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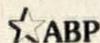
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Cover/Enid Cytryn

Bills for FHA fiascos have piled up quietly—Now you can peek: \$3.7 billion

The Federal Housing Administration's mortgage-insurance funds are in such shape that the Department of Housing and Urban Development will wind up borrowing a billion dollars from the Treasury this fiscal year and another billion in fiscal 1975.

The FHA has two insurance funds plunging steadily deeper into red ink as the agency acquires defaulted mortgages and properties faster than it can dispose of them. The \$2 billion of borrowing in two years is expected to put FHA \$3.7 billion in debt to the Treasury by June 20, 1975.

This "alarmingly sharp increase," according to Chairman William J. Randall (D., Mo.) of the House Government Operations Subcommittee, moved the panel to call in the General Accounting Office officials who audit HUD's books. The panel also summoned HUD's Assistant Secretary Sheldon B. Lubar, the new FHA chief.

Vanishing houses. The picture the witnesses painted was of "back door financing" of FHA mortgage-insurance losses through Treasury borrowing,

partly as a result of congressional failure to appropriate money to keep the funds' reserves where they are supposed to be.

Besides painting this big picture, Deputy Director Baltas E. Birkle of the GAO pointed out that reserve requirements of two of the FHA funds had to be increased by \$50 million after GAO found FHA carrying on its books 5,792 "small-home properties" which "our examination disclosed . . . had been demolished." That is, 5,000 houses put up as security for loans just weren't there.

Birkle said the destruction was ordered by regional housing officials because it was cheaper to tear the houses down than remodel them or pay taxes on them. Birkle said "a communications problem" resulted in word failing to get back to Washington.

The multibillion dollar deficits, which add to the subsidy costs of housing programs, are expected to strengthen the Nixon Administration's stand against any extension of the subsidy program schemes. In the omnibus housing bill now before the House Banking Committee,



FRANCIS C. WARD

WATCHDOG BIRKLE
A search for 5,000 houses

the deficits may also strengthen the hand of Appropriation Committee members who want to see tighter control imposed upon HUD's proposed budget of \$6 billion.

'Perspective.' Lubar, trying to put the figures "in perspective," noted that total realized losses of all funds during fiscal 1973 actually were only \$230 million. But that is because the granddaddy of all FHA insurance funds—the mutual mortgage insurance fund that backs unsubsidized mortgages on one- to four-family residences under FHA's section 203—has more reserves than it needs.

It has about \$50 billion of in-

surance in force and \$1.7 billion of reserves—an excess of reserves over legal requirements Lubar estimated at \$818 million by the end of fiscal 1975. That would be an increase in the excess reserves of \$430 million over the June 20, 1973 excess of \$388 million.

Separation of funds. But the law, as Birkle noted, requires that each fund be "an individual entity and, by law, the excess of reserves in one fund cannot be used to cover a reserve deficiency in another."

As Birkle pointed out to the committee, "Congress did not intend the special-risk insurance fund to be actuarially sound because appropriations to cover losses sustained" were authorized by law.

However, the general insurance fund was to be actuarially sound, Birkle said, even though it now includes "some high-risk insurance programs that might have been made part of the special-risk insurance fund if it had existed when these programs were enacted."

—DON LOOMIS

McGraw-Hill World News,
Washington

A California town sics law on a homebuilder, and so the builder sics law . . .

. . . on the town.

The building moratorium by the town of Camarillo, north of Los Angeles, has triggered a \$42,578,231 lawsuit by Pardee Construction Co.*

The conflict centers on a 1,150-acre ranch tract on the edge of Camarillo called Mission Oaks, purchased for \$7.25 million in 1970. The company wanted to build out to a population of 15,000 people in 10 to 15 years.

The city agreed to annex the unincorporated area and approved Pardee's development plans. Construction began.

New requirements. Local officials then began demanding plan changes that, the company insisted, were unrelated to the town's legal obligations to protect public health and welfare.

George M. Pardee Jr., the company president, says the town:

- Sought fireplaces in 75% of



BUILDER PARDEE
'Multitude of demands'

the homes. The request was later reduced to 50%.

- Demanded wood or tile roofs, but did not apply this requirement equally to other developments in the area.
- Required that every elevation reflect Spanish influence.
- Demanded front-yard landscaping subject to approval of the city's landscape architect.

"There has been a multitude of . . . demands," says Pardee. "Although they seem merely frivolous, when taken together they have pushed the cost of our lowest-cost homes practically

out of reach of many medium-income buyers."

The big gun. The heaviest blow fell last July. Town officials, saying they feared a shortage of sewage capacity, ordered a moratorium on new construction.

That ban stands, and it is no small matter to Pardee. The project costs \$4,000 a day in taxes and carrying costs.

Pardee feels the halt was unnecessary. He explains:

"Our own independent experts, the manager of the Camarillo sanitary district, and the planning commission agreed no sewage emergency existed."

No-growth hint. Pardee imputes several possible, sometimes conflicting, motives to the Camarillo government: a bias toward no-growth, an effort to upgrade Mission Oaks to a high-income development—and a power play to generate sewer-service revenues within the project.

Town's stand. Royal Soren-

sen, the Los Angeles attorney retained by Camarillo to defend against the suit, says the city is concerned only about a sewage crisis.

"Capacity now available for the Mission Oaks area is sufficient to handle only 750,000 gallons a day," he says. "Allowing 100 gallons per capita a day—and current usage in Camarillo is 96—it's clearly not enough to serve an additional 15,000 people."

Compromise? If carried to a court decision, the suit might provide some legal relief for builders beset by local demands. But an election in Camarillo on March 5 seems to have changed the complexion of the situation. The suit was an issue, and two councilmen identified with the building ban were replaced, say local sources, by political unknowns described as more favorable to Pardee.

Now signs are appearing that both sides want to settle out of court.

*Pardee's headquarters are in Los Angeles. It is a division of Weyerhaeuser.

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style bath and powder room. Kohler's newest shape, the Rondelle, in Pink Champagne. The newest accent, Sunflower, in the oval Farmington. Radiants in Antique Red and Espresso, Lady Vanity in Fresh Green, Man's Lav in Tiger Lily, Boutique in New Orleans Blue and Farmington in Blueberry. Pictured (B): The Birthday Bath in Antique Red, a blend of past elegance and modern stretch-out

comfort. Rochelle toilet and Pennington lav in Pink Champagne. Bottom: Original colors, original designs let you transform any bath into a personal retreat. Featuring The Bath in Pink Champagne, the 6-foot Caribbean in Black Black, Birthday Bath in Antique Red, Steeping Bath in newest accent, Sunflower; Rondelle in New Orleans Blue, Lady Vanity in Fresh Green and Man's Lav in Tiger Lily.



Kohler originals



(A) The Kohler One-Controllables: Centura lavatory faucet with single-control convenience, sparkling chrome finish.

(B) Alterna faucets are a decorator's delight. Available in polished or brushed gold electroplate or chrome. With quick-change White, Ebony, Teak and Walnut accent inserts.

(C) Flair faucets have an elegance all their own. Choice of polished gold electroplate or chrome. Acrylic handles—Amber, Clear, White, Charcoal.

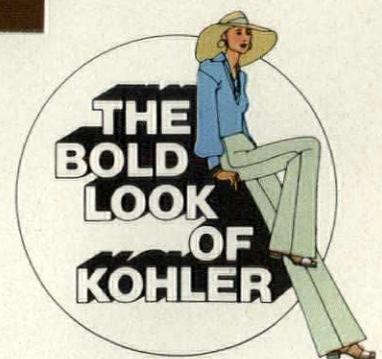
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(D) Three basin Trieste (43" x 22") in Antique Red; Lakefield (33" x 22") in Tiger Lily; Space-saving Urbanite (25" x 22") in Sunflower; Trieste in Fresh Green; Brookfield (33" x 22") in Avocado and Mayfield (24" x 21") in Harvest Gold.

For more great bath, powder room or kitchen ideas, write Box KX, Kohler Co., Kohler, Wis. 53044.



Operation Breakthrough: \$72 million, boarded-up units, 5,000 complaints

Assistant Secretary Michael Moskow, HUD's top officer for research and technology, toured Jersey City's Operation Breakthrough site recently to generate publicity for an innovative \$2.7 million "total energy plant" built into the 486-unit apartment project.

But HUD's publicity never mentioned Breakthrough, referring instead to the Summit Plaza project as "a HUD-insured development." As a Breakthrough project, Summit Plaza is at least a couple of years behind schedule, and HUD officials were uncertain when families would begin moving in.

Summit Plaza is just one of several Breakthrough problems still plaguing HUD (5 years after George Romney, President Nixon's first housing secretary, decided to try to stimulate factory production of housing).

Costs. Breakthrough has cost the Treasury \$72 million for 2,900 units on nine sites—in addition to the \$65 million of financing through FHA-insured mortgages.

Sources at HUD say at least two Breakthrough producers have claims against HUD totaling more than a million dollars, and some officials hint the figure could run much higher. The sources say the claims are being initially handled by Boeing Corp., which has a HUD contract to manage the completion of the Breakthrough program.

Further, two producers with innovative modular designs—TRW and Materials Systems—have had to apply plywood over the fiber glass exterior walls of some of their units. Cracks were found in the TRW wall structure, and the Materials Systems exterior wall was found to be porous.

Even though all projects aren't complete, HUD is already publishing technical and other reports on Operation Breakthrough as part of what it calls Operation Feedback. This follow-up evaluation and reporting program was an integral part of Breakthrough, to spell out what was learned during the massive demonstration.

Complaints. Joseph Sherman, HUD's director of building technology and safety, is directing the Feedback program. He has under way an analysis of 5,000 work orders that record com-

plaints of families living in Breakthrough housing—and the management response—between April 15 and December 15, 1973.

These reports show, according to Sherman, that complaints arise mostly from fixtures and mechanical equipment such as plumbing and kitchen equipment—either because of the equipment or its installation. About 20% of all complaints involved fixtures; 15% involved plumbing, heating and ventilating equipment; 13% doors or windows; 12% major appliances; and 9% walls or ceilings.

Most complaints originated in the kitchen, and in general they show that "industrial housing is no different than regular housing," Sherman suggests. The Breakthrough structures should be better, Sherman says, "because of the better quality control."

The list by company. A HUD breakdown of work orders for each of the 17 housing producers



HUD's Moskow
A time for forgetting

shows there were 9.8 complaints per occupied unit for those built by Materials Systems. Next highest ratio of complaints per unit was from those built by Republic Steel (7), then Alcoa (6.5) and Hercules (6). At the low end were Forest City-Dillon with 0.6 complaints per unit (see page 56), TRW with 1.4 and Pemton with 1.6. In between were GE, Home Building, National Homes, Townland, Scholz, Levitt Technology, Boise Cascade, BSI and Christiana Western.

Two new federal tax rulings tighten screws on condominium associations

Two controversial new Internal Revenue Service rulings could cost residents of condominiums and planned unit developments millions of dollars in extra assessments for maintenance of their common areas.

