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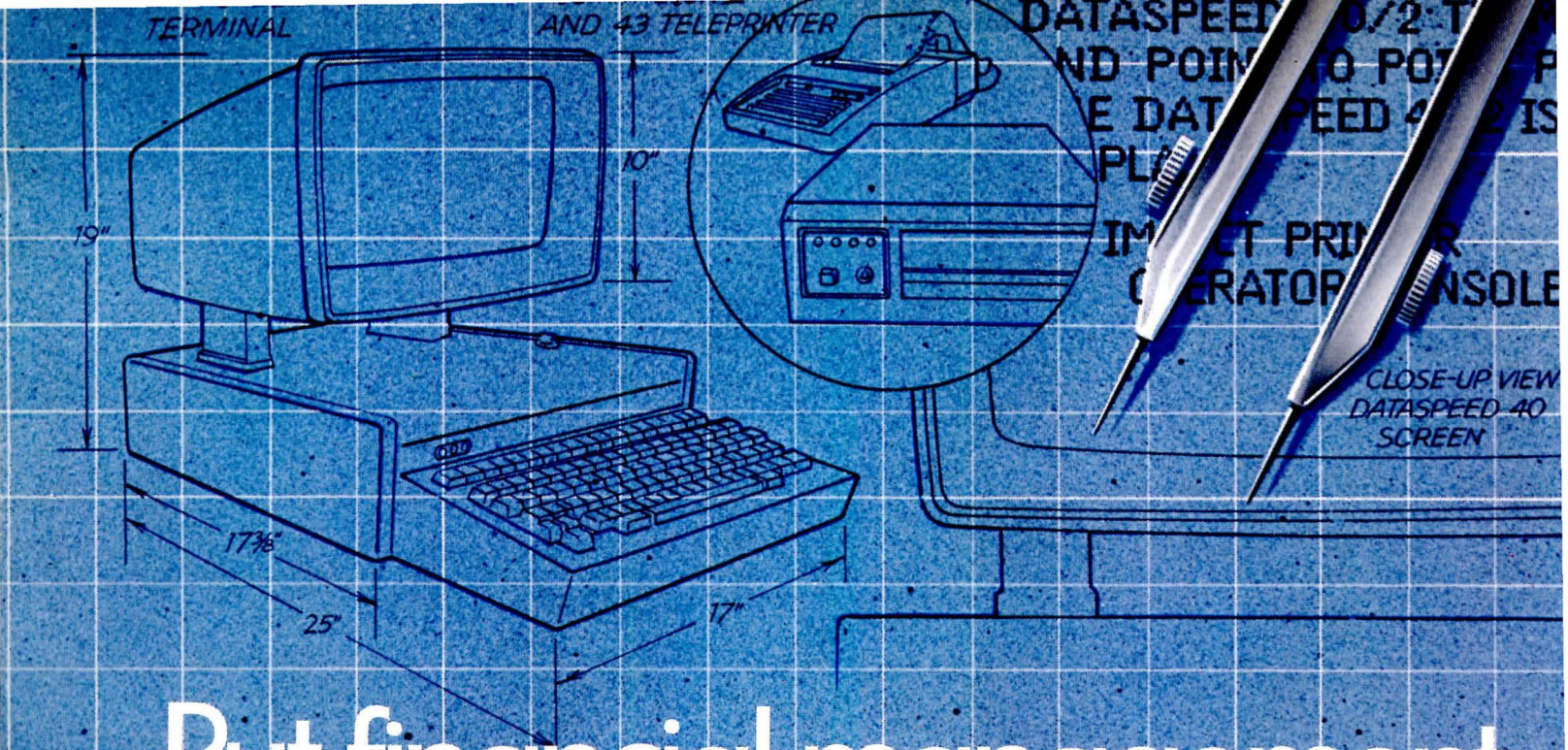

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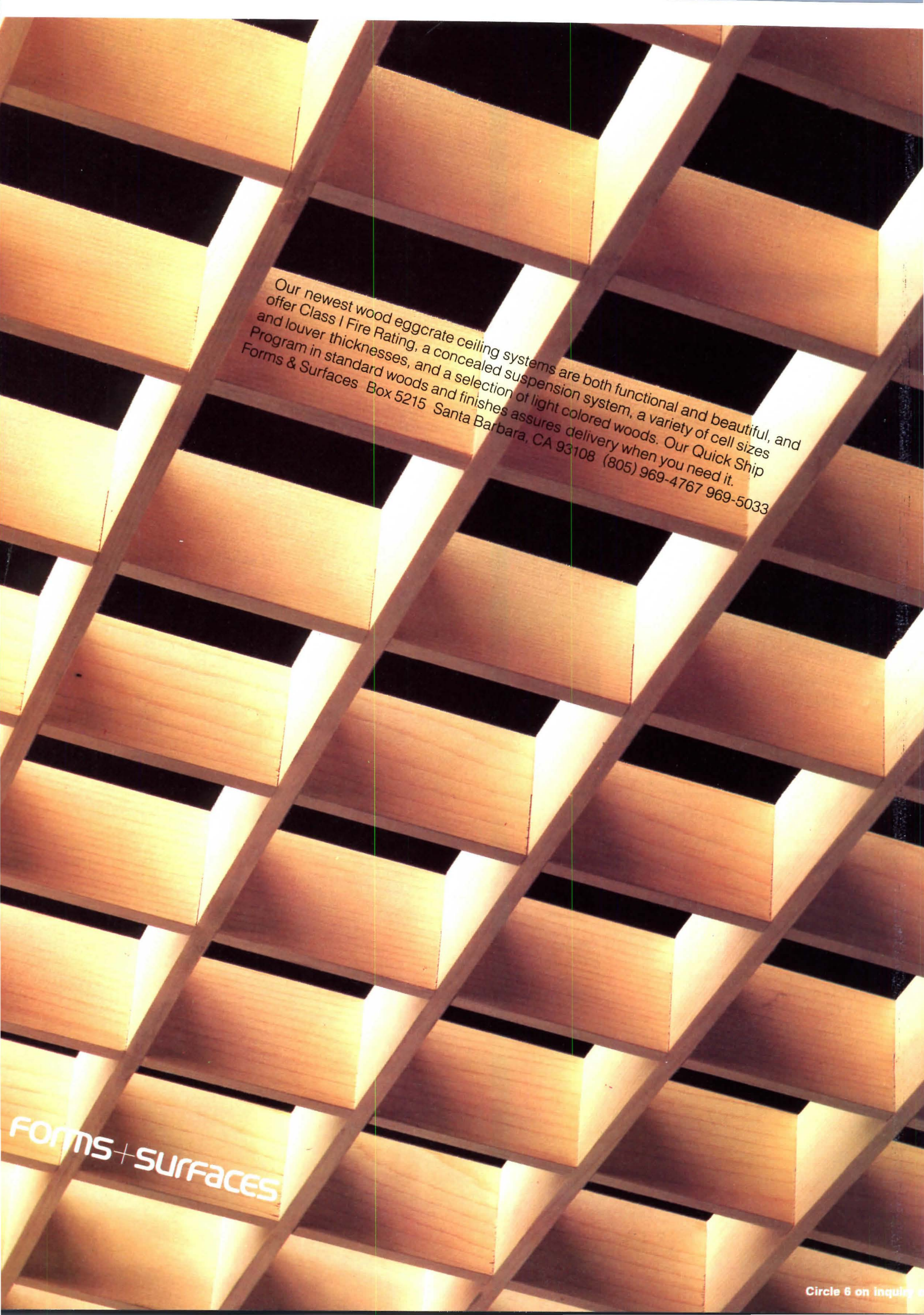

Housing in the 1980s: Can't we do more than just *stand* here?

ast month, I was invited to participate in an ditors' Forum on Residential Design, organ- ed by Robert Martin Engelbrecht, architect f Princeton, New Jersey; long-time consul- int to many building-industry manufacturers nd producers,* and friend of many years :anding (I remember arguing with Bob about)peration Breakthrough—that's how old a iend). Bob invited editors from the big con- umer magazines, the shelter books, and the ade and professional press—as well as esource people expert in building, econom- :s, demographics, and real estate. As is ppropriate, I leave to organizer Engelbrecht ne summary report of the day-long meeting. ut, as I rather suspect was intended and oped for, I came away from the meeting vith some sharply renewed concerns about ousing.

Is there really nothing we can do besides tand here, hope and/or wait for interest ates to come down, watch a major industry all to pieces, and (most importantly) fail to rovide housing for the increasing number of eople who need it?

Like what? If I knew for sure, I'd be king or chairman of the Federal Reserve or presi- lent of the NAHB or secretary of HUD). What I m is an editor who's been around the hous- ng industry for a long time and can only vonder . . .

I wonder about just how cost-efficient the ousing industry is. I gulp at the news that the nedian price of new houses sold in Septem- er of this year was $73,900. (That's up, by ne way, from a median of $58,300 just three ears ago.) What I'd like to see are some ood hard figures on costs, and some good ard figures on the profit expectations of the uilders.

I wonder at the renewal, once again, of nthusiastic talk about a better technology eing the salvation of housing. I, for one, lon't have a lot of faith in a revolution in the vay we build. Right after World War II, the anelized-in-a-plant house was going to revo- utionize costs. It didn't—but turned out to be terrific way for National Homes and Scholz lomes and a score of their competitors to narket a product. They were pretty good ouses, but they weren't any cheaper. Mod- lar houses—complete house sections built in ne plant and trucked to the site—have attracted attention from time to time, and in the hands of some good architects (notably Engelbrecht and Barry Berkus) turned out to be very handsome. But they didn't turn out to be any less expensive. None of the Operation Breakthrough proposals—heavily subsidized by HUD and terribly costly to a host of sophisticated manufacturers—have survived. Mobile homes? Even if brought up to single-family-house standards, are they really acceptable? Though one of my favorite ideas is to see what a really good architect could do to improve the design of the mobile home. . . .

Well, that's a lot of nay-saying. Any positive thoughts, editor? Even though you can run up figures to prove that—compared to interest costs, utility costs, and taxes—the first cost of a house hardly affects that "how much a month?" figure, I'd get on with trying to do something about reducing house costs.

There was some discussion at our Editors' Forum that the solution lay in management efficiencies—that for instance Sears Roebuck (or maybe GM—they could stand some new markets) could organize land, get the house manufactured in a plant, supply the appliances and the furniture and the financing—and then insure the whole deal for you. All one package. Presumably, there would be separate models for California, the Sun Belt, and Ye Olde New Englande markets. Well, that sounds like all the wrong kind of idea to me. Instead, I'd rather see local homebuilders, and local architects, and local bankers get together with local governments and see what can be done right in our own home towns.

- Item: One of the reasons that single-family housing is too expensive in many communities is obsolete zoning laws and approval processes. Cluster housing can save a lot of money (money that can be passed along in *lower prices*) in road costs and utility costs and per-unit building costs—and in the hands of a good architect/land planner can be exceedingly handsome (far handsomer, indeed, than houses lined up on 70-foot centers along the typical subdivision road). Such rules—against cluster housing, against apartments for the young and the elderly, requiring obsolete wiring and plumbing practices—can be changed on a local basis.
- I'd work in established communities to get a solid program of rehabilitation of older houses going. Probably our best and cheapest source of shelter for all those new families is our existing housing stock. Nearly two-thirds of the houses in this country have been built since World War II—all prime stock for thoughtful rehabilitation. Last year, the average price at which houses (new and existing) changed hands in my Connecticut town was over $150,000—less than twenty miles away in Bridgeport you could buy a sound and handsome Carpenter Gothic house, of similar floor area, ready for rehabilitation, for under $20,000.
- Item: I'd look all over my city or town for no-longer-needed school buildings or shopping centers or other worthwhile structures that could be transformed into needed higher-density housing for young families starting out and/or older families looking for easier maintenance. In even the most hide-bound communities (or the most selfish: "we've got ours, so no change wanted!"), that kind of rehabilitation can be "sold" to the community—because it doesn't involve drastic change, and because it doesn't involve big tax increases (the roads and infrastructure are in; the young and the old have no children to send to school). That kind of rehabilitation can be sold if it is presented by local people—homebuilders, architects, bankers—working together on a project that is *first* something that ought to be done and *secondly* (not unimportantly, but secondly) an investment.
- Item: Surely we can make houses smaller. Homebuilders will tell you that the homebuyer really insists on that "majestic master bedroom suite" and three bathrooms and a big family room across the kitchen from the big living room. I wonder if that isn't the kind of self-assurance (wrong) that kept Detroit making too-big automobiles about five years too long. Another piece of conventional homebuilding wisdom I've never understood is that if you have an expensive lot (and almost all land is expensive these days) you have to build a big and expensive house on the lot. Who says? Perhaps naively, I persist in the notion that more young families should start out in a house that can easily and sensibly be added on to as family needs and incomes grow—starting with the best land they can afford (you can't remodel that).

I guess in the end what this editorial suggests is that now (at a time when there really is practically nowhere to go but up) that we re-examine all the alternatives.

—W. W.

* This forum was initiated by Engelbrecht with the support nd input of Owens-Corning Fiberglas, Simpson Timber, Georgia-Pacific, Whirlpool, Andersen, Eljer, Louisiana-acific, and Coleman.

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Contracting for new construction remained at the depressed level of recent months, according to George A. Christie, vice president and chief economist for the F.W. Dodge Division of McGraw-Hill Information Systems Company. The value of newly started construction projects for September was $12.9 billion, representing a seasonally adjusted annual rate of $145 billion, only two per cent above August's $142 billion. "1981's weakness in construction markets has been, until now, concentrated in housing and public works construction," said Christie. "In September, housing starts continued to be bogged down by the high cost of credit, but public works contracting showed a surprising gain." The gain in public works projects was due primarily to spurts that occur at the end of each fiscal year when government agencies distribute whatever is left of the year's appropriations in order not to forfeit them, according to Christie. Contracts for nonresidential building declined 11 per cent, after adjustment for seasonality, due primarily to a decline in office contracting.

The economy's capital goods sector will show a sharp increase for 1982, with a rise in capital improvement expenditures. Plant and equipment expenditures will reach $371 billion, up 16 per cent from this year's figures, forecasted William E. Gibson, senior vice president for economics and financial policy at McGraw-Hill, Inc. The improvement will be due to three factors, according to Gibson: a stronger economic environment, a more relaxed regulatory treatment of investment projects, and tax incentives. "This strength should continue well beyond 1982, as business follows through with response to improvements in accelerated depreciation and investment tax credits," said Gibson.

New middle-income housing is being constructed in New York City under the Federal 235 Program. The construction of townhouses on West 19th Street in Coney Island is the first of 20 locations in Manhattan, Queens, Brooklyn and the Bronx to be developed as one of the largest owner-occupied, single-family building efforts for New York City in many years. The townhouses, will be two stories high with a choice of three or four bedrooms. They have brick and clapboard exteriors, designed to blend with the traditional architecture of the area. Architects are Simon Thoresen and Associates.

The California Energy Commission awards $1.2 million contract to develop passive solar energy design standards for nonresidential buildings in California to CRS Group, Inc. The program is designed to develop energy saving measures to reduce both initial costs and operating costs. California is the first state to establish such standards for all new commercial, industrial and institutional buildings.

Nancy Reagan presented the 26th Annual Landscape Award to landscape architect Russ Hanna. Hanna won the award for the siting, garden designs, interior courts, lighting, irrigation and roof terraces of the Federal National Mortgage Association in Washington, D.C. Twenty-nine similar projects were honored with Landscape Awards. The Landscape Awards Program is designed to single out those businesses, institutions and government organizations that have added measurably to the quality of life in their communities through exceptional landscape beautification, according to the American Association of Nurserymen. This was the tenth time a First Lady has presented the award. Individual awards are presented to property owners, landscape architects or designers, and the landscape installation firms involved in each of the premated projects.

The first M.A. degree in the history of decorative art in the U.S. to be offered by the Smithsonian Institution and the Parsons School of Design. The program, which concentrates on European decorative arts, will begin September, 1982. It will utilize the curatorial staff and collections of the Cooper-Hewitt Museum, the Smithsonian's National Museum of Art and Design, and Parson's educational resources. Courses will cover specific decorative materials, decorative styles in history, and areas designed to develop professional and curatorial expertise in methodology, museology, connoisseurship and interpretation of decorative art. Applications are now being accepted. Some scholarships are available, including a Ford Foundation grant specifically intended for a qualified minority student. For information contact: Office of Graduate Admissions, Parsons School of Design, 66 Fifth Avenue, New York, NY 10011, (212/741-8910).

Applications are now being accepted for the 1982 Rotch Travelling Scholarships. A $13,000 stipend for eight months foreign travel, plus an additional $1,000 upon completion of a satisfactory travel report, will be awarded to one applicant. Applicants must be U.S. citizens, under 35 years of age, have an architectural degree from a Massachusetts school, or have worked for an architecture firm in Massachusetts. Requests for application forms must be received in writing by Jan. 8, 1982. For more detailed information contact: Norman C. Fletcher, Secretary, Rotch Travelling Scholarship, 46 Brattle Street, Cambridge, Mass. 02138.

The Minnesota Society American Institute of Architecture opens "Elements of the Urban Fabric," its first gallery exhibit. The exhibit will be on display at "Paper Architecture," a bookstore/gallery subsidiary of the Minnesota AIA, at 910 Nicollet Mall, November 5 through December 30. The show will feature photographs by architects and photographers, including Phillip MacMillan James, Wade Lawrence, and Peter Rand, winner of a recent AIA photography competition. In future shows the gallery will exhibit a variety of art forms that highlight the relationship between art and architecture, including architectural drawings, renderings and "fanciful napkin doodles." All items on display will be available for purchase.

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conomists in Washington iscuss future of housing

eorge A. Christie, vice president nd chief economist for the F.W. odge Division of the McGraw-Hill nformation System Co., was an ptimistic voice at McGraw-Hill's an- ual Building Products Executive Con- erence (BPEC), as he forecast the eginning of an economic recovery ext year. In his address (RECORD, November, 1981) in Washington, D.C. at the end of October, to an udience of about 300 building mate- ials manufacturers who experienced ne of the worst years for housing ince World War II, Christie predicted hat construction contracts in 1982 will total $169.4 billion, 15 per cent more than this year's anticipated lev- el. Housing will play a pivotal role in he improved construction outlook, according to Christie. Private nonresi- dential building will improve, while ublicly financed construction de- lines. "The combination of a sluggish economy through mid-1982 that will imit credit demands, and a partial accommodation of monetary policy o the Administration's budgetary squeeze, will allow a recovery of housing as interest rates recede," said Christie, adding that even a modest decline in mortgage rates should bring next year's housing starts to about 1.4 million dwellings.

Other speakers at the BPEC were Raymond J. Donovan, Secretary of Labor; Senator Donald W. Riegle; Representative Jack F. Kemp; Saul B. Klaman, president of the National Association of Mutual Savings Banks; George Sternlieb, director of the Urban Policy Research Center at Rutgers University; Charles E. Peck, co-chairman of the Ryland Group, nc., Robert E. Farrell; chief of the Washington News Bureau; and Otto Eckstein, chairman of Data Resources, nc. and a former economic advisor under President Johnson.

According to Eckstein real recov- ery will not be under way until 1983 or 1984. He said that although inter- est rates are on their way down now, money will tighten and interest rates will go up again after mid-1982. And he argued that not until the hoped- or benefits of President Reagan's economic program are felt around 1983 or 1984, will interest rates come down again. Saul Klaman was also ess optimistic and pointed out that by 1983, if short-term rates run high elative to long-term interest rates, he thrift industry will be in deep rouble. Advocating flexible interest ates, Klaman warned that a high rate of failure among individual thrift insti- utions could deepen the Federal budget deficit, since the government would have to reimburse depositors hrough Federal deposit insurance.

Recently, however, short-term ates have dropped below long-term ates, promising some relief to the hrift industry.

Sternlieb predicted that housing would become a major political issue in 1984. "The U.S. is the only West- ern country where the rich are envied, not hated," he said. "Housing and cars are the symbols of the American dream and the promise of a better standard of living. If we do not deliver on that promise, we cannot survive." —*Andrea Gabor*

AIA and ACEC favor insurance supplement bill

Three trade associations representing architects and engineers testified at a Senate hearing last month on behalf of a bill that would enable their mem- bers to establish tax-exempt reserve funds from which to pay liability claims.

"By encouraging set-asides to satisfy small liability claims, design professionals would be encouraged to raise deductibles and increase insurance coverage," representatives of the American Institute of Archi- tects, the American Consulting Engi- neers Council and the National Socie- ty of Professional Engineers told a Senate finance subcommittee.

Premiums for design liability in- surance are considerably higher than those paid by other professional groups, such as lawyers and doctors, according to a statement signed by William Ratliff, president of the ACEC; Randall Vosbeck, president of the AIA; and Louis Guy, Jr., chairman of the legislative educational fund of the NSPE.

Testimony also indicated that the level of deductibles that firms must accept when buying insurance cover- age is also high. Further, a 1980 study by an accounting firm showed that 64 per cent of the firms surveyed reported that their insurance costs exceeded two per cent of their gross receipts, and that 24 per cent of the firms had no insurance at all. An ACEC study this year showed that 46 per cent of firms with 25 or fewer personnel were uninsured, while a 1979 AIA survey showed that 45 per cent of Texas architects and 49 per cent of those in California are without insurance.

The legislation, introduced by Senator Charles Mathias (R.-Md.), would permit firms to put a certain percentage of their receipts into a trust account and take the amount as a tax deduction for a legitimate busi- ness expense. Liability claims paid by a firm would then first come from the trust, not from insurance.

If enacted, according to the association spokesmen, the bill would enable firms to supplement their insurance coverage so that they can satisfy claims out of their own funds.

The proposal would cost the U.S. Treasury an estimated $50 mil- lion in lost tax revenues during the first year; and it comes at a time when the Reagan Administration is scrambling to find ways of increasing revenues. —*Donald Loomis, World News, Washington, D.C.*

CCAIA's convention ponders architectural fantasy and reality

California Council AIA's annual state- wide convention entitled *Fantasy & Reality: Los Angeles 200/California 2000* was held this October in Los Angeles. A roster of celebrities, including educators, writers, politi- cians and architects, spoke to the 2500 attendees about the current state of architecture in Los Angeles, now in its bicentennial year, and of California's architectural future.

Although Ray Bradbury, science fiction writer and keynote speaker, chided local architects for not being visionary enough by saying "Los Angeles has survived despite archi- tects," he sees the successful future of urban areas in the creation of "sociable places." This means re- thinking operating hours for stores, bringing elderly housing into the center city, redeveloping strip shop- ping, and interlacing it all with trans- portation and pedestrian malls under a kind of "yellow brick road" theory. "The job of the architect," said Brad- bury "is to dream up alternatives, to build buildings that haven't been built yet, with the same visionary intent as those who created the 1933 Chicago World's Fair and Disneyland."

Brendan Gill, journalist and archi- tecture preservationist, and Reyner Banham, educator and author, spoke directly on the issues of fantasy and reality. Architecture is fantasy, and money is the one true reality," said Gill. "In order to turn fantasy into the best reality, the architect must be a good salesman, like Philip Johnson and Frank Lloyd Wright."

Banham, on the other hand, said "Los Angeles is really full of fancy buildings, and fancy should not be confused with fantasy architecture. Designers who do not get beyond the bottom line—in other words, those who do not say 'why not'—are those who will not find needed archi- tectural alternatives."

On a more hard-line tack, Tom Hayden, now chairman of the Solar- Cal Council and a leader of the Cam- paign for Economic Democracy, sees a "duality and inherent unity of fanta- sy and reality—reality begets fantasy and vice versa." According to Hayd- en, the reality is that we are energy addicts, and that in the interest of national security and personal and economic health we must develop alternative energy sources and em- phasize conservation. The Campaign for Economic Democracy intends to be a strong participant in aiding the development of alternatives, includ- ing solar energy, by stimulating legis- lation and making money available for research and development of solar ventures. The organization also plans to work with public utility giants to give loans and rebates to consum- ers who implement solar equipment. "Architects *are* crucial in the resolu- tion of energy problems," he encour- aged, "and they should think of themselves on the front line when designing." —*Janet Nairn*

Whitney Museum first to open out-of-state branch

New York City's Whitney Museum of American Art is the first major muse- um to open an out-of-state branch. The new headquarters of Champion International Corporation in Stam- ford, Connecticut, is providing space for the mini-Whitney.

Ulrich Franzen, who designed Champion's aluminum and glass headquarters, planned the museum as a separate unit—a glass-walled two-story module projecting from the lobby and outdoor plaza. The module covers 3,600 square feet of floor space, with ceilings that are two stories high.

The exhibition area, designed by Charles Froom, is divided into three parts—a large central gallery with two wings—providing wall space for about 50 paintings and areas for sculpture displays. The walls and ped- estals are white, and the carpet is dark gray. —*A.G.*

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Fans of the Olmstead landscape channel money and energy to rejuvenate Central Park

Over a hundred years ago New York City nannies brought their charges to the Dairy, where they were served fresh milk and other refreshments during strolls through Central Park. But over the years, the cows were sent back to the farms, the arched Loggia in front of the Dairy was destroyed, and the Dairy itself fell into disrepair. This fall, the Central Park Dairy, which had once been a focus of the most beautiful and humane man-made public park ever built, became a symbol of a parks preservation movement that promises to save Manhattan's major recreational lifeline.

On October 14 the Dairy and Loggia that were built by Frederick Law Olmstead and Calvert Vaux around 1870, in the southeast quadrant of the Park, were reopened to function as an information center, concert hall, and art gallery. Like much of Central Park that has been restored in recent years, both city funds and private donations, totaling almost $800,000, were combined for the restoration project. Revlon, the Sheldon Solow Foundation, Avon Products, and the Central Savings Bank contributed almost $300,000 toward the Dairy's interior refurbishing, while the city paid about $500,000 for the Loggia.

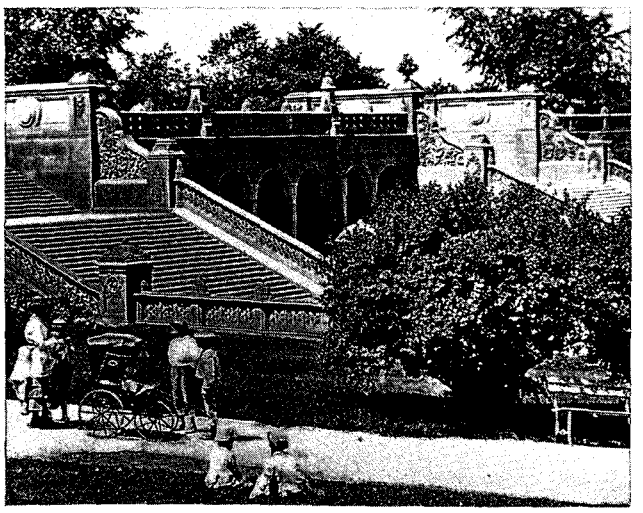
A comprehensive restoration plan for Central Park did not begin until the early 1970s. At that time the Parks Department, with funding from the Astor Foundation, prepared a preliminary master plan that identified the park's most serious problems—the decay of water bodies, monuments, buildings, landscapes, and such vital public amenities as benches, lights, and walking paths. This initial master plan also paved the way for capital projects designed to improve the park's eroding condition. But the 1975 fiscal crisis ended the City's capital construction plans.

Since 1979, orchestration of the massive renovation projects, which are estimated at $100 million, has fallen to the Central Park administrator, Elizabeth Barlow, who will target a medley of private and public monies toward specific restoration projects over the next ten years. Several private organizations that functioned separately in the past have, since 1980, come under the aegis of the Central Park Conservancy, which now administers all private funds.

"The goal of the park preservationists and the Conservancy is to get people to start thinking of the park as a monument that is as important as the Metropolitan Museum or any other great building," said Barlow.

Barlow, Gordon Davis, the parks commissioner, and the Board of the Conservancy have created a list of preservation priorities. In so doing they have had not only to coax private benefactors to give money to projects that they deem the most important, but they have had to strike a balance among an army of constituencies—from bird watchers and bicyclists to baseball players—who all want their special interests given first consideration, including the purists who would like the park returned to its original "Olmsteadian" splendor.

Olmstead, one of America's first environmentalists, created Central Park out of a swamp inhabited by squatters. Transforming this wasteland into a pastoral dream, he put cows in the Dairy, sheep in the Sheep Meadow, and planted hundreds of different kinds of vegetation that he had collected from all over the world. The Wollman Rink, Lasker Rink and pool, and tennis courts were added later to Olmstead's design. The greatest changes in roadways, walks, waterways and standardization of paving materials, lamps, benches and vegetation occurred under Robert Moses' 26-year reign as parks commissioner that began in 1934. Barlow and others involved in the Park's restoration have tried to strike a balance between Olmstead's original design and the uses to which the Park has evolved as a result of changing recreational interests.



Courtesy of the Museum of the City of New York Collection

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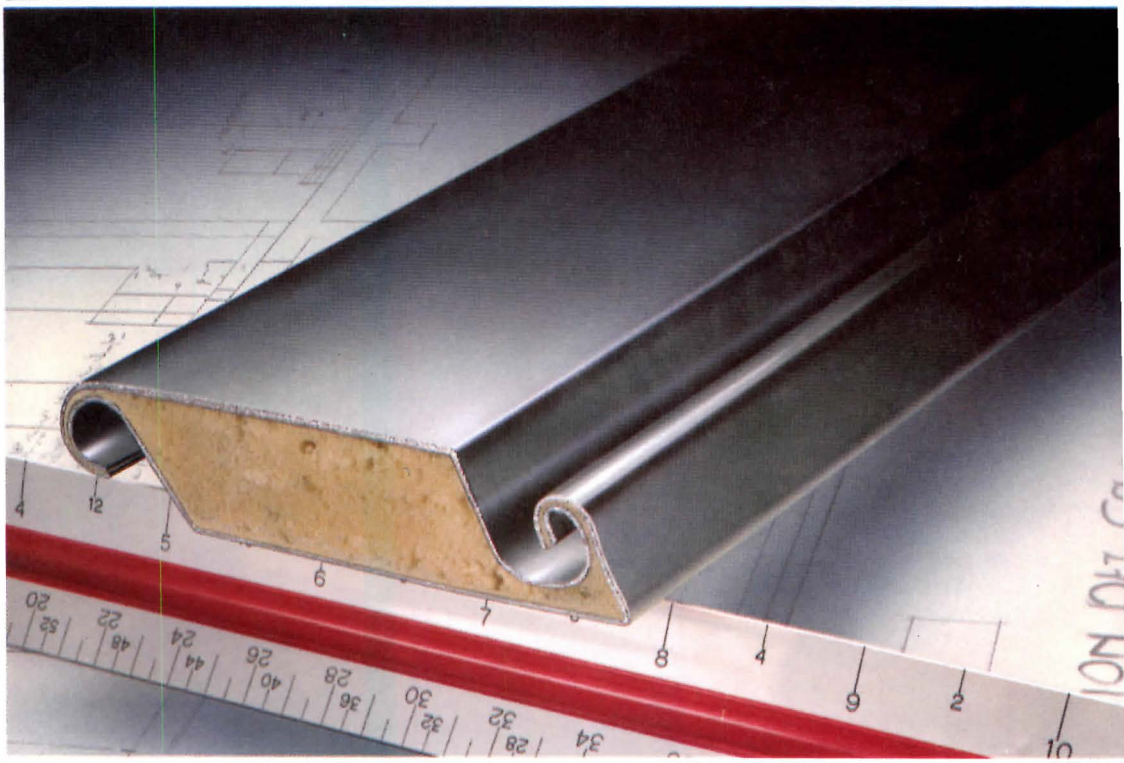
Among the projects that have been recently completed are the southeast corner, the new Wollman Rink, two restored cast iron bridges, the 86th Street playground, the renovated Belvedere Castle, the newly sodded Sheep Meadow and other restorations, including Bethesda Fountain, the Cherry Hill Fountain and Concourse, and the reservoir track. Renovations, over the past two years, have totaled over $12 million.

But much remains to be accomplished. Renewing the southwest and northeast corners, the bridle path and Mall, and dredging of the lake, which alone will cost an estimated $600,000 are major elements of the multi-million dollar master plan still to be completed.

The following architects have completed major projects funded through Barlow's office: Phillip Winslow and Peter Gluck and Associates for the Cherry Hill Landscape; Phillip Winslow and the Ehrenkrantz Group for the Bethesda landscape; the Ehrenkrantz Group for Bethesda Terrace; Quennel Rothschild Associates for the Dairy landscape and the southeast corner master plan; James Lamantia for the Dairy and Belevedere Castle renovations; Gerald Allen for the Bethesda and Cherry Hill Fountains and new light fixtures; Beyer, Blender and Belle for the Greywacke, Trefoil and Pinebank Bridge arches; and Bruce Kelly acted as a landscape consultant on several projects and as curator of the Art of the Olmstead Landscape exhibit at the Metropolitan Museum of Art this fall.

Wide public interest in Olmstead's landscape architecture was originally sparked by his sesquicentennial in 1972, which received generous media and academic attention. According to William Alex, president of the Frederick Law Olmstead Society in New York City, "Parks restoration elsewhere is not happening on the scale or magnitude of Central Park. But concern has been growing as Americans in many cities become conscious of their environment, and as inner-cities become more overcrowded, increasing the need for these oases." —*Andrea Gabor*

ATLAS THERMAL SERIES— NO OTHER INSULATED ROLLING DOOR MEASURES UP



1. "Foamed in Place" Polyurethane

Today the amount of insulation in a door is more important than ever before–but even more important is the way it's put in. That's where nobody measures up to Atlas. And that's why Atlas uses "foamed in place" polyurethane, because solid insulations can't fill effectively. Foamed in insulation reaches in and penetrates filling all the small and hard to get to places. That's the difference, it's effective and fills completely.

2. Superior Slat Design

Inside the curves, where the slat faces interlock, are the hardest spots to insulate–in any rolling door. It's here that Atlas makes some unique design modifications that allow them to be filled completely. This effective insulation over the entire length of the slat is a major design achievement, yielding 100% insulation coverage and performance, a real value that no other rolling door measures up to.

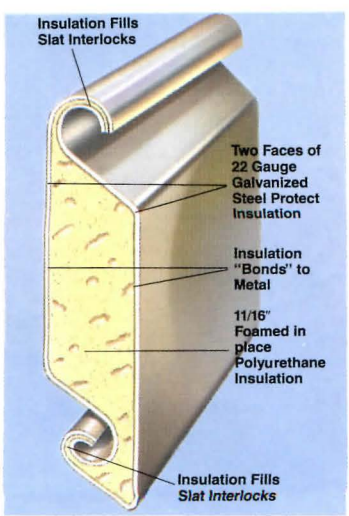
3. Bonding, Strength, Highest R

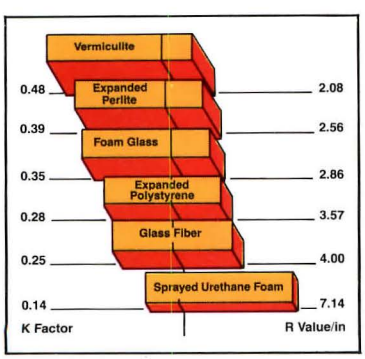
For strength and durability, urethane foam hardens to a solid lightweight plastic that bonds to the metal slats permanently–no falling off, warping, or wearing. It's protected from external damage and weathering by 22 gauge galvanized steel, a tough combination of metal/foam/metal. Urethane foam also has the lowest thermal conductivity (K) and highest resistence (R) of all common insulators. These unique properties coupled with Atlas technology produce a durable, lightweight, energy barrier that will last for the life of the door.

4. "New" Atlas Options

Two new rolling door options, the Atlas Safety-Stop™, which prevents the door from free falling, and the Atlas VHC™, which extends the useful life of the door, complement a complete line of rolling doors and grilles. Atlas doors are backed by a national network of distributors and installers. That's because Atlas measures up–all the way.

For more information about Thermal Series rolling doors and these new options contact Atlas at 116 Truman Drive, Edison, N.J. 08817, or call (201) 572-5700.





atlas

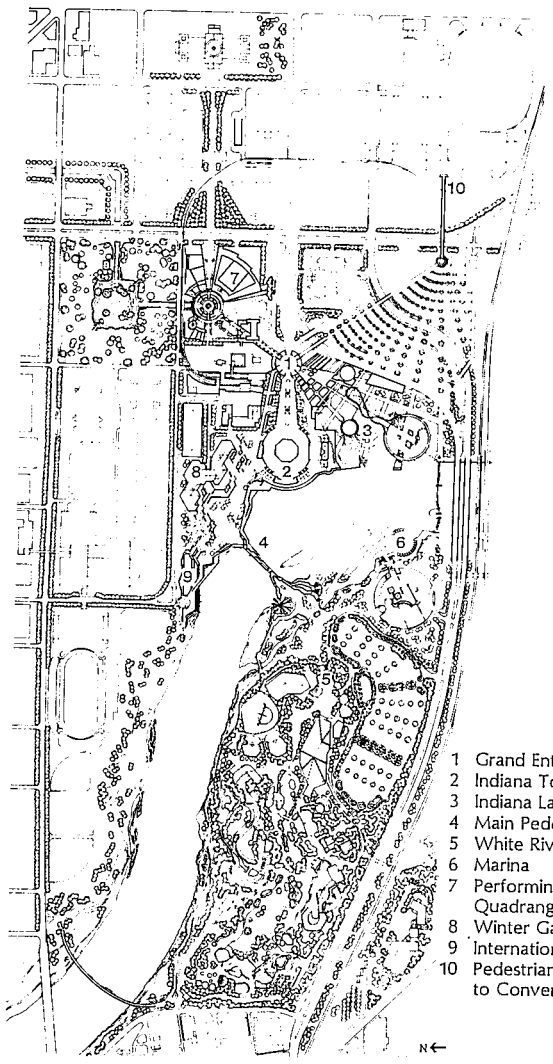
We're meeting the challenge!

Circle 25 on inquiry card

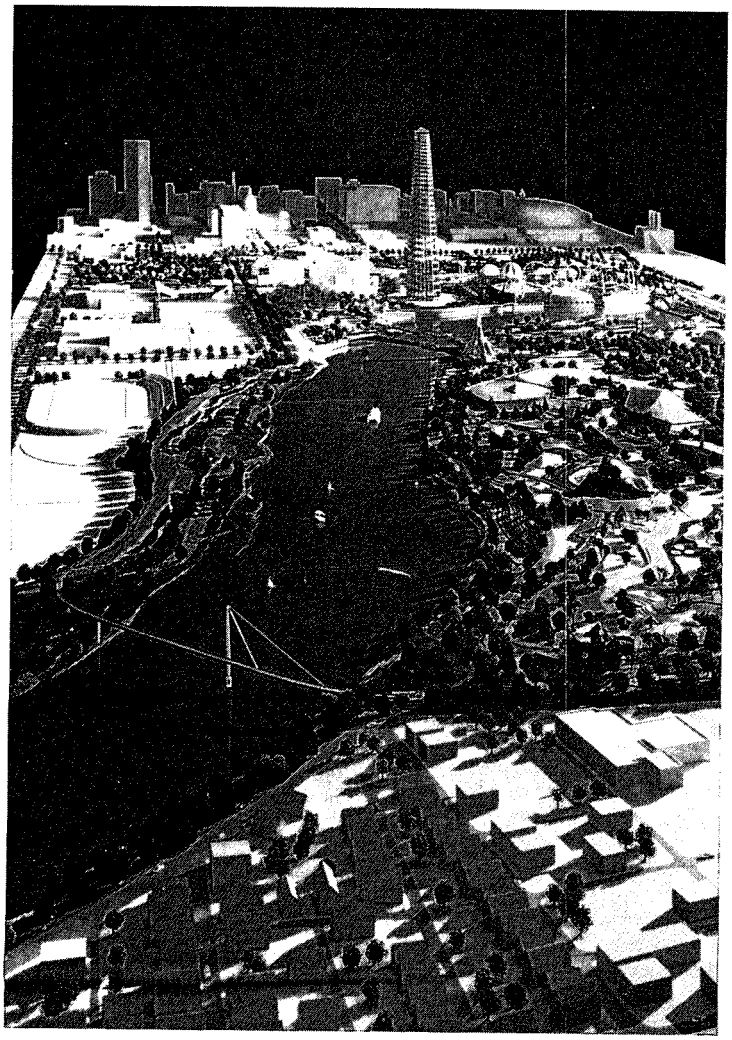
Project: Lobby, Professional Arts Building, Vancouver, Washington
Architect: Travers/Johnston, A.I.A., P.C., Portland, Oregon
Interior Design: Associated Design Consultants, Portland
Engineer: Peterson Associated Engineers, Inc., Portland
Lighting: Lite Duct by Peerless, one of the 13 Longlite systems. Here, blue 6" lensed fixtures hang at stepped intervals, creating the one dramatic accent in an otherwise conventional space. Lite Duct comes in seven diameters and configurations, in any finish, extends to any length, and adapts to virtually any optical task.

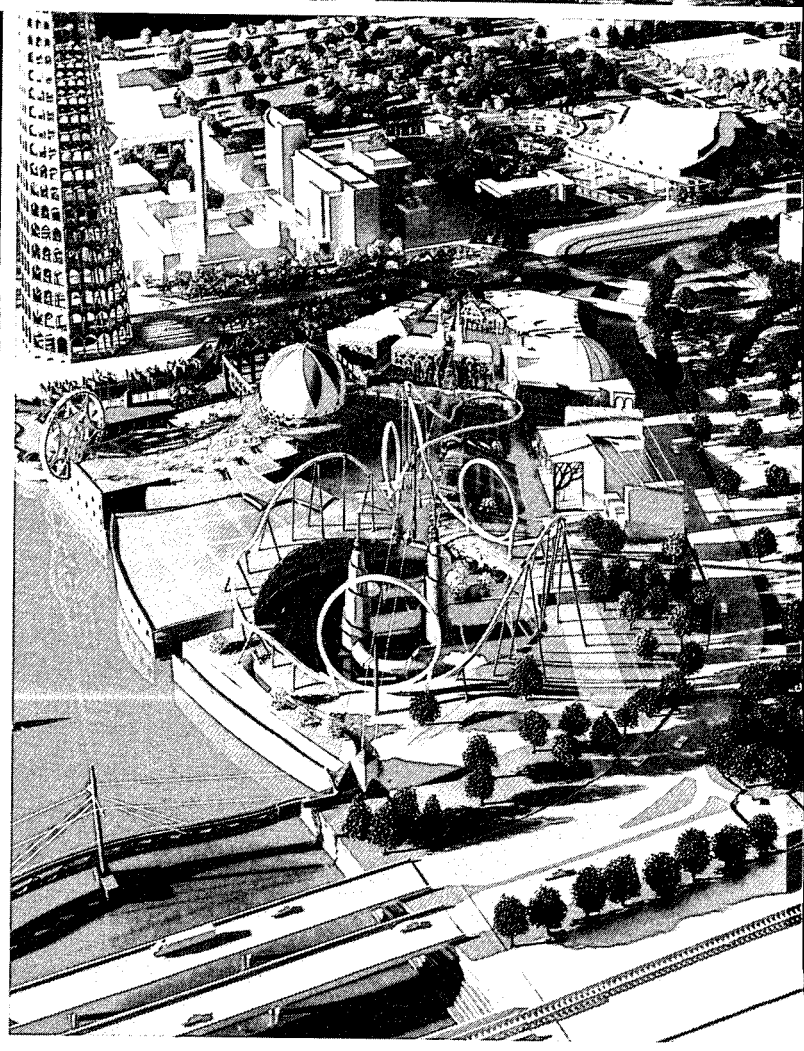
White River Park is a 250-acre recreational park for Indianapolis

White River Park, a giant recreational complex to be built in Indianapolis over the next ten years, is being undertaken by a team of architects that include Charles W. Moore and Edgardo Contini of the Urban Innovations Group, Cesar Pelli, Danadjieva and Koenig Associates, Geiger Berger Associates, Hammers Siler George Associates, Roy Mann Associates, Inc., Zooplan Associates, Inc. and Howard Needles Tammen and Bergendoff (HNTB). The master plan was designed by HNTB. The park will be built on 250 acres adjacent to downtown Indianapolis, on the White River, at a cost of about $183 million. The plan includes an observation tower with a museum space for traveling exhibits, shops, restaurants and an auditorium; a new home for the Indianapolis Zoo; outdoor spaces for festivals, concerts and celebrations; a major family entertainment center modeled after Tivoli Gardens; music halls, parking, theaters, housing and hotels.

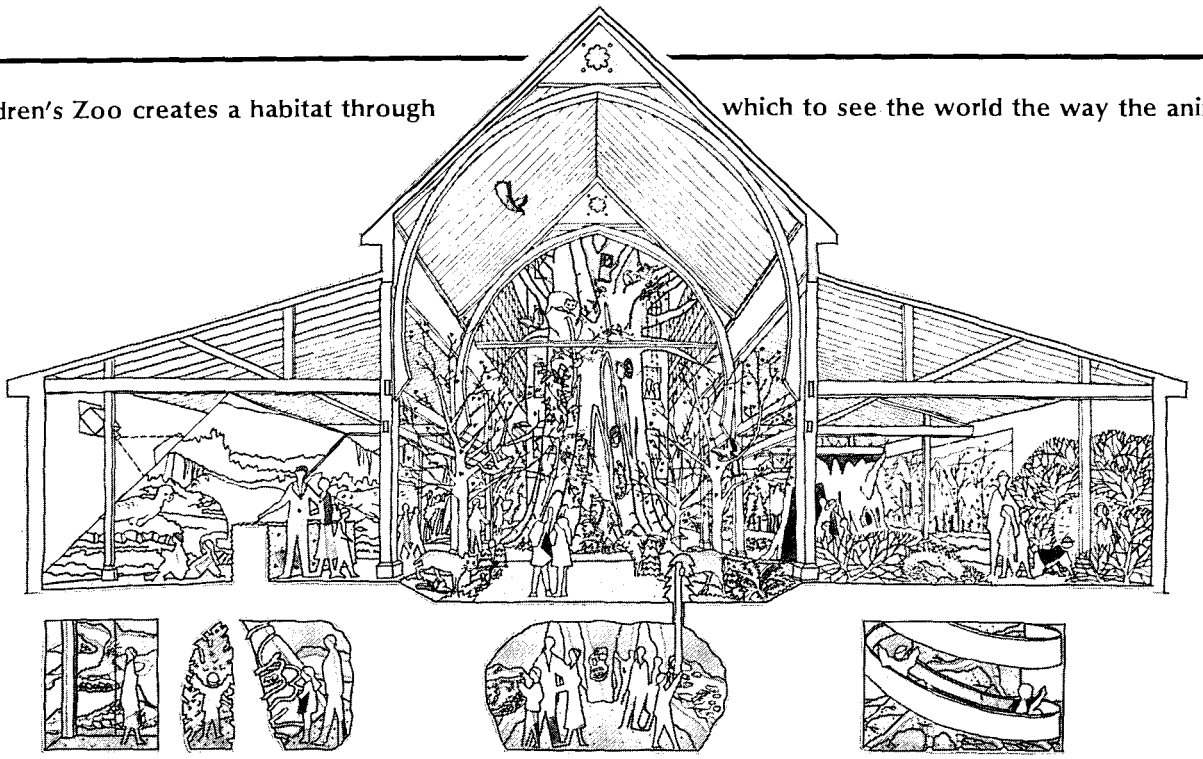


1 Grand Entry
2 Indiana Tower
3 Indiana Landing
4 Main Pedestrian Bridge
5 White River Park Zoo
6 Marina
7 Performing Arts Quadrangle
8 Winter Garden
9 International Center
10 Pedestrian overpass to Convention Center

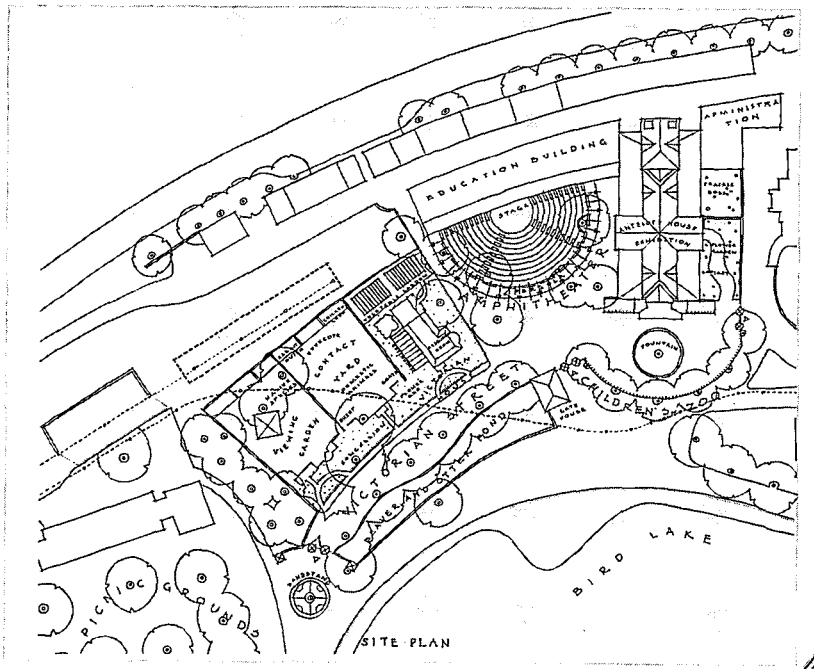


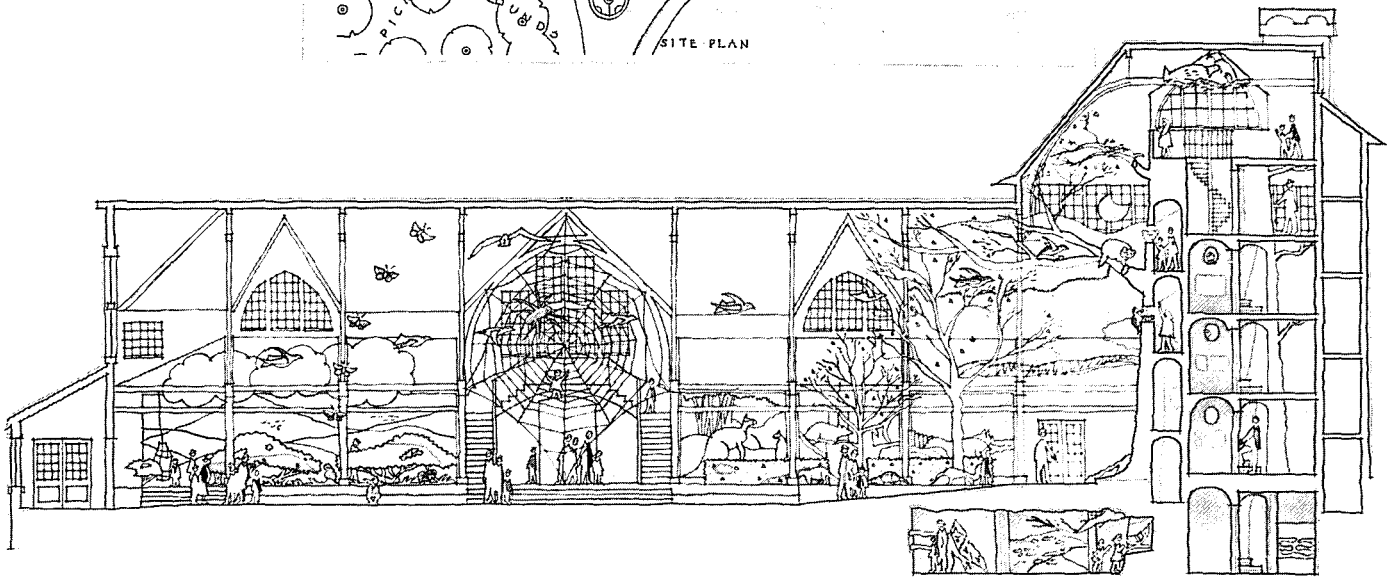


The new Children's Zoo creates a habitat through which to see the world the way the animals do



With their renovation of the Antelope House, an old Victorian structure within the Philadelphia Zoo, Venturi, Rauch and Scott Brown are designing an environment that will show visitors what it is like to live as the animals do. The New Children's Zoo will house few animals, but visitors will be able to crawl into an underground beaver lodge and climb through an opening, surrounded by water, to give them a beaver's-eye view. A child can play squirrel in a hollowed out tree that rises to the top of the high-vaulted ceiling. A spiral staircase winds around the inside of the tree, which has exhibits on different levels, places to store nuts and cut-out areas to peak through. The estimated cost of the Children's Zoo is $2.5 million and it is scheduled for completion the summer of 1983. The renovated Antelope House is part of a whole new zoo complex for which funds are now being raised.





THE ROOF IN HOUSTON.

oughout the entire five-month period, no store ever stopped rating because of the remodeling.

Vulcraft steel joists and roof deck played an important role in the innovative expansion of Sharpstown.

hen the Sharpstown Shopping Center in ouston decided on a $25 million expansion, ey also decided on Vulcraft steel joists and of deck.

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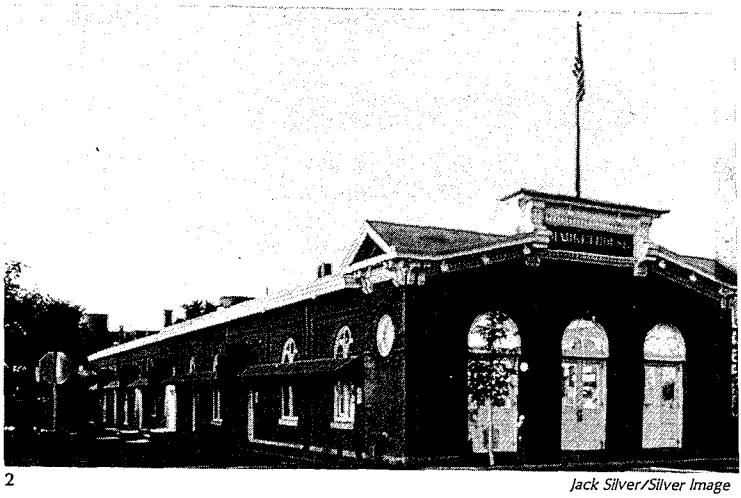
Owner/Developer: Arthur M. Fischer, Inc. Sharpstown General Manager: Edward Wolochin, Vice President Architect: Nikita Zukov, AIA
General Contractor: H.A. Lott Construction Co. Structural Engineer: T.Y. Lin & Associates Steel Fabricator and Steel Erector: Steel Fabricators Inc.

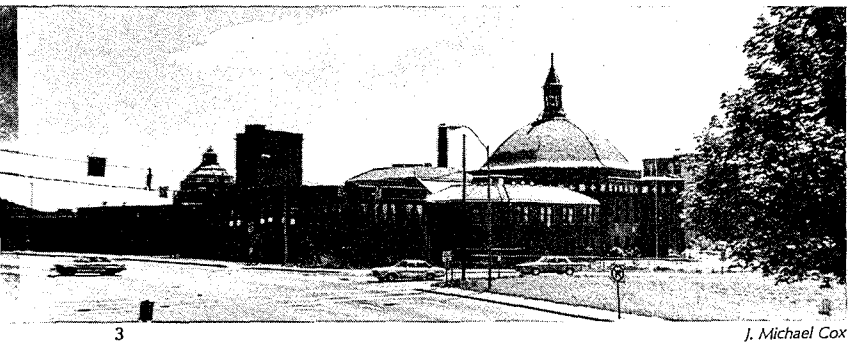
DESIGN AWARDS/COMPETITIONS

Submissions for this year's North Carolina AIA Design Awards, the recipients of which are shown below, were judged in two categories, Historic Preservation and Current Use. The jury for projects in the former category consisted of architects from the Washington, D.C. area: M. Hamilton Morton, Jr., AIA; Russell V. Keune, AIA, senior vice president of the National Trust for Historic Preservation; and Donald B. Myer, AIA, assistant secretary of the Commission of Fine Arts. Current Use entries were reviewed by a group of Pennsylvanians: George Qualls, FAIA; George Chung-Nieu Yu, AIA; and Peter Q. Bohlin, AIA. The nine buildings honored by the Prestressed Concrete Institute in its 1981 awards program are illustrated overleaf (three bridges cited by PCI are not shown). The jury, which was chaired by R. Randall Vosbeck, FAIA, president of the AIA, also included T.Z. Chastain, PE, FACI, president of the American Concrete Institute; Dr. James R. Sims, president-elect of the American Society of Civil Engineers; George S. Hammond, AIA; and David H. Hambelton, FRAIC, president of the Royal Architectural Institute of Canada.

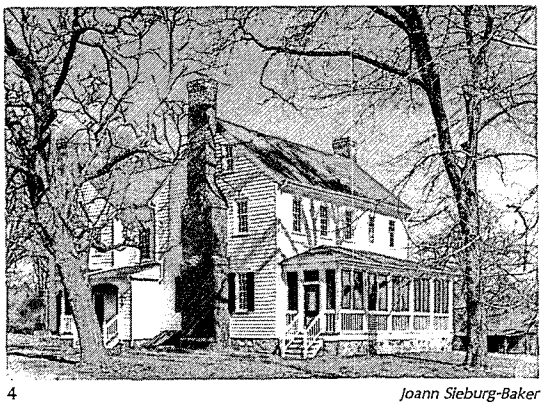
1 *William A. Mullis*



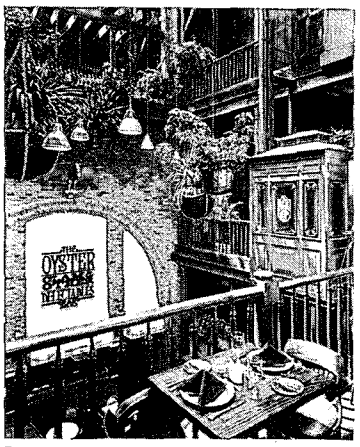
2 *Jack Silver/Silver Image*



3 *J. Michael Cox*



4 *Joann Sieburg-Baker*



5 *Rick Alexander*

6

NORTH CAROLINA AIA AWARDS FOR EXCELLENCE IN ARCHITECTURE

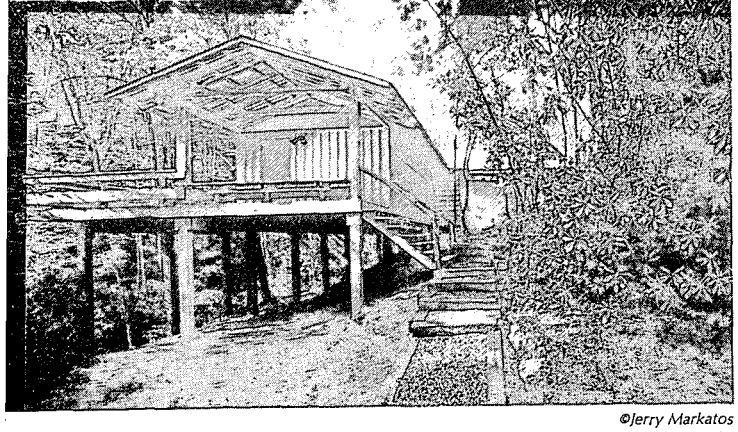
1. White Oaks Condominiums, Charlotte, North Carolina; Paul Braswell Architect, PA (Honor Award, Historic Preservation). A 67-year-old, 53-room mansion listed on the National Register of Historic Places has been converted into five luxury condominiums. The restoration of the exterior successfully preserves one of North Carolina's best examples of Colonial Revival architecture.

2. Market House, Washington, D.C.; Clark Tribble Harris and Li, architects (Merit Award, Historic Preservation). Georgetown's Victorian market had been occupied by an auto parts distributorship until it was rehabilitated to serve its original purpose. Shop fronts face interior streets that intersect at a neon-trimmed pergola.

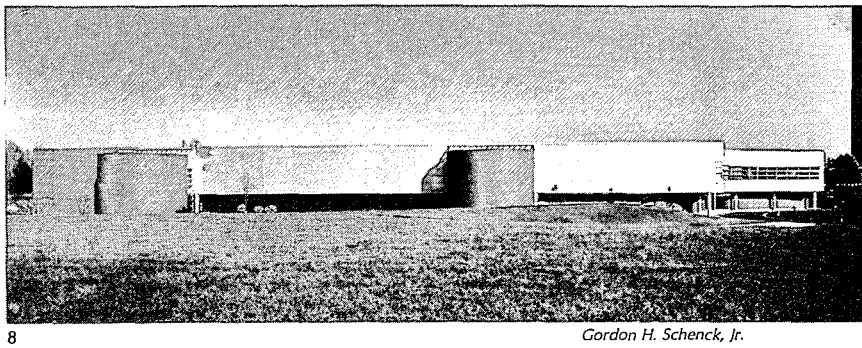
3. First Baptist Church Family Ministries Center, Asheville, North Carolina; Padgett & Freeman, architects (Merit Award, Historic Preservation). A variety of recreational facilities, classrooms, and a 400-seat dining room were attached to a brick church built in 1925. The jury found the addition "sympathetic to the earlier structure, especially in the connection and in the breaking up of masses and interior detail."

4. Residence, Durham, North Carolina; Carr, Harrison, Pruden, architects (Merit Award, Historic Preservation). As originally constructed in the eighteenth century, this frame plantation house consisted of two separate buildings. The jury admired the restoration of period detail, while regretting the meagerness of historical information assembled by the architects to explain their design choices.

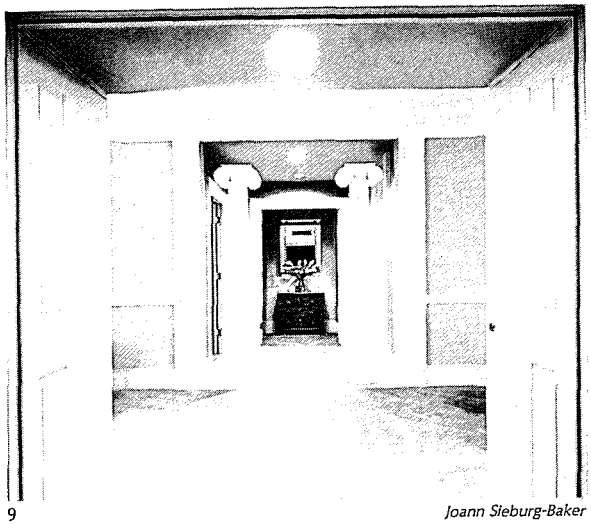
5. The East Bay Trading Company, Charleston, South Carolina; Ferebee, Walters & Associates, architects (Merit Award, Historic Preservation). The cast-iron columns, massive tim-



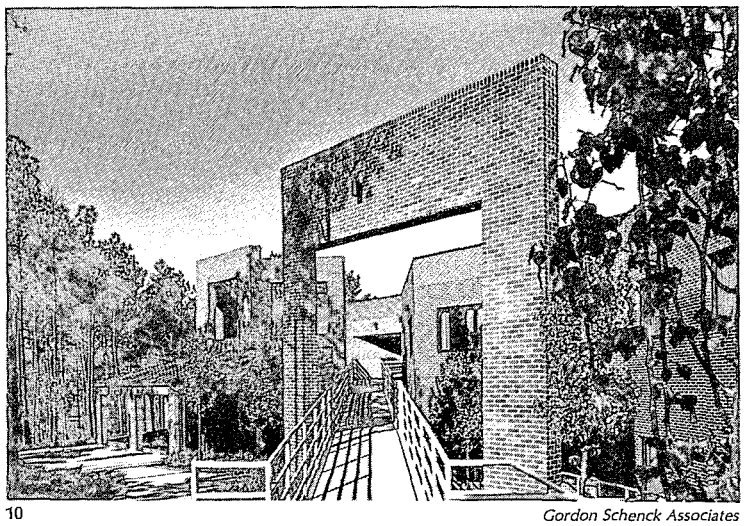
©Jerry Markatos



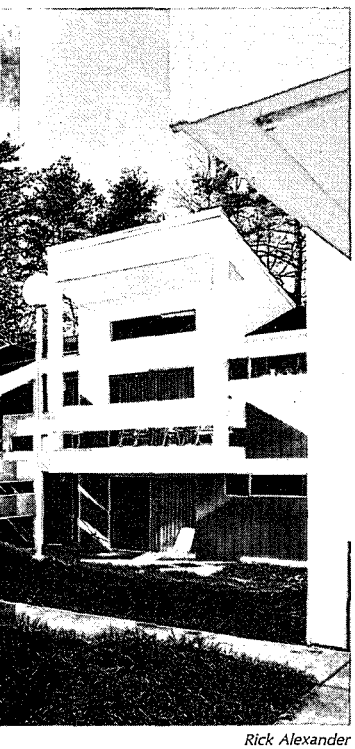
8 Gordon H. Schenck, Jr.



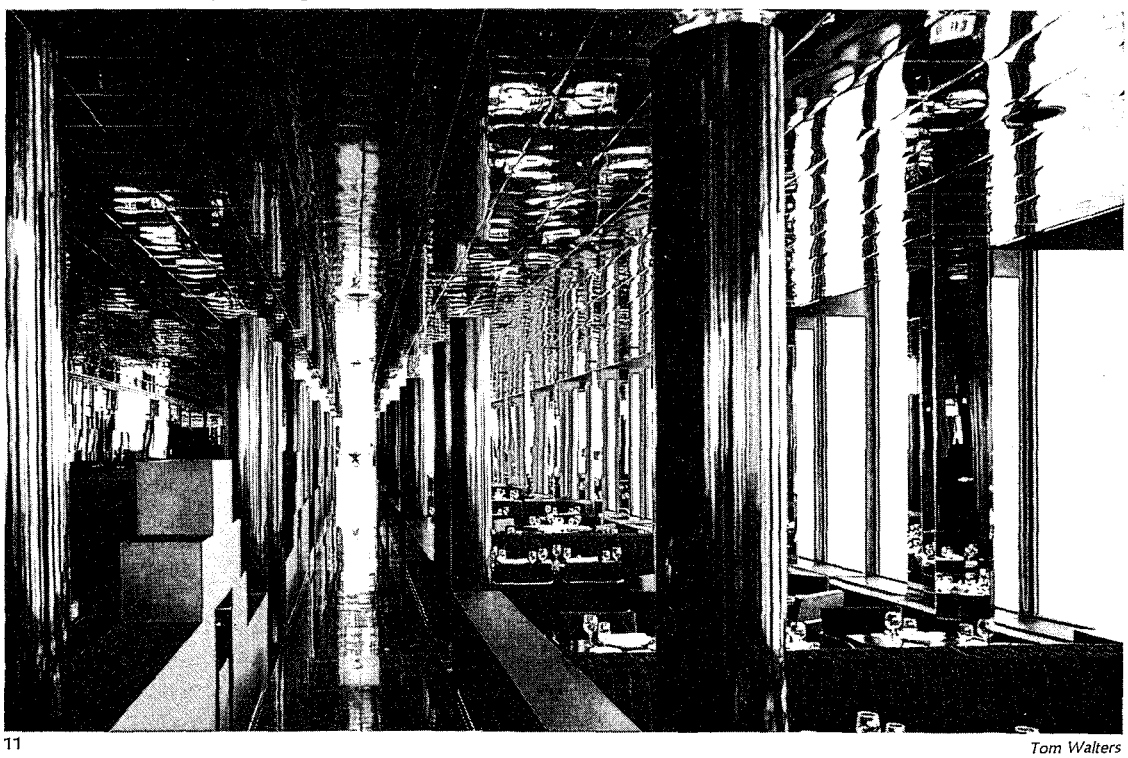
9 Joann Sieburg-Baker



10 Gordon Schenck Associates



Rick Alexander



11 Tom Walters

bers, and brick arches of a recycled warehouse lend warmth to the interior of a new restaurant.

6. Dormitory, University of North Carolina, Charlotte, North Carolina; Gantt/Huberman Associates, architects (Honor Award, Current Use). "In this academic village, the architects have created a vigorous 'sense of place' through their siting of the units along a system of greenways," the jury observed.

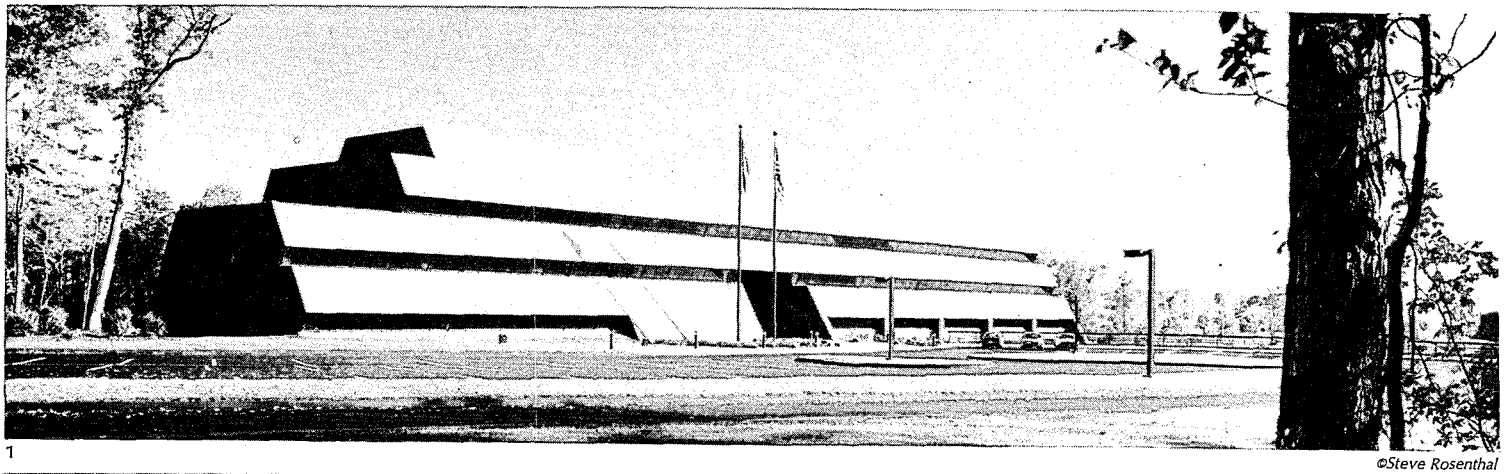
7. Camp Housing, Brevard, North Carolina; Ligon B. Flynn, AIA, and Brady & Brannon, joint architects (Honor Award, Current Use). The client, a summer music center, desired low-cost, durable quarters for faculty and students. Minimal enclosures were dictated by the budget and climatic conditions.

8. Pic'n Pay Corporate Headquarters and Distribution Center, Charlotte, North Carolina; Dellinger/Lee Associates, PA (Honor Award, Current Use). The jury cited the "adroit use of ordinary corrugated metal panels that echo and reinforce the horizontal lines of the general massing" in a structure that combines 100,000 square feet of offices with 187,000 square feet of warehouse space.

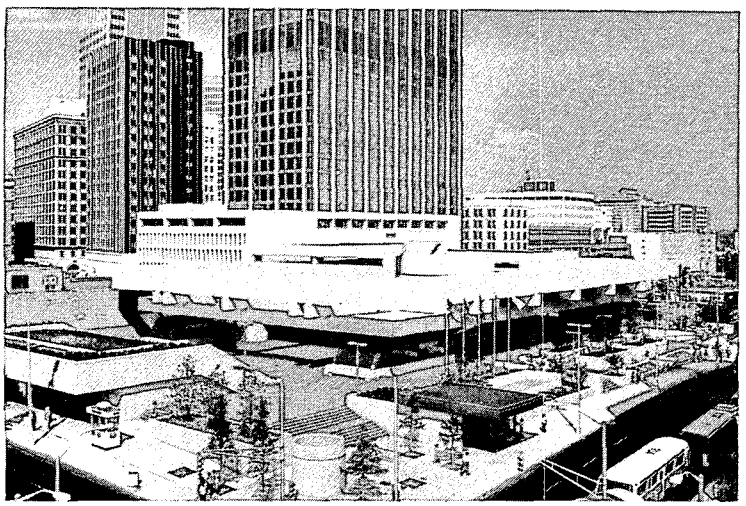
9. Law Offices, Charlotte, North Carolina; Meyer-Greeson Architecture/Interior Design, PA (Honor Award, Current Use). An aura of tranquility and formality was requested by the client for this 2,000-square-foot space in a multi-tenant office building. Ionic columns define the passage from public areas into the inner offices.

10. Eastowne 500 Office Building, Chapel Hill, North Carolina; O'Brien/Atkins Associates, PA, and Roger H. Clark, AIA, joint architects (Honor Award, Current Use). "Working within a building type that normally finds its expression in repetitive blandness and vain gesture, the architects have produced a design that . . . achieves a special personality through the intricacies of its entrance sequence."

11. Slug's 30th Edition Restaurant, Charlotte, North Carolina; Wolf Associates, architects (Honor Award, Current Use). A black marble floor, black lacquered columns, black stone walls, and a mirrored ceiling create visual drama. The jury was impressed by the consistent elegance "that has been pursued even to the design of the place settings."

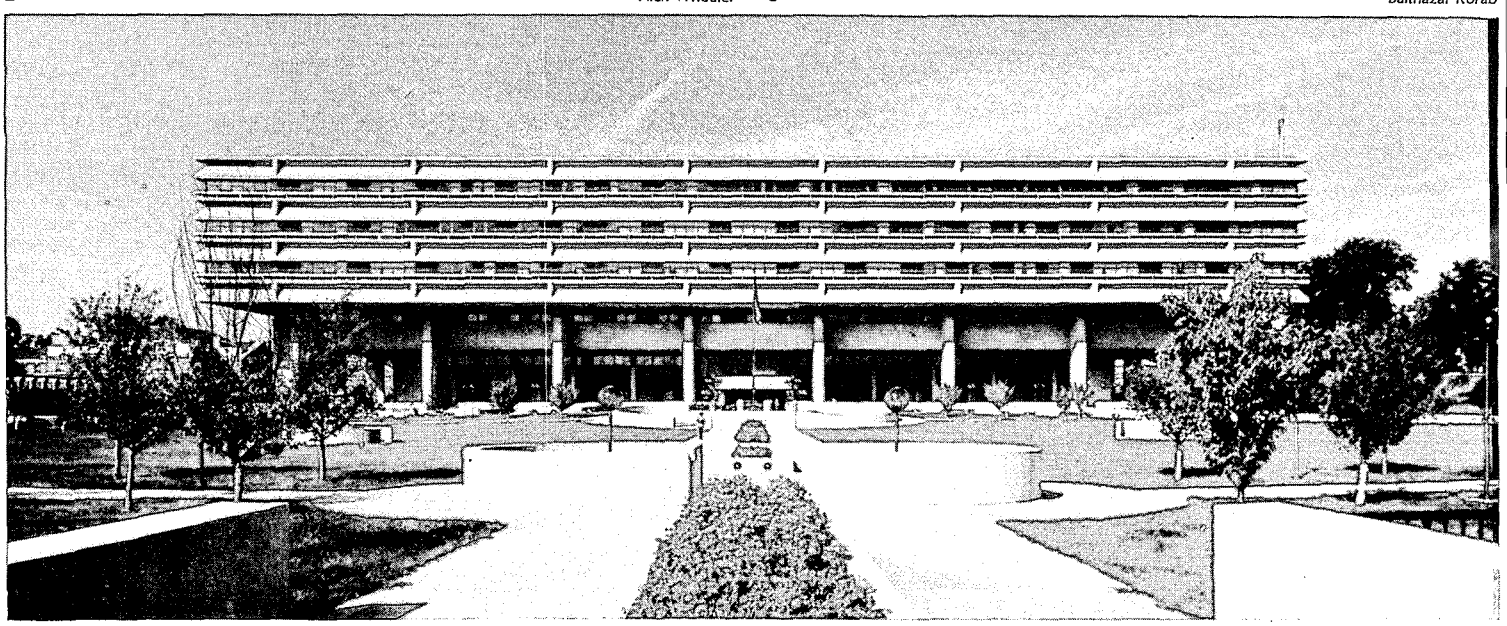


1 ©Steve Rosenthal



2 ©Nick Wheeler

3 Balthazar Korab



4 Robert Lautman

PRESTRESSED CONCRETE INSTITUTE AWARDS

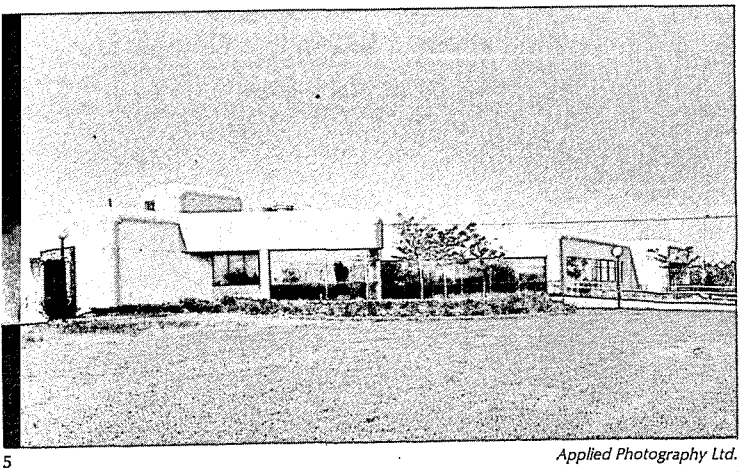
1. Security Insurance Group Corporate Headquarters, Farmington, Connecticut; Russell Gibson von Dohlen, Inc., architects. Projection of "a solid corporate image" and adherence to a tight construction budget were prime goals for the client. The jury remarked that "The design flexibility of architectural precast concrete made the unusual window angles on the south wall possible." Besides forming a distinctive esthetic effect, this sloped facade acts as a passive solar device.

2. Five Points Station, Atlanta, Georgia; HEERY-FABRAP, architects. The concourse of this metropolitan transit facility is spanned by beams composed of 13-foot-long precast concrete segments, match-cast, epoxy-glued, and post-tensioned. "The sophisticated, sculptural appearance is a welcome relief for transit facilities."

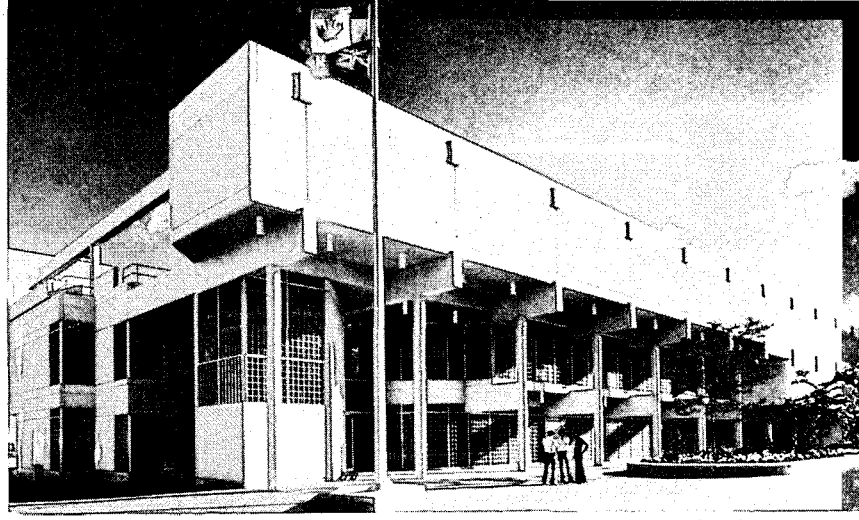
3. Stephen C. O'Connell Center, Gainesville, Florida; CRS, Inc., architects; Moore May Graham Poole Architects, associate architects. A prestressed concrete compression ring and precast concrete arches enclose a mixed-use student activities center. Tension-supported and inflated roofs were engineered by Geiger Berger.

4. Walter Reed General Hospital, Washington, D.C.; Stone Marraccini and Patterson, Milton T. Pflueger, joint-venture architects (see RECORD, August 1981, pages 100-103). The jury commented: "The elegant use of architectural precast concrete breaks up the massiveness of the structure and defines the interstitial spaces."

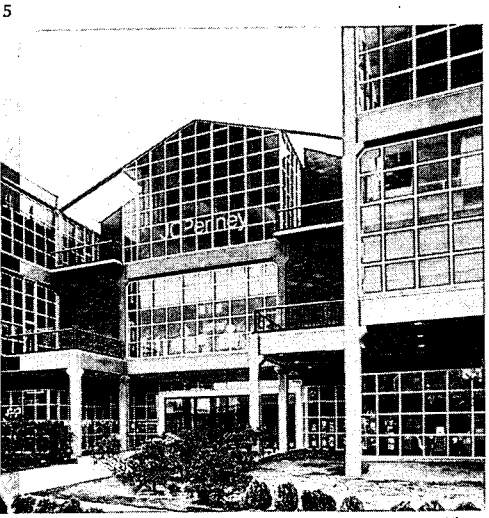
5. Canadian Imperial Bank of Commerce, Ontario, Canada; Shore Tilbe Henschel Irwin Peters, architects. The exterior cladding of curved and flat concrete wall panels with a lightly textured finish was praised for its "great discipline." A skylit atrium



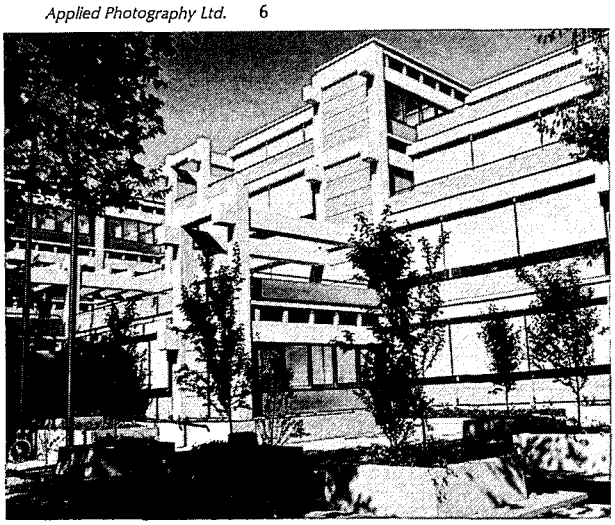
5 *Applied Photography Ltd.*



6 *Applied Photography Ltd.*



7 *Wayne Thom*



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admits daylight to the center of the building. Window areas were minimized for energy conservation.

6. Metropolitan Toronto Police Station #52, Toronto, Ontario, Canada; Shore Tilbe Henschel Irwin Peters, architects. A combination of concrete wall panels and glass block was specified to meet security standards while responding to the scale of the nearby Art Gallery of Ontario. Exposed aggregate panels resemble the facade materials of the museum. The jury commended the project as "a warm, friendly addition to the civic buildings of this city."

7. Bellevue Square, Bellevue, Washington; Charles Kober Associates, architects. Exposed concrete structure defines broad window walls and interior spaces in this skylit shopping mall. Beams are mounted on brackets cast onto the sides of precast columns. "The exterior treatment, proportions, and human scale are quite exceptional."

8. Site 1A/Gregory Bateson Building, Sacramento, California; Office of the State Architect, State of California. Use of a concrete frame for both thermal mass effect and exterior shading in this government office building enabled energy costs to be reduced by 60 per cent. "Precast ladders and colorful shades express a feeling of playfulness, yet the over-all design is solid and organized."

9. Miami Free Zone, Miami, Florida; Ferendino/Grafton/Spillis/Candela, architects. The client's need for economy, rapid construction, and fire-resistant structure determined the architects' choice of combined load-bearing precast concrete wall panels for this warehouse/showroom facility. "This building really is a work of art that exhibits both design sensitivity and a keen sense of structure."

Calendar

1982 AIA Honor Awards Program. Current Use entries will be reviewed by Joan E. Goody, AIA (jury chairman); Howard Barnstone, FAIA; Thomas H. Beeby, AIA; Gary Chan, an architecture student at the University of Washington; Jay C. McAmis, associate member AIA; John Merrill, FAIA; and Robert Venturi, FAIA. The panel for Extended Use Awards will be Frank Gehry, FAIA (jury chairman); Bruce A. Abrahamson, FAIA; Dora P. Crouch, associate professor of architectural history at Rensselaer Polytechnic Institute; Mark L. Fisher, associate member AIA; Pamela Jenkins, an architecture student at Pratt Institute; Nory Miller, a senior editor of *Progressive Architecture*; and Peter Papademetriou, AIA.

R. S. Reynolds Memorial Award for Distinguished Architecture Using Aluminum. Data binders for submissions must be postmarked no later than December 21. The jury will consist of R. Randall Vosbeck, FAIA, president of the AIA; Anthony Lumsden, FAIA; and Richard Rogers, RIBA.

Reynolds Aluminum Prize for Architecture Students. The national awards program, sponsored annually by the Reynolds Metals Company and administered by the AIA, will present a $5,000 honorarium for an "original design in which aluminum is an important contributing factor." Entries may range in scope from individual building components to entire structures. Entries must be received before jury review on February 11, 1982. For further information contact Maria Murray, American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006.

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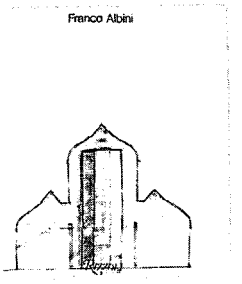
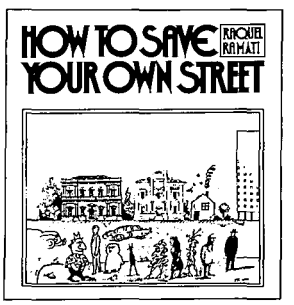


FRANCO ALBINI 1930-1970, *edited by Franca Helg, Antonio Piva, and Marco Albini; Rizzoli, $17.50.*
Four years after his death, Franco Albini (1905-1977) is remembered as one of the seminal contributors to Italy's "Rationalist" movement. This monograph/exhibition catalog serves as a retrospective of Albini's 40-year practice, and includes his furniture designs, his interior rehabilitation of two Renaissance palace museums in Genoa, his "geometric" remodeling of the treasury of the Genoa Cathedral, and his 1961 Rinascente department store in Rome. Though the primary text is in Italian, English essays summarize each of the three divisions: "Franco Albini, Architect: Between Rationalism and Technology" by Cesare De Seta; "The Genesis of a Language; Design and Expositions (1930-1945)" by Marcello Fagiolo; and "Low-cost Housing, Urban Planning, and Collective Dwellings" by Biagio Garzena and Giovanni Salvestrini.



HOW TO SAVE YOUR OWN STREET, *by Raquel Ramati; Doubleday/Dolphin, $19.95.*
"Modest improvements, if they are strategically located and timed, can lead to other, larger improvements—finally more meaningful because they will have been rooted in such a community spirit" argues Raquel Ramati, former Director of New York City's Urban Design Group, in her "how-to" guide to revitalizing your street. Beginning with practical information on land use, zoning maps, management and maintenance, Ms. Ramati then proceeds with instructive case studies of street revitalization in New York City: Mulberry Street in Little Italy, Newkirk Plaza in Brooklyn, and 20th Street in Queens. A final chapter includes information on how to maintain your revitalized street for the long term—performance standards, incentive zoning, historic preservation laws, tax incentive and design guidelines.

continued on page 59

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Image-building for architects: a guide to public relations

Very few architectural firms have an executive with primary responsibility for "public relations," but every architect and every firm has relations with the public, whether intended or not, and whether the resultant image is good, bad, or nonexistent. And since an architect's professional survival rests largely on what people think of him and his work, "nonexistent" is the same as "bad." In the following article, public relations expert James P. Gallagher suggests the most effective means for bringing design achievements to the attention of fellow architects, potential clients, and interested laymen.

by James P. Gallagher

There are several "publics" which are important to the design professional, and their cultivation requires quite different approaches. One public consists of your architectural and engineering peers and the publications that serve them; a second is made up of your past, present, and with luck, future clients; and the third is the general public, the readers of newspapers and the viewers of television, your fellow citizens who may never in their lifetime engage the services of an architect or build a building. There is some overlapping of these three publics, each may have some slight effect on the others, and no one program will do the job for the others. But all three are important.

Recognition by your fellow professionals can be earned by service or by performance, or preferably, both. Every local chapter, state society, and the national AIA has a host of committees and offices that need filling, and your participation will be more than welcome. You will be working with the leaders of your profession at each of these levels, building relationships that will be important throughout your career, and gaining modest public exposure along the way. There is a price on this activity, though: it is in the time that must be taken from your personal life and your business day. Committee meetings run on (and on), public offices require decisions and management, and major events such as conventions and seminars cannot be conducted without deep involvement. But if you want to dance, time is the piper who must be paid.

Many members of the AIA's College of Fellows earned their distinction via the "service to the Institute" route. When the Institute's 100th anniversary convention was held, the Centennial Gold Medal was awarded to a lifelong toiler in the AIA vineyard, Ralph Walker, rather than to a "form-giver."

James P. Gallagher is director of public affairs for the architectural firm of Smith, Hinchman & Grylls in Detroit.

