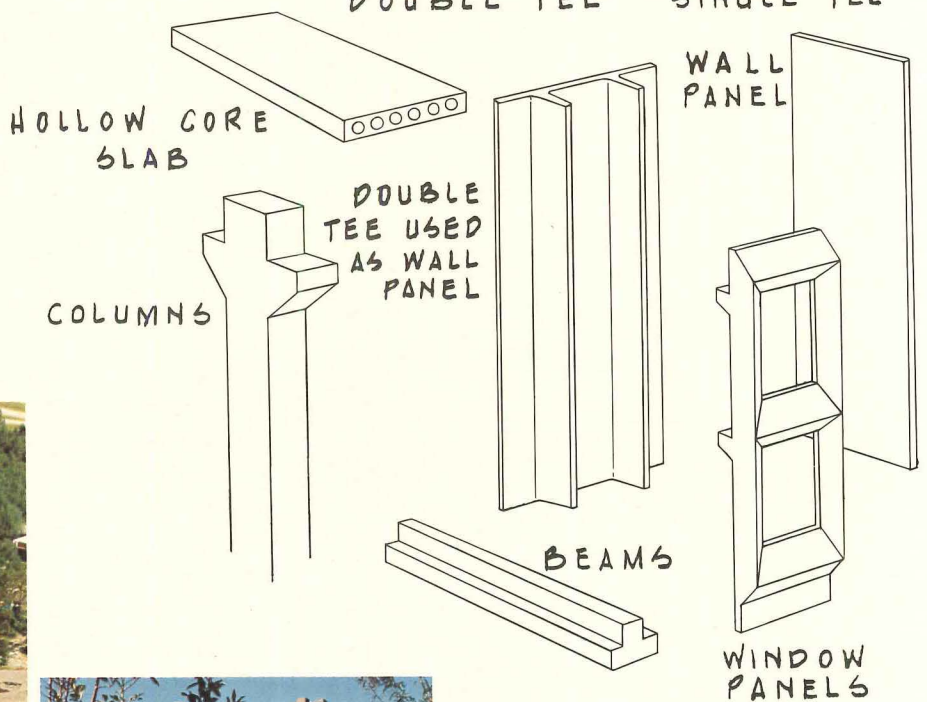


DOUBLE TEE

SINGLE TEE



HOUSING



HOLLOW CORE SLAB

WALL PANEL

DOUBLE TEE USED AS WALL PANEL

COLUMNS

BEAMS

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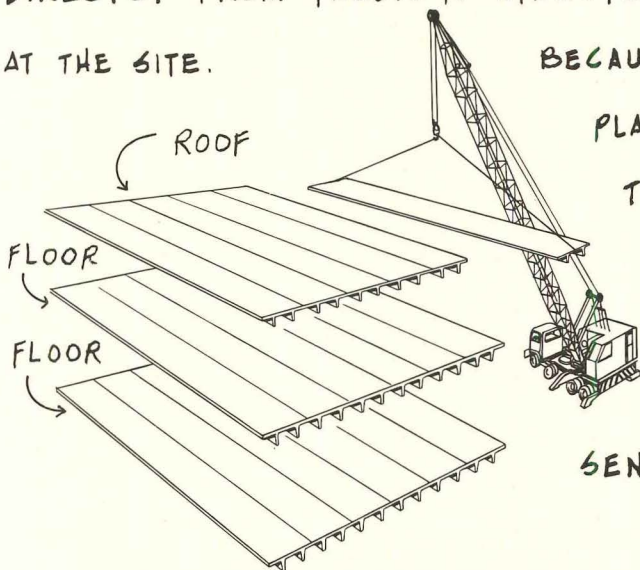
AT THE SITE.

BECAUSE THE BEAM AND THE FLOOR GO INTO

PLACE IN ONE QUICK, SIMPLE OPERATION, THE TRADES CAN FOLLOW IMMEDIATELY!

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Right on.

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SLOAN

slimline™

BEDPAN

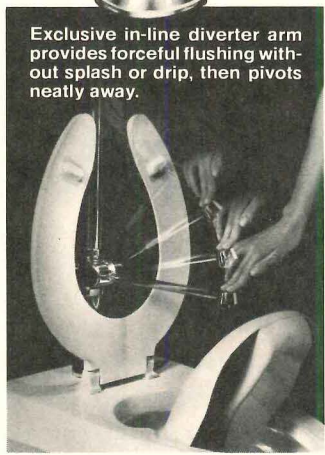
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In Norfolk's Skyline:

A decade of Ceco formwork

Contractors and owners coast to coast save on forming costs with Ceco services

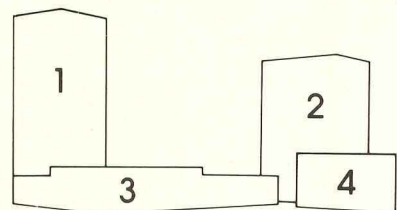
Impressive architecture in concrete is adding excitement to Norfolk's modern, growing skyline. These four projects are typical of Ceco's concrete formwork in Norfolk over the past decade.

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1. Virginia National Bank Building (1965)
Skidmore, Owings & Merrill, *architects*
Williams and Tazewell & Associates, *architects*
Weiskopf & Pickworth, *structural engineers*
Basic Construction Co., *contractors*

2. United Virginia-Seaboard Bank Building (1968)
Vlastimil Koubek, *architect*
Baskam & Chester, *structural engineers*
Thorington Construction Co., *contractors*
L. J. Martone and Associates, *concrete contractors*

3. I.C.C. Office Building (1975)
Toombs, Amisano & Wells, *architects*
Harald Nielsen & Associates, Inc.,
structural engineers
Batson-Cook Co., *contractors*

4. First Virginia Bank Building (1975)
Dudley, Morrisette, Cederquist & Associates,
architects & engineers
Basic Construction Co., *contractors*



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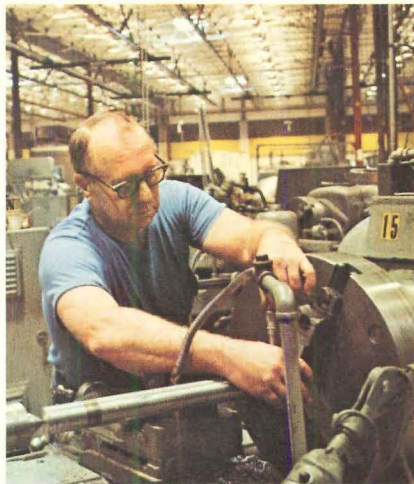
light sources. Which means that if your people need more light to do their work faster, more efficiently and more accurately, to help lower your total business costs, you can provide them twice the light of mercury lamps with Lucalox lighting . . . at virtually no increase in power costs!

Or, if your work area lighting is currently adequate, you can lower the cost of that lighting by replacing existing 1000-watt

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Cut the cost, not the light.

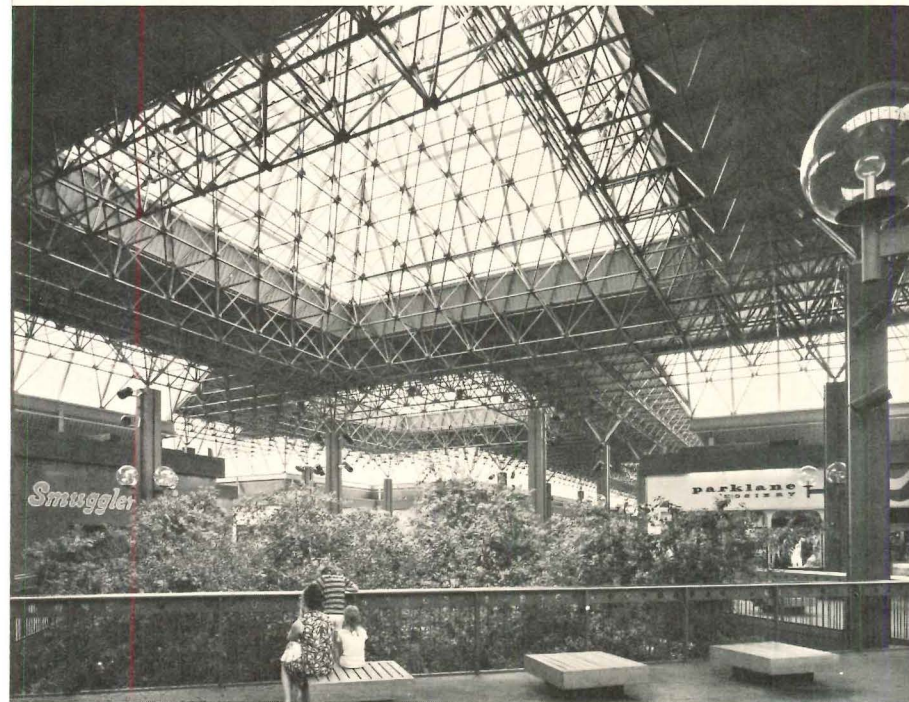
GENERAL  ELECTRIC



PARAMUS PARK SHOPPING CENTER
Paramus, New Jersey



THE MALL AT CHERRYVALE
Rockford, Illinois



COLUMBIA MALL, Columbia, Maryland



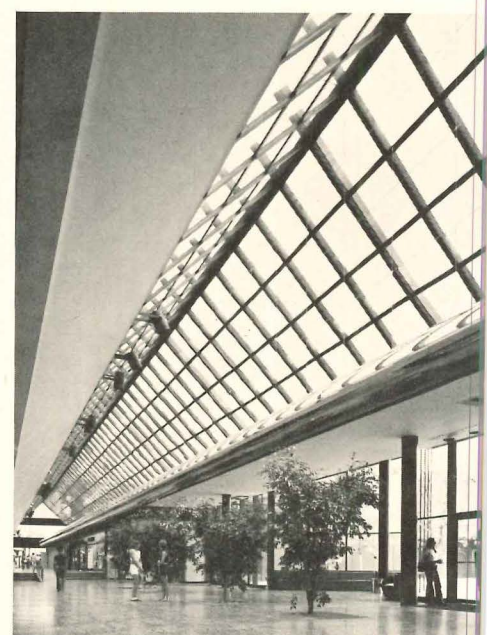
NORTHWEST MALL, Houston, Texas



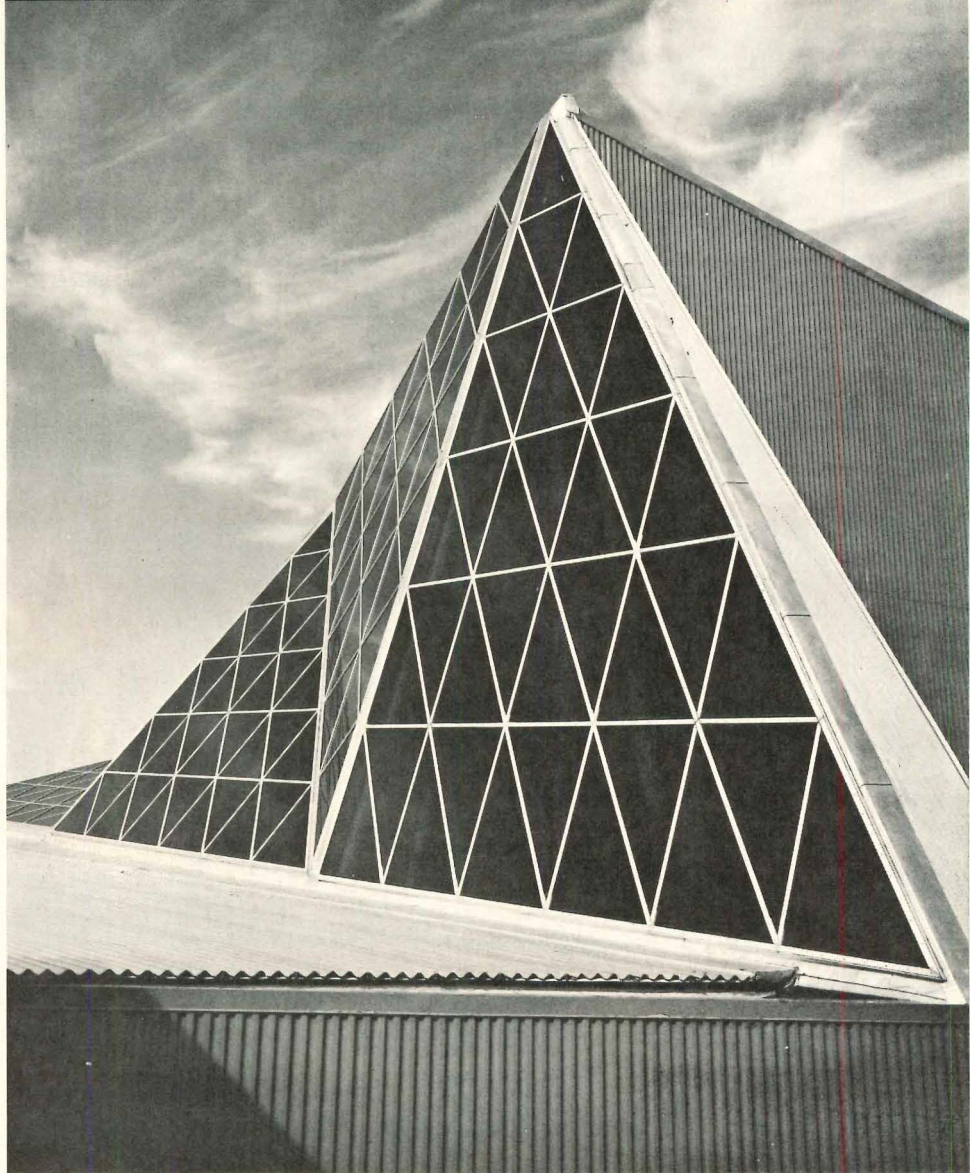
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TEST ONE: DU PONT NEOPRENE
Time: 1 minute, 30 seconds after ignition.

Time: 3 minutes, 00 seconds.
Center chair involved.

Major flames out. Time: 6 minutes, 00 seconds.
Damage: 1 chair involved, fabric melting and smoldering on two adjoining chairs.



TEST TWO: HR POLYURETHANE
containing flame retardants.
Time: 1 minute, 30 seconds after ignition.

Time: 3 minutes, 00 seconds.
Five chairs in two rows involved.

Major flames out. Time: 29 minutes, 30 seconds.
Damage: 5 chairs in two rows involved.



TEST THREE: STANDARD POLYURETHANE
Time: 1 minute, 30 seconds after ignition.

Time: 3 minutes, 00 seconds.
Five chairs in two rows involved.

Major flames out. Time: 40 minutes, 00 seconds.
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As the photographs above show, there was considerably less flame damage among the chairs cushioned with deep foam of Du Pont Neoprene than among those cushioned with other common cushioning foams.

The Test Chairs

Test #1 used cushions of Neoprene deep foam. Test #2 used cushions of high resiliency (HR)

polyurethane foam containing flame retardants. The chairs in these two tests were otherwise identical, with upholstery fabric and plastic seat backs containing flame retardants.

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During each test, light obscuration by smoke was measured by photo cells six feet from the floor. Data gathered show the chairs cushioned with Neoprene produced less total smoke because only one chair was consumed by the fire.

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Cushioning Foam of DuPont Neoprene



For more data, circle 43 on inquiry card

The small firm is alive and well, and furthermore....

Firm size and design quality seem difficult to separate, as we discovered when we sent a purposely exaggerated prediction on the future of small firms (given at the top of subsequent pages) to architects who represent both extremes of the firm size scale.

We did not attempt to weight any argument for or against a particular firm size, however, and hope that the remarks you read on the next three pages help to stimulate further discussion among our readers on this question of firm size . . . and design quality.

Question an architect on the future of small-to-medium-size practice, and you will find, as we did recently, that architects have an unshakable faith in small firms, and in the preference of clients for their unique capabilities: personal service and quality design.

This is the opinion of an informal survey conducted by RECORD into some issues affecting future practice. The small firm's future is one of these issues.

Why this confidence in the small firm, whose moral supporters include the founders and leaders of the country's largest firms? Part of the answer may be that no matter how large a business his practice may be, every architect perceives that the profession's design and service aspects are protected in the small firm. Consider the summation of TAC's John Harkness: "Architecture treads a delicate line, being part art and part business. I believe business tends toward bigness, artistic creation does not. The challenge for the architectural firm of the future is to solve this apparent conflict so as to produce artistic buildings in a business-like manner."

Obviously artistic buildings can be produced in a business-like manner, but most of the architects we queried feel that only the small firm is capable of consistently good design. Says Robert Marquis of Marquis Associates, "... the extremely large firm cannot, with rare exceptions, produce significant and creative architecture." He is not alone in this assessment.

In listing the advantages—and there are advantages—of large firms, few heads of such organizations stress design.

"The action is going on in firms, it's not going on in the individual spot," says Thomas Bullock (below), chairman of CRS Design Associates, the parent company of Caudill Rowlett Scott Inc., a 300-person office. He defends the small practitioner, but advocates AIA being a "firm" organization



Thomas A. Bullock

rather than a "member" one. "In today's world, inflationary pressures are such that clients are more interested in process, in reliability and responsible services than they are in just design." But about design, he says "I still think we're in the design business, and I still think we're shooting for quality."

In posing this question about firm size, we did not try to polarize thought, or, in the words of one architect, set up a David and Goliath situation. We did hope to prompt argument in the finest sense. A decision on how to practice architecture, for almost every architect, invariably leads to size of the practice. Those who feel that architecture is individual creation will probably not see themselves in a large corporation. Others, like Tom Bullock, see architecture as more than just design and want the profession to accommodate—if not welcome—the mavericks: "I had a desire and

interest and ability to do something else better than design, and that something else architects have got to understand. Somewhere down the line there are some guys in management who should be in design, and there are some in design who should be getting into management."

The profession—in talking here about firm size—is still concerned with design quality, an issue that ranked number one in the August 1974 Case and Company study for AIA, "Survey of the Membership." (Incidentally, the same study said that a substantial proportion of the AIA members are practicing their profession in the same small scale as in the past.) The following statements from architects—representing firms of varied sizes—reveal that much of the profession believes that design still has a strong appeal for clients, and that local needs remain the staple of local architects.

The question of size is basic in architectural practice. We feel this presentation of views—opinions, and not conclusions—is an appropriate introduction to our effort this year to stimulate thoughtful dialogue on the future of the profession. No one opinion is right, of course, and every architect's way of practicing must be a matter of personal choice. However, any reasonable person can change his mind, and if the arguments we initiate help change the profession for the better, then fine. We hope this is the result. In later issues, look for these subjects: the large firm; problems of non-traditional practices; ethics.

—Charles Hamlin

continued on page 67



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"A firm has to be big, on the order of 150 employees or more, because it's unlikely that the one-man shop is going to be able to make an impact on the world of construction.

We will see more and more mergers of smaller firms into larger ones, with the very possible result that by the century's end, most—if not all—of the country's architectural services will be provided by perhaps only 20 firms."

True or false?

continued from page 65



DON M. HISAKA
Don M. Hisaka and Associates,
Architects, Inc.
Cleveland, Ohio
Firm size: 8

In a pluralistic society, different clients' needs and desires can best be met by differing types of offices, and as long as the needs remain, the smaller office will survive. I am not sure that the choice can or need be so singular in a democracy such as ours.

One has to define the meaning of "impact" in this statement. If it is to mean quantity, that's one thing. If we're talking about quality or innovation, then that's something else. I believe that it is possible to have large firms producing creative buildings and equally possible for very small firms to be non-effective. I believe it becomes a question of individual professional choice and motivation. That choice may be one of quality, although I must admit I know of few firms with more than 150 persons that have consistently produced buildings of the highest quality.



JOHN C. HARKNESS
The Architects Collaborative Inc.
Cambridge, Massachusetts
Firm size: 312

It is certainly true that with architectural practice, as with many forms of organization, there is a strong tendency to grow in size. We must remember, however, that architecture treads a delicate line, being part art and part business. I believe business tends towards bigness, artistic creation

does not. The challenge for the architectural firm of the future is to solve this apparent conflict so as to produce artistic buildings in a business-like manner.

Architectural firms grow in size for a number of reasons: 1) The jobs themselves are bigger, not only in dollar value but in actual size and complexity. 2) More and more jobs require an interdisciplinary team—an office must either associate or have these disciplines on its staff. 3) Fluctuations of work load are more easily absorbed in a large diversified office than in a small specialized one. A small specialized office can handle a few very large jobs, so long as the work flow is regular, but is in trouble if this flow is interrupted. 4) The mere cost of preparing proposals and going after work, particularly in foreign countries, is more than most small firms can handle. 5) Clients for major projects, which may take 10 or more years to realize, want to be sure they are dealing with a firm of substance which will continue to operate.

On the other hand, the large firm has many dangers: 1) It can become an impersonal place to work. 2) Design can be pushed into the back seat in favor of business and economic decisions, especially in firms controlled by businessmen, whether or not they are architects. 3) Growth can become an end in itself; the desire to be higher and higher on the *Engineering News Record* list of large firms, as if bigger were better; the seduction to go for a job simply because it is big.

It seems to me that one answer lies in somehow retaining small-scale working groups within the framework of the larger office [as TAC does]. The actual number of people required to design and lead even large projects is not necessarily a very large number. Even agreeing that many of today's projects require creative input from engineers, sociologists, and other disciplines, the number on any particular job can be a fairly tight working group. The important point is that the architect must retain his role as coordinator and in control of the design.

I do not, however, believe that the small office will go out of business, any more than industrialized construction has put the small builder out of business. In fact, the large firm is often unable financially to handle small jobs as efficiently as the small firms. The small firm is, however, more limited in its scope, unless it works out some form of team management which will achieve the job potential of the larger firm.

I do not believe that there should be any correlation between the size of a firm and the quality of design. There is a danger, however, that large firms, primarily engineering or management-oriented but with a small architectural component will be appealing to the corporate client, yet not produce human design. I think it is important for the architect to retain control and do a better job both in design and management.



CLARENCE KIVETT
Kivett and Myers
A division of Howard, Needles,
Tammen & Bergendoff
Kansas City, Missouri
Firm size: 30

Your statement undoubtedly describes one of the many segments of future design delivery systems. Surely, groups similar to The Austin Company and others will grow to be the "General Motors" of construction.

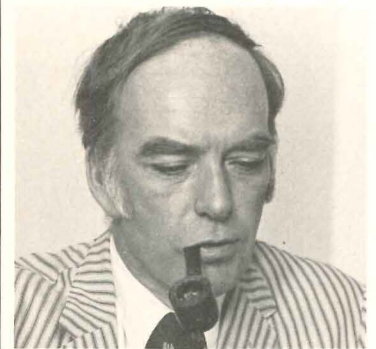
A large portion of major construction users will continue to feel this approach best satisfies their needs—a single source for all needs, that can produce programming, concepts, guaranteed time and dollar budget, within a few days or weeks of order. But, fortunately, this will still leave large other areas for other types of design delivery systems. Quality of design will and must still remain the basic control to which most clients will ultimately respond.



ROBERT B. MARQUIS
Marquis Associates
San Francisco, California
Firm size: 15

I think there will always be jobs that by their very nature and budget require the care and personal attention that a large firm cannot afford to provide. With the emphasis shifting from new construction to rehabilitation, conservation and retrofitting, I believe there will be an increasing body of work for the smaller offices.

While it is clear the "one-man shop" cannot make an "impact" simply because it will not receive and cannot handle commissions that have any significant scope, it is equally clear that the extremely large firm cannot, with some rare exceptions, produce significant and creative architecture. I believe the major contributions in the future as in the past will be made by medium-size firms (10 to at the most 50 in staff) led by strong, creative, thoughtful, sensitive individuals.



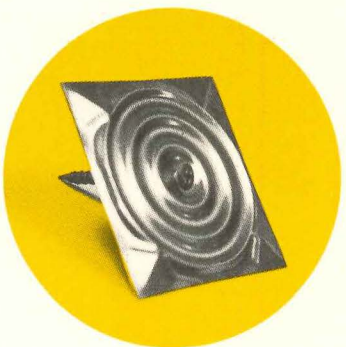
FREDERICK A. STAHL
Stahl/Bennett, Inc.
Boston, Massachusetts
Firm size: 17

I do not accept the myth of an impending Jurassic period for our profession. Our growing awareness of limited means will inevitably favor the tougher, leaner pro-

continued on page 69



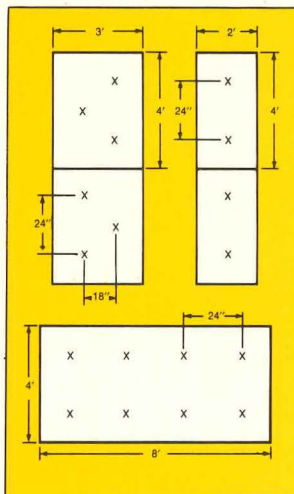
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"A firm has to be big, on the order of 150 employees or more, because it's unlikely that the one-man shop is going to be able to make an impact on the world of construction."

True or false?

continued from page 67

fessional organization. Horse sense, ingenuity and respect for the value of a dollar, as characteristics of practice, are not a function of size per se.

In the Northeast (excluding off-shore clients), the viability of a professional organization is currently founded in diversity, flexibility, capability to respond, accountability and hard work. Older, more established firms and single specialty firms have been badly eroded by today's conditions of practice. I do not see these circumstances changing in the foreseeable future, and thus a unique opportunity for certain organizations has been presented.

The diversity to which I subscribe is not architectural, but rather broadly in the design profession. We like the analogy of a full-service law firm, in which wills and trusts are valued not less than mutual funds and real estate, and where it is expected that the best professionals will be leaders in their respective fields. Diversity in a design firm could encompass a mix of activities that include urban design and planning; facilities programming; rehabilitation, restoration, adaptive re-use, retrofitting; interior planning and design; furniture and furnishings; and graphics, as well as a variety of technical consultant capabilities.

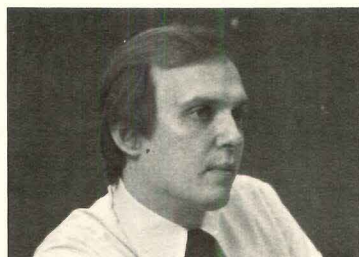
The increasing demand for skills and services related to existing buildings and their environments (which come in a delightful diversity of condition, age, shape, size, character and use) has a particular relevance to the question of size and viability in practice. In a sense it is a related, but markedly different practice, and one in which we believe that the smaller firm has a distinct advantage.

Long before the century's end, in fact in the relatively near future, I expect that major forces outside of the control of the industry will create what would seem to most architects an entirely new ball game. All of us should prepare for (and some will welcome) open-price competition for services; our pious statements supporting the consumer will be sorely tested by our freedom (or necessity) to advertise. It looks like an interesting future, and I wouldn't miss it. Would you?



EVANS WOOLLEN
Woollen Associates
Indianapolis, Indiana
Firm size: 15

I would not expect that we will be down to 20 firms by the year 2000. So far, I think there is a reasonably bright future for a good firm in the area of 25 persons. At this size it is still possible to know what everybody in the firm is doing. Clients are beginning to realize that by and large they are served by a limited number of people. They are becoming more interested in the quality of the team with which they will work rather than the number of totally separate teams that are only incidentally housed under one roof. When the principals themselves are closely involved in the team (as they are unlikely to be in the very big firm), there is a commitment that benefits the client.



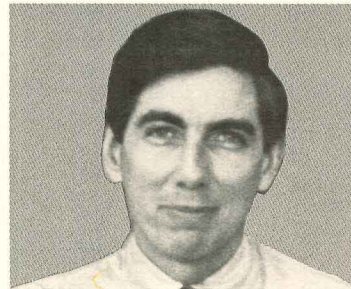
LEN R. WITKE
Brust-Zimmerman, Inc.
Milwaukee, Wisconsin
Firm size: 45

The impact that an architectural firm makes on the world of construction may be due to quantity rather than quality; i.e., the more employees, the more work handled, the greater number of persons who see the products.

There is no reason, if good architectural critics remain, that a single architect having a valid solution to a common construction need cannot have the same impact as a firm of greater size.

Society will continue to demand the production model solutions to many of their needs including certain buildings, and it is

my belief that architecture may be moving in that direction. Nonetheless, this does not mean that all answers come in neat, pre-designed packages. There will remain the critics whose search for quality will be answered by a variety of firms. Some will consist of many, but most certainly there will be others consisting of lesser numbers who can perform and who can provide for the contemporary needs of our society.



HUGH HARDY
Hardy Holzman Pfeiffer Associates
New York, New York
Firm size: 30

Hardy Holzman Pfeiffer Associates consists of three principals, two associates, 17 architects, and a variety of support and clerical personnel. Since the basis for design is based on collaboration in which the three principals are always involved, we have chosen to limit the size of our organization, and to carefully select the type and number of the jobs undertaken at any one time.



BRADFORD PERKINS
Llewelyn-Davies Associates
New York, New York
Firm size: 24

There is no evidence that the small- or medium-sized firm is even dying—much less dead. The statement—that by the year 2000 most or all architectural services will be provided by as few as 20 firms—ignores the strong factors that have made ours a fragmented profession.



NOLAN BLASS, JR.
Erhart Eichenbaum Rauch Blass & Chilcote
Edgar K. Riddick, Jr.
Little Rock, Arkansas
Firm size: 50

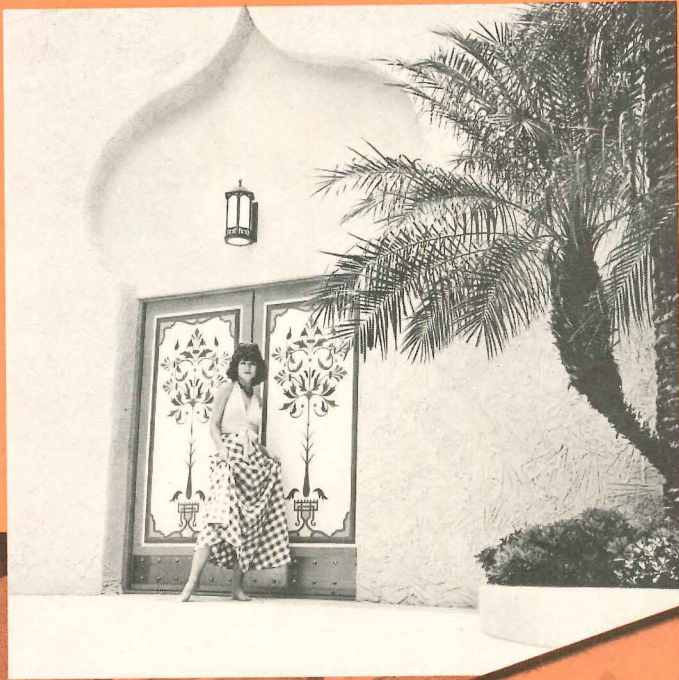
Quality architecture has always been produced by individuals whether working alone, together, or in conjunction as associates in large firms. The size and quality relationship is valid only in that more opportunities come to the individuals working in larger firms.

Design excellence does bring in clients. Today many clients—especially the larger corporate clients, for good or for bad—come to the larger architectural firm for other reasons: over-all experience, familiarity with a certain building type, or because of their large comprehensive organizations. No doubt the larger firms will get larger; on the other hand, there will be many, many new small firms formed by employees leaving the larger- and medium-sized firms to form their own. Growth will also occur in the medium-size firms and there will be more of them, too. Broadening across the entire practice of architecture will ensue. As the United States and the world market grow, more and larger firms will be necessary to service more and larger clients.

But thousands graduate from the schools of architecture every year, and these young professionally trained people will be seeking a career as architects. Most of these will never opt for the big firm except as a stop-gap. These young people will form many small firms, which in turn, will split and recombine even as larger firms expand and do likewise.

My guess would be that by 1999 some 250 firms of 100 or more employees would supply most of the architectural services

continued on page 71



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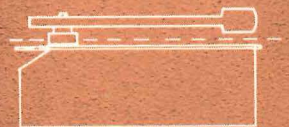
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by dollar volume. Volume by number of jobs will continue to be widely spread among smaller- and medium-sized firms.

Big firms don't get bigger by swallowing little firms; they grow by adding personnel. In our area, the number of people who leave the large firms to start their own practice or join in other small firms has, over the last 10 years, exceeded the number added by the larger firms.



LAWRENCE B. PERKINS, SR.
Perkins & Will
Chicago, Illinois
Firm size: 350

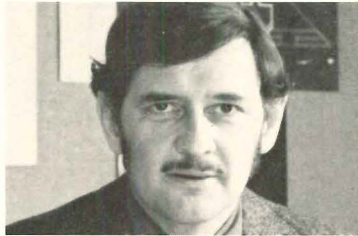
Bilge!
"Die Baeume wachsen nicht auf den Himmel" which means "The trees do not grow to the sky." The profession exists to provide concerned personal service on projects ranging from porches to palaces. The very large office cannot—repeat—cannot fill out the program for the small church before the overhead has overtaken the gross fee. Can you imagine the school board of Dryden, New York, asking on bended knee for a big firm to handle a six-classroom addition to the regional high school? Any of several Ithaca (nearby) architects could serve them better and make a living.



MICHAEL E. PLUNKETT
Lane + Knorr + Plunkett
Anchorage, Alaska
Firm size: 13

I agree that architectural firms are going to continue to grow larger and mergers are going to be com-

monplace. So long as there is respect for design talent, conscientious concern for professional service and concern for cost, there will always be room for the small firm. The problem will be that in order to survive as a small firm the principals and key personnel will have to have a great deal of formal education, experience, business sense and just pure talent. If the architectural profession is anything like the accountants, more of the country's architectural service will be provided by fewer national firms. Progressive design will still be produced by small firms. This will be the only way they can stay alive.



JAMES SCHMITT
Feibes and Schmitt Architects
Schenectady, New York
Firm size: 4

In the American automotive industry, the *Dodges*, *Hupmobiles*, *Oldsmobiles*, *Pontiacs*, *Fords*, *Cords*, et al merged or dropped out. The industry developed literally from a carriage trade product to one enabling the masses to be individually mobile. The architect too served the wealthy as individuals whereas he now is charged with the task of housing all the activities of the masses.

One might be inclined to continue the parallel to its logical conclusion that architectural firms too will eventually merge or drop out. But such an inference will prove wrong. In spite of big business's super industrialization, massive corporate power and technological superiority, small business is still the backbone of America. Why? Because innovation can more easily flourish there and it can more easily and quickly adapt to the changing market. Small architectural firms respond directly to solving the day-to-day human problems.

Sitting through a solar energy seminar recently, I was struck by the familiar fact that each time energy is transferred or exchanged

some is lost. Thoughts are the energy of the mind and they are susceptible to such a loss. Maximum efficiency of communication is a one-to-one conversation. Long live the small practitioner—and he will!



W. C. MUCHOW
Muchow Associates, Architects
Denver, Colorado
Firm size: 20

The factors that determine the size of an office, or project team, are: a) The size and scope of a particular project, and b) The most efficient method of producing the required service. There is a direct relationship between project size and the numbers of people it takes to produce it. So long as there are small projects, there should be a need for small offices or teams.

Large and small offices both have their strong and weak points. It is not as though it were a one way street. We continually hear expressed a desire for a more personal and human society. This can only result from a fragmenting of bigness.



SAMUEL CROTHERS, III
Chappelle and Crothers
Associates
Philadelphia, Pennsylvania
Firm size: 9

This is a provocative but unreasonable statement. No over-all economic or governmental structure is ever going to do away with the medium-sized project. True, a large firm can be partitioned to handle small projects, too, with a series of studios and studio heads,

but there are still organizations, schools, banks, that still cherish or value the style that might come from a creative, small practice, particularly in the case where the style might be generated by one person.

Certainly one-man shops will become fewer and fewer, and the large firms will increase, but the fine, jewel-like, beautifully studied and conceived solutions to projects, which one talented architect can encompass within his mind, will still be demanded by clients with taste and standards who cannot be satisfied by a large, impersonal firm. In most of the RECORD's statement there is the inference that, because a firm has an individualistic approach to design, it will be poorly organized. What many of the medium- and small-sized firms need is much better management, where the business of the firm is guided by a businessman, and where the design of a firm is guided by a designer. The complex and technical aspects of architecture can no longer be dealt with by flamboyant, social, lovable, "seat-of-the-pants" architects—but there should be even more opportunity for the competent, well-trained, sensitive architect guiding a small- to medium-sized firm, solving problems scaled to his practice.



JOHN E. BALDWIN
John Baldwin & Associates
Brunswick, Georgia
Firm size: 13

I do not find the statement inevitable, though there is a trend in some areas toward this end. I sincerely feel the one-man shop is a must if architecture is to survive. I compare the one-man shop in the same manner as the general practitioner who still makes house calls. I truly see a need to return to more one-man shops, where the architect relates directly with a client for a personal solution.

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A new look at 1976, and some "good news" for architects

In these extraordinary times when your government can point with pride at the "good news" that the unemployment rate has been brought below eight per cent, or express satisfaction that its policies have finally reduced inflation to something less than a two digit number, there's also a shred of good news for architects. It is this: the long decline in the all-important nonresidential building market may finally have hit bottom.

That's not quite the same kind of good news as learning that your design has taken top honors in a major competition. It's more like having the doctor tell you that it's finally time to take the cast off your leg. Just the same, the way the market for architect's services has been shrinking these past two years, any indication that some change is coming has to be considered "good news"—even if it only means we've at last hit bottom. Hitting bottom is a necessary step to recovery, and recovery is what the recently released First Update of the *Dodge/Sweet's Construction Outlook* for 1976 is all about.

Right now that recovery is hung up somewhere between stage I and stage II. Stage I—which covered most of 1975—consists of the early pickup of housing plus some temporary public works projects which typically come forth at the depth of a recession. By now the thrust of last summer's spurt of highway construction has subsided, and the housing market is pretty much going it alone. Before much longer we can expect to enter stage II of the construction cycle when the lagging nonresidential building market reinforces the already established housing upswing. That's what our 1976 *Outlook* was originally based on—and, with a few modifications, that's what it still anticipates. (RECORD, November 1975, page 65.)

With the housing recovery clearly on its way, attention is naturally drawn to the other side of the construction business—nonresidential building. And there it's possible to see some signs of turnaround, too. But at the same time, the nonresidential building market is also changing in composition, with institutional building receding as commercial work comes on stronger. (Industrial construction doesn't fit the recovery pattern at all, and has to be treated as a very special case.)

Commercial building already appears to be on the way up. The seasonally-adjusted rate of contracting for stores and other mercantile buildings reached its low point in the first quarter of 1975. The three improved quarters that followed, as well as a strong showing in Jan-

uary, 1976, would seem to bear out the old axiom that there's no better stimulus for retail building than a pickup in housing.

Contracting for office building had also passed its cyclical trough by mid-1975, but after two quarters of meager improvement the prospect for gain in 1976 is still not especially bright. That's because the flow of *large* office buildings has dwindled to a trickle, and without a few more of these, it's going to be a long, slow recovery in the office building market.

Industrial construction is where the opposing forces of energy and the business cycle have been meeting head on. And unless these two movements are carefully separated, nothing makes much sense here.

Despite the very low rate of capacity utilization in most industries last year, contracting for new manufacturing facilities *rose* 22 per cent in 1975 to a record \$6.8 billion (a revised figure). What pushed industrial construction so irrationally high during the worst months of the recession was an extra layer of \$4 billion of petroleum refineries and petrochemical processing plants (half of it in Alaska). Except for the energy industries, contracting for manufacturing plants declined about 25 per cent last year—exactly what you'd expect in a severe recession.

In 1976, both energy and the business cycle will be heading the other way. As energy-related construction drops back to a more normal level (and that means a drop of a couple of billion dollars in contract value), a recovery of general manufacturing building will take up some—but by no means all—of the slack. Most important, though: the kind of manufacturing construction that involves little, if any opportunity for architecture (energy) will be waning; the kind that does offer a market for good design (general manufacturing) will be coming back.

It's not all "good news" however. The institutional building market, which held up quite well through the worst of the recession of 1974/75, is now starting to sag. Educational and other institutional building, which originates largely with state and local government agencies, has recently begun to show the inevitable effect that the crushing combination of inflation, recession, and Federal budget tightening has on state and local government finance. A lot of this work is being shelved until circumstances improve.

The following table shows the First Update of the 1976 Dodge/Sweet's Construction Outlook:

Dodge/Sweet's construction outlook, 1976: first update
Construction contract value (millions of dollars)

Building Types	1975 actual	1976 forecast	per cent change
Nonresidential			
Offices	\$ 3,959	\$ 4,400	+11%
Stores, commercial bldgs.	5,371	6,100	+14
Manufacturing	6,828*	4,500	-34
Total	\$16,158	\$15,000	- 7
Educational	\$ 5,914	\$ 5,300	-10%
Hospital & health	3,773	4,300	+14
Other nonres. bldgs.	6,065	5,900	- 3
Total	\$15,752	\$15,500	- 2%
Total nonresidential	\$31,910	\$30,500	- 4%
Residential			
1 & 2 family homes	\$25,445	\$33,100	+30%
Apartments	4,710	8,500	+80
Total housekeeping	\$30,155	\$41,600	+38%
Total nonhousekeeping	\$ 1,114	\$ 1,300	+17
Total residential	\$31,269	\$42,900	+37%
Nonbuilding			
Highways & bridges	\$ 8,872	\$ 8,100	- 9%
Utilities	7,453	8,500	+14
Sewer & water	6,531	7,500	+15
Other nonbuilding	5,560	5,000	-10
Total nonbuilding	\$28,416	\$ 29,100	+ 2%
Total construction	\$91,595	\$102,500	+12%
Dodge index (1967=100)	166	186	
Floor area of new buildings (millions of square feet)			
Nonresidential			
Offices	108	115	+ 6%
Stores, commercial bldgs.	309	335	+ 8
Manufacturing	148	160	+ 8
Total	565	610	+ 8%
Educational	152	135	-11%
Hospital & health	65	70	+ 8
Other nonres. bldgs.	183	175	- 4
Total	400	380	- 5%
Total nonresidential	965	990	+ 3%
Residential			
1 & 2 family homes	1,180	1,420	+20%
Apartments	229	390	+70
Total housekeeping	1,409	1,810	+28%
Nonhousekeeping	33	38	+15%
Total residential	1,442	1,848	+28%
Total buildings	2,407	2,838	+18%

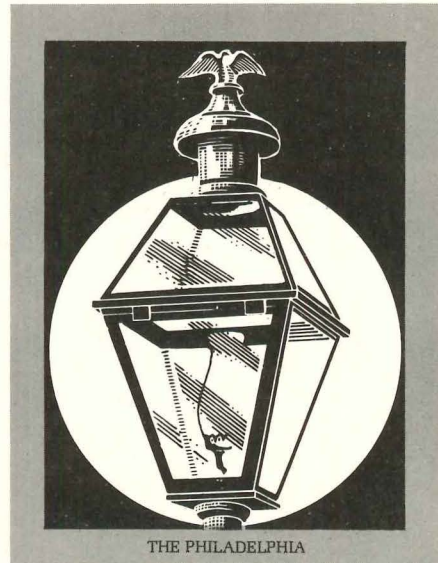
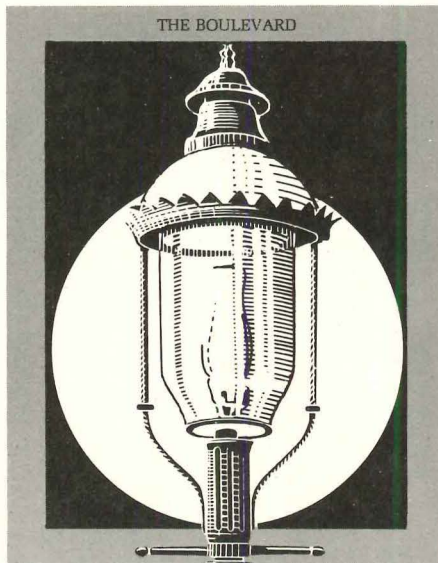
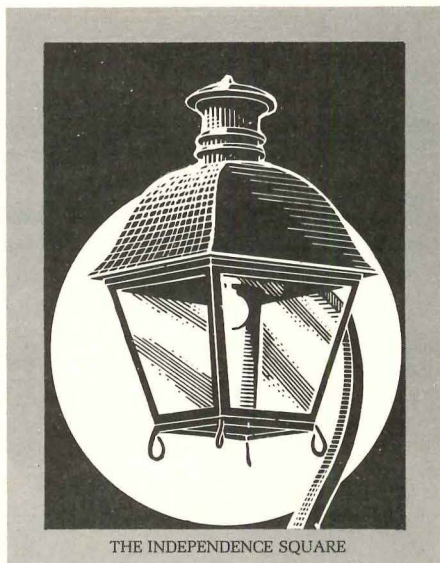
*revised upward from \$5,254

On balance, the immediate outlook suggests more churning than gaining in nonresidential building markets. But compared to the steady decline of the past two years, this expected "action" (involving the turnaround of commercial building) is an obvious improvement.