Rulings 74-17 and 74-99 hold that owners' associations that manage common areas such as streets, parklands, sidewalks (and central heating plants, pipes, ducts, flues and the like in condominiums) must pay income tax on any excess of revenues over expenses.

This previously untaxed profit is used by the associations to build reserves for future maintenance and repairs. The reserves are required in many cases by the Department of Housing and Urban Development and by lenders, especially in planned unit developments.

Impact in billions. If the reserves are to be taxed, homeowners must cough up extra funds to maintain them at current levels. The impact could be significant. David B. Wolfe, president of Community Management Corp. of Reston, Va., a consultant to common-area as-

sociations, estimates that the 15,000 common-area associations have reserves totaling \$1.5 billion. At current tax rates, owners would have had to raise \$2.2 billion to net that amount. Further, the IRS might seek back taxes from some associations.

Remedies. An appeal of the IRS decisions is unlikely. Rather, a special tax-exempt status might be sought through legislation.

The associations might also seek to shelter the reserves from tax. This might be done by creating separate trust funds or earmarking payments into the reserves as capital contributions, which are technically not income.

The problem is that, while common-area associations have grown fast, they are relatively unorganized. A non-profit trade association, Community Associations Institute, is getting started up in Washington. Since its own tax status hasn't been cleared by IRS, the CAI is chary of anything resembling lobbying.

—DEXTER HUTCHINS
McGraw-Hill World News,
Washington

Other Feedback reports in the works include one based on answers by occupants of each Breakthrough unit to a 47-page questionnaire filled out during a personal interview.

More than 80 technical and other reports are available on National Bureau of Standards tests done on Breakthrough components. Among them are the guide criteria used to evaluate Breakthrough housing, the reports of the site planners and a 258-page illustrated report on Breakthrough's phase one, *The Design and Development of Housing Systems*.

Questions unanswered. From the outset, HUD was expected to produce an overall evaluation of the Breakthrough program that would attempt to answer such basic questions as: Was the program worth the \$72 million of Treasury funds spent on it? What were Breakthrough's objectives and how successfully were they met? Were the producers able to produce more house per unit cost? Did they provide better products or services or a better living environment? If so, how and why? Did any of the producers permanently change their production methods?

But HUD's officials have been non-committal about financing such an evaluation. The HUD office paid the Urban Institute to design a model for such an evaluation, and to report what it learned about Breakthrough as it gathered information needed to recommend to HUD how to go about an evaluation.

Evaluations. Either because the Urban Institute report was unsatisfactory (as HUD officials say) or because the findings reported were so critical of Breakthrough (as Urban Institute sources suggest), HUD officials delayed their decision on a full-scale evaluation.

Meanwhile the General Accounting Office has undertaken its own evaluation, according to one GAO source. The GAO report will review Breakthrough's impact on state and local governments as well as on the housing industry—"Were there any innovations of lasting benefit, for instance? And were the real objectives of the program different than the stated objectives?"

—D.L.

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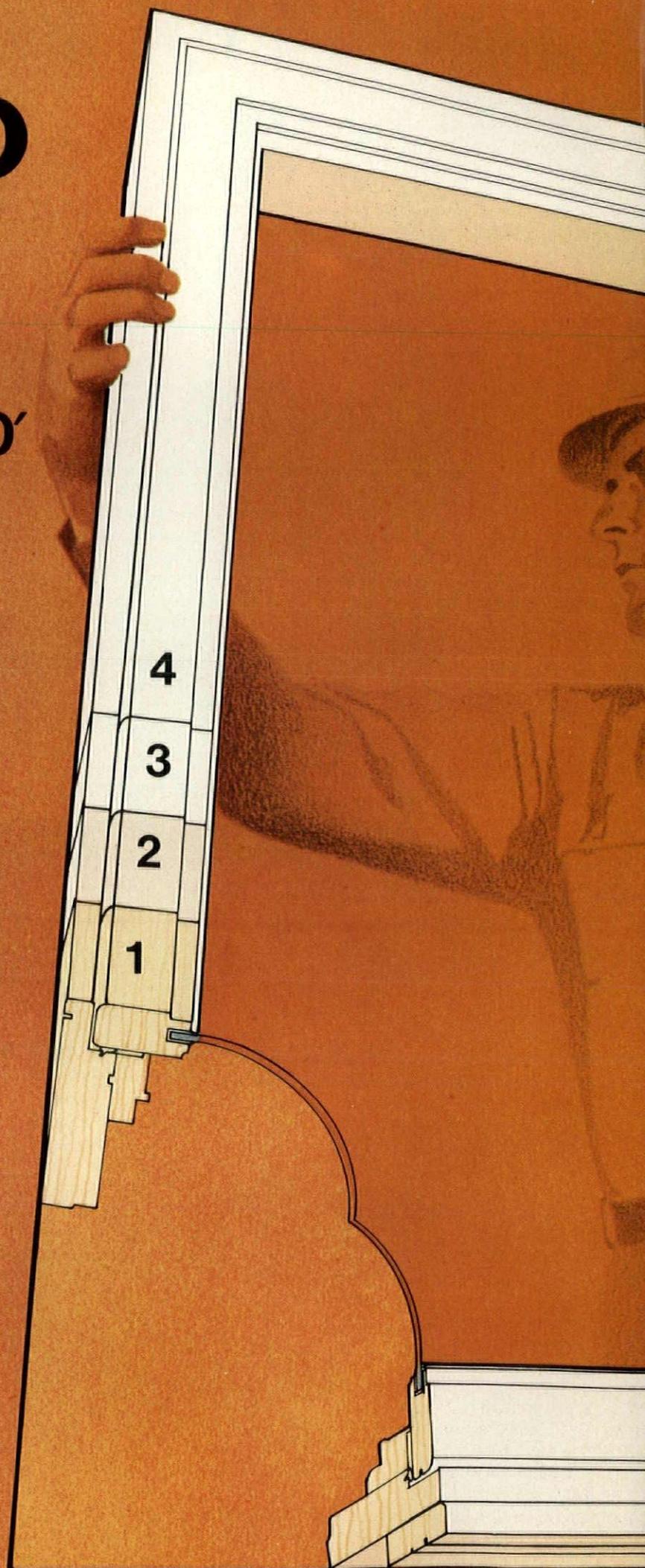
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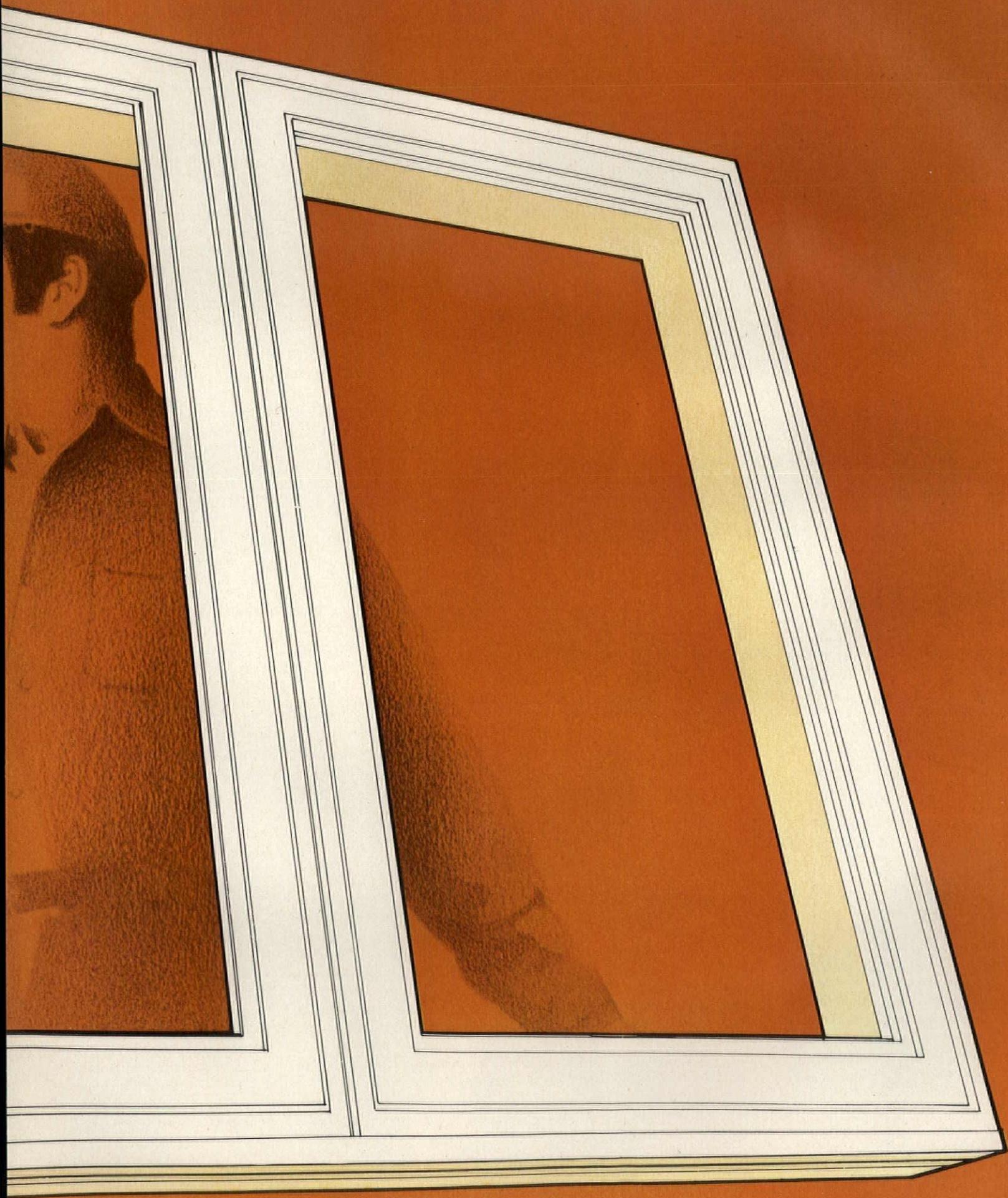
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Shakeout looms for realty trusts, pinched by bad loans and payout demand

A long year of escalating troubles is nearing a climax for the real estate trusts. A shakeout seems to be developing as a consequence of 12 months of virtually uninterrupted bad news.

At least one of the 100 or so large REITs, Associated Mortgage Investors, has already filed for bankruptcy. Three other trusts are known to be in considerable danger of doing the same. Another 14 or more are saddled with numerous problem loans.

To the homebuilding industry it may be just as important that the rest of the once high-flying REITs are pulling in their horns. To survive, the trusts are cutting back on new loans and using the proceeds of existing loans to shore up debt positions. In the process, this \$20 billion industry could shrink to \$17 or \$18 billion in assets. Says a vice president with one major New York securities-rating service:

"The growth era for REITs is over."

Moment of truth. "This is certainly a crucial year for the REITs," agrees William Ward, who scans the trusts' books for the big-eight auditing firm of Peat, Marwick, Mitchell & Co.