Design awards and publication: two paths to peer recognition

An even surer route to the respect and admiration of your peers is through design, and the two direct roads are via design awards programs and publication, although each often leads to the other. Local chapters, state societies, and the national AIA all hold awards programs, as do several of the engineering societies (local and national), and a number of building materials manufacturers and trade organizations. Each has its own requirements for entry, but usually the entry must be a building completed within the past year or two, it must be presented in a standard format, and there is often an entry fee. Assuming that your building is of outstanding quality, it can still fall by the wayside unless it has 1) excellent photography, 2) a clear and interesting statement of the problem and solution, and 3) outstanding graphics (plans, elevations, sections, etc.) that clearly show how the building works. Today, there are talented architectural photographers in every part of the country, and there is no excuse for a less than professional presentation of your work. First-rate photography does cost money, but think of it as your ante in a very important poker game. If you don't ante, you don't draw cards.

A common architectural complaint is that "there's no use in *my* submitting my work. Awards juries always choose the well-known names." This couldn't be more wrong! It is true that certain architects and certain firms win more than their share of awards, but this is for the very good reason that their work is better than most. But nothing gives a jury more pleasure than unearthing a hitherto unknown designer and premiating his work. It would be a rare year indeed when major design programs don't include as winners the work of young and unheralded talent. The conscientiousness of juries in reviewing entries must be seen to be believed. If your firm's work is really good and if you submit coherent and well photographed buildings, you are going to start accumulating plaques for your office wall.

Much the same advice also goes for the architectural magazines. They really want to see every well-designed building, and the pressure of having to fill their magazines twelve or more times every year is a strong incentive to seek out new contributors. Again, the importance of excellent photography is critical. Editors are looking for *pictures* they can publish, and nothing will show off your work as well as dramatic photography, especially color. You can send a project to the magazine cold (for your own peace of mind, mount your material in a clear sleeve binder; photos are easy to mislay), or you can query the editors about their interest before you send them the total package (they will still need pictures to make a decision). And remember, an editor's remark that "yes, we would like to see it" implies no commitment to publish. However, it should mean that the editors will give you a "yes" or "no" within a month or two, or at the least, they will ask your permission to hold the material for future consideration. If you hear nothing, don't hesitate to ask for the material to be returned. And *never* send the same project to two competing magazines, since they both might like it and you would be persona non grata in both places.

One last word of advice. Before you try to interest an editor in your story, be sure that you have your client's permission to publish. The editor will assume that you have, and if he takes the idea all the way to publication, only to find at the last minute that the story cannot be told, he's going to be angry and you are going to be embarrassed. It makes good sense to set up the ground rules for publicity with the client during the earliest stages of the project.

Reach clients through the local press by becoming a good reporter

While national publicity and recognition is good for every practice, most of your work comes from local or regional clients, and the attention of your local press is most important. Many architects do not realize that their knowledge of the entire building process makes them a valuable "source" to reporters. The newspaper, magazine, and television reporters in your area should know they can call on you for facts in any area in which you, or your staff, are expert. But if they do call,

continued on page 55

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Top photo taken October 1980; Bottom photo, August 1968.

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be sure you get them their answers quickly and accurately, because reporters are always on a deadline, and if you give them the "I'll be back to you" routine and take your time in answering, they won't be calling you next time. And don't forget that the ultimate mortal sin to a reporter is telling an untruth. He will accept "I'm sorry, I can't tell you that," but you are on his list forever if you lie to him. There is nothing that ingratiates you to the press like tipping them off to a good story, especially when the story has nothing to do with your practice or your projects. Learn to think like a reporter, so you will recognize interesting stories as something to be passed on. Especially for the general columnist, these can be very small items, so long as you pass on those you think fit his column. When you read a story you enjoy, send a note to the reporter, telling him or her so. You can phone your compliments, but these people live by the printed word and they really appreciate a written compliment. By some quirk of human contrariness, people usually write to newspapers only about things they dislike, rarely about what pleases them, so your praise will be welcome indeed.

The incalculable value of goodwill

Finally, we come to that public you never see as clients, who don't know one architect from another (and couldn't care less!), but who read the newspapers and watch television, and who collectively make up what is known as public opinion. When your buildings are noted in the papers, when you are the subject of stories about your appointment to commissions, or service on the United Way, when you win awards, or get cited in your church newspaper, it is all part of what the public thinks of you and your firm. Their collective good opinion of you is not measureable, but then, *all* public relations are immeasureable, as are most sales and promotional activities. But if you took a public poll about any well-known and respected firm, you would find that the public has a vague idea of who they are, and a generally good impression of what they do.

For many architects, that good impression is earned through service to the community, through serving on boards and committees of civic and philanthropic organizations, all of which are eager for your volunteered participation. When your political leaders learn that you are willing to put your professional knowledge at the service of the community, they will be eager to use you on the commissions or boards that oversee so many governmental activities. Again, the price in time is high, but if you wish to sit at the Mayor's table, you have to earn your way there. This service to the community is the ultimate in true public relations (which might better be called public service), and the hardest thing for the professional to see as in his own interest.

In a nutshell, identify your publics, determine what *they* need, and give generously of your time and talent. Help them and they will help you, even though neither of you has help as a primary intention.

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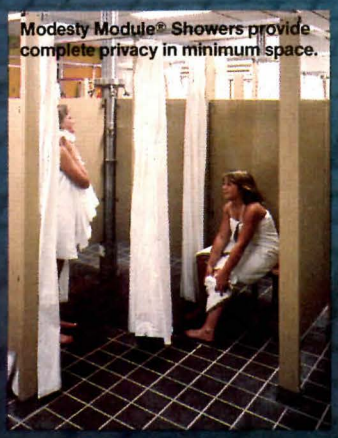

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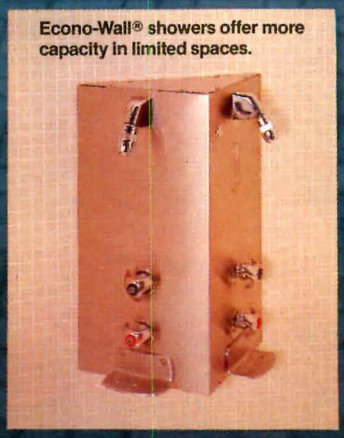

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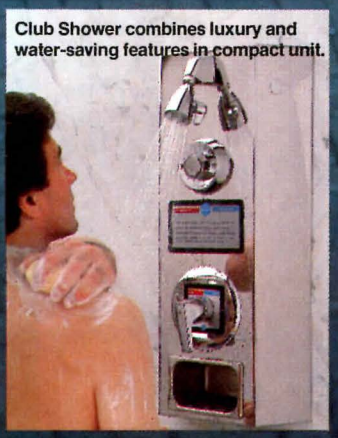

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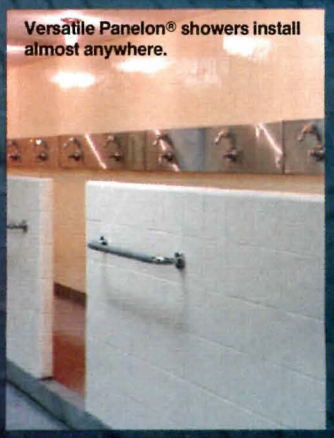

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Causes and effects of 1981's office building boom

A huge jump in office building contracting stands out as an exception to the dismal performance of the rest of the construction industry in 1981. As part of a boom which began in 1978, contracts for office buildings have achieved record totals over the past year. Following 1980's mid-year slump, square footage of office building starts has increased by successively greater amounts, culminating in this year's third quarter with a seasonally adjusted annual rate (SAAR) of 330 million square feet, an all-time quarterly high. To put the extraordinary nature of 1981's office building surge—and the prospects for its continued vigor—into better perspective, economist Robert A. Murray reviews the progress of office building contracting over the past 15 years.

The late 1960s witnessed both an expanding economy and a substantial rise in the number of new white-collar workers, the primary occupants of office buildings. Reflecting the emerging shift in American society toward a more service-oriented economy, the white-collar work force grew by nearly 1.3 million employees per year between 1965 and 1970, a sizable gain over the 700,000 annual average of the period 1950-65. To absorb this influx of workers, new office building floor area advanced from 109 million square feet in 1965 to a peak of 192 million in 1969. As the decade drew to a close, much of that expanded activity was located in the Northeast, which accounted for 32 per cent of total office building square footage in 1969.

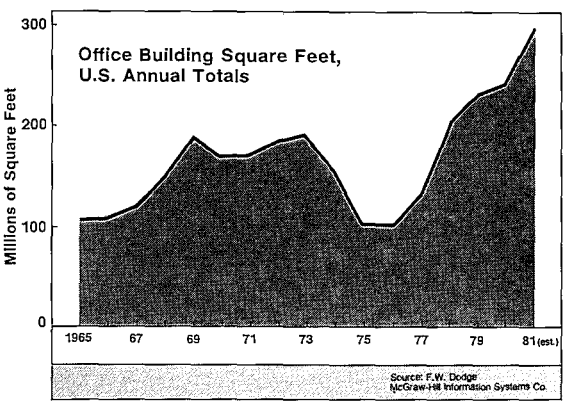
As the pace of the economy slackened in the 1970-71 period, so too did the volume of office building contracts. The occupancy rate for these buildings fell back from the 95 percent range of the late 1960s into the low 90s, indicating that much of the backlog of demand for office space was being used up. The resumption of strong economic growth in 1972-73 brought with it a renewed demand for office space, and equally important, evidence that economic activity was shifting to the Sun Belt. Office building contracts reached a new peak in 1973 at 195 million square feet, with a major change in the regional mix. The South became the hottest office building area, increasing its share from 25 per cent in 1969 to 43 per cent in 1973. The regional contribution of the Northeast plummeted during the same period, dropping from 32 per cent to 13 per cent, while the shares of the North Central region and the West remained relatively unchanged. Occupancy rates, however, soon began to drop below the 90 percent mark—a sign that an excess supply of office space had been created. Coinciding with a deteriorating economy and high interest rates, the bottom began falling out of the early-seventies boom in the fourth quarter of 1974. In a reaction to the overbuilding of the preceding years, the 1975-77 period saw a genuine office building bust, with floor area hitting a low of 106 million square feet in 1976.

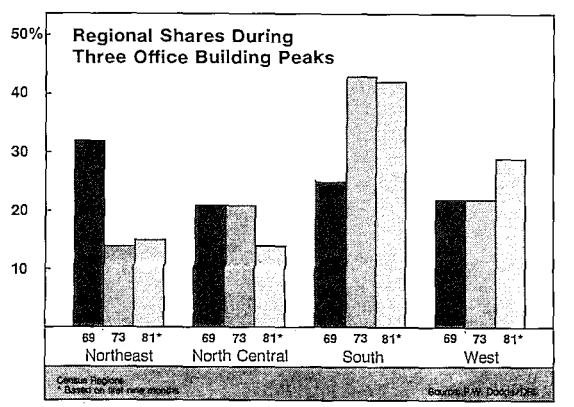
Yet, forces were present in the mid-years of the decade that would lead to the present high level of office building contracting. The baby-boom generation of the 1950s, which had caused the surge of educational building during the 1960s, began leaving school and entering the labor force in the mid-1970s. In addition, the participation of females in the labor force was climbing sharply and the trend toward a service-oriented economy continued, particularly with regard to the expanding information industry. The result: the number of white-collar workers increased by 1.5 million per year in 1976 and 1977, and over 2.0 million annually in 1978 and 1979, a pace considerably ahead of the growth rate in the over-all labor force.

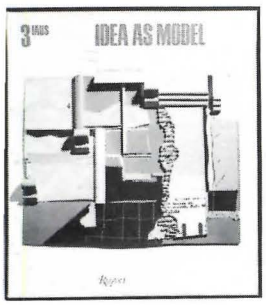
In 1978, office building contracting responded by jumping to 207 million square feet, a rise of 50 per cent over the preceding year and the first annual total to top 200 million square feet. But that was only the beginning, since 1979 saw the yearly figure rise to 235 million square feet. And then, despite a mid-year pause brought about by the Federal Reserve's tight money policy, office contracting edged higher, reaching 244 million square feet in 1980. Even with this year's return to an exceedingly tight money policy, the 1981 total should far surpass the 1980 record. During the first three quarters of this year, office building contracting has posted quarterly rates of 310 million, 325 million, and 330 million square feet (SAAR), making an annual total of 300 million square feet almost certain. With regard to a regional breakdown over the first nine months of 1981 the emphasis has remained on the Sun Belt. Compared to the 1973 peak, the West has increased its share to 29 per cent, while the South has been able to maintain its share at 42 per cent. The Northeast's share has moved up slightly to 15 per cent, aided by strong contracting rates in New York and Boston. The North Central region's share, on the other hand, has dropped to 14 per cent, supported only by a strong contracting rate in the Chicago area.

At some point soon, office building contracting must decrease to a level that is more in line with slower growth in white-collar employment. In 1980, the number of new white-collar workers fell back to 1.5 million and over the next few years a generally smaller rate of increase is expected. This suggests a basic annual demand for office buildings in the neighborhood of 200 million square feet. Of the new office space produced by the most recent boom, roughly two-thirds has been used to meet current demand, with the remaining third responding to the backlog of demand built up at the end of the 1970s. Over the next year, this backlog should come close to being eliminated. If the present boom continues much longer at the 1981 pace there is the danger that an excess supply of office space will be created, leading potentially to another period of depressed office building activity. The initial indications are, however, that the record 1981 pace has started to trail off during the fourth quarter, increasing the prospects for a soft landing from the current boom.

Robert A. Murray
Economist
McGraw-Hill Information Systems Company





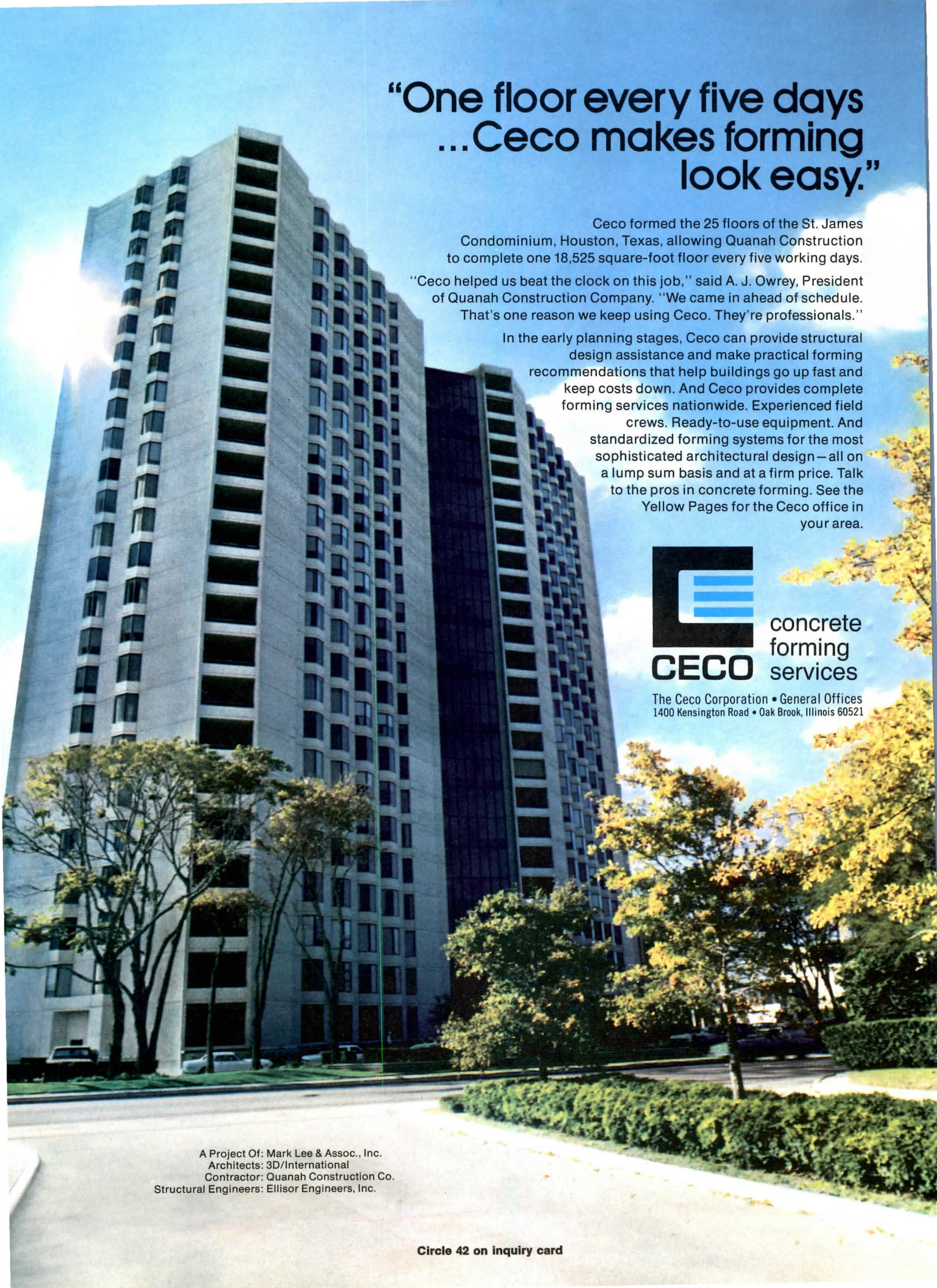


IDEA AS MODEL (3 IAUS), *introduction by Richard Pommer, preface by Peter Eisenman, essays by Christian Hubert and Richard Pommer; Rizzoli New York, $17.50.*

Five years ago, the Institute for Architecture and Urban Studies (IAUS) in New York held an exhibition entitled "Idea as Model." According to IAUS Director Peter Eisenman, "The exhibition had its origins in a long-standing intuition of mine that a model of a building could be something other than a narrative record of a project or a building. It seemed that models, like architectural drawings, could well have an artistic or conceptual existence of their own, one which was relatively independent of the project that they represented." The 1976 exhibition included the work of 22 architects—Raimund Abraham, Diana Agrest/Mario Gandelsonas, Peter Eisenman, Michael Graves, John Hejduk, Leon Krier, Rodolfo Machado/Jorge Silvetti, and Richard Meier, among others. *Idea as Model* is the catalog of that exhibition: but due to a four-year publication delay, exhibition sponsors asked each of the participating architects to contribute a 1980 update model—a late entry. The catalog includes both the exhibition models and the solicited models—with statements from the architects—along with essays by Richard Pommer ("Post-script to a Post-mortem") and Christian Hubert ("The Ruins of Representation").

PREHISTORIC ARCHITECTURE IN THE EASTERN UNITED STATES, *by William N. Morgan; The MIT Press, $25.*

Florida architect William N. Morgan extends his interest in earth-sheltered dwellings (RECORD, mid-May 1980) to the earthworks of primitive man, from 2200 B.C. to A.D. 1500. Archeologists, anthropologists, and historians contributed their research to aid Morgan in setting forth his thesis that primitive man—using earth to shape his environment and landscape—found solutions to problems confronting architects today. Eighty-two sites (from a burial mound in South Charleston, West Virginia, to rectangular wall trench houses in Natchez, Mississippi) are presented with drawings and aerial photographs. Also included are European, Asian, Egyptian, and Latin American sites—comparative examples of scale and design.



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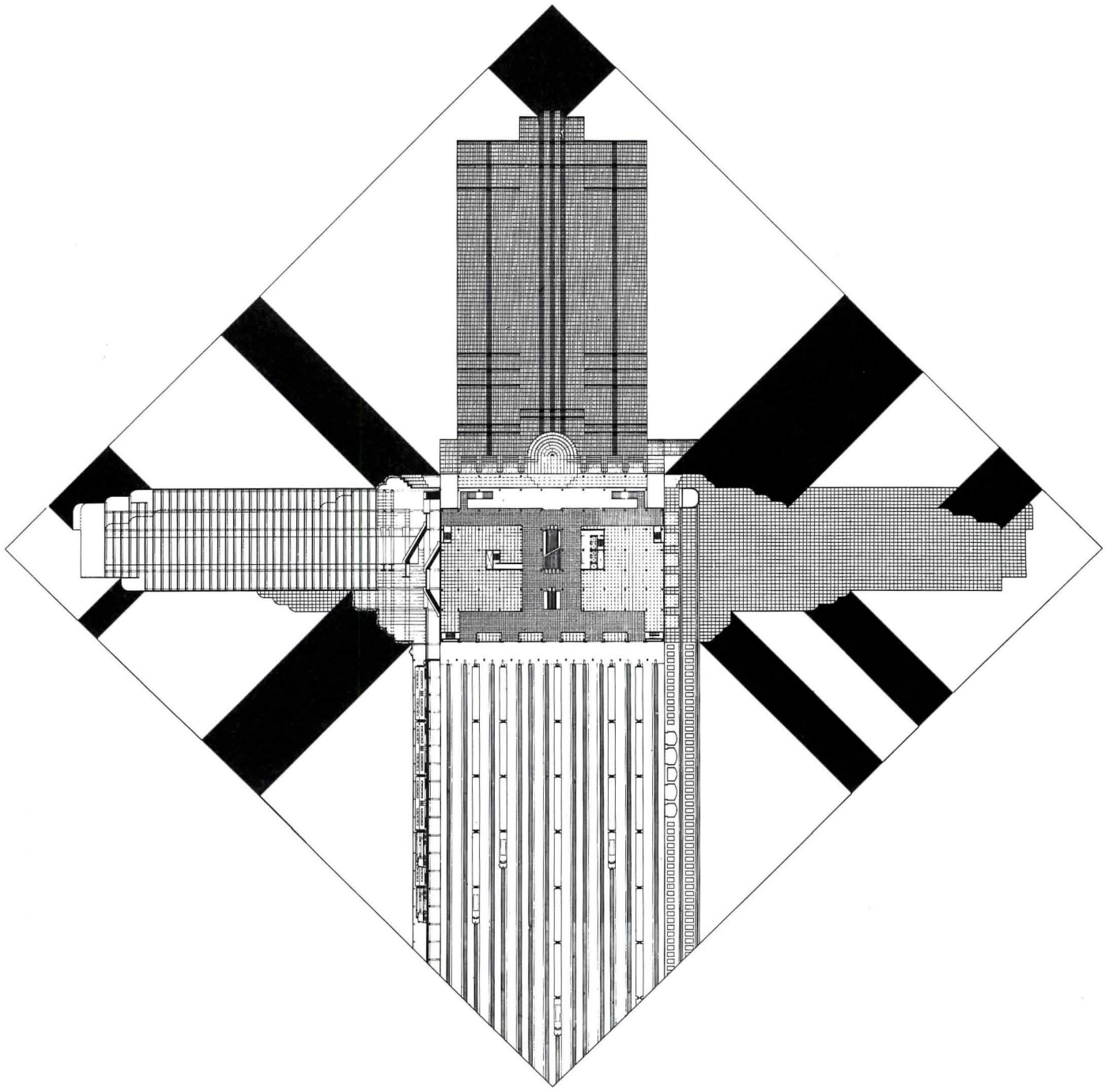


THREE DESIGNS BY MURPHY/JAHN

In a field where most practitioners come to late artistic maturity, architect Helmut Jahn, 41 years old and with 12 years of design experience, counts as a mere adolescent. The free imagination that so often accompanies youthful art may explain why Jahn's ideas flow more rapidly than physical construction can—a fact that may in turn explain why architectural journals are so eager to report his newest designs even before earlier ones are ready for photography.

Jahn acknowledges a certain eclecticism of intellectual and intuitive approaches to design, calling on such contemporary concepts as symbolism and historical reference as well as on functional analysis as he needs them to devise and refine a building's form. Thus though all three of the projects here involve railroading (two of them accommodate tracks and trains), they bear little formal resemblance to each other. Rather the forms spring from the designer's perceptions of the buildings' different purposes, different associations and, in one case, different history.

Like all serious artists, Jahn seems to care almost as much about techniques as about content. Drawing, he insists, is a tool in the service of architecture, not a work of art in itself—despite the current rage for collecting architectural drawings. He discusses with interest the comparative virtues of perspective drawing with its superior information about spatial quality and orthogonal drawing with its superior accuracy of dimensional relationships. And he seems to favor portmanteau drawings that carry more than one burden of meaning and data. Witness the perspective section on page 65, which incorporates two vanishing points in a single drawing so that the viewer can take in both atrium floor and skylight. Witness the five-way drawing of the Northwest Terminal project above—front and side elevations, section and plan, the railroad in plan and cross and longtitudinal sections. "All the information's there," says Jahn. "You could build from it." As Functionalist critics liked to point out, a tool can be a work of art.—*Grace Anderson*

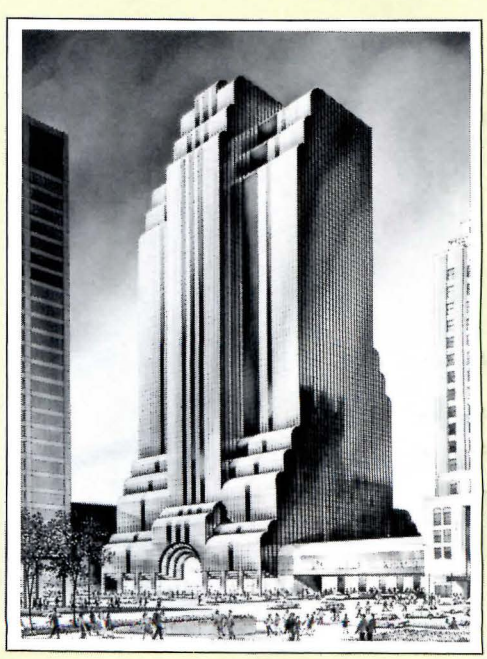
STREAMLINED TOWER MARKS COMMUTER TERMINAL

Symbols of motion and transportation abound in Murphy/Jahn's design for the Northwestern Terminal project. The onlooker might read a streamlined locomotive speeding heavenward from the railroad station below, or a gateway to Chicago's expansion west of the river, and a reference to nearby Gateway Center. Or he might remember Sullivan's arch for the Transportation Building at the 1892 Columbian Exposition

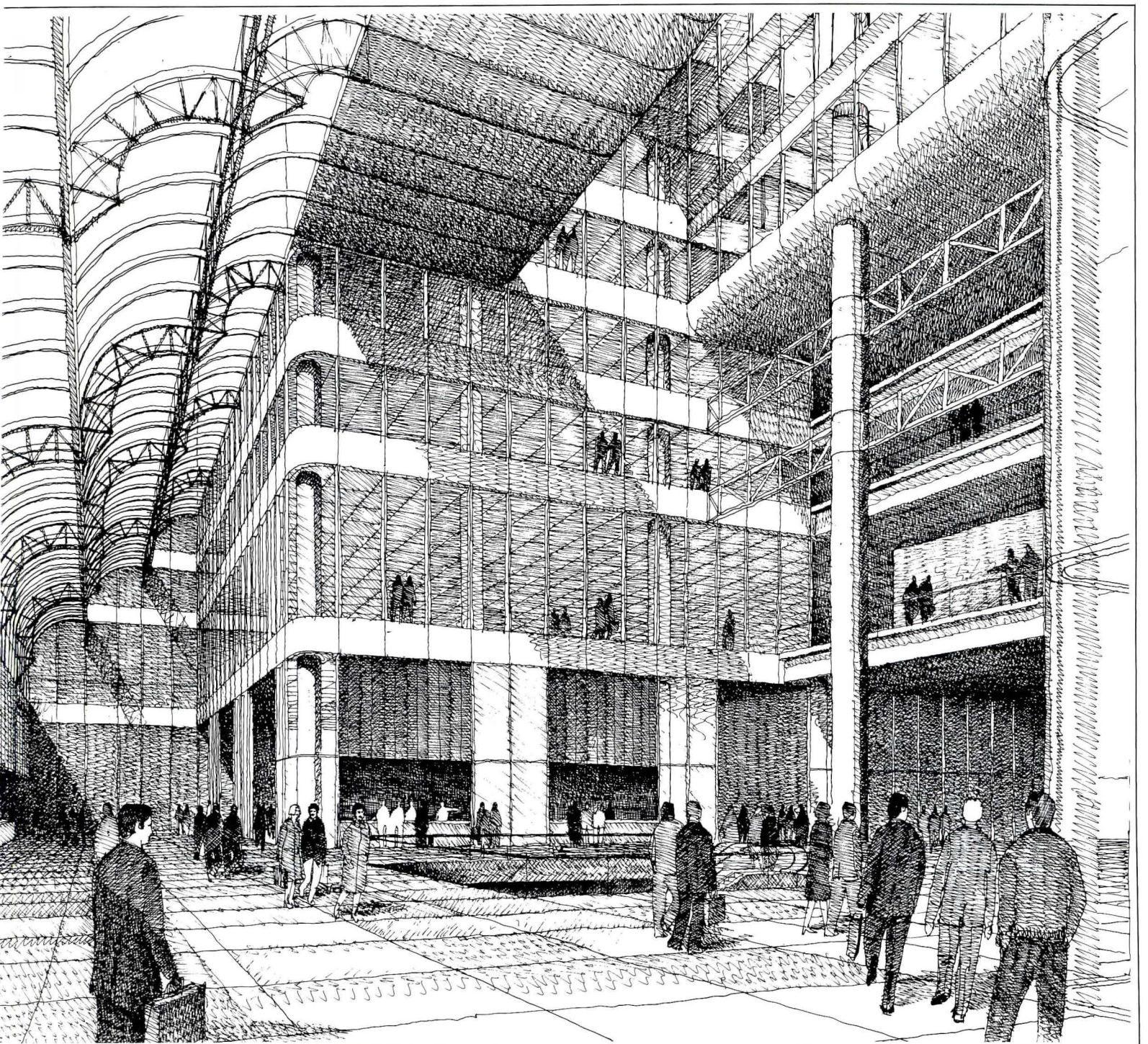
Believing that a design is the outcome of a dialogue between form and surface, and that all the elements of a building manifest themselves in its enclosure, architect Helmut Jahn sees the tight glass membrane here emphasizing the "extruded" contours of the tripartite tower and its curved setbacks. Stripes of darker opaque glass will accentuate verticality and recall the Art Moderne.

Though it is the building's outward appearance that first catches attention, the combination of functions and circulation needs, both interior and urban, had considerable influence on the form. The complex will include a new station for an existing commuter rail terminal, surmounted by 1.4 million square feet of offices. Where presently commuters leave railroad platforms on the sides of the site, the capacious arch on the new south front will disgorge arriving passengers into Madison Street to encourage east-west movement along the street. (Phase II calls for office development on the next block westward.) The reorientation also minimizes the Chinese-wall effect on pedestrian traffic of the elevated commuter tracks, which will be out of sight at the back of the building.

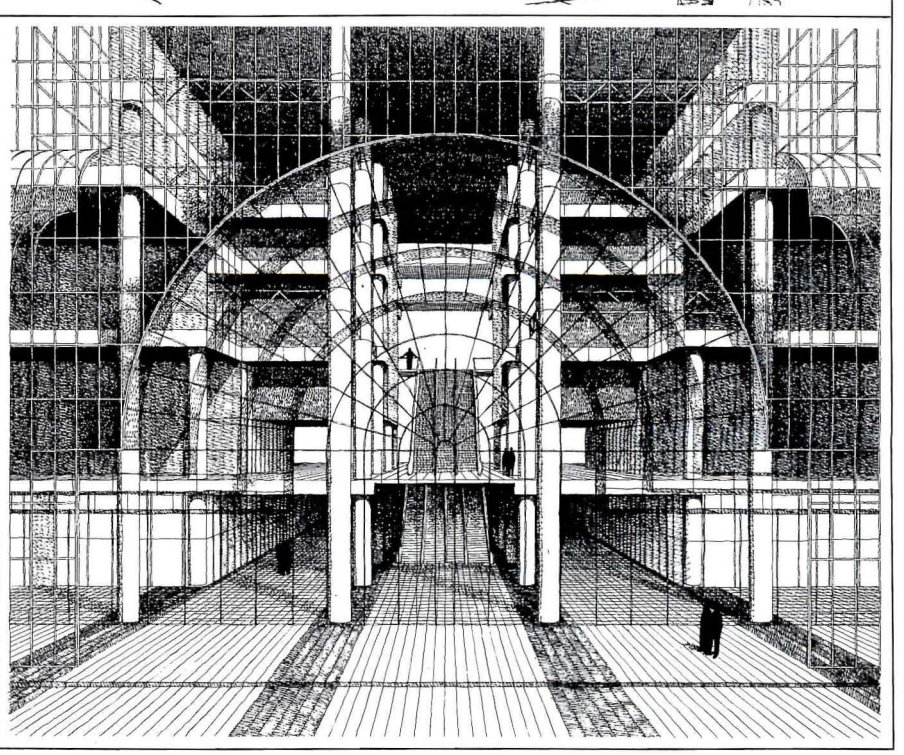
Though commuters and office tenants



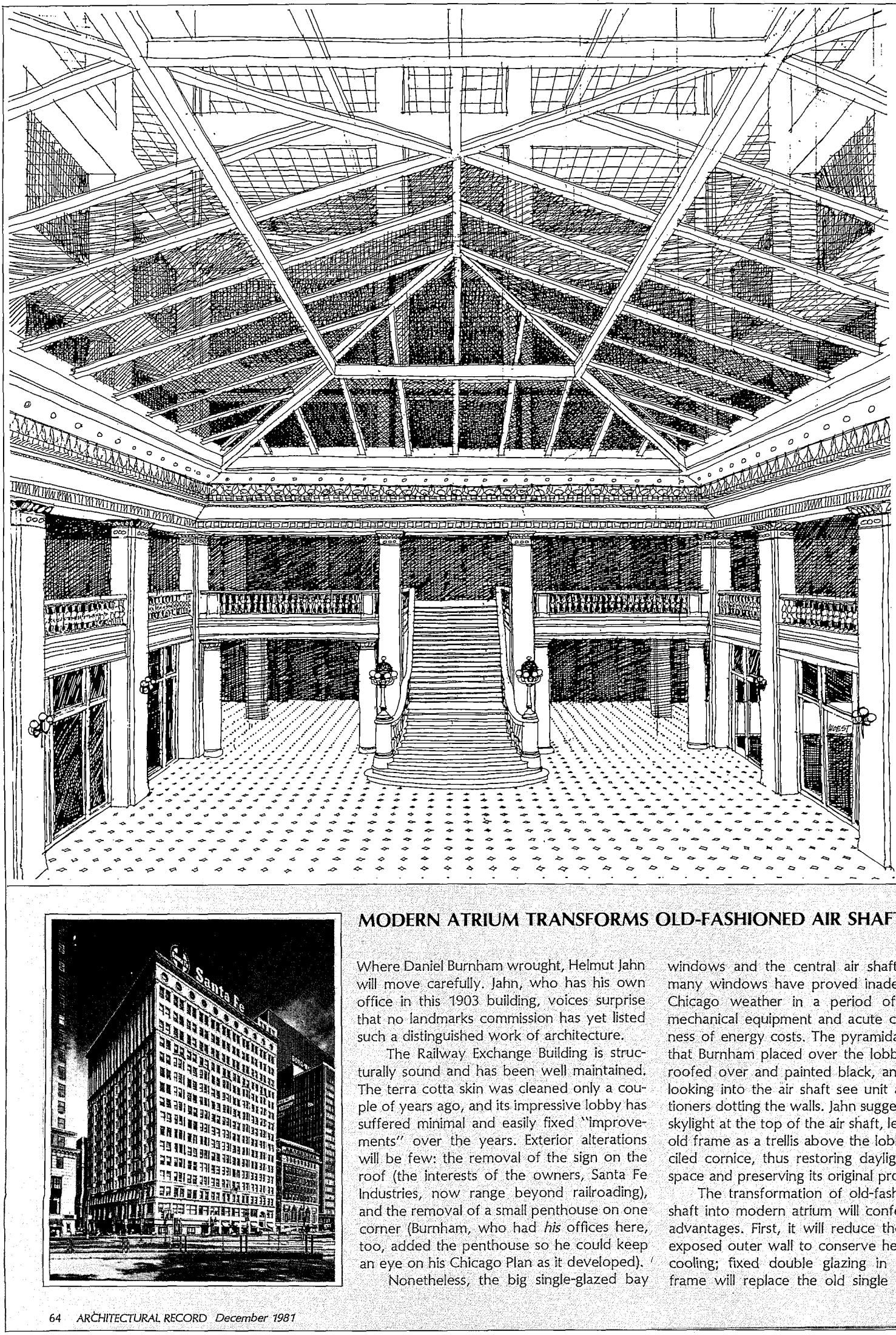
Keith Palmer/James Steinkamp photos



will mingle on the street floor, their paths diverge. Tenants will be siphoned off by escalators to the third-floor skylobby, the lowest stop for elevators serving the upper floors. Commuters will ascend one floor to track level (see section and track-level plan on preceding page). Apart from the tenants' escalator, the lower floors of the building will be given over entirely to the station, which will offer a network of concourses and high atriums at each end of the axial arcade. The North Atrium (above) will have direct access to railroad platforms.



NORTHWESTERN TERMINAL PROJECT, Chicago. Architects: *Murphy/Jahn, Architects/Engineers—Helmut Jahn, principal-in-charge; Martin Wolf, project architect.* Developer: *Tishman Midwest Management Corp.*



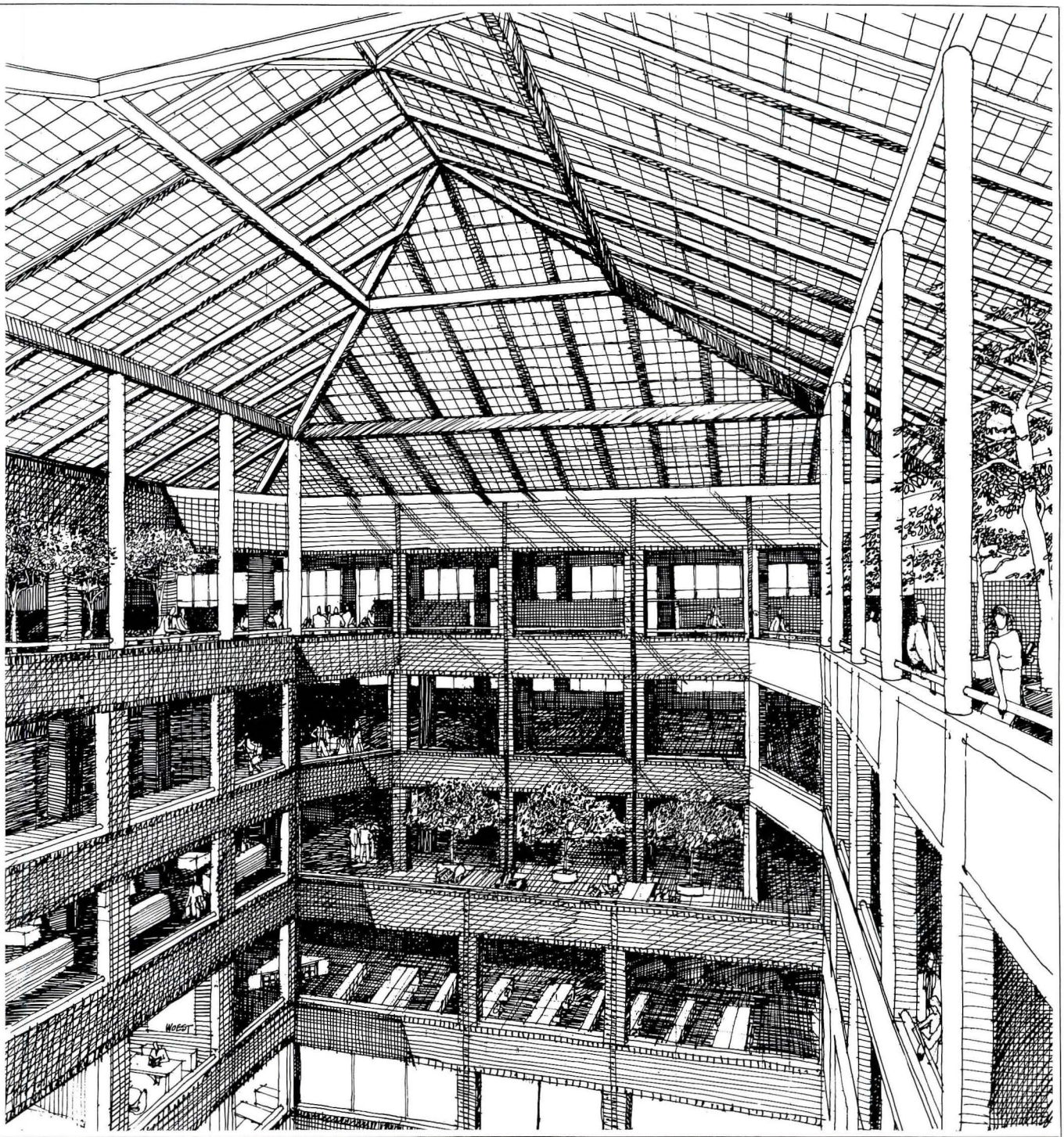
MODERN ATRIUM TRANSFORMS OLD-FASHIONED AIR SHAFT

Where Daniel Burnham wrought, Helmut Jahn will move carefully. Jahn, who has his own office in this 1903 building, voices surprise that no landmarks commission has yet listed such a distinguished work of architecture.

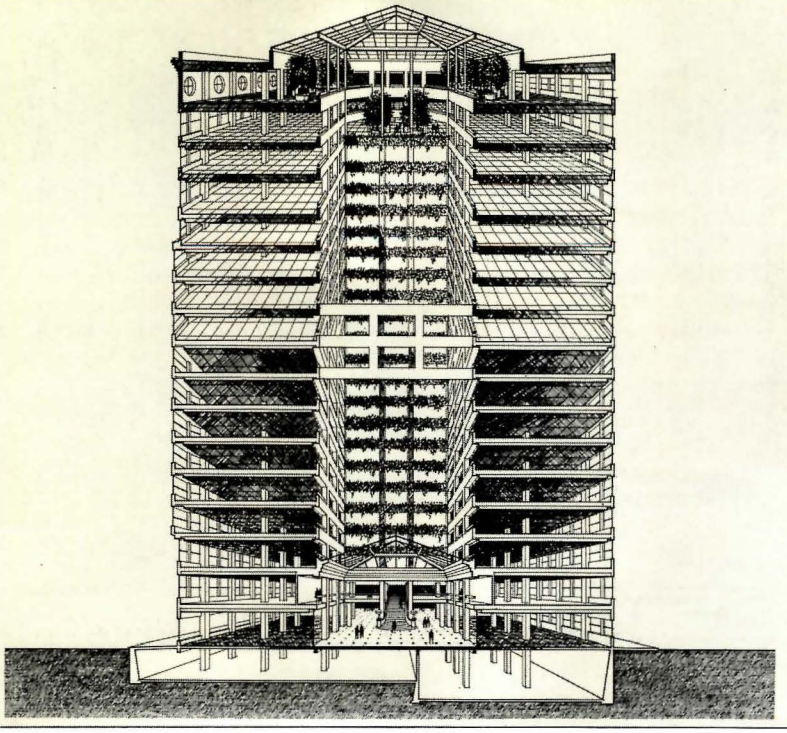
The Railway Exchange Building is structurally sound and has been well maintained. The terra cotta skin was cleaned only a couple of years ago, and its impressive lobby has suffered minimal and easily fixed "improvements" over the years. Exterior alterations will be few: the removal of the sign on the roof (the interests of the owners, Santa Fe Industries, now range beyond railroading), and the removal of a small penthouse on one corner (Burnham, who had *his* offices here, too, added the penthouse so he could keep an eye on his Chicago Plan as it developed).

Nonetheless, the big single-glazed bay windows and the central air shaft with its many windows have proved inadequate to Chicago weather in a period of modern mechanical equipment and acute consciousness of energy costs. The pyramidal skylight that Burnham placed over the lobby is now roofed over and painted black, and visitors looking into the air shaft see unit air conditioners dotting the walls. Jahn suggests a new skylight at the top of the air shaft, leaving the old frame as a trellis above the lobby's stenciled cornice, thus restoring daylight to the space and preserving its original proportions.