George A. Christie, vice president
and chief economist

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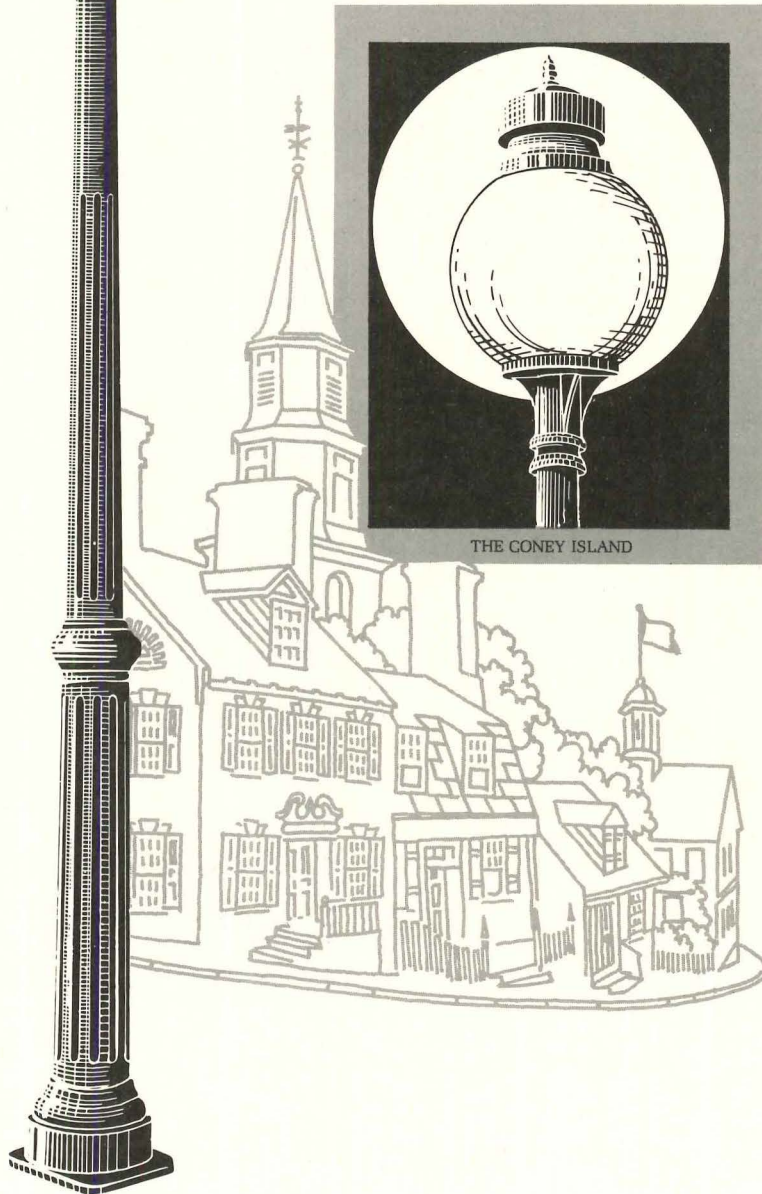
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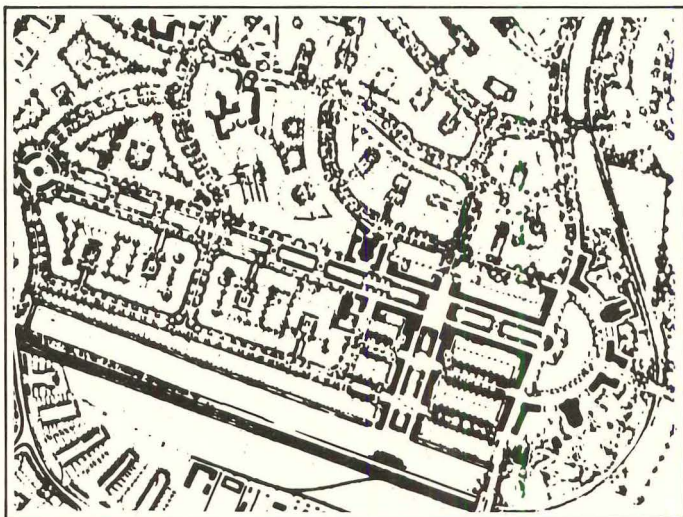
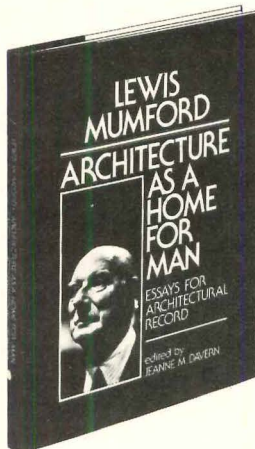


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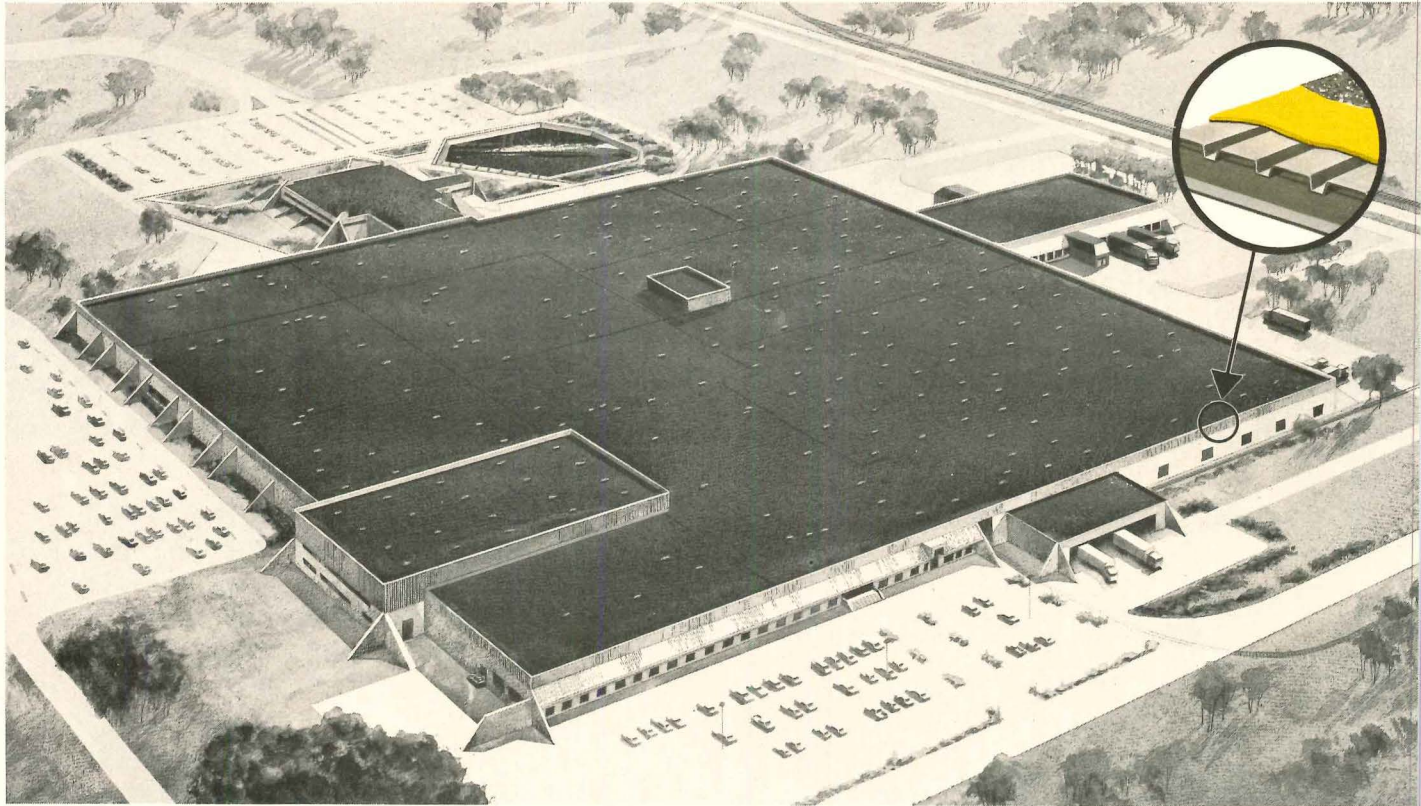
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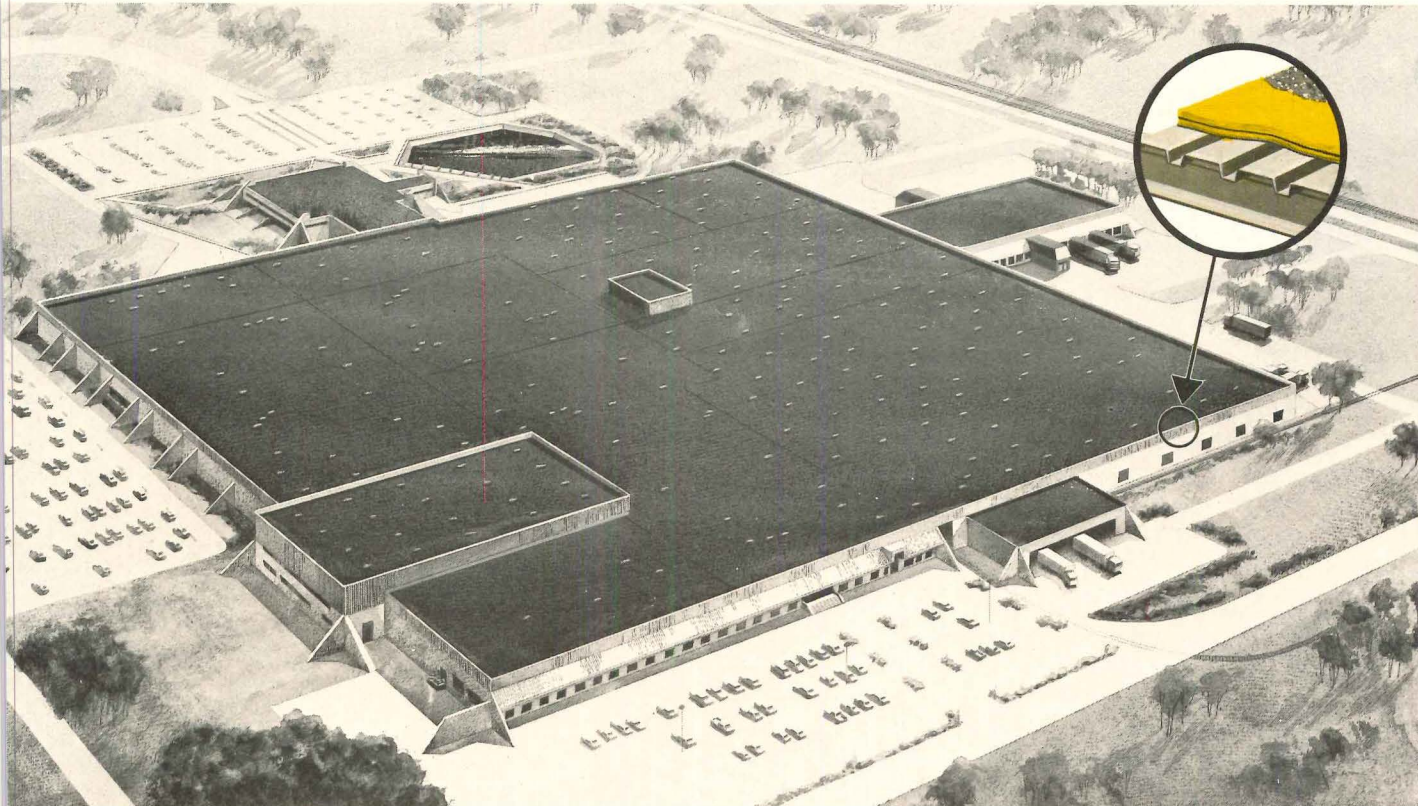
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A remarkable savings of \$972,024! With it, architect Paul Slusarev, Project Manager of the massive new J.C. Penney warehouse/office in Lenexa, Kansas, is helping to point the way for designers of schools, offices, stores, and other commercial buildings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

jected 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

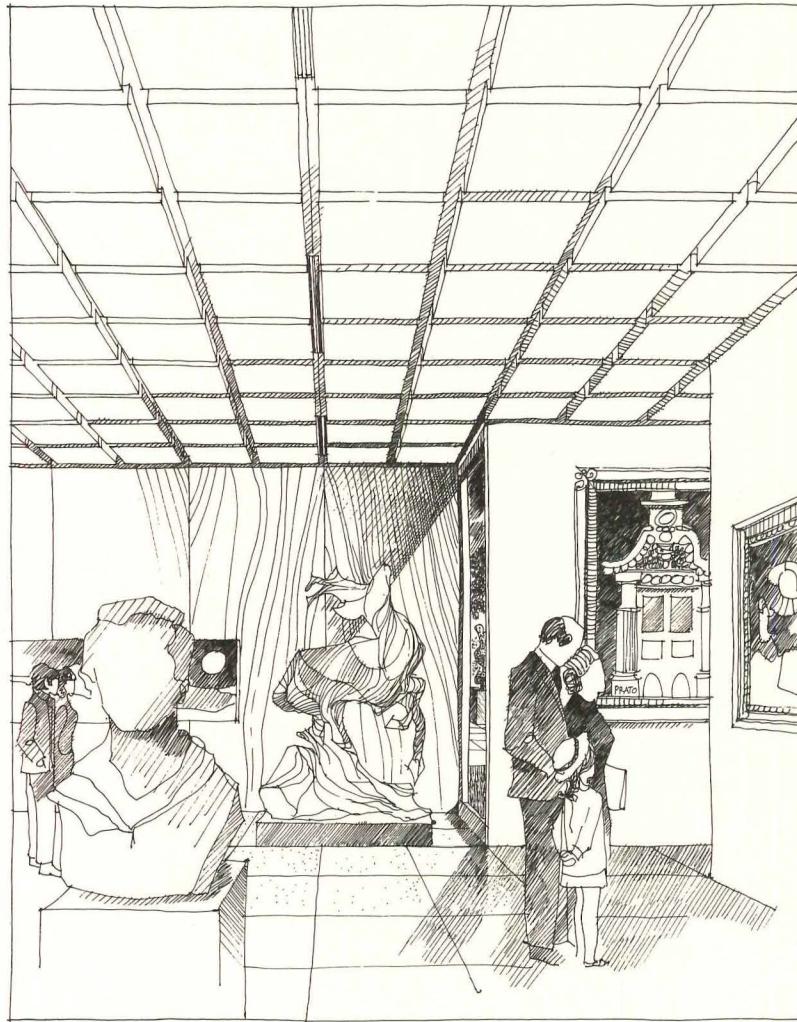
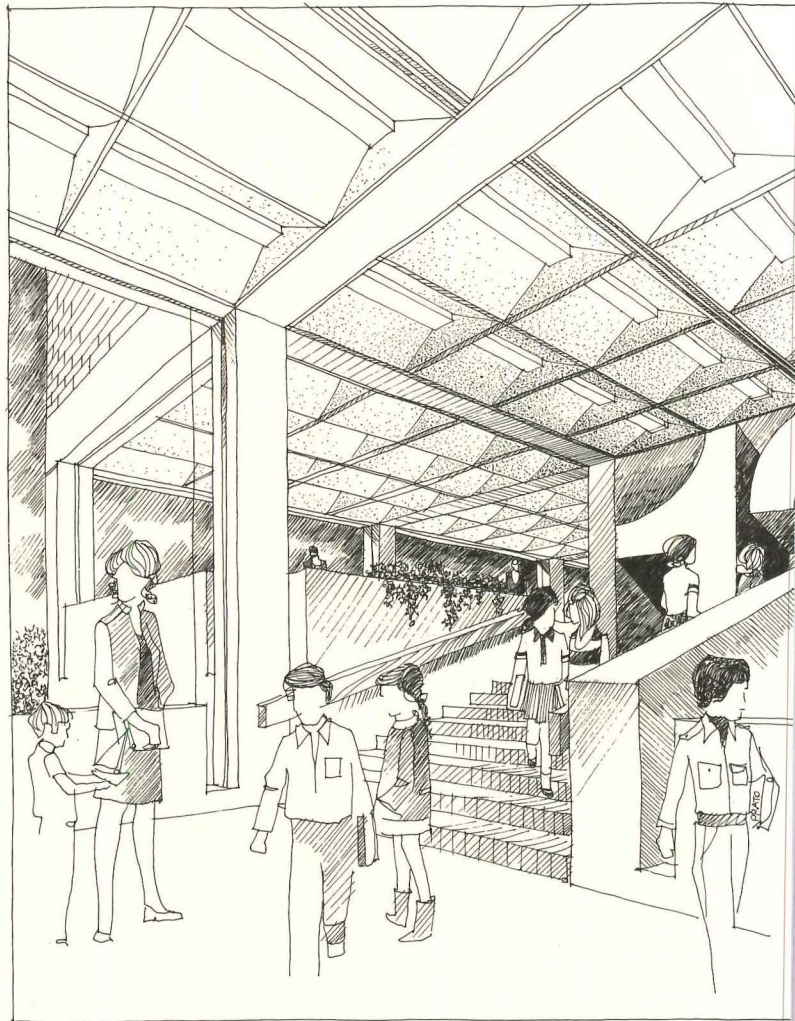
Thicker Fiberglas roof insulation also makes sense when it's time to re-roof *existing* buildings. It should pay for itself within a few years, then go on saving thousands in fuel bills for years to come.

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

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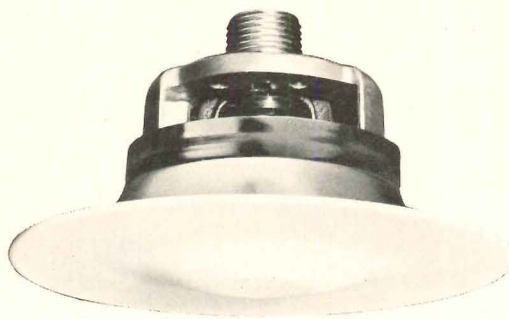
A beautiful way to help save lives.

Now there's a new way to design in fire protection for life safety in modern high rise and other buildings without intruding upon design aesthetics. Grinnell's new **CLEANLINE**® Recessed sprinkler is so unobtrusive, so trim and compact, once it's installed you'll hardly know it's there.

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exposing the *fast-response* Duraspeed sprinkler. As a second predetermined temperature is reached, the sprinkler activates, distributing a uniform water spray to put down a fire.

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as boldly sculptured as a
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There's brand new excitement in the sharply contrasting design of these natural mineral fiber panels. It's as if nature carved them out of the western hills. Yet, rock-like as they look and rock-like as they ARE, they soak up sound to .75 NRC.

And, being ACOUSTONE, these large module panels offer high fire resistance and light reflectance. Available in 2 x 2' and 2 x 4' modules as well as foil-backed for enhanced heating and air conditioning economies. See your U.S.G. Representative or write to us at 101 S. Wacker Drive, Chicago, Ill. 60606, Dept. AR-46.

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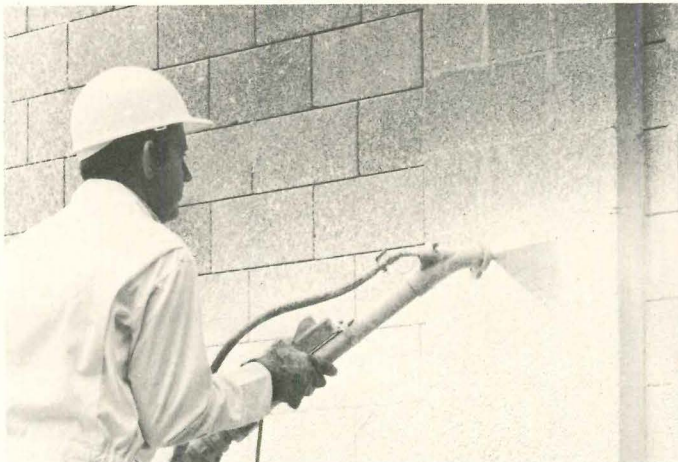
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"BlocBond helped job in 9 months. Believe

"Normally, we take 12 months to do a job the size of Westwood Fashion Place Mall. But we had to bring this one in within nine. Not easy."

That's Ken Miller talking. He's Vice-President and Project Manager of Monumental Properties, Inc.

"BlocBond* went a long way in helping us do it — because you just trowel it on the concrete block walls. (NOTE: BlocBond can also be sprayed on. See photo below.) With block and mortar construction you lose time—you've got to put mortar between every block.



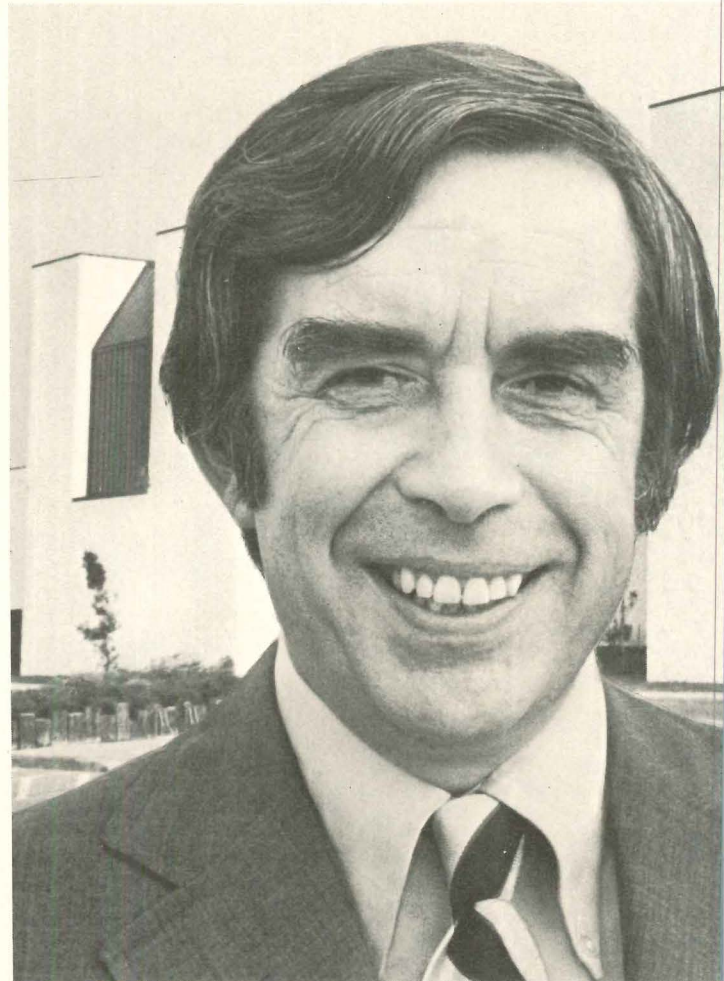
Spraying is the fastest way to apply BlocBond. Three men can cover about 1200 sq. ft. an hour.

"BlocBond is also more water-resistant than any other system I know of. There's a definite plus.

"And you know the final thing that made us go BlocBond? The first-class textured finish it gives on the exterior walls—that really sold us. (BlocBond comes in white, gray, and beige.)

"It's a quality product and a good system. We'll use it again."

BlocBond is a revolutionary masonry product that lets builders use a new construction technique.



It's made with a cement base, alkali-resistant glass fibers, and has water-resistant qualities.

One-eighth-inch thick, BlocBond is equal in racking strength to a conventional block and mortar wall—and superior in flexural strength. It is also more water-resistant and more fire-retardant.

Basically, here's all there is to using it:

- 1) Dry lay the blocks.
- 2) Wet the wall.
- 3) Spray or trowel BlocBond on exterior and interior surfaces.
- 4) Mist walls to assure full hydration.

Give it the finish you want. Apply trowel BlocBond 1/8" thick—it can be left as is, swirled,

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

us do a 12-month me, we'll use it again."



Ken Miller and the Westwood Fashion Place Mall in Houston, Texas. Mall covers 750,000 square feet.

or ribbed with a brush. Apply spray BlocBond $\frac{1}{8}$ " thick for a basic stipple finish. Or, for a smoother finish, spray one coat $\frac{1}{16}$ " thick, trowel it over, then spray a second coat $\frac{1}{16}$ " thick.

What do the people who work with BlocBond think of it?

James Hoggatt, masonry contractor for Westwood Fashion Place Mall, says, "My men found BlocBond easy to work with—really enjoyed doing the job. Now, we're recommending it on a lot of projects."

Clip the coupon. Or write to Mr. B. B. Meeks, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

PROVE IT TO ME

B. B. Meeks, Owens-Corning Fiberglas Corporation
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What you say sounds good. But I want you to:

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 Have a contractor call me. Send more information.

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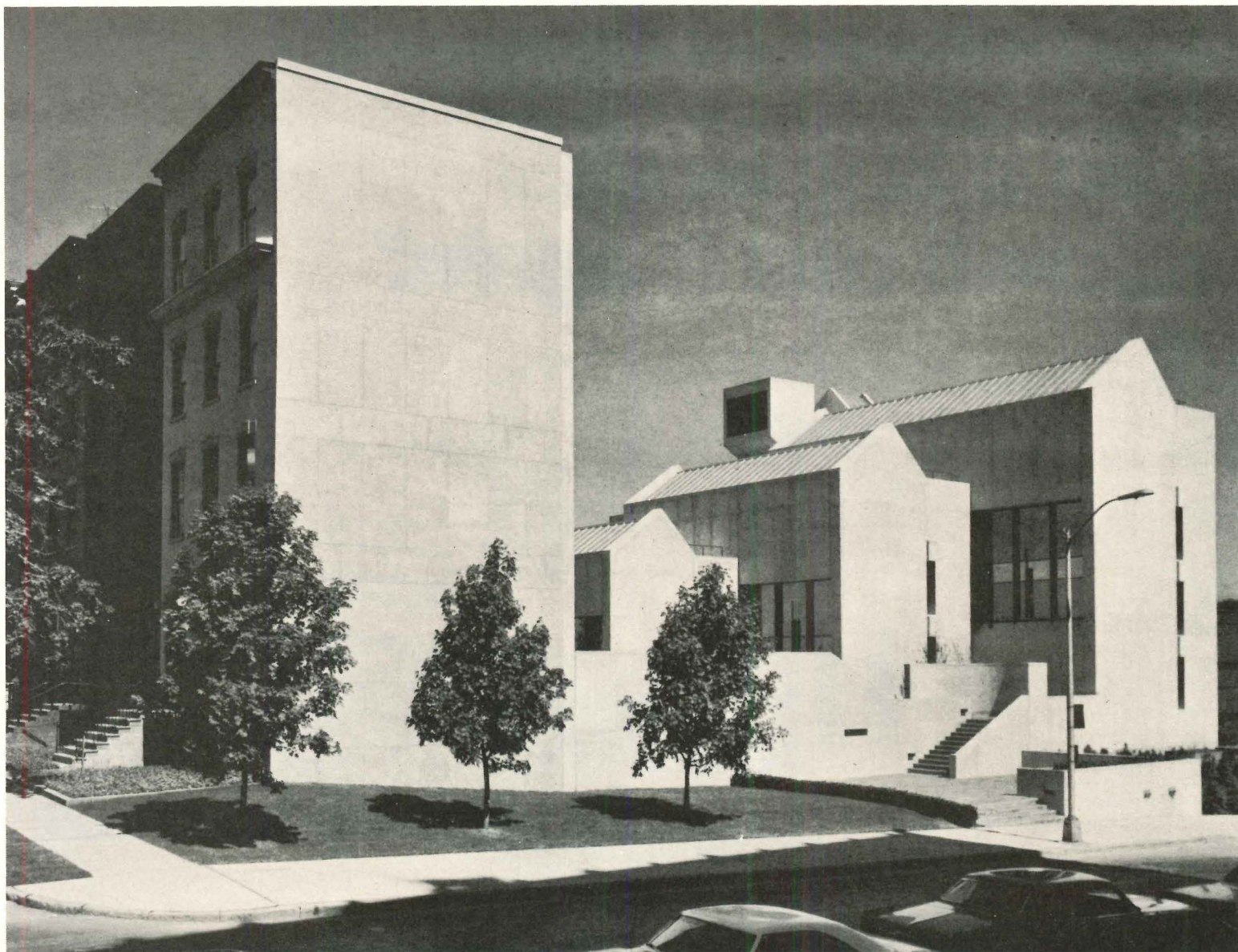
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Headquarters, New York State Bar Association, Albany, N.Y.

Architects: James Stewart Polshek and Associates, New York, N.Y.

Photographer: George Cerna

TCS ... and a "lesson in civilized architecture"

"The headquarters of the New York State Bar Association," as a most distinguished critic recently wrote, "is an object lesson in how to build intelligently, sensitively and well . . . In a happy alliance, the lawyers and the architects, James Stewart Polshek and Associates, have preserved a row of handsome 19th-century town houses and incorporated them, not as a false front, but as a working part of a completely and strikingly handsome contemporary complex built

behind them. The words that come to mind are skill, imagination and taste, qualities not encountered too often on the urban scene."

We at Follansbee Steel are particularly gratified that Mr. Polshek specified TCS (Terne-Coated Stainless Steel) for all pitched-roof areas on this outstanding building in which originality of design and integrity of site are so felicitously coupled.

FOLLANSBEE STEEL CORPORATION

Follansbee, West Virginia

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**These boots have tramped through
the cafeteria of the Blue Cross and Blue Shield
of Colorado—5 days a week for over a year.**



**Good thing the floors are carpeted with Anso[®] nylon.
It's guaranteed for 5 years.**

When 1,400 hungry employees storm the cafeteria of a large company, they pay little attention to the carpet under their feet.

That's why when the building specifiers wanted a carpet not only aesthetically pleasing, but durable enough to withstand such heavy traffic, they chose carpet of Anso nylon. And installed it throughout the premises of this new national headquarters building.

Anso is the second-generation, anti-soil nylon that comes with the toughest fiber wear guarantee in the carpet industry. **Guarantesth[®]**: the guarantee with teeth. It promises that if any portion of the carpet wears more than 10% in five years, Allied Chemical will replace it—free.

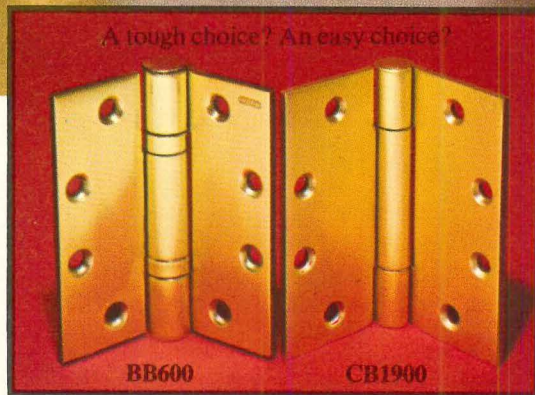
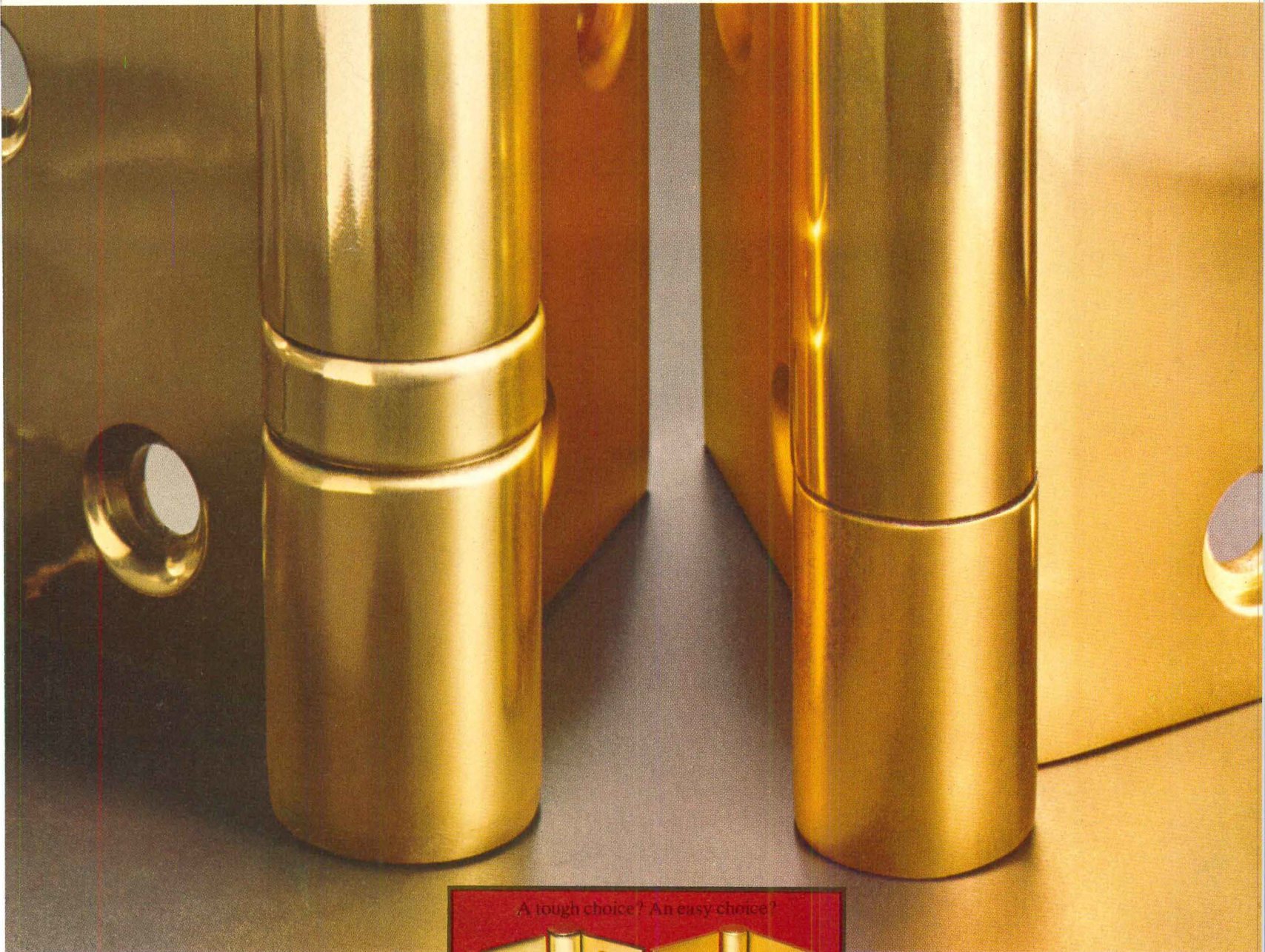
The **Guarantesth** also applies to Anso-X, the anti-shock version of Anso nylon. Carpets of Anso-X are guaranteed anti-static for the useful life of the carpet.

Anso nylon was the right choice for Blue Cross and Blue Shield of Colorado and it could be the right choice for you. Discover why it's the fastest growing contract carpet nylon in America. For more information phone or write: Allied Chemical Corporation, Fibers Division, Contract Department, 1411 Broadway, New York, New York 10018. (212) 391-5069.



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Both are part of Stanley's full line of

architectural hinges. All quality products backed by a reputation for experience, cooperation and service.

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We put a whole lot of light in a little bit of Texas.

It's the Dallas-Ft. Worth airport, the biggest in the world.

That little bit of Texas is bigger than Manhattan Island. And practically all of its lighting—indoors and outdoors—is done with Sylvania lamps.

Altogether we supplied nearly 50,000 lamps in over 60 different types.

For instance, the airport's 52 miles of roadway are illuminated by Sylvania Metalarc lamps. These high-intensity discharge lamps save energy and produce a powerful white light very much like daylight. The

uniform color of the 6000 Metalarc lamps gives the airport a uniform look over its entire area.

Sylvania lamps are used outdoors everywhere. On the runways, they're used for the electronic flash approach system. Highway intersections are marked by the golden-white light of Lumalux high-pressure sodium lamps.

Inside the terminals—mercury, fluorescent and incandescent lamps help create beautiful interiors and dramatic effects.

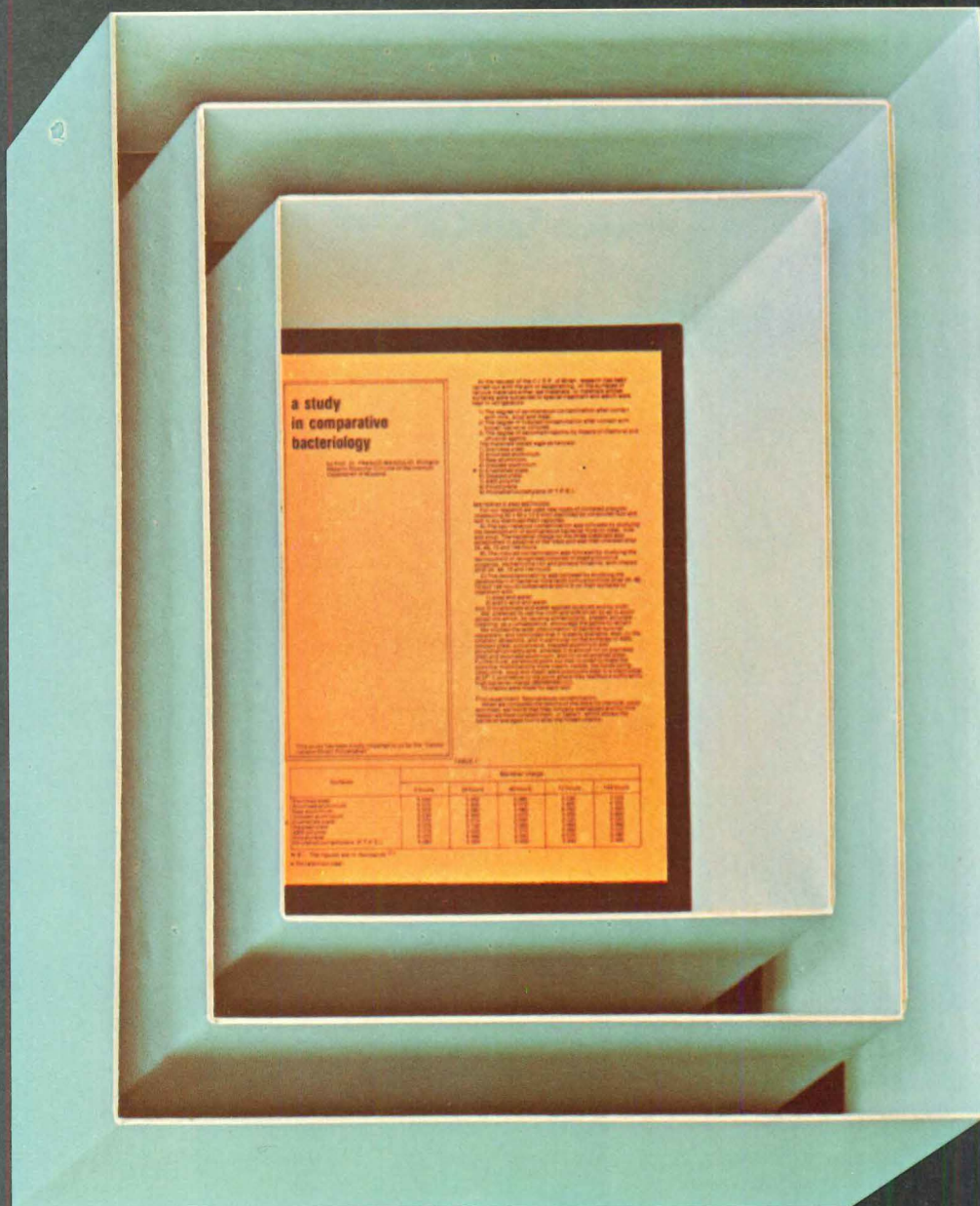
DFW is the most thoroughly planned air facility ever constructed—and that includes the lighting. The cooperation of developers, consultants, contractors and distributors made this gigantic undertaking possible.

As one airport official put it: "We wanted the best lighting for our money, and we got it."

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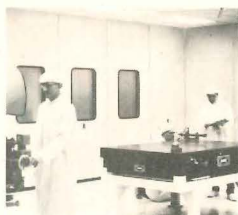


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A NEW
WALL COVERING
THAT FURTHER
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Bacteria never did have much of a chance for staging a population explosion on porcelainized steel. And now, with the introduction of Vitriform 90, bacteria have 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.

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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.

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.

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E CUBE 75

THE COMPUTER PROGRAM THAT NOW DOES MORE TO SAVE ENERGY AND MONEY.

The new, improved E CUBE '75 produces an accurate, three-part Life Cycle Energy Analysis at low cost. With many new features it computes the hour-by-hour energy requirements of your building or planned building for an entire year — taking into account all weather, design, operation, and occupancy factors.

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E CUBE '75 can now handle Variable Air Volume (VAV) systems directly. It also offers expanded treatment of Multizone, Dual-Duct, and Reheat air distribution systems. The energy consumption of various air side systems can be predicted — you can compare their performances and costs, and pick the one that's best. Other improvements make E CUBE '75 more complete and easier to use.

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tems that will work most efficiently and most economically for you.

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E CUBE has been a big help to thousands. And the New Improved E CUBE '75 can help you even more to make the right decision. Right financially, and right for conserving America's energy.

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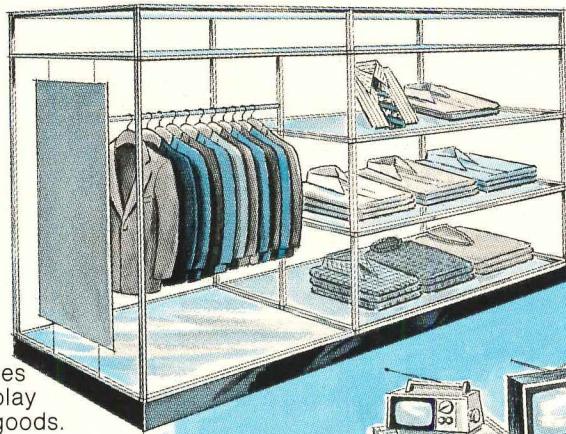
**ENERGY CONSERVATION
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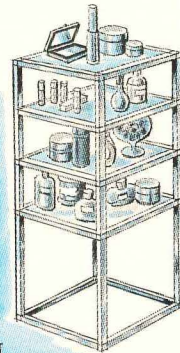
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MEG modline II

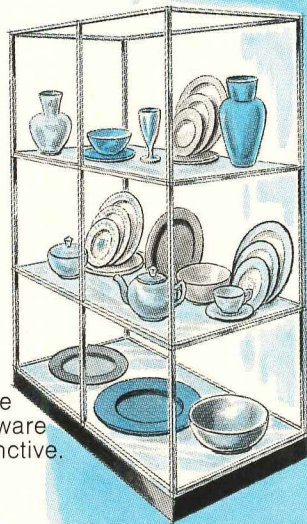
A tubular chromium display system with a brilliant finish that's easy-to-assemble. And at a low cost that will surprise you.



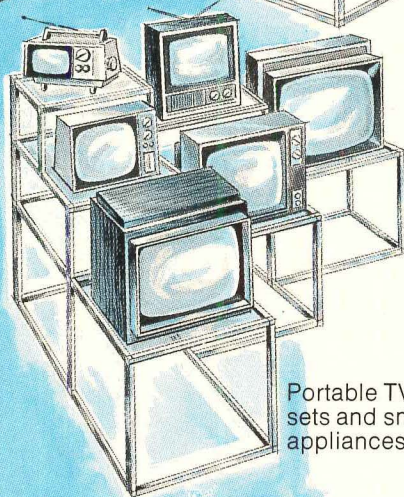
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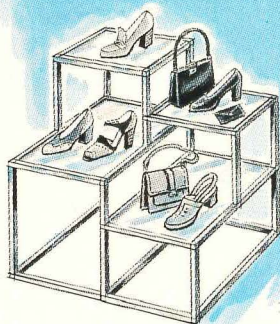
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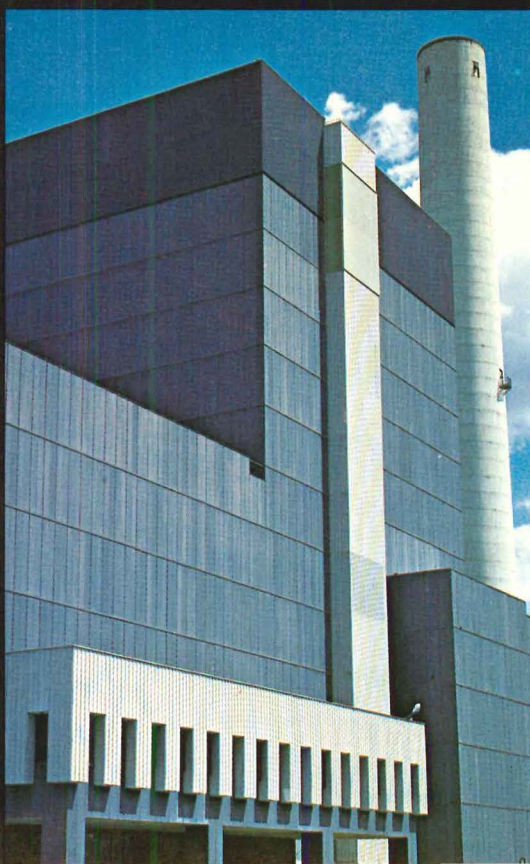
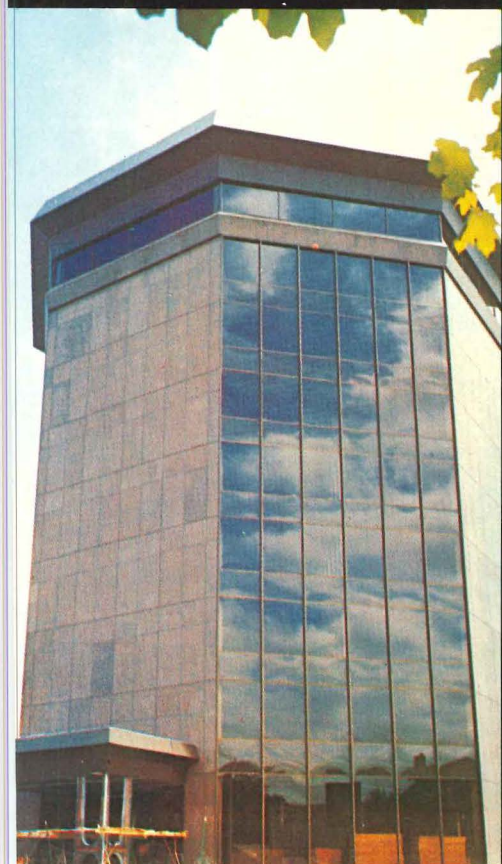


Write or call: Merchandising Equipment Group, Inc.,
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The look is warm. The design is soft. Clean. Uncluttered. Gently rounded and trimmed in polished chrome. Finished with meticulous detailing in natural wood veneers, soft leathers or acrylic enamels.

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Series 9000 is a unique group of office furniture that will bring a new look to your office and a new standard of performance. We call it the next generation of office furniture.

You'll find Series 9000 on display at your Steelcase Dealer and Regional Office. They're listed in the Yellow Pages.

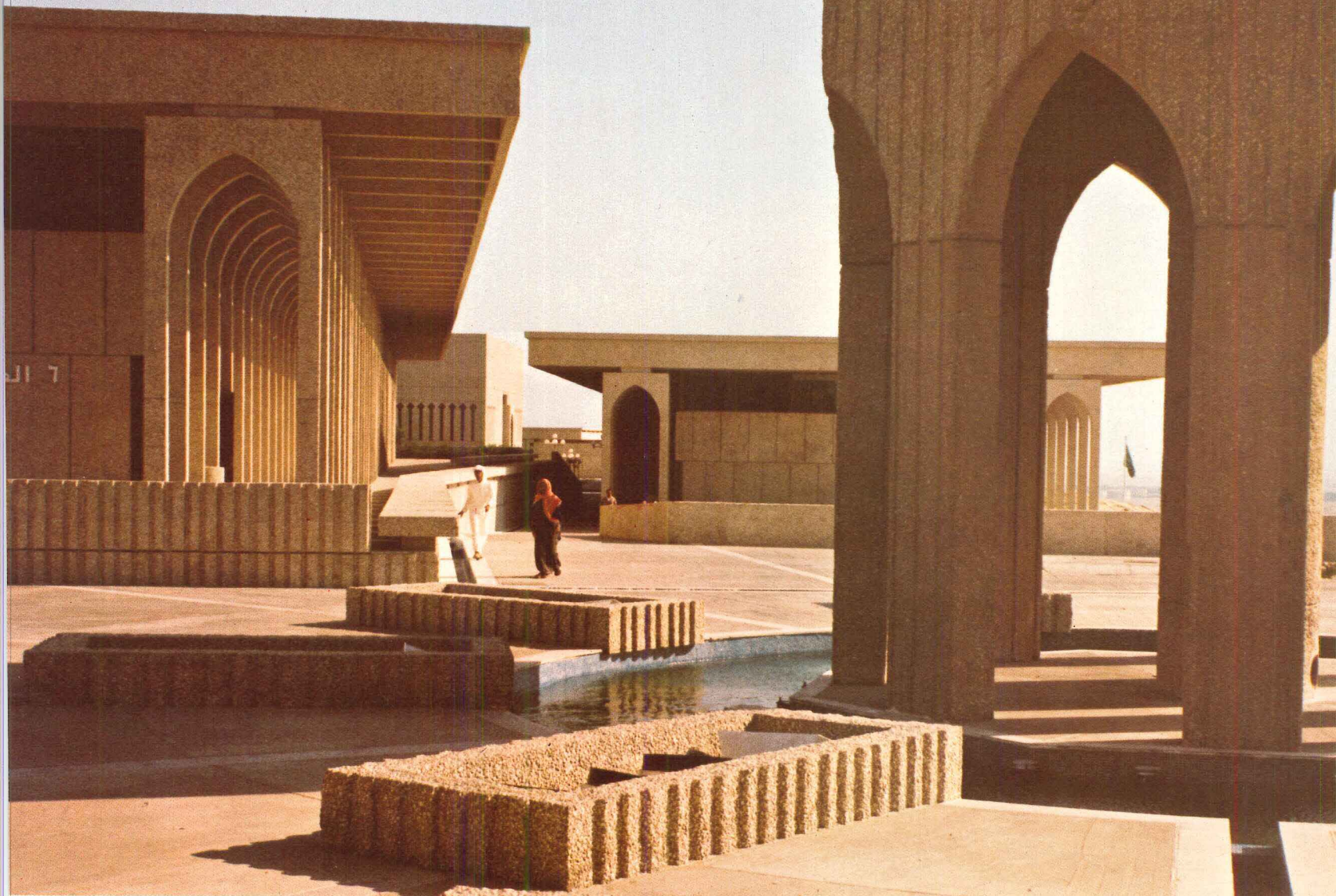
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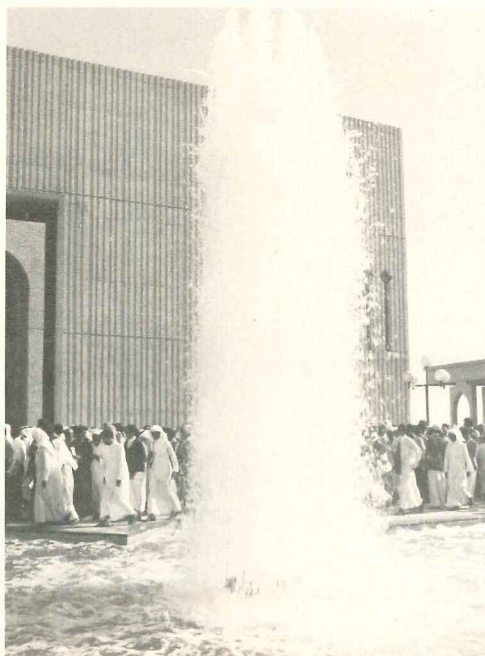
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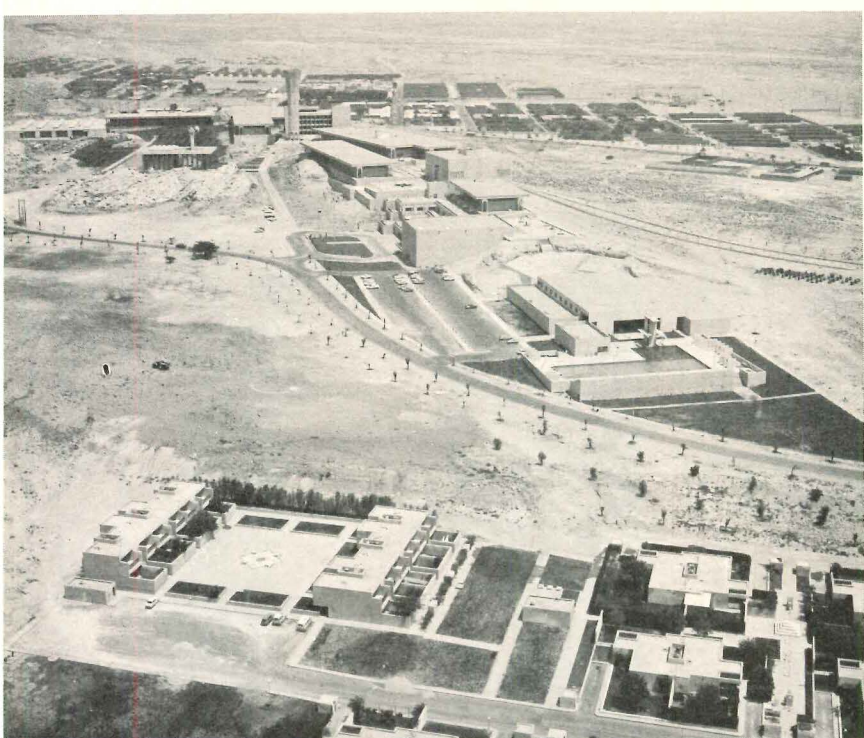
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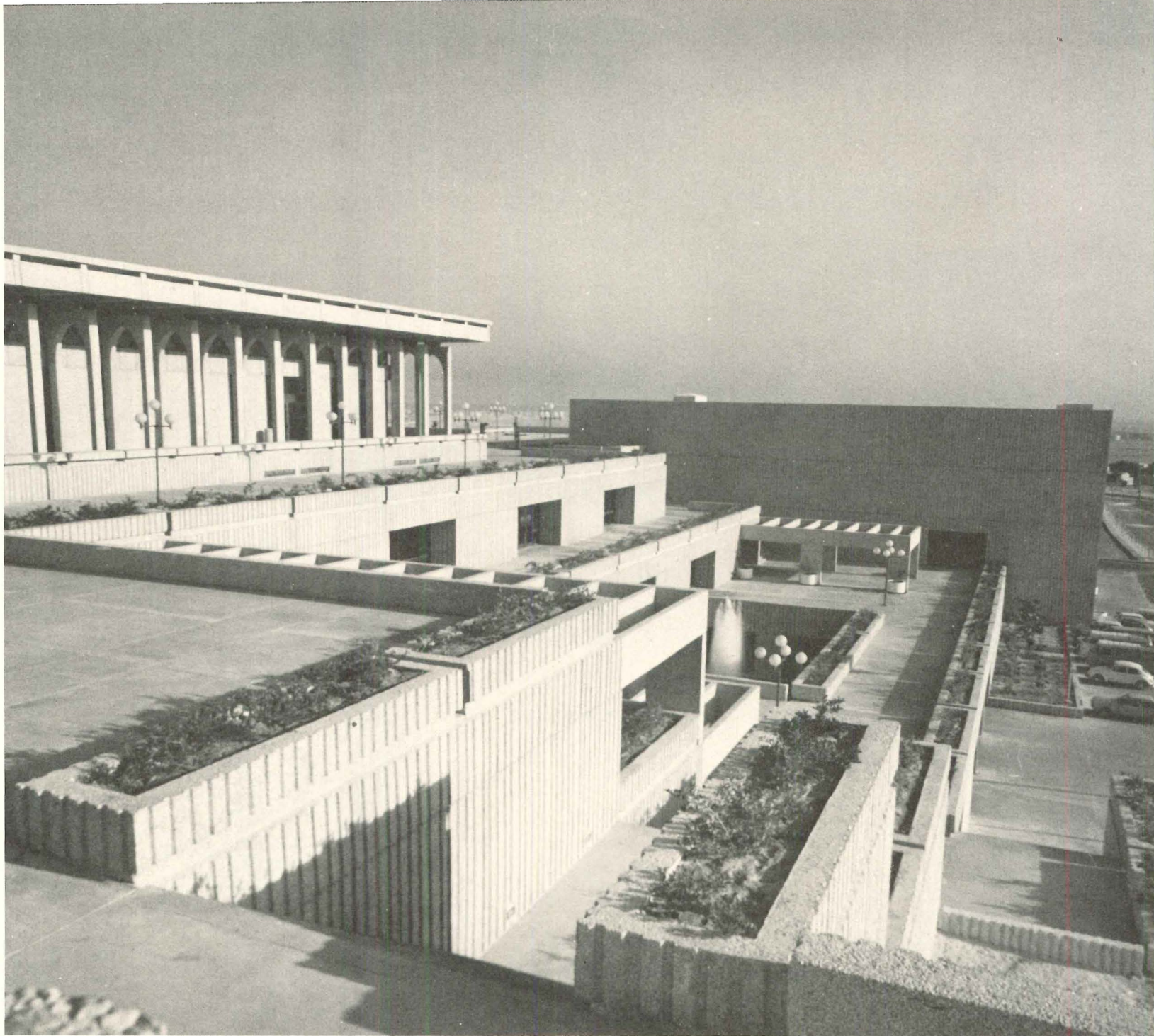
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CAUDILL ROWLETT SCOTT'S
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FOR A SAUDI ARABIAN
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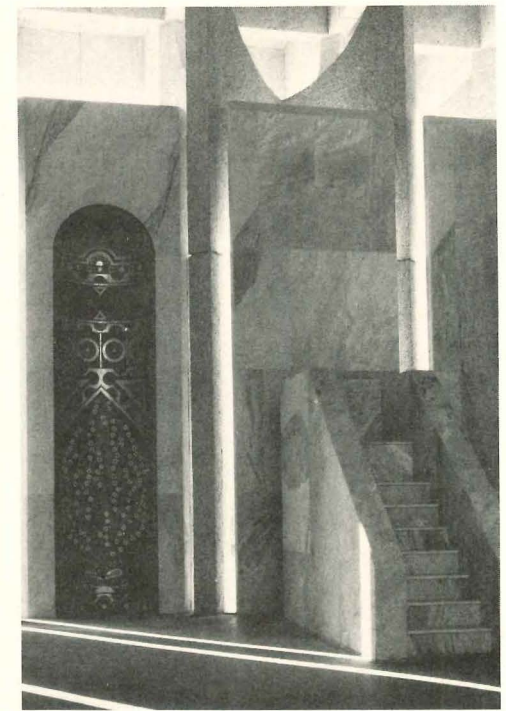
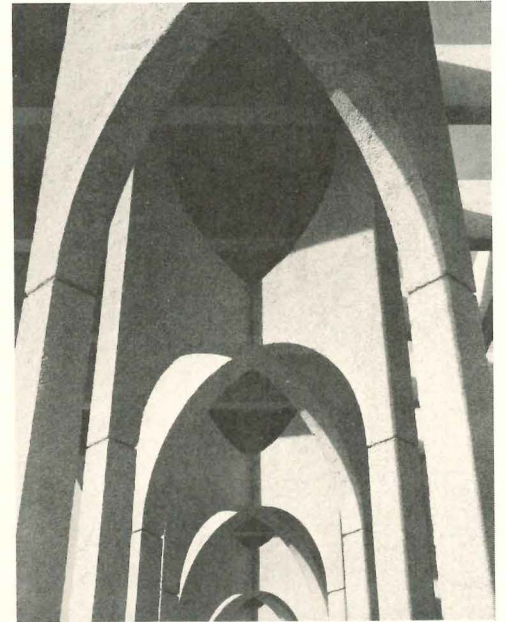
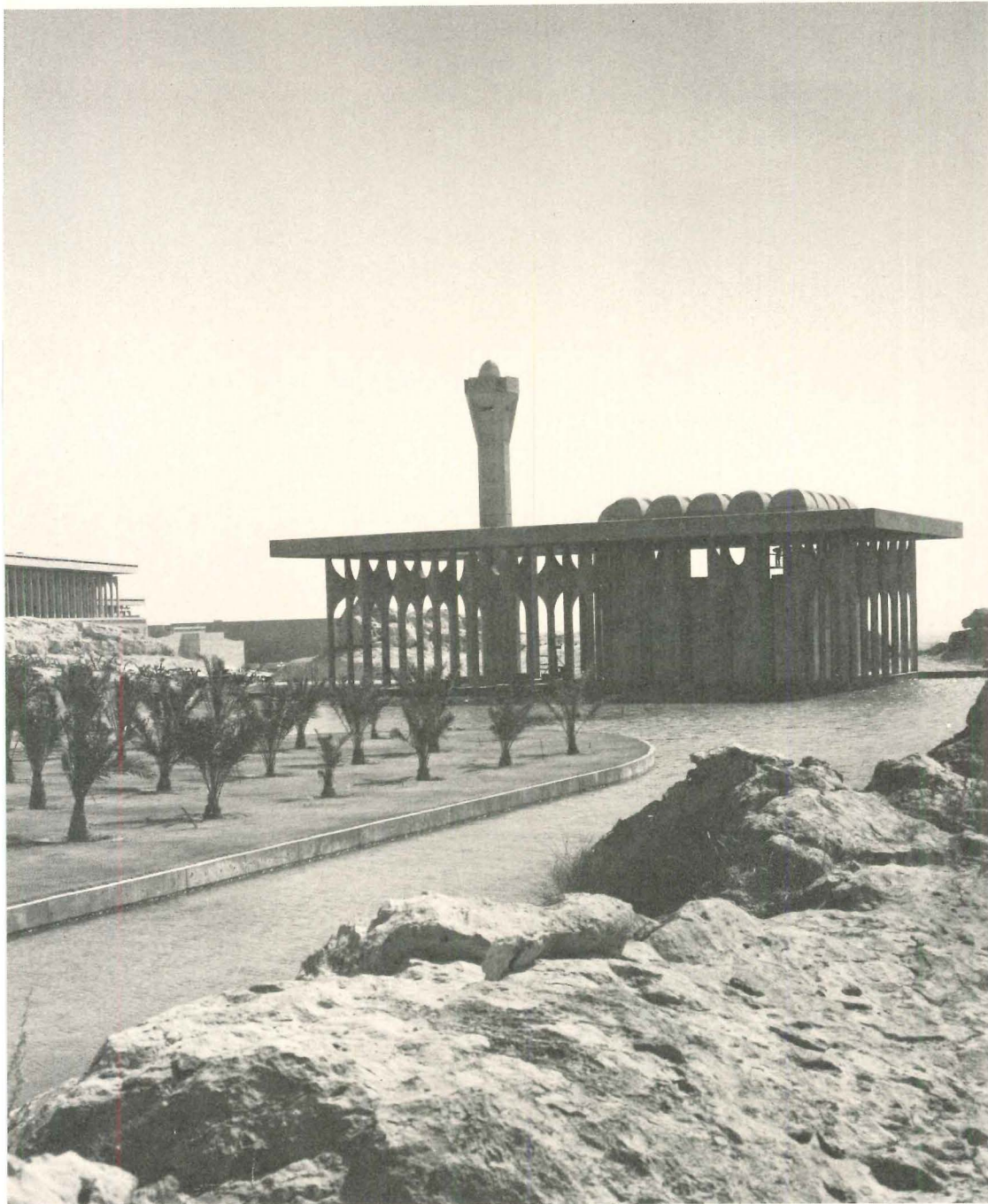
The buildings shown on these pages constitute the incomplete core of a complex that is rapidly covering most of its 1,300-acre site. And even at this evolutionary stage, the University of Petroleum and Minerals graphically represents the growing pride and aspirations that the Saudi Arabians hold. For while not overly large by Western standards, the classroom, laboratory, and other buildings shown here represent enormous determination on the part of the client government and of architects Caudill Rowlett Scott to create outstanding architecture under almost impossible conditions. And it is these conditions and results that will be of primary interest to architects undertaking new work in this burgeoning area.