If the trusts can hang on until real estate booms again, perhaps in 1975, their problems will fade as prosperity returns for the builders to whom they lend money. But until then the outlook is bleak. Last year's ferocious inflation and materials bottlenecks caved in several small developers and two or three major builder combines in which REITs had sizable positions. The debacles included the Walter J. Kassuba operation, for instance, with \$500 million in assets [NEWS, Feb.].

High interest rates intensified the difficulties for both the REITs and their customers. Rising money costs forced trusts to look to ever riskier short-term construction loans for growth and to set yields that increasingly threatened the builder's capacity to carry the charges. On top of all this, the energy crisis undermined the value of REIT investments in recreational projects and even in the more remote suburban housing areas.

Survivors. A lot of trusts remain unshaken, of course. In most cases those in the best shape are linked to banks or in-

urance companies. Such a trust is C&S Realty Investors, affiliated with Citizens and Southern National Bank in Atlanta. Says Richard Carpenter, chief of C&S:

"The REITs will survive 1974, though there will be individual problems. Nobody is throwing land out the window."

Yet adversity has exposed the fact that the REITs, which shot from a loan portfolio of \$1 billion in 1969 to \$20 billion this year, have outgrown their resources in both capital and management expertise. That is not even to mention the market of acceptable real estate loan risks.

As bad loans keep popping up in REIT portfolios, another concern arises. It is the lack of staying power to ride out a spell when loans aren't feeding in interest income.

Exit Wall Street. The REITs were structured as a pass-through vehicle by the Real Estate Investment Trust Act of 1960. They were exempted from corporate taxes, but they had to put a high percentage of their loans into real estate and pay at least 90% of their income to stockholders in dividends.

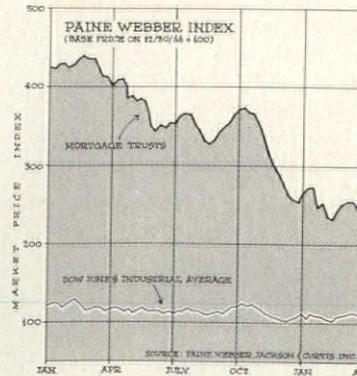
The chief officer of a West Coast REIT bemoans this pass-through requirement as "a loaded pistol that makes internal liquidity impossible." It means some external source of cash, equity or debt must finance REIT expansion—or, in trying times such as the present, their survival.

Where are the external funds to come from? The REITs rocketed off on their growth period in 1969 on capitalization by Wall Street investors who waxed enthusiastic over the phenomenal rate of return on the REITs' speculative loans. Yet by 1971, says an industry source, Wall Street had come to regard them as fallen angels.

Enter the banks. The REITs found the big banks quite ready to take up the slack. The bankers offered short-term credit lines and guaranties for commercial paper that the REITs floated.

"We leveraged like crazy," says the Coast REIT man, recalling how much was borrowed against trust equity.

Inflation's free ride. Until 1973, inflation bailed out the worst risks taken by REITs by



jacking up land values.

"But now," observes the rating-service source, "there is a slow-down in the real estate economy and, while there is still a lot of inflation, it isn't selling property anymore."

The acid test for the REITs comes with the annual reports due this spring and summer. Says a Washington official who analyzes REITs:

"The reports force auditors to deal with all the accumulated REIT problems. These auditors get sued so often that they don't want to be the pot of gold everybody else gets if this thing goes off like fireworks."

Already two-thirds of the REIT shares are selling below book value in the stock market. If auditors protect themselves by refusing to sign the REITs annual reports until the trusts set up loss reserves against doubtful loans, then the dividends the investor has expected will be reduced or abolished. Ward asks: "Will the public become disenchanted? The real estate boom and bust must be reflected in financial statements or they are not accurate."

Stocks' decline. Some REITs may have to go for several quarters without earnings to pay out. That news comes hard, given the fact that the REIT share-price index maintained by Paine, Webber, Jackson & Curtis has already lost 100 points from the 350 level of mid-1973.

Not only Wall Street but, at this state, the banks are feeling a surge of disenchantment.

The rating-service executive explains:

"Banks had been caught up in the REIT syndrome. They liked the compensating balances REITs left with them and the high rates of interest. Now it's different. I understand banks are pushing REITs toward lengthen-

ing debt. Some have stopped increasing their participations. Some commercial paper guaranties have been cancelled, and banks have slowed their new lending to trusts."

Big brother. The big question for the trusts in the rest of 1974 is how long the bank industry will stand by them. So far, industry sources say, only smaller regional banks, unacquainted with the vicissitudes of the real estate business, have actually cut back credit lines. But the chief officer of one REIT admits: "Some major banks are also leery."

The banks could develop second thoughts if another builder of Kassuba's stature tips over.

Watch list. Kenneth Campbell, publisher of the newsletter *Auditor's Realty Trust Review*, sees some of these trusts in varying degrees of trouble: Fidelity Mortgage, First Wisconsin Mortgage, Independence Mortgage, Citinational Development, Cameron-Brown, First Virginia, Greit Realty, Galbreath Mortgage, Mortgage Trust of America, Palomar, American Century, First Mortgage Investors, Gulf South, HNC Mortgage, NJB Prime and State Mutual.

None of these is necessarily headed for the rocks and Campbell, for one, thinks none will go into bankruptcy whatever happens.

"Incidents of liquidation are rare," he says. "Ousted REITs will turn into corporations and do real estate development, not financing."

Correctives. The lesson to be drawn from the spectacular ups and downs of the REITs depends on who is speaking.

The National Association of Real Estate Investment Trusts thinks the cure is to get Congress to lower the 90% pass-through requirement—though NAREIT is lukewarm about setting up loan-loss reserves as a protection for the future.

Carpenter of C&S thinks one remedy might be for the trusts to stop approving loans solely on the basis of the viability of a project and instead cast a beady eye upon the borrower. Trusts may have several loans to the same developer, as was the case with Kassuba, and that often spells trouble.

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Big companies leaving housing? Joint venturers still coming in strong

Big corporations have been chopping off their homebuilding subsidiaries lately [News, April *et seq.*]. Cultivating housing operations has produced more red ink than black type on balance sheets.

Offhand this state of affairs might be expected to concern one Daniel Berman, a New York lawyer active in negotiating joint ventures.

It does not; the exodus seems to be from the form of participation rather than the industry itself. Berman is an authority in the field—he was the NAHB's principal choice to explain joint ventures at its Houston convention and is author of a new book on them. He is convinced that the technique is alive and well.

"That's because it makes sense," he explained recently.

Two-way benefits. "If you build or invest," Berman went on, "the joint venture offers advantages no matter what conditions obtain in the money markets or where interest rates are.

"It's always a good way for the guy with money but no expertise to participate in the business, better than buying a builder. The investor doesn't get caught up managing a new business and maybe regretting it.

"And it's always a good way for the builder or developer to get hold of a lot more capital and thus leverage his own position."

Range of partners. Berman finds a wide variety of potential joint ventures for homebuilders.

"Insurance companies are still among the largest sources of this kind of investment. Next come pension funds, then a lot of public corporations. Investment bankers and private investors remain active. Wall Street firms show interest.

"And there are combinations that could be called synergistic. These are deals between a supplier, say, and a builder, in which the supplier gets a captive market and the builder, financing.

"Or there are deals between a builder and a land developer.

"Or even between two builders. One says, 'I've got this big piece of land, but I can't do the whole thing. Why don't you come in?' Then they decide on who does what."

Foreigners. Berman also pointed out an increasingly important type of partner:



ATTORNEY BERMAN
'Because it makes sense'

"Foreign investors. They come looking for a safe country to invest in, and they want real estate because they're also looking for a haven from inflation.

"Basically, it's scared money. They'll pass up a higher return available elsewhere to invest here.

"American real estate looks cheap, compared to prices of land in Europe or elsewhere. They think it's a good investment, and they tend to be long-term investors.

"Not only will they take less than they can get on Eurodollar bonds, but they'll also settle for a point or two less cash return than American investors demand."

Why builders like joint ventures

"Even today, despite their new caution, tax-oriented private investors will still go into a joint venture for tax benefits plus cash return," says building investment expert Daniel Berman.

"When they do, it can be great for the builder." And he explains to developers:

"Let's suppose a deal in which the investor is satisfied with an 8% 'preferential' return—he gets the first 8% of each year's profit.

"This investor puts, say, \$100,000 into a shopping center. Both sides recognize that, during construction and early rent up, there will be no cash return.

"But when the center begins to earn at least \$8,000 a year, the investors get the first (or preferential) \$8,000 and you get the next \$8,000.

"Now assume it takes two years to develop the center. And during the third year it is not fully rented, so it only breaks even. This table shows what happens:

Playing it cool. How does the builder find one of these marvels for a joint venture?

"He doesn't," Berman emphasizes. "They find him. They get in touch with a bank, lawyer or investment counsel here, tell him what they want and let him find a developer or builder.

"The main trouble is the foreigners are slow when you're getting a decision out of them. There's the delay with the intermediaries, and there's an ocean separating you.

"But if you can live with that, they can be very good partners."

Domestic arena. Slow motion is not the province of foreign investors alone, Berman was careful to advise:

"The big investors here—like major banks and insurance companies—take a while in making decisions and require the most thorough documentation. It becomes imperative to find out in advance which individual you'll be dealing with and how fast he can turn around with a decision.

"On the other hand, they give you the benefit of really large pools of money and enormous staying power. Life companies in particular can put money out

today and defer the return for years, if the return is right.

"In general, the smaller investors are, the faster they can move. Private investors are fastest and will go on the least documentation, but they generally require the highest return."

Exit from shelters. "An even more important change these days is the loss of interest in tax shelters," Berman explained. "Investors are looking for cash-on-cash return now, for two reasons.

"One is the talk of tax reform in Washington. No one can predict what will come out of that or when, but just the talk discourages people from investing.

"The other is the former over-emphasis on tax benefits. Investors bought in for tax shelter alone, and some didn't have viable ventures underlying the deal. Deals soured and investors got burned."

Healthy cynicism. Berman also talked about the problems most frequently encountered by joint-venture partners. The greatest threat, he stressed, is the risk of serious differences between the partners. The time to settle such differences, he counsels, is before the deal is signed.

"It's important to think through every part of the deal first from a cynic's point of view," he said. "Take each step and think about how it could misfire and what to do if it does.

"Murphy's law applies in this business: 'Whatever can go wrong will, and at the worst possible moment.'"

Tax benefits, for instance, have actually become a source of trouble between partners, Berman said:

"The participants tend to downgrade tax shelter now, and partners sometimes go to the opposite extreme and neglect the tax aspect of a deal. A builder should not overlook the question who gets what benefits."

Other pitfalls. Another trouble spot, Berman cautions, is management control—or each party's aim in the area he controls. He tells builders:

"Usually the builder makes management decisions. If the financial partner wants a say, find out why and find out what he's likely to do with his authority.

"Suppose you're going to build

Year	Return to investor	Year	Return to investor
1 (construction)	0	6	8,000
2 (construction)	0	7	8,000
3 (rent up)	0	8	8,000
4	\$8,000	9	8,000
5	8,000	10	8,000

Total: \$56,000

"In effect, the money costs you, the developer, 5.6% over the decade. Where can you buy cheaper money today?"

Concessions. "The developer gives up some of the residential benefits on resale and refinancing," Berman concedes, "but the developer has no obligation to repay the investor's money at any specific date, nor has he the obligation to pay the investor 8% if the job doesn't make 8%.

"That's why I say the joint venture offers the developer the cheapest money he can buy today. It is equity money that does not have to be repaid, does not get a guaranteed return and still costs only a fraction of mortgage money."

A large concrete mixer truck is shown from a high angle, pouring concrete into a large wooden form on the ground. The form is shaped like the words "SAY WHEN." in a stylized, blocky font. A construction worker in a hard hat and dark clothing stands next to the truck, guiding the chute. The truck has the number "53" on its side and "Nico" on the drum. The scene is set on a flat, light-colored surface, possibly a construction site or a studio floor, with long shadows cast across it.

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What the energy problem means to a builder and what he can do to survive it.

The energy problem, a matter of concern to everyone, is a matter of *vital* concern to the builder.

Already, in some areas around the country, there are prohibitions and restrictions on the use of gas and fuel oil for heating. And this situation is intensifying all the time.

What can the builder do to meet it?

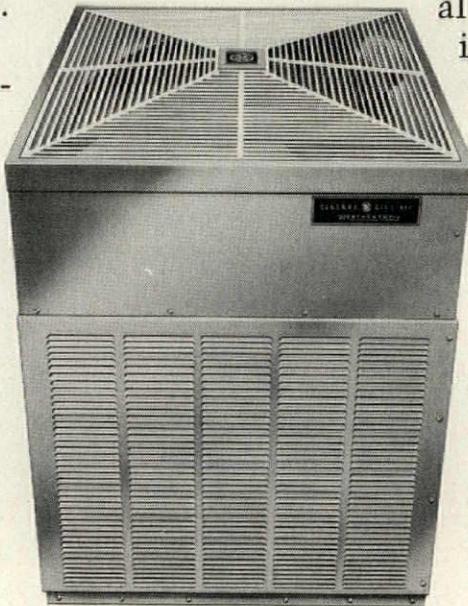
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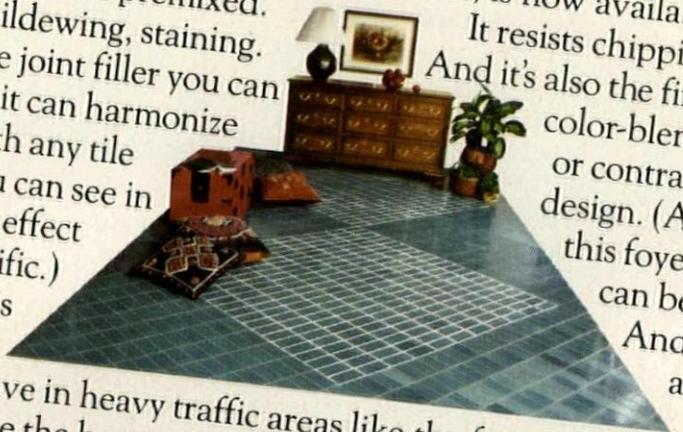
Now we didn't ask the magazine for an endorsement. So we were pleased to see ceramic tile used in most of the baths shown.

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CIRCLE 19 ON READER SERVICE CARD

That big Indonesian housing deal? Well, Jakarta says, 'Never heard of it'

Back in October, these pages reported the startling claim of two little-known companies that they had a deal to barter 1½ million prefab houses to Indonesia for 10 million acres of that country's hardwood timber.

The houses themselves supposedly had properties scarcely less startling: made of a mysterious polyester-based substance, they were said to resist corrosion, fire, heat, termites and sulfuric acid. And the bare shells were to cost only \$4 a square foot to produce.

The first shipments to Indonesia by Amoeba International Trading Corp. and Skylight Homes Ltd., the companies involved, were scheduled "within two months," that is, by the end of 1973.

No shipments . . . Well, the shipments didn't come off in 1973—and haven't since.

W.C. Edwards, president of Amoeba, says the companies ran into some problems: materials shortages, financing woes, lack of shipping and rising costs. (The shells, he says, are now up to

\$4.75/sq. ft.)

... And no deal. Our own correspondent in Jakarta, Judith Bird Williams, dropped over to the Indonesian government's offices recently and turned up another problem Edwards did not mention. No one there seems to have heard of Edwards' company, or his houses or his monu-

mental homes-for-timber deal. At least, no one in the responsible housing agencies or lending agencies has. The universal response of the bureaucrats, says Miss Williams, is "blank looks."

Indeed, officials there say they are unaware of any timber deal of that magnitude at all, either with Amoeba, Skylight or any-

one else.

Similar checks in the U.S. found the same unawareness of the Edwards story among officials at the Indonesian embassy in Washington and the consulates in New York and San Francisco.

Nor has another search been able to turn up the Ford International Inc. of Los Angeles that Edwards said helped negotiate the contract.

Confronted with these non-findings, Edwards backtracked a bit. He then said that the contract, written in the name of Skylight Homes, "blew up" late in 1973 due to the influence of an "outsider." He would not say whom he had dealt with in the Indonesian government, or who the "outsider" was, but said that he planned to go to that country "within 10 days" in an attempt to "reactivate" the contract.

The one thing Edwards does have is a material that appears to do what he says it does (though we must take his word on its cost).

—H.S.

Who does the venturing—and with what?

Joint ventures can become highly sophisticated and complex, but their essence is simple:

The builder contributes his skills and the investor adds the money, and they split the profits.

Here's a sampling of companies that have arranged joint ventures in the last two years.

- United Artists Theatre Circuit and Comprehensive Communities in a 400-unit condominium project in Fort Lauderdale, Fla.

- Foremost-McKesson and Amfac in a 1,400-acre planned community in Florida.

- Cerro Corp. and Curland Construction in a custom-house project in Florida.

- Maui Land and Pineapple Co. and the Hawaiian Housing Authority in a \$5½ million housing project for residents of moderate income.

- Ford Motor Credit and Cousins Properties in a planned community on 1,300 acres in Atlanta.

- Mercantile Bancorporation and Crow, Pope & Land in a \$150 million commercial and residential development in St. Louis.

Big companies quitting housing? Joint venturers still coming in strong . . . continued

FROM PAGE 16

and manage an apartment project, but the insurance company wants to control leasing. You want maximum rental income, because that's your payoff. But maybe he'll lower rentals to attract the strongest credit risks and the most renewals because he wants safety of income.

"That could be trouble, and the time to settle it is before you sign, not after you're renting."

Restrictions. Another new problem area concerns agreements barring a developer from going into competitive projects.

"It's easy to find yourself with your hands tied in such an agreement," Berman warns the developer. "And it's especially important to define your terms. Say you build a shopping center. If you want to build another 12 miles away, would it be competitive with the first? You and your partner must have an agreement on such points—in writing."

Partner study. Berman insists a builder should make a feasibility study of his partner as well as the project.

"You want to know the investor's objectives," the lawyer explains. "Is he looking for a short-

term return or a long-term investment? And do his aims mesh with yours?"

"You want to know his style of conducting business. Will the money you need come out when you need it? Can you live with a partner who paperworks a deal to death? And—how is the personal chemistry between the two of you."

"What will he do if the project runs into zoning or ecological flak and he finds his name in the newspapers? Is he going to back out?"

Here to stay. None of these problems should discourage anyone about the future of joint venturing, Berman maintains. They're solvable, and that's why builders and investors keep getting together this way, even when other modes of sophisticated investing fall into disfavor. His prognosis is positive in the extreme:

"Joint ventures have been around since the days of the Phoenicians—there are records to prove that—and they probably always will be, as long as there are complementary business interests."

—HAROLD SENEKER

Shakeout looms for trusts . . . continued

FROM PAGE 12

The chief of a trust linked to one of New York's biggest banks points to another cure—restricting access to the business. "In 1971," he says, "the damned investment bankers were putting these things out like they were coming from a baloney machine." He suspects, in fact, that the trusts "are working their way toward some kind of government chartering."

A Standard and Poor's vice president, Russell Frazier, has a program to turn the flamboyant REITs into something akin to finance companies specializing in real estate. He would have them adopt a more conservative lending policy, shift their present four-to-one debt to equity ratio down to three- or two-to-one, and above all lengthen the

average maturity of their debt. Says Frazier:

"If the debt is not due for twenty years, one bad year can't do them in." —STAN WILSON
McGraw-Hill World News,
Washington

New undersecretary

James L. Mitchell, 37, has been appointed to the HUD undersecretary's post vacated when Floyd Hyde resigned as the department's no. 2 man [News, April].

Mitchell followed Secretary James Lynn over from the Department of Commerce, where he was an aide to Lynn while Lynn was undersecretary. Mitchell served as general counsel for HUD until Hyde's post opened.



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How can you slant your advertising towards a specific market?

Where is the prospect in today's tougher market, and what new advertising approaches will bring him out?

Public Relations

Can a good PR program make an ad campaign more effective?

What are some of the new ways to use the media?

How can you make referrals really work?

What kinds of communications are most effective after a prospect has visited your project?

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How much do you need to spend to have an effective sales office?

What kind of sales office should you have—Permanent? Movable? Model? Garage? Nothing?

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How do you create graphics that make the sales area and the models more appealing?

How can you control traffic in the sales and model area?

Model Presentation

How can you minimize model-area costs?

How much should you spend to decorate your models?

When don't you need to decorate?

What colors turn buyers on—and off?

How can you make one model do the work of many?

Sales and Sales Training

What motivates today's buyers, and how can these motivations be turned into an effective sales program?

What criteria should you use in determining how to compensate your sales staff?

Which face-to-face sales techniques are most likely to give results?

How do you train and motivate your sales staff to sell **your** product?

What monitoring systems can you use to make sure your salesmen are performing at their peak?

How can your salesmen reach your prospects most efficiently in today's fuel-shy economy?

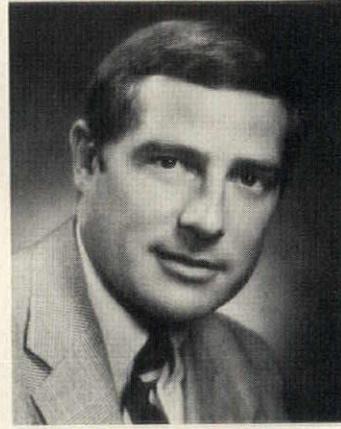
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Bayne A. Sparks is vice president, communications for Santa Anita Consolidated, whose homebuilding subsidiary, Grant Corp., is one of the country's major developers. Formerly, as corporate vice president of marketing for Grant Corp., he supervised the firm's marketing and merchandising operations in Northern and Southern California, Nevada, Arizona and Hawaii. Before joining Grant Corp., Mr. Sparks directed marketing and sales operations for Coronado Cays and for Rancho Bernardo, well-known projects in the San Diego area.



W. E. Mitchell is president and senior associate of Market Profiles, a marketing, merchandising, sales and research consulting firm. Previously, he was director of residential marketing for Walker & Lee, Inc., one of the West's largest residential real-estate firms, and later became general sales manager for Deane Brothers, Inc., a builder widely respected as one of the most creative marketeers in the country. Market Profiles was formed in 1968.



Jack Risbrough is founder and head of Jack Risbrough Associates, a consulting firm that provides comprehensive marketing services specially designed for the small and medium-volume builder. Before founding his own firm he held a number of key marketing positions: general sales manager of a division of American Housing Guild, project manager for Deane Brothers, Inc., national marketing vice president of J. H. Snyder, Co., and national marketing vice president of Deane & Deane, Inc. He is currently Region II chairman of the Sales and Marketing Council of NAHB.



Dave Stone is president of The Stone Institute, Inc., a market and management consulting firm with offices in California, Minnesota, Missouri and Washington, D.C. He has been both a realtor and a builder, and served as general manager of Stone & Schulte Inc., a realty firm that represented many of the San Francisco Bay Area's most successful builders. He is best known as homebuilding's leading expert on sales and sales training; over the last 20 years he has lectured on these subjects to more than 100,000 industry people in 50 states, and he has authored eight books on real-estate selling.



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Complaints about FHA prompt probe of Illinois mortgage banking industry

Governor Daniel Walker of Illinois has responded to Chicago citizens' complaints about blockbusting and redlining in FHA and VA-insured neighborhoods by announcing that he will appoint a commission to investigate the state's mortgage banking industry.

Taken by surprise, the mortgage bankers speculate that the governor may be mounting an effort to license them. Said Earl S. Belofsky, president of the Chicago Mortgage Bankers Assn.: "Even though mortgage bankers have particularly little to do with single-family homes, over 99% of the single-family mortgages in the neighborhoods in question are FHA- and VA-insured." And he said Chicagoans are now attributing redlining, blockbusting, abandonment and foreclosures to the mortgage industry because mortgage bankers must certify all FHA and VA loans. (Redlining is the practice of placing a neighborhood out of bounds for mortgage lending.)

Opposing views. "They're picking on the mortgage bankers now because they tried it with the real estate brokers and it didn't work and they tried it with the builders and it didn't work," Belofsky also said.

While Belofsky asks, "How do you counter slander?" Nancy Schlaes, assistant to the governor in Chicago, explains: "Community groups have come to the governor with problems that in their own mind focus on the mortgage bankers. While the governor has no opinions as yet on the mortgage industry, he intends to appoint a panel to look into the home-financing problems. It's possible that the panel's findings could lead to licensing."

Mrs. Schlaes said the state has already gotten savings and loan associations, banks and real estate investment trusts to agree to prohibitions against redlining, and she added: "The idea is to make financial institutions more responsible to the needs of the citizens."

"Because the FHA requires the mortgage bankers to certify their loans, there's a tremendous amount of responsibility for the mortgage bankers and no one has control of that segment of the industry. The mortgage bankers are the only part of the mortgage



MORTGAGE MEN'S BELOFSKY
Responds to governor

industry that is not regulated."

Resistance. Any attempt at licensing would be received unfavorably by the industry.

"Auditing and governmental supervision on a federal or local level have been in the offing for a long time," said Clarke Stayman, a senior vice president of First Chicago Corp. and a national authority on mortgage banking. "I can't see what it would accomplish, and I don't

know if there is anything to be accomplished. If a person comes in for an FHA loan, in my judgment of the law, just because the neighborhood might not like those people, the mortgage banker is not there to decide who lives where. If he took these considerations upon himself he could be in deep trouble under civil rights laws.

"There's a great misunderstanding of mortgage bankers. People think they make the loan but, really, the mortgage bankers are only intermediaries. Banks are audited and mortgage bankers' credits are gone over by bank examiners, so an audit system already exists in the banking system."

Other voices. Some Chicago mortgage bankers echo Stayman's feelings. Others cite varying reasons for FHA's trouble.

"The problem with FHA

stems from the fact that it does not underwrite loans from a business standpoint but underwrites from a social standpoint," said William Melzer, vice president of Great Lakes Mortgage Corp. "This is the problem, and it's national. It has led to the difficulties in Newark, Detroit, Philadelphia and Chicago. The FHA is trying to do a job that no one knows how to accomplish."

Blame for outsiders. More than one Chicago mortgage banker has suggested that a major cause of the foreclosure of 2,000 FHA units was the activity of out-of-state companies.

"That's not to say that they are doing anything illegal," said one Chicago mortgage banker, "yet they have sales offices without the collection services to go along. When something goes wrong with an FHA loan, which happens often, they're too far away to deal with the situation."

Officials of Weyerhaeuser Mortgage, a Los Angeles company operating in Chicago, deny that there is any major problem for the out-of-state mortgage banker in servicing, however.

"Perhaps there is a problem sometimes in that people don't know we're located here and they try to deal with our Los Angeles office," a spokesman said. "But if they come to us, we can handle most problems."

Reaction. Belofsky says his association will cooperate with any investigative panel appointed by the governor, but other mortgage bankers are rankled by the whole idea of the inquiry.

In an editorial, "Mobs Win Round Against Bankers," one real estate trade paper, *Chicago-Land's Real Estate Advertiser*, said:

"There is no denying that neighborhood groups have a right to be heard and the governor justifiably lent them his ear. However, no evidence has been displayed that he attempted to commune with mortgage bankers before concluding that a panel of investigators is justified.

"Governor Walker would do well to dust himself well with a branch of fleabane. His commission will have no better luck in uncovering dirt than did his real estate examining committee."

—MIKE KOLBENSCHLAG
McGraw-Hill News, Chicago

The O'Leary second-half forecast

Residential expenditures are expected to decline 11.2% in 1974 due to a weak first half. However, we expect that housing will make a gradual recovery in the second half as mortgage credit becomes much more readily available and possibly as the volume of government-subsidized housing

increases. For 1974 we are estimating 1.7 million starts compared with 2.1 million last year ... We have ahead a marked easing in the availability of mortgage credit as the flow of funds into savings institutions increases strongly with the decline of short-term interest rates. At the same time there should be a significant reduction in mortgage-financing demand, at least through the first half or first three quarters. Consequently I would expect some easing of mortgage-interest rates during the next several months, possibly a decline of up to one half of 1%. During the past year the average cost of funds to the savings institutions has risen appreciably so that they will resist lowering rates to homebuyers. In the case of savings banks, for example, if home-mortgage rates decline much from current levels there will be a shift of funds into bonds or mortgages on income properties. The S&Ls, if not satisfied with home-mortgage yields, will use their increased flow of funds to repay advances from the Home Loan Banks. Accordingly, I expect that there will be a large increase in availability of home-mortgage credit but that the decline in home-mortgage rates will be comparatively modest.



U. S. TRUST'S O'LEARY
'Some easing of mortgage rates'

—JAMES J. O'LEARY

Vice Chairman, U. S. Trust Co., New York City

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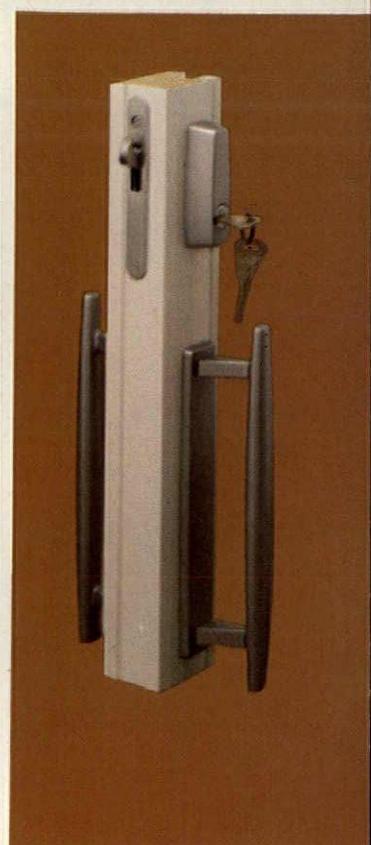
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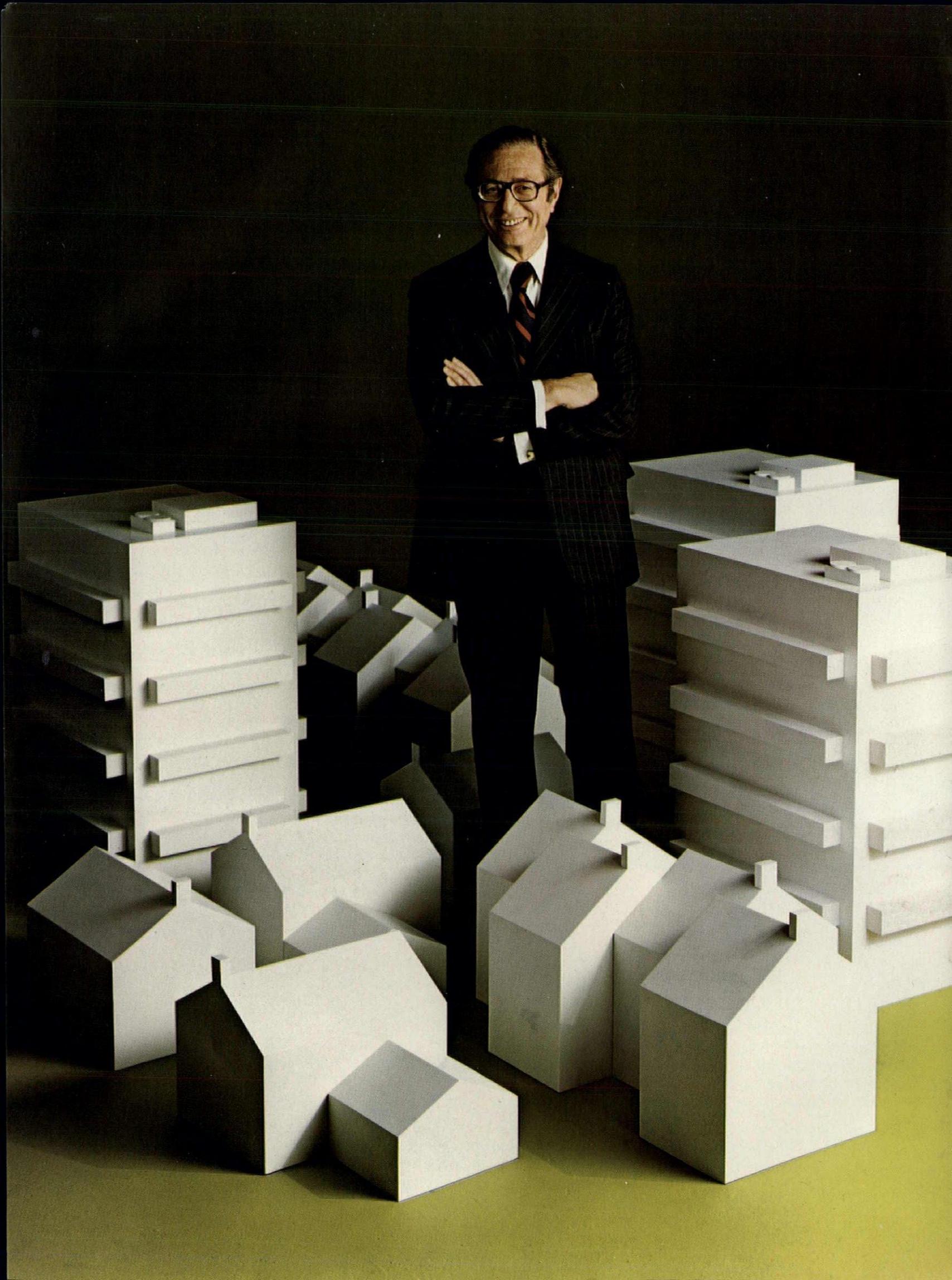
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“We’re the leader in this vital industry. Our people and our ideas have been growing, moving, changing every day of our busy corporate life.

“I’m very proud of our people. They’re dedicated professionals who are always trying to find better ways to help you. And their varied business backgrounds, careful selection, and meticulous

training, I think, offer you expertise second to none.

“We’ve brought together innovative thinkers and recognized leaders from the fields of finance, insurance, and business. By seeking new and better ways to do their jobs, these key MGIC people have greatly contributed to the growth and profitability of home financing.

“Our constantly growing force of field representatives reflects this same attitude. They’re trained by a management team with unequalled depth of experience—men whom I like to think of as the ‘professors of private mortgage insurance.’ With this comprehensive training, when an MGIC representative first comes to see you, he’s fully qualified to help.

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“MGIC Mortgage Corp. helps stabilize a lender’s money cycles by bringing a new source of outside funds to the home financing market—both through the buying of current mortgages and through future buying commitments.

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“Our latest innovation is the Secondary Market Conference & Exposition held recently in Los Angeles.

“This unique meeting brought together in one location both secondary market sellers and mortgage investors. Many on-the-spot transactions took place, and contacts were established for more in the future.

“These innovations—and more to come—will help achieve greater stability and profitability for the lending industry, so that home ownership in America may continue to enjoy healthy growth.”

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Stockholders sue troubled Larwin Group on charge officers rigged the books

The Larwin Group Inc., the CNA subsidiary homebuilder that has already had its troubles with consumer backlash and no-growth legislation, has just been accused of fraud and book-juggling in a class-action suit.

Two Illinois CNA shareholders have filed a \$45 million derivative class-action suit charging that Larwin's chairman, Lawrence Weinberg, and other officers purposely inflated the earnings for Larwin between the time of its 1969 merger with CNA and 1971.

The suit says the defendants' aim was to take advantage of a five-year earn-out agreement with CNA, which was settled before Larwin's good fortunes suddenly reversed. The earn-out was an incentive agreement by CNA to distribute CNA shares to Larwin officers and affiliates on the basis of adjusted earnings year by year.

The action was filed in Federal court in CNA Financial's headquarters city of Chicago. Larwin's headquarters are in Beverly Hills, Calif.

Hands off. The parent company is standing back from the suit for the present. While CNA is also charged by shareholders with participating in the fraud, it now appears that its own attorneys could go with either side—depending on how the evidence develops in a discovery process that is expected to be prolonged. Says Weinberg:

"This is the first time I've ever been personally sued... All I can say is that the suit is completely without merit."

The shareholders claim ownership of 1,600 CNA shares, and they charge violations of SEC prohibitions against using the mails or interstate commerce for fraud.

The action cites Weinberg and his brother William, a former company officer; President Richard Weiss; Senior Vice President Michael Tenzer and three other past and present Larwin officials, and CNA. All are charged with scheming to defraud CNA by:

- Establishing and maintaining falsely inflated valuations of Larwin properties.
- Accelerating property sales and depleting Larwin inventories.
- Engaging in construction,



CHAIRMAN WEINBERG
They're co-defendants...



PRESIDENT WEISS
...in stockholder suit

marketing and other business practices that inflated the apparent profits of Larwin while concealing "reasonably foreseeable" liabilities and losses.

Lying alleged. The suit says that, by making "untrue statements of material facts" and by omitting "material facts necessary in order to make the statements [that were] made," the defendants "temporarily accelerated sales and income in the period 1969 through 1972." The action contends the defendants knew of troubles that would follow for Larwin.

Weinberg and others are also charged with discontinuing multifamily, recreational and urban housing programs without prior warning, even though they knew of "undisclosed difficulties"—until "after the additional contingent shares (of stock) were distributed and the divisions were suddenly discontinued in 1973."

Losses. Larwin said in a report to the SEC in April '73 that it discontinued the three lines of business because of "government actions" and "inflationary exposure to cost escalation and other factors."

Revenues lost in 1973 from the three operations amounted to \$106 million dollars. In addition, Larwin wrote off \$4.1 million because of a plan by Oxnard, a community in Ventura County, Calif., to designate Larwin land as open space and to prevent anything but agricultural development until at least 1990. Add the fact that Larwin's sales of single-family housing units fell from 3,972 in 1972 to 3,452 last year, and the year's record looks even more dismal.

Suspicious. Attorneys for the shareholders, who won't say how large the suing group is, are pointing to the abrupt change in Larwin's fortunes and to the company's rosy housing-market

projections as suspicious *per se*.

"That sort of turnaround is inconceivable," said one attorney. "You don't have to have great inside information to figure it out. Selling houses is not like selling groceries. You damn well have a pretty good idea what your losses are going to be."

The earn-out provisions are not uncommon. In this case, CNA promised to distribute to Larwin officers and affiliates a number of shares proportionate to Larwin's increase in earnings from 1969 to 1973, to a maximum 3.75 million shares. The figures speak for themselves. In 1969, Larwin's base adjusted earnings needed for the earn-out were \$5.8 million, and when the company earned \$7.6 million in 1969, officials got more than a million shares of CNA stock. The \$7.6 million then became the new base, but earnings were \$2.7 million below that in 1970, so no shares were distributed.

In 1971, however, the company earned \$16.3 million, and the 2.4 million shares given to Larwin that year brought the company close to the limit. So CNA officials worked out a compromise to clean up the entire earn-out in three years instead of five. They granted Larwin officers another 107,897 shares, and hence got out for 140,000 less than the five-year maximum.

Second thoughts. In fact, Larwin would never have reached the limit. In 1972, the company's net dropped 31% and last year Larwin had a net after-tax loss of \$19.8 million, counting discontinued businesses and an extraordinary loss. "In retrospect," said a CNA officer, "maybe the earn-out wasn't such a good idea." He went on:

"It's common to have earn-outs when you want to have incentive compensations. But by increasing the capital (of Lar-

win), you're enabling Larwin to make more money. It's a two masters situation, and CNA made the settlement because it looked like a good one and we had been working to some extent at cross purposes."

The CNA executive also said that projections about the housing market in 1972 were overly optimistic: "We were predicting continued good years . . . but maybe, in a cyclical type of business such as housing, this wasn't the best way to handle it."

Another CNA official said, however: "There were reasonable grounds for everything we did."

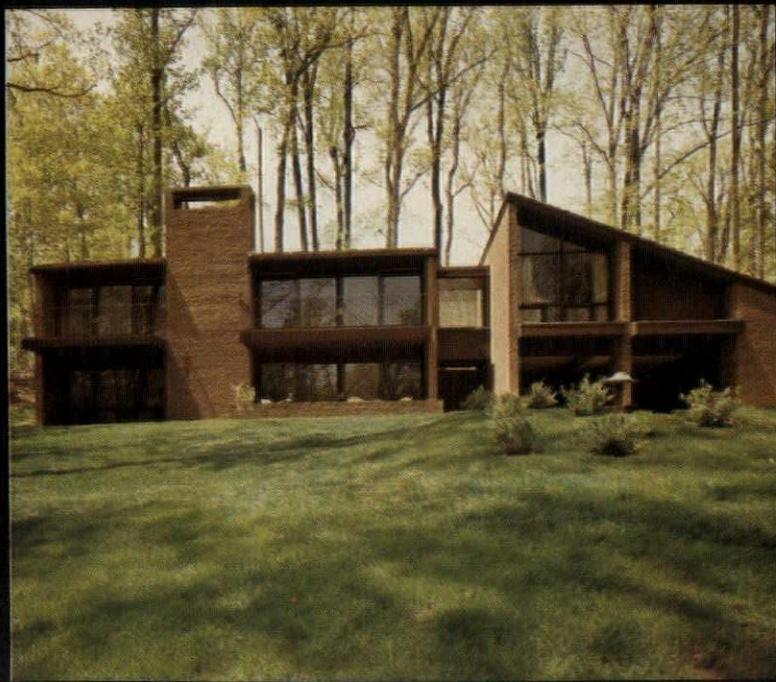
Larwin's outlook. Weinberg, who says he can't talk about the suit directly, did say the lion's share of Larwin's problems are "behind us," that most forecasters are predicting a turnaround in the 1974 housing market, and that Larwin is "doing some special things that we hope will give us a competitive edge."

At Larwin's annual meeting in Beverly Hills, Calif. in March, Weinberg recited the litany of problems that stalled the company in the doldrums. Announcing that the Larwin Realty & Mortgage Trust was distributing 100% of net income in dividends, Weinberg pointed to the "difficult" money climate and added that "specifically, the intermediate and long-term mortgage trusts saw an environment in which short-term rates moved much faster than long-term commercial rates."

Weinberg said in an interview that inflation and the energy crisis worked against the Larwin Group's growth, but he told shareholders that the mortgage trust has still managed to increase its bank lines of credit to \$20 million and had obtained a \$10-million loan that was "indicative of the lending community's high level of confidence in Larwin."

Parent's stand. Attorneys for CNA have told the SEC that they don't expect that damages will be sought against CNA itself (although CNA is named in the suit). One former CNA officer who opposed the earn-out arrangement even said the Larwin suit probably has "little merit," based on his knowledge of the persons involved. But he added

TO PAGE 40



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LOF

GAC Corp. to refund \$17 million on sales of lots—some of them under water

The nation's land developers have suddenly learned that Washington now has two tough agencies policing the industry's sales practices on behalf of the consumer—HUD's office of interstate land sales registration and the Federal Trade Commission.

The usually placid FTC has just arranged for a penalty of up to \$17 million against GAC Corp. of Miami, which runs one of the largest land-sales operations in the country. It was GAC that bought Gulf American Corporation's extensive land holdings in Florida and Arizona in 1969.

The company has signed an FTC consent order providing for \$2.8 million in refunds to thousands of lot buyers who defaulted on payments due under their sales contracts. And GAC will also offer an exchange of acreage to 11,000 buyers of lots FTC found to be of little or no use or value. These exchanges could cost \$14 million. That is the cost to the company of the subdivision plots it will offer in exchange for swampy lots including some that "when we saw them . . . were under water," according to J. Thomas Rosch, director of FTC's bureau of consumer protection.

Wider inquiry. The 24-page complaint against GAC and the 39-page consent order are the most dramatic end product thus far of the FTC's investigation of 30 land development companies, some larger than GAC, Roach said.

The GAC subdivisions mentioned in the FTC order include Rio Rico in Arizona and nine others in Florida—Barefoot Bay, Cape Coral, Golden Gate, Golden Gate Estates, North Golden Gate, Poinciana, Remuda Ranch Grants, River Ranch Acres and River Ranch Shores. The order requires GAC to offer to many purchasers of lots in River Ranch acres and Remuda Ranch Grants property in other subdivisions, and it requires GAC to undertake a redevelopment program at Golden Gate Estates.

A company statement said that the refund and lot exchange provisions of the order "are in effect voluntary benefits to customers over and above (GAC's) legal operations" which the

company was "happy to agree to" after "determining the cost of these benefits to be within acceptable limits."

Further liability. The FTC's order—signed by the presidents of GAC Corp., the holding company and subsidiaries GAC Properties and GAC Properties of Arizona—won't become final until after May 24. The FTC is circulating the order for comments. After studying these, the commission says, it could withdraw "its acceptance of the agreement" if it isn't satisfied.

Under FTC's order, GAC is prohibited from using "false, misleading, deceptive and unfair practices" in selling land. It must clearly disclose in contracts the uncertainty of the future value

of the land, the difficulty of reselling it and suggest that the purchaser get professional real estate advice. It must allow a ten-day cooling-off period during which a buyer can cancel his purchase contract with full refund rights. And it must discontinue the misrepresentation of the qualities, characteristics or state of present or planned development.

Company's stand. Under the order, GAC Corp. does not admit that any of FTC's findings are true or that it has violated any law. However, if the order becomes final, any violation of the order's terms could result in a civil penalty of \$10,000 per violation.

The GAC statement said that

Stockholders' suit accuses Larwin's officers of rigging books . . . continued

FROM PAGE 36

that the terms of the merger had invited trouble.

"If you loan to a subsidiary, as CNA did with Larwin, you're working at cross purposes," he explained. "The subsidiary benefits from the loan, but you increase the price you paid to acquire it." In the merger, CNA agreed to loan Larwin up to \$20 million from 1969 to 1971.

Criticism. A Larwin official blamed CNA in part. He said the parent invited its problems by allowing Larwin to count the sale of any real estate as profit for the earn-out.

"That made no sense," he said. "The common assumption was that some land sales were motivated by the earn-out."

"Consumer problems, resulting from throwing up units as fast as possible, also stemmed from that agreement."

Customer troubles. Larwin's problems were aggravated last year when they settled a homeowners suit out of court by buying back 71 suburban Chicago homes for \$2 million. There has since been a lot of criticism of Larwin by former employees, and there is a suggestion that Larwin ignored good in-house counsel and other advice on its consumer problems. Said one former worker: "When consumerism hit Larwin, I suggested a way they might want to go, but

they ignored it. So I left." A Midwest builder said Larwin came to Illinois without first studying the market and the land characteristics.

Merger target. In spite of Larwin's troubles, CNA was the target of a merger attempt by Gulf Oil. That effort failed, but the SEC has now been advised another approach is being made by Loews Corp. of New York City, a diversified holding company with tobacco and real estate holdings. A Swiss insurance combine has also shown interest.

—DENNIS CHASE
McGraw-Hill World News,
Chicago

Factory-built homes win interstate accord

The State of Washington has just signed reciprocity agreements with California and Indiana covering factory-built housing, including mobile homes.

Similar pacts—with exceptions written in—have been reached with all the major local jurisdictions in Alaska as well.

Oregon and Idaho also have such an agreement, reportedly reached with the help of the Trailer Coach Assn., Anaheim, Calif. And Gail Ferry, assistant chief of factory-built housing for the State of Washington, says: "I expect a couple, three more agreements this year."

the company "has operated completely within all local, state and federal regulations" and that it cooperated fully with the FTC during the 2½ years the proceedings against it had been under way.

The corporation said that it had already charged \$1.5 million against 1973 operations to pay for the \$2.8 million in refunds, and that the impact of the decree would not have "any material impact on the future economic condition of the company."

HUD's complaint. On March 28, two days after the FTC announced its action against GAC, the corporation settled a proceeding brought against it by HUD's office of interstate land sales. The office said GAC was in violation of its regulations by failing to amend its property report (which must be given to all customers) to reflect an adverse change in the corporation's financial position.

A GAC proxy statement in December said that if the company was unable to sell a subsidiary, GAC Finance Inc., it might not be able to pay outstanding loans and might then be threatened with bankruptcy. The sale was later completed by the board of directors for \$100 million.

The HUD action could have led to a suspension of GAC sales until the adverse financial information was included in the property report.

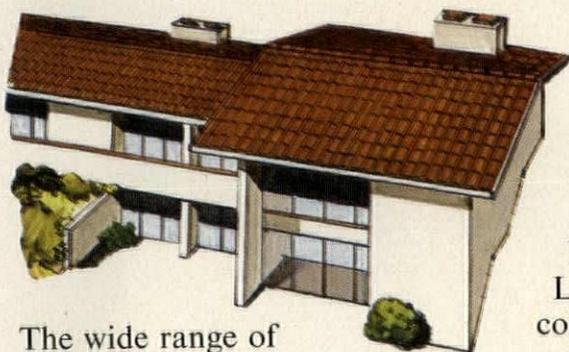
Disclosure pact. Under the settlement signed by S.H. Wills, GAC's chairman, and George K. Bernstein, HUD's administrator of the office of interstate land sales, GAC's property reports will reflect the updated financial information and the company's signing of the FTC consent order. Further, anyone purchasing property after March 27 and prior to receiving the amended property report will have the option to void his sale and receive a refund.

Bernstein said the agreement should set a precedent for other developers, noting that "GAC apparently has enough faith in the quality of its product to offer a money-back guaranty during this interim period." It will be difficult for other developers faced with similar proceedings, Bernstein said, "to do less than GAC."

—D.L.

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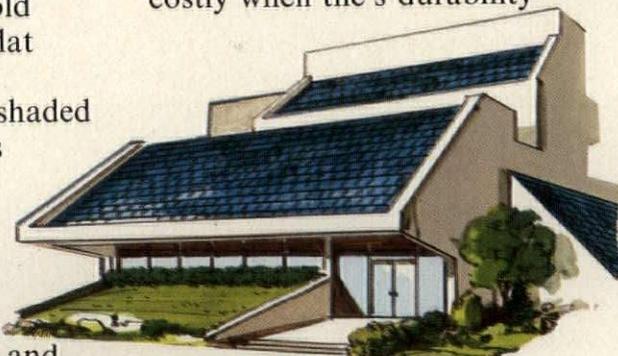
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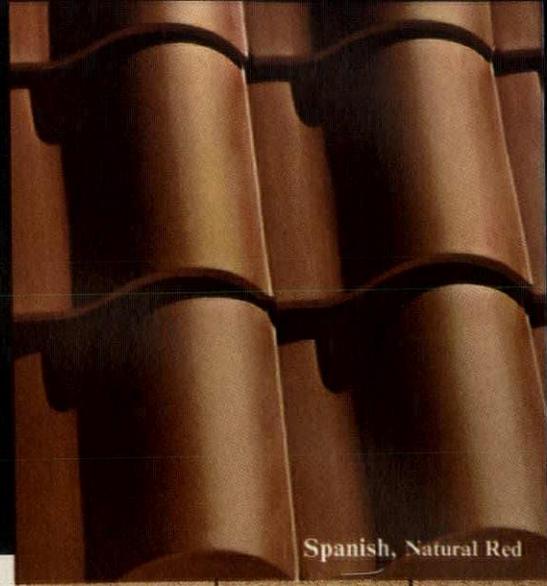
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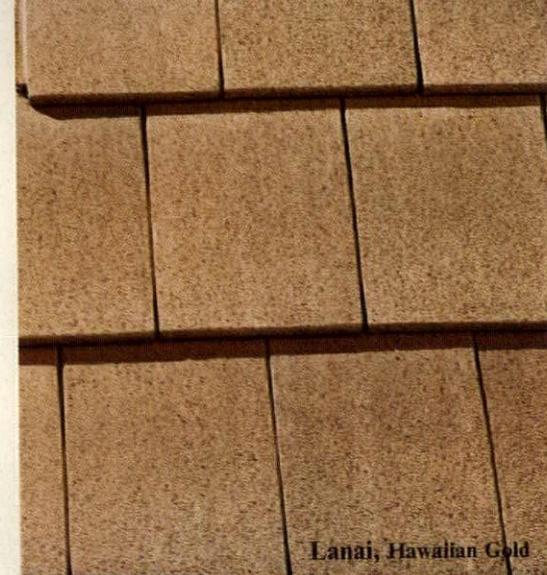


and economy are projected over the life of the structure.

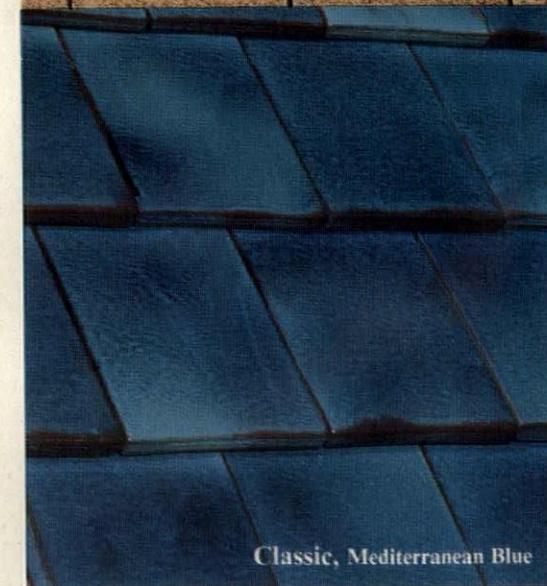
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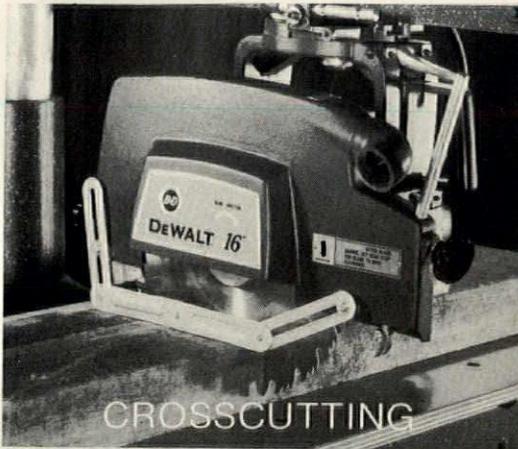
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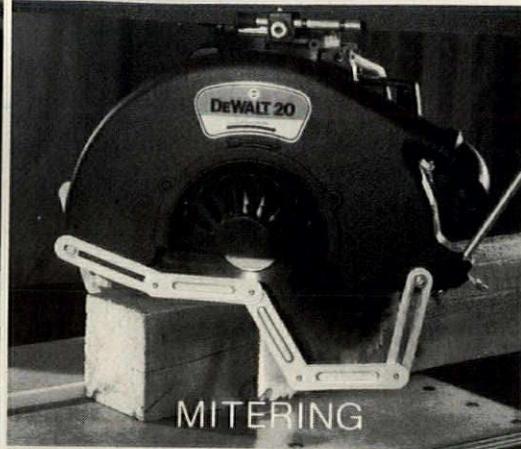
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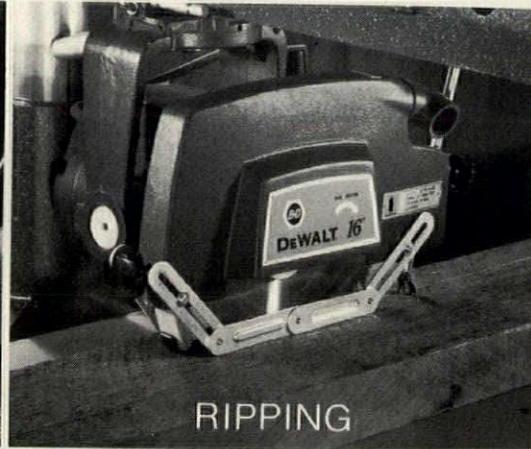
Versatile and powerful... DeWalt Super Duty 16's and 20's



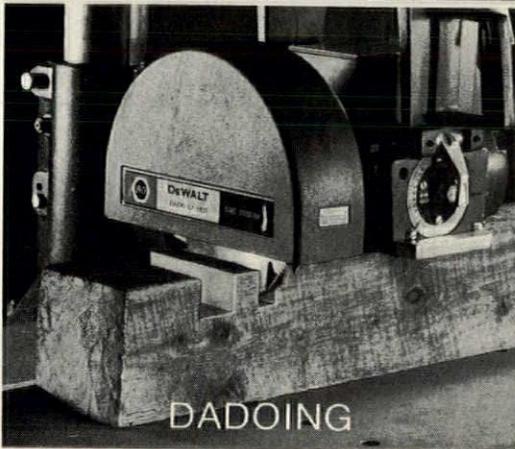
CROSSCUTTING



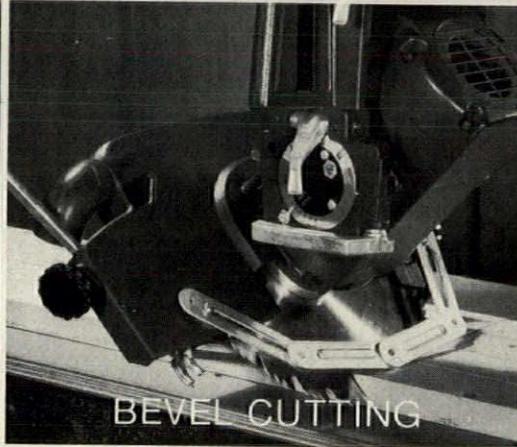
MITERING



RIPPING



DADOING



BEVEL CUTTING



RAFTER NOTCHING

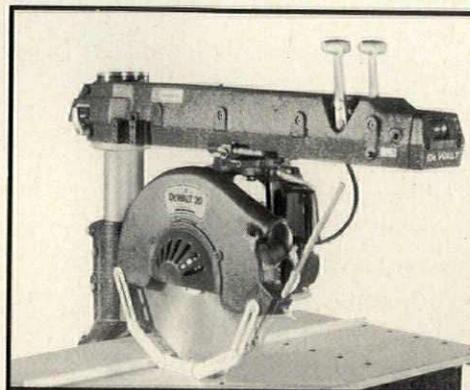
CAPACITY. DeWalt Super Duty 16's and 20's have more capacity than any other radial arm saws. A ripping capacity to 48 $\frac{3}{4}$ " (you can rip a 96" panel in half). Miter capacity to 23". Cross cuts to 32" and The 20" has a depth of cut to 6 $\frac{1}{4}$ ", with lower guard.

POWER. DeWalt Super Duty 16's and 20's are powerful. DeWalt engineers and manufactures its own super duty motors to better handle the unique power requirements for continuous high production performance. These 5 H.P., Single phase and 7.5 H.P., Three phase, totally enclosed, fan-cooled, continuous duty motors have the power and capacity to handle every kind of heavy construction and millworking job. Like ploughing through 6" x 6"s, hogging 4" wide rafter notches and production dadoing to 3" deep.

REPEATABLE ACCURACY. DeWalt accuracy means precision cuts at any angle

... miter, bevel, rip, compound. It also means repetitive precision, cut after cut, year after year. DeWalt saws are fully adjustable to maintain their accuracy for life.

DURABILITY. DeWalt has a reputation for extraordinary durability. Our saws keep producing for years because of rigid construction... heavier steel frames and columns, rugged castings and the famous



DeWalt eight ball bearing rollerhead and precision machined tracks.

CONVENIENCE. Operator convenience is assured with these features that are standard on all DeWalt Super Duty's. Lower blade guard meets OSHA requirements. Exclusive automatic electro-mechanical brake stops the blade in seconds. Low voltage controls. Three-leg overload and low voltage protection which means that if saws stop due to overload or power failure, there is no danger of saw restarting until operator restarts it.

VERSATILITY. Capacity, power, accuracy, durability and convenience mean versatility... the reason why DeWalt is the leader in Super Duty radial arm saws for the construction and woodworking industries. They are part of the world's most complete line of radial arm saws—10", 12", 14", 16" and 20" models engineered and built for every application and budget.

B&D DeWalt®

Stationary Power Tools
A Division of the Black & Decker Mfg. Co.,
Lancaster, Pa. 17604

CIRCLE 42 ON READER SERVICE CARD

Bread, butter and Raygold kitchens

Olde Dominion



We know which side our bread is buttered.

We know you've got dozens of cabinets to pick from. Wood. Wood/plastic combinations. Cabinets with color. Cabinets without color. Cabinets with you-name-it finishes. Cabinets by the barrel full.

We know we've got to hold up our end of the deal for builders.

We do it with extraordinary cabinets like Olde Dominion. Cabinets that keep you ahead of the pack.

Cabinets with a helluva support team too.

Immediate delivery/quality construction/priced to fit your budget/styles, finishes, sizes, shapes galore/simple installation/national advertising.

And a strong distributor network with service when and where you need it.

So, one reason why so many builders are buying from us is Olde Dominion.

The other is Raygold itself. A company which knows which side its bread (and yours!) is buttered. And acts accordingly.



Raygold Division
Boise Cascade

Winchester, Virginia 22601

CIRCLE 43 ON READER SERVICE CARD

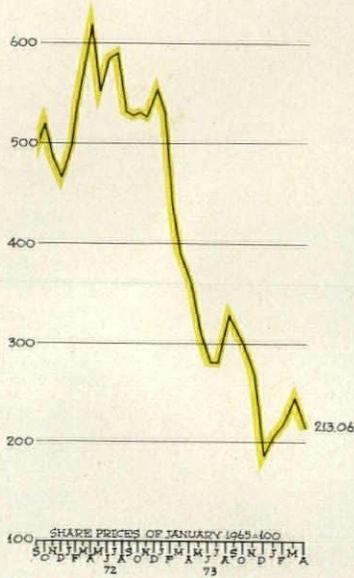
Mortgage stocks fall sharply, leading housing issue index downward

HOUSE & HOME's index of 25 stocks broke off a three-month advance and tumbled to 213.06, from 244.22, in the 30-day period ended April 2.

The mortgage companies' stocks led the decline, with savings and loan shares close behind. The shares of MGIC Investment lost 8½ points, to 32½, on the month.

Building and land-company stocks also gave ground, and the mobile homes alone managed a gain.

Here's the composite graph.



Here's how the five companies in each group performed.

	Apr. '73	Mar. '74	Apr. '74
Builders	323	199	190
Land develop.	220	142	130
Mortgage cos.	1,159	672	538
Mobile homes	675	444	449
S&Ls	149	139	115

Company	Apr. 2 Bid/Close	Chng. Prev. Month
BUILDING		
Alodex	OT 3/4	- 1/8
AVCO Comm. Devel.-d	PC 1 1/4	- 1/4
American Cont. Homes	OT 3 7/8	- 1/4
American Housing Sys.	OT 1 3/4	- 1/4
American Urban Corp.	OT 1 1/4	- 1/4
Bramalea Con. (Can.)	TR 7 3/4	+ 3/4
Campanelli Ind.	OT 3 1/4	- 2 1/4
(New America Ind.)		
Capital Divers (Can)-d	OT 32	- 01
Centex Corp.	NY 14 1/2	- 2 1/2
Cenvill Communities-d	AM 8 1/4	- 1/4
Cheezem Dev. Corp.	OT 2 1/4	- 1/4
Christiana Cos.	AM 1 7/8	- 5/8
Cons. Bldg. (Can.)	TR 3.65	+ 0.30
Dev. Corp. Amer.	AM 7 3/4	+ 3/4
Dev. Int. Corp.-d	OT 3 1/4	+ 1/4
Edwards Indus.	OT 2 1/2	- 1/2
First Builders Bancorp.-d	OT 3 1/4	- 1/4
First Hartford Corp.	AM 2	- 1/4
FPA Corp.-d	AM 7 3/4	+ 7/8
Carl Freeman Assoc.	OT 4 1/2	+ 1 1/2
Frouge Corp.-d	OT 4 1/4	- 1/4
General Builders	AM 1 1/4	- 1/4
Gil Development-d	OT 01	- 1/4
Hallcraft Homes-d	AM 1 1/4	- 1/2
Hoffman Rosner Corp.	OT 4 1/4	+ 2 1/4
Homewood Corp.	OT 4	- 2 1/2
Hunt Building Corp.	OT 2 1/2	- 1/4
Kaufman & Broad	NY 12 1/4	+ 1 1/4
Key Co.-d	AM 2 1/4	+ 1/4
Leisure Technology	AM 3 3/4	- 1/4
Lennar Corp.	AM 7 3/4	- 2 1/4
McCarthy Co.-d	PC 2 3/4	- 3/4
McKeon Const.	AM 2 1/2	- 1/4
H. Miller & Sons	AM 11 3/4	+ 2 1/4
Mitchell Energy & Dev.	AM 23 1/4	- 1

Company	Apr. 2 Bid/Close	Chng. Prev. Month
National Environment (Sprout Homes)	OT 1 3/4	- 3/8
L. B. Nelson Corp.-d	OT 1 3/4	- 1/4
Oriole Homes Corp.-d	AM 9 1/4	- 1/2
Prel. