NEIMAN-MARCUS, ST. LOUIS, MISSOURI, BY JOHN CARL WARNECKE FAIA AND ASSOCIATES

NEW VERSUS FAMILIAR OPTIONS IN HIGH-RISE APARTMENT HOUSE DESIGN

MOUNTAIN VIEW COLLEGE: TEXAN INNOVATION

88 PINE STREET: PEI'S FIRM DESIGNS A WHITE CURTAIN WALL FOR MANHATTAN

BUILDING TYPES STUDY: STORES AND SHOPS

FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD
The Brigantine floor from Armstrong.
At Lowell General Hospital, they'll tell you it has the heart of a beauty and the hide of a brute.

Nurses and orderlies want a floor that doesn't make hard work harder.
The custodial staff wants a floor that doesn't fight back when it's cleaned.
And patients want a floor that doesn't remind them they're in a hospital.

At Lowell General Hospital in Lowell, Mass., everybody's happy. Because the floor they got is Brigantine Vinyl Corlon® from Armstrong.

To the nurses and orderlies, Brigantine's smooth surface means they don't have to struggle to wheel food carts, X-ray machines, beds, and other equipment so vital to better patient care.

To the custodial staff, Brigantine's tough, virtually non-porous surface means spills and soaks can't penetrate. That means Brigantine is a floor that's easy to keep sparkling clean. And nowhere is that more important than in a hospital. What's more, this sheet vinyl floor comes in rolls 6 feet wide and up to 90 feet long—a
12" (shown here) or 24" x 24" tiles, and then matched the exposed grid to the
6" x 6" finish. Once your Second Look ceiling is suspended, the grid and ceiling
panels blend together to give you the look you want. The look of expensive tile.
without the tile and without the expense.

The fact is, Second Look is one of the greatest camouflage jobs you've
seen. As well as one of the handsomest. And in today's cost-conscious world,
one that really fits. To learn more about this economical lay-in panel, write
Armstrong, 4204 Rock St., Lancaster, Pa. 17604.
Letters to the editor

Permit me to take issue with Kathleen Kelly’s October 1974 office practice article on standard contract forms for professional services. No standard document produced by AIA or anyone else (including lawyers) can be used without some modification. All AIA documents recognize this in the caveat which appears in the “title block” of every contract form: “This document has important legal consequences; consultation with an attorney is encouraged with respect to its completion or modification.” The “greyed” covenant by Ms. Kelly exists not in the document but in the architect’s handling thereof. If the architect in his dealings with Ms. Kelly had explained that he could not accept any of the clauses in the contract as actually there—albeit via Additional Services—perhaps the tenor of their conversation would have changed.

The article opts for full detail in the contract yet contradicts itself by pointing out, correctly, that too much detail can create contractual chaos. Ignorance on the part of the user about how to properly use it does not justify making the standard form a poor one.

Probably the most difficult part of pre-contract dealings is extracting a clear idea of what the client wants from the architect. The contract form cannot be completed until negotiations are complete; there is no way to arrive at equitable compensation except by full disclosure and a meeting of the minds on required services. Standard forms cannot do those things for the architect.

There is often a tendency, especially on the part of governmental bodies, to set the task dollar first by picking an arbitrary percentage figure or setting an arbitrary lump sum and then talking services. This usually results in “blidgetting,” the architect’s contract and requiring a lot of extra work without equitable compensation.

Contrary to Ms. Kelly’s conclusion, the architect is well-advised to stay with standard documents which have court-tested wording, wording which tracks other AIA contract documents and ties them all together. The following quotation from Lawyers and Their Business by Johnstone and Hopson (Bobs-Merrill Co., Inc., 1967) emphasizes this point in a discussion specifically on the AIA documents: “Standardized instruments also make for certainty which is increased the longer and more widely the forms are used. Judicial and trade interpretations gradually mold the docu-

ments’ express terms and continued usage increases familiarity with the instruments in a variety of situations. Standard forms are likely to be important enough to make more and skill go into their preparation and revision than is true of many non-form contract provisions.”

Following is a quotation from “Contract Alerts” issued in conjunction with seminars on liability conducted by the Office for Professional Liability Research (C/O Victor O. Schinnerer & Company, Inc.): “The use of standard AIA or NSPE contract documents is highly recommended. When they cannot be used or if they are to be modified because of the client's requirements or otherwise, architects and engineers must be alert to the implications of non-standard contract provisions.”

It is of more than passing interest to the profession that New York, California and Ohio have developed a method of determining gross compensation based on prior determination of the services to be required. The Institute, too, has its eye on this as a logical means for the individual practitioner to develop an equitable approach to his compensation. This Cost-Based method allows the architect to price the maximum extent of his involvement. Without a method there are no surprises, either to the owner or the architect. Additional services asked for after the contract is signed are easily identified because they have not been previously spelled out.

It appears to be the answer to Ms. Kelly’s concern that the architect gets trapped in the money game. It is certainly a lot better and far more prudent than trying to write a new “appropriate” agreement for each job.

Bernard B. Rothchild, FAIA, FCSI
Finch Alexander Barnes Rothchild and Paschal, Inc.
Atlanta, Georgia

Your editorial in the January issue was well done and certainly has a great deal of meat for discussion. Frankly, I wonder if our illustrious Federal government has the wisdom to listen.

Philip J. Meathe, FAIA
Smith, Hinchman & Grylls Associates Inc.

We were very pleased that our River Quay project was included in the December issue. Unfortunately, your article did not give proper credit to the firm of Patty Berklebe Nelson Associates, one of the associated architects noted in the project information.

Linda Morton
Don Wudtekhe and Associates, Inc.
Arkwright's unique DRY ERASABLE feature is just one of the things you'll like about our Durester Diazo Film.

You start with Arkwright's extraordinary drafting surface — a surface a professional draftsman will really appreciate! Then we sensitize it (as only Arkwright can), for super-contrast, super-sharp reproduction.

Our Durester Diazo Films (intermediates) are today's "working drawings" for tomorrow's "change in plans", print copies, microfilm masters or further reproducibles. Diazo intermediates are available from 1.5 to 7.5 mil, and in a wide range of colors and speeds for special custom applications, including aluminized for labels and adhesive-backed for paste-ups. Today, ask your Arkwright representative how you can save time and money with Durester Diazo Films. From Arkwright.

You see, our Durester Diazo Films have earned the right to be called "second originals"! See if you don't agree?

FREE PRODUCT SEMINAR! To demonstrate the latest developments in the state of the art, and to help improve the operating efficiency of your Drafting and Reproduction Departments, Arkwright will bring in its Team of Specialists and hold a Seminar tailored to your needs. Call or write for details.

Aren't you glad you're using Arkwright's DRY ERASABLE Diazo Film?

New ways to think Arkwright incorporated

Main Street, Fiskeville, Rhode Island 02823
(401) 821-1000

For more data, circle 3 on inquiry card
"Because you’re in the construction business in a big way...

When you’re talking commercial/industrial air conditioning, you’re talking our language.

Single package central air conditioning systems? General Electric offers application flexibility. Our systems can be ducted, or equipped with optional/grille/filter frame. They can be installed through the wall, on the roof or on a slab at ground level. Factory charged refrigerant simplifies installation, improves reliability.

Combination Gas-Electric Units? General Electric offers a complete line of year-round comfort systems for commercial applications. These units combine in one cabinet gas furnace economy and electric air conditioning comfort and convenience. These units, with cooling capacities up to 20 tons, may be used in multiples where greater heating and cooling requirements exist, with the added benefit of central temperature control.

Split cooling systems? General Electric offers a large selection of condensing units available capacities from 18,000 BTU/H through 200,000 BTU/H, also cooling coils with capacities from 12,000 BTU/H through 120,000 BTU/H in configuration to couple with virtually any air furnace. (“Flat” coils are available in capacities from 24,000 to 60,000 BTU/H.)

Count on us for a wide selection of indoor and outdoor air handling sections to acco
General Electric is in the central air conditioning business in a big way.

Joseph H. Gauss, Vice President and General Manager, Air Conditioning Products Division, General Electric Company.

A variety of supplementary electric heaters cities from 12,000 to 480,000 BTU/H. Also lie: steam and hot water coils, return s and air distributors.

en there is the Weathertron™ heat pump—weather heat pump that provides year-omfort and convenience for commercial industrial buildings. Used in multiple General Electric heat pumps cool and heat dous areas with the added advantage of e-zone temperature control.

it systems are available from 18,000 to 120,000 BTU/H. The 7½- and 10-ton e compatible with roof-top accessories.

So, as you see, we're in the central air conditioning business in a big way. And we intend to be in it in a bigger way all the time.

If you're contemplating an air conditioning installation, get in touch with a General Electric Central Air Conditioning dealer. He's in the Yellow Pages under "Air Conditioning Equipment and Systems."

"We're going to be in this business for a long time."

GENERAL ELECTRIC

For more data, circle 4 on inquiry card
The strong design of the Kemper Arena, with roof and walls suspended from exterior trusses, combines functionalism with durability and ease of maintenance.

Inside, a championship-caliber basketball floor finished with Trophy® Gym Seal and Finish provides a superb playing surface—hard, smooth, slip-resistant and glare-free—for games of the Kansas City-Omaha Kings professional basketball team. As in more than 20,000 other gyms, arenas and sports complexes, Trophy offers unequaled wearability, beauty and ease of maintenance.

**Hillyard Specifications Manual**

Write or call for your copy today. This loose-leafed manual is numbered in conformity with the Uniform Construction Index and includes specifications for treatment of all types of floors. Each file will be kept up to date for you.

Also ask, at no obligation, for the advice and assistance of a Hillyard architectural consultant. He's trained to recommend proper, approved treatments for the floors you specify and also to supervise application at the job site.

See our specifications manual in Sweet's.

Architect: C. F. Murphy Associates, Kansas City, Missouri.
Portable floor by Hurrier Flooring Company, Dollar Bay, Michigan.

**Hillyard FLOOR TREATMENTS**
302 North Fourth Street
St. Joseph, Missouri 64502
(816) 233-1321
Keeper of the floors world-wide

For more data, circle 6 on inquiry card
INTRODUCING NOMAR – THE SIGNAGE THAT RESISTS EVERYTHING BUT GOOD VISIBILITY

Wind, weather, vandalism, chemicals, solvents, ultra-violet rays—NOMAR fiber reinforced polyester resists damage as no other signage material can.

Reason is that we embed the images into the subsurface of the fiber and plastic where the villains can’t get at them. And for crisp visibility and color clarity, we match the light refraction index of the fiberglass mat to that of the polyester resin.

Highly versatile With NOMAR, virtually any image in any printable color can be reproduced from camera-ready art—logos, symbols, maps, photos, supergraphics, etc. Silk screening is the ideal reproduction process, although many other graphic processes may be used.

For interiors or exteriors NOMAR signs can be projected from walls or ceilings with simple hardware. Or surface mounted with tape or adhesives. In post and panel assemblies or in monolithic structures, they are extremely durable, attractive and architecturally compatible. NOMAR signage may be opaque or translucent to permit internal illumination. Maximum dimensions of a standard single sheet are 12 feet by 4 feet. Thicknesses range from 1/32-inch to 1/4-inch.

Matthews. For total identification systems—from design through installation. Write for our comprehensive catalog.


For more data, circle 7 on inquiry card
THE RECORD REPORTS

13 Editorial
Tweedle-dum; Tweedle-dee: Where do they get those priorities?

14 Perspectives
Reducing energy used by buildings: How—constraints or incentives?

4 Letters/Calendar
Short items of major national interest.

33 News in brief

37 Buildings in the news

41 Human settlements: world news

42 Required reading

149 Office notes

ARCHITECTURAL BUSINESS

57 A project scheduling system that really works
The evolution of computer-linked CPM as a tool for building project scheduling has arrived at a system now in use by Turner Construction Company, mainly for construction management contracts. Garrett Thompson describes the system as visually simple, flexibly adaptable and psychologically acceptable by owners, architects, and contractors, all of whom participate.

61 Building costs
A semi-annual survey of cost changes by region.

63 Building activity
First update of the construction outlook for 1975, by George Christie.
BUILDING TYPES STUDY: 473

107 Stores and shops
Design plays an important, if subtle role in attracting customers to stores and shops, especially in a slow economy. For shopkeepers, the name of the game is merchandising. Architects can aid them through design which makes effective display easy and simple to accomplish, and increases efficiency in selling.

Bergdorf Goodman
White Plains, New York
John Carl Warnecke FAIA Architects and Eleanor LeMaire Associates, Inc.

Miller's West Town Department Store
Knoxville, Tennessee
OMNIPLAN, architects

Neiman-Marcus Frontenac Fashion Center
St. Louis, Missouri
John Carl Warnecke FAIA and Associates

Bullock's South Coast Plaza
Costa Mesa, California
Welton Becket & Associates

ARCHITECTURAL ENGINEERING

123 Pei's precise cladding enriches a spec office building
A crisply detailed, brilliantly white curtain wall distinguishes 88 Pine Street in the dark, crowded masses of Lower Manhattan's office towers.

133 Product reports

135 Office Literature
170 A/E Update
186 Advertising Index
188 Classified Advertising
189 Reader Service Inquiry Card

NEXT MONTH IN RECORD

Building Types Study: Schools
Fewer pupils, surplus space and bare-bones budgets have placed enormous pressures on both private and public schools serving kindergarten through twelfth grade students. The architect's role in maximizing the investment that is made in space in a way that nurtures learning is the subject of this article on rehabilitating schools.

ARCHITECTURAL RECORD
Tweedle-dum; Tweedle-dee:
Where do they get those priorities?

Nothing inconsistent about me: I went up in smoke again when I read that the President had chosen—now that he had decided to release some impounded funds—to release $2 billion of impounded Highway Trust Funds. $2 billion for roads that we’re supposed to minimize driving on so we won’t waste gasoline! $2 billion for roads when innovative housing programs (like New York State’s Urban Development Corporation) are foiling! $2 billion for roads when there’s no money for slum rehabilitation?

The reason for the release of $2 billion for roads would seem to be based not on any kind of real need (on a scale of 1 to 10, where would you put roads, compared with, say, low-income housing or nursing homes or slum rehabilitation—or pollution control, or better urban schools, or food stamps?)

It sure looks that this particular $2 billion got released because it’s the easiest $2 billion to release—the President can simply un-impound it from that blankety-blank, single-purpose, beautifully financed Highway Trust Fund without getting involved with Congress.

The problem is compounded, seems to me, by the rules of the Highway Trust Fund, which require matching funds—sometimes 10 per cent, sometimes 30 per cent—by the states. Thus, the release of $2 billion by the Federal government will give the state governments a Hobson’s choice: If they don’t come up with the matching funds, they will be subject to highly organized criticism from political opponents, labor, the highway lobby, et al for “failure to obtain available funds for jobs through sloth and incompetence (or something like that).” If they do elect to try and scramble, on a first-come, first-served basis, for their “share” of the Federal money, they are surely diverting limited state funds to highways that they might (given a free choice) use for an entirely different array of priorities.

Finally, while we’re coping with inflation, let us consider that in no other area of construction have costs gone up over one-third in the last year—as they have in road-building.

There is no doubt that the road-building industry can use the boost. But . . .

The Acting Secretary of DOT, John Barnum, makes a “good case” for this particular un-impoundment: the money can be committed immediately, with preference being given to projects that can begin immediately; an estimated 107,000 jobs will be created, half on construction sites, half in supplying industries; and unemployment is drastic in the highway construction industry.

Can’t argue with any of that—except to suggest that you could make the same case for releasing housing funds; with the added kicker that what we could get for the $2 billion if it were housing funds that had been released is about 100,000 housing units that real people could live in instead of more road. The same and probably more jobs in an industry with equal unemployment. Housing starts might even (one blushes to suggest) employ a few architects.

Isn’t (for example) housing coming back anyway; and gotten its own Federal funds?

The answer is yes and no; and mostly no: George Christie, chief economist for McGraw-Hill Information Systems Company and the most accurate crystal ball in the East, points out in his first 1975 Forecast update (page 63): “While the improvement from beginning to end of 1975 is able to be quite strong, the year’s total of housing starts is not apt to exceed 1.4 million, mainly because the recovery will be taking off from an extremely low point.” N.B.: Most of that housing, Mr. Christie figures, will be single-family housing.

At the NAHB conference/Exhibition in January, the homebuilders were cheered by promises of more support from the Feds. For example, under the Home Buyers Emergency Assistance Act of 1974, $3 billion has already been released for mortgage funding and another $2 billion is due soon. Sound good? That’s about it: It sounds good. But for a whole lot of complicated reasons (including the not-so-complicated reasons that houses now cost more than people are willing to pay for them) the mortgage- easing routine hasn’t worked.

So why not be $2 billion direct about it? In August 1974 the President signed the Housing and Community Development Act of 1974, authorizing $12 billion of spending authority over three years. That money was intended for direct subsidy of housing and the improvement of community infrastructure—like water treatment and pollution control. Almost none of that $12 billion has been appropriated because HUD just hasn’t gone after it—which is just about as useful as impounding it. How about $2 billion of that money?

In short, while we’re making jobs (and there is indeed a great need for that) how about making jobs that make improvements that are needed more than new roads?

—Walter F. Wagner, Jr.
Reducing building energy use: How—constraints or incentives?

It’s no secret that Federal and state governments, and model-code groups as well, are moving toward mandatory standards for energy usage in buildings, and with little momentum. The Administration’s proposed Energy Independence Act of 1975 would require HUD, with the collaboration of the Federal Energy Administration and Department of Commerce, and utilizing the National Bureau of Standards, to propose energy performance standards for both residential and commercial buildings. Buildings that don’t comply would not be eligible for federally-financed loans, or even loans from federally-insured or regulated banks. State and local codes are viewed as “an existing means by which to assure with a minimum of Federal interference . . . that newly constructed buildings contain adequate energy conservation features.”

Ever since the oil embargo, political pressure has mounted for codified building energy standards. And if these are to be enacted, many building departments and code groups would like to reference a consensus-type standard that is clear and enforceable.

Whether these standards will be of the prescriptive or of the budget type remains to be seen. Many state governments are currently considering ASHRAE Standard 90 P, “Energy Conservation in New Building Design,” which is prescriptive with respect to the building envelope, but which provides a budget approach for determining permissible watts per square foot for lighting. The building designer doesn’t have to abide by the prescriptive rules, however, if he can demonstrate that his design will not exceed the budget figures determined by the 90 P requirements.

The state of Ohio, on the other hand, has developed energy budgets for the 67 building types included in their state code. The budget figures are Btu/hr/sq ft connected load (not energy usage), and typically are 50 Btu/hr/sq ft (about 112,000 Btu/sq ft/year) for office buildings, 40 for elementary schools, 70 for hospitals, 100 for stores.

Neither ASHRAE Standard 90 P nor Ohio’s energy code set limits on actual energy consumption, and for this reason have been criticized by some architects, engineers and building owners among others. While actual energy consumption can be directly determined by meters and fuel bills, it is not easy to say how it might be predicted during the design stage, and whether qualified personnel would be available in building-code departments to evaluate such predictions.

The American Institute of Architects, commenting upon ASHRAE 90 P, has stated, “The present state of the art is such that no reliable standards can be set, and the adoption of the standards approach in formal legislation . . . may retard the nation’s realization of its greatest potential in conserving energy in buildings.”

The AIA has taken a completely different tack, indicated with their presentation of their new report last month, “A Nation of Energy Efficient Buildings by 1990.” Their premise is that older buildings should be retrofitted, and new buildings designed with more energy-conserving equipment. The AIA states that this approach could save as much raw energy as each of the prime energy systems produce: domestic oil, nuclear energy, natural gas or coal.

But in a capital-short economy—which economists predict will continue for some time to come—where is the money to come from?

Leo A. Daly, FAIA, chairman of the AIA Energy Steering Committee, in a talk before the Federal Power Commission, suggested that 12.5 million barrels of oil per day (equivalent) could be saved by 1990 with energy-conserving new and retrofitted buildings. He estimated the capital to generate this otherwise “wasted” energy as $415 billion. If the additional cost to buildings were 10, 15 or 20 per cent, the time required for payoff would be 10, 13 and 15 years, respectively.

The AIA sees this sort of strategy: with reduced payback periods (10, 13, 15 years instead of 30), national capital shortage would be significantly reduced. Present energy suppliers would begin to act as “the basic integrator and manager of a national energy system.” There would be an optimum mix of on-site generation and traditional supplies. The energy system within the building, says the AIA, might be owned by the utility and an energy service charge would be levied, which could be structured for a higher return, yielding a surplus to go back into capital investment “to keep the ball rolling.” But utilities appear to be having plenty of trouble right now getting their rates increased to pay for higher fuel costs and for capital expenditures for new generating facilities. In fact, they lost potential capital during the oil embargo when customers cut back energy usage by 12 per cent or more during the winter months. So again the question, where does the capital come from? Has the AIA talked to the “energy” companies? To the Federal government?

Can energy budgets work? Where do the numbers come from?

The energy budget idea is attractive to architects. Some engineers, such as Arnold Windman of Syska & Hennessy, think it makes sense too. Writing recently in Business Week, Windman says that there has been too much leggoiing and too little engineering applied to, in all, air pollution, and, now, energy. He thinks that energy budgets could be developed for business buildings if the sample is large enough—in this case, at least 2,500.

Manufacturers of glass and lighting products would prefer to see the energy budget approach take precedence. They feel, and without justification, that prescriptive requirements for the building envelope and for candle levels limit the options of designers and building owners, and unduly penalize the building sub-systems.

The Flat Glass Energy Conservation Committee has proposed a Model Energy Budget Bill, which gives values for the “design” and “minimum annual energy consumption at the building boundary excluding process equipment” Btu’s per gross square foot.” Typical values are: 150,000 for office buildings, 125,000 for schools, 175,000 for hospitals, 200,000 for mercantile.

In support of the 150,000 figure for commercial buildings, the Committee cites a 1972 BOMA (Building Owners’ and Managers’ Association) survey of 531 office buildings averaging 150,000 Btu’s per sq ft/year. “A ‘light energy standard’ by consulting engineers Ross and Barzun, aided by BOMA International, showed an average of 122,119 for 86 buildings with computer facilities, and an average of 172,409 for 144 buildings with computer facilities.

Engineer Larry Spielvogel doesn’t say that meaningful energy budgets are all that easy to arrive at. He cites the range of budget numbers found in surveys. Further, he points out that energy consumption varies with such things as mechanical system—fan-coil, induction, variable-air-volume; central vs. unitary systems; energy, for one thing, can be very significant. Also, he points out, there is no direct relationship between installed capacity of hvac equipment and energy consumption.

There seems to be little, if any, discussion publicly of whether or not energy conservation itself might be a sufficient constraint for banding energy—the constraint perpetuates a bit with capital tax reductions and more efficient hvac equipment. Despite present disparities in energy costs across the country, the feeling in Washington is that nothing will even out, and everybody will pay more.

On the other hand, considering the Administration’s philosophy of letting the market self-regulate the economy of the market—the “real” cost of goods—determine prices to consumers, it’s hard to wonder whether tax penalties might be applied to excessive consumption of energy above “budget” numbers.—R.F.
A dynamic construction advance that means superior hospital care-systems at significantly lower cost!

COM/CORE obsoletes all room-to-room conduit runs, and many outlets and overhead connections. It gathers communications, power, and life-support pipelines in one continuous COREWAY that lets you add services—even modify entire patient wings—with a minimum of downtime and expense.

COM/CORE drop-feeds services to prewired wall CONSOLES which have provisions for every patient/staff facility you may need now or in the future. Mounted back-to-back, they eliminate in-wall conduit, piping, separate headwall outlets, boxes... permit minimal wall thickness for more useable room space.

COM/CORE works with any ceiling and wall subsystem; is pre-engineered to install fast and accurately. It speeds construction, lowers labor costs, reduces interim financing and helps achieve earlier occupancy. From planning and design to operations and maintenance... every facet of the hospital is positively affected by COM/CORE!

Find out how COM/CORE can work for you. Write today for Bulletin XD4135. Your stamp will be the biggest dime's worth you've ever invested.
PATNEL* decorative paneling
Versatile, Durable, Cleanable

One frp wall panel that serves all purposes for fast food chains and restaurants. It's warm and festive and lends color, cheer, and atmosphere to dining, customer, and service areas. It's tough, stain resistant, easily cleaned, and stands up to daily wear and tear in kitchens and work areas. It repels grime and grease ... stays bright, colorful, and new looking.

For a completely coordinated look, this indoor/outdoor PATNEL panel of fiber glass reinforced plastic is also ideal for soffits, fascias, washrooms ... or anywhere decor is important, durability is a must.

PATNEL paneling is offered in a wide variety of standard colors and patterns.

Yet, your individuality and creativity in design and color can be reproduced to your work an exclusive, custom look. Color and design are embedded within each panel where they cannot chip or fade. They will keep their fresh, bright appearance.

PATNEL paneling—easy to install, clean, easy to maintain. This “go everywhere” panel provides the design and decorative versatility you need.

Request samples, specifications, and information today.

*KATNEL paneling is manufactured exclusively by Kemlite Corporation, Joliet, Illinois.

For more data, circle 10 on inquiry card
How to get more production out of your drafting room.

We don't mean your draftsmen aren't working hard. Certainly they are! But what exactly are they doing? Probably a lot of their work involves revisions, repetitive elements, maybe even restorations. Much of which could be done in minutes instead of hours—photographically.

We can explain how Kodagraph films and papers and modern photoreproduction techniques can cut redrawing time to a minimum...give you more design time...and probably make your drafting budget go further, too.

And we can show you how to get reproductions back to your draftsmen faster, with a Kodak Supermatic-Star processor. This automated unit processes both wash-off and conventional films, quickly and with outstanding uniformity.

For more information, write: Eastman Kodak Company, Graphics Markets Division, Dept. R5717, Rochester, N.Y. 14650.

Kodak products for drawing reproduction.

For more data, circle 11 on inquiry card
It may be the best way to achieve the effect you want within your budget.

Because of its versatility, light gage steel framing offers worthwhile opportunities for savings in buildings of all shapes and sizes... without restricting your design.

Its uses range over a wide spectrum, including: floor, ceiling and roof conditions; interior load bearing walls and non-bearing partitions; and a great variety of exterior wall conditions. It can provide the complete structural framework for buildings up to four stories high.

Just about any surfacing material may be used with Inryco/Milcor. Interiors may be drywall, plaster over metal lath or gypsum lath, wood paneling, etc. Exteriors may have cementitious membranes—textured stucco, exposed

Don't overlook the versatility of Inryco/Milcor light gage steel framing.
aggregate, simulated brick or stone—or may be brick veneer, metal panels, textured plywood or any other finished material.

The savings it offers may be the result of any one or a combination of factors: easier execution of intricate details; lower in-place cost; faster erection; reduced fire and footing requirements because of weight; insurance savings through incombustible steel. Some or all of these led to its selection for use in the varied buildings shown in the accompanying photos—a small representative selection of recent Inryco/Milcor projects.

No matter where your design emphasis is concentrated—high rise or low rise; commercial, institutional or industrial—Inlyco/Milcor Light Gage Steel Framing systems might well provide the perfect solution to a budget problem. See our catalog in Sweet's, section 5.3/In. Or, if you'd like our representative to call and discuss how the advantages of these systems may apply to a project you are planning, please contact: Milcor Division; INRYCO, Inc.; Dept. D, 4033 West Burnham Street, Milwaukee, Wisconsin 53201.

INRYCO
an INLAND STEEL company

General Offices: Metropark Park, Illinois
Formerly INLAND-RYERSON CONSTRUCTION PRODUCTS CO.

For more data, circle 12 on inquiry card
Right now is when you should call in Simmons for all the furnishings.

With rising construction costs and the need for careful budgeting, you have to know what your total job will cost—right from the start. And the faster you know, the faster you can turn your drawings into paint and plaster. So the more dollars you stand to save.

That's why right now is the time to call Simmons for your complete furnishings needs.

Simmons can supply virtually everything for your interior design, from lamps and accessories to carpeting. And everything in between. You'll have a single, complete quote for the entire job. That will make budget planning easier and much more accurate.

When you give the complete furnishings assignment to Simmons, you'll save a lot of hassle later on, too. For example, there'll never be a case of carpeting clashing with draperies. Because Simmons' design staff can work it all out with your interiors specialist. It's part of the service.

In addition, you'll have a Simmons project coordinator to take care of all the bothersome paperwork and other details you'd normally have to handle yourself. Think of it—only one man to deal with instead of dozens of salesmen and suppliers. And no need to worry about making sure that the walls are up before the wall covering arrives and the carpeting is down before the furniture is delivered.

Your Simmons coordinator takes care of everything. In fact, he may even be able to offer assistance with the financing.

But perhaps most important, your mind will be at ease with the knowledge that everything you buy is Simmons quality. So that once your interior job is complete, you won't have to worry about replacements for a long, long time.

Ed Parrish would like to tell you more about how Simmons can handle your project's total furnishing needs. Contact him at 1870 Merchandise Mart, Chicago, Illinois 60654.
Phone: 312/644-4060. Call him now and let him in on your plans.
E CUBE: A COMPUTER PROGRAM TO HELP YOU MAKE MONEY-SAVING, ENERGY-SAVING DECISIONS.

A THREE-PART LIFE CYCLE ANALYSIS

1. ENERGY REQUIREMENTS.
E CUBE computes the hour-by-hour energy requirements of your building or planned building for an entire year—taking into account U.S. weather data, solar loads, building design, operating and occupancy schedules, and other operating factors. It sums them coincidentally—for single or multiple zones, even multi-building projects. And there’s an easy manual check for every calculation.

2. EQUIPMENT SELECTION.
E CUBE lets you build, on the computer, a model of an energy system. Lets you “operate” that system so you can evaluate its performance. E CUBE can simulate many systems for you to compare—from all-electric to total energy, or any combination along the way—so you can choose the one that works best for you.

3. ECONOMIC COMPARISON.
E CUBE compares the total operating and capital costs of each system you study—takes project life and equipment life into account, provides for irregular and replacement expenses, and ranks the systems comparatively for life cycle costs.

E CUBE is accurate. There are other computer programs in this field, but E CUBE is by far the most advanced and has the experience of thousands of runs made by the American Gas Association member companies, industry, and people in private practice. The U.S. government is among the many successful users of E CUBE.

E CUBE is fast, private, moderately priced. When we say it’s private, we mean you give your information directly to the computer. Your project data and the results are never seen by any third party. E CUBE is available to you through the Cybernet® System of Control Data Corporation, with installations in 44 major cities. Of course, we stand ready to provide assistance at your request.

An energy saver for new buildings and existing ones. Whether you’re in the construction-planning stage, remodeling, upgrading and replacing old equipment, or simply want to check your building’s efficiency, E CUBE can help you make the right decisions. Right financially and right for conserving America’s energy.

Helps you prepare many required reports. Here’s another reason you’ll find the impartially, statistically calculated results of E CUBE a tremendous help. It provides information for environmental impact statements, cash flow projections required by senior lenders, and is useful in profit planning.

For further information, mail in the coupon below or telephone Ken Cuccinelli, American Gas Association, (703) 524-2000.

For more data, circle 14 on inquiry card
Go ahead. Be creative. Congoleum can match ideas with floor designs for any theme.