Site selection, with some all-new criteria, was the first difficult task. Work for CRS began over 10 years ago with their technical assist-

ance in selecting a site. The final determination was motivated by proximity to the headquarters of ARAMCO (the nation's largest oil producer) immediately to the west, which allows an interchange of technical facilities and—initially—use of established means for sewage treatment. The existence of electric and telephone lines was another factor. Site selection was also motivated by proximity to the original campus to the east together with existing housing and dormitories to the north (visible at the top of the aerial photo), and by the presence of the local main highway (between the old housing and new campus) from which the new buildings can be seen impressively “riding” the top of a 100-foot-high ridge.

Wind control was a primary concern in siting. While the impact of the view from below—and the far-ranging views from above—were pri-

mary psychological factors in the elevated site, the L-shaped jebel (resembling the mesas of the American West) has an even more important effect in this area: ameliorating the effects of the wind. Constant winds of up to 23 miles per hour—with periodic much higher speeds—carry sand and discomfort from the north. The ridge serves as a natural buffer for the man-made oasis, the “heart” of the plan, surrounding the mosque, and raises the buildings above the drifting sands. Where interruptions in the ridge occur, the buildings have been built to fill them, as in the case of the faculty and student center, on a podium of rooms opening westward toward terraced courts (photo, above). The library and classroom buildings 6 and 7 are visible in the photo, opposite. Ongoing work includes 800 dwellings (the first phase is visible in the foreground of the aerial photo) to accommodate



element, the pointed arch, in a manner that produces functional efficiency—as described before. For the support of the open arcade surrounding the marble “box” of the mosque and its open forecourt, containing the minaret (photos, above), the arches are crossed in a manner even more strongly reminiscent of the arcades surrounding traditional religious and educational compounds.

But the biggest accomplishment of CRS may have been getting the buildings built at all. As described in *RECORD*, June 1975 (pages 101-108) most areas of the Middle East countries do not have the labor or materials for large construction projects—especially those to be built by the technical standards of the West. With the exception of concrete, concrete block and terrazzo, almost every component of these buildings had to be imported from outside the

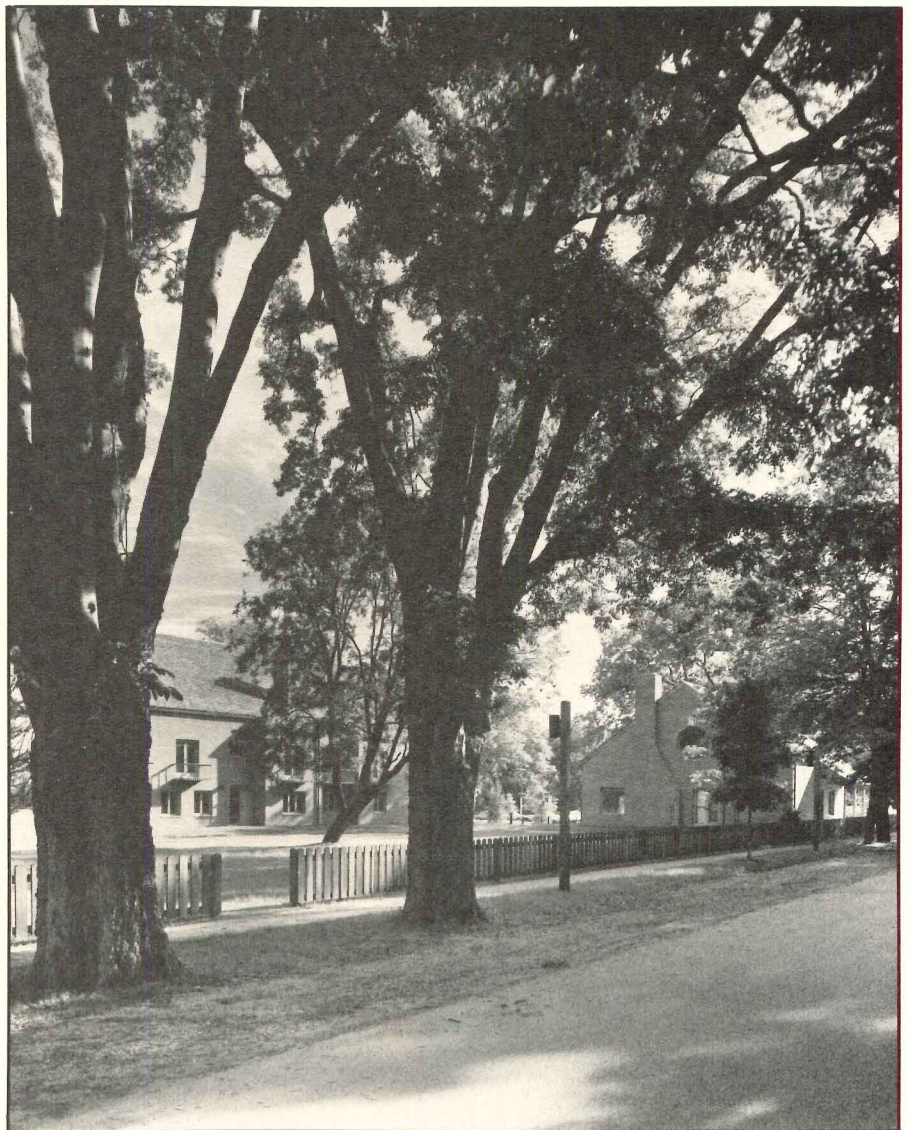
country—and mostly from the United States. U.S. products range from masonry reinforcement, waterproofing materials, roofing, mechanical equipment and insulation, to glass, finishes, hardware, tile, all furnishing and laboratory and data processing equipment. While the site is fortunately close to a local port for delivery, unloading clearances can take over six months, and delivery required careful forethought. The control of poured-in-place concrete, the primary current local construction medium, was the subject of another early study by CRS who brought in specialists Architectural Concrete Consultants, Inc. Consultant James Shilstone states that he saw concrete poured for one local building with the only available cement (from various countries) ranging from black to yellow—a serious problem for CRS who early determined that exposed concrete finishes were the only

feasible ones. (The use of local marble was rejected because it is available in only small sizes.) Strength of concrete was another problem (especially for the 48-foot spans), as no local standards had been developed which considered (for instance) the high temperatures or salt content of local water. The testing for foundations in the porous local rock had to be conducted carefully with few known guidelines. Again and again, the architects emphasized scheduling with flexibility and on-site control.—C. K. H.

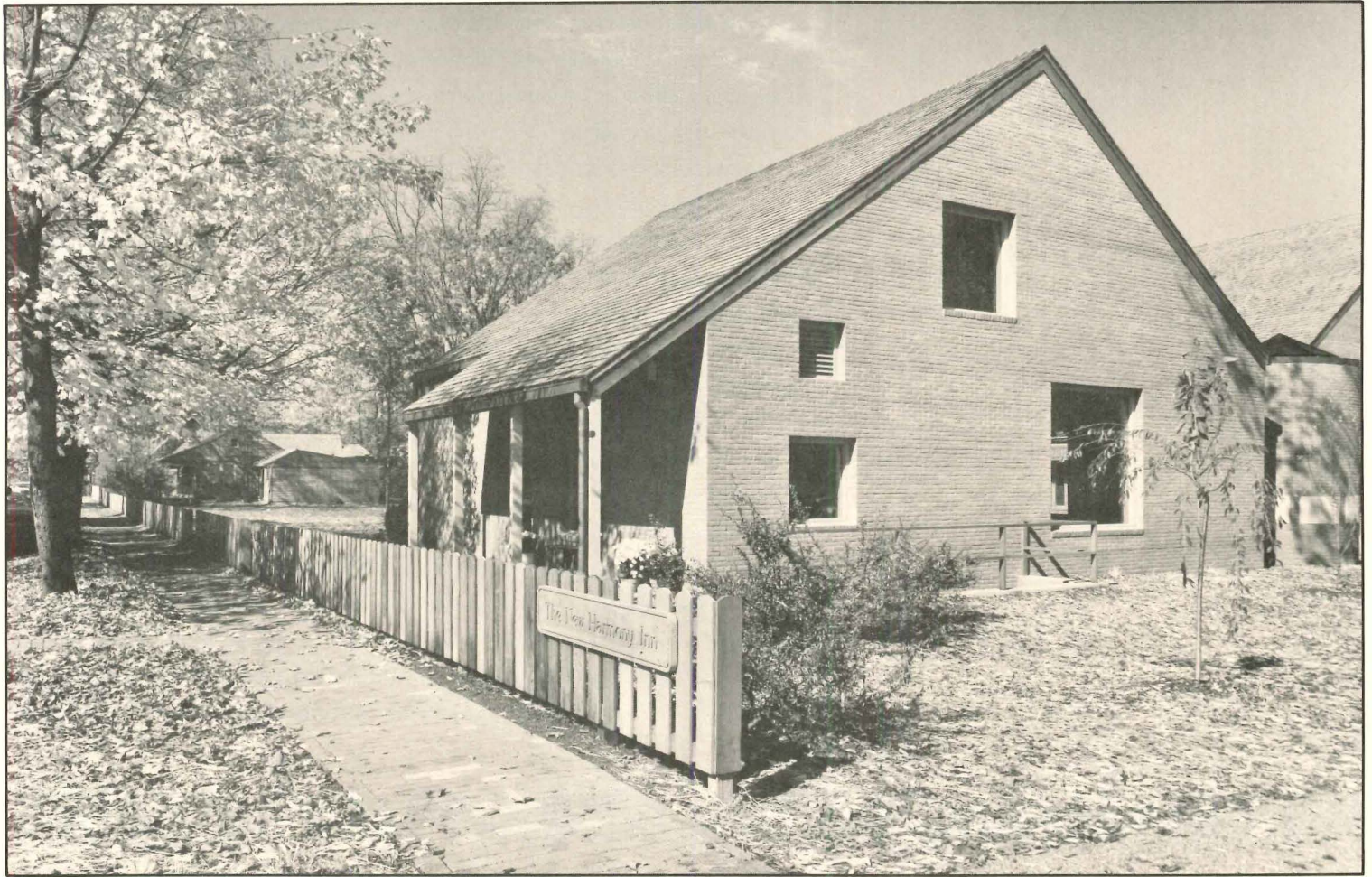
UNIVERSITY OF PETROLEUM AND MINERALS, Dhahran, Saudi Arabia. Architects: *Caudill Rowlett Scott—Charles E. Lawrence, designer; Joe B. Thomas, partner-in-charge.* Consultants: *Dr. C. P. Boner, (acoustical); Jules G. Horton Lighting Design, Inc. (lighting).* Landscape architect: *Grace H. Kirkwood.* Contractors: *Taisei-Jindan and The Consolidated Contractors Company S.A.L.*

Evans Woollen describes his firm's design for the new New Harmony Inn in New Harmony, Indiana, as "situational" architecture—an architecture that bends every effort to be particular to the place where it is built. In this case the place is a midwestern town of some 900 people, founded in 1814 by a communal sect of German Lutherans who called themselves Rappites. Ten years after the founding, the Rappites, having erected buildings in the manner of the men's dormitory shown in the small photograph on the following page, sold the town outright to Robert Owen, a wealthy cotton mill owner in Scotland, and they moved away. Owen hoped to found a utopian society based on universal education, and, though the communal aspect of his experiment was finally a failure, New Harmony survived as an important intellectual center well into the late nineteenth century. Much more recently, at the instigation of the wife of a descendant of Robert Owen and of architectural historian Ralph G. Schwarz, New Harmony has become the subject of renewed development—the result of a whopping \$21 million investment to turn it into an important center for tourism and educational programs (without, it is hoped, the chaotic consequences that sometimes attend such endeavors). The new 45-room inn is a major part of this refurbishing. According to Woollen, the first design, eight years ago, for a site just outside the town, was strongly neo-Corbustian. Though it was in the end not built because the land could not be ac-

THE NEW HARMONY INN: A TRIUMPH OF MODESTY



Balthazar Korab



George Csereza

quired, it elicited strong reactions. "It had a lot of amenities," says Woollen, "but nothing to do with New Harmony; people thought something would be lost if it were built." The town itself has several strong and readily identifiable qualities. The older buildings are no more than three stories high, and the important ones are made of brick, while the less important ones are of wood. None of them, moreover, seem quite as memorable as the over-all *format* of

the town, which is characterized by streets lined with beautiful old trees.

The new inn is designed modestly to reinforce the existing situation. "By virtue of its having been off the beaten track, there is a built-in respect for context in New Harmony," Woollen says. "People in the 1870s went right on building like they had in the 1840s; their own world was bigger and more real than the world outside. It was as though a bell jar had

been put over the town—and with the inn we did not want to let too much air in."

Thus Woollen Associates' design for the inn, because of its effort to be particular to New Harmony, stands in contrast to its designs for other projects, like the Pilot Center in Cincinnati (RECORD, October 1975, pages 81-86) or the Indiana University Arts Center (RECORD, February 1973, pages 119-124). Some will also note that it stands in contrast to Philip

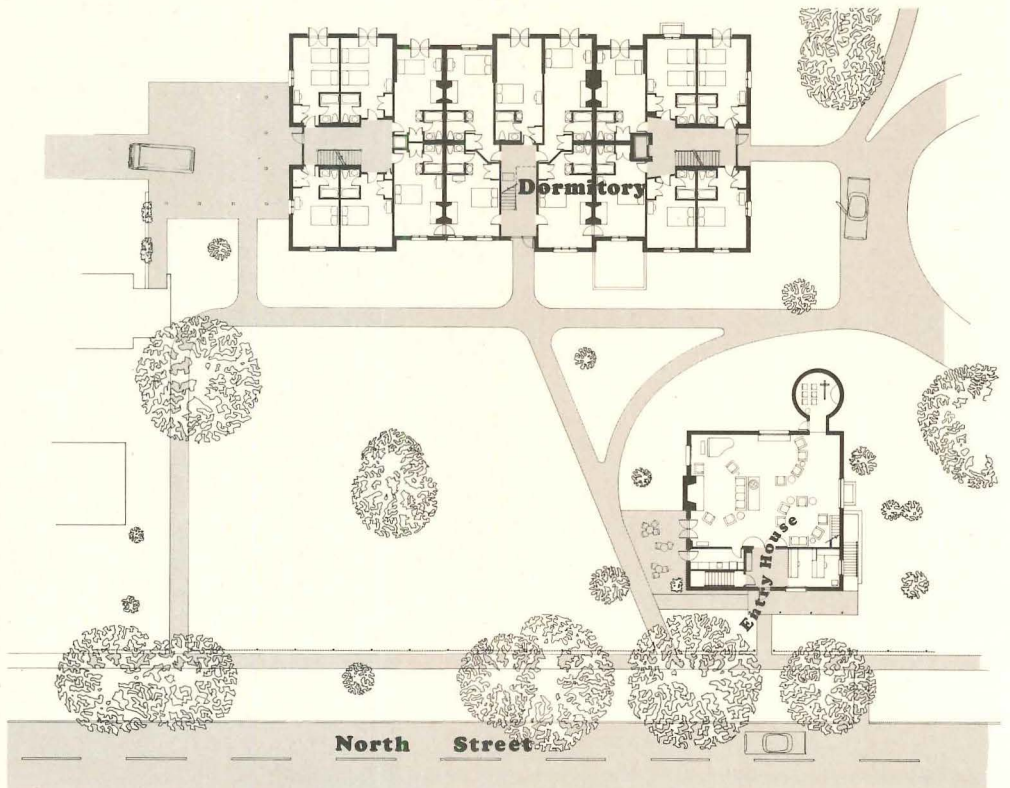


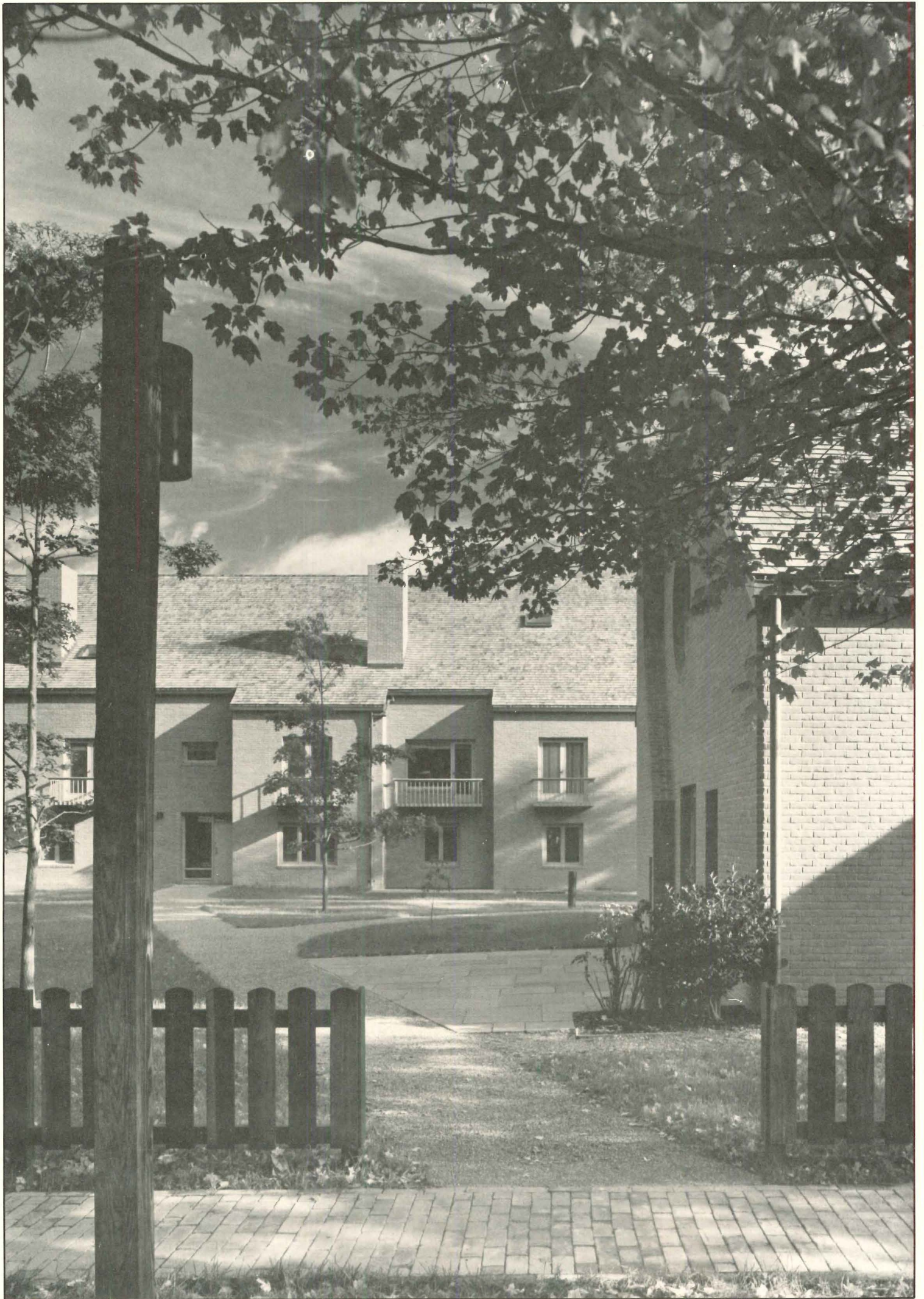
Douglas Gillespie

Original Rappite Dormitory; below, Inn and "roofless church"



Camera Arts Studio







Balthazar Korab



George Cserna

Johnson's famous "roofless church," which is virtually next door to the inn and which can be seen in the lower left hand corner of the aerial photograph on the previous page. (Recent reports indicate that the unfortunate deterioration of the church's ten-foot wall, and its consequent reduction in height by about half, have resulted in a happier scale relationship between it and the rest of the town.)

The New Harmony Inn consists of two separate buildings. The smaller one, and the one nearest the street, is the entry house, and it contains a registration area, a lobby and a small chapel in the rear. The lobby, which is shown in the photograph on the left, is large enough to encourage meetings, lectures and small concerts; and chairs, which are stored on the balcony level, can quickly be brought in for

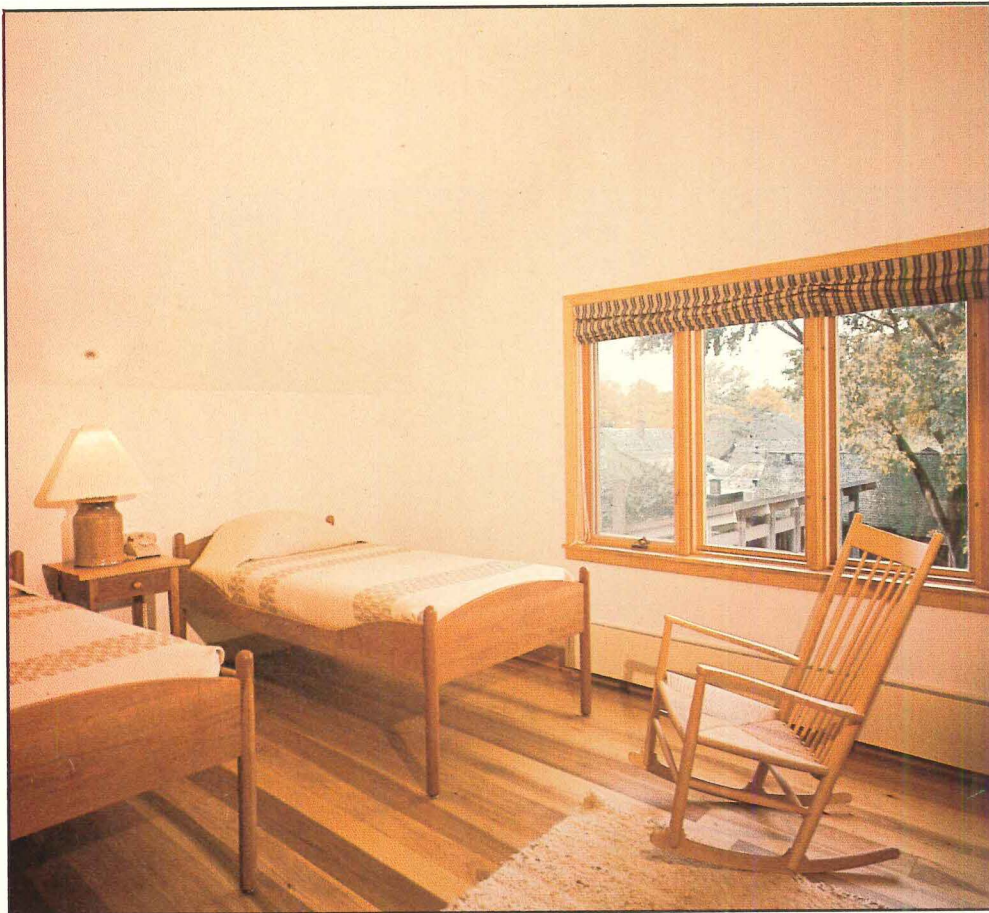
these purposes.

The larger building—or "dormitory" in allegiance to the lore of New Harmony—is organized not along long corridors, but according to the entry system, with rooms opening directly onto one of three stairways. One of the double-height suites on the third floor of the inn is shown in the photograph above.

Woollen Associates' design for the New Harmony Inn seems in every way "situational"—responsive to the context and the traditions of the place where it is built. But that raises a very important question: in being so modest, so particular to the place, is it being particular to *itself* (presuming, as architects usually do, that buildings are each meant in some way to be quite special)? Certainly no one would argue with the basic good sense of

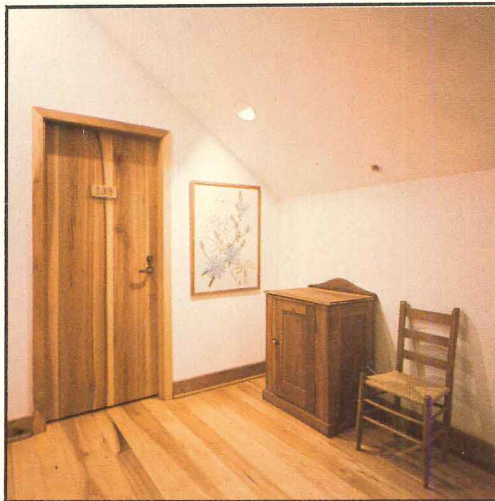
Woollen Associates' approach. But it is easy to wonder whether their example will or should be followed by other talented professionals who will assist in New Harmony's current rejuvenation (including New York architect Richard Meier, who has been commissioned to design a new visitors' center). Whether or not the "situational" approach here satisfies everyone's expectations of what architecture should finally be, it seems eminently worth pointing out that that is certainly where it well must begin.—Gerald Allen

NEW HARMONY INN, New Harmony, Indiana. Architects: *Woollen Associates*. Engineers: *Robert Crooks* (structural); *D. A. Boyd Company* (mechanical and electrical). Consultant: *Kane and Carruth* (landscape). General contractor: *Chris Nix Company*.

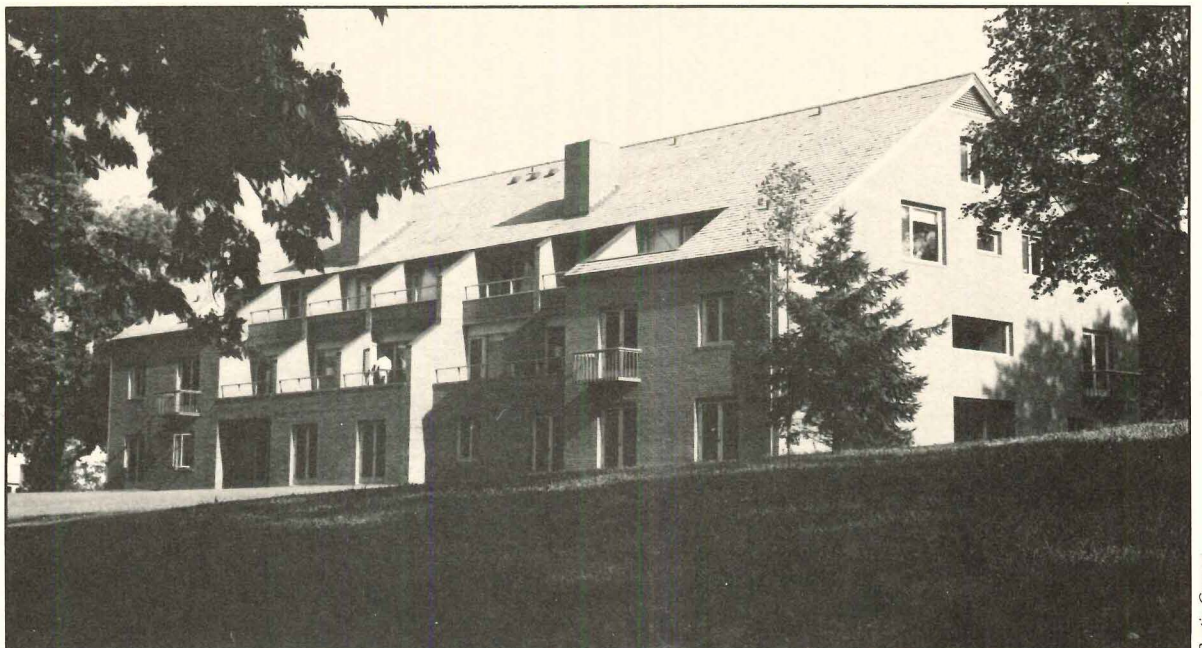
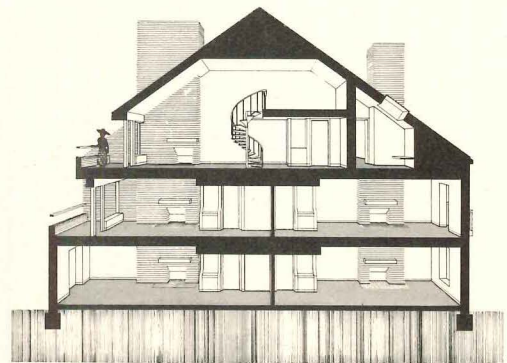


George Cserna

The section on the right, taken through the Dormitory of the New Harmony Inn, shows a typical configuration of rooms and the way some rooms open on the back side of the building to terraces with a view of the nearby river. The photographs above and on the right show the straightforward and almost traditional style of the detailing and the furniture. The beds were designed by Woollen Associates; other furniture was obtained from domestic and Scandinavian manufacturers and chosen for its basic simplicity. The photo below, right shows the back of the inn.



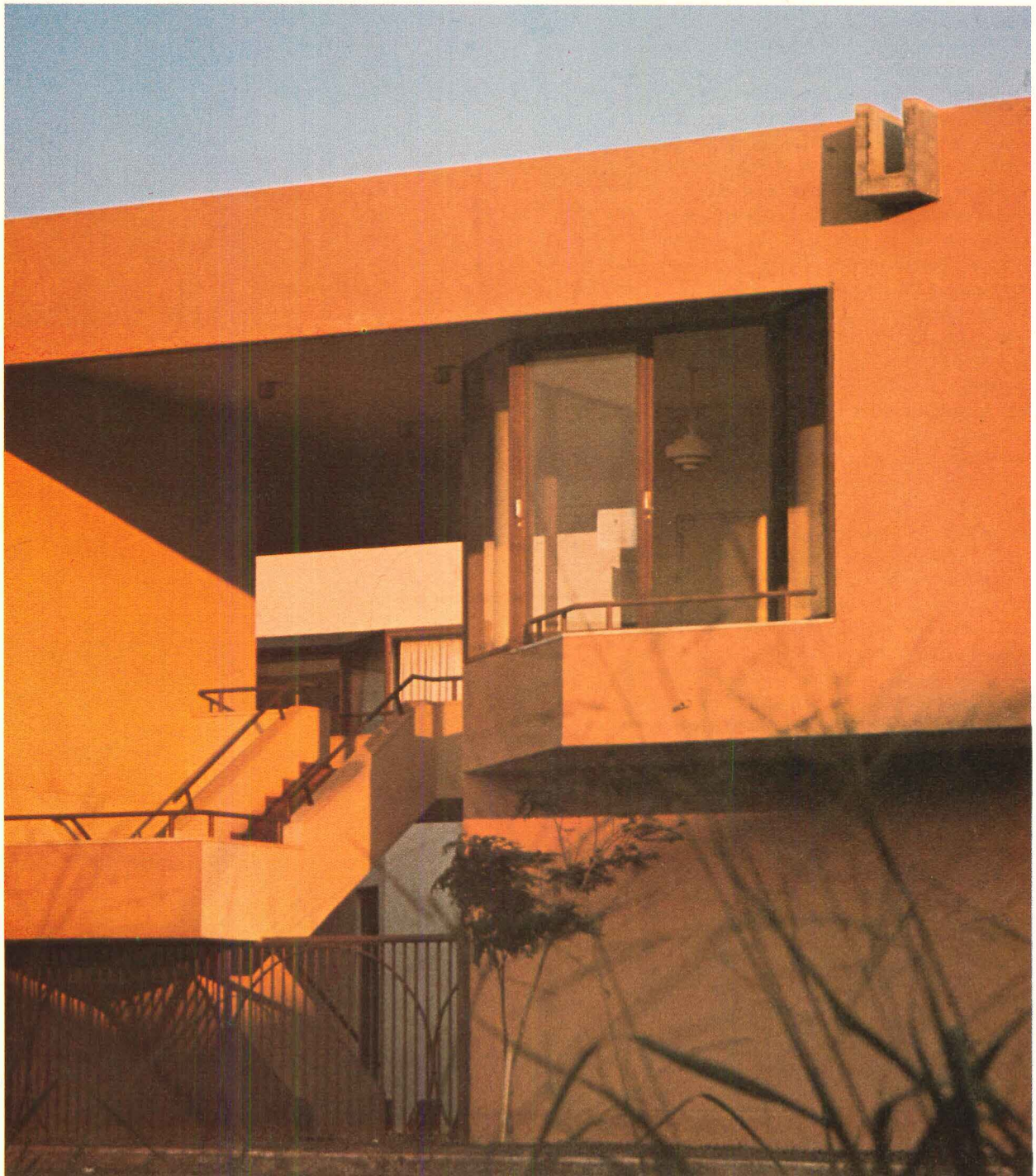
George Cserner



Rustin Cserner

Mitchell/Giurgola Associates: three bench mark buildings

Early in May, at Philadelphia, Ehrman Mitchell and Romaldo Giurgola, who have been working together for 20 years, are going to receive the 1976 Architectural Firm Award of the American Institute of Architects, which is gauged as much to the durability of a firm's philosophical framework as to the quality of its output. Mitchell/Giurgola, based at Philadelphia and New York City (Giurgola teaches at Columbia), can be gauged favorably in both ways. For this close-knit office, numbering about 50 people, has been making ends meet by gently prying loose those once-liberating, now-inhibiting precepts of "modern" architecture which, for so many, being ends in themselves, scarcely meet much less elucidate the naturally varied nuances of human emotion, need, and experience (page 117). The bi-national enclave called Casa Thomas Jefferson (below, overleaf), located at Brasilia, is an example of Mitchell/Giurgola's fascination with a building's physical and social context as the wellspring of formal properties, while the Columbus East High School (page 110) is a telling metaphor of mixed rural and industrial images. Back in Philadelphia, where the firm has newly housed the Liberty Bell (now isn't that something for an Italian-born architect?), the INA Tower (page 114), terse and metallic, comes down softly on its surroundings.—*William Marlin*



Casa Thomas Jefferson, Bi-National Cultural Center, Brasilia

It has been said that where there is no vision, there is a void. Brasilia conjures up both. A good place to go bananas over this pylon-studded polemic is on the upper tier of the rooftop amphitheater of Casa Thomas Jefferson, located in one of the city's more neighborly districts, and built by the USIA, always gung-ho for getting out good news, in collaboration with a local group called the Thomas Jefferson Cultural Council. Once not so hep about design, the USIA got out some good news here.

In contrast to the seething symbolism that one beholds from the rooftop, the Casa is a nice neat hit for humanism, with some of the spontaneity of a *favela* in Rio. A functional mix is contained within several two-level structures that are smartly scrunched together. Like iron filings, these fragments gravitate around a landscaped interior courtyard, a deliberately magnetic, unifying field of space with colorful flowers, exotic trees, and cooling pools of water.

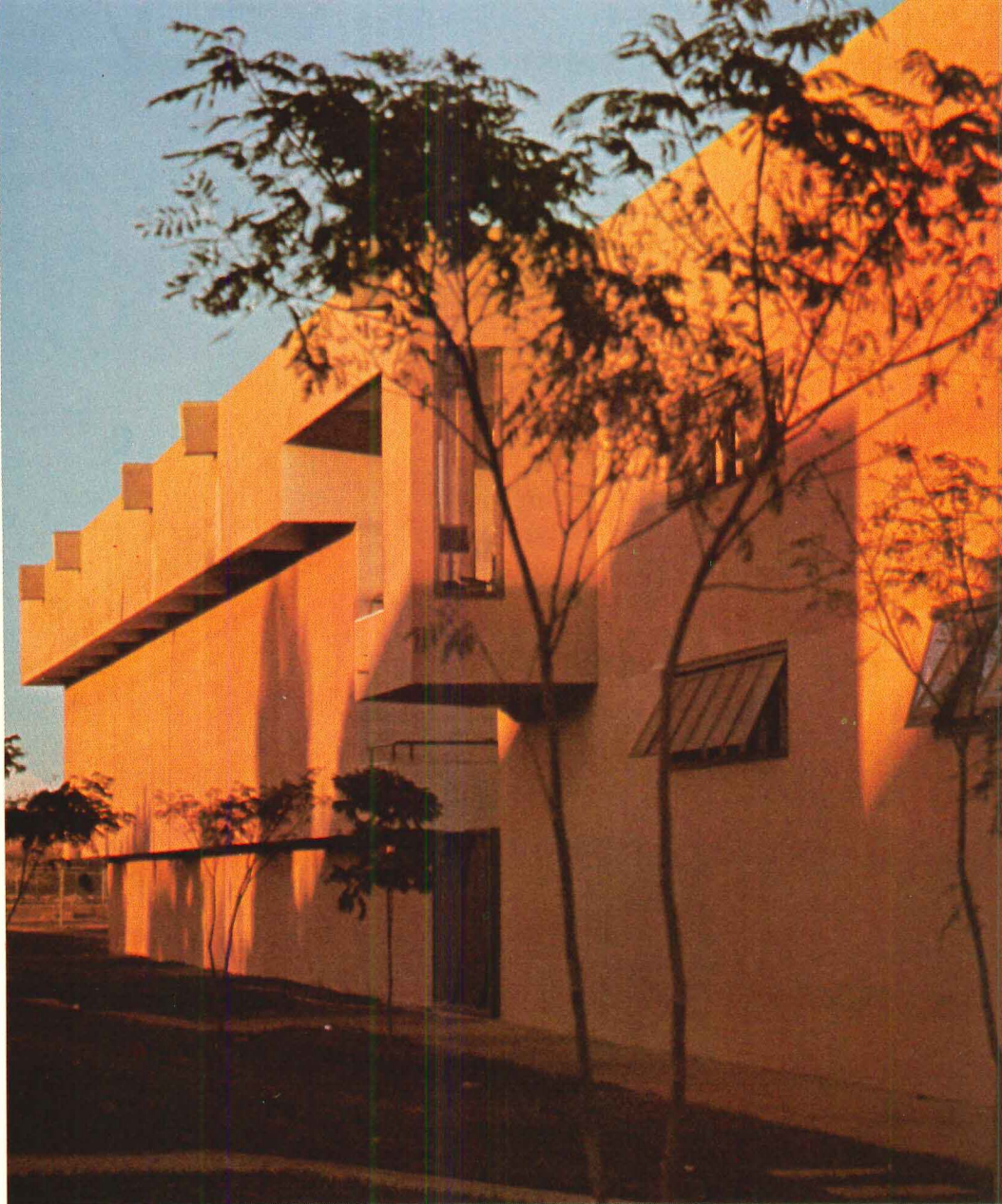
At several points, the courtyard seeps out to the surrounding streets in the form of shoulder-squeezing, slit-like walks which, cut between the fragments at the far corners of the over-all composition, offer intriguing glimpses inside. Wider entranceways are positioned in the middle, but on either side of the courtyard, second level overhangs give a sense of intimacy as one comes upon the inner space, supplying a clear clue to the complex, yet cohesive nature of the architecture that edges it.

The functional fragments contain 20 classrooms and two language labs; offices for the school faculty, the USIS, and the Fulbright program; a 25,000-volume library, just inside from an angular terrace; and on the other end of the courtyard, just inside from a second terrace where receptions and performances are held, a two-story-high, skylit exhibition hall. Seen through the skylight, the rooftop tiers of the amphitheater edge upward, and beneath it is a 250-seat multi-use auditorium. Interpenetrating lines of sight pull the interior surfaces, done in white, bright plaster, into a spritely continuum. The reddish-pink stucco of the exterior, the hue of local clay, closes around this variegation—both a countenance of and a check upon the traits of complexity.

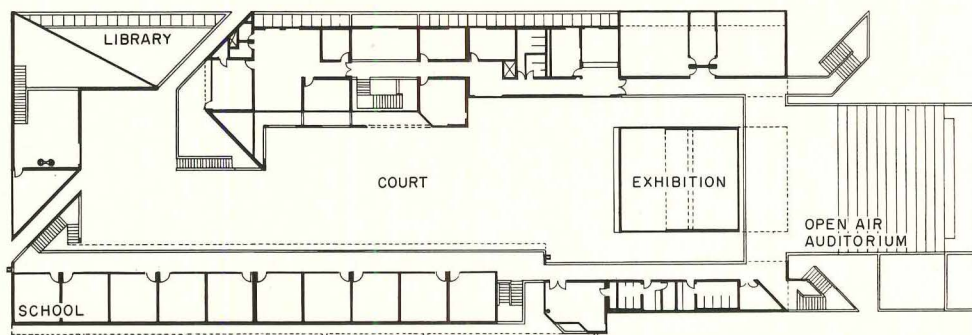
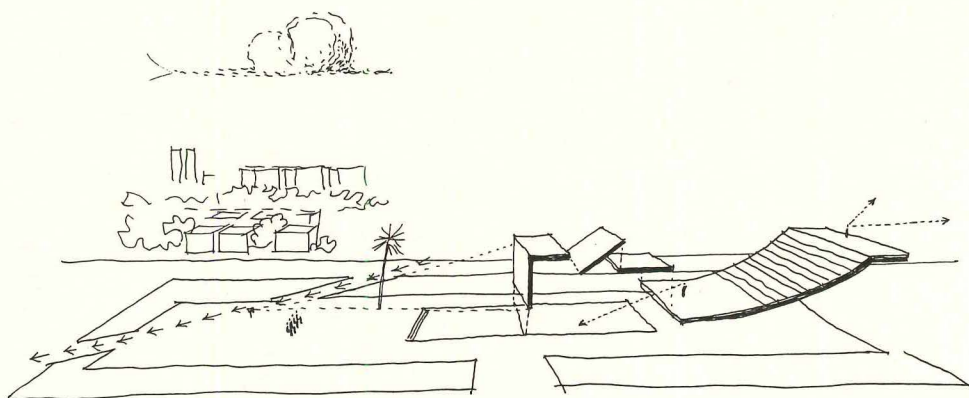
Embellished as the Casa is with sculpture, paintings, and crafts—part of a remarkable program of exhibits and lectures—its construction was deliberately kept simple: a reinforced concrete frame, with terra cotta infill walls, and poured floor slabs.

