NEW HAMPSHIRE COLLEGE IN MANCHESTER BY HUYGENS AND TAPPÉ

CROWN CENTER: EXPERIMENT IN PRIVATE RENEWAL OF THE CITY

THE NEW CHINA: A SOCIETY—AND ITS ARCHITECTURE—IN TRANSITION

BUILDING TYPES STUDY: A RETURN TO HUMAN SCALE IN CAMPUS DESIGN

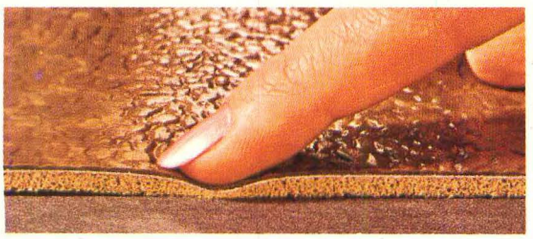
ARCHITECTURAL ENGINEERING: CONCRETE FORMING TECHNIQUES FOR HIGH-RISE HOUSING

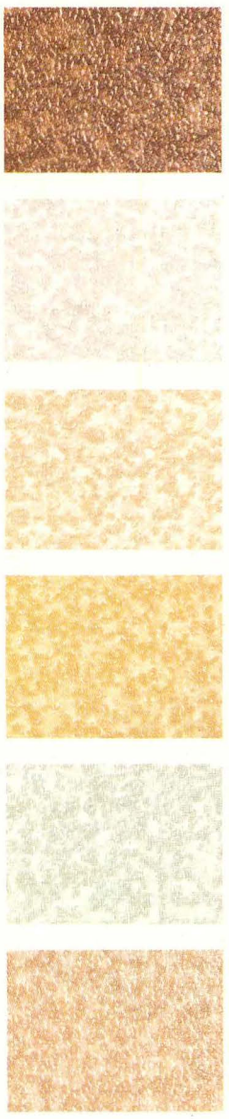
FULL CONTENTS ON PAGES 4 AND 5

ARCHITECTURAL RECORD

OCTOBER 1973 10 A McGRAW-HILL PUBLICATION THREE DOLLARS PER COPY

A floor that's practical, quiet, and comfortable can also be beautiful. Quiet Zone™ proves it.





What's so practical about Quiet Zone?

A heavy-duty wear layer of Vinyl Corlon® stands up to heavy-duty traffic. We've even reinforced it with a tough layer of glass-fiber-reinforced vinyl to resist impact damage. And virtually non-porous vinyl has excellent stain resistance. Spills wipe right up. That's what's so practical about Quiet Zone.

What's so quiet and comfortable about Quiet Zone? Look at the inset picture. A 125-mil-thick backing of foam vinyl helps to muffle the sounds of footsteps and falling objects. It makes standing and walking more comfortable. But it isn't *too* soft, either. Seams stay sealed, and moveable furniture moves easily on it.

OK, fine. Now what's so beautiful about it?

Quiet Zone's new Grand Central design blends nicely into practically any decor. It is richly textured and comes in an appealing selection of colors. What's more, it helps disguise seams, subfloor irregularities, dirt, and traffic marks. That's the beauty of Quiet Zone.

Quiet Zone. So soft and quiet you wouldn't think it's vinyl. So tough and long wearing you know it has to be.

FROM THE INDOOR WORLD® OF

Armstrong

For more data, circle 1 on inquiry card

For more information on Quiet Zone, write Armstrong, 304 Rock Street, Lancaster, Pa. 17604.

Quiet Zone™ VINYL CORLON®

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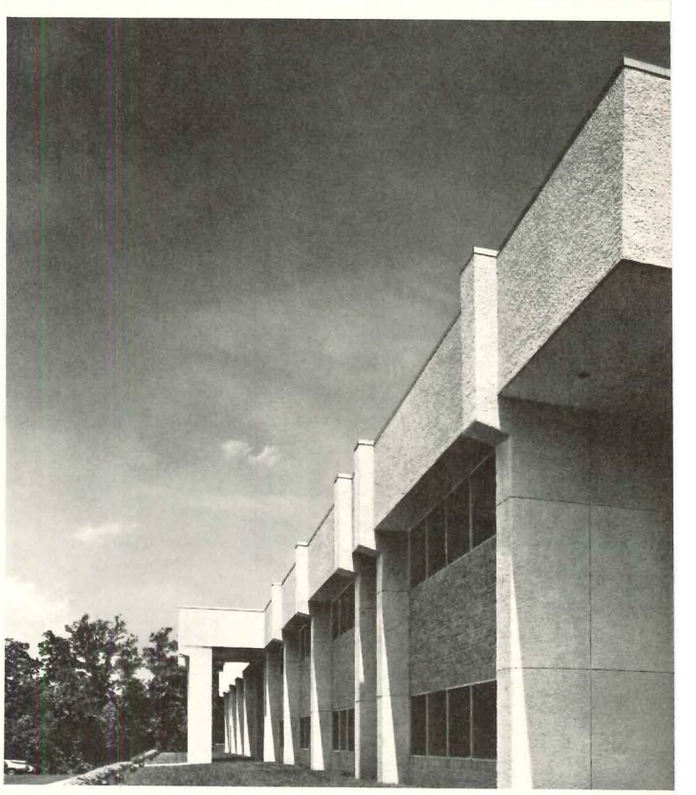
COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

What makes these ceiling systems right for this job?



The way they bring high-quality lighting and noise quieting to a precision manufacturing operation.

Top-notch working conditions were high on the list of facility requirements when Vega Precision Laboratories built their new plant for design and manufacture of radar-related products. An imaginative use of Armstrong Luminaire Ceiling Systems met stringent lighting and noise-reduction specifications.

For the design, engineering, production, and assembly areas, footcandles of 125 and 160 are maintained, depending on the illumination requirement of the space. The ceiling system is Armstrong C-60/30 Luminaire, chosen for its design flexibility and high-quality, efficient lighting.

With this ceiling system there's no sacrifice in sound absorption. The panels in the coffered units provide a noise-reduction coefficient equal to that of the flat 60″ x 30″ modules.

The dramatic C-60/60 Luminaire System, with 2′ x 2′ recessed troffers and a border of Armstrong Travertone™ tile (Sanserra design) added design interest in the auditorium and stairwells.

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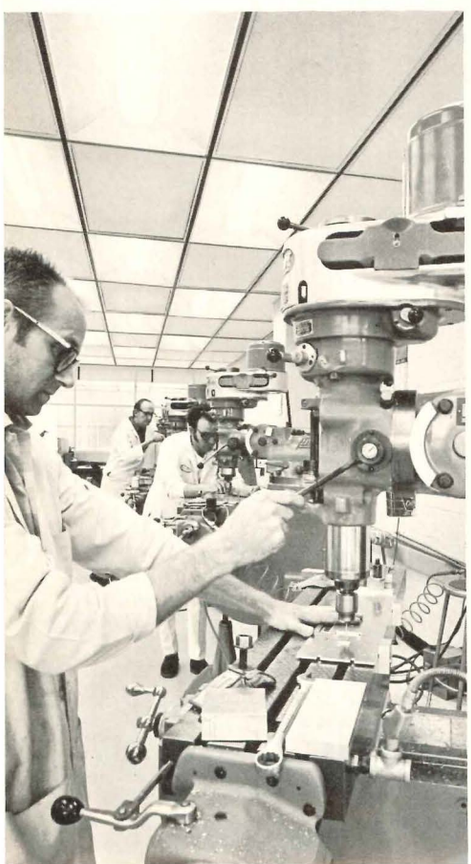
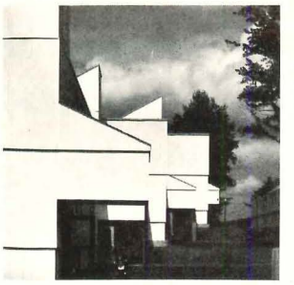
ARCHITECTS: Barkley-Pierce Associates, Falls Church, Virginia
GENERAL CONTRACTOR: Edsall Corporation, Springfield, Virginia
MECHANICAL CONTRACTOR: Calvert-Jones Co., Inc., Arlington, Virginia
ELECTRICAL CONTRACTOR: Bee and H Electrical Co., Fairfax, Virginia
CEILING SYSTEMS CONTRACTOR: Southern Floors and Acoustics, Inc., Merrifield, Virginia

FROM THE INDOOR WORLD® OF Armstrong

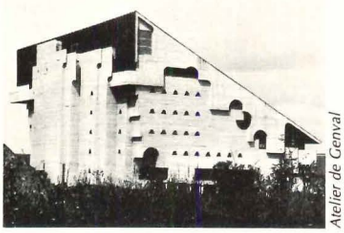
For more data, circle 2 on inquiry card





Cover: New Hampshire College
Manchester, New Hampshire
Architects: Huygens and Tappé
Photographer: Julius Shulman

THE RECORD REPORTS



Atelier de Genval

ARCHITECTURAL BUSINESS

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OCTOBER 1973 ARCHITECTURAL RECORD

FEATURES

BUILDING TYPES STUDY 453

Julius Shulman

ARCHITECTURAL ENGINEERING

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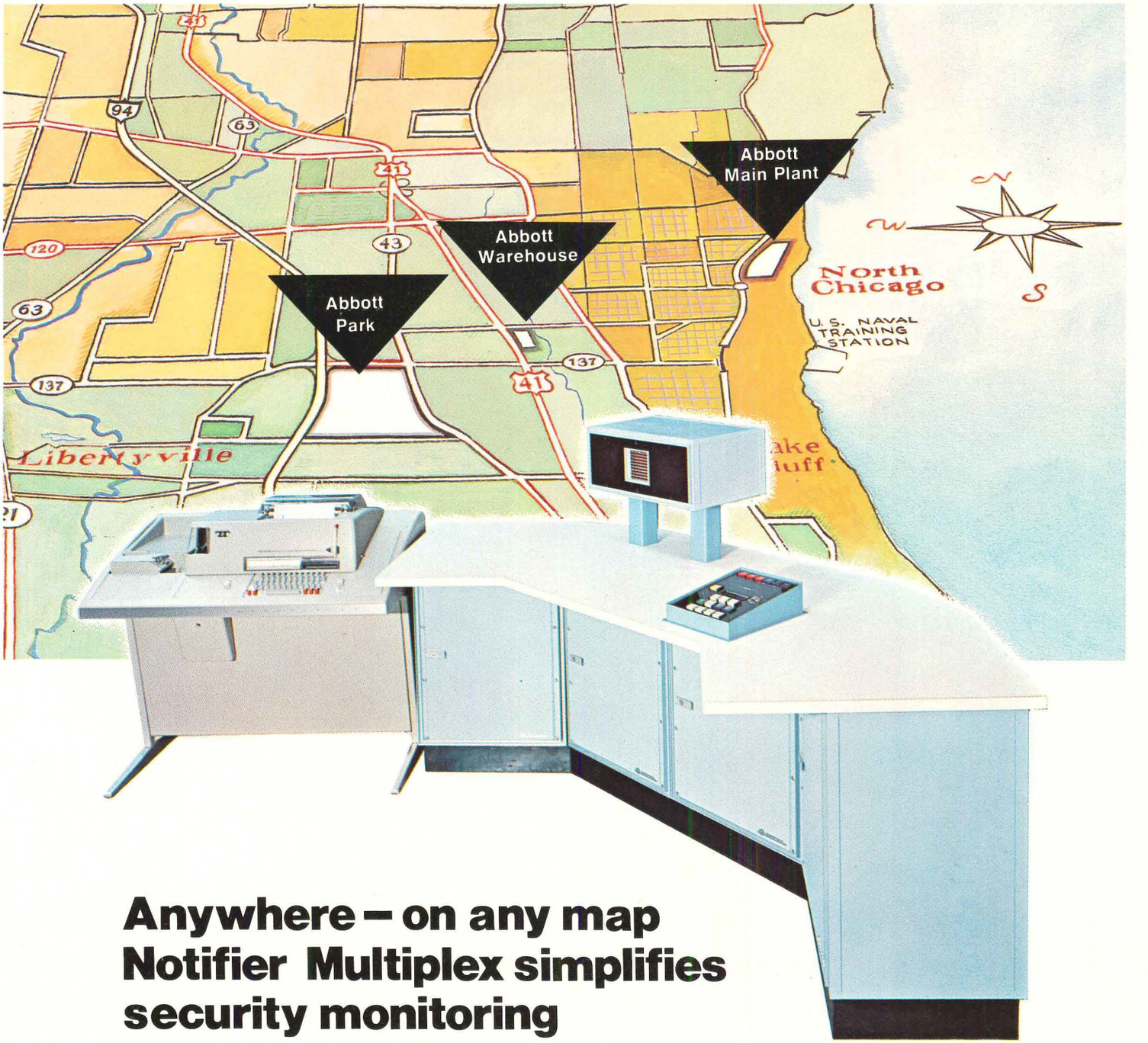

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Architectural education: time out for reexamination

Beginning July 1, the National Architectural Accrediting Board has had in effect a one-year moratorium on all accreditation visits to schools of architecture.

Even with a few exceptions in cases of hardship—for example, some new schools or schools with short-term accreditation—this is a dramatic and drastic action for NAAB to take. And it is taking it on the recommendation of the Five Presidents* Special Task Force on Education as part of its thorough-going examination of the architectural education process—which process students, educators, and practitioners alike agree needs careful study.

Students' dissatisfaction with education was of course a key element of the student unrest of the late 60s, and the voice of architectural students, which began being heard loudly and effectively on social issues at the Chicago convention in the person of then-ASC president Taylor Culver has continued—more moderately in tone and more broadly in scope—under ASC presidents Joseph Siff and Fay DeAvignon.

And from the practitioner side of education, a great deal of concern over the schools and the training provided future architects has been voiced, with some urgency inplanted by the advent of the new professional exam and licensing procedure, which most architects feel puts a heavier-than-before responsibility on the schools.

In a recent interview John Amundson, Eugene, Oregon architect and this year's NAAB president told us that: "During the moratorium year, our board is going to re-examine all the criteria for accreditation, in part because of the new responsibilities of the schools under the new examination procedure (which, for example, does not test a candidate directly on structures), but mainly to make sure the student is getting the education he needs and deserves."

The NAAB study is intended to go right back to basics . . .

. . . to the purposes and intents of accreditation. In its paper "Concepts for Restructuring," NAAB suggests that it needs to consider the purpose of accreditation, the growth of the accrediting program within architecture . . . and its growth within other professional schools, the accreditation processes in higher education generally, the purposes of other accrediting organizations (such as the U.S. Office of Education of HEW, The Brookings Institute, and The Academy for Education Development).

It intends to question, among many other things: Should accreditation be reevaluated every five years, or one year, or when administrations change, or when programs change? Should data be evaluated only within a school, schools within specific regions, schools throughout the country; or by type of school program? Should NAAB adopt an accreditation program involving goals for progressive upgrading of architectural education on a specific time table? Should member schools be required to create educational development plans for specific periods of time—say five years? Should annual reports require evaluations of how each school has met its planning goals?

Further, NAAB is asking itself, and the other involved professional organizations, whether it should "promulgate and use more specific educational standards in evaluating schools? Should these be based upon a flexible performance criteria emphasizing effort, commitment and resources allocation? Should these performance criteria be based upon educational curriculum common among all schools? At present (to wildly over-simplify) NAAB evaluates schools on the basis of goals set by the schools—and there is no formal evaluation of these goals.

These are questions that cut right to the core of what the schools are like . . .

. . . what they teach, and how they teach it—in the face of undoubted differences in financing, (especially endowment), in location, in quality of student that has been attracted (or that can get in) and in support of the architecture school by university. They are also questions that cannot be asked (or answered) by NAAB alone—and that of course is the reason for this study being undertaken in conjunction with an advisory panel appointed by AIA, NCARB, ACSA, and ASC/AIA.

John Amundson says that his hopes for this study year include "establishing criteria for the performance of the staff, of the student, and of the institution in support of the architecture school." Amundson is sure that NAAB should not attempt to specify course curriculum—a matter that is the province of a school or its administrators. "We should not say that you must have a course in structures, but we probably should say that the student must be taught structures, whether in a special course or as

*Presidents of AIA, NCARB, NAAB, ACSA, and ASC/AIA

part of a design course.

"We hope for performance criteria that the schools can understand—a clear document that says 'Here is the way we want you to submit a program to us, and here are the criteria we'll judge on . . . .'

"We want the schools to evaluate their goals, and make those goals clear to the students—so that they can evaluate whether that is what they want from the school."

The lack of standard information troubles not just NAAB, but the students

In its section of a report to the Five Presidents, the ASC says: "The type of information presently accessible to both active and prospective students of architecture is limited; but perhaps more seriously, it is not entirely useful. The information normally provided in departmental catalogs is not adequate to get an understanding of an individual school.

"The information provided . . . must allow for the curriculum or school to stand on its own individualism, and at the same time it must be in accord with some sort of common level of student understanding. So much of the student's architectural education goes beyond mere facts and descriptions of curricula and faculty that broader information is necessary for the student to make a wise decision regarding a school of architecture. . . ."

The students want tough answers to tough questions. Again, from the ASC report: "Much of the 'laundry list' information regarding a school—for example, the number of students, faculty, square footage—is easily derived from ACSA or directly from the school. But it must be reordered into new, student-recognizable forms. For example, in the terms of the professional language of architectural education, a school's library may be described in terms of the number of volumes, of slides, of domestic and foreign subscriptions, and the square footage. To the student considering the use of that library, different questions come to mind: what hours the library is open, is it a comfortable place in which to work, are the volumes current, how accessible and how good is the slide collection?"

And so the most thorough study of architectural education for a long time is underway

The Five Presidents Special Task Force on education has these broad goals:

- "To collect and analyze the concerns and suggestions of the profession about its school and internship programs, and to deliver the results of this effort to the Five Presidents with the Task Force recommendation (with the purpose of) . . .
- "The establishment of the most efficient system for producing architects who in turn can best serve the needs of society."

And surely those are worthy goals. Three cheers for the dedicated architects serving in this effort as representatives of NCARB, AIA, NAAB, ACSA and as private resource consultants, and to the students from ASC who themselves are well into the educational process, but whose ideas may serve well generations of students behind them, and in turn the profession.

—Walter F. Wagner Jr.

—Drawn for ARCHITECTURAL RECORD by Alan Dunn

"Open fires—floor-through halls—attic space—walk-in closets—large rooms—candlelight—Talk about being nouveau!"

P.S. to the study of education: the new exam takes hold

When the new exam set forth by the NCARB was first presented to the various state boards, there developed some concern over whether the multiple-choice examination, with its entirely new (less mechanics, more tactics) content, would be broadly accepted by the states.

As the date for the first professional exam approaches (December 1973), the picture is clear: the new examination has been accepted by the sovereign states to an astonishing degree—a tribute to the NCARB staff and especially E. G. Hamilton, who was the prime force behind the new examination and who spent countless days travelling the country and explaining the new exam and its implications.

NCARB has just published the results of a survey of its 55 boards (the 50 states plus the District of Columbia, Puerto Rico, Canal Zone, Virgin Islands and Guam). All but the Virgin Islands responded, so that is a base of 54 replies:

- 47 of 54 boards indicated that their state had implemented the new Equivalency Examination in June and would implement the Professional Examination in December 1973. Of the remainder, Rhode Island, New Jersey, Illinois, Minnesota, Missouri and Idaho expect to begin giving the new exams in 1974. District of Columbia is uncertain. Massachusetts, listed in the yes column, might have to delay implementation, but expects the 1973 start.
- Perhaps the key question (the question that indicates whether the state boards are indeed accepting graduation from an accredited school of architecture as proof of competence in the required disciplines) is this: "Will your state require holders of accredited architectural degrees to take both the Equivalency and Professional Examinations for registration? Illinois did not answer, but of the remaining 53, 42 indicated that the college degree was acceptable, 11 are requiring graduates to take the equivalency exam. Ohio is requiring "for the time being" that candidates exempt from the equivalency exam take a design exam in addition to the professional exam.

Community development: the AIA keeps the heat on in Washington

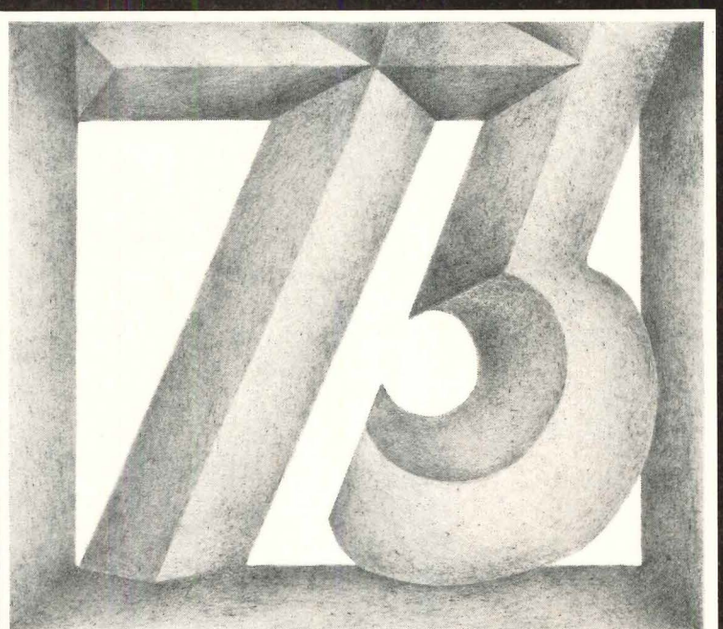
The AIA is keeping up (and hooray) the lobbying for human- and community-oriented development with Federal programs.

For one thing, Arch Rogers (on behalf of the AIA) recommended to the Senate subcommittee on housing and urban affairs that Congress adopt, for use when the moratorium valve is reopened by the Administration, a comprehensive approach to building and rebuilding cities—by consolidating Federal grants, by guaranteeing a constant supply of Federal funds, and by including incentives for large-scale development.

Mr. Rogers used the report of the National Policy Task Force which he chaired as the basis for his recommendations; and told the subcommittee that "basic changes are needed in the ground rules that now shape communities."

Also last month, Bob Nash, past vice-president of the AIA, made some specific suggestions to the committee on Labor, Health, Education, and Welfare: He recommended (as a spokesman for AIA) that $4 million be appropriated within the OEO budget to provide financial aid for Community Design Centers to "furnish design and planning assistance to persons in urban and rural poverty areas." (His proposal: supplying an average of $60,000 annually to 50 CDCs already existing, six expanded rural design centers at $100,000 each, and ten new centers at $40,000 each.)

These two pieces of news prompt me, once again, to say hooray to the AIA for continuing this kind of political activism that not long ago would have seemed impossible. *—W.W.*



ANNOUNCING THE WINNERS OF THE ARCHITECTURAL AWARDS. 1973

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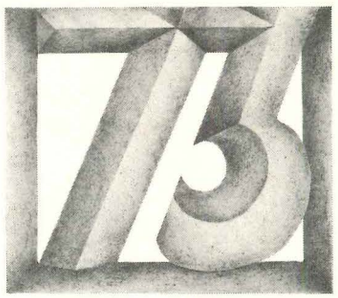


AWARD WINNING ENTRIES AND COMMENTS BY THE JURY.

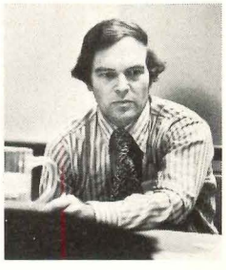
The eminent jurists selected by the Board of Directors of the American Institute of Architects for the 1973 Red Cedar Shingle & Handsplit Shake Bureau/A.I.A. Architectural Awards Program have selected the winners from some 250 entries submitted by architects from the United States and Canada.

The five, First Award and 16 Merit Award winners have been selected to honor design excellence and significant functional or aesthetic uses of red cedar shingles or shakes.

Awards in five categories—Residential Multi-Family, Vacation Homes, Residential Single Family, Commercial/Institutional and Interior Design—were presented at the Bureau's Annual Meeting. No awards were given in the categories of Remodeling/Restoration, Special Design and Industrial Housing.

For more data, circle 5 on inquiry card

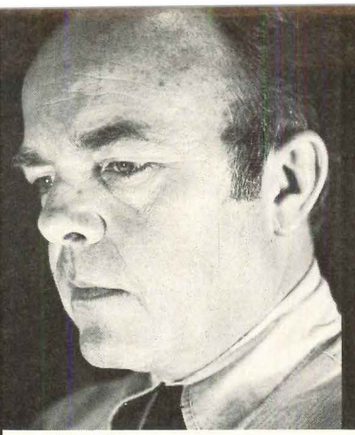
JURY.



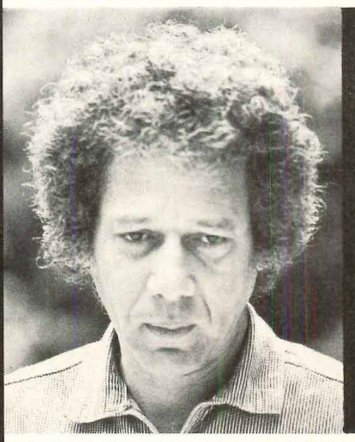
Clovis Heimsath, A.I.A., Houston, Texas
A specialist in creating environments for special conditions, his award-winning work includes the unique recreational facilities for the Manned Spacecraft Center, a Connecticut country club and a planned unit development in Louisiana. Mr. Heimsath is a member of the National A.I.A. Housing Committee and holds degrees from Yale University, Yale School of Architecture and attended the University of Rome as a Fullbright Scholar.

Richard Foster, A.I.A., Greenwich, Connecticut
Richard Foster brought a broad spectrum of architectural design concepts to the 1973 jury. The New York State Theatre at Lincoln Center, the Biology Tower at Yale University, the State Pavilion at the New York World's Fair and other such diverse projects as the Montauk Golf and Racquet Club and several buildings for New York University. He is a graduate of Carnegie Institute of Technology and Pratt Institute.

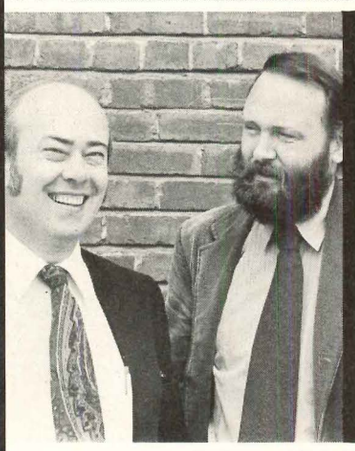
Saul Zaik, F.A.I.A., Portland, Oregon
Efficient houses in the woods, at the coast and in the mountains have become Saul Zaik's trademark in distinctive Northwest design. And his designs in the residential field have been strongly marked by their use of wood. Mr. Zaik received his academic training at the University of Oregon Architecture School and he is a member of the College of Fellows of the American Institute of Architects.



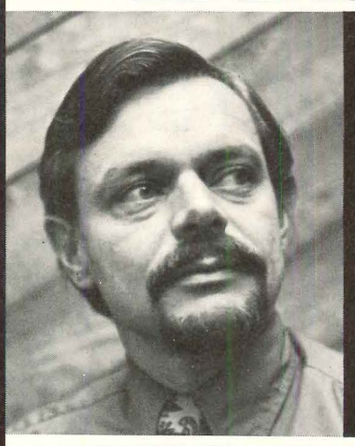
RESIDENTIAL MULTI-FAMILY, FIRST AWARD
John Hackler and Company
One Commercial National Bank Building
Peoria, Illinois 61604
Pierson Hills, Peoria
Comments: Excellent human scale—The village quality relates well for site and people users—Variety of form and intermixing of one and two stories exemplary.



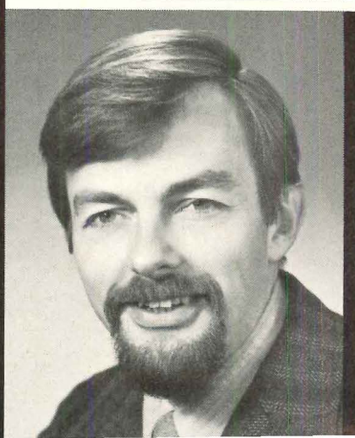
RESIDENTIAL MULTI-FAMILY, FIRST AWARD
Leonard Veitzer, AIA
3625 Fifth Avenue
San Diego, California 92103
Collwood Townhouse Apartments, San Diego
Comments: Precise planning creating an intricate variety of elegant outdoor public and private living spaces—Units are well planned in terms of access locations and relationships to achieve interest and variety.



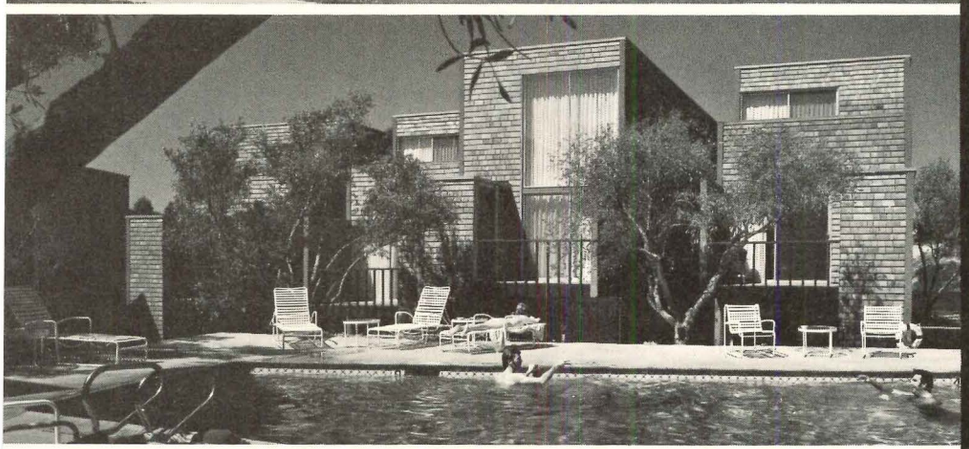
VACATION HOMES, FIRST AWARD
Walz and MacLeod, Architects
50 Green Street
San Francisco, California 94111
Willard S. Johnston Residence, Seascape—Muir Beach
Comments: Sensitive application of shingle detailing—Restraining respect for magnificent site—Interior spaces relaxed and innovative.

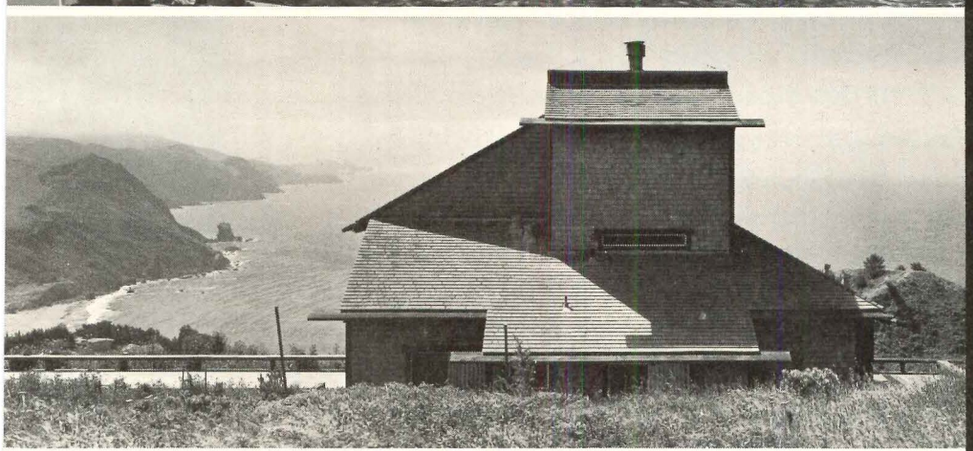


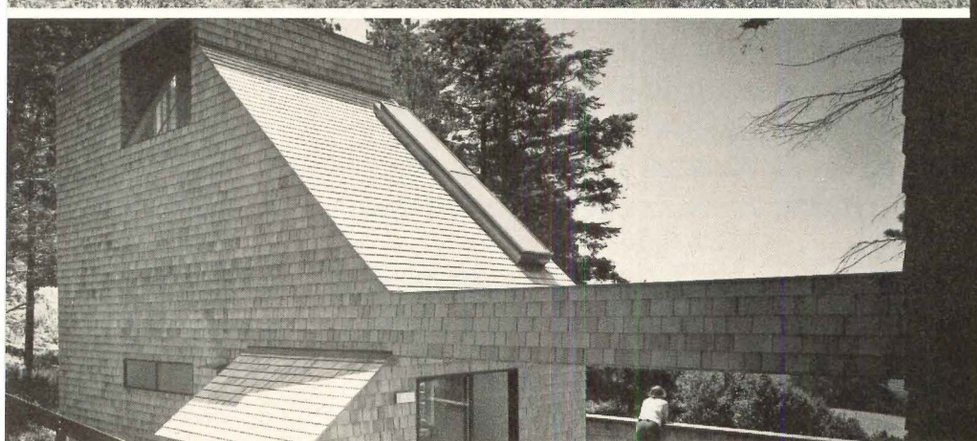
VACATION HOMES, FIRST AWARD
Roland/Miller Associates
666 Seventh Street
Santa Rosa, California 95404
Clarence Hall House, The Sea Ranch
Comments: Meticulous care in detailing and execution. Jury noted excellent craftsmanship displayed and compliments to builder—Reflects study of exterior spatial qualities which result in a strong unified composition.

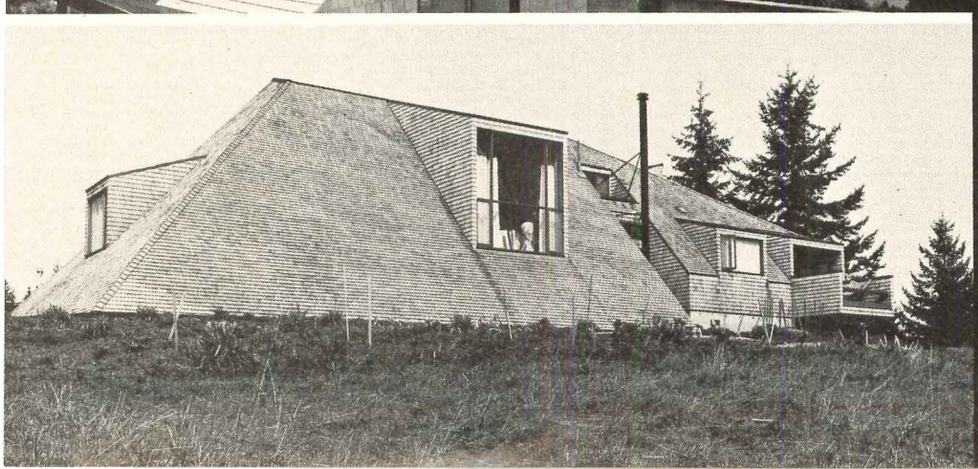


RESIDENTIAL SINGLE-FAMILY, FIRST AWARD
Gary L. Michael AIA,
Architects & Planners
430 S.W. Morrison Street
Portland, Oregon 97204
Jan Zach Residence & Studio, Elmira, Oregon
Comments: Innovative, strong, sculptural statement—Details consistent with straightforward techniques.









MERIT AWARD WINNING ENTRIES.

RESIDENTIAL MULTI-FAMILY

Bissell/August Associates
359 San Miguel Drive
Newport Beach, California 92660
Sixty-01, Redmond, Washington

Bulkley, Sazevich and Associates
1154 Clement Street
San Francisco, California 94118
Friendship Village, San Francisco

William Kessler and Associates, Inc.
18000 Mack Avenue
Grosse Pointe, Michigan 48224
Wayne Public Housing, Wayne, Michigan

VACATION HOMES

Rodney Wright
4643 North Clark Street
Chicago, Illinois 60640
Hawkweed Farm, Osseo, Wisconsin

Venturi and Raugh
(with the assistance of **Terry Vaughn,**
Project Architect Christopher Holland)
333 South 16th Street
Philadelphia, Pennsylvania 19102
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San Diego Zoo Skyfari Cable Lift, San Diego

Peter Hemingway Architect
11810 Kingsway Avenue
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Aotani & Oka Architects, Inc.
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Suite 400
Honolulu, Hawaii 96813
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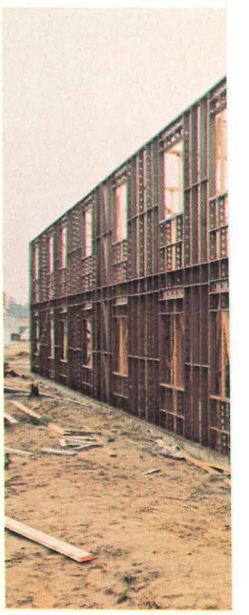

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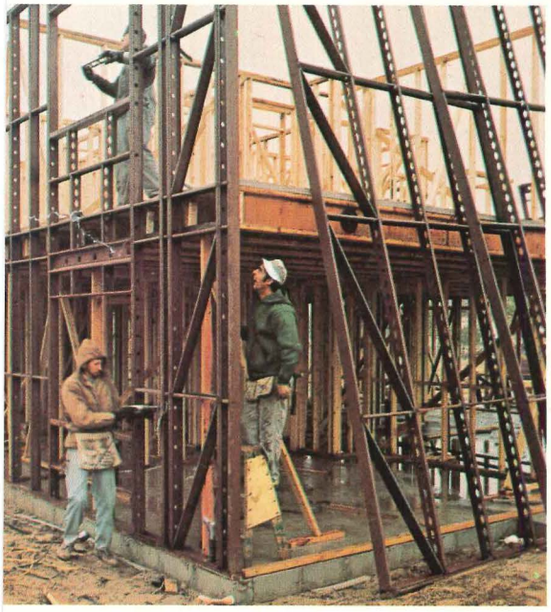

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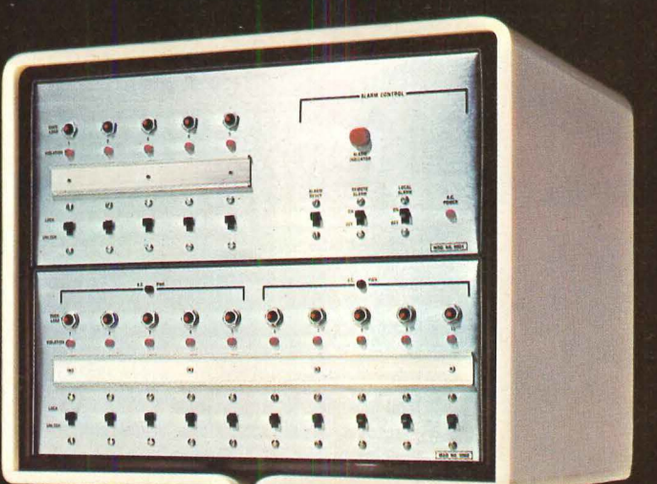

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Please send me more complete information on Hager's new ECO security system.

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. . . including security.

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And no lighting diffuser has ever improved on the louver for positive light control, easy cleaning, and free air circulation for longer lamp life.

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Which came first- the chicken or the egg-crate louver?

SEND FOR NEW BULLETINS #101 and #102

SIMMONS.
10-month, turnkey package.
O'Hare International Tower Hotel.

Interior design: Norman de Haan, A.I.D., Norman de Haan Associates, Inc.
Architect: C. F. Murphy Associates

Only Simmons could put together a package deal like this one—from conception to installation in just 10 months.

In April of 1972, Norman de Haan Associates, Inc., were brought in by Madison Square Garden Corporation to create the interiors of the new O'Hare International Tower Hotel. When plans were finished, in an incredibly short 8 weeks, all guestroom furnishings had been custom designed.

Simmons made them all. Delivered them on time. And worked out a tight installation timetable that allowed the hotel to open in February of 1973, just 10 months from project start.

The Tower presented unusual problems that demanded unusual custom solutions. Noise level was a big one. Simmons helped to solve it with sound-absorbent draperies from Bloomcraft. Carpeting has thick padding as part of the sound-control measures. And all furnishings meet the new flammability standards.

The 981 guestrooms have five carpet colors and six alternate Bloomcraft bedspread and drapery schemes, a tricky record-keeping challenge that Simmons handled without a hitch.

The unusual shape of the building, plus the need for a given number of rooms, made each room relatively small. Headboards with attached lights from Raymor/Richards, Morgenthau that also serve as bedside tables maximize the floorspace. Beds are on easily maintained plinth bases that conserve space. And all bedding is Beautyrest by Simmons.

Thonet created the sleek guestroom case goods. The handsome chairs are by Simmons Living Room Division. Both custom-designed by Norman de Haan, A.I.D. Much of the seating in public areas is from Selig and Thonet.

The lobby is rather long and narrow with glass walls on two sides. Mr. de Haan visually stretched the area with low profile Thonet fiberglass chairs and a Simmons geometric carpet spread throughout the entire area.

In addition there are 63 conference rooms, 18 meeting/banquet rooms, a mezzanine and seven restaurants. Furnished and accessorized for the most part with Simmons products.

The entire interior installation was coordinated by Simmons. It was done in vertical thirds as each section of the hotel was completed, making warehousing, delivery and scheduling of installation operations critical.

Remarkably, it all came together on time. And, Simmons can tailor a complete turnkey package for you.

With all the Simmons resources at your command, you save time as well as make pricing, coordination and installation immensely simpler.

Call Bob Costello, General Manager, Simmons Contract. (312) 644-4060. For a package plan par excellence.

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SPIRIT OF ST. LOUIS
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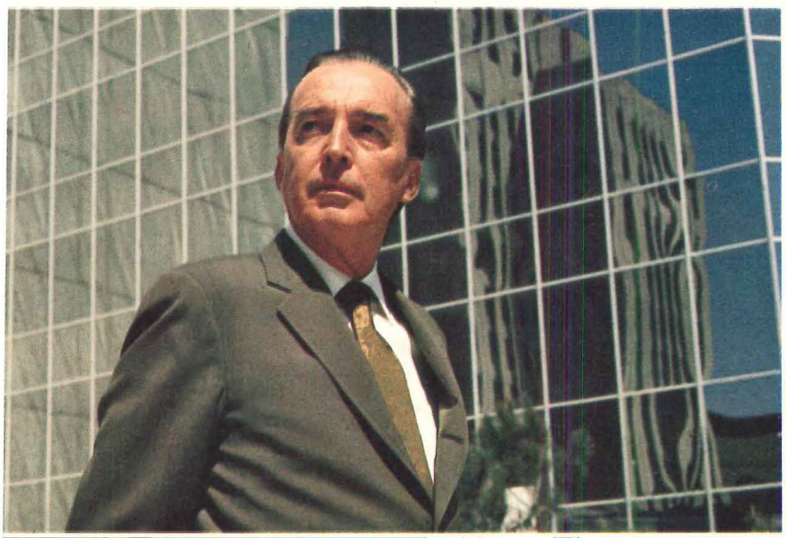

NEAL HOUGHTON, PROPERTY PLANNING AND DEVELOPMENT MANAGER, VALLEY NATIONAL BANK, PHOENIX, ARIZONA.

In Phoenix, the "Valley of the Sun," solar heat gain can be a stifling problem. With a mean year-round temperature of 70° and an average high in July of 105°, buildings are often planned with more concern for avoiding the heat than enjoying the view.

Valley Center takes advantage of magnificent desert and mountain vistas without the normal glare problems. In fact, the silvery-hued Vari-Tran reduces glare by up to 86%.

"The reduction in air conditioning needs and supportive mechanical equipment increases the amount of rentable floor space in Valley Center, as well as lowering costs," according to Houghton.

Heating costs are also diminished, because the Vari-Tran is utilized in Thermopane® insulating units.

If your next building could use this kind of beauty and energy-saving practicability, we'd be glad to help. For more information on Thermopane insulating units with Vari-Tran coated glass, write for our brochure, "Reach for a Rainbow," Dept. R-1073, Libbey-Owens-Ford Company, 811 Madison Avenue, Toledo, Ohio 43695.

Owner: The Valley National Bank Building, Inc. • Project Consultants and Leasing Agents: Cushman and Wakefield, Los Angeles. • Architects and Engineers: Welton Becket and Associates. • Contractor: Henry C. Beck Co., Phoenix. • Curtainwall Contractor: Cupples Products Div., H. H. Robertson Company, St. Louis, Mo. • Glazing Contractor: Gateway Glass Div., H. H. Robertson Company, St. Louis, Mo.

LOF

For more data, circle 9 on inquiry card

USS Cor-Ten Steel: The next best thing to nature.

Standing on 20 rolling acres on the outskirts of Madison, Wisconsin, is a new building that could have been designed by Nature herself. It fits perfectly into the environment—yet establishes its own character and dignity on the rural scene.

The Farm Bureau Building, which houses the Rural Insurance Companies, the Wisconsin Farm Bureau and several smaller offices, is a beautiful example of how USS COR-TEN Steel blends with other materials and helps the total structure harmonize with its natural surroundings.

The $4½ million, 143,580 square-foot building has a USS ULTIMET Steel Curtainwall System and utilizes materials that are easy to maintain: USS COR-TEN steel, brick and solar glass.

For practical and aesthetic reasons, COR-TEN was a natural choice. It doesn't have to be painted—so it saves maintenance costs. If it ever gets scratched, the surface oxide heals itself! And that rich, russet color actually deepens and becomes more strikingly beautiful as it gets older.

Inside this unique building . . . even more surprises. A fully enclosed atrium, complete with shrubs and trees that reach upwards for four stories, take up about 10% of the interior space. Steel on the interior of the atrium is pre-weathered COR-TEN steel.

The Farm Bureau Building is another example of the intelligent use of a remarkable steel: USS COR-TEN. It represents the most imaginative expression of contemporary architecture—with due respect for what Nature built first!

For more information, contact a USS Construction Marketing Representative through the nearest USS sales office or write: United States Steel, 600 Grant Street, Pittsburgh, Pa. 15230.

Owner: The Rural Insurance Companies, Madison, Wisconsin
Architects: Peters & Martinsons, Madison, Wisconsin
General Contractor: J. H. Findorff & Son, Inc., Madison, Wisconsin
USS COR-TEN Fabricator: Reinke-Schomann, Inc., Milwaukee, Wisconsin.


GRANGE HALL
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1898
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WETHERSFIELD GRANGE
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MEETINGS... 2nd & 4th TUESDAYS
AT 8 P. M.

Built 75 years ago at a total cost of $5,000, Wethersfield, Connecticut's Grange Hall is still a focal point of community action in this historic Connecticut River town. And the mortise lock is the same Sargent hardware specified in the building's original plans.

Consider the doors equipped with Sargent hardware.

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Telelift didn't happen over night. It happened because **Mosler** is proud of its reputation for high quality equipment. We couldn't persuade ourselves to introduce an unproven system to people who rely on us for the best.

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Farmers plant for the fall. We plant for the 21st century.

Plant and harvest. Farmers have been doing it for centuries. Most sow in the spring, reap in the fall.

Potlatch people are farmers, too—tree farmers. But our crop interval is much longer. So long, in fact, that many people have never thought of timber as a crop.

But wood *is* a renewable resource. Potlatch people provide for ample future harvests by practicing careful forest management on 1,300,000 acres of timber lands owned by the company. We exercise the same kind of care and concern on our forests that any good farmer lavishes on his crops and land.

In Idaho, Potlatch foresters are leading the research effort in control of the pine bark beetle. In Minnesota, where natural seeding can't always be depended upon to quickly renew the forests, we plant an average of 1,000,000 trees annually.

Today there are healthy new forests growing on Potlatch land in the cedar, pine and fir country of Idaho, the aspen and northern pine stands of Minnesota, and the southern pine and hardwood regions of Arkansas.

While these forests are maturing, they are usually open to the public for recreation. Then, after 40, 50 or even 80 years, we harvest our crop. That's a long time to wait for return on investment, but Potlatch people believe good forest management is good sense and good business—both for today's shareholders and for future generations who will benefit tomorrow from the harvest of the trees we're planting today.

Good forest management is good for wildlife, too. Write for our Idaho Wildlife brochure.

Potlatch People Mean Business

Potlatch

Tree planting in Minnesota.

Potlatch Corporation
P. O. Box 3591
San Francisco, California 94119

For more data, circle 12 on inquiry card

We helped turn the

Tennis has been moving indoors out of the cold, the wet, the wind, the sun and the night.

But there's still a stumbling block —the lighting. Light shining down on the players gets in their eyes and makes it hard to see the ball.

The Square Lake Racquet Club in Bloomfield Hills, Michigan, solved this problem with uplighting instead of downlighting.

They use 142 Sylvania Metalarc lamps in an indirect lighting system, giving them uniform, glare-free illumination all over their courts.

Thousand-watt Metalarc high-intensity lamps emit a light nearly five times stronger than incandescent lamps of the same wattage. Which means it takes fewer lamps

lighting business upside-down.

and less electricity to light up a court.

The lamps have an average rated life of 10,000 hours. They last about ten times longer than 1000-watt incandescents.

And they're color-balanced to produce a natural effect. It's like bringing the outdoors indoors.

The lamps have been used for years for direct lighting of stores, factories, ball parks, car lots and parking lots.

Now more and more tennis courts are using Metalarc lamps in fixtures pointed up to the ceiling.

Whole new illumination systems have been developed to take advantage of the Metalarc's good points.

So thanks to a lamp with a lot on the ball, things are looking up in the lighting business.

For details, call your GTE Sylvania representative or local distributor (in the Yellow Pages under Lighting) —or write to Sylvania Lighting Center, Danvers, Mass. 01923.

GTE SYLVANIA

The copper "life safety" fire sprinkler system makes this landmark hotel one of the nation's safest.

Tucson's Pioneer International Hotel was recently remodeled to become the nation's first with copper "life safety" sprinkler protection in every room.

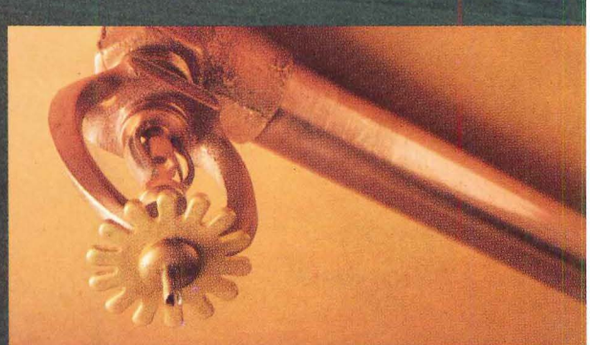
The system's emphasis is on prompt detection and suppression of fires in compartmented structures using small quantities of water. Because of the system's superiority, costly structural alternates were not necessary.

Copper tube ends the need for oversizing to compensate for pipe corrosion buildup. Copper tubes stay clean inside and also handle the pressures reliably.

Easy joining by soldering and small size make copper tube perfect for snaking tube around obstructions when remodeling existing buildings.

Payoff: installed cost low enough to extend sprinkler protection to all rooms in hotels, high-rise office buildings, nursing homes, hospitals and motels.

Count on copper for ideas to make any existing compartmented building safer. New ones, too.



Copper Development Association Inc.
405 Lexington Avenue, New York, N.Y. 10017

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DON'T PLAY WITH FIRE.

CCC's New Naturalweave spongebonded carpet has a Class "A" Flamespread rating.

If you're looking at carpet for an office building and it doesn't have a Class "A" flamespread rating—25 or less in the Steiner Tunnel Test—you may be playing with fire. The danger of fire always exists, that's why fire safety standards are becoming more and more stringent. At CCC, we know all about fire safety. We've become experts, because we've installed millions of yards of carpet in offices, hospitals, schools and stores.

Since fire safety is a major concern to us, we've just introduced a fire-retardant, spongebonded carpet with a Class "A" flamespread rating. We call it NATURALWEAVE FLAMEGARD and it meets *all* governmental flamespread standards.

NATURALWEAVE FLAMEGARD is an addition to our heavy duty Densylon Carpet series. It has a five-year wear guarantee and is made of tightly-twisted, densely-packed ANSO nylon bonded to B. F. GOODRICH fire-retardant sponge rubber cushioning. This built-in cushion extends the carpet's wear-life by one-third compared to carpet without padding. It's guaranteed not to lose resiliency, enhances the carpet's appearance retention, reduces leg fatigue and increases floor safety. Among its other benefits, NATURALWEAVE contains a static control system, is easy to clean and keep clean, and helps cut maintenance costs.

But you get more than just superior carpet from CCC. We're the largest manufacturer of commercial and institutional carpet systems in the country. With CCC, you get SINGLE SOURCE RESPONSIBILITY for every aspect of your carpet projects anywhere in the country, starting with product selection and guaranteed installation through a comprehensive maintenance program that gives you maximum carpet wear-life at minimum life cycle cost. We even know how to effectively integrate carpet with subfloor access systems and can show you how it's done with trench headerducts and handhole covers.

For more information, just fill out the coupon below. CCC's NATURALWEAVE FLAMEGARD...THE SPONGEBONDED CARPET WITH A CLASS "A" RATING.

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For more data, circle 16 on inquiry card

Disappointment over the President's housing message last month is strong with U. S. mayors and the National League of Cities. They applauded the partial lifting of the housing freeze, however, but said in a statement, "after nine months of extensive study and a nine-month freeze on housing programs for low income families, the nation's cities deserve a more comprehensive, unified housing proposal than was presented." For more details, see page 36.

The Justice Department will not let down in its fight against what it terms illegal price fixing in professional services. Thomas E. Kauper, assistant Attorney General recently said the Justice Department will continue to assign a significant amount of its resources to architectural, engineering, real estate, brokerage and similar services. Last year the AIA signed a consent decree, agreeing to remove from its Standards of Professional Practice a prohibition against submitting price quotations for architectural services. Recently the Justice Department was given another 60 days to prepare its case against the National Society of Professional Engineers, charging the organization with an anti-trust violation.

James F. Shivler, Jr., past NSPE president, will head a study of unethical activity by engineers involved in public works contracts. The special task force will make recommendations for actions to eliminate unethical or illegal activities, issuing a report by the end of this year. (See item on illegal practices statement, next page).

Six American architects have been invited to be the U. S. representation at the 15th Triennale in Milan, currently running. Peter Eisenman, Michael Graves, John Hejduk, Richard Meier, Charles Gwathmey and Robert Seigel were invited largely on the basis of their work which is said to represent a significant direction in American architecture. The Triennale is an international exhibition of architecture, industrial design and decorative arts which occurs every three years. This is the 50th anniversary of the event.

AIA and RIBA have agreed to jointly publish *Architectural Research and Teaching,* formerly published by RIBA alone. The hope is that this merger will make the best of British, European and American research available to architects on both continents. Inquiries about the publication and about submitting research papers should be addressed to Don Conway, AIA, 1735 New York Avenue, N. W., Washington, D. C. 20006.

The 17th annual convention of the Society of American Registered Architects will be November 16, 17 and 18, at the Fairmont Hotel in San Francisco. The program will cover continuing education, opportunities for government contracts and how to produce contract documents efficiently and economically. For further information on the convention, contact Samuel E. Hart, 8417 Beverly Boulevard, Los Angeles, California 90048.

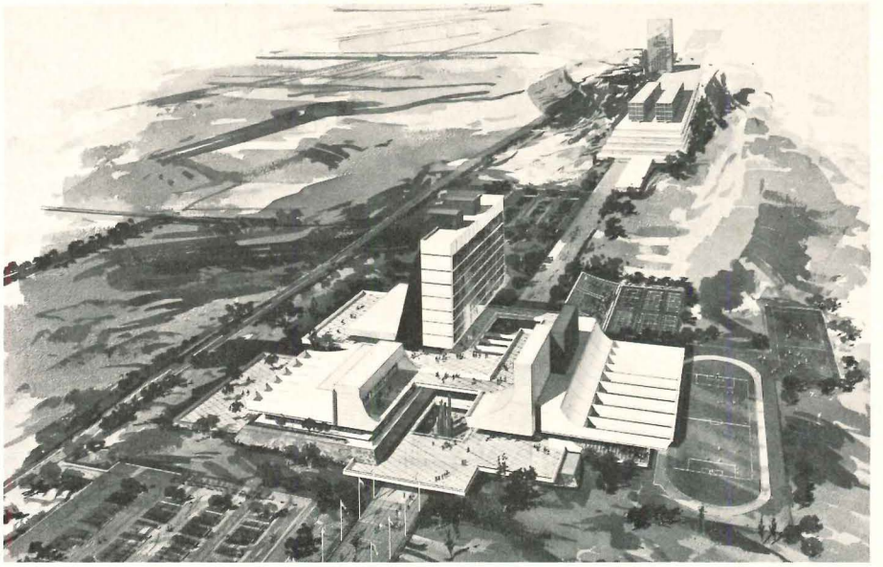
The Anthony G. Adinolfi Memorial Court, State University of New York at Purchase will be dedicated this month, on October 13. Containing a fountain and a large single oak, the court is being established on the new performing arts campus in tribute to the late Dr. Adinolfi, general manager of the State University Construction Fund. Under his leadership, architectural excellence was brought to New York State's expanding university system, one of the nation's largest single public clients in the 1960's.

Deadline for entering the National Plywood Design Awards program is January 31, 1974. To be eligible, all projects must have been completed after January 1, 1970 and before the deadline. Cash awards plus citations will be presented in the AIA sponsored program conducted by the American Plywood Association. For an official entry form and complete rules, write to: American Plywood Association, 1119 A Street, Tacoma, Washington 98401.

November 1, 1973 to April 1, 1974 is the period for a design competition for a neighborhood health care center. The competition, sponsored by the National Institute of Architectural Education with the help of the New York Chapter, AIA, offers a $1500 first prize and is open to all persons in the architectural field under 35 years of age. Entrants will be judged in May, 1974. For further information, contact Byron Bell, National Institute of Architectural Education, 20 West 40th Street, New York, New York 10018.

William W. Wurster, founder of the College of Environmental Design, University of California, has died. Mr Wurster died September 19 at the age of 77, at his home in Berkeley, California. He was a leading architect in San Francisco and former dean of architecture and planning at MIT. His firm, Wurster, Bernardi & Emmons is noted for projects such as San Francisco's Ghirardelli Square, Golden Gateway complex and the Bank of America headquarters. A Fellow of the American Institute of Architects, Mr. Wurster received the gold medal in 1969.

Giovanni M. Cosco, architect, planner, theoretician and teacher of architecture died in June of this year, in an auto accident. Mr. Cosco gained international recognition as a member of the team that was runner-up for first prize in the international competition for the Beaubourg Cultural Center in Paris in 1971. Born in Italy, he had practiced and taught architecture in Philadelphia since 1968, and was readying for publication a book in which his main goal was to solve what he saw as the dilemma between the increasing encroachment of technology on design and the widening application of technology to design.



Sports complex to be built in Israel as Olympic memorial

Sponsored by The American Friends of The University of Haifa and endorsed by national personages from all walks of life, a Sports Complex is planned to be built on the crest of Mount Carmel, Haifa, Israel.

In memoriam to the eleven Israeli Olympians slain on September 5, 1972, during the Games of the 20th Olympiad, the center will be an integral part of the University of Haifa.

The project was launched at a New York City inaugural dinner held September 12.

Among the participants were Bowie K. Kuhn, National Baseball Commissioner, and U.S. Senators Hubert H. Humphrey, Henry M. Jackson and John Tunney. Guest of honor was Mark Spitz.

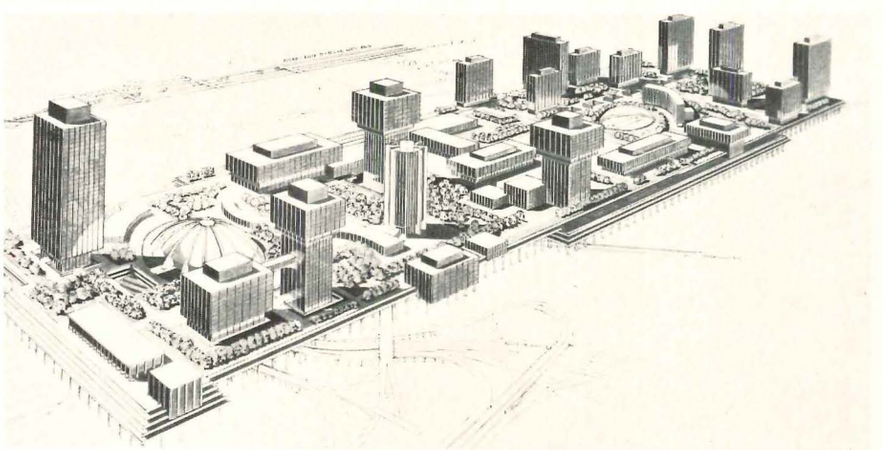
Conceived as a living tribute to the Olympic ideals and their personification of the brotherhood of man, the Memorial will be built in increments to include indoor athletic centers, outdoor stadia and an administration tower.

Master planning and architectural design are under the direction of Maxwell Starkman & Associates.

The promenade linking the Sports Complex to the University of Haifa passes under an elevated plaza which serves as a cohesive common ground from which all athletic activities will fan out.

Architectural focus of the Sports Complex will be, central in the plaza, the Well of Tribute, from which will rise 11 pylons of forged metal, symbolic of the fallen eleven.

Floating city to be constructed over portion of Newark, New Jersey



A recently announced concept for the revitalization of the City of Newark calls for a $2.5-billion "Floating City," to be constructed over the top of an existing section of the city—utilizing that area's air rights—between Newark International Airport and the downtown business district.

The concept for "Gateway 2000" was conceived and planned by Porter and Ripa Associates.

Parking will be provided on three levels beneath the city. There will be no vehicular traffic on the main level. Mobility within the complex will be either on foot or via a personal rapid transit (PRT) system which will provide fast transportation throughout the new city area, which will be approximately a mile-and-a-half long and a third-mile wide.

Chairman of the Gateway 2000 Board will be Louis C. Ripa and those corporations which will participate in the actual development of the complex through the construction of office buildings, hotels, apartment houses, etc., will become members of the Gateway 2000 Corporation.

It was pointed out that more than half of the area of the planned Floating City is presently free of any dwelling or business property. In the remainder there are also many vacant lots and vacant buildings as well as numerous dwellings which are badly deteriorated. Those holding the air rights will either be able to sell them to the corporation outright, or, if they prefer, trade them for shares in the corporation and shares in its profits.

Completion of the entire project is planned in phases over a period of 20 years.

Unprofessional conduct denounced by seven groups

In a strongly worded statment issued last month by seven design profession organizations, architects, engineers and planners reemphasized their "responsibility to discipline members for unprofessional conduct."

The statement was issued in the wake of recent allegations of improper, or patently illegal conduct by design professionals seeking contracts for public work. It was signed by the presidents of the AIA, NSPE, ASLA, CEC, ASCE, AIP and ASCP, and strongly supports legislation for limitation and full public disclosure of all political contributions, and recommended enactment of laws that would make improper conduct grounds for suspension of licenses.

Filmmakers rediscover Maya temple, lost since 1912

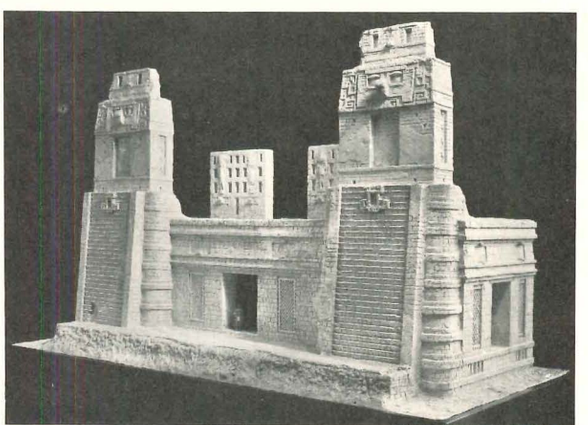
On May 7, 1973, an expedition led by film makers under contract to a New York public television station rediscovered Temple B, archetype of the Rio Bec style of classic Mayan architecture. Missing for 61 years in the southeastern jungles of Mexico's Yucatan region, the temple was located by freelance film makers Hugh and Suzanne Johnston during the course of shooting "The Mystery of the Maya," a documentary they are producing to air nationally over the Public Broadcasting Service early in 1974.

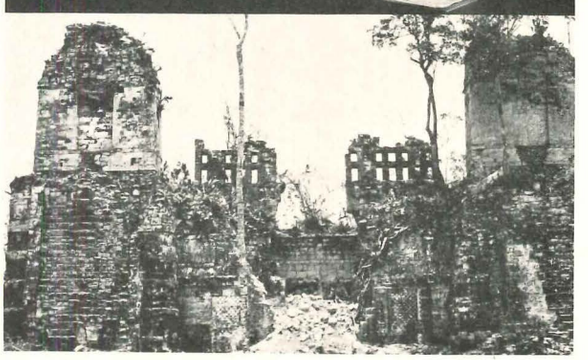
Temple B was originally discovered in 1912 by Harvard's R. E. Merwin and Clarence L. Hay. The photographs Merwin brought back of the 1100-year-old structure attested to its excellent condition and the archaeology world soon recognized the building to be one of the finest extant examples of the Rio Bec style. In 1935, a plaster model (top) of the temple, based on Merwin's notes and photographs, was made and copies are on exhibit at institutions throughout the world.

However, from 1912 until its rediscovery in May, Temple B had been an elusive treasure.

The Johnstons were initially unsuccessful in their search for the temple; their first foray in 1972 was a failure. After returning to the United States, the film makers studied Merwin's original field notes and thesis and developed a more precise idea of the temple's location. It took them only two days during their 1973 expedition to find what they sought.

What they found (below) was a Temple B that had deteriorated only slightly since Merwin took his pictures. After the chiclero's machetes cut the jungle growth away from the building's walls, Gillett Griffin, curator of Pre-Columbian Art at Princeton said: "In Mayan architecture, it ranks with the temple of the Sun at Paleque, Building 22 at Copan or the Governor's Palace at Uxmal. It would compare with any great piece of architecture in the world."





Italian cities experimenting in eliminating cars, traffic downtown

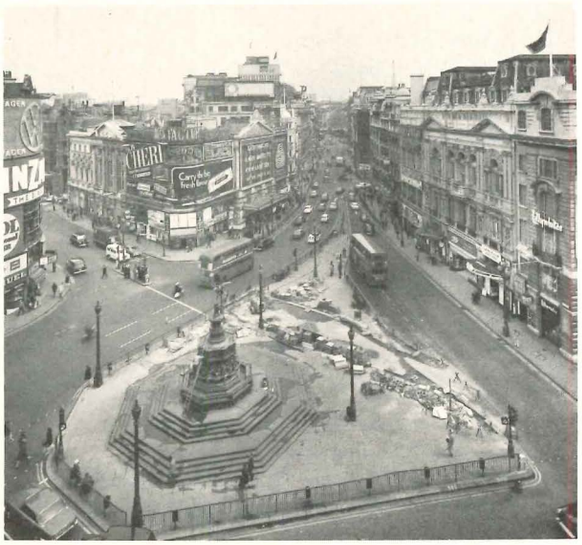
Milan, which like many other old European cities was not exactly laid out with the automobile in mind, for the last two and a half months has returned to that primal state—well, almost—in its innermost part. Starting May 1, the Milan city administration banned most automobile traffic in an area of about 113 acres, comprising about one fifth of Milan's historic center around the Duomo, Milan's gingerbread dome and including some of the city's most elegant shopping streets. The exceptions are taxis, some bus lines, cars of core-city residents with provable off-street parking space and delivery vehicles allowed through at certain hours.

The results look encouraging, although nobody is really prepared to make a hard and fast judgment. Vittorio Carnemolla, head of Milan City Planning and development office, thinks the city's ambience has definitely improved. The Piazza in front of the Duomo now features occasional entertainment as part of an effort to stimulate people to come downtown and street life seems to be somewhat gayer.

Milan's city planners have plans all mapped out to shut down other adjacent sections southwest and southeast of that first section, with another 116 acres or so, but a current crisis of Milan's city government and the chance of a change in administrations has made the date of the changeover uncertain.

Rome, meanwhile, which traffic jam connoisseurs rate as Europe's most advanced in terms of urban bedlam, also is planning to shut down large chunks of its inner city to most pass-through traffic, with the first of seven sections closed August. That area comprises about 54 acres.

Pisa, which earlier had banned traffic from the Piazza Dei Miracoli, site of the leaning tower and the city's 11th-century cathedral, extended the ban to cover most of the city's historic center to make the city's historic sights more accessible to pedestrians, mostly tourists of course.



Controversy continues over future of Piccadilly

Few historic sites have had such an architectural battering as Piccadilly Circus, the entertainment hub of London. Since 1958, when the then London County Council announced a desire to improve the Circus, there have been a series of schemes calling for everything from remodeling nearly all of existing buildings to constructing highrise hotels and a 435-foot tower.

While planners have bickered over design, Piccadilly has been allowed to become a series of decaying buildings, tatty streets, and overcrowded pavements with excessive traffic fumes, noise and derelict sites.

The most recent effort on the part of the Westminster City Council to change Piccadilly resulted in a major furor from architectural conservationists who claimed that historic buildings were being destroyed. That plan, presented by the Council in May, 1972 called for an intensive redevelopment which replaced aged buildings with high-rise hotels and office blocks plus an upper level pedestrian deck, widened roads, and an amphitheater surrounding the statue of Eros. In addition, a favorite building, the Criterion Theatre, was to have been demolished. The public outcry against the Council's plan resulted in a new inquiry. Objectors wanted a limit on building height, and more street level pedestrian area with a minimum of emphasis on traffic.

A working party set up by Westminster Council has since presented four alternatives and issued a set of guidelines which should be followed no matter which alternative was chosen.

These roughly state that the character and vitality of Piccadilly should not be changed but a greater emphasis placed on preservation and restoration of what already exists. No new building will be over 100 ft high, equal to the present highest structure, nor will the Victorian tiled Criterion Threatre or the Regency styled Lilly-whites sporting goods store fall to the demolition ball.

In conflict between traffic and pedestrians, the traffic has lost. In any new scheme, the traffic increase will be only 10 per cent, not 50 per cent as originally planned. And, some streets, instead of being widened for vehicles will be sealed off and used as pedestrian concourses . . . the pedestrian deck has been completely eliminated in favor of improvement for pedestrian facilities at ground and subway levels.

But planners will still have their problems. Piccadilly is plainly overcrowded. An estimated 36,000 people walk through the Circus each hour and over 5000 vehicles enter from one of the five main roads.

Of the four options presented by the council last year option number three seemed closest to the philosophy for redevelopment: greater preservation of historic buildings, desire to conserve the character, less concessions to traffic and a demand for more human scale buildings.

This option was rehashed by the Council and a draft brief was made public on July 26.

Basically, it calls for a rearrangement of the traffic pattern to merge all traffic passing through the circus on the north side of Eros. The roadway between the Criterion Theatre on the south side and Eros would then be closed and paved over creating a new, large pedestrian area. Option three also includes a remodeling of the London Pa-

(continued next page)

Energy and the environment document released by Federal government

The Council on Environmental Quality has published a 58-page document on energy and the environment as related to electric power which purports first-time documentation of trade-offs to be considered in the application of various energy systems.

The report emphasizes that energy conservation is one of the best ways to reduce environmental impacts. But it points out that all electric energy systems are inherently inefficient, noting that from 75 to 90 per cent of the energy resource in the ground never makes it to the consumer. We often use electricity, C.E.Q. maintains, when direct use of a fossil fuel—such as in home heating—can be over twice as efficient.

Aiming to aid decision-makers in future choices, the report is said to present a technique for projecting the environmental consequences of various alternative mixes of energy systems. Particularly, the findings are expected to be useful to Federal agencies in meeting standards of the Environmental Policy Act.

The Council begins its analysis with emphasis on the dramatically increased use of electricity: over the past decade electricity consumption has grown at a seven per cent annual rate, double the growth rate of all other energy uses. By 2000, it is likely that over 40 per cent of all energy will be used to produce electricity. Meanwhile, population growth is only 1.5 per cent a year.

(You can order the booklet from the U.S. Government Printing Office, Washington, D.C. 20402).

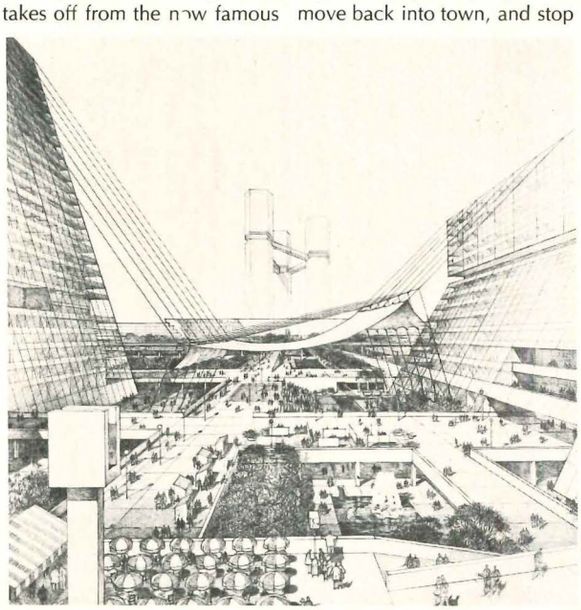
Visionary plan of Atlanta sees auto ban, more parks and night life

What will Atlanta be like in the year 2000?

At the core, an 18-hour-a-day activity center, without an automobile in sight; a 525-acre park with interconnected greenways; people movers; more and better housing where now there is little; multi-level living which takes off from the now famous Underground Atlanta and extends interconnectors on four different levels.

This is the concept of Atlanta architects and planners Finch, Alexander, Barnes, Rothschild, and Paschal.

"This will be such an exciting, human place people will move back into town, and stop sprawling over all the landscape," says Cecil Alexander.



The plan sees Atlanta's core, essentially neglected in the city's dramatic 14-year thrust forward, as a dynamic, architecturally exciting city-within-the-city. This area, the historic founding stone of this Southeastern city, is the financial district, the home of giant Rich's, and the Atlanta newspapers, Georgia State University, and of Underground Atlanta. It is also the government area, but it has been a core which dies every day after 5:00 p.m.

The city's time has come, according to Alexander, and architects have an opportunity and an obligation to bring together now all the diverse, creative, exciting ideas which we have been trying in parts of cities. He sees malls and people movers, better housing, and more parks, less pollution and more sunlight, all in one grand plan relating every aspect of urban life to every other.

The FABRAP plan is one developed for an *Atlanta* magazine issue on Atlanta's future.

Continued from page 35

vilion, a large theatre, which could be turned into restaurants, exhibition space and an information center. One of the main features of this option is a vast enlargement of the underground subway ticket hall to contain new pedestrian walkways and shopping areas.

The committee is now working out exactly how many buildings will be remodeled and redeveloped. The total Piccadilly area is only 10.3 acres; half would be renewed.

The site is divided into three areas. The north side of Piccadilly is called Monico, the east is Trocadero and the area south of Eros is Criterion.

In option three, redevelopment is confined to the front portion of the Monico site, the western part of the Trocadero site and the whole of Shaftsbury Avenue. Reconstruction of individual buildings would be carried out piecemeal but in accordance with general height requirements.

Under this option, traffic is in a U-shaped road pattern which merges all traffic passing through the Circus on the northern side of Eros. This re-arrangement takes traffic out of the center of the circus and makes possible the construction of much more pedestrian area.

In all, the planning is expected to take another two years. With a long-range timetable of at least 10 years before all construction is complete. Cost is estimated at 40 million pounds sterling.

However, the new plan will not be the final word. After the Westminster City Council and the public have accepted, it must go to the Greater London Council and finally the Secretary of State for the Environment. With this in mind, planners are wise to opt for the least change.

British architects ousting free-lancers

A new code of professional employment from the Royal Institute of British Architects will contain two clauses that prohibit the hiring of temporary architectural staffers.

The code, approved in August by the RIBA council, is aimed at stamping out the professional free lance architect.

The reason for this move is a growing trend in Great Britain for architectural and allied staff to quit permanent employment and join an agency where they receive short term, fill-in, work. Often, temporary workers make twice the salary of permanent employees. A "temp" may work side by side with a more senior permanent man doing similar work but the temporary will receive almost double the salary.

The salary situation is exacerbated by the freeze which aims to keep wage hikes for permanent employees to eight per cent. While a man working for a placement agency can get an increase on each new job because each is negotiated individually and is not subject to the freeze policy.

It is estimated that the recruiting of temporary architectural staff has increased by 100 per cent in the last two years. The number employed in London alone is over 1,000.

Objections to the use of professional free lancers are that they disrupt established salary structures and breed discontent. And, the free lancers' lack of involvement means they can quit in the middle of a project.

Maurice McCarthy, chairman of RIBA's salaried architects working group, who drew up the code, says that the temporary architects commitment to the client is often in question and that permanent staffers must supervise him more closely.

He adds that many architectural firms use temporaries as an excuse for bad personnel planning. The surge of work in the last year has caught many employers unprepared. Not many were certain of the long-term possibilities of work and the idea of taking on temporary staff who could be unloaded without embarrassment, was attractive.

In addition, several architects have realized the tax advantages of being self-employed and have opted to do agency rather than permanent work.

There will be many firms who are loath to lose the ability to hire temporary staff but the RIBA seems determined to nip the movement in the bud.

The new code could become effective early next year.

Denver votes new transit program

Voters in Denver have okayed a $1.56 billion public transportation system depending heavily on a personal rapid transit such as those currently being tested by the Federal government.

Denver's master plan calls for expanding the bus line and later supplementing it with almost 100 miles of fixed connecting lines using the personal rapid transit cars, relatively small vehicles carrying six to 12 passengers and controlled by computers; the cars would circulate through the system, stopping on call at stations.

The proposed elevated, grade-level and underground system is smaller and less expensive than conventional urban subways, but Denver's 98 miles would cost an estimated $1.5 billion. Construction is planned to start in 1976, with completion in 1983.

Reactions negative on new housing message

The President's lengthy message to Congress on the nation's housing ills and how to solve them did not live up to expectations according to the bulk of reactions flowing from Congress and the private sector.

With the shelter industry strangulating for lack of mortgage money and with the Federally subsidized programs still shrinking, it had been hoped in many quarters that the Administration would propose bolder moves to restructure the Federal programs and get at the job sooner than is indicated in the 14-page document sent to Capitol Hill.

Sen. John J. Sparkman (D-Ala.), whose housing subcommittee will study the proposals in early October hearings, said

he was disappointed with the announcement of the President's plans for "improving" housing programs. Like many others commenting on the long-awaited plan, he expressed concern that the housing allowances portion of the message and those sections dealing with other "corrective measures" would require such a long period for activation. Mr. Nixon, in the document, and his HUD Secretary, James T. Lynn in his briefings, indicated that many of the measures would not be operative before late next year or early in 1975.

Rep. Henry S. Reuss (D-Wis.), member of the Housing subcommittee, used considerably stronger language: "We were told almost a year ago that the Administration would produce its bold new program for low- and moderate-income housing by September, 1973. Now the mountain has labored, and brought forth not a mouse, but the promise of a mouse by 1975. . . . For the low and moderate income American, already hopelessly priced out of the housing market, this is cruel news."

And Sen. William Proxmire (D-Wis.), who as chairman of the appropriations subcommittee largely controls the flow of HUD funds, called the proposals a great disappointment, adding: "For all practical purposes the present housing moratorium will continue for another two and a half years. Then, after 1976, they are proposing housing allowance programs ultimately costing from $8 billion to $11 billion a year, the effect of which . . . will merely bid up the price of existing housing.

Commenting further that the announcement was "mostly sound and fury signifying nothing," the Wisconsin legislator predicted Congress and the public would be most reluctant to support "such a costly and potentially ineffective program."

It was not all criticism, by any means. Warmly welcomed was the President's assurance that he was, by executive action:

1. Authorizing the Federal Home Loan Bank Board to provide savings and loan associations with another $2.5 billion in loan authorization to make "forward commitments," thereby increasing the incentive for S&Ls to finance housing construction. This involves a FHLBB promise to loan money needed by the institutions at a future date to cover commitments made currently.

2. Directing HUD to reinstitute the tandem plan under which the Government National Mortgage Assn. will provide money for FHA-insured mortgages at rates below market levels. Up to $3 billion in such loans for new housing only will be so financed. It was estimated this would bring tens of thousands of new homebuyers into the market.

Congressional approval will be required for these other proposals:

—A tax credit of up to 3.5 per cent on interest earned by financial institutions investing a certain amount of their portfolios in residential mortgages. The tax credit benefits would increase in proportion to the amount invested in housing loans. When at least 70 per cent is so invested, the credit on interest those mortgages earn would be 3.5 per cent, yielding, at current levels, an added one-half of one per cent.

—FHA insurance of larger housing loans on a low downpayment basis for both single- and multi-family dwellings.

—Permit buyers to pay market-level interest rates and still be eligible for Federal insurance thus eliminating added charges, or "points" which presently raise the price of the house and the size of downpayment.

—Gear the level of repayments to expected changes in family income. Make life-of-loan payments flexible to reflect increasing family incomes—low in early years and increasing in later years. It's believed this would enable families to remain in their original homes instead of making frequent moves as incomes increase.

—Develop more private mortgage insurance concerns by permitting them to purchase inexpensive Federal reinsurance. Such insurance, according to the White House, would provide added protection to the mortgage owner and speed acceptance of such private mortgage insurance, especially in secondary markets.

Details of the plans will be spelled out further in proposed legislation which HUD officials said would be submitted to Congress soon. There were no estimates on what the proposals would cost.

The housing allowance plan as a substitute for so-called subsidized housing, much ballyhooed in earlier phases of the HUD study of housing approaches, was mentioned last week as something that must be tried with a pilot test and applied in future years if its value is proven. The President told Congress that of the policy alternatives available in this area of providing housing for the low-income family, direct cash assistance appeared to be "the most promising way" to provide decent shelter. He described it as, in the long run, the most equitable and least expensive way of achieving the decent housing goal.

Acknowledging that such an approach might develop disadvantages now unknown, the Chief Executive said he would explore the situation with Congress before moving ahead. First priority would be for the elderly poor. The plan is now being tested in 10 cities and Congress is asked for authority for HUD to take additional steps in testing the cash assistance approach. The proposal calls for the Federal government to pay the difference between cost of housing on the private market and a determined percentage of earnings that a family can afford to pay for housing. (This normally has been considered to be around 25 per cent.)

Assuming a Congressional go-ahead for the cash allowance program, its first application would not come before the fiscal 1976 budget which goes to Congress in January of 1975 and covers the year starting July 1, 1976. It's this delay that gave rise to so much criticism last month.

—Ernest Mickel

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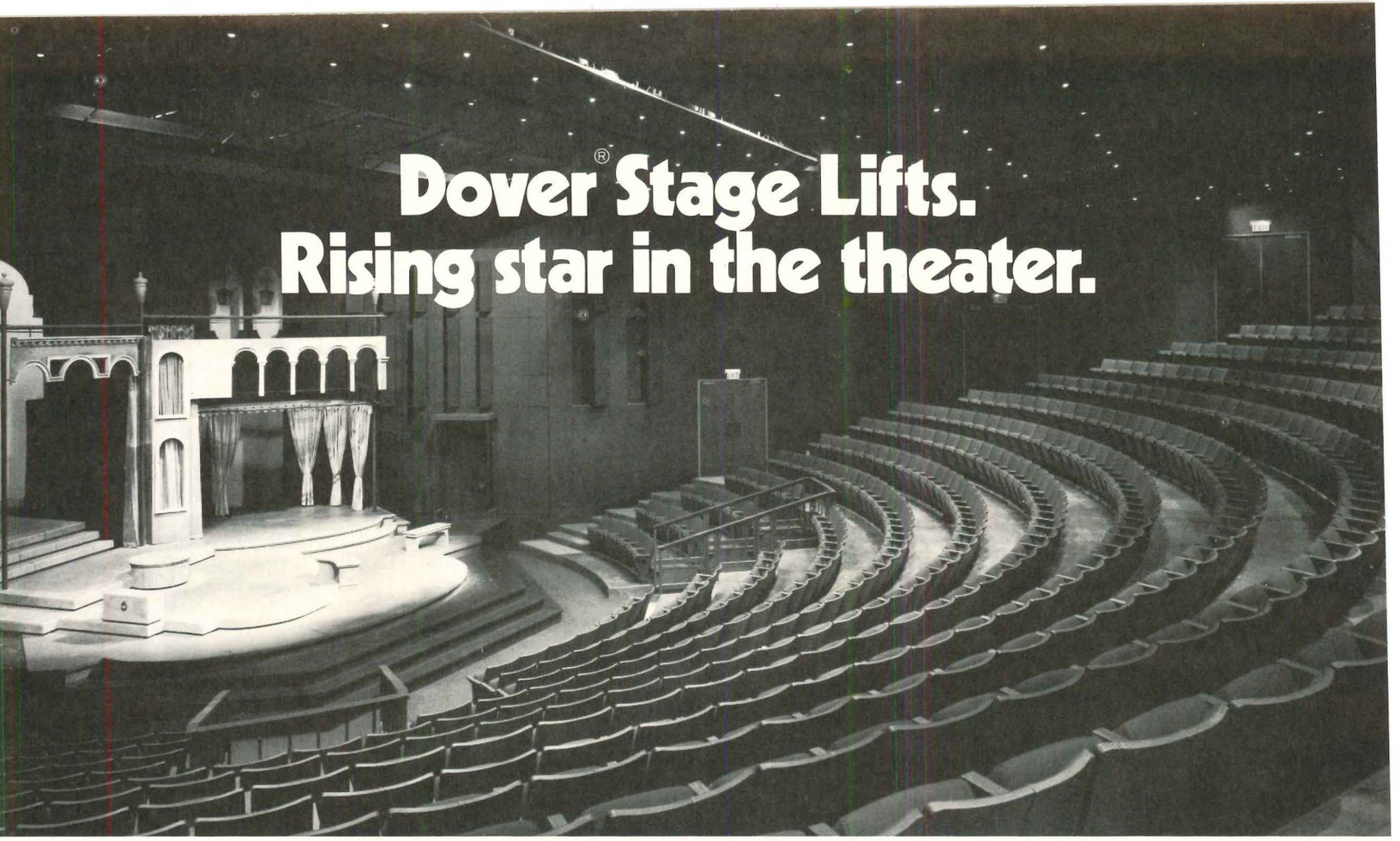

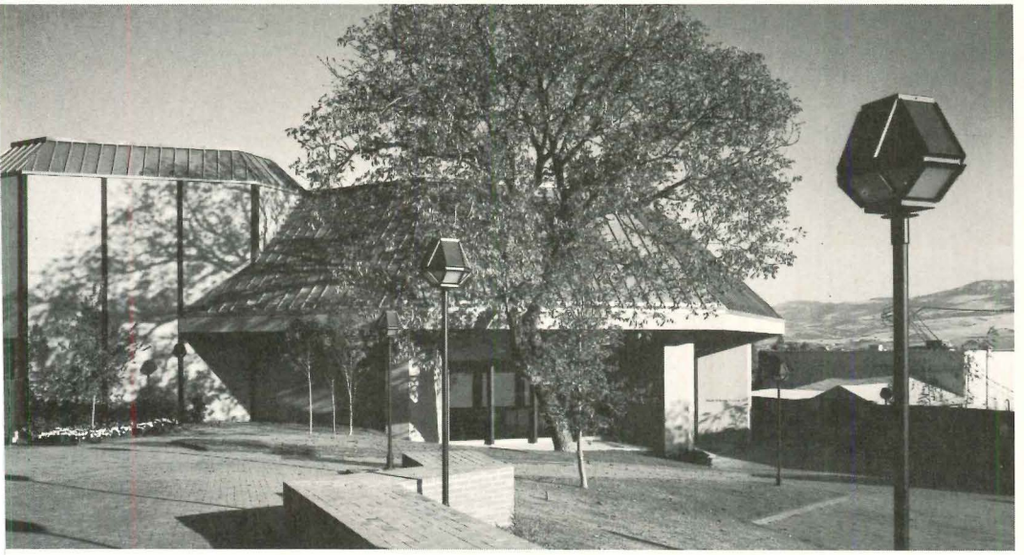

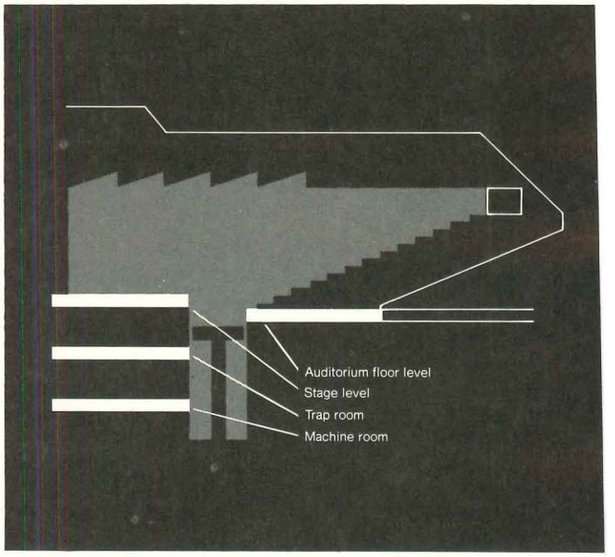

A good actor must adapt himself to a wide variety of roles and styles of interpretation. So must a good stage.