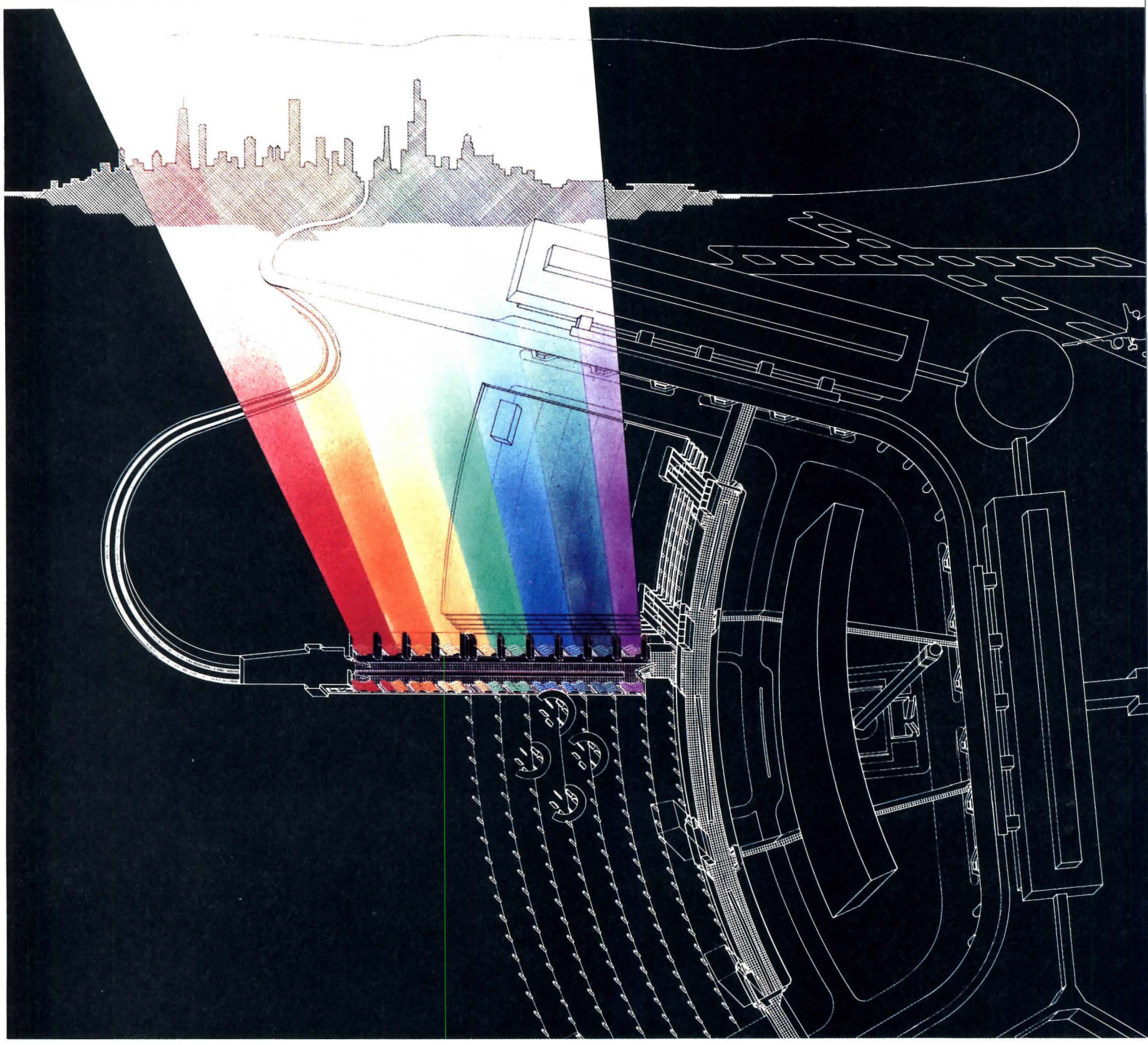
The transformation of old-fashioned air shaft into modern atrium will confer several advantages. First, it will reduce the area of exposed outer wall to conserve heating and cooling; fixed double glazing in aluminum frame will replace the old single glazing in



wooden double-hung sash. Second, windows on the air shaft will be removed entirely, replaced with pipe-railed openings into the atrium. Third, the glazed brick surface of the air shaft will be covered with quarry tile and hanging plants to provide a pleasant panorama for tenants looking across the atrium. At the top of the air shaft, a setback expands the space's volume to admit additional daylight; Jahn will turn the setback into an interior terrace outside executive offices.



RAILWAY EXCHANGE BUILDING RENOVATION, Chicago. Architects: *Murphy/Jahn, Architects/Engineers—Helmut Jahn, principal-in-charge; Rainer Schildknecht, project architect.* Engineers: *Environmental Systems Design (mechanical).* Project consultants: *Buck, Filippini & Company.* Contractor: *I. C. Harbor Construction.*



LIGHTED GLASS WALLS LEAD SUBWAY PASSENGERS FROM TUNNEL TO AIRPORT

Murphy/Jahn's assignment at O'Hare Airport's rapid transit station asked only for what Jahn describes as "interior decoration"—but the scale of the underground space to be decorated is daunting. The trainroom will extend 600 feet, by 30 feet high and 70 feet wide. From there, train passengers will move to a concourse 1,100 feet long, by 18 feet high and 45 feet wide.

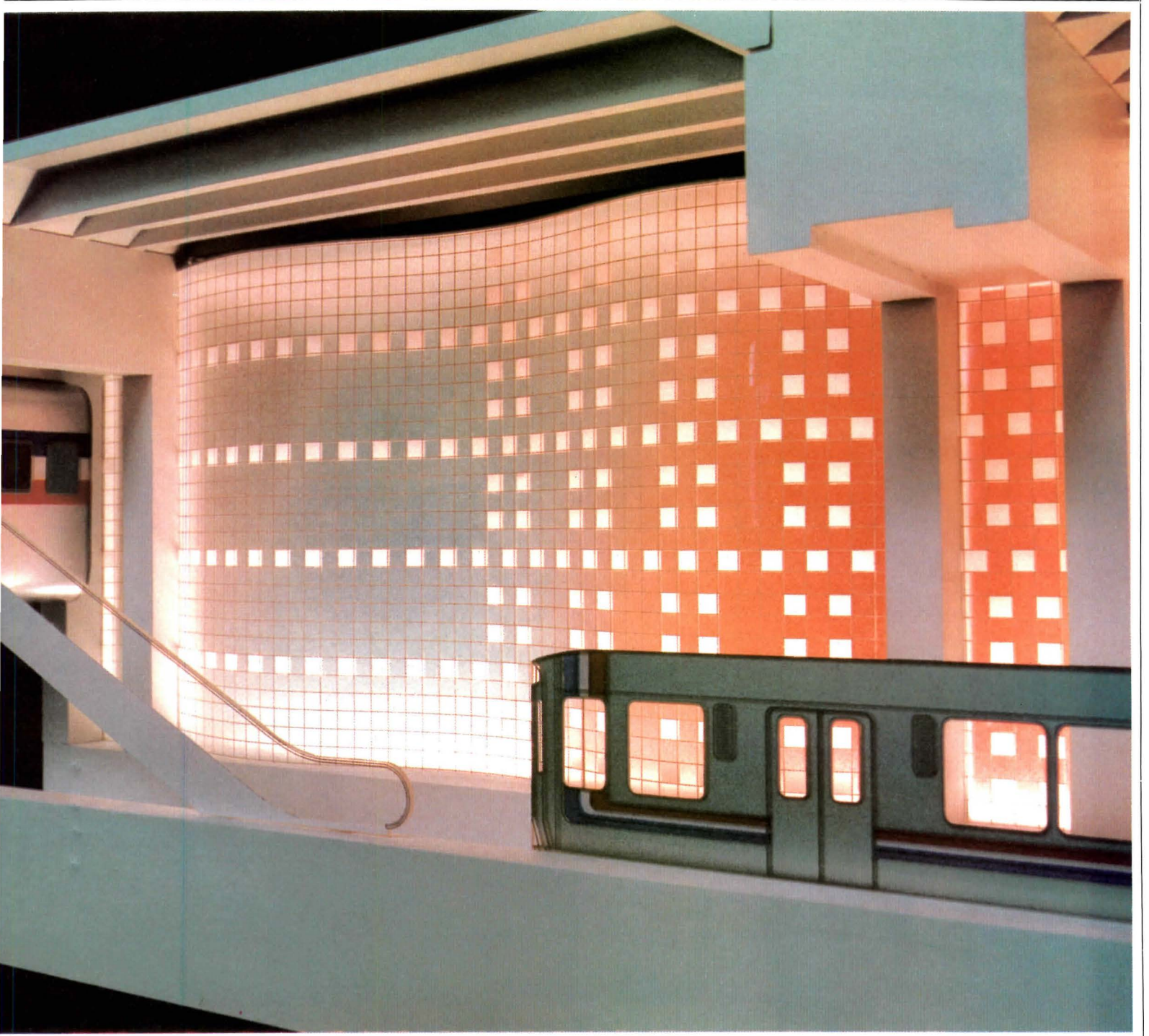
Since both spaces lie underground, external form presented no questions. Nonetheless, Jahn was able to put some structural givens to design use. The long, narrow trainroom occupies an open cut, with a steep, concrete-sprayed berm sloping up to an existing parking garage (see sketch at right). To animate the station with light, shape and color, Jahn will place an undulating wall of glass block in front of the berm. The V-shaped space behind will become a concealed light trough, reflecting light from the painted concrete berm through the glass

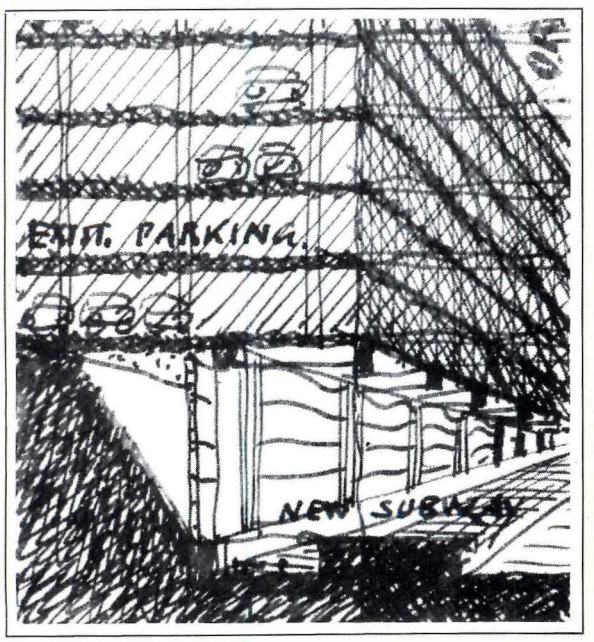
Though dealing with a project of nononsense utility, the design forgets neither symbolism nor reference. As the train enters the station from the tunnel, it will pass a checkered pattern of translucent and clear glass blocks, behind which the concrete berm will be painted with warm earth colors. As the train approaches the airport, more of the blocks will be transparent and the reflected colors will gradually run through the spectrum to become sky blue. At the head of the escalator, a referential airplane tells passengers where they're going.

The passenger concourse will connect the trainroom with underground tunnels leading to three air terminals and a hotel, as well as to elevators for the parking garage. To keep the colored light in the trainroom a surprise, Jahn will line the concourse walls with sober gray glazed concrete block, dark at the bottom, lighter at the top. The gateways, now in design, will have individualized entablatures in bright colors.

The station, which will terminate Chicago's extension of the Elevated from the Loop, will be operational in 1983.

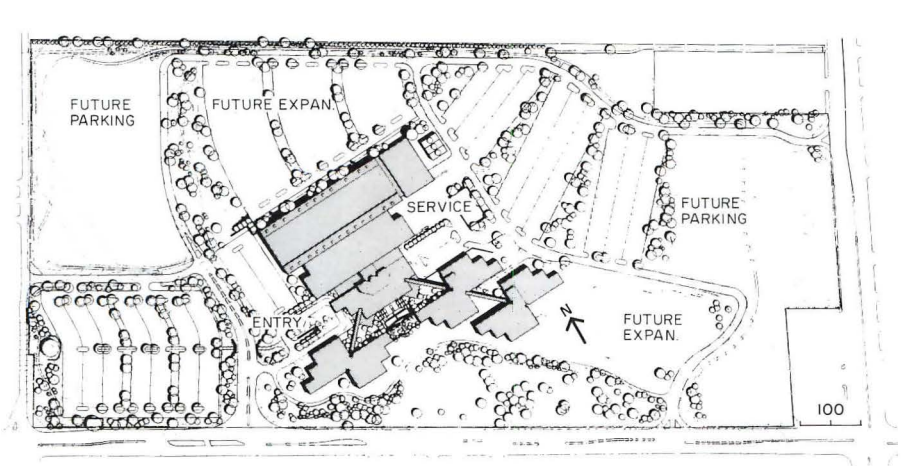
O'HARE RAPID TRANSIT STATION, Chicago. Architects/Engineers: *City of Chicago, Department of Public Works.* Architectural consultants: *Murphy/Jahn, Architects/Engineers—Helmut Jahn, principal-in-charge; James Stevenson, project architect.* Engineer: *Alfred Benesh & Co. (structural); W. B. Dolphin & Associates (electrical).* Consultants: *CHA/Design, Inc. (lighting).*




EXIT. PARKING
NEW SUBWAY

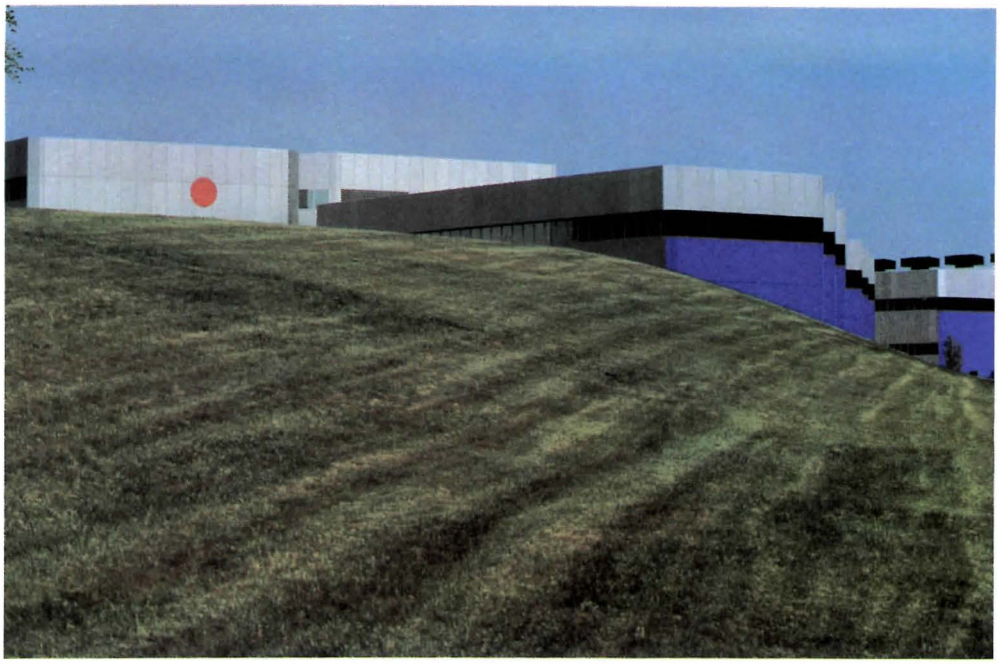
Nathan Benn photos except as noted

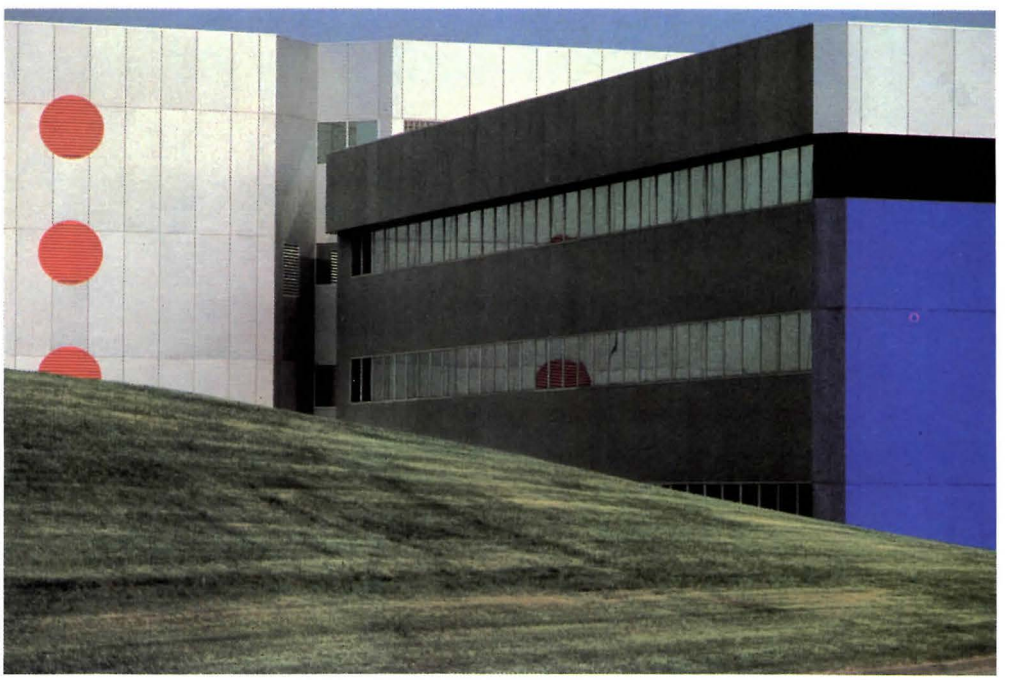
SPACE-AGE IMAGERY FOR THE WORLD'S LARGEST COMPUTER CENTER



This is an enormous complex in an age when ever bigger projects are being called into serious question. As such, it is one example of big being better. Hellmuth, Obata & Kassabaum's design for this gleaming, 810,000-square-foot facility in St. Louis for the McDonnell Douglas Automation Company is not only appropriately sleek and sophisticated—like an airplane—but accommodates impressive capabilities that would be unfeasible in smaller installations. Accordingly, the strong imagery directly expresses function, the nature of the client and massive size.

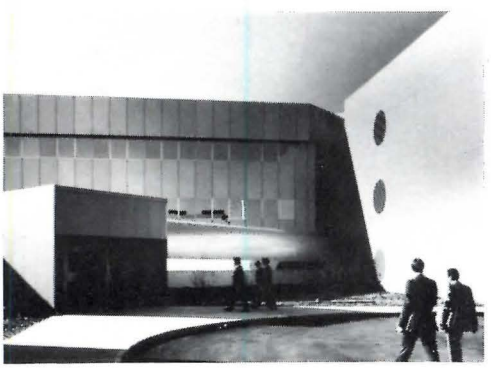
It was the stepsister image created by previous quarters in scattered buildings that led parent company McDonnell Douglas Corporation to call on HOK for the bold character. Chairman James McDonnell wanted it to look as modern and important as possible. "In fact, he would have liked a gigantic airplane," says project designer Peter Hoyt.





George Silk photos this page

As seen in the site plan and photograph left, the three office pods are connected to a low central support-services building by tube-like corridors across a sunken court. The architects separated the offices from the massive computer building (top of plan), because of the very different environments that were desirable for each use. Both the computer building and offices are designed for expansion with the additon of similar increments. The new offices will be stretched along the spine of the corridor. A second phase of construction is about to begin. An entrance (photo below) accentuates the machine esthetic. Employee amenities include a jogging track and views and access to the sunken court from dining facilities in the support services building.



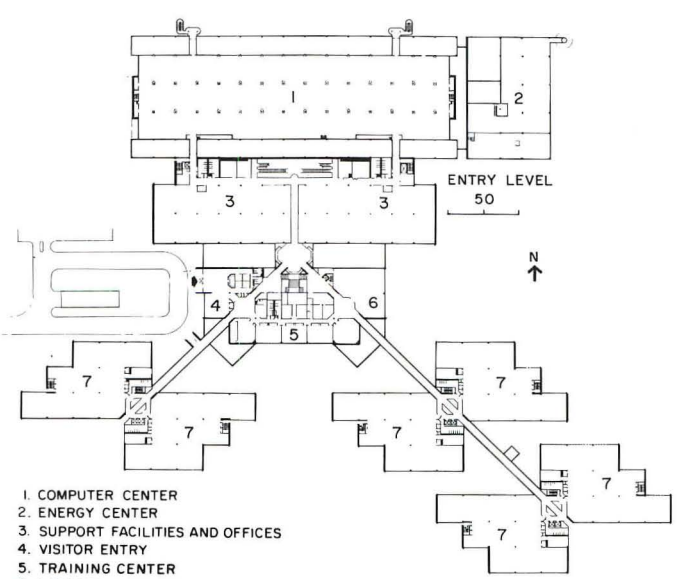
Accordingly, the first model presented to McDonnell was—although clearly a building—completely clad in the same kind of shiny aeronautical aluminum that would be used for large sections of the future skin. From the beginning of design, the large scale and massing of the elements were conceived not only to express the size of the project, but to express its importance—especially when viewed at high speeds from adjacent highways and from the nearby municipal airport. The strong composition was further enhanced by the placement of the red, white and blue enameled steel panels to emphasize broad planes of the exterior walls that form a gigantic abstract composition.

The large size of the building provides for the largest, fastest and most complex computers made. The high volume of output possible justifies programmers who are experts in special fields like space flight and construction engineering—along with expensive ancillary equipment such as high-speed laser printers and plotting devices.

The resulting capabilities have attracted contracts from the Federal government to program and guide NASA flights, as well as from major corporations and architects and engineers to help in day-to-day business. Although conceived by the McDonnell Douglas Corporation to aid in the design of Douglas aircraft, MCAUTO (as the Automation Company is called) now sells some $180 million worth of services to outside organizations each year.

Over 3,000 people are employed as programmers, *administrators,* and salesmen, although only a handful are directly involved with the computers for security reasons. According to Hoyt, "The employees never perceived the company's true size, until they were all assembled out of the old facilities."

The computer building is not without its human amenities. Unusual to computer spaces, natural light is introduced through reflective glass block walls, that minimize outside heat gain. The operators are constantly scrambling between the levels, and a skylit core of escalators eliminates the need for waiting on elevators. (The organization is vertical, so that information stored on reels and tapes on the top floor is fed to the computers on the middle level and emerges on printouts at the bottom.) The interior of a corridor leading to the offices is shown opposite page (below) and a lobby shown this page.

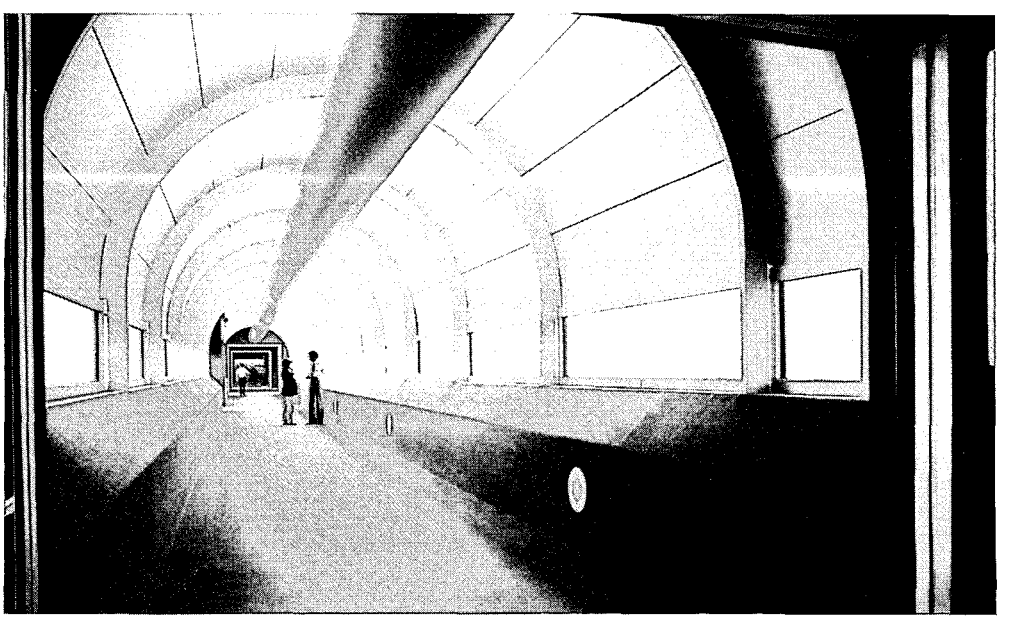


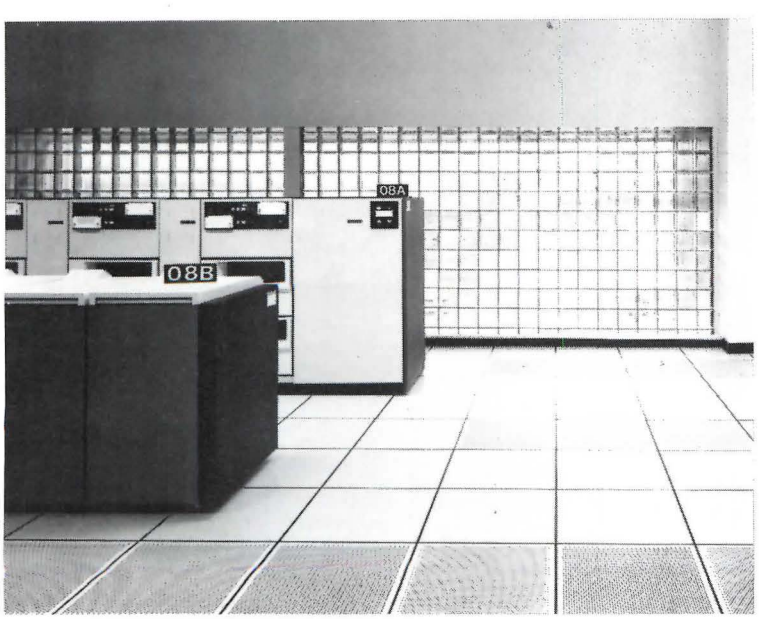
1. COMPUTER CENTER
2. ENERGY CENTER
3. SUPPORT FACILITIES AND OFFICES
4. VISITOR ENTRY
5. TRAINING CENTER
6. LIBRARY
7. OFFICES

The construction of MCAUTO was a technical feat because of both complicated mechanical and electrical systems and because of the speed with which the project was completed. A few facts: there is the capacity for 20 full computer systems; 10 miles of electric cable run under just the one floor of the large computer room; two 34,000-Volt lines from separate substations (a safeguard against breakdowns) feed the buildings' cables; some 3,480 batteries (a further safeguard) wait silently in one 40,000-square-foot room for the unlikely day that they will be called on to keep the computers going long enough for an orderly shutdown. (The 15-minute period that the batteries would provide power through a converter would allow 75 per cent of the program tapes and reels to be removed before they could be erased, and time to start emergency generators for the rest.)

The biggest technical risk was an innovative method of removing heat from the computers. The normal method had been through bulky companion air handling units beside each computer—taking up expensive raised floor area and requiring complicated ducts and piping. Here, engineers William Tao & Associates developed a method of removal through remote air handling units in two "utility galleries": 25-foot-wide spaces that run the full 400-foot length of the computer building and its full height (see plan). The result is that a few, more efficient units remove heat, using the under-floor and above-ceiling spaces as plenums.

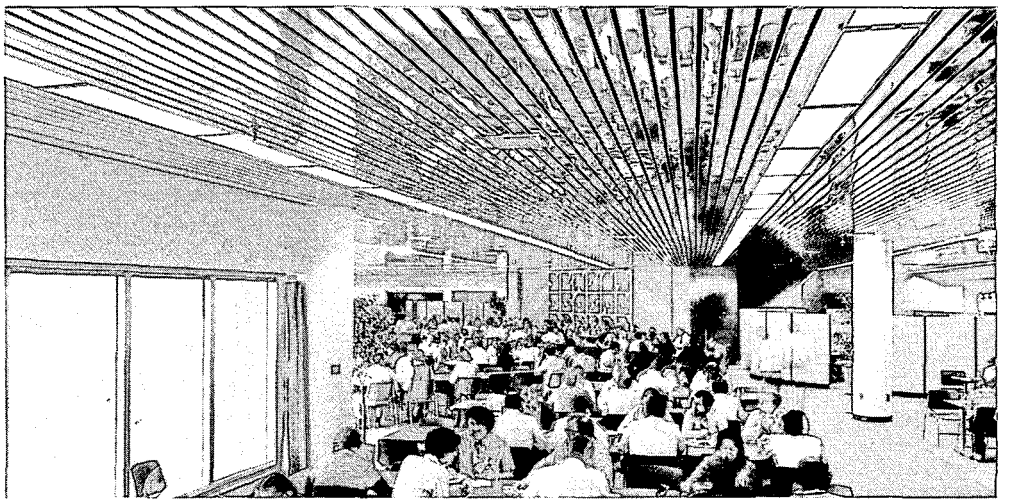
All of this innovation and sophistication is even more surprising within the short combined design and construction period of 24 months. HOK encouraged the fast-track program, and not only produced the building on time, but within the $70-million budget.



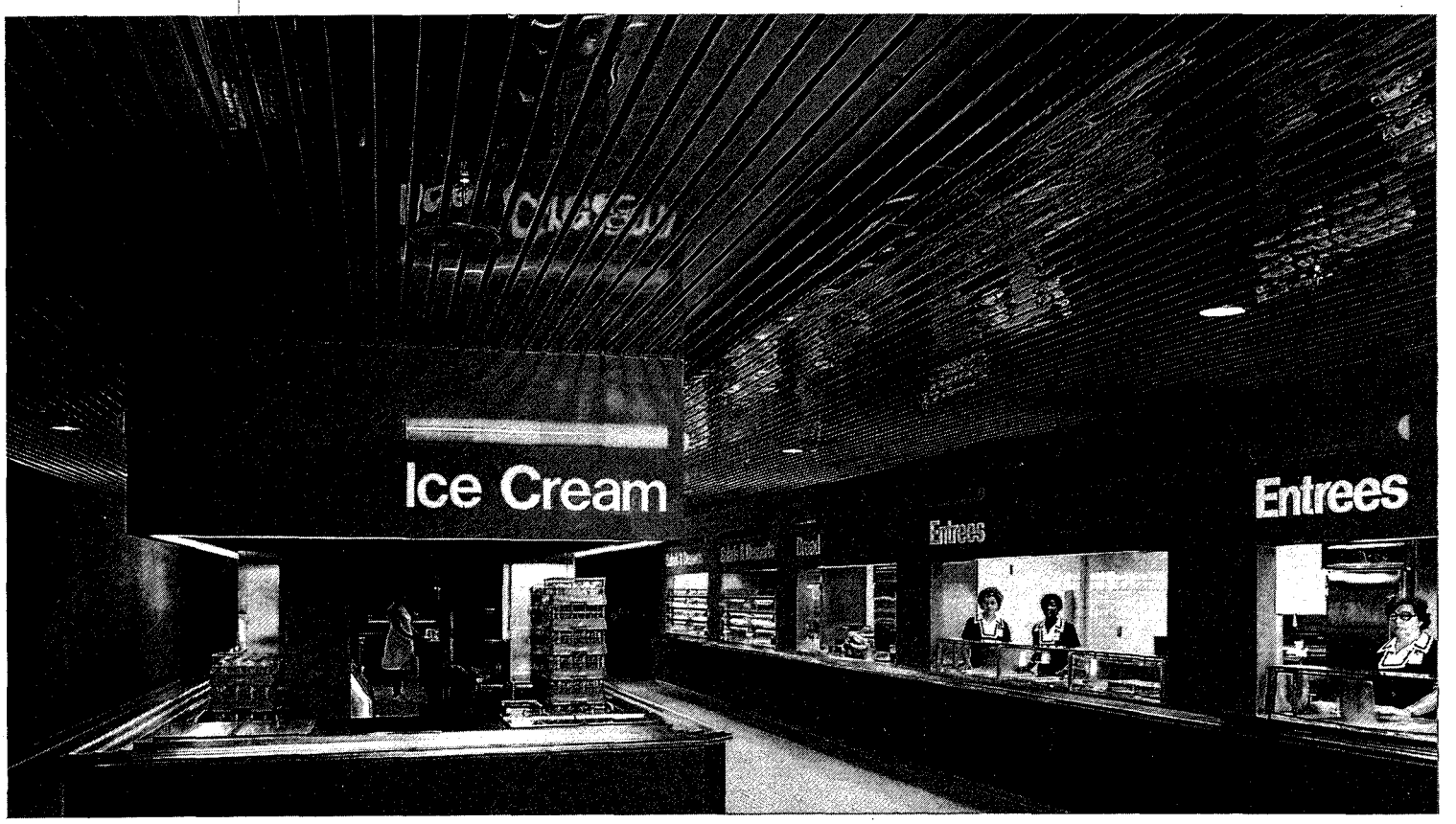


According to Peter Hoyt; "With the construction speed and all of the emphasis on technology and on an esthetic that expresses that emphasis, it would have been easy for human consideration to be swept away." That the architects were able to make this a good place to work is a tribute to their abilities, and to the client's recognition that—no matter how sophisticated the hardware—the people who control it are still most important. MCAUTO's Director of Facilities Charles Gaskill calls the design and construction period the most exciting two years of his life. He was particularly effective in representing with a single voice the often conflicting needs of a corporate client.

The most important planning decision was to separate the machines from the people. Hence, the complex is divided into two main parts, one for computers and one for offices (see plans on previous pages). The



A five-day tour of major computer facilities during the design stage revealed to architects and clients alike that there had been little thought given for visitors without disrupting operations. Here, up to 1,000 clients and potential clients pass smoothly through the facilities each month in a secondary circulation system of lobbies and glass-enclosed viewing galleries.



office part comprises three smaller buildings connected by tube-like bridges to the massive central computer building. This in turn has ancillary buildings where emergency power can be generated (to the east) and for support services (toward the offices). The latter contains the main visitors' lobby, and employee amenities such as the cafeteria (see photos above right).

The programmers require open offices, because they work in teams. They move from team to team as they are needed. Sales and administrative personnel may work in individual spaces, but it was the optimum area for a programming space that determined the office buildings' configurations. Two areas on each floor on either side of the elevator core can contain the largest team, and allow for separate air conditioning and lighting controls that meet staggered work schedules.

The really important energy conservation problem in any computer center is not to prevent heat loss, but to keep any more from getting in. Not only do the computers at MCAUTO generate enough heat to eliminate boilers through the use of heat exchange chillers, but four times the amount that the buildings could use must be eliminated on St. Louis' coldest day.

An early decision by Gyo Obata was to eliminate all glazing (except the reflective glass block in the computer building) from the east and west facades, where sun control is the most difficult. Another way of cutting cooling bills is the chilling of water at night, during periods of lower electrical rates. The water is stored in a 150,000-gallon tank.

MCAUTO is the successful coming together of machines and people. It is neither self-consciously high-tech, nor does it try to cover its technical function. The architects have expressed its function directly, humanely and economically, to make it a milestone in a highly specialized field. —*Charles Hoyt.*

McDONNELL DOUGLAS AUTOMATION COMPANY, St. Louis, Missouri. Client: *McDonnell Douglas Corporation.* Architects: *Hellmuth, Obata & Kassabaum, Inc.—Gyo Obata, principal-in-charge of design; Robert E. Barr, principal-in-charge of project; Peter Hoyt, project designer; Louis L. Gogue, Jr., project architect; David D. Suttle, principal-in-charge of interior design; Robert A. Jones and Kacey Cowdery, project interior designers; Charles P. Reay, principal-in-charge of graphics; Cicely A. Jordan and Deborah Fitzpatrick, project graphic designers; Terence G. Harkness, principal-in-charge of planning/landscape architecture; Robert Belden, project landscape architect.* Engineers: *Jack D. Gillum & Associates, Ltd.* (structural); *William Tao & Associates, Inc.* (mechanical/electrical). General contractor: *McCarthy Brothers Construction Co.*

On the temperate edge

"We are not on any edge. Ninety-nine per cent of one's work is doing things better, rather than doing things for the first time."

—Kliment/Halsband

Amid the current, often volatile, architectural climate, the work of Frances Halsband and Robert Kliment marks a welcome temperate zone. Though they have been characterized as both "modified modernists" and "soft-core post-modernists," the labels—even duly qualified—don't seem to fit: their practice is perhaps most aptly described as contemporary—conscious of the stylistic extremes (hardline modern vs. hard-core post-modern), comfortably equidistant from both. At a time when the choice is too often presented as between pipe-railing and broken pediments, Kliment/Halsband would argue that for them the choice is not binary, but literally in between, along that vast inner spectrum where a "much wider range of means" can be found—less conspicuous perhaps, but also less constricting. The pair of offices featured here offer a telling glimpse of this away-from-the-edges approach to design: they share nothing more—or less—identifiable than an attitude toward planning and execution. And while

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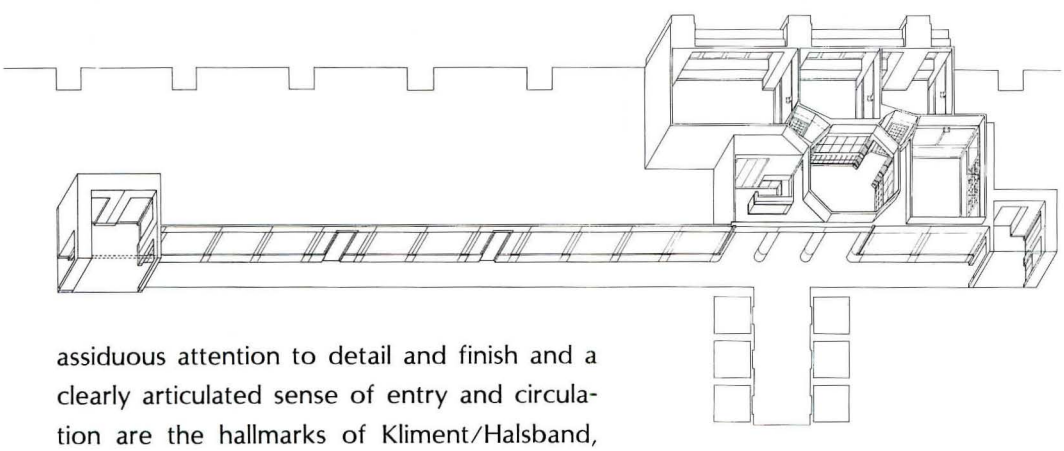
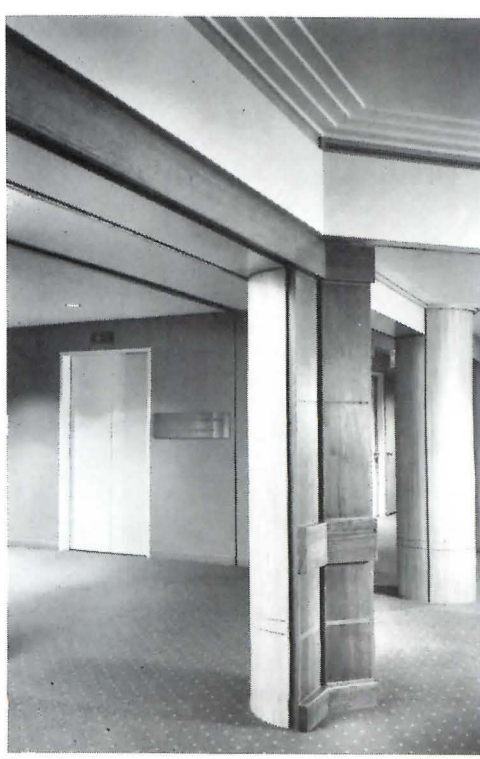




assiduous attention to detail and finish and a clearly articulated sense of entry and circulation are the hallmarks of Kliment/Halsband, the particular modes of expression are individually crafted—contingent upon program, budget, context, client and appropriateness. Comparing these offices with earlier projects (RECORD, February 1977, June 1980), one sees an ongoing process of refinement: their work has been enriched by prevailing currents rather than swept *away by* popular trends.

—Charles K. Gandee

Crafting the corporate image

A grand anteroom welcomes visitors and employees to the New York offices of A.G. Becker Incorporated. It is the kind of room that makes you straighten your tie, soften your voice, and proceed with purpose to the reception desk. What better way to signal the Wall Street home of a venerable brokerage and banking firm than 19th-century antiques, cherry paneling, and a luxurious range of carpets, fabrics, and colors? And as Phase I of a comprehensive redesign effort that will eventually encompass 157,000 square feet (distributed over three floors of a mammoth speculative office building), this 29th-floor reception area and its 30th-floor counterpart are the fulcrum on which the architects' reorganizing master plan rests. As a pair, the reception areas set the tone, provide a corporate image, establish a strong central point of orientation from which all other activity embarks, and effectively create a general public-access zone by clustering a series of discrete meeting rooms around the octagons (axonometric left and overleaf).

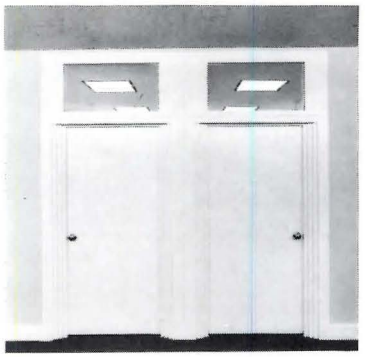
While employees circulate from elevator to colonnade and then disperse through portals (photo above) to general work areas, visitors and clients are ushered directly to meeting rooms, conference rooms, or lecture halls through the ice-blue casement doors, elegantly glazed with frosted glass and recessed into the corners of each octagonal reception area. Because the client placed a premium on privacy and security, and considered all business requiring out-of-office visitors best conducted at a safe distance from staff offices and within easy reach of the elevators, the division of employee and visitor circulation was considered critical. Furthermore, this scheme precludes the possibility that someone could get lost amid the labyrinth of work stations for almost 800 employees, on floors that measure over 50,000 square feet. Finally, the consolidation of conference rooms enabled the architects to design smaller, more space-efficient offices for executives (plan overleaf).

In describing the most public spaces, Robert Kliment draws a parallel between the corporate hierarchy and a corresponding scale of "design intensity;" it is here at what the architects refer to as "Level A-intensity" design that permanence, coherence, and esthetics are given priority. Ten years ago, these spaces would have been termed traditional. In current terms that reads "postmodern," which for Kliment/Halsband translates into exquisite materials, decorative light fixtures, chair rails, wainscoting, jacketed columns—general richness in detail and elaboration. But *the ornament, the* detail, and the richness are inconspicuous in the particular—no single element takes on an overly prominent role: it is as if the rooms have been crafted rather than decorated, with each element essential rather then gratuitous.

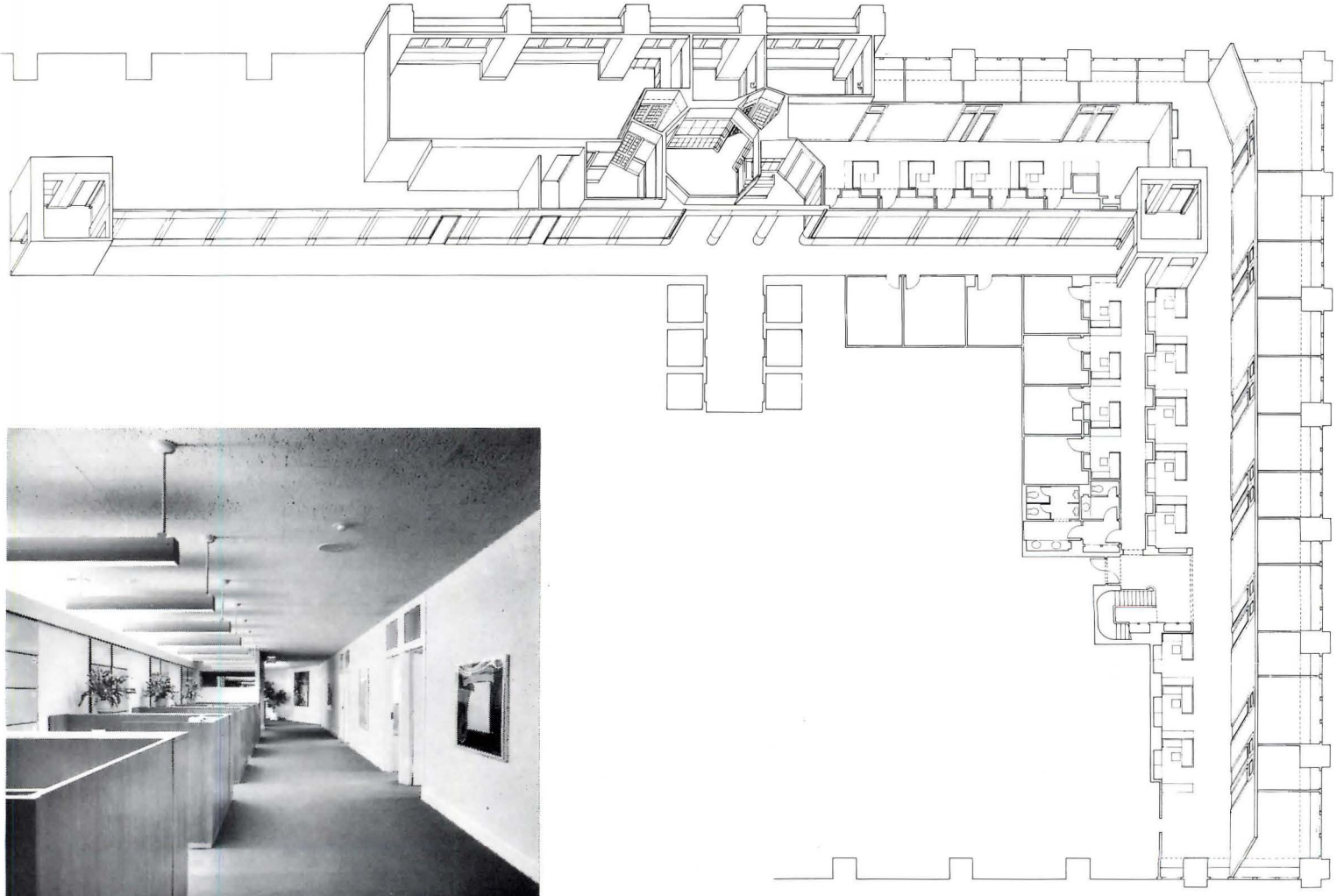
While the meeting rooms offer senior executives the luxury of brass chandeliers and Chippendale chairs, the Phase II executive office wing (plan right) is as straightforward and businesslike as a button-down shirt. Referred to by the architects as "Level B-intensity" design, the individual offices and support-staff work stations are unexpectedly modest, although far from humble (photos right). The low oak partitions, muted washes of color, and light-filled transoms are each rendered with meticulous attention to detail: the effect is serene and workmanlike, subtle but precise.

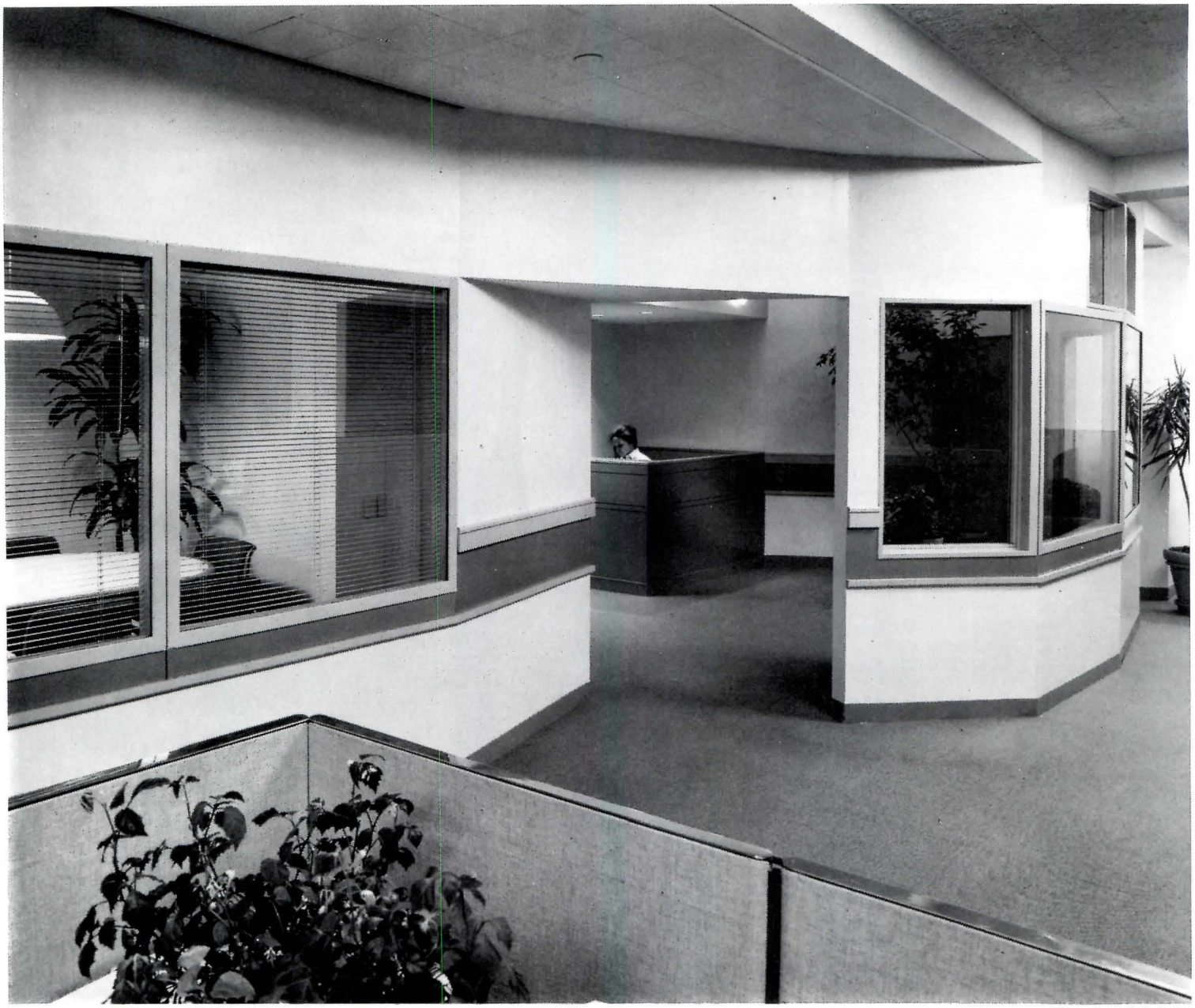
Having made their mark on the 29th and 30th floors, Kliment/Halsband are currently in the process of re-organizing and designing a major section of the 28th floor. When construction of Phase III is completed, they will—as anticipated—leave the balance of work (space planning, open-office arrangements and other less permanent design responsibilities) to other firms: after establishing the basic scheme, and crafting the corporate image, ongoing modifications will necessarily continue. Though their work will ultimately affect—in terms of comprehensive design—only one third of A.G. Becker's total floor area, the architects deserve high praise: they have provided a clear organizational and esthetic axis—strong enough to ensure coherence and cohesiveness, flexible enough to ensure longevity.

OFFICES OF A.G. BECKER INCORPORATED, New York, New York. Architects: *R.M. Kliment & Frances Halsband Architects—project assistants: Scott Phillips, Alejandro Diez, Jack Esterson, Jann Wolfe.* Engineer: *George Langer* (mechanical/electrical). Consultants: *Howard Brandston Lighting Design* (lighting); *Robert Hansen* (acoustical). General contractors: *O&Y Construction; Rockefeller Center Construction* (executive office wing). Cabinetry: *B&S Woodworking.*



In space previously occupied by a double-height atrium and stair, Kliment/Halsband inserted octagonal-shaped reception areas (photos previous page) and a range of conference and meeting rooms (photos left and right). The craftsmanship and detailing are masterly. Though the meeting rooms' muted pastels are intended to signal a "lower decibel level of design intensity," relative to the deep natural wood of the reception areas, esthetic aplomb is provided by fabric panels that serve as wainscoting, and picture rails punctuated with light sconces that cast a soft ambient glow. The executive office wing (photos below) registers yet another reduction in design intensity—wood casement doors and transoms provide a subtle flourish.





©Steve Rosenthal photos

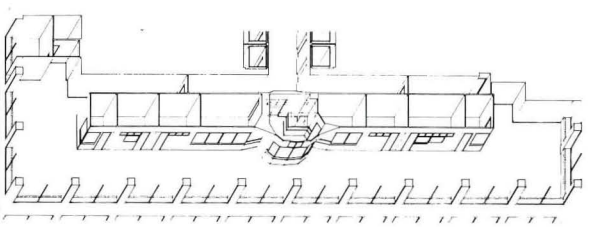
Windows on the harbor

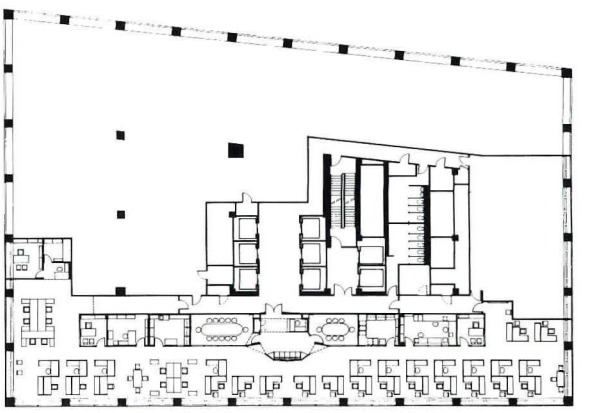
Frances Halsband characterizes the Boston offices of A.G. Becker Incorporated as a "fragment of a twig of a tree that begins growing in New York." The analogy is well conceived: while work was progressing in New York, A.G. Becker invited Kliment/Halsband to design their Boston branch office. The client provided an undistinguished linear space situated along a window wall on the 27th floor of a speculative office building. A flood of natural light, and spectacular views of Boston Harbor, prompted the architects to devise a scheme best referred to as a portico parti. As the axonometric (far right) illustrates, the office was divided into two discrete sectors—"inside" and "outside." Conference rooms, meeting rooms, and private offices were given their inside-looking-out character by means of expansive glazing, transoms, and Venetian blinds. And the rather grand bay window of the reception area—complete with banquette as window seat—further reinforces the "portico" concept. Not incidentally, the scheme provides occupants of these inner rooms with natural light and access to views.

Robert Kliment likens the main work area to a "porch," and, because the program required the office systems to be flexible, the work stations to "porch furniture." Though some of the brokers are displeased with their open offices—preferring more traditional, enclosed office arrangements—the necessity for constant verbal interaction dictated the configuration. And though the program was written in A.G. Becker's New York office, the architects worked closely with the Boston end-users in tailoring the partition heights to best accommodate work habits.

While the general level of finish in the Boston office is no match for the larger New York office, detail and elaboration were not compromised. And while a branch operation with only 22 employees does not, in the corporate scheme of things, warrant the budget for cherry paneling and 19th-century antiques, it does, in the architects' scheme, "need to have an appropriate entrance that serves as a point of reference in orienting and in explaining the nature of the place." With light filtering through the translucent frosted doors opening off the public corridor, visitors are offered a representative glimpse of the office within. The subtle elaboration of the portal (photo right) is a small gesture that, like the muted polychrome of the oversized chair rail, provides detail and visual interest for the perspicacious eye.

OFFICES OF A.G. BECKER INCORPORATED, Boston, Massachusetts. Architects: *R.M. Kliment & Frances Halsband Architects—project assistants: David Knowlton, Lisa Gelfand.* Engineers: *Jaros, Baum, & Bolles* (mechanical/electrical). Consultants: *Howard Brandston Lighting Design* (lighting). General contractor: *Turner Construction.*



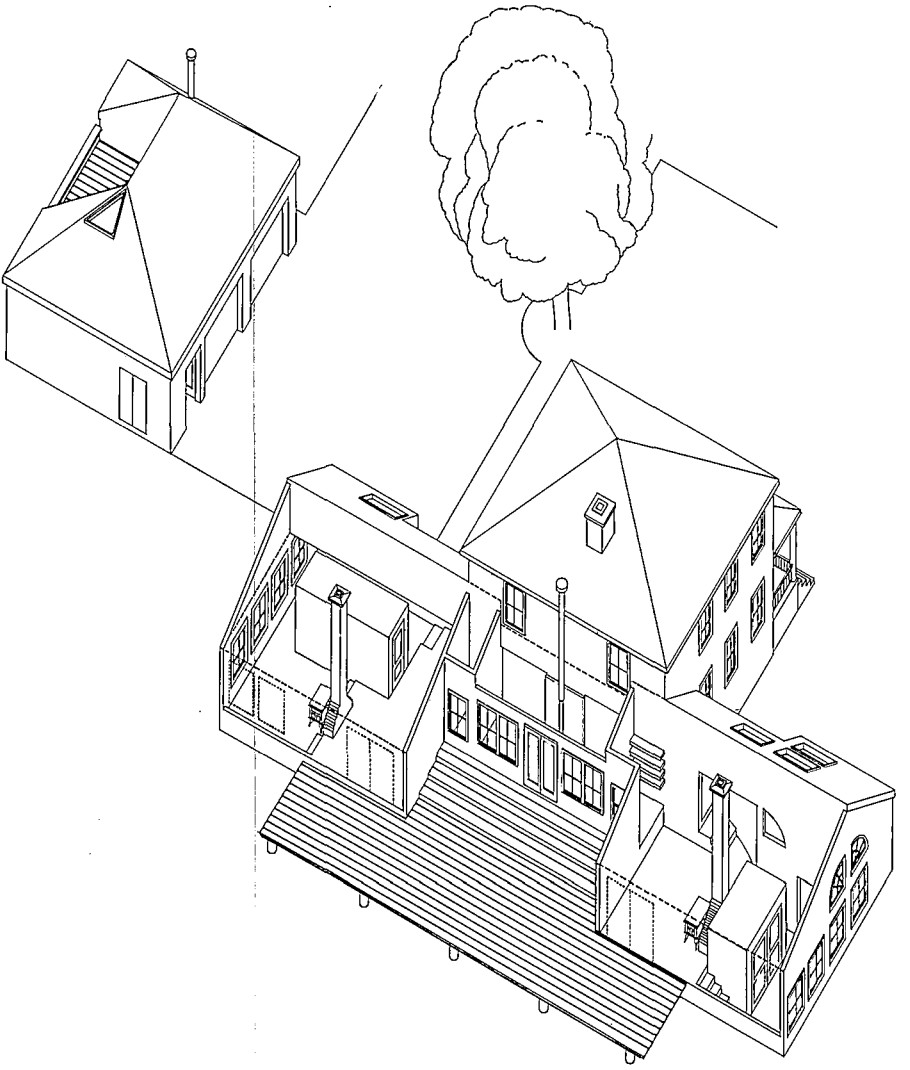


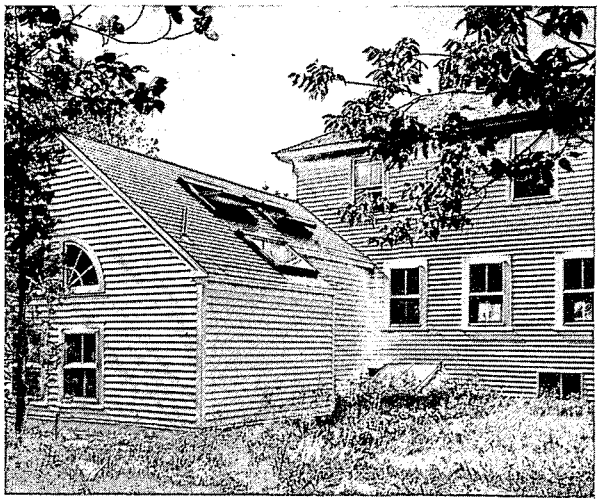
A farmhouse addition in Massachusetts by Peter Forbes

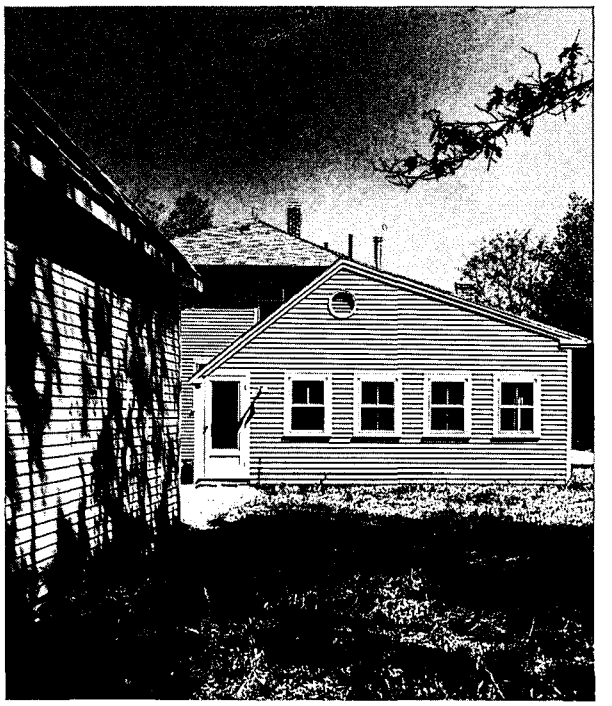
The owners are a husband and wife with three children who share a love of farm life, and who purchased what was an 1873 New England farmhouse set in pastureland against a heavy background of trees. The original frame house was typical of its genre in its squarish, two level plan, its hip roof, its projecting porch, and its symmetrical disposition of spaces around a central stair. But at sometime in the more recent past a garage was added and, somewhat regrettably, it took the form of an annex joined tenuously to the house at its southeast corner. Although it was a useful—even necessary—addition, it shattered the simple symmetry of the plan, throwing completely out of balance the only strong organizing device the design had. Architect Peter Forbes sought to rectify this imbalance and restore the symmetry by adding a master bedroom, sitting room and bath as a matching volume to the northeast. The existing garage was converted to a family room, and a new, freestanding garage was erected a short distance to the south where it now helps to define a new entry court. At sometime in the near future, a stable will be built on the north side of the house as the last stage in the balancing act.

The original house had been serviceable if slightly humdrum. Its central stair core was gently reinforced. The two rooms that the stair separated, the living room and the kitchen, were little changed except for new finishes and fixtures in the kitchen. Five addition-

Paul Ferrino photos



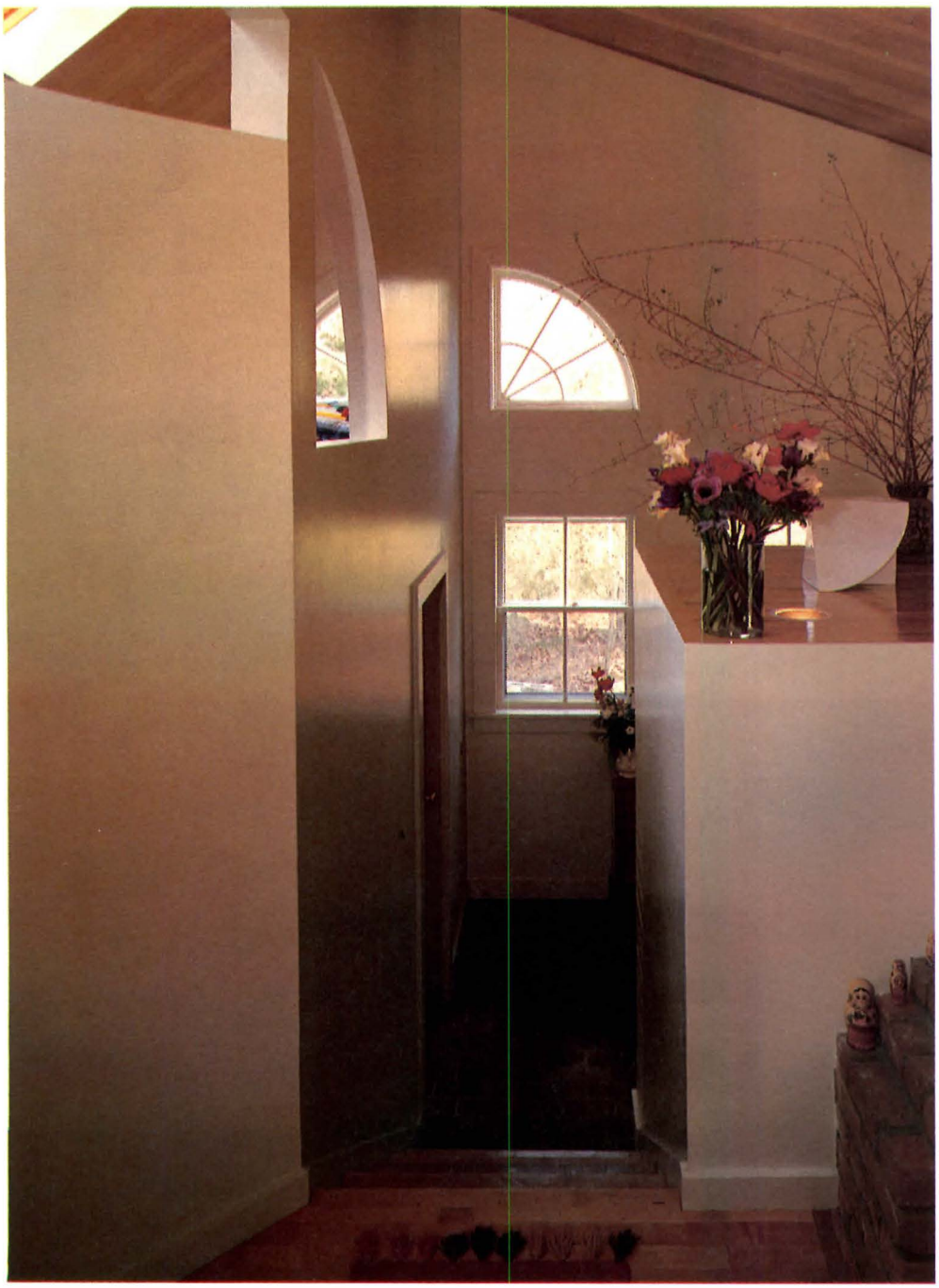


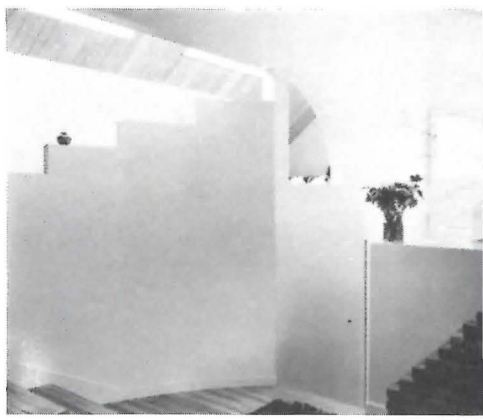


The additions are finished in cedar clapboarding like the original section, and the roof is asphalt shingle also to match what was existing. The two-car garage (drawing above) has a studio/loft above, which doubles as sleeping space when needed. The deck on the east side of the house (drawing above and photo right) is entirely new.

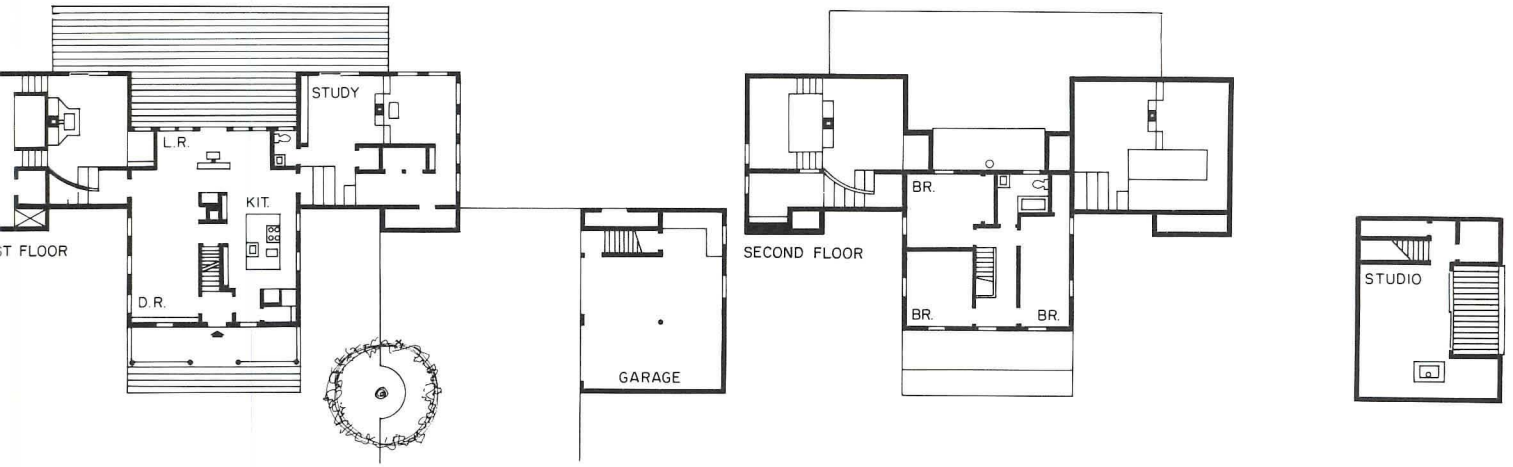
al feet were projected across the full width of the original house at the rear. Contained under a low roof, this extension loosens up the circulation at the same time that it unifies the east elevation, strengthening the connection between the two wings. In the placement and modeling of forms, Forbes drew quite consciously from Palladian farmhouses. These recollections are apparent not only in the ordering of forms but in the use of flanking buildings and in the manner in which walls are closed on the approach side and opened to the rear. Inside, however, the Palladian idiom disappears almost instantly and leaves no trace. Its place is taken by a rich, personal and extraordinarily lively sequence of spaces held firmly together by the skill of the architect through six interior levels, a variety of ceiling heights, an assortment of openings, and a wealth of expressive, carefully studied details. It is in the circulation spaces, however, that the architect has lavished a special attention. These spaces (see cover and color photos this spread) are sensitively modulated, daylighted with skylights and clerestories, and suffused with rich and welcome color.

PRIVATE RESIDENCE, Concord, Massachusetts. Architects: *Peter Forbes & Associates, Inc.—David Tobias, associate-in-charge.* Engineers: *Louis H. Conklin* (structural); *M.L. Dee & Associates* (mechanical). General contractors: *Robert Flynn and John Benjamin.*





Gypsum board and T & G pine are the principal wall finishes, while floors are either brick or maple. In the master bath, the walls are cedar and the vanity is granite. The detailing of these materials throughout is thoughtful but unselfconscious. The photo directly above looks toward the south and shows the new extension between the two wings. The glass wall at left in the photo opens to the new deck. The wood stove provides substantial local warmth.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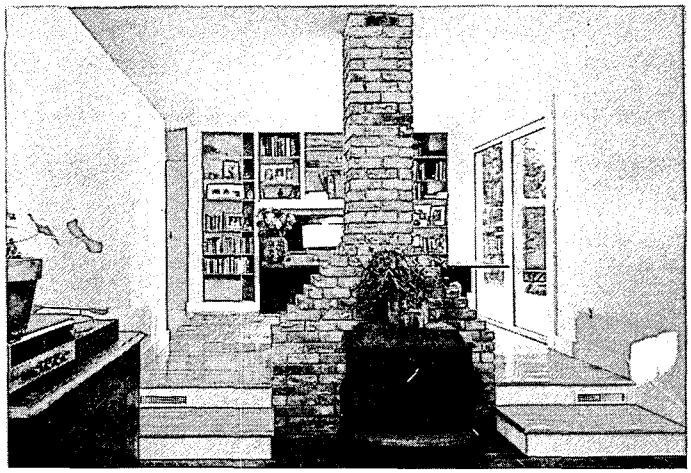
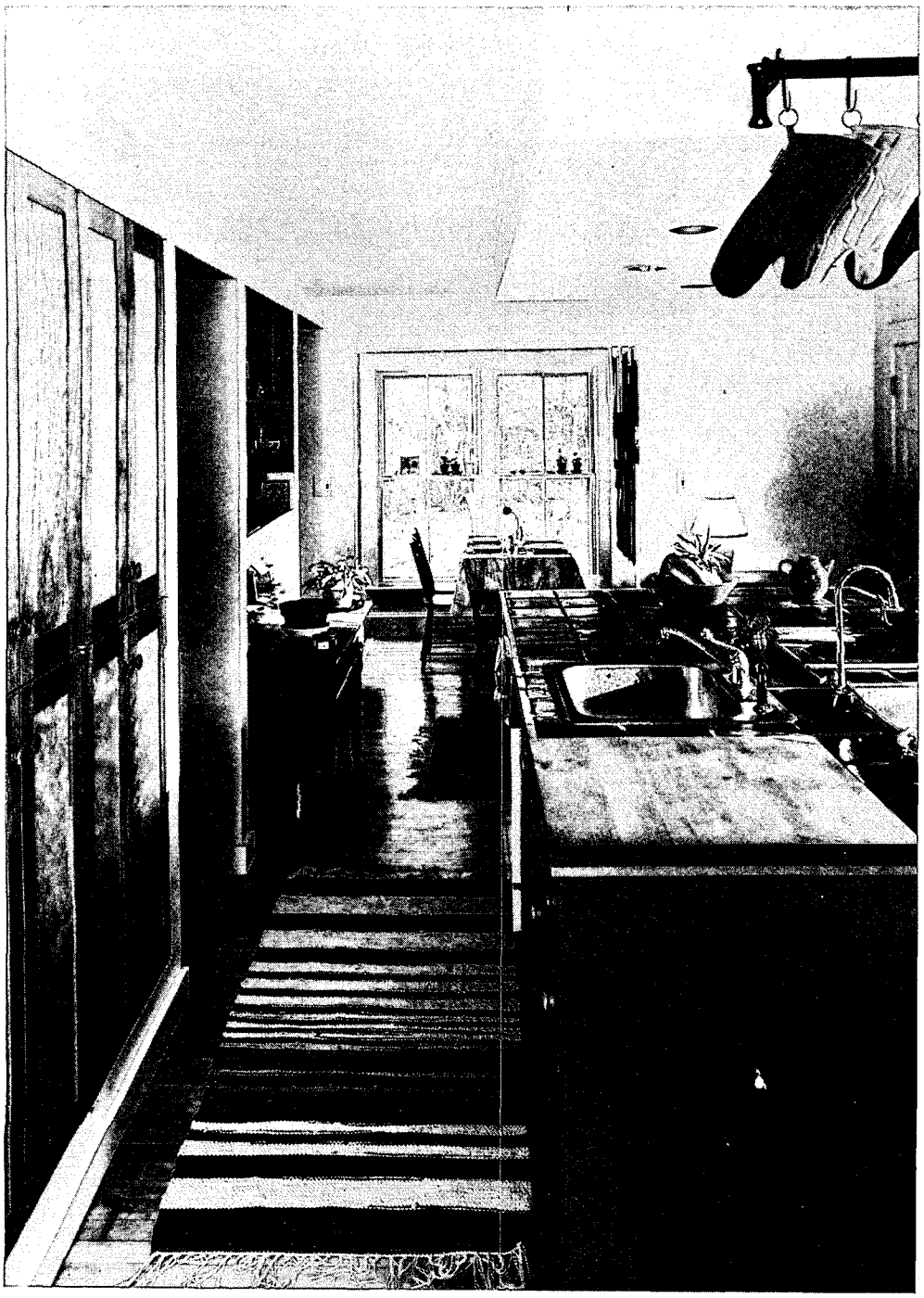
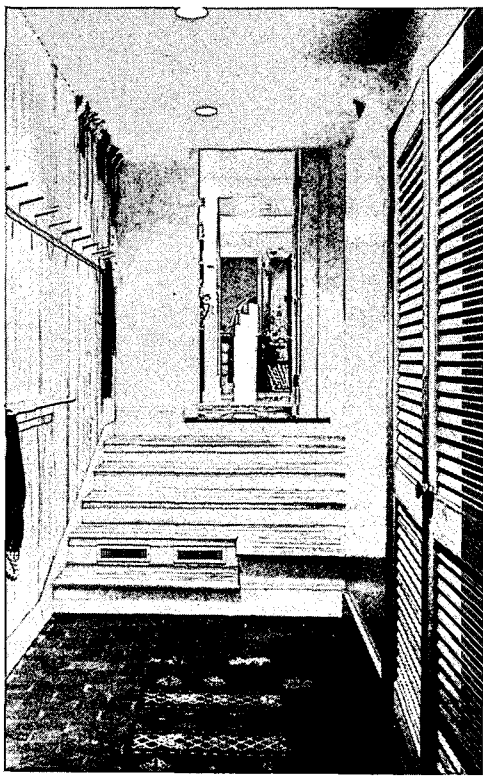
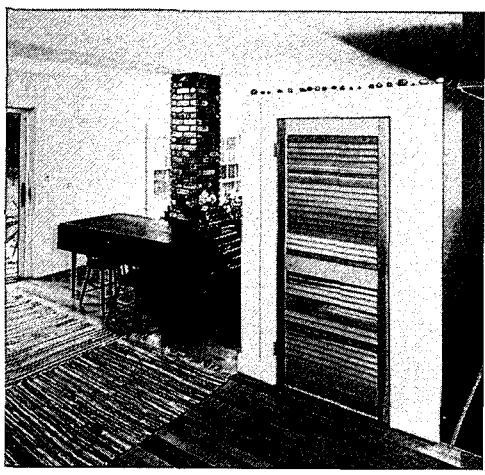


The complexity of the design is readily apparent in the interior photos. At left and immediately below are parallel photos of the family room. In the photo below, the full length of the house is revealed for the first time. The eye is guided through the raised central section to the split level of the master bedroom and loft. A close look at these two spaces is furnished by the large photo at right. The kitchen, photo left, remains in its original location near the center of the house. Under the skylight (photo right) is a sleeping loft





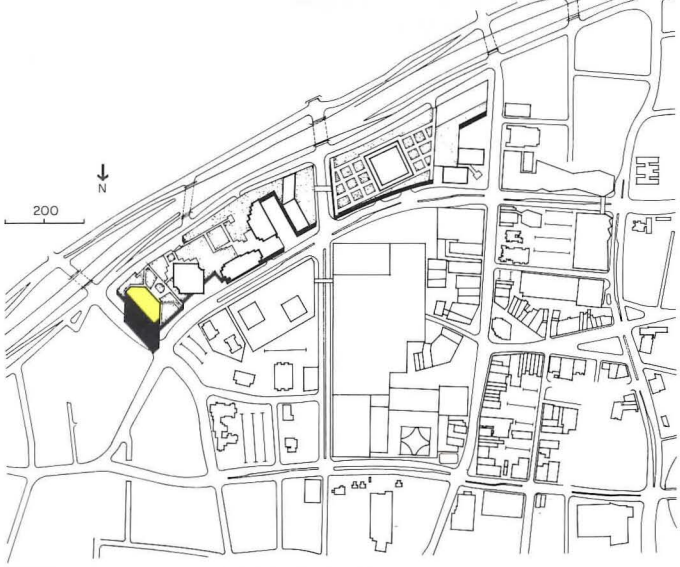


that serves as a master bedroom. Beneath it are closets and bath as well as a small study reached by the split stair at right. The top surface of the freestanding closet is finished in maple and fitted with recessed lighting fixtures that wash the ceiling, giving the small space an unusually pleasant quality of light.

MITCHELL/GIURGOLA BUILD A GATEWAY TO STAMFORD

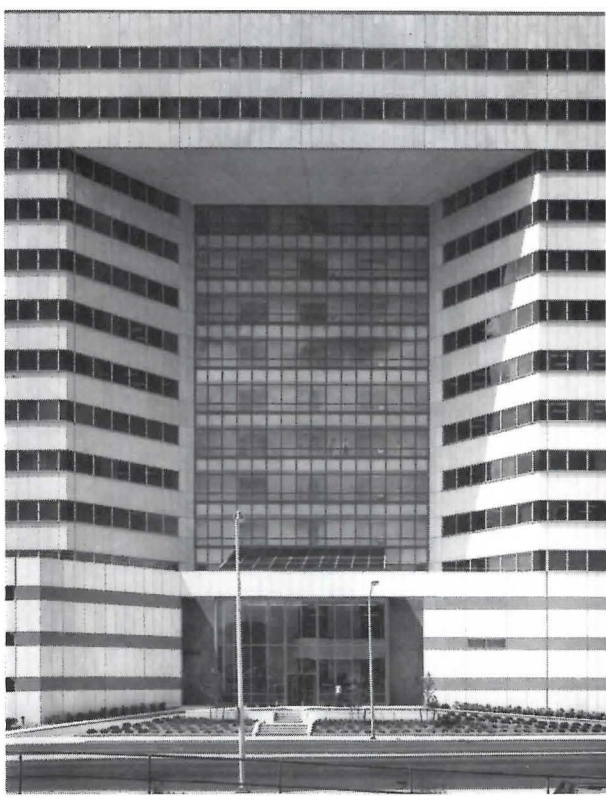
It is no mean achievement to build a sanctuary of classical order that seems at home amid the commuter throughways, parking garages, corporate megablocks, and high-rise housing of late twentieth-century urban sprawl. Mitchell/Giurgola Architects have accomplished this feat with pragmatism and a large measure of dignity in their design for Ten Stamford Forum, a $15-million speculative office building located in downtown Stamford, Connecticut. The thirteen-story structure, which combines 238,213 square feet of office space with 302,545 square feet of parking, is the first of four adjacent towers, each designed by a different architect, to be constructed on a 20-acre linear tract owned by developer F.D. Rich. (Eight Stamford Forum next door—to the right in upper photo opposite—is the work of Hugh Stubbins and Associates; Cesar Pelli & Associates and Arthur Erickson Architects have accepted commissions for the remaining two projects.) Bordered to the south by the elevated roadway of Interstate 95, the entire Forum rises from a multistory parking base capped with a series of plazas and linked by enclosed walkways to Stamford Town Center, a one million-square-foot shopping mall now under construction. Because Ten Stamford Forum is the first of these buildings seen from the heavily traveled westbound lanes of Interstate 95, the main approach route into the city, the architects decided to glorify the prominence of their site. As Romaldo Giurgola phrases it, in the idiom of his mentor Louis Kahn, "The building *wanted* to be a big facade in scale with the highway, a monumental portal that gives a sense of beginning for the entire complex."

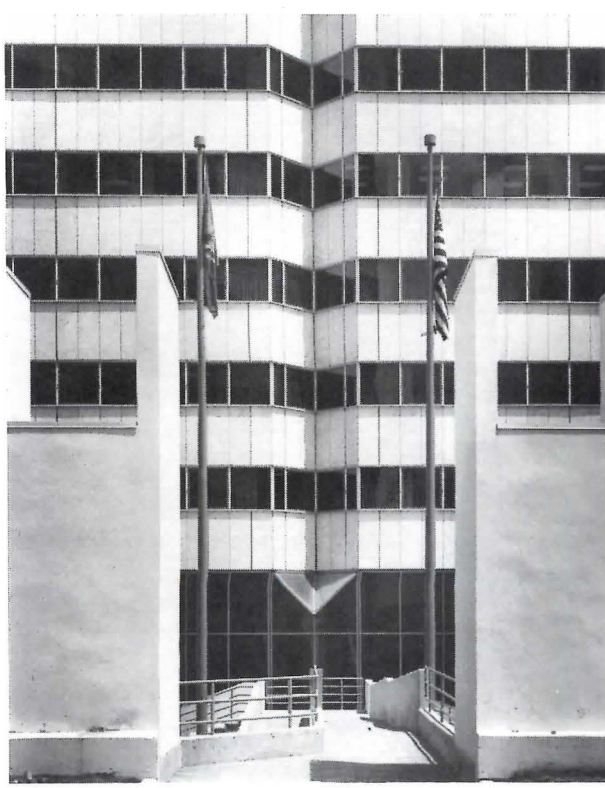
In order to stress the ceremonial primacy of the east facade, and minimize direct exposure to the highway, the office tower was compressed into an elongated polygon (plans overleaf) whose splayed facets frame a deep proscenium-like niche. Besides implying a colossal gateway—a conventional symbol of welcome, of civic dignity, and of power, as in the forums of ancient Rome—this fully glazed recess also serves the practical functions of opening up central elevator lobbies to the exterior and adding two corner offices with windows to every floor. The chamfered angles of the west front offer sweeping vistas over Long Island Sound and Greater Stamford. A vertical notch tucked into the center

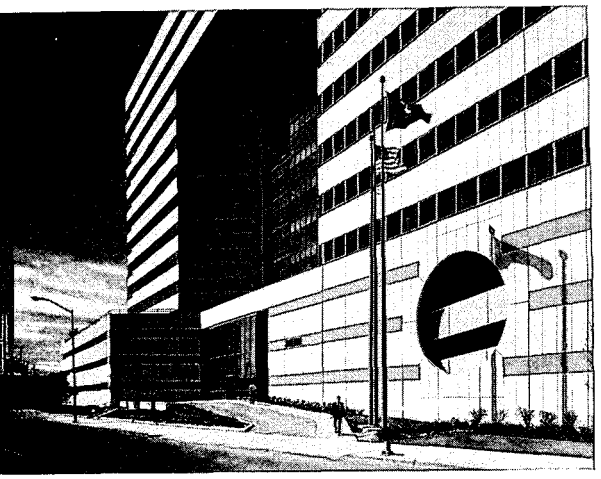


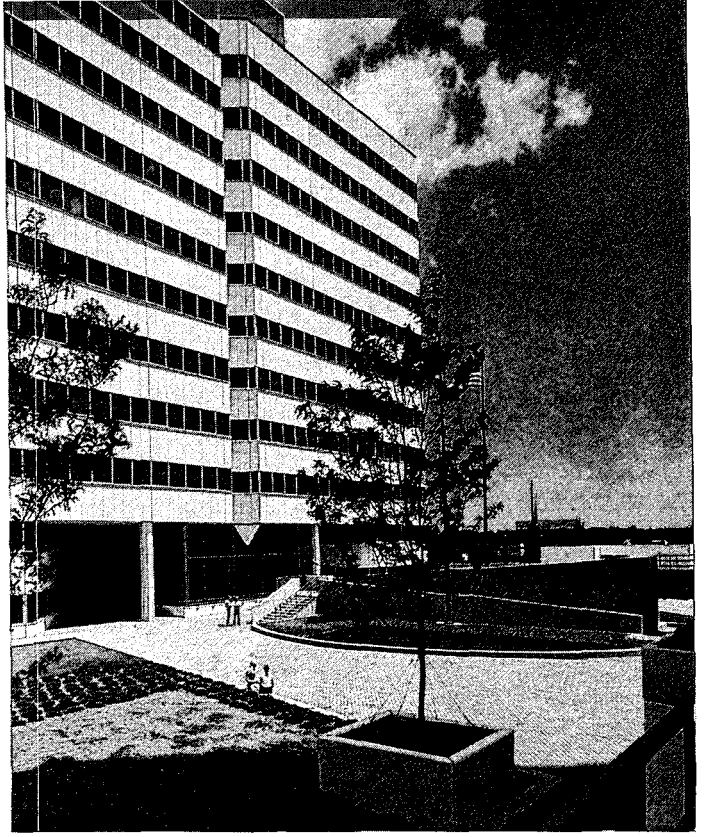
©Steve Rosenthal photos

Mitchell/Giurgola Architects designed Ten Stamford Forum as a monumental "city gateway." The marble-clad tower is also the cornerstone of a complex that will eventually include three other office blocks. Eight Stamford Forum, designed by Hugh Stubbins and Associates, rises to the west—and is seen in the background of the photo upper right. In order to minimize the impact of traffic on an interstate highway that parallels the development site on the south, office floors were mounted above a multistory platform of parking garages. The architects translated this program into a classical parti of high basement and piano nobile, akin in spirit if not in detail to a Beaux-Arts cenotaph across the street (left). Efficiency has not been sacrificed to visual effect, however. Besides achieving a high U-value through the use of precast concrete wall modules, Mitchell/Giurgola limited glazing in offices to 40 per cent of the total area. A perimeter heat-pump system that recovers excess heat for interior spaces reduces annual energy costs by roughly 25 per cent, and rooftop solar panels supply 70 per cent of the building's hot water needs.







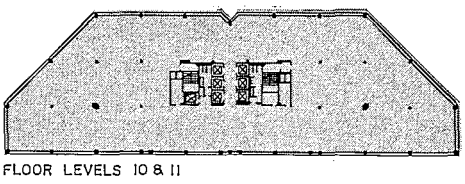


of this secondary facade (above right) extends the axis of the main portal through the building to the plaza beyond.

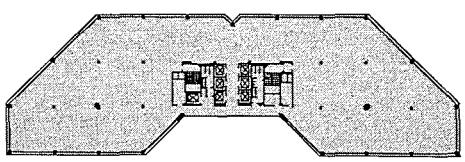
The "lintel" of the great portal is supported by a two-story-high, 120-foot-span truss. Inside, the exposed diagonal members define unusual office spaces, with angular wall planes and openings reminiscent of Frank Stella canvases. (Project architect Steven M. Goldberg reports that these offices are in great demand.) The portal's soffit, visible through the glass roof of the main atrium and from each elevator lobby, visually unifies the entire tower. Seen from the street, its frankly illusionistic pattern of radiating lines focuses the axial symmetry of the facade while intensifying the impression of sculptural depth. The developer originally requested tinted glass for this central niche, but Mitchell/Giurgola insisted on clear panes. Noting that shade is already provided by the deep overhang, Steven Goldberg argued that, "Complete transparency at this point, where you see people moving inside at any time of day, gives an exciting sense of an inhabited building—something that's missing in many other Stamford office blocks."

The formal grandeur of Mitchell/Giurgola's symmetrical composition is enhanced by a cladding of gray-white Italian marble, veneered onto precast panels. Precast structure is exposed around most of the perimeter of the garage, except for a screen wall to the right of the building's main entrance which shields a ramp for automobiles. Here, the marble facing of the upper walls is carried down to grade, and dark bands of peperino, a soft volcanic stone, correspond to the strip windows above. A large bull's-eye window frames a view of cars moving up the ramp. The rounded northeast corner of the garage, which follows the curve of the ramp, also echoes the cylindrical mass of a 1920s war memorial nearby (color photo, previous page). Although devoid of archaeological detail, the new building is no less classical in spirit than the neighboring *tempietto*, an effect which Beaux-Arts-trained Romaldo Giurgola attributes to the expressive clarity of his firm's design: "Every time you have an architecture which is explanatory," he says, "*it is in a sense classical.*"

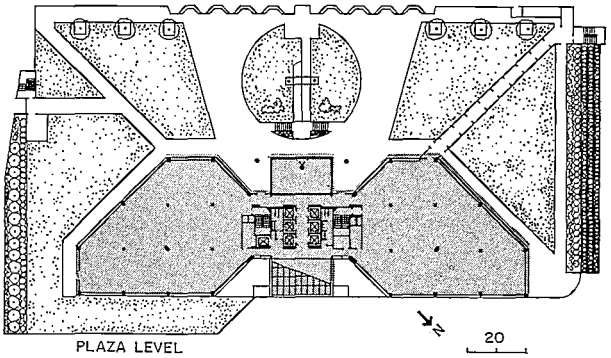
From the viewpoint of the building's users, the dovetailing of office tower and parking garage, and the linkage between the



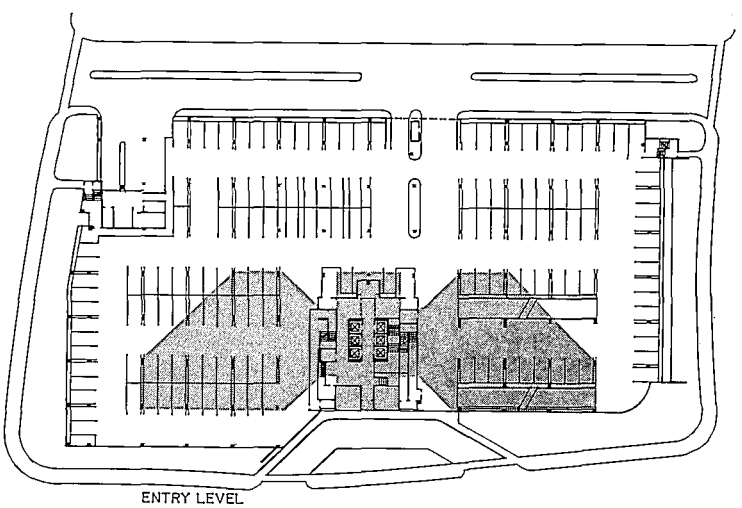
FLOOR LEVELS 10 & 11



FLOOR LEVELS 1-9

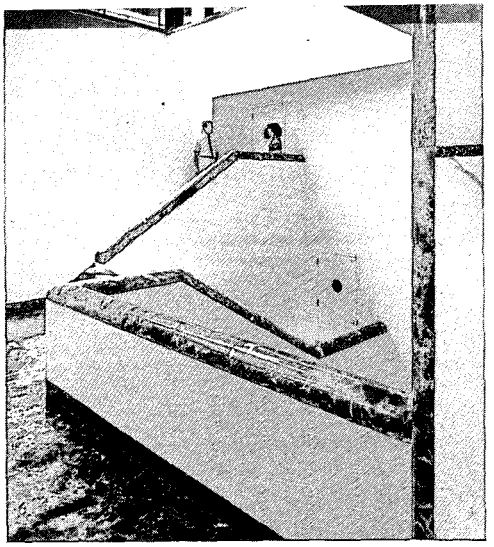


PLAZA LEVEL



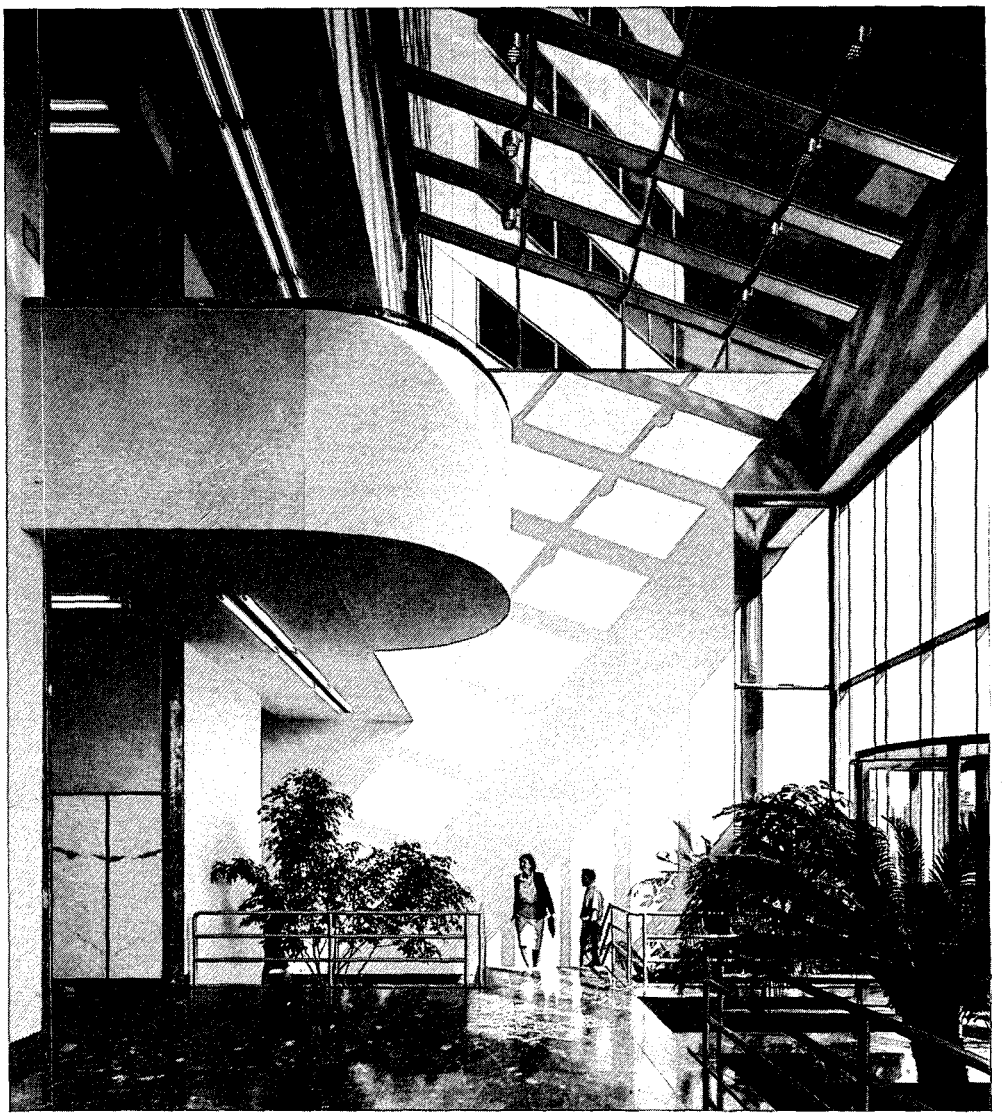
ENTRY LEVEL

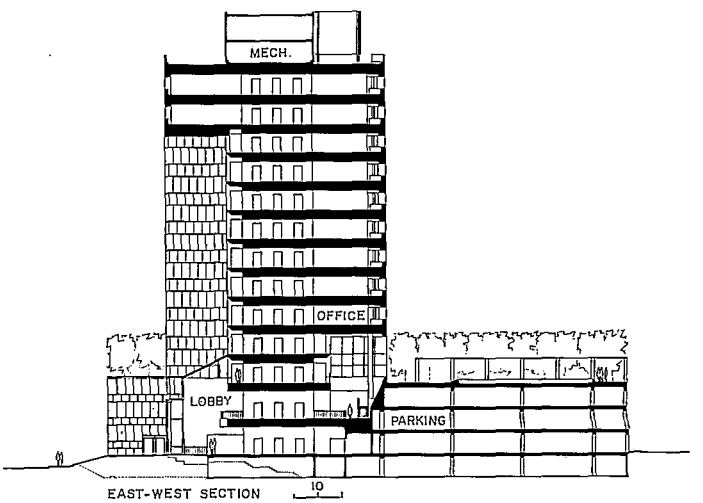
The mass of the tower was compressed and chamfered to reduce its exposure to the highway and maximize corner views. Although elevators are banked at the center of the building, they receive natural light from the glazed niche on the east facade. The principal elevator lobby (right), which opens off the atrium, is inlaid with panels of white and green marble. Inspiration for this elegant vestibule came from the work of Quattrocento Italian architects. This classical strain is equally apparent in the disposition of the rear plaza (photo above, plan left), where ventilation stacks double as garden pavilions, flanking axial vistas, and brick-paved walkways border landscaped parterres. A belvedere, which actually encloses storage rooms and a stairwell, frames a panorama of Long Island Sound. There is also a series of niches equipped with benches for al fresco dining. The plaza adjoins a central cafeteria, although it is meant to be enjoyed from other vantage points, as well. "When you are designing a plaza," says Giurgola, "you must keep in mind that people should see something when they look down from upstairs, too."



street entrance and the raised western plaza, actually occurs in the lobby, a multi-level skylighted atrium with walls of polished statuary marble. Book-matched like fine endpapers, these veined white surfaces contrast with dark trim and floors of verde antiquo. This harmonious geometry brings the monumental grid of the building down to human scale, with a pristine delicacy that recalls the marmoreal poise of Early Renaissance architecture in Florence. The four tiers of parking are staggered alongside the lobby landings (see section below), enabling commuters arriving at any level in the garage to enter the building on a grand staircase. Their next stop is the elevator lobby (previous page), a superbly inlaid anteroom to the "piano nobile" above. Looking west from the lobby, one glimpses the plaza, which transposes the interior geometry outdoors. Owing to the higher elevation of a contiguous plaza fronting Eight Stamford Forum, it was possible to lay out this terrace as a partially enclosed courtyard, complete with tree-lined promenades, parterres, and a belvedere, like the cortile of an urban palazzo.

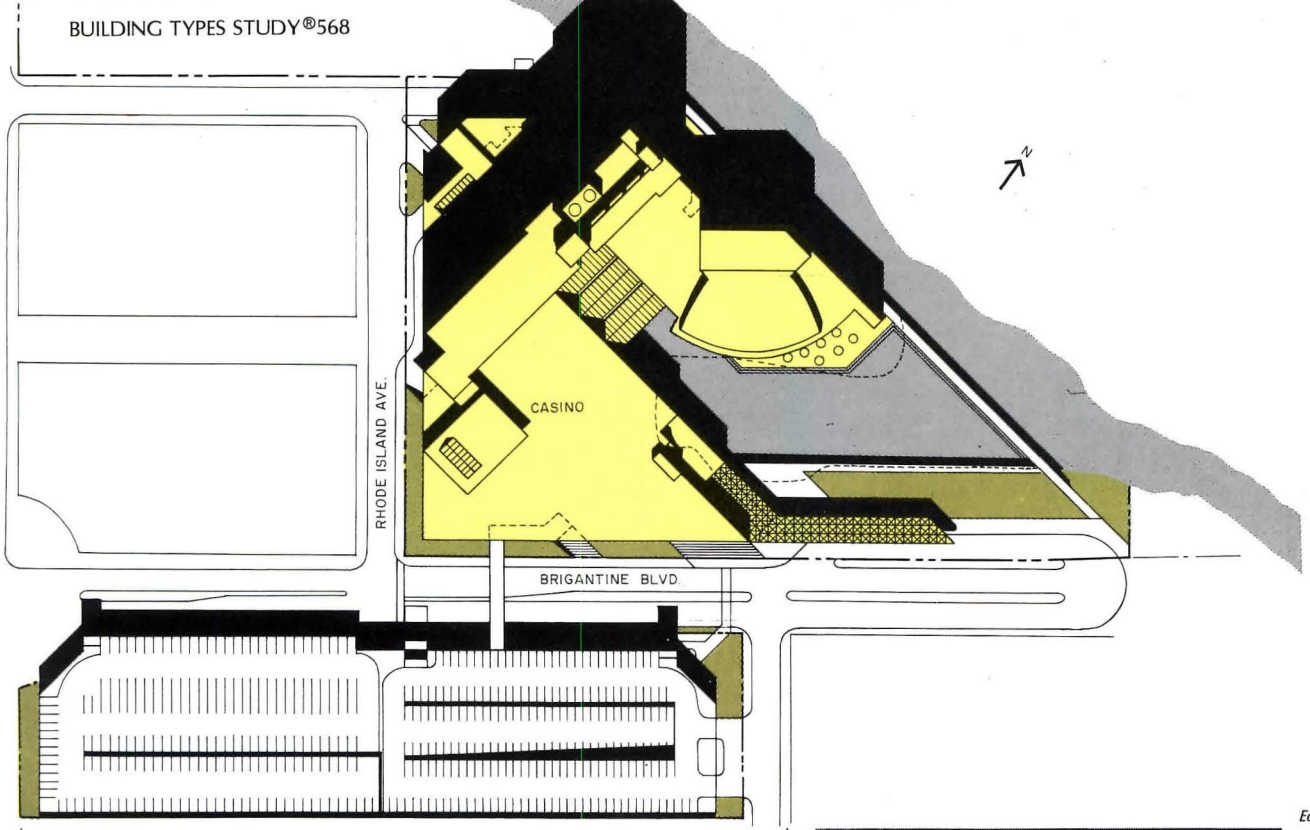
It remains to be seen whether all four towers in Stamford Forum will relate to each other as gracefully as this building relates to its own plaza. The just-completed Number Eight gives a perfunctory nod to the Mitchell/Giurgola building by means of large portal-like niches. While it is questionable whether two "gateways" cheek-by-jowl are not too much of a good thing, it is nonetheless encouraging to see a gesture of architectural deference in a city where aggressive statements of corporate autonomy are the norm. Fully contextual design is impossible amid this congeries of "unique" buildings, but in creating a speculative office tower that is also a welcoming landmark for all of downtown Stamford, Mitchell/Giurgola have set a high standard for future development.—*D.B.*





The skylit atrium is both the visual focus of the interior and a nexus for paths of circulation throughout the building. Office workers arrive here either from the car drop-off on the east front (above right) or from the garage. Doors from the parking areas open onto marble stairways (above left and opposite), offering commuters an opulent alternative to the purely utilitarian garage entries found in many office buildings. *Tubular lights* underscore the linear precision of crisp detailing.

TEN STAMFORD FORUM, Stamford, Connecticut. Owner: *F.D. Rich Company.* Architects: *Mitchell/Giurgola Architects—Steven M. Goldberg, AIA, project architect; Romaldo Giurgola, FAIA, Jack Cain, Randy Leach, AIA, Mark Markiewicz, AIA, William Schwebber, project team.* Engineers: *Robert Silman Associates* (structural); *Peter Szilagyi & Associates* (mechanical/electrical). Lighting consultants: *Howard Brandston Lighting Design.* General contractor: *F.D. Rich Construction Company Inc.*



HOTELS:
Rooms with a viewpoint

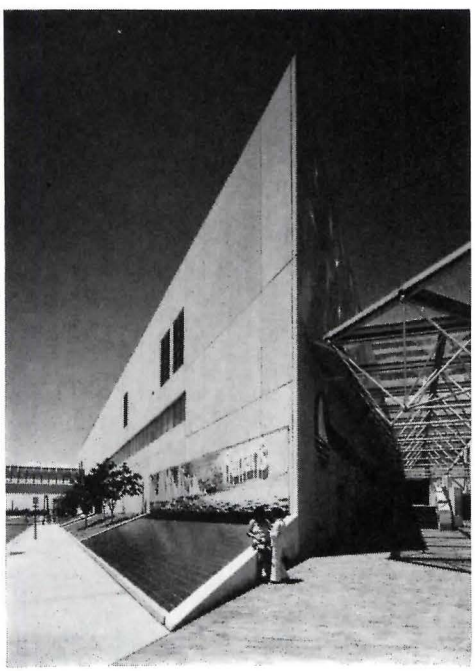
As resorts woo the convention trade, as downtown business hotels add amenities to lure vacationers and the local community, and as convention meccas advertise their attractions for families, the once-clear distinctions among hostelries geared to particular clienteles have blurred—and given rise to a new breed of all-purpose hotel whose pervasive sameness of character is impervious to even the most assiduous application of skin-deep variations in style and "atmosphere."

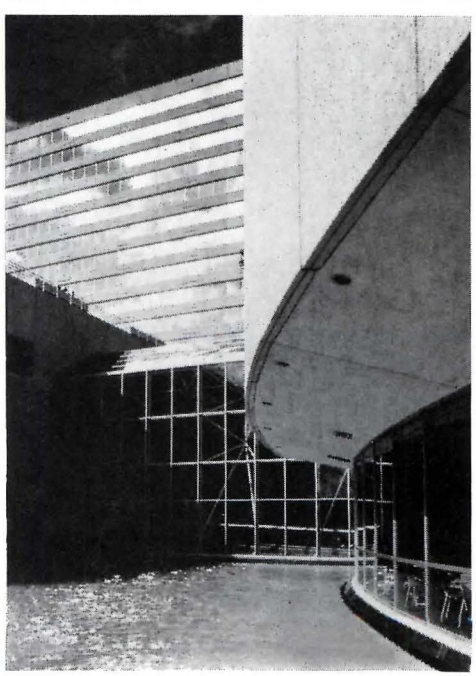
Not all such hotels, of course, can be dismissed as punchcard design overlaid by kitsch. Enough have been well done—even spectacularly well done—to assure that the formula of "something for everyone" is likely to prevail, at least among larger hotels that rely for survival on a broad-based clientele.

But the current boomlet in hotel construction, the growing tendency to build hotels in conjunction with other types of development, and the retreat of many major hotel chains from an ownership position to a purely operational role are bringing to the surface a detectable countercurrent: new hotels that seek to do very well those things, and only those things, needed to reach a clearly targeted audience.

Examples of this countercurrent presented on these pages comprise a casino hotel whose transient population far outnumbers its residents; two businessman's hotels—one urban, one suburban—as different from one another as escargot from prime rib; and a cottage hotel for long-term guests. All depart from formulas to demand of their architects thoughtful responses to questions not only of planning and cost but of people and place. And all achieve in consequence an unusual degree of both individuality and coherence. —*Margaret Gaskie*

Edward Jacoby/APG photos





HARRAH'S MARINA HOTEL CASINO, ATLANTIC CITY, NEW JERSEY

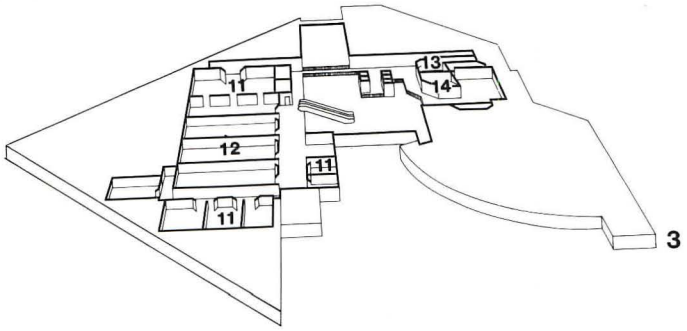
It is the daily influx of gaming-bent high rollers and housewives from the populous Eastern corridor that most decisively shaped this new casino-hotel complex on the outskirts of Atlantic City. For while the hotel itself is of only moderate size (506 guest rooms), its normal complement of public spaces is vastly swollen by the need to accommodate, along with hotel guests, transients attracted by a casino with a capacity of 6,300 patrons.

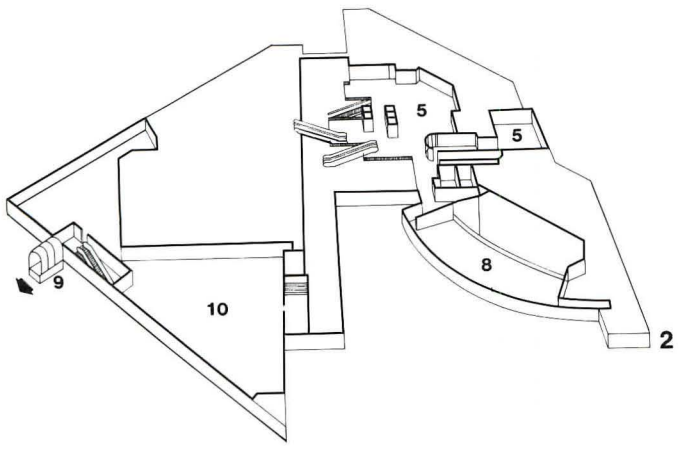
The owner, Holiday Inns, through its recently acquired subsidiary, Harrah's, perceived the venture not only as its first foray into the lucrative gaming industry but as an opportunity to project a new and upscale image for a chain of hostelries hitherto best known for no-frills lodgings.

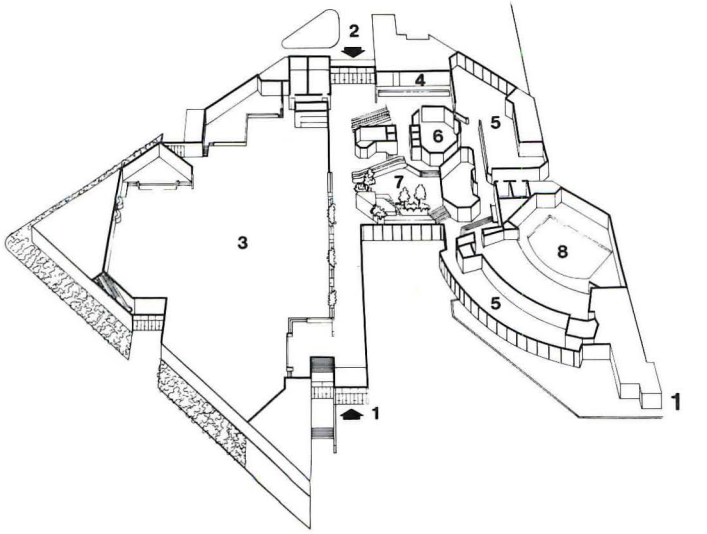
However, if the introduction to the complex of public amenities on a grand scale was prompted in part by the desire to tap a broader market, it was strongly encouraged by New Jersey's stringent regulations hedging casino development. In a perhaps wistful effort to prevent gaming from becoming the only game in town, state and local agencies require that Atlantic City casinos be developed in conjunction with hotel space (in a ratio geared to casino area) and with other facilities deemed to constitute assets to the community as a whole. In consequence, despite the undeniable dominance of its 46,000-square-foot casino, Harrah's is also a full-fledged seaside resort and convention complex boasting—in addition to the hotel—a gamut of ancillary spaces ranging from conference and meeting rooms to a Broadway-size theater, from restaurants and bars to a "fun" center for children and teens.

Program dictates apart, the principal design determinant for architects BWB Associates was the site, previously untouched marshland on the shore of Absecon Bay a mile and a half north of Atlantic City. Although the structure appears on approach to rise from the flats in splendid isolation, its site was in fact both cramped in size and difficult in configuration. Roughly pie shaped, it is hemmed on the south and west by the right-angle wedge formed by intersecting streets and on its northeast rim by an irregular shoreline penetrated by a tidal lagoon.

In spite—or because—of the site constraints relative to the sheer bulk of building volume required, the massing of the structure, says project designer Brian Thomson, "almost fell into place." The available land area is wholly blanketed by a three-story base building that houses the casino, all public spaces, and concomitant "back-of-the-house" facilities. The triangular casino, with administrative areas and meeting rooms on two levels above, occupies the apex of the wedge, its 500-foot-long hypotenuse defining the building's principal circulation spine. The curved peninsula between inlet and bayshore neatly embraces the sculpted arc of the thea-







1 Casino entrance
2 Hotel entrance
3 Casino
4 Front desk
5 Restaurant
6 Shops
7 Atrium
8 Show theater
9 Bridge to garage
10 Administration/offices
11 Meeting rooms
12 Convention center
13 Hair salon
14 Recreation center

ter, with terraced snack bar below. And the two elements are linked by three levels of lounges, restaurants, and shops, all open to a skylit atrium lounge.

Surmounting the base building is the 12-story hotel tower, which is set perpendicular to the main circulation path through the building—an orientation that also optimizes views from the guestrooms. A 2,400-car garage is shoehorned onto a narrow plot across the street from the casino complex and connected to it by a second-level walkway.

From the outset, the tidal inlet was recognized to be a major design asset, offering the opportunity to strengthen the visual link between the complex and its coastal surround. The problem was to extend the lagoon inward to the building line—and to jump a 10-foot gap between its natural level and building grade—without upsetting the ecological balance of the tidal area and adjacent wetlands. The solution: a dam that contains the lagoon to its high-water level, and above it a pool that laps the building walls at grade. Fresh water from the pool cascades to a trough atop the dam, from which it is recirculated, creating the illusion of a natural transition but preventing actual spillover of fresh water to the salt water inlet.

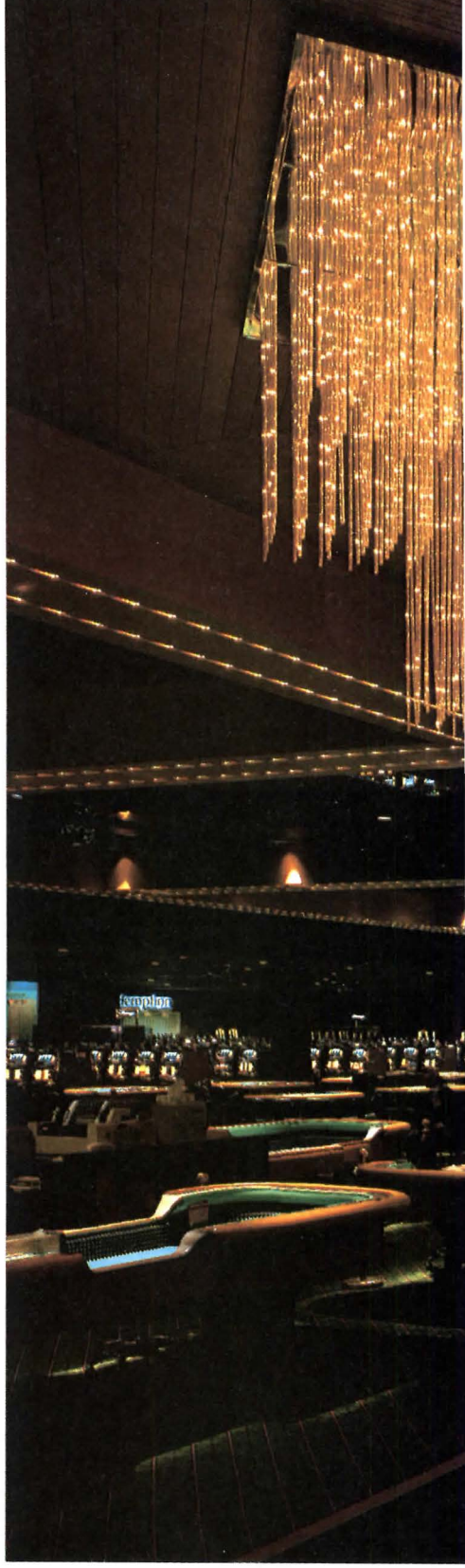
The expansive atmosphere generated by the exterior's space-framed arcade, boardwalks, lagoon and pool is carried through to interiors whose dominant theme might be summed by the designers' observation that "Atlantic City is not Las Vegas."

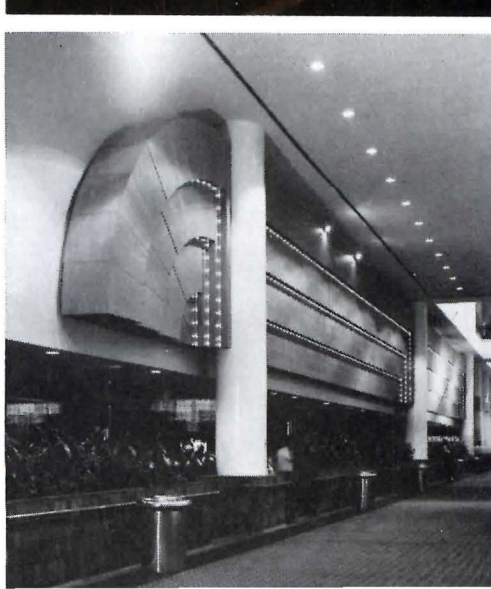
A central concern shared by the architects and by the interior design team, fielded by Hugh Stubbins and Associates, was to help the visitor orient himself in relation both to the potentially bewildering maze of functions and spaces within the building and to the outside environment. This aim was achieved by establishing straightforward and well-defined paths of circulation, which themselves have proved to be among the most successful of the building's spaces.

The dominant path is the broad main concourse that, rising the full three-story height of the base building, cuts a diagonal swath through the complex from the modestly ceremonial casino entrance to the hotel entrance opposite. For most of its length it is open on one side to the glittering cavern of the casino. On the other side it traces the line of the lagoon, then expands to merge with the soaring volume of the glass-enclosed atrium and the three layers of lobbies, lounges, and other public spaces beyond. Open to concourse and atrium, these "balcony" areas form both a vertical circulation core and confirming points of orientation.

In keeping with the designers' desire to create an ambiance of warmth as well as festivity, the interiors are executed primarily in natural materials and contemporary idiom, notably free of pastiche. Gaiety and glitter—even glamour in some spaces—abound, but the prevailing spirit is perhaps best exemplified by the atrium lounge. Here wicker furniture, lavish plantings, and, above all, the uncluttered outlook to sky and sea join in a gracious bow to the Atlantic City of old.

HARRAH'S MARINA HOTEL CASINO





Inevitably, the centerpiece of Harrah's is its vast casino—a yawning cave of billiard-table green accented with every shade of neon, pooled with light and shadow, sparked with glitter. Because its floor is dense with gaming areas (and gamers), the designers put the ceiling to work as the principal locus of directional cues. The central corridor is brilliantly marked by chandeliers composed of acrylic tubes threaded with minilights whose twinkle also outlines the dropped beams used to organize the otherwise amorphous space. Overhead mirrors lend a festive—and practical—touch: they are one-way glass employed for surveillance.

The restaurants too gave the designers full scope to create "special" spaces, each in a style compatible with the type of menu and service offered. At the top of the line is an intimate "haute" restaurant overlooking the ocean and evoking its sense of low-key luxury through the use of muted colors and rich materials—linen and velvet, mahogany and brass. In striking contrast is the poolside snack bar, with its colorful but sturdy fittings and its lavish but functional rainbow banner ceiling.

HARRAH'S MARINA HOTEL CASINO, Atlantic City, New Jersey. Owner: *Harrah's, a subsidiary of Holiday Inns—Don Hart, director of casino development.* Architects: *BWB Associates—Claude Braganza, principal-in-charge; William Huntington, project manager; Brian Thomson, project designer; Don Pique, job captain.* Interior designers: *Hugh Stubbins and Associates, Inc.—Philip Seibert, director of interior design; Peter Scott, project manager; Molly Bunker, John Kelsey, Kathleen Rogers and Jean Veigas, designers; Erwin Winkler, artwork selection.* Consultants: *Daly & Daly* (specialty signage); *Redhouse Associates* (exterior signage); *Tom Pappas, Inc.* (structural); *GAI Associates, Inc. and Robert F. Sigel, Inc.* (electrical); *Gillium Brady Associates, Inc.* (mechanical); *Robert E. Hughey* (environmental planning). Construction management: *Perini Corp.*

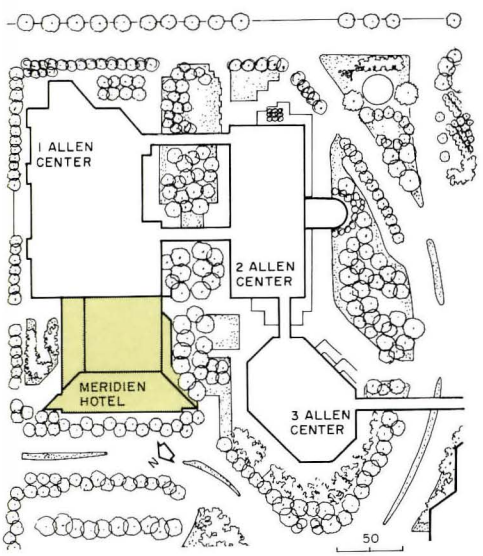
HOTEL MERIDIEN HOUSTON, HOUSTON, TEXAS

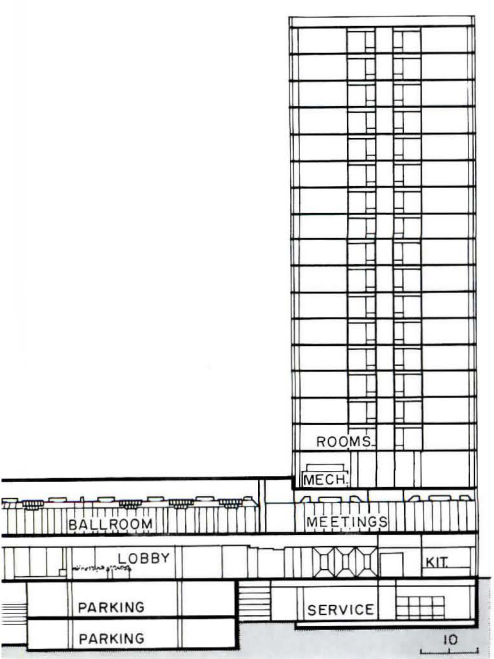
"Intimacy of scale, grandeur of style" were the qualities sought by Air France's subsidiary Meridien Hotels, Inc. for its first venture into the United States market—a luxury hotel which is aimed with Gallic directness to an international, upper-level executive clientele. The location in Allen Center, a business and commercial complex in booming downtown Houston, was chosen for its accessibility to the target market—12 million square feet of prime office space within three blocks, its site amenities—an adjacent park and extensive landscaping within the complex, and a design-development team in full sympathy with Meridien's aim of founding an exclusive first-class hotel in the Continental manner.

At 363 rooms the hotel is small enough, the operators say, to allow personal service but large enough to support fine restaurants. The 19-story trapezoidal tower contains 16 floors of guest rooms rising above a low base that houses below-grade parking and service areas topped by two levels of public and meeting spaces which extend inward on the site, forming a link with adjacent office and retail spaces. The tower was shaped to maximize the number of rooms fronting the park and designed to contrast in texture as well as geometry with the buff-colored concrete of surrounding structures. The prominent western facade is clad in silver-bronze reflective glass that modulates to bronze-tinted glass on the remaining elevations in a subtle tonal shift that effectively asserts the tower's sharply angular form.

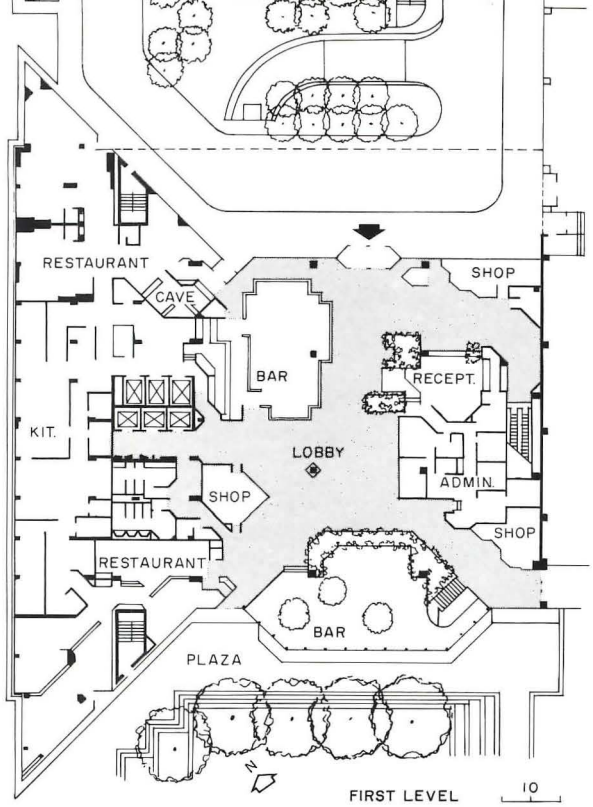
It is in the public spaces, however, that the sought-for "intimacy with grandeur" becomes evident, announcing itself first through what is not there: no atrium, no self-consciously dramatic interior volumes. Instead, the interiors offer what architect Benjamin Brewer characterizes as planned complexity. The reception level is well ordered, and its spatial organization around a visual axis leading from the sheltered lobby entrance to the landscaped courtyard opposite is at once intricate and readily comprehended. And while the principal activity centers within—reception area and restaurants, bars and boutiques—are distinctly individual, even assertive in character, the potential for discord among them has been overridden by the common denominators of taste and quality to achieve a harmony that Brewer describes as "continuity through contrast."

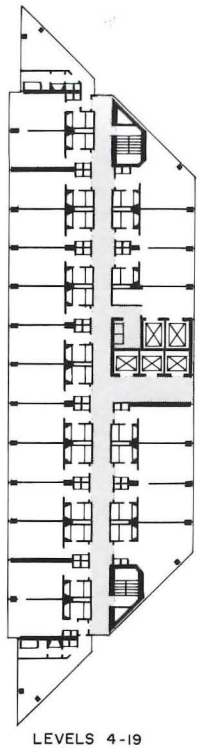
HOTEL MERIDIEN HOUSTON, Houston, Texas. Owner: *Century Development Corporation.* Operator: *Meridien Hotels, Inc.* Architects: *Lloyd Jones Brewer Associates—Benjamin E. Brewer, Jr., principal-in-charge; Elmo Valdes, project designer; Russell Reynolds, project director.* Interior designers: *Guillon, Smith, Marquart & Associates.* Consultants: *The SWA Group* (landscape); *Ellisor & Tanner* (structural); *Herman Blum Consulting Engineers* (mechanical). Contractor: *Miner-Turner Joint Venture.*



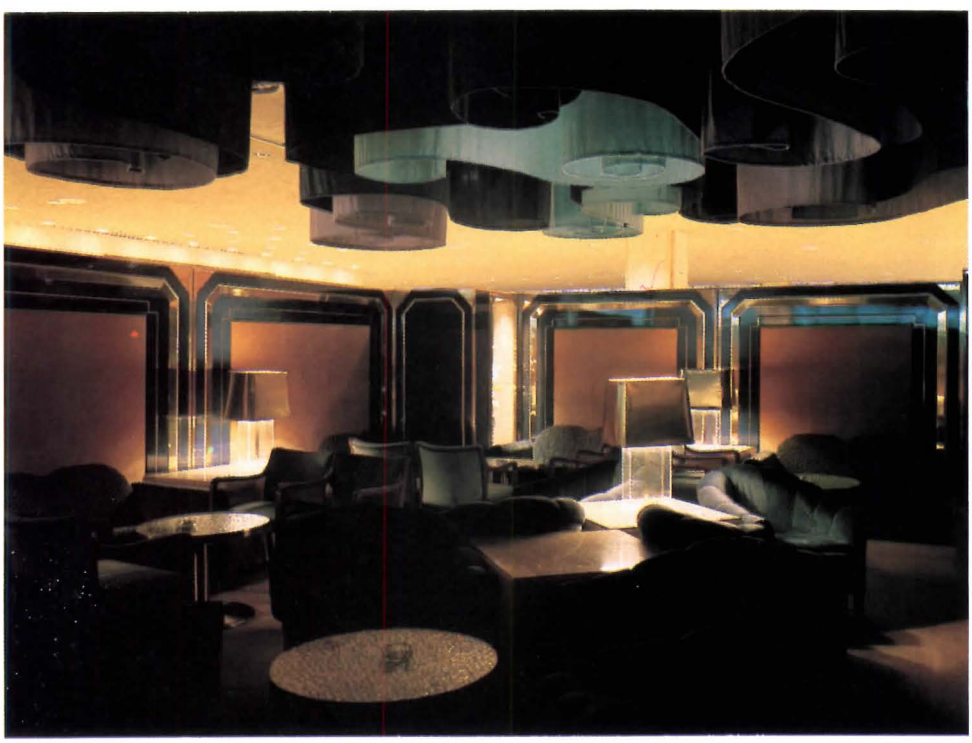


©Richard Payne photos

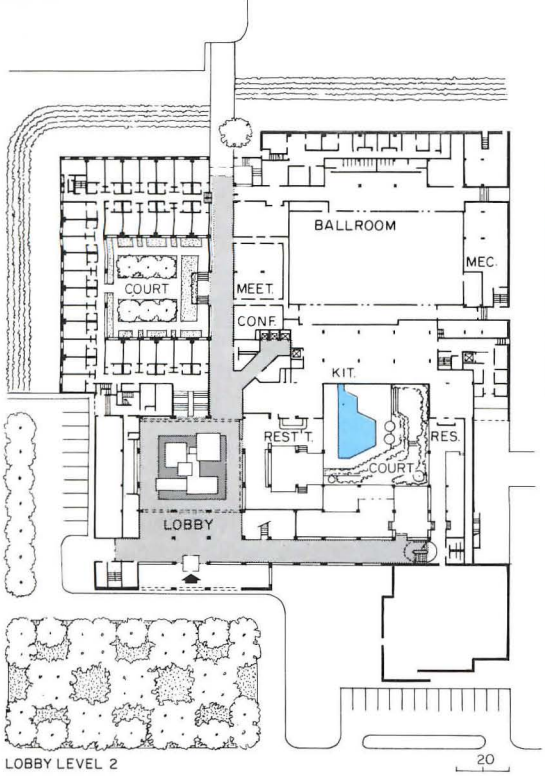




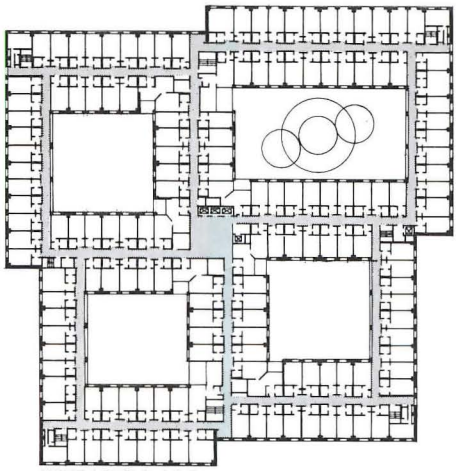
In a discreet nod to its absent atrium, the Meridien Houston's lobby level features a two-story glass-enclosed garden bar (opposite) that bows outward to a landscaped plaza, its casual furniture and abundant greenery smoothing the transition between more formal interior spaces and the exterior courtyard. On the mezzanine above, a spacious and well-appointed lounge serves as antechamber to the ballroom and other meeting and banquet facilities.



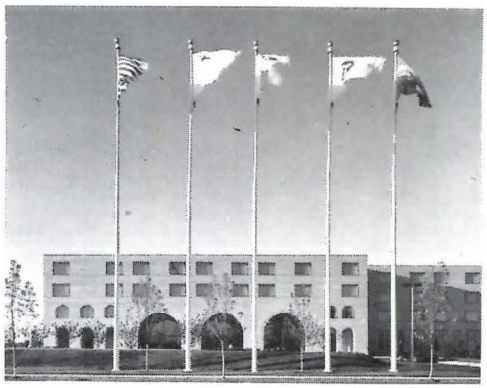
Within the lobby proper a tone of understated elegance is set by the choice of materials—marble floors and column cladding, polished wood paneling, touches of brass and glass. The concierge's station adjoining the reception area (no queuing at registration counters here) is given high visibility by a canopy underhung with a festive array of incandescent globes. Opposite it is a jewel-like cocktail lounge (above) strikingly partitioned by panels of travertine bordered in lacquer and brass. (The fabric scrolls overhead focus lighting and absorb sound.) And in a typical change of key, a seating oasis (right) provides an unobtrusive setting for a 17th-century French tapestry.

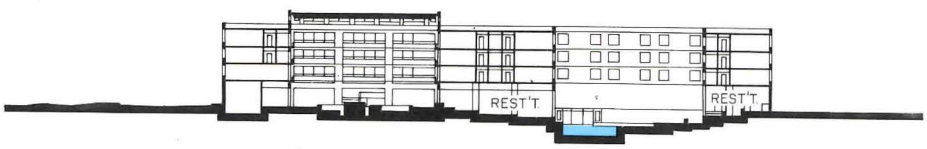


LOBBY LEVEL 2



GUEST LEVELS 4 & 5





Gregory Murphey photos

HYATT REGENCY WOODFIELD, SCHAUMBURG, ILLINOIS

This sturdy, low-slung businessman's hotel constitutes the central element of the first phase of a sprawling commercial and office complex under development in a rapidly expanding Chicago suburb. Sited amid three planned office, retail, and housing sectors, the 485-room hotel is designed to provide a focal point for business and social activities within the complex and to serve as the principal node of a projected pedestrian walkway system that will interconnect its various components. Both functions are suggested even at this early stage by the hotel's linkage to an office tower (far right in photo below), one of three planned for the first sector.

The low four- to five-story structure presents a straightforwardly suburban image, its unadorned brick facades broken only by the predictable rhythm of guest room windows except at the entrance, where Chicago-Romanesque arches lend an air of welcome, hinting at the carefully orchestrated progression of contrasting spaces within.

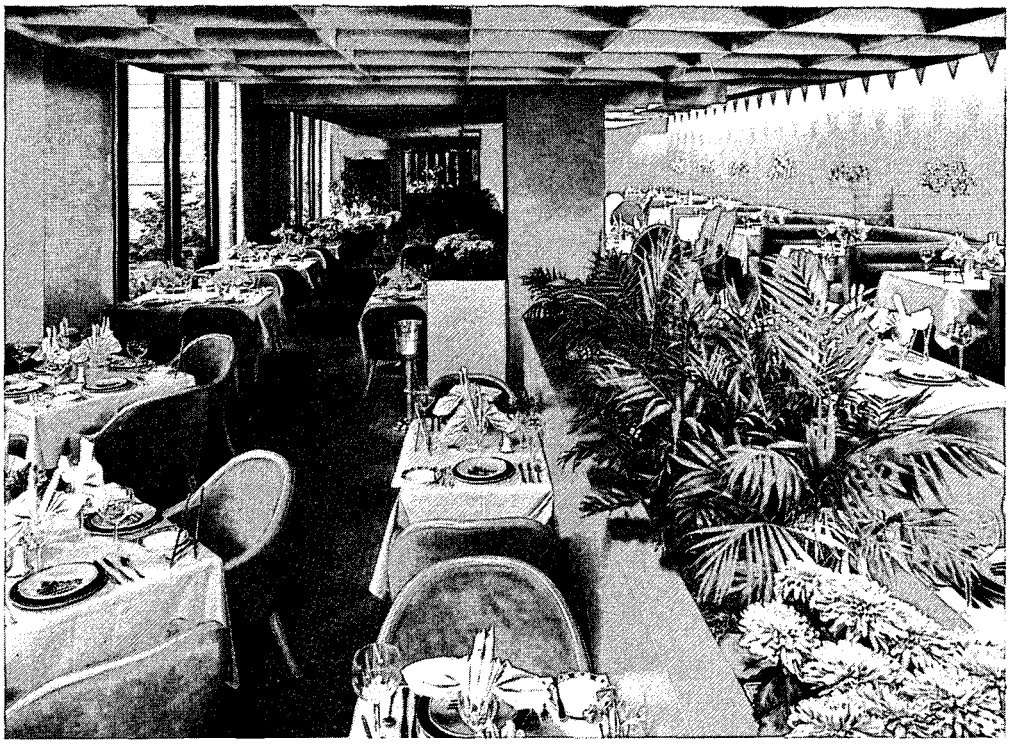
Organized around four interior courtyards of differing character and purpose, the building establishes through both plan and massing an inward orientation that turns its back on its bland suburban surroundings and nearby strip developments. (Tree-planted buffer zones around the hotel control views to the exterior.)

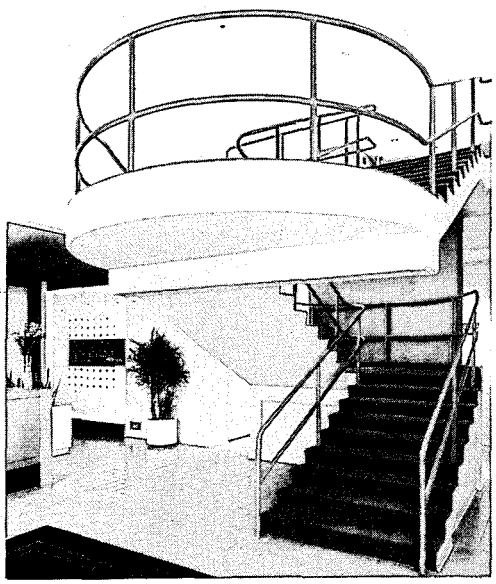
Beyond the brick arches that announce the entry, a covered arcade running the length of the facade expands to a high antechamber lounge that in turn leads through a second series of arches to the atrium lobby. This first courtyard is also the nexus of the two right-angled circulation spines that lead to the other courtyards and ground-level public spaces, including extensive conference and meeting facilities.

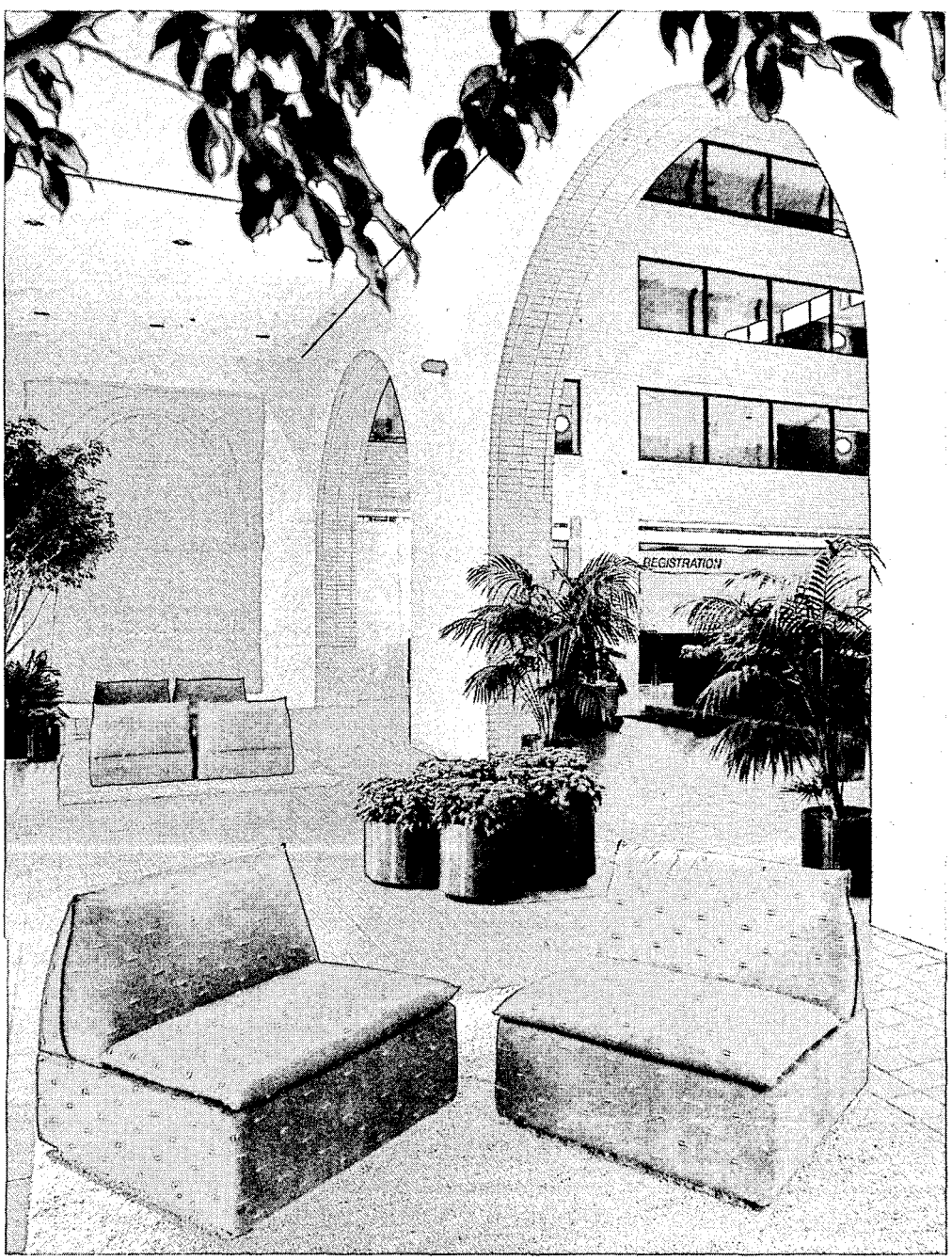
A second courtyard at the front of the building surrounds an open air swimming pool overlooked by restaurants and a cocktail lounge. The remaining courtyards, one covering a portion of the ballroom below, are private landscaped areas enclosed by tiers of guest rooms.

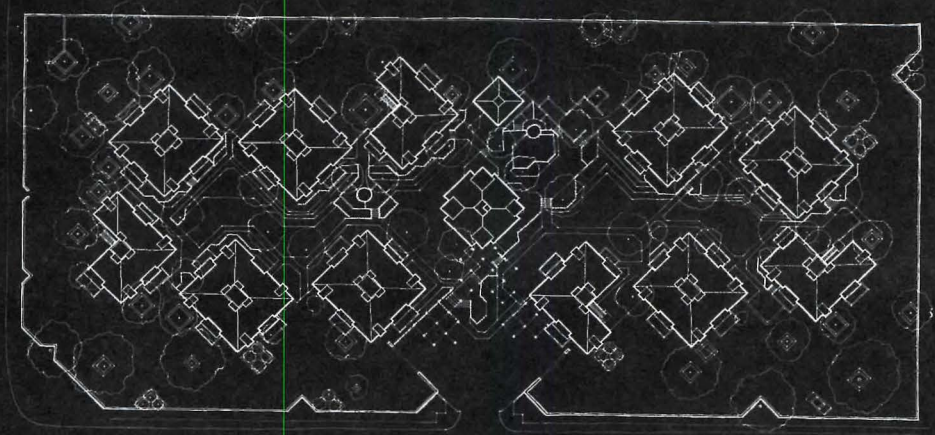
HYATT REGENCY WOODFIELD, Schaumburg, Illinois. Owner: *Union Oil Company of California, The Pritzker Family, Bennett and Kahnweiler.* Hotel operator: *Hyatt Corporation.* Architects/engineers: *Skidmore, Owings & Merrill—Robert Diamant, project partner; Bruce J. Graham, design partner; George Jarik, project manager; Lucien J. Lagrange, studio head; Bruce Toman, technical coordinator; Srinivasa Iyengar, structural engineering partner; Parambir S. Gujral, environmental engineering partner; D. Stanton Korista, project structural engineer; Samuel Sachs, project environmental engineer.* Interior designers: *Hirsch Bedner, Inc.* Consultants: *Sasaki Associates* (landscape); *Howard Brandston* (lighting); *Cerami & Associates* (acoustics); *Vignelli Associates* (graphics); *Sheila Hicks* (artwork). Construction manager/contractor: *Morse/Diesel, Inc.*

Repeating on the hotel interior the bold theme introduced at the "front porch" entry, a triad of broad brick arches provides a simple but effective transition between the antechamber lounge (below right) and the covered atrium lobby (opposite). Although it is distinguished more by dignity than by drama, the courtyard is well proportioned and handsomely detailed in natural materials that enhance its quality of quiet restraint. Pale brick walls, punched by guestroom windows and subtly banded with soldier courses, contrast with the dark tones of the multilevel seating areas ranged about the central fountain-pool. The lobby is linked by a restaurant and lounge area to a second front courtyard overlooked by the more formal dining facility shown at right. The stair below marks the end of the building's frontal arcade/circulation spine and rises to a second-level bridge that leads from the hotel to the adjacent office tower, forming the first segment of the proposed pedestrian network.









CARLETON HOUSE, DALLAS, TEXAS

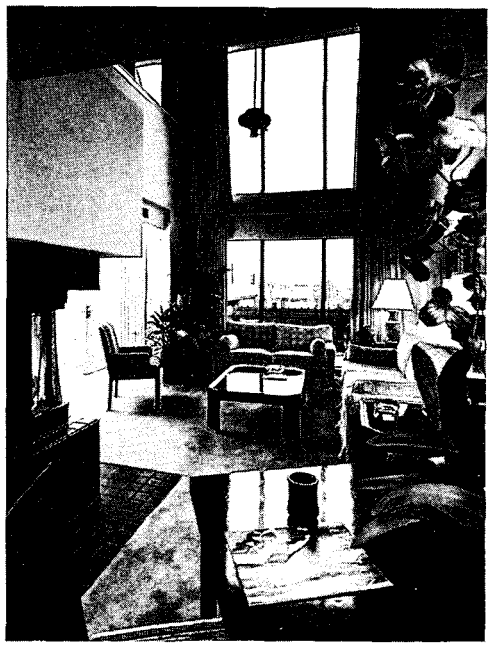
Billed as a residence hotel, this garden enclave in suburban Dallas is in one sense a throwback to the roadside cottages of the '20s and '30s and in another sense a fresh idea in hostelries: to provide comfortable, homelike quarters for guests planning extended stays—househunting corporate transferees, for example, or business people attending lengthy conferences.

The key is the omission of the usual hotel appurtenances, although limited maid service is available and continental breakfasts and complementary cocktails are served from a centrally located reception pavilion with pool (below right). Thus space that would otherwise be consumed by public areas is shifted to private ones, making it possible for the hotel to offer large one- or two-bedroom apartment suites (right), each equipped with a kitchen and fireplace, at a cost competitive with conventional motel rates.

In part for its own sake, and in part because the site is in an as yet spottily developed area where future neighbors are an unknown quantity, privacy was a top planning priority. The entire complex is hedged about by a high wall broken for auto entry at only one point, and its perimeter areas, "hard landscaped" for parking, are thickly planted with trees.

Within, the two-story buildings, each containing five or seven units, are dispersed around gardens and screened by planting but oriented so that exterior courtyards and balconies face one another, preserving privacy while permitting back-fence neighborliness.

CARLETON HOUSE, Dallas, Texas. Owner: *Pulley-Woolverton.* Architect: *Callister, Payne & Bischoff; David K. Gately, Architect—M. Dean Jones, project architect; Charles Warren Callister, James Bischoff, Ned Forrest, Parker Croft, design group.* Associated architects: *PLM Design.* Consultants: *Chester Reed* (structural); *PLM Design* (interiors, landscape).



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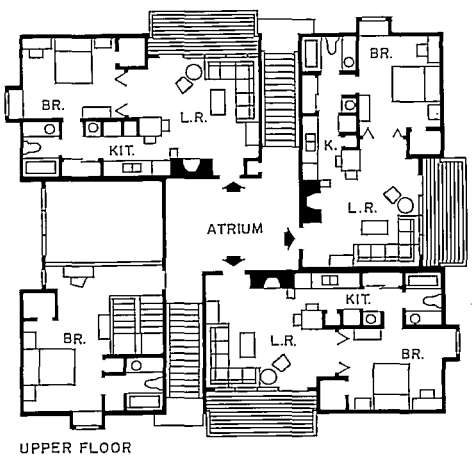
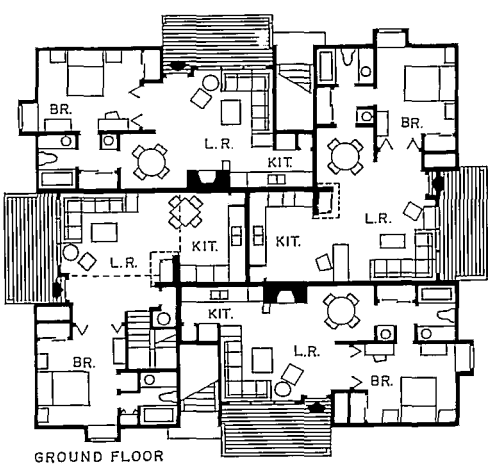
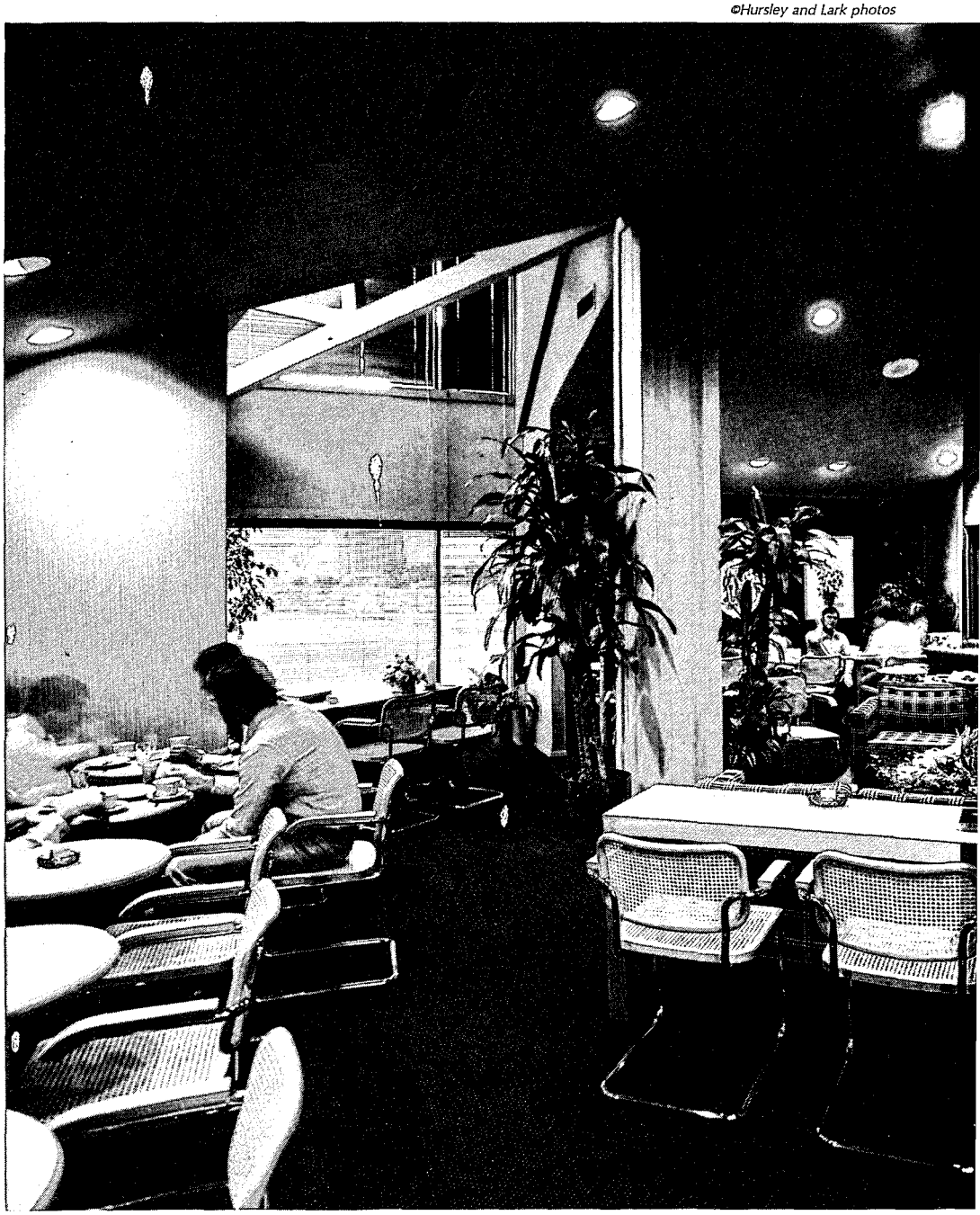


UPPER FLOOR



GROUND FLOOR

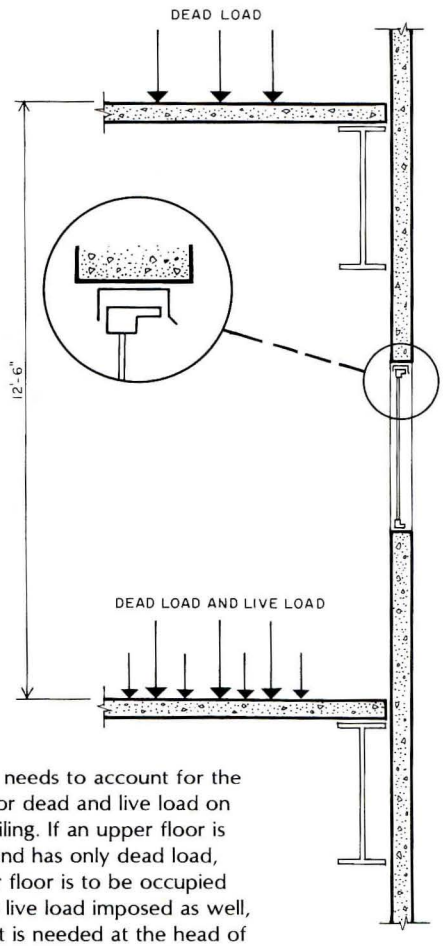


The image sought by the designers was one of sheltered domesticity—a village vista of shingled hip roofs and multiple chimneys rising above a protecting wall. The theme is reinforced within the enclave by "residential" construction of exposed natural materials, and an abundance of private patios and balconies, all in a garden setting. That the result is less costly than conventional hotel construction is not at all coincidental.

Avoiding wall problems by understanding structural movement

by Dr. Charles H. Thornton, president
Lev Zetlin Associates, Inc.,
consulting engineers

One of the major sources of liability claims against design professionals is the failure of walls to keep out wind and rain. To help architects and engineers avoid costly design defects and technical failures in this high-problem area, Shand, Morahan & Company, a leading underwriter of liability insurance, recently held a seminar on the subject in cooperation with the University of Illinois at Chicago School of Architecture. Following are excerpts from a seminar presentation by Charles Thornton on interaction between structural and exterior enclosure systems. In an early issue RECORD will publish excerpts from a presentation by Gordon H. Smith, exterior curtain wall consultant, on the design and testing of metal and glass curtain walls.



The architect needs to account for the effects of floor dead and live load on window detailing. If an upper floor is unoccupied and has only dead load, while a lower floor is to be occupied and will have live load imposed as well, then a pocket is needed at the head of the window so that when live load is applied and the window drops down, the wall still excludes rain and wind.

Structurally-related failures of curtain-wall systems occur for five principal reasons: 1) major design errors; 2) incompatibility of the structural and curtain-wall systems; 3) absence or lack of coordination between curtain-wall and structural systems, particularly after the design is finished and the drawing phase ensues; 4) material deficiency; 5) inadequate workmanship and lack of quality control during construction.

Innovation, by its nature, increases the chance for error. But error also can occur when tried and true systems are applied to new situations: different configurations, taller buildings, wider buildings, or longer spans. These different situations involve both subtle variations and new requirements that the designer must address during the design phase. And because of the trend toward more high-strength, lightweight structures, designers need to consider more carefully the relationship between structural behavior and the enclosure systems of buildings.

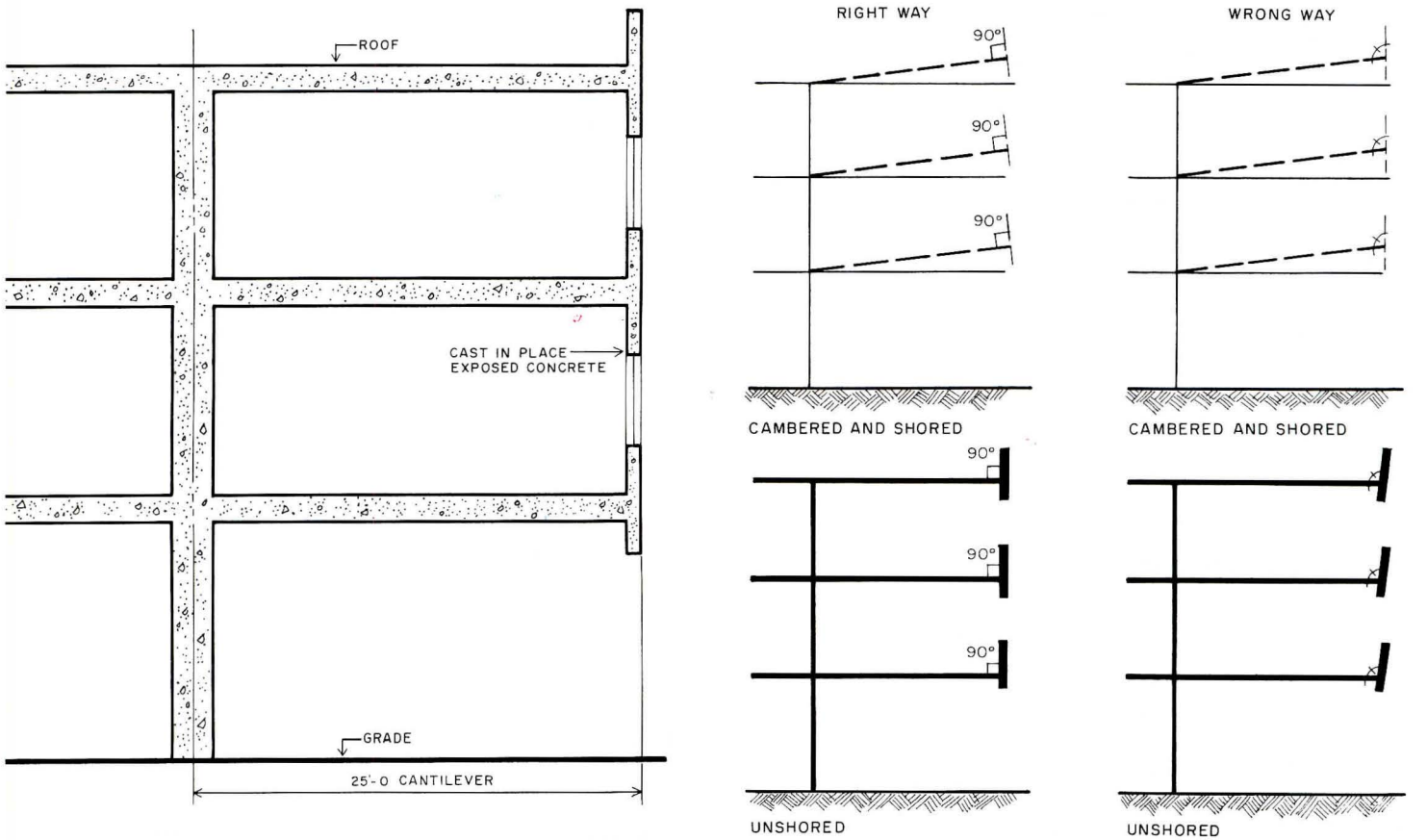
Designers must consider movement caused by gravity, wind and thermal loads

The designer's problem is to ensure that the enclosure system keeps out wind, rain and infiltration in spite of these movements. Gravity, wind, seismic forces, and temperature change cause lateral, vertical and torsional motions in buildings. Buildings with different structural and plan configurations will exhibit different kinds and different amounts of movement. Thus, there is no set method or rule of thumb that can be used in the design of a curtain wall. Each building must be treated by itself, and designers must determine the kinds of movement a given enclosure must accommodate.

Spandrel deflection. For years, architects and structural engineers have established permissible deflection of spandrel members of a building by applying the rule-of-thumb factor of 1/240 of the span for total load and 1/360 of the span for live load. Obviously, on this basis, different spans will deflect different amounts: 1/360 of the span for 20 ft is 0.67 in., but for 60 ft it is 2.0 in.

The hazard is that the architectural detailer preparing the exterior wall details may use the same details for a 20-ft-span project as for a 60-ft-span project. If this happens, chances are the windows will not fit. With long spandrels, the structure needs to be cambered sufficiently to avoid large deflections. Designers must provide adequate tolerance to take the full range of movement; field representatives must make sure that the camber specified is obtained on the job.

Interstory drift. Buildings must be allowed to deflect when the wind blows, otherwise they would be impractical to build.



For cantilevered construction, such as this example, designers must visualize how the structure will deflect and provide for this in the forming of the concrete. For the design shown, the contractor must not only camber the cantilever upward, but must make sure the spandrels are at right angles to the slab. Otherwise, the spandrels will be askew when the supporting shores are removed.

This movement laterally is called "drift" by structural engineers. Generally 0.002H, where H is the height of the building, is a good figure to use for drift limitation. Designed according to this criterion a 50-story building would sway about 1¼ ft.

Codes do not set any limitation on drift because all buldings perform differently. The designer of each building must set the limitation on drift based upon the need to achieve compatibility of the various systems for the building and to achieve comfort for the occupants.

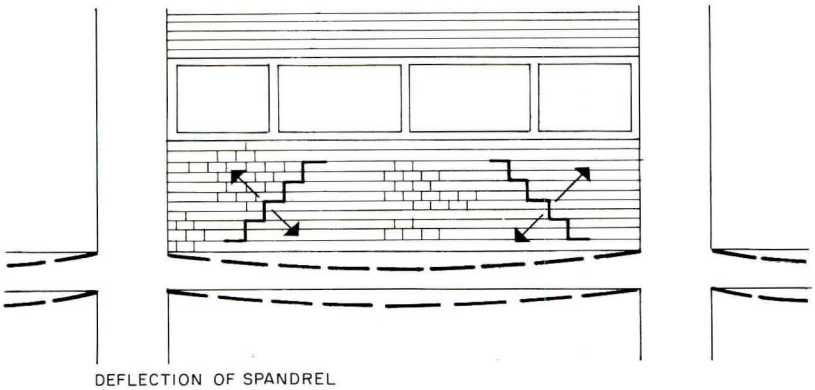
The important consideration from the standpoint of the exterior enclosure system is not total drift, but interstory drift, i.e., the amount one floor moves horizontally relative to the floor above or the floor below. For a typical 12-ft 6-in. floor-to-floor height, the allowable interstory drift amounts to between ¼ and ⅜ in. This is the number that should be specified to alert the exterior wall manufacturer to how much movement may occur. If, however, one story in the building has a 25 ft floor-to-floor height, the interstory drift will double and be from ½ to ¾ in.

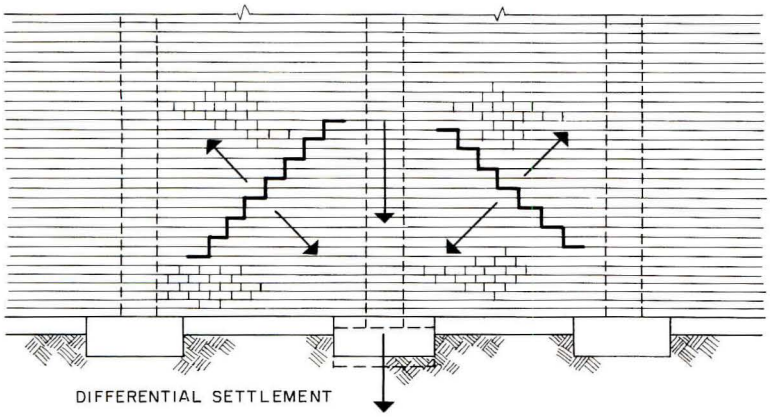
Some buildings, because of their shape, will not only deflect laterally under wind load, but may twist (torsion) as well. Even symmetrical buildings may twist because of unsymmetrical wind loads that result from adjacent buildings blocking the wind. For a symmetrical building with a symmetrical wind-resisting system, the torsional movements are usually small. But for long, narrow plan shapes and unsymmetrical buildings, the torsional motions can be as much as, or more than, the lateral drifts. Lateral and torsional drifts must be added to establish interstory drift.

Lateral movement also occurs with seismic loads. While it is possible to prevent wind damage in a well-designed building, it is not possible to avoid some minor damage during an earthquake of some severity. Attention to the design of connections between the exterior wall and the structure is of paramount importance in high-wind and seismic zones.

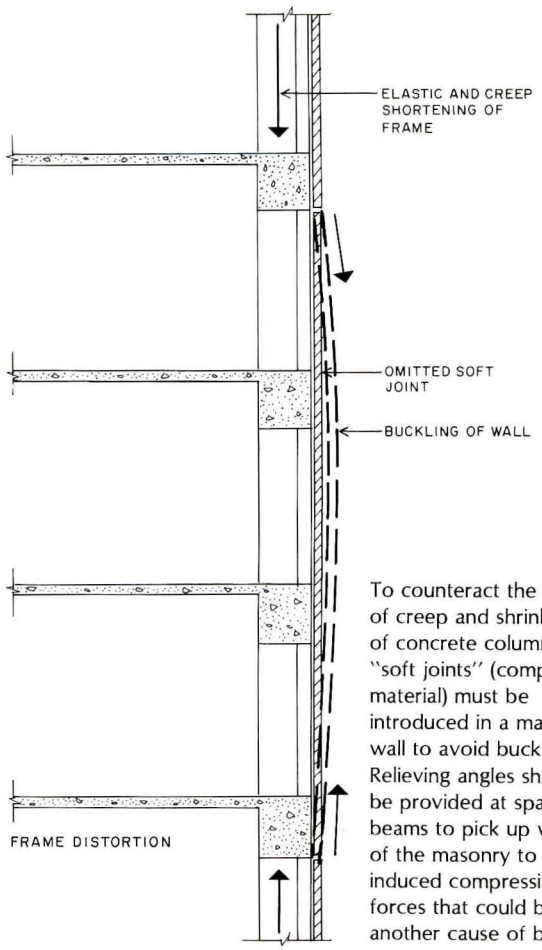
Wind pressures on exterior walls. While wind loadings prescribed in codes are adequate generally for the design of structural frames, they often are inadequate for the design of exterior enclosures. Not only high-rise buildings, but medium-rise and low-rise buildings in unusual exposures can be subjected to significantly higher wind pressures than predicted by local codes. Recent wind-tunnel studies on some major buildings have indicated that wind pressures on exterior walls can exceed code-specified pressures by factors as high as 3. And even though structures designed according to code wind loadings are adequate for strength, when wind pressures on the curtain wall are higher than

"With thermal movement, the basic rule is: don't try to restrain it, but let it happen. Thermal movement impeded can destroy a structural component."





If a spandrel beam is not designed to limit deflection, or if sufficient camber is not built into it, a masonry wall supported by the beam will crack in the familiar "step" pattern because the wall cannot "arch" over the span. A similiar situation occurs with grade beams when differential settlement occurs with footings and the wall deflects.



To counteract the effect of creep and shrinkage of concrete columns, "soft joints" (compressible material) must be introduced in a masonry wall to avoid buckling. Relieving angles should be provided at spandrel beams to pick up weight of the masonry to avoid induced compressive forces that could be another cause of buckling.

the designer specifies, the amount of drift will be greater than anticipated.

Thermal movements. These involve the enclosure system in two ways. First, there is thermal movement and resulting stress within the exterior enclosure system. Second there is thermal movement of the structural frame.

With thermal movement, the basic rule is: don't try to restrain it, but let it happen. Thermal movement impeded will destroy the structure or component.

Thermal variation over the surface of a building sets up variations in stress distribution and displacement of the enclosure. With certain heat-absorbing and heat-reflective glasses, for example, variation in thermal loading over individual lights of glass can induce significant stresses to break them. With masonry walls, thermal changes can cause failure if sufficient control or expansion joints are not included.

With concrete, designers must anticipate column shortening to avoid buckled walls

Creep and shrinkage are phenomena peculiar to concrete structures that result in deformation and movement of the structural frame. Designers need to provide adequate "soft-joint" and expansion-joint capability in masonry walls to avoid buckling failures when the columns shorten from elastic deformation, and from shrinkage and creep over time. In a sense, a concrete structure remains a "live" structure for the first five years. It is difficult for engineers to predict exactly how much creep or shrinkage will occur because of wide variation in materials used and weather conditions, but the range of creep and shrinkage is known based upon long-time experience.

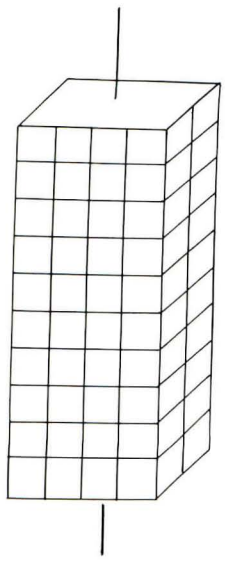
In high-rise buildings, masonry walls should be supported by sufficient relieving angles at spandrel beams (usually every other story) to avoid excessive compressive forces being induced that could also result in buckling of the masonry. "Soft joints" comprise a compressible material placed on the masonry below the relieving angles.

Steps that can be taken to minimize the effects of creep and shrinkage include: special attention to the composition of concrete mixes, to procedures for placing concrete, and to quality control on the job. Furthermore, designers can write schedules into the specification so that installation of non-structural enclosure systems is delayed until initial creep and shrinkage have occurred.

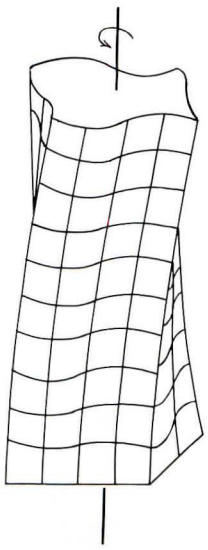
Settlement causes more problems with masonry walls than ductile skins

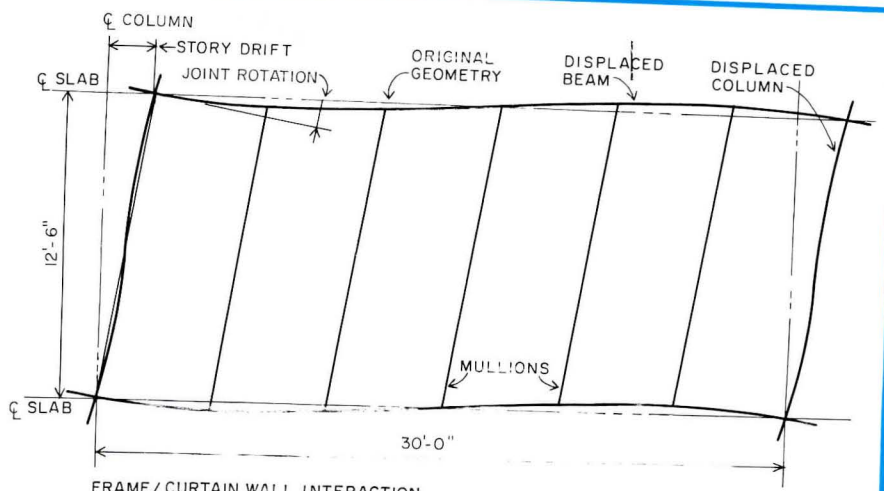
For the most part, problems with building walls resulting from differential settlement of foundations can be avoided through proper design. The classic "staircase" or step-type

"Recent wind tunnel studies indicate that wind pressures on exterior walls can exceed code-specified values by factors as high as 3."

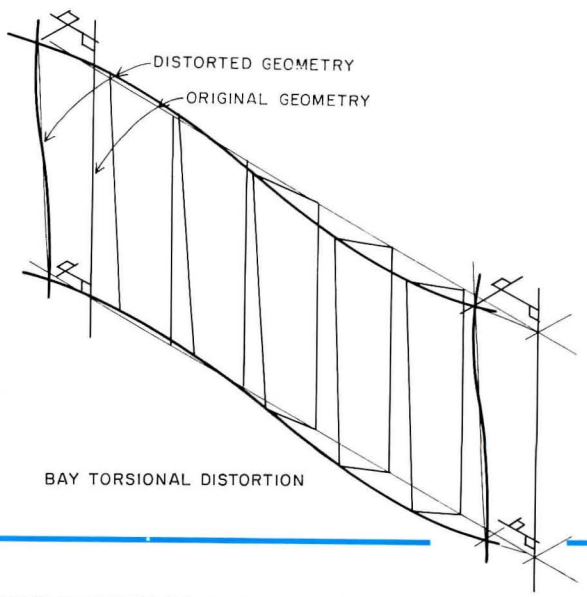


BUILDING TORSION





FRAME/CURTAIN WALL INTERACTION



BAY TORSIONAL DISTORTION

Deflection of buildings caused by wind, called drift by structural engineers, needs to be considered in the design of curtain walls. The movement of one story relative to another, known as interstory drift (right, top), is important information for the curtain-wall manufacturer. Some buildings not only bend in the wind but twist, as well. The distortion from torsion must be added to the lateral movement (right, bottom).

racking one sees in masonry walls is a direct esult of differential settlement and inade- uate provision in the detailing of the wall to andle it. Vertical control joints shorten the istance a masonry wall spans (arches). Exces- ve spans result in cracks if a footing settles. Of course, proper soils analysis and footing esign are imperative.

The amount of differential settlement cceptable for a building depends on the articular structural and architectural solu- ons. When differential settlement is un- voidable, either a lightweight or a flexible kin can be used, or special detailing in the astening or jointery can be introduced to low differential settlement to occur.

Expansive clays, such as occur in the outh and Southwest, can cause wall prob- ems if they underlay slabs on grade and rade beams. When these clays change mois- ure content, they expand or contract, caus- ing differential settlement or heaving of the subgrade. If provisions are not made in the enclosure wall to compensate for this, failure of the wall can occur.

In northern climates frost heaving of grade beams and slabs on grade can cause distress in the exterior wall, glazing and masonry systems.

Choice of method for anchoring enclosure depends on behavior of the structure

If the structure is flexible and will have large distortions under wind load, then the anchorages between enclosure and structure must be flexible enough to accommodate the movement without destructive forces being induced into the enclosure. If, on the other hand, the exterior wall contributes to the over-all lateral stiffness of the building, then the connection between enclosure and structural system should be less flexible to allow transfer of forces.

For example, in a high-rise building with a structural steel frame and a lightweight glass wall, the wall should float and not absorb any load. On the other hand, a bearing-wall structure should be attached rigidly to the exterior wall to allow the wall to resist lateral forces. Other building systems require "middle-of-the-road" approaches for anchorage. Some structures require mobilization of the exterior wall only to a certain degree. In this case, semi-rigid anchorage systems should be utilized.

The jointing pattern for exterior enclosure systems is very much affected by the anchorage system. The amount of structural movement must be coordinated with the tolerances in the jointing system between panels. One of the most prevalent errors is inadequate tolerances in the jointing system between panels or components.

For more information, circle item numbers o
Reader Service Inquiry Card, pages 165-166

Voice and data transmission with computerized system

This single communications network offers simultaneous transmission of voice and data. The Lexar Business Exchange (LBX) is a computerized, digital, private automatic branch exchange composed of hardware and software modules. Simultaneous transmission is achieved by mixing digital signals from interconnected (by only two pairs of wires) desktop electronic telephone and terminal. The heart of the system is a central equipment cabinet, which can handle up to 450 telephones and 450 terminals or computers. If office requirements expand beyond that capacity, another control cabinet is simply installed next to the original, and there is no need for altering or rewiring the central equipment. ▪ United Technologies, Building Systems Group, Hartford, Conn.

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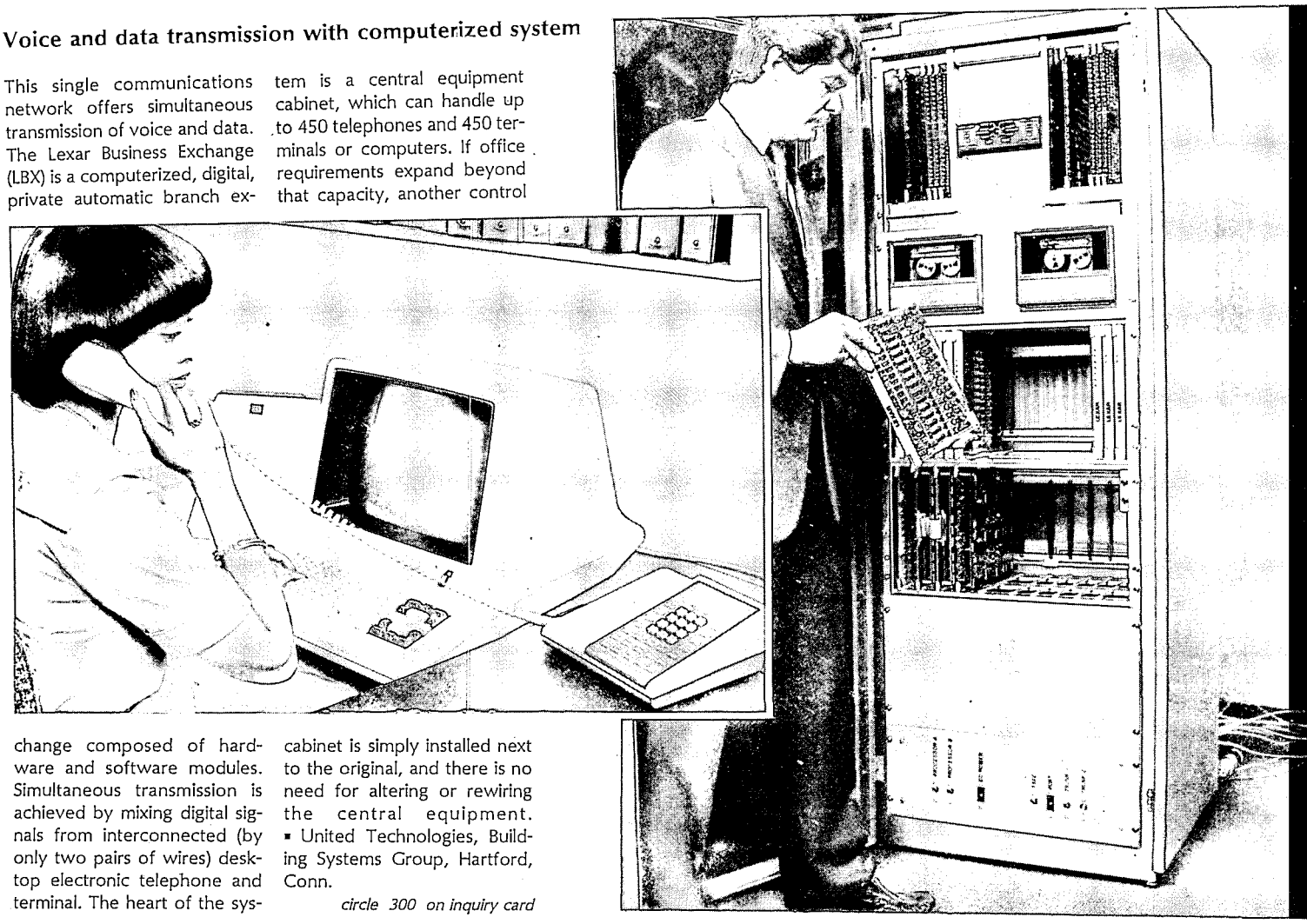

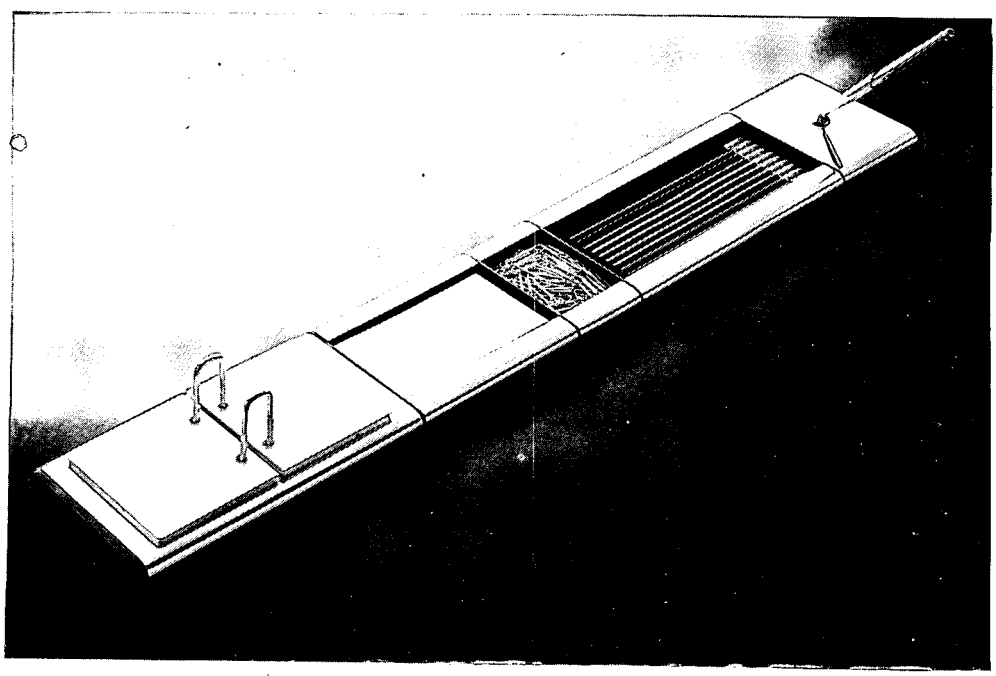

High-quality desk accessories added to Radius line

Designed by William Sklaroff, the "Radius Two" desk accessory line is a smaller scaled version of his "Radius One" design. Sleekly styled, the unit provides calendar, three storage compartments and pen holder. It is presently available in aluminum, brass and bronze, but will also be offered in melamine plastic early next year. While shown in console form, it can also be ordered in individual free-standing units. ▪ Smith Metal Arts Company, Inc., Buffalo, New York.

circle 301 on inquiry card

more products on page 121

HELIOS Soft Shell Structures

Stage coverings are a frequently employed application of tensioned membrane structures. Their soaring shapes and free-span space heightens the spirit of performance and open up new horizons of design freedom.

This stage shelter at the University of Miami, Florida is both beautiful and practical. Besides sheltering the performers, it becomes a dramatic visual accent at night as well as during the day. The structure is fabricated of vinyl-coated polyester material held in tension on a steel framework resulting in a lightweight, rigid structure engineered to withstand heavy winds and rain.

When your imagination calls for visual excitement and graceful curvilinear shape, Helios can help. As the world leader in membrane structures, Helios has the technology and experience to translate preliminary design concepts into workable Soft Shell Structures. We offer a complete design, engineering, fabrication and erection service unmatched in the U.S.

For more information, or assistance with a specific project, call or write: Helios Tension Products, Inc., Dept. A7, 1602 Tacoma Way, Redwood City, California 94063.
Telephone: (415) 364-1770, Telex 345590.

HELIOS TENSION PRODUCTS, INC.
Soft Shell Structures Division

Stage shelter at the University of Miami, Florida
Architect: Todd Jonas, AIA
Photo: © Steven Brooke

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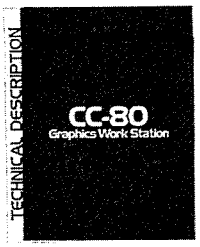
OFFICE LITERATURE



WORK STATION / A 12-page description gives a technical overview of the AD/380 terminal, as well as engineering specifications and architectural features. Also included is a detailed flow chart showing data paths between components. ▪ Autotrol Technology Corp., Denver.

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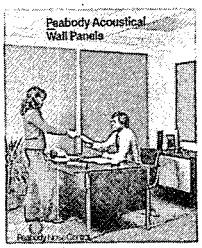

WALL PANELS / Noise control panels in a variety of colors are described in a four-page color brochure. Included are diagrams of how the panel is mounted, ASTM test ratings, and specifications. Also shown are the colors in which the panels are available. Requests for special fabrics can be accommodated. ▪ Peabody Noise Control Inc., Dublin, Ohio.

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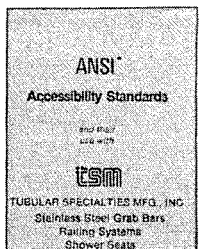

ANSI STANDARDS / A new 12-page pocket guide for the ANSI Standard A 117.1-1980 explains the accessibility standards for barrier-free design. Sections include ramps, stairs, water closets, bathtubs, shower stalls, handrails, grab bars, and tub and shower seats. Over 40 illustrations provide the size and spacing for hardware requirements. ▪ Tubular Specialties Mfg., Inc., Los Angeles.

circle 410 on inquiry card

FLEXIBLE ROOF DRAIN / A system for use on all current types of decking, built-up roofing membranes and single-ply roofing systems is described in a four-page brochure. Charts and illustrations with instructions for installation provide information on roofing accessories. ▪ Johns-Manville, Denver.

circle 401 on inquiry card

MOLDINGS / A 4-page brochure covers Victorian- and Federal-style medallions, a Cornucopian ceiling, moldings and four styles of cornices. Instructions for installation accompany each shipment. Order forms are included in the brochure. ▪ Dovetail, Inc., Lowell, Mass.

circle 406 on inquiry card

ALARM/SECURITY / A 68-page catalog from Mountain West Alarm exhibits over 1,600 alarm and security products. Burglar detectors range from simple magnetic door switches to ultrasonic, microwave and passive infrared units to detect moving intruders. Other products, and basic instructions and diagrams are also included. ▪ Mountain West Alarm, Phoenix, Ariz.

circle 411 on inquiry card

ROOF SYSTEMS / "Non-Residential Roof Systems," a revised 24-page booklet, includes information on structural panels and specifications as well as insulation, wind resistance and insurance rates. Charts specify span and uniform load ratings for various types of panelized roof systems. ▪ American Plywood Association, Tacoma, Wash.

circle 402 on inquiry card

CERAMIC TILE / A 24-page catalog features full-color photographs of tile installations and information on tile shapes, colors and sizes. The complete line of Romany Spartan ceramic tile is detailed with illustrations in color. A specification guide is included, as well as a list of sales representatives and distributors. ▪ U.S. Ceramic Tile Co., Canton, Ohio.

circle 407 on inquiry card

FUME HOODS / This SAMA publication is to enable manufacturers, users, and testing and evaluation agencies to determine whether a representative laboratory fume hood meets the performance and safety requirements as defined. This brochure covers design, materials, use and testing. ▪ Scientific Apparatus Makers Assn., Washington, D.C.

circle 412 on inquiry card

BRONZE REFLECTIVE GLASS / The eight-page color brochure describes the use of this glass to reduce heat build-up and glare. Performance data are given, as well as percentages of light transmittance, indoor and outdoor light reflectance, and U-values for various glass thicknesses. ▪ PPG Industries, Inc., Pittsburgh.

circle 403 on inquiry card

COMPONENT PANELS / A variety of wood-grain patterns are shown in this 8-page color brochure. Panels are available in polyester and phenolic resin systems, which are permanently bonded to an industrial particleboard substrate. ▪ Simpson Timber Co., Seattle.

circle 408 on inquiry card

OFFICE FURNITURE / A 12-page color brochure describes maker's OMNIFLEX system for management and executive areas in both private and open plan offices. Detail photos show such features as the assembly joint between desk and runout, work surfaces, cord openings, drawers and credenza cabinets. ▪ Hoover Universal, Inc., Vernon, Ala.

circle 413 on inquiry card

BRICKPLATE PANELS / For high-rise exteriors, Gail's prefabricated brickplate panels are illustrated in this eight-page brochure. Performance data, fabrication stages, cutaway details and connections are extensively explained with diagrams and four-color photos. ▪ Gail Architectural Ceramics, Rustin, Calif.

circle 404 on inquiry card

TUBULAR SPECIALTIES / This is a 20-page brochure of grab bars, towel bars, shower rods and seats, corner guards, corridor and upright railing systems. Tubing dimensions and configurations are included as well as mounting details and specifications. ▪ Tubular Specialties Mfg., Inc., Los Angeles.

circle 409 on inquiry card

COMPUTER FURNITURE / A four-page color brochure describes the OMNISTATION Word & Data Processing Furniture System. Many units are shown including support stand with turntable, a printer stand, a data cube with sliding shelves, task modules and organizer modules. ▪ Hoover Universal, Inc., Vernon, Ala.

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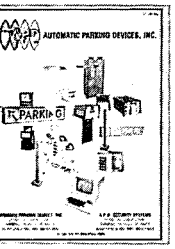

PARKING / A two-page brochure called "Parking Control Systems" features the ARL Card Reader, the G-89 Auto-Gate and the Ticket-Spitter. Diagrams illustrate ways in which components may be used for restricted parking, controlled parking and hourly-rated parking. ▪ Automatic Parking Devices, Inc., Farmington Hills, Mich.

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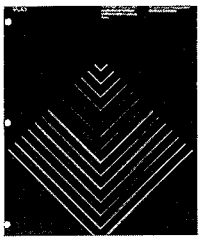

VERTICAL CABINETRY / A 12-page color brochure shows self-contained inter-related units of vertical cabinetry for either an open-plan environment or private executive offices. Available in white oak, black walnut and cherry woods with a variety of oil and lacquer finishes. ▪ Modern Mode, Inc., Oakland, Calif.

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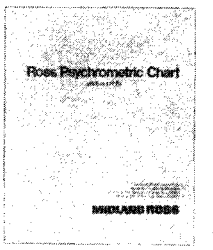

PSYCHROMETRIC CHART / The Ross Air Systems Division of Midland-Ross Corporation has printed a chart for the 40 F to 170 F area. A special chart is included, as well as examples in this four-page folder. ▪ Midland-Ross Corp., New Brunswick, N.J.

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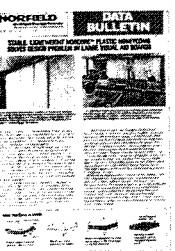

VISUAL-AID PANELS / A one-page data bulletin tells how standard *NorCore* panels, joined, cut to size and faced with lenticular vinyl surface, are used as projection screens and provide selective erasability with watercolors and semi-permanent markers and may be used with magnets. Variety of colors available. ▪ The Fallek Chemical Company, Danbury, Conn.

circle 416 on inquiry card

COMMERCIAL FLOORING / A 20-page catalog contains color illustrations of commercial patterns in vinyl composition floor tile, featuring the "New World Collection" and the "Vinylcraft" series of custom-designed floor tiles. Also included is general information on sizes, gauges, light reflection values. ▪ Azrock Floor Products, San Antonio.

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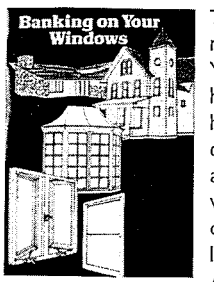

THERMAL WINDOWS / The revised edition of "Banking on Your Windows" is a primer on how houses utilize energy for heating and cooling, how windows affect such energy use, and how thermally improved windows and storm windows can be used to reduce energy loss. ▪ Available at $3 from Architectural Aluminum Manufacturers Association, 35 E. Wacker Dr., Chicago, Ill 60606.

TOILET COMPARTMENTS / A four-page illustrated brochure displays *Marlite*-brand toilet compartment and urinal screens. Elevations, layouts, finish and hardware selections are all included as well as short form specifications. To accommodate the needs of small job contractors, information on their expanded distribution program is also provided. ▪ Masonite Corp, Dover, Ohio.

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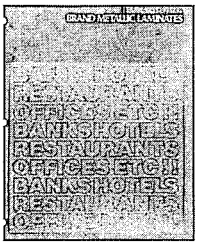

METALLIC LAMINATES / Wilsonart's collection of 17 bas-relief and design surfaces in aluminum and copper are shown in an eight-page color brochure. In addition to the illustrations of each surface are the results of tests made to determine surface resistance, and applications of numerous chemical and organic substances. ▪ Wilsonart, Temple, Texas.

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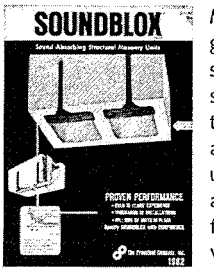

MASONRY / This 1982 catalog gives performance data on sound-absorbing structural masonry units. Included is information on the new 12-in.-thick unit as well as details of each product with sizes, shapes and acoustical data. ▪ The Proudfoot Company, Inc., Greenwich, Conn.

circle 426 on inquiry card

WOOD FURNITURE / The Frederick A. Poisson Edition, a collection of wood office furniture, is displayed in this 16-page color brochure. Standard, secretarial and executive desk shells (crafted from rift-cut red oak veneers and northern red oak solids) are shown in two modesty panel heights and five sizes. Coordinating accessories are also shown. ▪ Halcon Corp., Stewartville, Minn.

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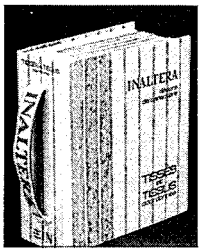

TEXTILE BOOK / *Textile Wallcovering and Fabric Coordinates* features 200 wallcovering patterns and 98 coordinated textile fabrics. The collection is meant to serve both the residential and contract/specifier markets. ▪ IWI Wallcoverings, King of Prussia, Pa.

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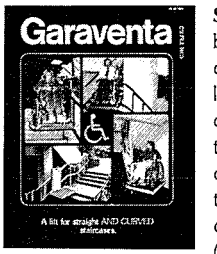
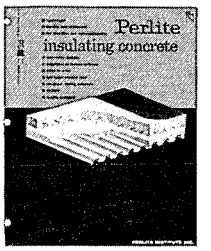


STAIRLIFT / A four-page color brochure provides illustrations of the Garaventa inclined stairlift. Included are an explanation of how the lift works, specifications and a sample of standard colors. A diagram of a 180-deg turnback stairway shows a typical installation. ▪ Garaventa (Canada) Ltd., Surrey, British Columbia, Canada.

circle 427 on inquiry card

PLANK AND PANELING / A 12-page color catalog—developed for interior designers, architects and chain store specifiers—describes *Marlite* brand plank and paneling. Product information is included on all plank products, adhesives, moldings and product specifications. ▪ Masonite Corp., Dover, Ohio.

circle 419 on inquiry card



INSULATING CONCRETE / A new four-page brochure details the properties of *Perlite*'s insulating concrete for roofdeck applications. In addition to properties of the materials, the brochure covers testing, approvals, and applications, and includes a series of tables containing physical properties and weight comparisons to other concretes. ▪ Perlite Institute, New York, New York.

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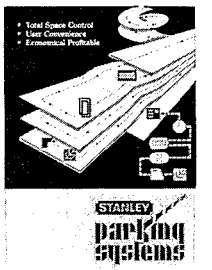


PARKING EQUIPMENT / An eight-page color brochure shows how equipment can be assembled into basic entrance and exit sub-systems, which can then be integrated into total parking lot control systems. It also presents an illustrated description of parking facility equipment available to implement the systems. ▪ Stanley Parking Systems, Madison Heights, Mich.

circle 428 on inquiry card

On your next project, commission a piece of sculpture. Duvinage Stairs.

How do you make your work a true expression of your design philosophy, your judgment, your taste? You can do it with an extraordinary stair, designed by you and built by Duvinage.

It will be crafted with the same standard of excellence required for a piece of sculpture.

It can be spiral, circular or even straight. Railings can be brass, bronze, stainless, birch, oak, teak, mahogany. Treads can be metal or wood or designed to accept carpet, terrazzo or tile. Combine any of these materials into a special stair, as you conceive it.

Duvinage will make it a superb reality.

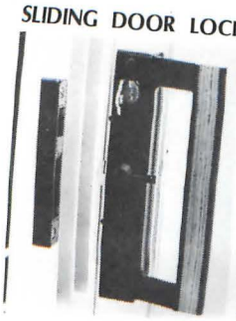
Duvinage has been crafting stairs like works of art since 1895. Write for full details. Duvinage, Box 828, Hagerstown, Md. 21740.

DUVINAGE

State of the Art Stairs since 1895.

Circle 44 on inquiry card

SLIDING DOOR LOCK / Offered as an extra-secure replacement lock for patio doors, the *Sturt* handle features inside/outside locking with a double deadlock. Anti-lift pins prevent the door from being raised and removed from its track. The wood-look trimmed handle is also available with an inside cylinder only. Australian-made Whitco hardware is marketed in over 20 countries, including the U.S. ▪ Whitco Pty. Ltd., Corinda, Queensland, Australia.



circle 302 on inquiry card

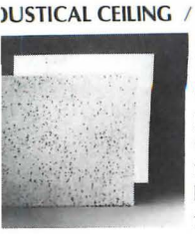
CRYLIC BRICK FLOORING / An acrylic-impregted brick product, *PermaBrick* measures only -in. thick, but offers 60 per cent more breaking ength than ANSI standards specify. Stain-resistant oring may be installed indoors and out, in malls, taurants and homes. *PermaBrick* has a slip-resist- surface, and is available in a variety of red, wn and tan earth-tones. ▪ PermaGrain Prods, Inc., Media, Pa.

circle 303 on inquiry card

OOD FIBER ROOFING / A manufactured wood fiber roofing material, *Woodruf Rustic* has a texture that varies from 3/8- to 9/16-in. in depth. Over a period of months its color changes from a rich, medium brown to a natural light gray. Eco- ical *Woodruf Rustic* has been accepted by the O as an alternative ordinary roof covering, and ound and thermal insulator with an R.45 rating. 12- by 48-in. roofing panels are claimed to ll in 20 per cent less time than standard three shingles, using fewer nails. ▪ Masonite Corp., tral Hardboard Div., Laurel, Miss.

circle 304 on inquiry card

OUSTICAL CEILING / Two new warm-tone colors—toast and ecru—are offered in Conwed's Class A, Natural Fissured II pattern, in either reveal or lay-in styles. Five new fabric colors have also been added to this manufacturer's line of acoustic wall systems and freestanding screens. nwed Corp., St. Paul, Minn.

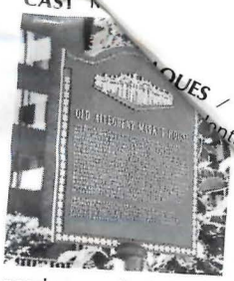


circle 305 on inquiry card

ADJUSTABLE STOOLS / *Royalmetal* swivel and fixed back stools are fully height adjustable, with a circular footrest. Various models have padded or hardboard seats; chair frames are all-welded steel tubing. ▪ Charrette, Woburn, Mass.

circle 306 on inquiry card

CAST [illegible]**QUES** / Commemorative or notifying plaques can [illegible] from camera-to-me[illegible]orating ferred to nesium pa[illegible] produces a final image with the highest raised letters are hand-chased. A variety of methods, in either solid bronze or aluminum, different finishing techniques, border styles and background textures offer almost unlimited design possibilities. ▪ Matthews International Corp., Architectural Div., Pittsburgh.



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more products on page 123

Walls that sing

Belgian Linen Wallcoverings by Croftercraft

Belgian Linen Wallcoverings in an imaginative variety of new textures. Optically enriching. Acoustically enhancing. All have a class A Flame Spread Rating in accordance with the ASTM-E-84 tunnel test.

For a distributor near you, call or write to Croftercraft® 104 West 40th Street New York, New York 10018 (212) 868-6548 (212) 868-6533

Circle 46 on inquiry card

ENTRY TELEPHONE / The microprocessor-based *Identifone* system uses dedicated lines and existing telephones to provide economical and secure visitor identification and entry in condominiums, apartments and townhouse buildings. Different models are available which can handle one to 1000 living units, and from one to 10 separate entrances. ▪ Digital Instruments, North Hollywood, Calif.

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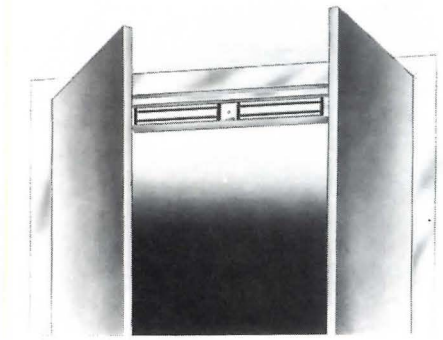

ELECTRIC LOCK / Designed for heavy traffic requirements, the "268 Series" *Powerlock II* has two electromagnets in a single housing for pairs of manual or automatic out-swinging doors without mullions. The unit measures 25-in. long and projects down 2 in. into the door opening, providing over 1000 lb of direct holding force for each door leaf. Options include a built-in time delay and a concealed anti-tamper switch. ▪ Locknetics, Bristol, Conn.

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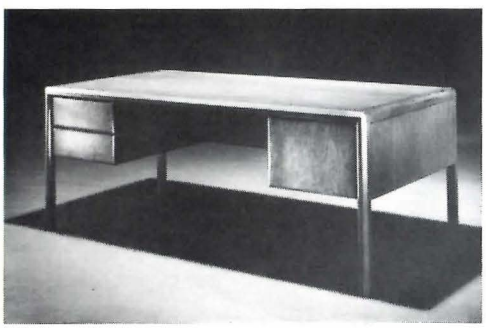

CHERRY WOOD DESK / Part of a new line of office furniture from Modern Mode, this table/desk features a chamfered edge. Constructed of cherry wood finished in a deep lacquer, the desk measures 36- by 67-in. Double pedestal or cube style desks are also available, as well as executive and secretarial return units, credenzas and a variety of lateral files and storage units. ▪ Modern Mode Inc., Oakland, Calif.

circle 310 on inquiry card

ITALIAN TILES / The large 13- by 13-in. size of "Ginerva" series Italian ceramic tiles by Cisa offers faster, lower cost installation. Set in blocks of four, as shown, the beige and biscuit tone tiles form a bold floral and geometric pattern. ▪ Italian Tile Center, New York City.

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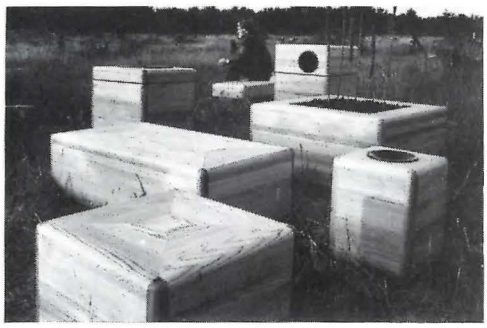


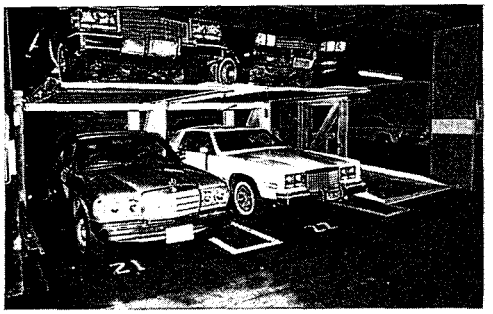
SITE FURNITURE / Constructed of Red Oak, the "Silhouette Group" of seating units, planters, litter receptacles and ash urns features edges and corners cut to a large radius. A fiberglass lining is permanently bonded to the wood shell during manufacture for strength and watertightness. ▪ Landscape Forms, Inc., Kalamazoo, Mich.

circle 312 on inquiry card

WALL BRACKET / Paul Mayen's "Linear Incandescent" light has a 3-in.-dia extruded housing cantilevered 9 in. from the wall on a single rectangular arm. The fixture takes two 60-Watt T10 lamps, and is finished in polished chrome or brass, satin bronze, gloss red, yellow or white. ▪ Habitat Inc., New York City.

circle 313 on inquiry card

more products on page 125



DOUBLE-DECK PARKING / The Space-O-Matic vertical parking machine stores two vehicles in the space formerly needed for one, doubling car capacity at a fraction of the cost of new construction. Standard units require an unobstructed ceiling height of 11½-ft. A push on the control lever causes the platform to raise hydraulically and lock mechanically in 15 seconds; a second car can then be parked under the platform. ▪ Space-O-Matic Inc., Marina del Rey, Calif.

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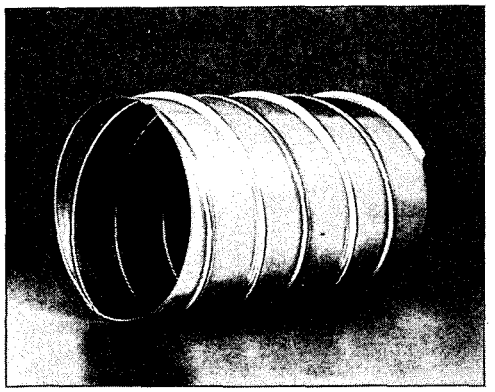

DUCTWORK / Light-gauge *Uni-Rib* duct has received a UL fire hazard classification of zero, indicating that the duct posed no hazard in all tests related to fire, smoke and burn resistance. In additional tests for puncture, impact, erosion, pressure and leakage, *Uni-Rib* duct met all UL-181 test standards. Offered in diameters from nine through 60 inches, *Uni-Rib* comes in round and flat oval configurations, in both double-wall, insulated and single-wall designs. ▪ United Sheet Metal, Westerville, Ohio.

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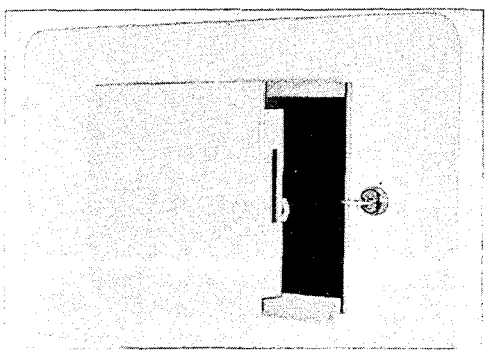
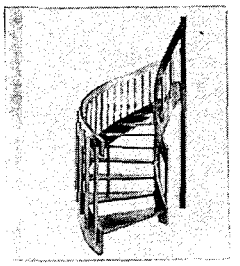


CONCEALED SAFE / Made of heavy-gauge steel and secured by a UL-listed drill-resistant *Medeco* lock, this in-the-wall safe fits flush between the studs without protruding into the next room. It is large enough to accommodate a fair quantity of jewelry, keys, firearms, etc., and can be easily concealed with pictures, draperies, or clothes in closets. ▪ Technology House, Warren, N.J.

circle 316 on inquiry card

CIRCULAR STAIRCASE / An all-wood interior stair with an outer circumference of 8-ft 6-in., space-saving circular staircase is offered in oak, teak, mahogany or walnut, factory-stained and lacquered. Or, the custom-made stair may be delivered to the job site unfinished for exact match to existing woods. Suggested applications include duplex condominium apartments, town houses and offices occupying more than one floor. ▪ Levolor Lorentzen, Inc., Lyndhurst, N.J.



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ANTI-GRAFFITI / Wood, concrete, stone and metal can be protected from permanent defacement by markers, paint and other graffiti with a two-part system. First, a clear anti-graffiti coating is applied with a brush or roller. Any subsequent markings, spray paint, etc. are easy to remove using a special compatible solvent, wiped or sprayed on, removing the graffiti without harm to the coated surface. ▪ Graffiti Control Systems, Inc., Tempe, Ariz.

circle 318 on inquiry card

Exterior tube, composite steel frame proves most efficient for wind resistance.

Typical tower floors contain 22,000 sq ft of net rentable space. Structural rigidity is gained through the use of composite steel columns and spandrels. Steel construction contributed to speed of erection and overall efficiency of the frame.

Each level of the 106-ft-high bank is stepped back 15 ft as it rises to its full height.

Credits:

Owners/Developers: Gerald D. Hines Interests, and PIC Realty Corporation, Houston, Texas

Architects: Skidmore, Owings & Merrill, San Francisco, Calif., and 3/D International, Houston, Texas

Structural Engineer: CBM Engineers, Inc., Houston, Texas

Mechanical, Electrical, Plumbing Engineer: I. A. Naman & Associates, Houston, Texas

Fabricator: Mosher Steel Company, Houston, Texas

General Contractor: W. S. Bellows Construction Corporation, Houston, Texas

Steel Erector: Peterson Brothers Steel Erection Co., Houston, Texas

POSITIONS WANTED

Architectural Project Designer/Manager — 20 years comprehensive diversified experience including: industrial, institutional, food processing, seeks leadership position on professional design team. Prefer Mid-West or would relocate West Coast Of Florida. PW-5173, Architectural Record.

FACULTY POSITIONS VACANT

Dean, College of Architecture, Arizona State University — Arizona State University invites applications or nominations for the position of Dean of the College of Architecture. ASU, a major, urban research university located in the Phoenix metropolitan area, consists of 11 colleges with a total student enrollment of 38,590. The College includes the academic departments of Architecture, Design Sciences, and Planning offering graduate programs in Urban and Regional Planning, Architecture, and Energy Planning and Technology; and undergraduate programs in Interior Architecture, Industrial Design, Housing and Urban Development, Urban Planning (including Landscape Architecture), and Architecture. There are 70 faculty members, including 30 part-time faculty. Enrollment in the College is currently 1,032 students. The Dean is responsible for promoting research, teaching, and service excellence, managing financial resources, and representing the College within the University and in the community. Candidates should possess an advanced degree or equivalent professional qualifications in one or more of the fields represented in the College. It is expected that applicants will have previous administrative experience and have demonstrated professional and/or leadership. The preferred starting date is July 1, 1982. Salary is competitive. Nominations and self nominations are encouraged. To insure consideration a letter of application, resume, and names of at least four references should be received by January 5, 1982. Send nominations and applications to Dr. Mathew J. Betz, Chair, Dean Search Committee, Office of the Academic Vice President, Arizona State University, Tempe, AZ 85287. ASU is an equal opportunity, affirmative action employer.

The University of Maryland School of Architecture is seeking teacher-architects at the rank of assistant or associate professor for several open positions on the design faculty. The School is interested in persons committed to excellence in the realization of architectural concepts and to the advancement of environmental ideas through teaching, writing, and practice. The School is seeking persons to teach one studio course and one additional course per semester; some administrative work will also be expected. The ability to teach courses in the following areas will be given special preference: construction, professional practice, site design, and visual analysis. The positions open in August, 1982. Applicants who have professional experience, hold a Master's degree, and have professional registration in hand or actively in progress will be given preference. Applicants should send resume and brief illustration of work to Ralph Bennett (Chairman, Design Faculty Search Committee) School of Architecture, University of Maryland, College Park, Maryland, 20742, before 15 February 1982. The School of Architecture has an active practice-oriented faculty, and is at the center of the architecturally and culturally-rich Washington, D.C. and Baltimore metropolitan area. The University of Maryland is an equal opportunity employer, and is interested in female and minority applicants.

University of Maryland Dean Of The School Of Architecture — The University of Maryland at College Park is seeking a Dean for the School of Arcitecture to be appointed July 1, 1982. Applicants must have academic and professional qualifications that will satisfy the requirements of a tenured appointment. The School is presently moving from a five year B.Arch. program to a 4 + 2 program (B.S. in Architecture/M.Arch.). In addition, the School offers a 4 year B.S. in Urban Studies as well as a second professional degree (M.Arch.). The School has approximately 280 students and a faculty of 27. Send vitae and names of three references to Dr. Robert E. Menzer, Chairman, Search Committee, Division of Arts and Humanities, University of Maryland, College Park, Md. 20742. The closing date for applications is January 15, 1982, extended from the earlier announced date because of administrative difficulties. The University of Maryland is an equal opportunity/affirmative action employer; women and members of minority groups are encouraged to apply.

Rice University seeks one full-time Assistant Professor to join the School of Architecture faculty, Fall 1982. Teaching responsibilities include a design studio, plus at least one lecture course in the field of the faculty member's specialty. Candidates should hold a Master of Architecture degree from an accredited institution and have had prior teaching experience. Application deadline 1 February 1982. Contact Search Committee, School of Arcitecture, Rice University, P.O. Box 1892, Houston, Texas 77001. An equal opportunity/affirmative action employer, M/F.

Faculty of Engineering Department of Architecture Yarmouk University, Irbid — Jordan. New Faculty teaching and studio-conducting positions at all academic levels created in all fields of architecture and planning. Positions available for Feb. 1982 and Sept. 1982. Prerequisites: Practical and/or teaching experience. Salaries: Competitive. Benefits: Furnished accommodation at reasonable rent. Health plan and life insurance. Airfare to and from Jordan for husband, wife and children under eighteen at the beginning of contract and after termination of services, respectively. Ten weeks of holidays, nine of which during the summer. Language of instruction is English. Send complete curriculum vitae, address and telephone numbers to: Dean of Engineering, Yarmouk University, Irbid — Jordan.

Faculty Positions (2) — Teach architectural delineation and design, or design. Start 9/82. M.Arch as a second professional degree or equivalent required. Teaching and/or professional experience required. Rank/salary commensurate with qualifications. Resume, portfolio, 3 references to: School of Architecture, Montana State Univ., Bozeman, MT 59717. Deadline 3/1/82. AA/EOE.

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PROFESSIONAL SERVICES

ARCHINFORM LICENSING EXAM STUDY AIDS

MATERIALS WANTED

Wanted: Photographs or perspective rendering houses that can be made available for plan sales. 500,000 circulation offers good royalty to architect. Write Country Living Magazine, Box 622, Princeton, New Jersey 08540, 609/924-9655.

COURSES

ONE YEAR PROFESSIONAL POSTGRADUATE QUALIFICATION IN URBAN & REGIONAL PLANNING

Situates physical and spatial aspects of the environment and planning within socio-economic context at urban, regional and national levels, utilizing a comparative focus on advanced, developing and socialist countries. Courses include: Third World Urbanization, National and Regional Development Planning; Planning Techniques; Computers; Third World Housing; Labour, Employment and Economic Development; Project Appraisal Planning; Political Economy of Cities and Regions; Urban Design and Energy Planning. Course starts in October; applications accepted through September; 2 year M.Phil research option possible. For prospectus write to:

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Architectural Association
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London WC1B 3ES

FOR SALE

SLIDING DOORS: Available from Estate in Erie, Pa: Eight Quarter Sawn Oak Pocket Doors, 42½ Inches Wide, 8 Feet High 2¾ Inches Thick; Wheels surface mounted (mortised) on top rail, grooved out to ride on floor guide; raised panels 12 inch by 16½ inch not on inside of moulding. Also four pieces Oak Paneling approx. 4 x 4 Ft., 1 inch thick. Local thickness. Vance N. Wilson, 4310 Wildwood Lane, Rockford, IL 61103, Phone 815/963-6130 or 815/544-6470. (Bus.)

BUSINESS OPPORTUNITIES

Architectural Firm interested in merger or acquisition, 20 years, strong education, military, retirement, steady comm'l & res, some overseas. Principal stay part time Southern Calif. Reply BO-5172, Architectural Record.

OFFICE NOTES

POSITIONS VACANT

Foodservice Facilities—Prominent Foodservice Consulting Firm in Southwest seeking architecturally-oriented persons with experience in commercial/institutional facility design, utilities requirements and specifications. Challenging growth opportunity in specialty discipline for persons with ambition and high quality standards. Reply with resume, photo and salary requirements to: P-5292, Architectural Record.

Hospital Architect — National firm has opportunity for registered Architect in St. Louis headquarters. Candidate must have 3 years' recent experience in health care field with emphasis on hospitals and must have prior experience in total project management, the ability to establish program requirements, develop initial design concepts and work closely with clients and regulatory agencies. We offer a competitive salary and comprehensive benefits. Send resume detailing education, experience and income history in confidence to: Personnel Department, BBC Health Care Facilities, A Division of Bank Building Corporation, 1130 Hampton Avenue, St. Louis, Missouri 63139. An Equal Opportunity Employer M/F.

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Offices opened

Mi/Kunihiro Partnership Architects announce the formation of their new firm located at 230 South Atlantic Boulevard, Alhambra, California.

Rossetti Associates has formed a new partnership with the Detroit-based space planning and interior design firm of Ford & Earl Design Associates. The new organization will be called Rossetti/Ford & Earl.

The Luckman Partnership, Inc. announce the opening of its Denver office, with Peter De Francisci named as director.

Firm changes

ADD Inc., announce the appointment of four corporate vice presidents: Michael E. Hallor, Michael S. Hass, Michael E. Hickok and Schuyler G. Larrabee.

Maurice Kurtz has been named director of planning at ArchiSystems International, Los Angeles-based architectural, planning firm.

Elia Attia, AIA and Bradford Perkins, AIA, AICP announce their partnership under the name of Attia & Perkins Architects PC.

Raymond H. Martin has been named executive vice president of CRS, Inc.

Charles Warren Callister and James Bischoff announce the inclusion of their colleague David K. Gately in the firm's name, Callister, Gately & Bischoff.

Campbell & Wieland, Inc. announce the addition to their staff of Jerald S. Claywell as group leader, mechanical/electrical, and John J. Zebas as structural designer.

Chaix & Johnson announce the appointment of Miloyko Lazovich to the newly created post of executive architect in the design-oriented firm's expanding architecture department.

Dames & Moore elected nine new partners. They are: Wayne J. Costley, William J. Gordon, Mei-Ban Lo, Larry T. Murdock, Derek J. Steele, Kenneth J. Stimpfl, John P. Trudinger, Richard C. Tucker and Paul R. D. Wilkinson.

Former Delaware Governor, Sherman W. Tribbitt has joined Diamond/McCune, Architects & Engineers as a vice president.

Huygens and DiMella has named two new associates in the firm. They are David Carter and Harold W. Tarkington.

John E. O'Brien, AIA, president of the O'Brien Corporation, Architecture & Planning, announced the addition of John V. Nyfeler and Tony L. Callaway as new principals. The new firm name is O'Brien/O'Brien/Nyfeler/Callaway Architecture and Planning.

KPFF Consulting Engineers have promoted Grant L. Davis to principal.

Harry W. Skinner has become a partner at Shainin & Associates in charge of architectural services.

Hugh Stubbins and Associates, Inc., Architects/Planners appointed Mary E. Guinan an associate in the firm.

The Ratcliff Architects named Christopher P. Ratcliff as a principal and vice president in the firm.

New addresses

Melton Henry/Architects announce that the firm's new address is 2 Post Oak Central, 1980 Post Oak Boulevard, Suite 1170, Houston, Texas.

Haines Lundberg Waehler announce the relocation of their New Jersey offices to 287 Childs Road, Basking Ridge, New Jersey.

Keith Brown Associates Architecture/Interior Design and Planning have moved their offices to 724 Pine Street, San Francisco, California.

SEMI-ANNUAL INDEX

ARCHITECTURAL RECORD. Published by McGraw-Hill, Inc., 1221 Avenue of the Americas, New York, New York 10020.

VOLUME 169
JULY-DECEMBER 1981

Readers using the index will find buildings entered in three ways: by architect's name, by building's or owner's name, and by building type (banks, hospitals, schools, etc.) ABBREVIATIONS: AB—Architectural Business; AE—Architectural Engineering; BA—Building Activity; BTS—Building Types Study; LP—Legal Perspectives.

CalComp IGS: When all you need is more creative time.

Computer-aided design systems can give you more time to devote your full energies to creative, conceptual designing. It's no wonder many architectural firms — small and large — are turning to CalComp Interactive Graphics Systems (IGS) as an economical means to unplug bottlenecks and increase productivity in the drafting cycle.

The CalComp IGS can help you get the most from your creative and drafting operations. By automating the placement of often-used symbols, text or entire drawing segments, the CalComp IGS completes edits and revisions quickly, efficiently, accurately. Hardcopy pen and ink drawings are completed readily with the CalComp system plotter.

The time savings can result in productivity increases of at least seven times over manual drawing operations. Finished drawings are computer accurate. Schedules are computed and printed to your specifications directly from the data on your final drawing. Errors and omissions are virtually eliminated. Drawing for drawing, production costs are reduced dramatically.

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Hartco. Best cost per foot.

Hartco® Acrylic Impregnated Solid Oak Parquet costs a little more than carpeting in the beginning. But long after all those footsteps have worn a path and your client has paid to have that carpeting replaced and replaced, Hartco is still beautiful. Which means it's less expensive in the long run—perhaps the least expensive floor you can specify.

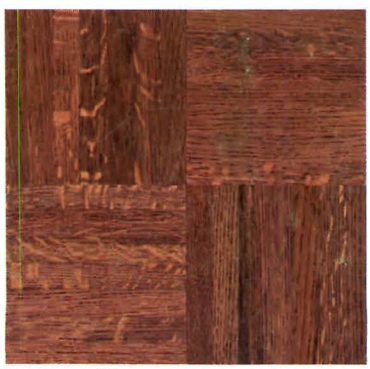
Tough acrylic is forced deep into the pores of the oak to make an exceptionally hard surface that will endure, even in high-traffic commercial installations. And the stain goes all the way through the wood, so the color won't wear off.

Hartco is easy to maintain. Easier than carpeting that must be shampooed. And easier than other wood floors that must be waxed and refinished. All it takes to keep this floor beautiful is vacuuming, spraying with our commercial-grade Spray Shield and buffing.

1/16" foam backing

And it's fast and easy to install. Hartco is completely factory-finished so there's no on-site sanding, staining and finishing. Each 12" square has carefully tapered tongues and grooves and is crafted to 9/1000" tolerance for a smooth, even fit.

Cambridge color



Chesapeake color

Hartco is 100% Appalachian oak—an oak that's exceptionally hard due to the climate and soil in which it grows. And it's 80% quartersawn for longer wear, greater dimensional stability and a more distinctive grain pattern.

Plus Hartco is the only impregnated oak available with a 1/16" foam backing to insulate, add comfort underfoot and to act as a superior sound and vapor barrier.

When your design calls for a natural, beautiful, cost-efficient floor, specify Hartco Impregnated Solid Oak Parquet. Even though it costs a little more by the square yard. By the footstep, it's dirt cheap.

For more information, phone our Technical Services Manager at 615 569 8526, or write Tibbals Flooring Company in Oneida, Tenn. 37841. Or refer to Sweet's No. 9.22/Ti.

Solid Oak Parquet Flooring

Hartco

TIBBALS FLOORING COMPANY, ONEIDA, TN 37841

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