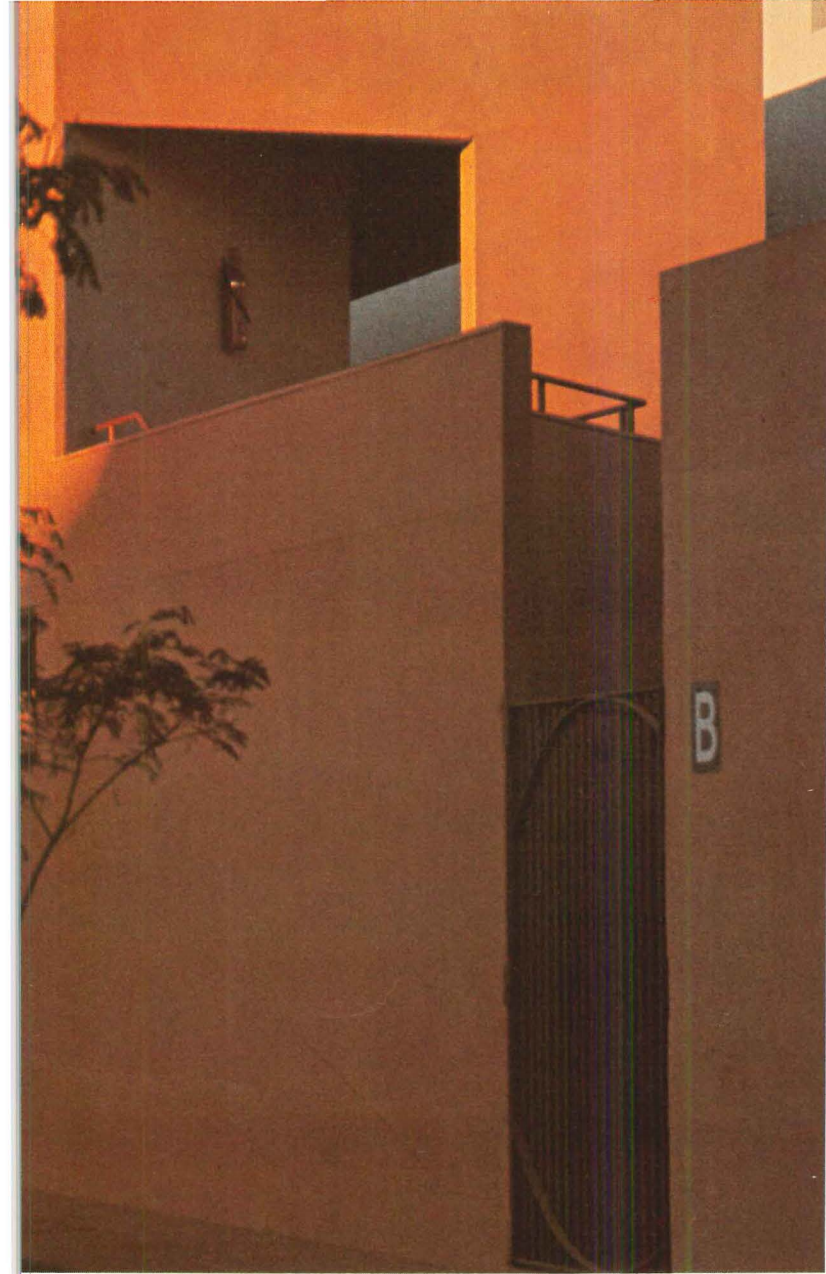
Local workmen felt at home from the start using local techniques, moving their families onto the site. The place is familial still.

CASA THOMAS JEFFERSON, Brasilia, Brazil. Owner: Thomas Jefferson Bi-National Cultural Council. Architect: Mitchell/Giurgola Associates. Associate Architects: Alcides Rocha Miranda, Elvin MacKay Dubugras. Engineers: Robert Silman, Jose Parisi (structural); Flack & Kurtz, Andre Czajka (mechanical/electrical). Contractor: Coencisa, Brasilia.

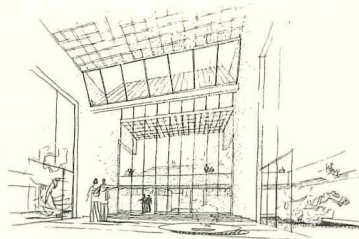


Dart Sageser

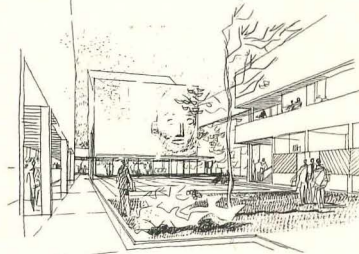




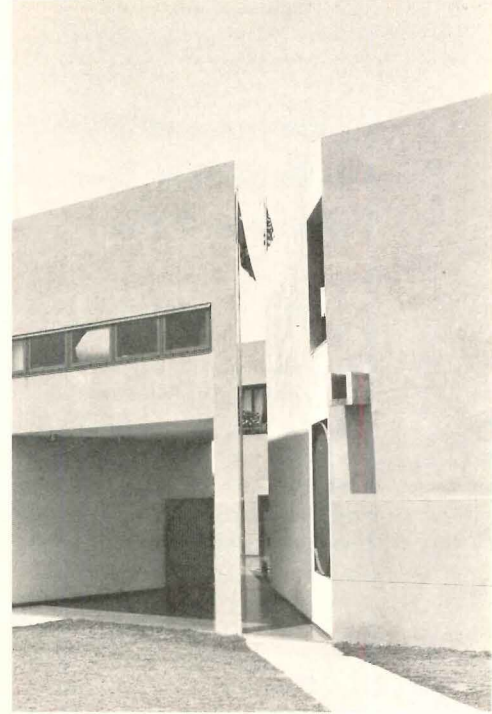
Manu Sasoonian



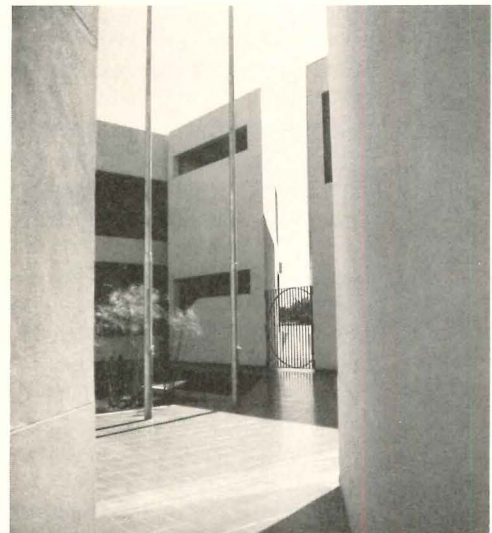
Romaldo Giurgola drawings



Unpretentious stucco walls set Casa Thomas Jefferson comfortably into its surrounding. Alternately low and narrow, entrances open into a lively, landscaped courtyard that discloses the functional fragments of the architectural composition. Entering one end of the courtyard, near the library (right) through slit-like walks, the exhibition hall is seen at the opposite end (bottom drawing, photo below right). Standing on the terrace in front of the hall (top photo, below), the plaster walls of the classroom and office wings ramble back toward the library. Inside the hall (top drawing), the rooftop amphitheater (bottom photo, below left) is glimpsed through a generous skylight.



Dart Sageser

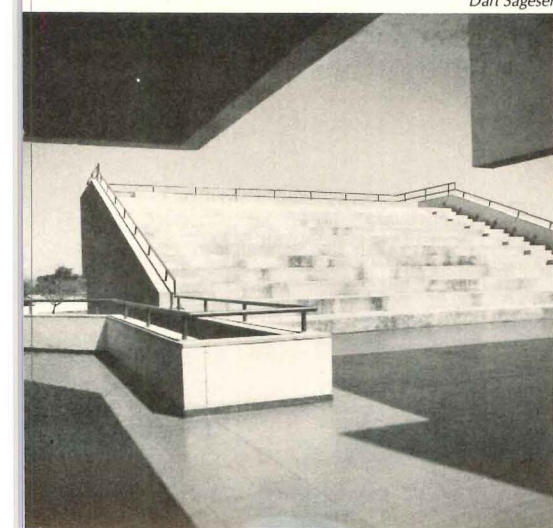


Dart Sageser

Manu Sasoonian



Dart Sageser



Columbus East High School, Bartholomew County, Columbus, Indiana

By now, good architecture is just so much ham and eggs round about this famous farming and factory town. In fact, by the late 1960s, so many well-known architects had built here that something of a myth developed—namely, that a museum-quality collection of fine contemporary architecture can assure a healthy, well-rounded, and vigorous community life, and that if you hadn't been asked out to Columbus to build something, you must be lacking. Which is a lot of baloney.

This new high school by Mitchell/Giurgola cracks a lot of books, especially architectural ones, which have tended to say dandy things about Columbus's "Shine On, Harvest Moon" affection for decent design. For though Columbus East is meant to be a contribution to that museum-quality collection, it nonchalantly tracks mud into the gallery by kicking up the conceptual sod with respect to what "pure" design really is. As it happens, the school is indeed "pure" to the extent that it is a no-baloney reading of the town's overlapping rural and industrial moods.

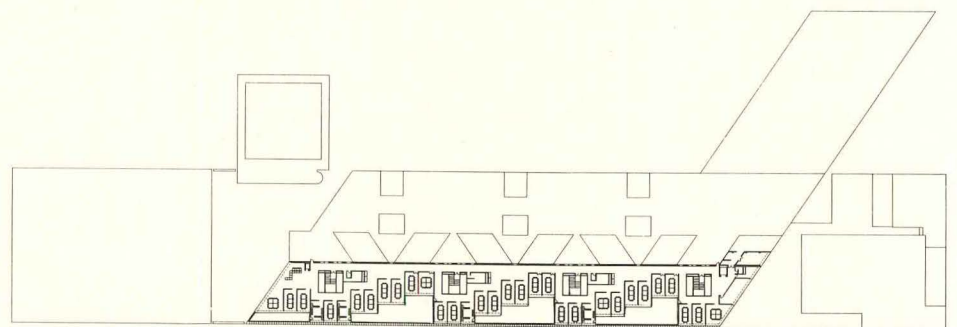
In no way is this a little house on the prairie; rather, it is several little houses beside and on top of each other. The over-all composition kicks up the sod like a prefabricated covered wagon, the prevailing impression being that of a machine-tooled, super-spiffy product of the latest technology rumbling across the site. The reason for this impression is that the external surfaces of the upper two floors, laid over a steel-frame module measuring 44 by 32 feet, are composed by aluminum sandwich panels with integrally gasketed windows that are flush with the external planes of wall. Sizeable stretches of window-wall are carried in aluminum frames and glazed with solar-grey panes. Lightweight, quickly installed, the gloss-white panels, being modular themselves, create a closer grain of scale, even as they express the large, flat, linear surfaces.

Whereas the upper two floors contain flexible-use space, thus suggesting the less determinant cadence that is established by the aluminum and glass, the more active, public spaces on the ground floor are for more specific uses, and this determinacy is expressed, contrasting cleanly, clearly with the facades above, by cladding of clay tile. This level, recessed beneath the upper two, evokes an almost old-timey image, while at the front of the main building, the round columns are several feet out from the masonry and create a long colonnade—good for waiting for the school buses at day's end.

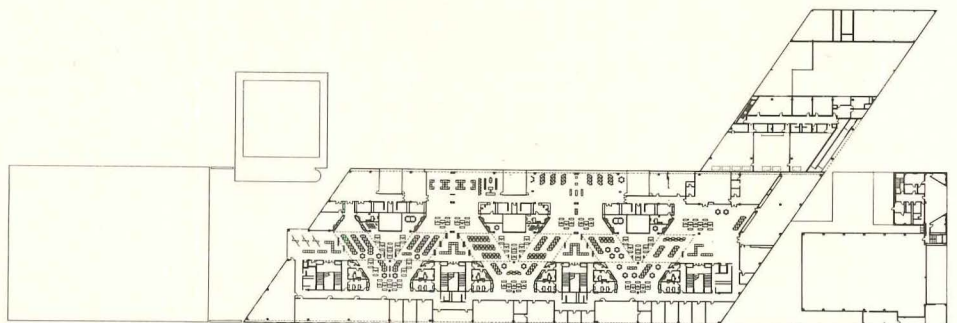
Designed for a student capacity of 2,100, and taking up more than 363,000 square feet, Columbus East, with its treatment of contrasting materials, was planned with another kind of module in mind—a module 15 minutes long. In addition to specific subjects of study, the architects had to consider various speeds and styles of study, ranging from the needs of the individual, to the level of the seminar, on



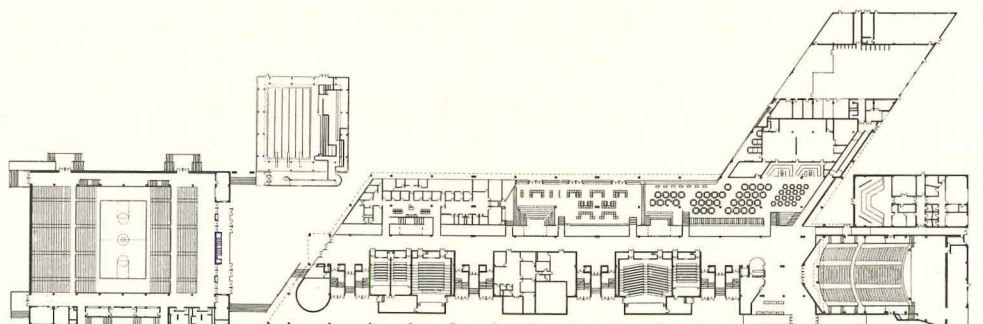
Rollin R. La France photos except where noted



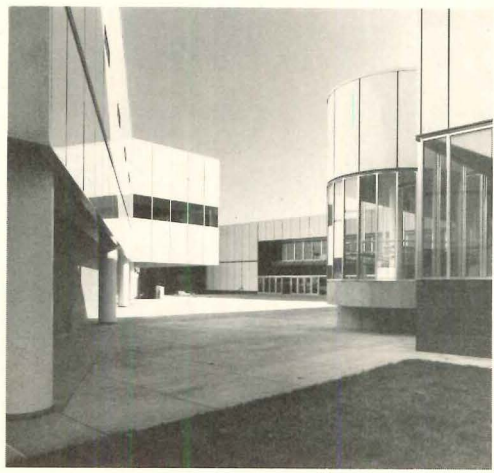
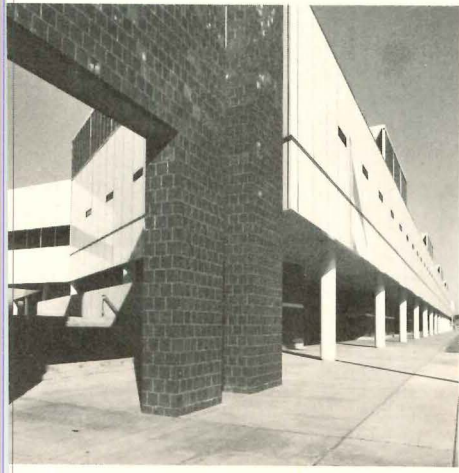
THIRD FLOOR



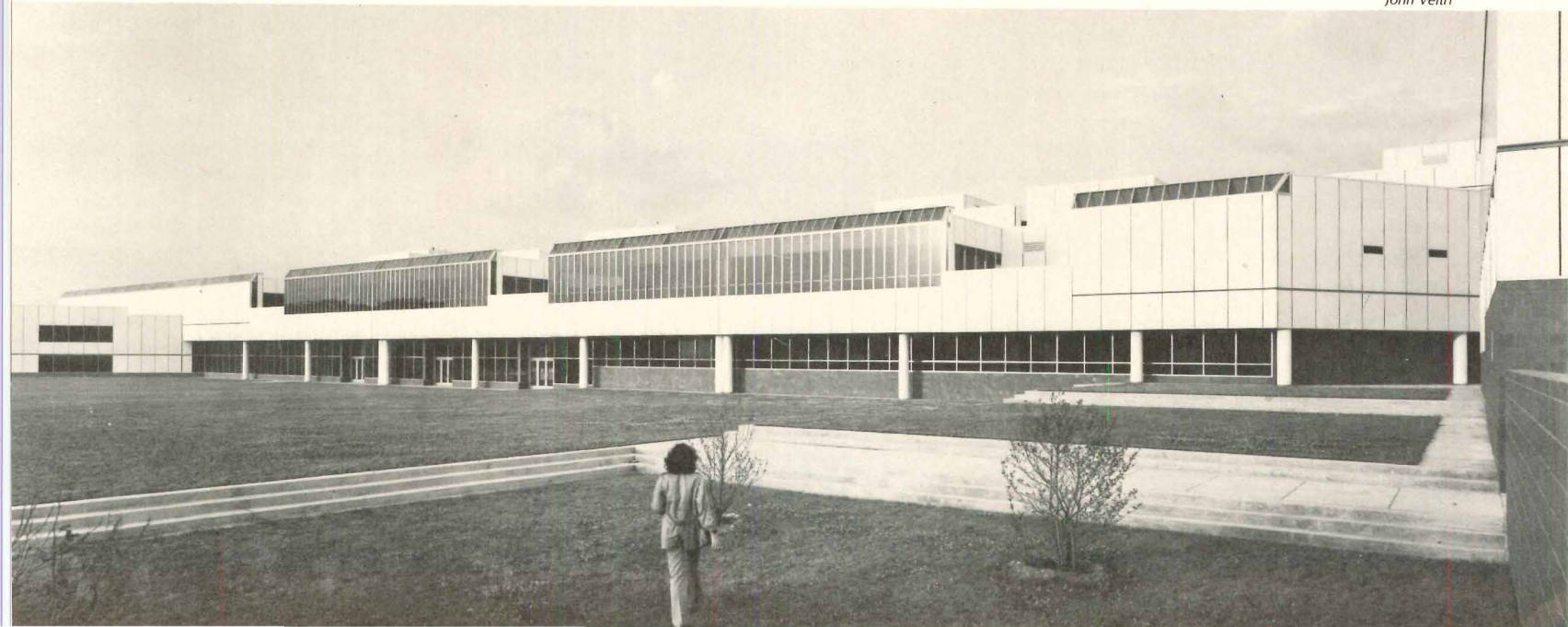
SECOND FLOOR



FIRST FLOOR



John Veltri



to the more familiar classroom format, and on up the hierarchy to general lectures. Studying the frequency and density of flow as students or faculty phase from one activity into another, the principle of circulation became the premise of design.

The ground level, as mentioned earlier, is functionally more determinant than the others. The lecture halls, and a bookstore, television studio, and planetarium are positioned here, as is a cafeteria which has direct access to an open, angular-plan common that is wedged between the main building and, right to the other side, a huge 5,000-seat gym and an enclosed pool. This last facility is covered by a retractable air-supported vinyl roof. The gym may be reached by crossing the common or through a tunnel beneath it. At the other end of the main building are a 900-seat auditorium, with adjacent space for musical instruction and, ranging off into the greensward at a ram-bunctious diagonal is a wing containing the cafeteria kitchen and, beyond that, an industrial arts shop. Vertical circulation is punctuated by the skylights above the stairwells which, reading on the exterior, denote the linkage of levels.

The second floor, adaptable for independent pursuit, contains resource materials, open stacks, studios and labs, departmental offices, and carrels closeby teaching stations for maximum accessibility between students and consulting faculty. The third-floor level is just the opposite from the one below in that its 33 seminar rooms, which can be thrown together if need be by moveable partitions, are meant to be quiet and intimate. An animal lab and greenhouse for the science department are tipped into one corner, and along the length of the building, wood-plank rooftop terraces are nestled between the set-backs of the seminar rooms.

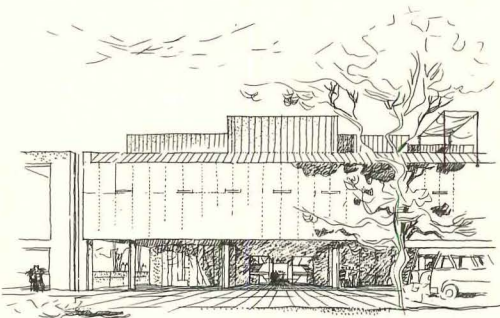
Columbus East is a reconciliation of disparate elements, both of its functional program and its community context. Its taut character reminds us that, for all the talk about "complexity and contradiction," there can be a still higher relationship—"complexity and complementarity."

While such theoretical and formal concerns may well smack of an ivory-tower approach, as critics of Columbus's "museum-quality collection" of buildings have charged, this particular ivory tower really comes down off of it and, coming in at a little over \$12 million, was strictly accountable to budget. This makes Columbus East all the more believable as a bell-wether for change in the intellectual climate of the practice—a practice which, in many ways, has gone back to school. In a town full of "regular guys," but not many regular buildings, here is a meeting ground.

COLUMBUS EAST HIGH SCHOOL, Bartholomew County, Columbus, Indiana. Owner: *Bartholomew Consolidated School Corporation*. Architects: *Mitchell/Giurgola Associates*. Engineers: *Keast & Hood* (structural); *Paul H. Yoemans, Inc.* (mechanical/electrical); *Geiger-Berger & Associates* (air structure). Landscape architects: *Clark & Rapuano*. Consultants: *Robert A. Hansen* (acoustics); *William Genetti* (costs); *Richard Devin* (stage design). Contractor: *Geupel-Demares, Inc.*



John Veltri

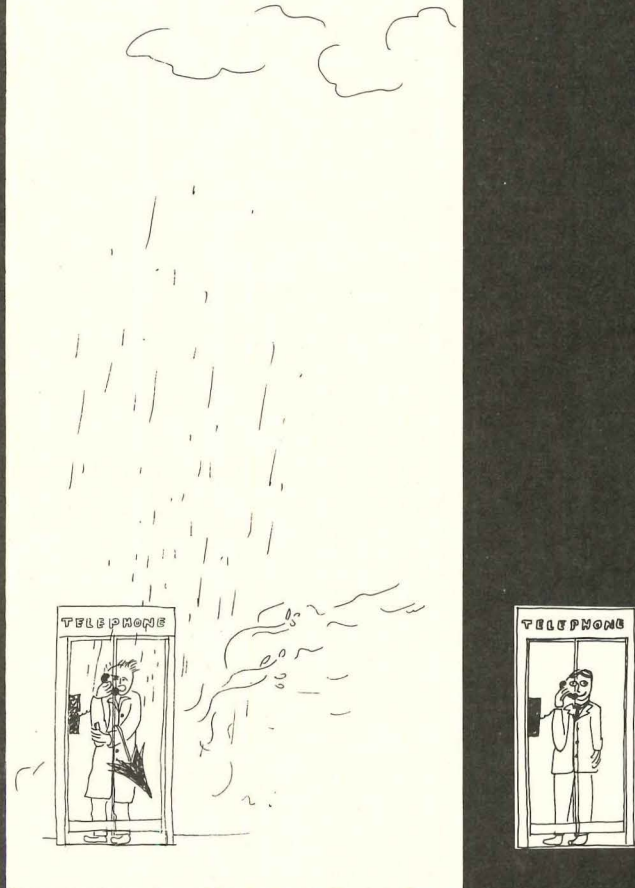


The general commons space at Columbus East High School (opposite page) is an alternately compressed and released space, set along several levels, and dramatically skylit. It is a highly flexible space, meant to accommodate a variety of individual and shared pursuits, ranging from the cafeteria to generous lounge areas which run alongside a range of lecture halls. On the far end of this main structure are a gym and an innovative pool building with a retractable roof of vinyl (bottom photo). The enclosing structure for this highly diverse three-level plan sets up deliberate contrasts of material finish as if to accentuate the changing nature of the program from one level to the other (previous page). Aluminum sandwich panels on the upper two levels, denoting more flexible instructional spaces inside, contrast with the clay tile cladding at the ground level, denoting the more specific, public functions there. The give-and-take between metal and tile surfaces is dramatized by the squared-off "triumphal arch" at the front.

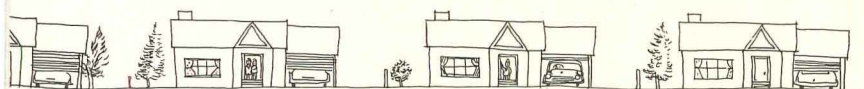
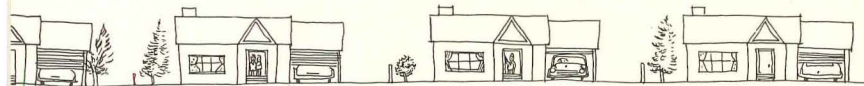
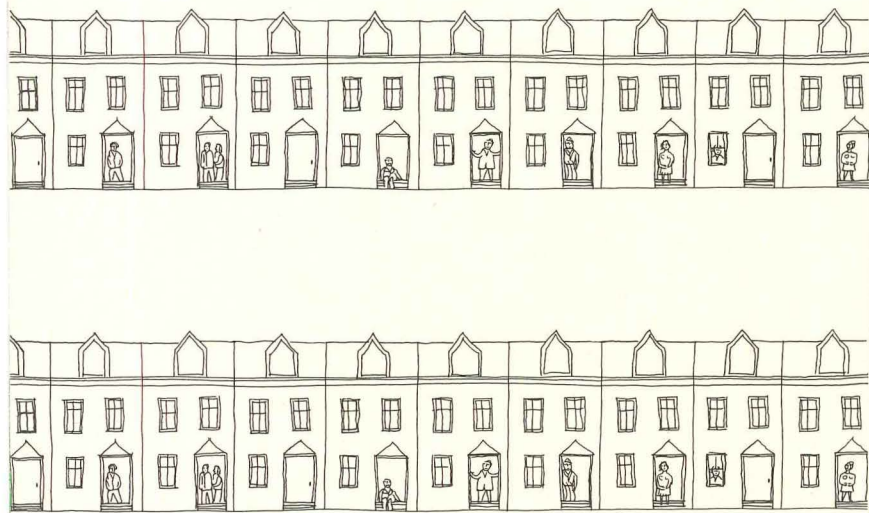


Examples of FORCED UNIFORMITY in America are many, ranging from objects of everyday life to the environment itself.

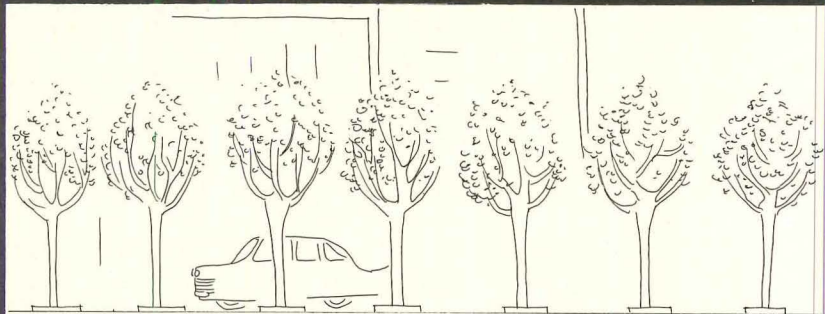
5 To mention one: A public telephone booth placed in the street is exposed to rain, snow, and blizzards, but has the same design as one placed inside an air-conditioned building.



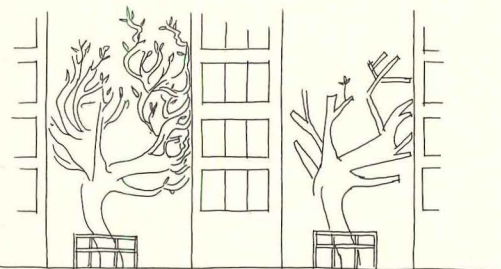
3 Row houses



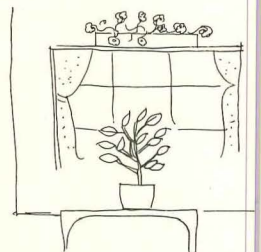
4 Or houses in rows



6 In the cities the trees are lined up like soldiers.



7 Or else they are arrested without regard to their foliage and freedom of growth.



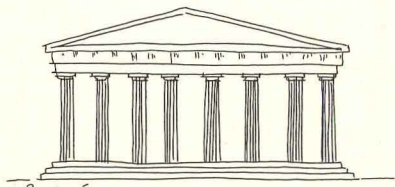
8 Or chopped up to fit the pattern of the city.

9 Natural flowers are replaced by plastic ones.

10 No ecological movement can be successful in a culture in which there's no REVERENCE FOR NATURE.



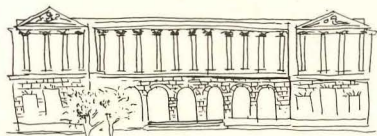
11 CLOWNISH ARCHITECTURE



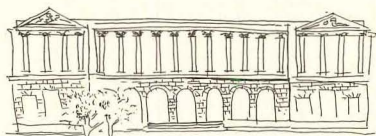
12 The Parthenon? No! Such imitations could be a post office in Ohio, a residence in Kentucky, a bank in any metropolis, or even a park monument in Tennessee.



13 A gas station made to look like a church. (Perhaps because many Americans worship the automobile.)

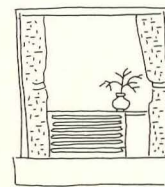
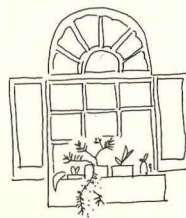
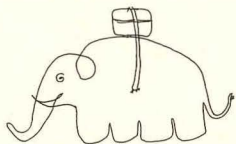


14 Public Library—Philadelphia



15 Courthouse—Philadelphia

16 Two adjacent buildings in Philadelphia fulfilling entirely different functions—yet so alike in appearance that one is often mistaken for the other—a spectacle as ridiculous as an elephant and a horse each carrying the same amount of weight.



17 ARCHITECTURAL GENERATION GAP



18 The architectural generation gap becomes accentuated when the old and the new are juxtaposed without a proper relationship.

19 Occasionally both the old and the new retain their individuality and are in harmony. (Society Hill in Philadelphia.)



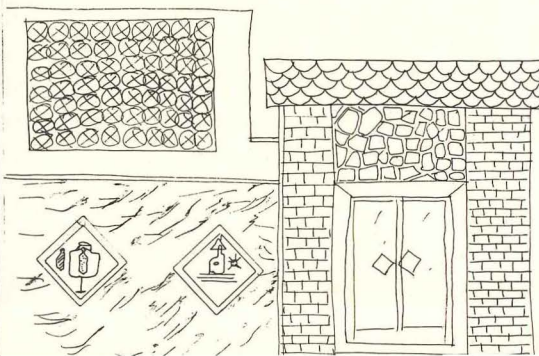
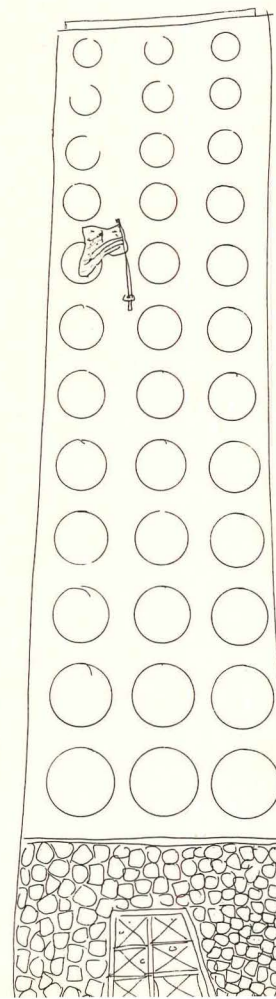
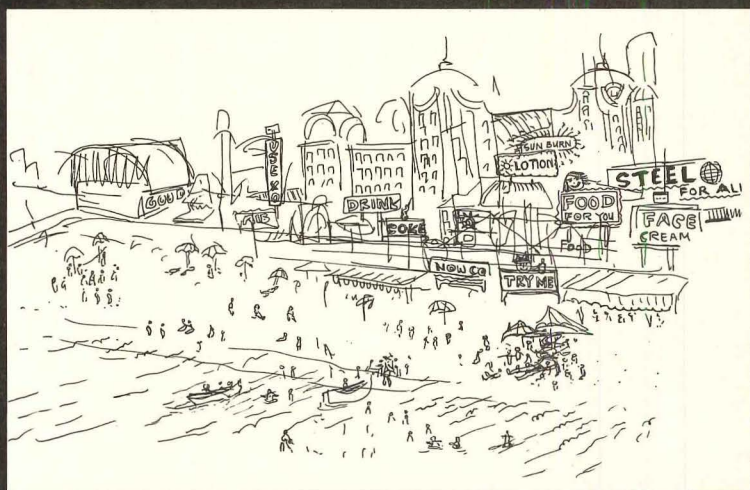
20 VISUAL POLLUTION

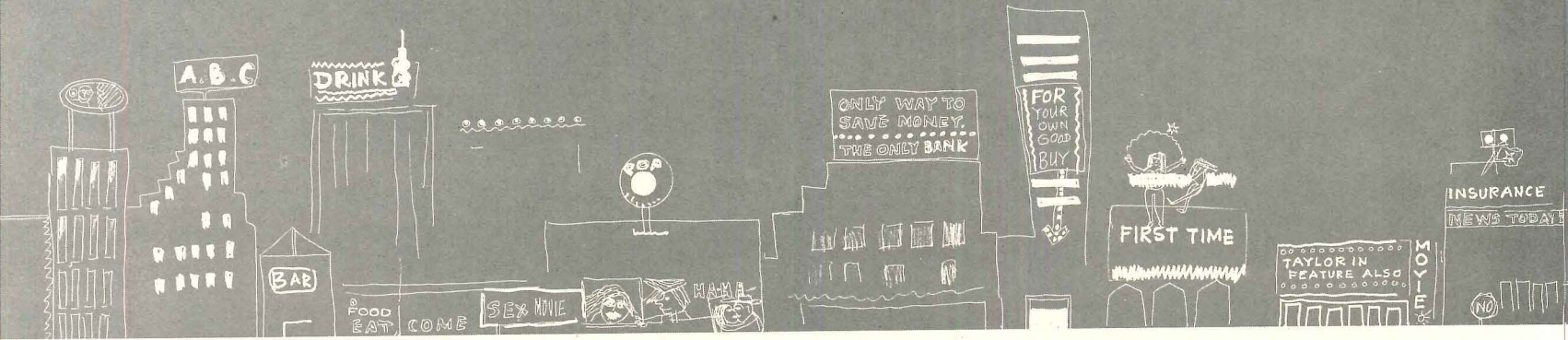
21 In addition to the other forms of pollution, there is also a growing visual pollution. It is caused in many ways.

22 Sometimes by imposing too many verbal symbols on the landscape.

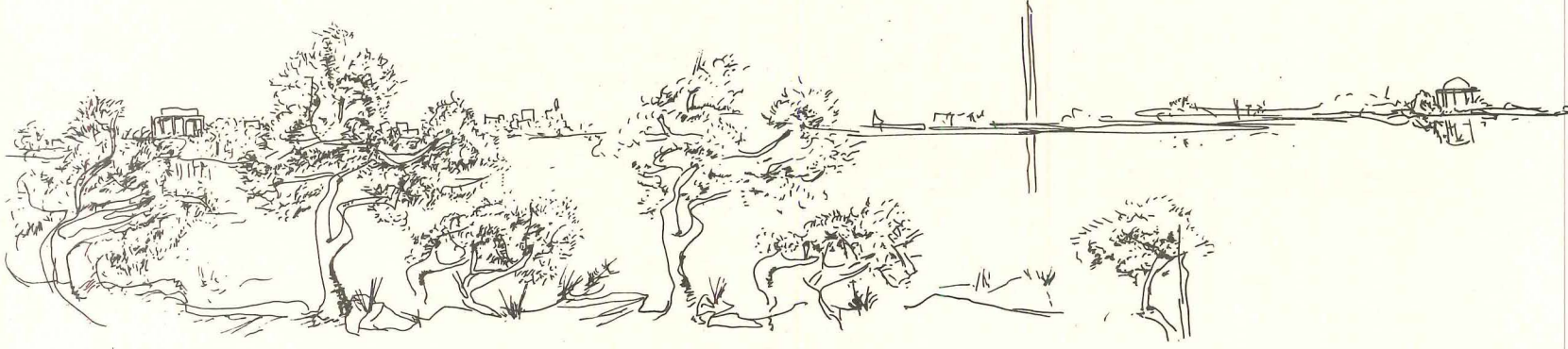
23 Sometimes by having recreation at the cost of nature rather than with nature.

24 And sometimes, by deliberate design expressing affluence with gimmicky shapes and the extravagant use of materials.



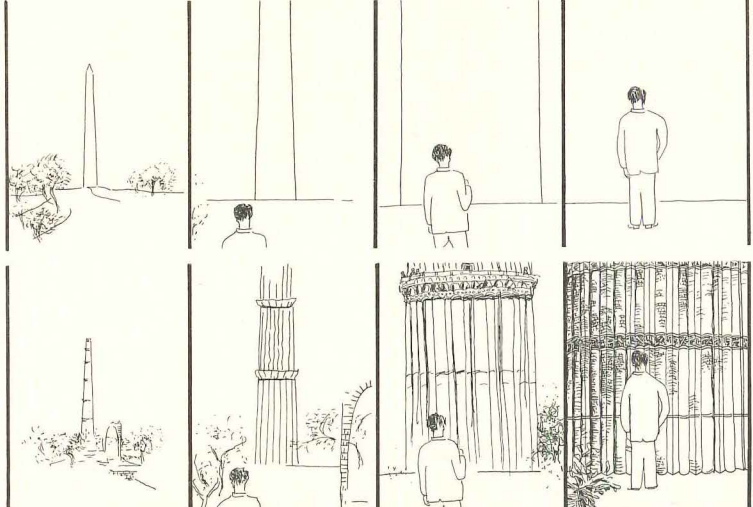


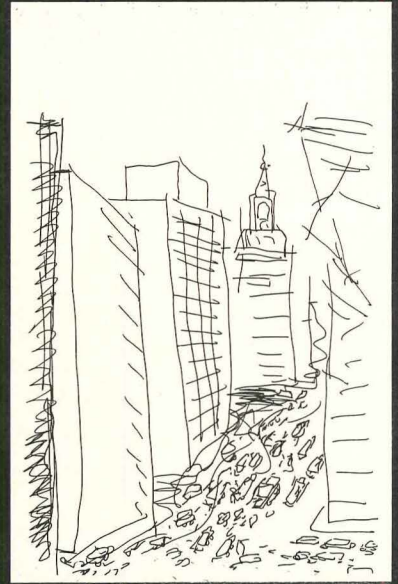
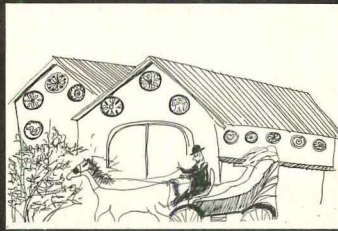
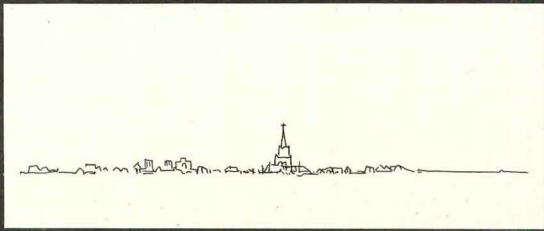
25 In the evening when the sun has hardly set, the impatient merchants turn the neon lights on, spoiling the crimson sky. At night the mystery of darkness is never felt. The moon and the twinkling stars are given no chance.



26 In contrast to the popular streets of the American cities, the monumental area of Washington, D.C., having a variety of open spaces, trees, water, and pleasant breezes creates an "environmental monument," greater than the individual monuments.

27 A great monument must be inspiring from a distance as well as from close up. In the case of the Washington Monument, stuck on top of a mount, the closer we get to it the more uninteresting the monument becomes, and eventually we face a blank wall. By comparison, the Indian monument "Kutab Minar" in New Delhi is almost the same height but is different in quality. It is well-related to the environment, and in addition, the closer we get to it the more we discover and feel involved.



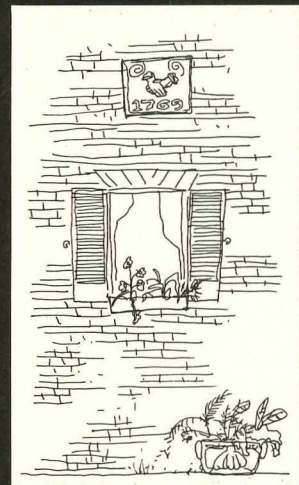
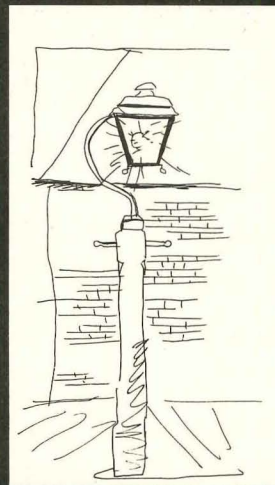
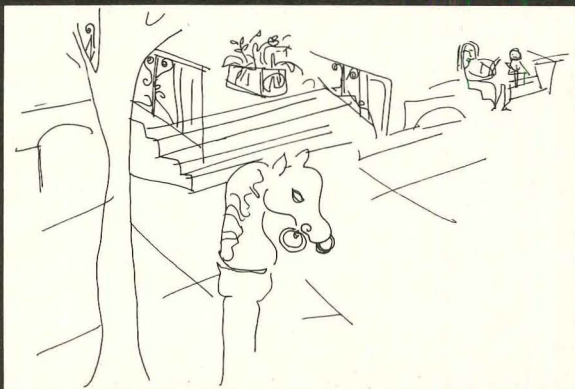


28 The contrasts in the American environment are overwhelming. There are horse-driven buggies still being used in the Pennsylvania Dutch Country, where a church or perhaps a school stands tall as the symbol of life of the people.

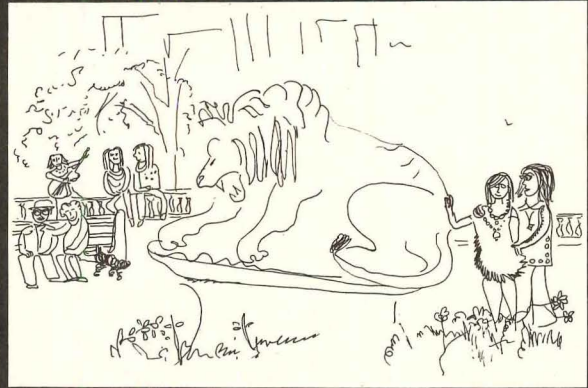
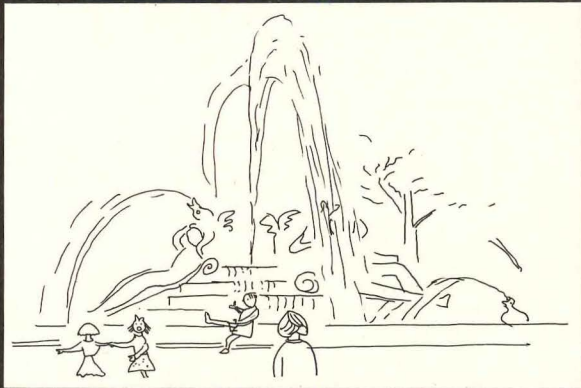
29 On the other hand, only a hundred miles away we find the city of New York dominated by giant skyscrapers and rushing traffic.



30 In spite of being sandwiched between the synthetic environments of the East and West Coasts, many people in the Midwest continue to live in harmony with nature and enjoy the tranquility of life.



31 Within some of the large cities there are carefully preserved old dwellings—reminding one of the early American settlers and the cultural enrichment they brought before uniformity took over.



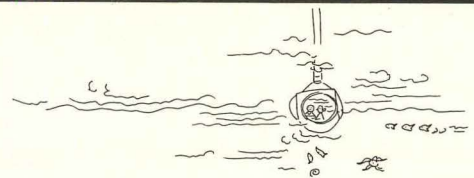
32 By warping the existing places in cities in order to walk a dog, take out a pram, run around with children or get together informally, people express a desperate need for spaces where human happenings may be possible.



33 When the various elements of American architecture scrutinized separately are placed together within the context of the total American architectural scene, including the natural environment, they bring an awareness of what is happening and what is not.



34 America, the wealthiest country in the world, has set foot on the moon, dived deep into the ocean, and is conceiving of houses in outer space and under water—but so far on earth has built mainly to achieve excellence in construction. America should now concentrate on building with the aim of touching the "spirit of architecture."



STORES & SHOPS

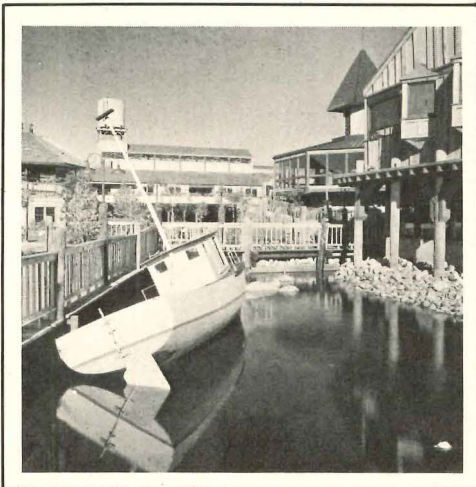
BUILDING TYPES STUDY ® 487

By the end of 1975, statistics showed that consumer buying power had expanded for the first time in two years. All 1976 economic indicators—including Dodge/Sweet's Construction Outlook, predicting that stores and other commercial building construction will be up 14 per cent—point to an economic upturn from the past inflation-ridden times.

Hoping to capitalize on this upturn, many retail owners have been cautiously expanding or revitalizing their facilities, and experimenting with new ways to attract shoppers into the stores. This work has involved architects in both renovation and new construction.

Good design can be an important factor in a store's success, along with the product and merchandising techniques. The design can create an image that will not only entice people into a store, but will enhance merchandise display. Through all of its ramifications—including layout, circulation, use of graphics—good design works a subtle influence on the shopper, and, therefore, sets the stage for the merchandise.

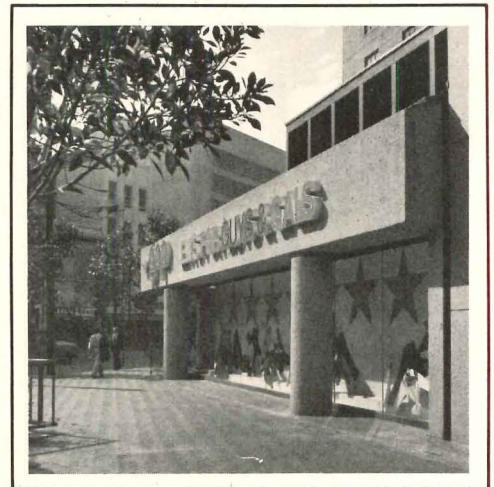
The six projects shown in this Building Types Study represent some of the latest, most successful designs of retail ventures, each with a different kind of problem for the architect to solve.—*Janet Nairn*



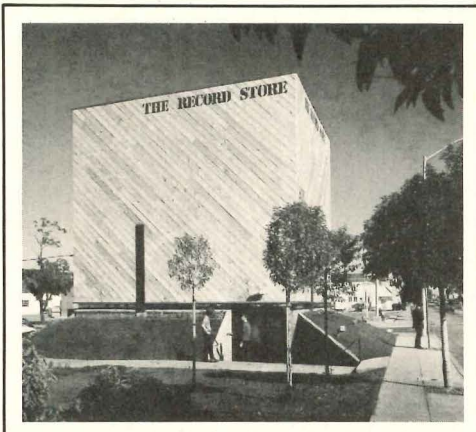
Jack London Village



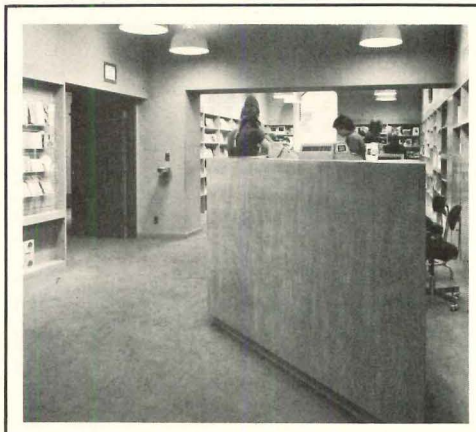
Lee's Art Shop



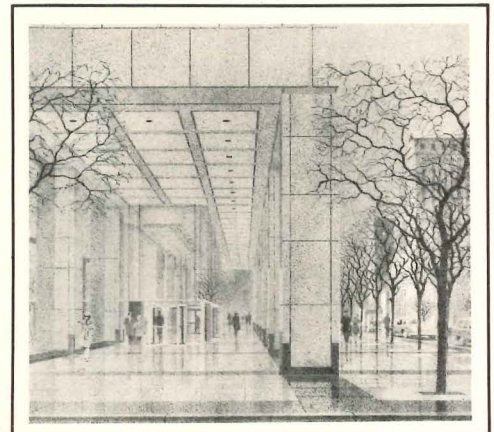
The Gap



The Record Store



Bookstore for Museum of Modern Art



Water Tower Place

WATERFRONT SHOP COMPLEX AFFORDS SPECIAL ENVIRONMENT

Jack London Village is the latest retail shopping center on Oakland's waterfront and is part of the initial stage of an ambitious overall waterfront redevelopment plan by the Port of Oakland. The Jack London Waterfront Plan will eventually include office, hotel, residential and retail facilities and open space. The Village is built on 2.5 acres of a 5-acre parcel of land owned by the Port.

"The creative and technical world of the architect and environmental designer," says Frank Laulainen, the prime design force, "must stretch out to a world beyond the ordinary design solution to achieve a successful specialty shop environment, for both the visitor and the merchandiser." His design concept does achieve this special (and fun) environment that is not only an experience for the visitor who comes to get out of his car to shop, eat and walk around the waterfront (for this is the first time this land has been accessible to the public since the early whaling and shipping days), but profitable for the retailer, too.

The theme of the design was generated from the Port's criteria to build a new complex that is reminiscent of the rugged, robust days of an era in which Oakland-raised writer Jack London lived and wrote about.

To accomplish this visually, yet provide up-to-date facilities for displaying merchandise, a small-scale, two-level complex, to be filled with specialty shops, restaurants, art galleries, craft studios and a theater, surrounds a central courtyard. All structure is wood-framed and wood-faced; heavy timbers are used throughout. The complex also has a fresh water pond, adding to the diversity of spaces and further relating the center to water. Spectacular views to the Oakland Estuary, Oakland skyline, San Francisco Bay and San Francisco skyline abound.

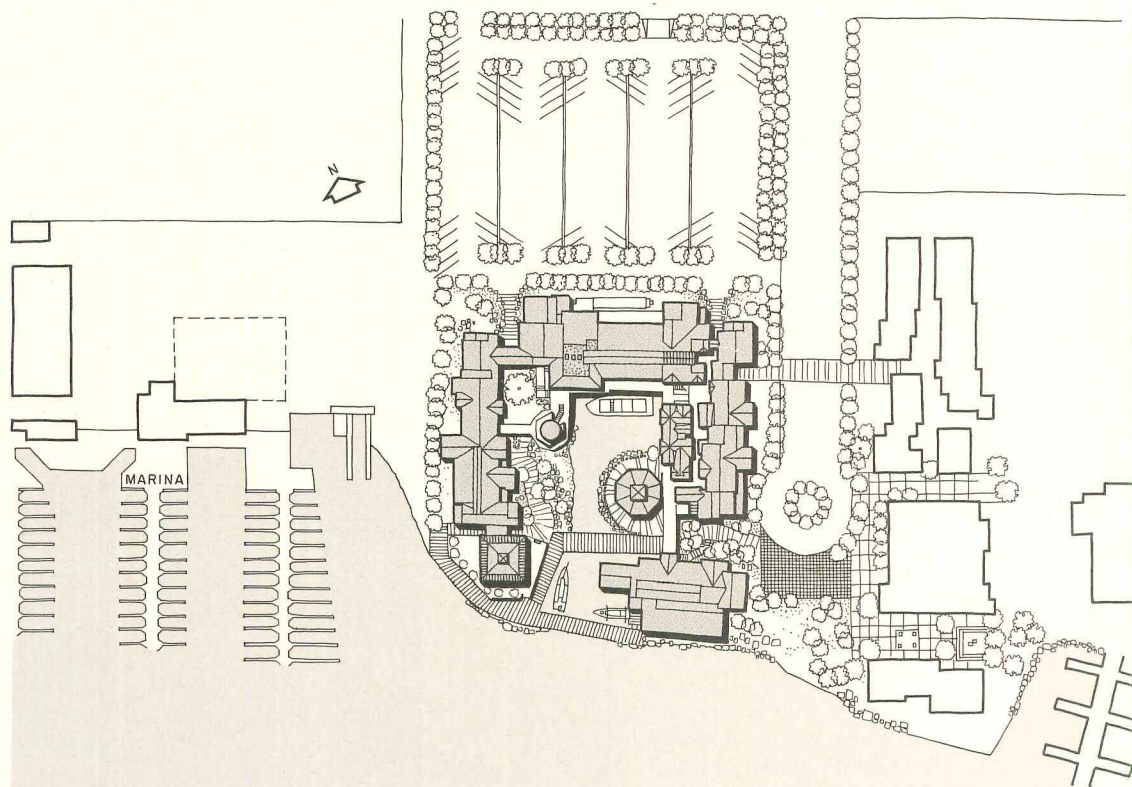
Opening a shopping center of

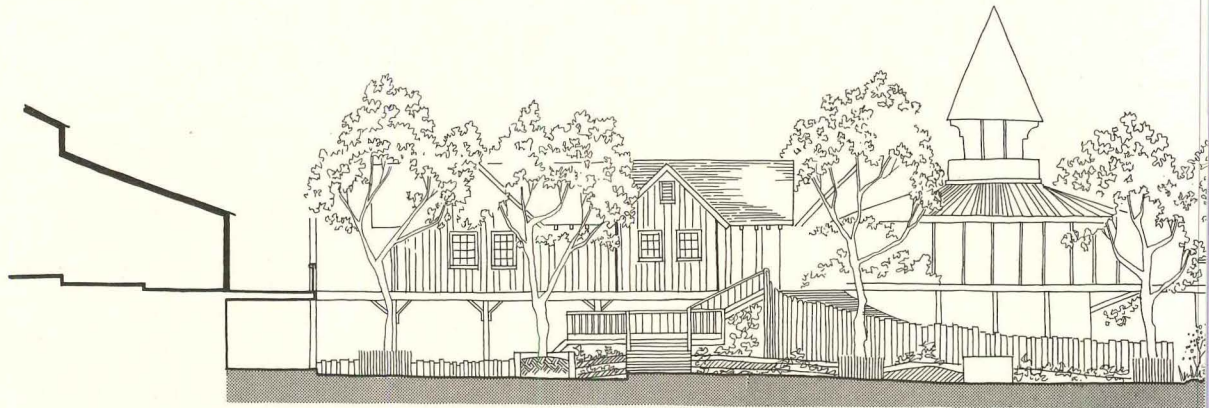
Merg Ross photos





As a specialty shopping center, a variety of patterns—for visual effect and circulation—are experienced by the visitor walking around. Even though the complex covers a large area, it is not monumentally scaled, but adjusted to human scale. Retail shops and restaurant owners' desire for individual and different space are easily provided by the nature of the forms.





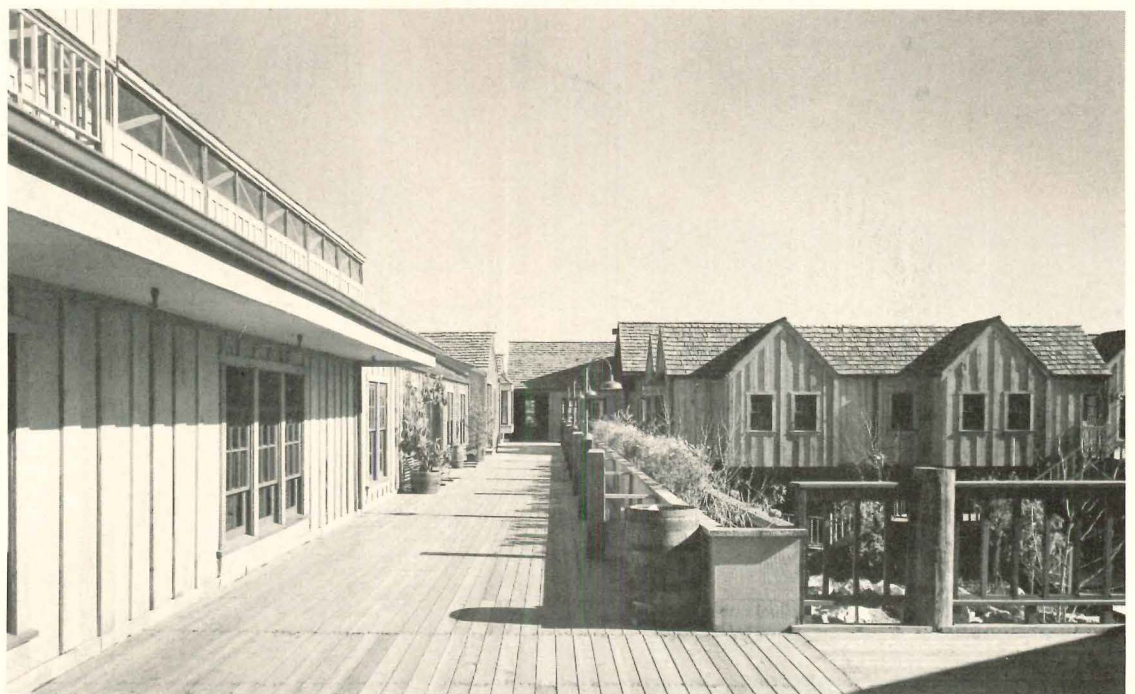
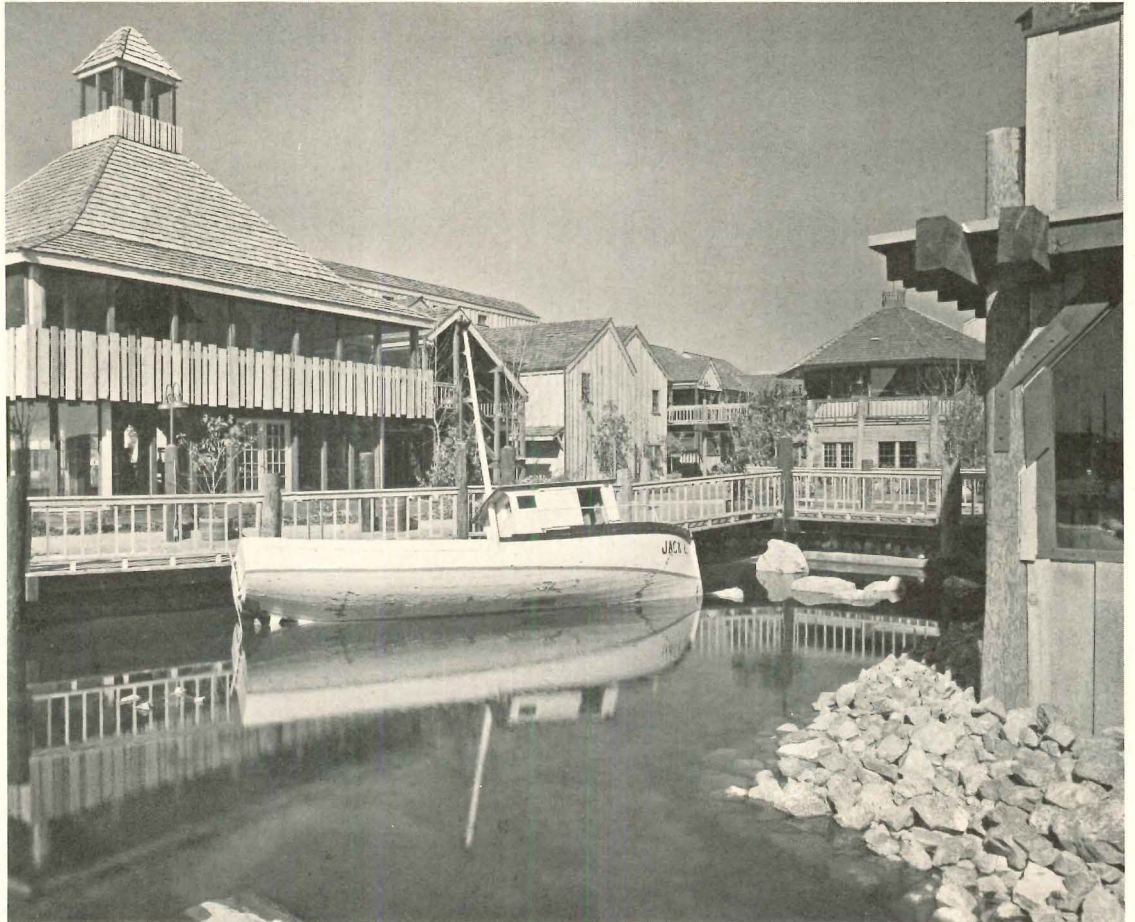
this size in tenuous economic times indicates that the owner and developer felt the center could be an economically viable venture if designed as a "theme center." It has been able to successfully compete with other kinds and more established shopping areas.

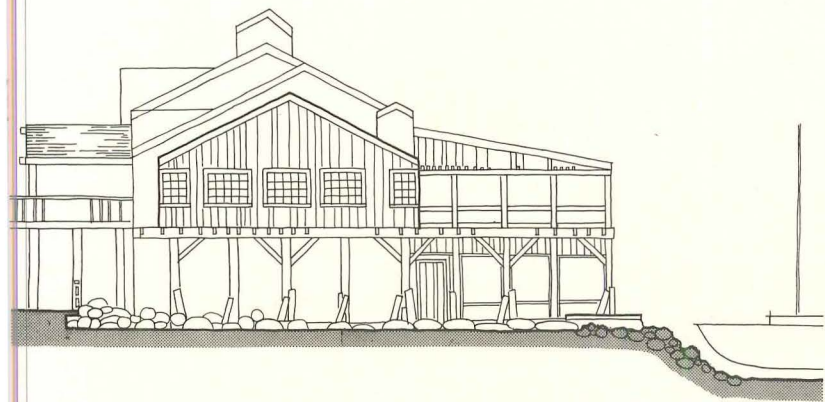
The art of attracting shoppers is a combination of many factors—design, planning and use of materials. Outside the center, adequate parking is available. And future plans provide for shuttle service to and from the three main entries. Inside, the subtleties of design and circulation system guide the shopper through the Boardwalk (lower) level and lure him to the Vista (upper) level.

Variety is the key. There is not one straight, single flight of stairs, but rather split level staircases with landings, and both straight and curved ramps (also enabling the handicapped to move about). Walking surfaces are a combination of wood decking, cobblestone-textured concrete and pebbled concrete. One walkway wraps around the lagoon, connecting at one point to a public path (programmed in the waterfront master plan). Rest areas and open space were coordinated with view corridors, offering views to both water and other levels and activity.

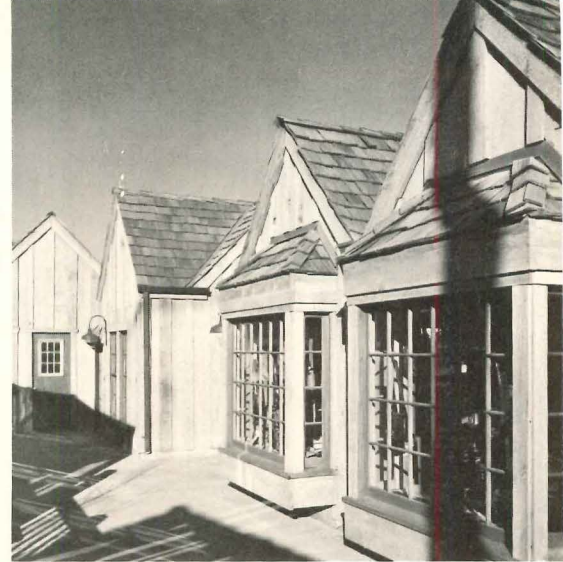
The variety in forms (including gable roofs and turrets atop circular pavilions) also increases interest. A water tower, the tallest element, is the main identification and reference point.

JACK LONDON VILLAGE, Oakland, California. Architects: *Frank Laulainen & Associates*. Engineers: *Bradley Honholt* (structural); *P.R. McCoy* (mechanical); *Perry Cologne* (electrical). Landscape architects: *Larry Carducci* (initial phase); *Specialty Restaurants Corp.* Restaurant interior design: *Specialty Restaurants Corp.*—*Ron Wyle and Ted Cushman*. Developer: *Specialty Restaurants Corp.* Contractor: *The Geggatt Company*.

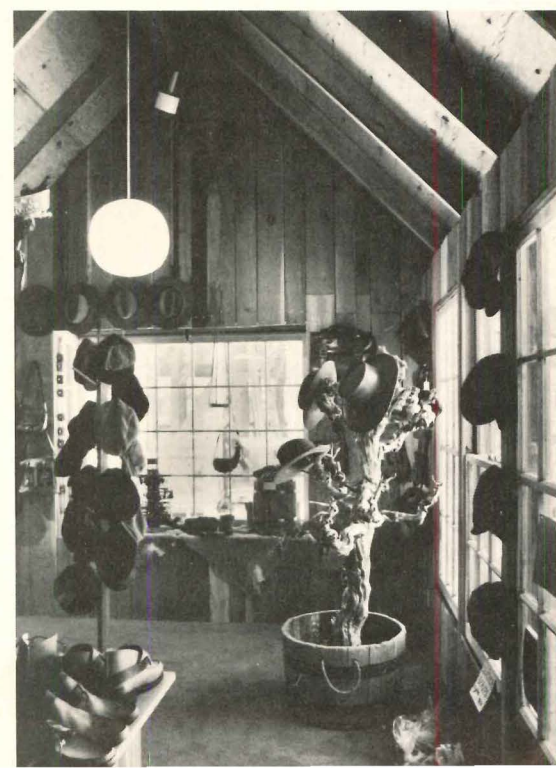




A total mix of forms, open spaces, materials, views, landscaping and interior spaces, combined in the right proportions and patterns have produced this new, exciting environment. Pathways and bridges vary in materials, as well as width. Some are wide and open (bottom, far left), some are under roof overhangs and some wind their way through smaller shops and display windows (top, right).



Spaces for larger stores, along with boutiques, are provided—many with angular ceilings, determined by type of roof and pitch. Clerestory windows increase use of natural light, and are yet another variation to visual form and interior space. Pavilions are used for restaurants and some shop space. Landscaping is augmented by marine artifacts, including a beached boat (center, opposite).



RENOVATION FOR ART SHOP SAVED MOVE OUT OF AREA

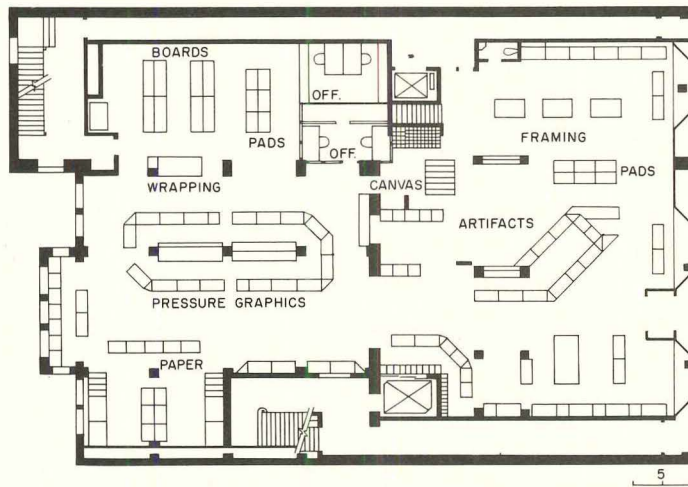
The owner's need to expand retail facilities approximately tenfold, and maintain an inventory of 1,500 categories of items, caused him to seek new quarters. His desire to stay in the same area and continue serving many architectural offices, advertising agencies and The Art Students League, led to a move across the street into a Gothic Revival-style building.

To save the building's features of vaulted ceilings and ornamental plasterwork, and to allow shoppers to browse and to inspect goods, an open plan, utilizing open display cases, was designed. A simple framing system—composed of pipe scaffolding—was installed throughout, but concentrated in the main corridor leading from the store's entrance, from which are hung colorful graphics, lighting fixtures and signs guiding shoppers to the main departments.

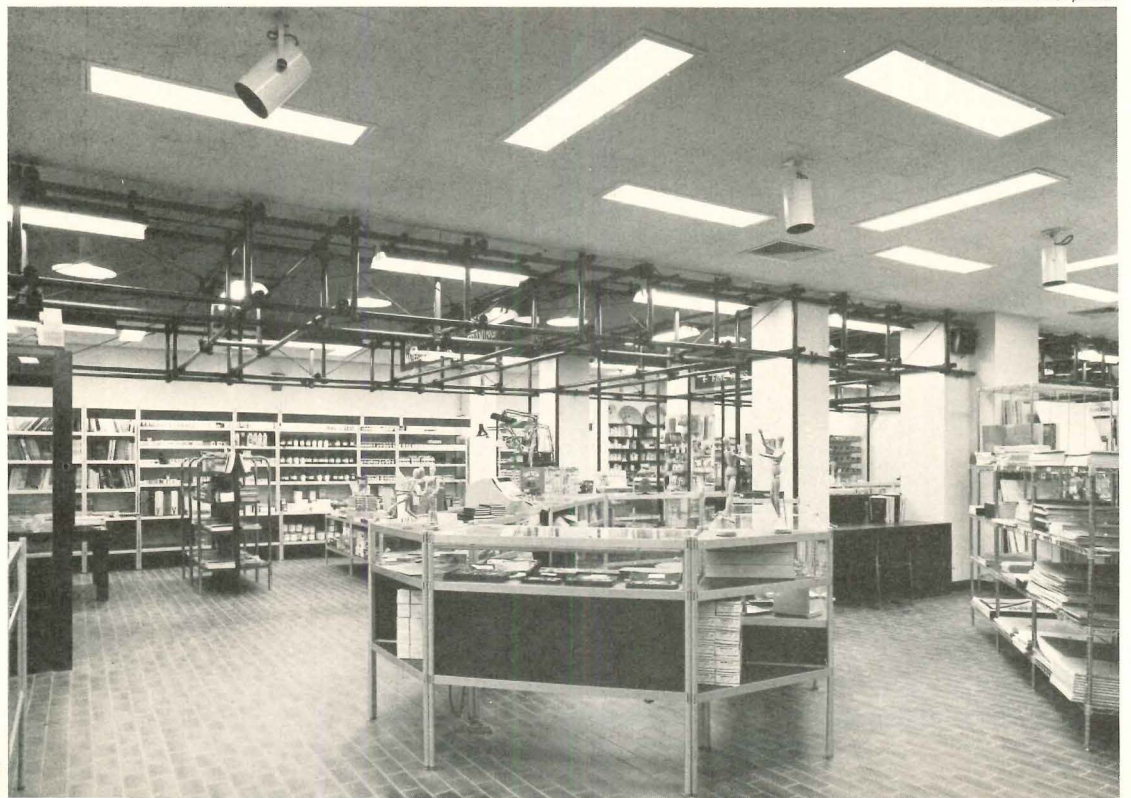
Three basic departments (framing, fine arts, technical and commercial) are separated. The type of merchandise dictates its location: easily damaged goods (e.g., papers, boards) were placed behind counters; the framing department was set apart on a carpeted island for quiet; and the commercial art section was centered near the main corridor.

To meet budgetary demands and to have easily maintainable space, durable materials, including ceramic tile flooring and plasterboard walls, were chosen. Peg-board walls in some areas add flexibility in the use of graphics and display capabilities. Acoustical tile was used on flat ceilings to the right and left of entrance for noise control. Most lighting is fluorescent, augmented with incandescent.

LEE'S ART SHOP, New York, New York. Architects: *Macfadyen/De Vido Architects*. Engineers: *Thornton Lev Zetlin Associates* (structural); *Airvel Corporation* (mechanical); *Hartmann & Concessi* (electrical). Interior design: *Macfadyen/De Vido Architects*. Contractor: *Robert Delia, Inc.*



Ed Stoecklein photos

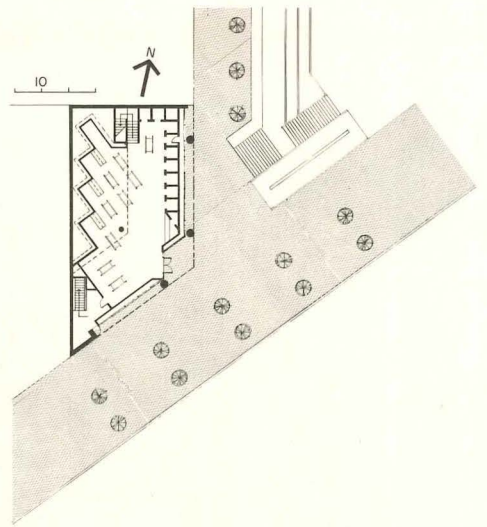
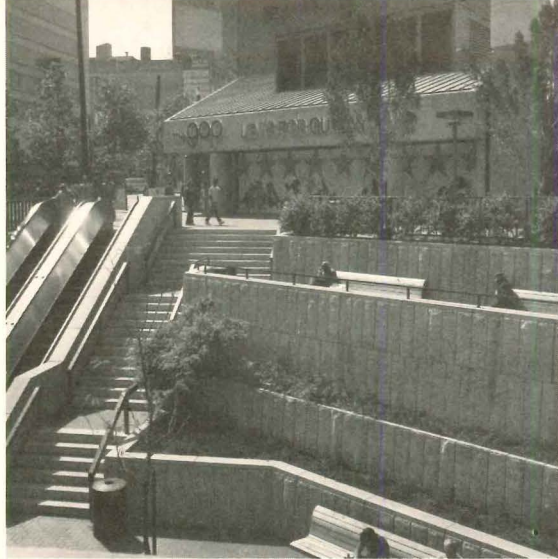




On a long, broken-up front building face (due to building's column), all-glass display windows were extended with angled side panels to attract passers-by from all directions and minimize glare. On both sides of the column, flat windows permit views directly into the store. To unify the exterior with the interiors, three brightly-colored, large pipes were installed above the entrance and display cases. In the rear of the store (far left), vaulting and stained glass windows were not obstructed, and were accented with lights. The framing system is especially prevalent at entrance (below) and in corridor (opposite).



**STORE DESIGN
CAPITALIZES ON
LOCATION TO
ATTRACT BUYERS**



Philip Mølten photos

Designed originally not for The Gap but as space for any kind of retail operation, The Gap found this space particularly suitable for its approach to merchandising casual wear clothes, and the store has proven to be one of the most successful in the chain. As one of the program requirements, the building was to be one-story, meshing with the urban fabric of re-designed Market Street. The street, a main and heavily traveled thoroughfare in downtown San Francisco, is lined with commercial stores in a combination of old and new buildings, of varying heights—both high-rise and low-rise and is a major transit corridor for both buses and the only Bay Area Rapid Transit (BART) stations in the city.

The site is a corner lot facing a large, open area, with sunken plaza and entrance to a BART station, and a *cul-de-sac* for cable cars. To incorporate the building into the site, and not appear to be lost next to an eight-story building to the west, a sloping roof—the angle of which correlates to the grade at the BART entrance—visually continues the line of escalators and stairs. The store's entrance was placed at the corner of the building, capitalizing on pedestrian traffic along the street and from escalators and stairs. Circular columns add diversity at street level. Large display windows, slightly recessed behind the columns, have no mullions. Extra thick glass helps protect against vandalism in this much trafficked area of San Francisco.

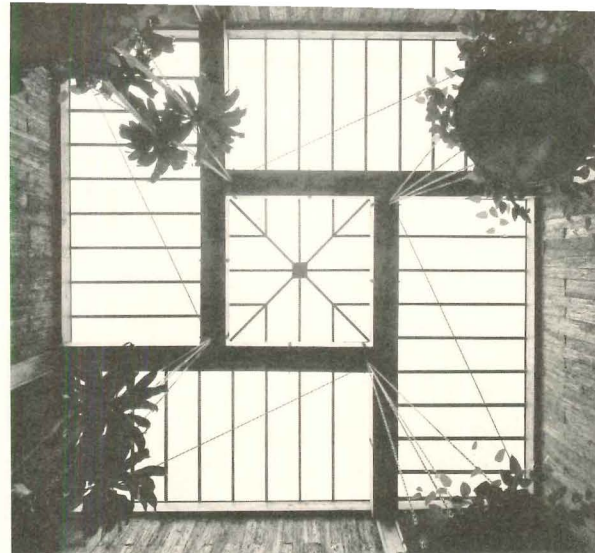
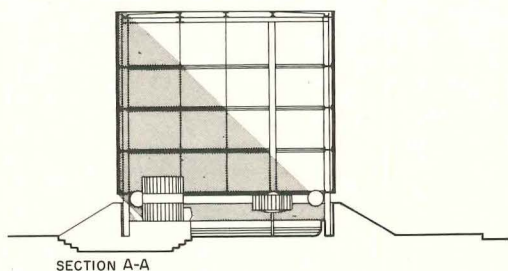
THE GAP, San Francisco, California. Architects: Bull Field Volkman Stockwell—Daniel G. Volkman, partner-in-charge; David L. Paoli, project architect. Engineers: GFDS Engineers (structural); Marion Cerbatos & Tomasi (mechanical/electrical). Interior design and graphics: The Gap. Contractor: Balliet Brothers Construction Corporation.



A large, vertically-framed skylight not only allows light to fill the interiors but adds a dimension of height to the building, maintaining the scale of the area, and adding a change in form at roof line. A blue roof injects color into the area, and since completion the neighboring building's open wall above the store has also been painted the same color, brightening the whole corner. For a small store, the interiors are quite diversified, with mezzanine level offering more and varied display space. The strong form of beams reflecting light from a skylight also adds a constantly changing pattern at ceiling height.



**"FLOATING CUBE"
UNUSUAL DESIGN
IN HEAVY
RETAIL AREA**



This small building of 1,000 square feet fits onto a corner site and offers a pleasant respite for the passer-by on a fully developed commercial strip area. Intended initially as a prototype (though the owner later abandoned this plan), the building's design was envisioned by the architects as a distinctive "floating cube" (30 feet square, 35 feet high) over a berm.

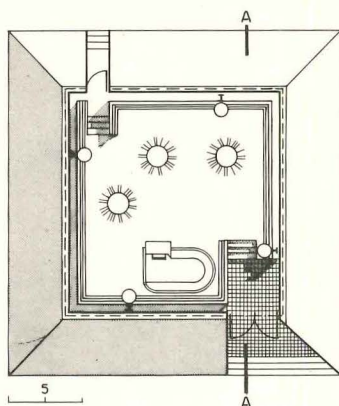
The building was built on grade and elevated on a concrete retaining wall which supports the berm. Four wood columns—each offset one-third the distance from one corner of each side—support a pinwheel roof framing system, which in turn supports a skylight roof (top and bottom). All four corners, therefore, cantilever off the columns. The roof skylight is stabilized with bracing, clearly visible in top and bottom photos. A continuous window just above the top of the berm gives the illusion the cube is floating, while admitting some light above record display cases on the interior. The entrance is sunken, acting as a physical transition from the outside to an interior with a special image desired by the owners. Rest rooms and storage space are in a separate building.

The interior walls are mostly covered with redwood bark, with some sections covered with carpet to dampen reverberation of sound. The exterior is covered with cedar boards; copper strips were placed over columns.

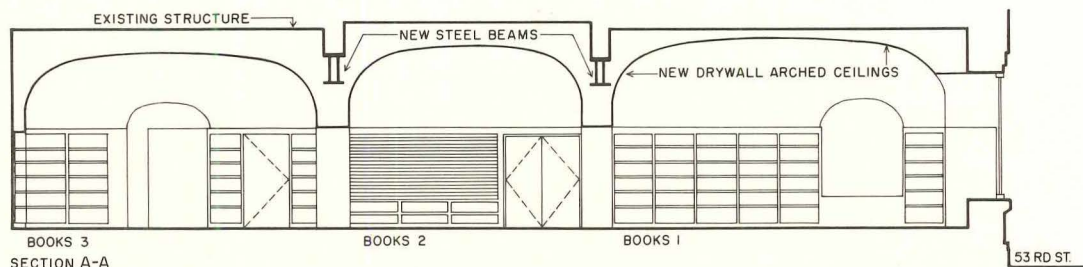
THE RECORD STORE, Palo Alto, California. Architects: *Whisler-Patri—Piero Patri*, partner-in-charge of design; *Donald F. Atkinson*, partner-in-charge of production. Design consultant: *Thomas Aidaia*. Engineers: *Hirsch and Gray* (structural); *Geo-Engineering Consultants* (foundation); *Yanow & Bauer* (mechanical/electrical). Consultants: *Gene Etribou* (acoustical); *Primo Angeli Graphics* (graphics); *Lee Saylor Inc.* (cost). Landscape architects: *Baronian and Danielson*. Contractor: *Ven Construction Co.*



Jeremiah O. Bragstad photos



RENOVATION WAS SOLUTION TO COST AND SPACE PROBLEMS

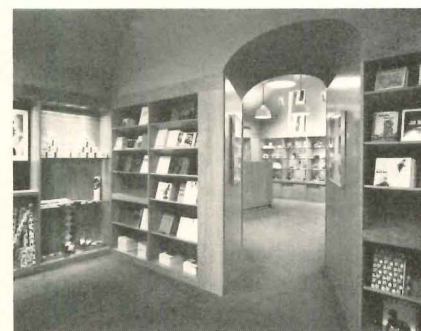


In New York City's financial district, a bookstore owned by the Museum of Modern Art demonstrates that a well designed renovation, in this case on one floor of a handsome late 19th century building, can be a profitable venture for the owner and still preserve the urban fabric of the area. The store has been so successful that it has recently expanded into space in an adjoining building. The architects, however, designed the store (while in the process of conducting a space planning study of all Museum facilities) under strict budgetary constraints, as the Museum's future expansion includes removing this building.

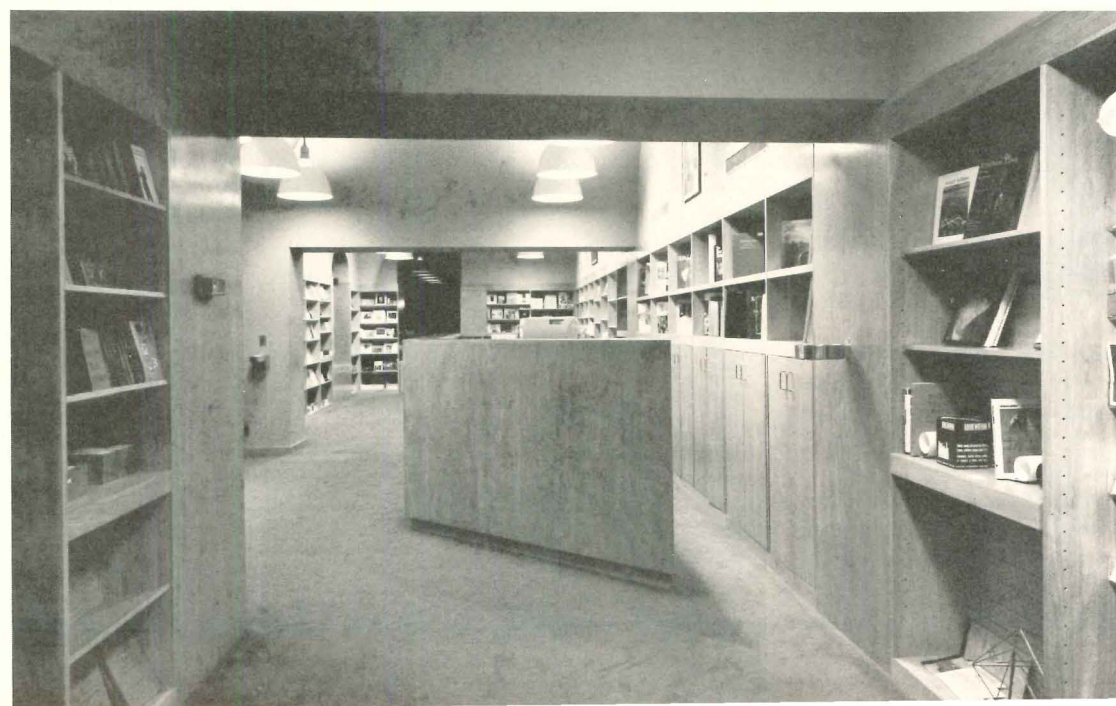
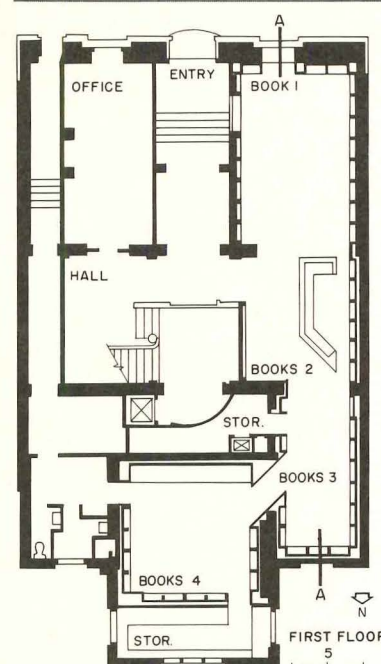
The architects integrated four separate spaces by adding doorways (replacing some bearing walls with partitions and steel lintels), thus opening up and interconnecting the spaces; and specifying the introduction of arched ceilings, an idea generated from arches seen on the exterior and throughout the interiors. The lighting system, designed to provide a high level of incandescent illumination at low cost, uses white porcelain industrial fixtures to light display areas, with smaller lights to highlight walls.

To make the store visible from the street, since the store's entrance is off the building's vestibule, an original wood door at street level was replaced with an all-glass one, permitting the passer-by to look into the vestibule and see a seven-foot-high partition announcing and guiding the visitor to the store. Two signs and a colorful banner were also placed on the exterior.

BOOKSTORE FOR MUSEUM OF MODERN ART, New York, New York. Architects: *Abraham Rothenberg Associates* and *Thomas Lowrie*. Engineers: *Robert Silman & Associates* (structural); *George Casper* (mechanical). Lighting consultants: *Howard Brandston Lighting Design Inc.* Contractor: *John Gallin & Son, Inc.*



George Cserna

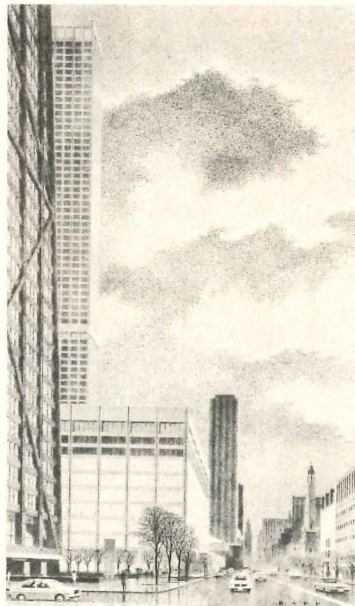


**THE SEVEN-LEVEL
SHOPPING MALL
AT WATER TOWER
PLACE:
A TRY FOR A
REVOLUTION IN
RETAILING**

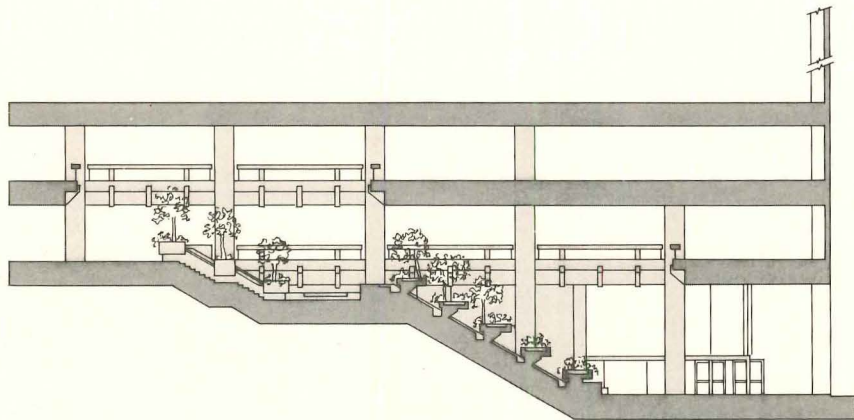
It is fashionable these days, among the cognoscenti, to be down on Chicago's new Water Tower Place—to consider it too big, too commercial, not really a suitable resident of the city's elegant Michigan Avenue.

Well, it is certainly big. Its ten-story base presses up against the lot line on all four sides; and this base mass plus the tower, which includes 22 floors of the Ritz Carlton Hotel and 44 floors of luxury condominiums, add up to more floor area than Big John Hancock in the next block.

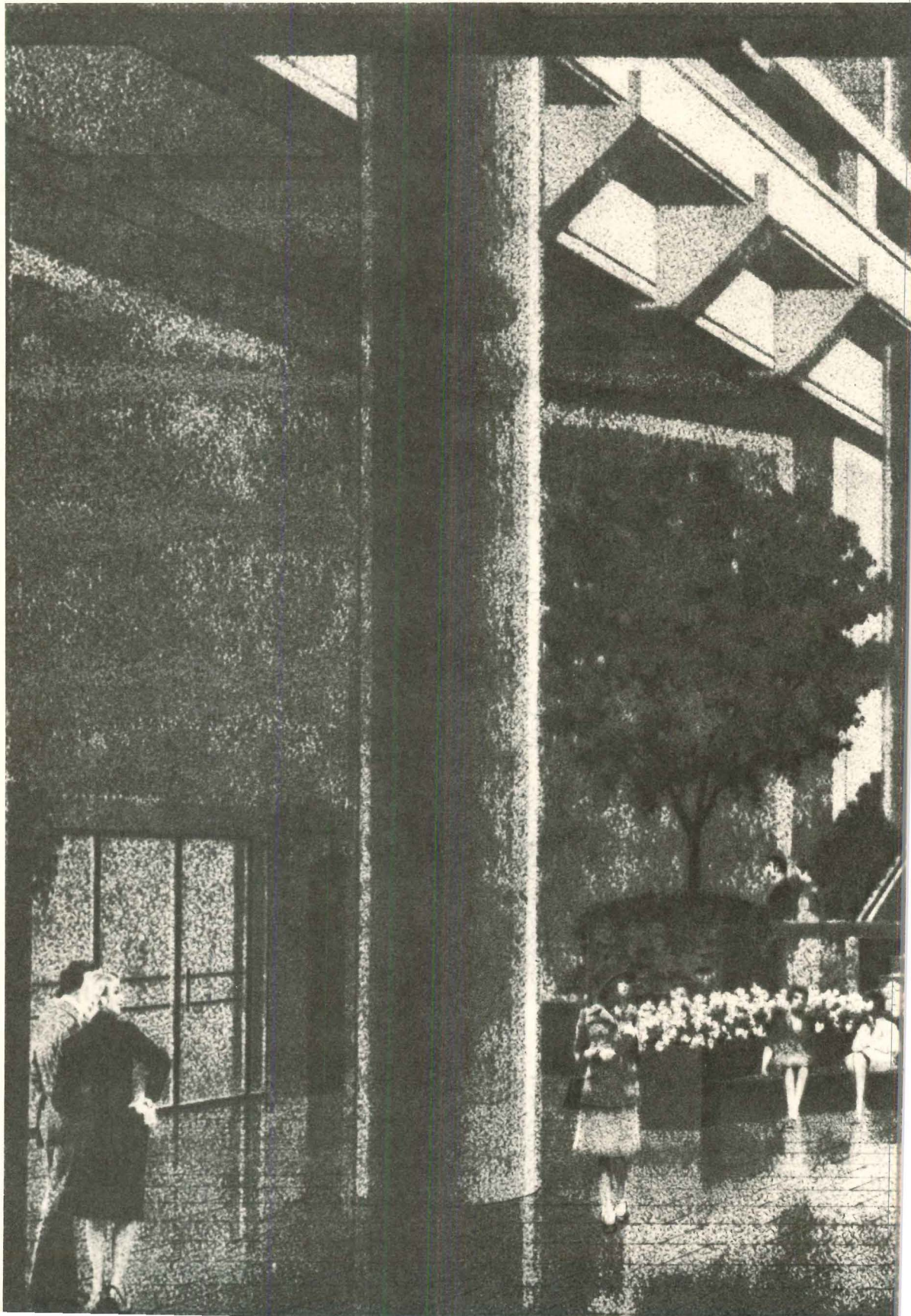
Commercial? You bet. The ground floor includes the hotel entrance, another entrance for the condominiums, an entrance to two floors of office space on floors 8 and 9, a motor concourse with a secondary retail entrance, a



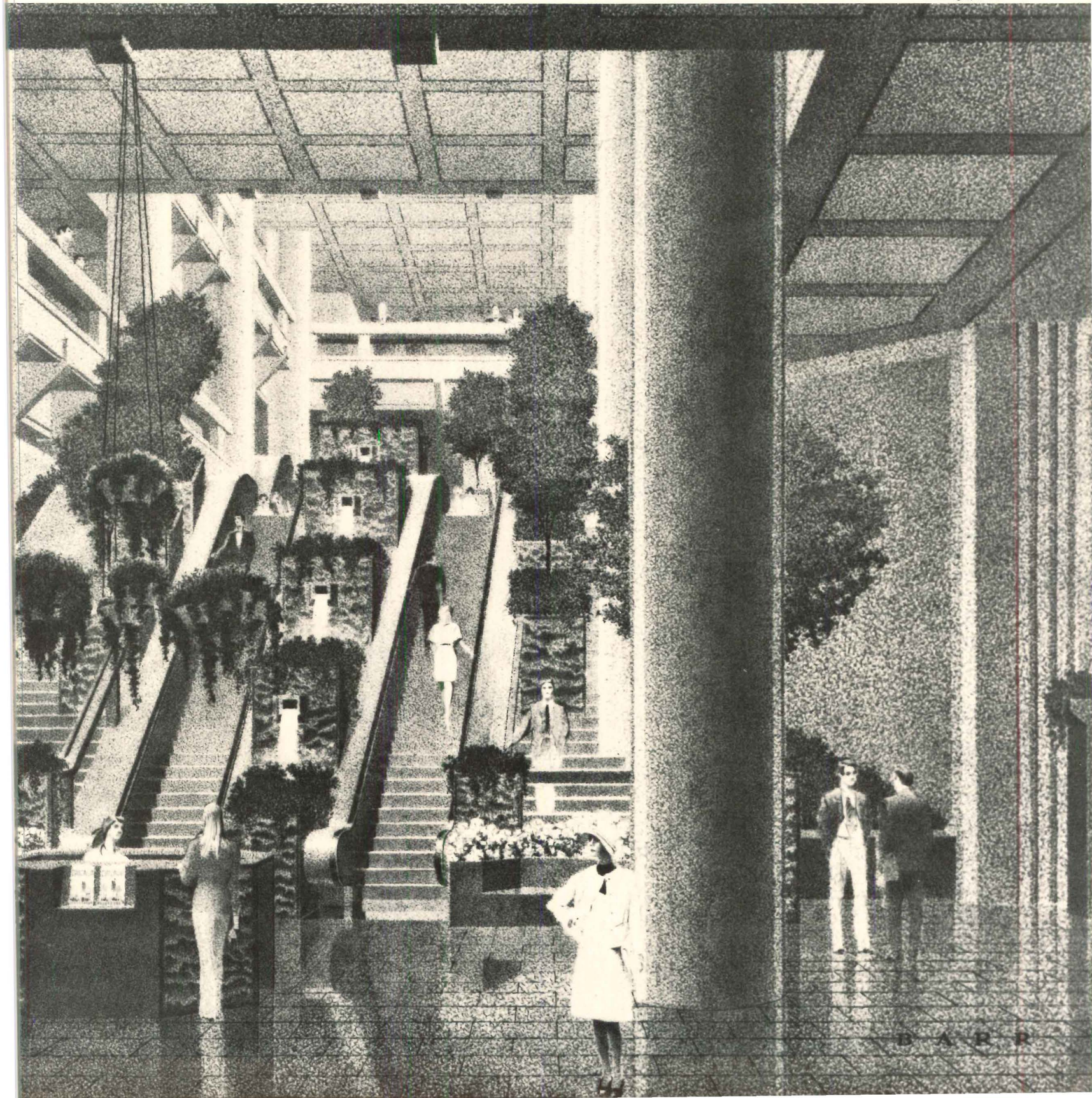
major new theater, a bank, and—on the Michigan Avenue side—a grand arcade entrance (drawing above) which opens left to the first floor of Lord & Taylor, right to the first floor of Marshall Field & Company, and straight ahead—via a spectacular “cascading garden” escalator (drawing right)—to the lowest level of a truly innova-



A dramatic “cascading garden” just inside the glass-fronted arcade at the Michigan Avenue entrance is intended to attract people in and upwards to the shopping malls on floors two through seven. The escalator extends past the mezzanine level to the third level. Because of its great length, it was broken into two sections (see section) and splayed outwards to foreshorten the perspective.



Drawing by J. Barr



J. BARR

tive circulation system. This system of malls, open courts, elevators and escalators is designed to attract shoppers to move through not two or three levels of shops and stores as in a conventional mall—but seven levels of shops and seven floors of the two big “magnet” stores. Commercial? Intensely.

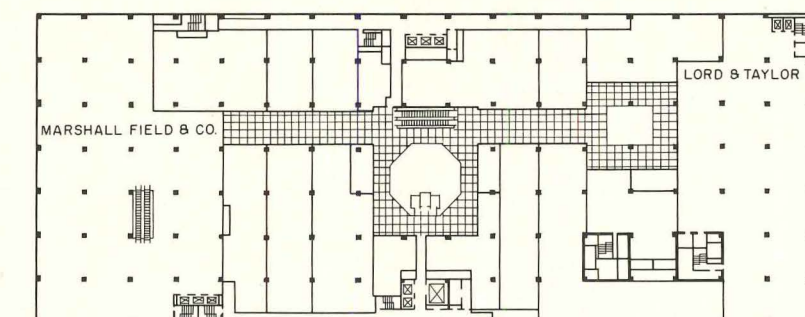
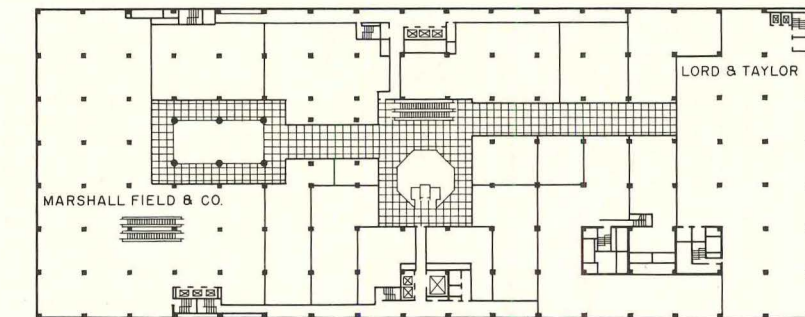
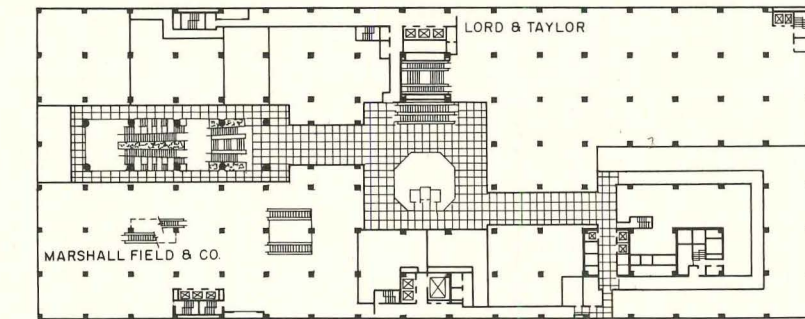
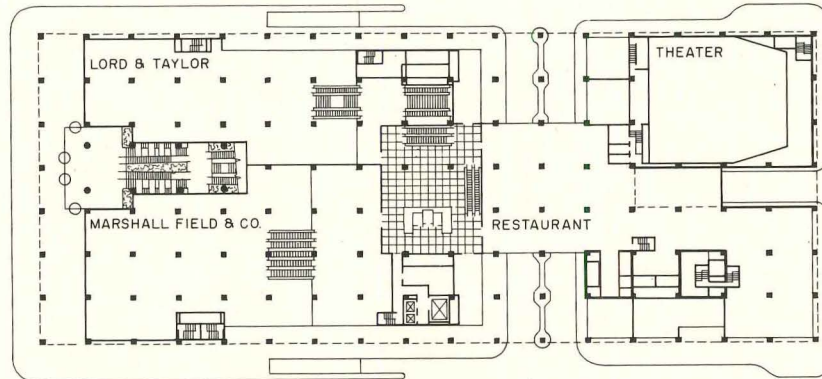
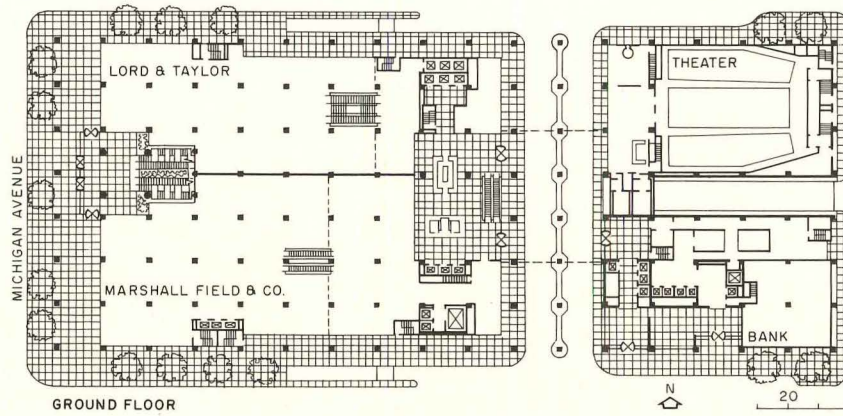
A good neighbor? Time will have to tell. But customers are pouring into the two department stores (the first retail spaces to open), and the 150 shops and boutiques and restaurants on all seven levels (only a few spaces on the top floor remain uncommitted) rented quickly and at Michigan Avenue prices. The developer is extremely optimistic.