The designers of the Oregon Shakespearean Festival's Angus Bowmer Theater, Ashland, Oregon, recognized this and utilized a Dover Stage Lift as the heart of their new 600-seat playhouse.

This 28′ x 8′6″ lift is truly a versatile performer. It travels 21′ and serves four levels: machine room, trap room, auditorium floor, and stage. In various positions it becomes part of the stage, part of the auditorium, and an easy way to move heavy, awkward scenery between floors.

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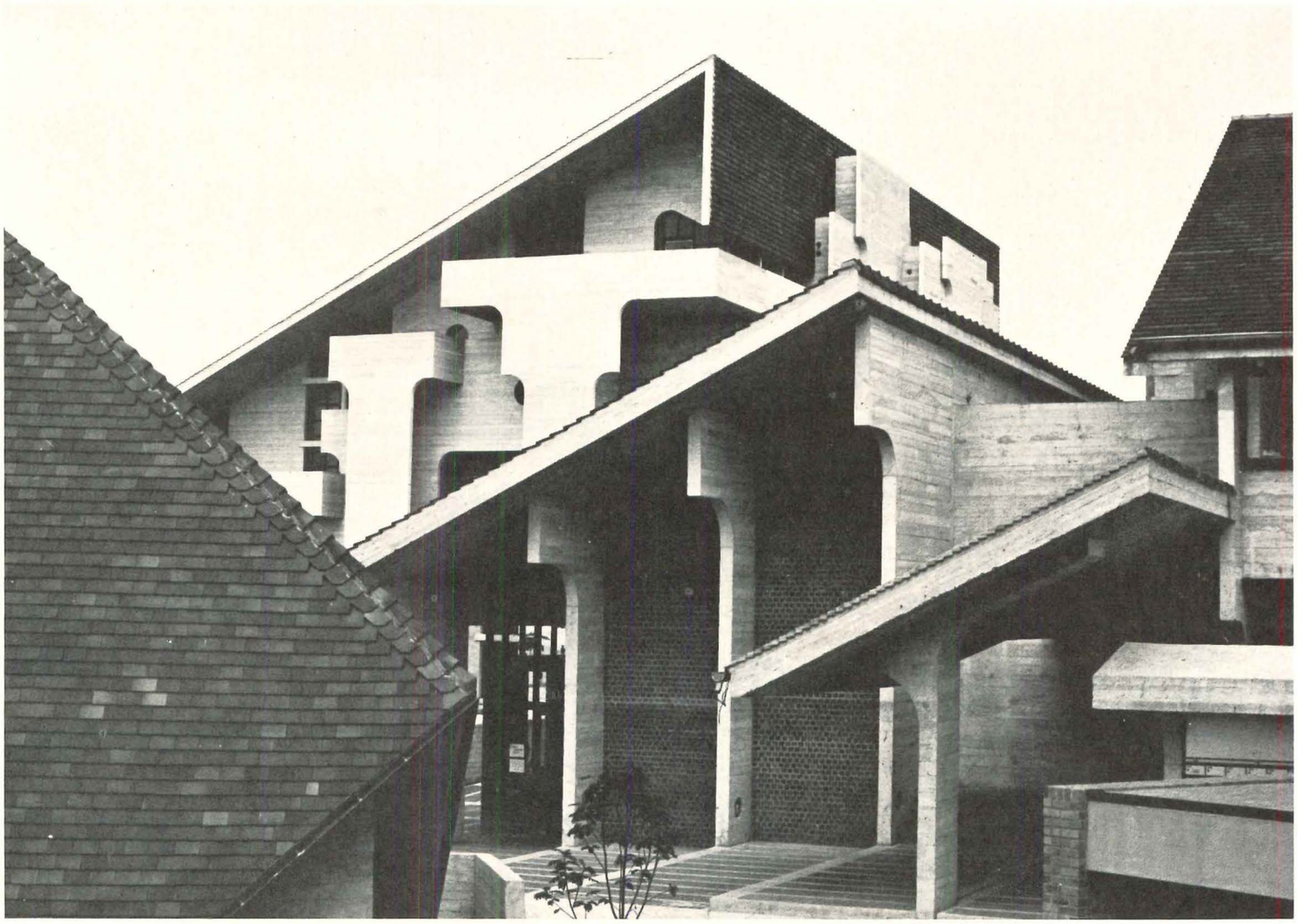
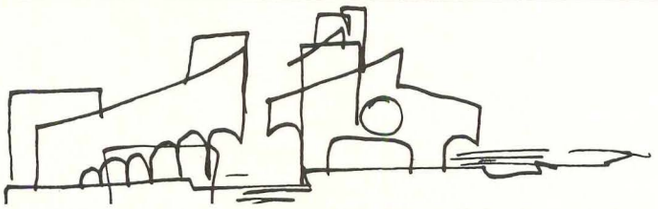
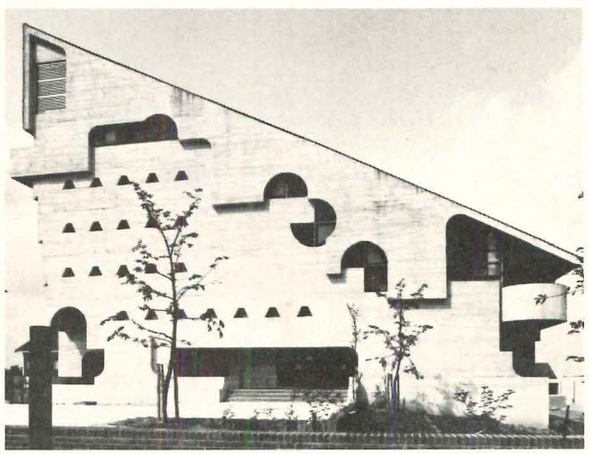
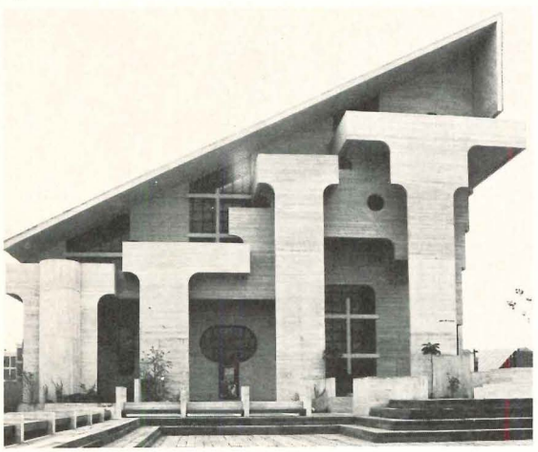


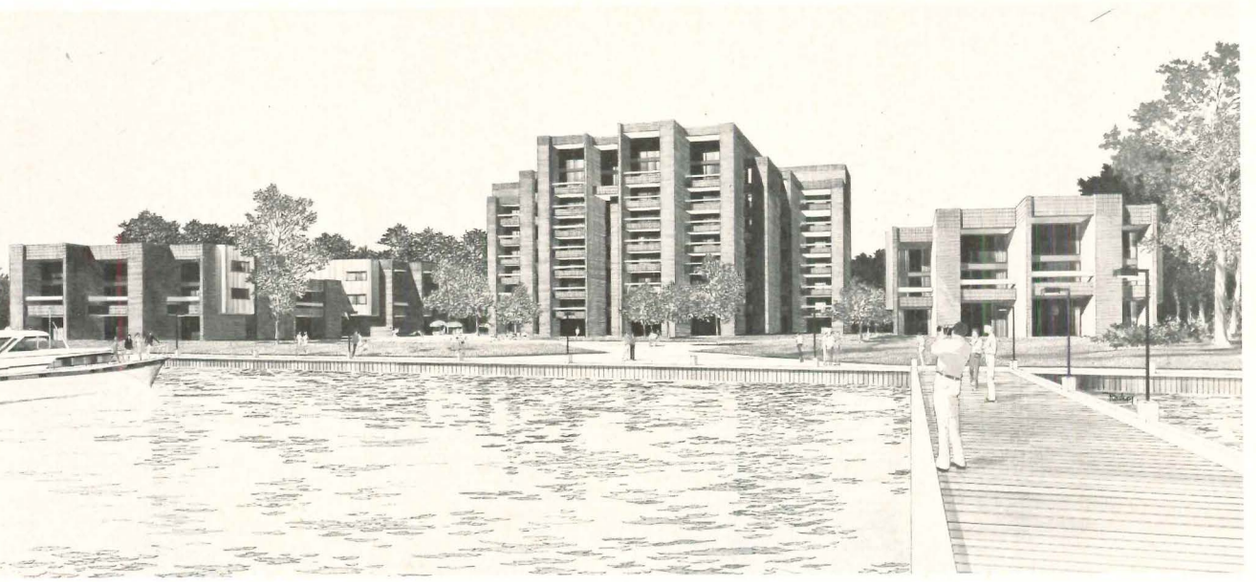
Reshaping the university in Louvain, Belgium

One of the most well known universities in Europe, the Catholic University of Louvain, is being doubled with the birth of Louvain-la-Neuve, a French speaking university similar to the Flemish speaking old university. In searching for the design, the architects at the Atelier de Genval wanted to capture the "impromptu, the charm, the Medieval architectural heritage" of the area. Derivative of the huge farm buildings nearby, with their big roofs, the resulting design is an agora with a large scientific library (shown), restaurants, auditorium, seminar areas and administrative section grouped around the square, with parking underneath. The entire project is of concrete using white cement.







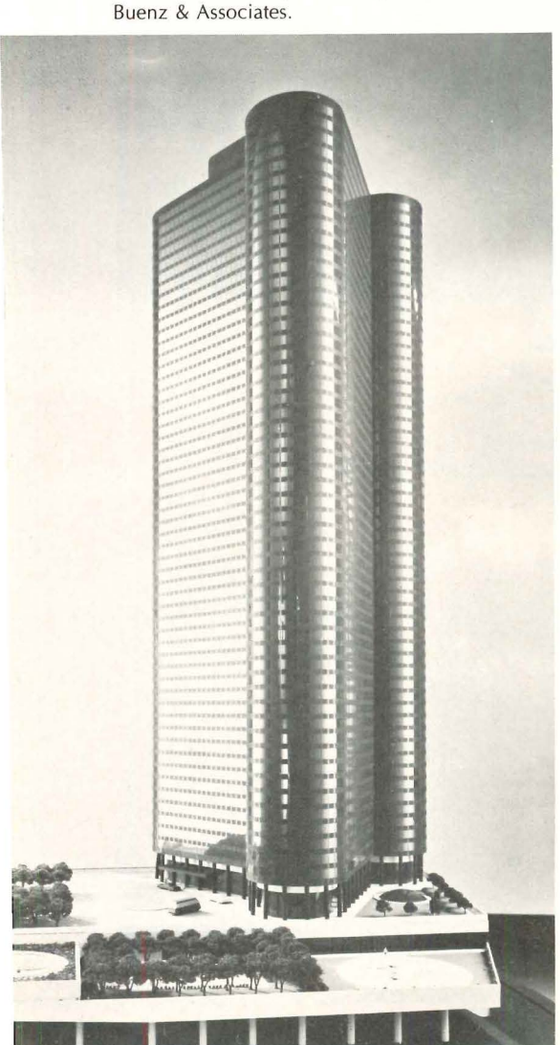


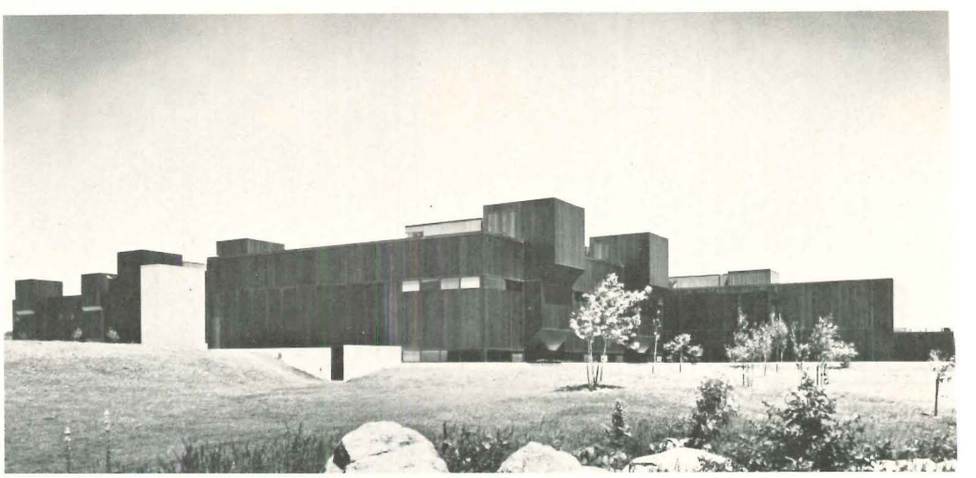
Lakefront condominium restricts height

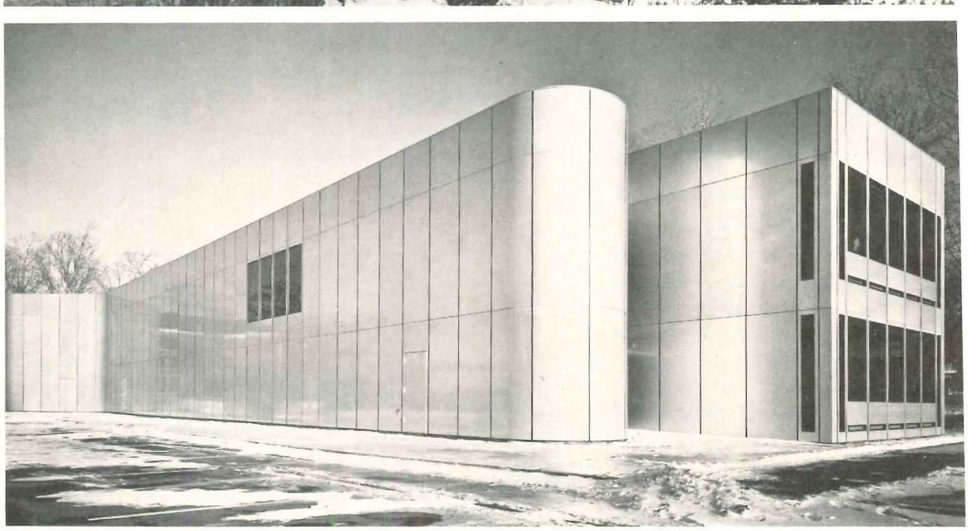
Although zoning would allow architects Rossetti Associates to build without height limitations, they chose to develop this residential community in Harrison Township, Michigan in keeping with the surrounding single-family unit community. Being built at a cost of $2.4 million, the 64-unit condominium includes a 9-story midrise unit with brick/block bearing wall and precast concrete floor construction. The garden units are wood construction with brick and vertical wood siding. The complex is three separate buildings arranged in a U-shape with the open side facing Lake St. Clair and swimming pool.

First of six Chicago condominiums

Located on Chicago's lakefront, the first building in a six-building condominium complex is under construction, part of the 83-acre Illinois Center development. The 54-story building shown will rise from a plaza and contain 742 apartments, 14 to a floor, selling in the $30,900 to $127,000 price range. Architects are Solomon, Cordwell, Buenz & Associates.

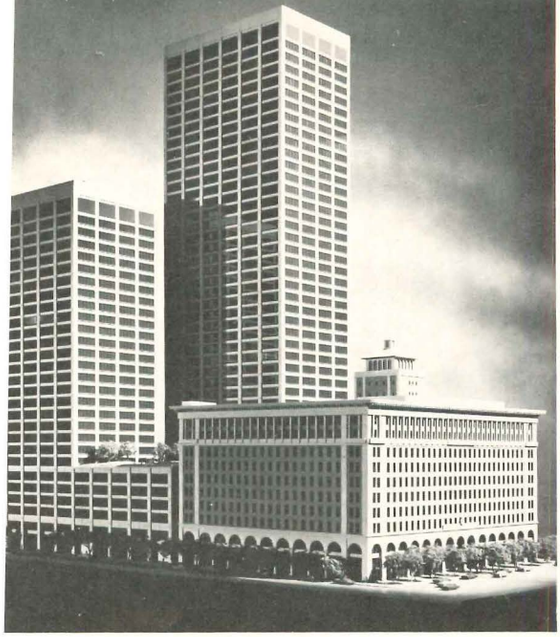






Finalists announced in Aluminum Building Products Design Competition

Three finalists in each of two categories of the first Aluminum Building Products Design Competition have been chosen, with winners to be announced this month in Seattle, Washington, at the annual meeting of the Architectural Aluminum Manufacturers Association. Shown are two of the finalists in the new construction category. Top is the Sir Sandord Fleming College in Peterborough, Ontario by R. J. Thom & Associates; bottom photo is the Middletown State Hospital in Middletown, New York by Prentice and Chan Ohlhausen. The third finalist in this category is the IBM computer operations headquarters in Sterling Forest, New York by Gunnar Birkerts & Associates. Finalists in the remodeling category are: Bache Building, Binghamton, New York by Norman J. Davies; Goodyear office in Akron, Ohio by Hoag Wismar Henderson Associates; and the offices of architects Smith, Hinchman & Grylls in Detroit.



Complex will preserve San Francisco view

View corridor protection for California and Pine Streets was one of the prime considerations in the design of One Market Plaza, a major commercial center in the Embarcadero section of San Francisco. The city's Planning Commission unanimously approved the project two years ago, no doubt because the design by Welton Becket and Associates retains the existing Southern Pacific Building, thus preserving one of the truly great views in San Francisco—from Nob Hill down California Street. Two office towers, 28 and 43 stories, will be constructed, while the 55-year-old 11-story headquarters will be modernized.

Herbert F. Johnson Art Center designed by I. M. Pei for Cornell University

This recently completed edifice on the Ithaca, New York campus of Cornell University is the gift of patron of art and architecture Herbert F. Johnson of the family who commissioned Frank Lloyd Wright to build the Johnson Wax Company administration building in Racine, Wisconsin. The Johnson Art Center by I. M. Pei is the architect's work alone and has been described as impressive architectural sculpture. Its most prominent feature is an open space at the third floor level, a sculpture terrace with a view of Lake Cayuga. Around this loggia are three elements—a subterranean entrance and temporary exhibit space; a tower housing offices and library; and the massive canopy housing the main galleries.

Sicilian hotel opened in Taormina

This hotel recently opened on the east coast of Sicily, built on steeply inclined terrain overlooking the sea. The land slopes at about 45 degrees near the ancient port of Taormina. The hotel is a series of cells, sixty of which have a living room, bedroom and bath. Each room has an intimate private balcony. The main entrance is at the top level, and parking is some distance. The architects are Alberto Gatti and Diambra de Sanctis.

Tomarchio-Acireale

New sculptured white-on-white ceiling looks extravagant...but isn't.

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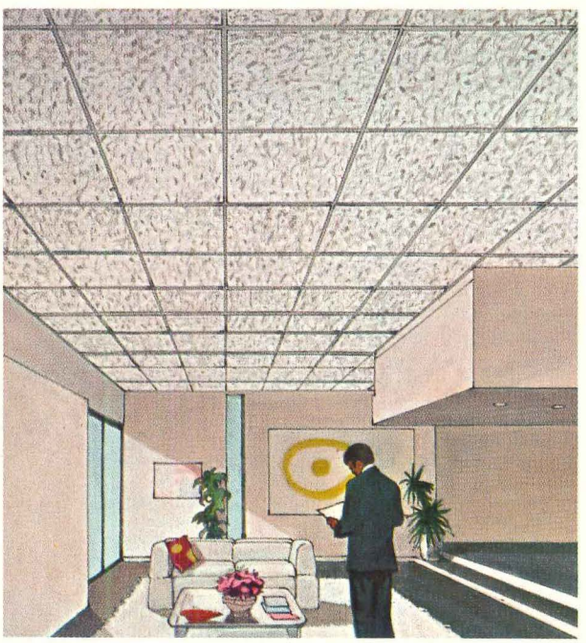

UNITED STATES GYPSUM
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A Building is a Quiet Revolution

MODERN MOVEMENTS IN ARCHITECTURE, *by Charles Jencks; Doubleday Anchor Books, Garden City, New York, 1973, paperback, 432 pages, illus., $4.95.*

Charles Jencks's new book *Modern Movements in Architecture* is a densely packed, amply illustrated critique of 20th century architecture. If you can cope with language and style that is often complex and sometimes obscure, you will be rewarded with a very stimulating set of stories.

Each chapter deals with a major figure or movement of the century in a different and interesting way. But unifying the book is criticism of various modern movements—not only in formal terms, but also in terms of how each of them relates to issues of political and artistic freedom and social equality, and how each has been part of a supposed revolution in architecture and politics.

A major part of the book, then, is a sad story of failure: failure of the noble intentions and ideals of the 20's gone awry, or compromised or proven inadequate; of the "Modern Masters" who sold out to the Fascists, to the *Zeitgeist,* to the myth of their own para-divine reputations; of the next generation of Johnsons, Saarinens and Stones who have been unable to see their work aspiring to social and moral values beyond those which supported their careers and places in history, and whose most "successful" work has most certainly not been the stuff of revolution, but instead, according to Jencks, has served to provide corporations with images of crushing banality and caution; of architectural historians (from Hitchcock and Pevsner to Scully and Rowe) who in a century theoretically open and pluralist continue to peddle the idea of one inevitable line of architectural development with the implication of a determined future, instead of supporting several live traditions as alternate futures (as indeed Jencks does in his first chapter, describing six alternate modern movements).

On the other hand, though, Jencks is unabashedly full of praise for the successes of the century—the extraordinarily fine buildings of Le Corbusier, Alvar Aalto, Aldo van Eyck and James Stirling. He regards them as successful because they are multivalent, so full of meanings and imaginative relationships of form that they are subject to the same multiple interpretations which characterize great buildings throughout history. Jencks doesn't just priase; he gives generous examples of how buildings can act rhetorically and symbolically.

Between these extremes of success and failure, Jencks discusses an astonishing array of architects, projects and movements. Included are some of the best discussions yet of postwar American and British architecture and important urban design projects from around the world. Jencks's intellectual stance (his desire to be pluralist and inclusive) serve him and the reader well.

The flaws in the book start to show when you begin to wonder about those people and movements not included. What about Schindler, Norman Bel Geddes, Bertram Goodhue, Raymond Hood, Oud, Lescaze, Lapidus, the architects of the Chrysler Building, or the Boots Factory or the classic McDonald's? None of these fit Jenck's expanded but still quite narrow conceptual framework. There are probably limits to pluralism and inclusiveness because it is just as bad to support every viewpoint as to support only one. But I think Jencks's omissions are symptoms of a greater flaw. For all his attempts to break out of it, he is still operating well within the theoretical limits of the eary Modern Movement, and he seems stuck with a viewpoint on art and revolution and politics which is notoriously old-fashioned, naivefy romantic, full of *déjavu.*

The Postscript, called "Architecture and Revolution," suggests that because "architecture concretizes the public realm" and because "that public realm is both politically repressive and socially anachronistic, the expressive nature of architecture is thrown into doubt," and what is needed is a simultaneous revolution in political, social and architectural forms. Shades of 1917! It seems incredible that Jencks can propose the Russian revolution and Constructivism as a model, while ignoring how quickly that revolution slid into repression and classicism, and without offering a shred of evidence that a new revolution elsewhere would be any different. But I am even more amazed that anyone would still persist in linking art and politics at all.

Art (and I believe architecture) can almost always be revolutionary to the degree that it deals with change. Politics, and political systems, almost always (and luckily) deal with stasis. What Jencks seems not to see is that political revolution comes by upheaval and momentous occasions, and then is endorsed by established architectural forms (as in Russia, or indeed here at home in our own Revolution).

By contrast, architectural revolution continually comes sneaking quietly in the back door, building by building, to change our view of our world and ourselves. Jencks's Postscript seems to stand in glaring contrast to the early parts of his book, where he prefers to believe, as much as I do, in the extraordinary powers of a good building, large or small. It is the tension between his wish to see architecture as a partner of political revolution and the contrasting power of an individual building quietly to revolutionize our vision which is central to Jencks's book—and which makes for exciting, if difficult, reading. *—Richard Oliver*

Mr. Oliver, currently practicing in New York, has taught at the University of Texas and UCLA.

Also Received

TIME-SAVER STANDARDS FOR BUILDING TYPES, *edited by Joseph De Chiara and John Hancock Callender; McGraw-Hill, New York, 1973, 1065 pages, illus., $27.50.*

An outgrowth and extension of the well-known *Time-Saver Standards,* this new work complements that reference book and contains greatly expanded treatments of such materials that were drawn from it. The emphasis is on basic planning and functional considerations for particular building types, and the presentation is mainly graphic and practical. Architects, plan-

ners and students, faced with the design of an unfamiliar building type, can use the book for initial programming and schematic design, and, later, for more detailed design development. In all, the book examines ten major building types: Residential, Educational, Cultural, Health, Religious, Governmental and Public, Commercial, Transportation, Industrial, Recreational and Entertainment, and Miscellaneous (farm buildings, greenhouses, riding schools, kennels, etc.).

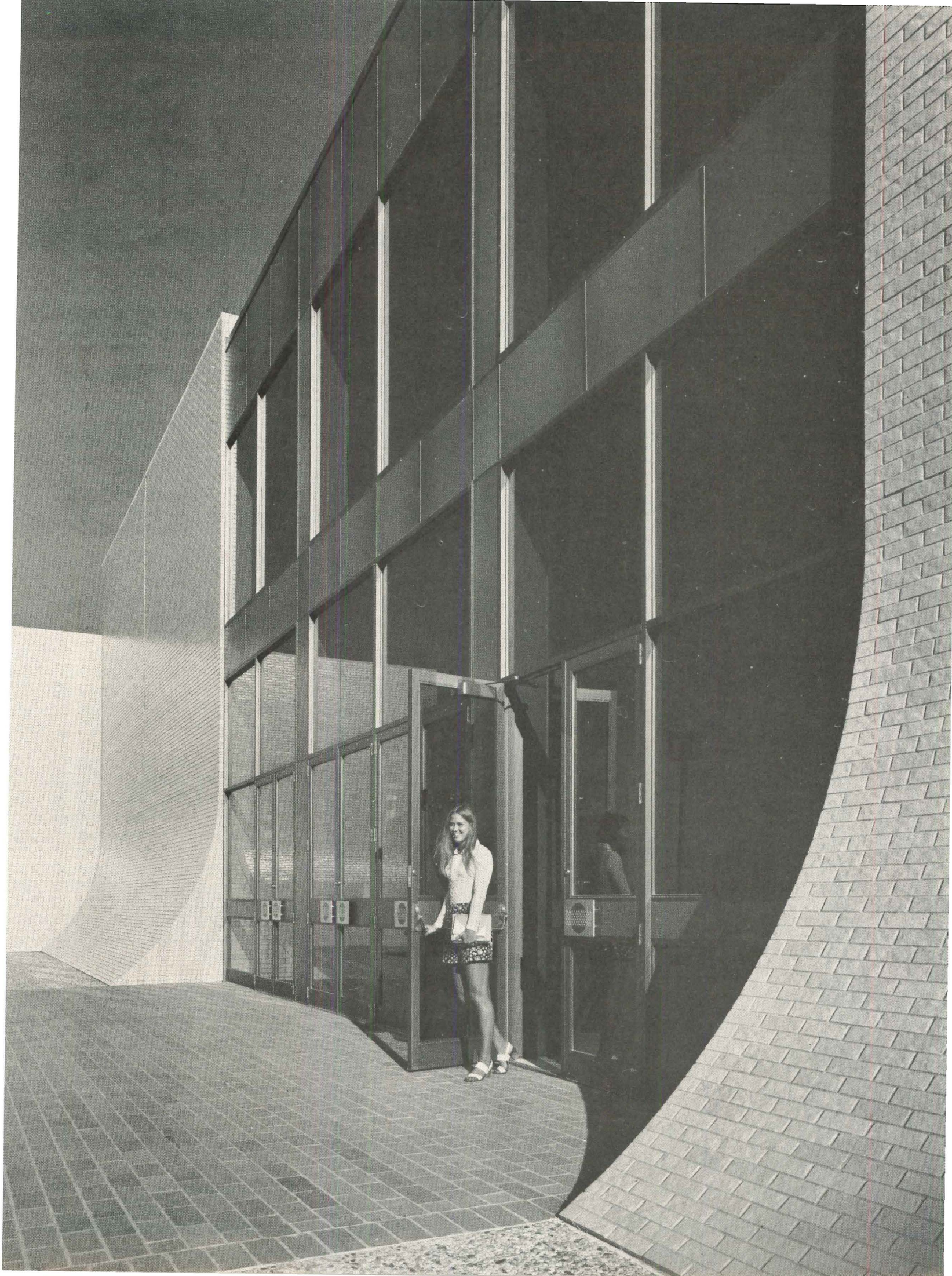
ART AND ARCHITECTURE IN ITALY: *1600 to 1750, by Rudolf Wittkower; Penguin Books, Baltimore, 1973, 485 pages, illus., $35.00.*
A part of the Pelican History of Art Series, this is a third revised edition of the late Professor Wittkower's detailed study, which was first published in 1958.

EARLY ILLUSTRATIONS AND VIEWS OF AMERICAN ARCHITECTURE, *edited by Edmund V. Gillon Jr.; Dover Publications, New York, 1971, 295 pages, illus., $6.95.*
A collection of 742 line cuts from printed sources dating between 1839 and the early 20th century. The buildings are from 249 cities in 27 states and the District of Columbia, and they range in date from the early 17th to the late 19th centuries.

HISTORIC BUILDINGS OF OHIO, *by Walter C. Kidney, with a preface by James C. Massey; Ober Park Associates, Pittsburgh, 1972, 130 pages, illus., $20.00.*
HISTORIC BUILDINGS OF WASHINGTON, D.C., *by Diane Maddox, with a foreword by Arthur Cotton Moore; Ober Park Associates, Pittsburgh, 1973, 191 pages, illus., $17.50.*
THE ARCHITECTURE OF CARSON CITY, NEVADA, *by S. Allen Chambers Jr.; Historic American Buildings Survey, Washington, 1973, 194 pages, illus., paperback.*
Historic Buildings of Ohio and Historic Buildings of Washington, D.C. are the first two in a new series of volumes "Historic Buildings of America" based on extensive documents compiled by the Historic American Buildings Survey and stored in the Library of Congress. The publishers plan to release two or three new volumes each year, and their contents will be gathered on a state and regional basis.

The Architecture of Carson City, Nevada, is a part of HABS's own series "Selections from the Historic American Buildings Survey," begun in 1966. HABS, which this year celebrates its 40th anniversary, has also published a number of other documents, as well as a bewildering multiplicity of catalogues of the collection itself. Those wishing to be initiated into HABS's mysteries—and who may need drawings or photographs of a particular building—may write for a Publications List from the Historic American Buildings Survey, Office of Archeology and Historic Preservation, National Park Service, Department of the Interior, Washington, D.C. 20240.

The Museum of Texas Tech University, Lubbock, Texas
Associated architects: Stiles, Roberts & Messersmith
McMurtry & Craig, Lubbock, Texas



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Your article "The Courts at Clinton" in the August issue is one of the most intriguing to have crossed your pages in a long time.

It is moving to observe man's fundamental urge to build regardless of circumstances.

The prison authorities are to be commended for having tolerated the courts despite recent penal philosophy. As a private citizen, one cannot help but wonder whether the tragedy of Attica might have been averted with a tradition like Clinton's.

You have uncovered architecture which surpasses in poignancy all the contemporary forms of art I can think of. There are social lessons to be learned at Clinton. The article is a treasure trove, reminiscent of Rudolfsky's "Architecture without Architects."

Janko Rasic
Janko Rasic Associates Architects

I am very late indeed in writing this letter of congratulations to you for your efforts in this year's RECORD HOUSES. The overall quality of design displayed in the magazine to me surpasses the already high standards established by this annual publication. All of the houses were real buildings that can survive mumps, measles, chicken pox and the onslaught of popular taste. It is difficult, at least for me, to find buildings today that are house houses but not trendy things dotting the landscape.

The photographs, layout and copy, covering the Schwaikert house in Salisbury, Connecticut, particularly pleased my office and self. As you know I have always considered being included in this publication the singularly most important recognition any architect can receive who considers his work to be serious in domestic architecture. I look forward to entering the lists once more in 1974.

Congratulations are also in line for the tough and important piece on Stores and Shops in the August issue. The collection of shops (which included my two invisible ones in the Lincoln Memorial and the Renwick Gallery) showed a variety in scope expressing at once elegance, charm and a sound merchandising sense.

The reproduction of Lautman's photographs of both the Lincoln Memorial and Renwick Gallery are stunning. The Record always has the best reproduction in the biz!

Again, congratulations to you and the staff of the Record.

Hugh Jacobsen, FAIA

Errata

I would like to note that our work at Clinton owes a great deal specifically to Frank Eliseo and Andy Metropulos of the New York Health and Mental Hygiene Facilities Improvement Corporation.

Further, most of the quotes in Barclay Gordon's excellent article came from the work of Ronald Roizen, a sociologist, whose consulting work for us has been invaluable on a number of projects.

Herbert McLaughlin
Kaplan and McLaughlin

In senior citizens housing

Conventional, steel-framed high-rise apartment "beats" HUD guidelines by $100,000.

Owner: Manchester Housing Authority; architect: Isaak, Moyer, Walsh & Dudley; structural engineer: Albert Goldberg & Associates, Inc.; fabricator: Lyons Iron Works, Inc.; erector: Concrete Erectors, Inc.; general contractor: Davison Construction Company, Inc.

Generally speaking, Pariseau Apartments in Manchester, New Hampshire, is a plain, ordinary apartment building. The high-rise residential home provides low-rent housing for the elderly. Its construction was federally funded under The Housing and Urban Development program.

What makes the structure distinctive is the fact that it was built within the budget. None of the construction principals could think of another HUD structure in their area with a similar budget record. They lauded the fact that the building was constructed using conventional contracting methods as opposed to the more common "turnkey" method.

$100,000 within HUD guidelines

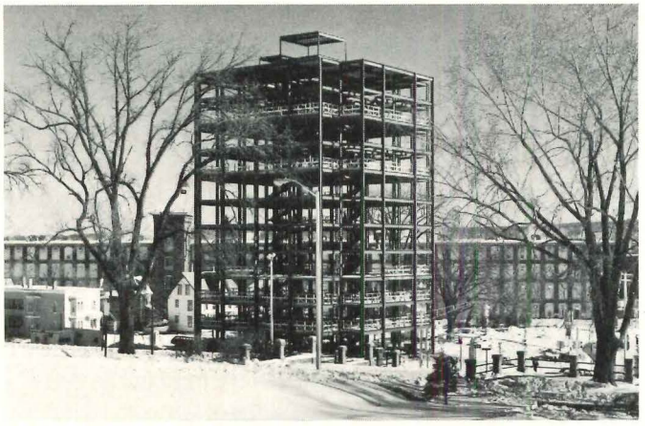
Said the architect, "all the others were 'turnkey' projects. This was one of the first HUD high-rise projects to be handled by a conventional contracting method that comes well within the budget. We estimate that we stayed within the HUD guidelines by more than $100,000. We accepted a challenge" he said, "and decided on the most economical, practical design."

The Housing Authority home for the elderly is part of a larger $3.5-million development known as the Flatiron Urban Renewal Project located on 21.6 acres in Manchester. Pariseau Apartments occupies 1.7 acres in the project. The structure incorporates 100 apartments surrounding a central core flanked by two stairways. There are 58 efficiency (studio-type) apartments in the building, 41 one-bedroom apartments, and 1 two-bedroom unit.

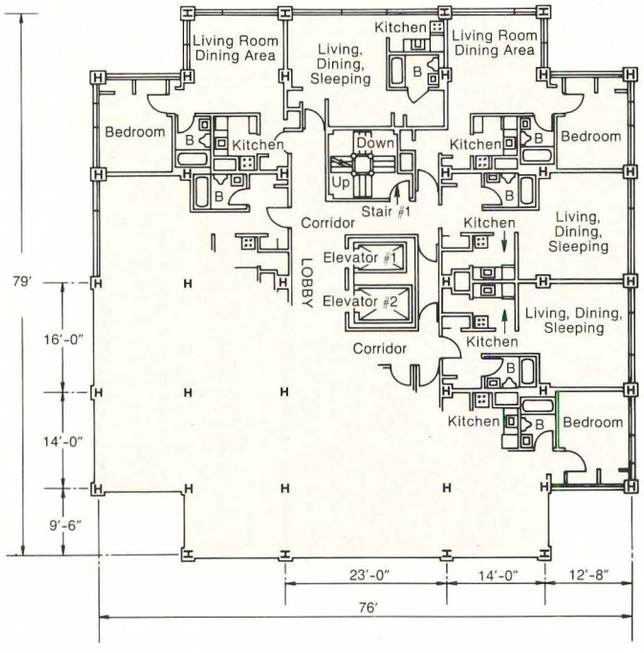
The 11-story structure measures 76 by 79 ft. Floor to floor heights are as follows: ground floor—12 ft; floors 2 through 11—9 ft, 8 in.; floor to ceiling height is typically 8 ft. The structure encompasses 61,548 sq ft. Overall costs are $2 million, but the basic construction costs are $1,787,800, about $29.00 per sq ft.

Explains housing director Paul Lamie, "HUD allowed prototype costs, and we came within the limitations. These limitations varied per unit. This is a good basic building with no frills."

Steel framework required approximately 310 tons of structural steel—all Bethlehem, and all ASTM A36. A single crane erected the framework operating from one side of the building. Typical columns in the framing system are W16 members ranging from 96 to 31 plf. Three- and 4-story columns were used. The long columns helped speed the overall project. Their use meant that lower floors could be turned over faster to the other building trades.



On a typical floor, girders are W14 sections; tie beams and spandrels are W12 and W14 members. An additional 75 tons of open web steel joists and some 60,000 sq ft of permanent steel forms are included in the building. The 28 gage steel centering, 9/16-in. deep, is used to support the 2-1/2-in. reinforced concrete floor slab. Design live loads are 40 psf for the floors and roof; dead loads are 60 psf.



The structure incorporates 100 apartments surrounding a central core flanked by two stairways. There are 58 efficiency (studio-type) apartments in the building, 41 one-bedroom apartments, and 1 two-bedroom unit.

Conventional contracting favored over "turnkey"

The apartment building is designed as a rigid frame in both directions and primarily incorporates end-plate moment connections. No vertical bracing is used in the framework. In the opinion of the fabricator, "It's an economical structure—easy to fabricate and erect, with few alignment problems. With the use of end-plate, high-strength (ASTM A325) field-bolted connections, we gained economies over welded column connections.

"In a project like this everyone knows exactly what the costs are," he added. "We can compare 'apples and apples' as opposed to the 'turnkey' type of project where it's conceivable that some costly items may be present which are not essential."

The steel framework required approximately 310 tons of structural steel—all Bethlehem, and all ASTM A36. An additional 75 tons of open web steel joists and some 60,000 sq ft of permanent forms are included in the building. During construction, 28 gage steel centering, 9/16-in. deep, was used as a permanent form for the 2½ in. reinforced concrete floor slab.

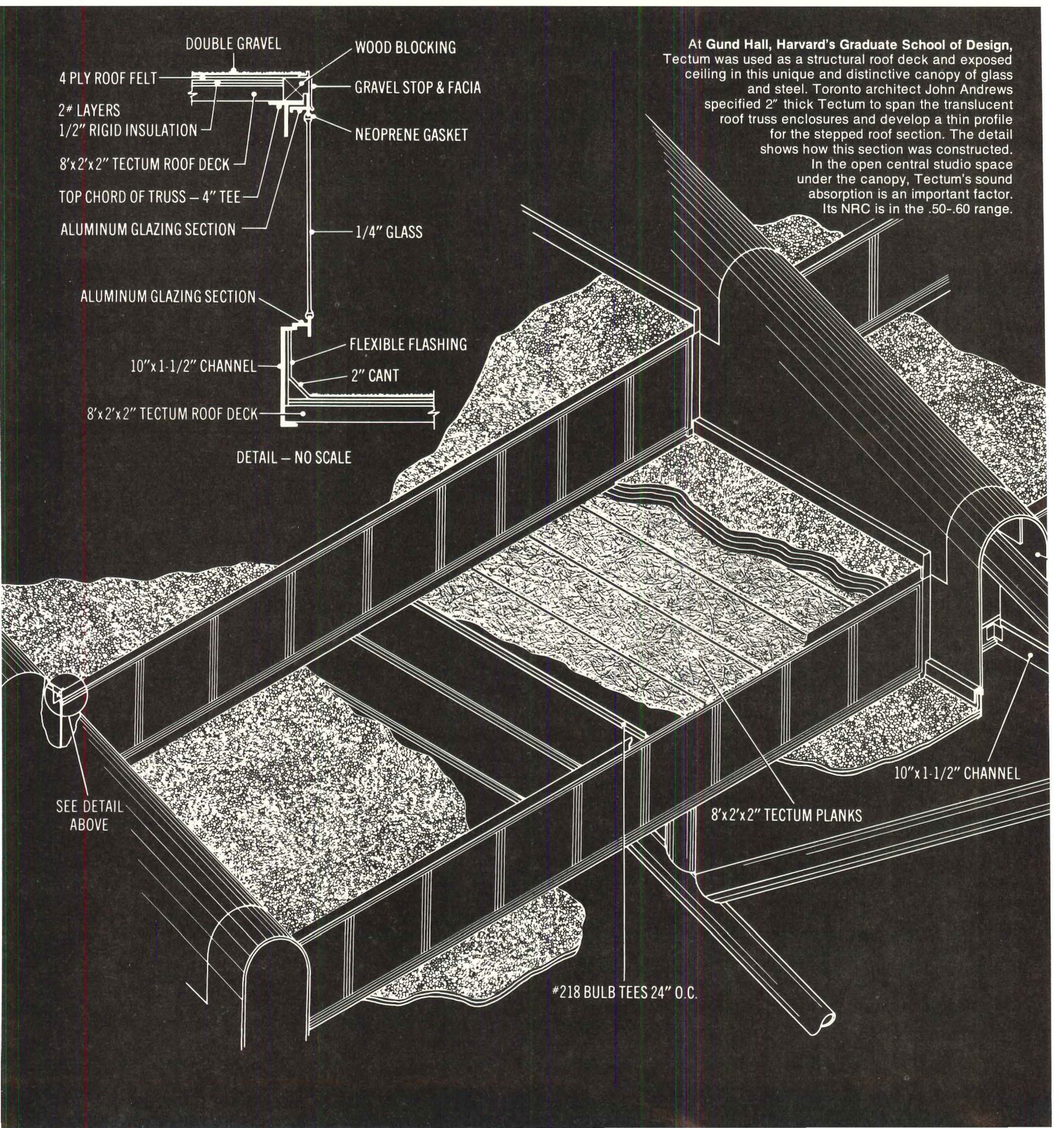
Although the framing system looks relatively simple, it required a good deal of analysis to evaluate theoretical seismic and wind forces, especially in relation to the end connections of the framework and subsequent transmittal of forces to tied spread footings. "The construction site is near the Laurentian Fault," commented the structural engineer, "so the structure is designed for Zone 2 Siesmic conditions. The foundation required ties so we used spread footings tied together with reinforced concrete tie beams."

Benefits of steel framing praised

The housing director noted that about 80 per cent of his elderly tenants live on social security payments. Rents for public housing are limited to 25 per cent of individuals' incomes. "And that isn't much," commented Lamie. "Lack of funding is a critical problem. In projects like ours, steel framing benefits can provide a meaningful contribution to economy. The time factor is important. Because steel frames go up faster than alternate framing systems, a housing authority can look forward to earlier occupancy."

The Manchester Housing Authority operates 1,396 units including 916 for the elderly and 480 for family and general occupancy. Perhaps steel framing can provide economies for your next construction project. Call your local Bethlehem sales engineer, or write: Bethlehem Steel Corporation, Bethlehem, Pa 18016.

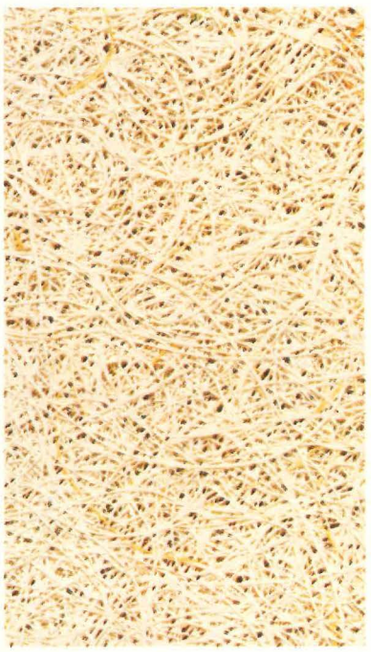
Tectum: decorative, insulating,



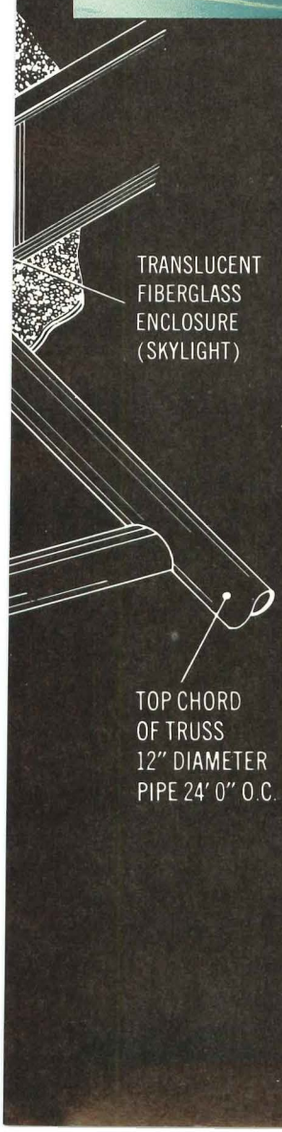
At Gund Hall, Harvard's Graduate School of Design, Tectum was used as a structural roof deck and exposed ceiling in this unique and distinctive canopy of glass and steel. Toronto architect John Andrews specified 2" thick Tectum to span the translucent roof truss enclosures and develop a thin profile for the stepped roof section. The detail shows how this section was constructed. In the open central studio space under the canopy, Tectum's sound absorption is an important factor. Its NRC is in the .50-.60 range.

structural, acoustical, non-combustible.

Gund Hall Graduate School of Design, Harvard University, Cambridge, Mass.
Architects: John Andrews, Edward R. Baldwin and John Simpson, Toronto.
Structural Engineers: Le Messurier Associates, Boston.
Tectum Contractor: Bay State Structural Specialties, Boston.



Texture is the thing about Tectum, but not the only thing.



There's no end to the ways you can be constructive with Tectum Roof Deck. Look at the way it was used in Gund Hall, shown at left. As a structural material, Tectum gives the roof a thin, efficient section, and demonstrates impressive insulating values as well. In the two-inch thickness, resistance to heat transmission is 3.50. With its Noise Reduction Coefficient in the .50-.60 range, it soaks up sound. And with its rugged finish, Tectum looks good exposed.

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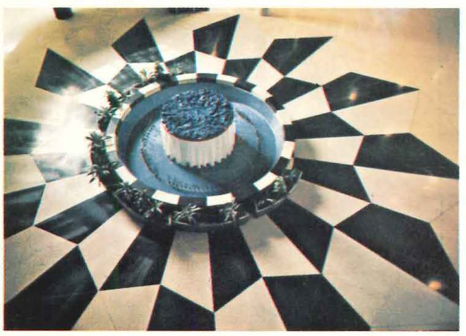

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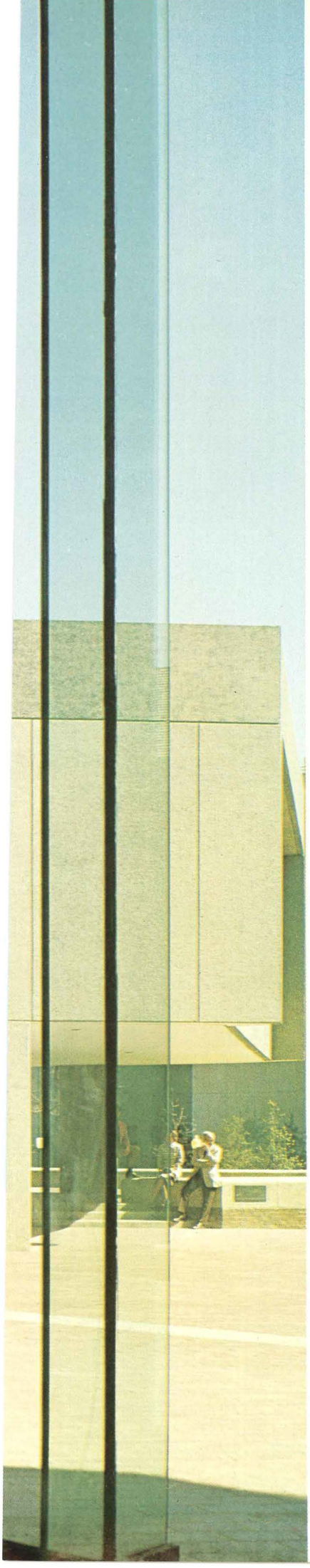

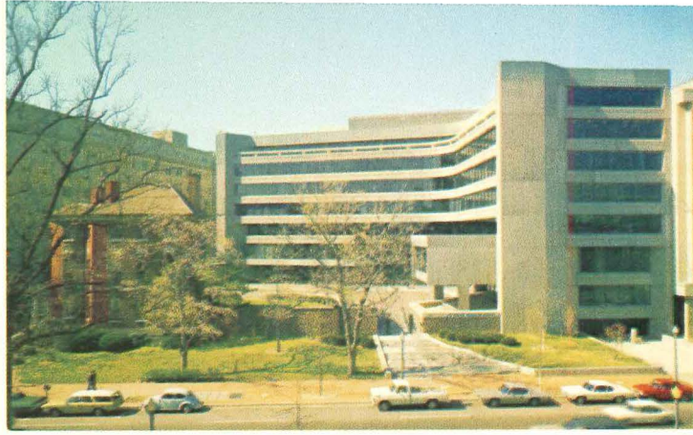

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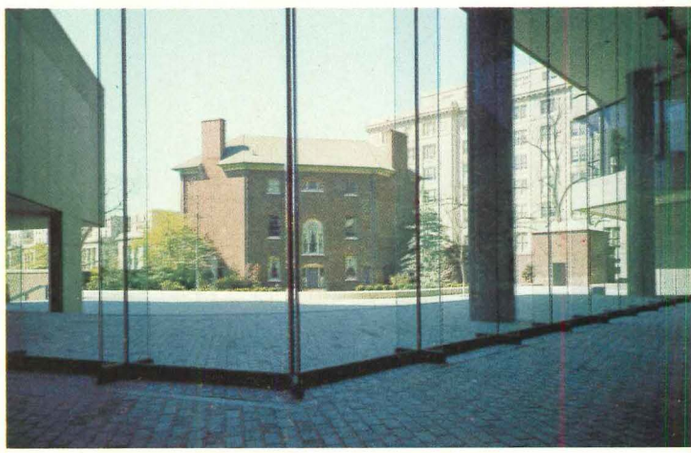

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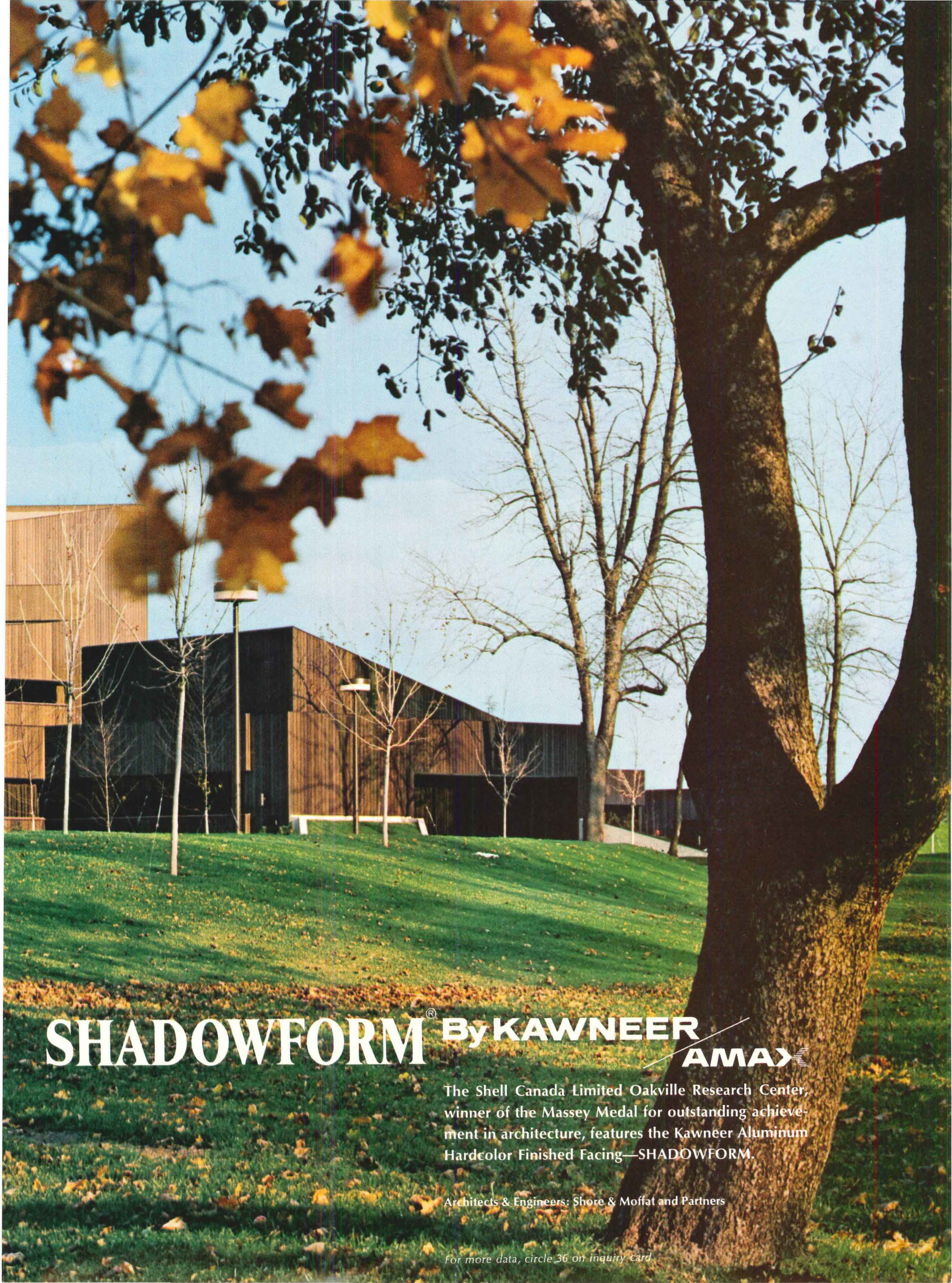

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Architects & Engineers: Shore & Moffat and Partners

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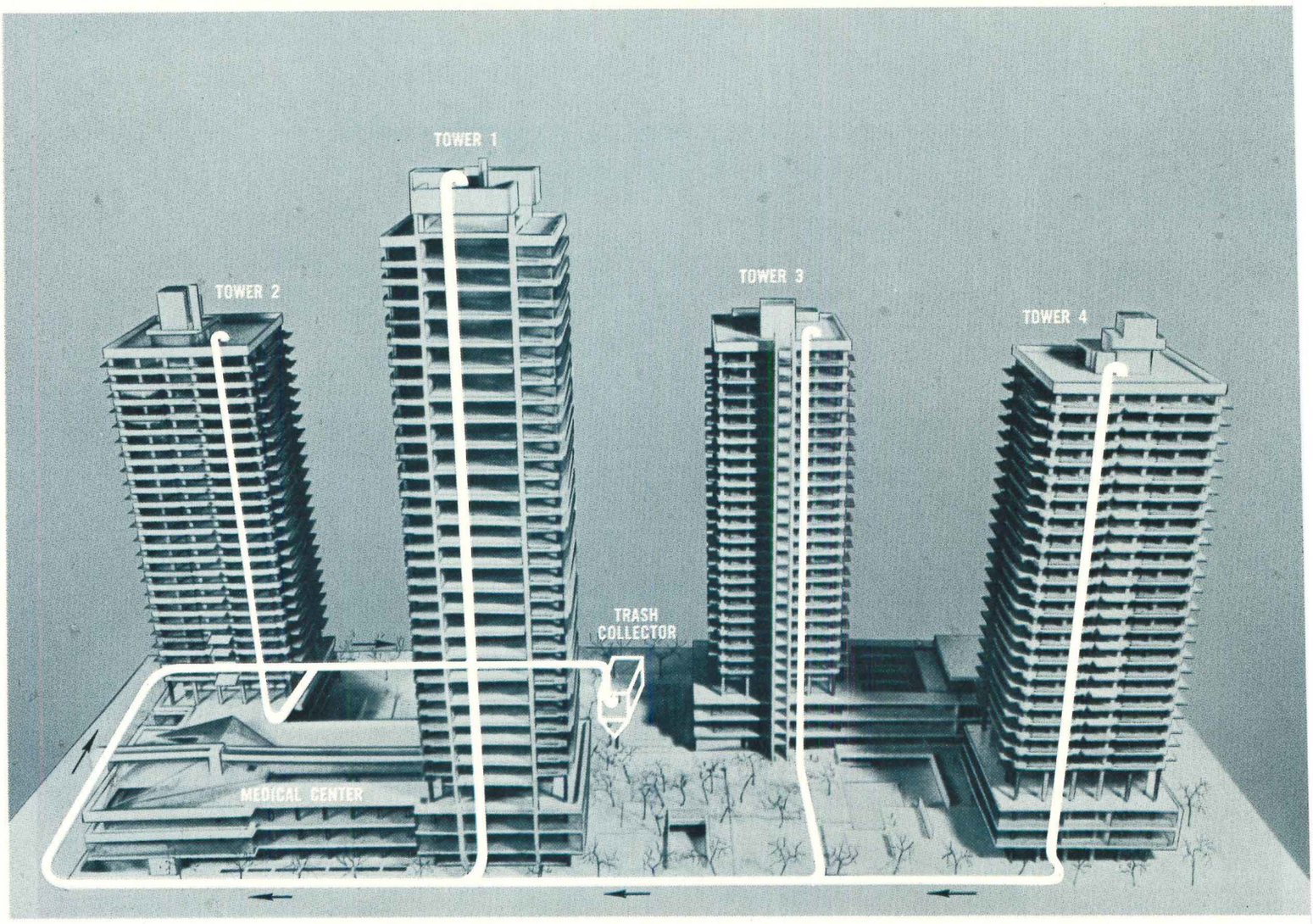

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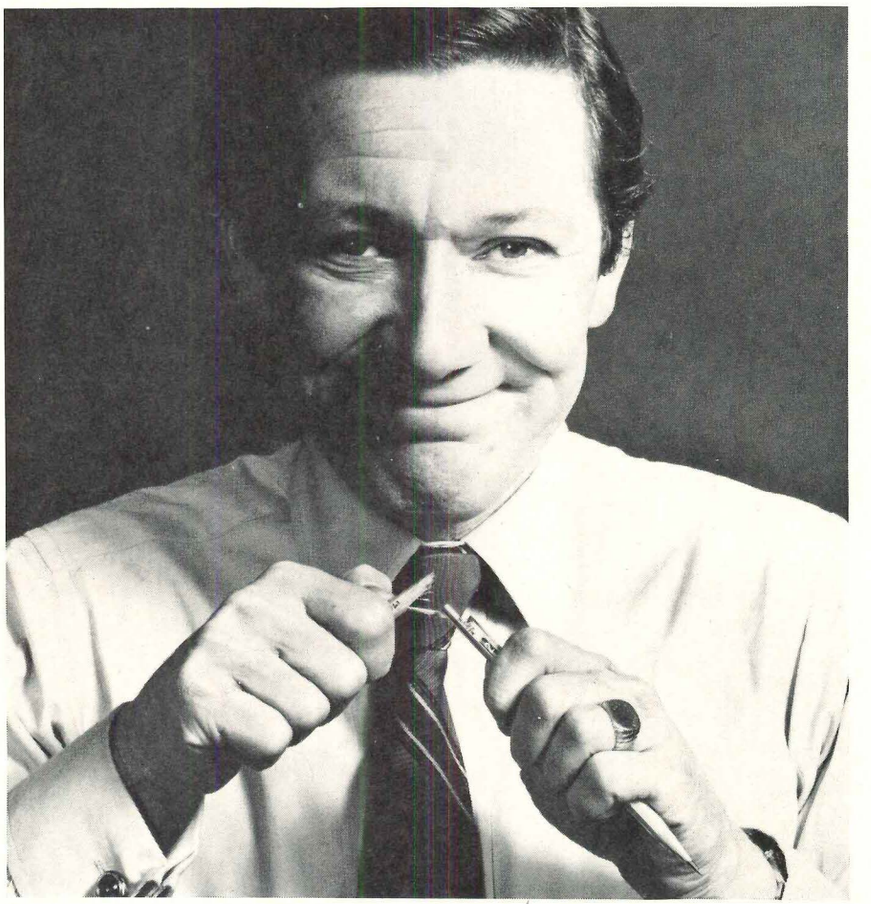

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Let's make sense of FHA fees and processing

"Many of the best architects in the country will not design FHA-insured and subsidized multifamily projects either because they feel that the maximum FHA fees are too low or because of the difficulties involved in working through detailed governmental design reviews."

This statement appears in Volume III of a voluminous report to the Housing and Urban Development Department prepared by a task force of the National Center for Housing Management, Inc. For six months this task force directed its attention to improving the operation of Federally insured or financed housing programs, and now has fed its recommendations into a growing number being laid before HUD as the Department decides what to do about restructuring housing programs.

Lewis Davis, partner of Davis, Brody & Associates, New York, served as a member of the Advisory Council.

The report concluded that if HUD is going to produce well designed and architecturally sound projects, it must be willing to work with architects in a fashion that more closely approximates practice in the conventional sector.

Separate volumes of the NCHM report treat single-family housing and public housing. The main thrusts of the documents run to recommendations on processing requirements to expedite construction and improve quality—in short, once more, untangling red tape.

The NCHM is a non-governmental institution established in April of last year to provide objective and independent leadership in housing management and training.

The NCHM report favors fees based on per-unit cost

The Center recommends that HUD base its architectural fees for multifamily housing on per-unit cost, possibly including it in the builder-sponsor profit and risk allowance. The present method is based on per cent of cost and on a sliding scale.

Each regional office of HUD, the Center believes, should establish standard per-unit architectural fees based on comparable conventionally financed projects in the area. Under a per-unit fee that would taper off with increases in the number of units in the project, the architect would (which makes sense) receive the same benefit from designing a minimum-cost compared to a higher-budget building.

The report also favors mandatory use of the so-called San Francisco plan, under which known, reliable and experienced architects would be able to forego HUD architectural reviews at the pre-construction period. It advocates giving private designers the option of seeking a pre-construction review of specific design issues with an architectural board established within each regional office.

On this point the document adds:

"At the time of cost certification, architects would certify that the project was designed to meet the objectives of FHA's Minimum Property Standards. If it were determined that these standards had not been met, Housing Ownership Management Entities (HOMEs—i.e. turnkey consortia per se) should not be refused permanent Federal financing. In most cases, HUD should instead not allow the architect at fault to participate in any future HUD housing programs."

Another recommendation: fewer inspections during construction

HUD now requires that sponsors hire independent construction inspectors, whose work is then reviewed by FHA architects. "Inspectors inspecting inspectors is obviously time-consuming and to no apparent purpose," the NCHM report commented. "Since the design architects have an interest in ensuring that their design is being carried out faithfully, they should be permitted to contract for their own inspection services and include them as a part of their fee negotiated with the HOME. HUD, on the other hand, should certify independent inspecting architects (or require the use of in-house HUD architects for that purpose) to protect the project from a construction quality standpoint."

HUD also was advised to allow participation by identity-of-interest (i.e., equity-holding) architects. Such a relation between a HOME or builder and an architect may be of value, the report held, because of the necessity to fit architectural design closely to construction possibilities and minimum property standards. HUD was told it should accept these relationships openly and assume that they will exist in regard to many projects.

Despite the many recent attacks on the Department, the Center feels that in general the quality of FHA-insured multifamily housing is superior to the quality of most comparably priced, conventionally financed housing. Troublesome as Minimum Property Standards may be to work with, and difficult as the inspection and cost certification rules of FHA are, the end result is that the tenant generally obtains a better product, the report says.

Recognizing that many communities have their own local property standards differing from the national agency's, and because it generally favors turning more authority for program operation over to state and local bodies, the task force considered recommending a waiver of Federal standards in those particular areas. It did not do so, however, on grounds 1) that the one uniform standard guarantees a consistent nationwide quality standard, and 2) that relying on a single standard opens more options for simplifying processing and accelerating FHA application and review.

Mobile home makers support safety standards

The Mobile Home Manufacturers Association has supported, almost wholly, new legislation aimed at some level of Federal supervision over the safety of these residential units.

Criticism of an alleged lack of safety features in mobile homes has been mounting with the recent tornado and flood disasters resulting in what some consider to be excessive damage to this type of shelter. A Senate housing and urban affairs subcommittee has held hearings on three bills in this area.

Testifying for MHMA, the Trailer Coach Association, Anaheim, California, and the Southeastern Manufactured Housing Institute, Atlanta, Georgia, John M. Martin, MHMA president, said that the organizations would not propose Federal control but that if Federal regulation is to be mandated by Congress, they feel minimal requirements should be included. The several mobile home safety measures so far introduced have made no "particularly compelling case establishing the need for Federal mobile home safety standards," he said.

From the viewpoint of the associations, a valid part of the proposed law is that calling for reciprocity among the states for mobiles and an inspection uniformity far beyond that so far developed through state by state legislation. (Presently 36 states have adopted ANSI mobile home standard A 119.1)

While S. 1348, one of the bills under consideration, would apply to "single wides" only, Martin proposed a broader definition which he said would effectively separate the mobile home industry from the recreational vehicle producers, yet clearly define mobiles. His proposal: " 'Mobile Home' means a structure, transportable in one or more sections, which exceeds eight body feet in width, equipped with running gear, and designed to be used as a dwelling when connected to the required utilities."

—Ernest Mickel

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A/E-CM relations: approaching a modus vivendi?

Bradford Perkins of McKee-Berger-Mansueto, Inc., whose popular series on professional firm management was written last year in his role as vice-president of the D'Orsey Hurst division of MBM, now turns his attention to some of the sensitive and controversial areas of architect-construction management relations including contracts, liability, fees and the architect/engineer selection process.

From the beginning of the growth of construction management as an accepted and desired professional service, a persistent question has been "How does the CM role affect the architect/engineer?" The urgency of this question varies considerably from project to project and from group to group within a project, but in spite of the growing industry experience it remains one of the more troublesome aspects of this rapidly expanding service.

As construction managers, MBM is currently working in virtually every one of the several possible organizational relationships with architect/engineers (separate-but-equal, partner, consultant-to, and extension-of-owner-staff). It has been possible for us to analyze the impact of CM in the major areas of A/E concern: contracts, liability, relations with the owner, fees and A/E selection.

If the architect/engineer is using one of the standard AIA owner-architect agreements, there is very little contractual overlap with the typical CM agreement. In fact, one of the major reasons for the current popularity of CM is the impression (ignoring whether or not it is a justified impression) that the typical agreement of architect with owner omits some of the services most desired by owners. Detailed cost estimates and analyses, detailed scheduling, full-time on-site management (or even representation), coordination of multiple prime contracts, and other key services are either excluded from consideration by such architect-owner contracts altogether or separated for marginal attention by identifying them as "extra services."

In fact, the better CM agreements—such as the standard GSA contract—supplement rather than overlap or confuse the typical architect/engineer role. This can be seen by a brief review of the major elements of the CM agreement:

1) *Cost management*—estimates, cost analysis, special value-engineering studies, etc.
2) *Scheduling*—usually by CPM for pre- and post-construction phases as well as construction phase.
3) *Design review*—to identify potential construction and/or coordination problems.
4) *Bid packaging.*
5) *On-site management*—to provide supervision, inspection, administration.

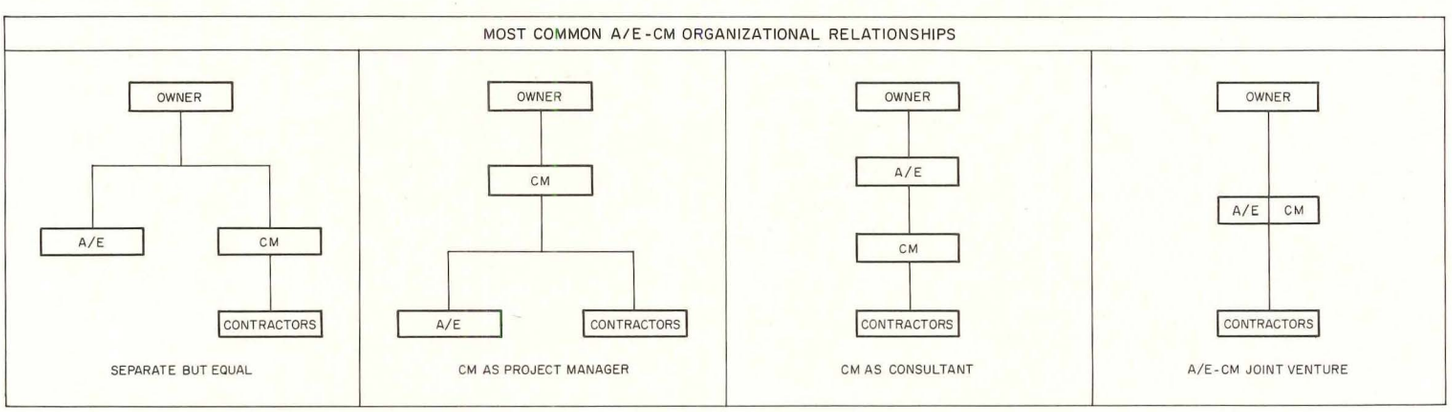
While some of the above services clearly reinforce or support the usual A/E functions, there is no dilution of, or basis for reducing the scope of any of the basic A/E contract services. In most cases, the architect/engineer is supposed to prepare his own "statement of probable construction cost." This serves as a check on the CM's estimates and vice versa. The A/E still must assure that the construction product accords with the design; he still must interpret the contract documents; review shop drawings, etc.; and the A/E still acts as the owner's agent in all matters relating to the quality of design. In practice, the areas of confusion or overlap between A/E and CM services are limited to certain aspects of contract administration. But these are the same types of overlap that occur when the owner provides an on-site representative, or imposes an established program of administrative procedures—and even here the overlap usually works to the benefit of the A/E.

Indeed, some CMs have been complaining that a lot of time-consuming administrative services otherwise provided by the A/E (though not necessarily spelled out in his agreement) are being shifted to the CM. These relate primarily to document flow and include final checking and coordination of the documents; preliminary processing of shop drawings; preparation of bid packages and bidding documentation; on-site communications and change order analysis and processing. In addition, responsibilities for field engineering and continued on-site inspection are being assigned to the CM. Many of these tasks must be performed by the firm most involved at the jobsite or in the bidding process whether or not it is clearly part of that firm's contract. In most cases, thi snow means the CM is taking the primary responsibility.

One point that should be remembered here is that the notion of "basic services" is a surrender of clarity to convenience. There is no such thing as a typical job, and the service definitions in standard contracts—good as those contracts may otherwise be—are a lazy man's approach. Every job has different requirements and every combination of owner, A/E and CM has different capabilities. Therefore, for a successful contractual relationship, the project professionals should work out a clear definition of each group's function and responsibility in as much detail as possible before the contracts are executed. Standard agreements make good boiler plate, but a clear service definition makes up the boiler's working parts.

There should be no overlap in professional liability

Becuase of the minimal overlap with the typical contractual definition of the A/E's role, there should be little change or overlap in liability on most projects. This can be illustrated



by the standard liability language used in many of our contracts.

A. The services which shall be performed by MBM pursuant to the provisions of this Agreement shall not constitute MBM an architect, engineer or contractor nor impose upon MBM any obligation to assume, render to, or perform on behalf of the client any responsibilities, duties, services or activities which would otherwise be assumed or rendered by any architect, engineer or contractor employed on the Project except for the provisions of this Agreement, nor impose upon MBM any liability with respect thereto.

B. Nothing contained herein shall be construed to impose upon MBM any liability with respect to the performance of the services referred to in the section on "Inspection," and the responsibility and liability for performing the construction work for the Project in accordance with the contract documents and assuring and certifying such performance shall continue to be solely that of the contractor, architect or engineer performing such services or doing such work in accordance with the contract documents to which such services or work relate.

What this means is that the A/E is still the A/E, the contractors are still the contractors, and the CM does not pre-empt any of their classic responsibilities nor assume any of their normal liabilities. This clause should not be thought to imply that the CM has no defined responsibility or liability exposure. He does, of course, but these are limited to his own services, as spelled out in his own contract.

On some jobs—in particular those where the service responsibilities of the CM, A/E and other team members overlap or are poorly defined—the liability issue will probably become troublesome. The practice of CM is quite new and thus there is too little experience and virtually no case law to permit analysis of the full potential of this problem.

It should be remembered, of course, that the root causes of many of the disputes and claims plaguing the design professions are inadequate management controls regarding project costs, schedule and contract administration. This dispute may be based legally on some supposed specific lapse in contract performance, but all too often the real cause is an owner's dissatisfaction with the over-all management of the project, with its failure to achieve its time/cost goals. Since CM is aimed at reducing this dissatisfaction it may end up helping reduce the liability problems of the entire construction industry.

The CM presence should improve A/E relationship with the owner

Contract obligations and liability limitations do not in themselves define an owner-designer relationship. There remain the concerns of mutual respect and the regard of both parties for both design freedom and fiscal responsibility. These provide the sinews and substance of a good working partnership. The emergence of the CM has had a significant impact on the A/E's relationship with the owner in several ways—some positive and, unfortunately, some negative.

The negative aspects have resulted largely from the elements of the CM service which often force him into hard review of A/E decisions in his role as cost manager and problem spotter. This is true even where the CM is a subsidiary of an A/E firm. Tactful staff and A/E-CM cooperation can minimize this problem, but it cannot eliminate it. Owners expect the CM to "ride herd" on costs and other construction issues. Few design professionals enjoy being second-guessed or guided by the CM, and conflict can easily arise.

Some conflict can be healthy, of course, and the independent perspective of the construction manager is at the core of the CM service. This is one of the major arguments advanced by proponents of separation between A/E and CM service firms.

Over-all, however, the net impact of CM services on the A/E-owner relationship has probably been positive. Good CM services have tended to mitigate some of the problems that strain communications understanding. By reducing the A/E's involvement in functions which many design professionals do not want to perform, the CM concept may eventually create a more effective and happier A/E-client relationship. The price, however, is a redefinition of the A/E's role as the "prime project professional," for now he has a partner who will probably have equal influence with the owner; albeit in the harsher world of cost and schedule where the A/E may welcome such a partner. Fair payment for extra design work will usually get swifter approval from a school board, for ecample, if the CM can attest to its reasonableness and advise as to the norms of the profession in such matters.

What to think about in discussions of fees

All of the above points serve as a preamble to an area of primary concern to both the A/E and owner—the impact of CM service on the A/E's fee. Since all professional fees should be related to the extent, quality and cost of providing them, obviously their evaluation can be found only in an analysis of the services that must be provided. There are other considerations as well, however, and every A/E should note them before he agrees to a fee for a project which will employ a CM.

1) While many of the CM's services should make the A/E's life easier, this help usually occurs in areas of effort which the A/E should have been (but typically has not been) receiving additional compensation in the past.

2) Typical of such an area are services related to contract administration, paper flow and management information. On the one hand, the A/E may be able to reduce his responsibility for the basic paper flow; on the other hand, he will be required to play his role in the increased tempo of management controls which a CM generally employs. The additional reporting and information required from the A/E for such efforts as design phase CPM schedules can have major benefits but they also have associated costs.

3) Yet, if the CM is a good manager and/or if the project is phased or otherwise accelerated, there are major cost savings for the A/E. Among the major causes of the low profits frequently associated with A/E practice are the stops and starts, delays, redesigns and other problems that frustrate or extend the A/E's effort. On many projects in our experience, the A/E effort has been unusually profitable because owner decisions have been expedited, the owner-review delays have been minimized, and the design phase duration, relieved of endless alternates, is compressed to a minimum. The result is a situation where the A/E professionals can budget their efforts and keep within the budget.

4) Beware of the guaranteed maximum price contract. This is not construction management, for as soon as the GMP goes on the "CM" becomes a general contractor—not an owner's agent. When this happens, the A/E can no longer assume that he has a partner to share or reduce his workload.

5) Of course, the A/E should always try to avoid accepting a fee based on a percentage of the actual construction costs. In such cases, the CM, by attempting to reduce project costs, will by working indirectly to reduce the A/E's fee. This can lead to a strained relationship between the two, even though most A/E firms have had to face that conflict of interest by themselves in the past.

Considering all of the above factors, most A/E's and owners should assume that the presence of a CM furnishes no reason in itself, for an increase or decrease in A/E fees. Fees for "basic" A/E services should apply even if the engagement of a CM is not contemplated until after the A/E-owner agreement is signed. This is a matter we are always questioned about and our answer is consistent: The CM may save the A/E some administrative costs, but these savings should be reserved for application to the demands of a more vigorously managed and tightly controlled project with consequent profit to the owner in terms of over-all cost.

A/E selection and the future

To date, the CM has rarely been called on for advice in the selection of the A/E because the CM is often selected at the same time as or after the A/E. This is subject to change, however, as owners are more often engaging architects, construction managers and other consultants for feasibility studies, programming and other pre-design work in more and more areas of owner concern.

One has to remember that the rapid rise in the use of separated services called construction management can be viewed as a symptom of "consumer revolution." GSA and other owners—rather than construction industry producers—have taken the lead in the development and definition of CM because they needed more effective means of delivery of large, complex projects than had been available through public bidding of single contracts for each project.

Construction management, however, is only one part of the response to this demand for improved project delivery. A still vaguely defined idea now emerging is one of total project management—the concept of a single, unified project venture with all of the required capabilities working toward a common set of objectives. Leadership of that future venture is probably one of the greatest challenges facing both the A/E and CM today.

—Bradford Perkins

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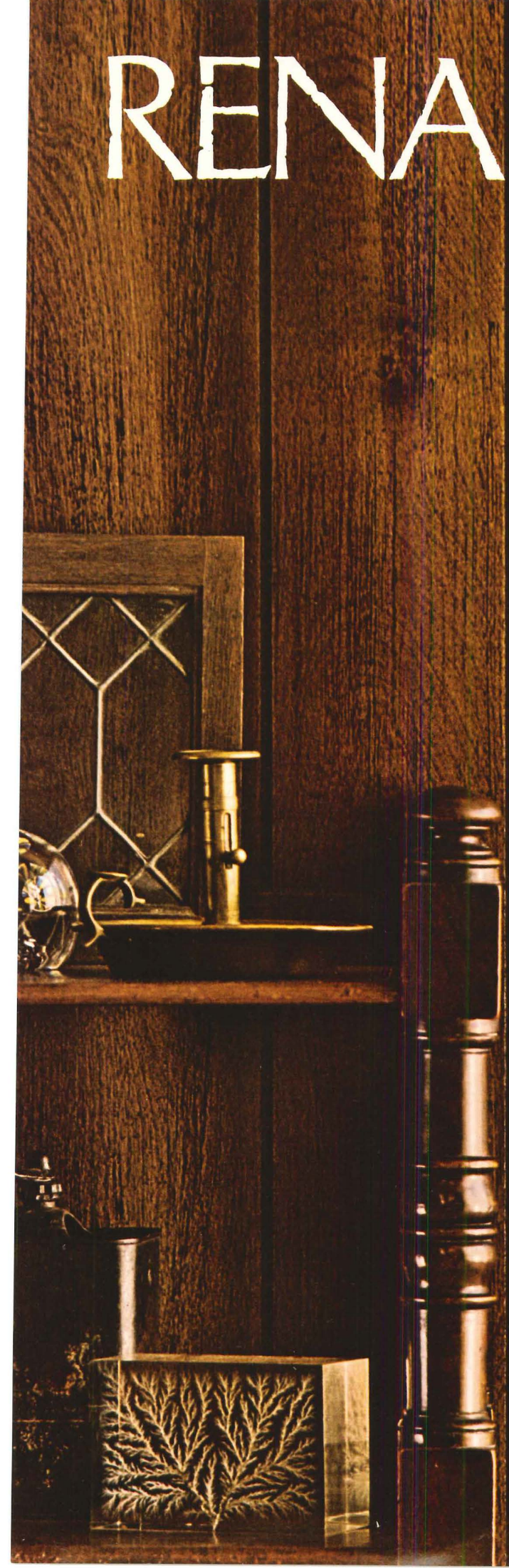

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GOODYEAR
CHEMICALS

Costs resume steep climb as materials and labor both gain

Construction costs across the nation rose an average of 12.5 per cent for the year ending September 30, 1973. On a comparative basis, the cost of construction labor and materials for the year ending September 30, 1972 increased 5.9 per cent.

A contributing factor in the 12-month climb was an average of 15.8 per cent rise in the building materials cost and the supporting factor of moderating rise in wage rates—7.5 per cent for building trades craftsmen. In comparison, a year ago, the period ending October 1972, showed a 6.9 per cent hike in craftsmen's wages.

Cost gains over the 12-month period were generally highest in the Pacific Coast 13.1 per cent, while the Metropolitan New York/New Jersey region (usually the leader in cost increases) experienced a gain of 12.4 per cent. This was even below the average increase for the Eastern U.S. which was 12.6 per cent. Another interesting factor worth watching is the large gains experienced in the South. In the six-month period ending September 30, 1973, the Southeastern and South Central states saw construction costs soar 7.2 per cent—far outstripping its closest competitor, the Pacific Coast, by 0.6 per cent. This was due primarily to the fact that material prices in the South showed the largest increase (9.0 per cent) of any section of the country.

—John H. Farley, senior editor
Dodge Building Cost Services

INDEXES: October 1973 — 1941 = 100.00 (except as noted)

Metropolitan area	Cost differential	Current Indexes: non-res.	residential	masonry	steel	% change last 12 months
U.S. Average	8.1	437.2	410.5	427.8	417.6	+12.06
Atlanta	7.5	550.9	519.3	539.0	527.2	+ 9.61
Baltimore	8.1	483.0	454.1	470.9	457.6	+13.30
Birmingham	7.3	406.7	378.2	392.4	388.0	+12.45
Boston	8.8	442.9	418.5	436.7	425.9	+11.20
Buffalo	8.7	476.0	447.0	468.1	454.6	+10.74
Chicago	8.4	515.2	489.8	496.7	490.5	+14.66
Cincinnati	8.5	467.9	440.2	454.8	443.8	+12.78
Cleveland	8.7	468.1	440.4	457.2	446.8	+ 7.83
Columbus, Ohio	7.9	451.2	423.6	438.9	429.9	+ 9.83
Dallas	7.5	439.8	425.8	429.2	420.9	+13.09
Denver	7.9	465.5	437.9	457.5	443.4	+11.16
Detroit	9.5	506.0	482.0	508.9	489.3	+15.87
Houston	7.0	395.4	371.3	384.8	378.4	+ 7.32
Indianapolis	7.5	395.9	371.7	386.7	378.5	+ 9.18
Kansas City	7.9	410.5	387.8	401.1	390.8	+10.78
Los Angeles	8.4	514.8	470.5	499.7	488.8	+18.99
Louisville	7.4	435.1	408.6	424.6	415.5	+11.90
Memphis	7.7	432.1	405.7	414.9	409.2	+17.18
Miami	7.7	452.0	430.6	438.2	429.3	+10.23
Milwaukee	7.9	477.4	448.2	467.4	453.7	+ 8.77
Minneapolis	8.5	460.6	433.3	452.4	442.2	+10.65
Newark	8.4	418.3	392.7	410.7	402.8	+10.13
New Orleans	7.3	425.4	401.5	419.1	409.4	+13.96
New York	10.0	495.9	461.1	483.8	471.3	+14.90
Philadelphia	9.0	489.9	466.7	485.3	472.1	+15.84
Phoenix (1947 = 100)	7.7	249.7	234.4	241.6	237.5	+12.53
Pittsburgh	8.5	428.5	403.1	423.4	410.4	+11.80
St. Louis	8.4	449.4	424.1	442.0	431.9	+10.55
San Antonio (1960 = 100)	6.9	159.3	149.5	154.0	150.9	+ 6.52
San Diego (1960 = 100)	8.0	179.5	168.5	175.5	171.9	+18.02
San Francisco	9.2	645.8	590.3	639.4	620.1	+12.85
Seattle	8.4	434.8	389.1	429.9	413.9	+14.46
Washington, D.C.	7.5	405.1	380.3	392.9	384.4	+ 8.81

Cost differentials compare current local costs, not indexes.

Tables compiled by Dodge Building Cost Services, McGraw-Hill Information Systems Company

HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES — 1941 average for each city = 100.00

Metropolitan area	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972 (Quarterly) 1st	2nd	3rd	4th	1973 (Quarterly) 1st	2nd	3rd	4th
Atlanta	306.7	313.7	321.5	329.8	335.7	353.1	384.0	422.4	459.2	472.5	473.7	496.1	497.7	516.4	518.0	543.8	
Baltimore	275.5	280.6	285.7	280.9	295.8	308.7	322.8	348.8	381.7	388.1	389.3	418.8	420.4	441.8	443.6	474.5	
Birmingham	256.3	260.9	265.9	270.7	274.7	284.3	303.4	309.3	331.6	340.4	341.6	356.7	358.3	371.7	373.2	401.1	
Boston	244.1	252.1	257.8	262.0	265.7	277.1	295.0	328.6	362.0	377.3	378.5	392.8	394.4	414.0	415.6	436.8	
Chicago	301.0	306.6	311.7	320.4	328.4	339.5	356.1	386.1	418.8	422.8	424.0	442.7	444.3	465.3	466.9	507.6	
Cincinnati	263.9	269.5	274.0	278.3	288.2	302.6	325.8	348.5	386.1	399.9	401.1	400.1	410.7	430.4	432.0	461.4	
Cleveland	275.8	283.0	292.3	300.7	303.7	331.5	358.3	380.1	415.6	415.2	416.4	427.7	429.3	436.7	438.3	461.2	
Dallas	253.0	256.4	260.8	266.9	270.4	281.7	308.6	327.1	357.9	364.9	366.1	385.0	386.6	407.3	408.9	435.4	
Denver	282.5	287.3	294.0	297.5	305.1	312.5	339.0	368.1	392.9	398.3	399.5	413.8	415.4	429.5	431.1	460.0	
Detroit	272.2	277.7	284.7	296.9	301.2	316.4	352.9	377.4	409.7	416.9	418.1	431.5	433.1	463.4	465.0	500.0	
Kansas City	247.8	250.5	256.4	261.0	264.3	278.0	295.5	315.3	344.7	348.7	349.9	365.4	367.0	387.7	389.3	404.8	
Los Angeles	282.5	288.2	297.1	302.7	310.1	320.1	344.1	361.9	400.9	407.8	409.0	422.9	424.5	453.3	454.9	503.2	
Miami	269.3	274.4	277.5	284.0	286.1	305.3	392.3	353.2	384.7	391.5	392.7	404.8	406.4	419.0	420.6	446.2	
Minneapolis	275.3	282.4	285.0	289.4	300.2	309.4	331.2	361.1	417.1	401.7	402.9	411.3	412.9	430.6	432.2	455.1	
New Orleans	284.3	240.9	256.3	259.8	267.6	274.2	297.5	318.9	341.8	350.9	352.1	368.1	369.7	382.1	383.7	419.5	
New York	282.3	289.4	297.1	304.0	313.6	321.4	344.5	366.0	395.6	406.5	407.7	421.5	423.1	453.5	455.1	484.3	
Philadelphia	271.2	275.2	280.8	286.6	293.7	301.7	321.0	346.5	374.9	394.2	395.4	417.9	419.5	459.3	460.9	484.1	
Pittsburgh	258.2	263.8	267.0	271.1	275.0	293.8	311.0	327.2	362.1	364.5	365.7	378.7	380.3	406.3	407.9	423.4	
St. Louis	263.4	272.1	280.9	288.3	293.2	304.4	324.7	344.4	375.5	385.5	386.7	400.9	402.5	427.8	429.4	443.2	
San Francisco	352.4	365.4	368.6	386.0	390.8	402.9	441.1	465.1	512.3	535.3	536.5	559.4	561.0	606.4	608.0	631.3	
Seattle	260.6	266.6	268.9	275.0	283.5	292.2	317.8	341.8	358.4	363.0	364.5	369.9	371.5	388.4	390.0	423.4	

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.

For more data, circle 43 on inquiry card

Housing: after the freeze?

Whether the nine-month period between the freeze on the old Federal housing programs and the presentation of the Administration's new housing proposal was a deliberate attempt to symbolize the act of creation, or an inadvertent coincidence, need not concern us directly. It is interesting to speculate, though, on why it *did* take that long. And, in this respect, it's possible to formulate two extreme positions: a) The problems with the old programs were so massive, that the combined efforts of Federal housing experts were hard put to correct them—a situation that, if true, does not reflect kindly on the volumes of testimony and commission reports (some, years in the making) on which the landmark Housing and Urban Development Act of 1968 was based. Or, b) the Administration, preoccupied with other problems, not the least of which was Watergate, had "Housing Act reform" pretty low on the list of priorities.

The Administration is concerned with establishing need and cutting waste

President Nixon did say in his State of the Union address, that, "one of my highest domestic priorities this year will be the development of new policies that will provide aid to genuinely needy families and eliminate waste." And, it's pretty clear from the Fifth Annual Housing Goal Report, released in August, that he felt the current housing program, both, wasteful, and not always providing aid to "genuinely needy families."

Here's how the Report views the old programs: "To achieve the high levels of subsidized production, financing techniques were devised which in a real sense "mortgage the future" by committing the Federal Government and future generations of taxpayers over possibly as long as the next 40 years to bear costs now estimated for HUD and USDA programs at between $65 billion and $85 billion—even if not a single new unit were to be added in the last half of the goal decade. Additional costs are borne by the taxpayer due to the various tax incentives designed to encourage the construction and rehabilitation of these housing units for low- and moderate-income families."

Few of the needy really get the help proposed

In addition, "It has been clear for some time that all too frequently the neediest have not been the primary beneficiaries of *some* of the programs. The programs also do not treat all families equitably since only a modest proportion of the families eligible for subsidies—that is, whose incomes qualify them according to the law to receive housing assistance—actually receive them."

And, while, for the first half of the housing goal decade, total housing production is exceeding the target for those years, "subsidized rehabilitated units are falling behind target levels for FY's 1969-73, with actual rehabilitation amounting to 199,620 units, or 60 per cent of the target volume." And, in the new construction area, "subsidized housing units constructed (excluding rehabilitation) reached nearly 1.6 million units—about 72 per cent of the target set. . . ."

You've got to infer from this that if the subsidized programs *were* meeting their goals, the estimated future costs of these programs would be in the neighborhood of $85 to $115 billion, not the $65 to $85 billion estimated in the report quoted above.

Part of what's at issue here, though, is not that the provisions of the 1968 Housing Act were necessarily wrong, or massive miscalculations, but rather, that there's been a change in the criteria by which the old housing program is being judged. The 1968 Housing Act was formulated during a period when total housing production was in the 1.4 to 1.5 million unit range (and that includes mobile homes). A prime goal of the 1968 Act was to get housing *built*, period. And, although subsidized housing did not hit the targeted amounts expected of it, an awful lot *did* get built. Nobody said that this could be done cheaply. Cost was not the significant criterion at the time.

The industry's capacity to produce doesn't guarantee livable housing for everyone

Here, in the second half of 1973, after the private sector's ability to produce housing has exceeded all expectations, we not only *can* afford to evaluate subsidized housing with a more critical eye, but we should.

But, a reevaluation done with the recent triumphs of the private sector so fresh in mind, has within it the dangers of overreaction. There's no doubt that the private sector has met or exceeded the volume targets set out for it in the Housing Goal Reports, but, this does not necessarily guarantee that the ultimate goal of all this, the realization of a decent house for every family to actually live in, is also being achieved. The proposals to give the needy family a direct allowance to enable it to go and find its own housing, can't presume, first of all, that private industry is going to automatically put the home where the needy family wants it. The whole concept is still based on this whole questionable concept of the "trickle-down" effect. The theory is that the needy get what's left after the more fortunate have moved on to better housing. Since everyone ends up with a better home, the theory goes, everyone is better off.

The trickle-down theory doesn't square with the problem of abandoned neighborhoods

There are two very basic problems with this theory: First, if a neighborhood is no longer considered a good place in which to live the condition of its housing is irrelevant. If the home is not conventionally located in an area of gainful employment, or if it is rampant with social ills like crime and drug addiction, you're not really doing anyone a favor by giving him an allowance so that he can move into the neighborhood. (After all, the previous occupant left it for a reason too, didn't he?)

Secondly, this method has very real economic costs attached to it that are not completely evident at first. Current estimates of housing removed from the inventory or abandoned range between 700,000 and 750,000 a year. This compares with a 450,000 average for the decade of the 1950's. It would be nice if this upsurge in removals were all in the form of dilapidated housing. Unfortunately, though, this does not appear to be the case.

Much of this accelerated removal rate represents sound housing or housing in need of minor repair, that has become abandoned. The housing did not deteriorate, it was the neighborhood that deteriorated. And, the point is, that anyone with a housing allowance is not going to go into a deteriorating neighborhood if he can help it, so that neighborhood is going to continue to go down hill—probably at an accelerated rate. That neighborhood needs something to turn it around *first.* Some initial rebuilding or redevelopment to make it attractive as a rental or home ownership market again. The private housing industry is not geared to provide this initial burst of incentive—that has to come from the public sector. The cost of not providing this, of course, is the needless waste of sound housing. And for a nation that is finally coming to realize that its resources are not unlimited, that it can't simply tear down and rebuild at will, this is a real cost.

James E. Carlson, Manager, Economic Research
McGraw-Hill Information Systems Company


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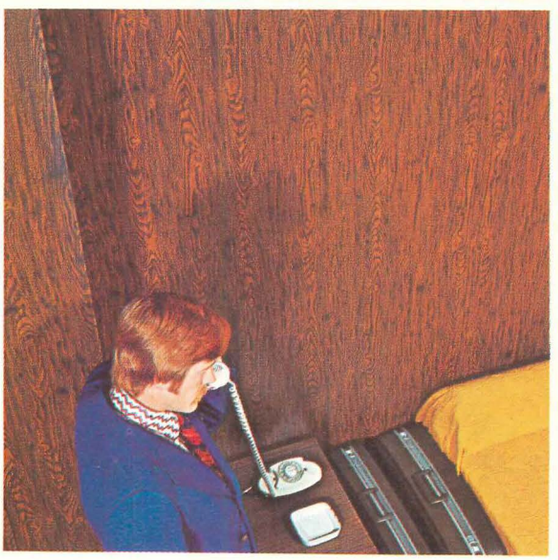

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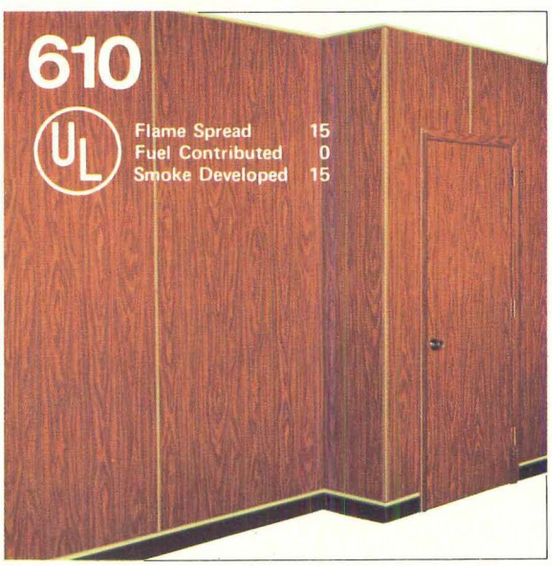
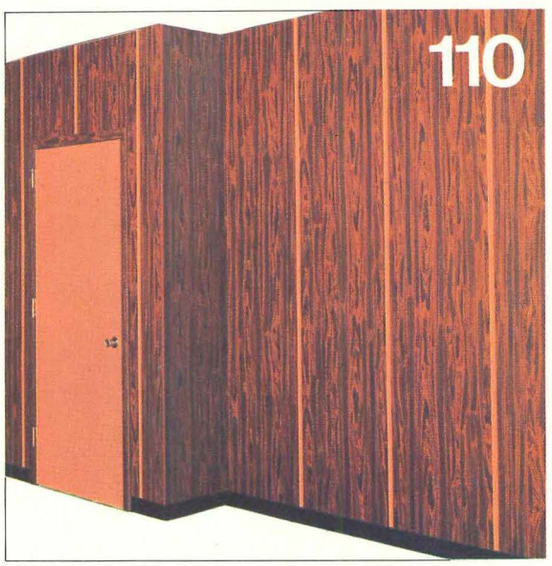
Panels:
thickness: nominal 7/16"
surfacing: 1/32" Wilson Art fire retardant laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" mineral composition
back: .020" fire retardant backing sheet
sizes: 47½" x 96" and 47½" x 120" (other sizes quoted on request)
moldings: extruded aluminum (hidden base moldings, mill finish; face moldings, acrylic coated, standard in Lt. Bronze, Dk. Bronze, Brown and Black)

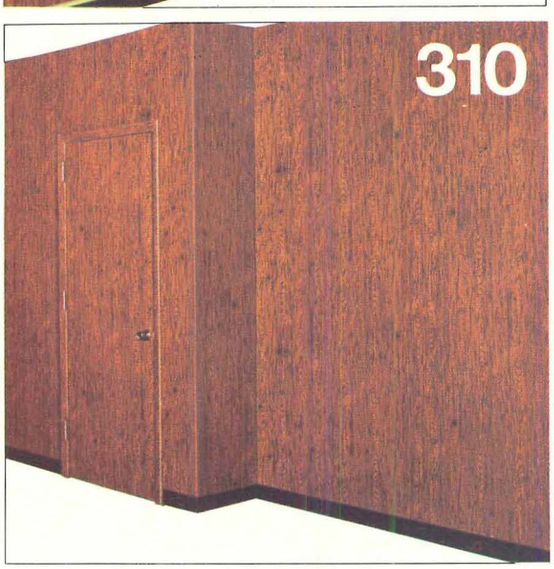


Wilsonwall System 110 Specifications

Panels: **thickness:** nominal 7/16" **surfacing:** 1/32" Wilson Art laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" particleboard (CS-236-66)
back: .020" backing sheet
sizes: 15½" and 24" widths; 96" and 120" lengths (other sizes quoted on request)
reveal strips: 1/16" thick Wilson Art laminate; 1/2", 3/4" and 1" widths; 96" and 120" lengths

NOTE: Upon request, panels meeting Class I or Class II fire hazard classification depending upon specific code requirements.

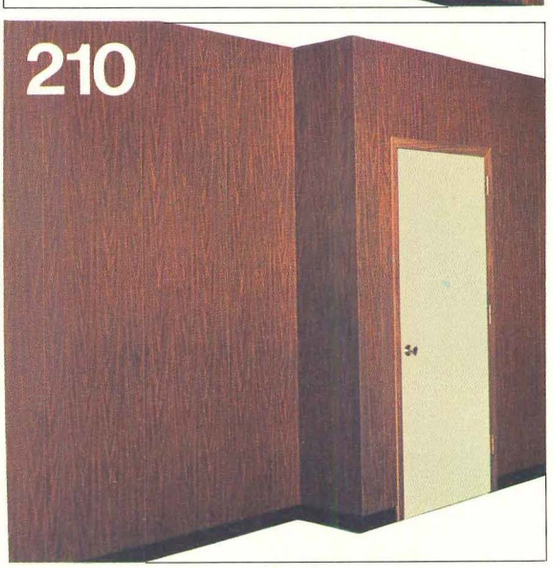




Wilsonwall System 310 Specifications

Panels:
thickness: nominal 7/16"
surfacing: 1/32" Wilson Art laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" particleboard (CS-236-66)
back: .020" backing sheet
sizes: 48" widths; 96" and 120" lengths (other sizes quoted on request)
moldings: extruded aluminum, mill finish

NOTE: Upon request, panels meeting Class I or Class II fire hazard classification depending upon specific code requirements.



Wilsonwall System 210 Specifications

Panels:
thickness: nominal 7/16"
surfacing: 1/32" Wilson Art laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" particleboard (CS-236-66)
back: .020" backing sheet
sizes: 15½" and 24" widths; 96" and 120" lengths (other sizes quoted on request)
sizes: 15½" and 24" widths; 96" and 120" lengths (other sizes quoted on request)

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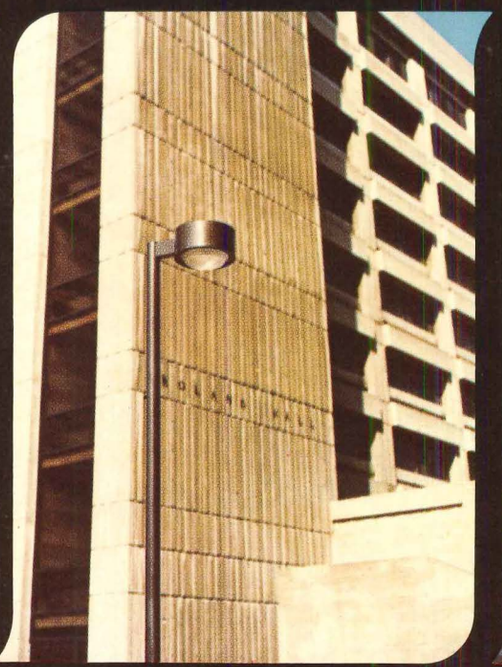
Light is a lot of details,

Custom fixtures, like the Directionaire Street/Sign light, add form to function, 'round the clock.

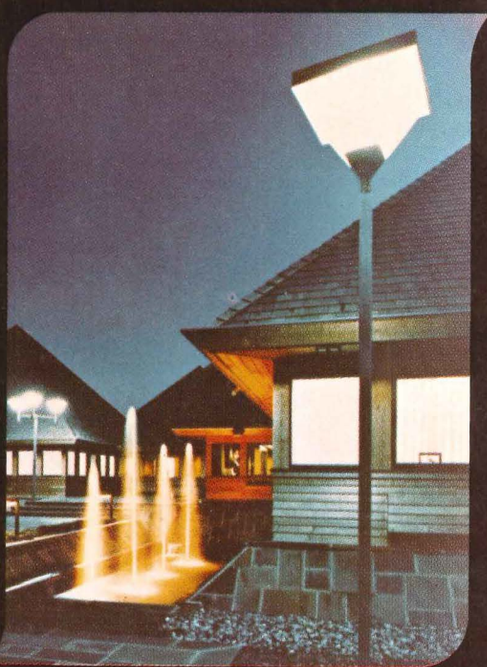
Only light the land you own. Profile™ light's reflector design provides excellent cutoff and delivers predictable rectangles of even illumination, to build yourself an outdoor sales floor.

Cladding options come as you need them. The Ultra-Lite™ family matches motifs in wood, metal, vinyl, colors.

For large areas, SCL series luminaires keep the light on the ground, not in your neighbor's eyes. Its high efficiency gets the most light to the need, economically.

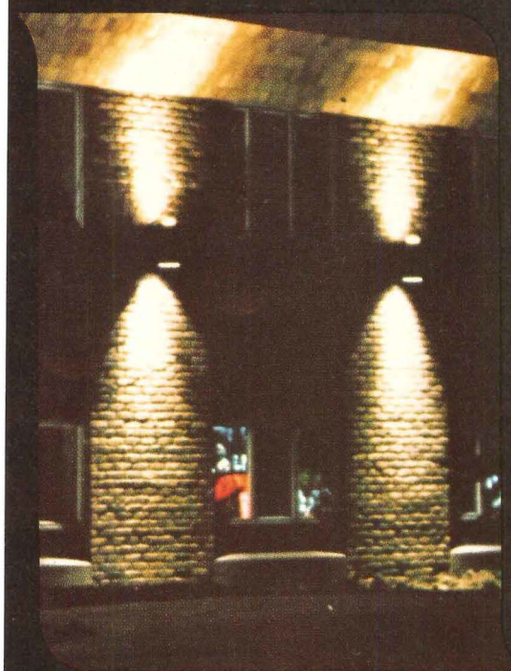


This architecturally styled small-area and walkway luminaire (Model RSL) can provide symmetric and asymmetric light distribution to meet a variety of site lighting requirements.



Courtyards take on a soft glow, as do walkways and small parking areas, with the PTL-A post tops. They're available with up to four luminaires per pole.

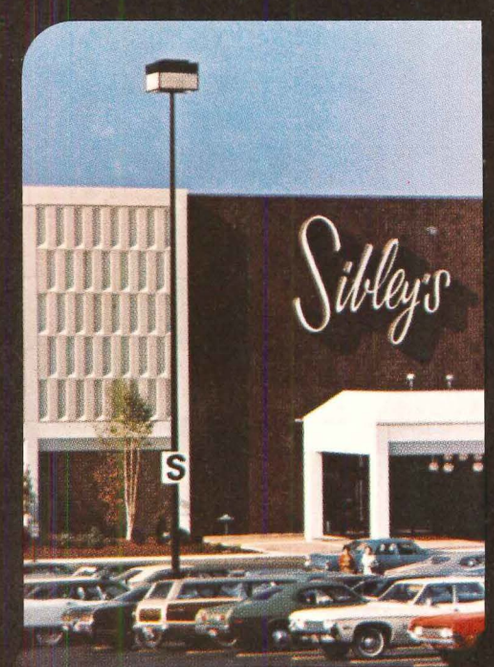
done right.



Up/Down accent lights can help you write an after-dark signature that arouses interest, discourages trouble. And they look good by day, too.

Custom designed fixtures, such as this twin 400-watt luminaire with single housing, can meet the most demanding requirements—photometrically and aesthetically.

This acrylic cube, Type CAC, is one of dozens of fresh ideas from our post-top line.



You can light an acre with a single large Sky-Cube™ fixture; other Sky-Cube models come small enough to highlight a plaza or brighten a walkway.

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Cook Field

YONKERS, N.Y.

An award-winning structure in the 1972 Architectural Awards of Excellence Competition, American Institute of Steel Construction

"A playful sculpturesque shelter in a park is bordered by a very logical use of steel hexagonal umbrellas to produce an interesting and imaginative lighting arrangement. The inverted umbrella creates a lovely counterpoint"—Jurors' Comments.

A series of weathering steel, hexagonal umbrellas make up this unusual shelter, one of two such facilities in a large urban park. The design of the individual components is one that is both compatible with and accentuates the shape, scale, and feeling of the wooded area. The shelter covers 5,000 square feet to provide a focal point for separate group picnics.

The umbrellas are fabricated of ¼-inch thick welded plates. Weathering Steel was selected because it is virtually indestructible, maintenance free, and inexpensive. Bethlehem Steel supplied the Mayari R Weathering Steel plates used in this award-winning structure.

Bethlehem BETHLEHEM STEEL

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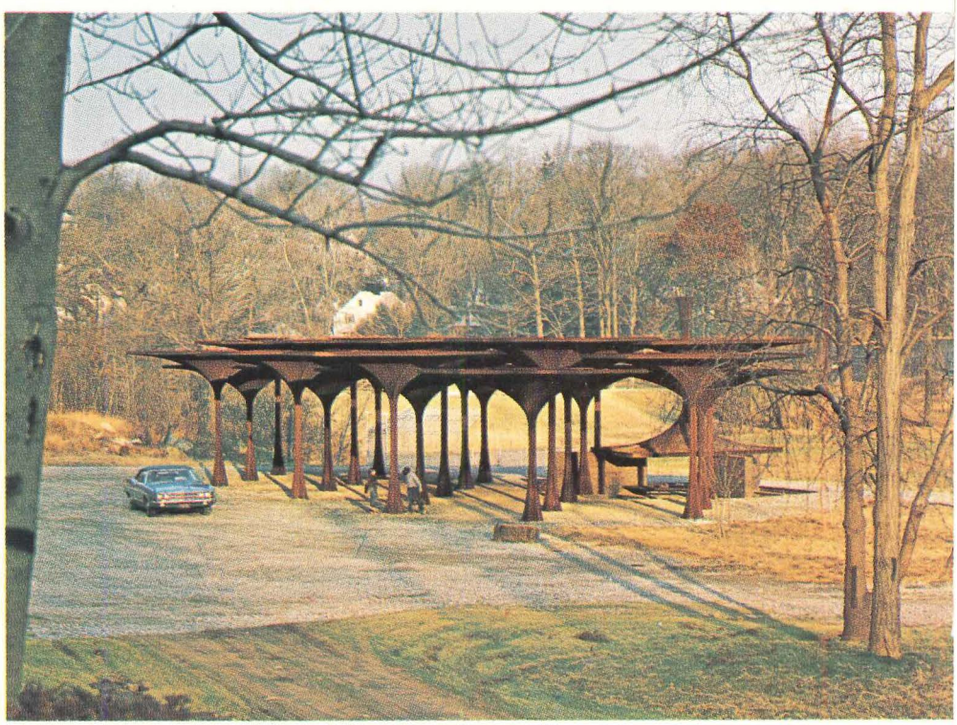
School of Architecture, Columbia University
New York, New York



Owner: City of Yonkers, New York

Architect: Joseph Roth & Associates, Yonkers, New York

Structural Engineer: Zoldos/Silman, New York, New York

General Contractor: Yonkers Contracting Company, Inc., Yonkers, New York

Steel Fabricator: United Iron Inc., Mount Vernon, New York, and Eastern Tank Fabricators, Inc., Manhasset, New York

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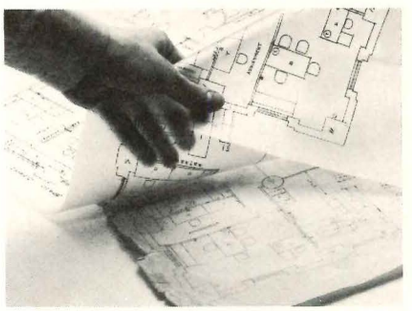

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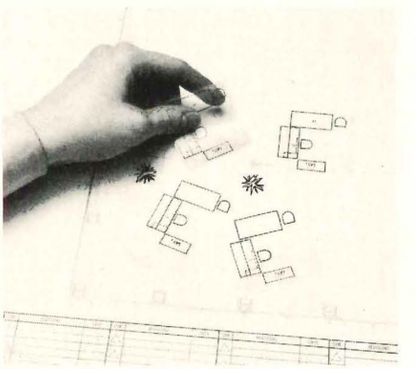

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For more data, circle 47 on inquiry card

Bright idea

Beautiful Washfountains that hold up beautifully. Bradglas® Washfountains . . . colorful like nature. Brick red. Desert yellow. Surf green. White marble. Driftwood beige. With clean, contemporary lines to fit today's commercial, industrial and school buildings. Durable like steel. Smooth, nonporous. Resistant to abrasion, acid and corrosion. Won't swell, shrink or warp. Won't chip, peel or flake. Vandalproof and fire-safe, too. Reinforced polyester is tough . . . yet light for easy installation . . . 80% lighter than precast stone. Bradglas Washfountains cut installation costs because they serve up to 8 people with one set of connections. Save on wall and floor space. Can be installed anyplace . . . washrooms, halls, alcoves. More sanitary than lavatories because they're foot-operated. In 54" and 36" circular and semi-circular models. See your Bradley washroom systems specialist. And write for latest literature. Or call (414) 251-6000. Telex 2-6751. Bradley Corporation, 9107 Fountain Boulevard, Menomonee Falls, Wis. 53051.

from Bradley!

BRADLEY

Leader in Washroom Fixtures and Accessories

For more data, circle 48 on inquiry card

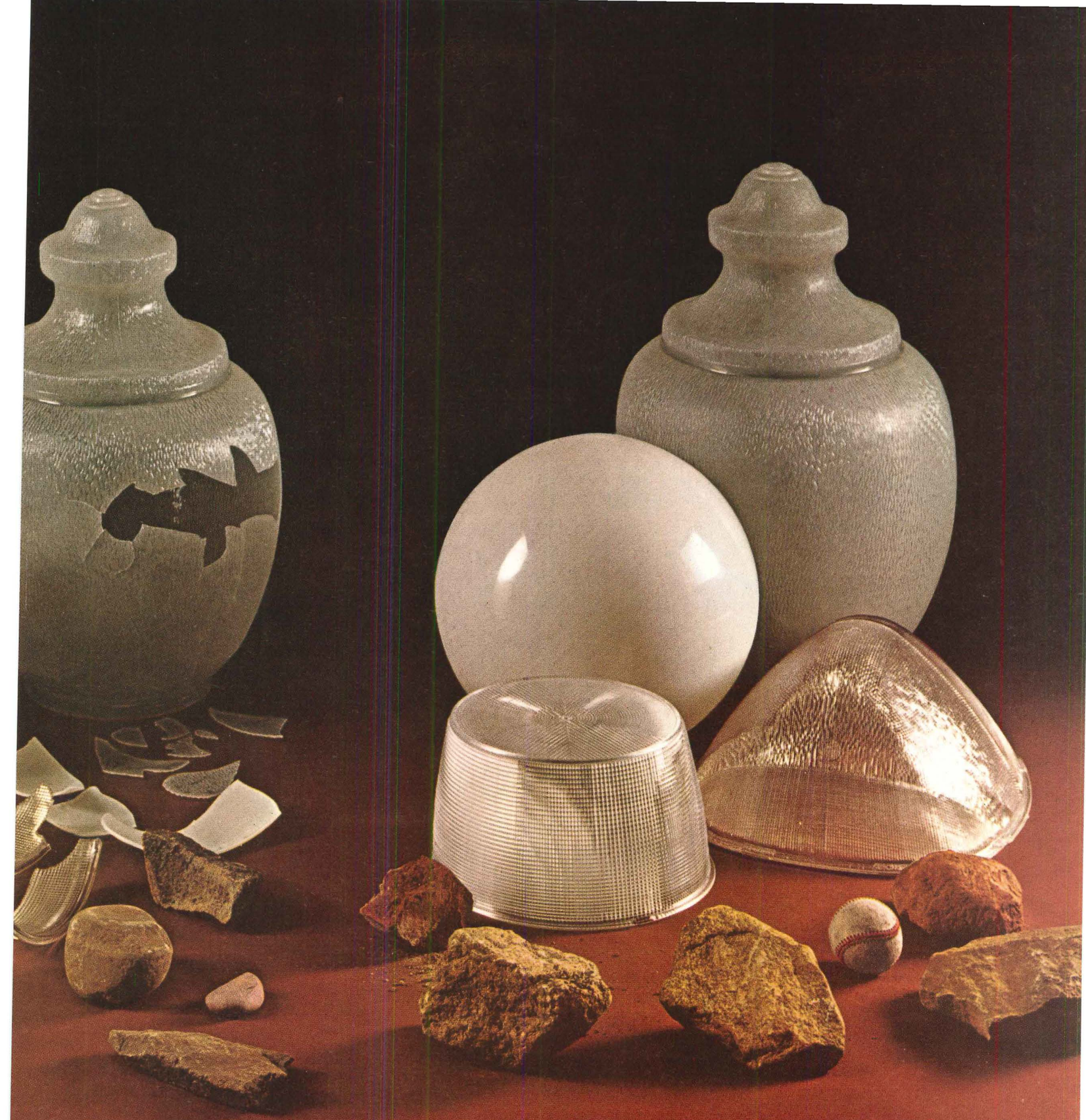
A VANDAL'S GUIDE TO TODAY'S LIGHTING MATERIALS.

GLASS.

Thick and heavy. But a breeze to break. Often mounted high to deter you but stones or snowballs can reach it. Sometimes enclosed in wire cages. Ugly to look at, still easy to break. Just try small rocks or BBs. Drives maintenance men batty. Disrupts lighting budgets.
CAUTION: Shattering fragments are dangerous.

PLASTIC.

Also known as acrylic, styrene or butyrate. Not as fragile as glass. But even impact grades break, crack, chip, shatter. Still keeps people in the dark, maintenance men on the move. May become an even weaker target with exposure to the elements. Cold can cause hazing. Lacks UL self-extinguishing ratings. Frequently seen distorted by heat.
CAUTION: Since it breaks, it can hurt.



NEW LEXAN® 303.
RESIN

Don't waste your time. It's virtually indestructible. Many times tougher at sub-zero temperatures than plastics at room temperature. Seen with all types of light sources, all shapes and sizes, indoors or out. Responsible for slashing replacement costs. So rarely seen with maintenance men. Has UL recognition. Look for it soon in high-pressure sodium and mercury vapor luminaires. CAUTION: Flying objects tend to ricochet.

For a list of manufacturers and a sample of unbreakable LEXAN resin, write Sect. 194R1, Plastics Department, General Electric Company, One Plastics Avenue, Pittsfield, Mass. 01201.

World Leader in Engineering Plastics
LEXAN® NORYL® GENAL® PHENOLICS VALOX®

GENERAL ELECTRIC

For more data, circle 49 on inquiry card

If granite is just for 40-story buildings, why didn't someone tell McDonald's, Powers, CNA, Bank of America, New York City, Houston and Cincinnati.

Some people get the impression that granite is strictly for big jobs. So to clear up that matter, we'd like you to meet a number of architects and owners who don't deal in impressions. They deal in facts. And when they got all of the facts on granite, they incorporated granite into their thinking.

Granite is being used on a lot of smaller jobs these days. And for some very good reasons. The natural beauty of polished granite resists weather, stains and all types of traffic the way no other building material can. It won't fade or deteriorate. It requires virtually no maintenance. And it comes in a wide spectrum of colors.

How expensive is granite? Talk to our Customer Service Department about that. Tell them what you want to do. They'll tell you how it can be done, step by step. And likely as not, you'll find that granite fits into your plans on a cost-in-place basis. Refer to Sweets Catalog No. 4.1/Co. Or call us. (612) 685-3621.

For more data, circle 54 on inquiry card

FOUNTAIN SQUARE PLAZA

McDONALD'S PLAZA

Granite can color your thinking.

Cold Spring Granite Company
Cold Spring, Minnesota

Fountain Square Plaza, Cincinnati
Architect: RTKL Associates, Inc.

McDonald's Plaza, Oak Brook, Illinois
Architect: Salvatore J. Balsamo & Associates, Inc.

Powers Northtown, Minneapolis
Architect: Ralph B. Shimer, AIA Architect

Greenacre Park, New York City
Architect: Sasaki, Dawson, DeMay Associates, Inc.
Consulting Architect: Goldstone, Dearborn & Hinz

Planetarium, Houston Museum of Natural Science
Architect: Pierce, Goodwin & Flanagan Architects

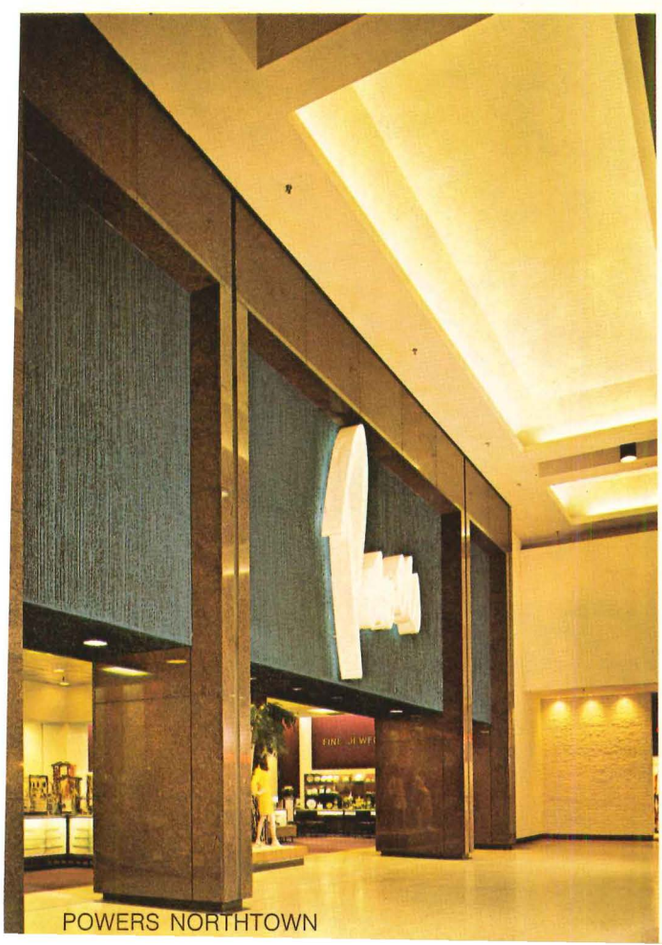
CNA Building, Los Angeles
Architect: Langdon & Wilson
Landscape Architect: Emmet L. Wemple, ASLA

Bank of America Domestic Branch, San Francisco
Architects: Wurster, Bernardi & Emmons, Inc., Skidmore, Owings & Merrill


BANK OF AMERICA DOMESTIC BRANCH


CNA BUILDING


PLANETARIUM, HOUSTON MUSEUM OF NATURAL SCIENCE


POWERS NORTHTOWN


GREENACRE PARK

About 4,000 gallons worth! To seal the joints of pre-cast masonry sections and thousands of glass walls and windows in the new Transamerica Pyramid soaring 48 stories above the streets of San Francisco.

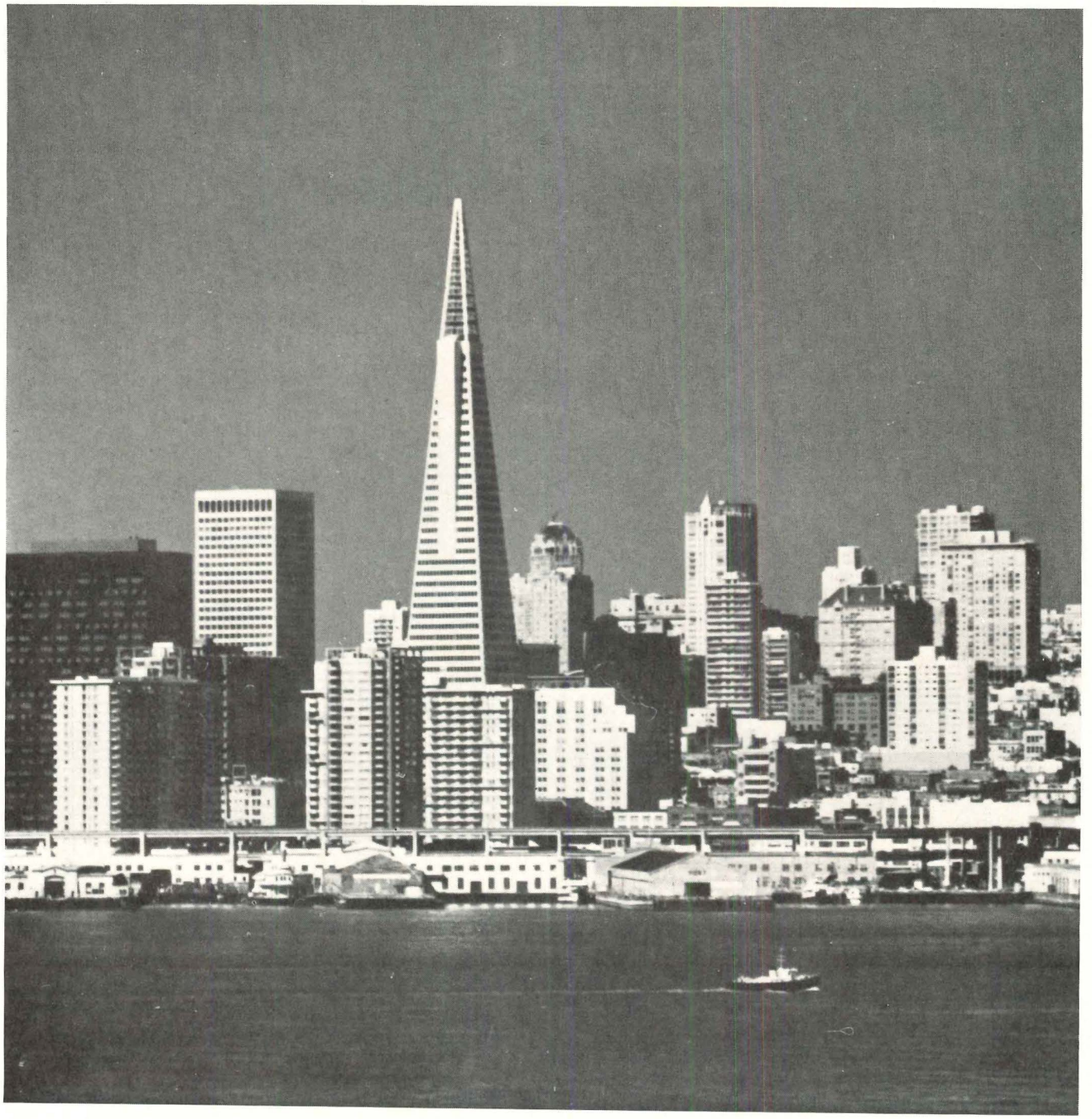
These LP® polysulfide base sealants will provide lasting protection against sun, wind and rain. Assure unbroken adhesion and flexibility despite temperature extremes and structural movement. We're sure of it because they bear the famous Thiokol Seal of Security.

To merit the Seal, sealants must meet exacting standards. And always be subject to laboratory testing to see that they maintain those standards. No approved sealant has ever failed on the job.

LP® polysulfide base sealants used all the way up.

LP® polysulfide polymers are just a few of the many products made by our Chemical Division. For aircraft, automobiles, buses, trucks and trains. For joint and window sealants, insulating glass. For gaskets, seals, printing rollers, hose and industrial tires.

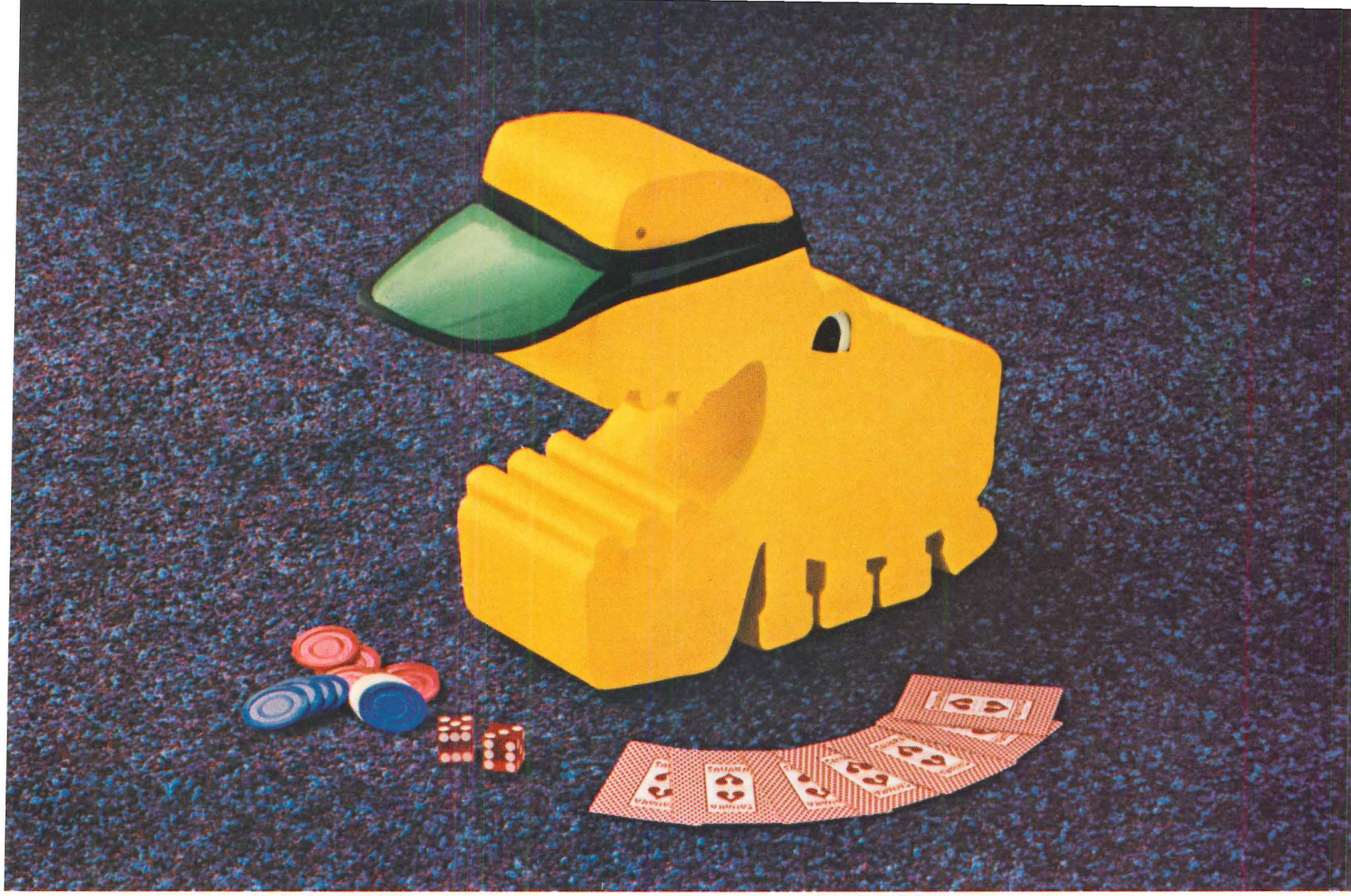
Would you like more information? Write Thiokol Chemical Corporation, Chemical Division, Trenton, N.J. 08607.



Thiokol

Specialty Polymers • Off-The-Road Vehicles • Synthetic Fibers • Sprayers • Propulsion • Human Development
Friction Materials and Laminates • Pyrotechnics • Closures • Rubber and Rubber Chemicals • Medical Electronics Equipment

For more data, circle 55 on inquiry card



Anso® nylon's five year carpet guarantee. It puts the odds on your side.

When it comes to carpet, the Sahara Hotel in Las Vegas doesn't believe in gambling.

So they put their money on "Years Ahead," by Berven of California. And got Guaranteeth—the guarantee with teeth. Allied Chemical's assurance that any carpet made of either ANSO nylon, or ANSO-X anti-static nylon, will not wear more than 10% in 5 years, or we'll replace it, installation included.

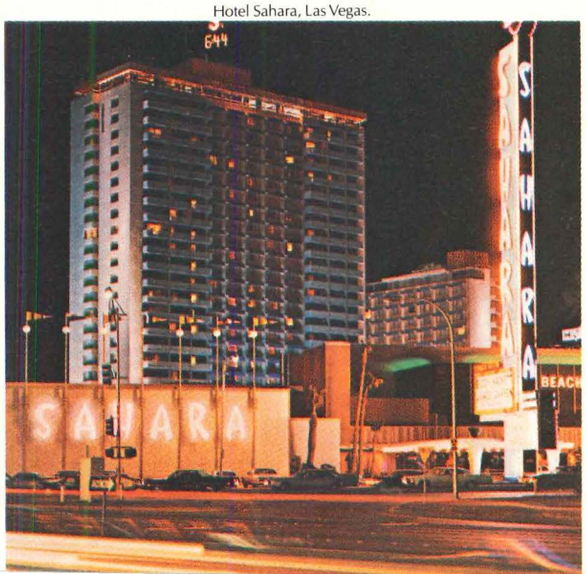
Now when you specify "Years Ahead," you will get the benefits of ANSO-X, the most advanced anti-static system on the market. The anti-static protection is built right into the fiber. That means uniform protection over the entire carpet and it means permanent anti-static protection that's guaranteed for the life of the carpet.

So when you're looking for carpet, look for the label with the little animal who symbolizes Allied Chemical's Guaranteeth—the strongest carpet fiber guarantee that you can get. For your free copy of our contract carpet manual, write to: Allied Chemical, Home Furnishings Merchandising, Dept. AR, 1 Times Sq., N.Y. 10036. (212) 736-7000, ext. 7766.

® ANSO Nylon Allied Chemical

Guaranteeth. The guarantee with teeth.

Hotel Sahara, Las Vegas.



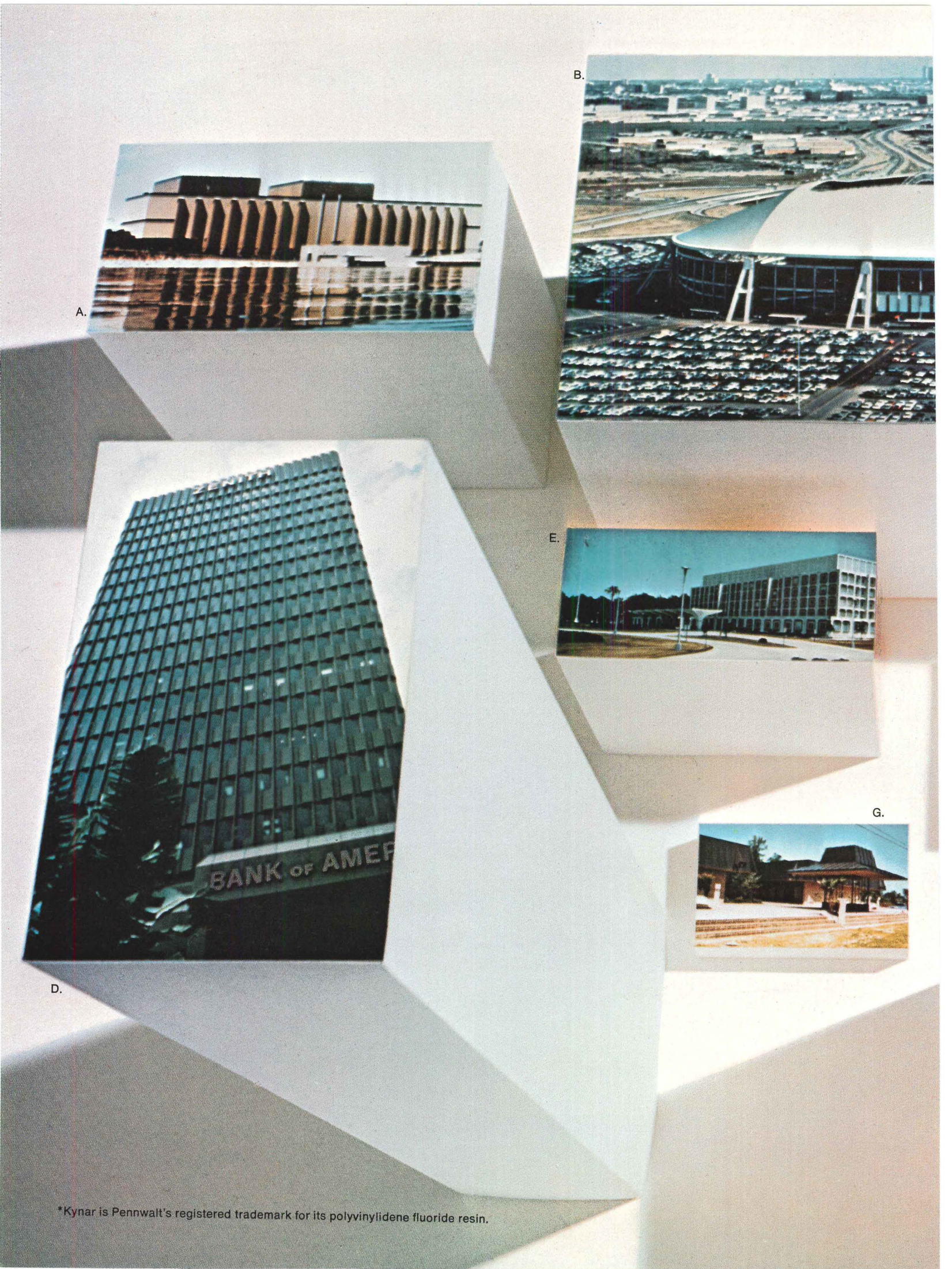
Bally Walk-Ins belong where food must be right and ready for the daily pupil parade

Bally Walk-In Coolers and Freezers belong everywhere mass feeding takes place. They can be assembled in any size for indoor or outdoor use from standard panels insulated with four inches of foamed-in-place urethane, UL 25 low flame spread rated and Factory Mutual research approved. Choice of stainless steel, aluminum or galvanized. Easy to enlarge . . . easy to relocate. Refrigeration systems from 35°F. cooling to minus 40°F. freezing. Subject to fast depreciation and investment tax credit. (Ask your accountant.) Write for 28-page book and urethane sample.

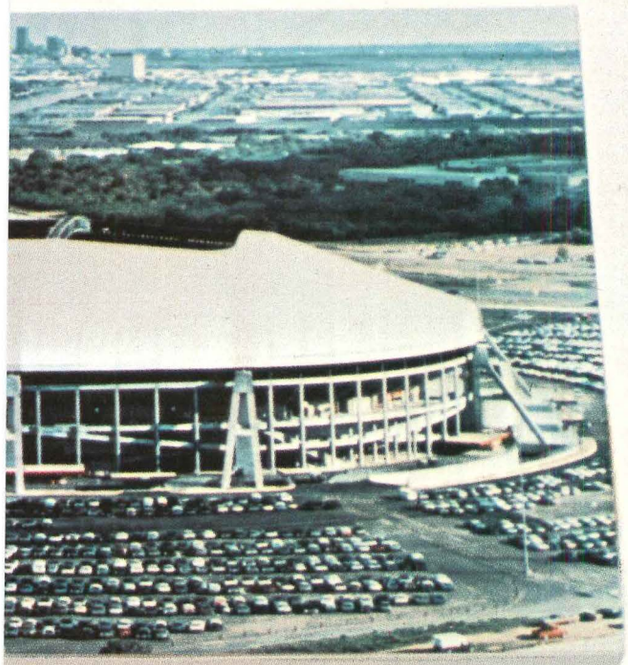
Bally Case & Cooler, Inc., Bally, Penna. 19503.
ADDRESS ALL CORRESPONDENCE TO DEPT. AR-10

Bally®

For more data, circle 58 on inquiry card



*Kynar is Pennwalt's registered trademark for its polyvinylidene fluoride resin.



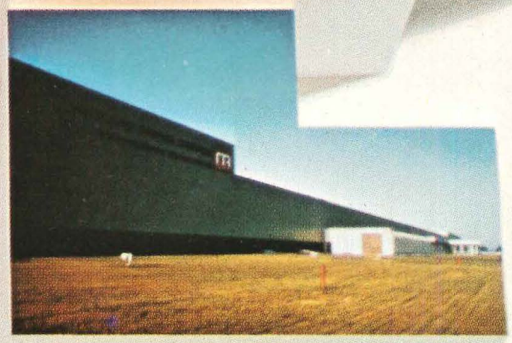
C.

KYNAR® City... without limits.

KYNAR 500*-based finishes are at home in any city, in any country, in any kind of climate. From the seasonal extremes of Washington, D.C. to the baking, blistering heat in the heart of Texas, to the industrial environment of Los Angeles, finishes based on KYNAR 500 can take it all.

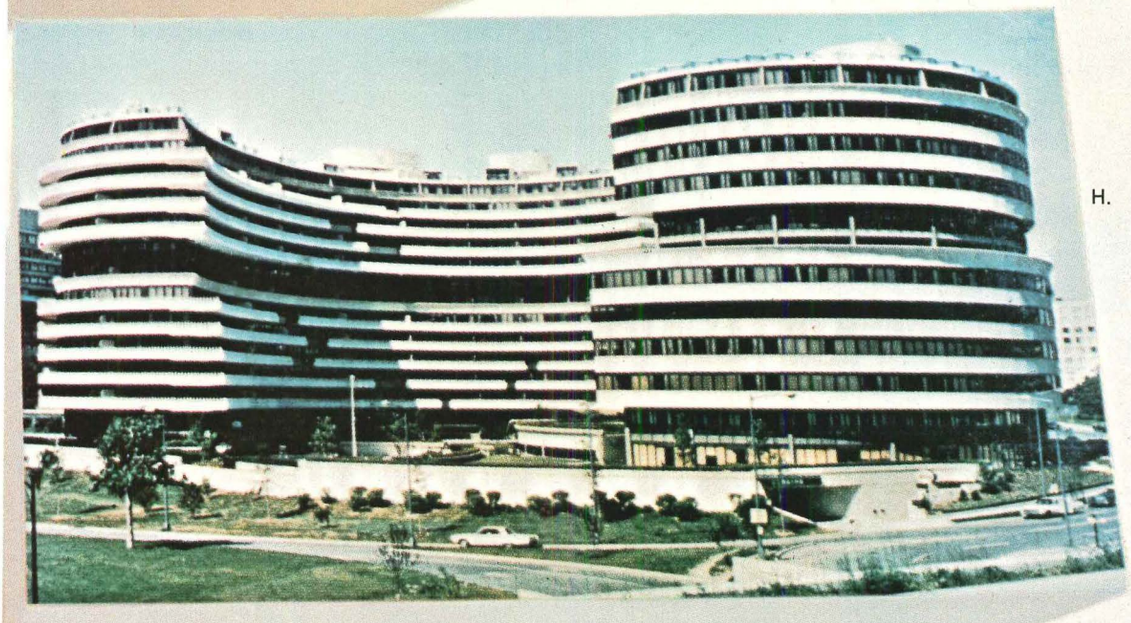
On metal curtain walls, louvers, window frames, trim and shingles, finishes based on KYNAR 500 resist chalking, chipping, cracking and fading long after other finishes have become eyesores.

For complete test data and technical details contact Page Murray, Plastics Dept., Pennwalt Corporation, Three Parkway, Philadelphia, Pa. 19102. (215) 587-7513



F.

PENNWALT
ARCHITECTURAL COATINGS



H.

A. Point Beach Nuclear Plant
Two Creeks, Wisconsin

B. Texas Stadium
Irving, Texas

C. United Airlines Hangar
Minneapolis, Minnesota

D. Zenith National
Insurance Building
Los Angeles, California

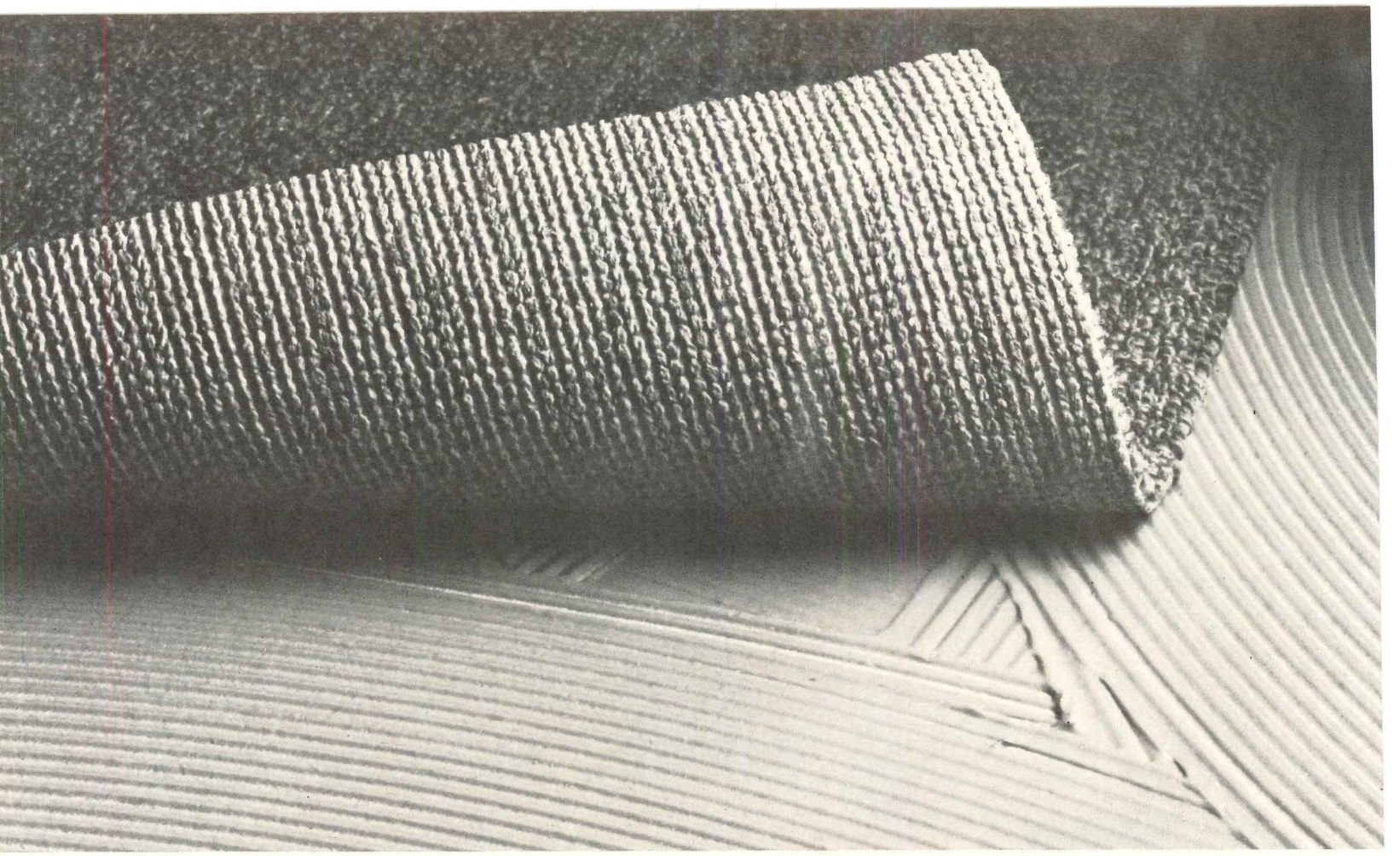
E. VA Hospital
Gainesville, Florida

F. Midland-Ross Warehouse
Maumee, Ohio

G. Bailey Plaza Shopping Mall
Jackson, Mississippi

H. The Watergate Development
Stage IV
Washington, D.C.

For more data, circle 59 on inquiry card



Hard-surface floors don't have to be hard.

Hard-wearing floors can be soft. Quiet. Safe. Easier to maintain. With carpet that has pile yarn tufted into unitary backing of Typar* spunbonded polypropylene and directly glued down.

This is carpet with no secondary backing—just one, tough unitary backing of "Typar" that acts like a common bond between carpet pile and floor.

When properly glued down, there's little danger of delamination from stresses and wet cleanings. No secondary backing for heels and wheels to loosen.

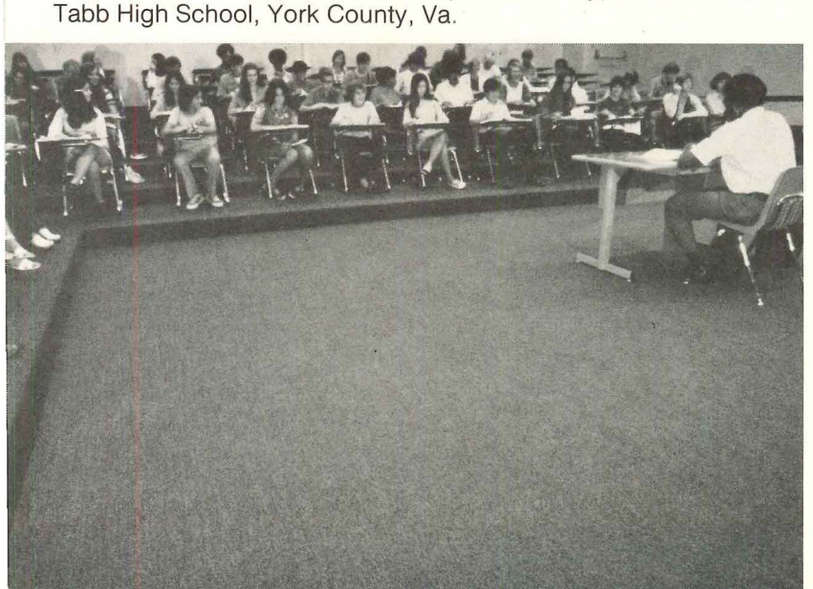
"Typar" won't fray or ravel at the edge. Seams stay tight and virtually invisible. No matter how you twist it, "Typar" keeps its shape. Patterns can be repeated in the longest corridors.

Unlike natural fibers, "Typar" resists rotting, swelling or shrinking when wet. Can be used below grade. And unitary carpet is usually more economical than carpet with secondary backing.

Specify the warmth and beauty of carpet in places you always thought had to be hard. For more hard facts write: Du Pont, Carpet Fibers, Centre Road Bldg., Rm. AR 2, Wilmington, Del. 19898, Attn: Unitary Specialist.

DU PONT
REG. U.S. PAT OFF.

Carpet of Antron® nylon with unitary back of "Typar" installed in Tabb High School, York County, Va.



*Du Pont registered trademark.
Du Pont makes carpet backing, not carpet.

For more data, circle 60 on inquiry card

TYPAR® for unitary carpets you glue down.

It makes you look good, too.

We put beauty, elegance and reliable operation into the Delta faucet.

We left the washer out. And all the problems worn washers cause.

That's why when you specify Delta, you are specifying one of the most efficient, trouble-free faucets made.

One of the safest, too. Because of the Delta pressure balance bath valve.

When flushed toilets or clotheswashers suddenly decrease the pressure on water lines, the valve automatically compensates to maintain the same hot or cold water mix.

So the shower temperature stays constant. And no one gets scalded or hurt.

There are Delta washerless faucets for kitchens and bathrooms. For sinks and showers. Both single-handle and double-handle models. In beautiful new decorator designs.

They're styled to look good and to work better. And to make the specifier look as good as they do.

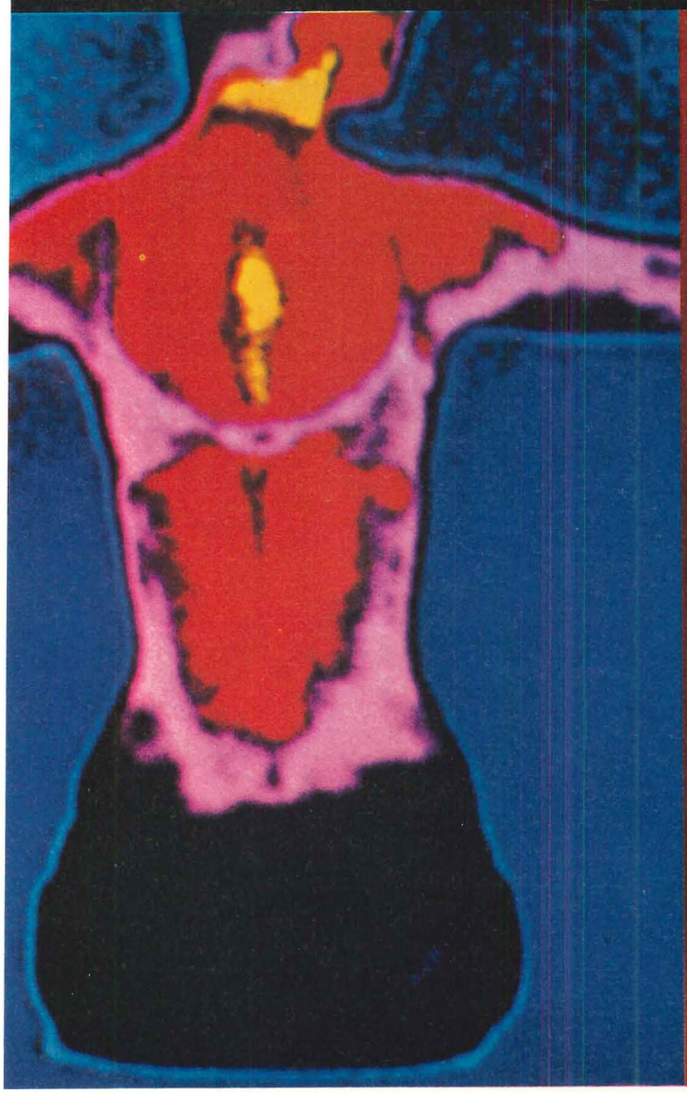
For illustrated literature, write Delta Faucet Company, A Division of Masco Corporation, Greensburg, Indiana 47240, and Rexdale, Ontario.

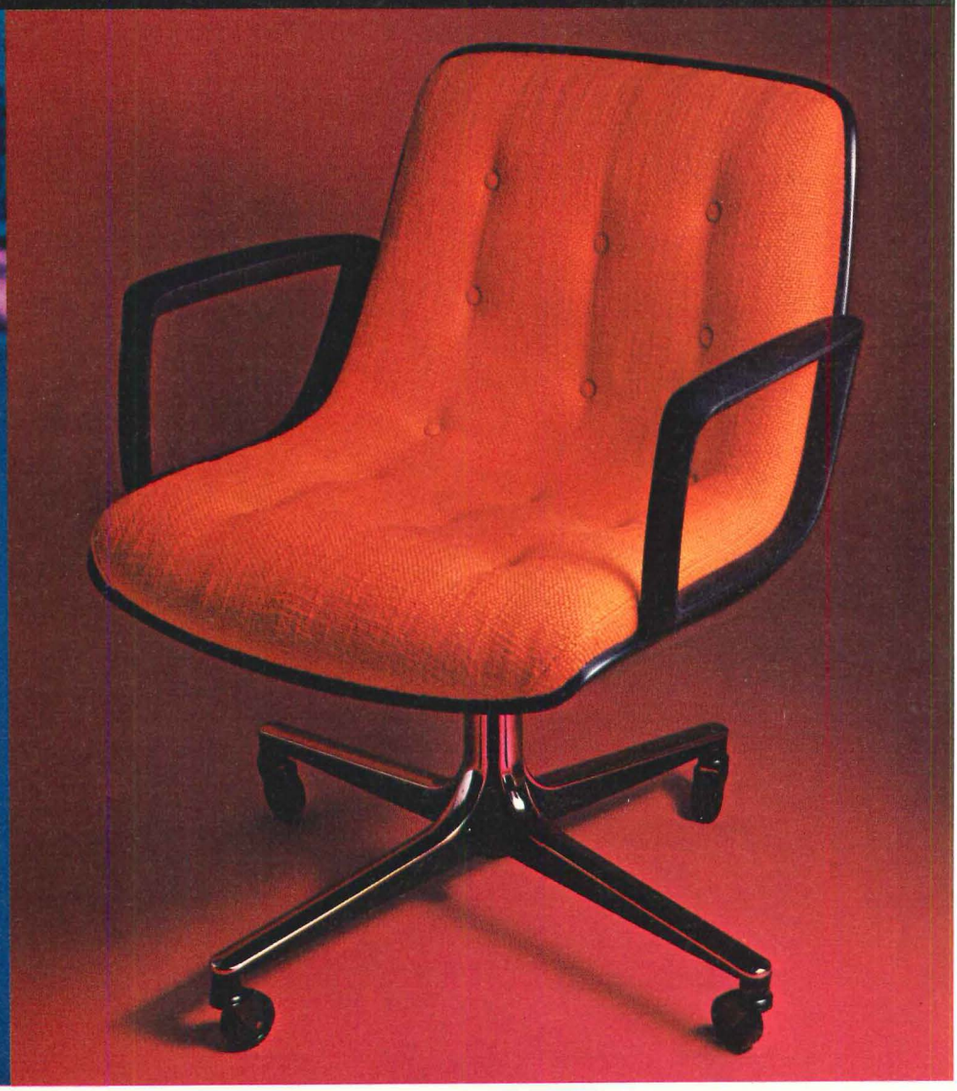
Delta Faucets.

Washerless. To work as good as they look.

For more data, circle 62 on inquiry card

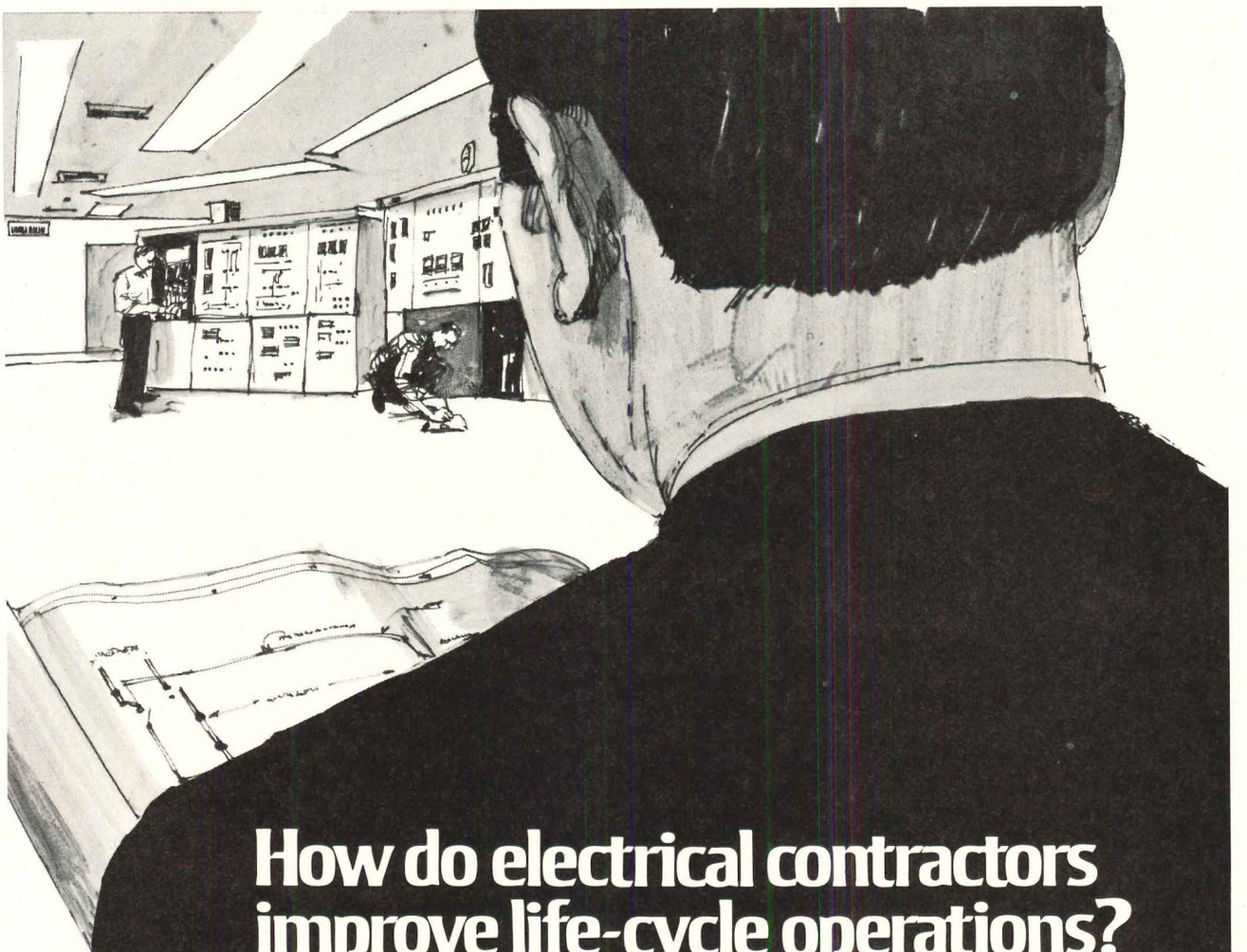
A basic form inspires a timeless design. The Body Chair.





We started with the human body. Comfort first—a unique seat recess, dual-density foam cushioning, and soft, resilient arms. Then solidity and durability from unitized, dual-shell construction. Beauty takes care of itself, in clean, functional lines that won't date when architectural styles change. The Body Chair: an integrated collection of executive, guest, clerical, and secretarial chairs. All in colors and upholsteries to fit any decor. Ask your GF branch or dealer for our new 16-page catalog. Or write to us. GF Business Equipment, Inc., Youngstown, Ohio 44501.

For more data, circle 64 on inquiry card



How do electrical contractors improve life-cycle operations?

NECA study reveals opinions of design professionals.

In a study commissioned by the National Electrical Contractors Association (NECA), the problem of life-cycle building operation and maintenance was considered. Solution?

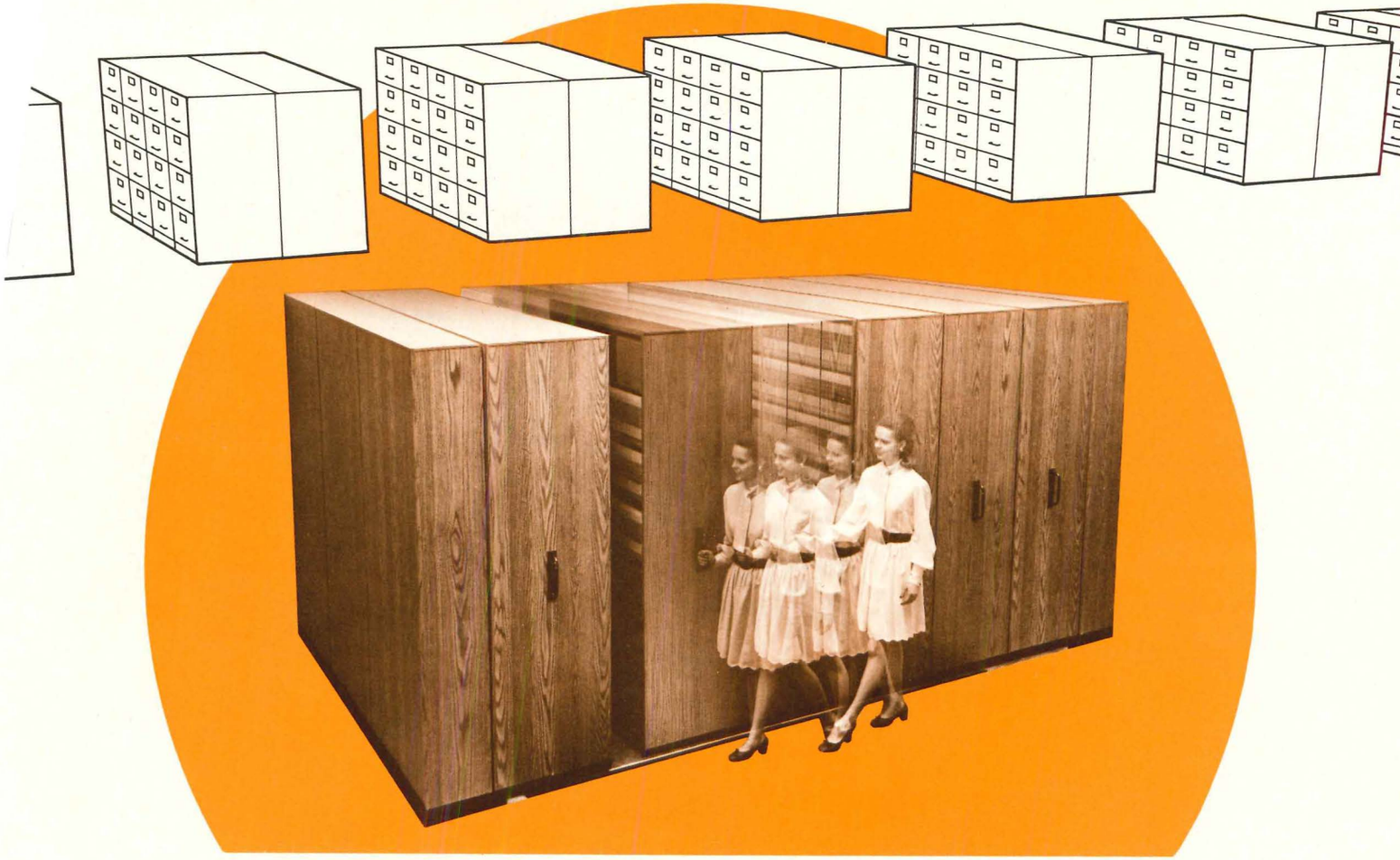
The majority of participants agreed: the full benefit of complex and sophisticated electrical systems can only be realized when regularly maintained by professional electrical contractors. Reasons? As members of the building team, electrical contractors possess specialized knowledge and electrical applications experience. They understand the benefits of electricity and the potential operational difficulties that can arise . . . even in expertly designed buildings. They know that the best way to solve operations and maintenance problems is to correct them before trouble results.

If you can't afford electrical downtime, or a full-time work force for preventive maintenance, you can't afford not to select a professional electrical contractor. Remember him . . . for maximum maintenance at minimum cost.

National Electrical
Contractors Association, Inc.
Washington, D.C. 20014

If electricity makes it possible, electrical contractors make it practical.

"FreeSpace" for Your Clients



Put all their files in one fourth the area

With Lundia FULLSPACE® Mobile Filing and Storage Systems

Now you can "free" valuable floor space. It's a matter of record. In business firms nationwide, Lundia FULLSPACE systems are saving space, retrieval time and money.

FULLSPACE occupies about one quarter the floor space of drawer files of equal capacity. Suppose your drawer files and aisles occupy 400 sq. ft. FULLSPACE of equal capacity saves space for other purposes by requiring only 100 sq. ft., or you can put four times the filing and storage in existing space.

Swedish-designed Lundia FULLSPACE mobile wood shelving has no equal . . . for efficient management of general files, records, computer tapes, printout forms, ledgers, books, stationery, supplies of all kinds, and even parts inventory.

When you select FULLSPACE for centralizing records-keeping and storage, you really have something working for you. Ask how FULLSPACE can pay for itself. Have a Lundia representative survey your requirements, present a free layout, and provide a cost estimate.

Your installation date will be met. That's in the record, too. **CALL FRANK BROWN COLLECT**

217-423-3451

OR WRITE TODAY FOR COMPLETE DETAILS

LUNDIA

The World's Record Holders

LUNDIA, MYERS INDUSTRIES, INC. DECATUR, ILLINOIS 62525

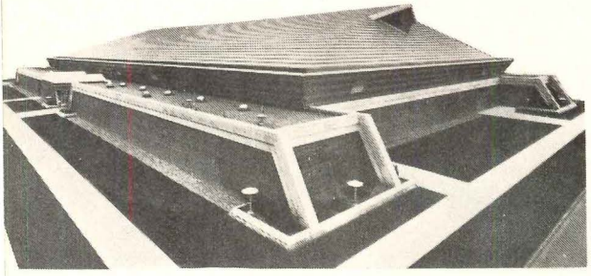
For more data, circle 65 on inquiry card

Fred Munder, one of the east coast's leading roofing and sheet metal contractors, talks about DUROFLASH:

"Ever since we started in business in 1895, we've been keeping up with the latest product innovations.

Such as DUROFLASH®, Republic Steel's stainless roofing and flashing material. We've been using it since it was introduced a little over six years ago.

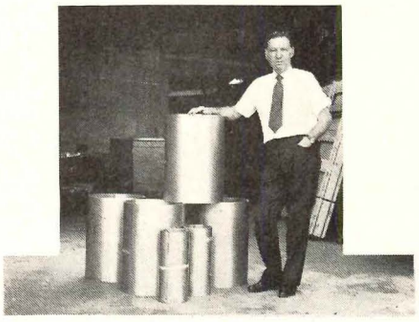
We used it here as flashing.



And it has been used as a complete roof system on many other structures. To the great satisfaction of architects and builders . . . and roofers.

No springback. Duroflash is dead soft. You can form it by hand if you want.

No change in color. Less fluctuation in price. And it lasts a lifetime.



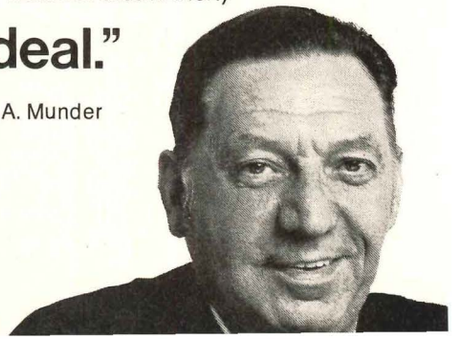
You can get Duroflash in sheet form or in convenient 100 pound coils from most distributors.

And it's backed by America's leading producer of stainless steel . . . which, to me, means consistent quality and service after the sale.

And Republic makes all kinds of data available." (Write Republic Steel, Cleveland OH 44101 for Information Kit and the name of your nearest distributor.)

"Take it from me, DUROFLASH is a good deal."

Fred Munder is president of A. Munder & Son, New York N Y

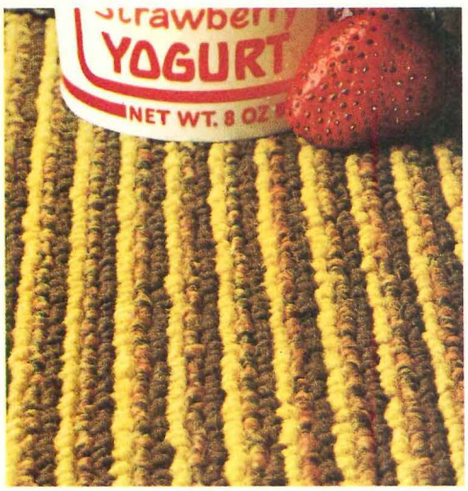


Republicsteel

For more data, circle 66 on inquiry card

Dannon® bet all its berries on Crusader's carpet of Herculon®...

and really cleaned up.



Crusader calls it "Rebound". You'll call it the best carpet news in years. Made with pile of 2600-denier HERCULON* olefin fiber, this handsome level-loop original fears neither man nor yogurt.

The stain resistance of HERCULON, coupled with uncommon resistance to abrasion and fading, gives you the ideal carpet for any commercial installation.

Dannon cleaned up on Crusader's "Rebound". So will you.

For detailed information on HERCULON see Sweet's Ⓢ Light Construction, Architectural and Interior Design files. Or, write Fibers Merchandising, Dept. 301, Hercules Incorporated, Wilmington, Delaware 19899 for free 24 page booklet.

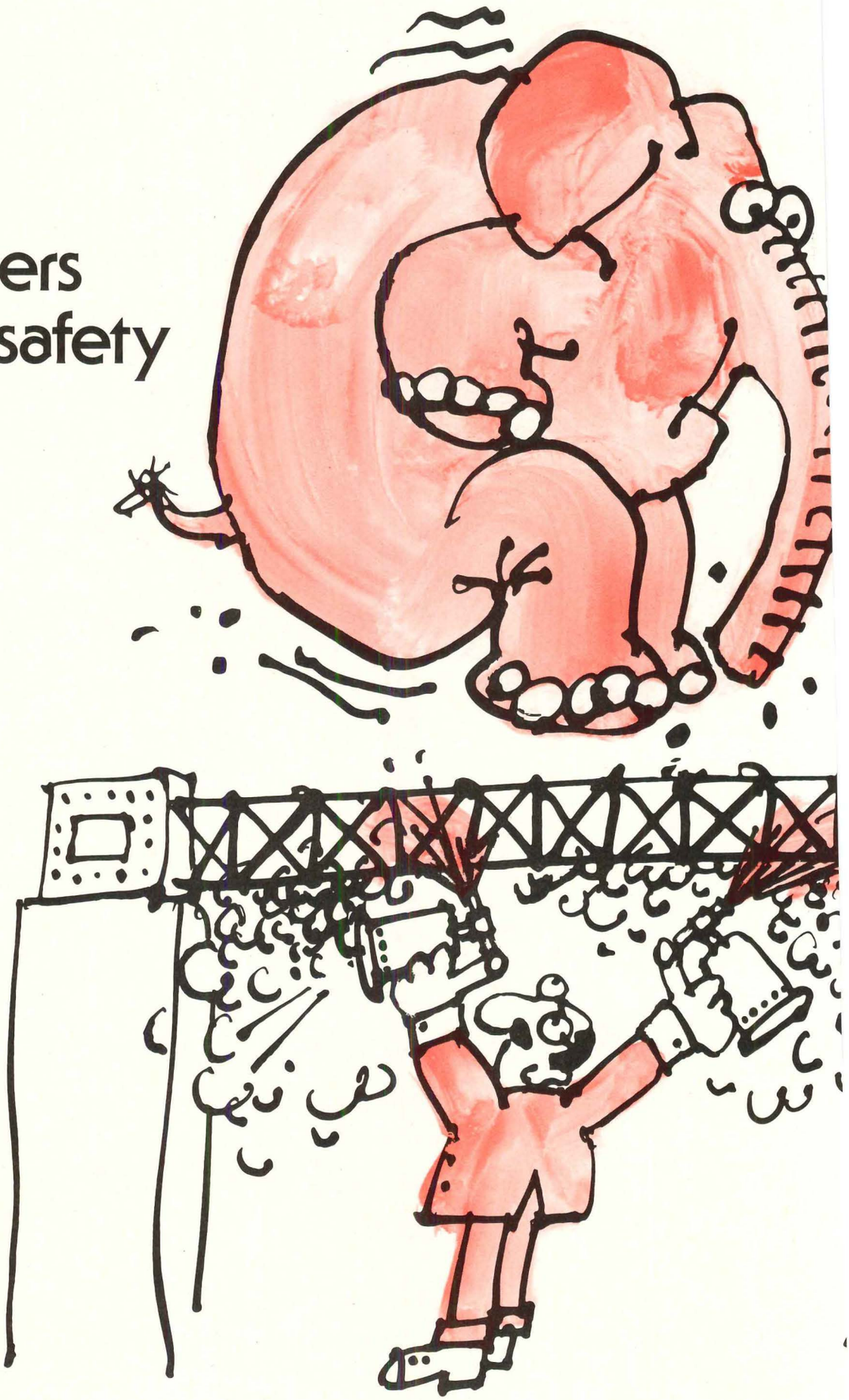
HERCULES

*Hercules registered trademark.

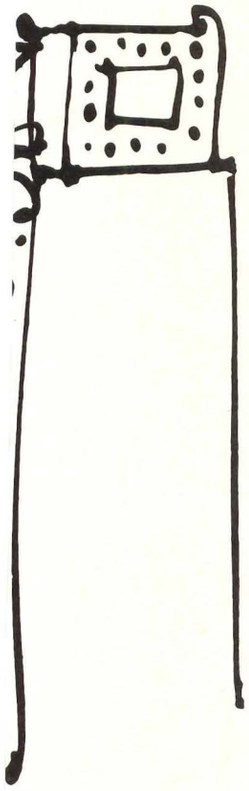
Specify carpet of stain resistant Herculon®

For more data, circle 67 on inquiry card

Because manufacturers care about safety



they want UL to fire-test the complete floor and ceiling system.



Comprehensive systems testing doesn't come cheap or easy. But manufacturers so value the unbiased verdict of a UL test that they willingly submit their systems to our untender mercies.

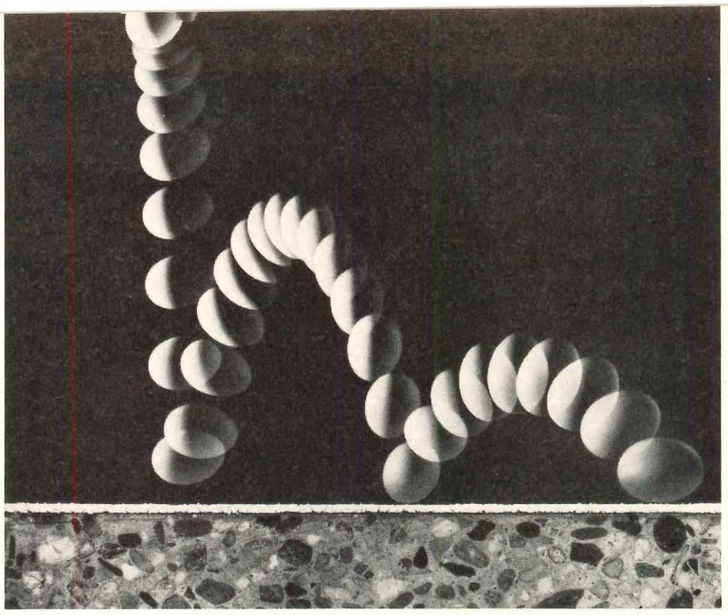
Everyone benefits. The manufacturer gains an independent, third-party evaluation of his system so he can offer it with confidence. Jurisdictional authorities and inspectors, architects, insurance underwriters, builders and consumers benefit because UL's findings and Classification ratings are published in UL's **Fire Resistance Index.**

A system has to be good to succeed under the rigors of UL testing. For instance, in the test caricatured here, just the preparation alone for the test can take a week or more. Our engineers used a furnace simulating a room with four brick walls and a network of gas burners within this structure. Then building tradesmen constructed the floor and ceiling system, including the pouring of the concrete floor. This floor-ceiling assembly was lowered onto this "room." Weights simulating maximum floor loads were installed. The test itself was over in a matter of hours, specifically the number of hours at which the system will be rated. Because the test was successful, you can read the results in UL's **Fire Resistance Index.**

Systems testing is one of many ways we work with building materials manufacturers. In the past decade, manufacturers have doubled their work submittals to UL, indicating their increased concern for public safety.

Underwriters Laboratories, Inc.
An independent laboratory testing for public safety.
Chicago and Northbrook, Ill., Melville, N.Y., Santa Clara, Cal., Tampa, Fla.

For more data, circle 68 on inquiry card



Stroboscopic photograph shows bounce of a fresh egg dropped from 20 inches onto concrete cushioned by 0.30 inch commercial style pneumacel.

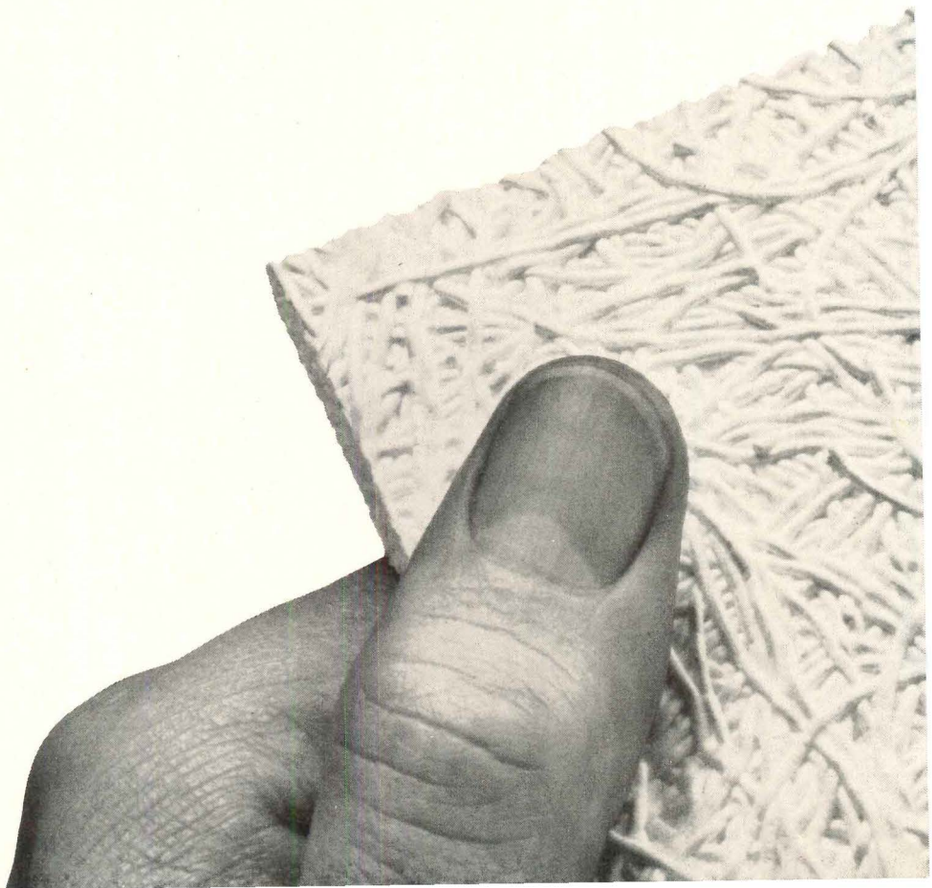
Du Pont polyester pneumacel* is a first.

It is a cushion like nothing you've ever experienced.

Even an egg dropped on it bounces. Yet the heaviest traffic doesn't bottom.

This is because pneumacel cushion contains billions of closed cells. Each cell is pneumatic—pressurized with an inert inflatant and air. The result is a springiness that cannot be fully compressed.

This bounce introduces a from Du Pont. And a unique



*Pneumacel is the generic term for pneumatic cellular polymeric cushioning material.

The ideal carpet cushion

Pneumacel is the first cushion to combine maximum carpet protection and maximum luxury.

By spreading the load and not bottoming out, it extends carpet life.

At the same time, according to consumer panels, it gives carpeting a most luxurious underfoot feel.

And it retains its resiliency even after years of heavy traffic.

Of special interest to architects

Pneumacel doesn't absorb water. It can be used above or below grade. Indoors or out. And pneumacel won't rot or degrade.

It meets or exceeds recognized industry and Federal standards for fire retardancy and smoke generation.

Acoustically, pneumacel gives the design advantage of outstanding impact-noise reduction. It is a significantly better thermal insulator than competitive cushion. And it can be used on any finished or unfinished floor.

Samples and complete technical information available on request. Write Du Pont, Textile Fibers Dept., Wilmington, DE 19898.

DU PONT
REG. U. S. PAT. OFF.

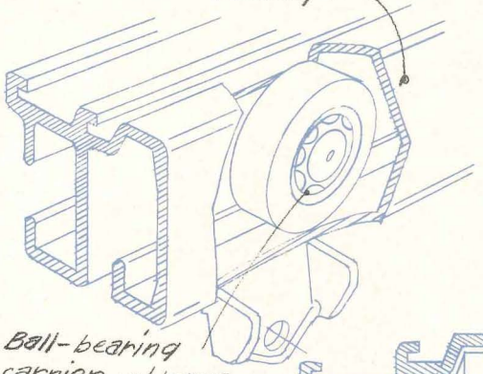
For more data, circle 69 on inquiry card

new form of matter carpet saver.

DuPont Pneumacel* Carpet Cushion

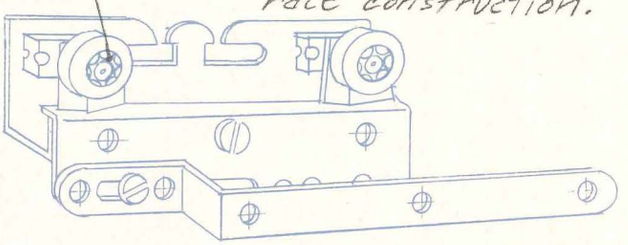
It would be a shame to get called back because the drapery track won't perform. Instead, specify Contrack.

Heavy-duty anodized natural aluminum finish – blend perfectly with the window casings.



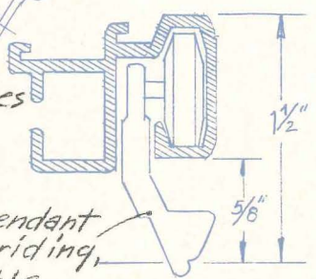
Graber Contrack 9-804 cord traverse track.

Ball-bearing rollers in masters too – good load distribution. Tough nylon outer race construction.

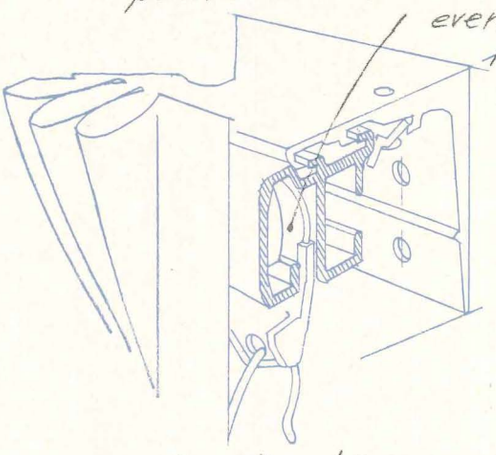


Ball-bearing carrier w/large cross-section minimizes friction drag. Smooth rolling. No jamming. Quiet, long life.

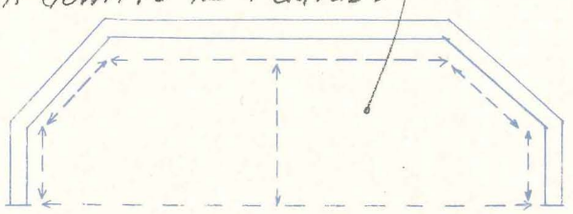
Bumper carrier pendant design makes overriding, jamming impossible (Big point!)



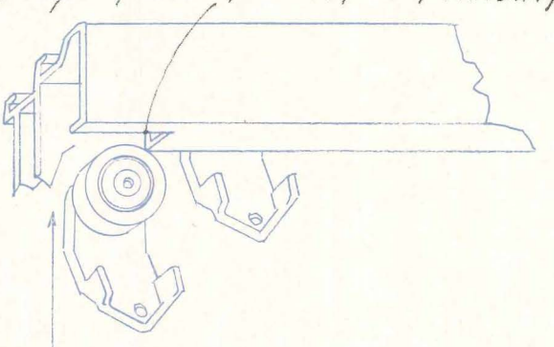
Cords in separate back channel. Good! Less wear. Carriers in track positioned to stack drapes close, even, keep headings erect.



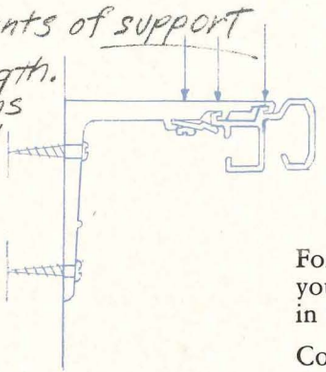
Will set up to solve our problem with the pentagonal bay windows – draw left, right, in multiples. Track can be angled and curved right down to 12" radius.



Great maintenance feature carriers can be added and removed through special gate in pulley housing.



Three points of support for extra strength. Five projections from 3/4" to 5" plus a ceiling mount – handy for boardroom floor-to-ceiling windows.



For full information on why Graber Contrack is your safest choice for performance, see our pages in your Sweets' Architectural File.

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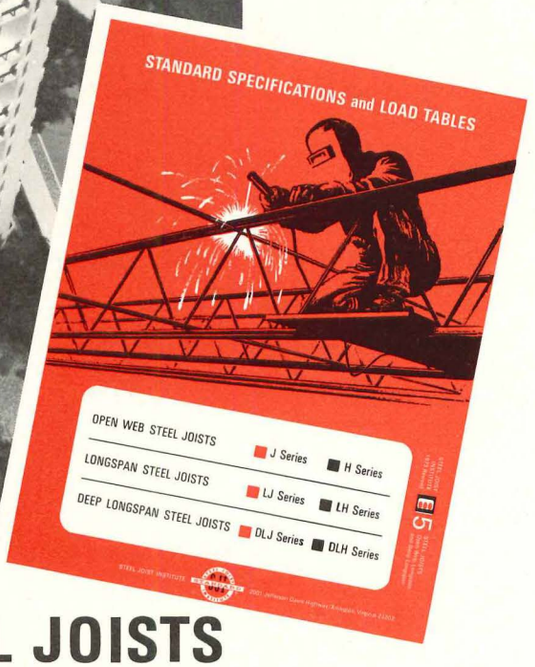
Why steel joists were the right answer to this building need



SEVEN PINES...WHERE STEEL JOISTS SAVED CONSTRUCTION HOURS AND DOLLARS

On a steeply wooded bank in Glenwood, New York, with a commanding view of the Hudson River and Palisades, rise the handsome Seven Pines Apartments. Designed largely to answer the needs of middle income tenants, the 300-unit tower was designed by Gruzen & Partners, Architects-Planners-Engineers, New York City and Newark, N. J., for the New York State Urban Development Corporation. The building is diamond shaped, with large balconies at each corner and smaller balconies on the sides, and is set at an angle to provide most apartments with views of the river.

Open web steel joists were used extensively throughout the tower. The architects state, "Our use of open web steel joists was recommended by the sponsor/builder and specified by the engineer. Because of this, we saved time and money, but more important ended up with a satisfactory alternative to solid reinforced concrete.

"The open web steel joists support corrugated decking (for a three-inch concrete-slab floor) which was pre-punched to match upward projections of the webs. Crimped sheet metal wedges were used to lock the decking to the joists.

"This composite system offered the necessary bracing strength, avoided the need for extensive welding, and virtually became monolithic. We expect to be using it more often in the future."

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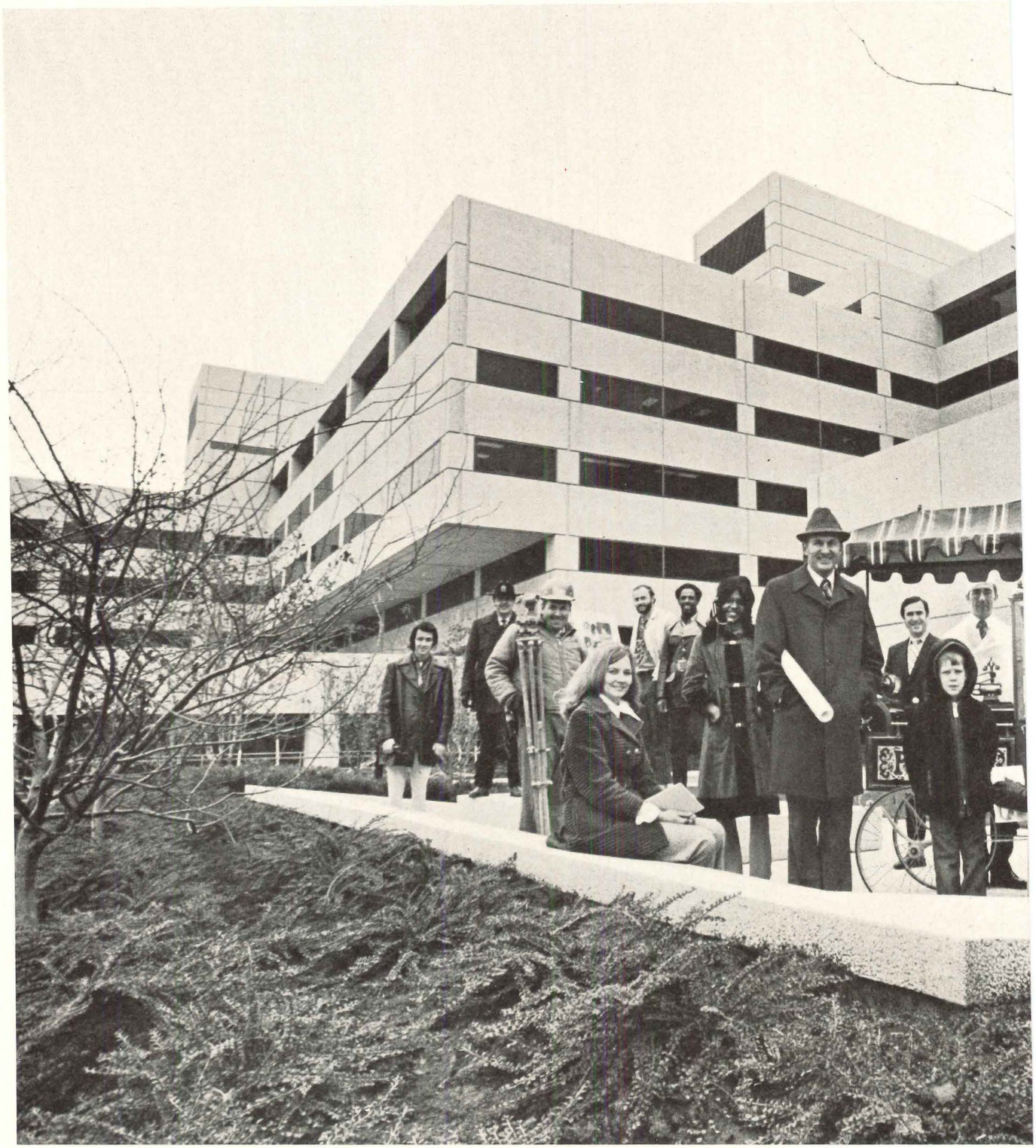
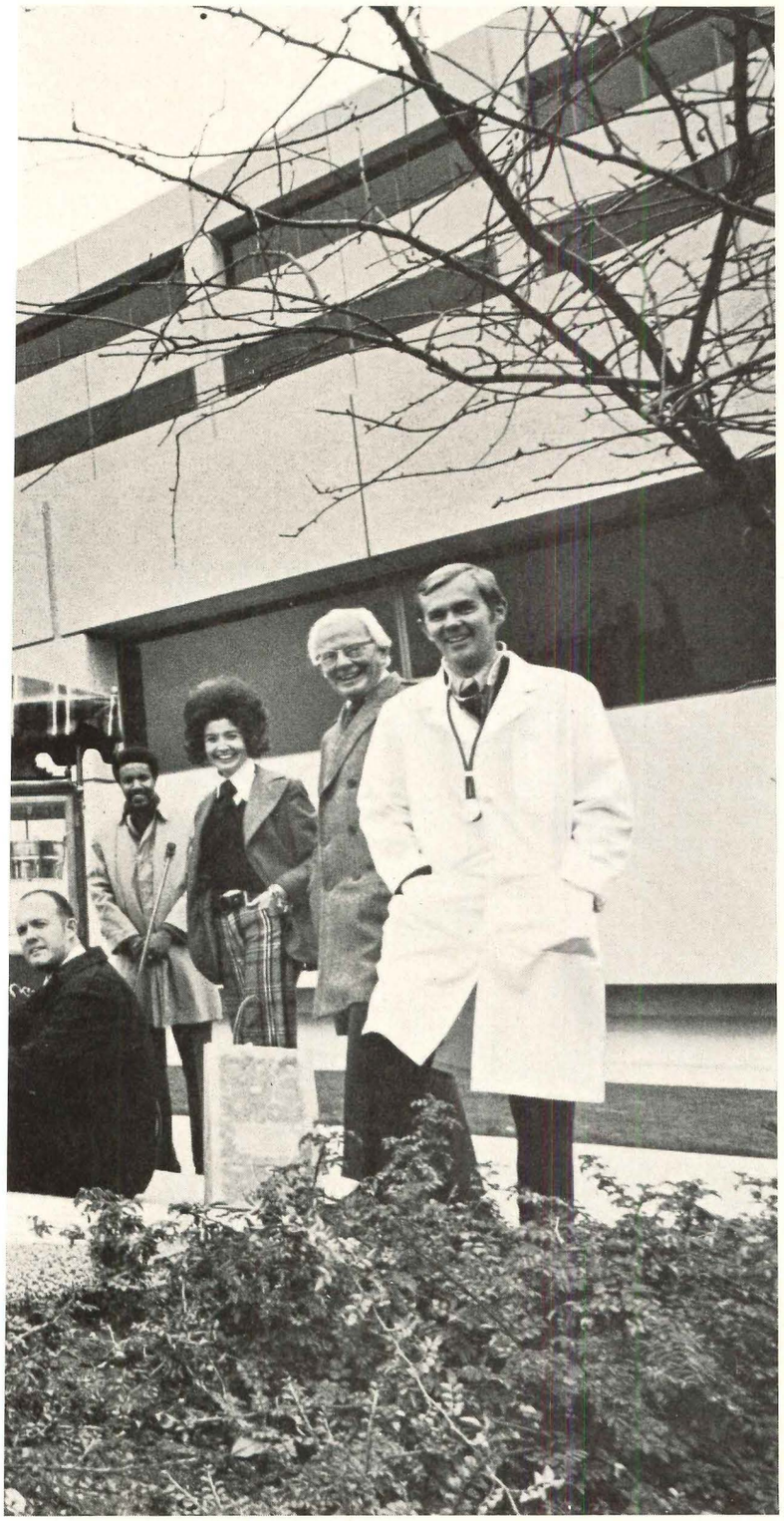
Crown Center is a city within a city...





...and U.S. Steel is involved.

It will take 10 years to finish and cost all of $200,000,000! That's Hallmark's Crown Center—spreading over 85 acres in Kansas City. A new hotel has just opened. Hi-rise apartments and town houses are under way. Shopping centers, theaters, fine restaurants, a skating rink—they're all part of a unique enterprise that promises to make Kansas City an even greater place to live and work in.

Already completed and in full operation are the five 7-story Crown Center Office Buildings. The new buildings set a stunning pattern for things to come and are a beautiful example of what is happening in Kansas City. They also highlight our involvement in the project, because many tons of our steel and cement have already gone into Crown Center.

Kansas City's great development plan includes the new International Airport, Penn Valley Community College and the new Hallmark Distribution Center—third largest structure in the world. All these major projects used our steel and cement.

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CROWN CENTER

Urban renewal for a Kansas City grey area— privately financed, without Federal subsidy, by a manufacturer of greeting cards

Five minutes southward by car from downtown Kansas City is the headquarters of Hallmark Cards, Inc., the world's largest manufacturer of sentimental little messages in print. Here writers concoct heartwarming phrases and poems, and 500 artists create the pictures to go with them. By appealing to the better side of human nature, founder and chairman Joyce W. Hall, 82, and his son, company president Donald J. Hall, 45, have built a business with current annual sales of $350 million and estimated annual profits of $25 million. One of the decreasing number of large U.S. companies still in private ownership, Hallmark belongs to the Hall family with a moderate number of shares available to employees. Since Hallmark is not publically held, the Halls are not responsible to outside stockholders. They can literally invest their profits as they please in ways in which no publically owned corporation would dare. The Halls are spending $400 million developing real estate adjacent to and surrounding the Hallmark plant. The project (named Crown Center because a crown is Hallmark's symbol) comprises 23 square blocks and includes office buildings, a bank, a shopping center with 65 stores, apartment buildings and town houses, a 730 room hotel and a motel. This huge venture will not be completed until ten years from now. As conceived it will take twice as long to become profitable as other real estate developments of comparable size. The Halls have long been quietly philanthropic and community minded, and are known for their support of the arts including architecture and design. Crown Center is their way of getting it all together and Kansas City benefits. *—Mildred F. Schmertz*

Hedrich-Blessing photos

At the top of the photo is the Kansas City Municipal Airport. The towers adjacent, on the opposite side of the Missouri River, belong to the downtown center. Superimposed upon this aerial photo is a model photograph of the way Crown Center will look when it is complete, 10 years from now. The principal architects for Crown Center are Edward Larrabee Barnes, Harry Weese and Associates and Norman Fletcher of TAC.

Crown Center: The master plan by Edward Larrabee Barnes called for a large volume of initial construction to create an impact in a decaying area

Economic studies began in 1958, and land use analysis commenced in 1961. The principal land use planners were Victor Gruen Associates. In 1967, Edward Larrabee Barnes was named coordinating architect and master planner responsible for giving form to the project.

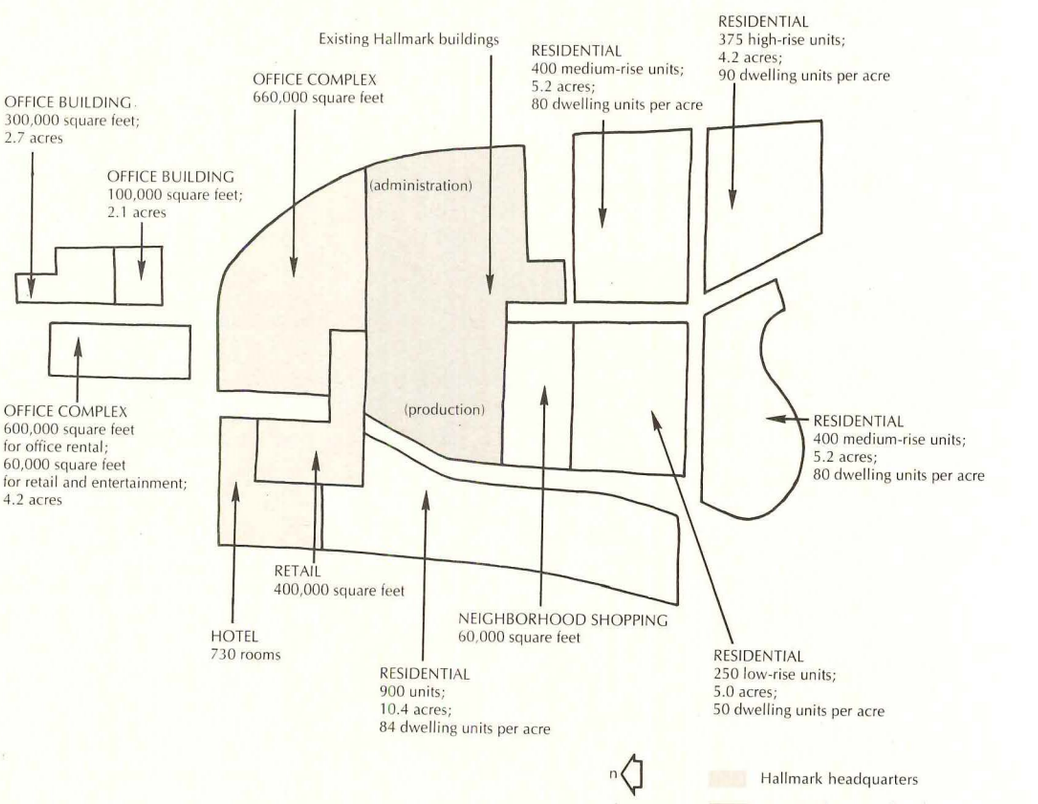
The Hallmark plant exists in a grey area. Although it is adjacent to a large park and a major medical center, the over-all urban context is one of characterless and non-descript low-rise buildings. (See photo overleaf.) To create an urban center within this worn and aging metropolitan fabric called for a bold initial statement—sufficient construction at the beginning to create what Barnes calls a "critical mass." To develop public interest and bring tenants to Crown Center, Barnes advised the Halls to start construction of a 626,300 square foot office complex distributed in a five-unit medium-rise structure with continuous horizontal space. He also recommended that the first phase of construction include in sequence the terraced lawns and plaza, the hotel, the shopping center and finally the housing. All of the first phase, except for the housing which has not yet begun, is complete.

Barnes believes that, generally speaking, high-rise buildings belong in the inner urban or downtown core, but that medium-rise is appropriate for what he terms the "middle ground" where Crown Center is located. This rationale controlled his design for the horizontal office block (top left rear in the photo right) which follows the contours of the site and of the curved street. The V-shaped hotel by Harry Weese and Associates (lower right foreground in photo right) breaks the medium-rise scale which Barnes originally intended to achieve.

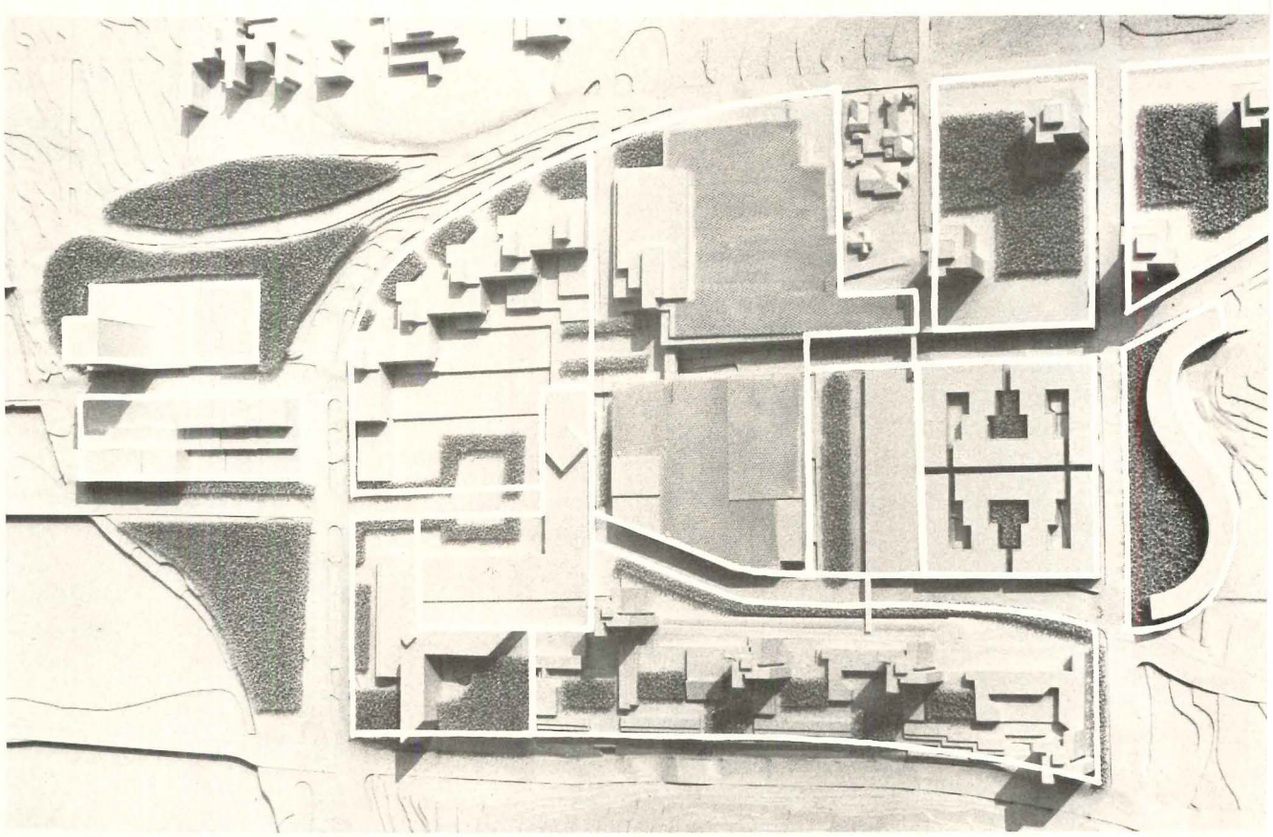
Barnes' master plan closes and builds over a then existing north-south street to create the terraced lawns and plaza, but allows the other north-south artery to remain. The plaza is set at the level of this street as can be seen in the photograph (right). The street itself is bridged by a shopping arcade.

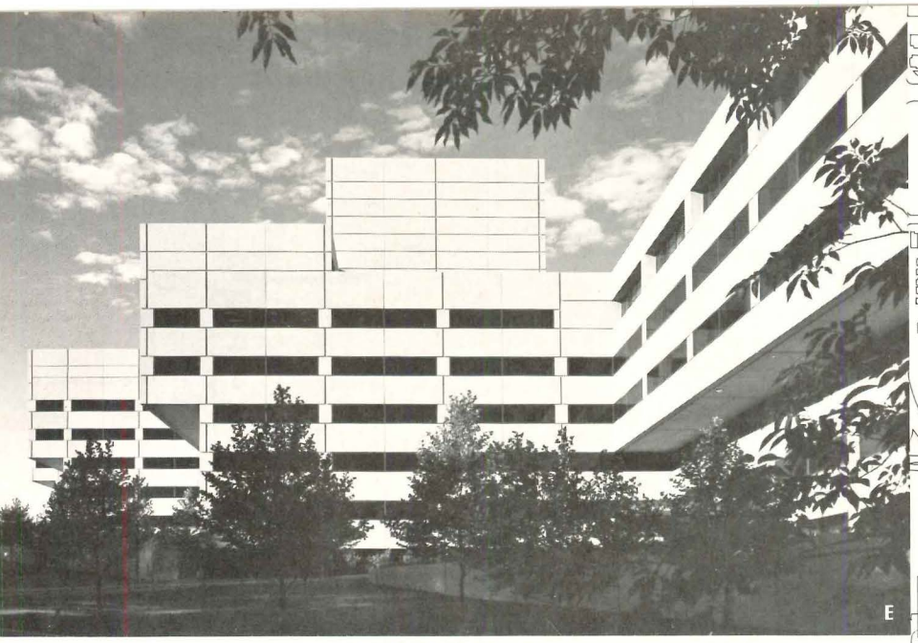
Parked cars will not be part of the ambience at Crown Center. Hallmark employees park on the roof of their plant (as the photo at right indicates) and all other visitors and workers will park their cars underground.

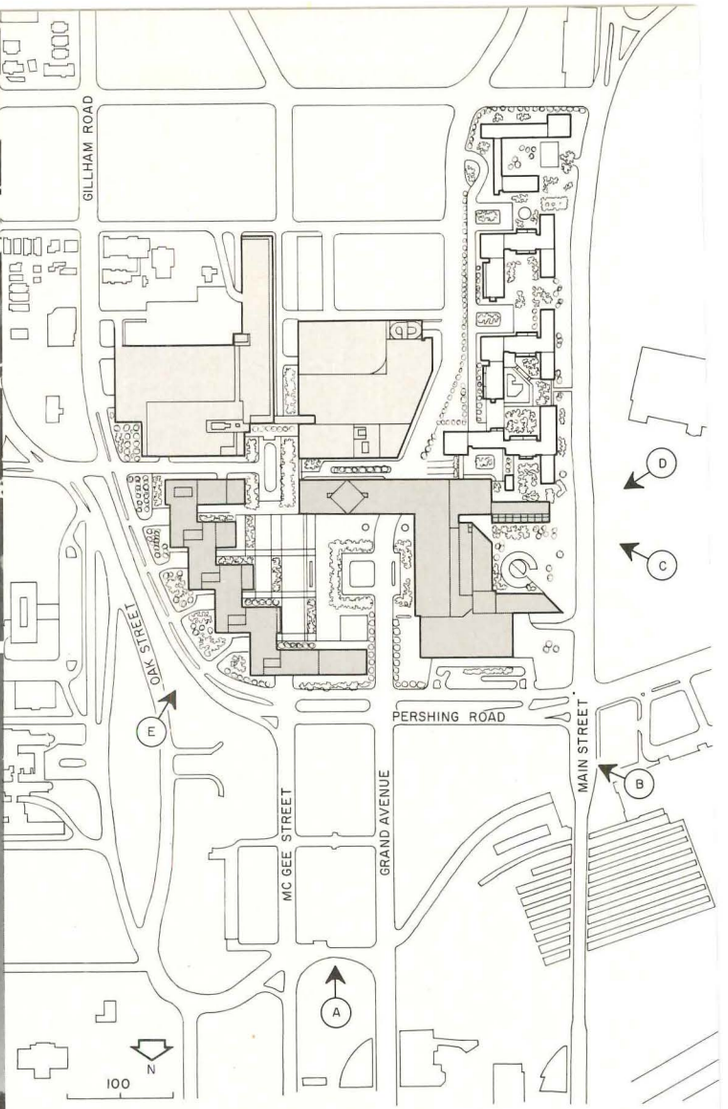
Crown Center's rapid growth would appear to be the result of three factors—plenty of front money by an unusually patient developer, a realistically phased master plan and a lack of significant opposition on racial or ethnic grounds. Crown Center will displace a total of 19 families, all of whom are being rehoused by Hallmark. It is bringing thousands of new jobs to the Kansas City area (the hotel alone has provided 1,000 new opportunities for employment) and is providing a strong impetus for the regrowth of the nearby downtown area.



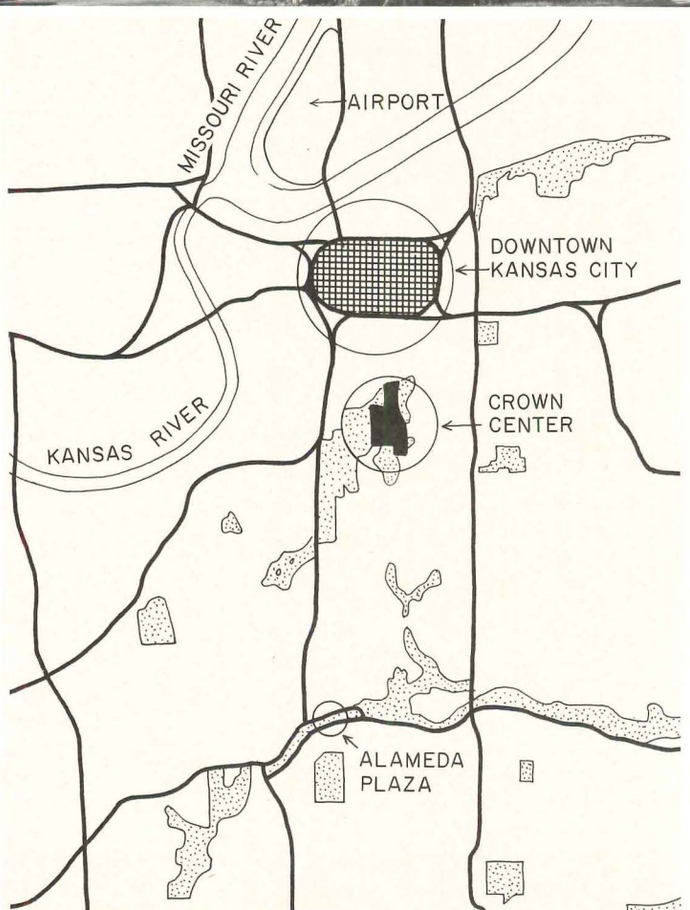
The photograph above shows the conjunction of the new development with the Hallmark plant. Almost all of the completed construction of phase one can be seen. Obscured from view by the hotel is the shopping center which will have a rooftop restaurant by Warren Platner and shops by Francois Dallegret and Joseph Baker and other leading architects and interior designers. The projected housing will be built along the same outcropping as the hotel. This first residential block at Crown Center will have 450 apartments including two condominium buildings. The second phase of construction, scheduled to be completed in 1977 will give Crown Center additional apartments and a second retail complex to serve them. The third phase, finished by 1980, will provide still more apartments and office space. The final phase, to be completed in 1983, includes a 100-unit motel and more apartments. Eventually 8,000 people will live in Crown Center.







The construction photo (A) was made before the hotel was completed and the shopping center underway. It shows the proximity of the plaza to the four-lane street. As the site plan (bottom left) indicates, this is not a major artery and should not have too much traffic. Photos (B) (D) and (E) show the over-all scale of the center. The model photograph (C) shows the first phase of apartment construction to begin late this year. The apartments are by TAC.



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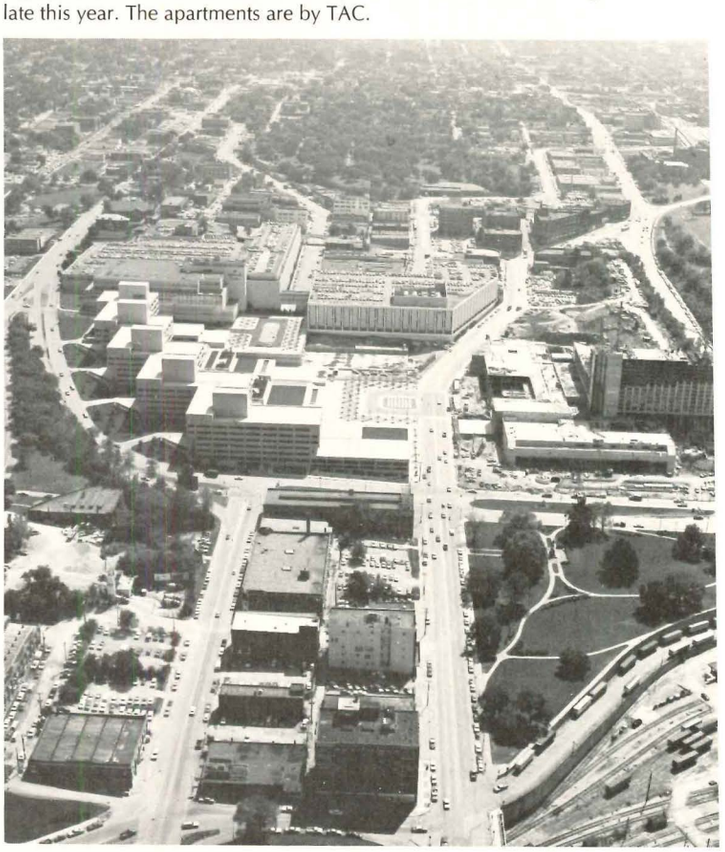

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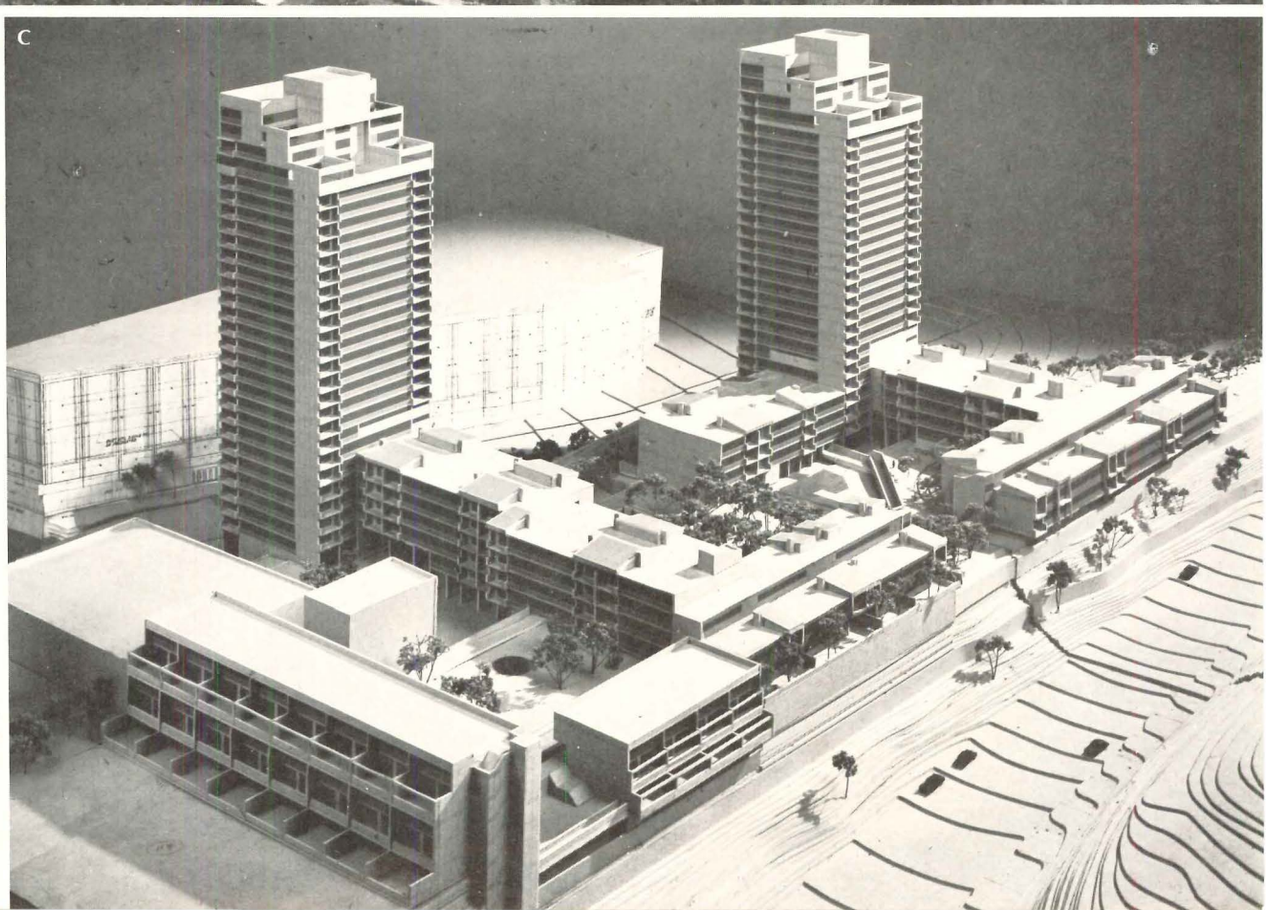
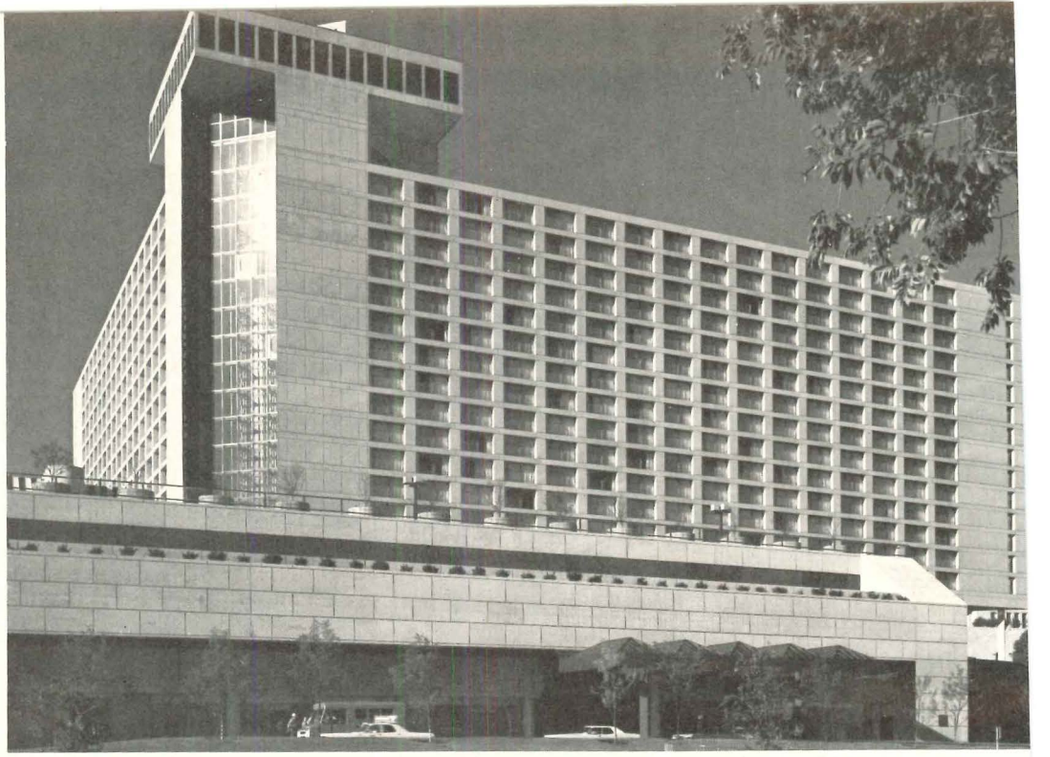


Conventional site planning wisdom applied to public plazas, calls for separation of pedestrian and vehicular traffic movement. For many planners a plaza is simply not a plaza if it has a four lane street running through it at the same level. At the very least, conventional wisdom insists that a plaza be shielded from traffic by raising or depressing the street. Master planner Barnes argues that plazas which are too well separated from vehicular traffic don't work. They tend to be underused by pedestrians and therefore shops don't thrive. When Crown Center's L-shaped shopping wing is completed, workers in the office complex and the Hallmark plant can enter it from their sides of the plaza. This shopping arcade will serve as a bridge linking both sides of the street. Perhaps very few pedestrians will actually cross the street on their way to the shopping center and hotel. Both the shopping center and the hotel have excellent vehicular access.

Crown Center: A hotel by Harry Weese obeys, yet transcends the design formulas of an international hotel chain

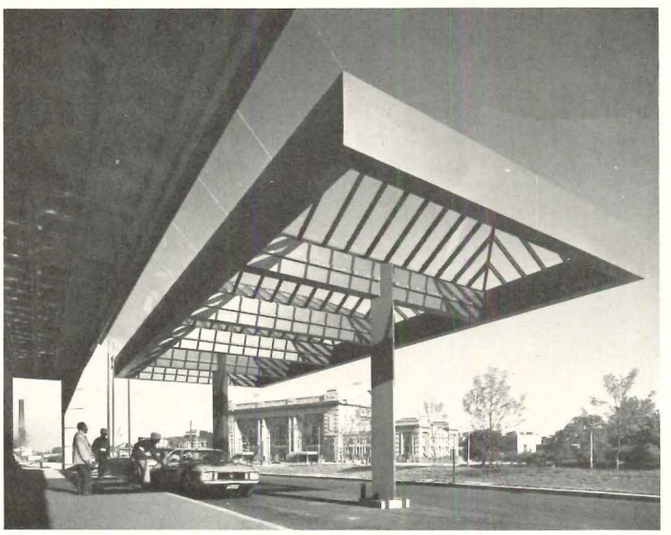


The 730-room Crown Center Hotel is perched upon a limestone outcrop on the western edge of the Crown Center development. Its elements are superbly organized around the rockface and part of the rock itself is exposed indoors. Master planner Barnes and Harry Weese, the architect who designed the hotel, originally wanted it to be a horizontal structure following the contours of the rock. Thus both sides of the square would have been controlled by the concept of medium-rise massing implicit in Barnes' office complex and his master plan.

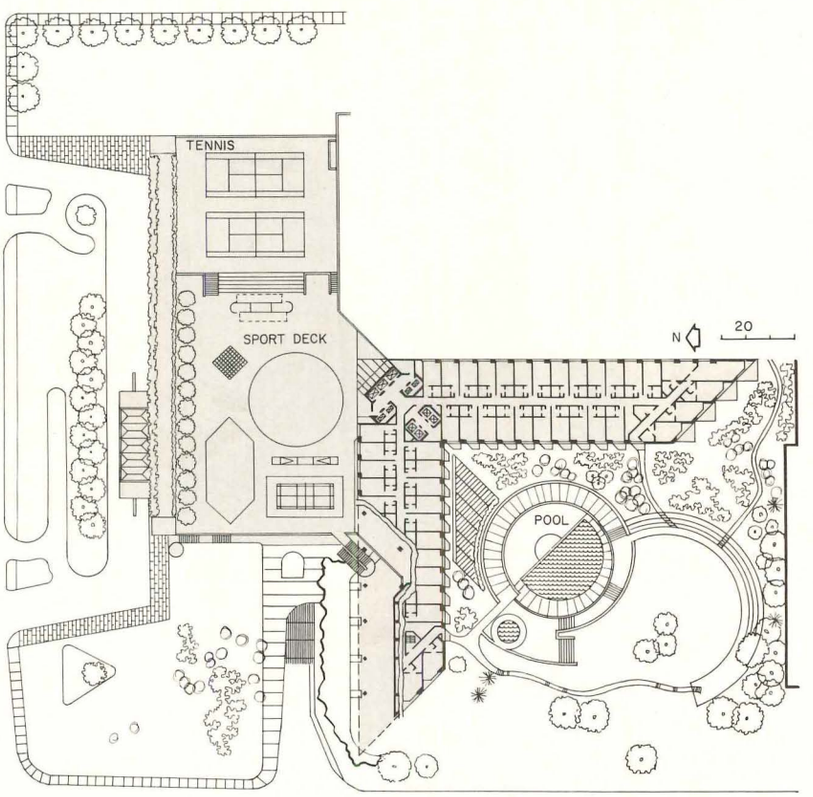
Western International Hotels, the firm operating the hotel, has such a hotel in its chain—the beautifully designed medium-rise Camino Real in Mexico City. This operator's experience with horizontal as opposed to vertical circulation has not been entirely satisfactory, however, since hotel guests and staff appear to prefer quick elevator rides coupled with short walks, to slow hikes with or without baggage or food carts through long corridors.

After Western International shot down Weese's various medium-rise schemes, both he and Barnes had to accept the fact that medium-rise Crown Center was to have at least one tower. (The laws of economics and practicality will bring more towers later on. The high- and low-rise apartment complex was first conceived as a series of horizontal terraces.)

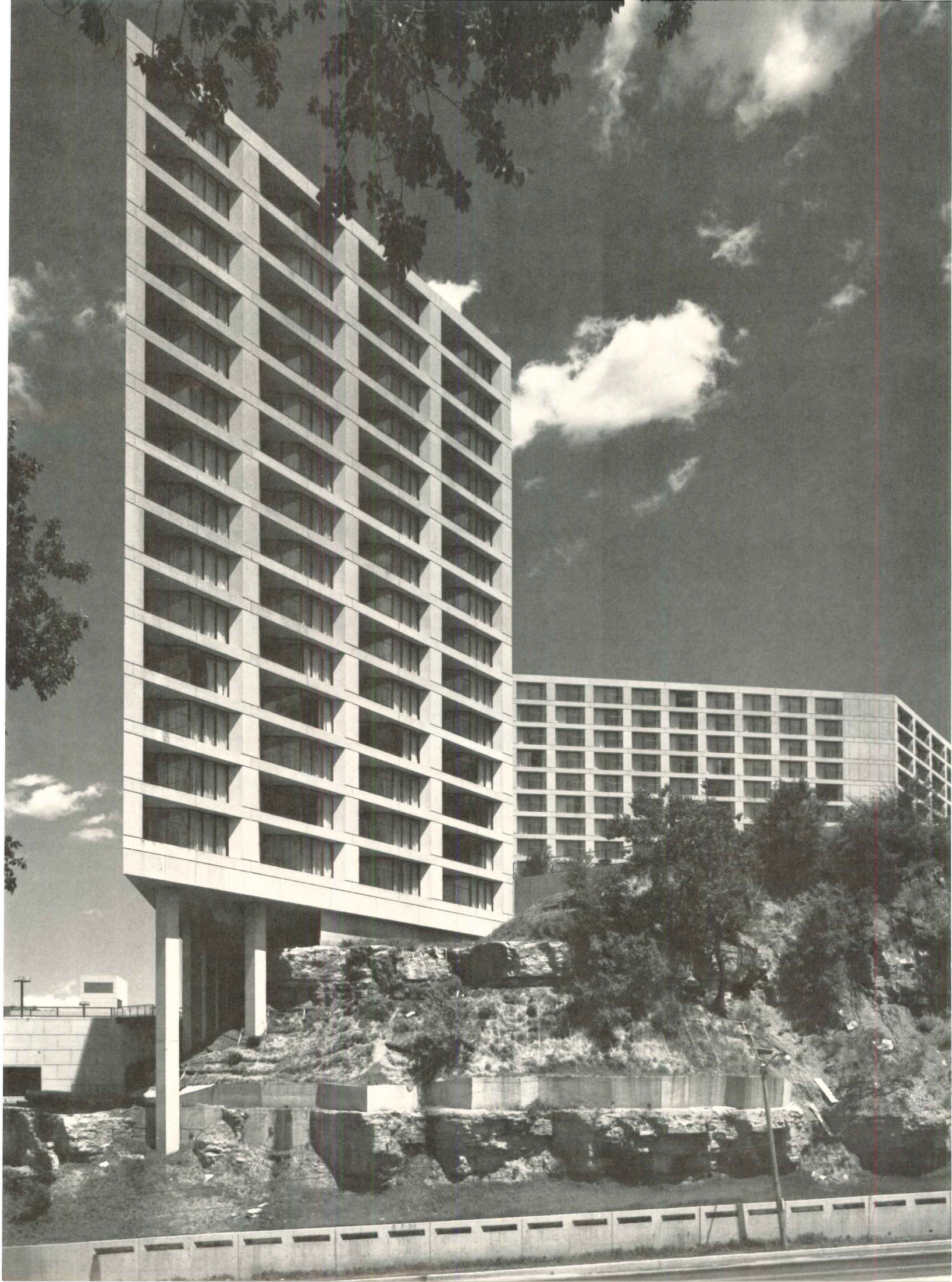
Once Weese began to design the kind of tower-podium structure which hotel operators favor, within the constraints of the rock outcrop, he was on his way to the creation of a remarkable building. The five-story high podium element literally backs into the rock. Here are the spaces which typically form the guest room tower base—lobby, shops, ballroom, restaurants, kitchens and service areas, with extensive garage space adjacent and below. The V-shaped 14-story tower begins at the top of the rock, approximately 70 feet above the level of the surrounding streets. What is splendid about the architecture of this hotel is the spatial transition from the lobby through the indoor rock garden to the outdoor garden, swimming pool and roof terraces shown in the plot plan (right). From the street (opposite page), the massing is spectacular.

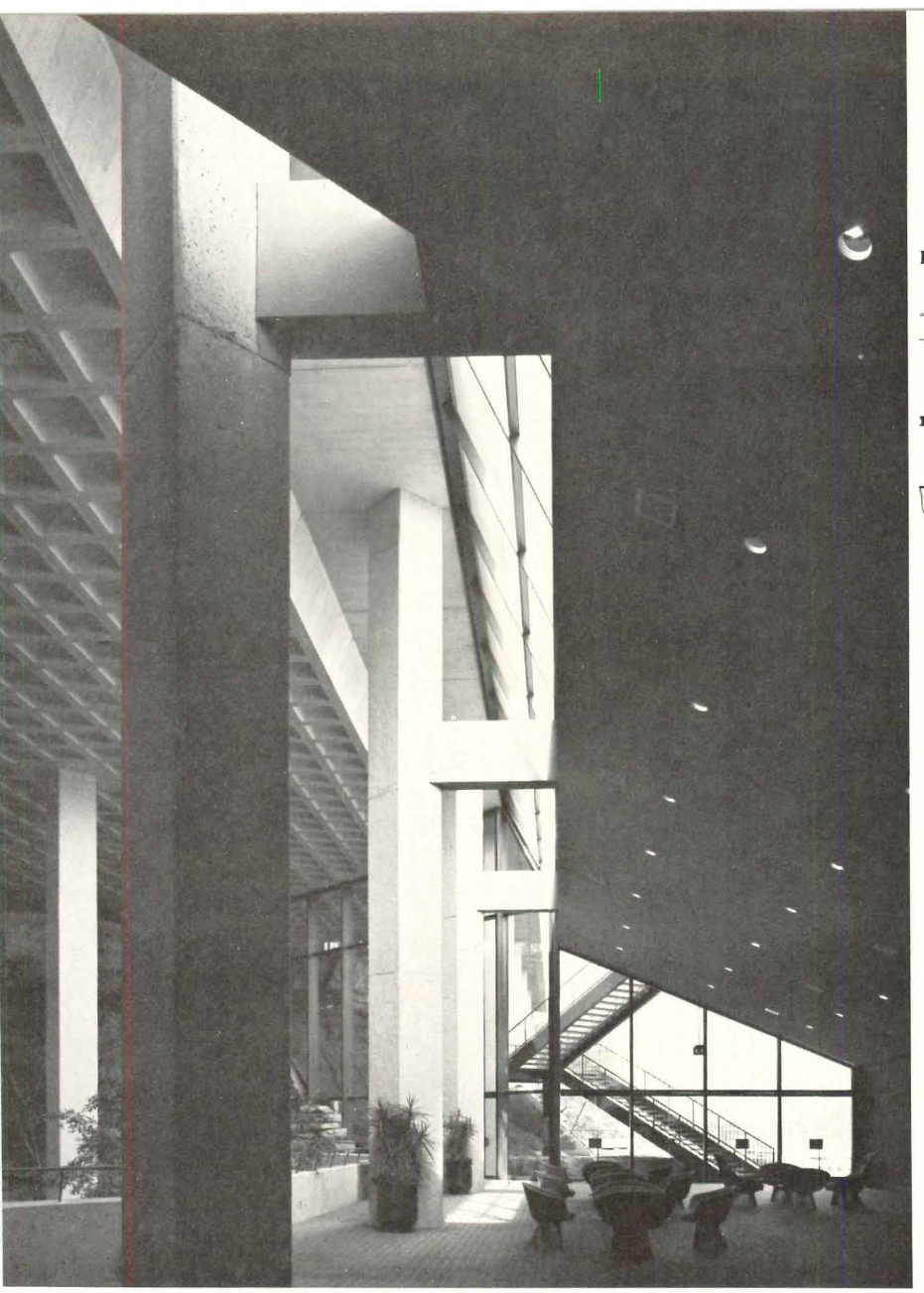


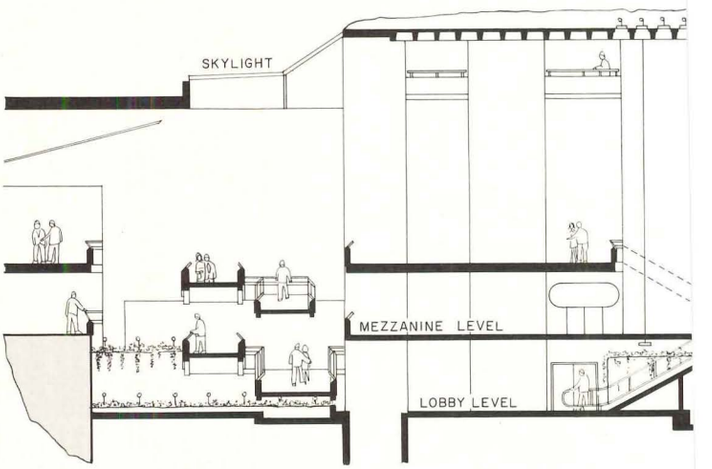
At the corner of the guest room tower is a glass walled elevator shaft, a design device which must delight more guests than it terrifies, judging from the frequency with which it now appears in luxury hotels. At the top of the shaft is a restaurant with a panoramic view, another essential of the modern hotel. The north face of the guest room tower is set back behind the podium. The podium roof contains tennis courts, a putting green and badminton and shuffleboard facilities. The steel and glass canopy (left) shelters the principal entrance. At the rear of this photo is Union Station. Should rail travel revive, the hotel will benefit.

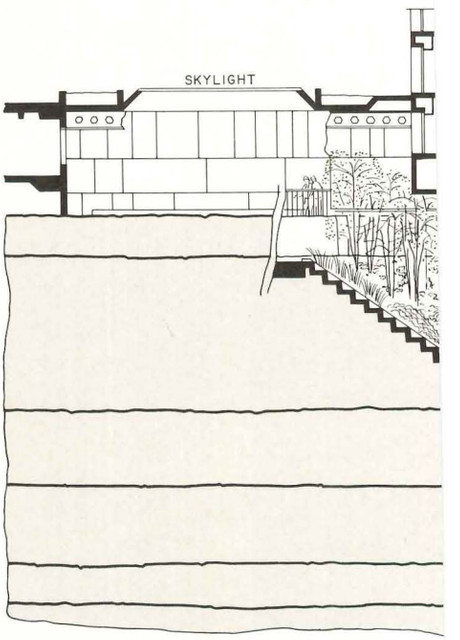


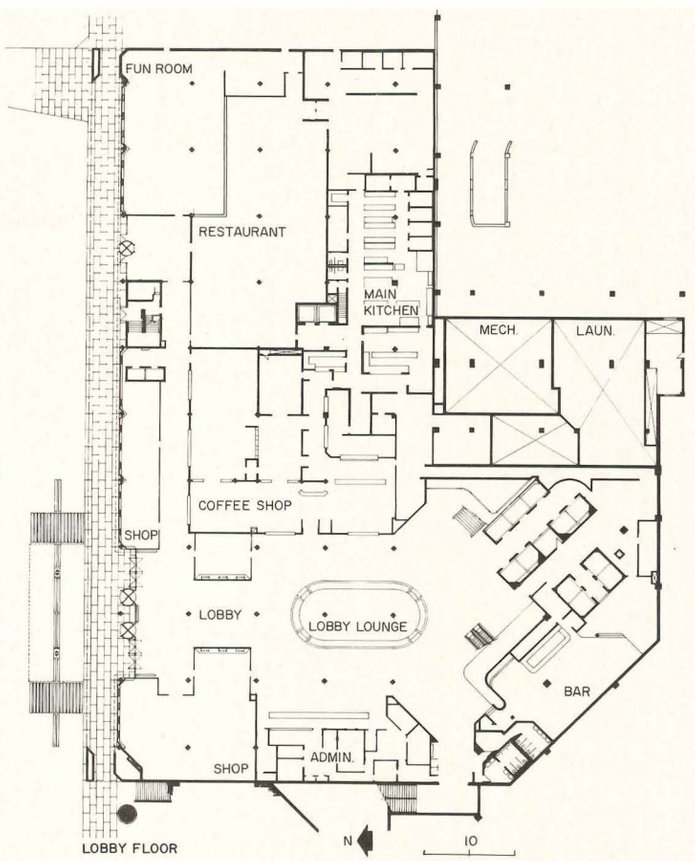
CROWN CENTER HOTEL, Kansas City, Mo. Owner: *Crown Center Redevelopment Corporation.* Architect: *Harry Weese and Associates.* Associated architects: *Marshall and Brown.* Project managers: *Concordia Management Services—project manager: W. M. Flanagan, hotel coordinator: E. A. Balys.* Engineers: *Jack Gillum and Associates* (structural); *TEC* (mechanical/electrical); *R. C. Coffeen & Associates* (acoustical); *Donald Bliss* (lighting). Consultants: *PBNL Architects, Inc.* (interior design); *Landscape Associates* (landscape architecture); *Harper and George* (graphics). General contractor: *Eldridge & Son Construction Co., Inc.*

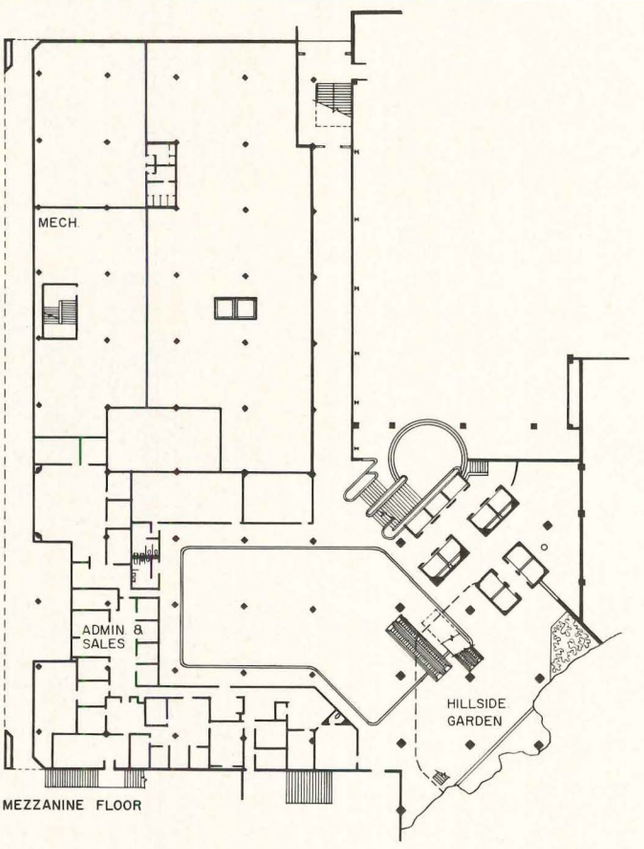


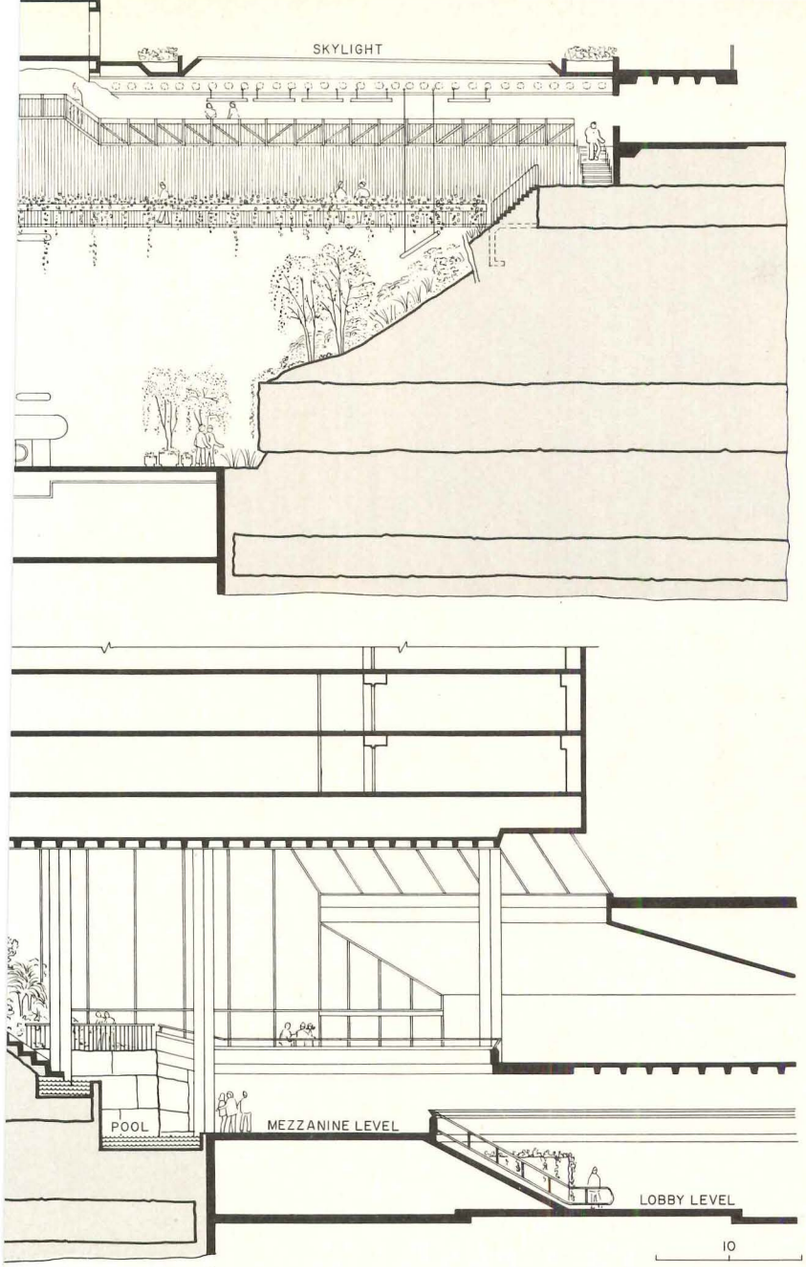



SKYLIGHT
MEZZANINE LEVEL
LOBBY LEVEL

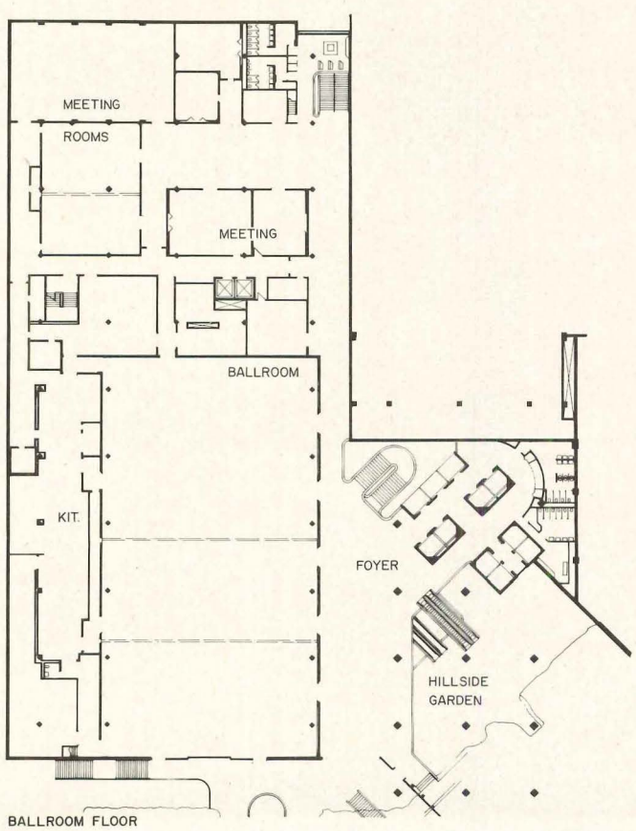

SKYLIGHT


FUN ROOM
RESTAURANT
MAIN KITCHEN
MECH.
LAUN.
COFFEE SHOP
SHOP
LOBBY
LOBBY LOUNGE
BAR
SHOP
ADMIN.
LOBBY FLOOR
N
10

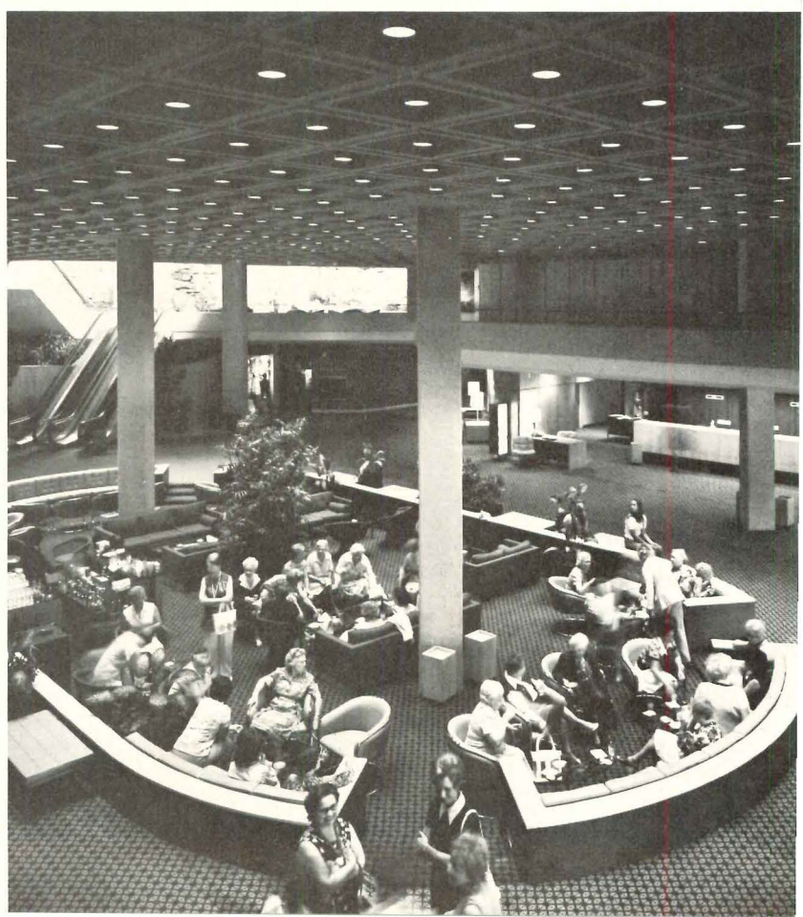

MECH.
ADMIN. & SALES
HILLSIDE GARDEN
MEZZANINE FLOOR

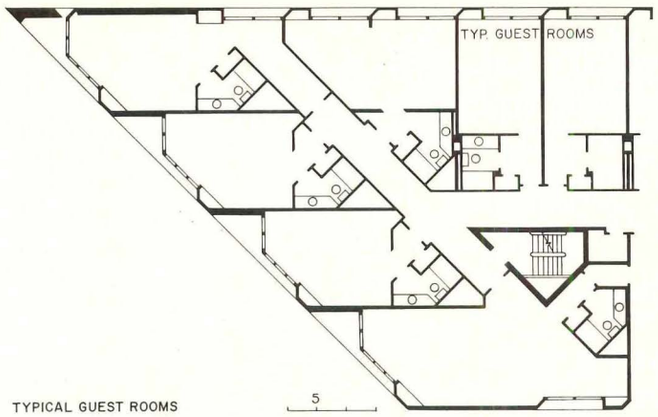


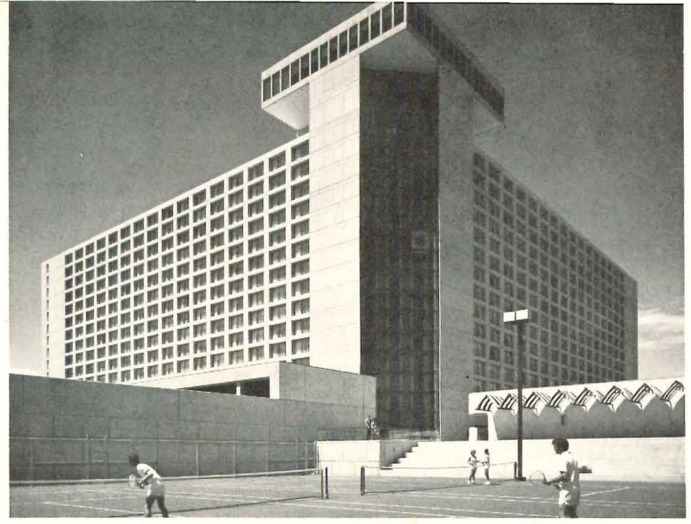
The indoor rock garden and waterfall (above) can be seen at the rear of the lobby seating photo (below), and in the sections (left) and is adjacent to the general lobby (opposite page). Guests may take a winding stair through the garden and emerge at an upstairs cocktail lounge which overlooks this splendid conservatory, or cross a bridge spanning the cascades which leads either to the outdoor pool or the sports deck. Robert L. Shaheen of Landscape Associates constructed the garden and selected the plant materials.

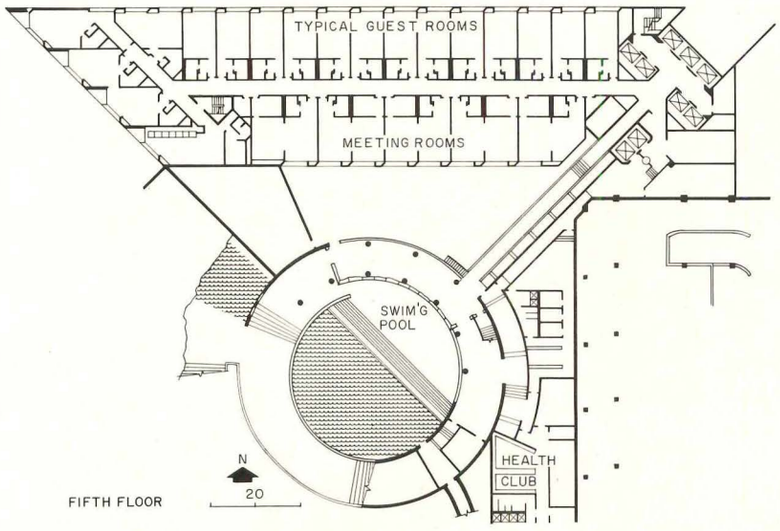


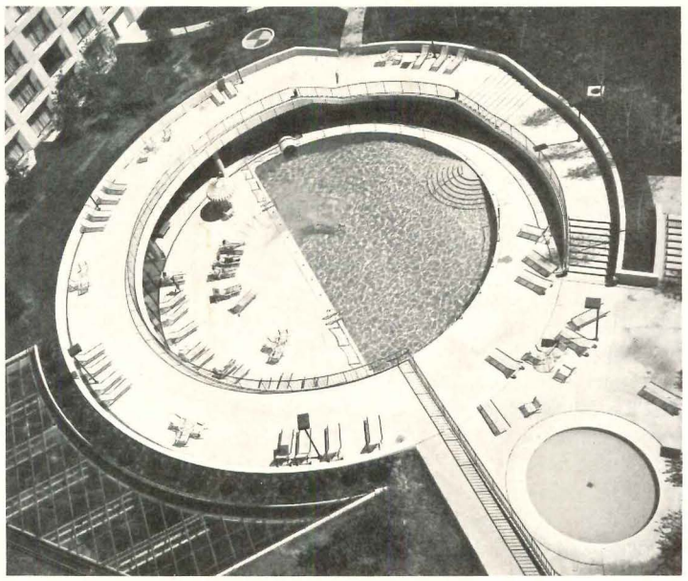
BALLROOM FLOOR



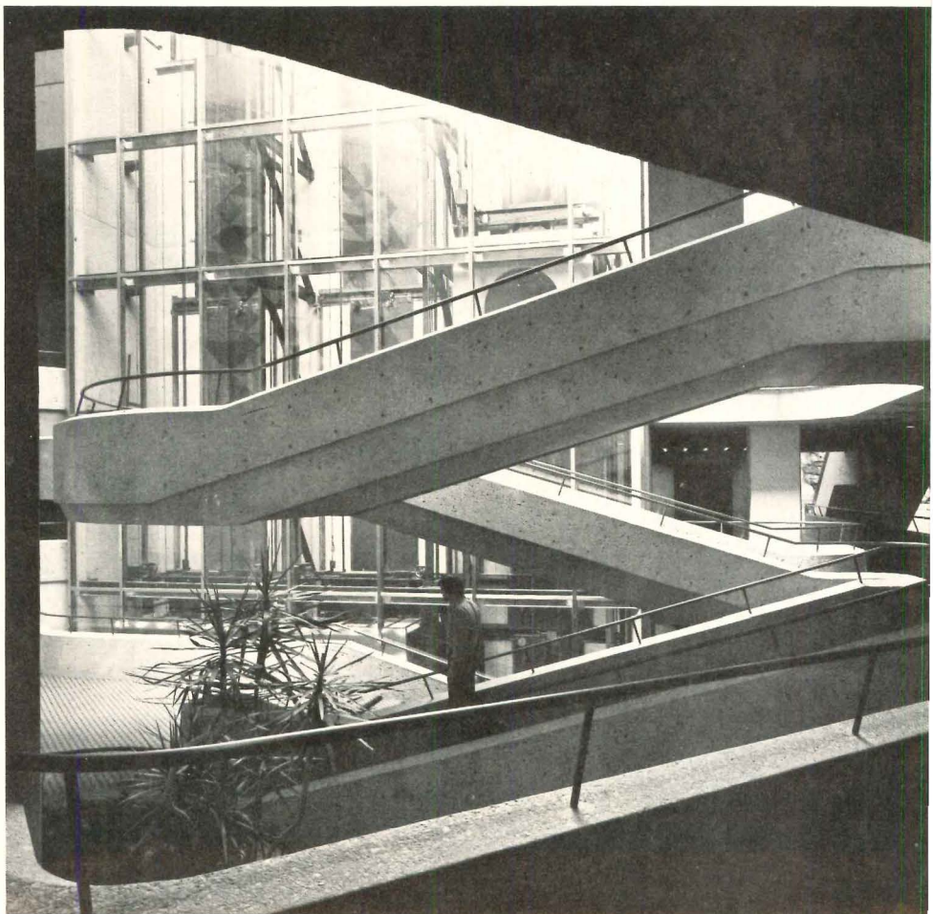






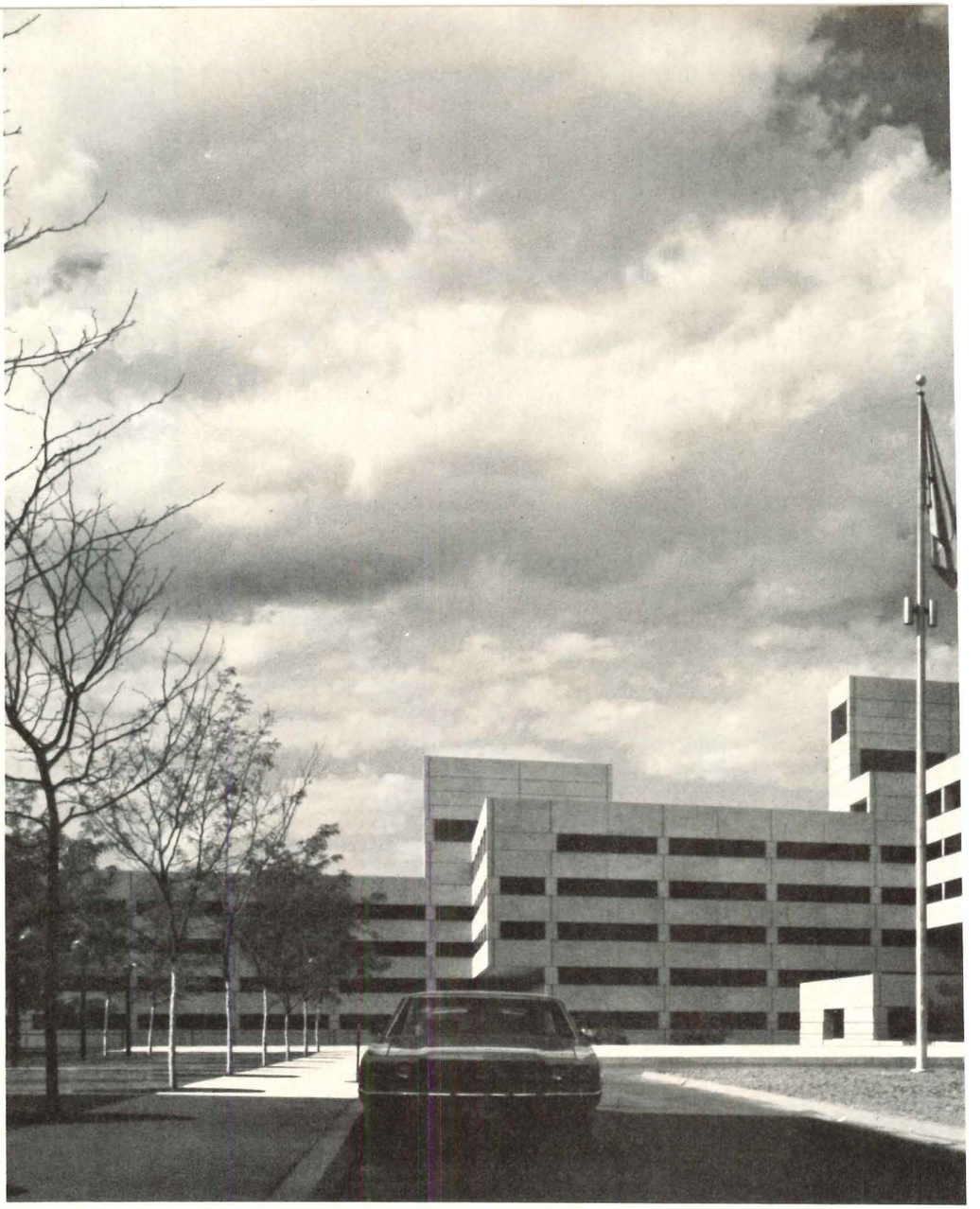


The sports facilities form an in-town resort which for elegance of arrangement—in the purely architectural sense of the phrase—is unmatched by any U.S. luxury hotel. The pool and its outdoor garden are sheltered by the two wings of the tower. The top of the indoor garden is circumscribed by the pool. The circular pool terraces are the principal means of transition between the indoor and the outdoor gardens. Ingenious circulation networks, including a marvelous bridge, separate swimmers, sports deck users, visitors and service.



The tapestry (left and above) is made of undyed wools and mineral rocks in a diamond pattern which deliberately echoes Weese's use of the 45-degree angle as his geometric basis for the design of the hotel. Designed by Helen Anselevicius, it faces the glassed-in elevators which appear beyond the main staircase (right). The stair connects the main lobby with the ballroom floor.

Crown Center: Five medium-rise office buildings by Edward Larrabee Barnes are linked together to form a single complex



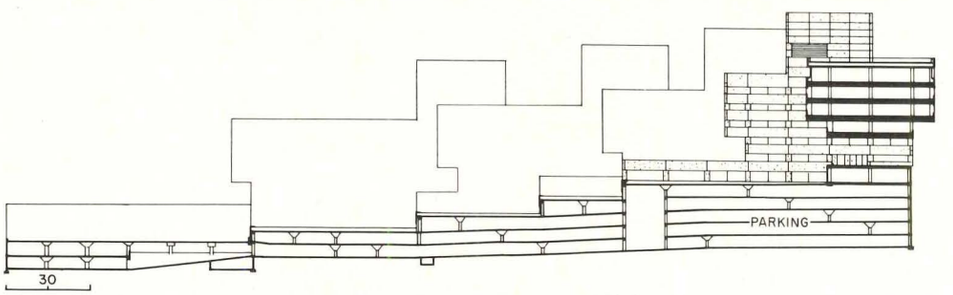
The first building group to be completed at Crown Center was the office complex. The public plaza followed, then the hotel. This fall the shopping center, known at Hallmark as the "retail entertainment center," will open its doors. At the end of the year, work will begin on the first group of apartments by TAC.

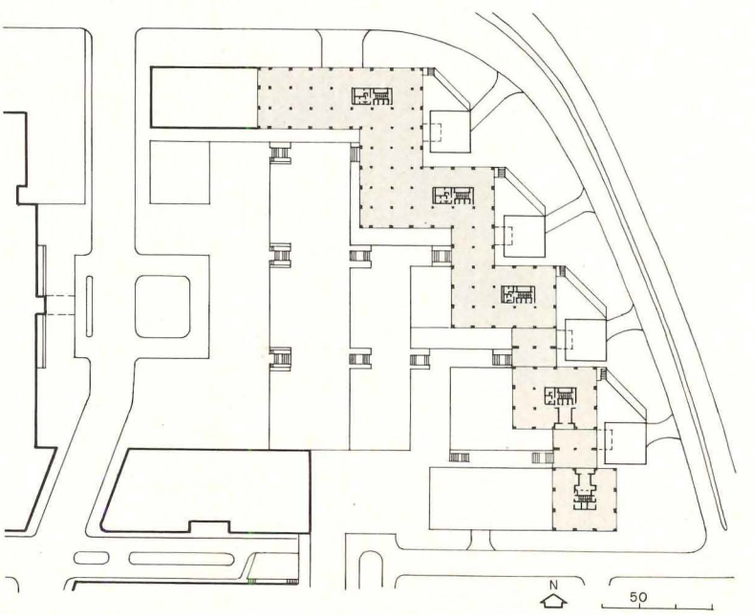
As Hallmark's initial gesture in its long-range development plan for Crown Center, the design of the office complex was extremely important. These buildings had to make an impact on the grey area surrounding the Hallmark plant. They were to symbolize and prefigure the quality of the architectural environment to come. It was essential that this office space please prospective tenants with its own intrinsic amenity, enticing them to sign leases and move in. All that Crown Center promises and has accomplished would never have begun had the office complex failed to attract tenants. Fortunately it has, due in large part to the quality of its architecture.

The buildings are each only seven stories high. The office workers, therefore, are physically close to the office plaza and its life. Although the structures are linked on alternate floors, each has its own entrance contributing to separateness and identity. The buildings step down the slope as do the terraced lawns they overlook. The quiet restraint of their architectural expression makes them an appropriate background for all the public activity which Hallmark hopes to generate in the plaza.

The plan configuration (right), provides flexible rentable square footage and office arrangements. The individual buildings range from 80,000 to 157,000 total square feet, with whole floors ranging from 8,600 to 28,000 square feet. Taken together, all five buildings comprise 626,300 square feet. Large 30-foot clear spans and five-foot modules contribute to the flexibility.

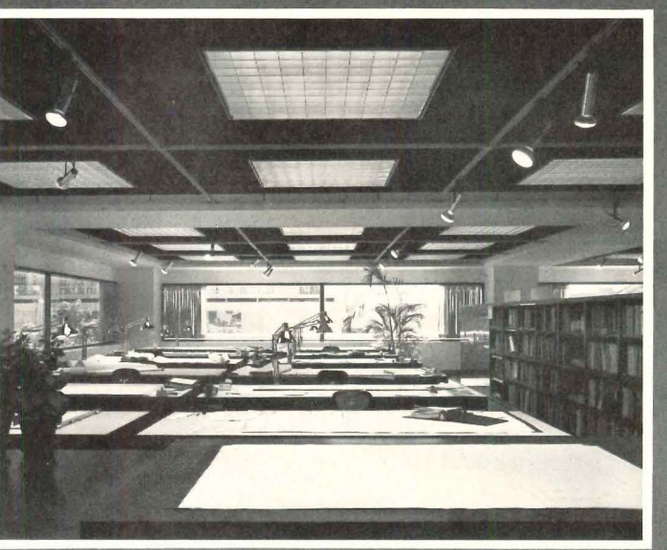
Underneath the offices is a six level 934,-000 square foot garage with 2,300 reserved spaces for tenants. Maximum security prevails in the garage and office spaces through the use of television monitoring, special lighting and a uniformed security force. The combined garages underneath the office complex and the hotel provide a total of 7,000 parking spaces.



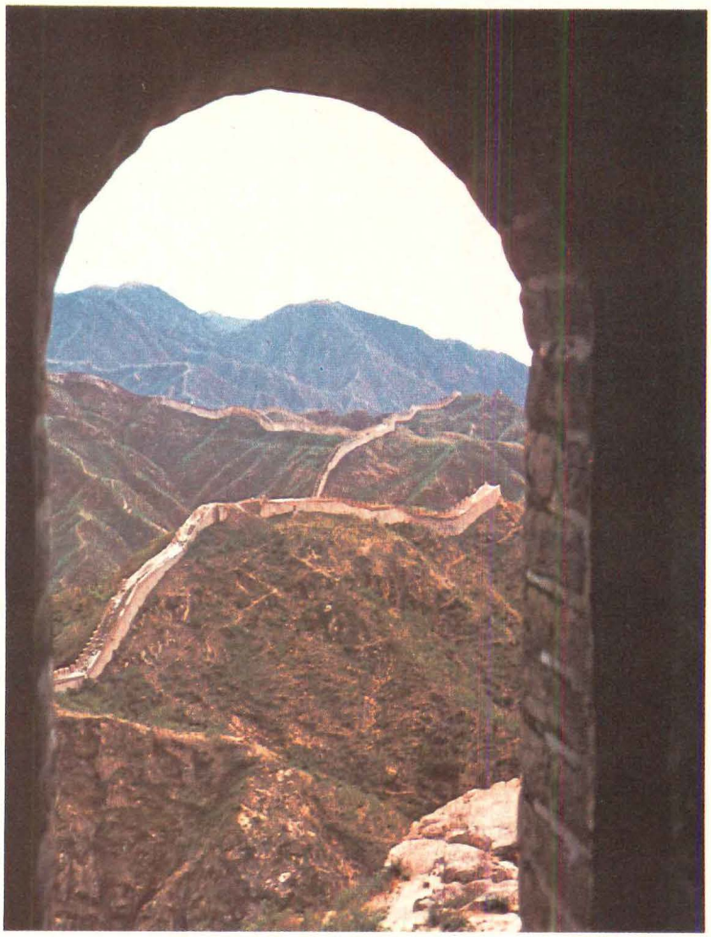


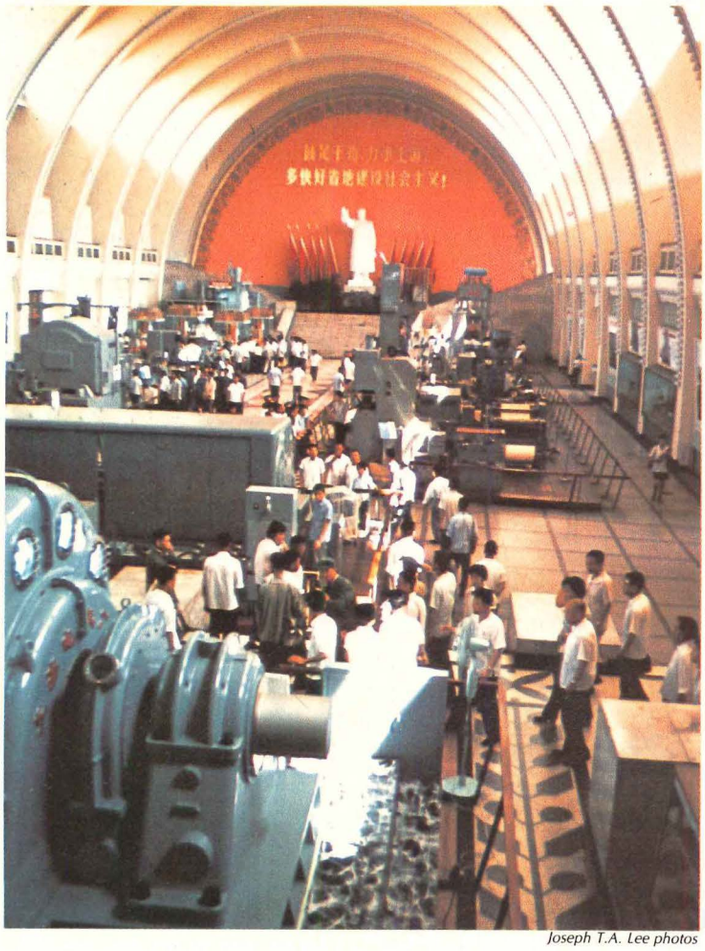
CROWN CENTER OFFICE COMPLEX, Kansas City, Missouri. Owner: *Crown Center Redevelopment Corporation.* Architects: *Edward Larrabee Barnes, FAIA—associates: John M. Y. Lee, Edward Z. Jacobsen.* Associated architects: *Marshall & Brown—partner-in-charge: Jack E. Lakey.* Engineers: *Marshall & Brown* (structural); *Joseph R. Loring & Associates* (mechanical/electrical). Consultants: *Don Bliss Architectural Lighting Consultant* (lighting); *Peter G. Rolland & Associates* (landscape); *Harper & George, Inc.* (graphics). General contractor: *Eldridge Construction Company.*

The fountain, designed by architect Barnes, is composed of 49 water jets, placed seven feet apart under special gratings. Water heights from each jet can be adjusted to any point between zero and 25 feet. This individual jet regulation permits the creation of such two-dimensional water patterns as a triangle, circle or square, as well as three-dimensional pyramids or cubes of water suspended within the whole. The 2,000 square foot fountain floor is paved with flat cobblestones and surrounded by a 23-foot apron of granite blocks. Below each water jet is a 300-watt colored light which automatically turns on at dusk, forming colored patterns within the flowing water. When the fountain is turned off, the cobblestoned floor and surrounding apron area become part of the larger plaza. An almost imperceptible incline allows for drainage and recycling back to the 8,000 gallon tank located in a nearby underground garage. The water flows at the rate of 3,500 gallons per minute.



The proportions of window to spandrel, and the modular organization of the precast panels have the elegance for which Barnes is famous. The proportions are equally handsome from within. The continuous bands of window glass range up to 750 linear feet per floor.





Joseph T.A. Lee photos

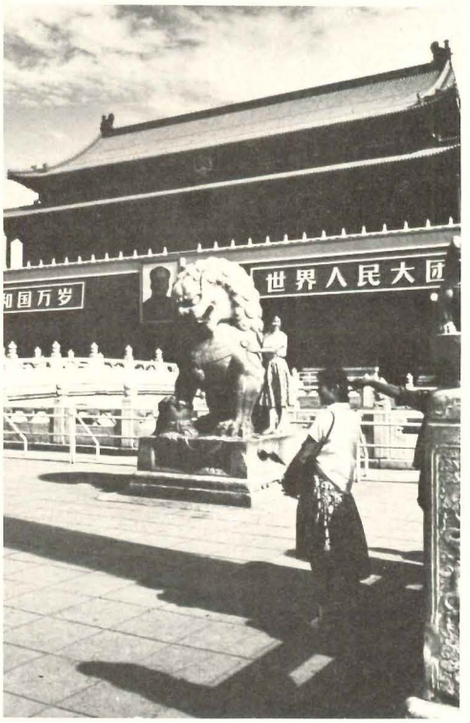
THE NEW CHINA

China today—new nation, old land: What is it like? What are its cities like? What does its architecture express as the People's Republic of China nears the end of its first quarter-century of existence? To find out, Architectural Record asked two recent visitors, an architect and a newsman, to describe what they saw. Both were first-time visitors to China. Architect Joseph T. A. Lee of Ann Arbor, Michigan, Canada-born naturalized American of Chinese parentage, spent four weeks in China as a member of a group of professors and visited Canton, Shanghai, Changsha (and Shaoshan, Mao Tse-Tung's birthplace), Hangchow and Peking. Michael Mealey, Chief of the Tokyo bureau of McGraw-Hill's World News, went to the Canton Trade Fair and visited factories and communes in Canton and Kwantung province. Professor Lee's photographs (above) of the Great Wall of China, begun 3d century B.C., and of the Industrial Exhibition Hall in Shanghai, built since 1949 to display current models of machines, need no words to point out contrasts inevitable in a society—and an architecture—in transition. ***—Elisabeth Kendall Thompson***

As more and more people visit and report their impressions of the People's Republic of China, some of the mystery and inscrutableness of this country, until so recently off-limits to Americans, is being dispelled. But the new China is still a paradox—an old, old country yet a brand new nation; the oldest civilization and the newest political system; a society in evolution from a revolution while it is still in revolution. Less than 25 years ago it was a war-torn country, mired in social vicissitude, political corruption, human misery, poverty, drugs, famine, and crime. Today—at an awful cost for some—there is peace. And the social system—at the price of acceptance by the people of an almost total loss of the individualism and freedom so precious to us—has eliminated extreme poverty and drugs, and has made famine unlikely. There is, whatever the price, a clearly apparent feeling of security, well being and national pride. Although in its early days the People's Republic asked for and got help from its Soviet neighbor, China based its form of Marxian political philosophy, and its method on ideas which are essentially Chinese, using basic Chinese traditions of family and community relationships, thus continuing a "communism"—a belief that the welfare of the group takes precedent over individual benefit—which has existed throughout her history. What is happening in China today is a unique experiment. Like most experiments, it has a record of errors as well as of accomplishment, and it recognizes that much remains to be done. What is important to remember is that the new China is an evolving society and that because it replaces a minimum of public and social concern its people are seemingly willing and eager to work for success. An impression recurrently brought back by those who have visited China in recent months.

Joseph T. A. Lee went to China as the architect member of a group of educators and scientists from various parts of the United States, all of whom are natives of China except Professor Lee, who was born in Canada. Like the others, Professor Lee is a naturalized citizen, and like them, speaks Chinese. His impressions of the landscape and of the people on his four-week visit are vivid and enthusiastic:

"I was impressed with the beauty of the countryside, lush and green in the humid south where rice paddies on contoured hillsides and in flat plains are common, and golden brown in the wheat country of the north. Since I was on the coast side of the mountains during most of my travels, the mountains formed a backdrop for most of the rural scenery I saw. Land is so intensively used for agriculture that it was cultivated right up to the edge of the road. A country-wide program of reforestation has not only filled once-barren hillsides



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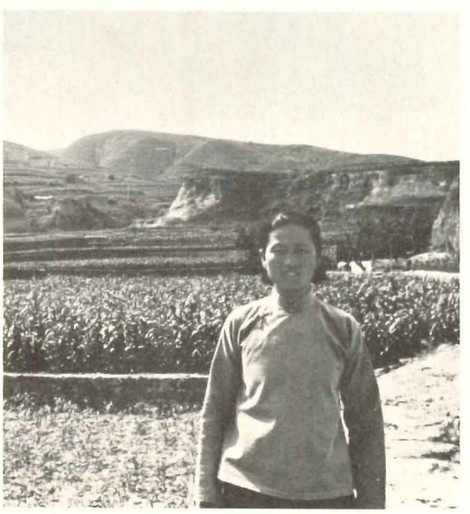
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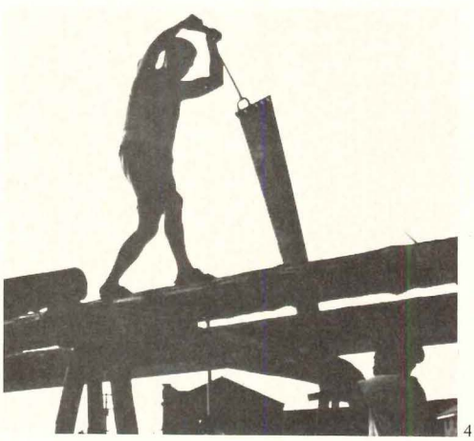
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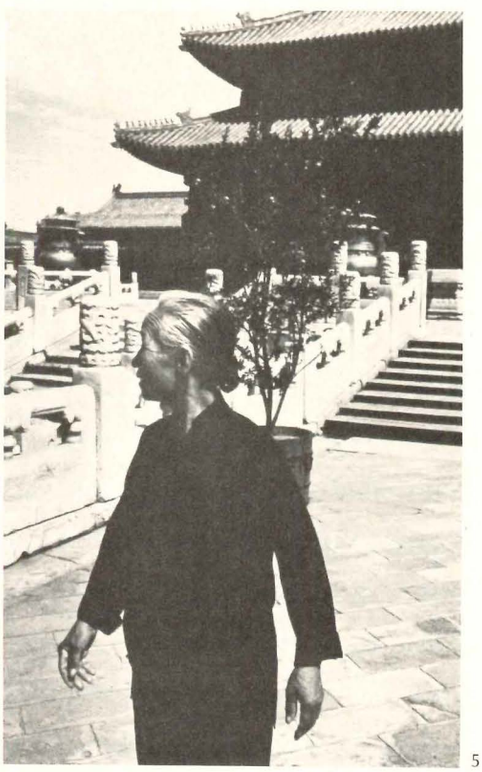
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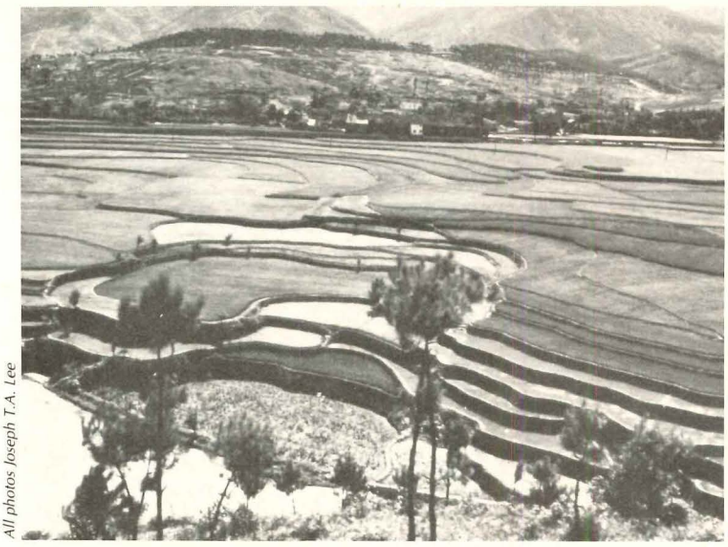
1. Gate of Heavenly Peace, Tien an Men Square, Peking
2. Bicyclist with a load of baskets near Canton
3. Commune member in field, Tachai, Shansi Province
4. Lifting logs from Manchuria for new construction, Tachai Commune
5. One of many visitors to imperial palaces in Forbidden City, Peking
6. Contoured rice paddies and reforested hillsides, south China
7. Harvest beside road near Canton, Kwantung Province
8. Return from early Market, West Lake, Hangchow
9. The Temple of Heaven, Peking
10. Carrying stone for dam construction, Tachai Commune
11. School boys playing cards, Peking

All photos Joseph T.A. Lee



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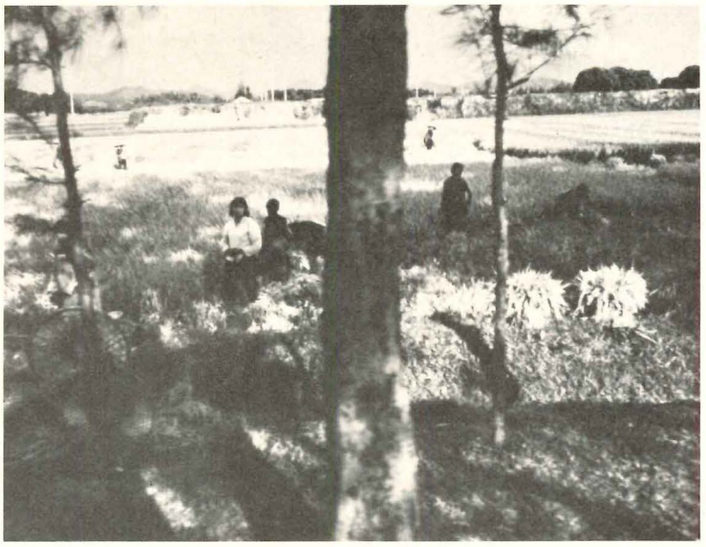

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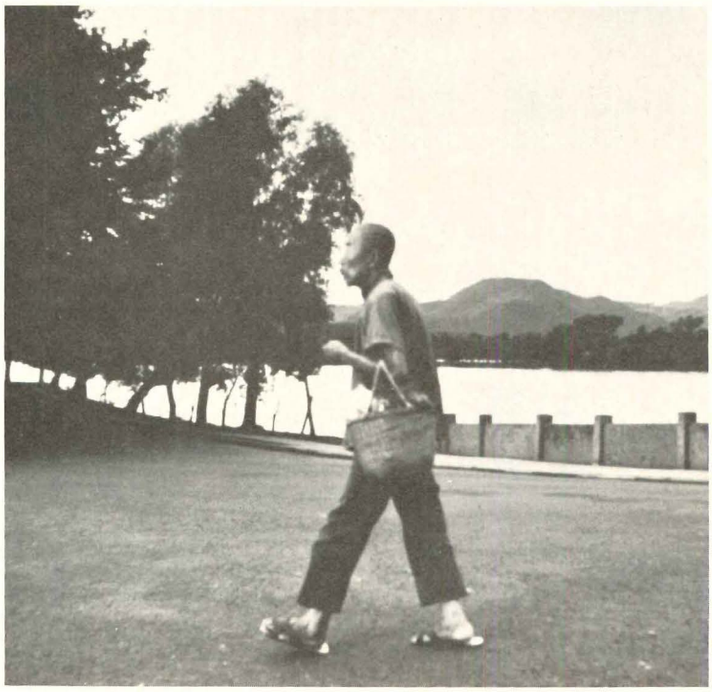

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China's countryside is beautiful, with lush green rice paddies in the south, wheat fields in the north. A national reforestation program, to conserve moisture and to reduce the erosion and flooding, has filled once-barren hillsides with trees and lined roads and streets with trees. The intent was practical, but the result is beauty. The people seem happy, confident and selfless in concern for group, not individual welfare.

with new trees, but has lined every road and railroad right-of-way that we saw with from one to three rows of trees on each side (on some of Peking's streets there are as many as 10 rows on each side). This is not a beautification program but one of important practicality, aimed at conservation of moisture and reducing the erosion and flooding which have been China's bane for centuries. But there is no denying that the omnipresence of trees in the countryside and in the cities—for the program has included city streets—adds beauty to the scene and gives shade in summer.

"The countryside has its unbelievable contrasts—more, I thought, than I had seen in any other ancient country: water buffalo plodding in fields crossed by electric power lines; people in the landscape wherever I went, not as here where one sees no people for miles; paved roads where bicycles were the only vehicular traffic; dams, irrigation ditches and reservoirs built by the hands and feet of human beings, not by machines, and construction materials carried to the site, stone by stone, suspended from bamboo poles. Brick are made by hand and baked in sunken ovens in an age-old way. Tractors work the fields of some communes, in others oxen are the only additional help for people.

"The people were wonderful. Everywhere I went I found the same happy, content, confident, amazingly selfless and self-sufficient people, a contrast of extraordinary dimensions to those who knew the pre-1949 China in which the mass of the war-weary people were poverty-stricken, disease-ridden, oppressed by taxation and often by corrupt landlords, hopeless. The revolution removed the wealthy, the entrenched office-holders, the intellectuals ruthlessly, but it has certainly given the mass of the Chinese people what they never had before—housing, food, clothing and, most of all, a sense of security. And they have responded with total acceptance of the new system, reinforced by their traditional Chinese values: everyone appears to put the good of the group above individual gain—indeed, to ignore completely the possibility of individual gain; there seems to be no greed nor envy (perhaps a uniformity of living conditions helps in this, but one cannot be sure it is only this); everyone seems content to work at whatever they are assigned. The explanations seem easy, when one sees the smiling faces, but the factors which influence these new social conditions are many and cannot be ignored: the influence of the still-unexplained Cultural Revolution; the contrast of present and past social conditions; the universal education of the young in one system and the dominance of one personality in education as well as in politics; the dire alternatives to conformity of thought.


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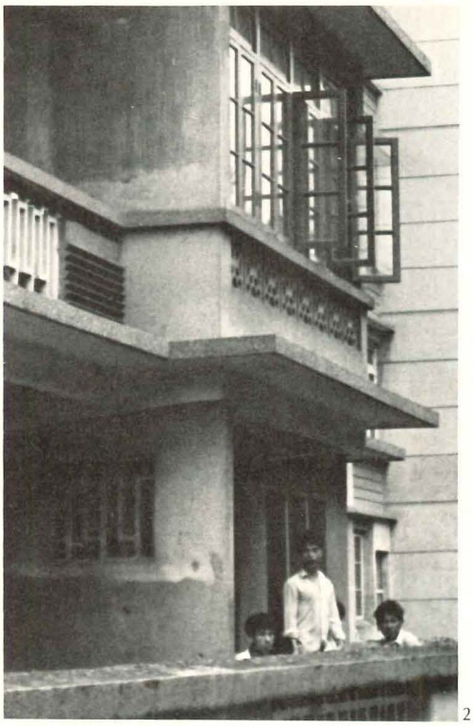
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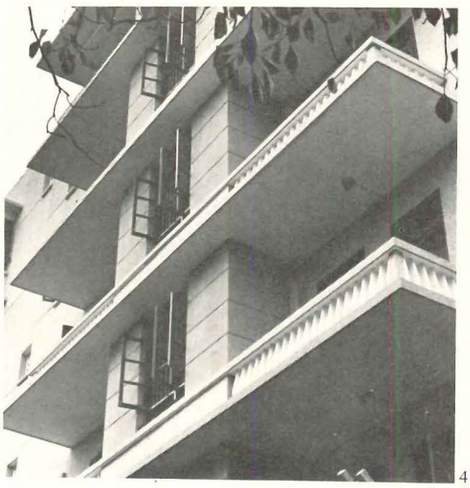
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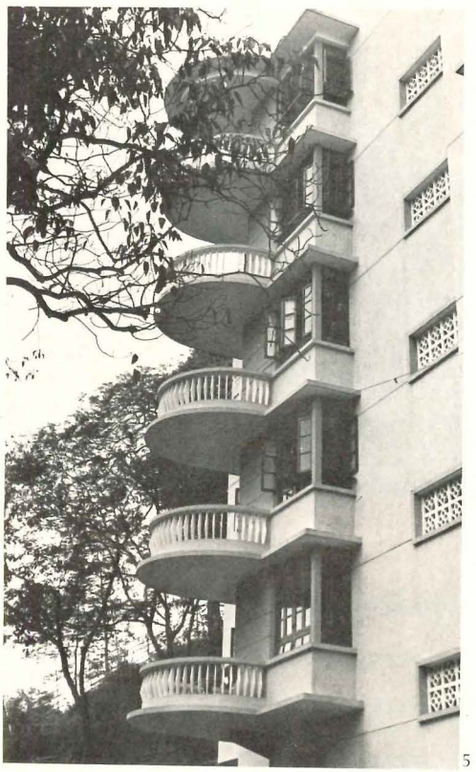
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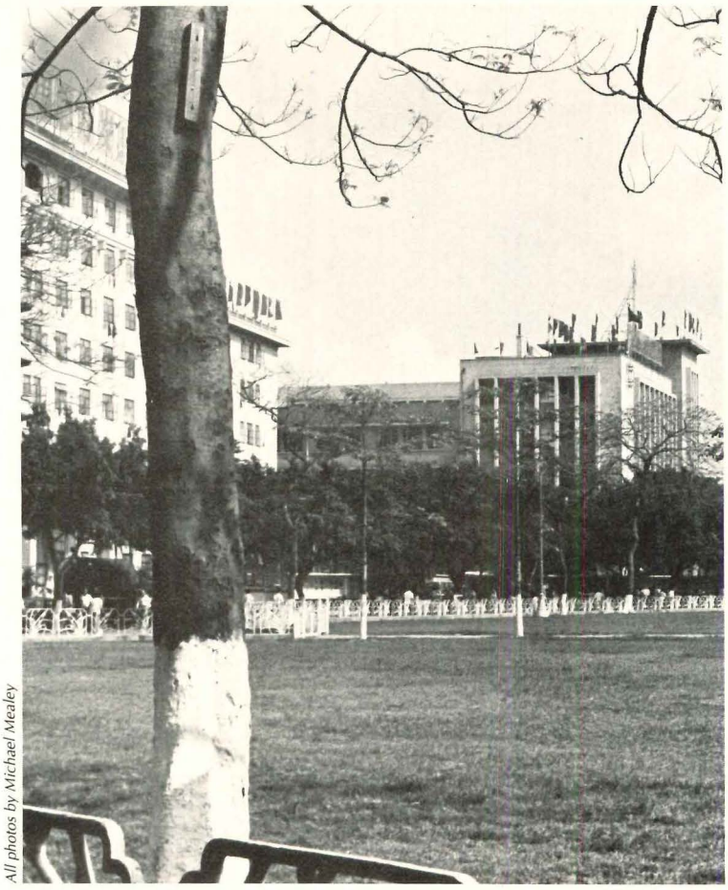
1. People's Department Store, Canton, Kwantung Province
2. Apartment building in older section of Canton
3. Factory workers' housing, Canton
4. Balconies on apartment buildings, older section of Canton
5. Semi-circular balconies, new apartment building, Canton
6. High-rise office building and park, downtown, Canton
7, 8. Tree-lined pedestrian and cycle ways, Canton



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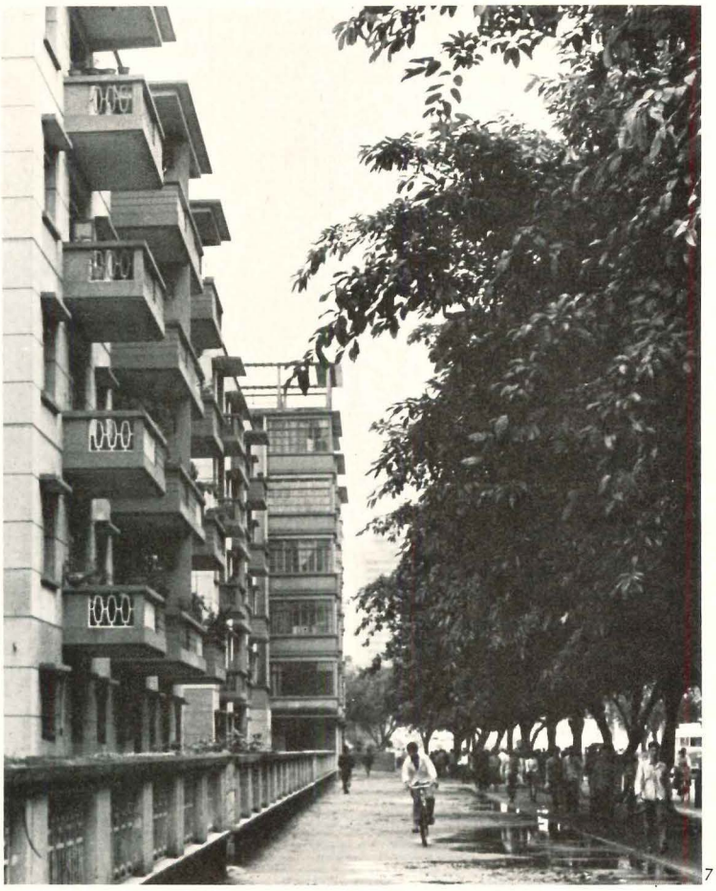

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All photos by Michael Mealey

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Canton is a city of tree-lined streets and well-kept parks, with tall office buildings in its business district and residential areas with many blocks of four- to five-story apartment buildings. Although Soviet influence was strong in the early post-revolution years, recent buildings show a definite trend away from that approach. Housing is government-owned and -designed: there are no private architects.

"Notwithstanding, the people have, as they always have had, a fundamental outlook, uniquely Chinese, on life and they set examples in many ways which we would benefit from studying. Their attitude toward group responsibility, for instance, is 'Why should I not do this?', rather than—as we are apt to say—'Why should I?', and 'Everyone will benefit from this; not 'What's in it for me?'

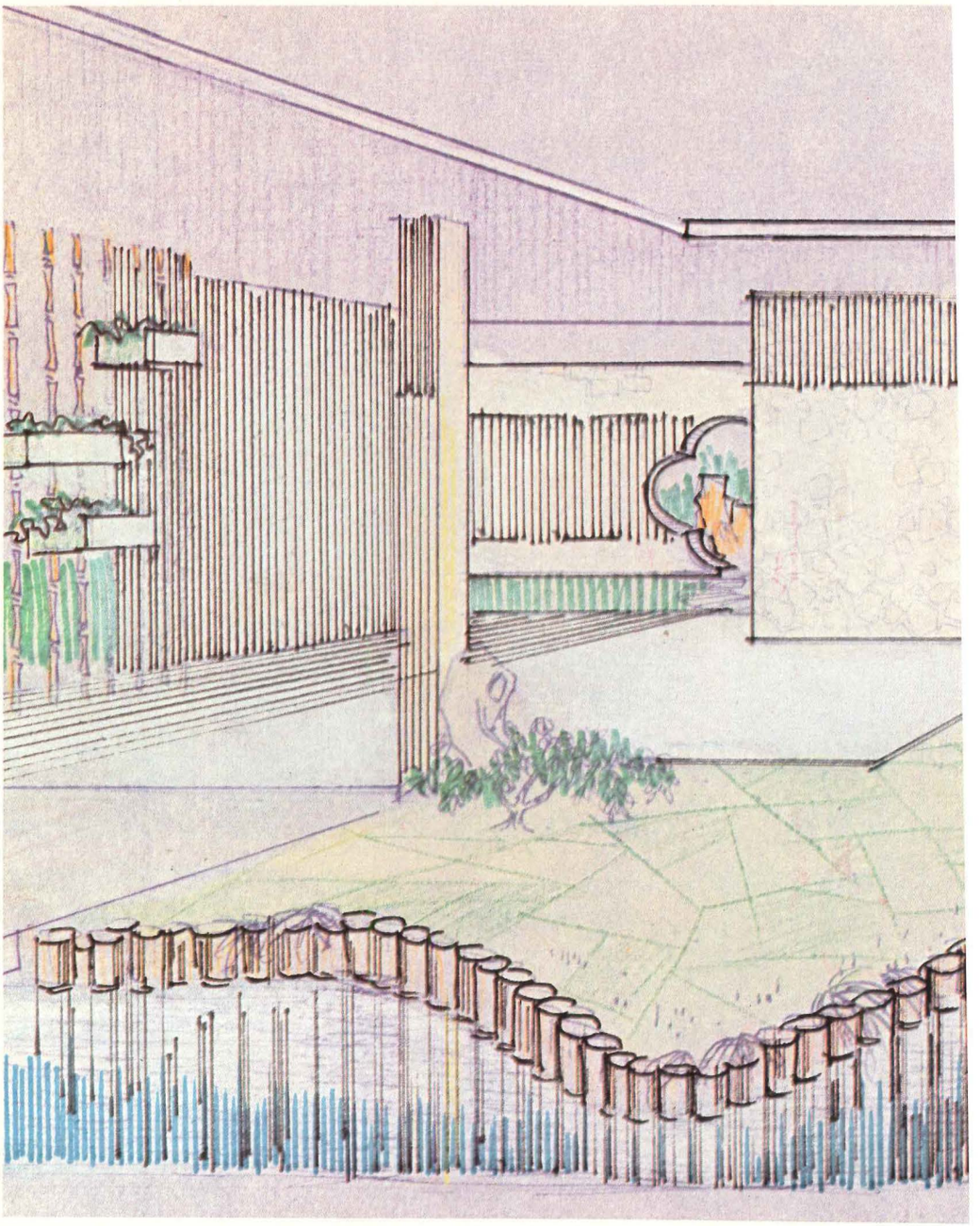
"Impressed as I was with the character and attitude of the people, I was disappointed and dismayed by the post-1949 buildings I saw in the large cities of Canton, Shanghai and Peking. The Soviet influence on Chinese construction and technology was strong in the early days of the revolutionary government and the architectural expression of the Moscow school was a natural result. In the cities I visited, the buildings which house government functions are all of this pompous, sterile, drab style. Best known of these (through news media coverage of President Nixon's visit to China) is a vast, dull facility for large gatherings known as the Great Hall of the People, in Peking's Tien an Men Square (their analogy to Moscow's Red Square). But there are many other buildings, not so large but similar in aspect, architecturally and otherwise. Some newer buildings show signs of getting away from the Soviet influence—for the most part, apartment buildings; but a few such are government structures of recent construction.

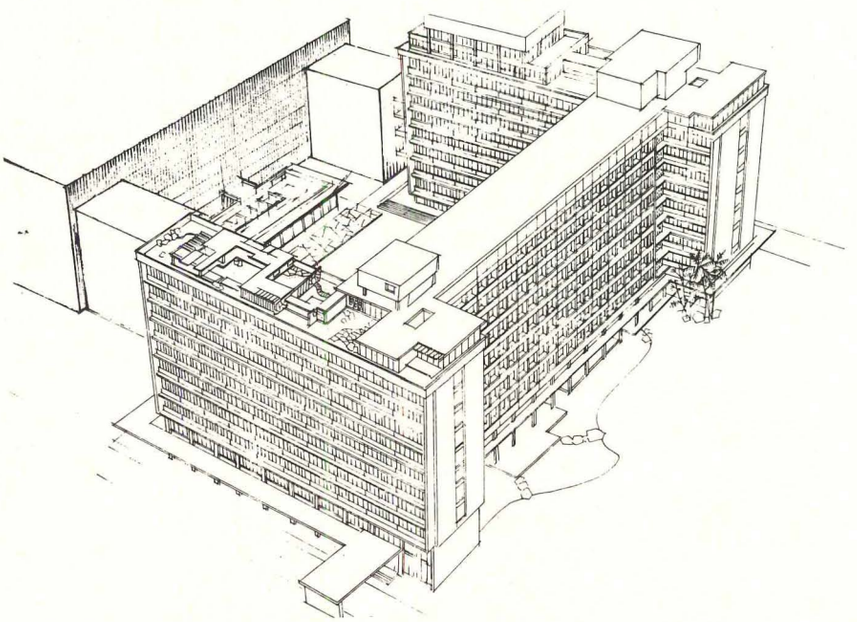
"On the other hand, it is impossible not to take delight in the classic Chinese monuments in Peking and Hangchow, not only for their architectural splendor and beauty, but for what they express of the essence of two distinctly Chinese philosophies: Confucianism in the magnificient formalism of the Imperial City in Peking, Taoism in the naturalness and clarity of Hangchow's tranquil villas, temples and gardens. In the last of these, I finally found the roots of East Asian architecture for which I had looked elsewhere in the Far East and not found.

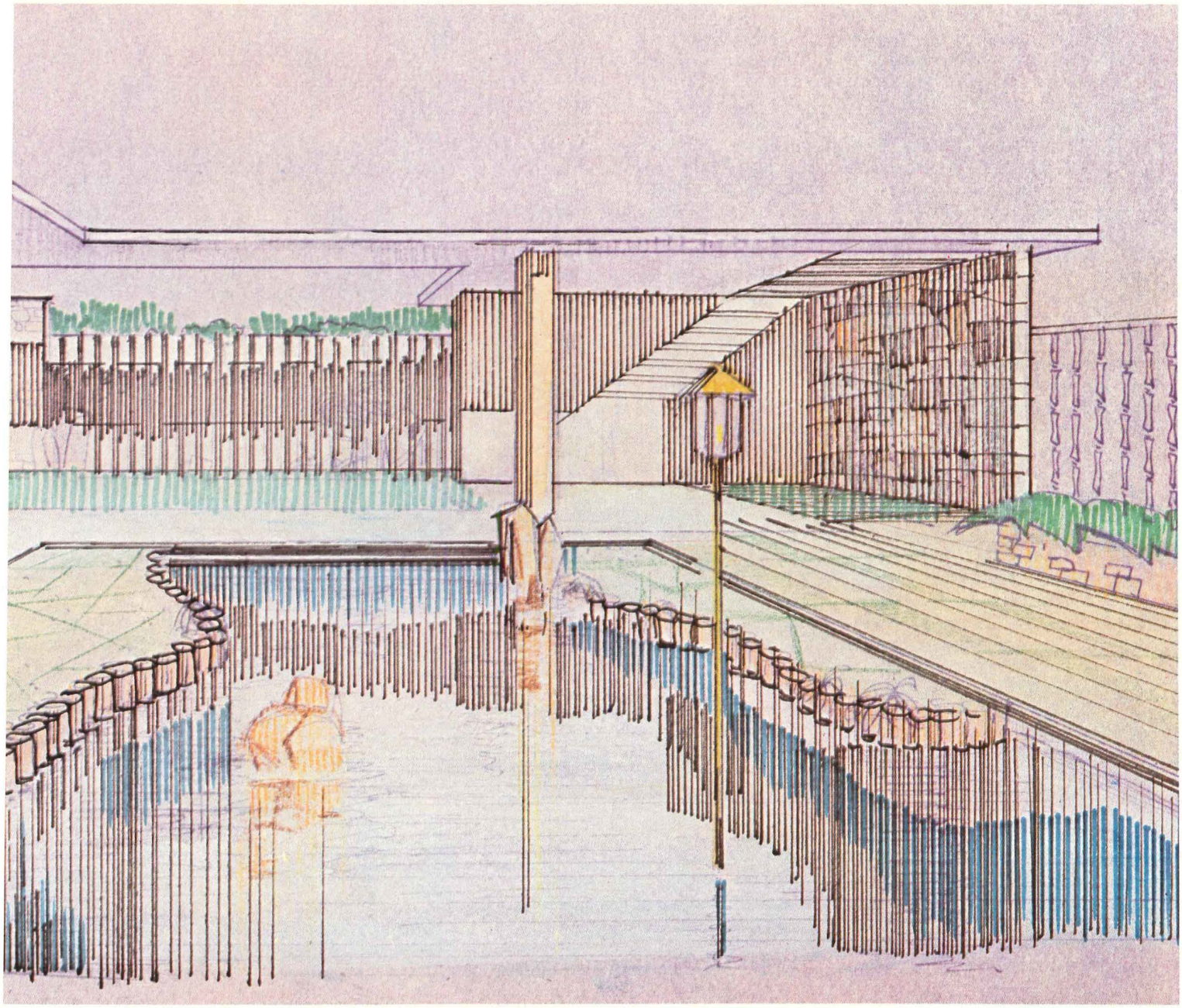
"Visible and notable is the human scale of the traditional Chinese dwellings which still prevail in villages and are found even in the largest cities, despite the intrusion of a larger scale in the characterless five-story apartment buildings which do, however, provide the security of good, sound, housing for millions of people.

What keeps these acres of housing from being completely scaleless and characterless are the broad streets, the balconies which give both variety and modulation to the facades, and the lovely trees on each side of the street. Michael Mealey, McGraw-Hill's newsman in Tokyo, reports on the newer apartment buildings he saw on a week-long visit to Canton and the Trade Fair, and on the apparent change that is in the air for architectural design:

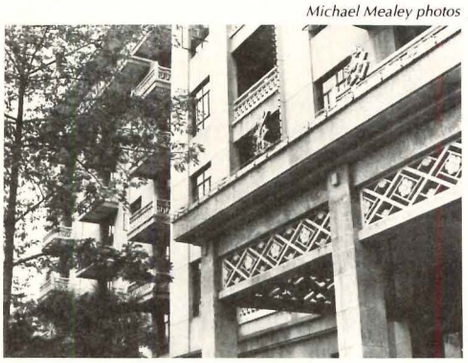
"The newest buildings that I saw in







Michael Mealey photos



The addition to the Tung Fang Hotel in Canton—larger, more elaborate and more Western in style and appointments than the existing hotel it enlarges—suggests that China's architects, in turning to foreign models, are as yet unaware that to achieve a high order of art and architecture, the contemporary expression must derive from indigenous sources, based in culture, history and tradition, and in freedoms not now theirs.

Canton indicate that Chinese architects are genuinely interested in designing buildings which are both more attractive (than the Soviet-influenced design of the '50s) and more up-to-date technologically. The fact that a team of Chinese architects was recently sent to Hong Kong to study what new buildings there are like is a further and even more important indication of this trend.

"The addition to the Tung Fang Hotel in Canton, currently under construction, is a good example of what is happening in China. This 11-story addition is a far cry from the existing hotel, an undistinguished and dull-looking eight-story building built some years ago. The new building has a U-shaped plan and is open and spacious with a handsome landscaped court and a large pool, reminiscent of Western resort hotels. Its design is, in effect, a combination of what is presently known in China of Western architecture and what was already known of it. Two wings of the 766-room addition will be 11 stories high; the center wing will be 12 stories.

"China has an increasing need for modern hotel facilities and is building these on what would seem a modest scale in the United States, but one which was unheard of in the People's Republic.

"Construction of apartment buildings in the cities, where they are still much needed, continues, and as part of the total volume of construction is helping to increase the variety of made-in-China building materials and products. Among these are plastics, acoustic tile and toilets. In outward appearance the newest apartment buildings are different from those of the Fifties, particularly in the use of a different form for the balcony that is so important to comfort through China's long hot summers. The most recent designs show semi-circular balconies, unprecedented in China."

Between 1966 and 1969 China went through a period of violence—the Cultural Revolution—the full impact of which is still not known. One visible result was the closing of the universities. When they reopened in 1970, with less than full enrollment, admission was not by examination but on recommendation for "ideological fitness" by the peasants and workers with whom a candidate had been living and working. In the fall of 1972, however, there were indications that the system was undergoing further change and that admission and promotion will once again be by examination. Now at least two universities, Tsinghua in Peking and Tung Chi in Shanghai, have announced organization of architectural departments. Tsinghua's department had been in operation for two months at the time of Professor Lee's visit; Tung Chi was developing its curriculum by the process known as Mao's "Route of the Masses," which Professor Lee describes:

"The Curriculum Committee—made up of the department head, workers, propaganda team members, teachers of courses such as design, construction, technological sciences and the arts—first agrees on a curriculum; then consults with architectural departments from other universities; and then submits it for approval to the Educational Section of the Revolutionary Committee—students, faculty and cadres administrators).

"Architecture lends itself better, perhaps, to the approved educational method of combining work and education than would some other studies, as the tentative four year curriculum indicates. During the first six to eight months, the student is developing 'consciousness and awareness of architecture' and, by participating in a job, he is also getting a basic knowledge of materials, structures, reading of working drawings and simple surveying along with some political science, foreign language, math and physical education. In the next three years he progresses from design of small buildings (usually housing) to design of such large buildings as group housing, theaters, hospitals, factories and multi-story (four-five floors) buildings, with several months' participation in construction of one of the buildings. Political science, Chinese history (usually since 1840, with no mention of earlier history or culture) are continued, and acoustics, thermo-dynamics, heating and ventilation, methods of construction, building economics and relation of design to construction are added. A half-year graduate design problem completes the four-year course. Tung Chi expects to have 500-600 students in architecture and city planning."

To have achieved so much generally in so short a period has left no time for development of the arts. In any case, the arts, like all of society in present-day China, must "serve the masses." The arts today—literature, theater, graphic arts, music—are all directed toward assisting in the revolution, educating in terms that are comprehensible to the masses, not toward amusing, entertaining or giving insight to the intangibles of life. Techniques of unique Chinese methods—cloisonné, painting on silk, jade grinding—are being transmitted by old masters but, says Professor Lee, the taste which governs what is done today has relevance to world markets rather than to the spirit, tradition or long cultural history of China.

"Perhaps," says Professor Lee, "as the people of China come to realize the beauty of their classic buildings, many of which were previously inaccessible to them, they will find the essence of their own nature and their time, and will be able to express this in an art and architecture that is not borrowed or imitated, but is their own distinctive and individual statement of man's universal search for meaning and beauty."

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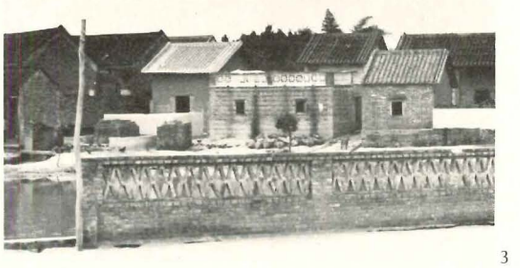
Joseph T.A. Lee photos



3

4

1 & 2. Rainbow Commune, near Shanghai: housing for workers and peasants
3. Shin Hua Commune near Canton: housing under construction
4. Administration office (two story section), Shin Hua Commune

MGIC HEADQUARTERS: NEW FOCAL POINT FOR MILWAUKEE

The decision by the MGIC Investment Corporation to build on its downtown location represents a substantial new commitment to the future health of Milwaukee, Wisconsin. It is not a big building —53,000 square feet—but it establishes a very high quality standard, and, with an adjacent 10-story rental building, it plays a pivotal role in Milwaukee's emerging center city renewal. The two buildings form the MGIC Plaza development, to which a hotel will be added.

The building—designed by the Chicago office of Skidmore, Owings & Merrill and by Warren Platner is clearly an image-creator. Scarcely 15 years old, MGIC is among the top 100 U.S. corporations, in terms of capital stock, and controls a far-reaching network of operations. Visible solidity was a program requirement. And, in an intentional contrast with the insurance-company image of vast bureaucracy, MGIC is structured with relatively few persons of broad role and to keep things that way, floor space is limited.

Even so, the company has expanded support services into four floors of the rental building.

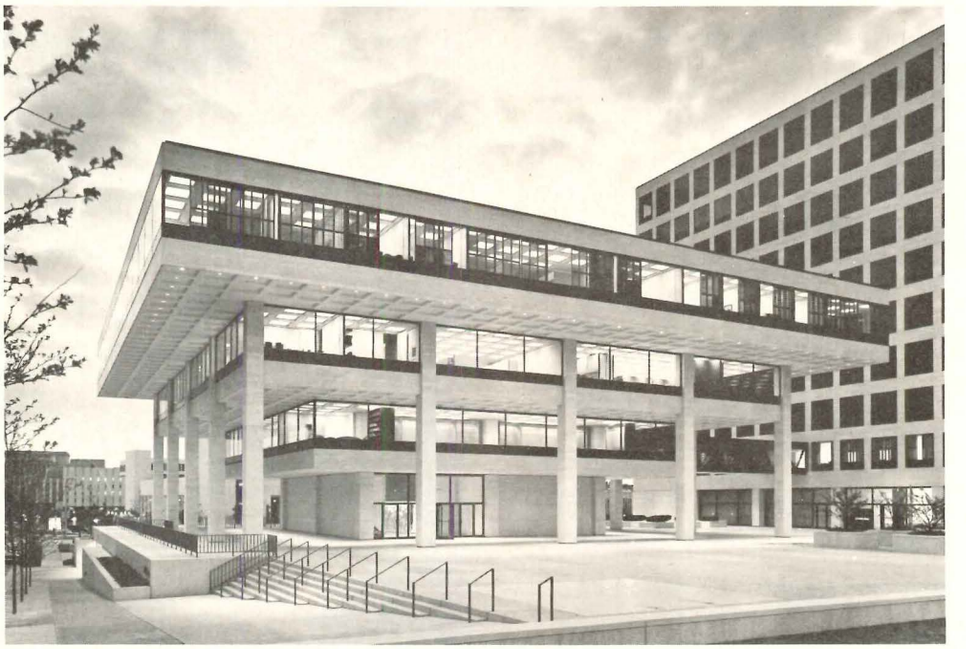
Ezra Stoller © ESTO photos

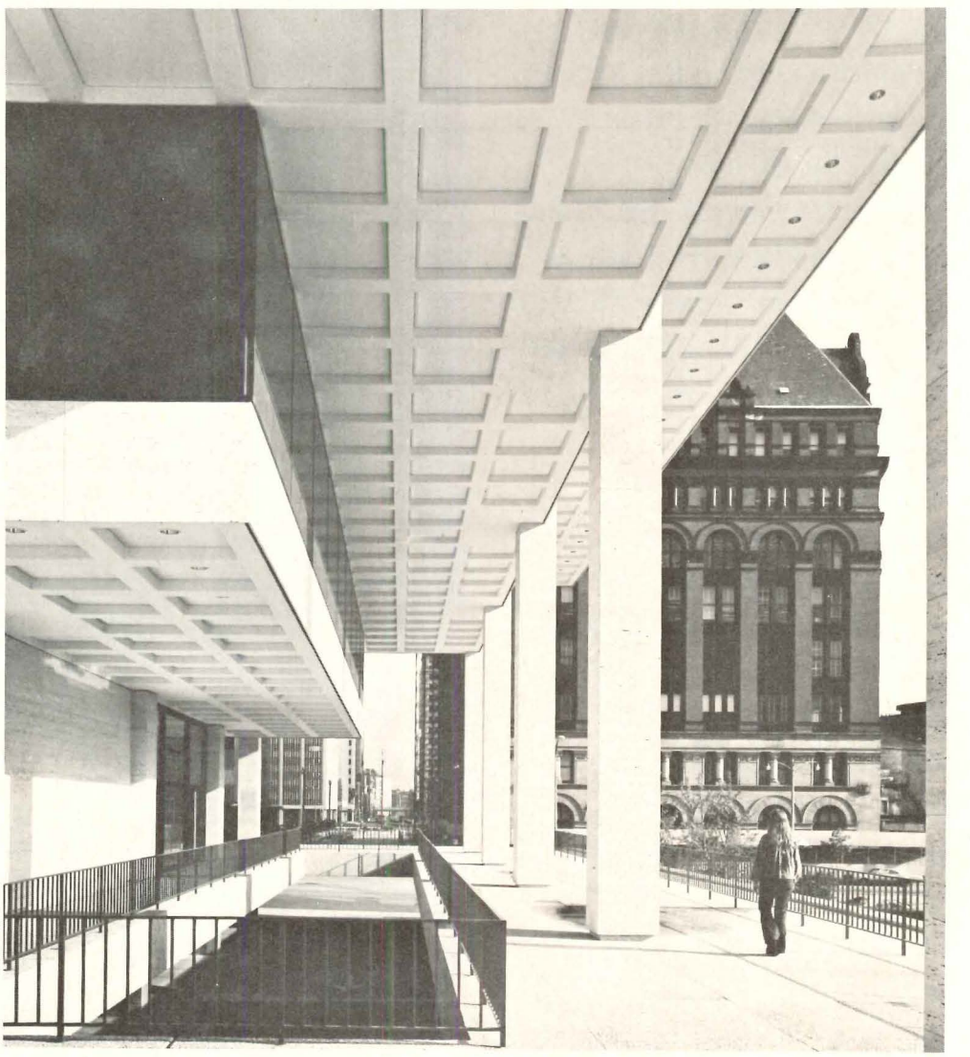
Explaining the design approach by the architects, Louis Skidmore, Jr. says: "The clients thought about a new headquarters long before they made the decision to proceed. They had had a long time to think about the particulars, and they wanted things right. The operations would be weighted at the top —working executives with minimum support personnel—and the finished building literally reflects this organization with the inverted pyramid configuration." No commercial facilities would occupy the ground floor, and only a small lobby was required at the pyramid apex. The projecting upper floors give something of the monumental image created by the cornices of older such buildings being rapidly ripped down. The desired air of solidity is further emphasized by building placement on the podium of a parking garage. Skidmore noted control of solar heat gain as a tangible asset of setbacks.

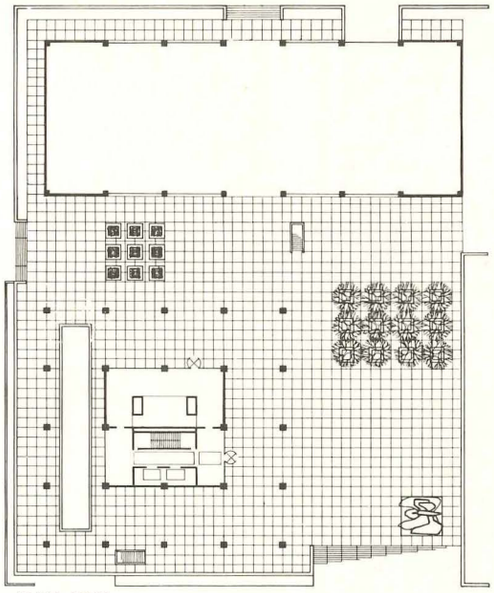
This project saw an unusually happy division of design responsibility. The interiors were done by architect Warren Platner, but his input did not begin on a finished building while the other architects were packing up their drawings. As noted earlier, SOM established the structure (poured concrete), the unusual massing, the travertine cladding and the exteriors' crisp detailing. From that point there was a give-and-take with Platner having real responsibility for everything within the enclosed shell including mechanical and electrical systems. And his work clearly establishes the desired image begun with the exterior.

And how do SOM and Platner feel about the results of their two-year marriage? Both describe it as unusually happy, but then the partners are both architects with mutual appreciation.

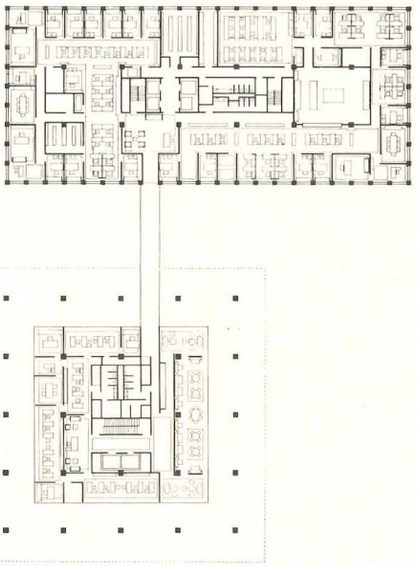
MGIC Plaza has a broader meaning for Milwaukee's general citizen. Max Karl, MGIC president, spoke with pride of his buildings' relation to the handsome, venerable City Hall (photo right), and it is sure that this new development will reinforce that older building's continued existence. A performing arts center by Harry Weese stands to the east and a new city park to the north of the 10-story rental building (right in plan, opposite page). Such visible confidence in a "downtown" should become self perpetrating and is certainly commendable.



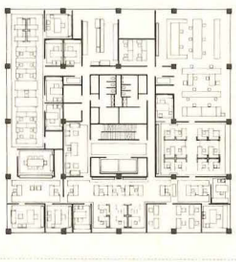




PLAZA LEVEL

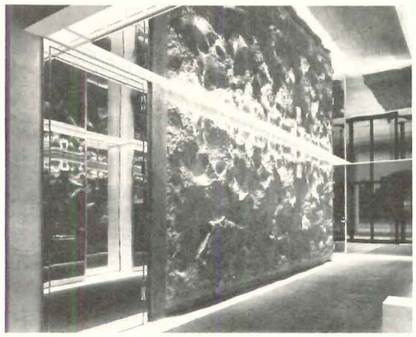


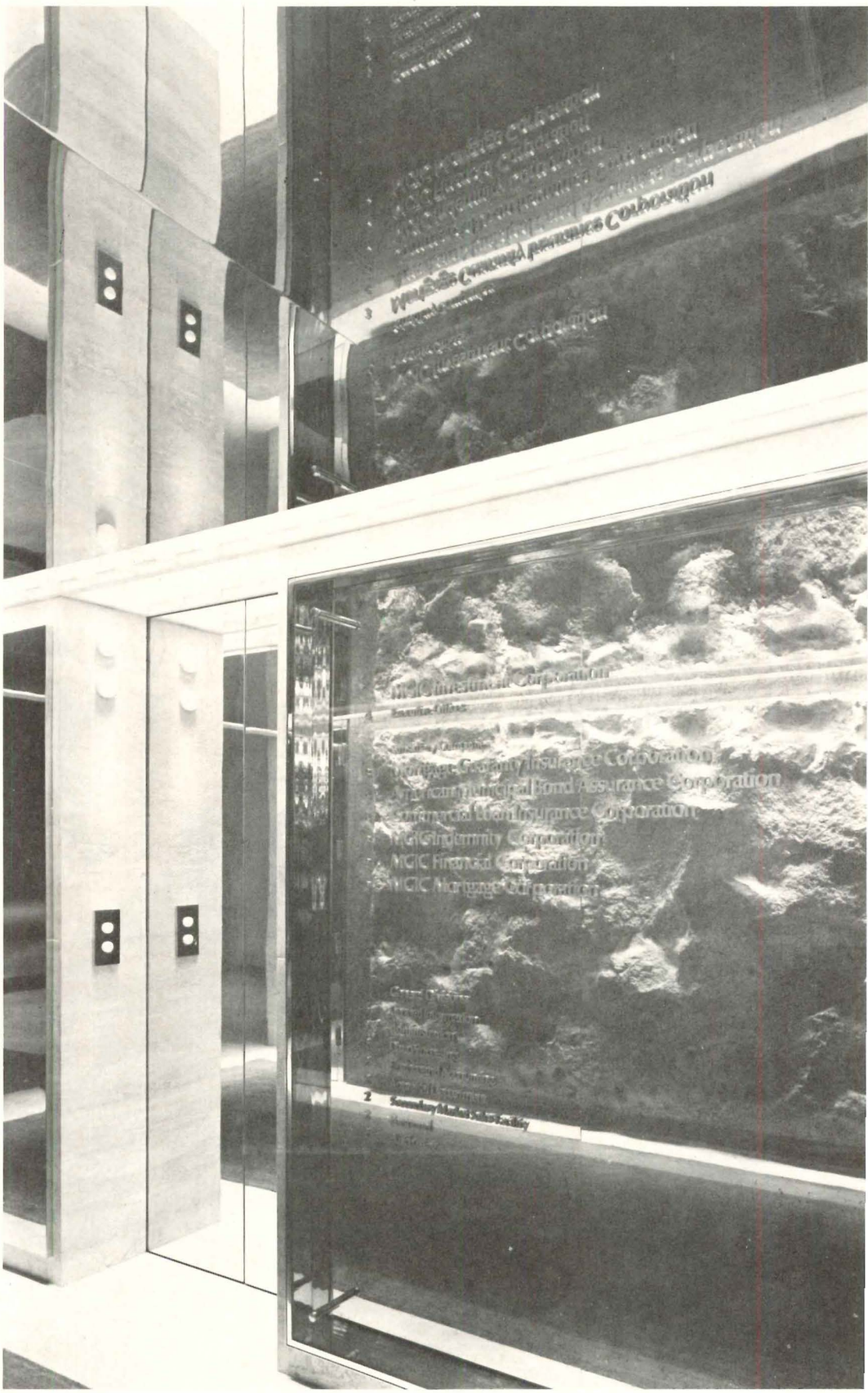
THIRD FLOOR LEVEL

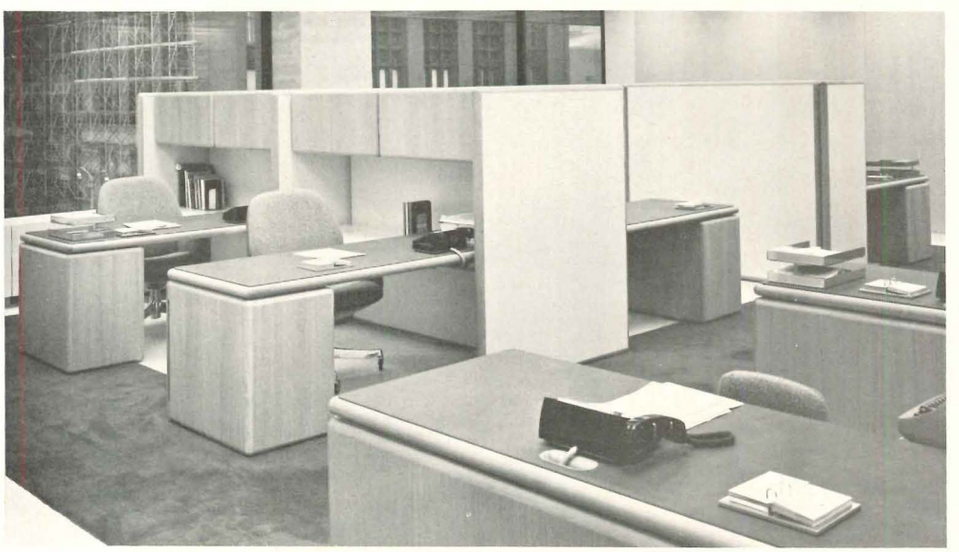


SECOND FLOOR LEVEL

MGIC is still a "shirt sleeves" organization despite appearances. The projecting upper floor results from a "top heavy" working executive force, as well as a desire to establish visual solidity. One expression of this solidity is the 20-foot piece of solid chiseled granite in the ground floor elevator lobby (seen in place above and reflected in the polished bronze alloy metal directory and ceiling, opposite). The connected 10-story rental building can be seen (photo opposite page, above right).

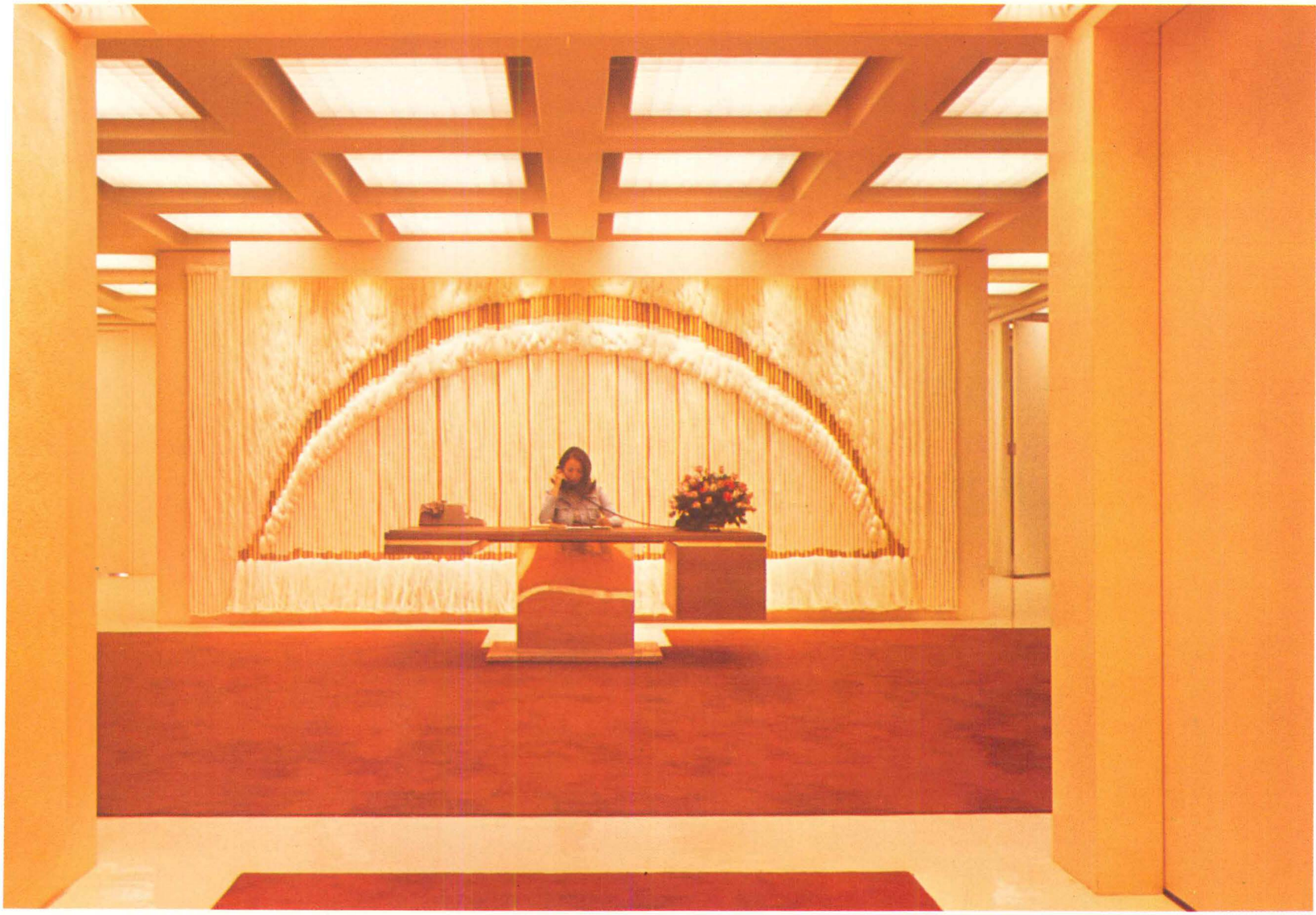




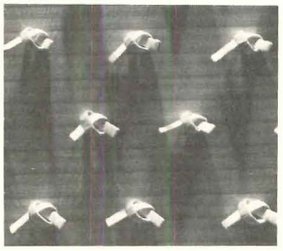


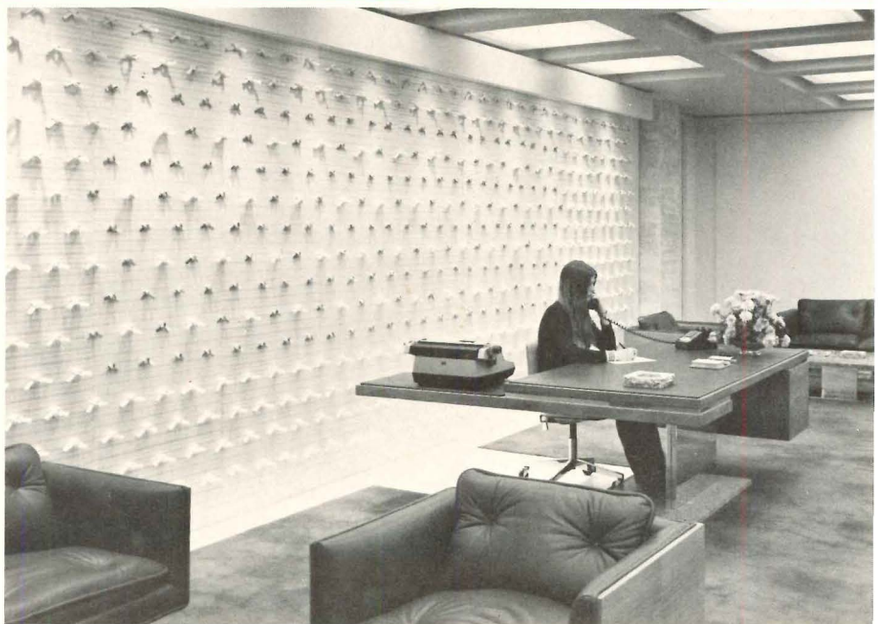
The building contains no "grand" spaces, in the current two- and three-story sense, and the interior effect relies heavily on custom detailing and axial views within a uniform floor height. The receptionist stations are the first progressional element seen on leaving the elevator at upper floors. The dramatic effect of two of these can be seen on the opposite page. Fabric hangings by Sheila Hicks are employed for visual focus behind the stations and in a series of axially aligned conference rooms (center left). In keeping with the operational importance of each employee, there is an equalization of facility standards from the president's office (above) to open work stations (bottom, left). The exposed concrete pan ceilings contain light fixtures with a special grid to avoid glare at the edges. Partitions are plaster, with painted steel edging, and surfaces in work areas are covered with linen on sound absorbent felt. Custom hardware includes oversize hinges for visual emphasis. Much of the cabinet work and the louvered shutters on the top are white oak. Thick wool carpeting is recessed into vinyl flooring on fill. Interior columns are covered in travertine. Cabinet faces are leather and counter tops are granite. There is an astounding array of materials, and order is maintained by a subdued color scheme and by panelization of surfaces. One cause for user complaint is the common one in such schemes—lack of privacy in open work stations. The users seem —after an intial adjustment phase— otherwise delighted.

MGIC INVESTMENT CORPORATION, *MGIC Plaza, Milwaukee, Wisconsin.* Architects and engineers for building structures and plaza: *Skidmore, Owings & Merrill, Chicago—design partner: Bruce Graham; partner-in-charge: William Dunlap; project manager: Louis Skidmore, Jr.; coordinating architect: Arthur Muschenheim; structural engineer: Srinivasa Iyengar.* Architects for MGIC interiors: *Warren Platner Associates—associates of Warren Platner for this project: Mark Morgaridge, William Smith, David Connell, Robert Brauer, Allan Stadler, Lee Ahlstrom.* Supervising architects: *Fitzhugh Scott—architect-in-charge: George Troller.* Lighting consultant: *Claude Engle.* Landscape architects: *Sasaki, Dawson, DeMay.* General contractors: *Inland-Robbins Construction.* Owners of MGIC Plaza: *MGIC Plaza Venture (MGIC Investment Corp. and Urban Investment and Development Co.)* Owners of MGIC headquarters: *MGIC Investment Corp.*

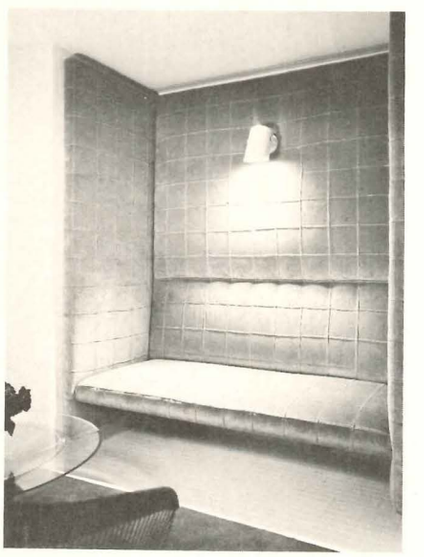


A multitude of rich materials, special detailing and furniture, and dramatic axial views enforce the client's desired image within the confines of the uniform-height, exposed concrete ceilings. The president's office and an open work station (both opposite) show the same attention to quality and detailing.

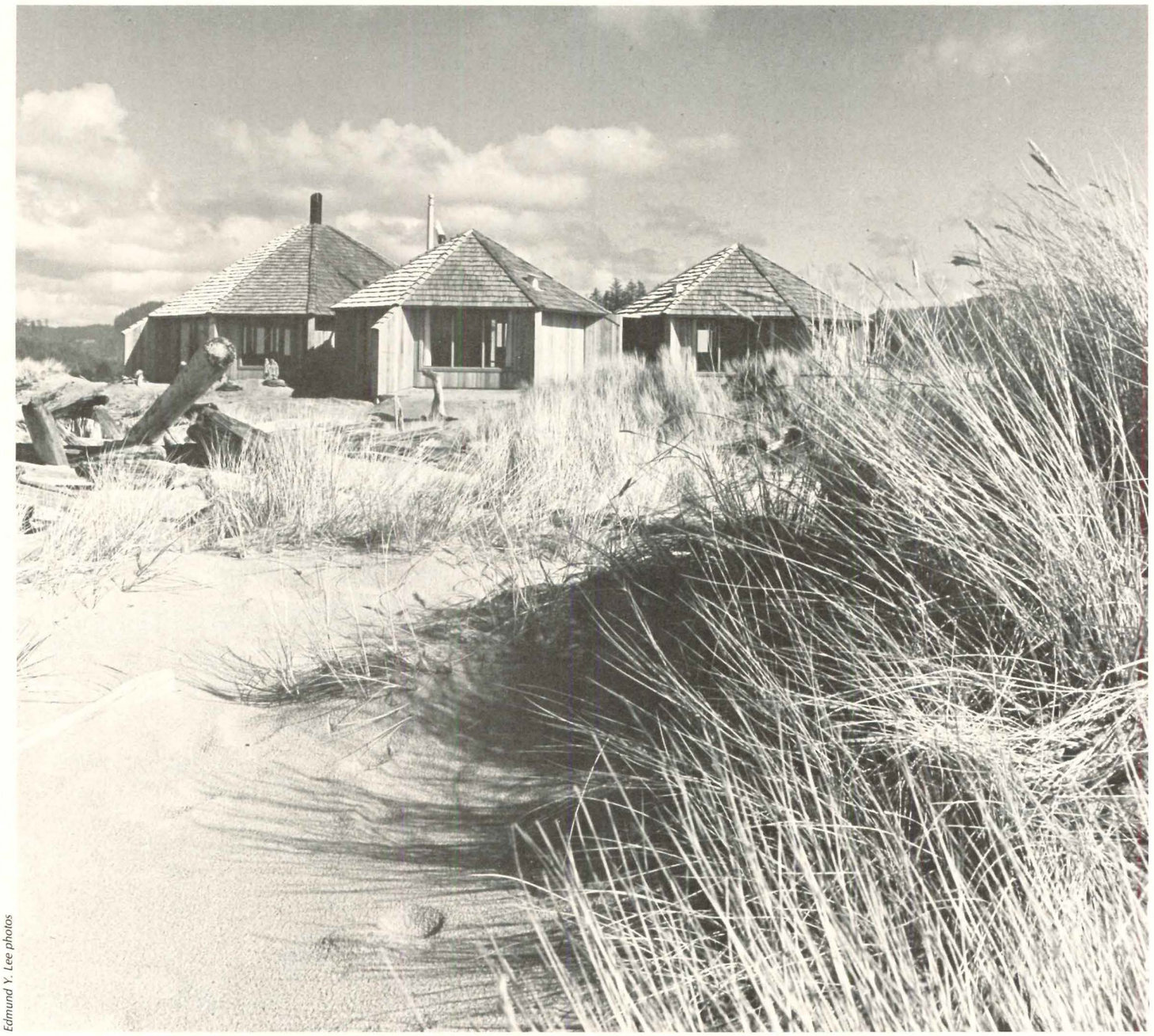




MGIC's concern for its employees is exemplified in the cafeteria and even the required couch (it's velvet!) in the ladies room. The exposed concrete ceiling with special light diffusers and recessed carpet detailing can be seen in the cafeteria. Much of the furniture is of Platner's own design and is due to go into commercial production shortly. While this was clearly a premium job, great attention was paid to efficient job management. For example, Platner sublet most trades directly—resulting in considerable savings.



BEACH HOUSE-RETREAT IN OREGON FOR ARCHITECTS' OFFICE



Edmund Y. Lee photos

On the central Oregon coast at Salishan a beach house complex, designed by and for the architectural office of Travers/Johnston as a retreat, has been successfully created as "another world . . . a world I wish we could share with all," says Stephen Johnston. As a tribute to the delightful character of the retreat, it has been in almost constant use by the architects and employees and their families, clients and friends.

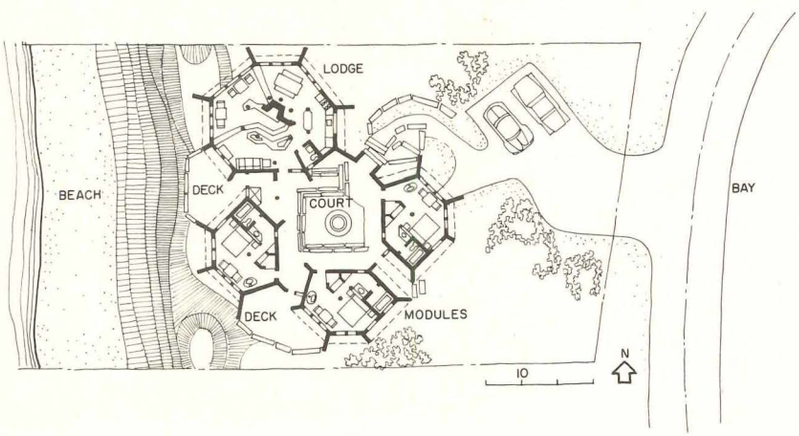
Located on the end lot of a spit of land separating Siletz Bay from the Pacific Ocean, the site has a commanding and uninterrupted 270 degree view of water. After the idea of a retreat was decided upon, the office staff was asked for suggestions with the final design concept being derived from many "bull sessions." The two major requirements were that it must be a retreat which would allow places for solitude as well as group gatherings, and that it accommodate several families at the same time. This need for a variety of spaces spurred the idea of an octagonal lodge and three hexagonal bedroom units (or modules), grouped in

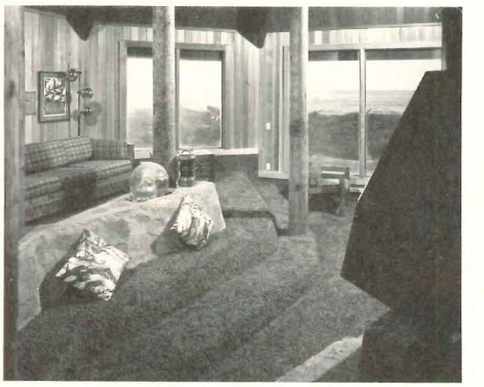
a circle to create a central courtyard onto which all doors open. The focal point of the courtyard is a sunken area where guests can sit around an open fire-pit. Two decks on the ocean side provide space for sunning. A basement under one module ("Bay" on plan) serves as boat shed, laundry and storage area.

At the angles of each unit are fins extending outward. This element of the design is a strong exterior feature, visually unifying the buildings and serving as a partial windscreen against the strong and almost constant winds. The exterior is of resawn cedar with a roof of cedar shingles. To capture the magnificent views of land and water and to allow as much light as possible to enter on the foggy and stormy days that are so much a part of the Northwest coast's weather, glass doors and many large windows are used. Glass partitions between units also serve as additional windscreens and open up views to the courtyard. The largest of the modules, the lodge, provides such necessary community facilities as kitchen, eating and lounging areas. Smooth cedar is used on interior walls, resawn hemlock on the ceiling. The communal character of the project is emphasized by the fact that the whole complex was not only designed but built by the architects and their staff.—*J.N.*

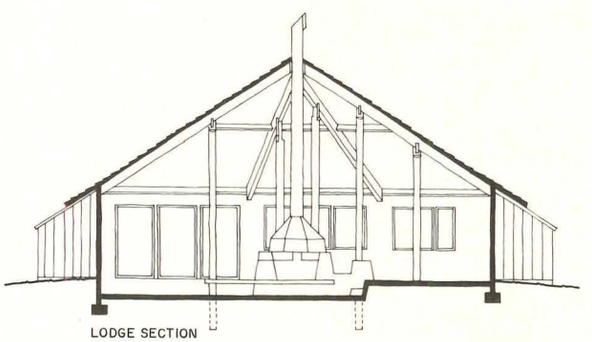
BEACH HOUSE-RETREAT, Salishan, Glenedon Beach, Oregon. Architects: *Travers/Johnston.* Engineers: *MacKenzie Engineering Inc.* (structural), *Hugh L. Langton & Associates* (electrical), *McGinnis Engineering Inc.* (mechanical). Interiors: *Travers/Johnston.* Landscape architect: *William Teufel.* Contractor: *Trajon Corporation.*

An exhilarating site for a retreat, the Salishan Spit is sand dunes stabilized by pines, grasses and logs swept onto the beaches. Comprising 2000 sq ft, the retreat does not intrude on the area. The only landscaping needed was to reestablish native grasses and pines surrounding the complex.

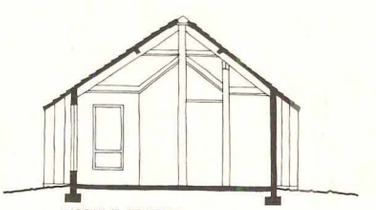




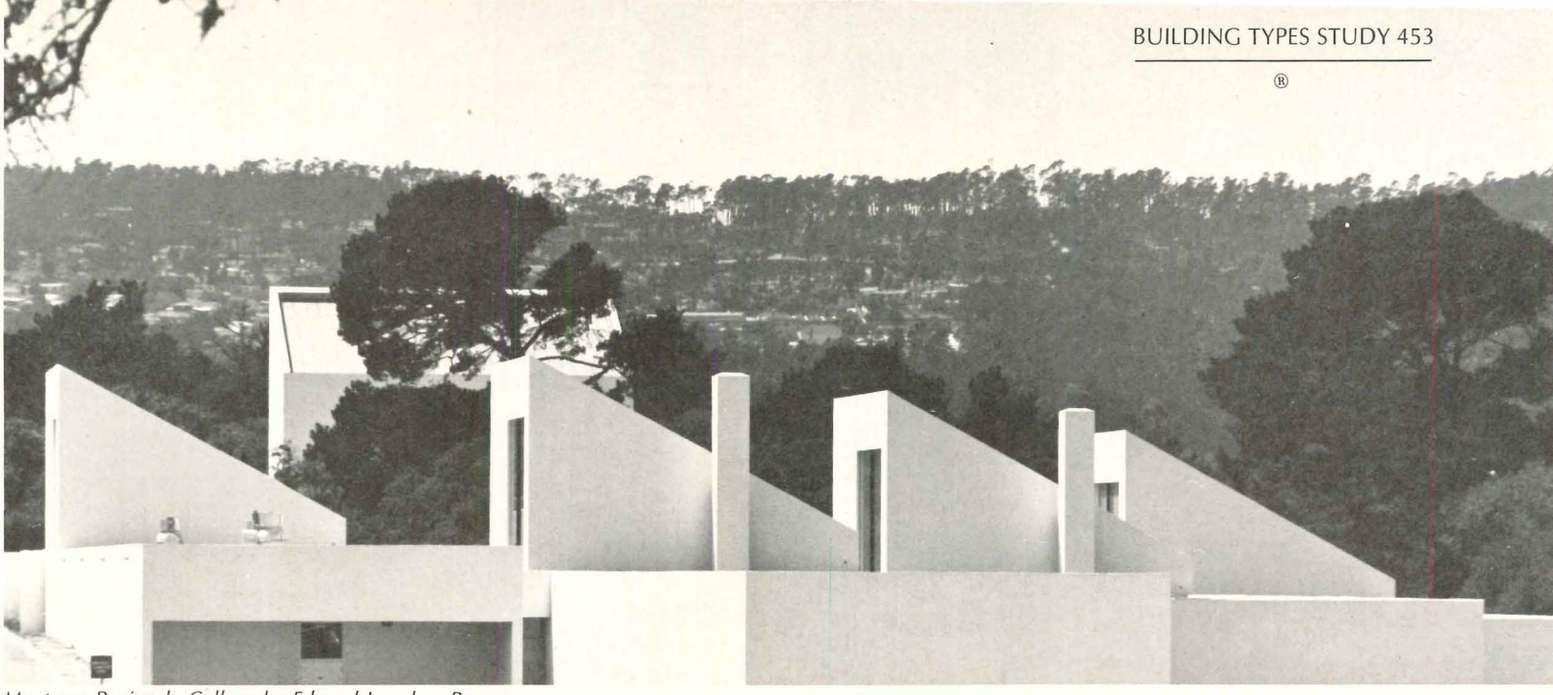
The lodge (left), as the center for most group activities, has the only kitchen, dining and lounge areas. Changes in floor level, expressed in carpet-covered concrete steps, form seating around the fire-pit and contribute to the informality of the room. The bedroom modules are identical. Two modules have views of dunes and one has an ocean view.



LODGE SECTION



MODULE SECTION



Marshall L. Schultz

Monterey Peninsula College by Edward Larrabee Barnes

CAMPUS DESIGN: A NEW FOCUS ON PEOPLE

Because college and university campuses were restless in the late 1960's, and stripmined for that restlessness by the media, most of us were made acutely aware of a general countercultural phenomenon that often brought student interests and values into conflict with those of trustees, administrators and alumni. The conflict took many forms. One of the less dramatic but most persistent student complaints—dating even from the pre-Hip, pre-Beat, pre-Acid/Rock Pleistocene—was that educational institutions had become too large and depersonalized; lectures too crowded; administration too computerized; the campus, itself, stripped of those irregular influences that had always given colleges and universities a special identity, elan, and sense of community.

Students no longer recognized the college president at sight. To them he had become a distant figure, preoccupied with remote concerns, who addressed them en masse at convocations—much as the mechanical Lincoln android addresses the holiday throngs at Disneyland—except in a gargantuan and scaleless setting that reduced him, too often, to an optical zero.

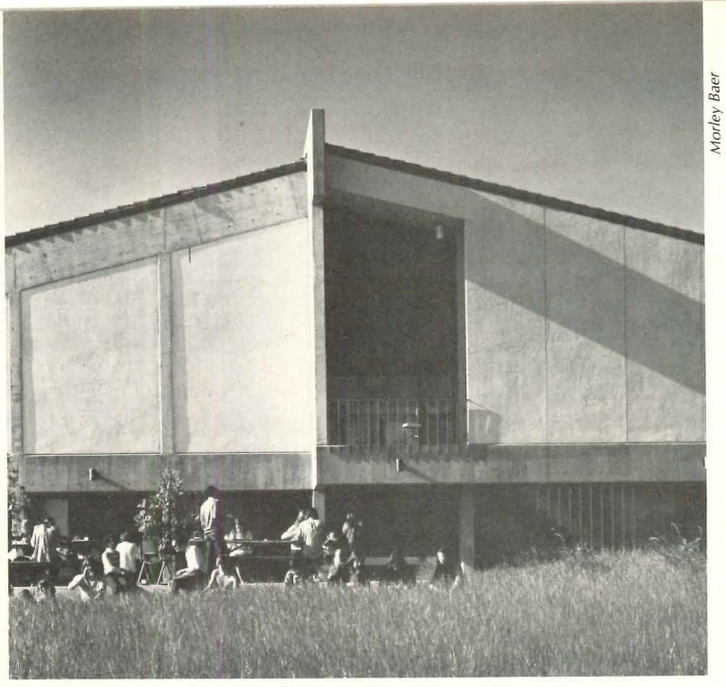
Administrators and trustees felt these deprivations too, but under the pressure of surging enrollments and soaring costs, they saw their options narrowing. As campuses grew, buildings got larger and larger. At their worst, these new buildings were witless and savage. Mostly, though, they were just larger and more impersonal representations of what had been before. The net result was that in spite of mounting enrollments, many campuses overbuilt in the late '60s and in the process, found themselves at odds with large numbers of students who were unsympathetic to the new scale and refused to accept it as the only satisfactory response to new numbers. Thus, as trustees were authorizing expenditures for newer and larger dormitories, many students were declaring a preference for smaller living communes and housing co-ops. As administrators were talking about "multiversity"—and architects about "megaversity," students at several campuses were inventing fictitious fellow students, passing exams for them, earning them degrees.

Recently, some university planners and their architects, following the lead of California's higher educational system (which began to tackle the problem of scale and numbers early), have started to produce a generation of buildings that respond better to changing campus lifestyles, that offer students a wider range of options in living arrangements, patterns of encounter, and access to educational resources. These buildings are less the product of academic formulas, less shaped by campus prototypes. Typically, they are more concerned with experiment than expansibility. Most important, they struggle to retain a warmly human scale, a discernable character, a distinctive sense of place.

These are essential features of the buildings in this study.—*Barclay F. Gordon*

Julius Shulman

New Hampshire College by Huygens & Tappé



Morley Baer

Santa Cruz Campus No. 5 by Hugh Stubbins & Associates

At the Monterey Peninsula College in California (previous page and pages 158-160), architect Edward Larrabee Barnes designed two buildings, a student union and a theater that, together with an existing gymnasium, form an exciting focus for campus activity. Both buildings achieve individual design expression and architectural values were not suppressed in either for the sake of unity. Each building functions well. But by bringing the buildings together (they were master-planned for unrelated sites) and by designing the spaces between with special care and sympathy for the site's contours, Barnes has achieved a sum that seems larger than its parts.

Huygens & Tappé are architects and planners for New Hampshire College (pages 156-157 and front cover)—a campus of similar scale now rising on a wooded, 90-acre site in Manchester. Using the traditional New England town as both a physical and spiritual model, deriving from it a sense of scale, form and texture, the architects are developing a campus that is, in several ways, extraordinary. Built on the tightest of budgets, the buildings are conceived not so much as individual, special-use structures (although they are) but as parts of a townscape or as incidents along the town's main street, This design has not resulted in buildings that are anonymous or even characteristically understated. It has simply imbued the campus infrastructure—signpost graphics, street furniture, outdoor subspaces—with more than the ordinary design importance (color photo right). These decisions: the town form, the low-rise wood structures have combined to give the campus a very visible identity—an important commodity in attracting both students and faculty, and a commodity it did not previously have when the campus was located in rental space in downtown Manchester.

When the campus plan is starting from scratch, conflicting problems of program and scale are easier to reconcile. But when a new building must be muscled into an already crowded urban campus, vexing difficulties most often arise. At Radcliffe College, outside Boston, architects Ronald Gourley/Carleton Richmond, Jr. have designed a group of faculty houses (facing page and pages 154-155) that fit into a tight campus fabric and meet the problem of surrounding scale with exceptional sensitivity. Gourley remarked, in an aside, "I'm pleased that these buildings are hard to photograph. That means that they are well knitted in. . . ."

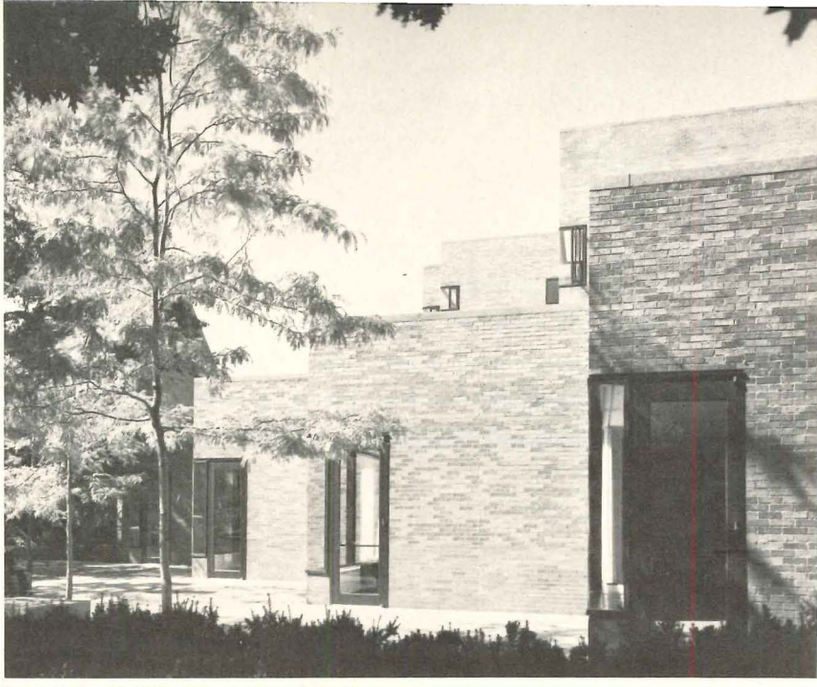
Nearby, at Harvard University, Edward Larrabee Barnes has designed Rockefeller Hall (facing page and page 148) a dormitory for divinity students that fits snugly into a constricted site and responds to both social and visual cues surrounding sites. The architectural expression of humanistic impulses at Rockefeller Hall are unmistakable. For instance, brick walls on the east and west elevations rise sheer from grade to the fourth floor. They are essentially windowless. But by turning the windows on the other two elevations around the corners and thus letting them bite into the blind walls, Barnes has given these elevations a much livelier aspect. Otherwise they would have been brutal. And by selecting the brick already used in a nearby building designed by Ben Thompson, Barnes has begun to unify an area that was previously marked only by its physical dissimilarities. Readers will find examples of this kind of sympathetic design attention in all the buildings included in this study. The building also presents a built-in social order that is carefully conceived to give it a different kind of scale. Suites are gathered into four-room, single-sex clusters that share a single bath. Three such clusters (the size of a commune) share a kitchen and comprise a floor. The house consists of four such floors which produces a group the size of a fraternity. Individual students can therefore modulate their social interactions and encounters with somewhat more than the ordinary degree of control.

This kind of breakdown is present at a larger scale at Santa Cruz Campus No. 5 (above and pages 150-153). Here, at one of eight planned residential colleges on the site, students with a special interest in the performing arts share living spaces in what architects Hugh Stubbins and Associates have envisioned as a small-scale, special-purpose community. The individual structures and the spaces in between are carefully designed to heighten that sense of community.

The quest for humanistic campus environments is certainly not new and the architects whose work is shown here have long championed

Phokion Karas

Faculty housing by Ronald Gourley/Carleton Richmond, Jr.

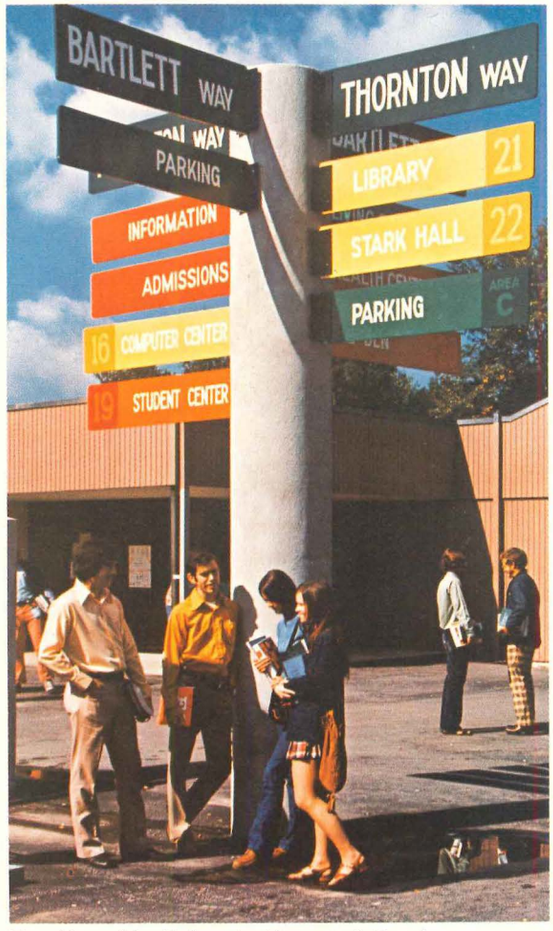


Ezra Stoller © ESTO

Rockefeller Hall by Edward Larrabee Barnes

these values. Nor can we be justified in claiming that largeness is synonymous with scalelessness—though too often the two seem to go hand in hand. What we can say, with some sense of certainty, is that the scale of yesterday's campuses is under increasing attack from a variety of forces ranged out in serried skirmish lines on every side. Of these, the economic pressures are the most insistent but they are also the most widely recognized and, perhaps, the best understood. Other forces acting to undermine the traditional campus community are less apparent but no less threatening. The shift of faculty emphasis from teaching to research and publication has sharpened a scholar's ties with professional colleagues on other campuses across the country. Usually this has come at the expense of traditional ties with his own campus community. The Federal government has been increasingly interested in drawing upon college and university resources and hitching them to national goals and policies. Finally, in the intensely restless climate of the late '60s, student populations themselves became more factionalized and discordant. All these pressures —and many others—tended to disturb the traditionally easy and inward-looking character of American college campuses.

These campuses are quieter now but it would be foolhardy to assert that the present retreat from the barricades signals a return to more traditional campus values. And it would be just as premature to hail a small group of more flexibly organized and more intimately scaled buildings as a triumph of humanism. If students and faculty like these buildings, and if their numbers multiply, then we may make more extravagant claims. For the present, these buildings can only be regarded as vectors, as countervailing forces, as conscious efforts by university planners, architects and others to check the drift toward a more impersonal and undifferentiated future. Colleges have always left an imprint on those who attended them. Sometimes the imprint was so clear that a student was marked with its style for life. What the imprint will be in the future is now unclear, but growing numbers of people seem determined that it will be something more substantial and more personal than the imprint left by a computer.

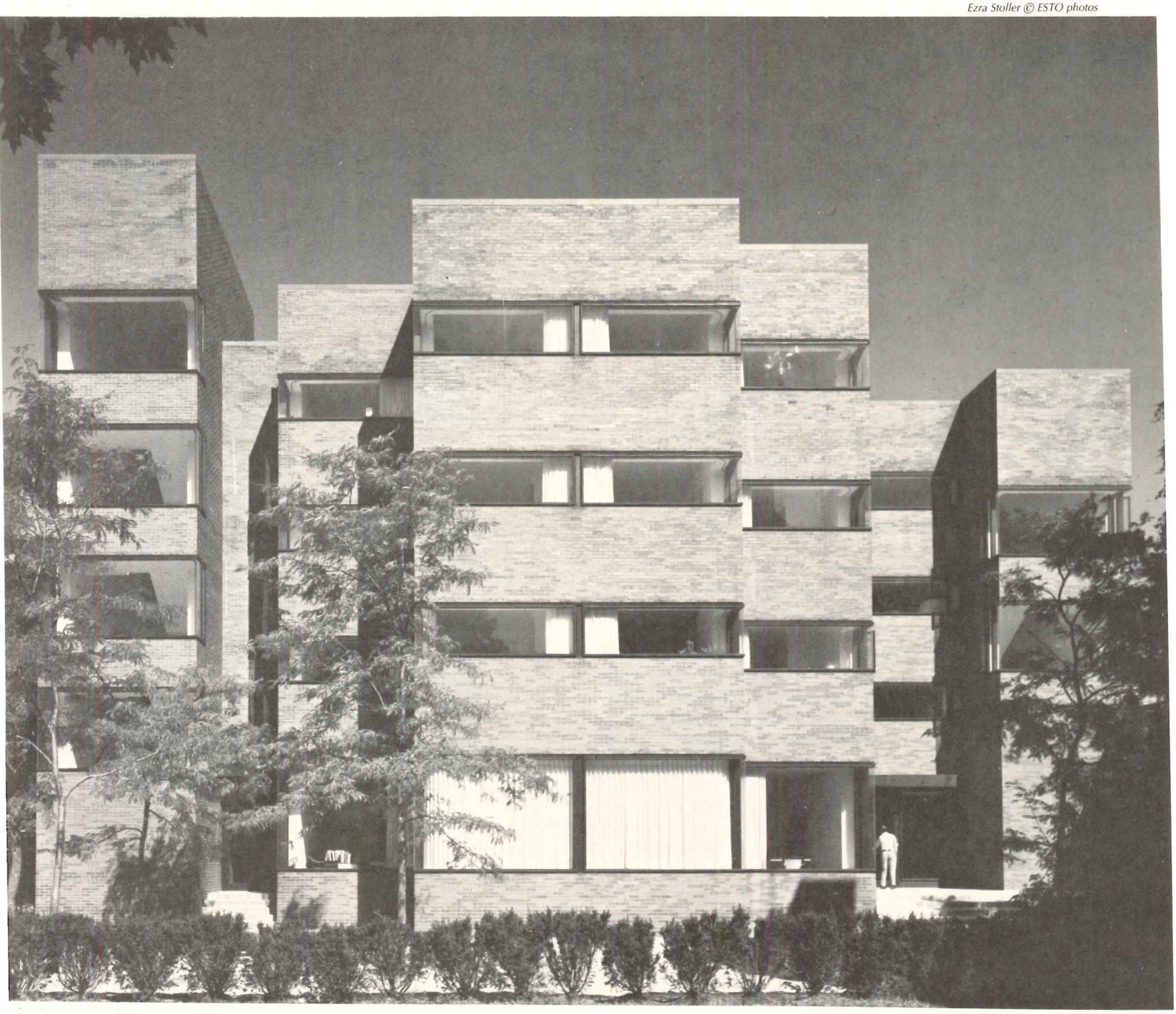


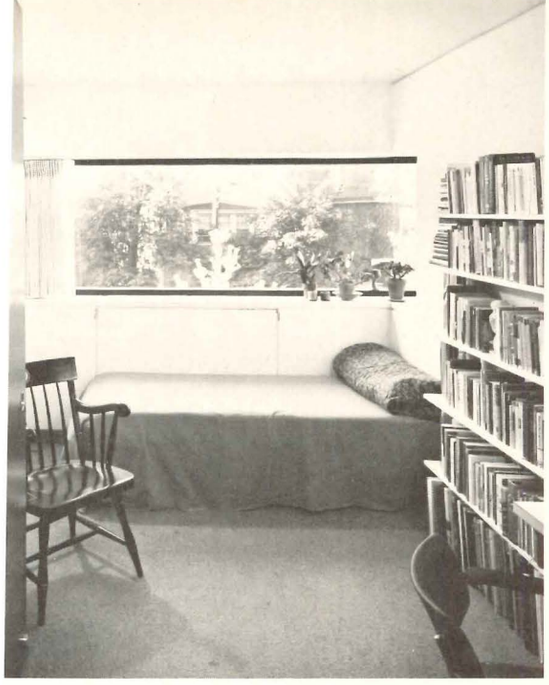
New Hampshire College by Huygens & Tappé

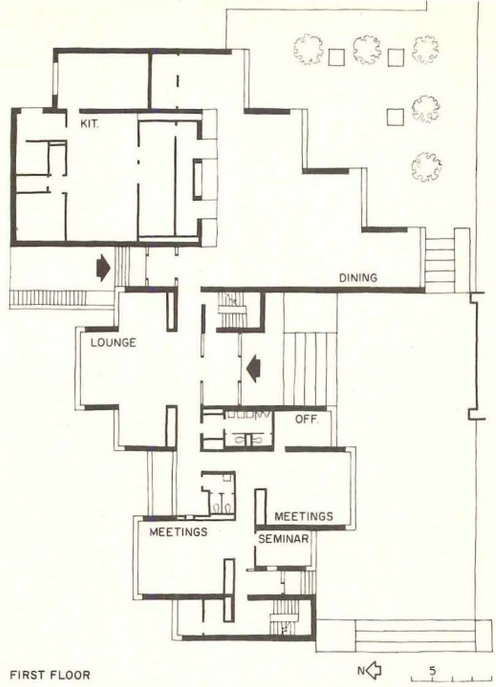
ROCKEFELLER HALL, HARVARD UNIVERSITY CAMBRIDGE, MASSACHUSETTS BY EDWARD LARRABEE BARNES

"This is a little dormitory where the counterpoint of individual and group life styles has been carefully modulated. It is also a building that functions as an academic and community center as well as a residence for the inhabitants. Every effort has been made to keep the scale intimate." —*Edward Larrabee Barnes*

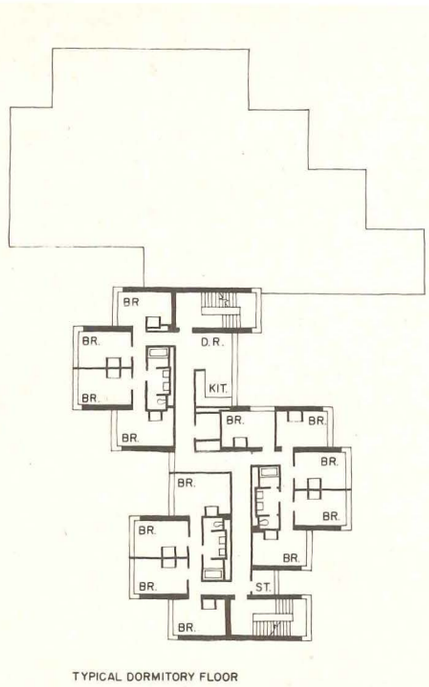
Ezra Stoller © ESTO photos







FIRST FLOOR



TYPICAL DORMITORY FLOOR

The site planning requirements for Rockefeller Hall, a residential structure for Harvard's divinity students, were unusually complex. The building occupies a site of irregular shape with a striking variety of boundary conditions. It had to relate to an adjacent Gothic classroom building used by the divinity students on a regular basis. It also had to maintain the scale of an established residential neighborhood to the east and southeast. To the west, the site faced a parking lot and a massive cyclatron structure. Barnes strove to respond to these neighboring conditions by carefully manipulating the building's mass between high- and low-rise, and by creating a grassy court to face the existing classroom building.

Rockefeller Hall functions round the clock as a dormitory on the upper floors and as teaching and community spaces below (photo right). A neighborhood day care center operates in the building's basement.

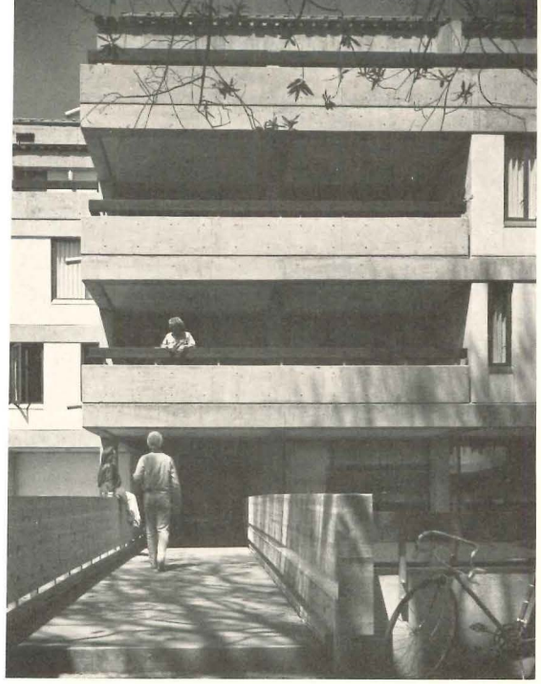
The search for scale extended into the building's program as well. The rooms are grouped four to a bath. Each floor includes a kitchen that serves the 13 students on the floor (the size of a commune). The four floors house a total of 39 students (the size of a fraternity). Students therefore have variously-scaled social frameworks, each gently structured, to which they can relate.

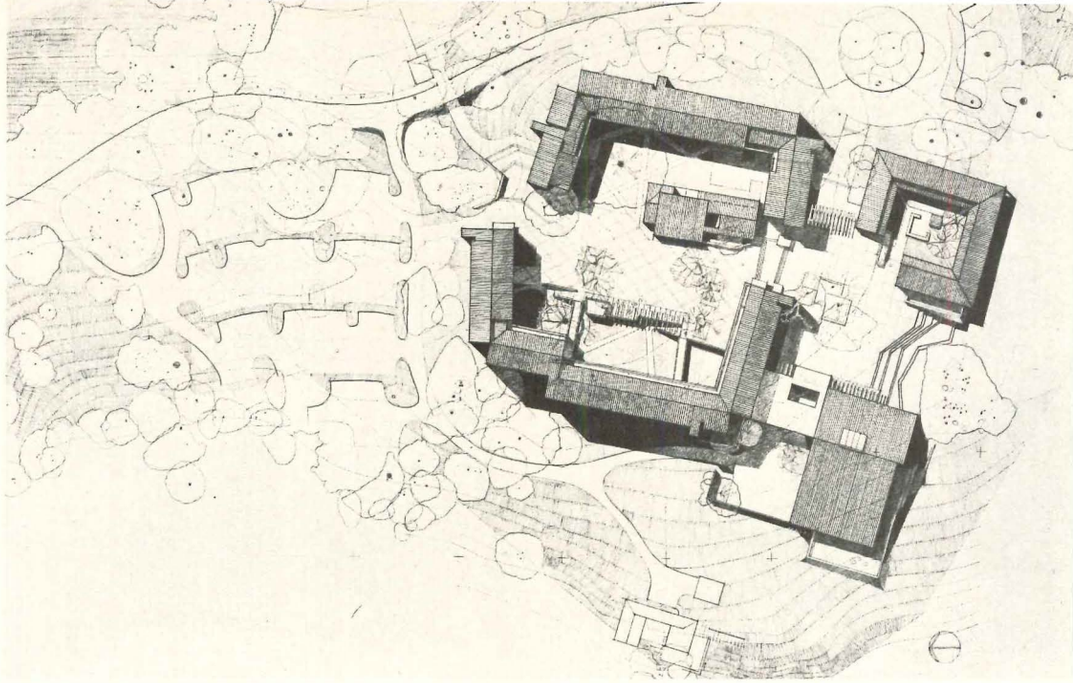
ROCKEFELLER HALL, Cambridge, Massachusetts. Architect: *Edward Larrabee Barnes—project architect: Edward Z. Jacobson.* Structural engineers: *Le Messurier Associates* (structural); *Segner & Dalton* (mechanical). Landscape architect: *Peter G. Rolland.* Interior design: *Mary Barnes.* Contractor: *Porter Construction Company.*

SANTA CRUZ CAMPUS NO. 5, SANTA CRUZ, CALIFORNIA BY HUGH STUBBINS & ASSOCIATES

"The redwood forest, the deep draws, the pastoral slopes and the sea are inescapable parts of the inter-college scene. The student, as he goes from college to college, or from college to center, is constantly aware of this compelling landscape. A purposeful attempt is made in this college to give it a sense of identity—a sense of place—and to give a different and more cultivated 'environment' within the walls as compared to that on the outside."—*Hugh Stubbins*

Morley Baer photos

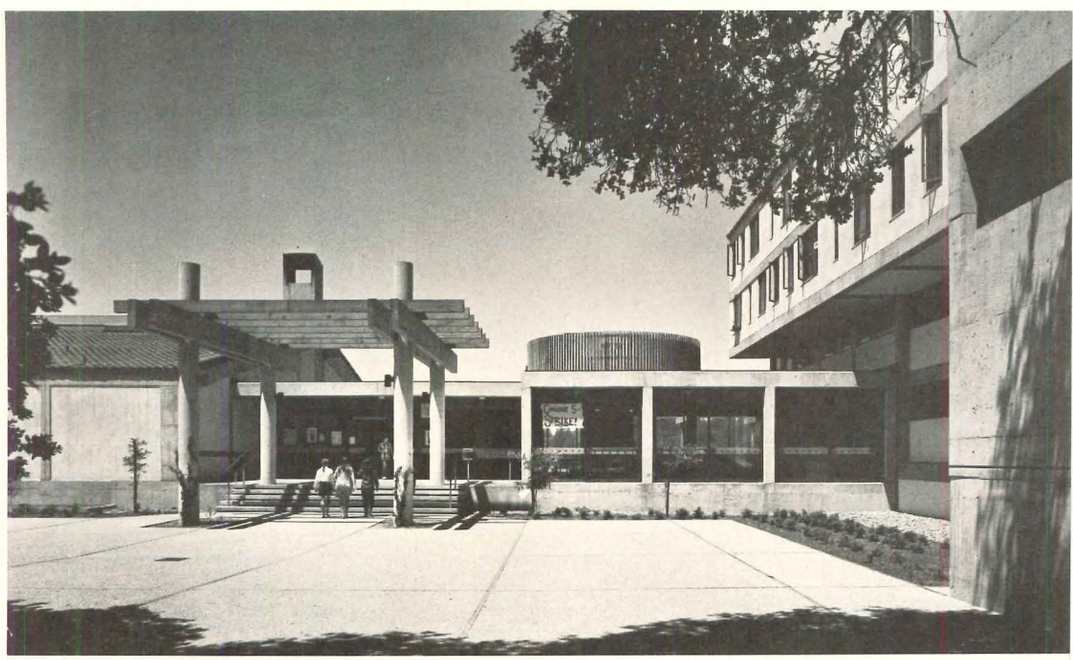


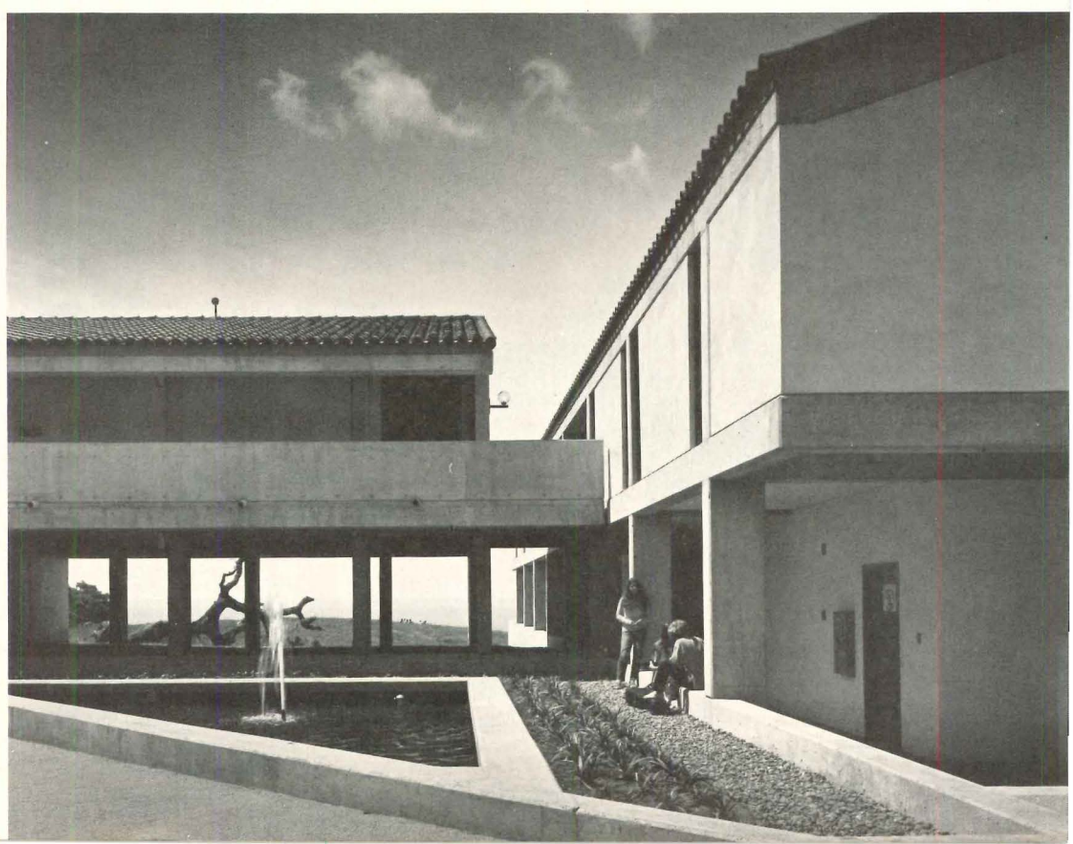


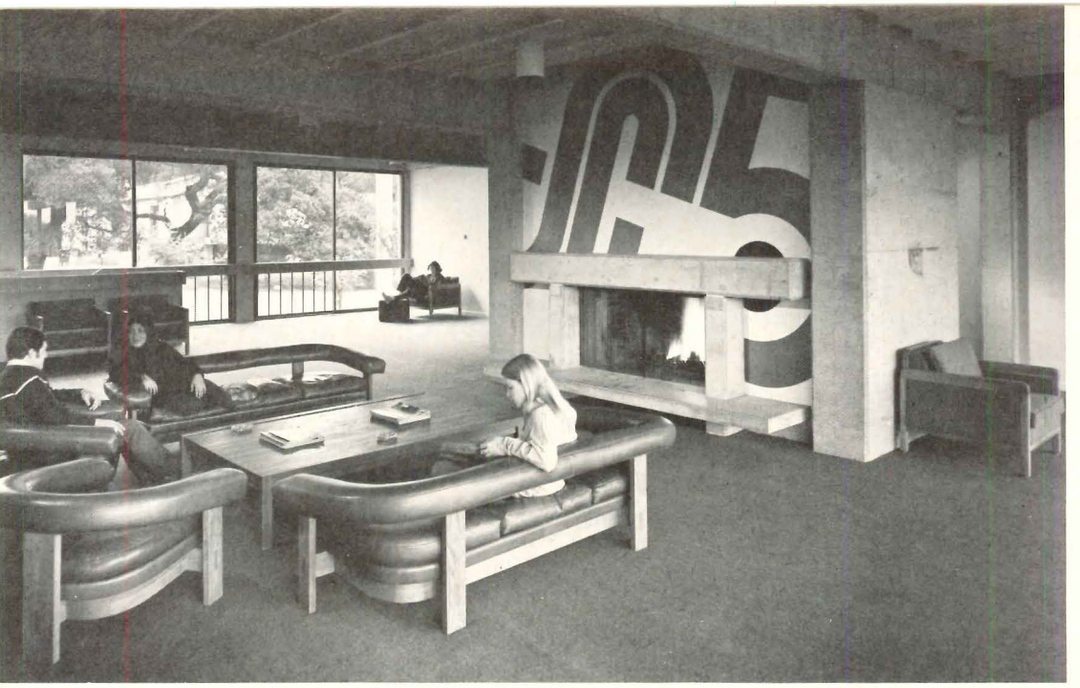
The campus shown here and on the following two pages is an 800 student increment of the University of California. Eight other residential colleges in the same system, each of roughly comparable size, share this 2000 acre site. Here the land swells in gentle undulations with contours and planting that the architects have been careful to preserve. Like a town, this campus has its place of work, its residences, its places of assembly and its seat of government. Housing is grouped around a large court and forms the walls that enclose the town square (photo left). While the court is large, it is broken down into sub-spaces and filled with scale-giving devices. Distances are never so great that students cannot recognize each other across its length. The main court gives way to secondary spaces, all sequenced to provide varying degrees of enclosure and carefully opened at intervals to long views of sea or hills. Most of the housing is four stories—one is five—and student residents have choices of living-study suites of various sizes. Faculty apartments are located near the major entrances.

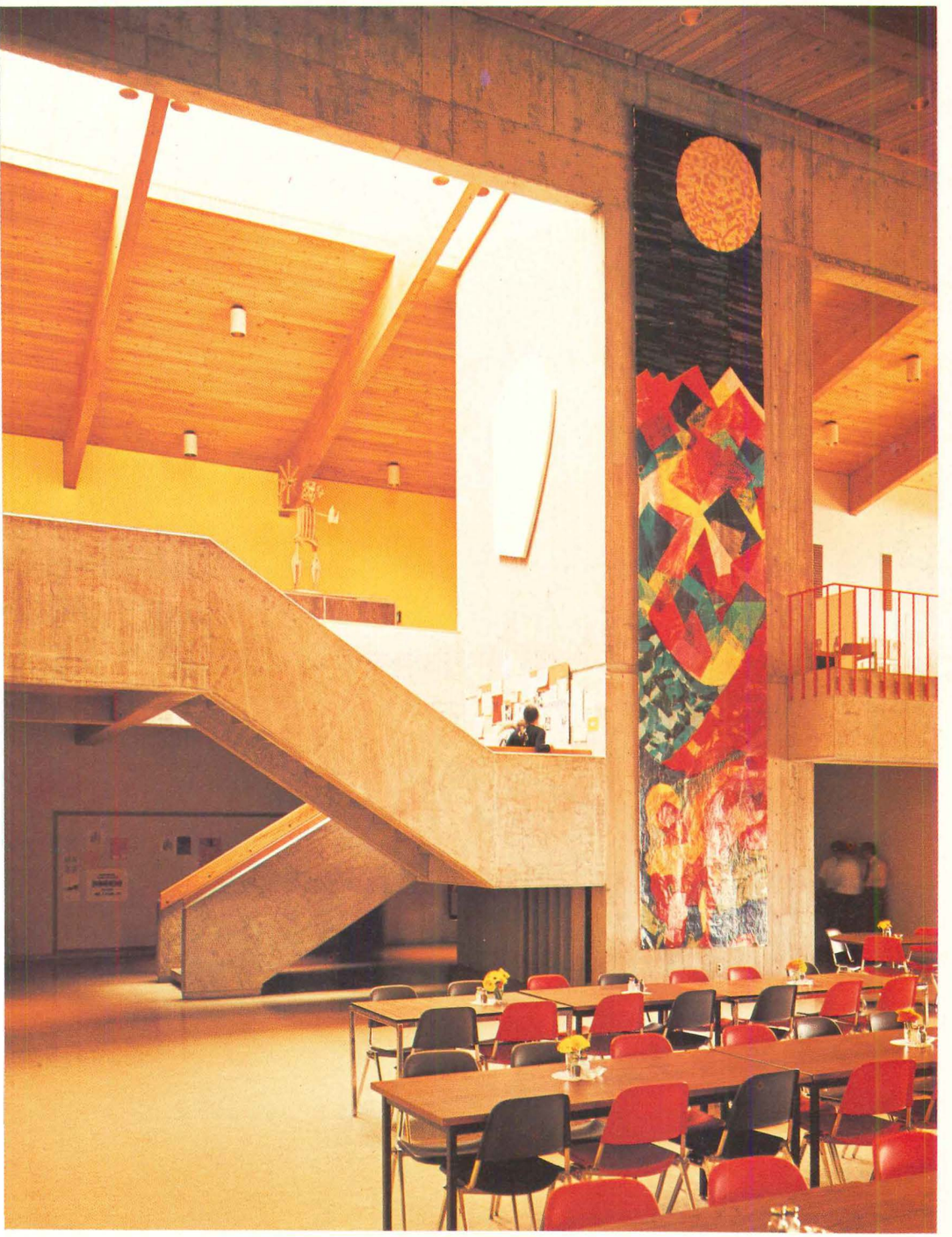
Nowhere, inside or out, is there evidence that the need for economical structure or finishes is incompatible with human or cultural values.

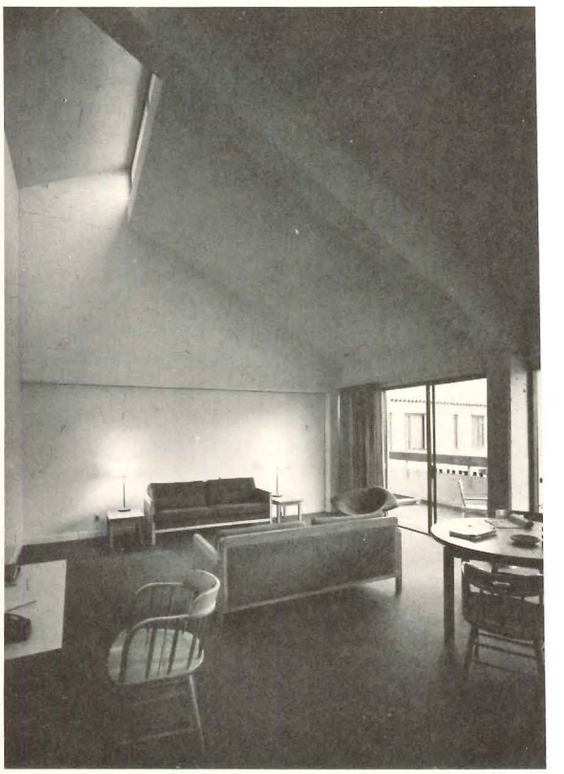
SANTA CRUZ CAMPUS NO. 5, California. Architects: *Hugh Stubbins and Associates; associate architect: Corlett and Spackman.* Engineers: *Clarence Rinne* (structural), *Ralston and Dwyer* (mechanical). Landscape architect: *Thomas D. Church, Inc.* Food: *Harry John Dutton.* Contractor: *Carl N. Swenson Co.*









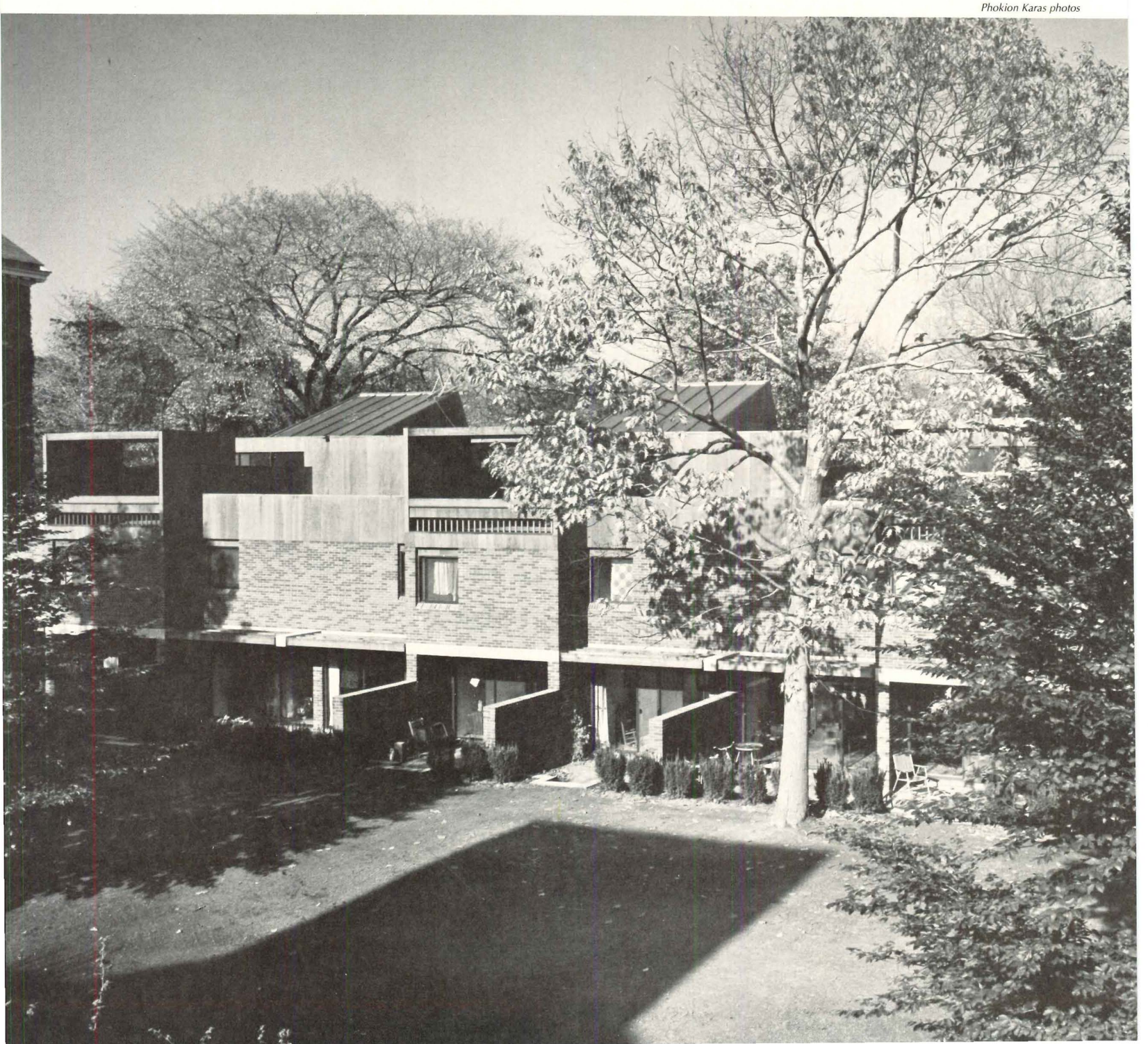


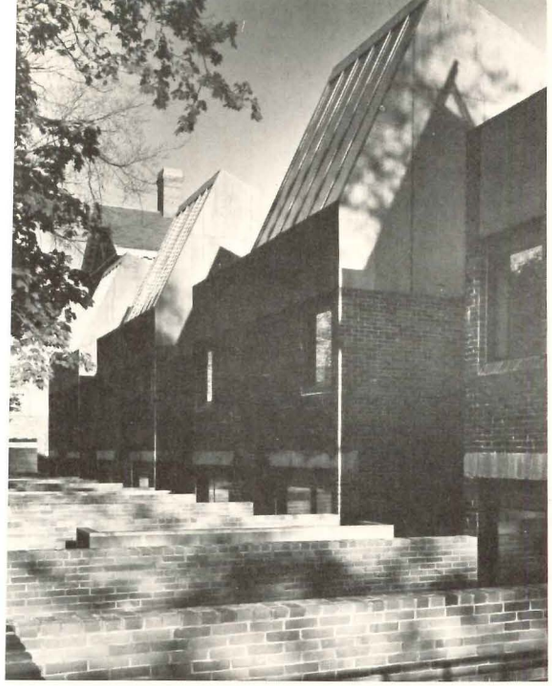
The same unpretentious concerns are apparent in the design of the interiors at Santa Cruz Campus No. 5. The designers use humble materials in easy and natural ways. Color and light (sometimes from unexpected sources) as in the student dining hall give it a warm and cheerful character—a character that extends to the other interior spaces shown above. Detailing is kept extremely simple. Details only seem to occur where materials change, and even there the joints are not elaborated.

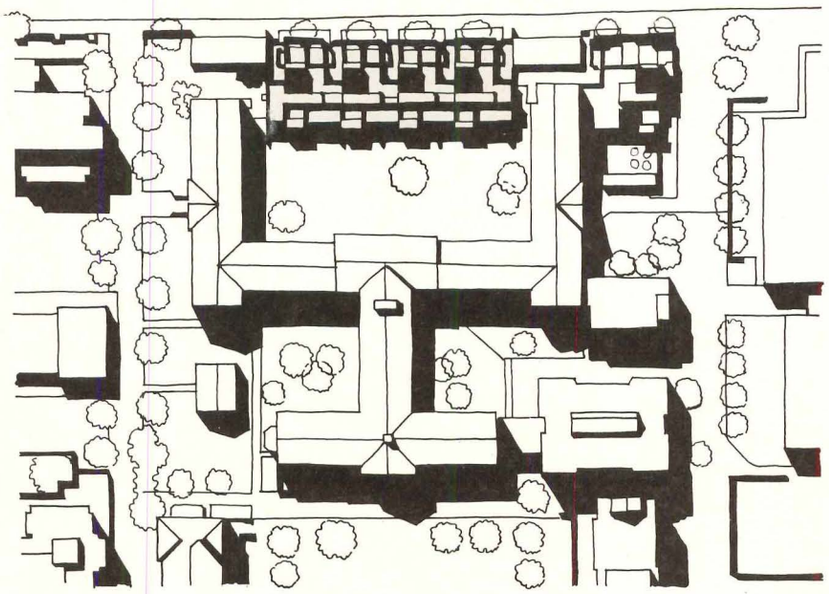
FACULTY HOUSING, RADCLIFFE COLLEGE CAMBRIDGE, MASSACHUSETTS BY RONALD GOURLEY/CARLETON RICHMOND, JR.

". . . (I am) worried about the disappearance of genuine localness in buildings and places. It means to me that the general and the specific are out of order in the minds of the majority and they are working outside a rationally structured value system . . . Personally, I have elected to continue to search after a timeless architecture of belonging."—*Ronald Gourley*

Phokion Karas photos





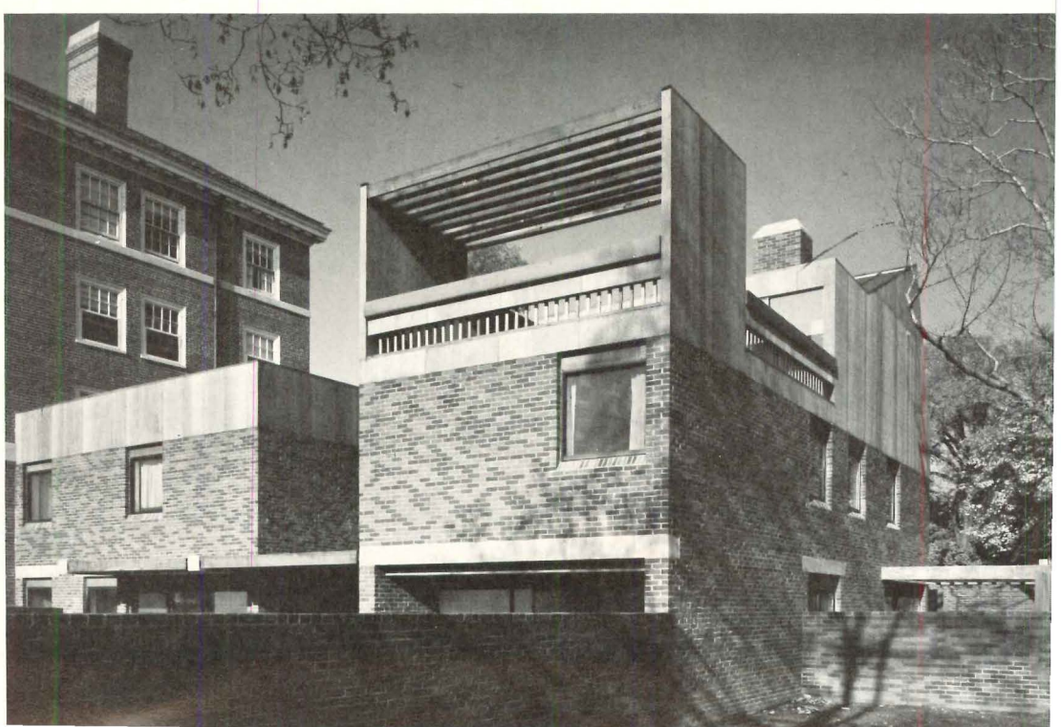


This group of faculty houses began the implementation of a general plan to expand and renew the Radcliffe College Residential Quadrangle. Placed at the north end of a large open lawn, the houses provide a firm edge to the quadrangle and strengthen the street form to the north. Carports and low walls tie the complex together and new planting helps to suppress the ends of existing dormitories which are much higher than other neighboring buildings.

The houses contain a mix of two-, three- and four-bedrooms and some have street floor studies to facilitate teacher-student conferences. By depressing the site slightly, Gourley achieved an important sense of separation from surrounding structures. But by careful ordering of the forms, by sensible fenestration and integral trellis work, the architect maintained a pleasing residential scale. These same devices bestowed on these houses a design personality quite their own, but not at the expense of the campus in general. A sense of place is very evident here, and the integration of building and site is handled with skill.

The structure and service cores of the apartments are repetitive, but each unit has a different combination of rooms and each has a private outdoor space at both ground and roof level. This faculty housing, among the best we have seen, was built at approximately $25 psf inclusive.

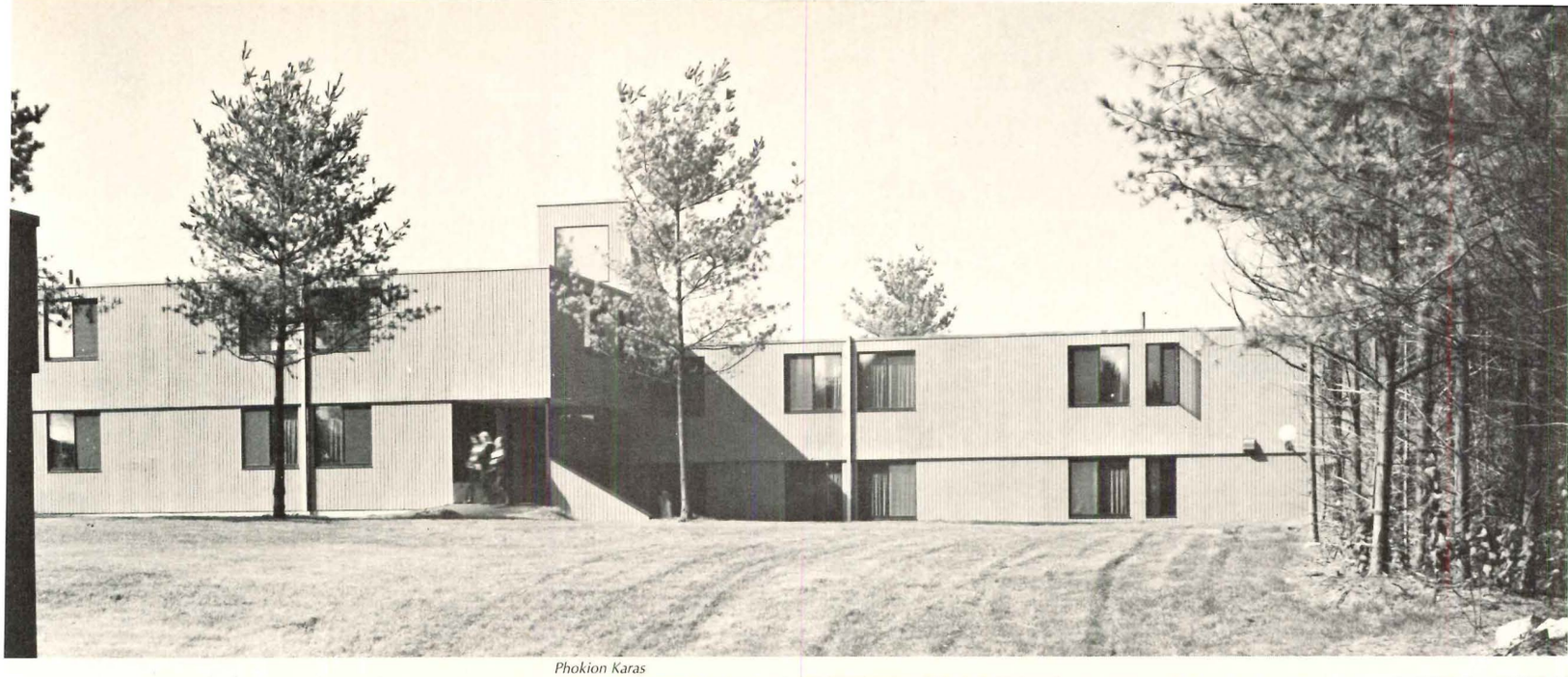
FACULTY HOUSING, RADCLIFFE COLLEGE, Boston, Massachusetts. Architects: *Ronald Gourley/Carleton Richmond, Jr.* Engineers: *Souza & True* (structural); *Leo Brissette* (mechanical). Landscape architect: *Diane McGuire.* Furniture design consultant: *John Adden.* Contractor: *Boutin, Sandanato & Bogue.*



NEW HAMPSHIRE COLLEGE, MANCHESTER BY HUYGENS AND TAPPÉ

"The buildings themselves are merely parts of the 'townscape'; street walls rather than independent forms. Their functions will be as those of a town: offices for town government (college administration), private business offices (classrooms), small professional offices (faculty), but also a restaurant and coffee shop, drug store, book store, and post office. . . . The community's social and recreational activities take place along or on the main street."—*Huygens and Tappé*

Julius Shulman photos



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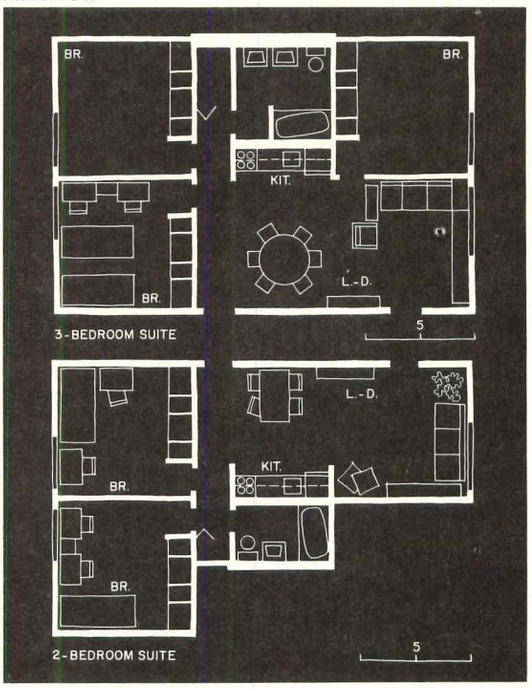
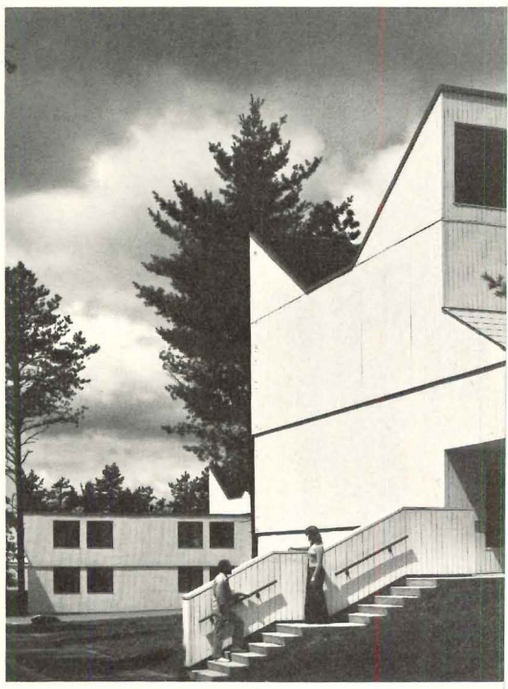
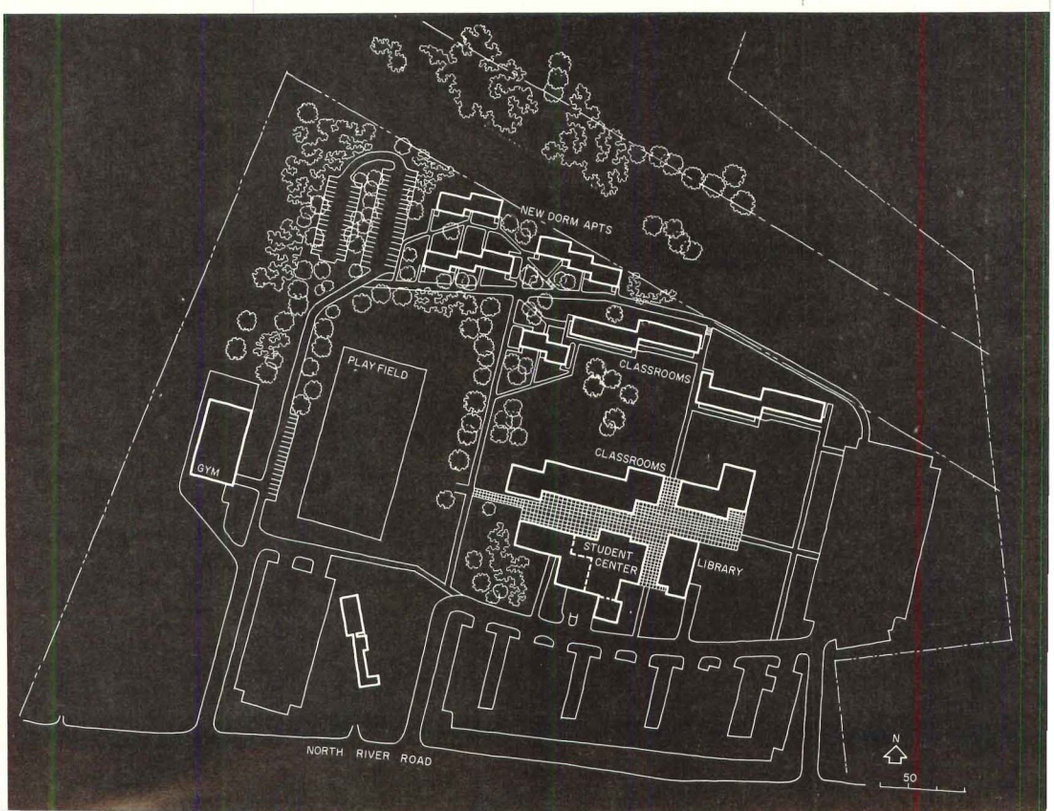






Before moving to its new campus, New Hampshire College was located in rented spaces scattered throughout downtown Manchester. The college suffered all the functional problems of dismemberment and had no visible identity. It was important, therefore, that the new campus (on a rural site 15 minutes from downtown) provide a forceful physical image. It was also important that the new buildings be very inexpensive and capable of quick erection. Huygens and Tappé filled these requirements and more. They developed a campus plan and building esthetic patterned appropriately on the traditional New England town. At the center of the "town" is a main street—a busy pedestrian way crossed by secondary circulation routes to the dormitories in one direction and to perimeter parking in the other (see site plan). The buildings, except for the gymnasium, are wood frame structures plywood clad.

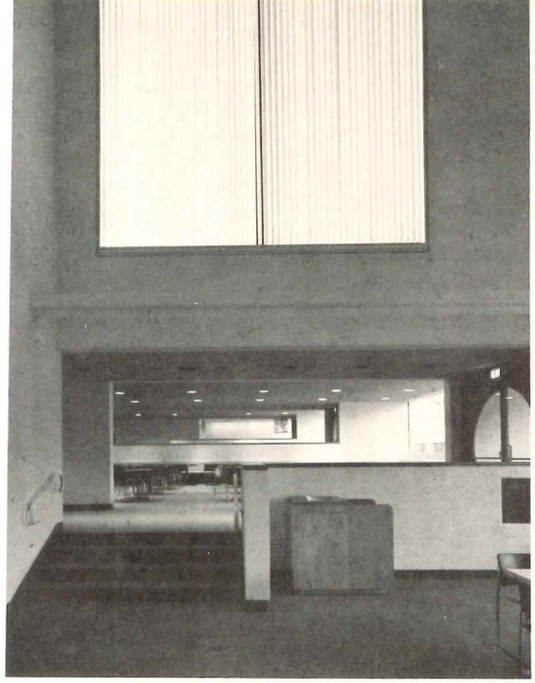
The town character, evident in these photographs, extends to the treatment of street furniture and graphics (see page 156). These colorful elements are simply designed but woven with exceptional skill into the general fabric of the campus and they contribute to its obvious visual appeal.

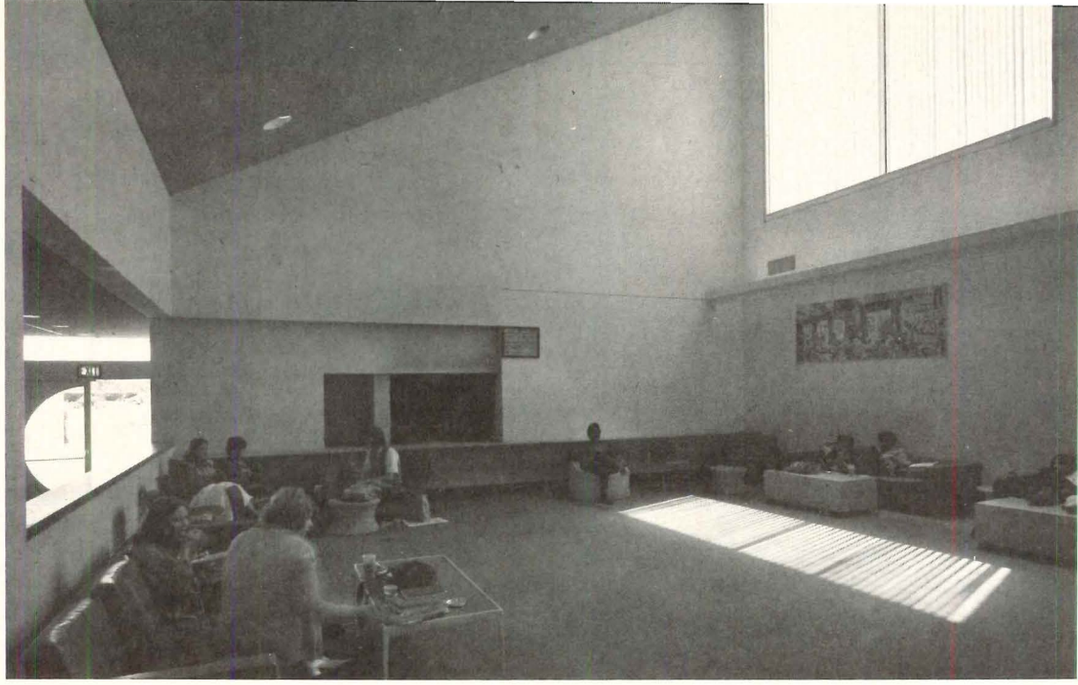
NEW HAMPSHIRE COLLEGE, Manchester, N.H. Architects: *Huygens and Tappé.* Phase I: *Stuart Carter, job captain.* Engineers: *Linenthal, Eisenberg & Anderson, Inc.* (structural); *William R. Ginns* (mechanical); *Lottero-Mason, Associates, Inc.* (electrical). Program: *Dober, Paddock and Upton.* Contractor: *Blanchard Stebbins, Inc.* Phase II: *Archibald Currie III, job captain.* Engineers: *Steco Engineering* (structural); *Joseph Gildor* (electrical/mechanical); *Shurcliff, Merrill, Footit* (site). Contractor: *Northgate Construction Company.*

MONTEREY PENINSULA COLLEGE, CALIFORNIA
BY EDWARD LARRABEE BARNES

"Our two buildings—the Student Center and Theater—are grouped at the head of a deep ravine that cuts the campus in half. The ravine now becomes an artery instead of a divider and the amphitheater between our buildings is the heart of the campus." *—Edward Larrabee Barnes*

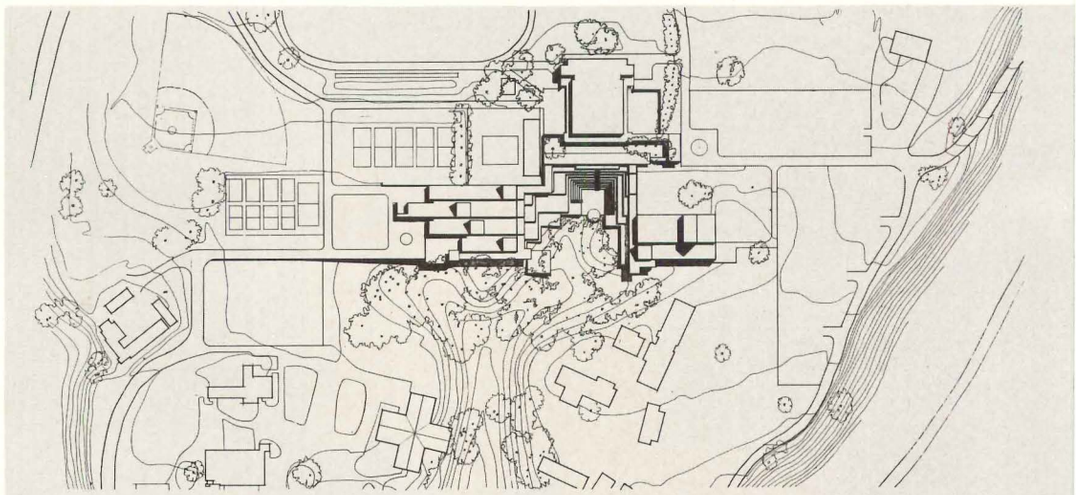
Marshall Schultz photos

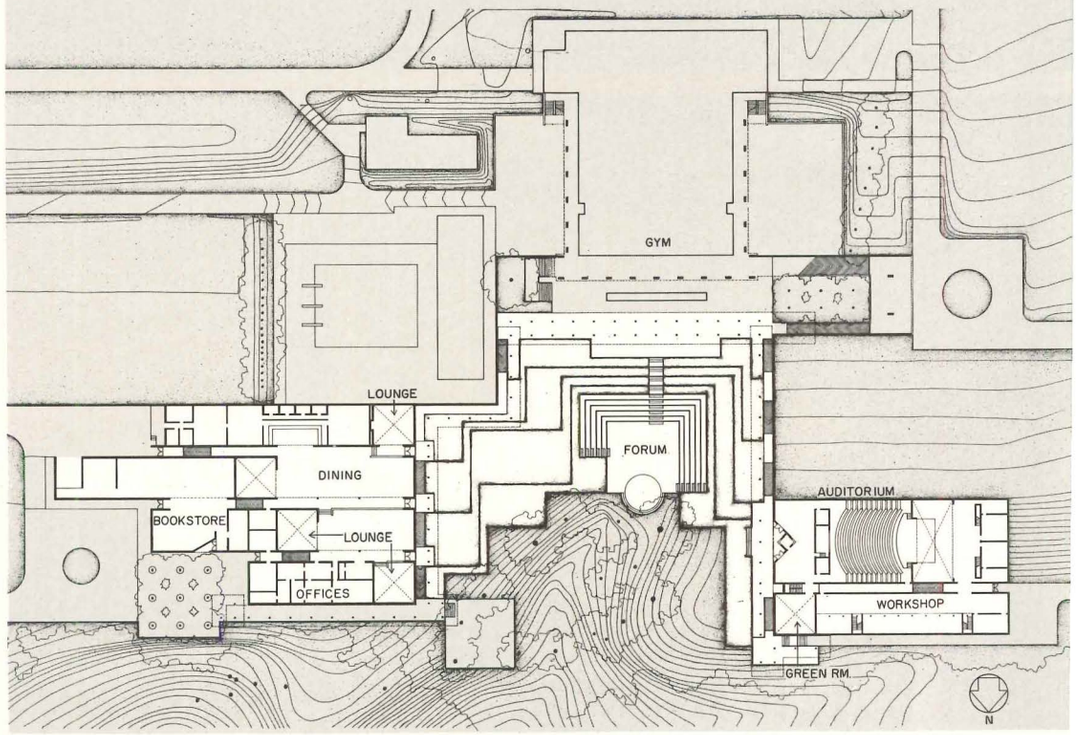




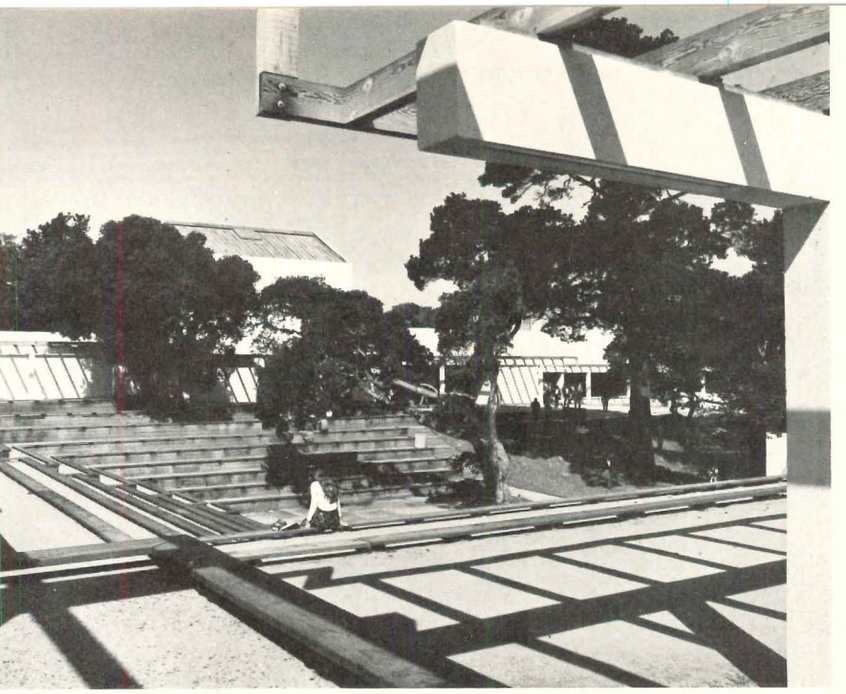
The campus of this California college is bisected by a deep cut—a ravine that stretches for more than a mile and terminates in front of an existing gymnasium. When Barnes was commissioned to design a Student Union and campus theater, he persuaded the university planners to let him build on two sites adjacent to the gymnasium but flanking the ravine left and right (see site plan). The sloping contours offered an opportunity to provide an outdoor amphitheater—a useful campus component and a particularly effective design device for terminating the ravine and easing the transition between the natural condition and the surrounding buildings.

The buildings themselves are fitted to their sites with care. The Student Union (photos left, above, and page 145) steps down in increments with its sloping site and brings daylight deep into its interiors by peaked clerestories. In the theater, (page 160) similar peaked forms mark the "green room" and the fly tower. Taken separately, each building is functional and appealing. Taken as a grouping, the three-building complex, with its amphitheater and beautifully designed connective tissue, offers a splendid setting for student interaction, both planned and impromptu. Because of the benign climate, the amphitheater gets year-round use.

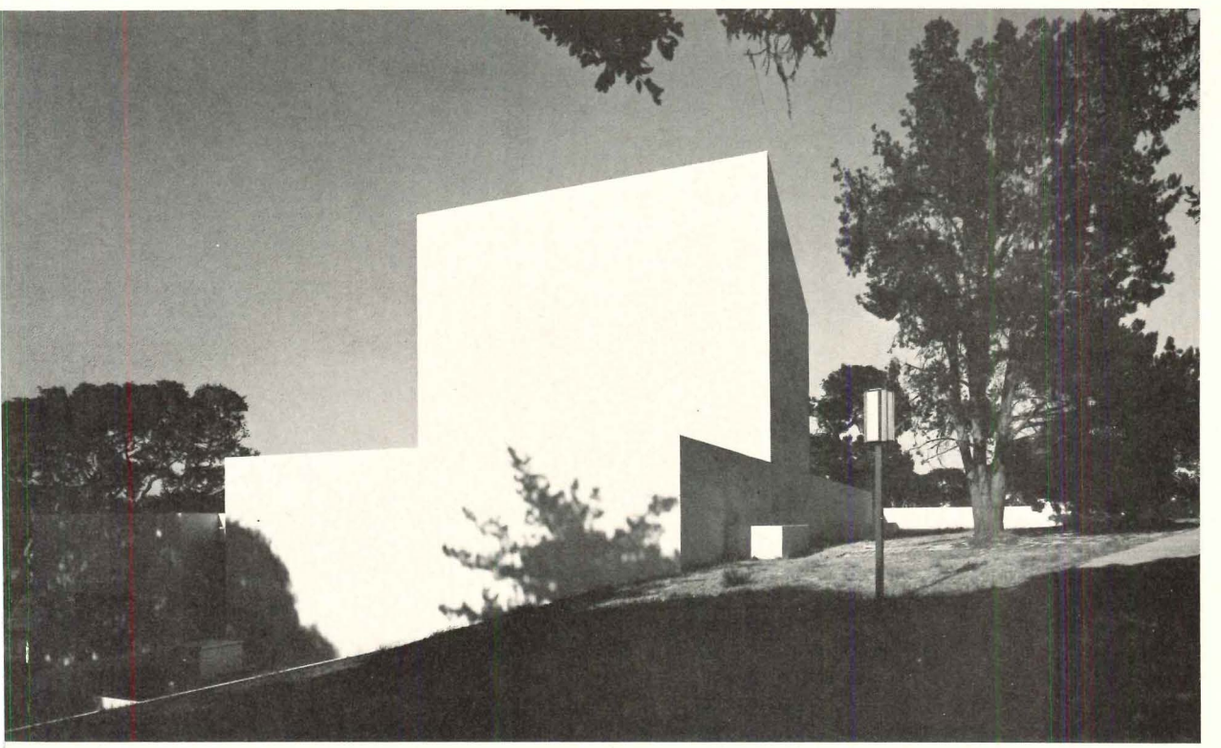


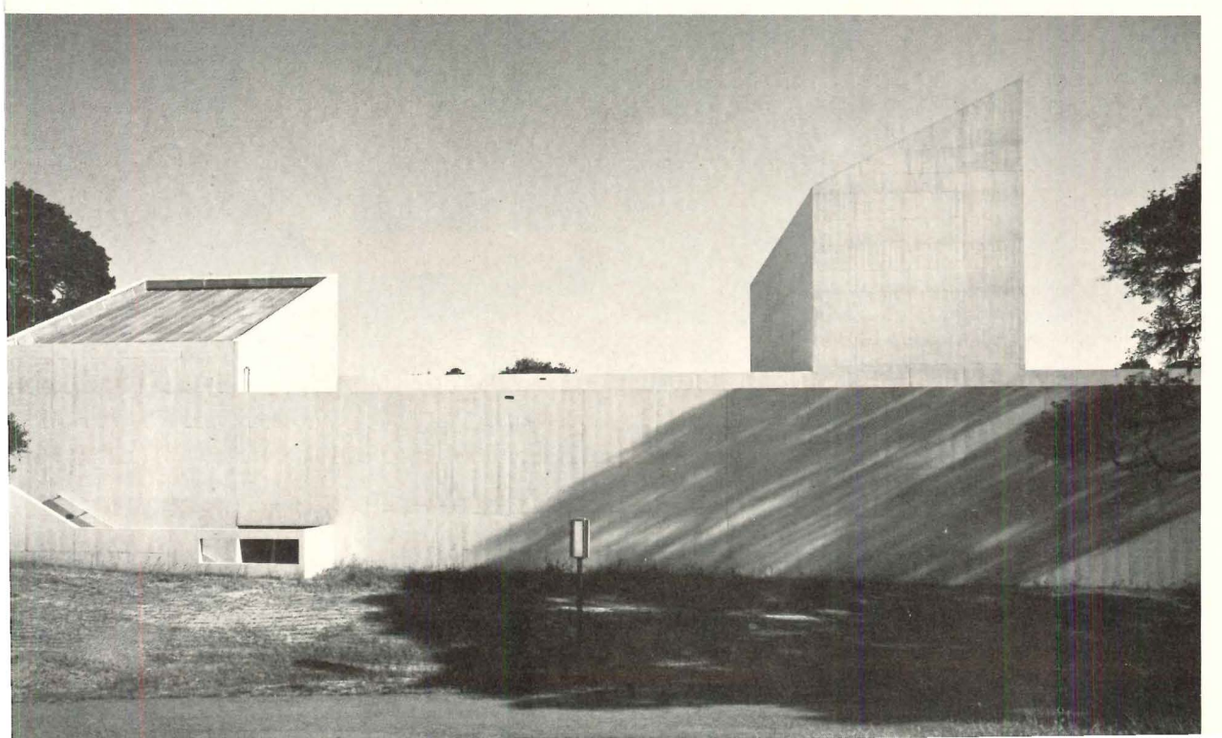


MONTEREY PENINSULA COLLEGE, Monterey, California. Architects: *Edward Larrabee Barnes; associate architects: Keeble and Rhoda, Architects, Douglas Barker, Architect.* Structural engineers: *Steven H. Sasson & Associates.* Landscape architects: *Eckbo, Dean, Austin and Williams.* Interior design: *Douglas Barker.* Contractor: *Geyer Construction Company.*



The white masonry walls of the two buildings by Barnes catch and print shadows from surrounding trees and trellises in powerful abstracts. The specimen trees, protected during construction, enhance the natural character of the sites around both the theater and the Student Union building.

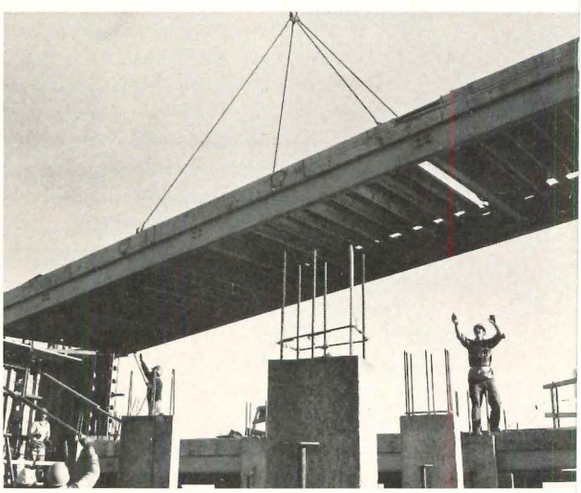




Flying forms for concrete structures can save time and money, but just how much depends upon the architectural design

Irregular tower facades and column spacings were a challenge for the technique, but it came out cheaper

Steel-framed flying forms with different widths and depths are hoisted by climbing crane, inserted between columns, and set atop screw jacks attached to the columns. The forms slide on rollers that are part of the jack assemblies. Concrete panels for the modulated exteriors of the 9- and 21-story towers in Stamford, Connecticut were precast at the site.

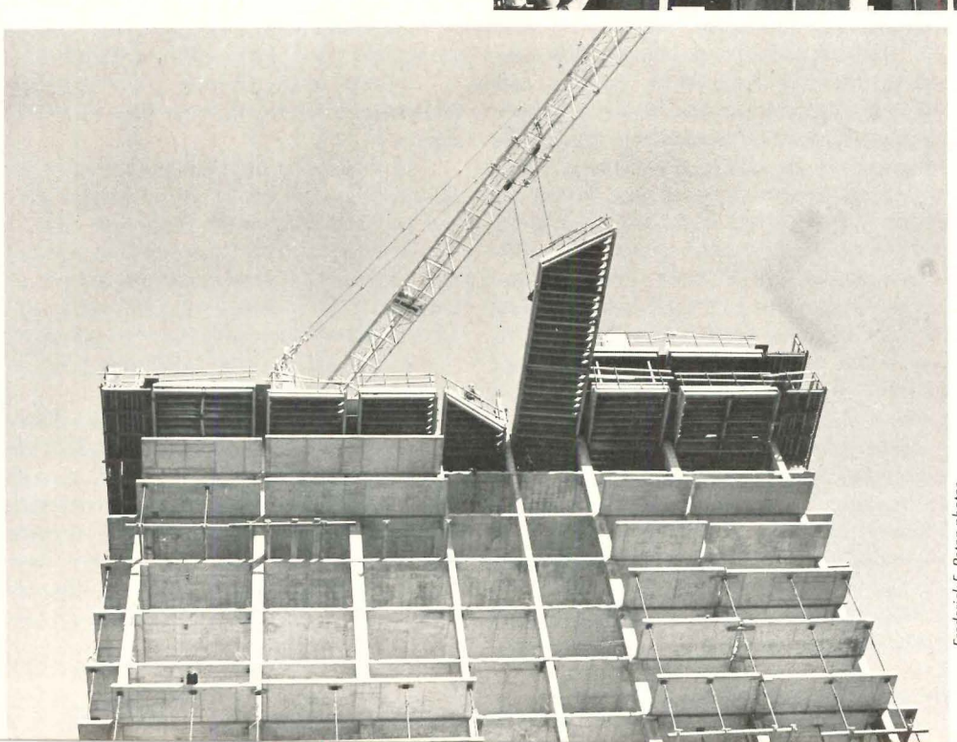


Maximum economies in the application of flying forms to multistory concrete construction call for a building layout that allows large-size, consistently-shaped forms. But even with the irregularly-shaped facade and varied column spacing of the 21- and 9-story structures for New Hope Towers in Stamford, Connecticut, designed by architect Robert L. Wilson, the contractor reports significant savings with the method. Beyond the economies made possible by the flying forms, additional cost savings were achieved by precasting the wall panels at the site. To facilitate erection of the panels to the boxed-in recesses of the facade, a counterbalanced boom was used.

On New Hope Towers, the contractor, Frank Mercede and Sons, Incorporated used 14 table forms—ranging in width from 14 to 20 ft for the three different column spacings and in depth a maximum of 30 to 45 ft—to cast each floor. Rate of construction for the 6700-sq-ft floors was one floor every four or five days. The flying forms were supported and leveled by jacks attached to the sides of the columns. The forms, being set on the jacks, and having no cross-bracing, allowed freedom of movement for workers. The steel edges of the forms slide out of the building on wheels attached to the jacks. They were inserted and removed from all four sides of the building. Surface of the forms is a special plywood material imported from Finland. Infill panels the width of the columns finished the floor-form surface. Table forms and concrete were lifted by means of climbing cranes.

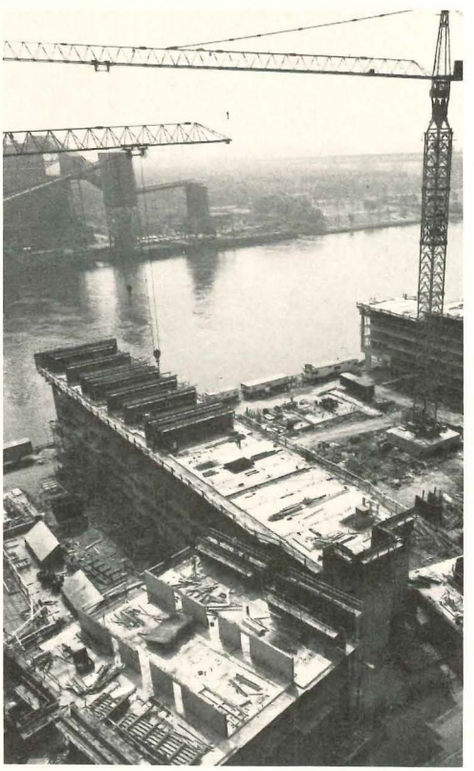
From a construction economics standpoint (related to crane capacity, labor capability, and form reuse), the floor areas, ideally would have been closer to 9000 sq ft, and both towers 21-stories high. As it was, the tall building had to carry the costs of the low building.

With conventional flat-plate construction, the engineer can locate the columns somewhat irregularly to suit the architectural layout, but in this case, the engineer Viggo Bonneson had to center column spacings so that the flying forms could be used. This discipline, in his opinion, can actually improve building layout rather than hinder it.



Frederick E. Paton photos

The speed of cycling the forms is directly related to the repetition and typicality of the structural volumes



Economics of the flying-form technique are being put to a hard test in two housing projects of basically similar design in Yonkers, New York, and New York City's Roosevelt (formerly, Welfare) Island.

Because the objective of using flying forms is to speed on-site construction, builders are happiest with simple, box-like structures with double-loaded corridors, and the same floor plan repeated from base to top. But while this approach may keep costs down, it also may inhibit good architecture.

These projects—designed by architects Sert, Jackson & Associates for New York State's Urban Development Corporation—have low-rise wings stepping up to towers as high as 21 stories. Fire stairs and elevator shafts are external. Elevatoring is skip-stop, which means two different floor plans, with a single-loaded corridor provided every third floor. Depth of the buildings is 38 ft, except when bays increase it to 41 or 44 ft.

The speed of the flying-form construction process was limited by several factors which will be discussed later. Of course a builder wants construction operations to permit a smooth flow of construction cycles with as little lost time as possible between them. Also, he always looks for ways to cut construction time of the various steps within a cycle.

The Roosevelt Island project (1005 units) was at one time designed for flat-plate construction but the price from Building Systems Housing Corporation was attractive enough for UDC to have the architects and the structural engineers, Weidlinger Associates, change the design to a shear wall structure to accommodate the developer's system of wall forms. Riverview, Phase I, in Yonkers (454 units) was contracted for later, and was shear wall from the start. (Building Systems Housing Corporation is the development arm, and Concrete Building Systems, the construction arm, of Building Systems, Inc. of Cleveland.)

The system also called for the floor slabs to be post-tensioned. Span of the floor slabs is 22 ft, while the post-tensioning cables generally were 90-ft-long, though sometimes 180 ft. The builder anticipated that with post-tensioning there might be time-savings in laying the reinforcing steel, and that, hopefully, the lesser amount of steel theoretically possible would save money, but, in the end, codes and other constraints made the costs about the same as for conventional steel reinforcement.

Five different types of forms were used: 1) table forms for the slabs; 2) self-braced steel forms, imported from the Netherlands, for interior walls; 3) custom steel forms for exposed concrete of the stair towers; 4) and 5), custom forms for exposed concrete of elevator towers and for end walls of buildings.

Construction cycling for the wall and floor slabs was the most efficient in the stretches of repeatable elements between stair towers, where construction could be done in a stepped, checkerboard fashion. But construction in the vicinity of the stair towers (called "knuckles" by the architect) was governed by how fast the towers could be erected. Reason is that these towers take the wind load in the longitudinal direction, and the horizontal framing of stair platforms had to be tied to the floor structure of the main building frame. This meant that the post-tensioning cables of the floor slabs had to be a part of the stair platforms. Alignment, fastening, and stripping of the tower forms for the exposed architectural concrete turned out to be time-consuming which, in turn, slowed down construction of the floors and walls.

The construction sequence is as follows, assuming a floor slab is ready for wall forms:

1) wall forms are set; reinforcing steel and conduit are placed; walls are poured (one day);

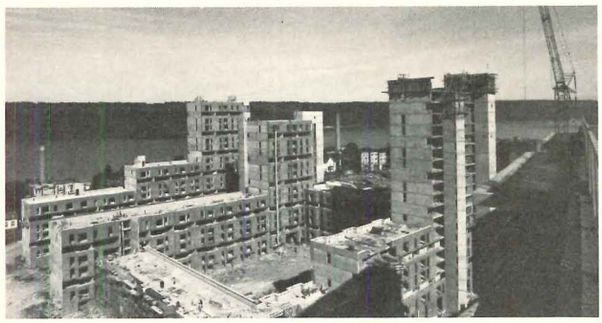
2) wall forms are stripped; table forms are pulled (rolling on dollies), from another location and reset on a finished floor (one day);

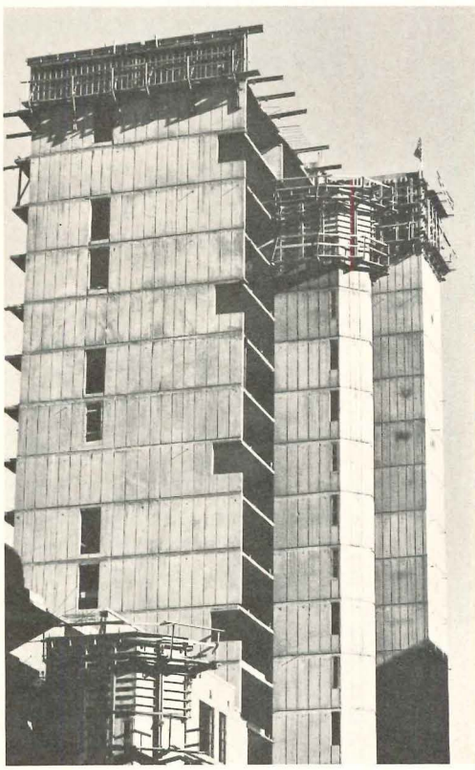
3) edge forms for table forms are set; bottom steel is laid; post-tensioning cables are laid; conduit is installed; top steel is laid; concrete is placed (one to two-and-one-half days);

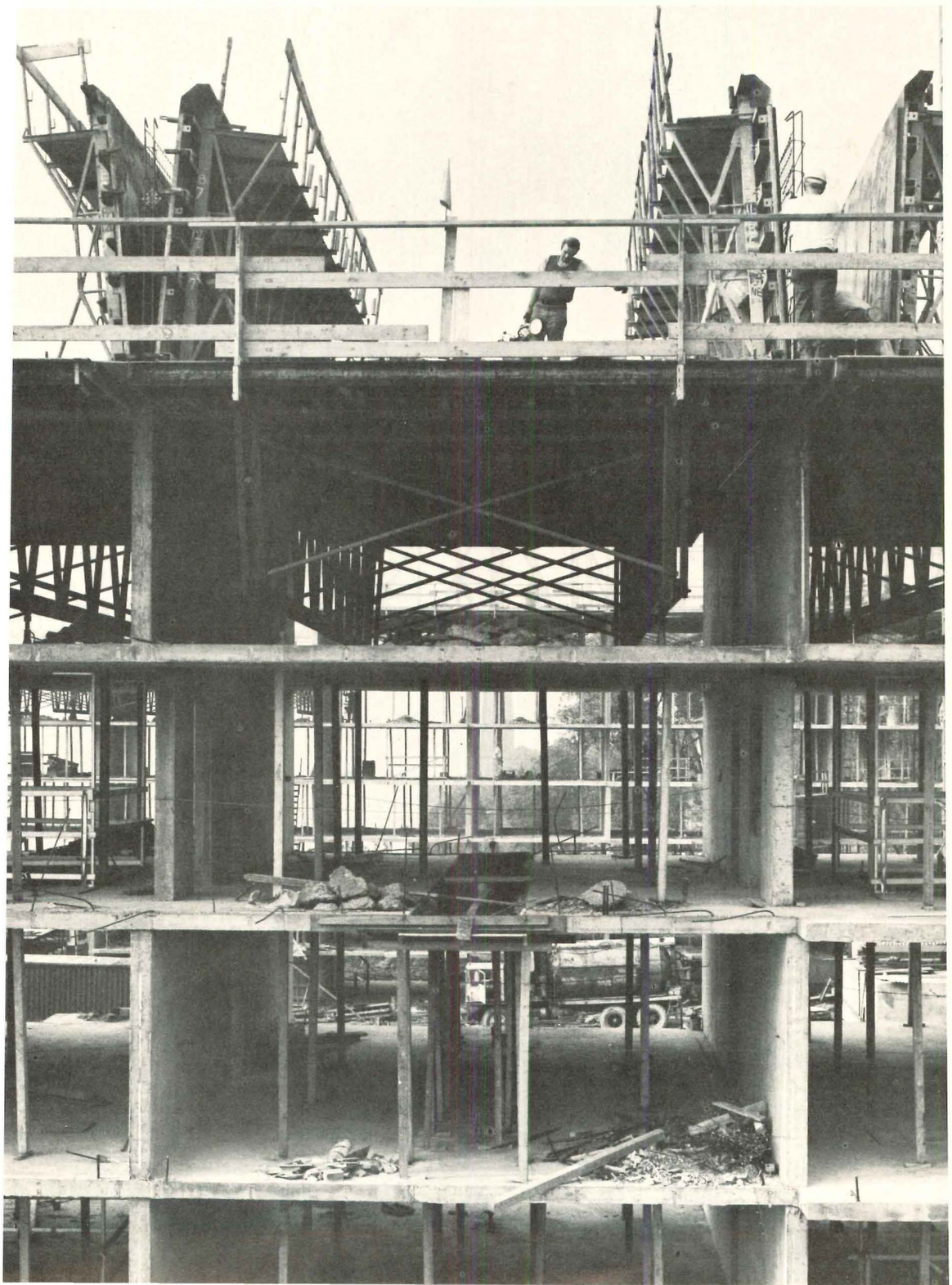
4) three days later cables are post-tensioned (taking only 2 hours).

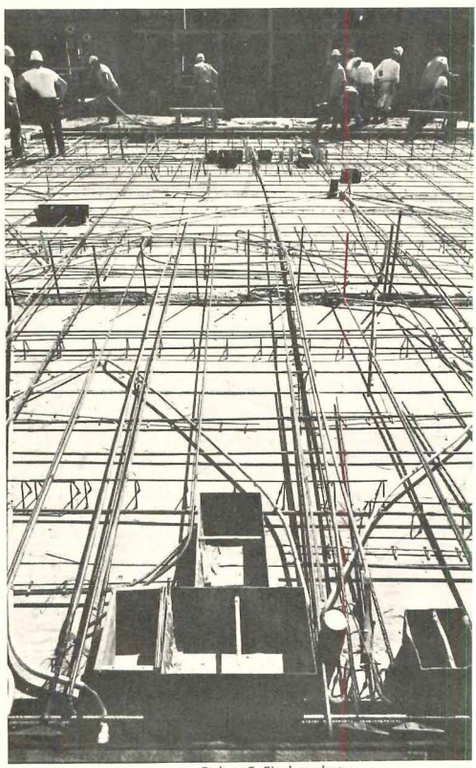
The builder would have to be characterized as adventurous to bring this system into the New York City market area where conventional flat plate and flat slab construction have such a foothold. Concrete Building Systems' forming method was not new to them, however, as they had used it previously for box-shaped housing in Cleveland and Boston, and also for a project in Brooklyn.

Bay-size table forms and steel wall forms were sequenced in checkerboard fashion to produce the wallbearing cellular structural frames for two New York State Urban Development Corporation housing projects in the Greater New York area. The designs consist of low-rise wings stepping up to towers. The end walls and the appended stair towers and elevator shafts were produced with custom forms on a floor-by-floor basis. Floor slabs were post-tensioned.









Robert E. Fischer photos

A symmetrical free-form tower was a likely candidate for cycling one floor of forms at a time

A forming system that included unusual pie-shaped table forms and combination wall-column steel forms was able to produce one floor a week for this 25-story condominium in Portland, Oregon. All of the forms for a floor were stripped, "flown," and reset in just over three hours. Precast stairs were used to eliminate formwork within the building itself.

Use of flying forms for the 25-story Portland Plaza condominium (by Daniel, Mann, Johnson & Mendenhall, architects and engineers) reduced construction of the sculptured tower to a very simple process—allowing it to proceed at the rate of one 10,000-sq-ft floor a week. Because of the unusual shape of the building—which provides panoramic views of the mountains—pie-shaped forms were required for the circular nodes. The three shear walls with their contiguous columns were poured using a single 45-ft-long combination form. A split cylindrical form was used for the three remaining individual columns. The use of precast stairs eliminated forming within the building.

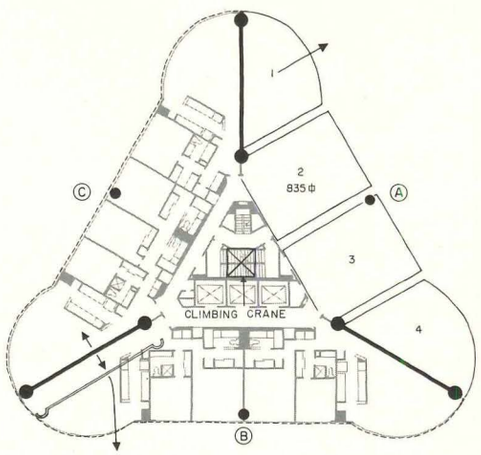
All the forms were "flown" every Saturday by a crew of nine men who completed stripping and resetting in a little over three hours. The forms were aligned by means of a laser level to give an accuracy of within ⅛ in.

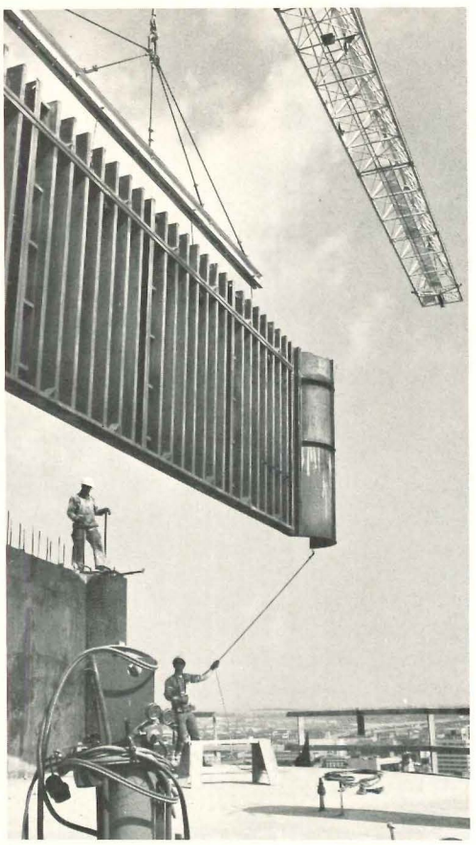
On Monday and Tuesday the ironworkers installed the reinforcing steel. On Wednesday the concrete was placed for the 9-in. floor slab and on the remaining two days, concrete was placed for the walls and columns. All erection was handled by a climbing crane at the center.

Among the other advantages of the construction method are: 1) quality of concrete work is extremely high—paint finishes only; 2) accuracy of alignment is advantageous for erection of the stick-and-panel metal skin; 3) "unlimited" horizontal shapes with repetition of floors are possible; 4) the cycle is limited only by the setting of rebar and inslab services.

Architecturally, the floor plan is compact with minimal area for servicing and circulation functions. The open structural plan along the sides of the triangle allows conversion of two typical two-bedroom apartments to a combination of one three-bedroom and one single-bedroom apartment configuration.

Patrick E. Loukes, who was chief architect of DMJM-Northwest during design of the building, and is now a vice president with the builder, William Simpson Construction, emphasizes that for the potential of systems such as this one to be fully exploited, collaboration in the project programming is a must between the design disciplines and the builder. For example, it is much easier to make adaptations to the structure to facilitate the system before the design has proceeded too far.





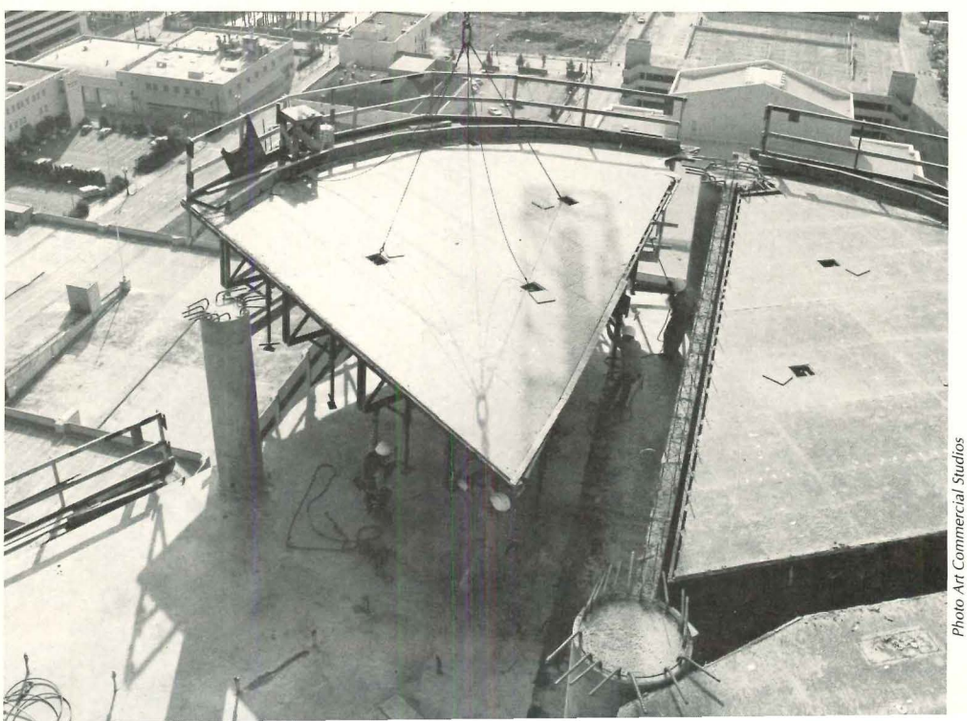


Photo Art Commercial Studios

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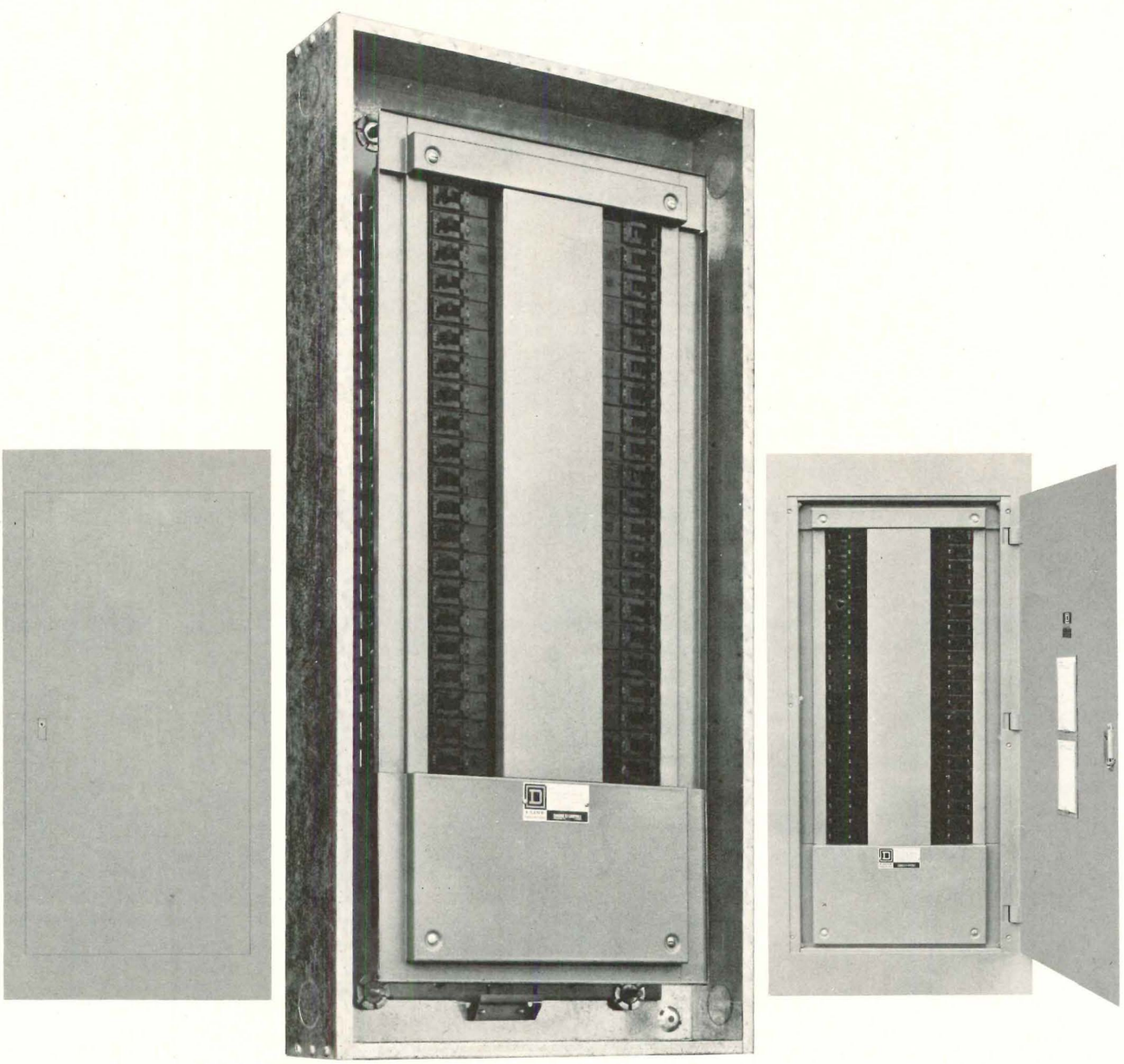

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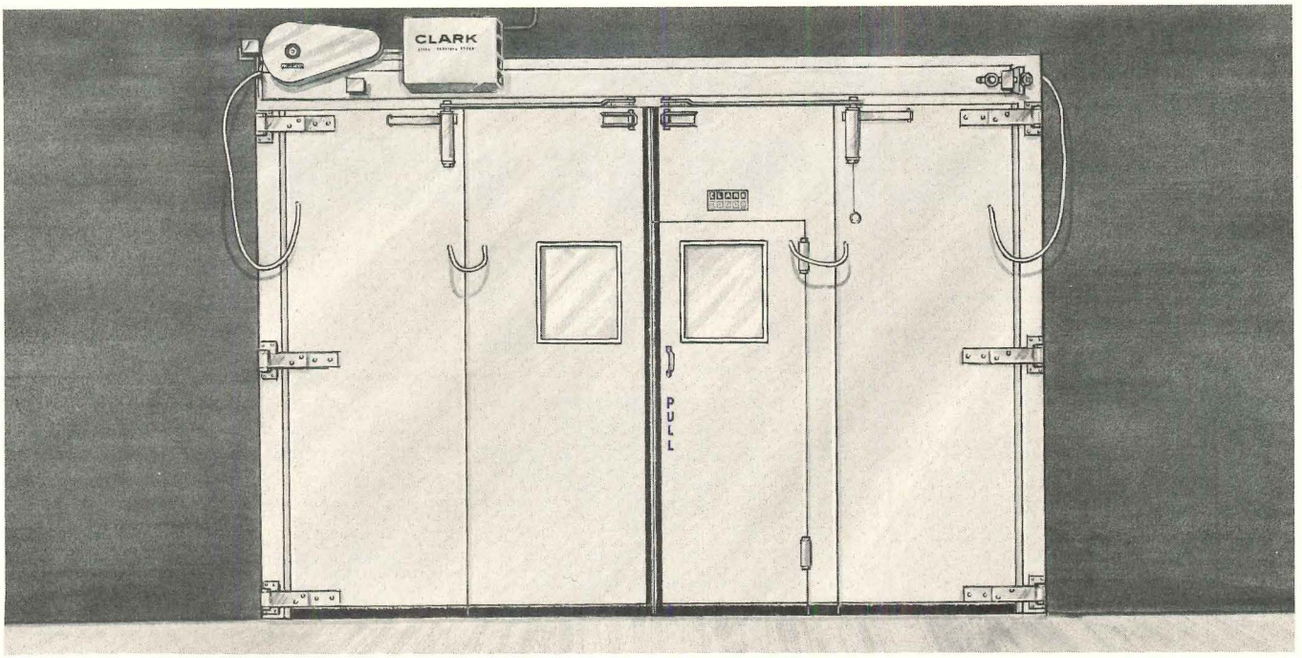

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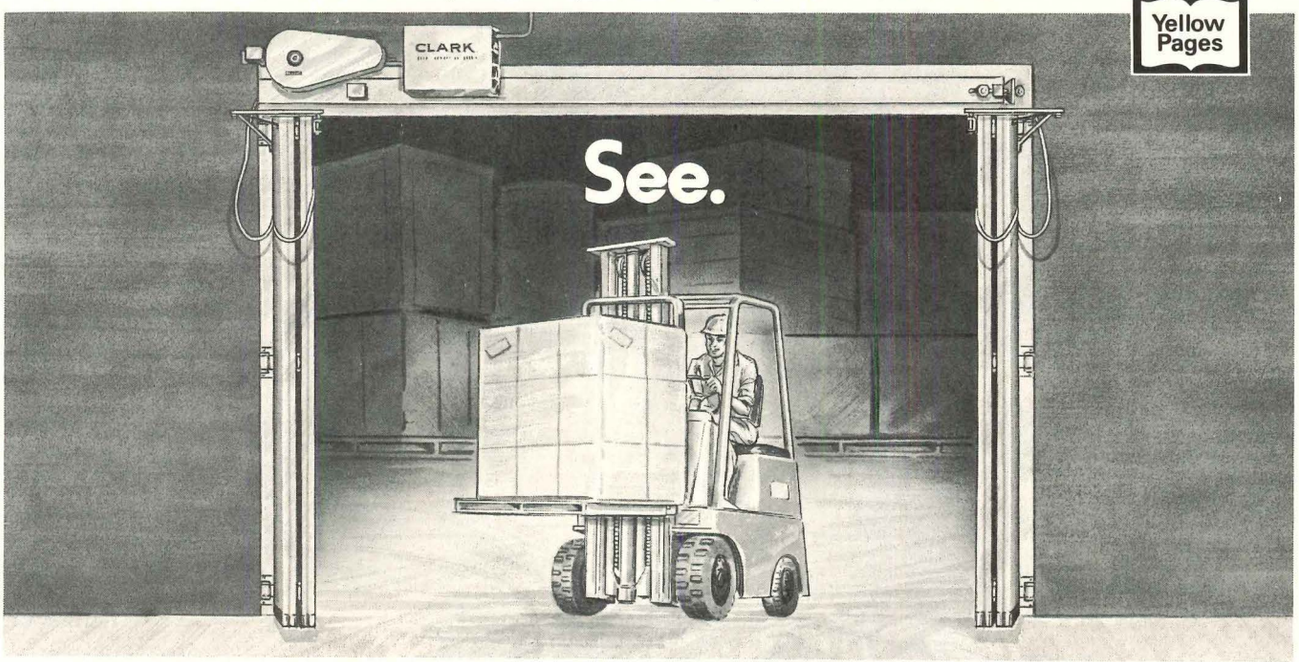

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Suburban Pittsburgh's Monroeville Mall serves 300,000 shoppers a week with 1.3 million sq. ft. of sales area

Besides 126 specialty shops and four major stores, the complex features an Olympic size skating rink, community auditorium, church chapel and a branch of the Carnegie library.

A single duct variable volume system supplies cooled air with lighting and people functioning as a heat source. A warm-up override control supplies warm air when needed.

PROFESSIONALS AT WORK

★ *Mall Designer:* Dan Morganelli, Hewmann & Associates, Los Angeles • *Mall Architect:* Loeffler, Johnson and Associates, Pittsburgh • *Mall General Contractor:* Magnum Construction Corp., Pittsburgh • *Mall Mechanical Contractor:* Limbach Co., Pittsburgh • *Mall Developer:* Oxford Development Co., Pittsburgh
★ *Gimbel's Store Architects & Engineers:* Abbot, Merkt & Company, New York • *Mechanical Contractor:* Sauer Inc., Pittsburgh • *Gimbel Corp. Director of Construction:* Tom DeAngelo
★ Joseph Horne Co.: *Mechanical Contractor:* Sauer Inc., • *General Contractor:* Mellon Stewart Co., Pittsburgh

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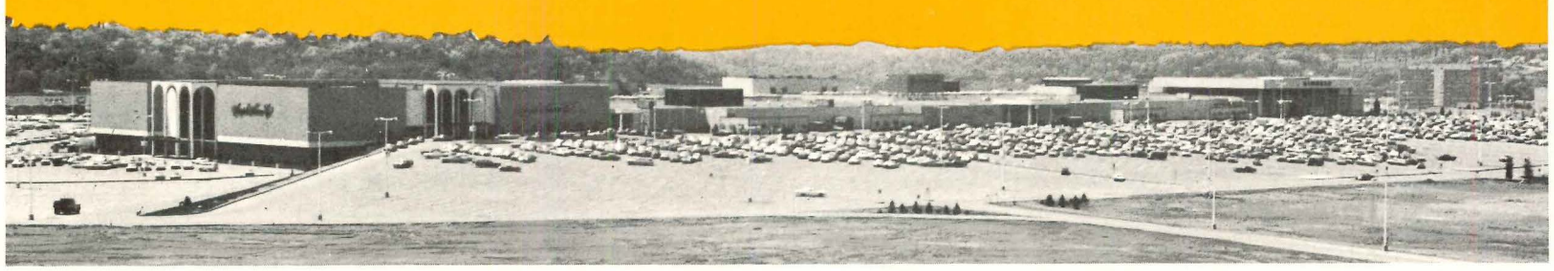

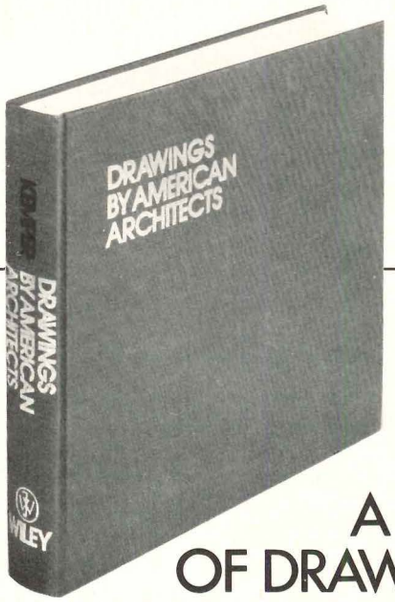

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And the whole collection is easy to view. Each drawing is in black and white, printed in sepia tones, and appears on a full page with the name of the renderer, the project and the office. Some pages even show enlarged portions of a drawing to illustrate the techniques used.

The book's arranged in alphabetical order according to architectural offices and there's an index for offices and one for renderers.

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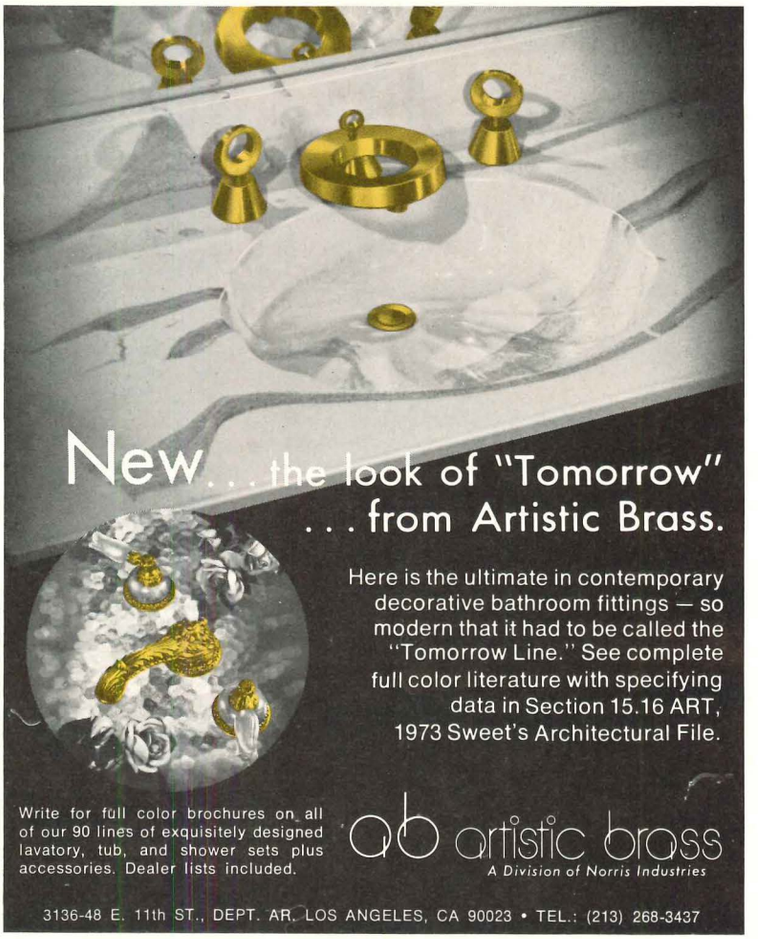

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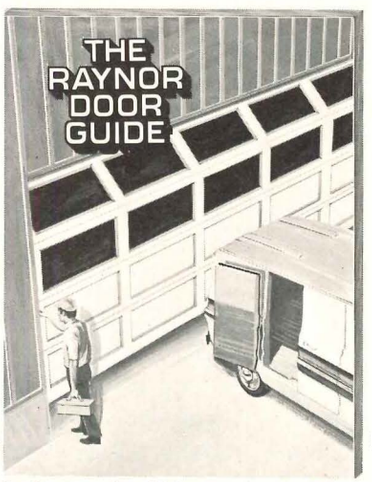

All the facts you should know about garage doors can be found in this complete Raynor reference guide. Garage door styles, materials, mountings, applications, specifications (including handy door and track selection guides),... **PLUS** information on Raynor's new deep-ribbed, good-looking 'Security Line' steel doors. See why Raynor builds better doors.

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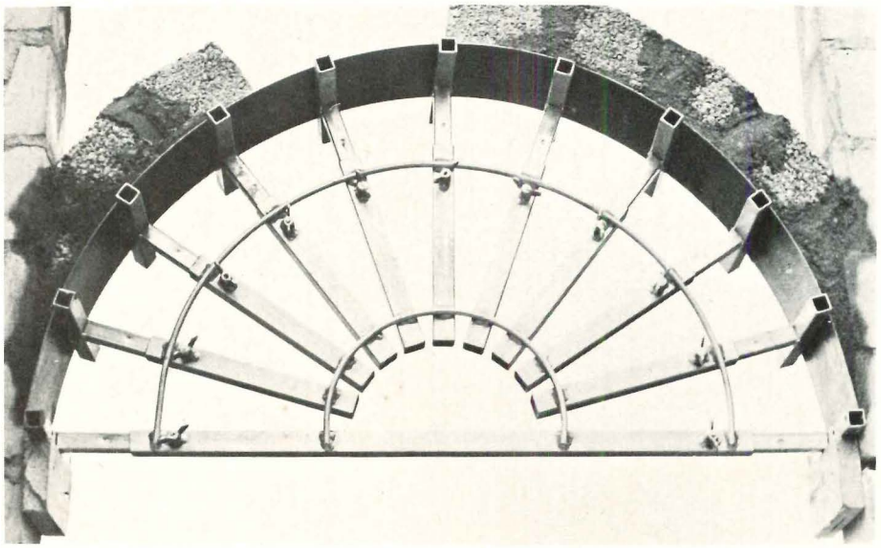
For more information, circle item numbers on Readers Service Inquiry Card, pages 261-262



Adjustable metal form speeds masonry or wood arch construction

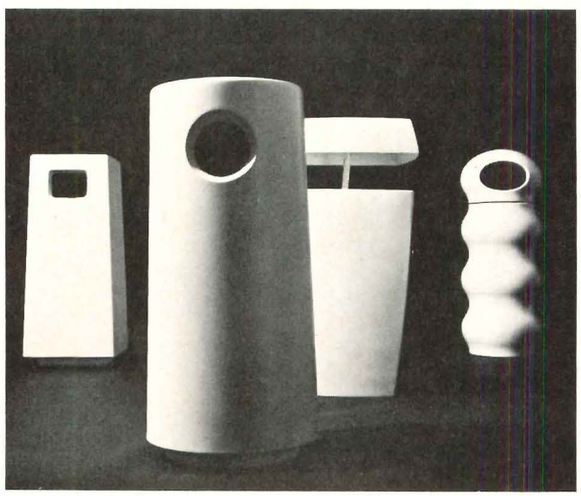
This expandable metal form is said to provide support while building a wide variety of semicircular and pointed arches. Unit will support itself and the arch in doorways and windows from 30 to 44 in. wide. The company claims the choice of widths and arch styles should fit most residential and commercial applications. In masonry arch construction, the desired arch is drawn on paper. The *Arch-maker* arms are extended to match the shape. Wing-nuts are tightened, and the product placed in the door or window opening. ▪ Western Reserve Arch Co., Asheville, N.C.

Circle 300 on inquiry card

Incandescent lighting

The improvement to this luminous ceiling system is the addition of incandescent lighting to what was an all-fluorescent system. Two-lamp indirect fixtures are offered for mounting within standard modular coffers. ▪ Integrated Ceilings Inc., Los Angeles, Cal.

Circle 303 on inquiry card



Litter receptacles with side openings shield trash

With lift-off or swing-away covers, these fiberglass containers are recommended for public areas. Lightweight yet said to be strong, the bins are sculpted in both sleek and playful shapes, accommodating poly bags that are neatly supported on an integral inner ring. The company states the receptacles are available in many colors. ▪ Group Artec, Los Angeles, Cal.

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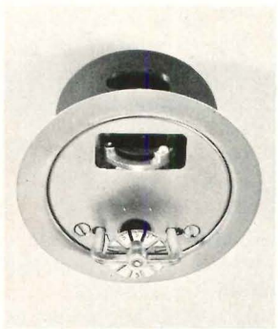
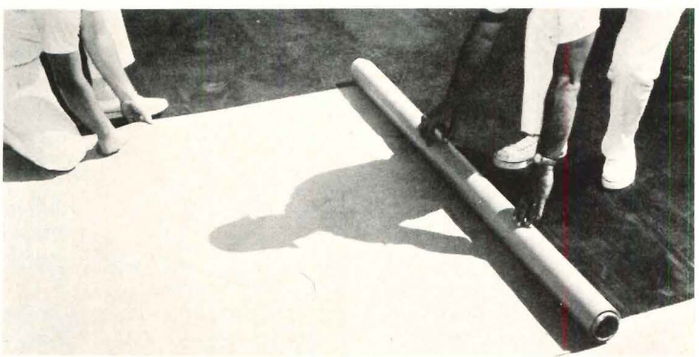


Recessed sprinkler

This fully-automatic on-off unit features recessed design with chrome finishing. It is said to shut itself off after suppressing a fire and can be integrated with most existing systems or designed into new construction. ▪ Grinnell Fire Protection Systems Co., Inc., Providence, R.I.

Circle 302 on inquiry card



A "free floating skin" for flat-roof construction

A roofing system developed in Germany and now available in the United States is said to be compatible with all forms of roofs and roof decks, but achieves the greatest advantage on a flat or slightly pitched roof. The chief component of the system is a rugged, flexible, stretchable heavy-gauge elastomeric plastic in sheet form, that is welded, on-site or off, into a free-floating skin secured only at the roof edges and roof penetrations. *Trocal* roofing systems are said to offer savings on flat roofs because the fill normally required to create an incline can be eliminated. ▪ Dynamit Nobel of America, Inc., Northvale, N.J.

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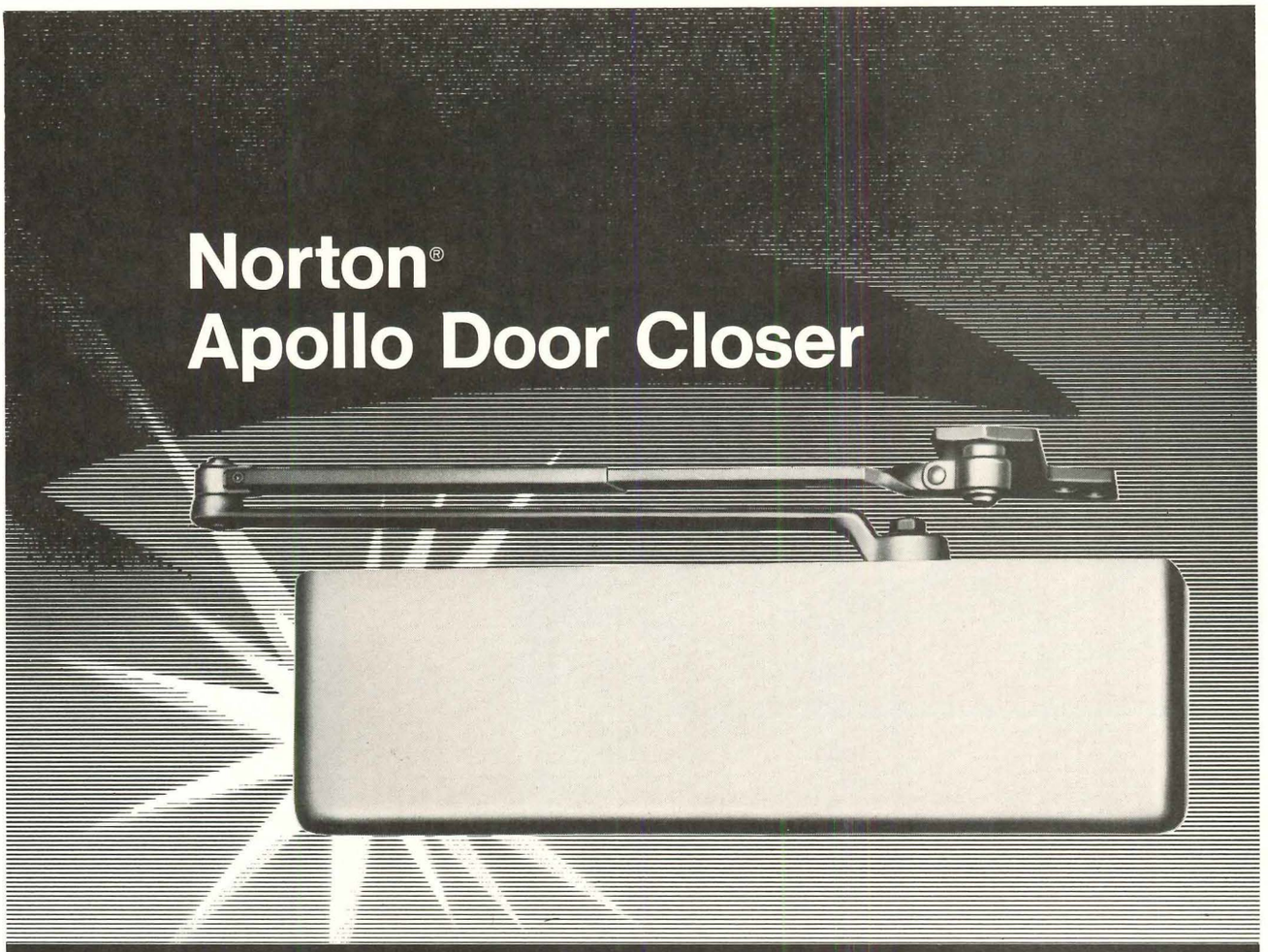

It's Always Been Versatile
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But when you have an 80-year reputation for quality, people expect your product to be reliable. *Especially* reliable. And we agree.

We tested the Norton Apollo closer. We put it through several lifetimes of wear. And there were no major problems.

But when you get right down to it, only time *really* proves reliability. The Norton Apollo door closer has been on the market for over three years, operating successfully in prestige locations all over the country. Versatile? Sure. But reliable, too.

For more information on the Norton Apollo closer and its proven reliability, ask your Norton Representative. Or contact Eaton Corporation, Lock and Hardware Division, Norton Marketing Department, Box 25288, Charlotte, North Carolina 28212.

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For more data, circle 81 on inquiry card

For more information, circle item numbers on Readers Service Inquiry Card, pages 267-268.

ELECTRIC HEAT / The 12-page brochure illustrated with line drawings and photographs, includes suggested architect-engineer specifications together with detailed specifications and capacity data for the 20 mix-and-match heating/cooling combinations available. Specific information is included for the various condensing units and cooling module units. Charts showing blower performance and temperature rise curves under various operating conditions are provided, along with electrical data on the furnaces and condensing units. ▪ McGraw Edison Co., Albion, MI.

Circle 400 on inquiry card

FIRE PROTECTION / A newly revised 32-page booklet offers information on wood and plywood systems to meet code and insurance requirements. It is a guide to fire protection fundamentals and illustrates floor, roof and wall construction techniques. Case histories, sample specifications, and background information on building codes and insurance provisions are included. ▪ American Plywood Assoc., Tacoma, WA.

Circle 401 on inquiry card

PANELING / All product literature on the company's 1973 line has been assembled in a keyed specification guide on panels and planks, graphics, doors, custom products, and partition systems. ▪ Marlite Brand Paneling, Dover, OH.

Circle 402 on inquiry card

THERMAL INSULATION / A 16-page product catalog has been issued on industrial and commercial insulating materials and products manufactured of calcium silicate, mineral wool and glass fiber. The product catalog provides in pictures, technical charts and graphs, and descriptive words a guide to both block and pipe covering products of calcium silicate for applications up to 1200 degrees F and mineral wool in a variety of forms for use up to 1900 degrees F. ▪ Keene Corp., Princeton, N.J.

Circle 403 on inquiry card

COPPER METALS / A newly updated 1973 edition of an application data sheet giving standard designations for copper and copper alloys now incorporates the new unified numbering system for commercial metals that currently is being developed by the American Society for Testing and Materials. ▪ Copper Development Association Inc., New York, N.Y.

Circle 404 on inquiry card

DOOR LOUVERS / A four-page brochure describes extruded aluminum door louvers, available in numerous finishes, applicable to wood, hollow metal and plastic laminated doors. Along with the above explanation, are specifications, a stock selection chart and installation details. ▪ Construction Specialties, Inc., Cranford, N.J.

Circle 405 on inquiry card

CHALKBOARD COLORS / A brochure contains a color chart of all the firm's standard chalkboard colors. The company's porcelain-on-steel chalkboards are guaranteed for 50 years or the life of the building in which they are installed. ▪ AllianceWall Corp., Wyncotte, PA.

Circle 406 on inquiry card

PLANT AIR / A booklet pointing up the problems of fumes, smoke, dust and odors created by industrial manufacturing operations, presents solutions to these problems through the use of the company's replacement or make-up air heating equipment. ▪ Weather-Rite, Inc., St. Paul, MN.

Circle 407 on inquiry card

SOUND CONTROL CEILING / A 1973 catalog of sound control ceiling products offers 47 pages describing a complete line of ceiling materials for industrial and commercial building applications. Full specifications are listed for over 25 different ceiling materials. ▪ Hibbert Printing Co., Trenton, N.J.

Circle 408 on inquiry card

ICE RINK HARDWARE / A brochure describing the firm's line of heavy-duty door and gate hardware for ice rinks and skating arenas gives examples of applications for the various products on player and penalty box doors. ▪ White Consolidated Industries, Aurora, IL.

Circle 409 on inquiry card

JUTE CARPET BACKING / A booklet detailing performance, "stretch" installation, direct glue-down and testing characteristics of jute primary and secondary backing plus other pertinent information helpful in specifying carpets is available free. ▪ Jute Carpet Backing Council, New York, N.Y.

Circle 410 on inquiry card

ROOFTOP HEATERS / The company's brochure details the rooftop heating-cooling concept and shows how the units deliver the right combination of gas heating and electric cooling for any area in the nation. Charts and commercial application information are also included. ▪ Tappan Air Conditioning, Elyria, OH.

Circle 411 on inquiry card

VENTILATORS / A catalog describing the company's line of draft regulators, power venters, domestic and industrial inducers, as well as a complete line of chimney caps is available along with a complete line of thermostats and accessories. ▪ Walker-Carolina, Inc., Kinston, N.C.

Circle 412 on inquiry card

PRECAST DECKS / A 20-page booklet discusses a growing trend according to the company in medium rise apartment construction using precast concrete decks on bearing walls. ▪ The Flexicore Co. Inc., Dayton, OH.

Circle 413 on inquiry card

AUDIO-WALL / This product features outer panels of roll-formed steel, hinged with steel connectors to create wall-to-wall metal. In addition to being constructed of all-incombustible materials, *Audio Wall 15M* provides sound privacy with a sound transmission class (STC) of 44 in independent laboratory tests. The steel outer panels have a vinyl surface in color permanently laminated to the face. Metal hardware and trim is satin black. *Audio-Wall 15M* is described in the color brochure. ▪ Modernfold, New Castle, IN.

Circle 414 on inquiry card

LABORATORY EQUIPMENT / The illustrated 96-page catalog features the company's latest designs in laboratory fume handling equipment, fiberglass safety enclosures, laboratory carts, glassware washers, and a wide variety of products for the laboratory. ▪ Labconco Corp., Kansas City, MO.

Circle 415 on inquiry card

PRESS-DOWN LETTERS / The company announces the release of their new catalog featuring a complete range of standard products and new innovations for the graphic designer. ▪ Letraset USA, Inc., Bergenfield, N.J.

Circle 416 on inquiry card

More literature on page 185

LOGAN ORIGINALITY HELPS YOU SELL PERSONALITY

Your prospects will recognize it: that "something different" that will set their home apart. Give it a distinctive personality that will express their individual taste. It's easy and inexpensive to add such powerful sales appeal. Simply install Colonel Logan Ornamental Iron. Inside and out. ■ You can be as creative as you like, with columns, railings, shutters, room dividers and accessories. Select from a wide variety of patterns in both cast and wrought iron. You can even establish your trademark; a special treatment that people can identify as yours. ■ Colonel Logan Standard sizes save as much as ⅓ the cost of custom ironwork, make installation quick and easy. Expensive handwork is practically eliminated. Many leading Builders and Architects have found a new source of inspiration in Colonel Logan Ornamental Iron. You can too. Write today for full details, and a free copy of "Ideas in Iron" brochure. ■ LOGAN CO. Subsidiary ATO Inc., P.O. Box 6107, Louisville, Kentucky 40206. 2421-25 Hunter Street, Los Angeles, California 90021

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For more data, circle 83 on inquiry card

Planning a mailroom

The day is past when "whatever space is left over" is relegated to a company's mailing operations. The mailroom, long a forgotten workhorse in many offices, is emerging in newer buildings as a communications center where both time and cost reductions (and increased profits) can be planned for and achieved.

According to Pitney Bowes, manufacturers of mailhandling systems, one of the "Big Three" automotive companies found that for every 58 cents it spends on postage, another 42 cents is spent in its mailroom processing the mail. Each of the 34 million pieces of mail handled costs an average of 2.5 cents for labor and overhead.

In smaller companies, Pitney Bowes reports, the figure is usually higher—an average of 16.8 cents a letter. However, mailroom planning can sharply reduce handling costs. For example, in its own new mailroom, a showcase for planners, the cost of handling 35 million pieces of mail (over 51 tons a year) is less than one-third of their total postage budget: 27 cents of each dollar, and the handling cost for each piece is one cent.

The secret to building discernible time- and cost-benefits into the mailroom can be the result of planning for both facilities and functions by an architect and his client.

Mailroom planning takes into account flow, volume, scheduling, staffing and available space. One New York State architect, David E. Chase, A.I.A. of Chase Architectural Associates, describes mailroom planning as a problem-solution process. "Mailing procedures are a fundamental process in an organization's daily activities. The means and the location of equipment are the result of analysis of that process with respect to the general processes of the business." Chase applies these decision-making steps:

1. Identify the mail handling process in the organization;
2. Identify the current equipment used;
3. Consult with client and mailhandling specialist to arrive at a total alternate method (if required) and an improved work pattern and upgraded equipment;
4. Work with specialists in document handling processes and systems for the most effective location of communications centers.

A new development in mailroom planning makes it easier to arrange operations centers. The growing use of modular furniture systems, with their mix-and-match elements, enables hand-tailoring a wide variety of systems to meet any requirements of space or tasks. Basic mailing consoles are available in a choice of sizes. Customizing accessories include shelves, drawers, cabinets, adjustable sorting racks, sliding doors and dividers, interchangeable in a wide variety of configurations.

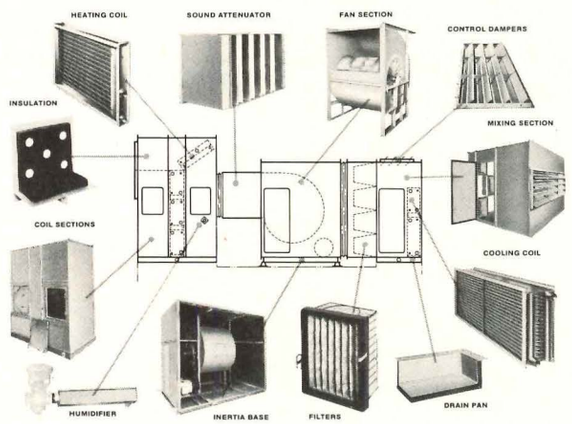
After the size of the room and incoming and outgoing points for mailflow are established, it is usually separated into two areas, one is for equipment to handle outgoing mail;

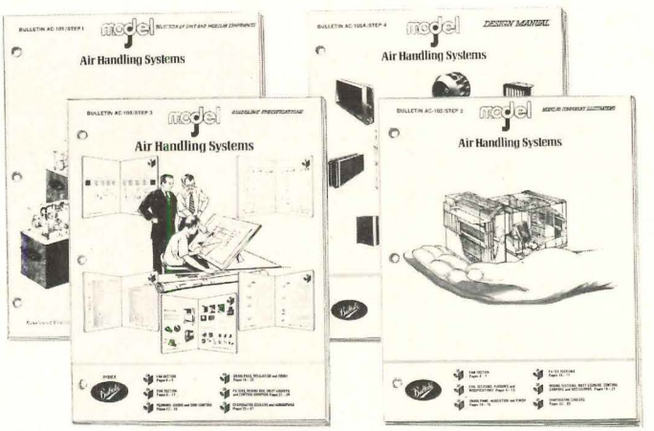
continued on page 179

'Buffalo's' new model air handling systems...

The advantages of a built-up system with the economies of factory fabrication.

If you are in the vanguard of Engineers and Contractors who are aware of the changes now taking place, and those to come in the construction industry, you realize a new approach to air handling system design and manufacture is needed to provide better control over system design costs and energy consumption. Model "J" is the practical answer for today's sophisticated air handling systems at a reasonable price. Model "J" was conceived with your requirement as guidelines. To find out the advantages of a built-up system with the economies of factory-fabrication please call your Buffalo Sales Engineering Representative. He's in the Yellow Pages of major business centers. Or, if you prefer, request Bulletin AC-100. Buffalo Forge Company, Buffalo, New York 14240.





The Hardware

Model "J" makes available the most complete selection of air handling system components ever offered in a factory fabricated unit. They are the same components you would specify for a quality built-up system. For example: the performance proven, AMCA rated, backward-curved, Buffalo BLD fan; variable inlet vanes for variable volume systems; Aerofin coils; Thermal 90 insulation and adhesive to meet requirements of NFPA 90A. Model "J" also offers these exclusive design and construction features; internal isolation; built-in inertia base; double wall insulated construction; sound attenuators; split pillow block bearings; modern filters in factory assembled frames; access doors, service plenums and much more.

The Software

Model "J" software is a whole new world of control over air handling system design, construction and installation. Every contingency is covered, including sound power data, fan heat of compression, sound and vibration isolation, comprehensive filter selection and more. Four interrelated cross-referenced manuals enable you to maximize your specifying effort. You proceed in a logical, step-by-step sequence through system design, unit selection, component selection, and specification writing. The systems you design will deliver the performance . . . conserve energy . . . be easy to install . . . and provide an extended low-maintenance service life . . . all at reasonable cost. The Buffalo Sales Engineer in your area has a set of Model "J" software for you. Ask him for it.

Buffalo BuffaloForgeCompany

For more data, circle 85 on inquiry card

the other for incoming mail.

Incoming functions include:

Dumping: Units for dumping incoming mail are equipped with back and side rims to prevent mail from falling onto the floor (or being lost between counters). A minimum of 45½ in. in length is usually preferred, with high legs for a stand up operation.

Opening: Working space from 45½ to 68 in. long is generally satisfactory with high or low legs for a stand-up or sit down operation. (A letter opener is usually situated on this working surface.)

Reading: Many companies receive mail which cannot be identified as to its destination (individual or department) until it is opened and scanned for content. A low working area is ideally suited to this function; sorting racks are required.

Sorting: For sorting incoming or outgoing mail, a 68 in. bridge arrangement with sort units is recommended. Through-sorting or two-way sorting can be accomplished by omitting backs on the sort modules.

Outgoing mailing procedures cover:

Packing and wrapping: Most mailers have a need for wrapping parcels. A table with a laminate top can be helpful, since it is suited to the wear and tear; the surface can be replaced as needed.

Processing: Involves sealing, and metering. A low 68 in. rear bridge console with an automatic mailing machine and scale placed on the rear bridge directly over the metering machine can allow the operator to quickly perform the weighing operations connected with the processing of outgoing mail.

Internal communications:

Internal mail functions involve the continuous delivery, sorting and distribution of communications originating within the facility or offices accommodating the mailroom. A separate area for handling this function may provide the most expedient means of maintaining the desired rate of mail flow.

Furniture and equipment for mailrooms is generally located so that the walking distance for personnel is minimized without restriction of movement. Other mail preparation functions such as bursting, reproducing, collating, folding, inserting and addressing are generally located convenient to the mailing area, but placed so as not to disrupt the flow of mail. Initial mailroom planning involves determining its location and size. Here are the types of questions that may prove pertinent.

Location:

- What is volume of mail flow between, to and from various parts of client's operations?
- Which departments have highest mail volume, and where are they to be situated in building?
- What is the most convenient access area for post office personnel and mail trucks? (Additional problems can be generated if client handles classified information)
- Is there a functional connection between EDP and mailroom operations (i.e., billing, computer-printed forms, etc.)?

continued on page 181

Architects for the new PNB Plaza (prime tenant, Philadelphia National Bank) know how to save money. They specified terra cotta-colored window frames and vertical trim that will stay like new without expensive maintenance.

That's because they are aluminum extrusions, factory-finished with DURANAR® from PPG. These fluoropolymer coatings are noted for their color integrity and durability. In fact, DURANAR coatings have a 20-years-and-longer rated service life.

They also have a high degree of resistance to dirt and mildew, plus excellent cleanability. Which means you're combining color, long life, and low maintenance when you write DURANAR color coatings into the specs.

It's a good investment in the future. For any building. For data on PPG color coatings, check Sweet's Architectural or Industrial Construction Files 9.10/PPG.

Or contact the Market Manager, Extrusion Coatings, PPG INDUSTRIES, Inc., Dept. 13S, One Gateway Center, Pittsburgh, Pa. 15222.

PPG: a Concern for the Future

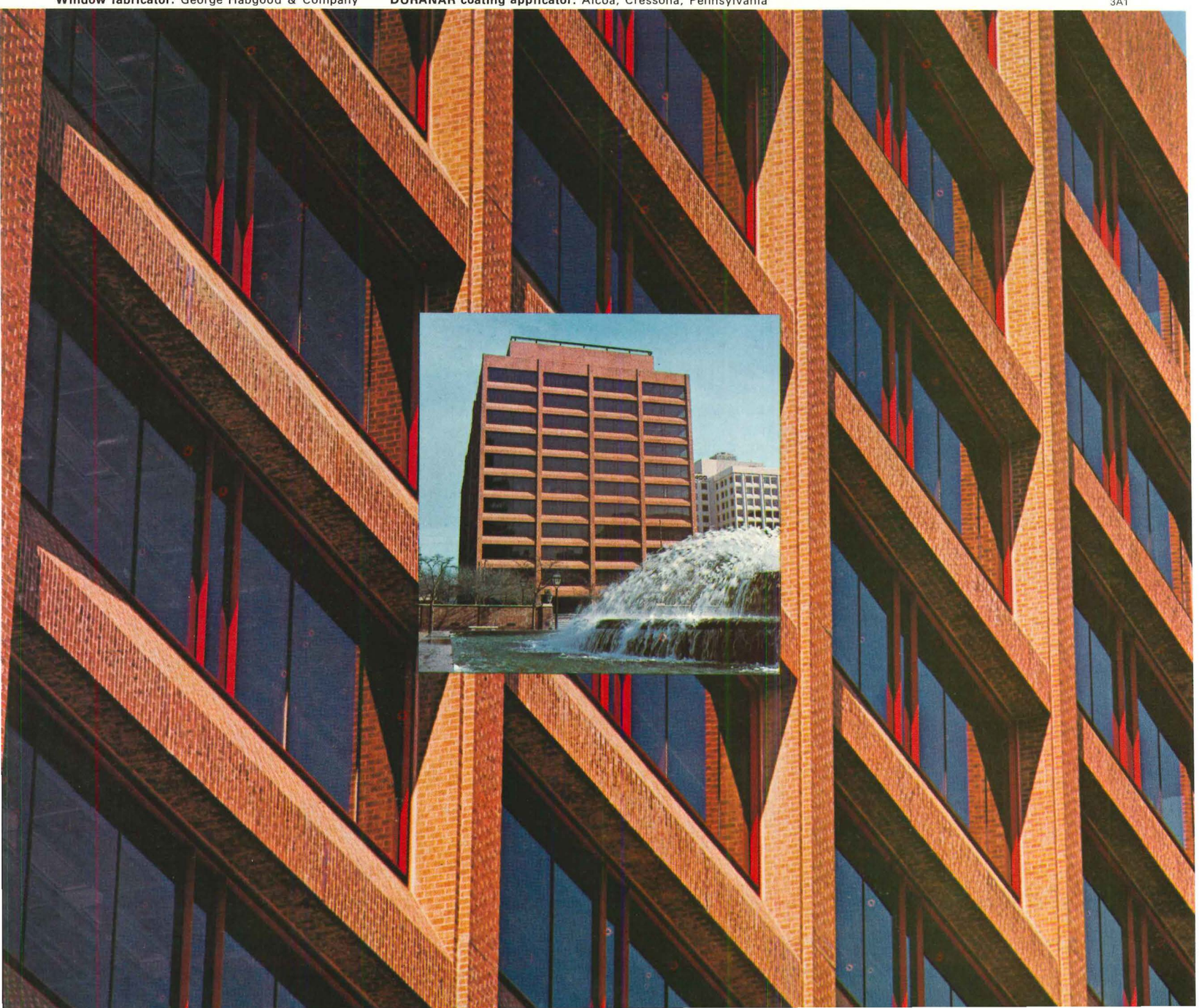
For more data, circle 88 on inquiry card

EXTRUSION COATINGS FROM PPG. A SOLID INVESTMENT FOR THIS NEW BANK BUILDING.

Extrusion Coatings PPG INDUSTRIES

PNB PLAZA, Philadelphia, Pennsylvania **Architect:** Ewing Cole Erdman & Eubank **Consulting Engineer:** Synergo, Inc.
Window fabricator: George Habgood & Company **DURANAR coating applicator:** Alcoa, Cressona, Pennsylvania

3A1



- If many packages are mailed, is there conveyor belt(s) leading from shipping or to loading dock? Is mailroom part of a warehouse delivery system, as in the case of mail order houses?
- Is noise from mailroom equipment likely to disturb nearby offices?
- Is there space to locate the mailroom in an attractive pleasant environment where windows can let sunlight in? (This would help eliminate the dark dingy aspect that plagues many mailrooms.)

Size:

- Volume of outgoing and incoming mail
- (First class letters, first class flats, rolled tubes, parcels)
- Degree of breakdown (necessitating sorting racks, etc.)?
- Need for a holding area for mail build-up?
- Number of mailroom employees? (work, traffic, and rest spaces.)
- Storage and movement of carts or other vehicles used for delivering mail internally or trays used in dumbwaiter delivery system?
- Volume and size of package regularly received?
- Type of postage metering equipment used?
- Functions performed other than mailing (e.g. bursting, addressing, folding-inserting etc.).
- Minimum psychological space required for good employee morale?
- Height of ceiling? Lighting?
- Space requirements for other adjacent departments? Messenger, Telex, copying, collating, etc.)

With this basic data in hand, layout is next. You may find it useful to discuss the requirements with a mailhandling specialist; such services are usually provided to a client and his architect without cost or obligation.

Shape:

- How and where are incoming (opening, sorting, routing) and outgoing (addressing, weighing, sealing, meter stamping) mail functions to be divided within mailroom?
- Where are mail deliveries and pick-ups, both external and internal, to be made? (bag and cart storage, holding area, traffic patterns)
- How can interruptions of mail flow because of jam-ups of people and materials be avoided?
- What kind of furniture (tables, sorting racks, cabinets, chairs, desks, bag racks, etc.) is being used or is under consideration?
- Is a visitor's area necessary (for mail security)?
- Is there a conference area for the manager; a rest area for employees?
- If modular, how can furniture be adapted to most convenient shape of mailroom?
- If not, how can mailroom shape be planned to accommodate the furniture?
- What size and shape would best suit the client's communication functions?

Mailroom furnishing and appointments:

- How can overhead lighting be used? Should it be recessed, or should frosted fixtures be used? How bright should a mailroom be? For

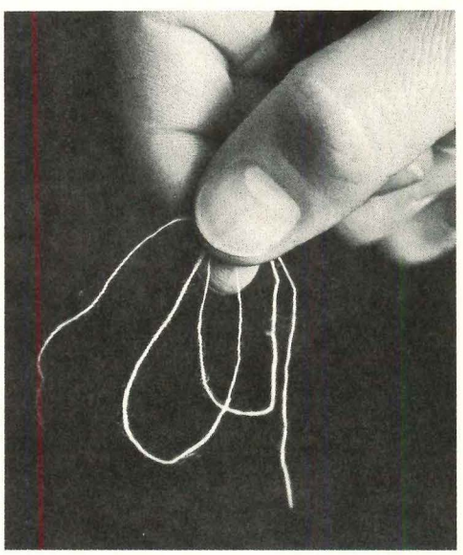
continued on page 183

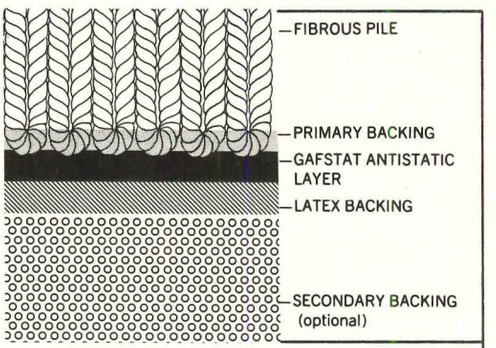
GAFSTAT IS A BETTER WAY.

GAF's GAFSTAT® is a totally new way to make anti-static carpet.

Completely shockproof without wires.

Up to now you could only choose from two types of anti-static carpeting. Carpet made with a non-conductive coating. Or made with wire core fibers. A non-conductive coating is short lived. While wires affect carpet beauty and limit your choice of fibers and patterns. GAFSTAT® component from GAF eliminates these problems because the anti-static component is not a part of the carpet surface.





Here's how we do it.

The conductive GAFSTAT component is sealed between the backing layers of the carpet. So it can't be washed out, cleaned out, or walked out. And because no wires are used the fibers are untouched. So you can specify the full range of patterns and colors. This flexibility of GAFSTAT makes possible the first shock-free carpet that's truly designed for residential use.

And GAFSTAT really does work. Its ability to disperse static-electricity below shock levels has been confirmed by independent laboratories using the American Association of Textile Chemists and Colorists static test methods. Even under extremely dry conditions.

Why anti-static carpeting?

In addition to shock discomfort, there are other good reasons for specifying carpeting with GAFSTAT anti-static component. Static-electricity can cause malfunction of delicate electronic instruments. Imagine the dangers in a hospital. Or to computers. And a build-up of static-electricity can even cause fire or explosion. So when your clients ask for anti-static carpeting specify GAFSTAT. Because it is a better way.

gaf® GAFSTAT
A better way to end carpet static.

Anti-static carpet with GAFSTAT is available from

Sikes Corporation

GA-025

For more data, circle 90 on inquiry card

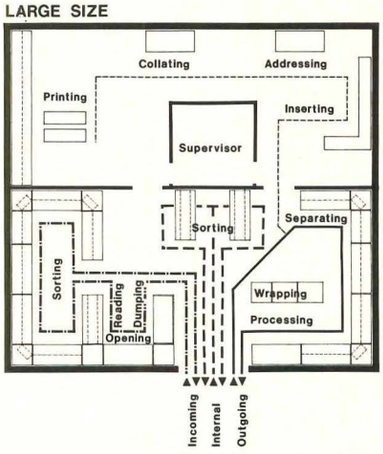
reading and weighing areas? For bursting, folding and inserting areas.

- How many electrical outlets (110 and 220) will be needed for equipment, additional lighting, accessories, etc.?
- Should there be carpeting? If so, what kind? and where?
- Where should exits and entrances be located? What kinds of doors (swinging, sliding, automatic) would be most helpful to messengers and mail handlers?
- Should there be special storage closets where valuable parts and equipment be locked up after-hours?

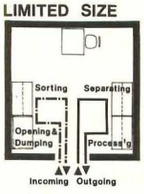
By covering the points outlined above you can help your client to identify the present potential needs of his "communications center." The result can lead to an improved management of mail—at savings.

Several plans of varying sizes are shown here to aid in your planning.

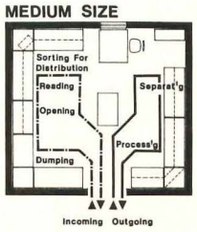
LARGE SIZE



LIMITED SIZE



MEDIUM SIZE



Large mailroom: Large mailers will appreciate the close proximity of all incoming functions with particular emphasis upon maximum sorting capabilities occupying a minimum amount of space. Placement of consoles in the outgoing area results in rapidly progressed mail that is bagged or trayed and ready for delivery to the Post Office. Mail preparation activities (reproducing, collating, addressing, folding, inserting) are shown in an area adjacent to the mailroom where they do not interfere with the continual processing of daily mail. From this area, documents can easily be incorporated into the mail flow for final processing.

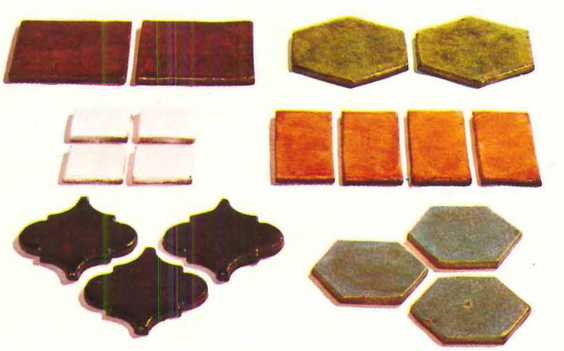
Limited size mailroom: In a mailroom of limited size, the flow of incoming and outgoing mail can be separated to allow uninterrupted movement of mail and personnel. Combining convenient storage space for supplies beneath the work surface (of the consoles) provides efficient use of existing floor space.

Medium size mailroom: Delineation of incoming and outgoing mail patterns is the common denominator of mailroom layout. In the arrangement shown, processing of the outgoing mail is completed within close proximity to the exit door. Placement of consoles allows the incoming mail to be dumped immediately inside the entrance door.

The road to the Magic Kingdom is paved with Earthstone.

Not far from the massive gates to Walt Disney World, travelers who arrive at a new Regency Red Carpet Inn are greeted in a spacious lobby that's paved with Florida Tile's Earthstone. This natural, hand-molded, half-inch thick tile has a rich look of quality, combined with a rustic, old-world warmth that offers a genuine "welcome" to tired travelers. Yet, it is durable enough to receive throngs of overnight visitors. And, Earthstone still needs no waxing, no buffing or stripping. Whether or not you have a mouse living down the road from you, Earthstone will enhance any interior floors you may be planning. There are six shapes and six colors immediately available.

Regency Red Carpet Inn, Kissimmee, Florida



florida tile

DIVISION OF SIKES CORPORATION

FLORIDA TILE · P.O. BOX 447 · LAKELAND, FLORIDA 33802

For more data, circle 92 on inquiry card

OFFICE LITERATURE *continued from page 175*

SAFETY RAILS / Catalog shows recent additions to the company's line of structural pipe fittings. All comply with OSHA safety rail requirements. Simple, quick erection and architectural appearance at low cost are claimed. ▪ The Hollaender Mfg. Co., Cincinnati, OH.

Circle 417 on inquiry card

ILLUMINATION / Emergency lighting systems and components are covered in a catalog illustrating a complete product line. Products include AC and DC power packs, remote emergency fluorescent power packs, emergency luminaires, emergency lighting consoles, and unit packs for retro-fitting existing fluorescent light fixtures. Complete specifications, dimensional data and drawings are included with product data. ▪ Siltron Illumination, Gardena, CA.

Circle 418 on inquiry card

BLOWERS / The company has announced their *1100 Series* line of direct drive blowers for heating-air conditioning applications that provide high performance in little space according to the company. Offered in two series the new units are available in 6- 7- 8- 9- and 10-in. models. Performance curves and dimensional information are available to engineers. ▪ The Brundage Co., Kalamazoo, MI.

Circle 419 on inquiry card

WASTE WATER TREATMENT / Wastewater treatment systems have been designed to provide optimum treatment of small and large sewage flows. They comply with standards established by nearly all regulatory authorities and can be used in nearly any jurisdiction, for apartment buildings and mobile home parks of over forty units, according to the company. ▪ Cromaglass Corp., Williamsport, PA.

Circle 420 on inquiry card

ADJUSTABLE STEEL FRAMES / A four-page brochure features a line of 1⅜-in. and 1¾-in. steel adjustable frames for drywall openings and plastered openings, available in four profile sizes. Fabricated of 16- and 18-gauge steel, miters are precision-fit and reinforced. ▪ Amweld Building Products, Niles, OH.

Circle 421 on inquiry card

WATER CLOSET / A bulletin describing a watersaving reverse trap water closet features installation information and order data. *Spacette* measures 17½ by 25½ in. overall, and the tank is equipped with an anti-siphon ballcock and trim. ▪ Mansfield Sanitary, Inc., Perrysville, OH.

Circle 422 on inquiry card

BUILDING COST / An eight-page booklet describing the economic parameters for buildings designed to house automated storage systems relates building construction costs to costs of the automated storage system itself in order to establish "total cost" picture. ▪ Clark Equipment Co., Battle Creek, MI.

Circle 423 on inquiry card

FIRE/LIFE SAFETY / The publication reviews the increasing demand for improved patient protection and new building code changes; details the application of contemporary early warning detection and smoke control technology in hospitals and nursing homes; and reports the findings of the recent "Project Corridor" fire tests by the California State Fire Marshal's Office. A special technical section presents guidelines for the specification of fire/life safety and door control equipment. ▪ Rixson-Firemark, Inc., Franklin Park, IL.

Circle 424 on inquiry card

More literature on page 187


Introducing
the ultimate sealant.
DOW CORNING
790
building sealant
DOW CORNING

WOOD USAGE / The first edition of the Western Wood Use Book contains structural data and design tables for softwood lumber species. The format has been modified to reflect a more logical design process than formerly and a new chapter treats sound control. Of more than 300 pages, about half are devoted to text, illustrations examples and photographs all on timber design subjects. Copies are available at 10 dollars each. ▪ Western Wood Products Association, Portland, OR.

Circle 425 on inquiry card

MODULAR BUILDINGS / Based on load bearing, insulated wall panels, the company states its patented system offers design flexibility, economy, and fast erection. It is particularly appropriate for manufacturing facilities, office buildings, warehouses and schools. A 12-page brochure includes advantages, photographs, a skeletal drawing, and specifications. ▪ Epic Metals Corp., Rankin, PA.

Circle 426 on inquiry card

COMMERCIAL LIGHTING / The 32-page presentation lists over 600 fixtures with a wide variety of finishes and shade options. Four major design periods are represented: Contemporary, Early American, Old English and Mediterranean. ▪ R. A. Manning Co., Inc., Sheboygan, WI.

Circle 427 on inquiry card

AIR CONDITIONING / The catalog is said to provide architects and engineers with the most complete data available today about the application and installation of the company's products for residential and commercial cooling, heating, and water heating systems. ▪ Bryant Air Conditioning Co., Indianapolis, IN.

Circle 428 on inquiry card

ROOF DECK / A six-page brochure describes how the company's roof deck systems with gypsum concrete poured over glass-fiber formboard provide a low cost means to help meet OSHA standards for noise control in new plant construction. Brochure details how the suggested assemblies reduce reflected sound waves and retard sound-level build-up to improve industrial environment. ▪ United States Gypsum Co., Chicago, IL.

Circle 429 on inquiry card

WASHROOM ACCESSORIES / A 36-page catalog covering over 300 soap dispensers and other washroom accessories, is illustrated and detailed concerning a wide range of individual wall-mounted, basin-type and recessed soap dispensers, as well as a line of multi-functional units serving a number of washroom needs. ▪ American Dispenser Co., Inc., Carlstadt, N.J.

Circle 430 on inquiry card

MASONRY COATING / A 12-page brochure featuring modified epoxy coating for exterior masonry surfaces contains photographs and descriptions of applications on poured-in-place and pre-cast concrete masonry block, brick, and stucco. Surface preparation and application information, test data, and a color card featuring 20 special colors are included in the booklet. ▪ Tnemec Company, Inc., N. Kansas City, MO.

Circle 431 on inquiry card

PLASTIC FURNITURE / At the back of this 20-page booklet, there is a specifiction sheet of all models plus a plastic color chart. This brochure is available to architects, designers, and office furniture dealers. ▪ Stendig Inc., New York, N.Y.

Circle 432 on inquiry card

More literature on page 193

The subdued approach to Reflective Glass

With the increasing use of reflective glass for outstanding solar control and lower operating costs, more and more buildings are sticking out in harsh, metallic glare.

Now, Shatterproof Glass Corporation has developed a refined, subdued Reflective Glass that still offers the benefits of the harsh reflective glasses.

. . . Manufactured in three configurations—Insulating, Laminated and Monolithic—for complete versatility.

Depending on the type specified, it can also provide thermal control, sound control, security and safety benefits. Available in subdued tones of bronze, gold, gray and chrome . . . in the largest quality sizes in the industry.

To learn more, write for our Reflective Brochure,
Shatterproof Glass Corporation, Dept. 101A, 4815 Cabot Avenue, Detroit, Michigan 48210.
Phone: 313/582-6200.

For more data, circle 96 on inquiry card

Shatterproof
GLASS CORPORATION *Architectural Division*

OFFICE LITERATURE *continued from page 187*

CANAL BULKHEADING / An eight-page full color brochure describes a complete line of corrugated asbesto-cement canal bulkheading. Specifically designed to resist earth pressures and control erosion on waterfront properties. The brochure contains detailed information on the physical properties and characteristics. ▪ GAF Corp., New York, N.Y.

Circle 433 on inquiry card

ARCHITECT SUPPLIES / The catalog illustrates a selection of supplies and special equipment requested by architects, engineers, draftsmen, graphic and industrial arts designers, etc. There is also a reference index which permits location of any item. A complete line of metric scales and slide rules is also featured. ▪ Alvin & Co., Inc., Windsor, CT.

Circle 434 on inquiry card

INDUSTRIAL SOUND CONTROL / A brochure providing detailed product and application information for industrial sound control also includes a table of the maximum noise-level exposures established by the Occupational Safety and Health Act (OSHA). ▪ Owens-Corning Fiberglas Corp., Toledo, OH.

Circle 435 on inquiry card

CONCRETE HANDBOOK / The first volume in a new series of educational publications of the American Concrete Institute is now available. Designed as a text book it combines sample problems, questions and discussion subjects. The reader is taken through a step-by-step procedure in dealing with the problems of quality control of concrete. This book is said to provide examples of applications to enable the practicing professional to understand and utilize these provisions of the code. ▪ American Concrete Institute, Detroit, MI.

Circle 436 on inquiry card

MATERIAL HANDLING / A bulletin describes a complete line of overhead material handling equipment including hoists, cranes and monorails. The publication is said to illustrate common industrial, government utility and commercial applications and highlights the types of equipment best suited for solving a broad range of material handling problems. ▪ Robbins & Myers, Springfield, OH.

Circle 437 on inquiry card

WALL PLATES / Wall plates in a range of styles, sizes, colors and configurations are described and illustrated in a 12-page catalog said to contain all pertinent data including the configuration for each group of plates, special design features, unit dimensions, and ordering information. ▪ Leviton Mfg. Co. Inc., Brooklyn, N.Y.

Circle 438 on inquiry card

CHAIR / High-impact polypropylene chairs are described in five models: stack chair, stacking tablet arm chair, non-stacking tablet arm chair, sled base stack chair and stacking arm chair. Specifications, choice of colors, leg finishes, tablet arm surfaces and storage dollies plus add-on features such as bookracks and ganging mechanism are fully illustrated and described. ▪ Krueger, Green Bay, WI.

Circle 439 on inquiry card

CERAMIC TILE / An eight-page color brochure showing crystalline ceramic tile in both residential and non-residential applications, introduces two shapes: 5 in. hexagon and $5^{7}/_{16}$-in. valencia. ▪ American Olean Tile Co., Lansdale, PA.

Circle 440 on inquiry card

More literature on page 195

The Pine Line. A lounge group with nothing between you and the honesty of its natural wood. Elemental. Adaptable. And most comfortable. The random width pine planks enclose plump urethane cubes. Chair, two and three seaters in your choice of fabrics. Complementary tables also available. See it at the Thonet Center of Design. New York. Chicago. Los Angeles. Dallas. Or write Thonet Industries Inc., 491 East Princess Street, York, Pa. 17405. Telephone (717) 845-6666.

THONET
CENTER OF DESIGN

GRAVEL STOPS / Detailed illustrations and data to assist architects are included in a revised gravel stops and coping brochure that includes vertical sections, isometric and corner views and descriptions of the company's full range of gravel stops. ▪ Aluminum Co. of America, Pittsburgh, PA.

Circle 441 on inquiry card

LIGHTING FIXTURE WARNING / A bulletin warning of overheating in some popular types of ceiling-mounted lighting fixtures has been issued by Underwriters' Laboratories, Inc. The warning applies to Type A ceiling pan fixtures having glass or metal coverings which enclose light bulbs and fit tightly against the ceiling. Tests showed that the majority of Type A fixtures installed on insulated ceilings will produce temperatures considerably above 90 degrees C (194 degrees F). ▪ Underwriters' Laboratories, Inc., Westwood, N.J.

Circle 442 on inquiry card

THERMOPLASTIC DUCT / A four-page bulletin containing technical information on the application and installation of thermoplastic duct discusses typical industrial and institutional applications for thermoplastic fume exhaust systems, and illustrates standard corrosive fume handling equipment. ▪ Harvel Plastics, Inc., Easton, PA.

Circle 443 on inquiry card

RIGID VINYL / Advantages of rigid vinyl as a low maintenance material for building products are discussed in a 16-page illustrated bulletin discussing performance characteristics and physical properties of rigid *Geon* vinyls. Building products made from *Geon* include solid vinyl siding, vinyl-clad windows and doors, storm windows and doors, shutters, window grilles, soffit systems, gutters and down-spouts, moldings and interior trim, baseboard raceway, PVC pipe and conduit and CPVC pipe. ▪ B. F. Goodrich Chemical Co., Cleveland, OH.

Circle 444 on inquiry card

ENERGY SAVINGS / Some of the methods, systems and equipment that can contribute to efforts of shopping center and store designers and operators in behalf of resource conservation and cost savings are discussed in a booklet dealing with insulation, HVAC design and operating considerations, HVAC controls and lighting. The insulation section covers benefits to be realized from effective insulation; roof, ceiling, wall and perimeter insulation; glass area and multiple glazing. ▪ Electric Energy Association, Inc., New York, N.Y.

Circle 445 on inquiry card

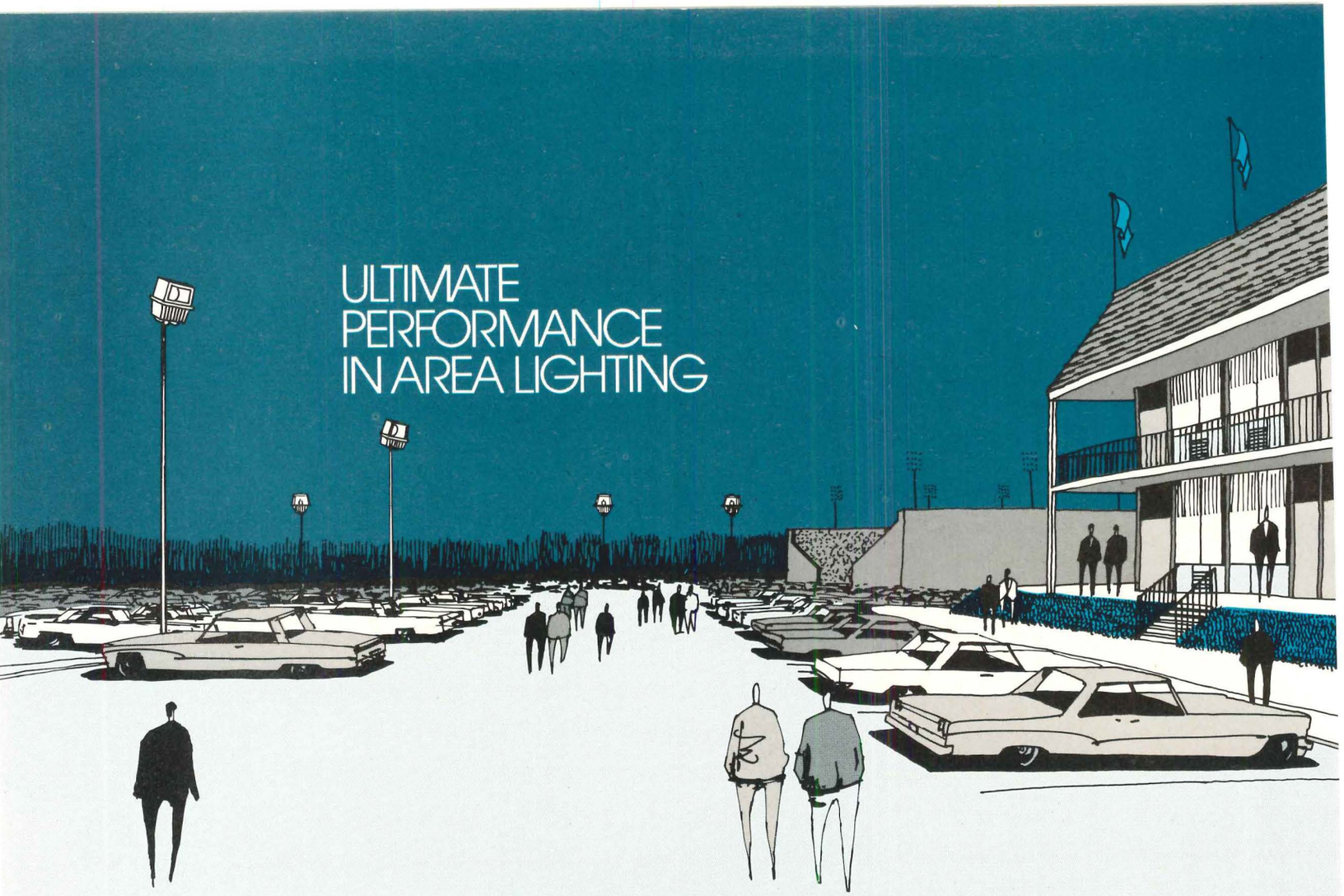
FIRE RESISTANCE / The 104-page book lists 240 fire-rated assemblies along with pertinent sound and structural data. Widely used, according to the company by building departments, architects, designers and contractors single copies are available free of charge. Gypsum Associates, Assoc., Chicago, IL.

Circle 446 on inquiry card

INSTITUTIONAL CASEWORK / An eight-page catalog illustrates a line of hospital and laboratory casework available in a wide choice of configurations and colors. Casework spotlighted in the catalog includes nurses' utility stations, general storage cabinets, clean and soiled utility room casework, reception area casework, etc. ▪ American Sterilizer Co., Erie, PA.

Circle 447 on inquiry card

◀ *For more data, circle 100 on inquiry card*



Landmark Ultra Flood

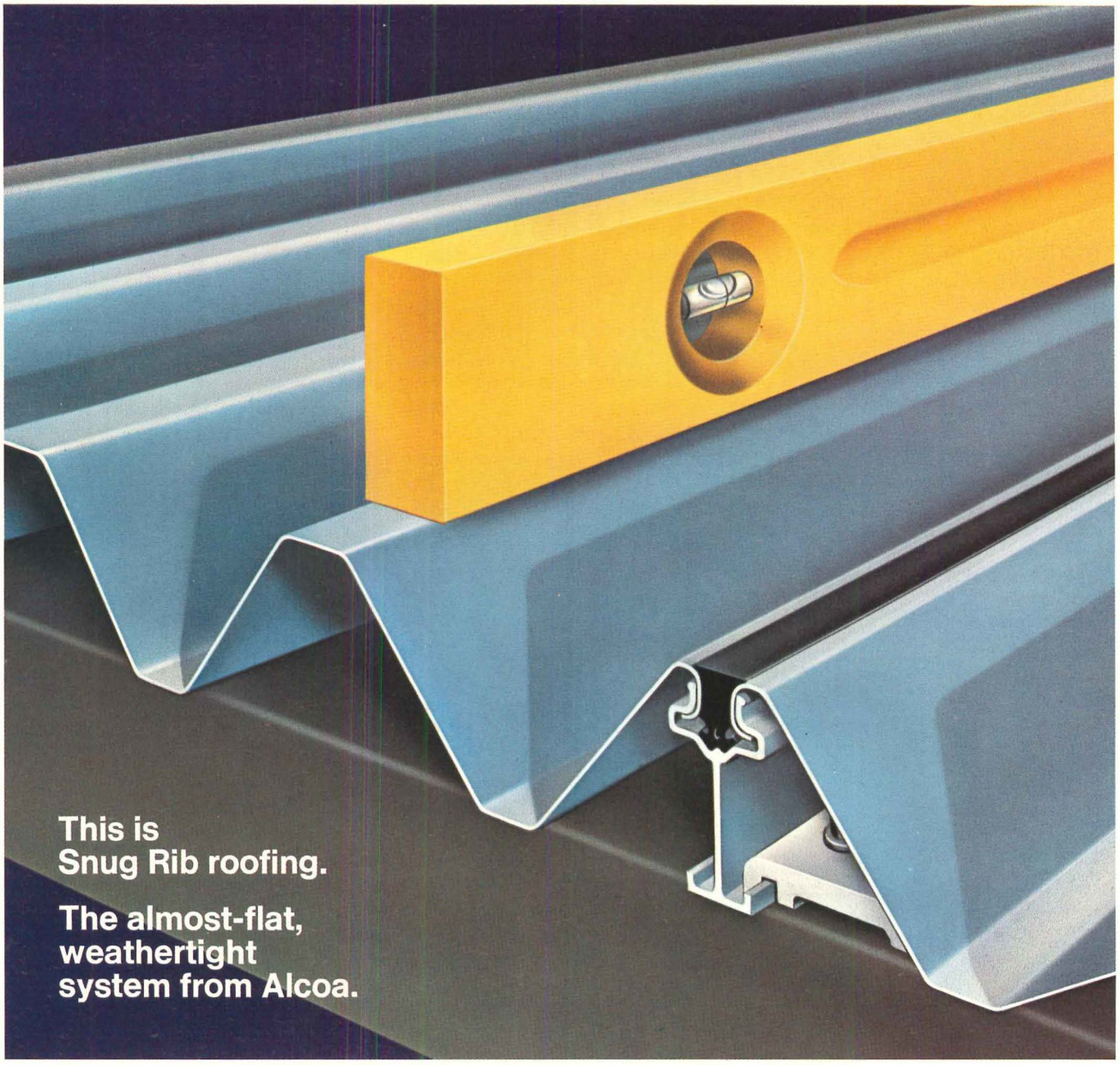
Sleek, contemporary, unobtrusive, the new NEMA heavy duty Landmark Ultra Flood is the perfect light for dramatic after-dark illumination of so many of today's finest design concepts—building facades, airports, marinas, industrial sites. Trim and compact, it is ruggedly constructed of cast aluminum alloy for light-weight ease of handling. The optical assembly utilizes a high percentage of the available light for maximum efficiency. Lamp socket has a simple 3-way adjustment capability for narrow, medium or wide beam selection.

Maintenance is easily accomplished. Loosening screw holding cover plate on top of unit allows plate to slide aside for access to lamp. Hinged upper housing opens for access to ballast and capacitor. Both lamp and reflector assembly and electrical component compartment are completely gasketed to seal out contaminants and moisture. Lens is heat and shock resistant tempered glass. Repositioning stop screw on calibrated steel yoke eliminates need for re-aiming unit after servicing. Landmark Ultra Flood comes factory pre-wired ready for mounting and is available in sizes to accommodate all standard ballast types and wattages. Optional features include NEMA twist-lock photoelectric control, polycarbonate lens shield, glare shield and lamp stabilizer.

For complete specifications, photometric data and prices, write ITT Landmark Lighting, a unit of International Telephone and Telegraph Corporation, Southaven, Miss. 38671.

LANDMARK LIGHTING ITT

For more data, circle 102 on inquiry card



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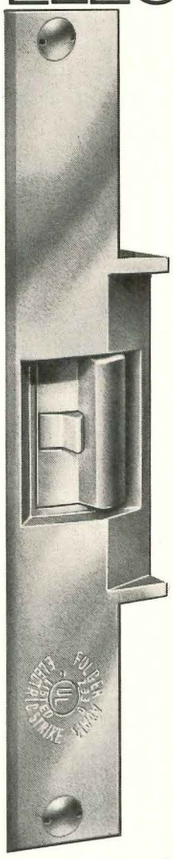

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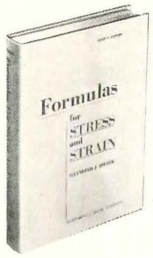

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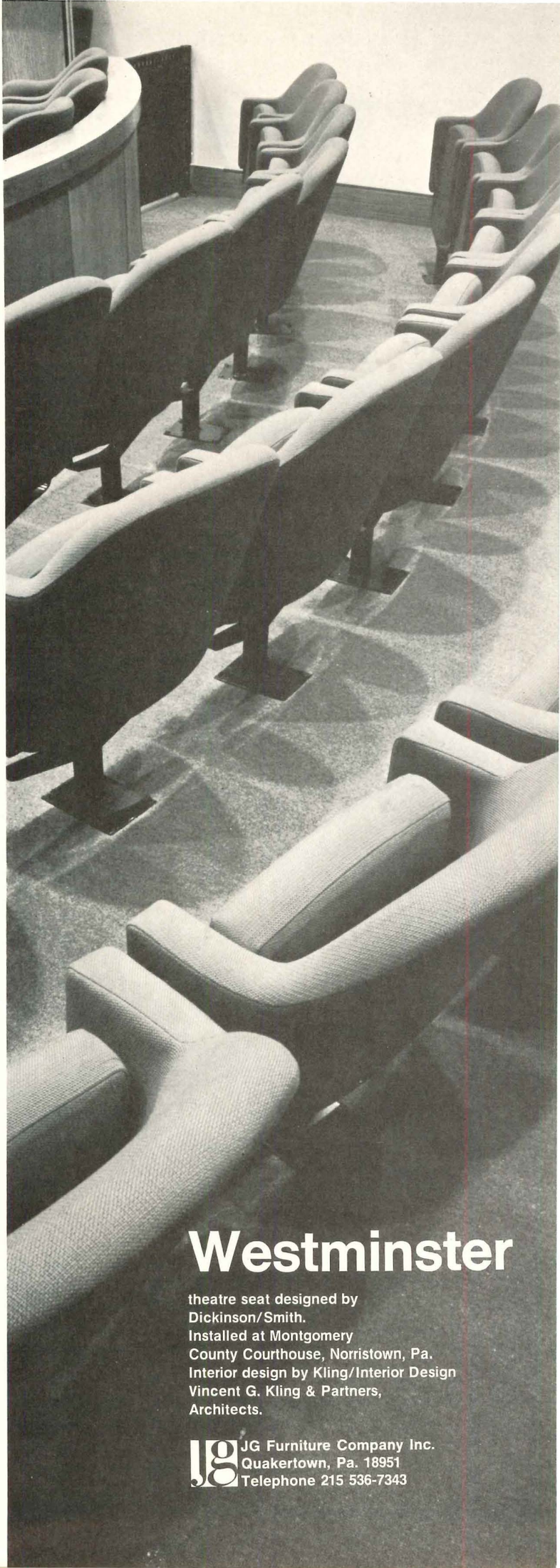

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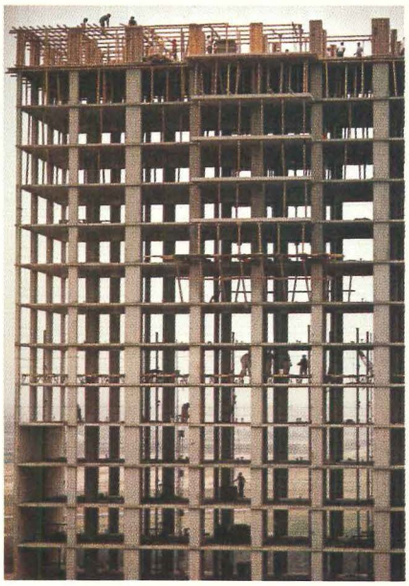

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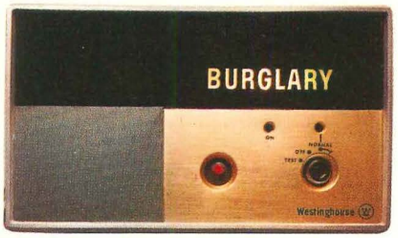

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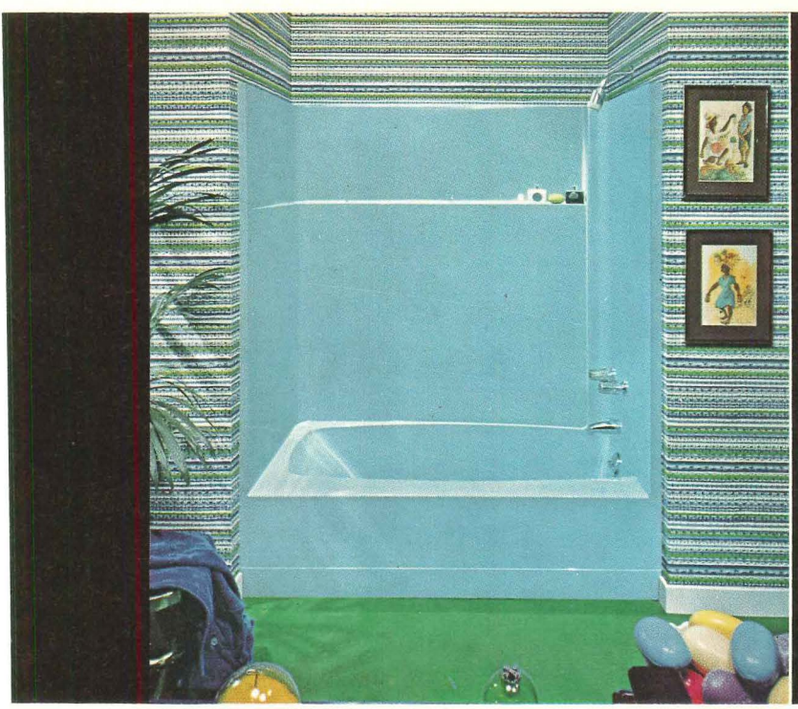

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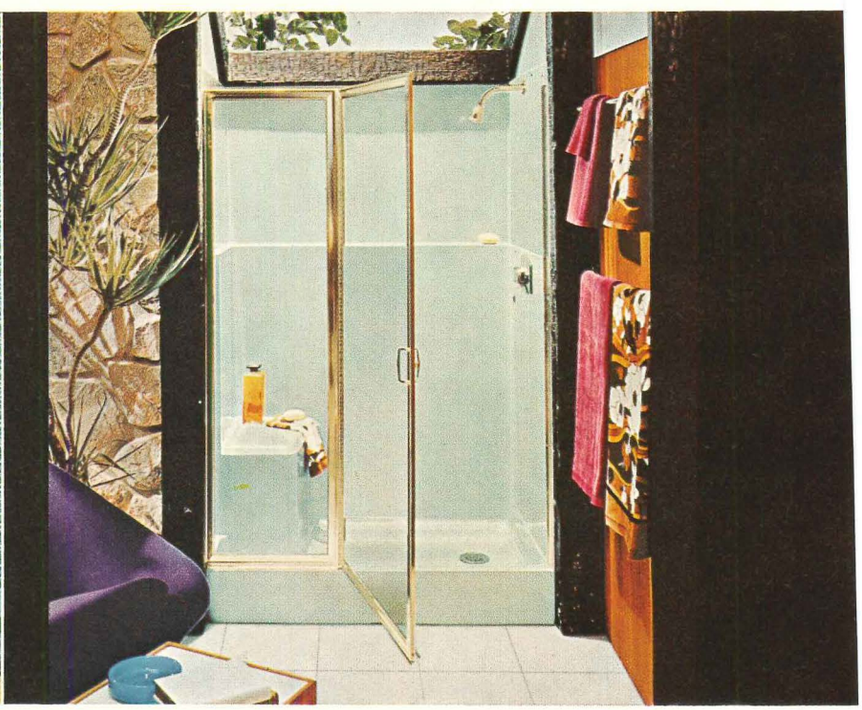

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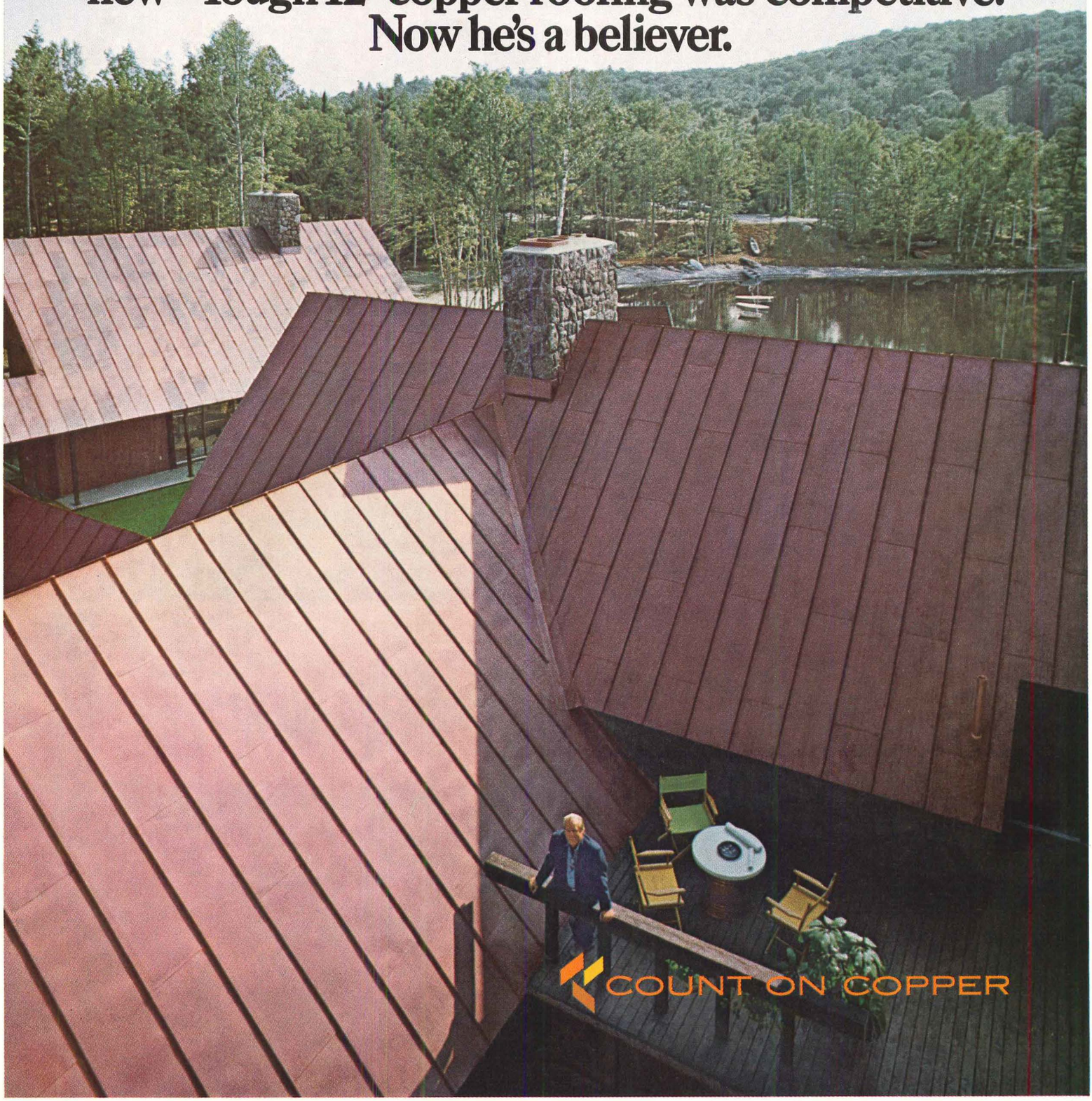

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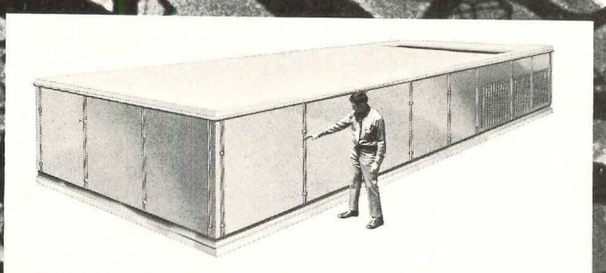

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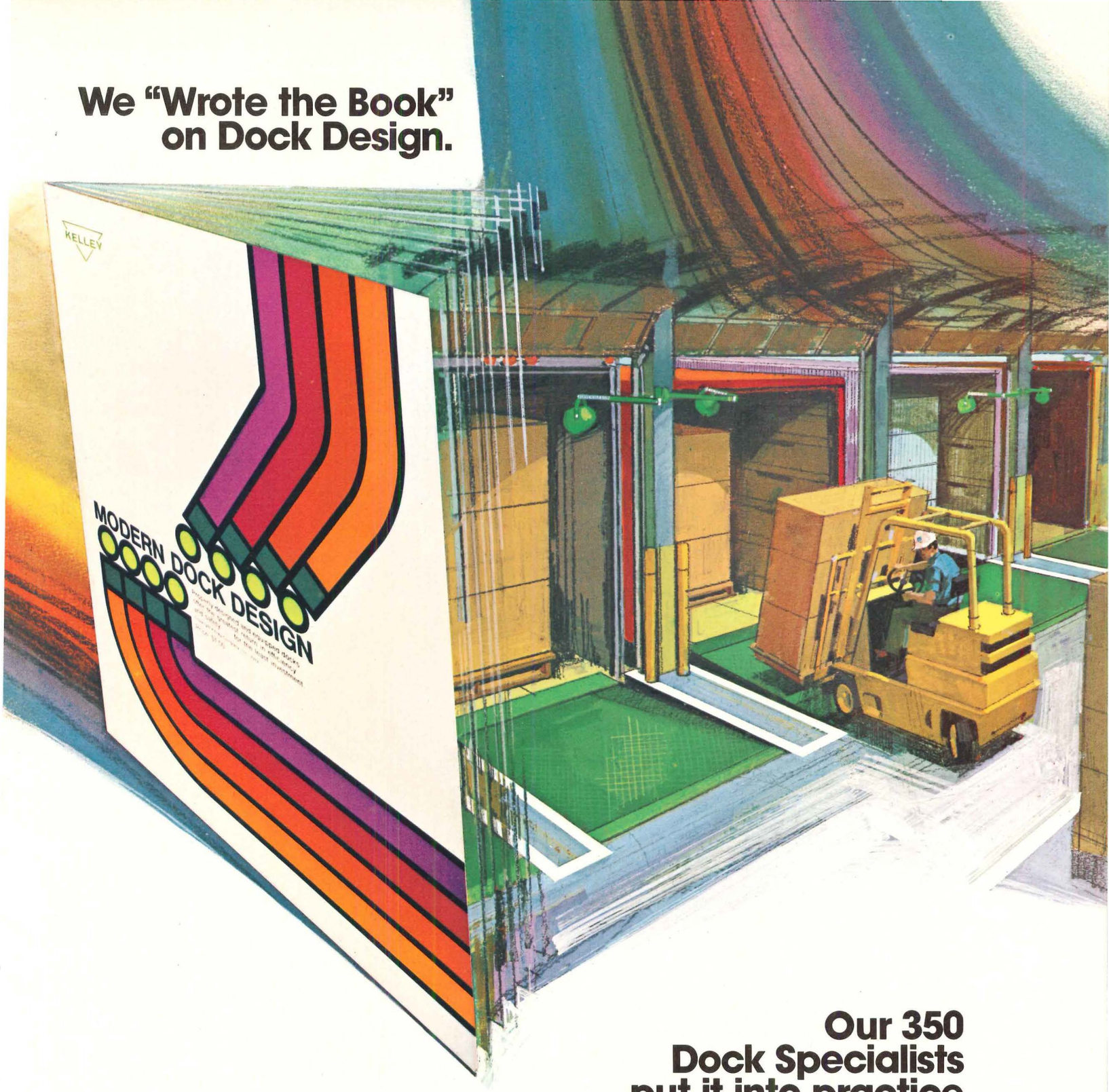

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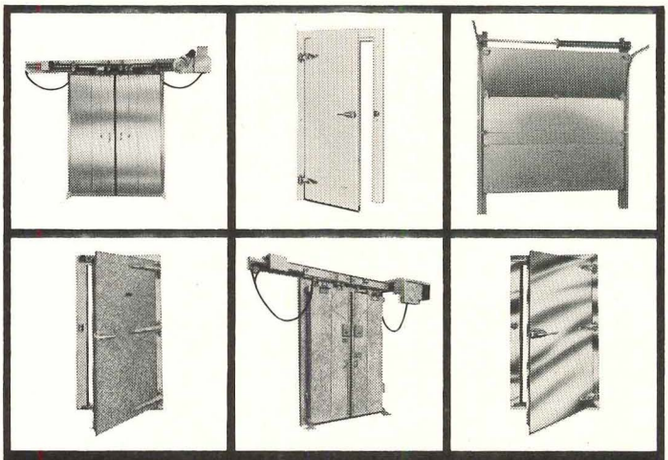

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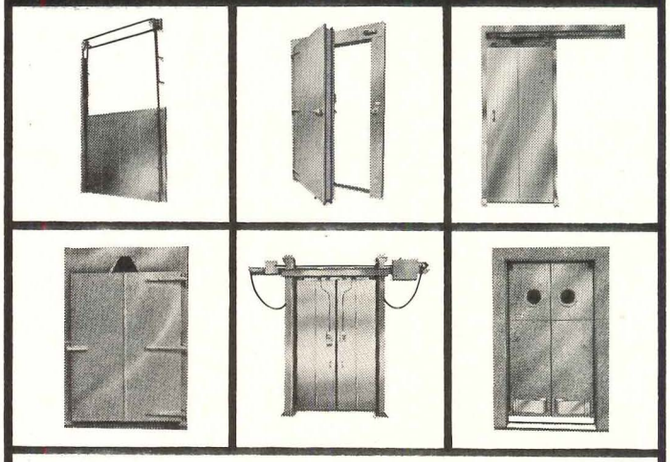

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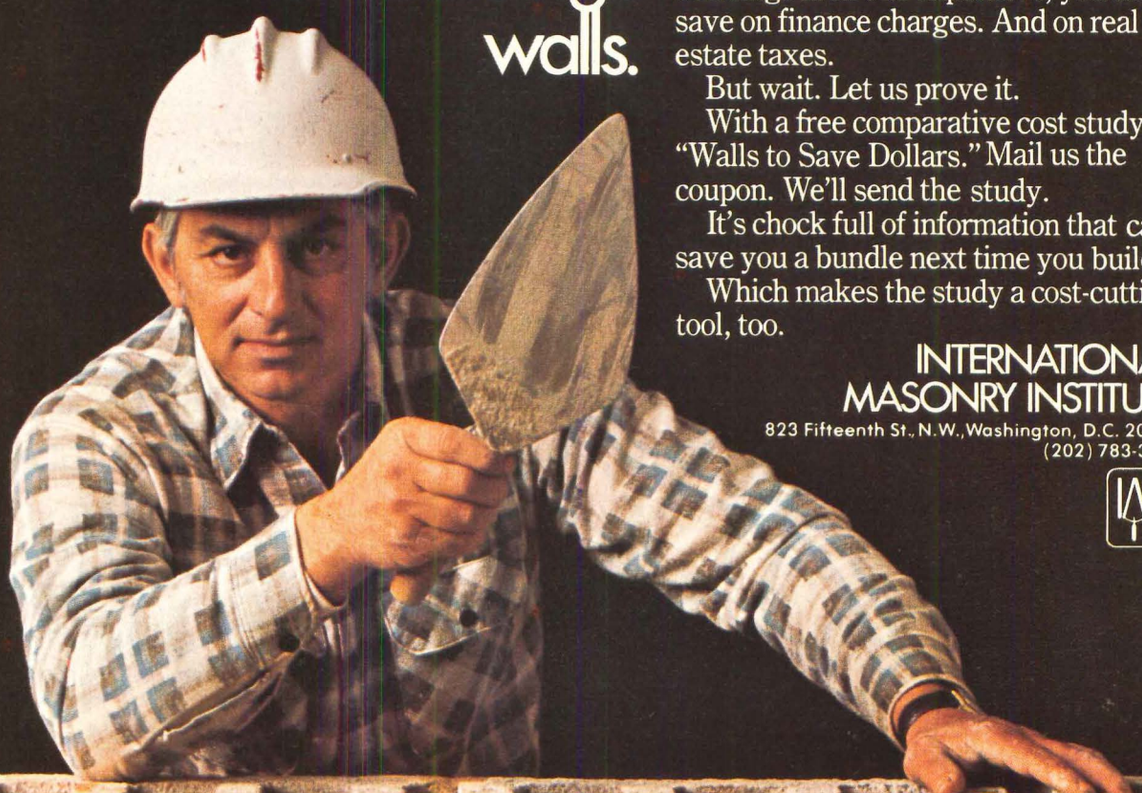

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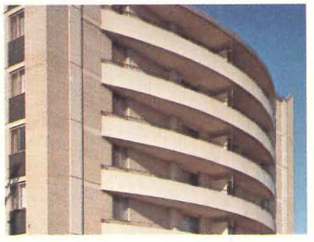

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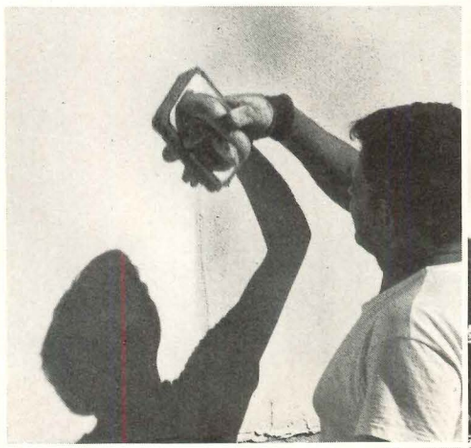

. . . trowel and float

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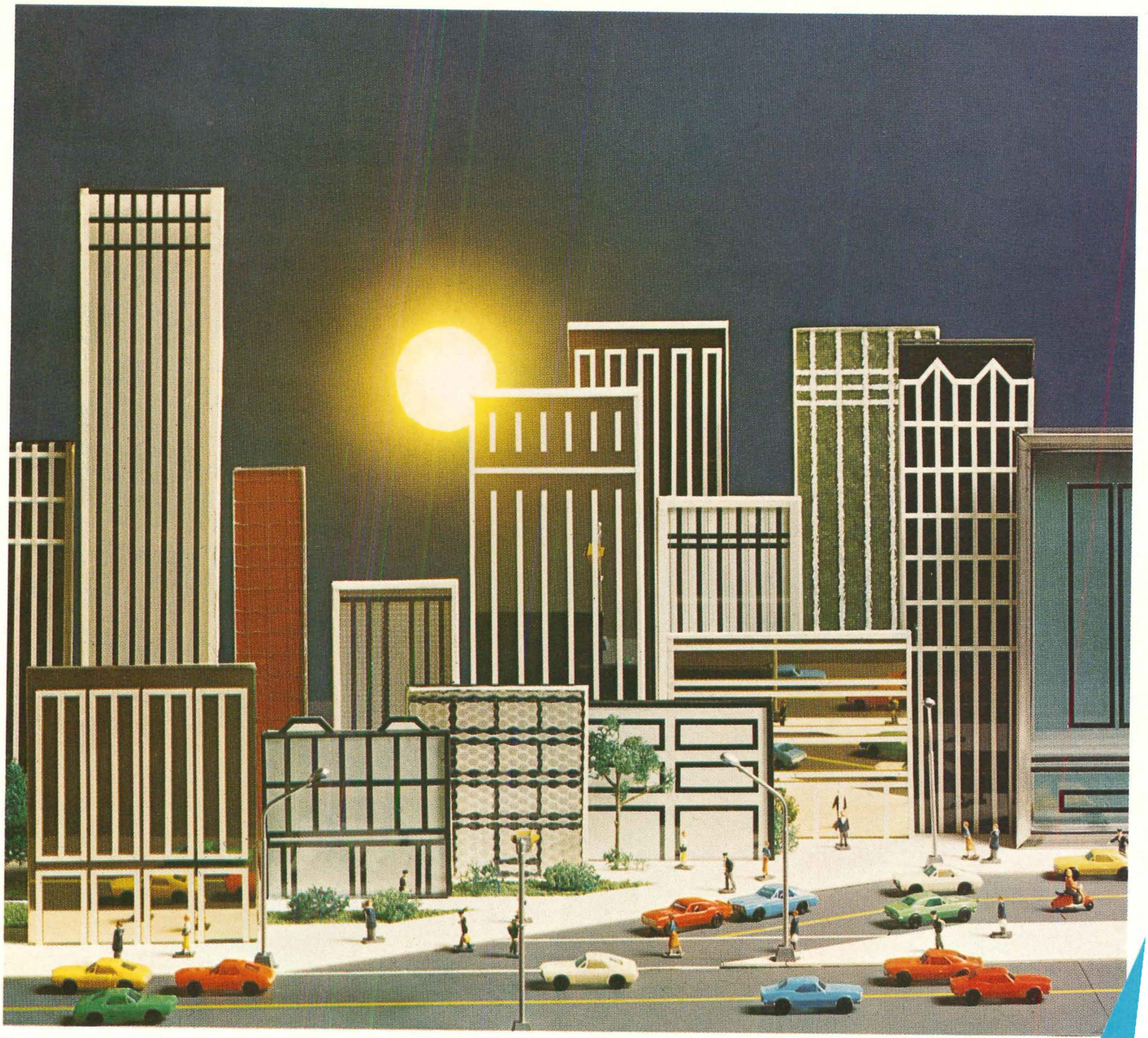

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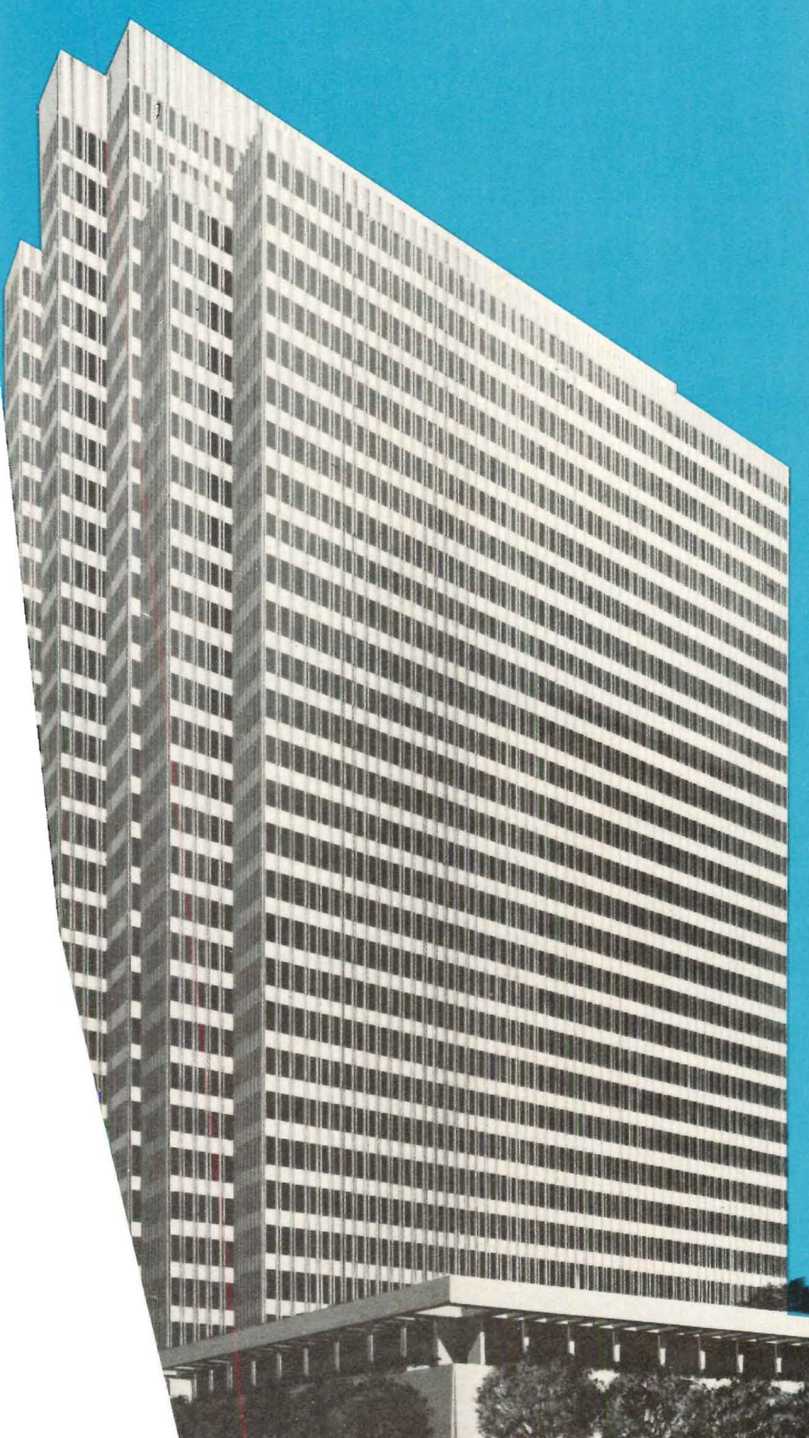
The Architect specified galvanized rebar to prevent "bleeding"



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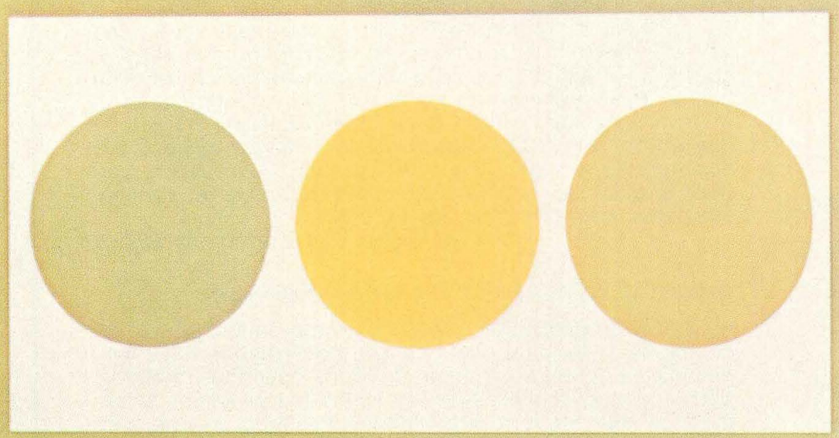

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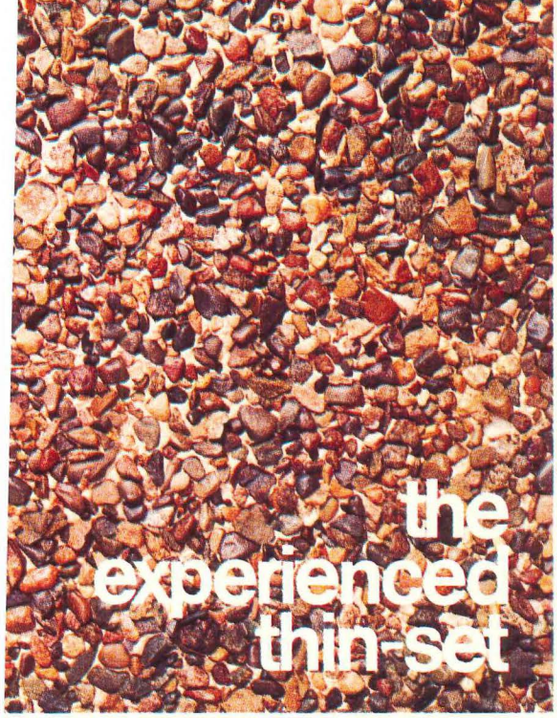

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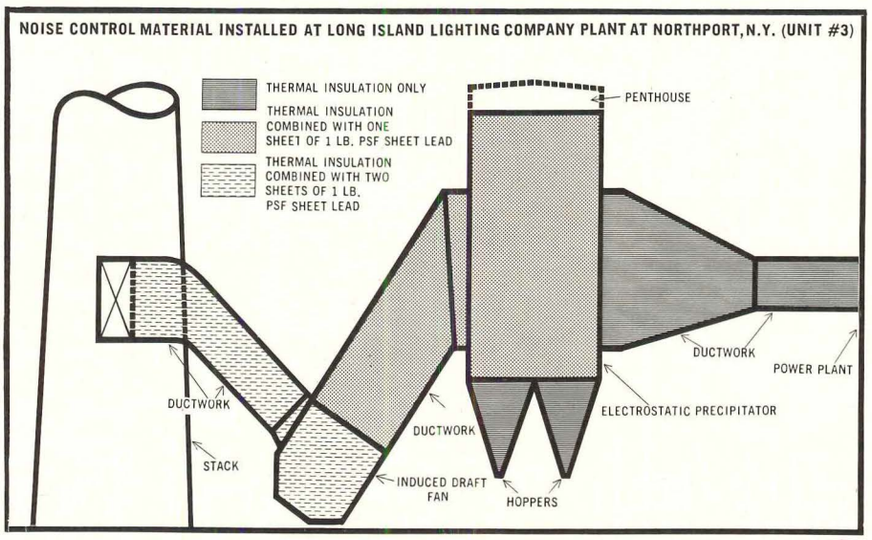

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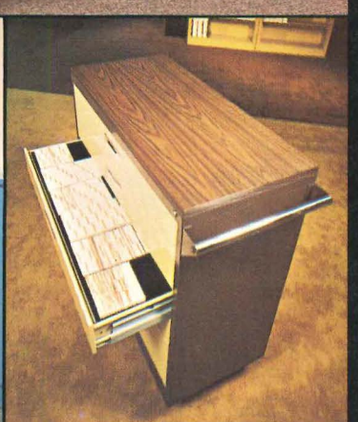

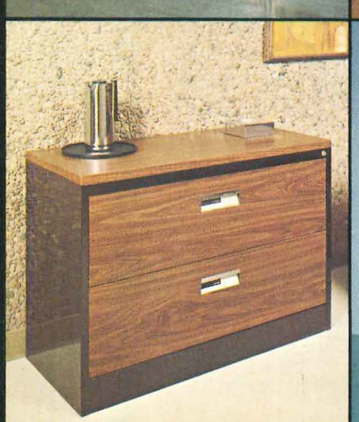

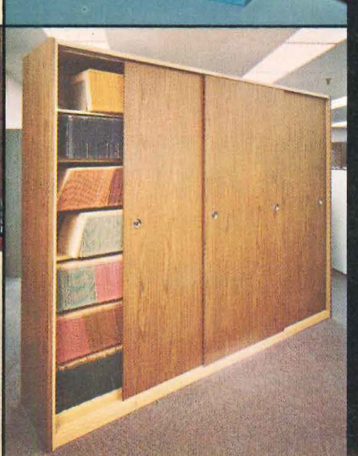

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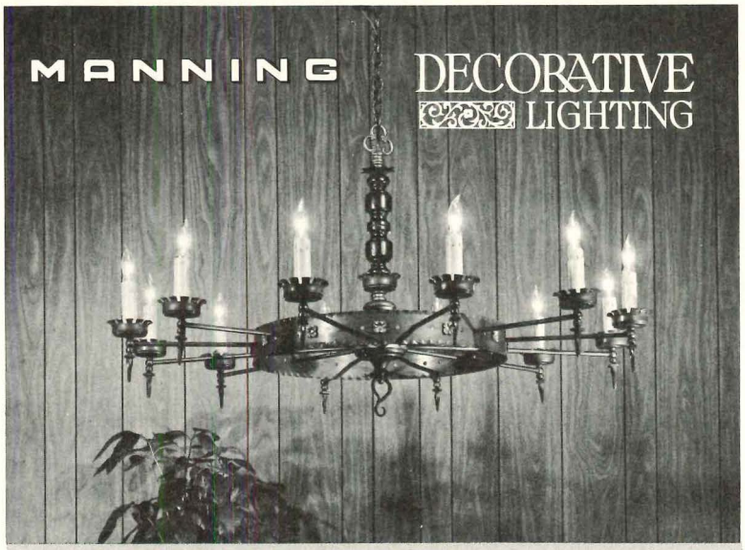

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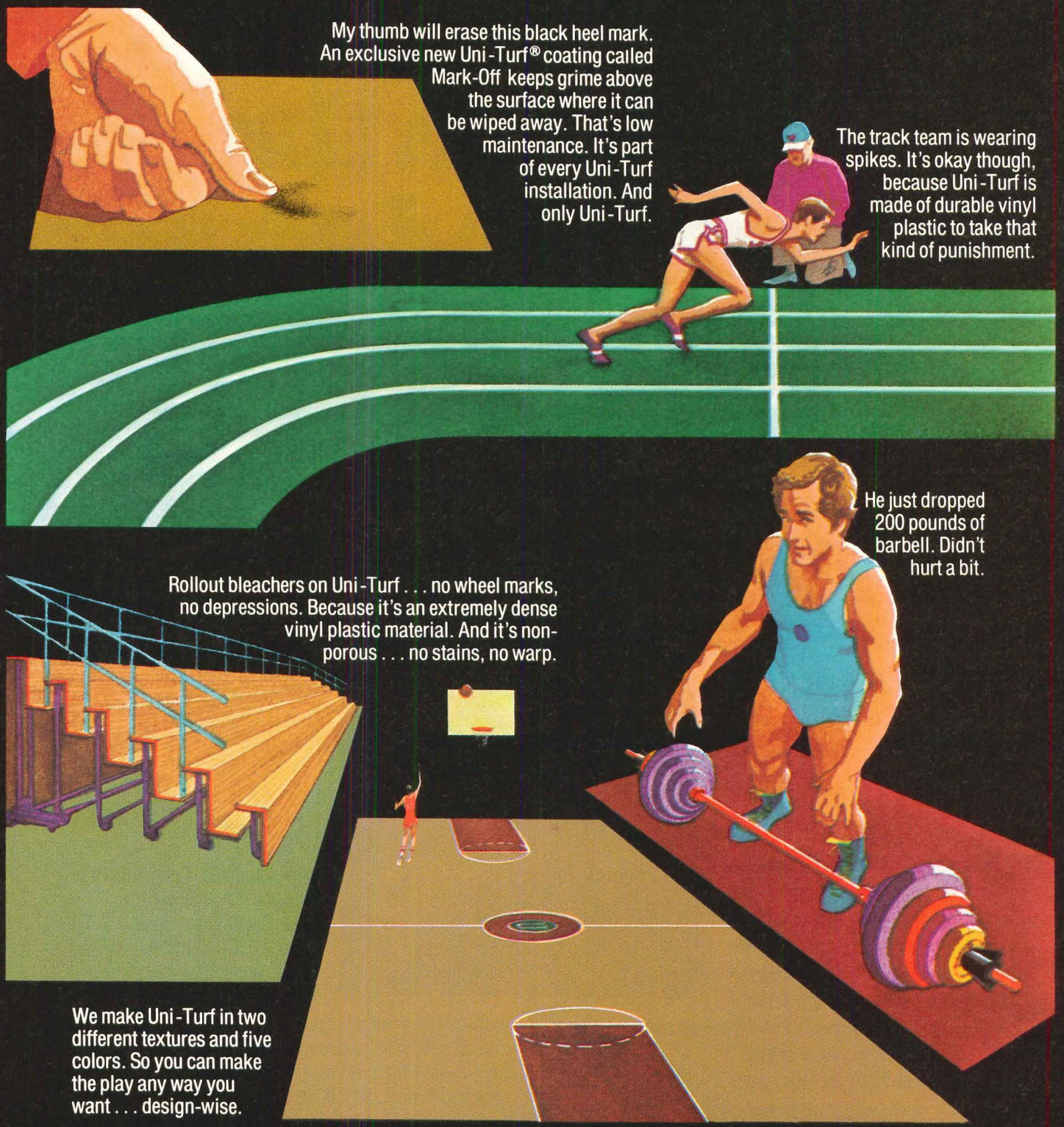

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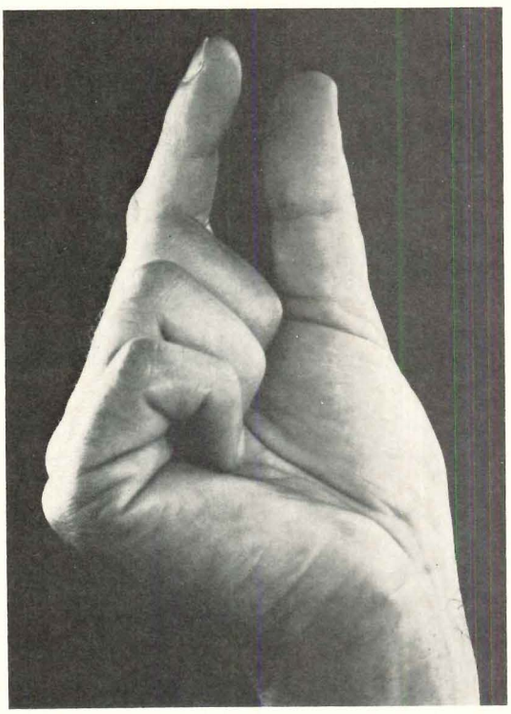

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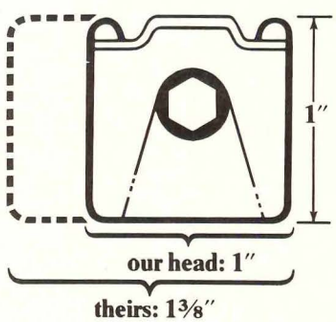

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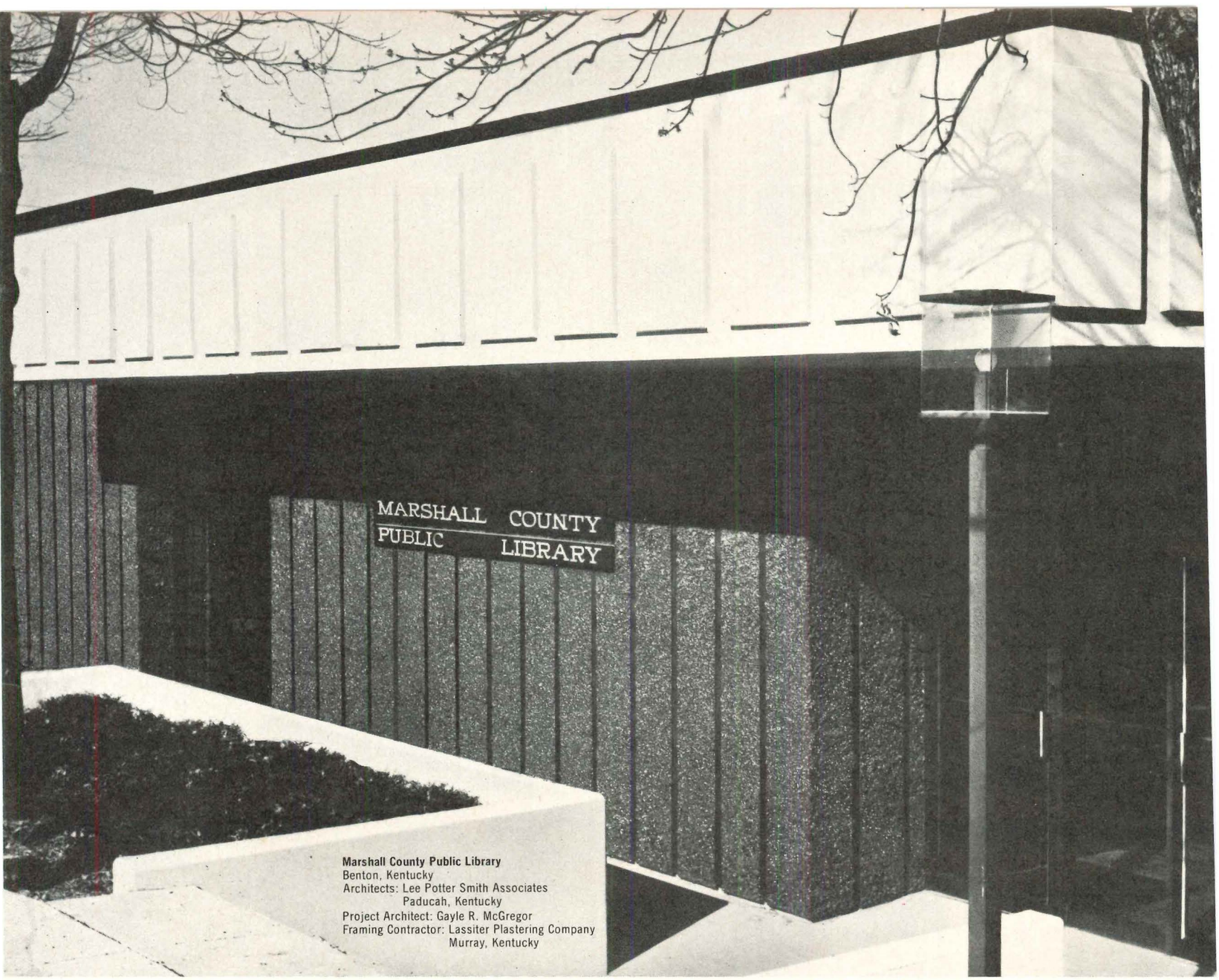

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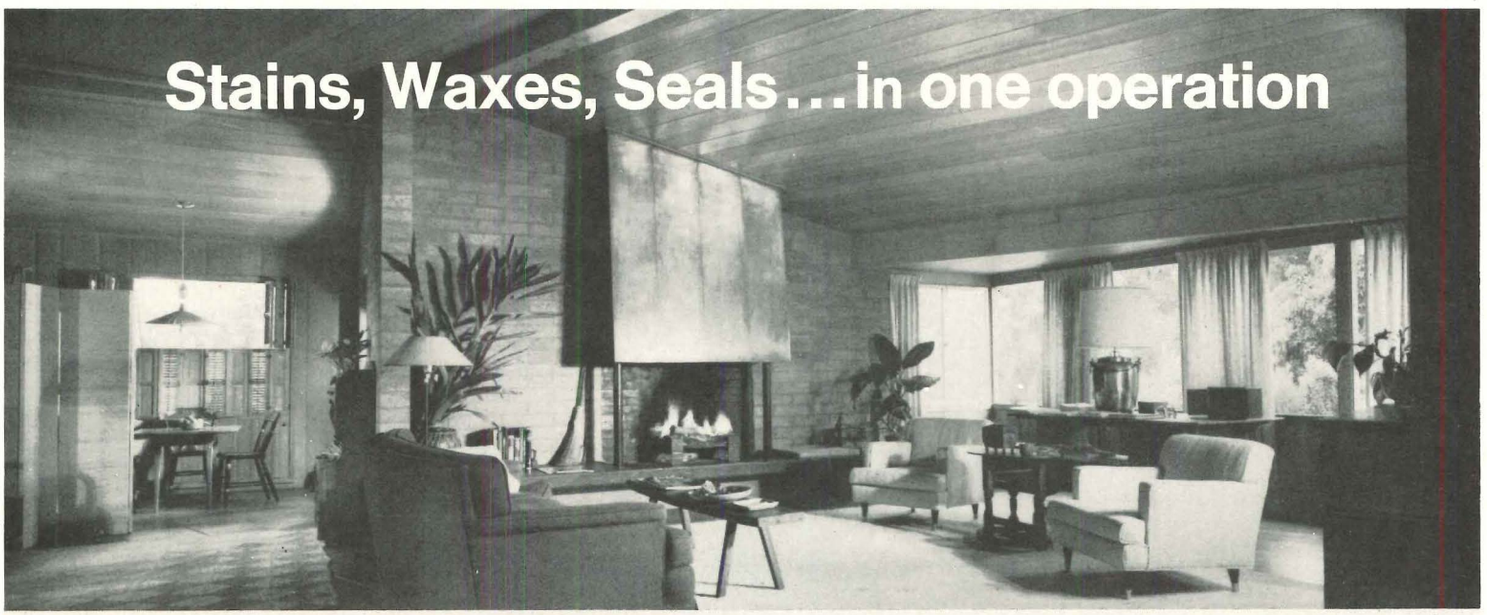

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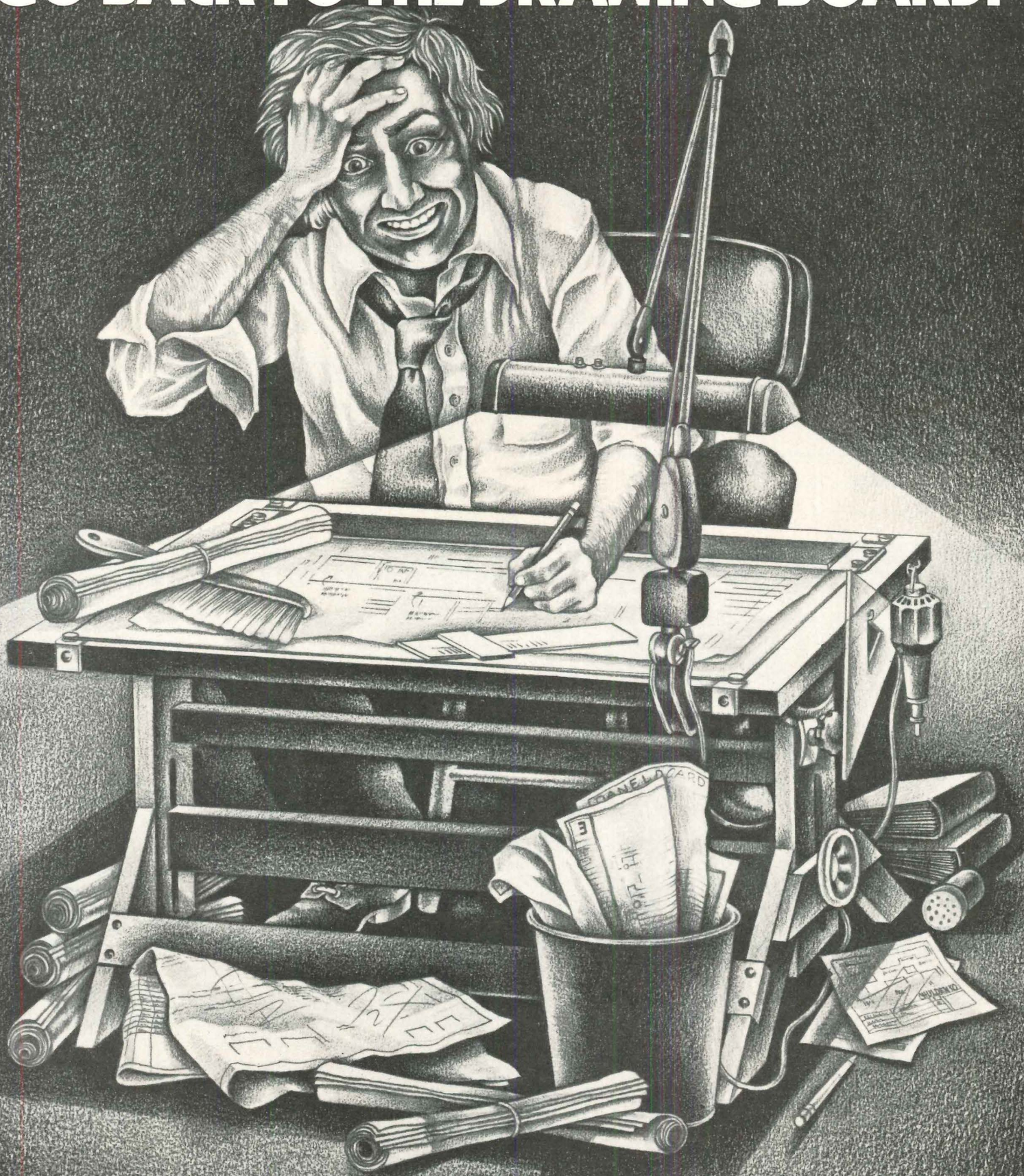

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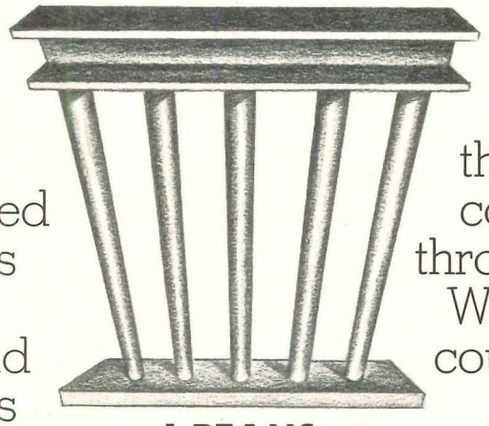

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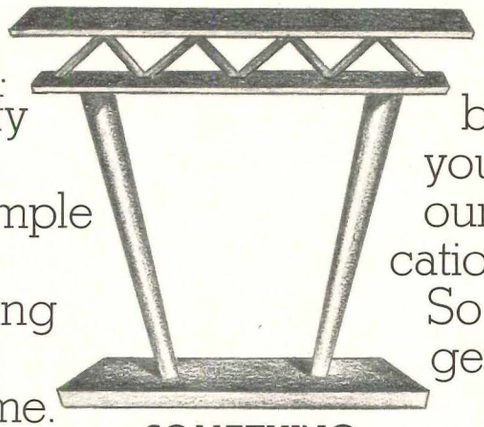

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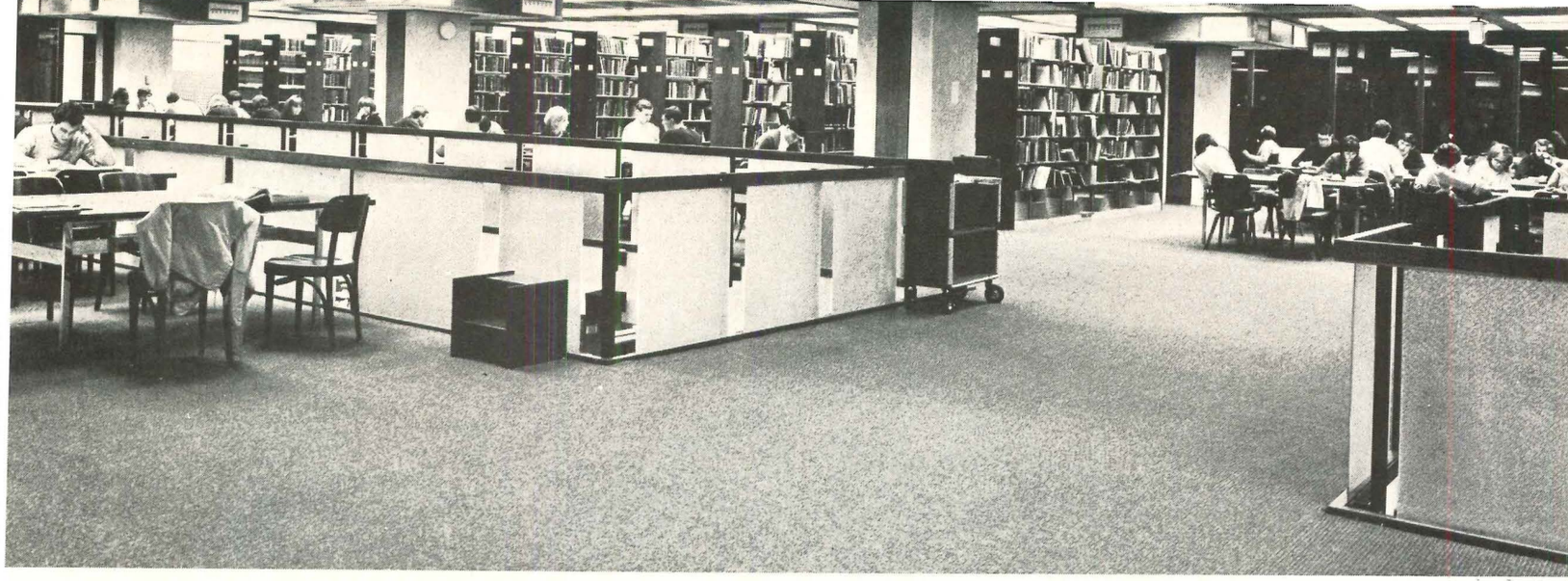

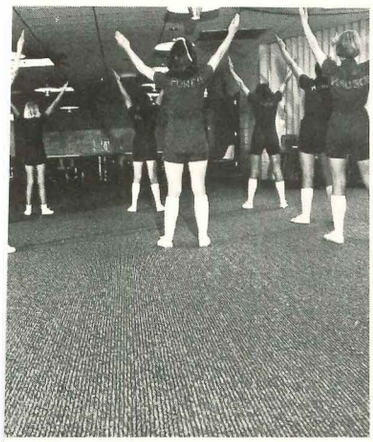

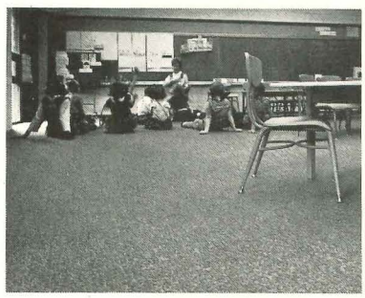

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However, Bigelow has another practical suggestion: specify carpeting that has already proven it can take the hard use (not to mention abuse) youngsters deal out. Carpet that has repeatedly demonstrated it can take a beating year after year after year.

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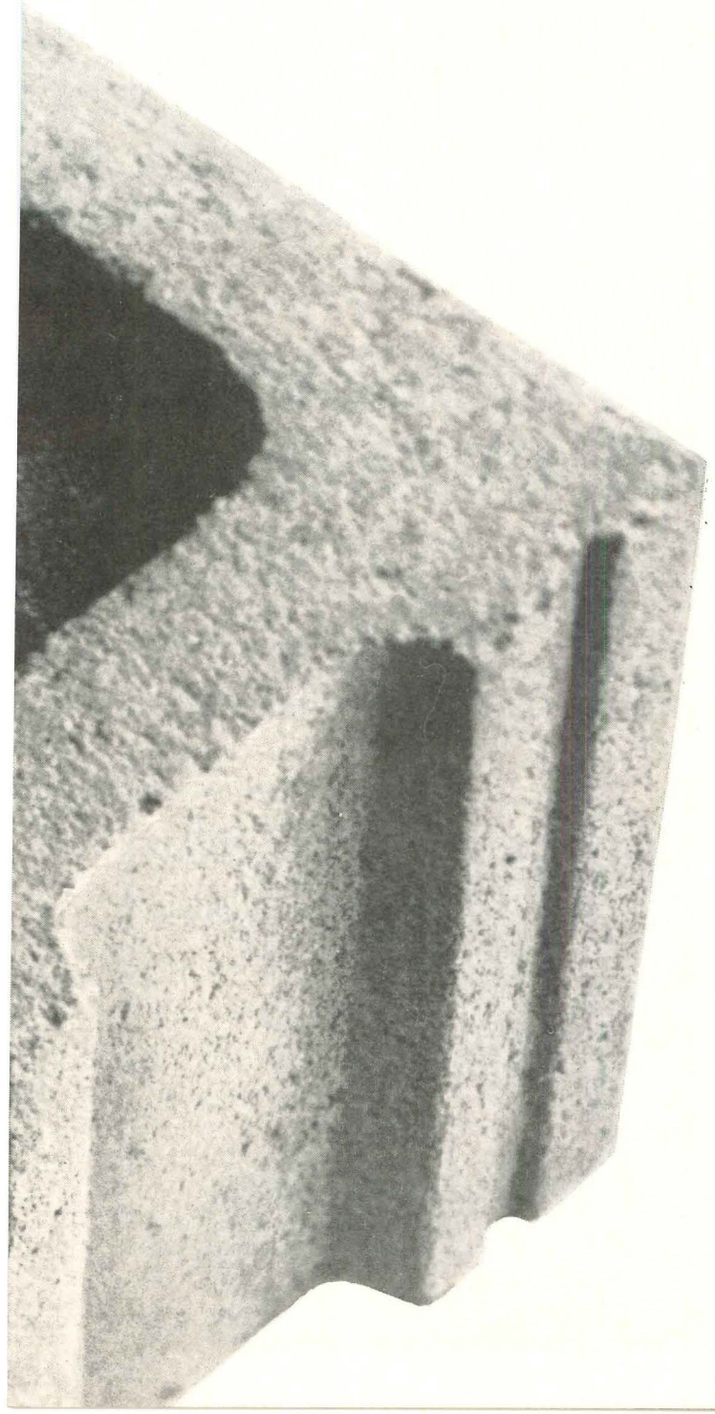

ZONOLITE® Masonry Fill Insulation, poured into cores or cavities of masonry walls, usually reduces heat loss by 50%—and more in some cases.

To the owner, this means his insulation cost is paid back to him in two or three years. Then savings continue year after year. A fact that should be of importance to every specifier or builder.

Heating and cooling savings are impressive in every area. Example:

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Combined Heating/ Cooling Savings*	$6400	$3500	$8150	$6450	$5400
Installed Cost of Insulation	1700	1700	1700	1700	1700
Average Annual Return on Insulation Investment	38%	21%	48%	38%	32%

*10-year savings from insulating walls; 8″ lightweight block; 2-story office building, net exterior wall area 10,000 sq. ft.

The new FHA standards for multi-family housing require masonry walls to have a heat loss factor ("U" value) no higher than .17. ZONOLITE Masonry Fill is the most economical way to bring block walls into conformance—as low as 17 cents per square foot installed, for 8″ block.

In addition to cost savings, consider these important features:

Improves comfort—Inside wall temperatures are increased up to 13°F. in winter. Body-to-wall radiant heat loss is reduced. Greater comfort results. Summer conditions are improved, too.

Increases fire resistance—Adding ZONOLITE Masonry Fill to a 2-hour fire-rated lightweight block gives more than four hours extra protection—earns 4-hour UL rating.

Cuts sound transmission—Users report that Masonry Fill in exterior or party walls improves the sound resistance.

For full information, contact your ZONOLITE sales office. Or send for booklet MF-164A, to Construction Products Division, W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Mass. 02140.

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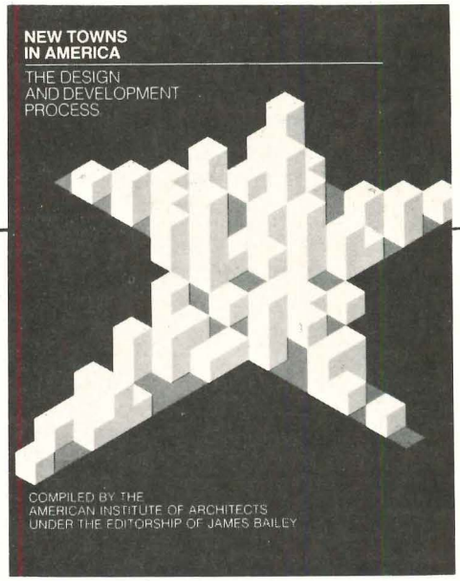

GET IT FROM THE HORSE'S MOUTH.

The AIA compiled 22 essays by new town experts so you can learn about the design and development of new towns from the people who've done it.

So you can, for instance, hear what Robert Tennenbaum, who's developed new community projects in many states, says about "Social Planning and Programming." How Alan M. Voorhees, a planner of many new towns including Reston, assesses "The Transportation System." And what Thomas Ludlow Ashley, a man who's helped pass landmark housing and development bills, thinks about "The Promise of Title VII."

There are 32 comparative new town plans so you can see first-hand how new towns evolved—plans of Philadelphia in 1865 and New Orleans in 1722 to Welfare Island and Soul City, North Carolina in 1972.

And the AIA included their National Policy Task Force Report so you can find out *verbatim* how lethal they feel America's architectural environment is, and what they propose to do about it.

In addition to the experts you'll learn from in the text, there's a bibliography of other books, magazine and news articles, reports and hearings you can go to.

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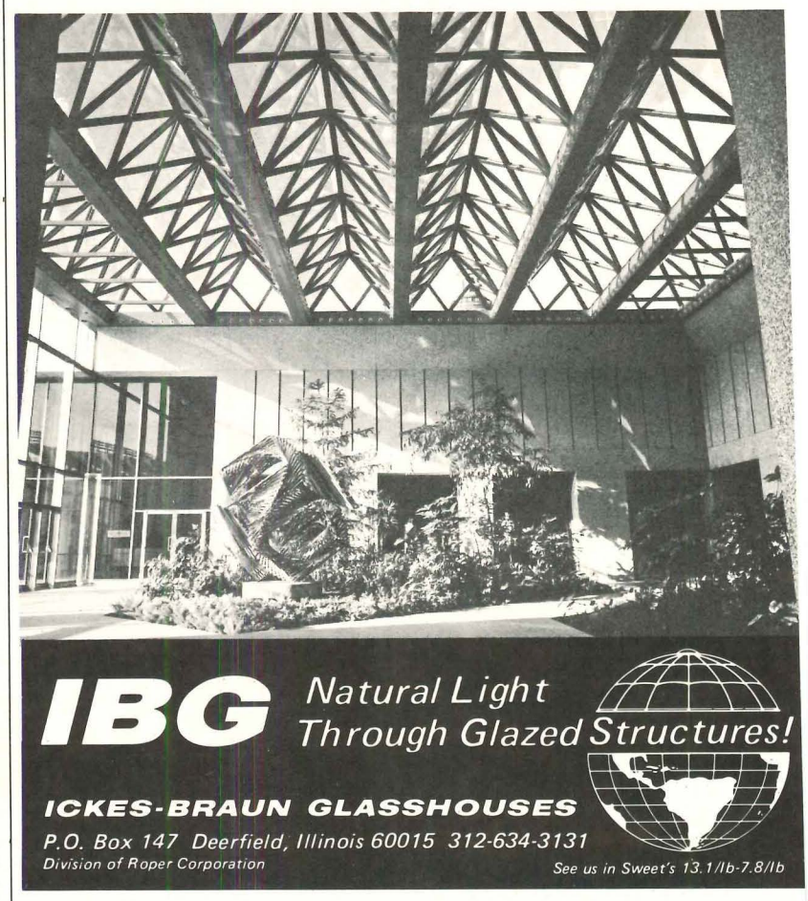

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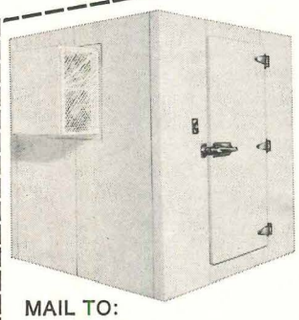

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You're due to deliver 24 pages of neatly-typed recommendations for a preliminary bid on a major project, and you're nervously pacing the floor as your secretary frantically retypes the last page. For the third time.

Sound familiar? Then you know the typing crisis: the problem of keeping words flowing smoothly on paper under the pressures of time, work volume and mounting costs.

You can hire more typing help, but that's going to increase your costs. Costs are part of the crisis. A business letter already runs from $3.00 to $6.00. Next year you'll pay more.

What can you do about it?

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Many architects are finding word processing saves so much typing time it can free secretaries for administrative duties, and boost office efficiency 50% or more.

Here's how the SPERRY REMINGTON™ word processor works for you. Your secretary types out original text, only once. At rough draft speed. Without worrying about errors. Everything is recorded as she types, either on magnetic tape or cards, both of which are reusable.

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Save long hours in the typing of reports, specifications, presentations and documents using standard paragraphs. With our word processor up to 99 such paragraphs can be stored on one tape cassette and recalled automatically in any order. You can personalize standard letters, typing only the paragraph numbers to recall the copy.

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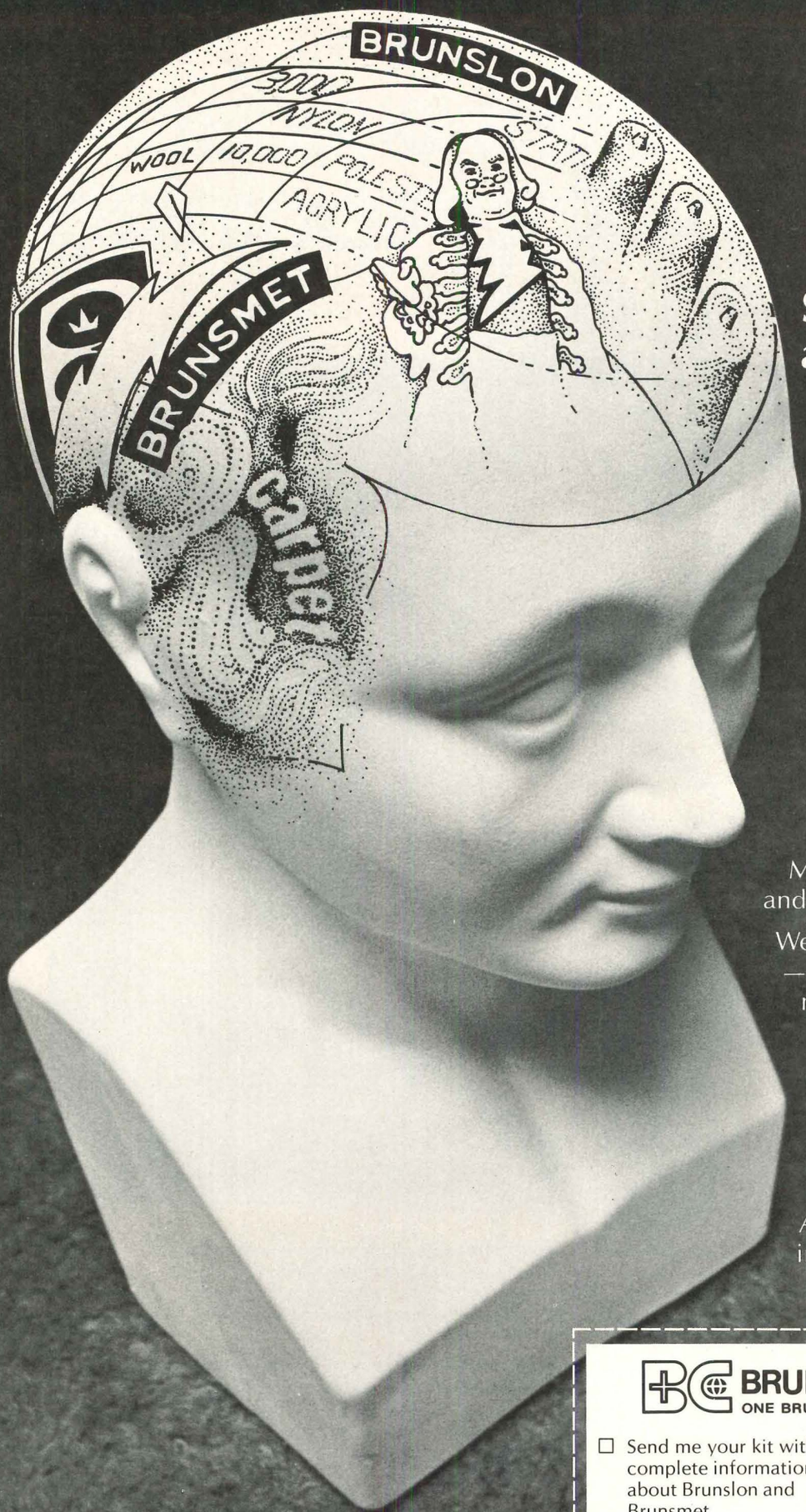

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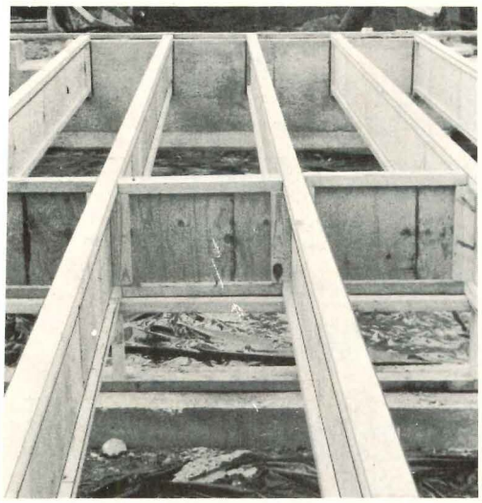

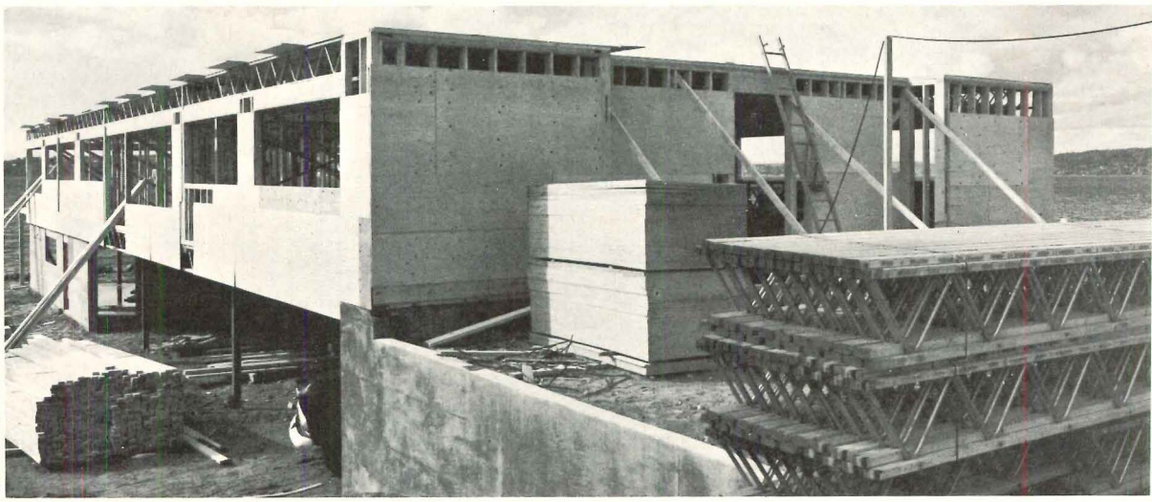

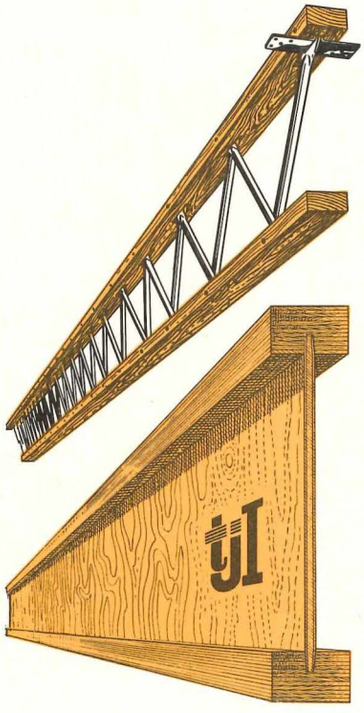

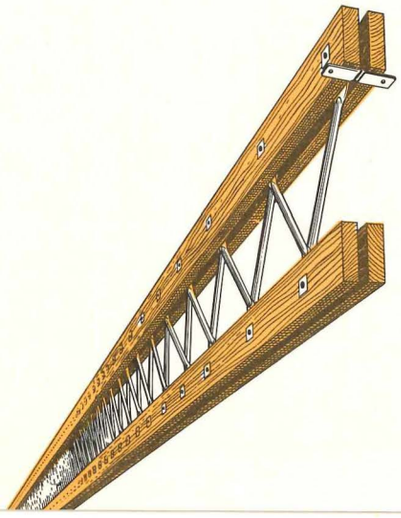

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Creativity in Action-Unique monthly Newsletter, shows how to use techniques for getting more creative ideas and stimulating your imagination for effective and creative action. Sample issues only $1.00. Satisfaction guaranteed to subscription service includes patented binder and bi-monthly mailings of valuable items to reinforce creative action. Box 272-c, Roslyn, N.Y. 11576.

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NEW FIRMS, FIRM CHANGES

Crissman & Solomon architects announced the relocation of their office to 272 Centre Street, Newton, Massachusetts.

Jack Sevilla, AIA, architect has opened his new office at 9885 Charleville Boulevard-Suite 2, Beverly Hills, California.

Myers and Bennett, a Minneapolis architectural firm, has merged with **Bather-Ringrose-Wolsfeld, Inc.,** a multi-disciplinary planning, engineering and transportation consulting firm. Offices are located at 2233 North Hamline Avenue, Roseville, Minnesota.

Frank B. Hunt, FAIA and Associates recently announced the continuation of the corporate practice of Kitchen and Hunt under the name of **Hunt and Company** with offices in San Francisco and Oakland, California.

George L. Dahl has merged his 40-year-old firm—George L. Dahl & Associates—with those of two other Dallas companies: Braden & Jones, Inc. and Max D. Chapman & Associates. The new firm, **Dahl, Braden, Jones & Chapman, Inc.** is located in Dallas, Texas.

The present partners of Raymond & Rado and Partners will continue their practice of architecture at 299 Park Avenue, New York City under the name of **Raymond, Rado, Caddy & Bonington.**

Formation of a new architectural and planning firm, **William C. Krommenhoek & Associates** has been announced. Located at 4305 Gesner Street, Suite 315, San Diego, California, the firm is involved in various commercial and residential projects.

Peckham-Guyton Architects, with offices in St. Louis, Kansas City and Los Angeles, has recently opened another new office at 6800 34th Street Stouth, St. Petersburg, Florida.

Peter A. Zorzi, AIA, has announced the opening of new architectural offices at 1678 Ellington Road, South Windsor, Connecticut.

Dalton•Dalton•Little•Newport has moved to new offices at Plaza Executive Center, N.W. 167th Street, Miami, Florida.

Charles Bowman, Eugene Lew, Darryl Roberson, and Larry Wylie of **Environmental Planning & Research, Inc.,** have announced the relocation of their offices to 649 Front Street, San Francisco, California.

Gaston J. Raetschelders, AIA, ASCE, formerly with The Architects Collaborative, announced the opening of his office for the practice of architecture and engineering. The office is located at Gastelaenea, 64310 Saint-Pee-sur-Nivelle, France.

Friedman and McKenna, Architects have moved to new offices at 5440 Mariner Street, Suite 102, Tampa, Florida.

Meyers, D'Aleo and Todd, Inc. has opened its offices in One Plaza East, Salisbury, Maryland.

Rolf Jensen & Associates, Inc. have announced a new location at 100 Wilmont Road, Deerfield, Illinois.

Clarence M. Horton and Divyakant S. Parikh have been named associates in the consulting, engineering firm of **Pfisterer, Tor and Associates,** New Haven, Connecticut and New York City.

ADVERTISING INDEX

Prefiled catalogs of the manufacturers listed below are available in the 1973 Sweet's Catalog File as follows.

A Architectural File (green)
I Industrial Construction File (blue)
L Light Construction File (yellow)
D Interior Design File (black)

ARCHITECTURAL RECORD

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Galerie Porte de Namur, 22-26, Chausee de Wavre 1050 Brussels, Belgium

Frankfurt/Main
Elsa-Brandstroen Str. 2, Frankfurt/Main, Germany

London
34 Dover Street, London W.1, England

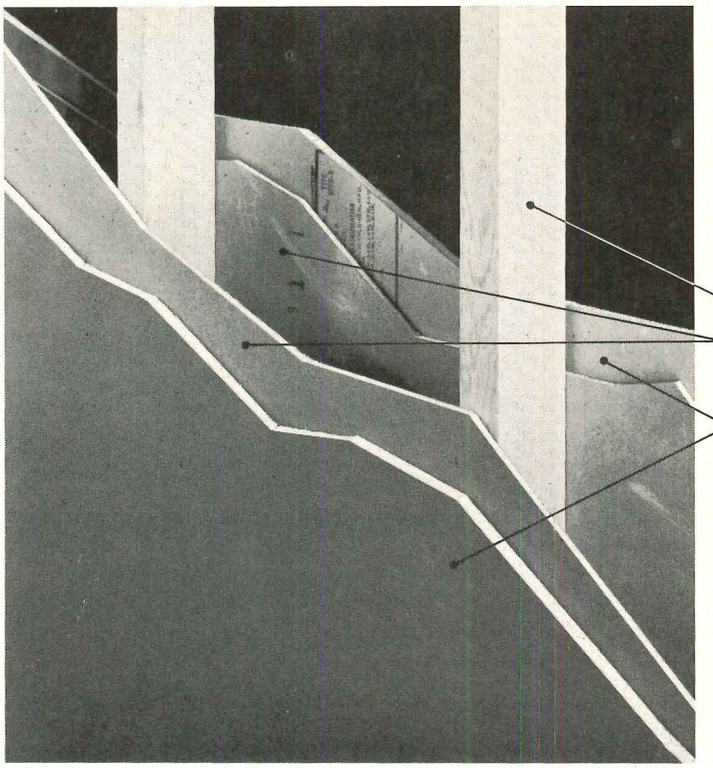
Milan
Via Baracchini No. 1, Milan, Italy

Paris
17, rue Georges Bizet, 75 Paris 16°, France

Tokyo
2-5, 3-chome, Kasumigaseki, Chiyoda-ku, Tokyo, Japan

It's Georgia-Pacific's gypsum sound control system. It gives you a one-hour fire rating (Test UL No. U312). An STC of 45. It reduces wall thickness by ¾". *And it costs $36 per thousand sq. ft. of wall area less than a ½" wood fiber sound control system.

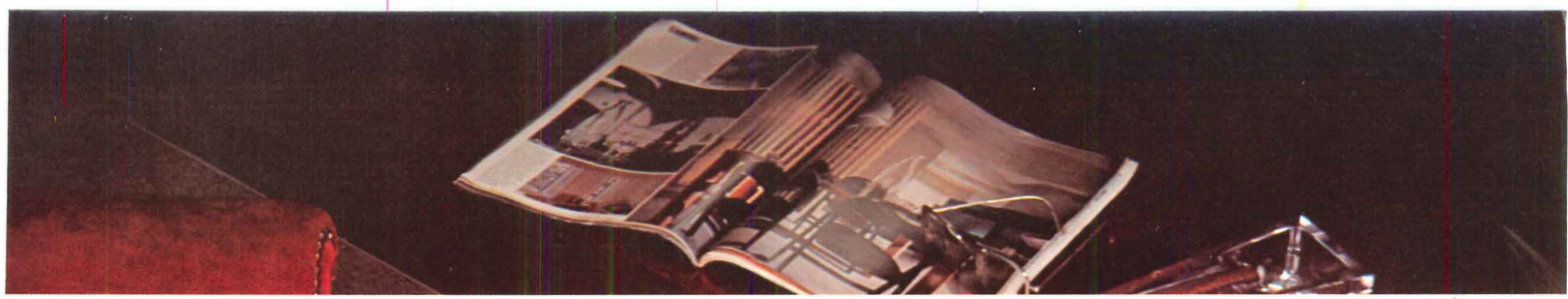
Just apply ¼" incombustible gypsum sound deadening board over a wood framing system (2" x 4" studs, 16" O.C.). Then apply ½" G-P Firestop® gypsumboard or Firestop® Eternawall™ vinyl surfaced gypsumboard to the sound deadening board. And that's it! Call your G-P representative today.



This sound control system costs $36 less* than a wood fiber system.

Georgia-Pacific
The Growth Company
Gypsum Division, Portland, Oregon 97204

For more data, circle 157 on inquiry card



Azrock—the best buy in flooring...

for Office Buildings

Azrock vinyl asbestos tile is the best buy in flooring, because it serves more office building requirements better than any other type of flooring. Yet it costs less than half of what it did 20 years ago. Here's why you can specify Azrock with confidence:

- Styled to coordinate with contemporary interiors
- Long lasting durability
- Low-cost no-wax maintenance
- Low initial cost
- Permits maximum flexibility in office alterations
- Fire safe, will not support combustion
- Shock proof
- Resilient underfoot comfort
- Lowest motion resistance
- Non-allergenic, mildew proof, no odor retention
- Exceeds federal specifications

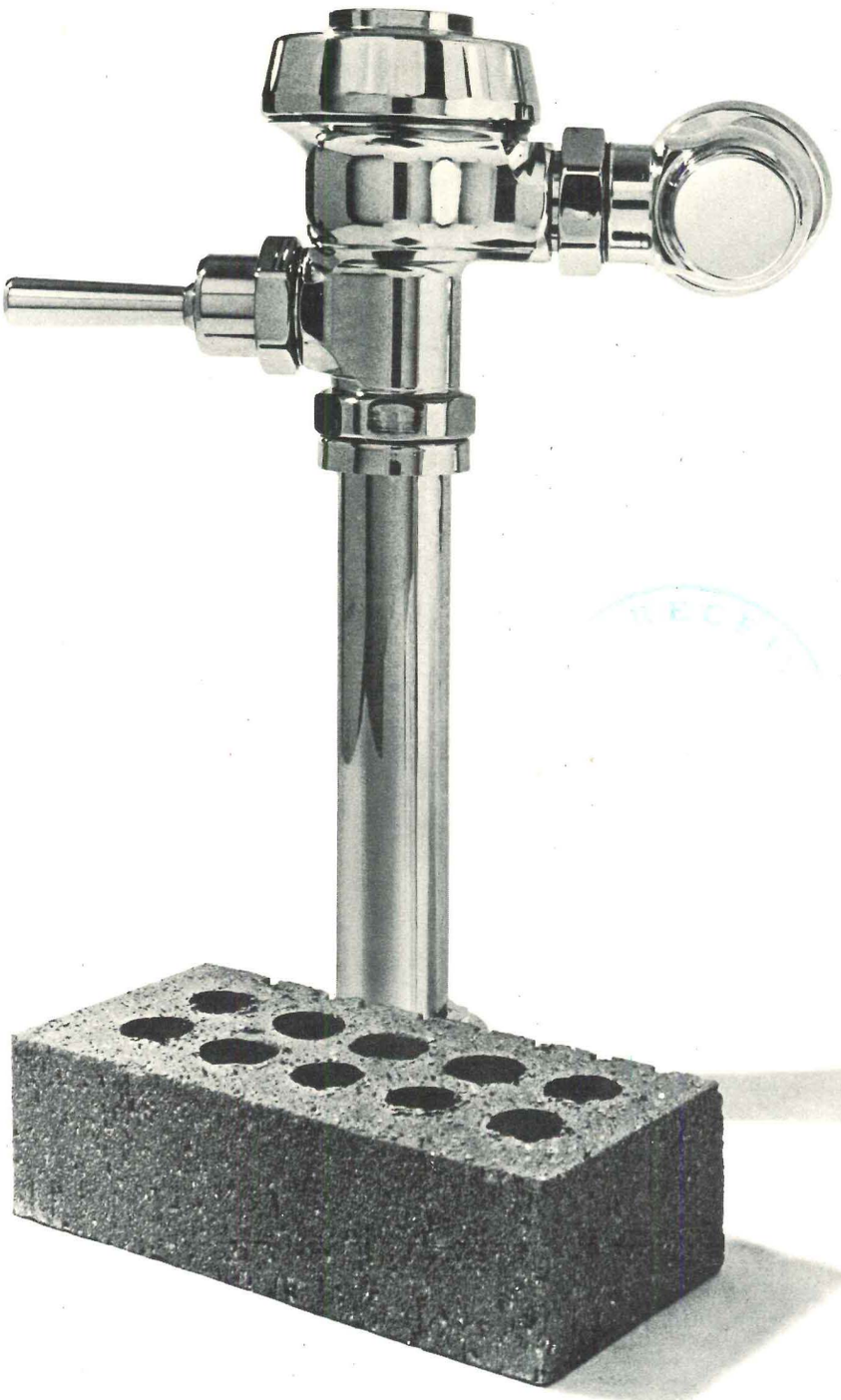
Vinyl asbestos tile is one of the most widely used floorings in office buildings today. Offer clients a colorful, high-style floor and cut maintenance and replacement problems with low-cost Azrock vinyl asbestos tile—the best buy in flooring.

Floor shown: Pebbled-Onyx, one of over 150 colors and styles.

the vinyl asbestos floor tile people

AZROCK®

The sure way to save water- without a brick



People have been putting bricks in toilet tanks for years.

It's an old trick that shuts the water off sooner than normal after operation and one which has received a lot of recent publicity.

You save one brick's worth of water—the brick's displacement volume. But you still may be losing many bricks of water due to leaks.

These days there's a better way for saving water and eliminating leaks,

The Sloan Flush Valve.

The Sloan Flush Valve positively prevents water waste.

It meters out water, automatically shutting off after delivering a sufficient amount to satisfy the requirements of the fixture.

You can't hold a Sloan Flush Valve open. It won't let you. Each flush uses the same minimal amount of water every time and does so for the life of the building.

So if you really want to save water, use flush valves—Sloan Flush Valves.

Sloan Flush Valves save water. Lots of it.

SLOAN VALVE COMPANY
10500 SEYMOUR • FRANKLIN PARK, ILL. 60131

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