From bricks to sunbursts, and woodgrains to mosaics. We've added new designs in Spanish, Mediterranean, Early American, European and Eastern. Congoleum cushioned vinyls have the features women want most...the ease and convenience of no-wax Shinyi-Vinyl®, the comfort of cushioning, and 475 exciting patterns and colors to choose from. So go ahead...create with us on your next project.

an elegant new dimension in framing and entrances

Kawneer's I-Line narrow profile aluminum framing and entrances have added an aesthetic new refinement to design.

For the first time, the beauty of clean, ultra-thin vertical lines on the drawing board have been transferred directly into construction. Without sacrificing functional considerations.

I-Line framing's 1" sight line reduces the profile of traditional 1 3/4" framing by nearly one-half. Yet, ingenious design provides the same structural strength and glass bite . . . with easy "in-line" flux glazing to accommodate thicknesses up to 3/8".

Framing and complimentary thin stile doors are available in clear anodized aluminum or Peranodic colors. A free brochure illustrates and describes the line, plus hardware and design options. For your copy write to the address below or call your representative.

For full information, see your Kawneer representative or contact Kawneer Product Information, 1105 N. First Street, Dept. C, Niles, Michigan 49120.

For more data, circle 15 on inquiry card.
Compare TI’s NEW SR-51....

- Mean, variance and standard deviation.
- Automatic linear regression.
- 20 programmed conversions.
- Percent and percent difference.
- Random number generator.
- 3 accessible memories. And much more for only $224.95

More math power for the money. More than log and trig and hyperbolics and functions of x, ... the SR-51 has these and also has statistical functions... like mean, variance and standard deviation, random numbers, factorials, permutations, slope and intercept, and trend line analysis. Check the chart above — compare it. With the HP-45 or any other quality calculator. Then try it — at no risk. We're sure you'll agree that the SR-51 offers extraordinary value.

TO: Texas Instruments Incorporated
P.O. Box 22013, M/S 358, Dallas, Texas 75221

Try it 15 days. Return with all accessories if not satisfied.
Enclosed is my [ ] check, [ ] money order, [ ] company purchase order for $ for the purchase of [ ] SR-51(s)
Please add state and local taxes where applicable.*
Please charge this order to my [ ] Master Charge. [ ] BankAmericard
My Card Number is: [ ]

With the expiration date:

Test the SR-51 at no risk. Full refund if not satisfied. Master Charge or Bank Americard accepted.

© 1975 Texas Instruments Incorporated
13500 North Central Expressway
Dallas, Texas
Create bold, beautiful roofs to crown your finest buildings.

Ludowici roofing tile provides lasting splendor for any structure.

With a wide range of patterns, colors, glazes and textures can accommodate any design or mood. From bold barrel patterns to subtle flat angles, from weathered faces to smooth multi-shaded glazes, Ludowici tile fuels the imagination of the most creative designer and satisfies the most demanding owner.

Ludowici tile resists elements. Rain, snow and time will not affect it. Time gently seasons the appearance, mellowing the hue and gently softening the texture.

The fireproof characteristics of Ludowici tile are important in this age of increasing concern over life-safety. Little or no maintenance is required. Tile will not decay or disintegrate.

With all these advantages, Ludowici tile remains cost competitive to other quality roofing materials. Even the least expensive material is more costly when tile’s durability and economy are projected over the life of the structure.

The timeless elegance of Ludowici roofing tile adds a lasting value to any residential, industrial, commercial or institutional building. For more information on this thoroughly practical material, locate your local distributor in the Yellow Pages, or use the coupon.

Ludowici-Celadon Co.  
111 East Wacker Drive, Chicago, Ill. 60601  
Gentlemen,  
Please send me your full color literature.

Name:  
Firm:  
Address:  
City:  County:  
State:  Zip:

For more data, circle 16 on inquiry card.
A biological research tower, a building for which there is no historical precedent, is given human scale and historic reference by brick.

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

Two expressions of the beauty and flexibility of masonry by Ulrich Franzen, FAIA.
Dunham-Bush saves Blakewood Elementary School $9,913 per year in heating and cooling.

(A Case History: Heat Recovery vs. Conventional Heating/Air Conditioning)

Add up the yearly savings any way you want: $9,913; 583,150 KWH; 121 days free heating and cooling. The advantages of a hydronic heat recovery system featuring Dunham-Bush equipment over a conventional gas heating/electric air conditioning system are measurable in dollars and energy savings every day of the year.

The Blakewood School system is a central type water-to-water heat pump, heat recovery and storage system incorporating a Dunham-Bush PCX-230 Rotary Screw Compressor Packaged Chiller. It provides simultaneous heating and cooling. Hot water from the special condenser and chilled water from the evaporator is supplied to heating and cooling coils. Heat is recovered from lights, people and equipment for use when heat loss exceeds heat gains.

Heart of this system is the Dunham-Bush Rotary Screw Compressor Packaged Chiller with a condenser designed for hydronic heat recovery. It requires less maintenance because it has fewer moving parts. Conserves energy because its stable operation is maintained over the entire operating range. You can depend on that. We pioneered rotary screw packages. Contact your Dunham-Bush Sales Office listed in the Yellow Pages, or mail the coupon.

For more data, circle 18 on inquiry card

DUNHAM-BUSH, INC.
175 South Street, West Hartford, Conn. 06110
One of The Signal Companies®
Combine
decorative design decisions
with favorable life-cycle costs.

New construction or renovation, Wilson Art helps meet the tough design and budget decisions so critical today.

Design Flexibility
Over 200 different esthetic choices. Four finishes make designing an
iting, challenging and ultimately satisfying experience. You coordinate
control absolutely every application on the board today and in the completed project later.

Control
When costs are considered, Wilson looks even better. Exceptional durability—applications can look new for
long as 20 years. Minimum main-
nance. It is difficult to damage a Wilson
Art surface. And cleaning is easy and
needed infrequently. Life-cycle cost is
one of Wilson Art's best features.

Service Reputation
Service is our specialty. Construction delays cost money. Because of Wilson Art's unique warehouse concept,
no fabricator will be delayed in finishing your project—whether he needs one fill-in sheet or one-thousand sheets.
Next time you're evaluating decorative surfacing for furniture and fixtures, for walls (four different Wilsonwall systems) or door surfacing (Dor-Surf),
call a Wilson Art representative, or write for a complete set of specification materials. Either way, we'll answer promptly.

For more data, circle 18 on inquiry card.

Specify Wilson Art laminate plastic
for furniture, fixtures,
walls or door surfaces.
Both carpets cost the same. But 68% of the people we asked preferred the one on the left, thanks to high-density foam.

The carpet on the left has 22 ounces of fiber and 38 ounces of foam per square yard. The one on the right has 26 ounces of fiber and 18 ounces of foam. Both have exactly the same raw materials cost.

We asked 150 women in three cities—Philadelphia, Chicago and Los Angeles—to walk on both. Then we asked them to tell us which one they preferred. Which one they judged to be of higher quality. And which one they thought would be more expensive.

Of the 150 women we asked, 68% preferred the one on the left, 67% judged it to be of higher quality, and 63% thought it would be more expensive. Even though the one on the right actually had a higher fiber content.

The results speak for themselves. When you specify a quality high density backing for your latex foam backed carpets, you’ll have noticeably higher perceived quality and greater consumer appeal. Which means you’ll have more satisfied customers, and be able to maintain higher mark-ups.

Your Goodyear Chemicals representative will be happy to discuss with you the complete results of this study. To get in touch with him, just write Goodyear Chemicals, Dept. 7187, Box 9115, Akron, Ohio 44305.

GOODYEAR CHEMICALS
Federal policies in housing, transportation and labor have shifted to new cabinet members. Clara Hills, the new Secretary of Housing and Urban Development, is expected to have little to do with initiating policy, but will see to it that HUD programs maneuvered through Congress last year get off the ground successfully. The new Labor Secretary, John T. Dunlop, is well known to the construction industry and although not making his views on the industry situation known now, he has indicated support for a boost in housing. William T. Coleman, Secretary of Transportation, sees a need to promote more investment in transit. Profiles of these new cabinet members appear on page 34.

Changes in Senate and House Banking Committee leadership may have significant impact on construction financing. With Wisconsin liberal Democrats Senator William Proxmire and Representative Henry Reuss assuming the chairmanships of the two Banking Committees, the nation’s money markets, banks and thrift institutions can expect to be the targets of Congressional activity. Goals are to ease up the money supply, and aid the housing industry among others. For an in-depth profile of these two important public figures, see page 35.

The updated Dodge/Sweet’s Construction Outlook for 1975 places new construction value at $98 billion, up 5 percent over 1974. Residential construction, with 1.4 million projected new starts, will lead last year by 11 percent, but non-residential building is expected to decline by 10 percent, with a 1975 value of $30.6 billion. For further coverage of the Outlook, see page 57.

Changes in its construction management policies will be explained by GSA on April 23, in Washington. Changes in the GSA approach include: evaluation of construction manager qualifications; the scope of the CM's work; the criteria for CM selection; and the relationship between GSA, the construction manager, and the architect-engineer. Those interested in attending the briefing may contact Ms. Charlene Hester at (202) 345-4731, or write GSA in Washington, D.C.

The International Architectural Foundation design competition has so far received 400 applications to participate in the design of a housing community in Manila. Entrants are being sought from around the world, and the deadline for registering is May 15, 1975. (See page 176 for details.)

EPA has announced state shares of $4 billion for sewage treatment construction grants. The amount is said to represent a substantial portion of the funds which, under earlier Presidential direction, had been withheld from the allotment of sums for fiscal 1973 and 1974. The money will be divided among the states under the same formula that was used in the allocation of funds in fiscal 1973 and 1974.

GSA has issued a caveat emptor regarding “influence peddling” in A-E selection. According to the General Services Administration, it has come to their attention that there are certain public relations firms and similar organizations claiming to have “personal influence” in the selection of A-E firms for GSA projects. GSA warns that no such influence exists and that any allegation of such influence should be considered as false representation and treated accordingly.

Sir Nikolaus Pevsner has been awarded the Thomas Jefferson Memorial Foundation Medal in Architecture, presented by the University of Virginia annually to an individual who had made outstanding contributions to architecture. The April 14 presentation to the noted English architectural historian carries a $5000 prize. Dr. Pevsner is known for his 46-volume work, The Buildings of England, and has authored numerous other books, including An Outline of European Architecture. He is presently professor emeritus of art history at Birkbeck College of the University of London.

The General Services Administration second Biennial Design Awards program has been announced. GSA Administrator Arthur F. Sampson said entries are encouraged from architects, engineers, interior designers, energy consultants, artists, urban planners and private industry. Entries must pertain to projects successfully bid or where construction was begun by December 31, 1974. Entries will be judged in May and awards announced in June. More information may be obtained from Walter Roth, Public Buildings Service, GSA, 18th and F Streets, N.W., Washington, D.C. 20405.

An architectural design competition for a community school center has been announced by the NIAE. The 1975 Hironis Prize is co-sponsored by the National Institute for Architectural Education and the AIA, through the Educational Facilities Committee of the New York Chapter. The competition is open to all persons in the architectural field under 35 years of age who are not enrolled in a full-time architectural academic program. Interested persons may obtain a copy of the program from: Byron Bell, National Institute for Architectural Education, 20 West 40th Street, New York, N.Y. 10018.

New cabinet members have construction roles

Control of Federal policies in housing and urban development, transportation and labor has shifted to three new members of President Ford's cabinet. Only one of the three, Secretary of Labor John T. Dunlop, is widely known to the construction industry and in one capacity or another, Dunlop, a Harvard University economics professor, has been involved in trying to ease the industry's labor relations problems for 30 years.

In contrast, the new Secretary of Housing and Urban Development (HUD), Carla Hills, has little experience in either housing or urban affairs.

Before moving to HUD, Mrs. Hills headed the Civil Law Division of the Justice Department where she supervised the work of 237 lawyers and managed a budget of $11.5 million a year. At HUD, she will be responsible for the work of 15,000 employees and in charge of a spending program that President Ford expects to reach $7 billion in the fiscal year starting July 1.

Mrs. Hills job: making White House decisions work

Mrs. Hills has been likened to her predecessor at HUD, James Lynn, who—from the Ford-Nixon administration's point of view—to successfully managed the department that he was promoted to head the powerful Office of Management and Budget. Like Lynn she is a young, smart, successful corporation lawyer.

Mrs. Hills is expected to have little to do in the way of initiating or recommending policy

with trying to find some way the government can assist the nation's railroads in finding the funds necessary for future construction. Dunlop is the job of trying to convince Congress to relax Federal regulations in the transportation field.

In the highway-transit area, Coleman recently told a panel of senators at his confirmation hearing that more funds for transit capital projects may be needed beyond the present $12 billion Federal commitment to transit over the next six years. However, he resisted any suggestions that the highway program should be totally abolished. Until transit facilities can be greatly improved, Coleman added, "Society's best hope is not turning away from the private automobile. For this reason, the interstate highway program as well as the rural program will have to be an important part of any over-all transportation system," he added.

Meanwhile the Administration is committed to finishing the interstate system, it has also proposed a radical change in road funding. Under the program, expected to take effect by 1972, annual fundings will be increased to a level of $1 billion. Federal funds will be used to purchase equipment and supplies for the state's road building. The funds will be used to finance the roads' construction and maintenance and the state will be responsible for the roads' operation and maintenance.

Dunlop: a respected pro with a tough new job

John Dunlop's involvement in the labor relations problems of the construction industry for the past three decades has been so deep he can now be considered an expert. Dunlop will have to work with not only the construction industry, but also with the labor unions, to find a solution to the problems of the construction industry. Dunlop has been called on by law enforcement to advise them on the construction industry. Dunlop has also been a member of the Board of Directors of the American Institute of Architects and has served on the Board of Directors of the National Trust for Historic Preservation.

The AIA also announced that Van Buren Bruner Jr., who has been named as the recipient of the Whitney M. Young Jr. Foundation for 1975. Mr. Bruner, a member of the Board of Trustees of the Whitney M. Young Jr. Foundation, has been a member of the Board of Trustees of the Whitney M. Young Jr. Foundation for 1975. Mr. Bruner, a member of the Board of Trustees of the Whitney M. Young Jr. Foundation, has been a member of the Board of Trustees of the Whitney M. Young Jr. Foundation for 1975. Mr. Bruner, a member of the Board of Trustees of the Whitney M. Young Jr. Foundation, has been a member of the Board of Trustees of the Whitney M. Young Jr. Foundation for 1975. Mr. Bruner, a member of the Board of Trustees of the Whitney M. Young Jr. Foundation, has been a member of the Board of Trustees of the Whitney M. Young Jr. Foundation.
Banking chairmen may shake money markets

Feisty Wisconsin lobbyists, Senator William Proxmire and Representative Henry Reuss, are the names of the Senate Banking Committee, housing policy, as well as those same guidelines and committees which have constructed the industry's activities will be affected.

The years the nation's markets, banks and thrifts have operated with a sense of foreign experience from the Competition Act has been in the headlines frequently with attacks on the Federal Deposit Insurance Corporation. While both support their successors—Reuss the seniority system, Proxmire the lobbying legislation—Proxmire has reasserted that via the seniority system with Sparkman, the Foreign Relations, Reuss has reasserted that via the seniority system with Sparkman, the Foreign Relations. Both Patman in a group from the seventh floor from fourth place on the committee to the chairmanship have been nurtured in Wisconsin politics.

Proxmire has waited nearly 20 years for their chairmanships, and is determined to make them stick.

**Prescription:**

**Gradualization of money**

The Wisconsin duo do not expect an overnight solution. Immediate changes are in order: pressure on the Federal Reserve to ease up on the supply, an effort to beef up controls in concentration industries, and a rescue plan for housing.

The long-range creation of an independent agency to regulate the country's banks and a subcommittee to overhauls of financial institutions, including moves to raise savings and loan associations' competitive status on the agenda.

The Fed's own policy to stay neutral. Twice before the agency has backed down under Congressional opposition.

Both argue for more investment in social purposes

Another prominent theme in this year will be credit allocation. Democratic leaders in Congress have embraced allocation as a party position, and the two banking committees will be holding hearings. Proxmire is cool to the idea, except that he would consider ways of requiring banks to put more of their lending into the housing field. Reuss has been in the possibility of requiring the Fed to buy more housing paper, or use the discount rate to steer money into mortgages.

Reuss has introduced a bill ordering the Fed to allocate credit to "priority" social purposes such as housing, small business and "productive capital investment." The legislation was aimed at increasing investments in community banks by competing with large-scale lending to residential housing. However, the bill was defeated after a floor debate.

**Grand Central loses landmark status**

Late in January, New York's State Supreme Court (New York) Justice Irvin H. Saypol invalidated the landmark designation of Grand Central Terminal in New York City, paving the way for what many feared would be another demolition of the structure, or construction of a 59-story office tower over it.

The court decision did not question the constitutionality of New York's landmark laws, but did find that Grand Central placed an economic hardship on the owner, Penn Central, by preventing the building from earning income from its property. However, in the current soft commercial space market in New York, the feasibility of building on the site is questionable; and a Committee to Save Grand Central Station has been formed to work toward an alternative to the court's decision.

The Committee includes, among others, Philip Johnson and Paul Rudolph. There is also a national wing headed by William Marshall, AIA president, and James Biddle, National Trust for Historic Preservation.
INRYCO
a new name for a century-old company

Though we've decided to change our corporate name, we have no intention of changing our established goals of providing the construction industry with improved products, systems, and services to help you design and build.

Our new name will be a little easier to use than the one we now retire...

INLAND RYERSON CONSTRUCTION PRODUCTS COMPANY
And, since our company's activities now go well beyond supplying construction products, we thought our name should not limit us to that role, vital as it is.

"Inland-Ryerson" now joins the ranks of other names, familiar to you... names of our predecessor companies:

Milcor Steel Company
Inland Steel Products Company
and the construction divisions of Joseph T. Ryerson & Son, Inc.

INRYCO, Inc. remains a wholly-owned subsidiary of Inland Steel Company.

We'll be seeing more of each other!


INLAND STEEL an INLAND STEEL company


For more data, circle 22 on inquiry card
Piper's Alley, Chicago: nostalgia and Victoriana enrich shopping mall

According to the architect of this project, Stanley Tigerman, Piper's Alley in Chicago's "Old Town" has over the years remained a "nostalgic niche, small specialty shops clad in the garb of Queen Victoria." With a desire to retain and expand upon that notion, Mr. Tigerman—through some remodeling, but primarily by new building—plans to expand the Alley into an internalized vertical commercial mall bridging (below) over Wells Street and extending 750 feet along North Avenue (see above). At either end a major drug store and a grocery store anchor the plan, with specialty stores in between. The character of the ground floor has for decades been reminiscent of the Crystal Palace era, hence the English mannerisms (see section, left). On other floors, store fronts approximate Scandinavian, Art Deco and other regional, historic commercial moods seen since the industrial revolution. The first stage of the project will begin in June, with the remodeling of a garage into shops.
The loose-fill cavity wall insulation that outperforms all other mineral fills!

It's Permalite® Silicone-Treated Perlite Masonry Fill and it's available now!

Permalite® Silicone-Treated Perlite Masonry Fill stays dry for the life of the building because the inorganic perlite particles are coated and waterproofed with non-flammable silicone water repellent. It is your most effective barrier against penetration of moisture across the wall—offers most protection against moisture soak-up and water bridging in event of leaking walls.

Perlite provides 20% better insulation than any other popular minerotype loose fill,* reducing heat transmission by 54% or more and saving cooling and heating dollars that soon exceed its cost.

It doubles two-hour fire rated concrete masonry unit construction to four hours.

It pours in directly from the bag and is so free-flowing it fills all voids without bridging. It is self-leveling—won't settle or pack, and offers complete freedom from rot, termites and vermin.

Permalite Silicone-Treated Perlite Masonry Fill is manufactured from perlite ore mined by GREFCO, Inc., by licensed Permalite franchisees throughout the United States and Canada in conformance to Perlite Institute specifications. Write for specification data and the name of your nearest franchisee who can supply your needs NOW.

* k factor of 0.38 as published in ASHRAE Handbook of Fundamentals.

MAKE YOUR OWN INSULATION TEST

Put some Silicone-Treated Perlite Masonry Fill in a jar with water. (Your Permalite franchisee will gladly supply it.) Let it stand 6 hours, 6 days or 6 years. Shake it as hard as you can. The Perlite Masonry Fill stays dry! Laboratory tests prove perlite is five times more water-repellent than the next best mineral fill material!

PERMALITE SILICONE-TREATED Perlite Masonry Fill

For Veneer Wall Systems

For Cavity Wall Systems

GREFCO, Inc./Building Products Division
3450 Wilshire Blvd., Los Angeles, CA 90010

A subsidiary of General Refractories Company

For more data, circle 23 on Inquiry card
Construction begun on Maryland synagogue

1976 completion date is planned for the 55,000-square-foot Congregation B'nai Knesseth Synagogue Complex in Harford County, Maryland. Holtz, Karabekir, and Associates are the architects and planners for the project, a masonry structure to be located on a 3.5-acre wooded site near Washington, D.C. The spaces include a 600-seat main sanctuary expandable to 1700. The vaulted sanctuary ceiling (right) "floats" on a ribbon of glass, and is supported by four columns, 70 feet on center. Classrooms are located at left.

First Bank of Minneapolis

A 10-story concrete and glass building with a glass curtain wall, the new $6 million First Bank of Minneapolis was designed by the HNTB Co., Kansas City, Mo. The building, part of a redeveloped area of downtown Minneapolis, is located on the east side of the river near the State Capitol. A pedestrian bridge connects the building to the riverfront shopping plaza.

Bosttown Savings Bank rising in downtown Boston

Architects Collaborative, Cambridge, Mass., has designed this ten-story bank building under construction at Summer and Boylston Streets in Boston. The bank will be set back 50 feet from the corner, allowing for an outdoor park with trees and benches. A two-story main banking floor is planned, with escalators connecting it to a mezzanine.

Medical administration building under construction

This $7 million administration building for the Woodruff Medical Center at Emory University in Atlanta was designed by Heery & Heery Architects and Engineers. Situated on the high point of the site, the building is concrete, with red Spanish tile roofs and brick pavers inside and out. The building's triangular plan reflects circulation patterns across the site, and provides a plaza area as well, adjacent to an interior exhibit area.

Addition to Washington's National Airport started

Completion is expected for the fall of 1976 on this Allegheny Airlines Unit Terminal designed by Giuliani Associates. The $8 million project will include a skylighted ticketing lobby (above) featuring a kiosk type ticketing counter, departure lounge with four gates, and ground level aircraft support facilities. Efficient passenger flow is expected in the single-level scheme, which eliminates stairs and escalators. Construction was begun in mid-November of last year.
Sixty years ago this house was shingled with red cedar. Through six decades of rain, wind and sun the natural preservatives in the red cedar kept the walls looking beautiful. So when it came time to remodel it was only natural to use red cedar again.

And remodel is just what the architect did. He added bedrooms in the attic, repositioned kitchen and living areas, added a carport and a patio. He plumbed, rewired and renewed almost everything in the house. Most everything's been changed. From the new skylight windows to the swimming pool in the backyard.

What other material than red cedar could lend continuity and tradition to such a drastic remodeling? And what other material has the unique insulative properties of red cedar, a major consideration in the energy conscious '70's?

For your next new building or remodeling project, put Red Cedar Certigrade Shingles or Certi-Split Shakes on the job. You'll have the peace of mind of knowing they'll still be there, looking as good as ever for a long time to come.

For more details, write Red Cedar Shingle & Handsplit Shake Bureau, 5510 White Blvd., Seattle, Washington 98101. (In Canada: West Hastings St., Vancouver 1, B.C.)

These labels on bundles of red cedar shingles or handsplit shakes are your guarantee of Bureau-grade quality. Insist on them.

Red Cedar Shingle & Handsplit Shake Bureau
One of a series presented by members of the American Wood Council.
For more data, circle 24 on inquiry card
HUMAN SETTLEMENTS: WORLD NEWS

World Congress of UIA will meet in Madrid in May
The 12th World Congress of the International Union of Architects (UIA) will be held in Madrid May 3-10. Organized on the theme "Architectural Creativity and Technology," the Congress will feature speakers such as Giancarlo DeCarlo, Italy; Frei Otto, Germany; Kenzo Tange, Japan; Paul Rudolph and Luis Sert, USA; Oscar Niemeyer, Brazil; James Stirling, United Kingdom; and Arthur Erickson, Canada. (Mr. Erickson is the official advisor to the UIA-conducted design competition mentioned on this page in the Tapiola Medallion story.)
Congress regulations, programs, registration forms and fee schedules are available from AIA, Washington, D.C.

Manila competition attracts Texas students
Five Texas Tech University architectural students claim they are benefitting this semester from a large dose of cultural shock, and they're determined to use their experience to improve urban life.
The five are members of a nine-man student team—working with three faculty members—who have entered a competition offered by the International Architectural Foundation, Inc., (RECORD, March 1975, page 13) to design an environment for urban slum dwellers in Manila.
To get a better understanding of slum conditions in Manila, the five students made a three-week visit to Manila in December, to an area called the Tondo District, which has the highest concentration of inhabitants in the city. Within the Tondo there are 180,000 people, the students report, giving it a density of 685 people per acre.
While in Manila, the architectural students visited with officials of several government agencies to learn the parameters of the problem, and with community organizations. The Filipinos, they said, had done a detailed study of the situation and were helpful in sharing data and planning concepts.
The students also visited with individuals in the Tondo district to learn how they earned their livings, what they wanted out of life, how they looked upon the inevitable move from the Tondo which is soon to become an international port area.
"We found a surprising sense of community among the people," one student said, and "we want to design a new environment which will protect this valuable feeling."
The team hopes to develop an urban design approach which will refine strategies for understanding and responding to the character of people and their places.
Working with the nine-member student team are architecture professors William Stewart and Dudley Thompson, who went to Manila, and John White who did not.
(At this writing, over 400 architects and teams have entered the competition. For entry information, see pages 176-177, this issue.)

February 10, 1975 Dr. Urho Honkonen, President of Finland, announced the Tapiola Medallion honor for four distinguished persons who have made a "significant contribution to the creation of communities planned to meet the social and psychological needs of human beings.
Receiving the award were: Carlo Aalto (right); Otto-Livani (left), teacher and Bob Frommes (second from right), managing director of Société Nationale des Constructions à Bon Marché, Luxembourg; and Frederick Guthrie (third from left), formerly of the Washington Metropolitan Studies.
Professor Guthrie, who is a partner in the firm of Gutehrig/Erickson, Vancouver B.C., was instrumental in setting up the International Architectural Foundation (see RECORD, March 1975, page 10) which is sponsoring an international design competition for housing in Manila. His associate, Arthur Erickson, is the Canadian advisor to the competition.
Tapiola Medallion was established in 1971 to commemorate the principle that community planning should never lose sight of the needs of its individual inhabitants. Aapiola is almost completely planned and now, the Housing Foundation Asuntoasatilo is planning a second phase. The new town of Kivenlahde, the housing center and a residential cluster of Tapiola, was planned and designed by the Italian architect Enrico Sottoli, who won an international design competition in 1965. Almost 80 per cent of the buildings in Tapiola were allocated state-subsidized housing units (21,400 persons in both low and medium buildings.)
The following are excerpts from remarks by Mr. Guthrie upon receiving the Medalion: Tapiola found its origin in the country's national reconstruction program of the early 1940's and has been an innovative model of community planning and the growth of towns had revealed the inadequacy of the conventional apparatus of housing and town planning. But its realization long after these immediate needs had waned was due to the pragmatic outlook and persistence of Heikki Von Hertzen, the managing director of the Housing Foundation. Widely known for its social concepts, its planning innovations and its architectural qualities, Tapiola has been studied equally for its resolution of the problems of housing finance, land development and central city-suburban relations. To the United States it has shown what private initiative can do.
"Today, when the city is widely regarded as an environmental problem, one surveys the world-wide experience with new towns with a fresh appreciation of this aspect of Tapiola. One does not have to eat the new towns doctrine as hot as it was cooked in order to subscribe to the need for greater social planning and participation.
"It shall conclude these brief remarks by reflecting on the Tapiola of today. Its importance is no longer that of a concept but of a realization. Here one sees the interaction of social and architectural ideas with the stubborn realities formed by time, money, politics, organization and the other worldly considerations. From being a subject of critical analysis, Tapiola has become the material history. In the panorama of new town failures, not simply of projects but of disasters of programmatic scale, the success of Tapiola requires historical interpretation. How did it survive the forces that have prematurely aged Cumbernauld and made it a passing fancy that converted the promise of Reston as an alternative to suburbia to another form of urbanization? They have placed the indelible stamp of bureaucracy upon the new towns of Britain and the Soviet Union alike?"
"An urbanizing world demands answers to these questions. They will be asked in the 1976 conference of the United Nations on human settlements. One would like to think that Finland could offer there in Vancouver some graphic description in which pride of accomplishment is balanced by a mastery of historical interpretation that will allow the meaning of Tapiola today to be given a worldwide application equal to its worldwide renown."
Sullivan versus Burnham?
It’s now Burnham versus Sullivan


Reviewed by Edmund M. Bacon

The conflict between Daniel Burnham and Louis Sullivan, those titans of the once-fcund Chicago school, is an issue which is as bright today as it was when these giants first articulated it during the decades around the turn of the century.

At first, of course, “Dan” Burnham was the darling of the establishment, the friend and co-worker of such people as Cyrus McCormick and Frederic Delano. Louis Sullivan, physically warped and financially impoverished, was the voice from the wilderness. As time went on the Sullivan cry was picked up by a growing number of “modern” architects, until they themselves became the new establishment. Anyone who dared to say a good word for Daniel Burnham was immediately pounced upon, and branded with those pejorative words, “City Beautiful Movement,” which, for some obscure reason, were supposed to represent everything that was reprehensible. This type of thinking impregnated the whole structure of the intellectual establishment, and still is mindlessly repeated as the new truth except in such arcane corners as the pages of the Journal of the Society of Architectural Historians.

Daniel Burnham of Chicago by Thomas S. Hines restores the discussion of this conflict to the level of a rational discourse. The value of the book lies in the fact that it is a serious attempt to restructure the issues raised by the Burnham-Sullivan conflict in the light of what we know today. To my mind this restructuring is of very great value and is long overdue.

Lest by my ponderous introduction I give the impression that this is a formidable, academic type of book, I hasten to say that it is a very warm, personal biography of a very interesting and enjoyable character, and that the book is beautifully written. When I first heard of it I wondered why, in these days of paper shortage, a new biography was needed in view of Charles Moore’s 462-page two-volume biography of Burnham, first published in 1921 and recently republished by Da Capo Press. The answer lies in the fact that Hines knows how to write, levered by the historical perspective that has accumulated during the period between the two books. Unfortunately, in terms of size, layout and quality of illustrations, we have gone way downhill since the 1909 “Plan of Chicago” was put out under Burnham’s supervision. In terms of communication the contrast between this and the Hines book is startling, the latter most assuredly not communicating by its design the ebullience, stature and breadth of view of its subject. This

handicap is largely offset by the freshness of the writing, which never lags.

This is a many-faceted book. Even if one were not interested in architecture or city planning, nor especially in Burnham the man, one would likely find the book rewarding because of the window it provides on a significant period of American history. Here the writer’s skills come on full force. Through a judicious intermix of separate documentary fragments and sociological backgrounds, Hines brings alive many of the forces that were beating upon Burnham and his contemporaries, and which are shaping our lives today.

At this point I would express a slight disappointment. While I think Hines succeeded admirably in connecting Burnham with historical movements one or two decades before and after his work, I do not think he did as well in relating Burnham to his deeper roots going back to the earlier history of the country, nor to the longer-range implication and impact of his work. The discussion of the interrelation of Burnham’s and L’Enfant’s approach to the planning of Washington is superficial, and, while frequently mentioned in the book, the debt that modern city planning owes to Burnham was not adequately covered.

Details stand out. I wish even more stress had been laid on the basic plan and interrelation of buildings and landscape in the 1893 World’s Columbian Exposition, and its long-term lessons, such as: the plan is more important than surface stylistic manifestations. I wish he had discussed the fact that Daniel Chester French’s colossal figure of the Republic turned her back on Lake Michigan, probably because this fact intrigues me. But under such a broad, generous, lucid ambience, all is forgiven.

It is fashionable nowadays for academics and writers to take the disemodied view of the pure intellectual, to avoid at all costs expressing their own view of the value issues involved in the work they are doing, and so render themselves invulnerable to the accusation of error. Hines does not slide into this happy Nirvana.

In his discussion of the Sullivan-Burnham conflict, Hines is dealing with a very difficult issue. For some reason this issue seems to strike a very sensitive nerve, and almost all references to it have been highly inflamed. Hines’ description of it is measured, objective, fair and fascinating, and, I think, will carry along partisans of either side up until the end.

Then, thank God, he is willing to come to a conclusion. The last sentence of the book is a resounding declaration, and I leave it to you to read the entire book to find out what it is—but don’t read the end first.

Also received


A large collection of architectural interiors organized according to use—civic and community, business, teaching, worship, selling and display, dining and drinking, performing arts . . . and “living.”

Mr. Bacon was executive director of the Philadelphia City Planning Commission from 1949 until his retirement in 1970. In this role he began a continuous program of rebuilding for which Philadelphia has become famous. He is the author of Design of Cities.
Efficient buildings provide facilities to install today's sophisticated communications systems. Since these facilities should be integrated with your design, we want you to know about our Building Industry Consulting Service.

A Bell System consultant can advise you on local building codes which affect communications, and suggest a system that offers maximum efficiency and makes optimum use of space. And there's no extra charge for this service.

Calling us early can eliminate the need for expensive alteration, or exposed cables and wires.

Our insert in Sweet's Catalogue has basic information. For questions on current or future projects call a Building Industry Consultant at your Bell Company or send in our coupon. At AT&T and your Bell Company, we want to help you produce an efficient end product.

We hear you.

Building Industry Consulting Service
American Telephone and Telegraph Company
Room 2238D, 195 Broadway
New York, New York 10007

I am interested in the Building Industry Consulting Service.

☐ Please send me additional information.

☐ Please have a representative contact me.

Name
Title Tel.
Company
Street
City State Zip


These buildings use 33% to 98% less of our nation's energy than conventional structures. Have you designed a building that saves fuel? See Award Program details on next page.
Announcing the 4th annual Owens-Corning Energy Conservation Awards Program.

By our Awards Jury a building design that doesn’t waste energy and you could receive one of the Energy Conservation Award. Owens-Corning will present for this.

The Awards Jury will be looking for three things: Creativity, originality. And most important of all, designs that save energy. Too many of our buildings waste fuel and contribute to environmental pollution.

By continuing the Energy Conservation Awards Program we started in 1972, Owens-Corning hopes to stimulate even more interest in buildings that conserve energy. It also recognizes—and honors—the architects and engineers who do the best job of designing buildings and mechanical systems that help conserve our nation’s energy.

Who can enter
Any registered architect or professional engineer practicing in the United States is eligible. As an individual, or as a team. But to qualify, your entry must be a commissioned building project—erected, under construction, or a completed structure.

Although Fiberglas* products are an excellent way to conserve energy, their use is not an entry requirement.

Four entry categories
Winners will be selected from four design categories.

Institutional—schools and hospitals, for example.

Commercial—office buildings, shopping centers, retail stores, and similar structures.

Industrial—including manufacturing plants, research centers, warehouses.

Governmental—post offices, administrative buildings, and military structures, to name a few.

The Awards
Winning architects and/or engineers will receive the Steuben Crystal sculpture at left. Owners or clients will receive other Steuben Crystal awards.

The Awards Jury for 1975
Outstanding professionals in architecture and engineering will serve as the Awards Jury to select the winners.

Send for entry details now.
Completed entries must be submitted by August 31, 1975. Winners will be selected and notified in early September.

For a brochure giving complete details, write X. Y. Meeks, Owens-Corning Fiberglas Corporation, Architectural Products Division, Fiberglas Tower, Toledo, Ohio 43659.

Owens-Corning is Fiberglas

For more data, circle 26 on inquiry card
Buildings today are in trouble. Demanding tenants, fast-changing fire codes, energy short-falls, soaring crime rates, a fitful economy are just some of the problems your building must overcome if it’s not to end up in distress.

Listed here are some of the things a modern building can and should do to meet these pressing problems. Prepared by Johnson Controls, the experts who have designed and installed more than half the computerized automation systems in U.S. buildings, it offers you a quick, easy way to measure a building’s obsolescence.

You may find some of these items mind-boggling. But they are routinely performed by many modern buildings—buildings your building must compete with.

Compare how your building measures up. To keep abreast of competition, it should do at least 40 of these things. Send for the 24-page booklet offered below. It tells you how you can “add on” automation, system by system, to make your building perform with the best.

To Stay in the Running, Your Building Should Have an Automated Firesafety System That:

1. Anticipates fire. Sniffs out products of combustion before a fire can start.
2. Detects smoke or heat or flame.
3. Gives the alarm in under 5 seconds.
4. Calls fire department automatically.
5. Exhusts smoke, heat and deadly gasses from the fire area.
6. Automatically closes fire doors to create safe areas.
7. Projects a plan of the fire floor onto a central illuminated screen.
8. Displays instructions to building operating personnel for evacuation, firefighting.
9. Broadcasts prerecorded and actual voice commands throughout the building, telling people what to do, where to go, when, and why.
10. Listens to what stranded people have to say, and activates 2-way communications.
11. Determines location, extent and progress of fire for firefighters.
12. Masses elevators at ground level to rush firefighters to the fire scene.
13. Puts firemen in full command of elevators and communications with a control panel made operative by fire department key.
14. Protects itself by automatically bypassing burned areas, to keep vital information flowing.
15. Provides a fire case history, including a typewritten stage-by-stage record of alarms and a taped record of all voice communications and replies.

A FailSafe Security System That:

16. Gives the alarm the instant entry is attempted.
17. Identifies the exact point of intrusion by projecting a floor plan of the area on an illuminated screen.
18. Turns on the lights, if required.
20. Calls the police automatically.
21. Permits entry only at specified hours, using unpickable card readers in place of pickable key locks.
22. Lets you change locks instantly, electronically.
23. Blocks main passageways, safes, and confidential files with a cordon of silent electronic sentinels that detect the slightest movement.
24. Listens for screams. If a victim cries out in a laundry room, elevator, stairwell, it gives the alarm instantly.
25. Sounds the alarm if the system is tampered with, even when off.

An Automatic Energy Conservation System That:

26. Plans heating and cooling requirements with programs considering occupancy, direction of sunlight, cloud cover, wind force, humidity, and other variables.
27. “Hunts” to seek out the most economical mixture of outside air and recirculated inside air.
28. Uses 100% outside air for “free cooling” when outside air is at the right temperature.
29. Eliminates unnecessary heating whenever possible, by admitting only the barest minimum of outside air to meet codes.
30. Sets temperature higher or lower automatically at night to save heating or cooling costs.
31. Turns non-critical equipment on and off automatically to cut costly peaks in electric demand bills.

A Self-Running Control System That:

32. Centralizes all building system monitors and controls at a single, one-man control center.
33. Interfaces all separate building systems to form a single, unified automation system.
34. Computer-manages this unified system with superhuman speed and efficiency, using a computer built especially for building automation.
35. Monitors, continuously, hundred!
Do 40 of these 48 Things, White Elephant.

A Built-In Service-Maintenance System That:

43. Reports equipment emergencies by both visible and audible alarms.

44. Signals all abnormal equipment trends so they can be dealt with before they become emergencies.

45. Shuts down endangered equipment automatically.

46. Contacts a repairman if an important motor breaks down in the middle of the night.

47. Prepares and issues, on schedule, typed work order sheets for maintenance men describing the job and even listing needed equipment!

48. Operates under the protection of a service-maintenance contract made with experts who know computerized building automation.

These are just some of the essential, sometimes astonishing tasks a Johnson Controls automated building can perform for itself. The essence of this performance lies in the technology of positive, exacting control.

At Johnson Controls our business is control. The automatic control of America's buildings for heating and cooling, ventilating, humidification, energy conservation, firesafety, security, lighting, communications and clock systems. We've been on top of this business for 90 years. Last year alone we did almost one-quarter of a billion dollars worth, from more than 100 Johnson Controls offices throughout the U.S.

Your local Johnson office is listed in the White Pages under Johnson Controls or Johnson Service Company. If there's anything on this page you'd like to ask us about, just give us a call.

Find out how modern building automation systems can be put to work in any building you plan or own. For the latest on today's buildings, get this 24-page Johnson Controls booklet, "The Big Idea in Building Automation." Write Fred L. Brengel, President, Johnson Controls, Inc., P.O. Box 423, Milwaukee, Wisconsin 53201.

JOHNSON CONTROLS Prime source of problem-solving systems.

For more data, circle 27 on inquiry card
YOU CALL US 'APPROVED EQUAL'

OUR REAL NAME IS SAFELITE

And we produce quality U.L. listed BULLET RESISTANT GLASS. Our BULLET RESISTANT GLASS comes with mitered or sawed edges for butt glazing when specified and always with clear, clear vision.

Safelite's other specialty glass includes RIOT GLASS for maximum security and SOUND CONTROL GLASS for noise abatement and comfort. Besides clear glass, we utilize a wide range of acceptable architectural colors, each at a specific light transmission, a constant U-value and shading co-efficient.

So — specify us by name . . . Safelite Industries . . . and we will deliver on time.

Write us for complete brochure or call for information.

Safelite Industries
P.O. Box 1879 / Wichita, Kansas 67201
1-800-835-2092

For more data, circle 28 on Inquiry card
YOU'RE LOOKING AT WHAT'S WRONG WITH MOST METAL FIRE DOORS.

Non-insulated metal doors transmit heat just like a frying pan. But Weldwood® Fire Doors are different. They have an extra degree of protection. They not only keep out fire and smoke. They also keep out heat. That's because Weldwood Fire Doors have an inner layer of incombustible Weldrok® mineral core. It retards heat transmission. So the unexposed side doesn't get hot enough to be dangerous.

Besides giving extra protection, Weldwood Fire Doors add an extra degree of beauty wherever they're installed. In offices, hotels and apartment buildings, Weldwood real veneer doors look elegant. And in schools, hospitals and factories, our laminated doors add a colorful touch.

And Weldwood Fire Doors come in a complete range of time ratings: including ¾ hour, 1 hour and 1½ hours.

Before you specify any fire doors, you should make sure you're up on all the fine points of fire door standards, codes and construction details.

You'll find everything you need—and should know—at your U.S. Plywood Branch Office. Or by sending for our new booklet, "All About U.S. Plywood Wood Fire Doors."

Then you'll know all about the Weldwood extra degree of protection.

And perhaps our doors will become your doors.

U.S. Plywood

For more data, circle 29 on inquiry card
Many new roofs waste a lot of energy. Here's how to cut that loss by 50 percent—without spending an extra dime.

It may sound amazing, but you can do it.
The only thing you have to do is specify thicker 2½-inch Fiberglas® roof insulation instead of the thinner 15/16th-inch size.
This dramatically reduces heat loss through your roof. And it actually brings the total cost of your building down!
The reason: the improved thermal performance of your roof enables you to get along with less elaborate, less expensive heating and cooling equipment.
In general, every dollar you spend on thicker 2½-inch roof insulation vs. 15/16th-inch size cuts up to two dollars off original equipment costs. So you come out considerably ahead.
On a suburban office building in northern climates, for example, thicker roof insulation could save as much as $27,000 in equipment costs for every 60,000 square feet of roof.
And, of course, the thicker Fiberglas roof insulation goes on slashing the loss of fuel energy through the roof of your building by 50 percent—and the fuel bills by roughly 10 percent—year after year after year.
The exact savings vary according to climate zone, the size and type of roof deck, "U" improvement, and the added cost of the thicker insulation.
We’ve worked up all the figures and charts in a handy booklet called "Roof Raiser’s Guide to Cost Reduction." For a free copy, write: V.C. Meeks, Architectural Products Division, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.
More details: See our section in Sweets Catalog, Roof Insulation Systems 7.15/Ow, or contact your Owens-Corning representative.

Owens-Corning is Fiberglas

For more data, circle 33 on inquiry card
proves it's self-healing every installation.

That's why—when seepage could be disastrous—Volclay's 20 million year old flexibility is the only answer.

The hundreds of punctures made in Volclay Panels as a part of the installation process are dramatic proof of the ability of Sodium Bentonite to self-heal. When a break occurs, the flexible Sodium Bentonite adjacent to it migrates to eliminate it or to seal against the penetrating object quickly—efficiently.

With any other waterproofing system, a break in the seal protecting a building's foundation from the infiltration of moisture or water is a "call to action." Unfortunately, the break is rarely ever discovered until some damage is done: an unsightly wall stain, discolored or mildewed carpeting, malfunction of mechanical or electronic equipment or disruption of communications systems. Then begins the costly and difficult task of locating and repairing the break. This task is further complicated by the fact that lateral infiltration often carries the water a good distance from the actual break before the evidence appears.

When your foundation is protected by Volclay Panels, breaks self-heal almost instantly so that you not only don't have to worry about them, you'll probably never even know when they occur.

And, Volclay's 20 million year old durability assures it will keep on repairing itself longer than you can possibly need it to.

For more data, circle 34 on inquiry card
Fluted Volclay-lifted panels are easy and inexpensive to install. As the panel bio-degrades, the Sodium Bentonite swells forming its flexible protective gel.

For more information write or call:
American Colloid Company, Building Materials Division
5100 Suffield Court, Skokie, IL 60076 (312) 966-5720

☐ Please send more information about Volclay Panels.
☐ I have a tough waterproofing problem. Please have a consultant call . . . no obligation, of course.

Name ____________________________
Firm ____________________________
Address __________________________
City _______ State & Zip _______
Phone ________

© 1972 American Colloid Co.
Cool Slant

In Texas, the sun really unloads on this dramatic structure. Its sloping walls don't just live alongside the sun, they face up to it.

It takes a cool slant on the problem to solve it. And the spectacular Century Building in San Antonio has one; C-E Polarpane "20" Gold Reflective Insulating Units.

C-E Polarpane #2016 Gold was chosen for the entire building. Polarpane performance is the reason. These Gold Insulating Units face up to the sun beautifully, rejecting over 90% of infra-red solar energy. Total indoor heat gain is only 37 BTU/hr per square foot.

Polarpane Gold is easy on the eyes and restful inside thanks to its low 20% visible light transmission. Yet, this light level is sufficient to eliminate a requirement for excessive interior lighting and associated unnecessary interior heat gain.

When the heating season rolls around, Polarpane excels again ... with a low .31 "U" value that means most room heat is retained by reflection back into the room.

Polarpane Silver works some wonders of its own with similar high performance characteristics.

There's no finer warranty than you get with C-E Polarpane "20" ... a guarantee of 20 years of performance backed by Combustion Engineering, Inc., one of America's leading industrial firms.

Ask for your free copy of the Polarpane "20" catalog.
Or, consult a C-E Glass specialist. C-E Glass, 825 Hylton Road, Pennsauken, N. J. 08110, (609) 662-0400.

Architect: Neuhaus + Taylor, San Antonio, Texas
Glazing Contractor: Samuels Glass Co., San Antonio, Texas
The exclusive new Lennox "wide no-load band" thermostat brings rooftop multizone HVAC performance within the government energy conservation guidelines.

Until now, the 68°-78° guidelines could not be applied to commercial multiple zone systems. Because these systems are designed for small-differential temperature control, they heat and cool independent zones simultaneously. Never idle. Therefore, lowering or raising the thermostat settings does not effect energy savings.

Lennox answers the problem. Our new "wide no-load band" thermostat gives you about a 6° idle band between heating and cooling demand ranges. No heating or cooling energy is used when all zones are in the no-load band. Yet temperature control remains precise at either end of the band. Energy management improves even further when Lennox optional Outdoor Air Discriminator™ is used with the "wide no-load band" thermostats. Lennox DMS4 options only.

To learn more about this Lennox innovation, write: Lennox Industries Inc., 574 S. 12th Ave., Marshalltown, Iowa 50158.

Nifty problem-solving ideas from Lennox.

For more data, circle 36 on inquiry card
A project scheduling system that really works

The notion of a computer-linked system for computerized construction scheduling and monitoring is the wave of the future. Indeed, the construction industry has been slow to adopt computer technology, perhaps because of the large investment required and the perceived drawbacks of computerized systems. However, recent developments in computer technology and software have made it possible to develop effective scheduling systems that can help construction companies improve their project management processes.

In the past, project scheduling was often done manually, relying on paper-based systems and spreadsheets. This approach was time-consuming and prone to errors, and it did not provide real-time information to project managers. With the advent of computer-based systems, project managers can now access up-to-date information on the status of a project, including the progress of individual tasks, the availability of resources, and the overall schedule. This information can be used to make informed decisions about resource allocation and project modifications.

One of the key benefits of computerized scheduling systems is the ability to track project progress and identify potential problems early on. With a computer-based system, project managers can easily see which tasks are behind schedule or experiencing delays, and they can take corrective action before the project drifts off course. This can help prevent costly delays and overruns.

Another benefit of computerized scheduling is the ability to perform what-if analysis. By modeling different scenarios, project managers can determine the impact of changes to the project schedule or resource allocation. This allows them to make informed decisions about how to proceed, knowing the potential consequences of their actions.

In conclusion, computerized project scheduling systems are a valuable tool for construction companies looking to improve their project management processes. By providing real-time information and the ability to perform what-if analysis, these systems can help reduce costs, increase efficiency, and improve the overall success of construction projects.

Reference:
pend on specific applications and are related to the amount of detail generated.

Several project control concepts are inherent in the Turner system and are essential for its success at the operating level. A key one is the philosophy of “early start” which gears management to think in terms of starting activities as soon as possible, rather than at the last available moment. Such a philosophy stimulates a search for activities which could start earlier than originally planned, e.g. when an activity can start vs. when it must start.

A second concept in project control involves the level of network detail. Here, the aim is to develop a level of detail necessary to monitor or control significant activities of the project, but without providing unnecessary detail. This level of detail is directly related to the type of project (high-rise, hospital, commercial, industrial, etc.), to the complexity of the project, and to the type of contract (construction management, general contract, consulting, pure construction services). Throughout, the aim is to avoid the high degree of network detail which has in many cases proved unworkable. An effective plan must provide the minimum level of detail which can provide a sound basis for the monitoring and control of significant project elements. At the early stages of a project, emphasis should be placed on developing in adequate detail the schedule for the next 6 to 9 months. Actual progress will dictate the degree to which activities previously developed on a more summary basis need additional controls in the form of a more detailed definition of the work. This may be accomplished by means of separate subnetworks or by expanding the current level of network detail.

Inherent in the Turner scheduling philosophy is the idea that one makes greater effort to form of developing specific recovery plans to return the project to its initial time objective. By keeping these dates fixed, reassessment studies evaluate alternative construction schemes (unusual expediting, shift work, logic revisions) in order to accomplish the end objectives.

### The project scheduling cycle

The project scheduling cycle is the process by which the project schedule is developed, reviewed and monitored. The cycle is illustrated in Figure 2, and a detailed discussion of each stage follows:

#### Stage 1, the input phase

At this stage, the project manager and/or the project superintendent along with a scheduling engineer and members of the project management team organize the information necessary for the development of a preliminary project schedule. This initial involvement of the project staff is vital to the establishment and support of the computerized project schedule. It becomes the responsibility of a Turner scheduling engineer to stimulate and encourage discussion during the planning phase. Activities should be forced to start as early as possible, thus supporting an “early-start philosophy.” However, realistic constraints to the start and finish of activities should be recognized such as: manpower, costs, logistics, flow of work, etc.

A key to the success of any project schedule is the degree of detail which is developed. Prior to drawing the network diagram, consideration should be given to the level of detail. It is important to recognize that there are two distinct concepts involving the level of detail. The first concept deals with the number of different contract items to be delineated on the schedule. The second concept deals with the dissection of each of the contract items.

As an example of the first concept of level of detail, consider the scheduling of every item of work handled by each trade or subcontractor. This has been done in the past using CPM software packages and has met with varying degrees of success. A second approach is to focus planning efforts on identifying those contract items which most often control the flow of work on a project. In general, this approach has resulted in the production of a much more effective and more manageable schedule.

As an example of the second concept of level of detail, consider the scheduling of two projects similar in construction but different in size. The larger project may require a greater dissection of the construction activities to provide the same control as the smaller project. There may be little difference in the type of work activities scheduled, but there will be a significant variation in the number of monitorable activities scheduled.

The most important schedule planning tool is a project master schedule. This schedule should be developed at the beginning of the project and used to set the framework for all detailed schedules.

The master schedule is made up of all the applicable important items in the project delivery process—i.e. land acquisition, budget approvals, demolition, clearing, surveys, borings, activities 101 lasts 2 weeks and activity 110 can start upon completion of 101 and lasts 4 weeks which equals 20 work days.

Activities 130 and 140 can start upon completion of activity 120.

After 2 weeks from the start of activity 150, activity 160 can commence. The notation “10 DS” signifies a delay of 10 days (or 2 weeks) for activity 160 from the start of activity 150 which is implied by the time scale.

Activity 180 cannot start until week 6, or until activities 170 and 175 finish. The activity 170 can be delayed up to 20 work days without changing the start of activity 180. This allowable delay is called “float.” Activity 175 does not directly affect the start date of 180 and creates the float in activity 170.

This notation combines delayed start and float. Activity 190 cannot start until week 3 after the finish of 195, or 5 days after the start of 190. This ever occurs last govern when activity 200 starts. Hence, if activity 190 starts behind schedule by less than 2 weeks, activity 200 can still be on time.

After 5 days from the completion of activity 210, activity 220 can finish. The delayed finish (DF) imposes a condition on activity 220 delaying its finish to at least 5 days after activity 210 finishes.

Activity 240 cannot finish until 5 days after the finish of activity 230. The completion of activity 230 can float one week without affecting the completion of activity 240.

DS = Delayed Start
DF = Delayed Finish

**Figure 2**. Process elements and feedback flow of the computer-linked Turner project scheduling system.

**Figure 3**. Logic relationships of the network plan based on a scale of 5-day weeks.
has a high degree of flexibility, with many available options. Some of these options are:
1) banding groups of activities; 2) plotting only specific activities, such as mechanical or electrical; 3) plotting a specified time period; 4) graphically identifying the critical path; and 5) designation of procurement activities. This plotter software program was developed specifically for Turner and is linked internally with that of the CPM program, and provides the user optimum turnaround time and ease of operation and handling.

Stage 5, plotter device phase: Following the selection of system options, a decision is made regarding the use of one of the several alternative plotting methods for producing the final graphic network. A drum or flat bed computer-driven plotting device is generally used to produce the graphic display. Or, a microfilm plotting procedure can be used to reproduce the network on 35 mm microfilm. A third alternative is available which utilizes a cathode ray tube unit to produce an image of the network. This method has been used successfully in presentations and internal training to demonstrate the capabilities of the system.

Stage 6, reproducible graphic network: Once the plotting of the schedule has been completed, the plot is sent to a specified address via a predetermined designated delivery method. In general, delivery time of plot revisions is within a few days from the time the data are received at the center.

Stage 7, project planning and control phase: During this phase the schedule is implemented by project management. A key component of the implementation of the schedule is periodic review and update which generally identifies problem areas and stimulates the investigation of alternative solutions. This phase closes the loop to the cycle and integrates a continuous chain of action and interaction.

The monitoring process is, of course, nothing more than determining on a periodic basis where the project actually stands when compared with the plan. In addition to consideration of actual vs. planned time expenditures, effective monitoring should evaluate physical progress, value of work in place and manpower expended against the plan. Obviously, the real task of controlling a job with regard to schedule only begins with the creation of a formal plan and monitoring actual progress against that plan. The difficult part is to evaluate the update or monitoring data and to re-analyze the logic of the original plan based upon this and other new information to develop the plan to complete the project in the most expeditious manner economically consistent with the quality desired. In effect, this may mean replanning the entire job on some periodic basis. Included in this process is the communication and leadership required to put the new plan into action.

In summary, Turner feels that the degree of flexibility along with the components of the graphic display make the CPM scheduling system an effective and responsive management tool. The fact that Turner is using this scheduling system does not mean the elimination of more traditional tools. The system is not a cure-all, it is only one of several procedures such as statistical modeling, cost control systems, job minutes, manpower analysis, etc. Thus far, however, it has been an extremely effective tool resulting from Turner’s philosophy of adopting, developing or modifying systems which will support the firm’s method of operations, rather than subject personnel to ‘canned’ programs which may adversely affect the management process itself.

While most management tools identify where a project is at any given time, the Turner project scheduling system is an attempt to define where the project is going. It is a forward planning tool as well as a monitoring tool. The distinctive graphic display is the tool provided to help managers plan for completing the construction project on time...and on budget.

—Garrett Thompson

Turner not only invites but insists upon the participation of owners, designers, contractors and contractors in setting up the basis of a feasible schedule. They are carrying the notion forward to prototype schedules for various building types. These will then form the basis of the approach to projects. In effect, they will be a time-related check list of things to consider, inherent milestones and historically documented time frames for all activities. Such a prototype schedule would, of course, be edited and adapted to the particulars of any given project of the building types.
Pella wood folding doors move quietly, easily and with a certain natural beauty.

Genuine wood veneers or vinyl. Wood core panels. Heavy-duty nylon rollers. Hinged by a patented system of steel alloy. Pella Wood Folding Doors are as practical as they are beautiful. The solid wood core construction minimizes possible surfaces. And it keeps the panels hanging straight and true, even in humid areas. The concealed steel spring hinging system creates equal stress on each of the panels, for smooth operating motion, uniformly positioned panels and flat, compact stacking. Pella Wood Fold Doors. Finished or ready-to-finish. In a wide variety of styles and Heights to 16'1". Unlimited widths.

For more detailed information, send for your free copies of our 8-page, full-color brochures on Pella Wood Folding Doors. See us in Sweet’s Architectural File. Call Sweet’s BUY-LINE number or look in the Yellow Pages, under “Doors”, for the phone number of your Pella Distributor.

Please send me your 8-page brochures on Pella Wood Folding Doors. I also like information on: □ Sliding Glass Doors, □ Casement Windows, □ Storm Windows, □ Awning Windows.

Name ____________________________
Firm _____________________________
Address __________________________
City __________________ State _______
ZIP ___________ Telephone ________

Mail to: Pella Windows & Doors, Dept. T31D5, 100 Main St., Pella, Iowa

Also Available Throughout Canada

For more data, circle 37 on inquiry card

This coupon answered within
Components of regional cost increases

Average building construction costs have gone up 3.9 per cent since last fall and now stand 3.2 per cent above a year ago. 183 metropolitan areas throughout the United States in the current Dodge Building Cost Survey tie the increase to higher hourly wages for building trades craftsmen, up 4 per cent for the year, while building material prices increased 7.6 per cent.

Basic hourly wage rates are 5.8 times as high as they were in 1941, whereas material prices are about 3.6 times that year. Over-all, building construction costs at the builder-to-investor level average about 404 per cent higher than in 1941. The accompanying United States summary table shows how this varies from one major district to another.

### Regional Cost Increases

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New England</td>
<td>12.0%</td>
<td>9.4%</td>
<td>7.8%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>9.9%</td>
<td>8.0%</td>
<td>6.3%</td>
<td>5.3%</td>
</tr>
<tr>
<td>East North Central</td>
<td>8.7%</td>
<td>7.0%</td>
<td>5.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td>West North Central</td>
<td>7.5%</td>
<td>5.8%</td>
<td>4.1%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Mississippi</td>
<td>10.4%</td>
<td>7.8%</td>
<td>6.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>South Atlantic</td>
<td>11.9%</td>
<td>9.2%</td>
<td>7.5%</td>
<td>6.2%</td>
</tr>
<tr>
<td>West South Central</td>
<td>8.5%</td>
<td>6.5%</td>
<td>5.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Mountain States</td>
<td>9.6%</td>
<td>7.4%</td>
<td>5.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Pacific States</td>
<td>12.1%</td>
<td>9.2%</td>
<td>7.2%</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

### HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES

<table>
<thead>
<tr>
<th>Metropolitan area</th>
<th>1974 (Quarterly)</th>
<th>1975 (Quarterly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average for each city</td>
<td>$100.00</td>
<td>$100.00</td>
</tr>
</tbody>
</table>

Note: Costs in a given city for a certain period may be compared with 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 the 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.
The same flair and distinction that is the mark of contemporary architecture is reflected in All-Steel furniture. All-Steel has three complete lines of desks, four contemporary series of chairs and files to let you choose the perfect style and function to fill each office requirement.

Through our national dealer network and our showrooms in Los Angeles, New York, Chicago and Aurora, All-Steel is equipped to furnish the smallest office or to service the most demanding national account. Write All-Steel Inc., Aurora, Ill. 60507.

ALL-STEEL
Complements the splendor of modern architecture.

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

For more data, circle 38 on inquiry card
The Dodge/Sweet's construction outlook for 1975: first update

Do you confused by the stream of contradictions that is being passed off as economic policy these days? Like . . . one day the President informs us that he's done a 179-degree turnaround; that he has moved the recession up to position number one on his public enemy list, and for the time being, at least, he's dropped inflation a lower rank. Now, to any perceptive listener, this means only one thing: he has given his WIN program with its restorations and reversion, and in exchange for WIN buttons as substituting policies geared to stimulating recovery and expansion. Fine, but then the next day he comes out with his "Economic Program of the President" in which he seeks a peak where he and his key advisors think—intend—the next few years will go. This is a forecast of recession and expansion. This would seem to be a scenario of excessive unemployment and tolerable inflation.

Or . . . how about a double reverse? As December, Mr. Ford was still clinging to the notion that what we really needed was income tax surcharge to stiphon excess spending. In January that was changed . . . to tax rebate in order to encourage more consumer spending. And then he followed this up with the news that he's going to take it all away and put a new tax on fuel . . . designed to discourage us from buying as much as before.

It boggles the mind. But since we have to function in this Alice-In-Wonderland environment, here are a couple of interpretations: (1) Ford Administration is even more confused than the rest of us; (2) national economic policy is still in transition, being dragged along by events—reacting to them rather than anticipating them. Since alternate 1 is a dead end, see where alternate 2 leads.

Actually, the notion of economic polices transition fits rather well with what has worked out to be the most critical assumption the original Dodge/Sweet's Construction Outlook for 1975. That was published last October (Record November 1974) and is now out for its first updating. Six months ago, when the Ford Administration was occupied with inflation—even though the rates were everywhere that the economy was going up—we said this: "In the end, austerity will eventually yield to the pressure of rising employment. Every bit as critical an economic issue for 1975 as inflation is when, and abruptly, the present policies of restraint reluctantly be abandoned." That was last October.

And that's exactly what's been happening for the past month or two, and is still going on. Right now we're seeing the transition from austere policies aimed at containing inflation, to activist programs required to generate recovery. It's just too bad that unemployment had to go all the way up eight per cent in order to bring this change about.

In plain language, Mr. Ford's latest economic strategy—its all there in his January budget and economic messages—seems to be trying to accomplish two conflicting objectives at the same time. They are both admirable goals. We must conserve energy. And we must get this recession turned around. But to a large degree the goal of energy conservation is in competition with the goal of economy recovery . . . at least the way this Administration insists on going about it. How effectively do you stimulate consumer spending with an income tax cut if at the same time you put a stiff new tax on fuel? That just takes the money out of one of Mr. Simon's pockets and puts it in the other. And this approach to energy conservation is a large part of the rationale for the Council of Economic Advisers' very grim outlook for the next seven years.

We've come this far, at least: compared with last fall, when national economic policy was highly repressive, it is now more or less neutral (due to its divided objectives). That change alone should be enough to let the recession grind to a halt sometime in 1975. But Mr. Ford hasn't yet become enough of an economic activist to give us a strong recovery once the recession bottoms out. And that's what we must become if we are to avoid a long period of stagnation.

So once again our construction outlook must contain a critical assumption about national priorities. This time it is this: that having moved from a rigid position of total emphasis on inflation to one of divided concern about energy and recession, Mr. Ford and friends will soon go all-out for recovery.

The table of construction spending shows how construction markets actually came out in 1974, and how our evaluation of the changing economic environment will shape 1975's outcome. The key developments to watch for in the year ahead are:

- A recovery of the long-depressed housing market. While the improvement from beginning to end of 1975 is likely to be quite strong, the year's total of housing starts is not apt to exceed 1.4 million, mainly because the recovery will be taking off from a very low point.

<table>
<thead>
<tr>
<th>Building Types</th>
<th>1974</th>
<th>1975</th>
<th>per cent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single family homes</td>
<td>$23.1</td>
<td>$26.9</td>
<td>+15%</td>
</tr>
<tr>
<td>Apartments</td>
<td>9.3</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>Hotels, motels, dorms</td>
<td>1.6</td>
<td>1.7</td>
<td>+6</td>
</tr>
<tr>
<td>Total</td>
<td>$34.2</td>
<td>$37.9</td>
<td>+11%</td>
</tr>
<tr>
<td>Nonbuilding</td>
<td>$19.8</td>
<td>$23.8*</td>
<td>+20%</td>
</tr>
<tr>
<td>Public works</td>
<td>5.2</td>
<td>5.7</td>
<td>+10</td>
</tr>
<tr>
<td>Total</td>
<td>$25.0</td>
<td>$29.5</td>
<td>+18%</td>
</tr>
<tr>
<td>Total Construction</td>
<td>$51.1</td>
<td>$50.8</td>
<td>+5%</td>
</tr>
<tr>
<td>Dodge Index (1967 = 100)</td>
<td>169</td>
<td>178</td>
<td></td>
</tr>
</tbody>
</table>

* includes an estimated $2 billion trans-Alaska pipeline work scheduled to be started during 1975.

- Declining industrial and commercial building through most or all of the year. Experience of the last (1970) recession shows, however, that institutional building (educational, health, public administration, etc.) tends to bear up surprisingly well in periods of moderate economic adversity.

- Gains in nonbuilding projects, sparked by the release of billions of impounded Federal funds appropriated for sewer and highway construction to provide temporary employment.

The one thing you can't overlook is that cyclical sensitivity is the key to the immediate future of the construction business. Experience shows that the construction cycle normally leads the general business cycle—both on the way down and on the way up again. That's especially true for the design professions whose involvement in the construction process comes at the very earliest stages. So we've taken most of our lumps already. That was in 1974. Now is the time to begin looking for some help through the old accounting principle of FIFO: first in, first out. I'm expecting the construction industry to lead the rest of the economy out of this recession—in 1975 with gains in housing and public works contracting, and in 1976, with a recovery in nonresidential building. And I expect both 1976 and 1977 to be years of well-above-average expansion for the construction industry as that recovery gains momentum.

George A. Christie, vice president and chief economist
McGraw-Hill Information Systems Company
Sterner custom lighting. When you get that incurable itch to cast aside the ordinary.

The creation of high-quality lighting begins with the ideas you generate to enhance the overall environmental concept of your project. That's the hard part. The rest is easy...just call Sterner.

Our staff of lighting experts will make a detailed study of your overall project requirements. Then we create a system, based on your original design, that satisfies your electrical, mechanical and optical specifications.

In addition to our custom capabilities, we offer a complete lighting library of existing designs...plus the expertise of our Simes and Infranor Divisions to solve specialty lighting and floodlighting problems. In short, if lighting is your problem, Sterner is your answer.

STERNER
LIGHTING SYSTEMS
INCORPORATED
Winsted, Minnesota 55395
612-485-2141

For more data, circle 39 on inquiry card
Palm Bay Tower, situated in a tropical paradise on the intercoastal waterway, is considered one of the most beautiful and luxurious high-rise residential buildings in Florida. Dover Elevators were selected to provide efficient, dependable, economical vertical transportation. Write for literature. Dover Corporation, Elevator Division, Dept. A, P.O. Box 2177, Memphis, Tn. 38101

Palm Bay Tower,
Miami, Florida
Mrs. Carling Dinkler, Jr., President and Developer
Dover Elevators installed by
Miami Elevator Company

For more data, circle 42 on inquiry card
Now Johns-Manville has a One-Stop Shop for metal building systems.

It's available from J-M."
J-M offers more metal building components than anyone else. In fact, we've almost everything you need to outfit a metal building...except the metal.

And we have eight of the most professional sales representatives in the metal building industry, fully prepared to give you the first One-Stop purchasing capability available to a metal building buyer. Which saves a lot of work when it comes time to specify all the things that go into your building.

Among the components, J-M supplies are the following:

- Micro-Lite™ insulation, available with a wide choice of facing materials, and offering excellent thermal insulating performance, which is so important for conserving energy.
- Rigid-Roll™, the unique insulation which is delivered in roll form, but bridges the purlins, affording you savings in shipping and installation, available with puncture-resistant facing.
- Lighting components by Holophane™, the most respected name in lighting. Holophane luminaires produce more lumens per unit of energy consumed.
- Holophane luminaires are available for complete interior systems for commercial and industrial buildings, tennis courts, and for outdoor applications.

J-M architectural panels which will give your metal building that "finished" look.

Structo-Gard high-temperature protective insulation, applied to the columns of your building to isolate them from heat for one hour in case of fire.

Integrated ceiling systems that make use of J-M's fine line of ceiling tiles and our National Ceiling System components to "dress" the interior of your building.

And for efficient, low-cost heating and air conditioning...J-M's air handling systems. Micro-Aire™ rigid and flexible ductwork that insulates both acoustically and thermally to provide quiet operation and conserve energy.

For more information on J-M's comprehensive One-Stop purchasing plan, contact the J-M sales representative nearest you...or drop us a line for our free literature.

Johns-Manville

For more data, circle 43 on inquiry card
The GF Cube.
It doubles your thinking power.
The new GF Cube offers twice as many desk and console configurations as our best competitors.

That has to start you thinking. Because, this great variety of configurations allows you to make better use of very expensive floor space.

The Open Office shown here gives you just a glimpse of the possibilities.

Ask your GF representative to put the complete GF Cube story together for you. Or write us for literature.

Bally belongs
where walk-in refrigeration is a critical requirement

Bally Prefabs are there to help snacks score with fans in the stands

Bally Walk-In Coolers and Freezers can be assembled in any size for indoor or outdoor use from standard panels insulated with four inches of foamed-in-place urethane. Choice of stainless steel, galvanized or patterned aluminum. Easy to enlarge...easy to relocate. Refrigeration systems from 35°F. cooling to minus 30°F. freezing. Subject to fast depreciation and investment tax credit. (Ask your accountant.) Write for 28-page book and urethane wall sample. Bally Case & Cooler Inc., Bally, Pennsylvania 19503. Phone (215) 845-2311.

ADDRESS ALL CORRESPONDENCE TO DEPT. AP

For more data, circle 45 on inquiry card
Professional electrical contractors.
The electrical energy managers.

One thing you can be sure of in the current energy situation; clients are no longer taking electrical systems for granted. People who pay the bills now are concerned about the potential cost of future operations as well as the cost of installation. That goes for all users and specifiers: government, commercial, industrial, and residential. But you probably already know that.

You also know that electrical systems should be designed to operate as efficiently as possible, because when the time comes to install cable, conduit, and fixtures, it might be too late to save energy. That's why it could be helpful to work with a qualified electrical contractor early in the design stages of a project. Planning an efficient electrical system is a lot easier than trouble-shooting a fuel-waster after construction.

Professional electrical contractors can give you just the support you need. They're familiar with lighting, heating, communications, security, motors, standby and emergency power, automatic controls, and a lot more. You'll be obtaining the benefits of specialized manpower, the latest installation equipment, and professional job-management expertise. Can your clients afford anything less?

Professionalism doesn't cost. It pays.

National Electrical Contractors Association, Inc.
Washington, D.C. 20014
depend on Bethlehem
Call your Bethlehem Sales Engineer for assistance that is practical, professional, and prompt.

That's what he's there for.

To help you.

To answer your questions on steel framing . . . on fasteners . . . on weathering steel . . . on the most economical selection of steel grades . . . on anything concerned with steel design.

And he's not alone. He's backed up by a buildings group that can provide budget cost information for the total "system package" of a structure under study . . . and by an advanced engineering group that can provide technical evaluation and services to architects and their engineers.

That's just part of your Bethlehem Sales Engineer's story. He'd like you to know all about all the services he can provide. And why he can help you most when called in early on a project. Why not set up a meeting soon?

**phone**

ATLANTA  (404) 522-4918
BALTimore  (301) 685-5700
BOSTON  (617) 267-2111
BUFFALO  (716) 856-2400
CHICAGO  (312) 664-5422
CINCINNATI  (513) 381-6440
CLEVELAND  (216) 696-1881
DETROIT  (313) 336-5500
HOUSTON  (713) 224-5311
LOS ANGELES  (213) 726-0611
NEW HAVEN  (203) 865-0833
NEW YORK  (212) 688-5522
PHILADELPHIA  (215) 561-1100
PITTSBURGH  (412) 281-5900
ST. LOUIS  (314) 726-4500
SAN FRANCISCO  (415) 981-2121
SEATTLE  (206) 285-2200

Ask for Sales Engineer.
Bilco Floor, Pit and Sidewalk Door: Rugged heavy-duty steel construction. Features smooth, easy operation, automatic hold-open device, heavy forged brass hinges. Aluminum models available with stainless steel hardware for corrosive conditions. Eight standard sizes. Special sizes to order.

Bilco Roof Scuttle: For ladder access to the roof. Features floating cover action and positive lock-open with operating handle for safe, easy, one-hand closing. In steel or aluminum construction. Also available in standard sizes for ship stair and normal stair as well as special sizes to order.

Bilco Fire Vent: Features the exclusive Bilco Thermolatch® that provides instantaneous release in emergency, prevents accidental opening. Available for electrical actuation by smoke detector or other emergency device. Eight standard sizes with UL and FM labels. Also available in special sizes.

BILCO BUILDS THEM BEST.
BEST IN DESIGN, BEST IN WORKMANSHIP, BEST IN RELIABILITY

When you specify Bilco, you specify a product designed and built to provide your client with proper operation and long, trouble-free service. Bilco manufactures a full line of horizontal doors, roof scuttles, sidewalk, floor and pit doors, equipment hatches, ceiling access doors, basement doors and automatic fire vents. Each has earned its reputation for performance, reliability and satisfaction. For complete information, sizes and specifications see our catalog in Sweets Architectural and Industrial Construction Files, or write.

Since 1926. Building our reputation for products that satisfy.

The BILCO Company, Dept. AR-45, New Haven, Conn. 06505
Manufactured in Canada by:
RICHARDS-WILCOX of CANADA, LTD., London, Ontario

For more data, circle 46 on inquiry card
WE TOOK THE BEAUTY OF DUTCH PORCELAIN AND PUT IT ON THE FLOOR.

This famous design from Holland gave us the idea for one of our high fashion sheet vinyl designs. It's our new "Dutch Royale" pattern, available in our luxury line of foam-backed GAF GAFSTAR™ Supreme. All GAFSTAR sheet vinyl has a beautiful no-wax surface. And many other widths and thicknesses are available for Contract and Builder use.

If you need a floor that's practical, and a floor that's a real beauty, get both. In the one floor called GAFSTAR. For more information, call or write to GAF Corporation, Floor Products Division, Dept. F16, Box 1121, Radio City Station, New York, New York 10021.

For more data, circle 47 on inquiry card
Perma-Shield® Gliding Windows

THE END OF

Long life, low upkeep.
Andersen Perma-Shield Gliding Windows are completely sheathed in low maintenance white rigid vinyl—inside and out. Doesn't rust, pit or corrode. Doesn't chip, crack or peel.

Resists handling problems.
Rigid vinyl sheath resists damage during installation. Dirt wipes off with a damp cloth.

Easy operation.
Perma-Shield Gliding Windows slide open easily on chrome-plated steel glides. Andersen quality design assures a snug-fitting window that resists sticking or binding.

Condominiums, apartments, motels, schools, office buildings, nursing homes—you name it. Perma-Shield® Gliding Windows complement almost any commercial or institutional building design. And because they have the same neat, trim lines as other Andersen® Perma-Shield Windows and Gliding Doors, you have total design flexibility.

For more information about Perma-Shield Gliding Windows, see Sweets, File 8P. Or call your Andersen Distributor. He's in the Yellow Pages under "Windows, Wood." Or write us direct.

The beautiful, carefree way to save fuel.

Andersen Windowalls®

For more data, circle 48 on inquiry card
Fuel savings.
Beneath Perma-Shield Gliding Windows' rigid vinyl sheath lies a wood core, one of nature's best insulators. And with double-pane insulating glass, Andersen Windows can reduce conducted heat loss by up to 35% (compared to single-glazed windows without storms).

Security.
Spring-loaded rods provide positive locking of window at top and bottom. Factory installed, with attractive operating handle.

Snug-fitting design.
Perma-Shield Gliding Windows are two times more weathertight than industry air-infiltration standards. To help seal out drafts, help save on heating and cooling bills. Factory applied weatherstripping is rigid vinyl.

Low maintenance insulating glass.
Only two glass surfaces to clean — no more maintenance than a single light of glass. And sash can be removed so cleaning can be done from the inside.

Easy installation.
Perma-Shield Gliding Windows come completely assembled for easy installation in all types of wall construction. Continuous installation fin eliminates need for separate flashing. Fin can be removed where wall construction requires. No hardware to apply or lose.
Draw a bead on a higher STC ... up to 53!

USG® Acoustical Sealant protects your investment in sound control by stopping leaks around partition perimeters and through utility cut-outs. Tests conducted at the U.S.G. Acoustical Research Center showed that two beads at the partition perimeter achieved the maximum sound control capability of the wall. USG Acoustical Sealant has been carefully formulated to provide all eight critical properties of a quality sealant: proper adhesion to porous or non-porous materials, permanent flexibility, high resilience, low shrinkage, non-staining qualities, long life, correct density, and low viscosity for ease of application. It's available in 30-oz. disposable cartridges and 5 gal. containers. See your U.S.G. Representative. And see our catalog in Sweet's, Sec. 9.5 (S). Or write us at 101 S. Wacker Dr., Chicago, Ill. 60606, Dept. AR-45

UNITED STATES GYPSUM
BUILDING AMERICA

For more data, circle 49 on inquiry card
Friend of the environment, 
consort to the building, 
comrade against light pollution. 
Kim’s EKG luminaire is the professional choice

kim lighting, inc.
City of Industry, Calif. 213/968-5666
Street and Area Lighting • Landscape Lighting • Architectural Fountains
How to keep your customers from doing a slow burn. Install the scorch-proof Contura.

Duramel. The material we spent seven years developing. Available now in two shapes. The classic round Contura™ and the new Oval Contura.

The beauty of them, aside from the obvious, is that they travel light, arrive on the job chip free (and stay that way while you're installing them). And once installed their high performance continues: they're stain resistant and rust proof.

Even more, they're scorch-proof. Impervious to cigarette burns. (A great selling point.) And they come with "Fast-Lav Strip." To hold the lavatory in place while fittings are being mounted and the sealant is drying. (To make for quicker installation.)

For further information, write American-Standard, Plumbing/Heating, P.O. Box 2003, New Brunswick, New Jersey 08903.

Lavatories made of Duramel.™
The high performance material.

For more data, circle 51 on inquiry card

AMERICAN STANDARD
PLUMBING / HEATING

80 ARCHITECTURAL RECORD April 1975
The more you have to put up, the less you should have to put up with.

Ornamental ceilings can cause monumental headaches.

Many things have to work together just right: the ceiling panels, the lighting fixtures, the air filters, the acoustical insulation, subcontractors. Especially subcontractors.

When everything comes from different sources, the chance for monumental foul-ups goes up.

For the Alcan Planar Ceiling System. A total system. Complete and uncomplicated. Because you can specify the panels, the fixtures, everything, from one source. From Alcan. You can even specify polywrapped acoustical blankets for pools or food processing plants.

Everything is worked into our ceiling system, so you'll have fewer limitations to work around. Just light-weight, durable, maintenance-free Alcan aluminum that gives you the freedom to execute a monumental idea. Beautifully. And the silicon polyester finish of your choice. Enjoy it.

the Alcan Planar Ceiling lets you carry a total design concept through to exterior soffit treatments.

If you want less to put up with, you ought to look at our Planar Ceiling System. Write for details to Alcan Aluminum. Dept. IA. Box 511. Warren, Ohio 44482. Or check specification information in Sweet's Catalogue, Section 13.5.
These Steelcase office furniture systems can save you space, time and money.

These booklets show you how.
And they're free.

Changing, refurbishing or planning new offices? Here's some new ideas on how to make the most effective use of both existing and future office space and how to help your people work more efficiently.

**Mobiles.** 100 pages of actual planning and installation information. Specific solutions for private and open plan offices.

**Planning Principles.** Explains the five major principles of office planning. Extremely valuable in preliminary thinking.

**Series 9000.** The newest furniture system available. This booklet shows how it looks, how it's used and how it can help you save space.

To receive your free copies of these new Steelcase booklets, fill in your name and address on the coupon and mail to Dept. G, Grand Rapids, Michigan 49501.

Steelcase Inc., Grand Rapids, Mi, 49501; Tustin, Ca, 92680; Ontario, Canada; Steelcase (Far East) Ltd., Tokyo.

For more data, circle 53 on inquiry card
Architects Stanley Tigerman and Ben Weese of Harry Weese and Associates have each added a high-rise apartment to Chicago’s skyline. Tigerman is noted as a radical and innovative designer. His fans and critics were surprised, therefore, when he elected the Miesian manner for Boardwalk, his first high-rise apartment building (right). No one was more astonished than his friend Ben Weese who lately has designed some apartment house towers which are handsome alternatives to the Mies box, including Lake Village East (left).

There is, of course, no one right way to do a building. The two under discussion were built in the same city, at the same time, at comparable costs per square foot—and yet they are remarkably different. Tigerman and Weese are in friendly disagreement about the best approach to high-rise apartment design. Both responded to our invitation to debate the issues in the RECORD offices, and their comments accompany the pictures on the following pages.

**Boardwalk is massive, modular and repetitive**
The Tigerman apartment house slab is a 28-story complex of reinforced concrete financed under FHA, 221-d(4). Its construction cost as bid in January 1973 and excluding land costs and fees was $8.4 million or $18,666 per dwelling unit or $15.96 per gross square foot. The project consists of 450 dwelling units made up of 128 studios, 222 one-bedrooms and 100 two-bedrooms. There are 25 typical apartment floors consisting of 18 dwelling units per floor for a total gross floor area of 14,499 square feet.

The base accommodates a 270-car parking garage, commercial spaces, restaurant, swimming pool with bath house, tennis court and landscaped plaza deck. The total gross area including these facilities is 526,045 square feet.

The structure is reinforced concrete frame with 20-by-20-foot square bays with a peripheral intermediate column for slab stiffening. This column system produces a repetitive series of 8-by-8-ft openings which are glazed with bronze hued float glass in hard anodic coated aluminum sash. The tower is 60 by 240 feet. The building has central heating and air conditioning distributed by vertical fan coil units at the perimeter.

**Lake Village East is slender, non-modular and varied**
The Weese apartment house tower is a 25-story reinforced concrete structure financed under FHA 236. Its construction cost was $3.1 million or $15,500 per dwelling unit or $16.90 per gross square foot. It consists of 200 dwelling units made up of 50 studios, 75 one-
How many more of

these "corners" can Chicago stand?"

—Weese of Tigerman

Tigerman's view Boardwalk is simply

"You could have done two

buildings on that site, Stan-

ley, and not have to think about

what do we do with it. But

Tigerman countered by empha-
sizing the economies of doing a "big

building." It was being built at a

$15.96 per square foot.

"I was just convinced that a two-

story building is not the right

way to look at this site," Tigerman

said. "We built a large sheltered

terrace above the parking level.

"It takes a large concentration

of tenants to make such extensive

dwellings on facilities feasible," Tig- 

erman points out.

Weese: "Why do bedrooms in the corner exposure with three

bay windows while living rooms get

one?" Neither architect would

admit that the other's room spaces

were inadequate in size. However, Tigerman's net to gross

ratios in the typical floors is 89.9 percent,

which is small, but, and the net areas of

the living units are generous by

Chicago standards. Studies range in net

areas from 481 to 570 square feet, one-

bedrooms from 570 to 764 square feet

and two-bedrooms from 976 to 981

square feet. These areas are significa-

tantly larger than those provided by

Weese's plan.

BOARDWALK, Chicago, Illinois.

City Centrum Corporation. Ar-
sociates: Stanley Tigerman—assoc-

uates; Anthony Salcini, John Haley,

architects; Cohen-Barreto-Marchertas

interiors; Wallace & Migdal (me-

chanical/electrical). General con-

tractor: C. E. Co., Inc.
"You think you can do a brownstone in the sky," says Tigerman to Weese, "but you can't!"

True, but by trying to give apartment units bay windows and the variety of room shapes which exist in older types of dwelling places such as brownstones, it is possible to create an apartment tower silhouette of great interest and variety," counters Weese. This tower is fascinating to look at, changing shape as the viewer circles it (right). Windows are angled toward the best orientation and views, but glass area is reduced in favor of continuous vertical slabs of brick.

Weese began by developing the plan form (below) to fit the site and relate well to the two low-rise buildings included as part of his design (right). The non-modular beam and column layout came later, after the apartment units had been worked out. The additional cost of an irregular structural system is offset by the minimum perimeter skin. Tigerman, on the other hand, was limited to 20-foot-square bays to accommodate Boardwalk's basement parking garage. Money saved by adhering to this economical module was partially spent to provide the floor-to-ceiling glass for each bay.

Says Weese: "Universal space is what Mies, in the name of efficiency, said people should live in. Well, I disagree. You can't furnish these spaces. Where do you put the chifforobe—against the window, as I once saw in a Mies apartment? How does a guy live with Biedermeier? We are back to that." Although the Lake Village East model apartments shown above and opposite are poorly furnished examples, Weese's apartment layouts do provide a lot of wall perimeter for chifforobes, escritorios, bibelots and other nostalgic objects to which people unaccountably cling and which are now once more in fashion.
"For Boardwalk I wanted to get the biggest units and the largest area possible. I wanted a lot of glass and flexible space." Tigerman got his space. His apartment units are significantly larger than Weese's shown above and opposite. Lake Village East's studios range in net area from 434 to 486 square feet, one-bedrooms from 586 to 690 square feet and two-bedrooms from 859 to 947 square feet. These figures can be compared with those given for Boardwalk on page 85. Weese's net to gross ratio on typical floors is 87 per cent efficient as opposed to Tigerman's 89.9 per cent. Tigerman's units cost less to build.
Minimum perimeter floor plans by Weese adapt to a variety of sites

DBE Elderly Project, Florida

53 C Apartments, Chicago, Ill.

Grace Street Elderly Project, Chicago, Ill.

John Knox Home Elderly Housing, Norfolk, Va.

bedrooms and 75 two-bedrooms. The 25 typical apartment floors have eight units per floor for a gross floor area of 6,255 square feet. Parking for approximately 130 cars is on grade. Its program did not call for the commercial and recreational facilities of the Tigerman project.

Lake Village East demonstrates the advantages of "minimum perimeter" floor planning. Through this approach a variety of finely tuned floor plans can be achieved. Weese has set aside rigid structural modules and predetermined plan shapes in favor of plan forms which he believes are more closely adapted to need. Permutations of these plan forms are devised to suit a variety of programs, even low-income housing. Weese has compared "equivalent area" rectangular and square floor plans. Such plan shapes, which he believes are often used arbitrarily, require sizable additional wall surface to enclose the same amount of floor area. In minimum perimeter schemes the savings in wall area can offset the extra costs stemming from the complexities of non-modular slab and reinforcing steel forming.

Weese asserts that the individual apartment units at Lake Village East are more livable than those in Boardwalk, and that the variety of unit types offered is an advantage. A minimum perimeter tower will fit well into an oddly shaped site and give a reduced sense of mass because of its receding wall planes. It may enhance views and make the most of available orientation.

Designing a building form with 38 facets

The tower, limited to 25 stories by community pressure, was planned to attract young, fairly sophisticated householders who would become the nucleus of the population. Ben Weese and his team, working within the Section 236 cost limits and the tight constraints imposed by urban renewal, came forward with a complicated parti which departed widely from the standard rectangular form. The structure they proposed was based on developer requirements which included short corridors for efficiency and security, interesting floor plans for rentability, and structural economy. The result was a building form with 38 sides, tending toward the circular form which offers the most economical ratio of perimeter wall to floor area, while at the same time permitting standard rectangular components and rooms. The flexibility of the design allowed maximum planning efficiency, since variations dictated by floor plan considerations could be expressed in the exterior wall without cost penalties. At the same time the plan made the most of the good views toward the lakefront and downtown Chicago, while reducing glass areas to reduce heating and cooling loss.

Examining the options

Tigerman's building illustrates his belief that Miesian architectural forms and details are not only still applicable to current high-rise apartment requirements, but are endlessly perfectable in the esthetic sense. In proving his point, he has created a building which is at once more economical in cost and generous in its square foot allotments than Weese's tower. Lake Village East is of more current architectural interest, however, because it embodies genuinely new planning ideas. Its silhouette is attractive (partly because it is unfamiliar looking) and the basic concept is adaptable to many other site conditions. Neither building is really better than the other. Together they represent two of the kinds of viable, valid options we need.—Mildred F. Schmertz
DISPLAYING AND PRESERVING ARCHITECTURAL ARCHIVES

...those countless drawings and other documents from the past that describe the ways architects have designed and built buildings. Architectural archives are often objects of great beauty, they are of vital interest to historians—and, with the increasing interest in rehabilitation and adaptive use, they are of great practical value to architects. What are we doing to preserve them and make them available?

We are not doing enough to save our important architectural documents, according to the Committee for the Preservation of Architectural Records, a group of architects and architectural historians who banded together just over a year ago under the sponsorship of The Architectural League of New York to try to do something about a bad situation.

"We're miles behind countries like Canada and England," says Catha Rambusch, CPAR's project director. "There is really no national architectural archive in the United States, and not only are many valuable documents being lost almost daily, but it is often hard to find out what libraries, museums and other collections actually have stashed away. Sometimes they don't know what they have."

The problem is complicated, too, by the difficult question of just what is really worth preserving, as Adolf Placzek, librarian of Columbia University's Avery Architectural Library, points out: 'For a piece of music there is usually only one original score, and for a novel one manuscript. But for a building there are sketches, presentation drawings, working drawings, specifications, plumbers' bills, change orders and so on. It is not easy to decide what to keep.' And among today's practicing architects concern for keeping anything for the historical record tends to be low, so that there is no standard procedure for preserving the drawings even of a generally acknowled-
An example from abroad
In Great Britain, by contrast, the Royal Institute of British Architects has a vast store of drawings which have been collected since 1834 and which date from about 1520 to the present. The RIBA’s collection amounts to well over 200,000 drawings, amply housed in an eighteenth-century row house designed by James Adam, which has a modern gallery (shown on the right) for continuing public exhibitions. RIBA is also in the process of publishing a more than 20-volume catalog of its drawings, so that information about them will be available in architectural libraries virtually everywhere in the world.

The RIBA’s drawings collection, and its very large collection of books and its other information services make it a central and important clearing house for almost every kind of architectural information—and even so its library, known as The British Architectural Library, is actively expanding (see box on the following page).

In these terms the American Institute of Architects is considerably less lucky, with a much smaller collection of books and drawings that, at least according to some critics, is incapable of functioning as an information center on a national level. America’s nearest parallel to The British Architectural Library is probably the Avery Library at Columbia University in New York, which has not only a large collection of books, but a number of ancillary bibliographical services and between ten and twenty thousand architectural drawings.

In addition, the Historic American Buildings Survey, though it is not itself concerned with old drawings for the sake of their intrinsic artistic merit, has a vast collection of measured drawings and other information on old American buildings. Though it has traditionally received meager funding since its founding 42 years ago, the Historic American Buildings Survey is still a major source of information about the architecture of the past in this country.

But still the vast majority of archival materials are scattered about the country, more or less well preserved, more or less well documented in various libraries and museums and historical societies, in the buildings which the drawings depict, or—quite literally—in people’s basements or attics.

Goals of the Committee for the Preservation of Architectural Records
There are in general two different challenges today in the field of architectural archives in the United States: One is that of raising money and enthusiasm, as well as developing techniques, for the preservation of architectural drawings and documents, so that they will not be destroyed either by accident or on purpose, and so that they will not slowly deteriorate in storage. The other quite different challenge is to develop some sensible way for interested people to find out what exists and where. In the process of all this, other important decisions have to be made—like, for instance,
what kinds of architectural drawings are valuable as objects of art themselves (and are therefore worth preserving as originals) and what kinds are valuable only for the information they convey (and can therefore be stored more efficiently on microfilm or microfiche).

The Committee for the Preservation of Architectural Records is a loosely knit group of people whose interest is focused on the question of architectural archives on a national level. The central ingredient is concern for the problem, and it is matched by a sufficient flexibility to respond to several different constituencies—architects interested in preserving their own records or those of others, art and architectural historians who want to know about the location and availability of certain documents, librarians and other people interested in establishing and maintaining architectural archives in their communities.

So far the Committee has concentrated mainly on the task of providing information. A directory of existing architectural resources in New York City has been established as a pilot project which it is hoped will be emulated elsewhere in the country. In cooperation with Columbia University the Committee is also developing as a pilot project inventories of three existing New York City architectural firms, and, as is described below, they publish their own newsletter for the benefit of interested architects, scholars and students.

Where to find old architectural drawings and drawings of historic buildings

The Koyl-Mathieson Catalog
Far from complete, this is still by far the most complete listing of drawings of American buildings, catalogued with descriptions of individual drawings and their whereabouts. The original is now housed in the Smithsonian Institution, Washington, D.C. 20560, where access to it is limited but can be arranged.

A part of the Koyl-Mathieson catalog was published in 1969 in four volumes and in a cumbersome format. It is available in some libraries. A useful Bicentennial project would be the publication of the full catalog in a more convenient format—but so far there are no funds.

Historic American Buildings Survey
HABS, which is a part of the National Parks Service, has assembled a collection of measured drawings, photographs and other information about more than 16,000 American buildings. The collection is stored in the Library of Congress, where it can be consulted. Copies of HABS material can also be ordered from the Prints and Photographs Division, Library of Congress, Washington, D.C. 20540.

Finding out what HABS actually has in its collection can be confusing. Its original catalog was published in 1941, followed by supplements in 1959 and 1963. Since the supplements are not cumulative it may be necessary to look in all three listings to find a particular building. Since 1963, however, HABS has begun a new series of cumulative and comprehensive catalogs organized by states or by region. HABS hopes to complete this series by 1976; more information can be obtained from the Historic American Buildings Survey, Office of Archeology and Historic Preservation, National Park Service, Department of the Interior, Washington, D.C. 20540.

Newsletter of the Committee for the Preservation of Architectural Records
CPAR regularly publishes a two-page Newsletter as a part of its efforts to act as a clearing house for information about all aspects of architectural archives. More information can be obtained from the Committee for the Preservation of Architectural Records, The Architectural League of New York, 41 East 65th Street, New York, N.Y. 10021

The British Architectural Library
The main collection is in the Royal Institute of British Architects, 66 Portland Place, London W1N 4AD, and the Drawings Collection is at 21 Portman Square, London W1H 9HF. The Library will answer requests for information from the United States, and it also invites contributions to its current appeal for $2.5 million for expansion of its collections & services.
THE "BARE BRICK SCHOOL"

In their enthusiasm for old buildings, architects have become major consumers of renovated spaces for their own offices. They not only have discovered the economic advantages of remodeling an older building, but together they have also developed a surprisingly consistent rehab style, consisting of exposed wood surfaces, rough and ready details, bright colors (preferably Marimekko) and—above all—the obligatory bare brick wall. What has emerged is one thing the profession desperately needs—a vernacular style that is handsome, economical, easily understood and easily copied by just about anybody just about anywhere. Some examples. . . .
Baker Rothschild Horn Blyth—brick and bright color in Philadelphia

This young firm took on as its first project the remodeling of an 840-square-foot space for its own office. The space is on the third floor of a nineteenth-century commercial loft building, and originally it had two levels. The architects put new joists into the existing joist pockets to create the feeling of separation between the reception area (photo top right) and the rest of the office (photo above). Below the new joists are individual work stations for each of the firm’s four partners, and above—in due course—there will be a mezzanine for expansion. The conference area (photo above right) is the only part of the office where the full 19-foot height of the loft space is unobstructed; it stands at the opposite end of the office from the raft of colored banners that are the office’s other memorable feature.

HOK in San Francisco—a big firm goes Bare Brick

HOK'S San Francisco office is in a part of the city between downtown and Telegraph Hill where renovation and adaptive use are the rage—an area characterized by large brick warehouse buildings ready to be turned to more glamorous commercial use. In this case the intention was to create a simple kind of space where there could be a heterogeneous mix of employees without the usual distinctions between front and back room. So the major part of the space is given over to one open office area (photo above) where members of the staff have their own work stations defined by low partitions. This large space is on the outside of the building, with exposure to natural light. On the inside wall there are three offices that offer more privacy (photo below) and a conference room.

The building this architectural office calls home began life in 1901 as a livery stable and a blacksmith's shop. In more recent times its ground floor had been turned into a parking garage and its second floor, where the office now is, contained a printer's shop and press. What was originally the blacksmith's shop is now the entrance stairwell (photo far right) leading up to the office proper (photo below). This is a high skylit space in which an elegant white structure has been inserted, in strong contrast to the rough brick walls and the bare roof joists above. The main level of the office is occupied by a reception area and a conference room (photo immediately right), while the upper level is one large, open drafting loft, brightly lit by the skylights immediately overhead.

John Hilberry and Associates—negative value becomes positive worth

John Hilberry and Associates is a six-man architectural firm with a particular commitment to an area of Detroit known as Harmonie Park. As architects they have worked with local businessmen to organize a special tax assessment district and with city agencies to expedite public improvements—all to preserve and enhance the special sense of place of this area. By moving their own offices there they sought to demonstrate to others that the area was viable, and that buildings there were worth reusing. The building they chose for themselves was a three-story loft structure that was so little prized that its lot was considered more valuable with the building gone. The architects renovated the top floor for their own use and rented the other two.

OFFICE FOR JOHN HILBERRY & ASSOCIATES INC., Detroit, Michigan. Architects, owners and construction managers: John Hilberry & Associates Inc.—
project team: John Hilberry and Anthony Foust (partners), Keith Moffat, William Vogan, and Erick Mesko. Engineer: Gerry Shreve (mechanical).
Robert Welton Stewart—Southern comfort in a carriage house

The Kent-Valentine house in the heart of Richmond, with its oasis of magnolia trees and its grassy lawn, is a valuable asset to the city, and it has been acquired for preservation and adaptive reuse by the Garden Club of Virginia. Robert Stewart, an architect who encouraged the acquisition, found himself actively involved when the chance came to remodel the Kent-Valentine house's carriage house for his professional office. The small courtyard of the carriage house opens into a reception area and drafting room (top photos), from which a stairway leads to a second drafting room on the floor above (photo immediately above). Alterations to the existing building were minimal, and the genius of the design lies in Stewart's demonstrated ability to seize the moment and to recognize a pleasant and reusable building that had escaped others' notice.

Viewed toward the students’ entrance in the photo above, this building does not appear large by single-building-college standards. But it is really an upside-down pyramid; the "apex" is in a void between the massive building elements where the floors are steps down both sloping sides of a sunken stream—or in suburban Dallas, an arroyo. Turning a seeming defect of the natural site into an asset, architects Harrell + Hamilton/Chan + Rader have produced a big, rich, interior environment in a building that does not overpower its surroundings. And it is this stimulating environment that generates the involvement necessary for such junior colleges to produce better-rounded graduates. By an unorthodox arrangement of facilities and a strong visual connection between them, there is a pleasant exposure to the constant options of varied activities; students are encouraged toward a much broader range of programs than those required to just get through.—Charles Hoyt
In Dallas, a rapidly growing population is creating an ever increasing demand for school facilities, contrary to that of the nation as a whole. Currently, seven junior colleges are planned on scattered sites for easy neighborhood access. Each will meet the need for both technical-occupational and liberal-arts educations. One of the initial buildings is Mountain View, which is located in the southwest section of the city on a gently rolling, largely undeveloped site of 200 acres. Much of the surrounding area is similar in character, although a development of closely spaced houses to the east presages the possible future environment. Incidentally, there are no real mountains in Mountain View’s view.

Rather than dominating such a site with a building exhibiting its true size of over 360,000 square feet, the architects chose to take advantage of the terrain’s potentially unusable natural feature, an arroyo. By placement in this sunken area, the bulk of the building is minimized. Indeed, it is completely hidden from the students’ entrance at the south of the site by low hills which have been planted with local trees to augment the natural vegetation.

While an important concept in planning was to expose the students to the widest range of activities during daily travels through the college, the activities were separated into two building units (connected by bridges) to facilitate community use. The gym, auditorium, administrative offices and the public entrance are located in the eastern element. Students enter the western part of the building by crossing a large plaza (photo on page 101), which forms a semi-enclosed transition from the open spaces of the site. The two elements are centered on the arroyo, (photo right) extending several levels below the entrances and terraced as an open-air extension of the interior student center.

Mountain View can presently accommodate 2,500 to 3,000 students, and projected expansion is planned to double that number (see site plan). Accordingly, the central facilities in the eastern building element, along with the student center and the laboratories have been sized to meet the eventual demand. Parking and athletic fields are also projected to occupy the greater portion of the site. Therefore, the placement of the building in the arroyo has a twofold purpose. Beside allowing the recessing of the bulk of the building and providing for expansion, it trees the remainder of the site for a green buffer at the perimeters.
A view of part of the building from the south (photo left) shows the transition from the single-story students' entrance, on the west facade, to the multi-level space within the arroyo shown in the photos below (the other half of the building is shown overleaf). The connecting bridges span a stream, which is kept at a constant level by artificial lakes. Terraces are an extension of the student center, and are a focal point of activity above the natural stream bed. A jazz concert is shown in progress. The dark colored glass is typically shielded from the sun by projecting horizontal mullions as shown in the photo below.
Many school boards in Texas have recognized the nationally shared problems in education, and are willing to try new solutions. Junior colleges have particular problems. The students tend to be there for an education in a particular occupation, without much exposure to the liberal arts, or they want a general education without the commitment of a four-year program. To counter the limitations of either situation, Mountain View functions as a melder of options. There is maximum exposure to every sort of activity as the students move through the building, and those activities are located in surprising places. For instance, highly visible machine shops are adjacent to the student center, the "heart" of daily activity (photos, right). From the student entrance, the pleasantest route to the science and art departments on the floor below is across a bridge through the physical education, drama, music departments, and back across a bridge at the lower level. All of the time, the student is seeing different activities. A bright atmosphere, as seen in the student center, energizes involvement by making the college a pleasant place to be.

In recognition of a sometimes hard mate, Mountain View has limited glass which are mainly oriented toward the between the two elements of the building, but there are largely solid walls around the perimeter of the complex which are faced with painted to match the exposed limestone of the site. Five separate air handling units are supplied with the appropriate chilled or hot water from a central mechanical room. Hot water was chosen over steam because of the problems of returning condensate through change of elevation between the two building elements. The poured-in-place concrete structure rests on spread footings or caissons depending on the varied soil conditions. Exceptions to the general structure of 25-foot bays are: the steel-truss roof of the theater, the pre-cast-T gym roof and post-tensioned bridges. Costs were $32 per square foot.

The plan shows the public entrance (photo left) halfway between the student-entry level and a floor of teaching spaces below that level. A third part-floor is occupied by faculty offices which open on the balcony above the student center's lounge (photos below). This lounge is the hub of activity where students meet, and it is furnished for both relaxing and study. The student center consists of several spaces for varied activities and includes the dining room (photo opposite page, bottom), which is on the level below the adjacent lounge. This relationship brings the center's activities to both the main floors.
The extra wide corridors are designed for students' leisurely viewing of the activities in the adjacent teaching spaces. The polished concrete floor, tile murals, banners and skylights contribute to a cheerful atmosphere. The greater ceiling heights in the classrooms are detailed with dropped soffits around each wall, which carry through the corridor ceiling height and conceal mechanical equipment and wall lighting. Other uses for the wide corridors include exhibits such as an airplane, which signals the presence of the machine shops. The skylights also permit indoor planting, which is a lush contrast to the arid environment.
STORES AND SHOPS

For storekeepers, the name of the game is merchandising; for architects, it is design. Put these two together and the result can be merchandising in a place designed to enhance the use of the most sophisticated selling devices of the retail world. In a boom economy, anyone can sell in any kind of environment. In an economic slowdown, it takes something more than goods for sale to induce customers to enter, and to persuade them to buy. In the four stores shown here, innovation and creative design have provided the right combinations at the right time.
Skylighted open space in branch specialty store continues a tradition of elegance within an innovative design

For the first time in its long history, Bergdorf Goodman—an elegant specialty store on New York’s Fifth Avenue—has a store building designed to its own needs and desires. The new building is in the retail section of White Plains, New York, a fast-growing center (not a mall) for shopping which serves all of Westchester County, reported to be the “largest retail area in New York State.”

Since this was the client’s first experience with a project of this kind (the first store had been remodelled and added onto but was never a custom building for the client), the standards for the new store’s program grew out of the reputation for elegance and service that had characterized the first store. Some of the physical amenities of the New York location also became requirements for the suburban site. In New York, for instance, Bergdorf Goodman is “on the Plaza” by the Plaza Hotel, and across 59th Street from Central Park. At White Plains, Bergdorf Goodman opens from a plaza which, like the Plaza in New York, has a distinctive fountain and is across the street from the park.

Inside the elegant travertine-faced building, everything focuses on a great open space covered by a 200-foot-long mirror-glass skylight which floods the store with light by day and at night presents a kaleidoscopic picture of colorful merchandise and movements of people below. This open space functions much as a street would—Fifth Avenue, for instance—providing circulation among and access to the boutiques which line its perimeter. The visual excitement produced by the great court overshadows the basic architectural function served by the covering skylight: to unify the diverse elements of the store, and in providing the means for understanding the whole store at a glance, to act as a constant orientation for the shopper. It is traditional elegance achieved without using traditional forms.

Escalators cascade through the open court on an angled line from topmost level to the lowest floor. Around the court or "street" are boutiques, shaped to the particular kind of merchandise offered and open to the "street." The boutiques are small, defined and intimate, but the over-all effect is an easy elegance, a degree of informality but never casualness. Fine materials play an important part in the quality of the store: marble and bronze are the principal materials used—marble for floors of general use (selling areas are carpeted) and to enclose escalator wells, bronze to cap and trim horizontal planes.
Two materials—marble and bronze—are used as a common denominator throughout the store, but color identifies specific departments and kinds of merchandise; warm neutrals make a quietly elegant background for accessories on the first floor; deep, rich colors on the second floor suggest high fashion; strong bright colors against a neutral gray background on the third floor are the mark of young shoppers. The men's department on the first floor (top left) is done in brown tones; the third floor restaurant (top) is dramatic with mirrors, many small lights and lots of red; the colorful wares of Marimekko on the third floor (center) are in wood cases; the third floor street is display area and lounge.
comprehensive system
for store fixturing
provides store unusual
flexibility in interior
arrangement and merchandising

Miller’s West Town, a department store in a
shopping center in Knoxville, Tennessee, the
architects, OMNIFLON Architects Harrel +
Hamilton, used a comprehensive fixturing sys-
tem that coordinates dimensionally the shell of
a store building—new or existing—with the
exteriors to provide a consistent but highly flex-
ible relationship among all facets of the store.
Since all components of the system are of mod-
er design, they are interchangeable.

Three new stores for Miller’s, now in de-
velopment by the same architects, will use the
system even more fully than the West Town
store has done. In this first of their new stores,
Miller’s was hesitant about giving up some
conventional store practices—partitions are
standard metal studs and gypsum board, elec-
trical outlets are in floors, floor coverings
range from department to department—but
once the store has been in operation, it has
found that the flexibility that it wanted was
sufficiently maintained by the inflexibility which
resulted from these decisions.

One of the first tests of the store’s flexi-
bility came in the last days before its opening.
Because changes in merchandise and in cus-
tomer demand occur with great rapidity, much
of the planned layout for fixturing had become
obsolete between completion of design and ar-
rival of fixtures. With a minimum of time and
cost, the sales staff reorganized the area, re-
placed the configuration of the fixture com-
ponents, and opened the store with the latest
approach.

Frank S. Kelly, senior vice president of OM-
IFLON Architects Harrel + Hamilton, was
project architect of Miller’s West Town, and
writes this vivid account of his firm’s answer to
Miller’s request for a store that would be “a
valuable sales tool, responsive to new directions
in merchandising and in merchandise:

“Because department stores are usually
built and designed in two parts—building
shell and interiors—the potential of the store as
a sales tool, and its esthetic qualities, are
determined by how well the two parts work

Together. Often, they fail to support each other
sometimes, over the life of the building, they

can even be in actual conflict.

“What we have tried to do in our OMNI-
PLAN system is to overcome this failure and
enable conflict. Using a 2-foot-6-inch plan-
ing grid, we have coordinated dimensionally
the elements of the shell (columns and walls)
with the interiors (fixtures, partitions, decor,
and displays). And we have provided, in the
process, not only consistency throughout the store but the kind of flexibility that stores—especially today when things change radically in short periods of time—require to stay abreast of new developments.

"Three aspects of the system account for the high degree of flexibility:

1. The dimensions of every display component are based on a multiple of the modular grid. Each component fits into any location of the store, and is interchangeable with every other component.

2. Components are connected to supporting standards with the same detail, so that any component can be hung from any standard in the store.

3. The same white plastic laminate finish is used on every component. Large components can take interchangeable decorative panels, but most surfaces of each component are clad in white so that they can be used in any sales area without consideration of color scheme or decor.

"The OMNIFRAME Ceiling System is designed as the interface for the building shell and the interior. It is a grid of structural steel channels hung from the building's frame—at Miller's this is a composite of fireproofed steel beams and concrete slabs. From the grid are hung aluminum baffles, painted white, which give the overhead plane a rich texture and openness that make it seem higher than it is.

"The Ceiling System is an integral part of the Fixturing System which also is based on the 2-foot 6-inch grid. This is both a system of related components from which fixtures and partitions of many configurations can be assembled, and also a collection of completed fixtures. Fixtures are made by hanging display components (partition panels, shelves, drawer units, show cases, cash desks) on hang rods or supporting members called standards. There are six kinds of standards, all fabricated from steel tubing and designed to provide for every fixturing need, from formation of complete display islands to individual show cases. In all, almost 100 components were developed. All are described in a catalog from which Miller's may select whatever it needs to assemble fixtures for new merchandise arrangements.

"None of our OMNIFRAME components disappear behind the merchandise but instead are clear forms which provide a framework or background against which, or within which, the merchandise can be seen better. Neither merchandise nor fixtures dominate; they work

Dimensional organization
The elements of the building shell (ceilings, walls) and the interior (fixtures, partitions, decor, display) are dimensionally coordinated to make a flexible, consistent relationship among all facets of the store. Such elements as mechanical, electrical and communication systems, however, are not considered a part of this interrelationship and can be designed independently. Dimensional display components are based on a multiple of the modular grid and are interchangeable.

Structure
The ceiling system is suspended from rigid steel rods from the building structure. The type of structure is of no concern, provided that it is suited to supporting the concentrated loads which result from the system's use. (Fireproofing, if required, must be developed by the structure itself, not by the ceiling of the building.) The ceiling system is the interface between the building shell of the building and the fixtures and displays.

Ceilings
The ceiling system has two main parts: a structural framework of steel channels laid out on the modular grid hung from the building's structure; and a system of painted aluminum baffles, hung from the grid, which screen the mechanical equipment from the sales space below.

Sprinklers
Sprinkler heads and piping are concealed above the baffles. The baffles do not interfere with the water distribution pattern, and are easily accessible since the ceiling grid is open below.
together to create effective sales displays.

"Miller's interiors were originally budgeted for standard fixturing, but using the OMNIPLAN system, they were completed for less than the anticipated cost.

"From our experience at Miller's we have found no direct relation between the cost of store interiors and the use of our OMNIPLAN system. By modifying only the details and the materials, while retaining all the basic functional concepts, the cost can be geared to either high or low budgets.

"Department stores function, in effect, like theaters: they present hundreds of small vignettes which tell the shopper what is for sale and elicit his or her interest. Many merchants have recognized this resemblance, but they have not gone beyond the creation of the show to prepare the basic tool of the theater, the stage. The building and fixtures at Miller's West Town are a stage. The decor and merchandise are the sets and performers. The 'stage' is designed to provide the environment and equipment for any merchandising performance, from a fur coat to a pressure cooker. The capabilities of a theater were developed at Miller's West Town through OMNIPLAN's comprehensive fixturing concept.

"From a designer's point of view, the system has worked well, in terms of maintaining the intended character of the store. With the frequent changes that department stores normally must make, it is quite discouraging to a designer to visit one of his projects after it has been open for a while, because of the remodeling that has been done—often quite amateurishly. The use of the system components provides a visual framework which gives order to almost any change, even when done less than professionally. Miller's looks almost as good today as when it opened, and we have not been involved in any of the changes. This may not be ideal from a purely design point of view but it is very unrealistic to think that any store will return to its original designer every time it needs to move a wall."

In the new stores, new in design, there will be no fixed interior partitions, and one floor covering will be used throughout the store. The OMNIPLAN System will be used to its designed capability.

MECHANICAL SYSTEMS

All ducts and registers are located above the baffles and are thus concealed from sight. Air is distributed horizontally above the ceiling. The return is non-ducted. The space above the ceiling grid acts as a plenum, and everything in it is painted black to minimize the possibility of its being seen: ducts, piping, electrical and telephone wiring, speakers and security devices.

POWER AND COMMUNICATIONS

Since all electrical wiring carries low voltage, and since the ceiling is open, all wiring is run exposed, without conduits. Wiring from telephones, sound systems, and point-of-sale data processing equipment runs in the plenum above the ceiling grid and the main white baffles. Power drops from the electrical system above the grid and along ceiling-to-floor fixturing standards, act as extension cords from the busways, and can be located anywhere on the grid.

ELECTRICAL DISTRIBUTION

Electrical busways, run above the ceiling grid, provide power for both lighting and floor fixturing. Lighting fixtures, attached directly to the ceiling grid members, are so located that a point on the sales floor can be illuminated. There is no general illumination in the store. The incandescent system is efficient for the purposes of the system and uses only 3.7 watts per square foot of sales area. Wiring is dropped through a steel tube from the electric busway to fixturing on the sales floor.

SPATIAL DEFINITION

Sales spaces and displays can be defined in several ways. Forms of various sizes, configurations and materials can be suspended from the ceiling grid, partition panels, supported by floor-ceiling standards which bear on the floor and are bolted to the ceiling grid, can be used. Partitions may be fabricated of any light material—wood, veneers, fabrics, vinyls, acrylics (transparent and translucent)—up to three inches in thickness, and can be hung at any height.

FIXTURES

All display components, including showcases and other types of fixtures, are of modular design so that they work with the system's other parts. They are supported on the floor-ceiling standards. Floor fixtures of any size and configuration can be assembled from the components and standards. Power drops from the busways supply wiring to floor fixtures so that they can be internally illuminated. Display components are neutral in color, but end panels can be coordinated with specific decors.

At Miller's West Town, OMNIPLAN's system has had a successful initial use, and has put to almost constant use the flexibility inherent in the system. Departmental changes—expansion or contraction—have been effected with a minimum of labor and no skilled craftsmen, and with little interruption to sales. The system allows a surprising variety in visual effect, both in decor and in merchandise display, thanks to the components of the system which make possible both hanging and floor display fixtures.
Rotunda and dome give elegant distinction and spatial excitement to specialty store in large shopping center

The store that wants to locate in an existing shopping center faces the problem of fitting its building into an established architectural concept with which it may not agree—for purely architectural reasons or because the design is alien to the store’s identity—but with which it must conform. In such cases, the store and its architects rely on interiors of exceptional concept to create an attraction strong enough to overcome what is, at least initially, the handicap of the non-identifying exterior.

At the Frontenac Fashion Center in St. Louis, a highly desirable retail location for a store of the calibre of Neiman-Marcus, the prevailing (and mandatory) design character was wholly out of character with the Neiman-Marcus image. The exterior of this new store conforms to the vocabulary of the center, but inside, with no impediments to design and expression, what the name Neiman-Marcus stands for is dramatically manifested. The elegant high fashion merchandise for which it is known is displayed with sophistication that enhances both the goods to be sold and the customer who comes either to buy or to look.

At the center of this essentially square building is a breathtakingly handsome “shaft of space,” topped with a circular dome of mirror glass which daylights the area and much of the second floor. At night the mirror surface reflects the activity below, so that it is at all times a spectacular part of the store’s effective environment. Since this shaft is also the space through which the escalator runs, it becomes a certain and unavoidable orientation for circulation between floors. Around the central “super space” are departments and boutiques with a variety of fixtures for display, with individual manners of setting off their merchandise from neighboring displays.

Although the central court or shaft appears to be an opulent use of space, it is cannily put to work as the location of the escalator circulation for the store, so that it is, in effect, considerably less a luxury than a handsomely executed necessity. Indeed, handsomeness is a key word throughout, expressed in the quality of the materials used, in the colors which differentiate departments and floors, and in a very special way, in the art works which owner Stanley Marcus has placed, as he has in his other stores, throughout this store. The works range in type from sculpture to needlework, from painting to macrame, and their subjects are equally varied. Displayed as part of the store’s decor, and never as an exhibition, these
Besides the value of the mirror-glass dome as a focal point and an exceptional attraction for the store, the dome and the light it admits by day to the center of the building provide immediate orientation from any point on either floor. Not only is this two-story shaft of space both dramatic and luxurious, but the continually changing light, from morning to night, is itself an effective aspect of the store's decor. What it reflects from below at night again changes the effect of the interior. The store is large in area but only two stories high above ground, so one escalator only is used to connect the two principal floors.
works add greatly to the quality of the store’s environment.

The materials used throughout are not only embellishment of the store’s interior, but are used with a subtle degree of functionalism: precast travertine terrazzo is used to state graphically the traffic pattern on each floor, whereas carpeting is used in each departmental sales area. The travertine terrazzo, made in two shades of beige, in Italy, in pieces large enough to emphasize the scale of the spaces in the store, provides an instantly recognizable identification for each boutique or shop, and the carpeting, in special colors developed for this store, invites the customer into the sales area. In certain departments—the second floor fashion department, for instance—custom designs are made for both carpeting and for the printed fabrics used on the walls. Elsewhere, stock designs in special colors, clear and fresh, are used. Acrylic sheet materials are used on the walls of the children’s department. Where wood is used, it is left natural.

The design team that worked out the concept for this store represents the coordination of two design offices: the architectural firm and the interior design firm which is its subsidiary, an unusual conjunction but one which worked well together to produce a harmonious integration of space, color and materials. Long-continued studies of the merchandising field have led to participation by the interior designers in the decisions made by the store management on the location and juxtaposition of departments as well as on the design of the interiors. Since Neiman-Marcus stores have a policy of not identifying by signs either departments or merchandise, the interrelation of design and merchandise display is of particular importance in the successful operation of the store.

NEIMAN-MARCUS, Frontenac Fashion Center, St.
Duet elegance where elegance is not erred for characterizes the shops and departments in Neiman-Marcus' St. store. At left is the men's department on the main floor; near right is the jewelry department, also on the main floor, where sculptor Ernest Tschernawa's stainless steel "Gox" is on display. At far right is the girls' department, adaptable to the addition of new or by display designers, while retaining its basic clarity of plan and design.

The Zodiac restaurant (below) on the second floor is basically a simple space made dramatically exciting by use of tubing and plexiglass as an attraction to its remote corner location.
Three-story court is dramatic focus for department store in a Southern California regional shopping center

Bullock's is a chain of department stores in Southern California, most of whose newer buildings are located in shopping centers. This store in South Coast Plaza, a regional shopping center in Orange County, is in the city of Costa Mesa. It is the anchor store for the center and follows, in its exterior form, the precedent set by one of Bullock's earlier stores. Its walls are of ribbed weathering steel, with light-colored brick for trim and as a frame for entrances and a facing for some walls. Projecting elements break the length of the building and give it a distinctive form, something the client wanted as an identifying mark in the center.

The interior makes the most of the building's height by providing a three-story open space at the center. On each side of this great space are the escalators, with a dramatic view of the space and the several landings. The ceiling over this space is jet black and is studded with hundreds of clear-glass filament lamps set in crystal globes, and suspended at different distances from the ceiling.

General lighting in the store is minimum, provided by incandescent fixtures set in dark ceilings. Accent lighting from spotlights on a comprehensive system of tracks is used for specific merchandise and to focus on certain areas of the store.

Materials and colors for the interior were selected for their appropriateness to the casual living of the Orange County area: brick and rough sawn wood, earth colors, textured fabrics, and living—not plastic—plants. In the court, for instance, the escalator runs are faced with rough wood, as is the bow on the third floor which projects over the court; the two sides of the court are faced with heavy-textured brick set both flat and at angles. The floors at each landing are paved with octagonal and square tiles, and planters are effectively placed near the escalators. Carpet is used in the selling areas in colors appropriate to the merchandise: brick red, gold, green, blue, brown, red. Walls are treated in several ways—by painting, by use of graphics, and in the Fashion Gallery, silk damask as a wall covering. The architects designed all the interiors as well as all the graphics for the store.

The escalators, which serve the second and third floors, run through a dramatic three-story-high open “court” topped by a black ceiling studded with hundreds of clear-filament clear glass lamps suspended at different distances from the ceiling. The rough-cut wood paneling on the end walls and on the sides of the escalators, and the heavy-textured bricks, set both flat and at angles on the side walls of the “court,” contribute to the informal environment sought by the clients for their store in this location. At each landing the floor is set with highly polished octagonal and square tiles in a sandy beige color.
An expressive skin-and-bones facade done with utmost care

While it is not altogether true that good design costs no more than bad design, neither need it cost that much more. I. M. Pei & Partners' refined and sprightly design for 88 Pine Street cost about $3 a square foot more than similar investment office buildings, and returns excellent design value for the money. Its crisply detailed curtain wall, its glittering stainless-steel lobby, above all, perhaps, its brilliant whiteness, raise it well above the esthetic standard of most of Manhattan's spec offices.
Downtown Manhattan, where dark, massive towers crowd narrow streets and even narrower sidewalks, challenges the architect who aspires to design a building of distinction. The economic reality of the highly competitive office rental business place further constraints on the design of speculative offices.

At 88 Pine Street, owner Morley Cho was willing to pay a premium for quality—within limits, of course. But even when the owner is willing, there are fairly few ways to spend extra money. The floor plan for commercial rental space is standard, based on open loft space that will be divided up and finished by tenants unidentified at the planning stage. Pei’s design varies this standard plan somewhat by locating the elevator core off center. This arrangement anticipates the needs of Wall Street tenants—brokerage houses and the like—who operations require large, unpartitioned areas. The asymmetrical Pine Street plan allows small private offices at one end of the floor and three bays of bull-pen space at the other. (Above the 18th floor, where one elevator bank terminates, this space expands to four bays.)

Essentially, however, the structure of the building and the services provided to the tenants—HVAC, elevators and so on—are conventional, meeting the fairly high standards that have become normal in the New York office market. The building’s personality had to be, in the end, declared in public spaces, such as the plaza and the lobby, and in its visible exterior.

Plazas, though nowadays also standard equipment for New York office buildings, are particularly welcome in the downtown area, where they provide needed open space for pedestrians as well as sight lines for otherwise obscured buildings. And the handsome lobby, with its curved surfaces of polished stainless steel and its Chinese-red elevator cabs, gives what the architects call “a touch of theater” to the unostentatious building.

Ultimately, however, it is that whiter-than-white curtain wall, with its refinement of proportion and detail, that sets the building apart from less inspired examples of its type.

A major consideration in the design of the curtain wall was that the building should appear clean, light and transparent as a foil to its neighbors, some of which are pretty undistinguished. A short-lived attempt to devise
To accentuate the clarity of the building's lines, the curtain wall is virtually monochromatic—white-painted aluminum, clear glass, unobtrusive gray aluminum window frames. The thermoset silicone-reinforced acrylic coating is in fact blue-white, a color selected because it is more luminous in appearance than pure white or cream. Except for expansion joints, the only exposed joints on the face of the building are window-washer tracks at the inner corner of column flanges, in compliance with the architect's instructions that "all joints, except where noted, shall be invisible." Because lights are supported on only two sides, wind-load requires glass thicker than normal—$\frac{3}{4}$ in. on the lower floors, $\frac{1}{2}$ in. above the 23rd floor. Vinyl tube at butt joint provides non-bonding back-up for silicone sealant.
steel wall that would work structurally was scrapped in favor of aluminum cladding that would trace with some accuracy the shape of the rigid-frame structure. (The stiffeners on either side of the columns do not reflect the structure behind, but were added to support the 26-ft spandrels as they were slung into place. They also add greatly to the sought-after play of light and shadow on the face of the building.)

The aluminum cladding is "painted" with baked-on silicone-reinforced acrylic enamel, the first such application of this material on a metal wall of this size. White was chosen partly to contrast with the building's somber neighbors and partly to evoke images of ships and shipping; the site is near the East River and the South Street Seaport Museum, and the owner has considerable maritime interests. (Mr. Cho was the last owner of the liner Queen Elizabeth, whose salvaged bronze initials compose one of the plaza's sculptures.)

The voids formed by the curtain-wall members are filled with glass—three lights, butt-jointed with silicone sealant, to each bay. From the outside, this 26-ft expanse of glass imparts the transparency that was one of the guiding design principles; at the same time, the absence of mullions preserves a simplicity of appearance and suggests the flexibility of the interior space. From the inside, the windows offer sweeping views of East River traffic and the Manhattan skyline.

The visual simplicity of the curtain wall contradicts the amount of work that went into its design. The ability of Pei's firm to produce a building with such superlatively executed detail must be attributed, one feels, to a high degree of competence at all levels within the firm, as well as to a corporate capacity for taking pains. The early involvement of cost consultants allowed the architects to consider alternatives before making final design commitments. Subsequent studies of materials, shapes and connections engaged the attention of aluminum fabricators, coating suppliers and glazers, as well as engineers, and produced details of great exactness.

Because the heavy glass tends to bow under its own weight, partitions for outside offices are provided with spring-loaded neoprene gaskets for a continuous fit at the window. Still another example of the meticulous attention to detail underlying the building's air of well-groomed assurance is the handling of the painted aluminum cornice: the six panels required for the infill are made to appear as three, repeating the proportions of the butt-jointed windows, with alternate hairline and revealed joints.
33 stories of long-life white: a dramatic first for DURACRON® coatings

38 Pine Street” offers more of a special interest to architects and builders than distinctive beauty alone. This striking new addition to Manhattan’s skyline is the first building constructed of aluminum curtain wall in a column-and-beam style. And to accentuate its face dramatically, it is also the first highrise finished exclusively in a white organic coating. The result is a gleaming study in light and shadows—a clean, carefree appearance that will endure for years to come.

All spandrel panels and column covers were fabricated from aluminum extrusions, then factory finished with baked-on DURACRON Super 800 coating. This silicone-fortified acrylic finish from PPG offers outstanding durability and color integrity. In addition to excellent performance characteristics, this DURACRON coating provides the savings of a moderately priced extrusion finish.

For data on PPG color coatings, check Sweet’s Architectural or Industrial Construction Files 9.10/PPG. Complete product information is available from Product Manager, Extrusion Coatings, PPG INDUSTRIES, Inc., Dept. 16W, One Gateway Center, Pittsburgh, Pa. 15222.

PPG: A Concern for the Future
Setting up practice is a painless experience with Barwick. Because we make the most extensive selection of contract carpet and tufted wall coverings for every design imaginable.

This is just one of them: "Headquarters" a 70% Creslan® acrylic, 30% P.V.A. textured cut-and-loop carpet with Brunson® anti-static inhibitor added for additional protection. In 12 soil-hiding, heather-tweed colorations.

For more information on the carpet that meets the requirements of the job you're working on, call Bob Alpert collect at 404/455-6400 or write: Barwick Contract Carpet Systems, Chamblee, Ga. 30341.

BARWICK CONTRACT CARPET SYSTEMS™
A Division of E.T. Barwick Mills.™ World's leading maker of tufted carpet.

For more data, circle 55 on inquiry card
The Fried Egg Test.
OR WHY A WOOD FIRE DOOR IS SAFER THAN A METAL FIRE DOOR.

Both wood and metal fire doors serve the same purpose. To retard the spread of flames, heat, smoke and poisonous gases in a burning building.

However, each type of door differs greatly in its ability to transmit heat—which can also be a life and death consideration.

In a real fire, hollow core metal doors reach almost 1000°F (after thirty minutes) on the side opposite the fire.

Wood fire doors, under the same conditions, reach a maximum temperature of only 250°F.

It doesn’t take complicated testing to show you the difference. Two cans of Sterno and a piece of each door will tell the story.

After 30 minutes, the metal fire door was hot enough to fry an egg.

The wood fire door was cool enough to touch.

The real question is—why install a fire door that can’t be touched or possibly even passed? Or that will jam, buckle and maybe ignite materials on the side opposite the fire?

Play it safe.

Send for the full story on safer, quicker, quieter, more attractive fire doors backed by a lifetime guarantee.

Write Weyerhaeuser Company, Box B-2478, Tacoma, WA 98401.

For more data, circle 56 on inquiry card.
Portable basketball backboard
An aluminum backboard guaranteed for life rolls by tipping onto two rubber tire wheels. The 370-lb unit is official size and glare-free with justifiable height from 8 to 10 ft. * Sportsplay Products, St. Louis, Mo.

Circle 302 on inquiry card

Outdoor luminaire for sodium and H.I.D. lamps
The company introduces the Tubaloid architectural lighting fixture for use with low-pressure sodium or mercury vapor lamps. Available in anodized or painted aluminum, for mounting on poles, walls, canopies or the ground as a bollard (see drawings), the unit has a polycarbonate clear or diffuse white lens that resists breakage, and installation is said to be fast and simple. For relamping and maintenance, only the captive end cap need be opened. Pole options include aluminum with satin ground finish or steel poles, prime painted. A single upsweep davit pole and custom poles are also available. Luminaire mounting height ranges from 10 to 20 feet above the ground, in 2-ft increments. The company claims the unit can be totally maintained without disassembling or electrically disconnecting it. Acrylic lenses are also available. * Voight Lighting Industries, Inc., Leonia, N.J.

Circle 303 on inquiry card

Low venetian blinds used on sloped windows
Quinco Consulting Center Indianapolis, by James Port Polshek Associates features a special modification of the company's 1-in.-wide blinds which hold them parallel to the window where it slopes at an 18-degree-angle (top). By using a self-compensating tension wire, tilt and lift operations remain unaffected by any slope. * Alcan Building Products, Warren, Ohio.

Circle 301 on inquiry card

For information, circle item numbers on Service Inquiry Card, pages 189-190.
"A money-saving, space-saving DWV system."
That's what Tyler RufWall delivered to the
One U.N. Plaza Hotel.

David Norkin, President of Norkin Plumbing Company, tells why RufWall was chosen for the 10-story, 350-unit hotel portion of Manhattan's newest combination office/hotel building.

"Rigid space requirements, narrow channels in the slab floors, and lack of storage space called for a compact DWV system. Tyler RufWall was the ideal solution.

"In addition to furnishing basic fittings for floor-mounted back-outlet water closets, the RufWall units will pick up tubs which rough-in above the floor or still fit 2-inch pipe into 3-inch channel slots in the slab. And because the RufWall system uses less material than traditional XH class cast iron installation, costs were reduced. All in all, RufWall gave us just what we were looking for, a money-saving, space-saving DWV system."

But there's another side to this case history.

The 350 RufWall units for the 10-floor hotel portion of the building weighed only 66,336 pounds, including 5,750 No-Hub couplings. Tyler delivered the system from Texas on two Tyler trucks, but arrived at the job site in downtown Manhattan on time.

The XH soil pipe and fittings and the threadless pipe in the lower 30 floors of One U.N. Plaza exceeded 300,000 pounds, and required several tons of lead and 1.7 miles of oak.

Complete on time delivery is not unusual for Tyler, the nation's only full-line producer of SV and No-Hub cast iron soil pipe and fittings with WPLSV and No-Hub specifications products.

For more data, circle 57 on inquiry.
Here’s what the One U.N. Plaza construction team has to say about Tyler RufWall.

Dave Norkin, President
Norkin Plumbing Company
New York, New York
"Tyler RufWall proved to be a real on-the-job time saver. Our journeymen plumbers were able to install the units and make the No-Hub connections in minutes using only a torque wrench. We were so impressed with the time savings and ease of installation that we are using RufWall in the penthouse addition to the hotel and on other projects."

Robert Emmett
Cosentini Associates Consulting Engineers
New York, New York
"The hotel design called for a compact DWV system. The construction schedule was tight. There were the typical site storage and vertical delivery problems associated with highrise construction in Manhattan, which could have caused delays with a less versatile piping system. However, Tyler's RufWall did the job and provided us with more useful living area in each room."

Tyler Pipe
Subsidiary of Tyler Corporation

For more information, circle item numbers on Readers Service Inquiry Card, pages 189-190.

RESIDENTIAL HVAC / A six-page brochure describes the operation and advantages of this central system for older homes and homes with hot water, steam or electric radiant heat. The system includes small, flexible, factory-insulated ducts that thread around studs and other obstacles instead of through them, and end up as inconspicuous two-inch diffuser openings in floor, ceiling, or wall areas. • Dunham-Bush, Inc., Harrisonburg, Va.

Circle 400 on inquiry card

OFFICE PLANNING / Nine ways to plan offices and work-stations are described in a 20-page brochure on the company's modular Series 9000. Executive and managerial offices, as well as work stations for word processors, personal computers, etc., are among the arrangements presented by the brochure, which is designed as an idea workbook. Photographs, ¼-in. scale layouts and exploded drawings detail the components required for each assembly. • Steelcase Inc., Grand Rapids, Mich.

Circle 401 on inquiry card

COMBINATION HEATING/COOLING / Complete data covering 7½- and 10-ton combination heating and cooling roof-top units are available in a 12-page folder. In addition to physical, electrical, capacity and dimensional data, the folder also provides information on gas and electric heating, plus air flow arrangements and performance. • Rheem Mfg. Co., Jackson, Mich.

Circle 402 on inquiry card

CARPET CUSHION / A sample kit for architects and interior designers contains samples and complete specifications of four cushions manufactured by the company. All of the four lines are specifically formulated according to traffic pattern requirements and are suitable for use in virtually any type of installation. All the cushions also meet or exceed the nonflammability requirements of DOC FF 1-70 and three meet requirements of ASTM E 84-68 (Farr and Steiner Tunnel tests). These cushions are designed to meet medium and heavy traffic in commercial areas. • Dayco Carpet Cushion Co., Dayton, Ohio.

Circle 403 on inquiry card

ASPHALT ROOFING MANUFACTURERS / The revised edition of the Asphalt Roofing Manufacturers Association booklet is designed as a guide for the roofer, dealer or architect and discusses the latest industry-approved techniques for steep roofing. • ARMA, New York City.

Circle 404 on inquiry card

A-E PRIMER ON FEDERAL CONTRACTS / The second edition of "Contracting with the Federal Government/ A Primer for Architects and Engineers" has just been published by the Committee on the Federal Procurement of Architect-Engineer Services (COFPAS). The comprehensive document provides a full explanation of the A-E procurement process used by the Federal government, agencies which contract for A-E services, an explanation of how government agencies select and negotiate architect/engineer agreements, and copies of Federal regulations covering A-E contracts. Cost of the primer is $10. • COFPAS, Silver Spring, Md.

Circle 405 on inquiry card

UPHOLSTERED CHAIRS CATALOG / A full color catalog illustrating new styles of molded polyurethane shell chairs is now offered by the company. Each shell style is available with five different bases including wood-leg, wine-stem or traditional four-legged styling. • Virco Mfg. Corp., Torrance, Cal.

Circle 406 on inquiry card

PLYWOOD SPECIFICATIONS / A revised plywood design specification and three new supplements are now available. The 3-page specification contains new section properties and recommended design stresses for plywood. Supplement 1 presents working stresses and design ideas for plywood curved panels in 10 illustrated pages. Plywood beams are covered in Supplement 2, a 16-page booklet which includes general information on glued beam fabrication and testing. Working stresses and design ideas for flat plywood stressed skin panels are offered in the 20-page Supplement 3, and Supplement 4 covers construction details on plywood sandwich panels. Data presented in all five specifications are in accordance with PS 1-74. • American Plywood Assn., Tacoma, Wash.

Circle 407 on inquiry card

NON-METALLIC GROUT / A four-page catalog describing the features of Sealight V-1 non-metallic grout points out that the product is a pre-mixed, high-density, high-compressive strength, non-shrink grout used for precision grouting of machinery and equipment, anchor bolts, sole plates, bridge bearings, columns, etc. It offers high yield, withstands high vibratory and dynamic forces, is non-corrosive and exhibits outstanding workability, according to the company. • W. R. Meadows, Inc., Elgin, Ill.

Circle 408 on inquiry card

INDUSTRIAL-COMMERCIAL LIGHTING / A catalog describing a complete line of energy-efficient industrial and commercial lighting systems is entitled "Industrial Lighting Systems—Designer's Guide" and refers to High Intensity Discharge (HID) lighting systems: mercury, metal halide, and Mercury. The publication includes such data as coefficients of utilization, temperature, room classification, indoor illumination levels. • Lighting Systems Business Dept., General Electric Co., Hendersonville, N.C.

Circle 409 on inquiry card

BUSINESS COMMUNICATION SYSTEMS / Literature is available for the company's LSI Intercon systems for firms with requirements from 12 to several thousand extensions. Full service from branch offices is available, including system design, installation, personnel training and maintenance. • Lear Siegler, Inc., Oklahoma City, Okla.

Circle 410 on inquiry card

EXHAUST REGISTER / The bulletin describes the register's concept of assuring uniform exhaust flow, and its low noise level, which permits high-velocity duct design. Also explained is the prebalancing of the exhaust system, and a claim regarding the register's ease of installation. • American SF Products, Inc., Fort Lauderdale, Fla.

Circle 411 on inquiry card

DOOR HEATER CATALOG / The catalog describes gas-fired and steam/hot water door heaters; it includes selection procedure, suggested specifications, heating capacities and data on all available models. • Modine Mfg. Co., Racine, Wis.

Circle 412 on inquiry card

INDUSTRIAL DOORS / In addition to providing guidance for correct door selection, catalog includes drawings, specifications and photographs of power- and manually-operated doors for a wide variety of industrial applications. Descriptions of all door controls, and standard and optional components are included. • Clark Door Co., Inc., Cranford, N.J.

Circle 413 on inquiry card

Circle 414 on inquiry card

more literature on page 145
Plexiglas® lighting panels are clearly safer overhead.

A shard of broken glass is a dangerous missile. While broken glass is a hazard anywhere, weight and susceptibility to breakage combine to make glass a particularly hazardous material overhead. Plexiglas acrylic plastic eliminates these hazards in lighting lenses and diffusers. It is tough and resilient, its impact resistance being a function of its thickness. Given sufficient impact, it can be cracked and even broken, but the resulting large, dull-edged fragments minimize the risk of laceration. Plexiglas never breaks into an “infinity” of small fragments.

Do Plexiglas lighting panels create a fire safety problem? The answer of building officials, rating bureaus and fire fighters is, “No”. Here’s why:

1) To meet installation requirements under building codes and Underwriters’ Laboratories standards, Plexiglas panels must be freely mounted in the lighting fixture.

2) When exposed to an occupancy fire, a properly installed panel will fall from its mounting at a temperature well below the ignition temperature of Plexiglas. Intensive testing and a quarter century of experience have established that Plexiglas lighting panels do not ignite and burn in place.

3) Plexiglas diffusers are not ignited by electrical arcs created in a properly fused system.

Because they meet generally accepted standards of fire safety and eliminate the hazards of glass, Plexiglas lighting lenses and diffusers are accepted under the Uniform Building Code (ICBO), the Southern Building Code (SBCC) and the Basic Code (BOCA).

Safety is only one of several important reasons why Plexiglas is the superior lighting material. We invite you to consider some others.

For your copy of “8 Reasons Why”, or technical assistance, call toll-free 800-325-6400* now!

*In Missouri, 800-342-6600

For more data, circle 58 on inquiry card
Architects tell us “Our only regret is that we didn’t know about ColorKlad sooner…”

...so we could have specified it for our earlier projects.”

This is an exact quote from an Upper Midwest architectural firm. Why are they so high on COLOMKLAD?

**PERFORMANCE** — The architects asked their sheet metal contractor to test COLOMKLAD, Bang it around. Beat it up. The answer came back. “It’s the toughest on the market. Stands up to every test. Excellent color retention. Doesn’t need to be pampered.” And the color is warranted—in writing—for 20 years.

**ECONOMY** — COLOMKLAD is approximately half the cost of copper; one-third less than zinc based flashing metals, soft stainless steel, or copper clad steel. Costwise, it compares favorably with shop or field painted galvanized.

**SEND FOR OUR NEW COLOMKLAD BROCHURE AND COLORCHART TODAY!**

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Address</td>
</tr>
<tr>
<td>City</td>
<td>State</td>
</tr>
</tbody>
</table>

For more data, circle 59 on inquiry card
Genon is the result of General Tire's uniquely coordinated styling artistry and vinyl fabric technology. Pattern, texture and color concepts are precisely translated into quality wall coverings in the manufacturing process.

Unlimited editions of fine wall covering art.

The Genon gallery of over 700 items satisfies all commercial and institutional requirements with: deep weaves; grass cloths; linens; silks; wood and stone effects; solids; stripes; and random patterns. Genon is available in heavy, medium, and a broad new line of lightweight materials. Scrubbable, strippable Genon is known for durability, ease of maintenance and installation, and meets Federal Specification CCC-W-408A.

Genon service meets the same high standards of quality, with: sales and design consultation; complete customizing capabilities; on-time, on-site delivery; and assurance of product performance.

For your next installation, whether new construction or refurbishing, specify Genon, the medium of fine environmental artists. The General Tire and Rubber Company, Contract Wall Covering Group, 979 Third Ave., New York, N.Y. 10022.
That great building insulation material you've been looking for could be right under your nose: Dylite® foam.

If you're drinking your morning coffee or tea out of a foam cup, chances are it's made of Dylite expanded polystyrene—the same material that's available as insulation for commercial and industrial construction.

The superior insulating properties of Dylite make it ideal for many facets of construction: as a core for wall and roofing panels; cold storage applications; as a weight-reducing, insulating core for concrete panels; as plaster base for walls; as a backing for siding.

When you use Dylite, construction progresses faster, especially with pre-insulated panels. You save time and on-site labor. Building owners and occupants save on energy costs.

Dylite can be easily shaped and sized. No special tools required.

For more information, write to ARCO/Polymers, Inc., 1500 Market Street, Philadelphia, PA 19101.

CAUTION: Dylite is combustible and should not be exposed to open flame or other ignition sources.

For more data, circle 60 on inquiry card
A C VIBRATION ISOLATION SYSTEM / A combination roof mounting frame, curb, and vibration elimination base for roof-top mounted heating and cooling units is being introduced. Named Vibro-Curb, the one-piece factory-laminated system isolates vibration from a typical unit's fans, motors and compressors to reduce the transmission levels to noise-sensitive spaces below, by as much as 90 per cent. A 2-in.-thick high-density fiberglass wall within the curb and under the unit's space provides an acoustic chamber for the return air. Duct silencers may also be factory installed in this chamber to save field installation. Counter flashing is snapped in place to make the entire assembly weather-proof. 

Circle 309 on inquiry card

NURSING CENTER / Two modular pre-fabricated nourishment centers have been designed for use in nursing homes, medical and dental practice buildings, institutions and other health facilities; they can be used for serving supplementary nourishment, special diets and whole meals. The 57-center is free-standing and the 60-in. center is designed to be built-in. They include a microwave oven, refrigerator, icemaker, two electric surface elements, sink-top and cabinets. 

Circle 310 on inquiry card

FIRE-COMPLIANCE CLOCK / Introduced two years ago, the "Richboro" electric wall clock was specially designed to comply with OSHA regulations that all electrical appliances in industrial plants, offices and institutions be grounded. It is equipped with a 3-wire cord set with molded-on plug that grounds the electric motor, preventing danger of electric shock. Originally offered in a 12-in.-diameter dial size, the clock is now also available in an 8-in.-diameter version. Additionally, the dials of both clocks have been redesigned with glossy black Gothic numerals on a white face for better legibility. 

Circle 311 on inquiry card

For more data, circle 61 on inquiry card
Transform building codes into beauty codes

with Hager's new Torsion Hinge.
Now, meet institutional building codes with the clean, crisp, uncluttered lines and enduring strength of Hager's new Torsion Hinge. Eleven tempered spring steel torsion bands provide even, adjustable closing strength for doors weighing up to 100 lbs. No more cluttered appearances. One center mounted torsion hinge eliminates the unsightly coils of bulky spring hinges. It installs easily like an ordinary mortise hinge. Specify one of several beautiful decorator finishes.

Ask your architectural hardware consultant for an interesting look at Hager's complete line of fine quality door hardware. Or, write Hager Hinge Canada, Ltd., 771 Wilson Avenue, Kitchener, Ontario.

UL LISTED

For more data, circle 62 on inquiry card
TABLE AND FLOOR LAMPS / "Light-White" lamps are molded from high-density, impact-resistant, translucent white polystyrene, and with UL-approved electrical parts. The cylinders are made of opal acrylic. Certain styles can be stacked up to 4 high for a unique design pattern for floor lamps. All lamps are wired with an "off-on" line switch. * Trimble House Corp., Norcross, Ga.

Circle 312 on inquiry card

INFRA-RED RADIANT TUBE HEATER / The 175,000 Btu/hr radiant tube heater is available in either vented or unvented models for complete comfort heating to zone or spot heating. Condensation control, thawing or drying. Heater can be installed as close as 12 in. below combustibles except when mounted on a 90 degree angle. Measuring about 13 ft long with an infra-red emitting surface of 25 sq ft, this heater provides heating either indoors or outdoors, and is suited for use over large doors that are frequently opened. * Space-Ray Div., Gas-Fired Products Inc., Charlotte, N.C.

Circle 313 on inquiry card

SOUND-ABSORB MIRRORED CEILINGS / Vista Sonic mirrored ceiling panels are made from fire-retardant acoustical ceiling panels covered with a tough aluminized back surface that minimizes dust build-up. A ¼-in. air space between the film and the acoustical tile backing acts as a cushion that allows the film to give under minor impact without damage, and the shatter-proof surface offers distortion-free light reflection. * United States Gypsum Co., Chicago, Ill.

Circle 314 on inquiry card

INSULATING TACKABLE PRODUCTS / Utilizing a patented substrate and fire retardant burlap, the company has achieved a fire hazard classification of Class A on the combined products. In addition to fire retardant burlap, dark Portuguese cork and natural cork panels achieved the same fire hazard classification. * Homasote Co., West Trenton, N.J.

Circle 315 on inquiry card

Man-made energy is in short supply, and it's getting more expensive every day. But plentiful, cost free sunlight is another story altogether.

Durable, acrylic Naturalite sky-lights allow that sun to shine right in, providing plenty of light for people on the go and greenery on the grow. Naturalite sky-lights are flexible, and come in a variety of colors and styles. And because they're high impact and shatter resistant, they also provide an important measure of safety.

Get the complete Naturalite story by asking for our free brochure, "The Sky's The Limit." The offer is unlimited. Just like the sunshine.

Power Plant.

Yours Free, from NATURALITE®

A little sunshine sounds good. Send the brochure.

NATURALITE INC.
Skylights that save energy... naturally.
Box 28636/Dallas, Texas 75228/214 278-1354.
Now in our Tenth Year
Manufacturers of Plastic Dome Skylights - Fire Vents - Custom Dome Enclosures

NAME

FIRM

ADDRESS

QTY. _____ STATE ____ ZIP

For more data, circle 64 on inquiry card
New "Rite-On, Wipe-Off" Writing System
Paints A Pretty Picture

The pretty picture is this: 1. New system combines AllianceWall porcelain wall panels and dry marker pens to create a completely dustless writing system. 2. Porcelain panels come with a special finish that enhances both writing and erasing. 3. Writing dries instantly and can be erased with a dry cloth or eraser. 4. Every inch of every office wall becomes a productive work surface. 5. Laminated to low-cost gypsum board, the panels are fire-proof, inexpensive to install and maintenance free. 6. No special lighting system is necessary. 7. Boards are guaranteed for 50 YEARS and can be used with any partition system.

*Rite-On, Wipe-Off" dry marker pens are now available through local AllianceWall distributors.

Other plants:
Okmulgee, Oklahoma; Genk, Belgium and Seden, Denmark

AllianceWall
CORPORATION
Box 247, Alliance, Ohio 44601
For more data, circle 65 on inquiry card
METAL DOOR CATALOG / A metal doors and frames catalog depicts the company's 1975 line of steel doors and framing, lists specifications and explains labeled fire doors and transom panel assemblies. • Amweld Building Products, Niles, Ohio. Circle 414 on inquiry card

OFFICE PARTITIONING / A 12-page booklet illustrates full-height walls and screens, and cabinetry, work surfaces, power columns and other accessories. Use of magnets for accessory attachment to the basic steel wall system is also described. • Hausman, Inc., Cleveland, Ohio. Circle 415 on inquiry card

AUDIO-VISUAL INFORMATION / A low-cost packaged audio-visual system that claims to give business and other users most of the advantages of expensive custom units is described in a brochure. The self-contained unit provides for sound motion pictures, slides and overhead transparencies. • Jerome Mellin Co., Inc., New York City. Circle 416 on inquiry card

INSULATED MODULAR BUILDING SYSTEM / Prefab insulated modular panel building systems for frozen food, meat and dairy plants, cold storage warehouses, freezers, coolers, and environmental control structures are described in a catalog including specifications. The panels incorporate a core of expanded rigid polystyrene foam insulation. Aluminum and other facings are available in a selection of colors and finishes. • Modular Panel Co., New Bedford, Mass. Circle 417 on inquiry card

SHINGLES, SIDING / A comprehensive catalog describing the company's roof shingles, sidings, and related building products provides basic information on asphalt roofing shingles, vinyl and mineral sidings, plastic shutters, asbestos-cement building board, built-up roofing materials, roof coatings, plastic cements, fiberglass insulation and corrugated metal roofing. The catalog also features information on Vanguard vinyl siding. • GAF Corp., New York City. Circle 418 on inquiry card

ALL-ALUMINUM POOLS / A 1975 color brochure features the engineering design of the company's pools with illustrations of projects in: schools, colleges, parks, municipalities, hotels, motels, and country clubs. Special interest pools such as therapeutic and teaching pools are also included. All are constructed of aluminum. • Chester Products Inc., Middletown, Ohio. Circle 419 on inquiry card

MOBILE STORAGE SYSTEMS / Based on eliminating aisle space by making all storage units mobile, these systems are designed to be moved manually or electrically. Full details and illustrations are in the "Mobile Filing & Storage Systems" catalog. • Spacemakers, Inc., Brooklyn, N.Y. Circle 420 on inquiry card

STORAGE EQUIPMENT GUIDE / This catalog contains 136 pages picturing equipment for in-plant and warehouse transportation, lifting, dumping, hoisting, pulling, conveying, storing, and drum handling. New products such as cabinets, conveyors, slings, racks, scissor lifts, lockers and rotatins are featured. Complete prices and specifications are included along with technical and engineering information. • Standard Handling Devices, Medford, Mass. Circle 421 on inquiry card

For more data, circle 66 on inquiry card
It's the pay-off end of a Halsey-Taylor water cooler. Our exclusive double bubbler—the only twin stream projector in the business.

Sure, it gives fuller, more generous gulps of cold water. But it also identifies the coolness beneath it as the one specified more often than any other. Simply because architects rely on it. From past experience.

We pay a lot of attention to product appearance, of course. And we produce the widest selection of models and colors in the industry—to give you the greatest possible design latitude.

But performance is what we're really hooked on. So we use the finest quality materials and components, assemble them scrupulously, test them thoroughly and turn out coolers that give year after year of maintenance-free service. Depend on Old Faithful won't let you down.

If you'd like to have our new catalog, write Halsey Taylor Division, 1554 Thomas Road, Warren, Ohio 44483.

For more data, circle 68 on inquiry.
EARTHQUAKE REPORT / Lessons learned from investigations on the Managua, Nicaragua, earthquake of December 23, 1972, are summarized in a report published by American Iron and Steel Institute. The 54-page report consists of two papers. One, entitled "Engineering Lessons from the Managua Earthquake," describes effects of the quake on major buildings in Managua and ends with 12 important lessons learned from the disaster. The second paper, entitled "Managua: Effects on Systems," describes how the earthquake crippled systems that are not always easily visible but which are vital to the functioning of a city—water and sewer lines, electrical generating stations and lines, the airport and railroad, streets and highways, communications systems, and heavy mechanical and electrical equipment in buildings. • American Iron and Steel Institute, Washington, D.C.

Circle 422 on inquiry card

ELECTRICAL LOAD PROGRAMMER / A new bulletin describes a power-conserving load programmer with automatic setpoint adjustment. The unit is designed to defer electrical loads and limit peak demands, conserving power and reducing total electrical costs for a wide variety of building types. The bulletin details how the automatic programming adjusts a building's circuits (from 4 to 60) during peak loads and periods when power is less expensive. Complete operation of the load programmer, including setpoints, automatic adjustments, and measures to minimize hunting and maintain service to the maximum number of circuits, is explained. • I-T-E Imperial Corp., Spring House, Pa.

Circle 423 on inquiry card

ELECTRIC UNIT HEATERS / These units are available for horizontal or vertical mounting with discharge flexibility to provide full 360-degree warm air patterns. All-welded construction is provided, with subdivided circuit protection to UL and NEC requirements; units are completely pre-wired. Totally enclosed motors and automatic thermostats are standard features. Units are suitable for commercial and industrial applications for spot or auxiliary heating, and sizes range from 1½ to 36 kw for operation on all voltages; 24 volt and two-stage thermostats are also available. The bulletin contains complete technical and electrical information. • ILG Industries, Chicago, Ill.

Circle 424 on inquiry card

SIGNAGE PRODUCTS / A file folder of product literature on signage systems and products provides architects, designers and building owners with a single supply source for a complete line of visually coordinated signage materials and components designed to complement one another. The brochures list specifications on pressure-sensitive legends and emblems; fiber-reinforced polyester (FRP) signs, components and monoliths; post and panel assemblies; plaque signage; metal letters; cast tablets and plaques; finishes and enamel colors; building directories; and a line of letter styles. • Jas. H. Matthews & Co., Pittsburgh, Pa.

Circle 425 on inquiry card

IDENTIFICATION SYSTEMS / A 68-page full line catalog, complete with prices and ordering information includes: safety signs, lettering systems, numbering and coding, floor marking, and pipe marking. The catalog contains descriptive information, cross-references to related products, and stock numbers. • W. H. Brady Co., Milwaukee, Wis.

Circle 426 on inquiry card

How little it takes TO BRING HAPPINESS TO A BUILDING

specify: 

for more data, circle 69 on inquiry card 

BIKE Dock T.M.

Attractive but rugged, Ready Metal's BIKE DOCK is modular in design: plan for three bikes, or three hundred.

BIKE DOCK mounts to any wall; it can be anchored to a post of any diameter; it can be free standing.

Eliminate bike-parking headaches with two words:

BIKE Dock TM

Write or call for brochures and price lists:

Bernard Cicora, Sales Manager
READY METAL MANUFACTURING CO.
Dept.A4 4500 W. 47th Street
Chicago, Ill. 60632
(312) 376-9700

For more data, circle 70 on inquiry card

OFFICE LITERATURE continued from page 145
For Heavy Duty
50% again as dense as natural wood, and prefinished with a hard stain resistant surface. All the subtleties of wood grain are faithfully reproduced in the durable hardboard surface.

For day to day
No plywood or wood surfaced door can equal Legacy's resistance to splitting, splintering, cracking or checking. Its easy-to-clean surface has the texture that pleases the eye and hand while resisting wear.

For sheer beauty
Flat surfaced doors with a mere grain finish cannot match Legacy's natural yet luxurious look. Competitively priced, prefinished Legacy generally costs less installed, definitely costs less to maintain.

For architectural flexibility
Legacy® stands alone

Embossed prefinished Legacy is available in white, oak-tone and walnut-tone for home, condominium, apartment, and commercial installations in sizes up to 5' wide and 8' tall.

For the names of quality door manufacturers currently using Legacy, write: Masonite Corporation, 29 North Wacker Drive, Chicago, Illinois 60606. Or consult your Sweet's 1975 File.

Legacy and Masonite are trademarks of Masonite Corporation. / Man-made finishes on real Masonite hardboard.

For more data, circle 71 on inquiry card
OFFICE NOTES

New offices, office changes
Jacques de Brer, AIA, has opened his new office at 562 Mission Street, San Francisco, Cal.
MacFadyen DeVeido Architects have moved to 27 West 53 Street, New York City.
Darrell Leatham and Nat J. Adams have announced the merging of their architectural firms, to form Adams & Leatham, Architects, 100 W. State Street, Boise, Idaho.
Page Southerton Page have opened a Dallas office at Two Turtle Creek Village.
Alec Yuill-Thornton and John Russell Levikow have announced the continuation of the practice of Yuill-Thornton, Warner Et Levikow as Yuill-Thornton Et Levikow, Inc., 442 Post Street, San Francisco, Cal.
John Roger Johansen, AIA has opened his office at 228 N. Main Street, Cheboygan, Mich.
Following the death of Louis I. Kahn, members of his staff who had worked in close association with him have formed a partnership. The new firm is called David Wisdom & Associates, located at 1501 Walnut Street, Philadelphia, Pa.
Marquis & Stoller have changed their firm name to Marquis Associates, 243 Vallejo Street, San Francisco, Cal.
The Eggers Partnership have announced the opening of a new branch office in Suite 801, 1629 K Street, N.W., Washington, D.C.
Patrick Anthony Roy, AIA, AIP, has announced the establishment of his consulting office for the practice of architecture, environmental design and urban and regional planning. Offices are located at 3 Chaucer Road, Eastonham, N.J.
Ralph Hahn and Associates, consulting and design engineers, Springfield, Ill., have recently opened a branch office at 230 Royal Palm Way, Palm Beach, Fla.
Barnt-Aschman Associates, Chicago, have opened a branch office in Arcadia, Cal.
T. R. Larson, Architect, announced the relocation of his office to 213 Grand Ave., Pacific Grove, Cal.
New associates, promotions
Fred Fast has been named an associate of Williams & Mullins, Inc., Minn. Also John R. Birge, R. William Cramer and Phillip Higgason have been promoted to associates in the Omaha, Neb., offices.
Adel Foz, Kyung-Bae Park and Jane Weinzel have been named associates of the firm of Wallace, Floyd, Ellenzenwieg, Moore, Inc.
Flower & Associates, Inc. of Dallas, Tex., have announced the promotion of William S. Poole, P.E. as vice president and director of the appointment of James L. Balliet as associate.
Locke Wright Foster Incorporated, Architects-Planners, Oklahoma City, Okla. announce the appointment of Joe Davis, Tom Fish, and Dennis Ward as associates.
Kamlah L. Johnson has been named manager of the New Orleans office of Ellerbe Architects.
Edward R. "Ned" Jones, Jr., AIA, has been named vice president and general manager of the Los Angeles office of Charles Luckman Associates.
The Chester pool wall. Self-supporting. Structurally stable. Incorporating an extrusion forming all circulation and overflow ducts. The beginning of a totally engineered pool system, low in maintenance, free of repair. The Chester system — pool, filtration tank, piping between. All aluminum. Chester . . . the single source, single responsibility pool package . . . designed, fabricated, and constructed by the builders with over 20 years of proven performance . . . backed by a comprehensive 5 year warranty. See Sweets architectural file 13.22 Ch. Case histories are available for study which may parallel your present situation.
Stanley introduces the Magic-Scan Sensor.
Smartest door control ever made.

There's more than a little magic in this one.

The Magic-Scan Sensor continuously "scans" a 5' x 5' zone in front of the door. Inside, outside or both. When someone enters the zone, the control is actuated. And the sliding doors open.

The Magic-Scan Sensor is completely self-contained, simply mounted on the header. It's solid state for dependability. Heat or cold won't affect it. You get longer trouble-free life—and an uncluttered, more pleasing appearance.

The Magic-Scan Sensor can be used with all Stanley Auto-Slide® Door Packages.

Be smart and call us. Stanley Door Operating Equipment, Division of The Stanley Works, Farmington, Connecticut 06032

For more data, circle 73 on inquiry card
PPG GLASS GAVE BLUE CROSS AND BLUE SHIELD OF COLORADO THE BEST COVERAGE.

Their new Denver headquarters presented problems. The site dictated one thing, and the owner's business another.

PPG Solarban® 550 Twindow® insulating glass helped solve the architects' dilemma. Beautifully and efficiently.

The building is the landmark the owner wanted, and certainly big enough to meet his everyday practical demands.

Yet, for all its size, it is still a graceful neighbor to the smaller buildings in the area.

Visually, its bulk seems to retreat. An effect the architects achieved by using muted-toned reflective glass. And by setting the building back from the street.

But esthetics were not the only consideration. Because of the site, the building had to have an east-to-west orientation. Which created solar heat gain problems. So they needed performance, too. And PPG Solarban 550 Twindow insulating glass gave them the best of both. (Its shading coefficient of 0.24 reduces solar heat gain 76% compared to single-glazed clear glass.)

And since the glass performed so well, they were able to use a lot of it and create view spaces that do justice to Colorado's magnificent vistas.

In short, the glass gave everyone concerned with the building—the owner, his employees, the architects, even the neighbors—something to be happy about.

And we think it can have much the same effect on your building.

Find how PPG Solarban 550 Twindow insulating glass—or another in our family of High-Performance Glasses—can help you combine esthetics and efficiency for truly remarkable effects. Write for our book "Architectural Glass Products," or refer to Sweets Architectural File, Catalog Code 8.26/Pp.

PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

Owner: Blue Cross and Blue Shield of Colorado Architect: URS/The Ken R. White Company
Design Consultants: Muchow Associates Architects PPG: A Concern for the Future

For more data, circle 74 on inquiry card.
This ECI Air-Flyte trash disposal system moves tons of garbage every day down, across, through, around and out of all four buildings...at 60 MPH

The people in this four tower highrise project in Harlem may never again see a garbage can,...hear a garbage truck,...smell the odors of refuse or see another rat.

The 656 families (plus a day care center, playhouse, amphitheater and stores) that are housed in the East Harlem highrise project have a built-in waste conveying system developed by ECI Air-Flyte Corp. The ECI Air-Flyte Pneumatic Conveying System uses negative pressure to remove all trash, cleanly, quickly and effectively.

The East Harlem Tenant Council and their architects, Silverman & Cika wanted to make sure that the garbage cans, the garbage and most importantly the vermin and the rodents that can ruin a project of this size, were completely eliminated.

A housing project as large as this can develop a lot of trash. The initial estimate was 7,500 pounds a day. The system consists of conventional gravity trash chutes, specially designed sizing and receiving hoppers, an ECI Air-Flyte pneumatic conveying system and a wasteholding area, containing two large compactors with 35 yard roll-off containers.

Waste is placed in the gravity trash chutes, or directly into receiving hoppers in the commercial and service areas. The system automatically sizes and transports the waste to the central collection system via the Air-Flyte conveying system. The Air-Flyte system uses a high velocity negative pressure principle to carry the waste at a mile-a-minute, in any direction, up, down, diagonally, around corners – over any required distance. Once the waste is placed in a trash chute or hopper it's never touched again. Because the system is completely enclosed, odors, vermin and rodents are eliminated.

The Air-Flyte system works efficiently to keep the environment clean, in Harlem or anywhere else. Ask your ECI representative for the whole story on Air-Flyte trash collection systems.

For information on ECI Air-Flyte see Sweets file 11.25 EA.
As James Thurber's grandmother said:

"Electricity was leaking all over..."

But you can stop it with PARABOLUME

James Thurber's grandmother believed electricity "dripped" from unused sockets. We don't go to that extent, but we do believe in conservation. For over 10 years, we have been using an energy-saving fluorescent chandelier called Parabolume, a pioneer field.

Now, we have come up with a new way for you to use your own energy-conscious imagination in the next building you design. It's an adaptation of standard Parabolume fixtures to control lighting levels for different jobs, for different ambients, to differentiate spaces, or simply to save precious energy whenever possible.

What you create, in effect, is your own custom-designed lighting system, without the need for special fixtures, ballasts, fancy or expensive wiring.

Ease the mind of Thurber's grandmother. Write for details on how to cut energy drain with Parabolume, or contact your local Columbia Lighting representative.

COLUMBIA lighting, inc.

For more data circle 5 on inquiry card.
R-Way has created in BRENTWOOD a series of four distinctive designs—
with top selections of black walnut, high-pressure plastic laminate or
vinyl—a broad selection of high and low profile variations—modular
pedestal selection—matching seating.

BRENTWOOD, with its end selections of stainless steel or black walnut
plus a finish selection of oiled walnut or hand rubbed lacquer, offers
unlimited design selection.

To learn more about the BRENTWOOD COLLECTION send for a complete
color catalog.

R-WAY Furniture Company, Sheboygan, WI 53081 Phone: Area 414-535-4833
Showrooms: Chicago, New York, Minneapolis, Dallas.
See how corrosion starts, then stops, because of an aluminum substrate.

The scanning-electron photomicrograph you're looking at shows how any organic coating weathers in time. The coating has become spongelike and retains moisture. Wet cycles last longer. The hydrophilic cells trap such contaminants as sulfur dioxide, which combines with water to form sulfuric acid. Now the corrosive effects of electrolytic action include chemical attack at the interface...underfilm problems that can cause flaking or loss of adhesion...and staining or streaking, depending on the performance of the substrate. At this point, however, an aluminum substrate helps to protect an organic coating because its natural aluminum oxide film resists the effects of electrolytic action. This stability at the paint-metal interface discourages flaking or adhesion loss. Painted aluminum can be drilled, punched and sawed without concern about chipping or undercutting.

If you want color in the second place, put it on aluminum in the first place. It will last. Especially if you specify an Alcoa Super Alumalure finish, the long-life PVF coating that offers the advantages of a super-tough fluorocarbon at a price you can live with.

For more information, see Sweet's Architectural or ICR/PE files. Or write Aluminum Company of America, 1085-D Alcoa Building, Pittsburgh, PA 15219.

Change for the better with Alcoa Aluminum

For more data, circle 79 on inquiry card
1974 CRSI design awards program

ONE POLICE PLAZA, New York, New York.
*Judges' Comments:* “Powerful and welcome addition to civic architecture. Well-proportioned and flexible while making good use of a congested urban site.”
*Owner:* City of New York.
*Architect:* Gruzen & Partners, New York, N.Y.
*Structural Engineer:* Farkas, Barron & Partners, New York, N.Y.
*General Contractor:* Castagna & Son, Inc., Manhasset, N.Y.

SCHOOL OF NURSING BUILDING, University of California Medical Center, San Francisco, Calif.
*Judges' Comments:* "Simple, understated, and responsible. Good value without loss of quality. Sensitive site development."
*Owner:* Regents of the University of California, San Francisco, Calif.
*Structural Engineer:* Hirsch and Gray, San Francisco, Calif.
*General Contractor:* Perini Corporation, San Francisco, Calif.

CLINICS EXPANSION & PARKING STRUCTURE, University of California, San Francisco, Calif.
*Owner:* University of California, San Francisco Medical Center, San Francisco, Calif.
*Architect and Structural Engineer:* Reid & Tarics Associates, San Francisco, Calif.
*General Contractor:* Donovan Construction Co., St. Paul, Minn.
winners from a distinguished group of entries. Each of these structures is a winner in the first annual CRSI Design Awards Program. Each, in the opinion of our panel of judges, demonstrates innovative use of cast-in-place reinforced concrete.

Each recognition is shared equally by winners. Since reinforced concrete can be used to solve so many different design problems, there are no categories of awards in this program. Nor is any ranking expressed or implied in the arrangement of presentation in this announcement.

A portfolio is available. Complete details on the award-winning structures are given in the new Design Awards portfolio. For your copy, write CRSI, at the address below, attention George Leyh, Director of Marketing.

Panel of judges

Bradley, FAIA
-President, AIA
Rononics Corporation
Wayne, Indiana

Russell S. Fling,
Vice-President, American
Concrete Institute
President, R.S. Fling and
Partners, Inc.
Columbus, Ohio

George J. Hasslein, FAIA
Dean, School of
Architecture
California Polytechnic
State University
San Luis Obispo, California

Hugh Stubbins, FAIA
Hugh Stubbins and
Associates, Inc.
Cambridge, Massachusetts

Harry M. Weese, FAIA
Harry M. Weese &
Associates
Chicago, Illinois

Special Design Award
Consultant—Maria
Murray, AIA Headquarters

CRSI
CONCRETE REINFORCING STEEL INSTITUTE
180 North LaSalle Street, Room 2108-D,
Chicago, Illinois 60601

For more data, circle 117 on inquiry card

CHRISTIAN SCIENCE CENTER, Boston, Massachusetts.
Judges’ Comments: “Monumental architecture in modern material. Restrained and elegant. Probably the most technically proficient in-situ concrete extant.”
Owner: The Christian Science Church.
Architect: I.M. Pei & Partners &
Araldo Cossutta Associated Architects,
New York, N.Y.
Structural Engineer: Weiskopf &
Pickworth, New York, N.Y.
General Contractor: Aberthaw
Construction Co., Boston, Mass.

B.L. ENGLAND STATION, SALTWATER NATURAL DRAFT COOLING TOWER, Beasley Point, New Jersey.
Judges’ Comments: “Pure form derived from scientific principle, executed with maximum efficiency.”
Owner: Atlantic City Electric Company,
Atlantic City, N.J.
Designed & Built by: Hamon Cooling Tower Division, Research-Cottrell, Bound Brook, N.J.

FREMONT ELEMENTARY SCHOOL,
Santa Ana, California.
Judges’ Comments: “Understated, restrained, and effective site planning for maximum utilization. Concrete a natural for a substructure outcropping like strata of rock. Permanence personified.”
Owner: Santa Ana Unified School District, Santa Ana, Calif.
Architect: Allen & Miller Architects, Santa Ana, Calif.
Structural Engineer: Martin, Tramberger & Associates, Newport Beach, Calif.
General Contractor: Kemp Brothers, Whittier, Calif.
INSULATION YOU CAN SEE THROUGH, FROM LOF.

They liked what they saw because it not only looked beautiful, but it saved energy and money, too.

$79,067 SAVED IN INITIAL A/C HEATING COSTS.

In fact, by choosing LOF high-performance Vari-Tran® in Thermopane® units over single-pane bronze tinted \(\frac{1}{4}''\) glass, Kansas City's Executive Plaza owners saved $79,067 in initial heating and air conditioning costs. The extra cost of this high-performance glass was more than recovered in energy-dollar savings (life cycle costing).

PEAK LOAD REQUIREMENTS REDUCED.

When compared to tinted glass with medium drapes, this LOF high-performance glass (with no drapes) reduced peak cooling load requirements by almost a million BTUH. It also reduced peak heating load requirements by over one and one-half million BTUH.

But Vari-Tran did more than just make Executive Plaza figures look impressive. It gave building tenants a comfortable working environment. And it showed Kansas City just how beautiful an energy-saving building can be.

LOF CAN HELP YOU.

After all, LOF has been bringing you glass for storm sash for over 40 years, Thermopane insulating units for over 30 years, and Vari-Tran coating since the mid-'60s.

If you want to save energy dollars with the right glass, one of our highly qualified architectural representatives will be glad to help you. Or you can write Libbey-Owens-Ford Company, 811 Madison Avenue, Toledo, Ohio 43695.

For more data, circle 80 on inquiry card
SYMONS SOLUTIONS: Help architects to create unique and dramatic concepts in enduring concrete.

Symons Plastic and Fiberglass Form Liners achieve special architectural surfaces.

Now you have the freedom to create unique surface patterns, or unusual textures in your next design. Because Symons will furnish economical custom plastic or fiberglass liners designed to achieve desired effects. There is a wide variety of standard textures available and, they can be formed into an almost unlimited variety of shapes and textures.

For more information, write for "Symons Custom Made Architectural Form Liners."  

Flexible Elastomeric form liners offer excellent reproduction in a wide variety of standard surface textures.

There are 24 standard surfaces—in the Symons Elastomeric line—from weathered barnwood to fractured fin...

Plus an endless range of custom possibilities. Beautiful effects can be achieved in both pre-cast and cast-in-place concrete.

Because they're so versatile, Symons Elastomeric liners give architects total freedom in designing distinctive surface finishes.

Because they're so durable and flexible, contractors can reuse them hundreds of times at a very low cost per use.

Write for more information on Symons Elastomeric Form Liners.

Symons offers a complete line of concrete care chemicals to protect your designs.

From start to finish, Symons MagicKOTE® chemicals help provide the clean, stain-free concrete surfaces you create and specify.

From MagicKOTE® form release to curing and hardening agents, and ACS sealers that continue to shield your designs against dirt, moisture, rust, hydrocarbon emissions, efflorescence and fungi. (Even graffiti can be cleaned off.) Symons has a complete package of chemicals to preserve your concrete design.

Write today for information on Symons Chemical Products for Concrete Care.

When we promise a solution, you get a solution.

118 East Touhy Avenue, Dept. 7522, Des Plaines, Illinois 60018, 312/298-3200

For more data, circle 81 on inquiry card
Colorstyle doors add beauty to the Washington scene

Style and beauty plus ruggedness make Ceco steel doors attractive to architects in Washington and throughout the country. Ceco doors meet every functional need. Use them as a "package" to accent your design. Ceco doors and frames are prepared for simple erection in minutes. And both are prepared for quick and solid attachment of hardware. Ceco doors and frames are tough and stable—won't warp, swell, shrink or rot. You gain the advantages of durability and trouble-free performance. Our Colorstyle doors have factory-baked quality finishes, kept fresh in poly bags. See Sweet's, or consult your local Ceco office.

CECO steel doors
The Ceco Corporation • 5601 West 26th Street • Chicago, Ill. 60650

"The door people"

For more data, circle 82 on inquiry card
The All-Weather Wood Foundation saved $300 here. But that's peanuts compared to the design freedom it gave Tom Tilsley.
from the street, this Cincinnati home looks like a two-level plywood and stone design — a far cry from its 4,700 square feet.

But from the rear the house soars to several stories high. Clerestory windows admit walls of natural light, and the view stretches all the way down to the woods and valley below.

The problem: a steep hillside.

The architect: Tom Tilsley of Pan,Pra, Dohme, Tilsley & Co., Cincinnati. Tilsley ended up using the hillside advantage, by designing a combination crawl-space and daylight basement foundation using pressure-treated plywood and framing members.

The All-Weather Wood Foundation not only saved $300 over a concrete foundation, but more important it made a handsome basement space.

“We used the basement for a recreation room, bath and bedroom which gave us a lot more freedom in the upper levels,” said Tilsley.

System Details: The 50- by 57-ft. foundation is set on 2x8 pressure-treated wood footing placed over an 8-inch deep gravel footing. The concrete basement floor was poured over a gravel bed with a sump pump installed to provide positive drainage.

The panelized AWWF was constructed of pressure-treated half-inch 32/16 C-D interior with exterior glue APA grade-trademarked plywood nailed to pressure-treated 2x6 studs set 16 inches on center.

For more information on the All-Weather Wood Foundation, write to Department AR-045, Tacoma Washington 98401.

For more data, circle 83 on inquiry card.
Three ways to ruin your roof.

Edging damage is involved in 80% of all roof losses.

Recently, Factory Mutual Systems studied 145 roof losses. They found that perimeter failure and edge damage were involved in four out of five of these losses. If you want your roof to last, you must do something about these three common roof edging problems.

Ignore roof movement, and you'll have problems.

Whenever two structural planes meet, there is movement in different directions and at different rates. Exterior walls move laterally in response to thermal expansion and contraction. Roof decks move in a direction perpendicular to the wall movement. This differential movement literally tears apart laminated felts.

There's no way to stop movement, but you can use a system that accommodates movement in all directions. Our Tremline® edging system lets you live with movement. Tremline's easy-to-snap-together components are designed to be free-floating. They accommodate thermal shock and structural movement along the entire roof perimeter.

Use exposed fasteners or ones that puncture the membrane, and in comes trouble.

Alternating expansion and contraction often cause exposed nails to pop, nail holes to enlarge and leaks to begin. Thermal changes and ice pressure all pull on exposed fasteners, making the problem even worse.

If you use fasteners that puncture the roof membrane, water can leak in. The insulation can get wet and become ineffective. That's just the beginning of trouble and the beginning of the end of the roof.

The Tremline system uses no exposed fasteners or one that puncture the membrane. So you have two less problems to worry about.

DON'T isolate the roof membrane from wall movement, and you'll have headache.

Movement between the vertical and horizontal surfaces your edging is one of the most difficult movements to live with. The best way to do it is to isolate the roof membrane from wall movement.

Tremline's reinforced elastomeric sheeting functions as an expansion joint. It provides a flexible watershed dam from the metal fascia to the roof membrane.
One beautiful way to preserve it.

Tremline: the trouble-free roof edging system.

A patented system, Tremline has more than seven years of proven performance and meets insurance wind requirements (approved by Factory Mutual Systems).

The Tremline edging system does away with most of the problems that ruin roofs. Tremline is uniquely beautiful, too. It gives a clean line appearance to the roof edge.

The Tremline edging system is only one of the ways we can solve your weatherproofing problems. For over 45 years we've been caring for buildings with some 15 job-proven glazing and caulking sealants such as MONO®, DYmeric®, and Lasto-Meric® plus our unique TREMproof® waterproofing systems. Your Tremco man can recommend complete waterproofing systems that are exactly right for your job.

So talk to us. Contact your Tremco rep, Or Tremco, Cleveland, Ohio 44104. Toronto, Ontario M4H 1G7.

THE ALWITRA EDGING SYSTEMS FROM TREMCO.

For more data, circle 84 on inquiry card
Amarlite architectural products designed to protect people from

☐ energy loss  ☐ injury  ☐ forced entry problems

Newspaper headlines and TV-radio newscasts have made everyone aware of the energy crisis. To conserve energy, the architect has turned to thermal curtain wall systems.

But which one? The imaginative architects who have added the Amarlite PBS-380 positive thermal barrier system to their design tools like it because it is flexible to give added design freedom as well as energy conservation and cost savings.

- dry glaze system for low-rise (PBS-383, a similar system for high rise)  
- single or double glazing  
- adaptor permits reduction from 1" to ½" through ¾" within one module  
- variety of vertical Mullion depths through exterior covers  
- choice of clear anodized or Amanodic bronze or black finish  
- contrast finishes between exterior and interior at no cost penalty.

SAFETYLINE—SAFE AND SECURE

You specify entrances protecting people from injury and forced entry, when you design with Amarlite Safetyline:

- no injury at pivot stile — cylindrical design prevents opening at jamb  
- no injury at lock stile — vinyl cushion protects fingers  
- no forced entry — top and bottom rods unlocked only by key — inset lock cylinder defies burglar tools.

Specify Safetyline in clear anodized or Amanodic bronze or black finish. Models to meet any job requirement.

Going places together with AMARLITE...

ANAconda Aluminum Division

© 1975, Amarlite Products Division, Anaconda Aluminum Company, Inc.
For more data, circle 85 on inquiry card

---

Win a Trip for Two to the Pyramids or other Architectural Wonders

See the Pyramids of Egypt — the only one of the 7 Wonders of the Ancient World that exists today. Or choose a trip to the area of any of the others: Hanging Gardens of Babylon, Mausoleum at Halicarnassus, Shrine of Zeus, Colossus of Rhodes, Temple of Diana at Ephesus, Pharos Light-house at Alexandria.

Sweepstakes Rules

1. Fill out entry card to be eligible for Sweepstakes and free set of 7 Wonders prints.
2. Entries must be postmarked before December 31, 1975.
3. All entries eligible for Sweepstakes Drawing, January 21, 1976.
4. Winner will be notified by mail.
5. This contest is nationwide except where prohibited by law.
6. Winner will be announced February 1, 1976.

FREE! Drawings of 7 Wonders of Ancient World.

Suitable for framing. Available to registered architects and consulting engineers.

A limited edition printed on parchment type paper, these drawings are a handsome addition to any wall. Each set is accompanied by a synopsis of the Wonder’s history and architecture. Yours FREE with the coupon. Send for your limited edition set now.

MAIL TO:
AMARLITE/ANAconda
MARKETING DEPT., P.O. BOX 1719
ATLANTA, GEORGIA 30301

Yes, I wish to enter the Amarlite Going Places Together Sweepstakes and receive a set of 7 Wonders of the World Prints.

NAME ________________________________

TITLE ________________________________

COMPANY ______________________________

ADDRESS ______________________________
**Designing with steel?**

**Look at the aesthetics and structure/ability of Regal Welded Steel Tubing**

Our clean-lined, smooth squares and rectangles assure better appearance and give you basic design advantages.

Higher strength-to-weight ratios let you use lighter structural columns and beams, trusses, railings, and stairways. Also provide handsome concealment of conduit, pipe, etc.

You can simplify layout and speed construction due to easy joining to the four flat surfaces.

These are only a few of the cost-saving advantages of Regal structural steel tubing. Learn more about how Regal structural steel tubing can save you time and money. Write for our new catalog, free on request. Or contact your steel service center.

**Regal Tube Company**
a Copperweld enterprise

7401 South Linder Ave., Chicago, Ill. 60638 • 312/485-4820

For more data, circle 89 on inquiry card
MORE
LEXAN® shapes than you can bat a stick at... Over sixty non-destructible designs in mercury vapor, incandescent and fluorescent lighting – Recessed, surface mounts and brackets engineered for performance. When you name drop LEXAN® make certain the first name is DURATHON.

MARCO
Washfountains that wipe out vandalism while they clean up the kids.

Bradley's "School Board Special" Washfountain. Built right because we developed it to the specific needs of an actual school district. And built dependable because of Bradley's long experience in designing for school markets.

We work with school maintenance people to find features that will help solve their individual vandalism problem. And the result is Washfountains that require less maintenance and are more vandal resistant. New ideas like the combination soap dispenser/restraining bracket that dispenses soap while anchoring the sprayhead support tube assembly. A pressurized system that dispenses soap with a minimum of effort. A foot controlled tape switch instead of a foot rail. And more. You can even specify the material that best fits your needs. Stainless steel. Precast terrazzo. Or new tough Bradglas®. Choose from a wide range of colors and options, too. For complete details, see your Bradley representative and write for latest literature, including a list of communities that have installed these special units. Or call (414) 251-6000. Bradley Corporation, 9109 Fountain Drive, Menomonee Falls, Wisconsin 53051.

Another bright idea from Bradley

For more data, circle 91 on inquiry card
Metalatex goes largely undetected.


Metalatex is versatile, too. It goes on wood, masonry, steel, aluminum. And is available in five safety colors meeting OSHA regulations. As well as all federal, state and municipal environmental requirements.

And it's really tough stuff.Salt. Alkalies. People. Metalatex withstands them all. Keeps its gloss and color longer than even silicone alkyd paints.

Metalatex Semi-Gloss. Available from any Sherwin-Williams representative in a wide range of eye-catching tints. All of which smell like nothing.

Professional Coatings Div.,
101 Prospect Ave., N. W. Cleveland, Ohio 44115

SHERWIN WILLIAMS

Helps you do it all.

For more data, circle 92 on inquiry card
Fesco-Foam™ roof insulation on this site $21,800 the first year!

And it's available now!

Fesco-Foam roof insulation makes designing within your energy budgets a lot easier for you. And saves a lot of money for building owners.

How big a saving?

Assume, for example, a 200,000 square foot, single-story office building in Denver, Colorado.

By upgrading the insulation on the roof from 1" Fesco® Board to C-10 Fesco-Foam, the cost of heating/air conditioning equipment alone can be reduced by $90,000.

And a lot less fuel is used, with savings of $50,514 over the 20-year life of the roof. This is based on $1,800 fuel savings the first year, with a 10% escalation in fuel costs for the next 5 years. Net savings will add up to $70,514 present worth value of $40,629 based on a 10% rate - even after taking into account the initial cost of upgrading the building to a Fesco-Foam roof.

A dramatic reduction in building costs and in the energy - both made possible just by the use of Fesco-Foam.

What is Fesco-Foam?

It's a composite thermal roof insulation board with Fesco Board as the bottom layer - on the "people side" of the roof. The core is polyurethane foam. And the top surface is asphalt saturated felt. Fesco-Foam meets Factory Mutual standards for Class I Construction and UL Cons. Nos. 1, 2 and 27. Johns-Manville recommends the use of Fesco-Foam in these UL and FM systems, as the
All save the owners of the building
year and $70,514 in 20 years.*

Fire test results that simulate actual fire conditions.
Fesco-Foam requires no cold taping, has low moisture contraction, good resistance to indentation and crushing. And because of high thermal efficiency per thickness, Fesco-Foam offers economic advantages in hand and design.

Can get Fesco-Foam now.
You can specify Fesco-Foam confident that your client will get delivery.
Make Fesco-Foam an important part of your life-cycle analysis. For information about Fesco-Foam—or any of complete built-up roofing systems—call the J-M District Office near you, or contact Peter McCracken, John-Manville, Box 5108, Denver, Colorado 80217, (303) 770-1000.

*Savings are based on a hypothetical building using optimum design criteria. Actual savings may vary depending on calculations.

The single-source built-up roofing system.

Johns-Manville
A subsidiary of Atwood Industries
You are invited to enter

The international design competition of developing countries

A one-stage international architectural competition for the design of a self-help housing community in a developing nation has been announced by The International Architectural Foundation, a nonprofit corporation created by two of the world's leading architectural magazines, Architectural Record and L'Architecture d'AUjourd'hui. The Foundation is strongly supportive of the United Nations Environment Programme, and its competition is a project conceived in conjunction with Habitat '76, the major UN Conference-Exposition on Human Settlements to be held in Vancouver, B.C. (Canada) May 31-June 11, 1976. Habitat '76 will be a large-scale international meeting concerned with the accelerating urban crisis in the developing countries and will include official representatives and technical experts from member states of the United Nations.

The design problem
The site for the competition project, which will provide housing and community facilities for approximately 3,500 to 5,000 people, is located in Dagat-Dagatan, in the metropolitan area of Manila, Philippines. Typical of urban growth problems throughout much of the developing world, the area has been receiving heavy in-migration of population. Extensive studies of this area (photos, right) have produced the body of data and preparatory planning that led to the selection of this site for the competition.

In addition to the generous grants from the contributors listed on the opposite page, funds to meet all cash awards and certain other competition expenses have been guaranteed by the Philippine Government, and local public agencies have provided assurance that the project will be built and the winning architect commissioned. The competition conditions will be approved in their final form by the Philippine Institute of Architects (the local section of the International Union of Architects) and members of the jury.

The competition addresses the world-wide problem of housing in the context of rapid urbanization, and seeks solutions that will be widely applicable throughout the developing world. It assumes a high degree of self-help in the realization of the community. Advanced measures to minimize environmental impact will be specified in the competition conditions. Thus the competition deals with the entire question of human habitat and its future, and the competitors must resolve the highly practical aspects of a specific problem and a particular location.

The winning designs will be widely publicized throughout the world, particularly in the architectural press, and will be exhibited in Vancouver during Habitat '76.
For the urban environment
focused on Manila

The International Design Competition is made possible by generous grants from:

**Sponsors**
- Graham Foundation for Advanced Studies in the Fine Arts
- Johns-Manville

**Patrons**
- International Development Research Centre (Canada)

**Donors**
- The Rockefeller Foundation
- The Asia Foundation
- The Austin Company
- George P. McNear, Jr. Foundation
- PPG Industries Foundation
- The Architects Collaborative
- Architectural Record
- Skidmore, Owings & Merrill
- Hyatt International Corporation

**Contributors**
- Smith, Hinchman & Grylls Associates Inc.
- Hellmuth, Obata & Kassabaum, Inc.
- CP Air
- Arthur Sworn Goldman & Associates, Inc.
- Architectural Record Staff
  - Ir. E. Hendrik Grolle, RAIC
- Dalton•Dalton•Little•Newport
- Cushing & Partners
- Harrison & Abramovitz
- W. R. Bonsal Company
- Building Industry Development Services

**Special Grant**
- The Government of the Philippines

**The awards**
Awards to winning architects or design teams total $70,000 (U.S.)
- First award: $35,000
- (plus commission to complete design subject to the Philippine laws)*
- Second award: $15,000
- Third award: $10,000
- Discretionary awards: $10,000

*Possibility exists for commissioning of additional entrants because competition site is part of larger site which will eventually accommodate neighborhoods for 100,000 to 140,000 people.

**Qualifications for entering Competition**
Anyone qualified to practice architecture in his own country, or any design team (including students) with such a qualified architect, can enter the Competition, to be conducted under the regulations of the International Union of Architects.

**How to enter**
Complete registration application at bottom of page, and remit $25 (U.S.) payable to The International Architectural Foundation, Inc., to Gutheim/Seelig/Erickson. Documents and complete program will be mailed to you promptly. First date on which conditions will be posted: March 1, 1975. Closing date for registration: postmark May 15, 1975. Last date for designs: postmark October 15, 1975.

**Jury for the Competition**
- Balkrishna Vithaldas Doshi, architect (India)
- Eric Lyons, FRIBA (Great Britain)
- Moshe Safdie, P. QCAA (Canada)
- Mildred F. Schmertz, AIA (U.S.A.)
- General Gaudencio V. Tobias (Philippines)
- Takamasa Yoshizaka, JAA, AIJ (Japan) reserve
- William Whitfield, RIBA (Great Britain) reserve

**Professional advisor**
- Arthur Erickson, FRAC, Vancouver, B.C., Canada

---

This coupon will serve as your registration application. Please type or print clearly. All information must be supplied. Mail this form or a copy of it to Gutheim/Seelig/Erickson, 2412 Laurel Street, Vancouver, B.C., V5Z 3T2, Canada. Include fee of $25 (U.S.) payable to The International Architectural Foundation, Inc. You will receive complete competition documents without further correspondence, and you will be officially registered. Fee is not returnable.

Name

Firm name or institutional affiliation (if any)

Country in which qualified to practice

Complete address: Street & Number (or P.O. Box)

City or Place

Country __________________________ Telephone Number

If this application represents a group or design team, please describe the composition of this group in an attachment.
finishing touch.

Closet Maid Shelving installs fast and clean. No paint or sawdust mess. Can be the last trade on the job. And there are no after-installation problems. No maintenance. No rust or mildew. Closet Maid — the ideal finishing touch. Call or write, today.

Manufactured by Closet Maid Corporation / Ocala, Florida 32670  
(904) 732-8734 / PO. Box 304 / 720 S. W. 17th St. / Suite 155  
See us at Booth 2517 – Apartment Builder / Developer Show – Miami  
For more data, circle 94 on inquiry card

For luster that lasts... choose polymarble

Select from the Haws line ... for drinking fountains in white, or five attractive colors at no extra cost. Color is throughout this durable, highly impact-resistant material. Colors are Cerulean Blue, Pistachio Green, Yellow Mist, Gray Satin and Tan. Patented flush-mounted push-button valves are virtually tamper-proof. Get full particulars on this and other one, two and three bubbler polymarble models ... write Haws Drinking Faucet Co., 1441 Fourth St., Berkeley, CA 94710.

For more data, circle 96 on inquiry card

Elegance in home refrigeration

All units are designed as "built-in" so as to "blend-in." Exteriors will accept the material of your choice ... to match your decor. The largest capacity home units manufactured. Superbly crafted and factory tested for complete performance.  
Send $25 for built-in refrigeration ideas to: SUB-ZERO FREEZER CO.  
Box 2196 Madison, Wisconsin 53711

For more data, circle 95 on inquiry card

4" MESSAGE SYSTEM

The key to hospital communication

Consider this: good internal communication is the key to coordinated productivity in today's busy hospital. And AMSCO's 4" Pneumatic Message System is the key to good internal communication. Delivers rolled X-rays and small stat items as well as paperwork, reports, requisitions and the like. Never stops for coffee breaks or waits for elevators, either.

For more data, circle 97 on inquiry card
Coming in mid-August . . .

ENGINEERING FOR ARCHITECTURE

Architectural Record's second annual presentation of the year's most significant developments in engineering for buildings

Featuring . . .

- Case Studies of Effective Engineer-Architect Collaboration
- Round Table Report: "Towards a Rational Policy for Energy Usage in Building"
- "Quality Lighting with Fewer Watts"
- "Solar Energy: Is It Practical? How Do You Design It?"
- "The Engineer's Role in Design: What Direction Is It Taking?"
- "Government's Increasing Role in the Science of Building: Who Wants It and Why?"

Engineering for Architecture 1975, focusing on the integration of architecture and engineering in building design and emphasizing one of the most important issues of the day—energy conservation, provides an exceptional and timely advertising opportunity for manufacturers of building products.

AE '75 will reach the largest paid architect and engineer subscriber audience ever made available—nearly 45,000 architects and engineers. And, as an extra bonus, 3,000 engineers newly active in the building field whose names appear on Dodge Reports for one full year after publication.

Closing date is July 15.

A McGRaw-HILL MARKET-DIRECTED PUBLICATION

ARCHITECTURAL RECORD

1221 Avenue of the Americas New York 10020
MOUSETRAPS, METALS AND MARKETING

Consider for a moment that old New England adage to the effect that if a man make a better mousetrap than his neighbor, "tho' he build his house in the woods, the world will make a beaten path to his door." How little relevant these words seem at a time when merchandising can often be more important than the product merchandised. And rather unhappily so from our own standpoint, for in TCS (Terne-Coated Stainless Steel), Follansbee has a nearly perfect example of the proverbial better mousetrap.

Here—quite simply—is a roofing and weather-sealing metal which has literally no peer when measured by the major criteria of corrosion resistance, freedom from maintenance, durability and amortized cost.

We can, of course, prove this statement, but in an era considerably more McLuhanesque than Emersonian, we are still confronted with the formidable task of bringing such proof to the attention of most architects and engineers, professionals who, as a group, are notably product-wary and slogan-shy.

As one step toward that goal, may we at least make the TCS data available to you?

FOLLANSBEE
FOLLANSBEE STEEL CORPORATION • FOLLANSBEE WEST VIRGINIA

For more data, circle 98 on inquiry card
Don't send your spectators to "the bench"

Now there's an alternative to wood, aluminum and fiberglass "Benches". Sport Seating® modular units offer the economy, durability and low maintenance you need for indoor/outdoor arenas. And more. Because seats are contour-molded from high-density polyethylene, there's no fiberglass "blooming" or aluminum or wood splinters. Just built-in comfort and colorful good looks, year after year after year. And after all, isn't that what you and your spectators really want?

For information on our full line, see Sweets Architectural Catalog # 11.17 SP, or contact Sport Seating Company.

**Sport Seating co.**
THE ULTIMATE IN SPECTATOR SEATING
1540 CHESTNUT ST., EMMAUS, PA 18049 - (215) 967-5450

For more data, circle 99 on inquiry card

---

Jewett offers morgue/autopsy planning service

Whether you are planning a new morgue/autopsy facility or modernizing and equipping present facilities, Jewett specialists provide expert design counseling. Jewett will analyze your requirements with you and your architect or consultant and will send you plans of the complete layout including equipment specifications. Jewett's morgue/autopsy planning services can save you time and costly mistakes. Your new construction or renovation project will not only be right for your current needs, it will also allow for future growth. Send for 16 page equipment catalog.

For more data, circle 100 on inquiry card

---

How to turn one large room into three classrooms and a study center. Instantly...with movable Kwik-Wall.

Now interior school space can be scheduled to match the daily curriculum. With movable Kwik-Wall, the kind of classroom space that is needed can be available when it's needed. Attractive Kwik-Wall features the permanent look in movable walls, durable and sound retardant. Doubly versatile in either track-mounted or operable portable partitions. Anyone can move them. Or store them. Take your pick from more than 1500 decorator facings.

**Suspended ceilings?**
Two of our new portable models have been specially designed to interface with soft ceilings.

**Sound control?**
Our acoustical core both dampens and absorbs sound, making every room a real room.

The permanent look in movable walls
KWIK-WALL Company, Dept. 525
P.O. Box 3257, Springfield, Illinois 62708
Send free color brochure.

Name
Title
Firm
Address
City/State
Zip

For more data, circle 101 on inquiry card
IMPORTANCE OF CELLULAR PLASTICS USED IN BUILDING CONSTRUCTION, AND LOW DENSITY CELLULAR PLASTICS USED IN FURNITURE

The flammability characteristics of cellular plastics used in building construction, and low density cellular plastics used in furniture are tested under various methods and standards. Included among these are ASTM D-2868, D-569, D-535, 575, 1433, 1692, E-84, 162 and 286; UL 94 and 723; and NFPA 255. The Federal Trade Commission considers that these standards are not accurate indicators of performance of the tested materials under actual fire conditions, and that they are only valid as a measurement of the performance of such materials under specific, controlled test conditions. The terminology associated with the above tests or standards, such as “non-burning,” “self-extinguishing,” “non-combustible” or “25 (or any other) flame spread” is not intended to reflect hazards presented by such products under actual fire conditions. Moreover, so hazards associated with numerical flame spread ratings for such products derived from test methods and standards may be significantly greater than those which would be expected of other products with the same numerical rating.

The Commission considers that under actual fire conditions, such products, if allowed to remain exposed or unprotected, will under some circumstances produce rapid flame spread, quick flashover, toxic or flammable gases, dense smoke and intense and immediate heat and may present a serious fire hazard. The manufacturer of the particular product or the Society of the Plastics Industry, Inc., should be consulted for instructions for use to minimize the risks that may be involved in the use of these products.

The Federal Trade Commission, Washington, D.C. 20580, requests that anyone who receives a representation that is inconsistent with the terms of this Notice be brought to its attention. This Notice is distributed by The Society of the Plastics Industry, Inc., 280 Park Avenue, New York, New York 10017.

For more data, circle 103 on inquiry card

The guide spec that opens countless doors to carpet

Prepared by William E. Lunt, Jr., C. S. I.

Write, or use Reader Service Card in back of magazine for your free copy, plus details on this proven carpet installation system.

For more data, circle 104 on inquiry card
Why you need Kelley
"NO SHORTCUTS"
DOCKBOARDS

Reason 2
KELLEY'S PATENTED,
FULLY-AUTOMATIC
TRIPLE SAFETY SYSTEM

The old axiom, "If it's not automatic, it's not safe", is particularly true on loading docks.
With a Kelley "No Shortcuts" dockboard you get Kelley patented cross-traffic legs to support the board in the level or four below-level positions.

For emergency situations your choice of a 5-position or 20-position safety system. Either provides automatic full-capacity support if a truck pulls out while your driver, fork truck and load are on the board. Neither interferes with normal operation. It doesn't pay to "shortcut" safety. That's why Kelley offers the "No Shortcuts" dockboard. So call your Kelley representative or contact:

Kelley Company, Inc.
6768 North Teutonia Ave.
Milwaukee, Wisconsin 53209
Telephone: (414) 352-1000 • Telex: 26-661

LOS ANGELES CONVENTION CENTER WEARS KEMIKO CONCRETE COLORS
(over 1/2 million square feet)

When a combination of beauty and durability was required for the spacious pedestrian plaza of Los Angeles' spectacular Auditorium and Exhibition Center, architect Charles Luckman & Associates and Robert E. McKee General Contractor, Inc., chose Kemiko's Permanent Concrete Stain and Col-r-tone Finishes. To achieve the striking geometric pattern illustrated, Kemiko's "Sandstone" color was combined with borders of custom mixed "Charcoal" and "Off-White". Kemiko inorganic chemical stains cannot crack, chip or peel. They become an integral part of the concrete surface. A heavy-duty Col-r-tone base topped with regular Col-r-tone will defy sun, wear and moisture for years in any climate. These Col-r-tone non-skid, glare-free finishes are easily applied by brush or roller. They may be intermixed to provide over 50 contemporary colors, typical of which is Tennis Court Green, used on 90% of all Southern California tennis courts.

Write for free beautifully illustrated brochure and color chips.
KEMIKO, Inc., Dept. AR-4, 2443 N. Naomi St., Burbank, Calif. 91504
Specialists in coloring concrete and asphalt since 1930.

For more data, circle 105 on inquiry card

For more data, circle 107 on inquiry card
A Senior Editor of Architectural Record shows you today's most effective techniques of successful practice for architects, engineers, and consultants, in a timely, practical, wide ranging book...

Techniques Of Successful Practice
For Architects and Engineers
By William B. Foxhall
Senior Editor, Architectural Record

- How to market architectural services
- How to approach government
- How to handle project administration
- How to save untold dollars through effective cost control

Between the covers of a new professional reference, you must have the key points of information you need to develop and improve a successful architecture or engineering practice today. Whether you are new or established in the field, whether you want to start a new practice or are searching for helpful advice on making right decisions about the growth and direction of your firm... or whether you need frank and astute assessments of alternatives—here is a rich practical source of useful background and information.

In this one carefully planned, authoritatively written book are thoughtful discussions of today's problems in professional firm management, as well as valuable tips on the newest, most effective techniques now emerging in such areas as construction management, value engineering, and life-cycle costing, and in the increasingly complex area of the legal aspects of the practice, on which the book's experts give you their best advice on legal pitfalls, simple guide to avoiding explanations of laws on copyright of plans, interstate practice laws, and much more.

The idea for this guide was an outgrowth of the outstanding popularity of selected reprinted articles formerly used in our premium paperback book, which had become invaluable to architects and engineers. The need for such a book in permanent binding became apparent and the result is the enlarged, revised, updated guide, with fuller treatment of all topics and many more topics added. It is now an essential tool for practices of all kinds—associates, joint venture, corporate, interstate, and international—and for everyone needing guidance on what it takes to be more successful in today's changing and challenging professional world.

Among major topics covered:
- The Changing Patterns of Architectural Practice
- The Response to Change
- The Young Architects: A Profile
- Some Thoughts on Starting Your Own Practice
- Various Modes of Practice
- Management of the professional firm
- Practice and the Law
- Drafting and Drafting
- Project Administration and Cost Control

Mail Coupon Today For Free Examination
Architectural Record
1221 Avenue of the Americas, N.Y., N.Y. 10020

Send Techniques Of Successful Practice (002229-1) for a 10 days' examination. In that time I will remit $14.95, plus tax, postage and handling costs, or return the book and owe nothing. This offer good only in the U.S. and subject to acceptance by McGraw-Hill.

Name
Address
City State Zip

Pay Now And Save! Remit in full with this coupon, plus tax, and we pay postage and handling costs; same refund privilege.

23K133-4000

For more data, circle 109 on inquiry card
Combining slotted standard and metal stud in ONE sturdy unit used in conjunction with standard metal studs for installing drywall. YOCA™ studs offer the perfect solution for in-store merchandising display or off-the-floor storage for commerce, industry, institution or school.

For more data, circle 110 on inquiry card

Terrazzo's beauty starts at the floor and ends with your imagination. An architect's Design Data Book illustrates many available patterns in full color. It was prepared by the National Terrazzo and Mosaic Association in cooperation with a team of professional color consultants and architectural interior designers. This valuable book is available free to any practicing architect. Write

For more data, circle 111 on inquiry card

**NEW INTRAD PVC TROLLEY RAIL PREVENTS BROKEN WALLS!**

"FLOAT" design plastic rail acts as a continuous bumper to provide wall and corner protection.

- Low Cost
- Ideal for heavy traffic areas (corridors, kitchens, laundries, service areas) in hospitals, schools, commercial and industrial buildings.
- Easy installation for new construction or remodelling and repair.

For more data, circle 112 on inquiry card

Find out how Vulcraft's system of steel joists and joist girders offers better support. Send for a free, 24-page Specification Guide. If you can't wait for the mail, just call (704) 366-7000 for more information.

I could use support from Vulcraft. Please send me a free Specification Guide immediately.
ADVERTISING INDEX

Prelit catalogs of the manufacturers listed below are available in the 1975 Sweet's Catalog File as follows.

A Architectural File (green)
B Industrial Construction File (blue)
C Light Construction File (yellow)
D Interior Design File (black)

G
A-L-D GAF Corp., Floor Products Division 75
A-L-D General Electric Co. 6-7
A-L-D General Tire & Rubber Co., Chemical/Plastics Div. 138-139
A-L-D Gates Model Equipment Co. 68-69
A-L-D Goodyear Tire & Rubber Co. 32
A-L-D Genco Inc., Building Products Division 38

H
A-L-C Hager Hinge Company 142
A-L-D Haws Drinking Fauct Company 178
A-L-D Hilliard Chemical Co. 8
A-L-D Wm. Hubbs Ltd. 170

I
A-L-D INRICO, Inc. 18-19, 36
A-L-D International Architectural Foundation 176-177
A-L-D International Masonry Institute 28-29

J
A-L-D Jamison Door Co. 182
A-L-D Jewett Refrigeration Co., Inc. 181
A-L-D J.G. Furniture Company, Inc. 141
A-L-D Johns-Manville Corporation—Architectural & Engineered Products Division 174-175
A-L-D Johns-Manville Corporation—Pre-Engineered Building Department 66-67
A-L-D Johnson Controls Inc. 46-47
A-L-D Jute Carpet Backing Council, Inc. 182

K
A-L-C Kenmore Co. 24-25
A-L-D Kelley Corp., Inc. 181
A-L-D Kemiko Inc. 183
A-L-D Kemlite Corp. 16
A-L-D Kim Lighting Inc. 79
A-L-D Kwak-Wall Company 181

L
A-L-D Lennox Industries Inc. 56
A-L-D Libbey-Owens-Ford Co. 160-161
A-L-D Ludowici-Feladon Co. 27

M
A-L-D Manning Co., Inc., R.A. 184
A-L-D Marvin Electric Mfg. Co. 171
A-L-D Masonite 148
A-L-D Masco, Inc. 30
A-L-D Metal Lath/Steel Framing Assn. 145

N
National Electrical Contractors Association 71
A-L-D National Terrazzo & Mosaic Assn. 165
A-L-D Naturewood, Inc. 143
A-L-D Neenah Foundry Co. 145
A-L-D Nucor Corp., Valcart Division 185

O
A-L-D Olympic Stain Company 44-45

P
Page Fence Division of Acco 12

R
A-L-D Raynor Mfg. Co. 12
A-L-D Ready Metal Mfg. Co. 12
A-L-D Red Cedar Shingle & Handshingle 12
A-L-D Shake Bureau 12
A-L-D Regal Tube Co. 12
A-L-D Reynolds Metals Co. 12
A-L-D Rohm & Haas Co. 12
A-L-D R-Ways Furniture Co. 12

S
A-L-D Satellite Industries 12
A-L-D Sherwin-Williams Co. 12
A-L-D Silbrico Corp. 12
A-L-D Simmons Co.—Contract Div. 12
A-L-D Sloan Valve Company 12
A-L-D Society of the Plastics Industry Inc. 12
A-L-D Soss Mfg. Co. 12
A-L-D Sport Seating Co. 12
A-L-D The Stanley Works 12
A-L-D Steeletcase Inc. 12
A-L-D Sterner Lighting Systems Inc. 12
A-L-D Sub-Zero Freezer Co., Inc. 12
A-L-D Symons Corp. 12

T
A-L-D Taylor Co., The Halsey W. 12
A-L-D Tepromark International Inc. 12
A-L-D Texas Instruments 12
A-L-D Temco Mfg. Co. 166-167
A-L-D Tyler Pipe 134-135

U
A-L-D Unistrut—GTE Sylvania 3rd
A-L-D United States Gypsum Co. 137
A-L-D United States Plywood Corp. 137

V
A-L-D Vincent Brass & Aluminum Co. 137
A-L-D Vogel-Petersen Co. 137
A-L-D Vulcraft Division of Nucor Corp. 137

W
A-L-D Welco Carpet 137
A-L-D Wernerhanser Company 137
A-L-D Wilson Art 137

186 ARCHITECTURAL RECORD April 1975
Detex has the full range of security equipment you need to completely implement an effective system — no matter what the size.

From a single entrance to an entire building complex, Detex exit alarms, exit control locks, entry controls, switches and remote indicating panels keep you covered. They work together, individually or with other components and may monitor equipment as well as internal safety and security.

Send today for full details on hard working, effective Detex equipment.

For more data, circle 114 on inquiry card
ARCHITECTURAL RECORD
April 1975

CLASSIFIED \ SECTION


Architectural Draftsman: Established Central Illinois firm has long term employment opportunity for experienced draftsman capable in all project phases with emphasis on construction. Advancement potential to project manager excellent. Experience mandatory. Send resume. Reply in confidence to P-7271, Architectural Record.

Architects—Major designer-builder of medical and education facilities seeks highly successful architects for Project Manager—and/or Consultant-to-National Medical Facility—career openings. Apply only if you are management type with good experience in this area. Send resume with salary history and telephone number to Harry Law at Management Recruiters, 115 S. Jefferson, Green Bay, Wisc. 54301. Direct Dial 1/414/437-4353. Afterhours and outside Wisconsin 1/414/435-0855.

Construction Technology—Department Chairperson, Half-Time Teaching, Half-Time Administrative. Requirements: BS or BA degree in Civil Engineering or Construction with Master's degree. Teaching experience plus five years' professional or construction experience. Construction orientation preferred. Registration not required but preferred. This is a 10-month position as associate professor, beginning August 20, 1975. Send resume to Keith R. Johnson, chair- man, Construction Technology, Chairperson, Search and Screen Committee, B50 Coff Hall, Institute University at Fort Wayne, 2101 Coliseum Boulevard East, Fort Wayne, Indiana 46805.

Ohio firm with widely varied practice, but non-institutionally oriented, seeks experienced designer. Seeking individual who is capable and mature. Good opportunity for growth in nationally established firm. P-7358, Architectural Record.

The Syracuse University School of Architecture has a full time permanent position open for the Fall of 1975, in the Structural Design and Analysis sequence of its curriculum. The position involves teaching statics and strength of materials, design of steel and timber structures, introduction to computer graphics and references to Julio M. San Jose, Chairman, Appointments Committee, School of Architecture, Syracuse University, Syracuse, New York 13210. Syracuse University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS WANTED

Site planner, diversified designer degree. Landscape architecture and horticulture. Five year experience. Architects and consulting engineers involved in condominium development, road improvement projects, parks, urban design, layout of storm and sanitary engineering. Contract drawings, specifications, client contact. PW-7212, Architectural Record.

SPECIAL SERVICES

Nationwide Architectural Arts, Inc.: New 5-day national service for Budget Renderings/Scale Models, including free shipping via air express the sixth, Budget Renderings for realistic, full-color, full-bleed, landscaped, board size about 20 x 30", with one main street, river, railroad (high rise accepted). Views: Eye level $159-$239. Aerial $239-$339. 10% off with furnished usable perspective. Budget Models are graphically colorful, landscaped, excellent for photographing/presen- tation $159-$599. For fast service: Airmail drawings/information; drawings acknowledged by phone. Budget services: P.O. Box 145, Fairless Hills, Pa. 19030. Job opportunities details: P.O. Box 21251, Seattle, Wa. 98111. Terms: Q.D.O. New customers, "No business wide" in business for repeat business for 5 years.

Nationwide Architectural Arts, Inc.: New promotional brochure available; P.O. Box 615, Rochester, MI 48063.

Nationwide Architectural Arts, Inc.: Complex rendering/services, air plans. P.O. Box 246, Trenton, NJ 08602.

Call the Artist, Paul, for distinctive personalized color renderings with layman appeal. On-site service to architects and engineers throughout England and New York for five years. (413) 229-8079; (eves. 229-8993) Paul Greene Associates, 75 Main Street, Shrewsbury, N.J. (high rise accepted). Licensed Engineer, N.Y., N.J., extensive background E.Y.A.C.O. offers to work with Architect on individual jobs, including design, drawings, cost estimating specifications. Inquire: Alexander Spear, P.E., 19 Lincoln Drive, Flanders, N.J. 07836.

Artistic renderings, architectural and engineering models, commercial and public interiors, meaningful exterior and interior lighting, all subordinated to your design concept, can be ordered from "VITRUVIUS DESIGNS CORP." Box 1316 Radio City Sta., New York, N.Y. 10019. Tel. (212) 889-7382.

Consulting group specializing in fountains and custom water displays, offers comprehensive design and engineering services. Architectural and traditional ornamental fountains, unique water shows, rain and special effects, programmed lighting and water displays. Excellent facilities. Contact: Piolemy Associates, 1944 East Oakdale Ave., Pasadena, Calif. 91107 (213) 684-0957.

Parking Consulting—Edison Parking is a major national parking company in: (1) ownership and operation of 100 facilities in nine states; (2) consulting to architects for the functional design and economic analysis of parking facilities. The professionals and technicians of Edison's Consulting Division serve the architect's team for development of a project, combining operating experience with design and economic disciplines. Background ofask- let and free Parking Design Checklist on request. Edison is a true independent consultant; we are not seeking architectural or engineering design work nor are we affiliated with any "package" building system. Contact Jerome Gottesman, Edison Parking Corp., 69 Academy Street, Newark, N.J. 07101.

POSITIONS WANTED

Treasurer-Controller—Heavy exp. listed co. V.P., Treasurer accounts, natl. public acctg. Expd. real estate, Construction industries. CPA, attorney. Personable, creative, takes charge. $29,32,000 required. PW-6758, Architectural Record.

Grad. Architect/Health Planner: M. Arch. health facility design-programming, M.P.H. health services-administration, 12 years experience in industrial, residential, 2 years specialization health care system planning-analysis. Contact Dan Burbine, 4336 Lafayette, 774470.

Architect—B.A. & B.S. in Architecture from U.S.A. B.S. Civil Eng, from Middle East. 18 years experience in Middle East & U.S.A. Strong leadership, capable directing engineering team to better achievement and success in Middle East or to establish American firm in Arabia. Architectural Record, PW-7215.

This week's news... 

The NEW LOCKER ROOM

MOORE
OVERHEAD CLOTHES STORAGE SYSTEMS
Clothing stored overhead. Saves space. Made of galvannealed steel, designed for schools, universities, banks, hotels, attractively finished. Thirty six public, attractive, assemble.

The MOORE COMPANY
1279 Governor St., Charleston, W. Va. 25305

BUSINESS OPPORTUNITIES

Registered architects desirous of purchasing going architectural firm in New York area or surrounding suburbs. Replies held in strict confidence. BO-7322, Architectural Record.

PROFESSIONAL SERVICE

Hibbard Engineers Complete engineering service - structural, mechanical electrical, civil. For hospitals, universities, buildings, schools, apartments, government buildings. Project Management Construction Estimates. 2637 Main Street, Niagara Falls, New York 14305 Tel. (716) 282-1282

CORRESPONDENCE COURSE

In Search of Something to Believe In? Try our $10—10-Lesson Correspondence Course. Henry George School of Social Science, 1318 Beacon Street, Brookline, Massachusetts 02146.

SUMMER PRE-COLLEGE PROGRAM

College of Fine Arts

PRE-COLLEGE PROGRAM

A comprehensive pre-college program in architecture for students in the 10th, 11th, and 12th grade. JUNE 23—AUGUST 1

ARCHITECTURE

Department of Architecture Carnegie-Mellon University

EMPLOYMENT SERVICE


When Answering

BOX NUMBERS

to expedite the handling of your correspondence and avoid confusion, please do not address a single reply to more than one individual box number. Be sure to address separate replies for each advertisement.
Beautiful structures exposed.

It's the MODUSPAN® concept. Open, airy space-frames, all from standard production components. Bolted together into a single load-sharing modular truss.

Like the Mall at Chestnut Hill, Massachusetts. Here, Moduspan space-frames form wall and roof structures. They're painted a handsome orange and fitted with bright yellow shades to control sunlight.

Mass-produced Moduspan components are available in 4' and 5' systems, and six durable architectural colors, to help you create beautiful structures. Because they're standard, they reduce architect and engineer man-hours. And eliminate on-the-job delays caused by awaiting custom-designed fabrications.

Attachment of auxiliary items (light fixtures, glass, etc.) is simple, because the entire structure is made up of Unistrut channels.

Moduspan—an infinity of form from five basic parts. UNISTRUT Corporation, Wayne, Michigan 48184.
New Independent Report proves Sloan Flush Valves use 12½% less water than tank-fed systems

High-rise developers, especially, should read this comparative test report by Stevens Institute. It covers water usage, drain system compatibility and fixture performance.

We knew that Sloan Flush Valves saved water.

However, now an independent report published by the Davidson Laboratory of the Stevens Institute of Technology proves conclusively that Sloan Flush Valves use 12½% less water than tank-fed water closets.

The Stevens Report also proves that Sloan Flush Valves are fully compatible with 4-inch wet vent drainage systems and meet all plumbing codes. No significant difference occurred between Sloan-operated and tank-operated water closets under various conditions of system stack flow, trap seal retention, or blowback failure.

Ten separate and severe fixture performance tests were also run. Here, too, Sloan Flush Valves equalled or bettered tank performance.

There’s no point in talking about water conservation unless we all do something about it. Sloan Flush Valves do something. They save water. 12½% over tanks.

Send for the Stevens Report now. It’s free and it contains facts and figures available nowhere else.

SLOAN VALVE COMPANY
10500 Seymour Avenue
Franklin Park, Illinois 60131

SLOAN FLUSH VALVES THE WATER SAVERS

For more data, circle 116 on inquiry card