The building massing and structure was designed by Loeb, Schlossman, Bennett and Dart and C. F. Murphy Associates, associated architects and engineers. Warren Platner Associates was retained, in the early stages of development of the structure, as consulting architect—with primary responsibility for development of the retail scheme. The program given Platner was a difficult one: Maximize rentable area and minimize public spaces; create the maximum prime frontage; and make the spaces on the upper floors as attractive to retailers as the lower floors—by assuring traffic throughout the space. How that was done is shown in the drawings and captions on this and the next page.

Platner’s customary attention to detail and detailing is evident everywhere. Having devised a system to move and attract people, he detailed the cascading garden (previous page) with care—the plantings and garden, a cascade of water, adjacent steps with “viewing platforms,” and the attention to perspective and scale have created a space that, still unfinished, draws people in for “the experience.” The grand atrium (opposite) offers a second “spectacular.”

With such a strong, visual, and architectural expression in the mall spaces—and especially with the framing of each rentable space by the columns—architect Platner argued successfully that there should be no “standard” for storefront design and graphics. “The individual store’s identity is the essence of retail life—variety and competition. We’ve handled the malls as if they were city streets.”

And so . . . whatever else Water Tower Place is or is not, it



The circulation system: On the ground floor, a theater and bank, the condominium elevator entrance and the hotel elevator lobby are entered from the side streets or a through-block motor concourse. Across the concourse is a secondary entrance to the shopping area. The main retail entrance is off Michigan Avenue, under a sidewalk arcade. The entryway to the cascading garden (large drawing, previous page) opens left to Lord & Taylor, right to Marshall Fields, straight ahead to the escalator.

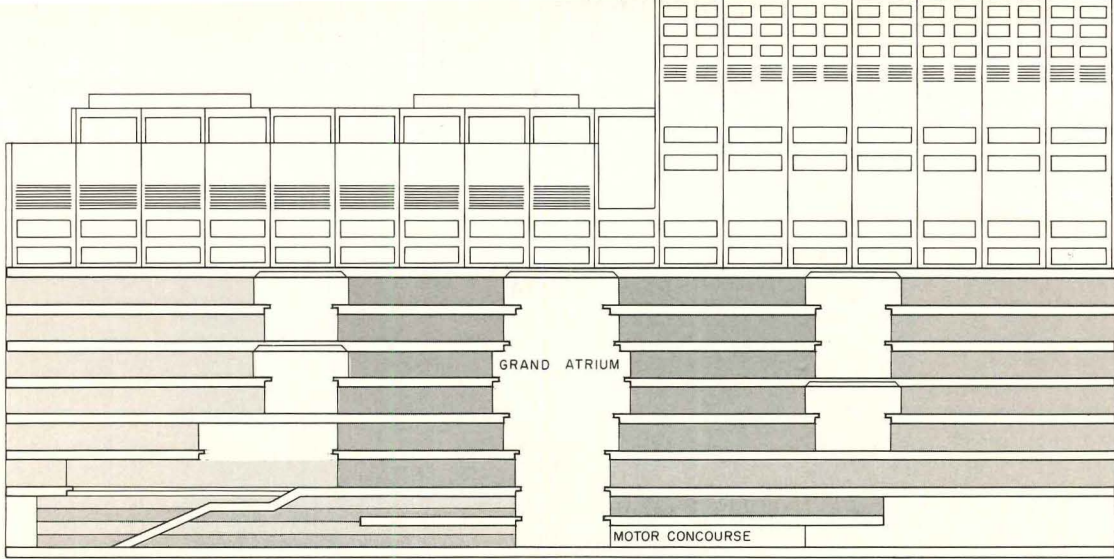
At the mezzanine level, the cascading escalator is still climbing. At the mid-block end of Lord & Taylor, an in-store escalator leads up to the . . .

Second floor, where Lord & Taylor switches to the far side of the building. The cascading garden escalator discharges at this level, and a mall leads straight ahead to the central “grand atrium” (drawing right), which reinforces the visual impression of more shops above and below and provides vertical transportation via a spectacular glass walled elevator or an easily seen and understood escalator system (see drawing overleaf).

On the third floor, the two major stores have “switched position” again, and extend across both ends of the building in the traditional “magnet” position. The malls between these magnets and the central atrium are broad enough for easy circulation, but minimized in width to maximize rentable space. At the “magnet” ends of the malls, an open well extends either up or down one floor (see section), again reinforcing the fact that there is “more on that next floor.” To move to that next floor, shoppers may use the central atrium or escalators in the stores near the entrances.

At the fourth level and above the essential pattern remains the same, except that the small wells alternate ends (see section). A drawing of one of these wells is overleaf.

- MARSHALL FIELD & CO.
- LORD & TAYLOR
- ATRIUM SHOPS



RITZ-CARLTON HOTEL
22 FLOORS

OFFICE COMPLEX
2 FLOORS

7TH FLOOR

6TH FLOOR

5TH FLOOR

4TH FLOOR

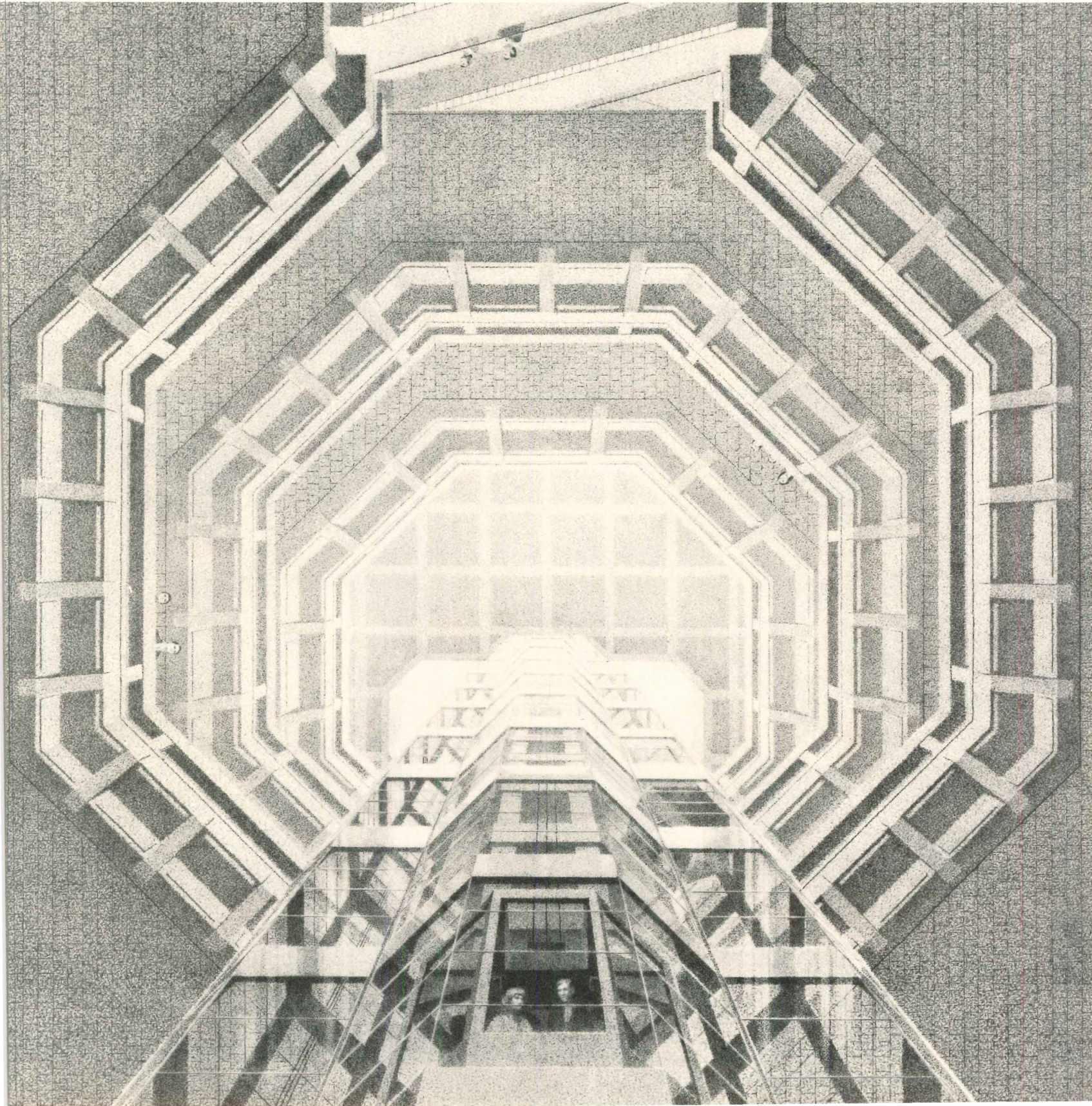
3RD FLOOR

2ND FLOOR

MEZZANINE

GROUND FLOOR

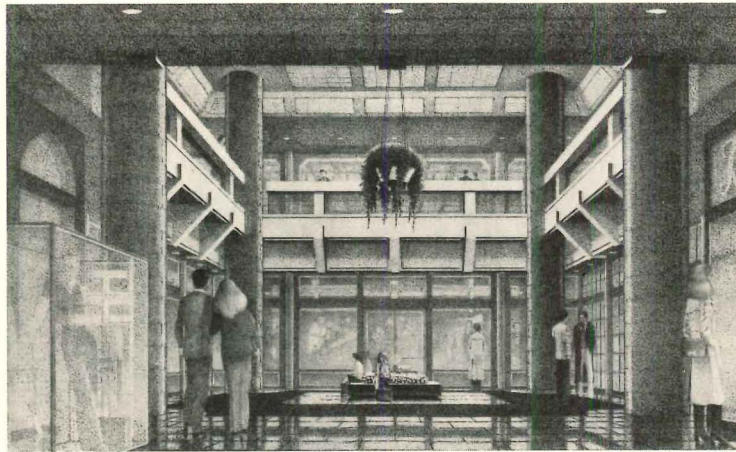
MOTOR CONCOURSE



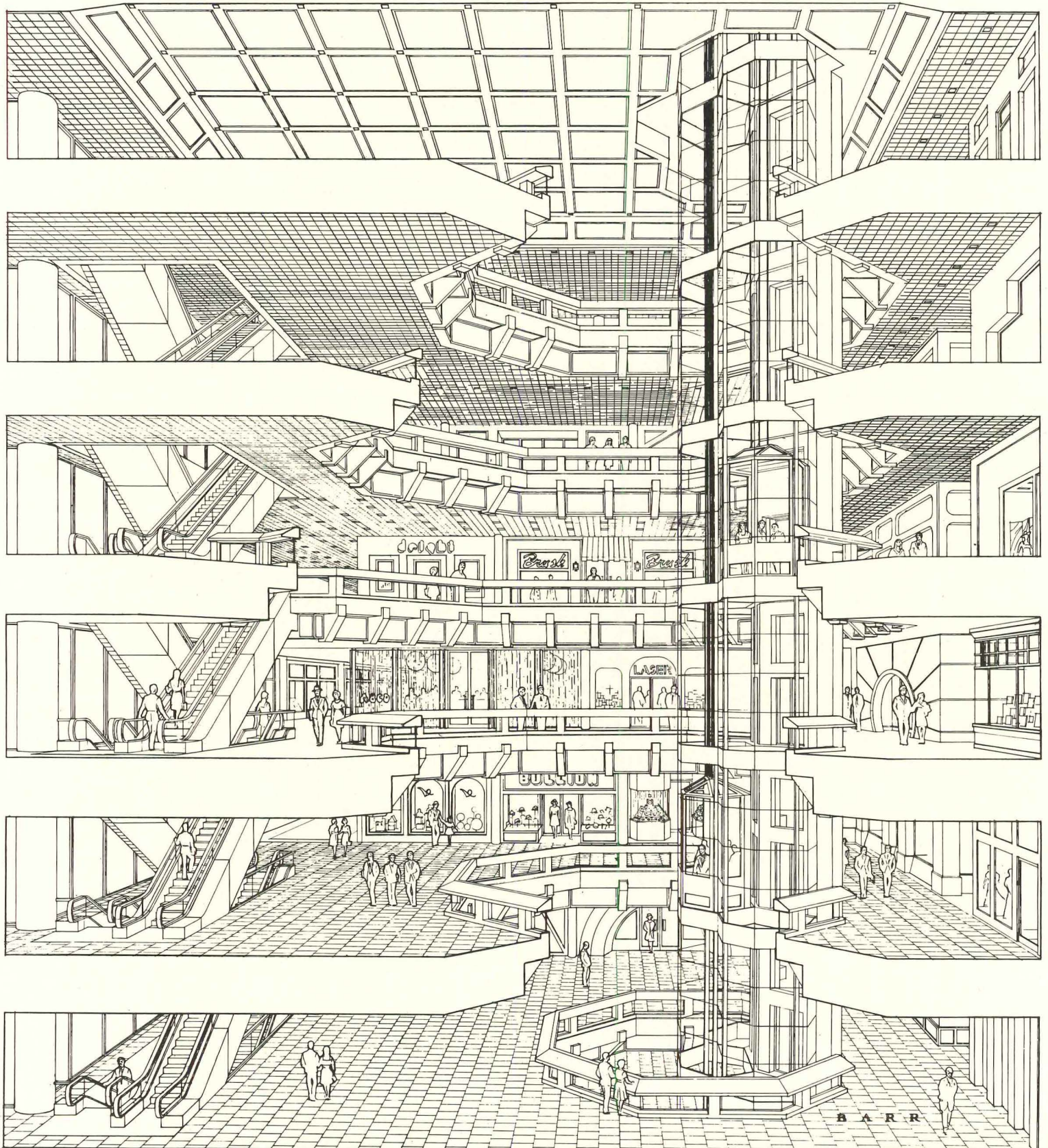
STORES AND SHOPS

is a lively new experiment in retailing; and an exciting kind of skilled and thoughtful architectural intervention into a tough and competitive business.

WATER TOWER PLACE, Chicago. Owner: MARBAN: A joint venture of Urban Investment and Development Company and Marshall Field & Company. Associated architects/engineers: Loeb, Schlossman, Bennett and Dart and C. F. Murphy Associates. Consulting architect: Warren Platner Associates—associates of Mr. Platner on this job: Robert Brauer, Jesse Lyons, Nicholas Pyle, and Dan Gill.



The small through-floor wells, or courts, at the end of the mall act as a visual signal that "there's more" up-stairs (or down). Escalators just inside the doors to the stores offer vertical transportation at the ends of the malls, supplementing the major vertical transportation by glass-walled elevator or escalator in the central grand atrium. The atrium is melon-shaped—another design device to add visual excitement and encouragement to look up and down and perceive all the floors of shopping space—another magnet.



Store's plug-in lighting system saves both time and money

The first level (31,122 sq ft) of Luetgen's Ltd. store in Hartford's new Civic Center has a plug-in lighting system in the ceiling that saved 12 cents a square foot as compared with hard wiring, and at the same time let the owner have a lot of flexibility in the location of fluorescent and incandescent luminaires. While the cost of materials for the plug-in system was nearly twice as much, only half as much labor was required—turning the advantage in favor of plug-in.

Another important factor was the electrical distribution for the ceiling had to be done in advance of the time the store design was completed. The owner, Aetna Insurance Co., had allotted 6 watts per sq ft over-all for general lighting and receptacles, and the consulting engineers, Burton and Van Houten had to lay out distribution that would give the store designers, Norwood Oliver Design Associates, ample wiring capacity and latitude in selection and location of luminaires. The go-ahead for the store was given in February 1975 and it had to be ready in August, only six months' time.

Luetgen's is a high-fashion clothing store for men and women, which meant that lighting

would play an important part in the design. In addition to the recessed ceiling lighting, track lighting was provided for accents, valences for illuminating clothing on racks, and wall covers for defining merchandise locations. Luetgen's is the pivotal store in a shopping mall at the Civic Center containing 55 quality stores.

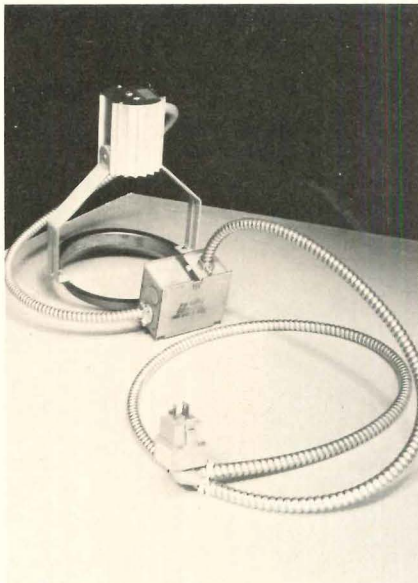
The plug-in raceways are laid out on 8-ft centers and have receptacles for luminaires on a 2-ft spacing. Each raceway consists of a U-shaped base and cover enclosing a prewired harness of receptacles for both 120-v and 277-v power, the higher voltage being used for fluorescent fixtures.

The engineer gave the electrical contractor, Baldwin-Stewart, the option of plug-in or conventional wiring for the first floor. Because of the relative newness of the system, the engineers could not be sure which system would cost less. The second floor ceiling was to have only a minimum number of access panels into the air-return plenum which meant that it would not qualify as an accessible plenum according to National Electrical Code Article 300-22 (c) which allows surface metal raceways in "hollow spaces used as ducts or plenums for environmental air . . . where accessi-

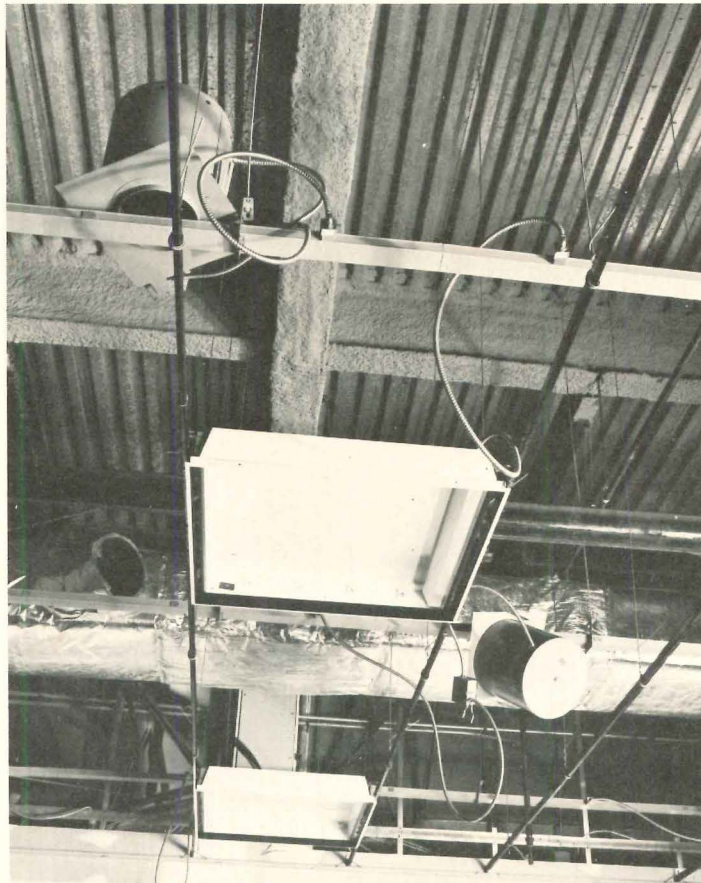
ble." So on the second level covering 38,394 sq ft, conduit and boxes were used.

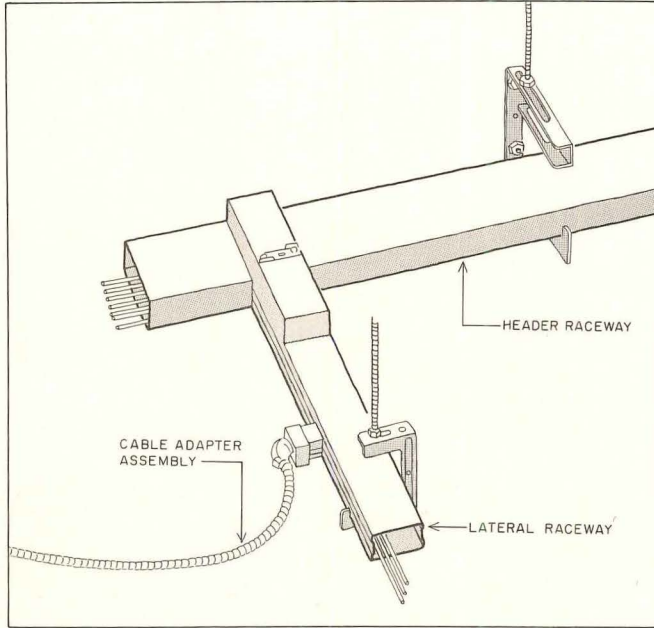
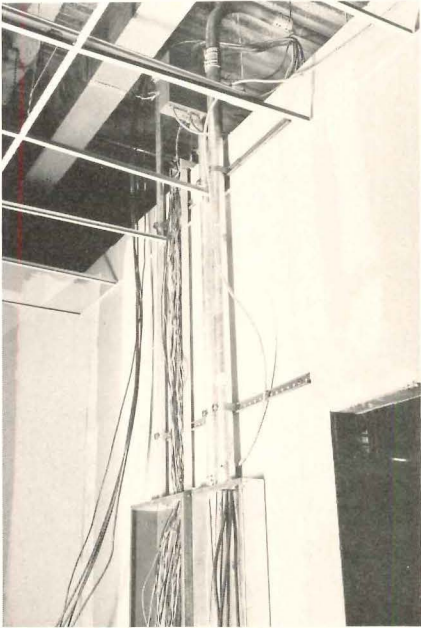
Material (based on 31,122 sq ft)		
Level 1: plug-in system plus incidental conduit and wire		\$10,514
	per sq ft	\$.338
Level 2: done in conduit and box		\$ 5,795
	per sq ft	.186
Labor (same basis)		
Level 1: 607 hours at \$15/hr		\$ 9,105
	per sq ft	.293
Level 2: 1166 hours at \$15/hr		\$17,490
	per sq ft	.562
Total Cost		
Level 1	\$19,619	per sq ft .63
Level 2	\$23,285	per sq ft .75

In the table above by the electrical contractor compares the cost of the plug-in system as used on level 1 of the store versus conventional wiring as used on level 2. The costs do not include luminaires, but do include the cost of wiring them in.

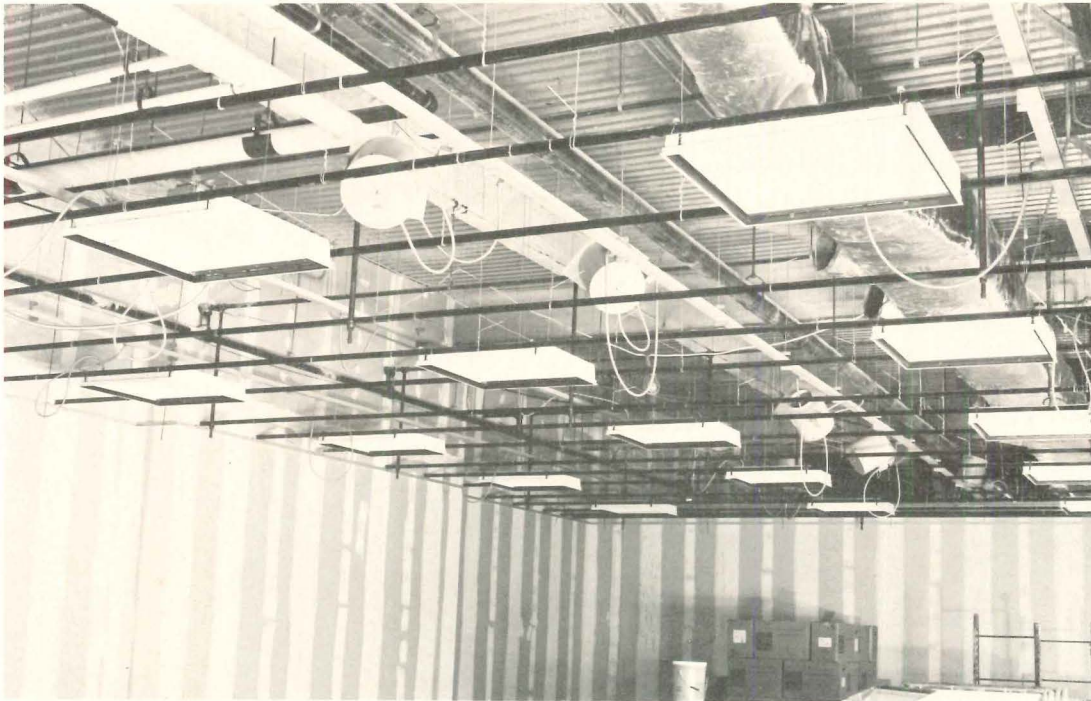


Plug-in type raceways on 8-ft centers, and receptacles 2 ft apart gave the designer of Luetgen's Ltd. in Hartford considerable latitude in location of luminaires. Installation by the electrical contractor took only half as much time as "hard-wired" lighting on a different floor of the same store. With the incandescent luminaires, electricians wired cable adapters (with plugs) to electrical boxes, but with fluorescent luminaires, cable adapters were wired directly to them.





Panelboard at left in the photo above serves a power raceway header for ceiling lighting. The receptacles in the lateral raceways are configured to take only the plugs of the cable adapters for either 120 or 277 volts.



Superdome's seating rolls into position to suit the sport or the entertainment

Because the Louisiana Superdome had to be versatile enough in its seating for all kinds of athletic events, conventions, shows and other entertainment, it was designed with a system of movable grandstands on the first, or plaza, level. Using any one of the four basic field configurations, the Superdome can seat anywhere from 19,142 for basketball or arena shows to 95,427 for convention-size activities.

The movable stands are located on both the east and west sides of the field, and consist of solid steel-deck grandstands 25 rows high. The total weight of these stands is almost 1,000 tons, and they have a seating capacity of approximately 15,000. Each side is 550 ft long.

When the stands are extended onto the field for events such as football, they are connected to the concourse by means of 12 removable pedestrian bridges, six on each side of the field. This allows spectators to move from the stands to the concourse with its concessions and restrooms without having to descend to field level.

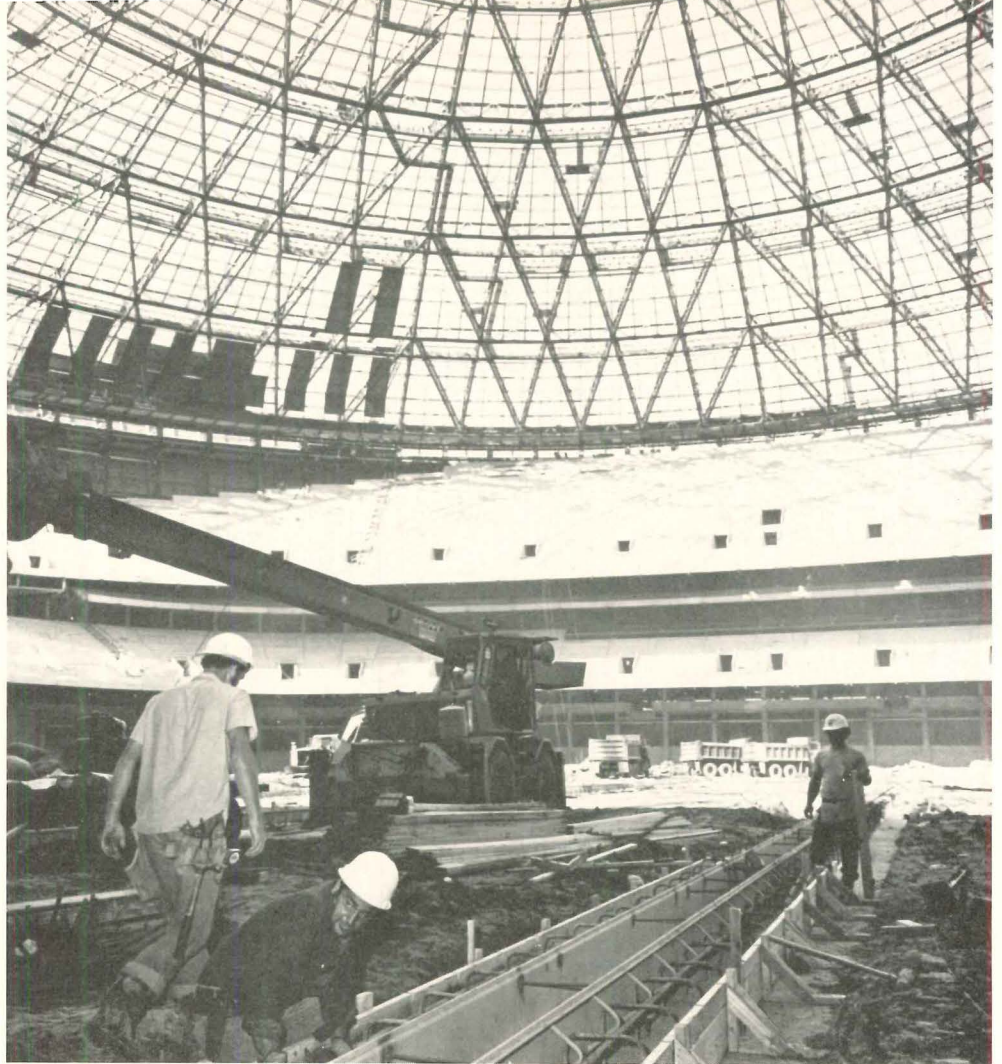
When the stands are moved back for large-field activity, such as baseball or conventions, the bridges are raised out of the way and suspended in storage under the structure of the seating level above. The movable stands are then retracted and become the lower level of seating for baseball.

The retractable pedestrian bridges (the longest is over 50 ft) are raised into storage position by electrically-activated hydraulic cylinders, and are locked into place by a special mechanism. As a safety measure, this auto mechanism can only be released manually to lower the bridges.

The stands are designed to move at approximately 5 ft per minute. The pipe-column understructure rides on steel roller units which travel in steel trenches 10-in. deep and 15-in. wide. Joints of the pipe-column understructure were factory-welded ensuring better quality control and reducing field erection time. Each roller assembly is a caterpillar type consisting of 17, 2-in. solid steel rollers with seven in contact with the base travel plate at all times. Each is fitted with horizontal guide wheels front and rear, which bear against the sides of the steel trench, aiding alignment of the stand in its travel cycle.

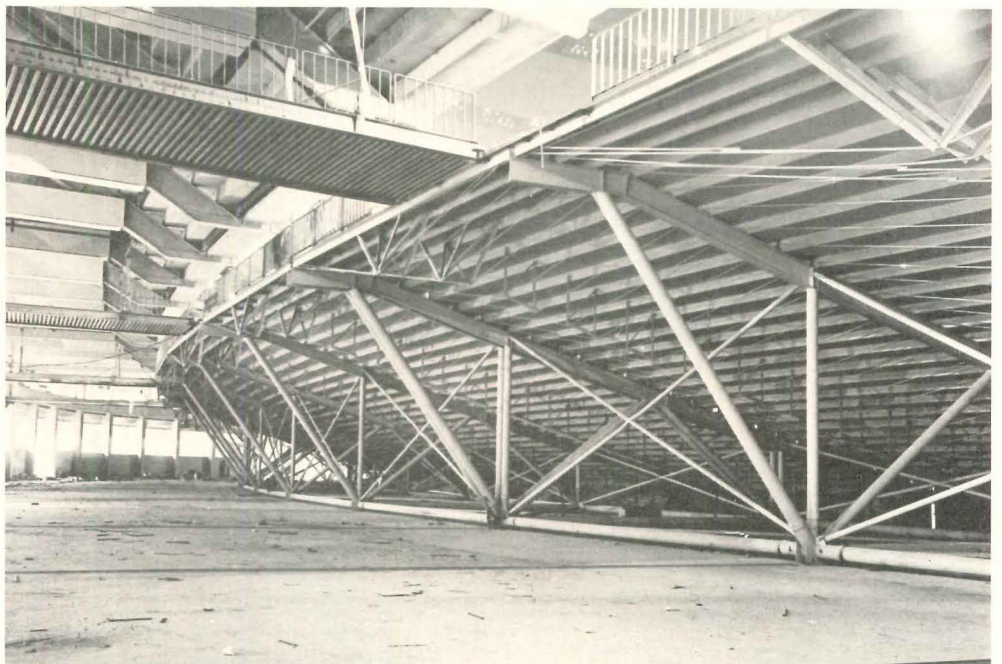
To move the stands, a cable drive system is electrically activated through a reduction spur gear which connects to the chain drive. Galvanized $\frac{3}{8}$ -in. cables pull the stands, each of which is powered by two motors.

On the west side of the field the entire 550



Movable stands on each side of the field, weighing almost 1000 tons each, are supported by pipe frames that sit atop caterpillar-type roller assemblies in tracks recessed below the floor.

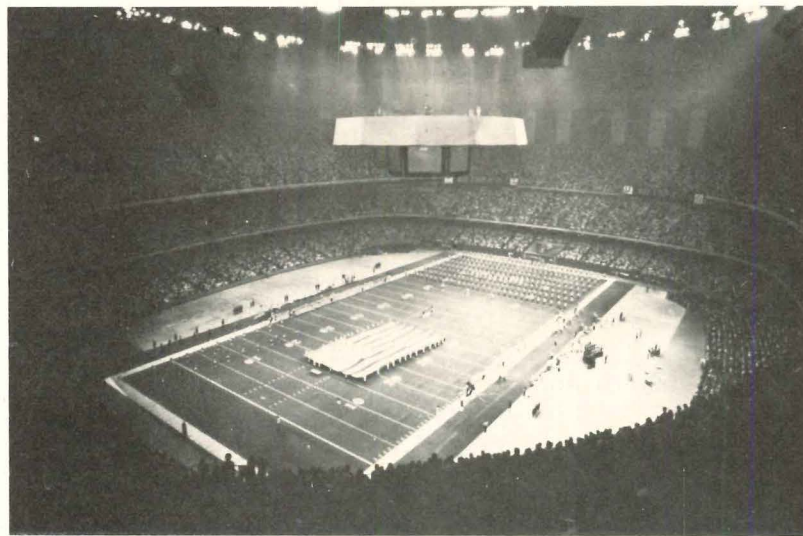
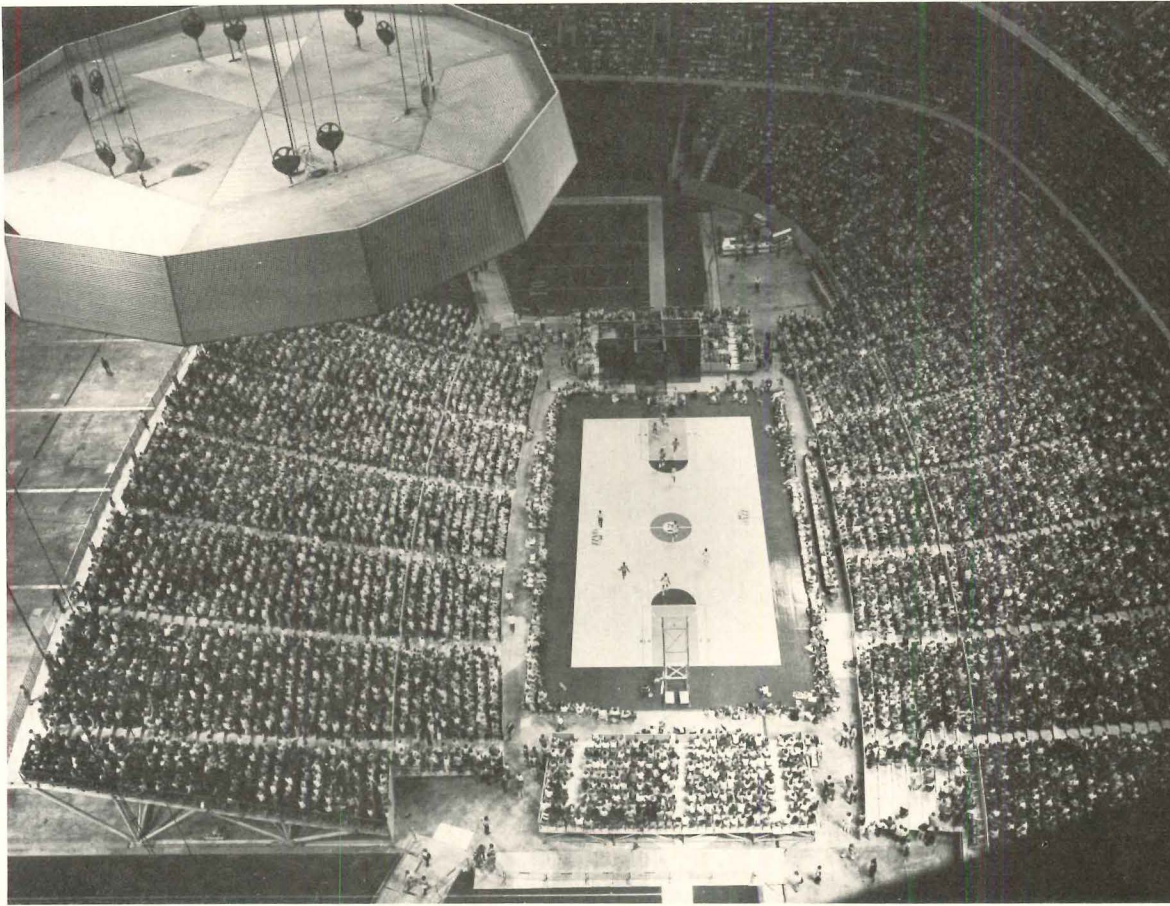
When the stands are extended to the playing area pedestrian bridges span the space between the stands and the concourse. The bridges are raised for storage by hydraulic cylinders.



ft of grandstand moves as a single unit, a total travel distance of 50 ft, and in its forward position, offers close-up football seating along the west sideline. On the east side, the 550-ft length is divided into three segments. When these three are moved forward a distance of 50 ft they form the east sideline seating for football. Additional flexibility is provided by the center unit, which can be uncoupled from these other two segments and moved further across to another stop, and again still further to

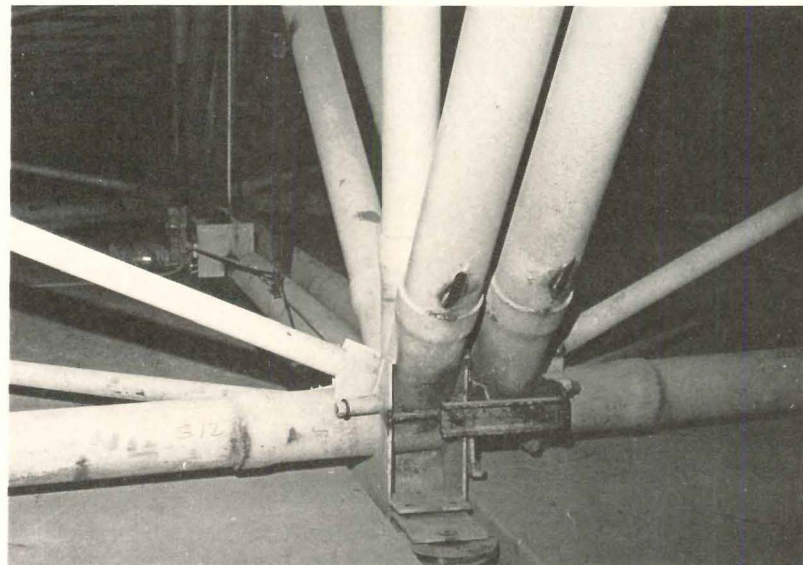
a final stop in its most extended position. As this latter point, this center 25-row segment has traveled 248 feet and has provided seating for what is known as the "arena" configuration for events such as basketball, ice shows and the like.

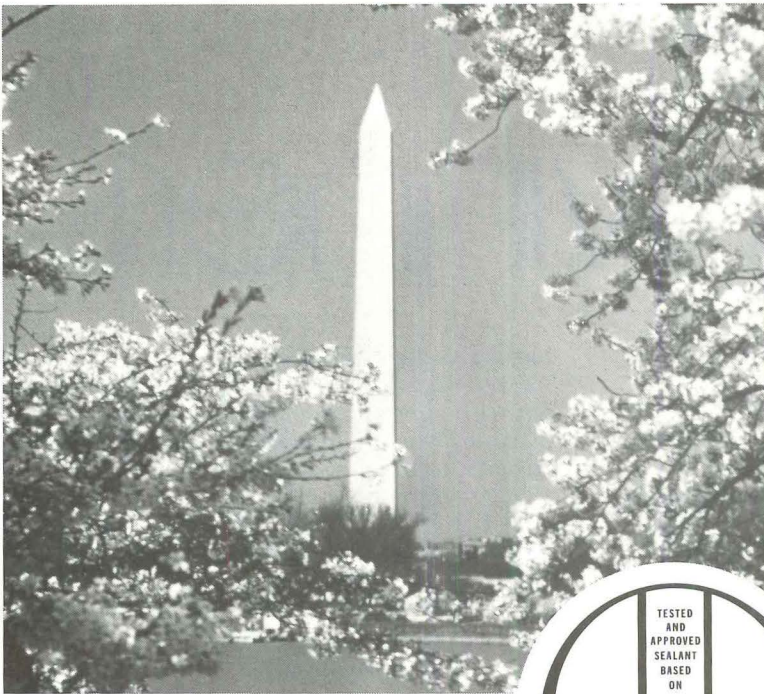
When the grandstands are returned to their normal retracted positions, the drive trenches are covered with special aluminum covers and when the synthetic turf is replaced, present a smooth playing surface.



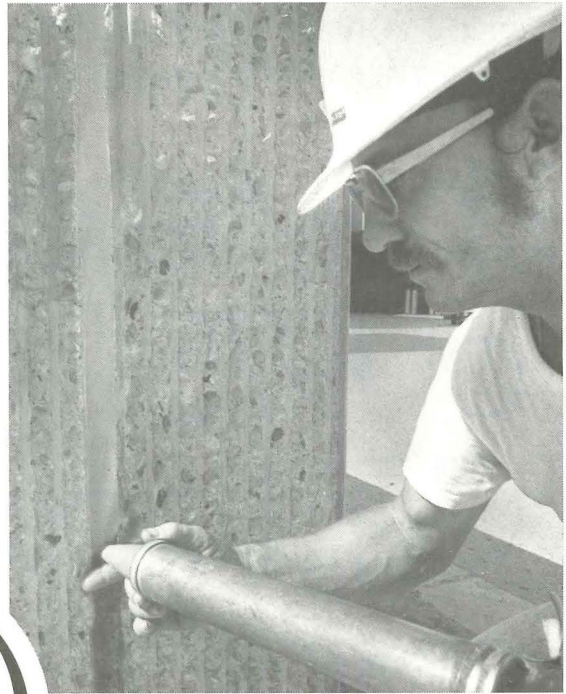
In the photo, above, the movable stands are located in their closest-in position for a basketball game. The tubular supporting structure can be seen in the left foreground, and the covered tracks on the left side. In the photo, left, the stands are in the so-called "college configuration," slightly out from the stadium's lower wall. Audience capacity in this configuration is 72,500.

The roller assembly and the guiding track and cables are shown in the photos, below. There are 17, 2-in. steel rollers in each assembly, with seven in contact with the base travel plate. Each assembly has horizontal guide wheels in front and rear, bearing against the sides of the steel trench. The tubular supporting structure was shop welded to save erection time and to aid quality control.

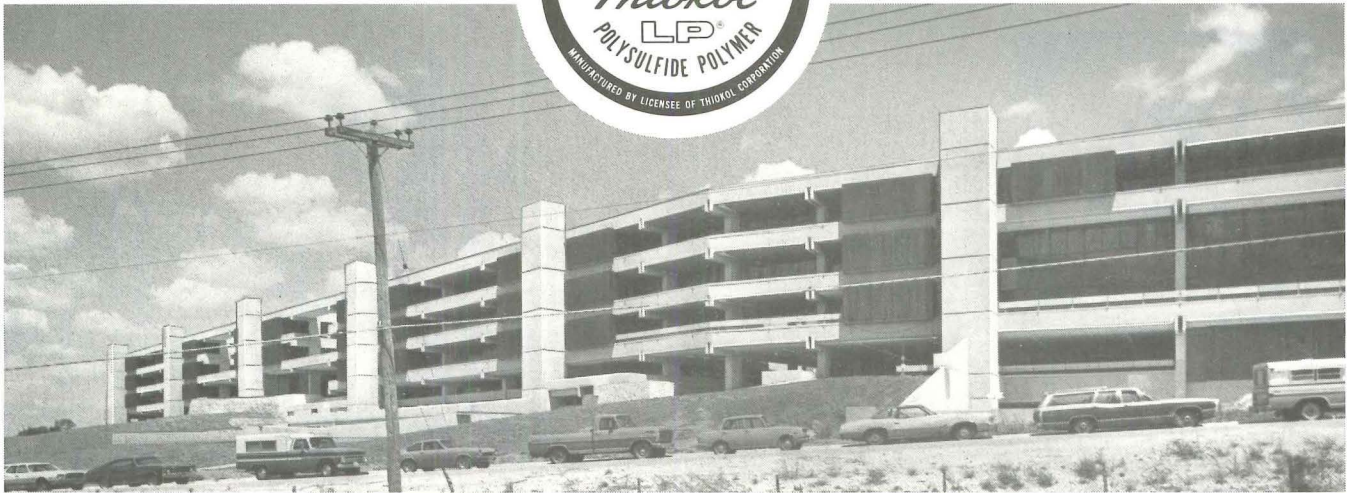
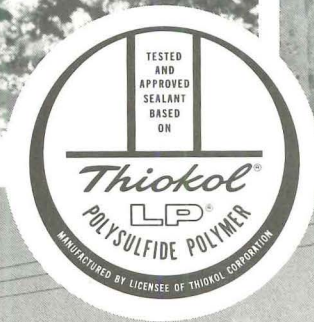




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one important thing in common:

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McCaughy, Marshall and McMillan
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*President of ASCE
New York, New York*

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

William C. Muchow, FAIA
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*Head, Department of Architecture
University of Illinois
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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.

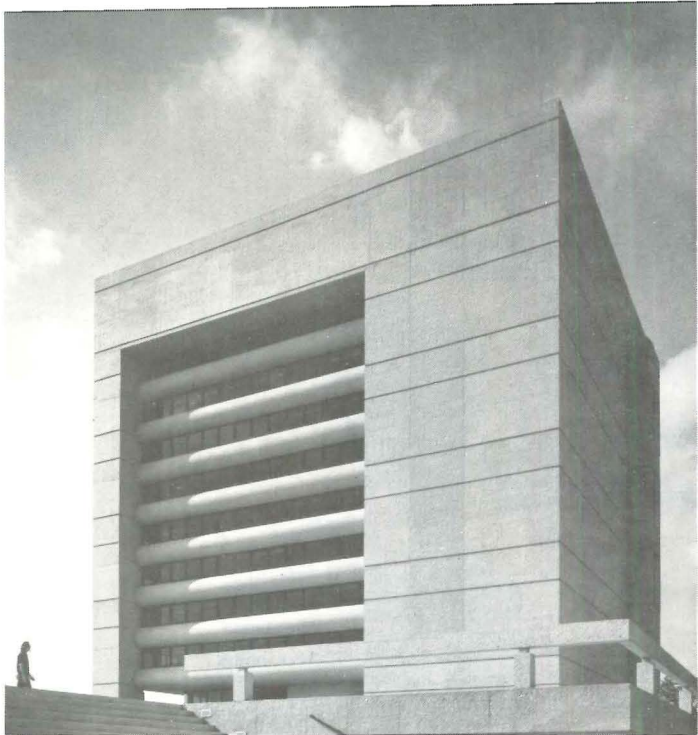
Jury Comments: "A complex building... very competently conceived and detailed... uses simple forms to create order."

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.



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.



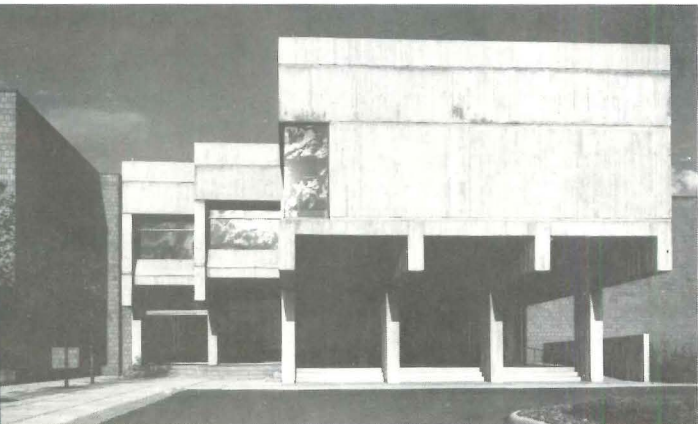
HOUSING FOR THE ELDERLY, San Francisco, California.
Jury Comments: "Deft and imaginative... refreshing break from sterile box-like forms... nicely set into low-density urban site."
Owner: San Francisco Housing Authority, San Francisco, Calif.
Architect: Marquis and Stoller, Architects & Planners, San 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 Engineer: 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.

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Gallons Per Flush*

Emblem Model	Water Pressure		
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Round	3.16	3.20	3.05
Elongated	3.05	3.12	3.16

savings** per year on water and sewage bills. And, as costs go up . . . so will the savings.

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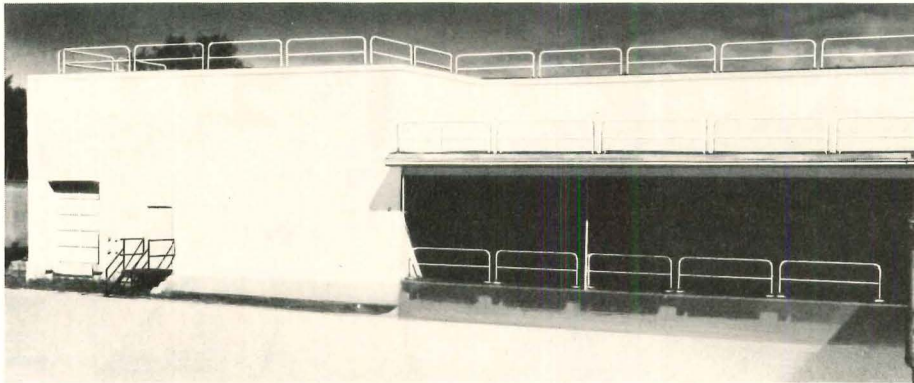


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For more information, circle item numbers on Reader Service Inquiry Card, pages 209-210.

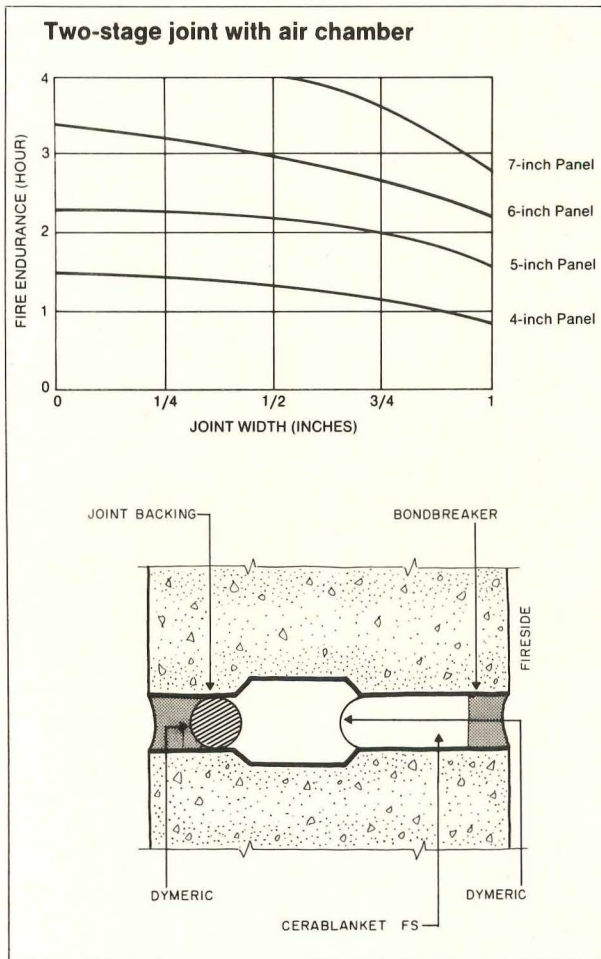


Tip-proof portable safety railings satisfy OSHA

Pictured is an installation of the *Rail-Guard* portable safety railing system. These barriers meet all requirements of OSHA for safety railings, and are suitable for either temporary or permanent use on construction sites, roof tops, loading docks, balconies, or around machinery or pit openings. The triangular base is 30,000 psi cast iron; the rails are formed of 16-gauge steel tubing. A pin inserted through the

railing at the base locks the *Rail-Guard* and prevents it from sliding; when the system is erected in series with the "outrigger" fixture at the ends, the entire railing is virtually tip-proof. These safety railings are available in multiple lengths with a complete handling system, according to the company. / The Rail-Guard Div., Crafts, Inc., Manitowoc, Wis.

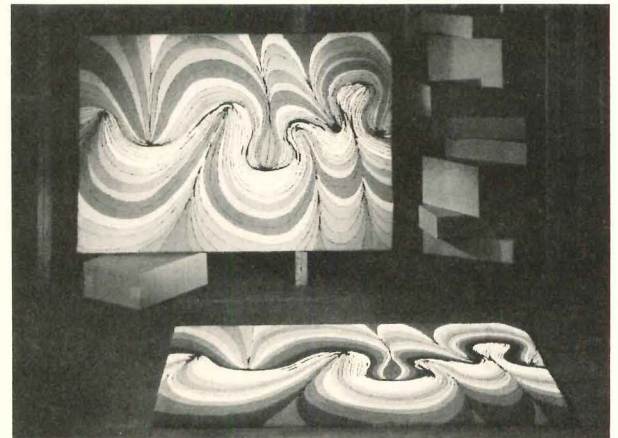
Circle 300 on inquiry card



Rugs—contemporary and primitive motifs

Shown at right is "Mogul," an area rug designed by Bill Hinz in swirling color and sculptured nylon pile. It is one of an extensive collection of rugs in nylon or acrylic combinations. Included in the series are earth-toned designs taken from primitive African motifs, and contemporary patterns of vibrant colors. Most are available in sizes up to 5 by 7 ft. / Regal Rugs, Inc., North Vernon, Ind.

Circle 301 on inquiry card



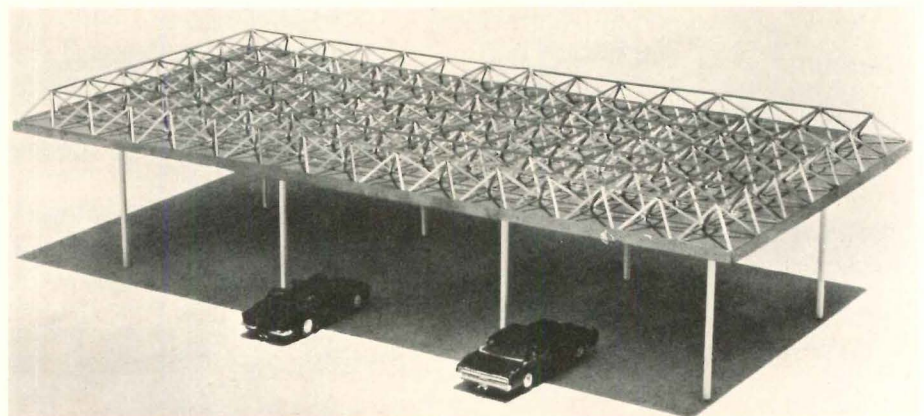
Structural aluminum space frame is lightweight

Developed with the assistance of Carr Smith and Associates, Inc., Engineers, Architects and Planners, this space frame assembly is all-aluminum—corrosion resistant and lightweight. Using 3/8-in. aluminum bolts, the roof can be assembled by as

few as two workers, then hoisted by crane onto supporting columns. All external loads are distributed over the entire roof; the frame overcomes the critical problems of shear stress and bending moments even in areas where high winds are a

factor. Suggested applications include outdoor gymnasiums, covered storage, carports, etc. / Alcan Building Prods., Div. of Alcan Aluminum Corp., Charlotte, N.C.

Circle 303 on inquiry card
More products on page 155

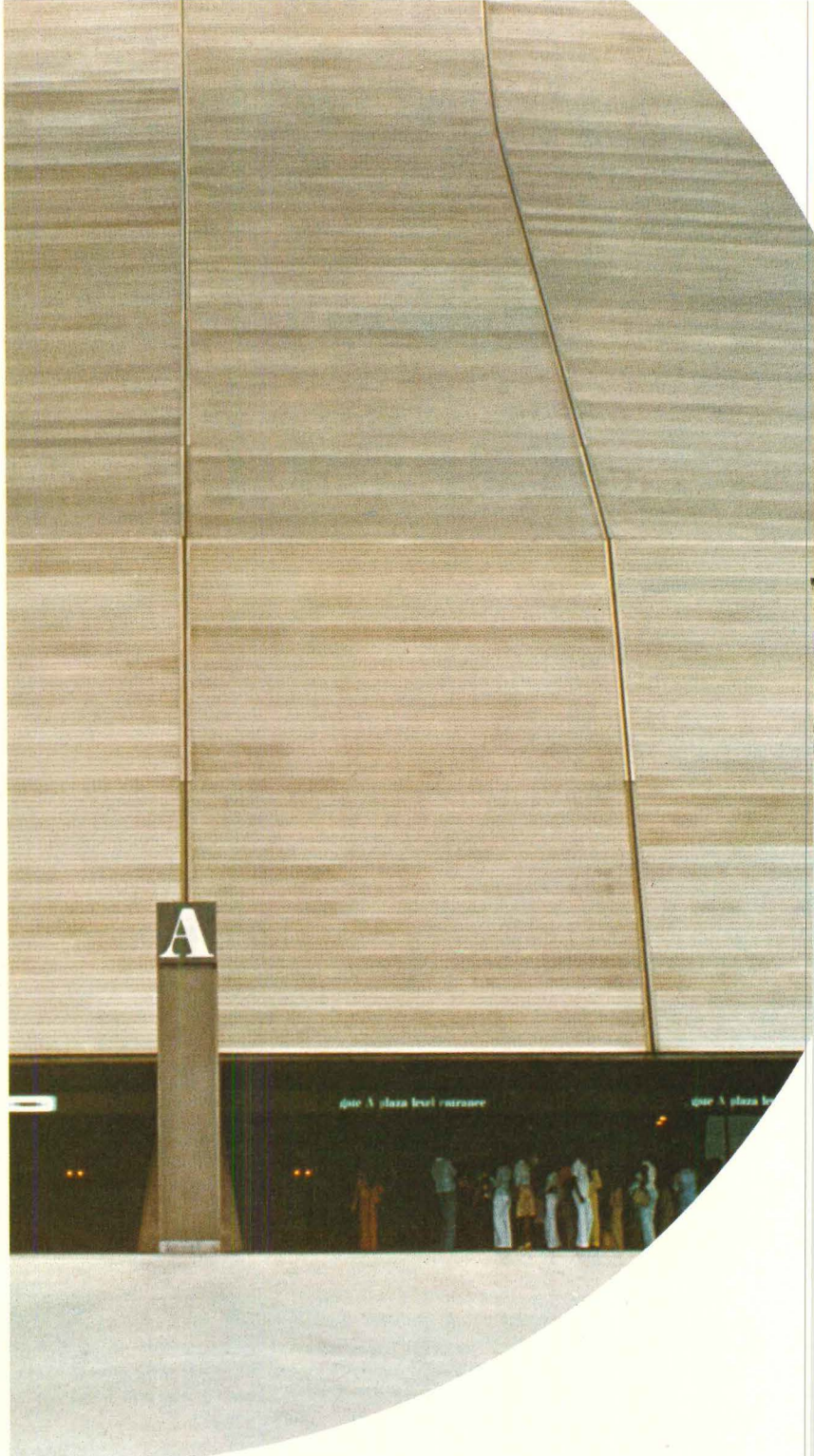
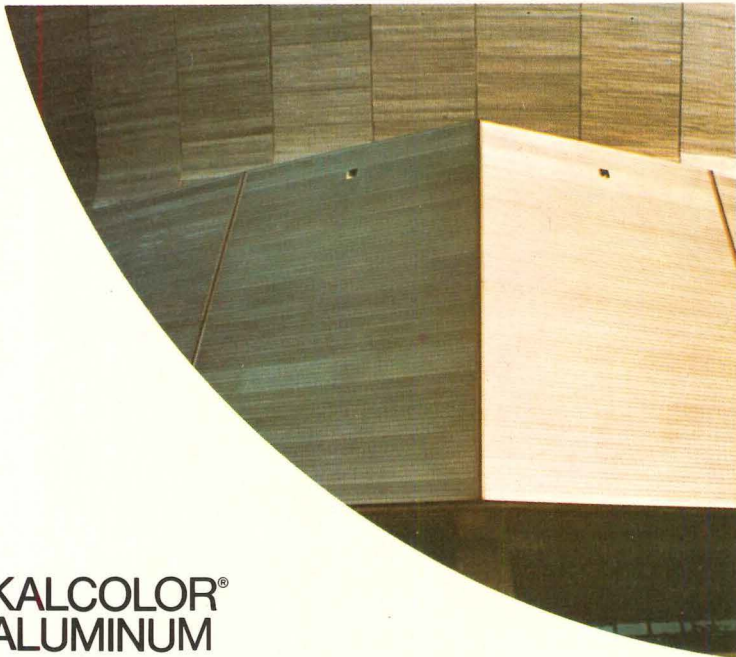


Fire-resistive joint sealing system

A newly-developed sealing method for precast concrete panels is said to produce fire-resistance ratings almost the same as those of the panels themselves. The product of extensive fire testing, the system meets ASTM criteria for building assemblies. A typical joint, shown above, consists of *DYmeric*

two-part sealant at each end, and *Cerablanket FS* ceramic fiber blanket insulation in the void. The system has proved effective in preventing passage of flame or hot gases, and stops transmission of heat beyond the desired fire endurance. / Tremco, Cleveland, Ohio.

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For technical literature on KALCOLOR, write: KAISER ALUMINUM, Room 776-KB, Dept. A, 300 Lakeside Drive, Oakland, CA 94643.

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Heathtec Finishes, Hayward 94545
Metalco, Inc., Emeryville 94608
Northrop Architectural Systems,
City of Industry 91748
Quality Metal Finishing Co., Lynwood 90262
Revere Extruders, Inc., Pomona 91766

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The H. A. Leed Co., Hamden 06503

FLORIDA

The Anaconda Company, Opa-Locka 33054

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The Anaconda Company, Atlanta 30301
Southern Aluminum Finishing Co., Inc.,
Atlanta 30318
The William L. Bonnell Co., Inc., Newnan 30263

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Extruded Alloys Corp., Bedford 47421
PPG Industries, Inc., Kokomo 46901

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North American Aluminum Corp., Kalamazoo 49004

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AaCron Incorporated, Minneapolis 55427

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Metals Protection Plating, Inc., Kansas City 64127

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Rebco, Inc., West Paterson 07425

NEW YORK

Keystone Corporation, Buffalo 14213

OREGON

Anodizing Inc., Portland 97211

TENNESSEE

The William L. Bonnell Co., Inc., Carthage 37030

TEXAS

Atlas Architectural Metals, Inc., Dallas 75227
Howmet Aluminum Corp.,
Texas Extrusions Div., Terrell 75160

VIRGINIA

Hankins & Johann, Inc., Richmond 23221

WASHINGTON

Heath Tecna Corp.,
Fentron Industries, Inc., Seattle 98107

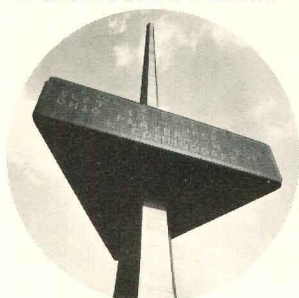
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Gordon Aluminum Industries, Inc., Schofield 54476

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Indalex Ltd., Weston, On. M9M 2L6
PPG Industries Canada Ltd.,
Toronto, On. M4V 1M8

KAISER ALUMINUM



ARCHITECTS

Curtis & Davis, New Orleans, LA

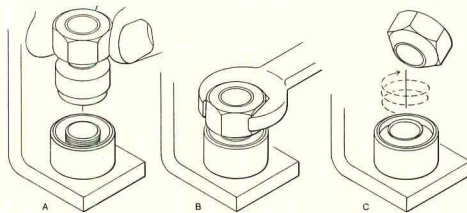
EXTERIOR

Anodizing: Aluminum Finishing Corp. of Indiana,
Indianapolis, IN
Wall System: H. H. Robertson Co., Connersville, IN

GRAPHICS

Anodizing: Aluminum Finishing Corp. of Indiana,
Indianapolis, IN
Fabrication: J-C Products Corp., Indianapolis, IN
Installation: PPG Industries, Kokomo, IN

PRODUCT REPORTS *continued from page 151*



TAMPER-PROOF FASTENER / A by-product of bike-rack design is the *Guard-Nut*, said to be economical and virtually theft-proof. A free-turning protective sleeve is placed over any standard bolt. When the predetermined torque is applied with a wrench, the hex of the *Guard-Nut* shears off, leaving only a smooth, circular nut. Subsequent disassembly, with a special tool, will not damage bolt or threads. ■ Guard-Nut Div., Rally, Inc., Mill Valley, Calif.

Circle 304 on inquiry card

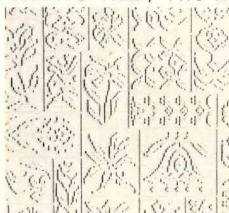
VINYL-ASBESTOS TILE / A newly-introduced vinyl-asbestos floor tile for commercial installations, "Architectural Accents" offers a choice of seven contemporary colors. Suggested applications include distinct boutique areas within stores, traffic direction indicators, etc.



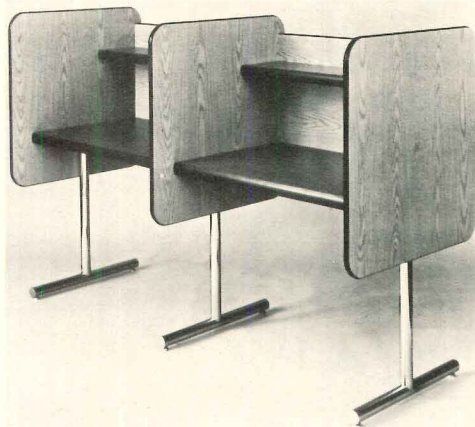
The tile comes in 1/8-in. and 3/32-in. gages, in shades such as "Nocturne Blue" and "Crushed Ruby." ■ Kentile Floors, Brooklyn, N.Y.

Circle 305 on inquiry card

CEILING TILE / Two new patterns are part of the manufacturer's "Independence" series of ceiling tile, designed to reflect the feeling of 18th century American interiors. Shown is "Lexington," a soft white needlepoint design on a beige background. Similar in coloring is "Saratoga," inspired by crewel embroidery work. Both are installed by clip-strip or adhesive; the tiles can be cleaned with a damp cloth. ■ Gold Bond Building Products, Div. of National Gypsum Co., Buffalo, N.Y.



Circle 306 on inquiry card



STUDY CARREL / Curved lines and warm colors are featured in the "Tempest" carrel, which includes fluorescent lighting and a power column that provides an on/off control and additional outlets. All edges have vinyl molding; legs are plated 13-gage steel tubing. ■ Howe Furniture Corp., New York City.

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More products on page 157



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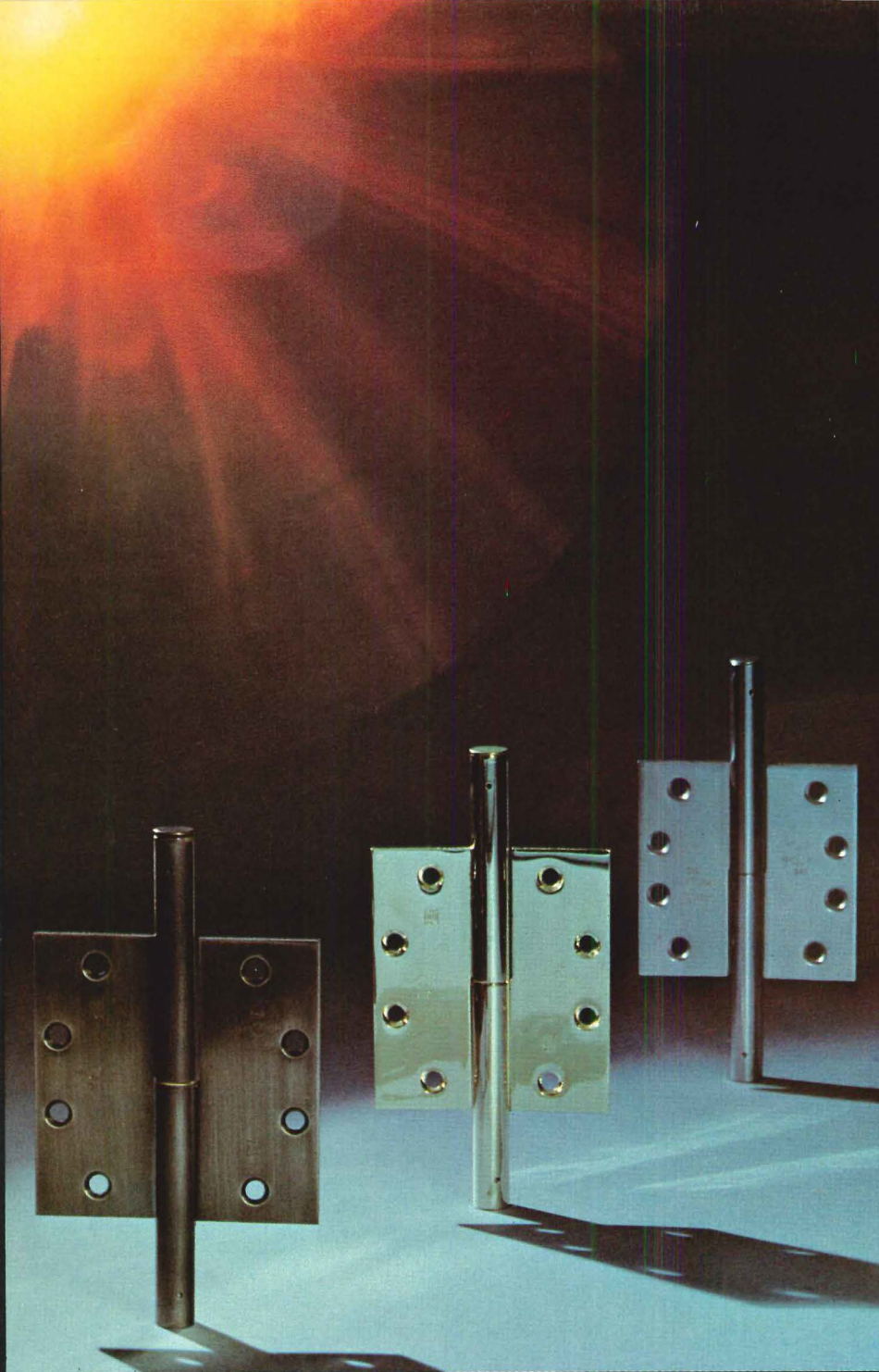
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Hager's Torsion Hinge Trio does what other hinges can't.

Hager's torsion hinges, not only close doors beautifully, but they can be adjusted for correct closing strength on the job site, unlike some other self-closing hinges.

Hager's new torsion hinges have been used successfully in a wide variety of building types. Now our new 4" x 4" size is available for use in commercial construction.

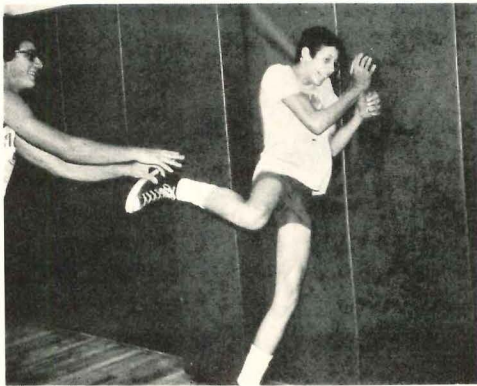
Eleven tempered spring steel torsion bands in our 4-1/2" x 4" and 4-1/2" x 4-1/2" hinges provide even, adjustable closing strength for doors weighing up to 100 lbs. Our new 4" x 4" can be used for doors up to 80 lbs. No more cluttered appearances. One center-mounted torsion hinge, used with two ball bearing hinges, eliminates the unsightly coils of bulky spring hinges. They install easily, like ordinary mortise hinges, and meet all current codes where self-closing doors are required.

Hager Hinge Company,
139 Victor Street, St. Louis, Mo. 63104.



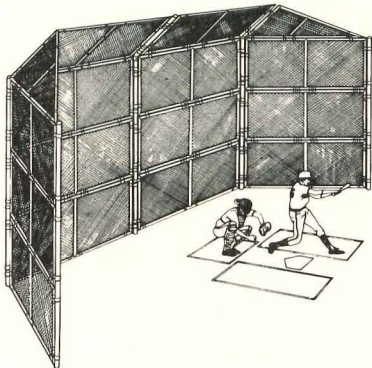
Hager

EVERYTHING HINGES ON Hager!



GYM WALL PADDING / Designed to prevent injuries to basketball and indoor tennis players at potentially dangerous impact areas, these nylon-reinforced vinyl-covered pads come in 2- by 6-ft panels, with special shapes available. The urethane filler comes either 1, 1½-, or 2-in. thick; the panels are backed with ¾-in. plywood. Nine different colors are available. ■ Oliver C. Steele Mfg. Co., Spiceland, Ind.

Circle 308 on inquiry card



SPORTS BACKSTOP / A heavy-duty series of baseball backstops is constructed of galvanized steel prefabricated panels. No special tools or know-how are needed for bolt-together, on-site installation. Woven wire netting is fastened on all sides with solid aluminum tension rods and stainless steel strap clamps; individual panels can be replaced as needed. ■ SportsPlay Products, Long Island City, N.Y.

Circle 309 on inquiry card



AIR STRUCTURES / The air structure shown above uses a special skin fabric developed in Sweden, and is now available in the United States. The material is said to be light and flexible, with high-frequency welded seams, translucent strips for natural light, and an anchoring method that speeds construction and offers good wind resistance. The American company will provide lighting, heaters, and blowers for the structures, which can be specified in sizes up to 164- by 51- by 410-ft and larger. ■ Weather-Shield Corp., Buffalo, N.Y.

Circle 310 on inquiry card

More products on page 159

For more data, circle 77 on inquiry card ♦

♦ *For more data, circle 76 on inquiry card*

T-100

JG Furniture Company, Inc.
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Architects: Hellmuth, Obata & Kassabaum, P.C.
Interior Design: Kenneth H. Hanser,
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Three ceiling problems, three Conwed solutions.



1. Rough treatment

There are actually two Conwed® solutions to this problem. Our ultra-hard Rock Face™ tile and panels provide both abuse-resistance and beauty and are ideal for unsupervised corridors and public places. Where abuse is heavy—such as a gymnasium—we offer an Impaction Ceiling System. It's designed to take a blow from a high flying ball, give with it, then snap back into place. It's U.L. fire rated too! Both of these solutions were introduced by Conwed.

2. Grime and grease

There are certain areas where cleanliness is crucial: kitchens, hospitals, laboratories, supermarkets. For these problem areas, Conwed makes the Metal Face Ceiling. The vinyl-coated, metal-clad surface resists penetration of dirt, moisture and odors. Even areas with concentrations of grease come clean with a sponge and mild detergent solution. The washable ceiling is another Conwed first.

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Conwed Ceramic Ceilings are designed to withstand high humidity and are resistant to heat and corrosive chemical fumes. They offer excellent acoustical control, a pleasing appearance and a two-hour U.L. fire rating. An obvious application is for swimming pools, but the Ceramic Ceiling is also appropriate for installation under outside canopies or soffits and in areas as diverse as kitchens and industrial plants.

And as many more solutions as there are problems.

Conwed has been making ceiling products for over 50 years. We've had one basic way of doing things—isolate a need, and develop a product solution in a form contributing to interior design and

minimal maintenance. This approach has made Conwed a concept and product innovator. For more ceiling solutions, write Conwed Corporation, 332 Minnesota Street, St. Paul, Minnesota 55101.

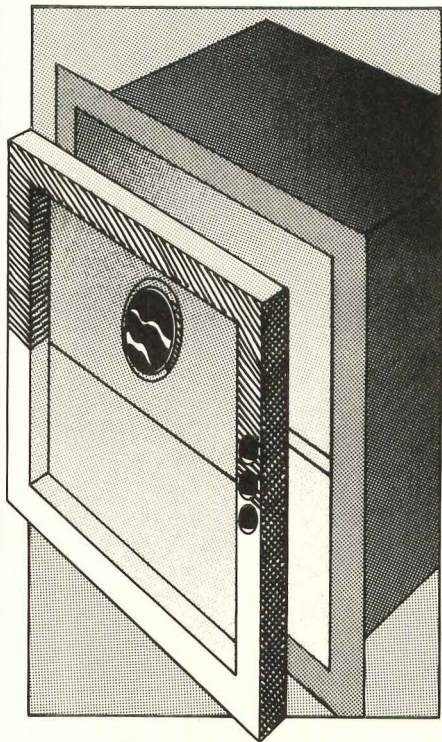


Conwed
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It saves man hours. It increases efficiency. It simplifies handling.

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PORCELAIN STEEL INTERIOR PANEL / "Vitriform



90" is a porcelain-on-steel material suitable for interior walls and ceilings. The photo shows how the material can be installed without the use of moldings and with a minimum number of groutlines (one every 4 ft). "Vitriform 90" can also be formed at a 90-deg. angle with the porcelain on it. The product's non-porous, glass-like surface suggests usage in hospitals, operating rooms, kitchens and other applications where control of bacteria is essential. The product is described as fire-resistant and smokeproof. ■ AllianceWall Corp., Wyncote, Pa.

Circle 311 on inquiry card

HIGH-OUTPUT FLUORESCENT / The "Vita-Lite



The "Vita-Lite Power-Twist" fluorescent lamp is now available in both 40- and 20-watt models. The spiral design is said to permit greater light output at the same wattage, with an average user-hour life of 33,000 hours. The "Vita-Lite" is a full-spectrum light source, with a color rendering index of 91 (out of a possible 100). This close simulation of sunlight makes the lamp suitable for indoor gardening, aquariums and terrariums, etc. ■ Duro-Lite Lamps, Inc., Fair Lawn, N.J.

Circle 312 on inquiry card

HYDRONIC HEATING / This 16,000 Btu hydronic



heating console is now available in two semi-recessed styles, which protrude 3½ in. from the wall. The units are 26 in. long by 24 in. high, with a total depth of 7¼ in. Each includes the *Twin-Flo* transverse flow blower, factory wiring, and three-speed pushbutton air flow control. ■ Beacon-Morris Corp., Boston, Mass.

Circle 313 on inquiry card

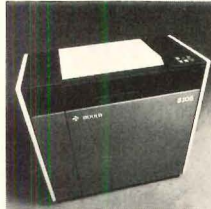
VENEER PANELS / Western Red Cedar panels are



now available in veneer strips 3½ in. wide, and in lengths of from 1 to 4 ft. Each package of "Cedar-strip" contains enough material to cover about 33½ sq ft. The strips can be cut with scissors, and applied with adhesive to produce a variety of patterns. ■ Pope & Talbot, Inc., Portland, Ore.

Circle 314 on inquiry card

ELECTROSTATIC PRINTER/PLOTTER / The model



"5105" wide-bed electrostatic printer is designed for high-speed plotting of computer graphics in scientific, engineering and architectural applications. Using 22-in.-wide coated paper in 400-ft rolls, the "5105" has a printing resolution of 100 dots per inch both vertically and horizontally. ■ Gould Inc., Instrument Systems Div., Cleveland, Ohio.

Circle 315 on inquiry card

More products on page 161

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And subtract a lot of noise there.

Acoustilead—1/64" thin sheet lead—is a proven material for subduing noise in offices, schools, hospitals and other buildings. Installed in the area between a hung ceiling and the slab above, Acoustilead stops noise from leaping over walls separating one room from another.

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When your imagination calls up sweeping curvilinear shapes or great enclosed space, Helios Tension Products are the people to bring your ideas into existence. We're specialists in helping architects produce innovative membrane structures. We can tell you if your design concept can be built and exactly how. Our expertise includes design and engineering, fabrication and erection. It's a total comprehensive service unmatched in the U.S.

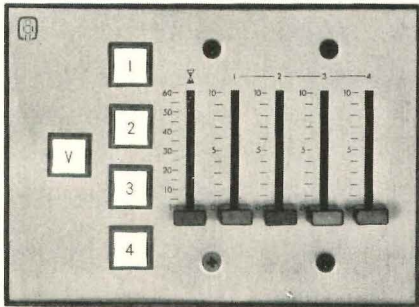


If you have a project where a membrane structure may be the answer, or if you'd just like more information for future reference, write and tell us: Dept. R4, Helios Tension Products, Inc., 1602 Tacoma Way, Redwood City, CA 94063. Telephone: (415) 364-1770, Telex 345590.



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WOOD BURNING STOVE /



Combining the heat of a stove with the look of a fireplace, the "Gibraltar IV" stove is made of steel plate with a tempered glass window. The unit is 32-in. wide, 18-in. deep and 32½ in. high, and will accept 28-in. logs. It comes with firebrick, safety door lock, and an oxygen metering device to promote almost complete fuel combustion. ■ Self Sufficiency Products, Minneapolis, Minn.

Circle 316 on inquiry card

DRAFTING CHAIR /



The model "5601" drafting chair has a hydraulic control lever that permits the user to adjust both seat height and backrest tilt while seated. The 10-caster base helps eliminate wobble; the seat pan and backrest are designed for maximum support and comfort, and the seat may be raised to a height of 21¾ in. ■ The Huey Co., Franklin Park, Ill.

Circle 317 on inquiry card

STONE CLEANSER /



Even soft, absorbent stone that might be damaged by steam or abrasives can be thoroughly cleaned with *Detergent*, according to the company. The powder is mixed with water, and the resulting paste is sprayed on, covered with polyethylene sheets, and allowed to set for up to two days. The dried cleanser is then washed away with high-pressure water. The photo shows a worker washing the Caen stone interior of Grand Central Station in New York City. ■ BASF Wyandotte Corp., Wyandotte, Mich.

Circle 318 on inquiry card

VANITY TOP/FAUCET /



Thermoplastic "Aurora" faucets are available with color-matching molded plastic vanity tops. Both faucet and counter are said to be chip- and impact-resistant, and easy to maintain. The faucet offers a 1000-month warranty against leaks and drips. ■ Bradley Corp., Menomonee Falls, Wis.

Circle 319 on inquiry card

LINE VOLTAGE THERMOSTAT /



The "Multi-Stat" thermostat provides a long, liquid-sensing element with close temperature differential, eliminating heat anticipators. A wide range of mounting and adjustment options is available; the unit is suited for low-, standard- and heavy-duty ac applications. ■ Penn Div., Johnson Controls, Oak Brook, Ill.

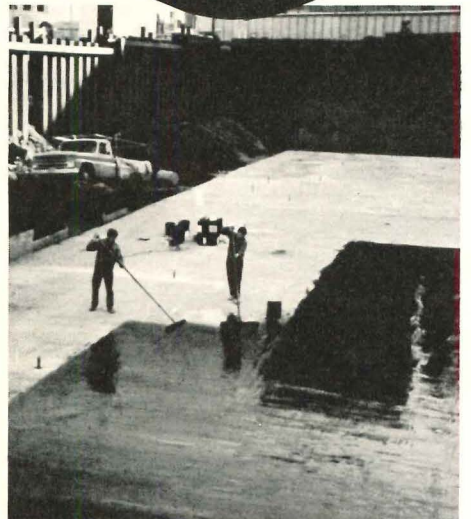
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More products on page 163

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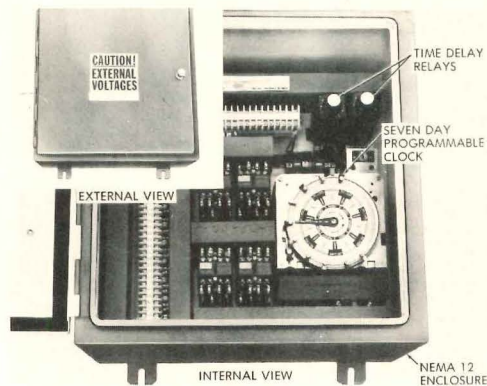


SHAFT WALL / A new wall system permits the substitution of 1/2-in.-thick gypsum panels for 5/8-in.-thick ones, reducing the over-all weight by 15 per cent. The "C-H" shaft wall consists of two 1/2-in. *Sheetrock Firecode* panels, one 1-in.-thick liner panel, "C-H" studs and J-runners. This dry shaft wall system can be constructed from the corridor side of the shaft; has a 2-hr. fire rating, and a sound rating of from 39 to 50 STC, according to the manufacturer. ■ United States Gypsum Co., Chicago, Ill.

Circle 321 on inquiry card

PLASTER MOLDINGS / Four shapes of plaster moldings are made of extruded aluminum, coated with a plastic to prevent plaster from sticking to the surface. Said to cut plastering costs by reducing on-site form work, these moldings can be used as casing bead, expansion joints, feature strips or plaster screeds. ■ Fry Reglet Corp., Glendale, Calif.

Circle 322 on inquiry card



HVAC SETBACK CONTROL / This series of control units automatically adjusts hvac equipment down or off during the night or other no-demand periods. The panel shown, for example, shuts down 14 exhaust fans at a preset time, and provides split-load start-up to minimize surges of current. A number of options such as thermostatic control, is available. ■ Syndevco, Inc., Southfield, Mich.

Circle 323 on inquiry card



OFFICE FURNITURE / The "Graphis Modular Desk System" is a series of basic office units designed for simple yet flexible space planning. Included are desk tops and return panels; bases in various heights; wood or steel file cabinets; and an acoustic board screen available in a number of fabric coverings. The steel components and plastic laminates are either black, white or dark brown; wood veneers are oak, walnut or rosewood. ■ Tecno Collection, Inc., New York City.

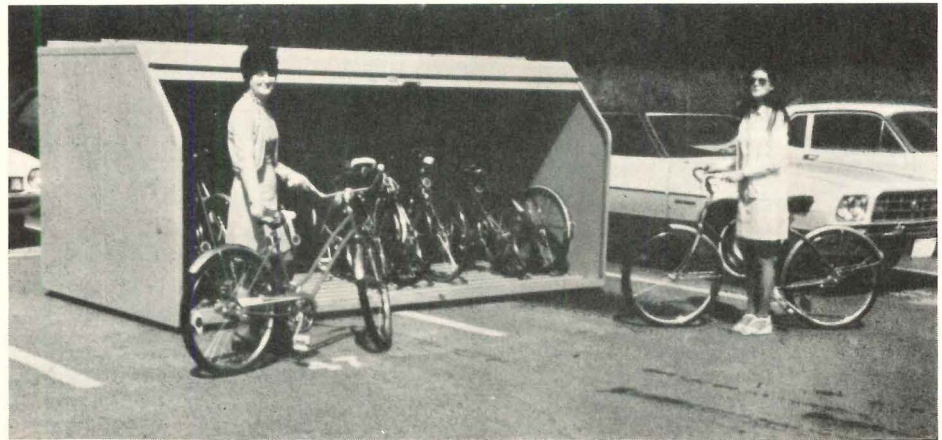
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J.G. Wilson's Architects Corner

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Number 1-476



Bike Garage model TM 10-BG shown protects ten bikes. Convenient counter-balanced rolling shutter operates with finger tip ease.

'Century Service' for architects marks Wilson centennial

As part of its 100th year observance, J. G. Wilson has initiated **Century Service**, a new aid for architects in specifying rolling closures for large or unusual projects.

With Century Service, a Wilson technical consultant is on call, to your office if necessary, to help in problem areas of planning. These include working out clearances, laying out doors, preparing specifications and submitting drawings.

You can have confidence in Wilson's 100 year engineering experience.

The centennial that spurred the idea of Century Service celebrates the initial venture in 1876 by Englishman, James Godfrey Wilson. Today, a team of over 200 people make precision closures sold in all 50 states and foreign countries.

Ray Berry new "Champion for a Better America"!

For 1976, the J. G. Wilson Corporation has selected Raymond Berry as its Fourth Champion for a Better America. A member of the National Football League Hall of Fame, Berry is a former Baltimore Colt star and now a coach for the Cleveland Browns.



Berry was selected for his outstanding contributions to citizenship, exemplified through his personal life and playing career. He is a member of the Fellowship of Christian Athletes.

New Bike Garage acclaimed by architects

With more people using bicycles in this energy shortage, the idea of public buildings providing protection against theft and weather is becoming popular. It's an ideal service for people in schools, parks, apartments, offices and government installations.

The rugged Tee-M Bike Garage provides double security: bikes can be locked to an interior rack, then the exterior rolling door can be secured. Two sizes provide capacity for eight to ten bikes and units can be joined for multiple use.

Some building managers are considering renting space in their Bike Garages to users to amortize costs.

Construction is of durable heavy gauge galvanized steel. Units are shipped completely assembled with prime coat of rust inhibiting paint. It's a one-time investment for long-term economy and service.

Just for architects

Architect's Corner is to keep you informed about Wilson products and services. It continues a century's tradition of dependability and trust between architects and the Wilson company. Look for it in future issues of Architectural Record.



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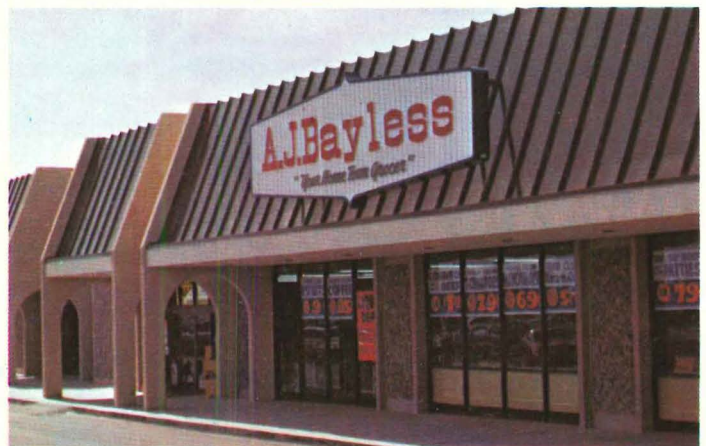
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Edited by noted Wright authority Frederick Gutheim, the book also includes a symposium of eight essays by Wright's associates that take a new look at the life and work of America's greatest architect.

In the Cause of Architecture will be of lasting interest to architects, students, and all those interested in Wright—a basic reference for school, home and office libraries. Beautifully designed, it will be a treasured gift for years to come.

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OFFICE NOTES

Name changes, new firms

Robert L. Hanna of Lincoln, Nebraska has resigned as a vice president and designer for the Bahr Hanna Vermeer & Haecker, Architects, Ltd. firm. The firm now will be known as **Bahr Vermeer & Haecker, Architects, Ltd.**, with offices in Omaha and Lincoln.

Poor, Swanke, Hayden & Connell have relocated their offices to 400 Park Avenue, New York City.

Richard H. Gregory and Robert L. Rogers, AIA, have formed an office for the practice of architecture at 100 Ardmore Street, Blacksburg, Virginia.

Robert Larsen Architect of New York City has opened a branch office at Letchworth Village, Thiels, New York.

John E. Keegan, AIA Architect, has expanded his firm to new and larger offices. The new name and location will be **John Keegan Associates**, 100 West Great Falls Street, Falls Church, Virginia.

Don Wudtke and Associates, Inc., San Francisco, have announced that the firm will be known as **Wudtke Watson Associates, Inc.**

Robert Swatt Architect AIA has opened an office at 3155 College Avenue, Berkeley, California.

James McGranahan Associates is the new name of the architectural firm headed by James R. McGranahan, AIA, located at 504½ South Eleventh, Tacoma, Washington.

Chatelain, Samperton and Nolan, architects and engineers, and Carcaterra and Associates, consulting engineers have merged their firms. The new firm will be known as **Chatelain, Samperton and Carcaterra**, with offices located at 9301 Georgia Avenue, Silver Spring, Maryland.

The White Budd Van Ness Partnership is the new name of the architectural firm formerly known as Pitts Phelps & White, located in Houston, and in Beaumont, Texas.

Ostwald & Kelly have changed their name to **E. Paul Kelly AIA Architecture/Planning**, 1537 Shattuck Avenue, Berkeley, California.

Loebl Schlossman Dart & Hackl have moved to new offices at 845 North Michigan Avenue, Chicago, Illinois.

Design 3 Architects and Interior Designers will practice at their new location at 104 Quapaw Towers, Ninth and Ferry Streets, Little Rock, Arkansas.

New associates, promotions

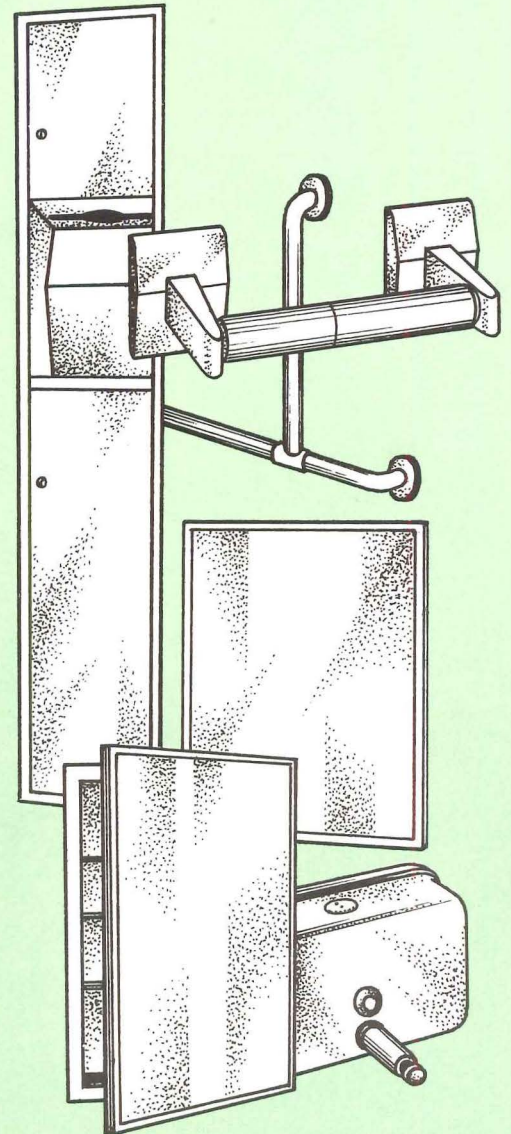
Pierce, Goodwin & Flanagan, architects, engineers and planners have announced that **Joe M. Powell** has been advanced to associate partner. **Bob Stowe, George Mahoney, Bob Thomas** and **Christi Oliver** have been named associates.

Kim Walther has joined the Lincoln, Nebraska architectural firm of David/Fenton/Strange/Darling as landscape designer.

Richard Fleischman Architects Inc., Cleveland/Ohio have announced that **Darryl W. Scherba, AIA** has joined the firm as an associate.

Stephen A. Becker has become an associate in Schoenwald-Thomas-Harris-Norwood-House-Oba, a Fresno-based architectural, engineering and planning firm.

we wouldn't
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if we didn't have
a complete one.

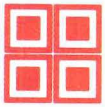


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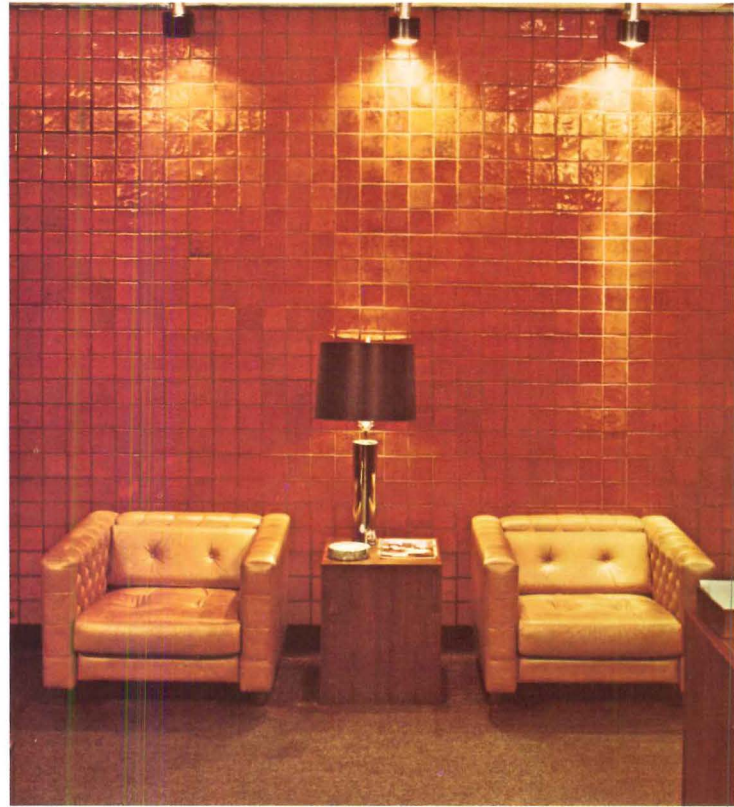
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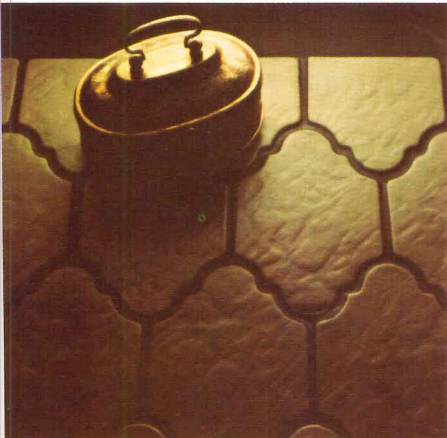
Shopping Mall: 4" x 8" Olde Towne Pav



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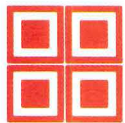


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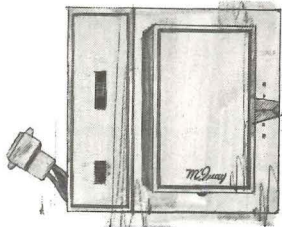
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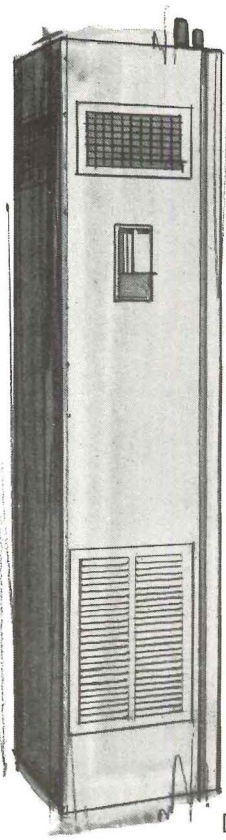
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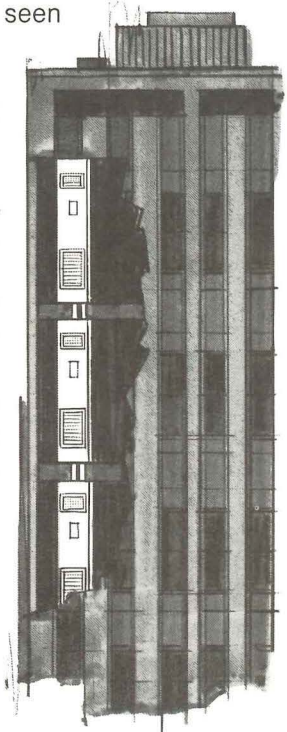


thermostat as standard equipment. It just plugs in after the unit is concealed in place, with no complicated (or expensive) wiring or troublesome delays.

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Or write: McQuay Division, McQuay-Perfex Inc., Box 1551, 13600 Industrial Park Blvd., Minneapolis, Minn. 55440.



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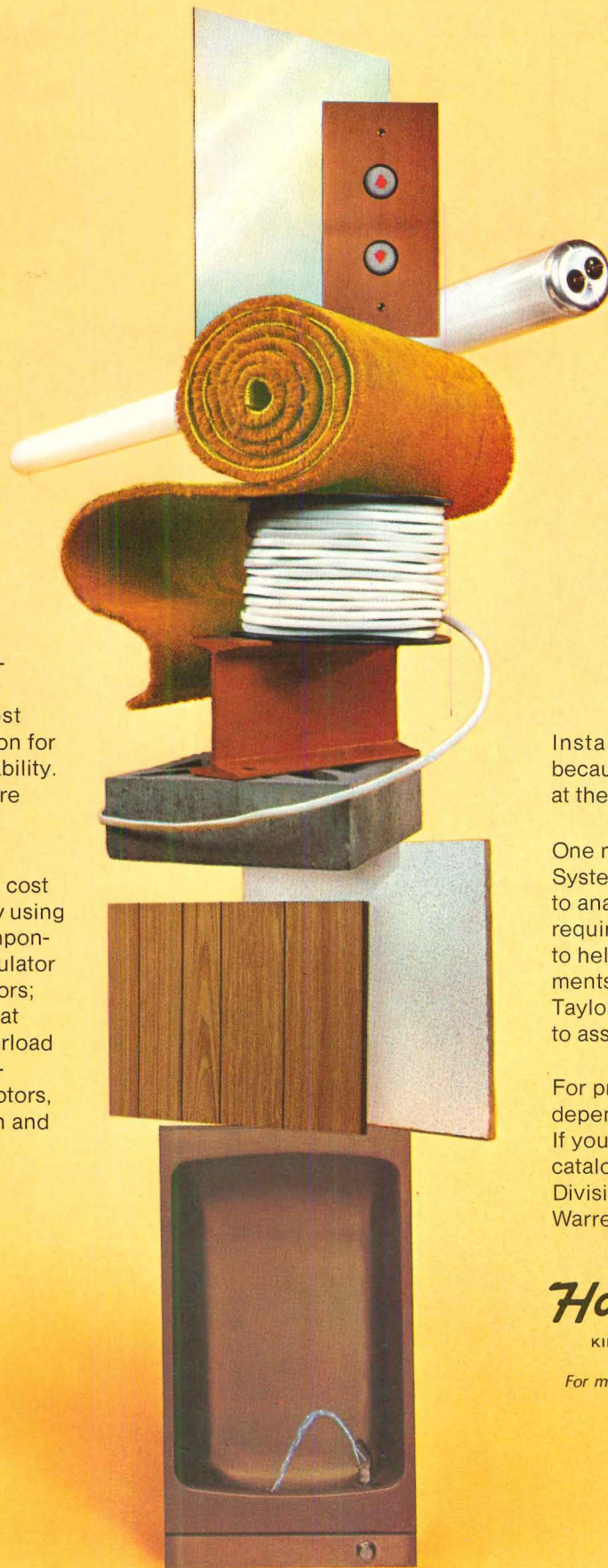


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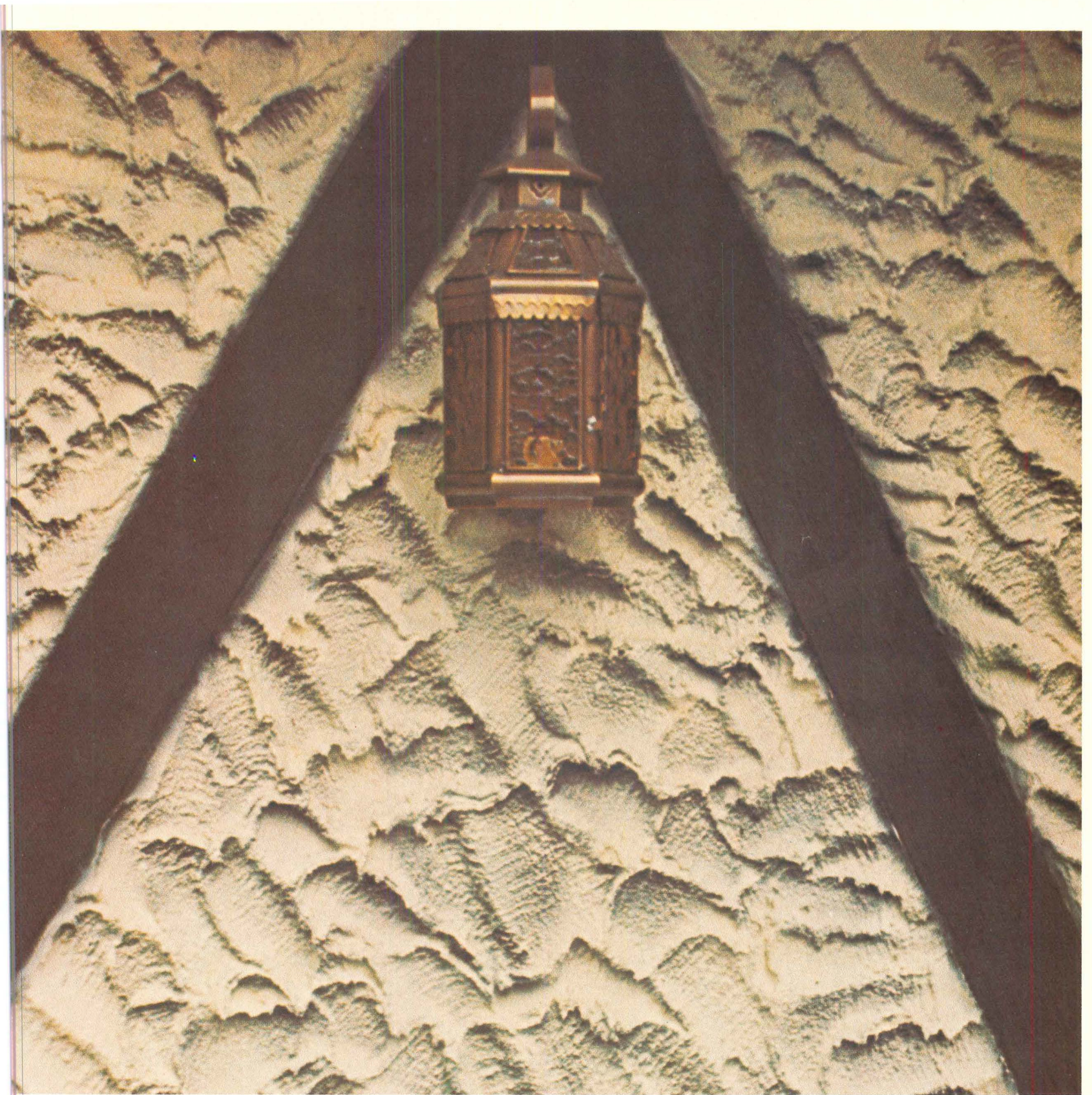
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What's a glass building doing in Halifax, Nova Scotia?



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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

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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.

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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

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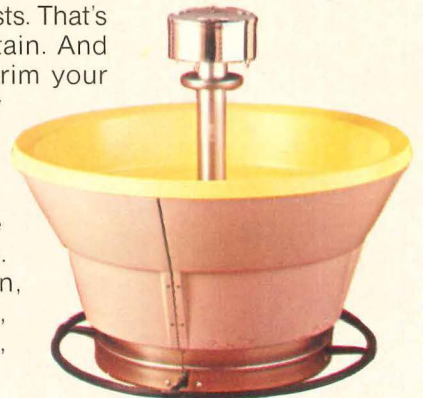


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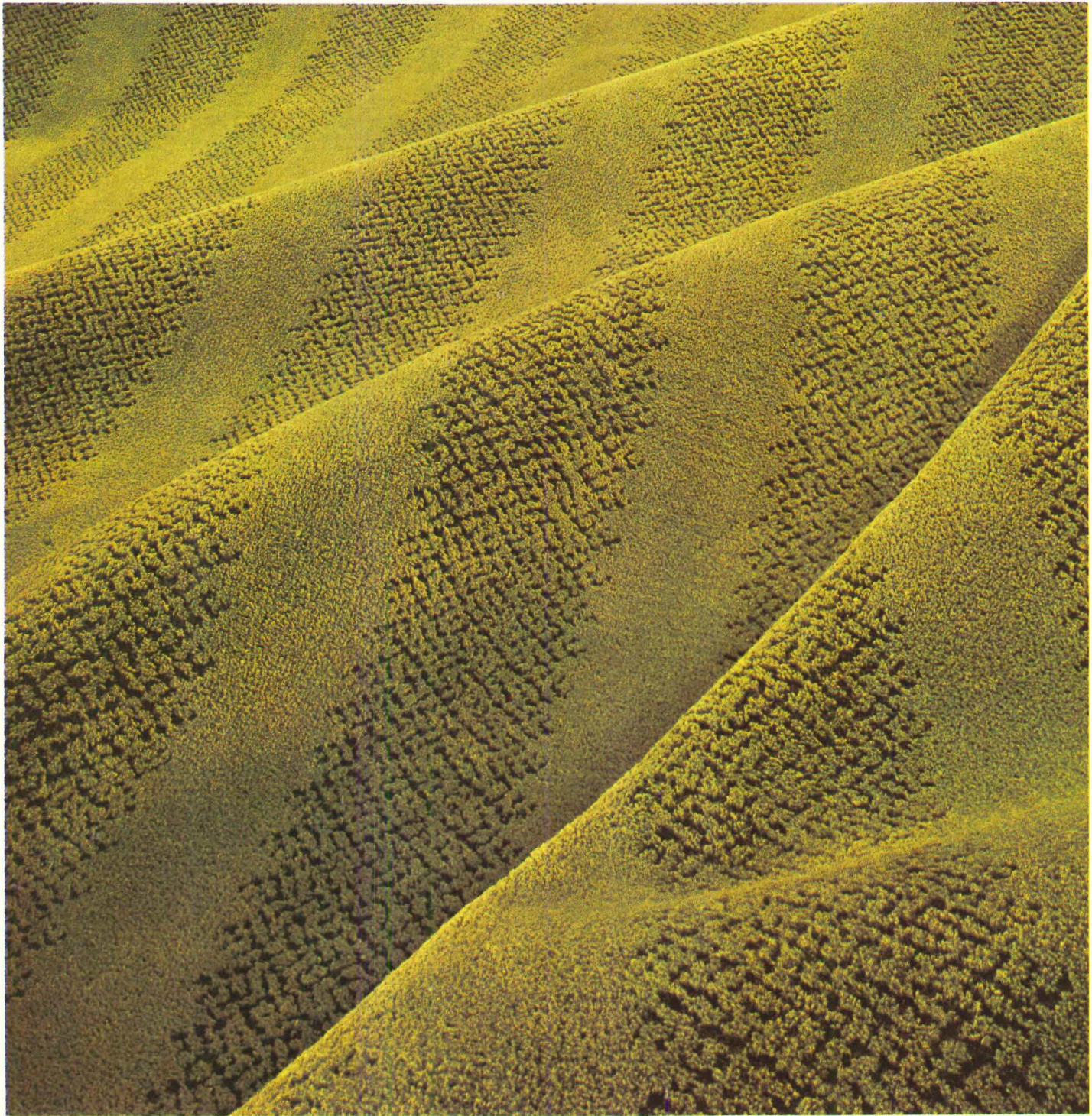
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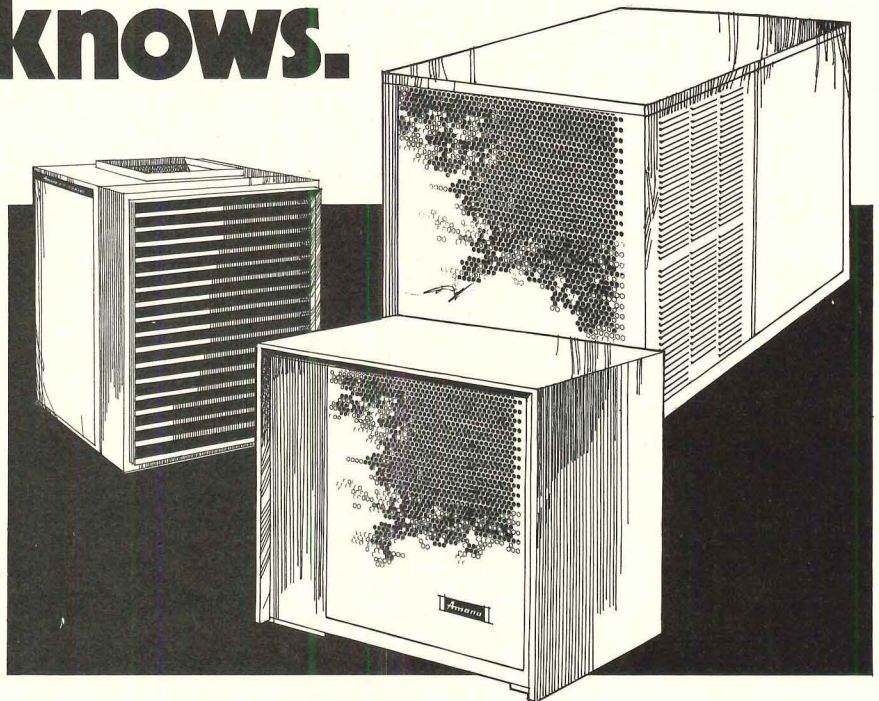
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Park Ridge Hospital prevents epidemic of slapped-up signs with integrated signage system.

The interior of Park Ridge Hospital—a warm, harmonious blend of wall colors, textures and carpeting—is therapy in itself.

Located in Greece, New York, and serving the Greater Rochester area, the hospital was dedicated in September 1975. A two-building complex, it covers approximately 300,000 sq. ft. The medical building contains 194 patients' rooms—all private—in addition to offices, conference rooms, labs, therapy departments, etc. It is connected to the adjoining Supply, Processing and Distribution building via a glass-enclosed walkway.

Signage as a subsystem

A hodge-podge of signs, slapped up as an afterthought to construction,

would have seriously marred the hospital's handsome interior. But the architects and hospital administrators, aware of the need for an efficient traffic moving system, wrote a complete signage program into their initial plans.

Matthews was called in a year before the building completion date to design and fabricate a total, integrated signage system for both interior and exterior traffic control.

Over 300 individual signs—interior and exterior—were installed. Most were fabricated of damage-resistant NOMAR fiber reinforced polyester. All of the signage is tastefully understated but highly functional, with complete continuity of color and letter style.

Matthews. Total responsibility for total signage systems. Write for further details to Jas. H. Matthews & Co., 1315 West Liberty Ave., Pittsburgh, PA 15226.

Architect: Stevens, Bertin & O'Connell, Rochester, NY

Construction Mgmt. Firm: John W. Cowper, Buffalo, NY

Signage Contractor: Empire Sign Co., Inc., Rochester, NY

JHM MATTHEWS

Architectural Division

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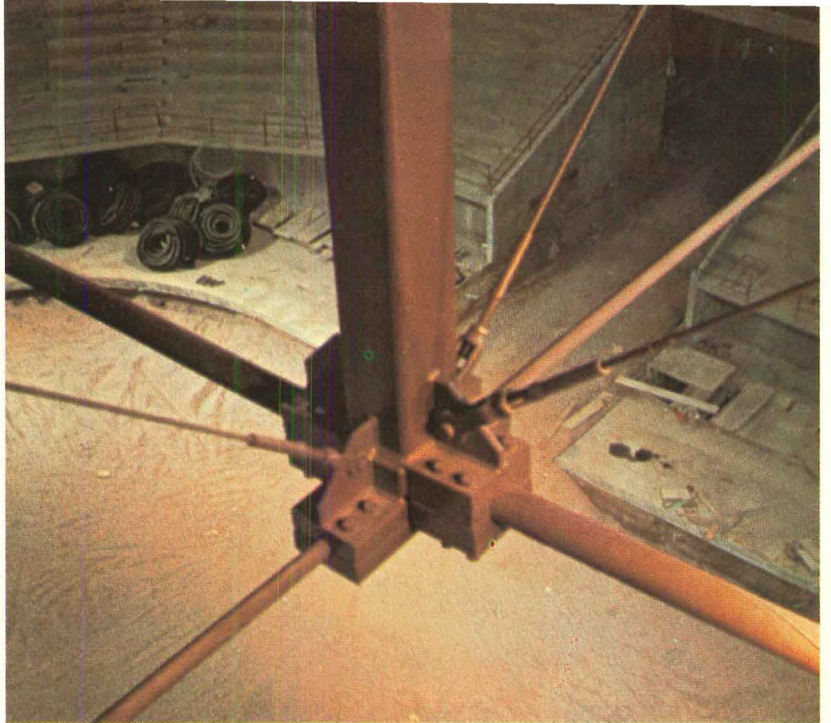
1., 2., 3., 4., 5. and 9. NOMAR with screened graphics embedded. 6. Cutout aluminum logo. 7. NOMAR post and panel assemblies with surface applied reflective pressure-sensitive legends. 8. Reverse screen process on acrylic identifies patients' rooms. Slide-in cards and strips for adaptability.



Coming in mid-August

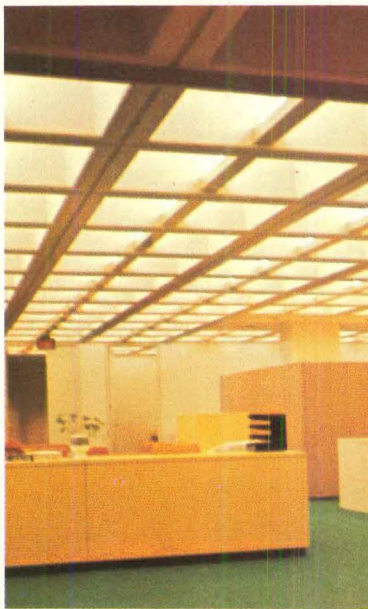
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- An editorial approach that attracts optimum engineer readership not only because of its informative features but also because of its advocacy of wider and wiser use of engineering capabilities.
- Outstanding coverage of the conceptual engineer in building—the engineer who works with the architect to make good design technically and financially feasible.
- High architect readership of an issue that provides, all in one place, a rundown of the most important developments in engineering for architecture—and architects.
- Bonus distribution to newly active Dodge-qualified engineers.

Make your plans now to be a part of this important issue.

Closing date for advertising: July 15



ENERGY-SAVING WINDOWS: CASE STUDY

St. Paul Public Library Renovation
 Architect: Glenn Erickson, City Architect
 Windows: DeVAC dual-glazed Thermo-Barrier
 U Value: .52
 Air Infiltration: One-fifth of Standards



Window replacement improves aesthetics...more than pays for itself, reducing steam usage 40%

Windows were causing problems in this 60 year old classic downtown St. Paul, Mn. building: frost melting to damage walls and books; drafts and windblown dust coming through; unsightliness of deteriorating paint and putty; excessive cost of potential air conditioning.

New DeVAC windows retained the style of the original with muntins and curved tops custom fabricated. Installation was made during the winter while the library was in full use, with little or no discomfort.

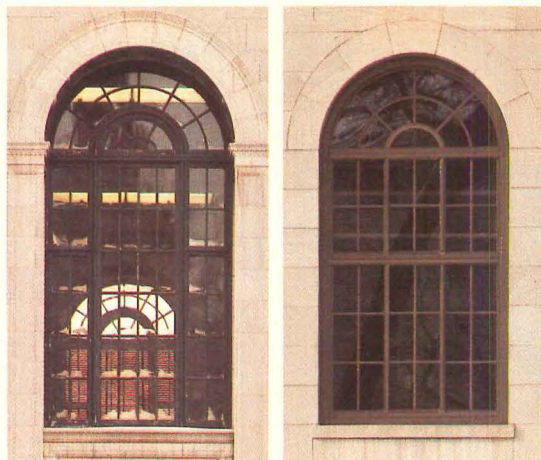
Here are some of the energy-saving results:

- Steam usage cut 40% over comparable heating seasons (resulting in 19% dollar savings despite 35%

steam cost increases)

- Needed air conditioning equipment tonnage reduced 37.5% resulting in immediate purchase savings plus sizable annual operational savings. Installation starting May, 1976.
- Humidifiers ran 60% of the time. Probably won't run at all this season.

Other cost-reducing benefits include elimination of painting, easier window washing, reduced interior maintenance and cleaning needs, improved employee comfort and efficiency. All DeVAC windows can be washed automatically.



Required costly maintenance; old windows inefficient. Wide muntins cut visibility.

DeVAC installation has permanent color, clean lines, low .52 U value and low air infiltration.

For more data, circle 97 on inquiry card



DeVAC, Inc., 10074 Highway 55, Minneapolis, MN 55441 Phone: (612) 545-0241

I'd like the details on this St. Paul Public Library project and to know more about the energy-saving potentials of DeVAC Windows for:

- Modernization New construction

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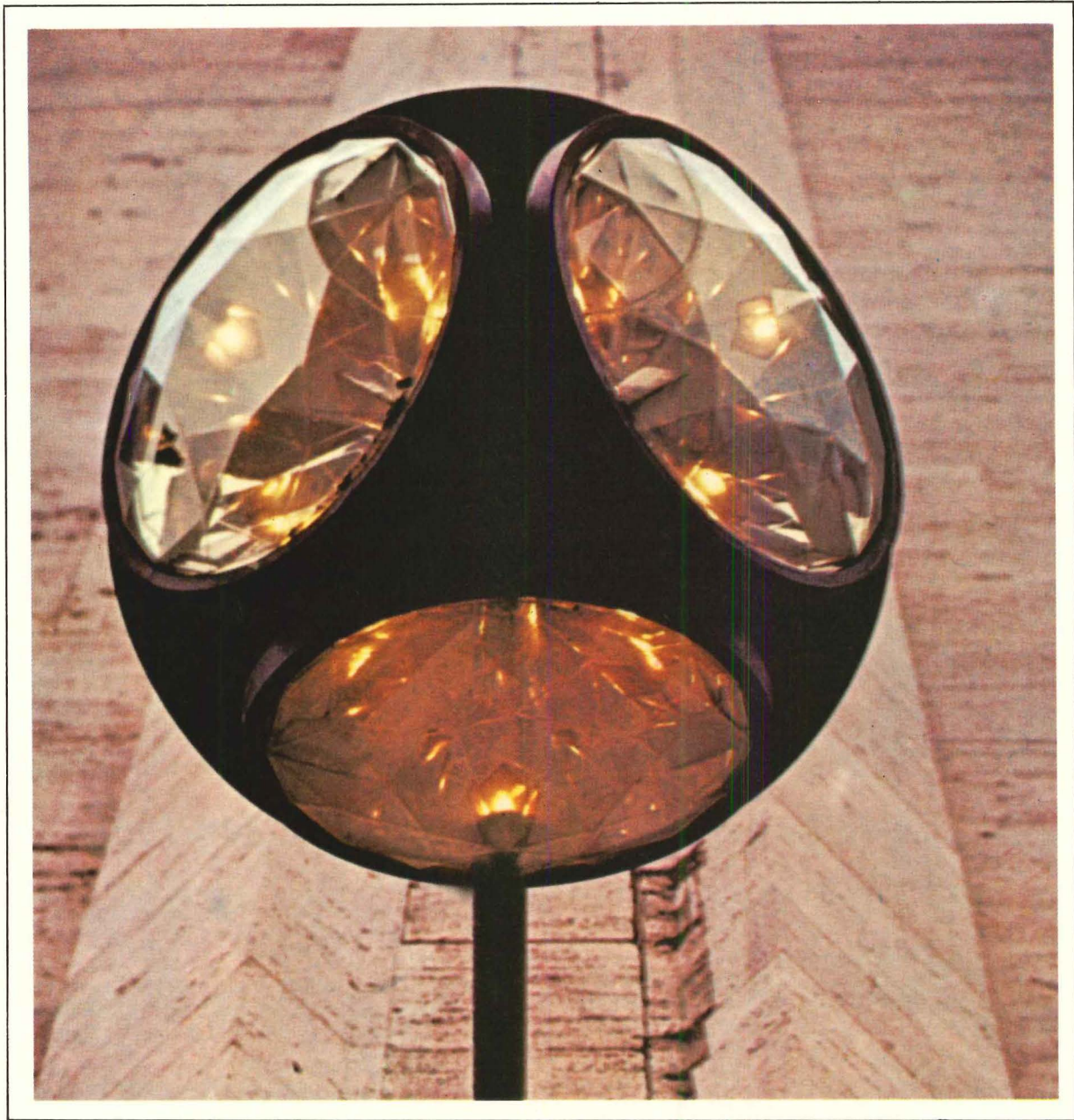
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CASE STUDY:
DeVAC
WINDOWS

Get Details

Complete case study and DeVAC energy-saving story available with return of coupon

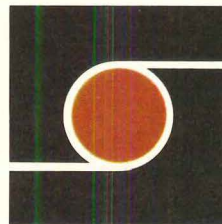


Sterner custom lighting. Next time your imagination runs away with you, we'd like to tag along.

There's nothing we like better than accepting the challenge of turning your lighting concepts into reality.

The lighting fixture shown above, built for the New York State Theater at Lincoln Center, is a prime example. The architect, Phillip Johnson & Associates of New York, supplied the original lighting design ideas, and we delivered a quality-built system that included everything from the chandelier in the theater to the submersible floods in the fountain.

In addition to our custom design capabilities, Sterner offers a lighting library of outstanding fixtures... plus the expertise of our Simes and Infranor Divisions to help solve specialty lighting and floodlighting problems.



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We're a one-step time and money saver which can turn your problem walls into a decorator's dream. Specify Flexi-Wall Plaster in a Roll™ where-ever you would use Type III heavy duty vinyl wall-covering.

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(Sweet's Architectural and Interior Design Files #9.13/Fl., Spec/Data File, Section 9/Wall Coverings. Means Building Construction Cost Data/Wall Covering Gypsum.)

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For complete architectural data and swatch book, write Flexi-Wall Systems, P.O. Box 477, Liberty, South Carolina 29657.

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Holiday Gold #0005
Heather White #0002

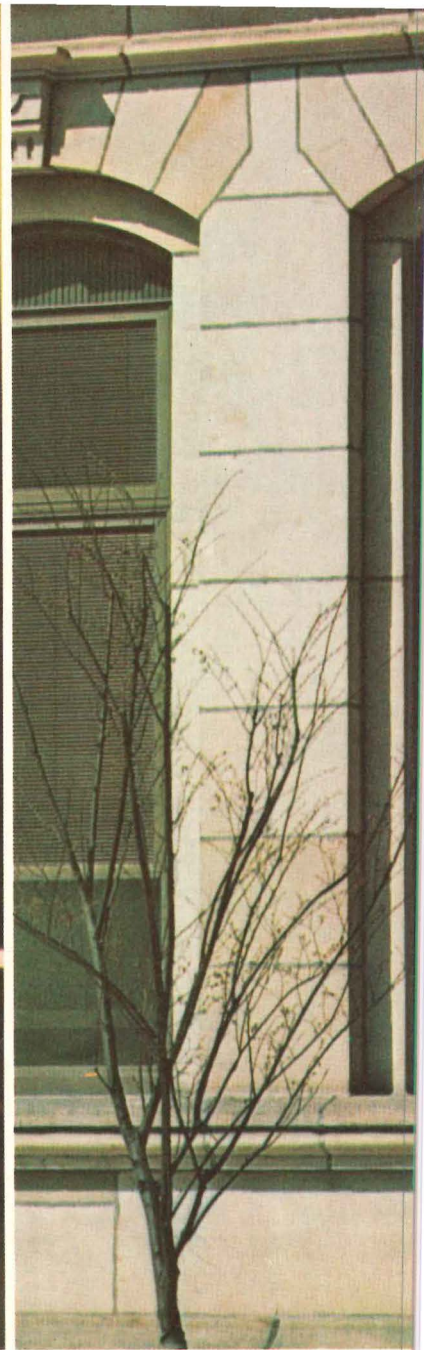
Glasgow Green #0004
New-Edinburgh Blue #0001

Lanark Yellow #0003
Loch Green #0006

Dalri Orange #0007
Rajah Blue #0008

Assam Brown #0010
Fern Green #0018

Calcutta Red #0009



Inside, there's the warmth and beauty of our traditional wood window.

For years, wood windows have been appreciated for their warmth. In appearance. And in their natural ability to provide good insulating properties. So when we developed the cladding system for our wood windows, we were very careful about leaving both of those qualities intact. Viewed from inside the building, all of the surfaces that were meant to be wood are still wood. The exterior aluminum skin is not visible anywhere on the inside of the window. And because the skin does not penetrate the frame or the sash (a), the insulating qualities of the wood are not disturbed.



(a)

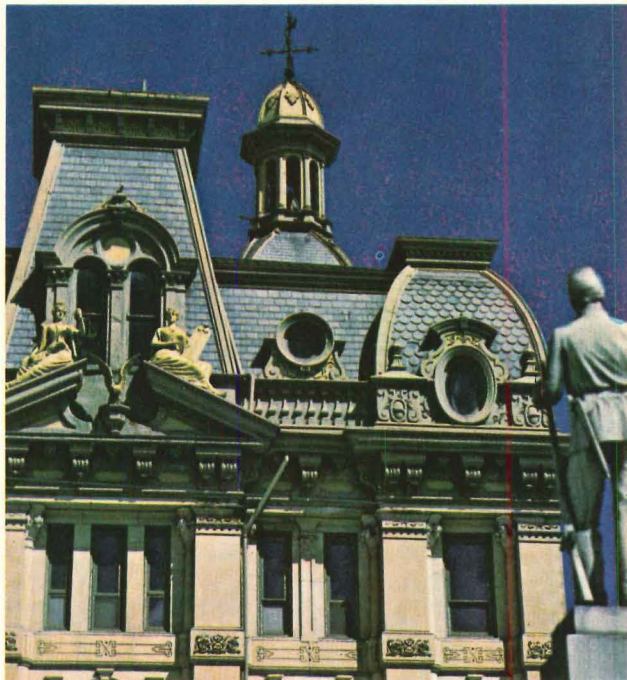
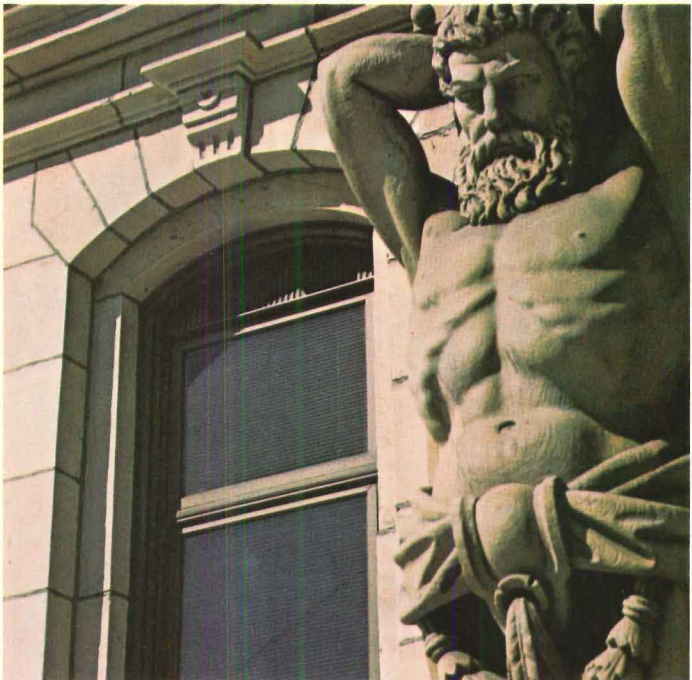
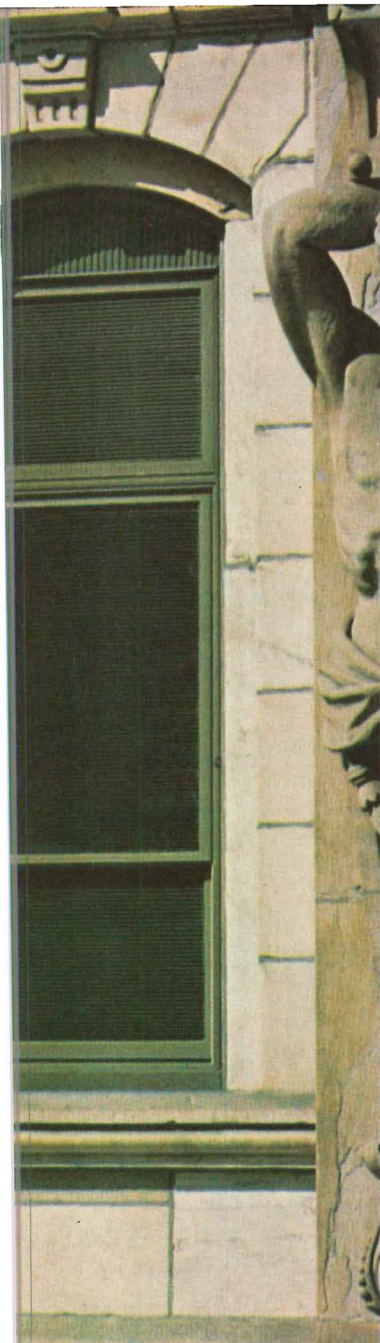
In between, a number of unique options for controlling the environment and associated costs.

The removable inside storm panel in our optional Double Glazing System gives you a number of other valuable options. Like using our Slimshade® (b) to control sunlight, privacy and solar heat gain and loss. Housed between the panes, this fully adjustable blind remains virtually dust-free. The Double Glazing System also accommodates our snap-in muntins and privacy panels. But mere flexibility is not its only saving grace. The 13/16" air space between the panes does a better job of insulating than ordinary welded insulating glass. And at a lower cost per window.



(b)

This Pella Clad window system combines modern convenience with traditional values, in the recently restored Wayne County Courthouse.



Outside, an acrylic coated aluminum finish that reduces maintenance without reducing your choice of colors.

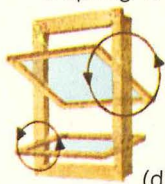
In the Pella Clad window system, all exterior wood surfaces are sealed off from the weather and other atmospheric contaminants by an acrylic coated aluminum skin. An outside finish that has earned its reputation for durability. And one which is available on our Contemporary and Traditional Double-Hung, Casement, Awning, Fixed and Trapezoidal Windows, Pella Clad Frames, and Pella Sliding Glass Doors. In Dark Bronze, Dark Brown, White (c) and eight special colors. With sizes in each to accommodate a wide variety of design and building requirements.



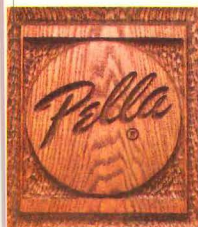
(c)

Afterward, the ease and economy of washing the outside of a ventilating window from the inside.

Window cleaning is another maintenance factor which deserves consideration. And Pella Windows have something to offer in this area also. All of our ventilating units can be cleaned, easily, from the inside. The Pella Double-Hung Window has a spring-loaded, vinyl jamb liner which allows the sash to pivot fully. And because each sash pivots at its center point (d), the weight of the sash is counterbalanced. Which makes the job just that much easier. Reglazing can also be accomplished from the inside, along with sash removal. And the same thing is true of our casement and awning windows.



(d)



For more detailed information, send for your free copy of our 6-page, full-color brochure on Pella Windows in Renovation. See us in Sweet's Architectural File. Call Sweet's BUY-LINE number or look in the Yellow Pages, under "windows", for the phone number of your Pella Distributor.



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BOB MANKIN, President, Madison Decorating Company, Kensington, Maryland



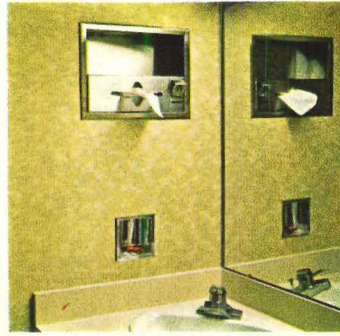
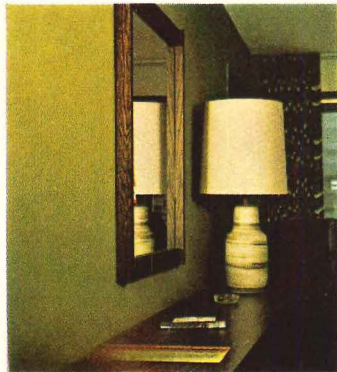
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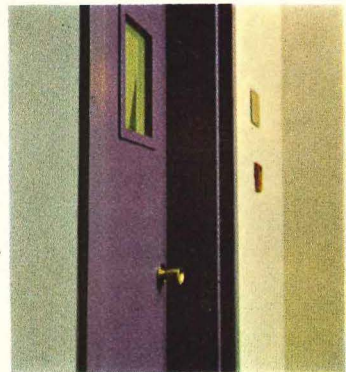
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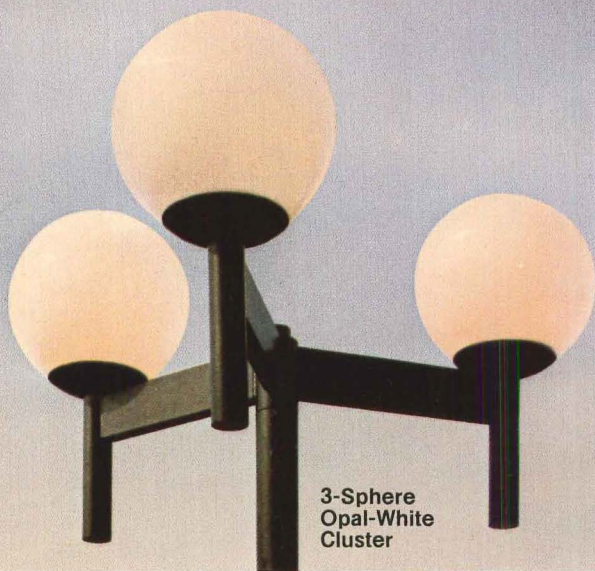
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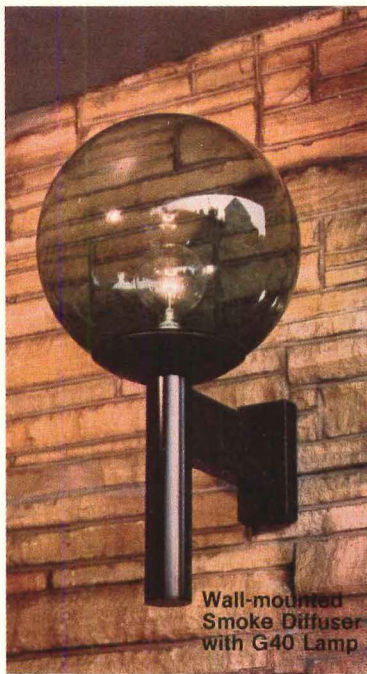
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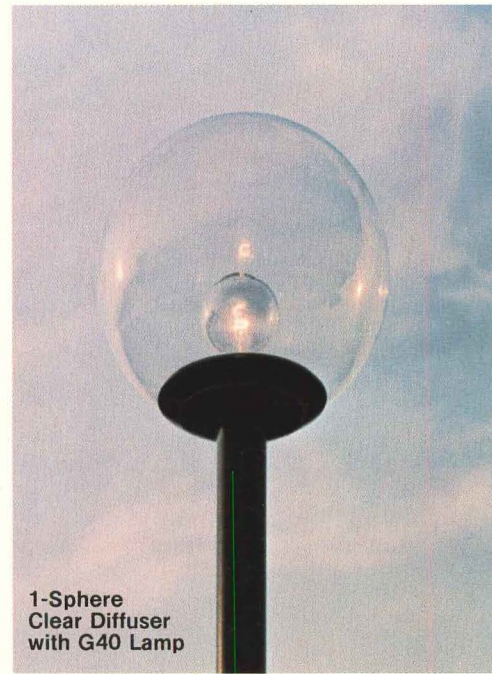
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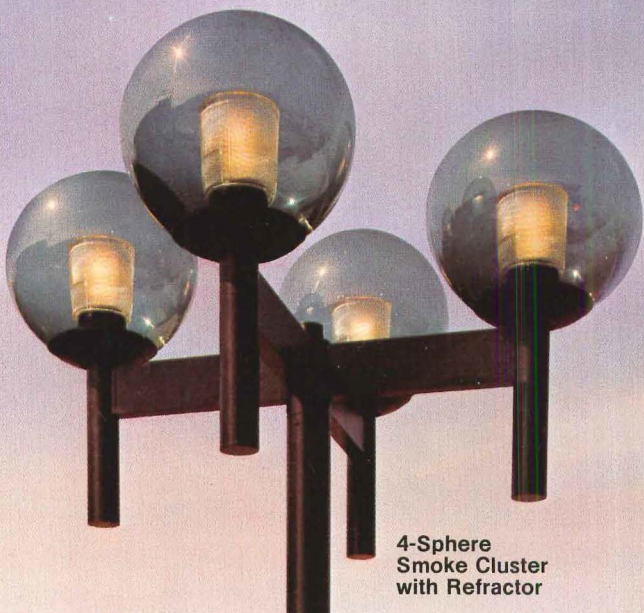
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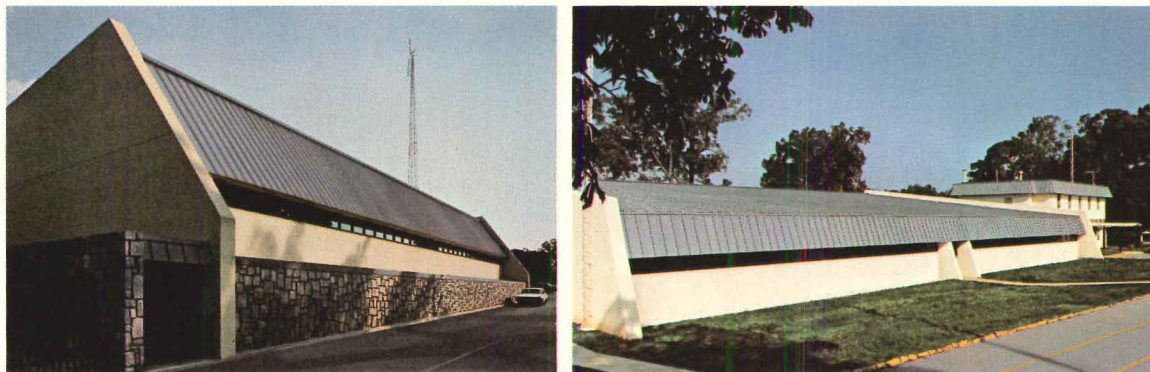
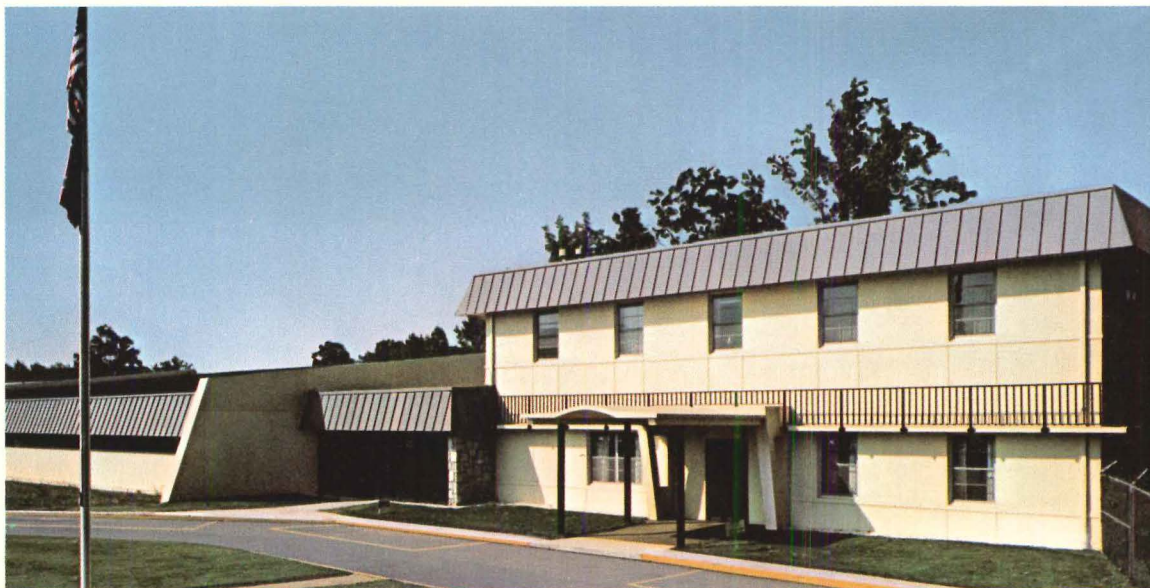


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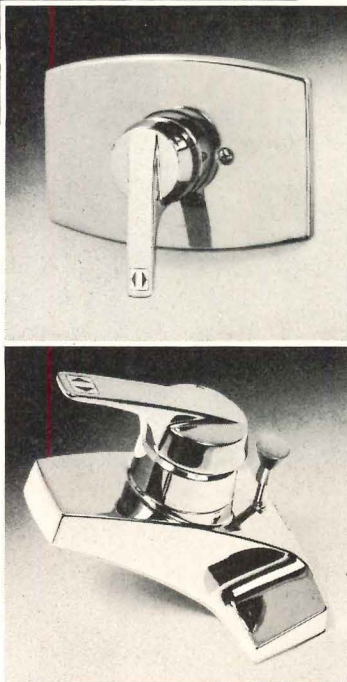
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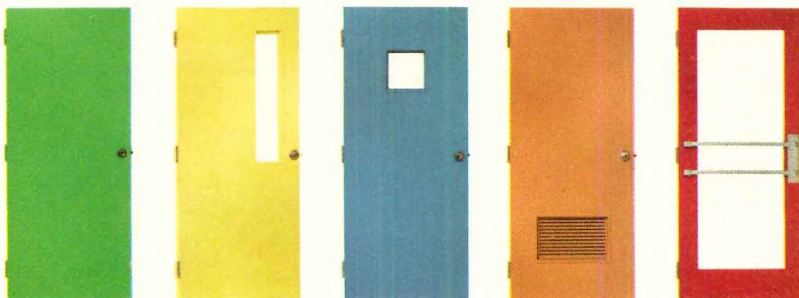


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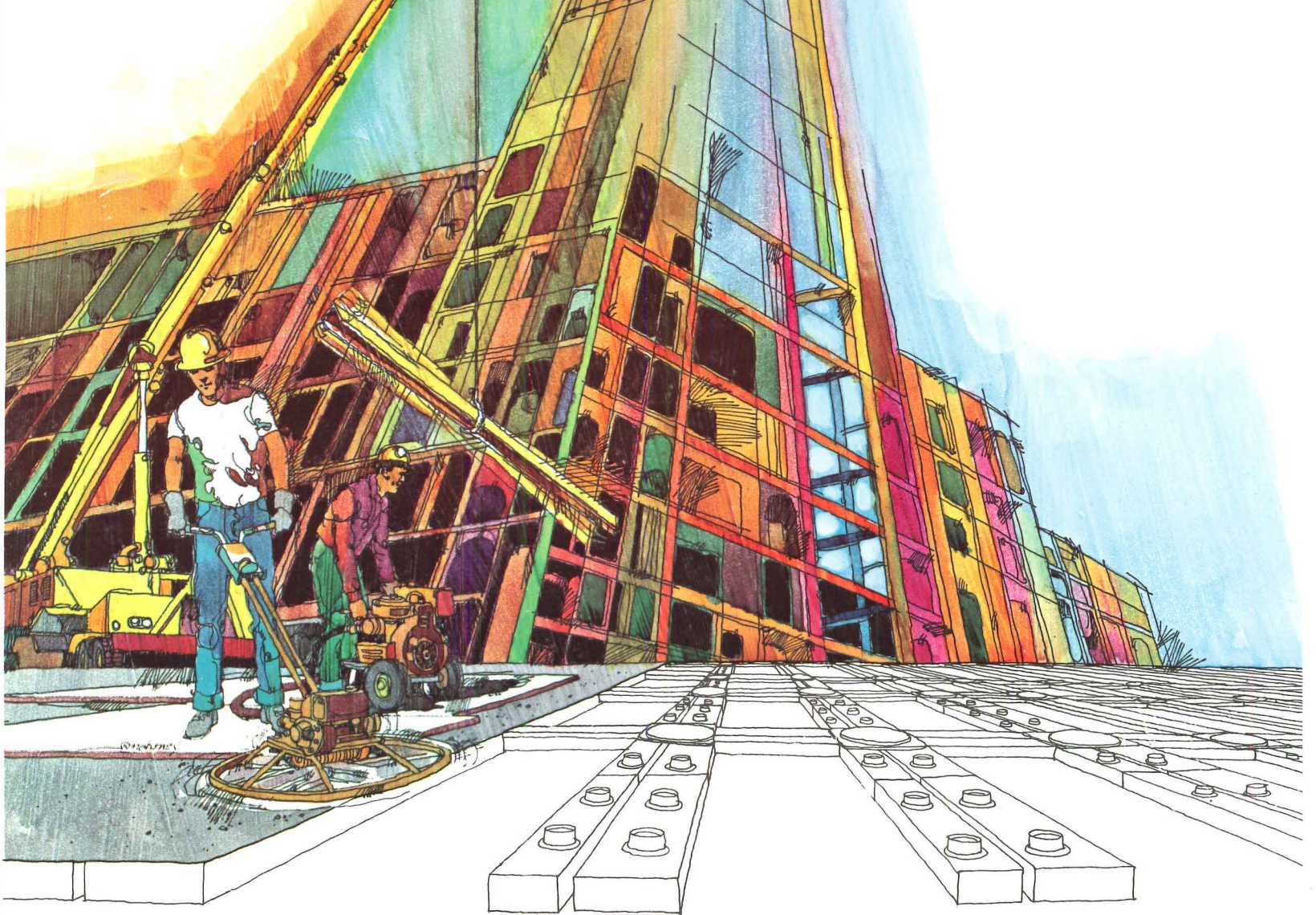
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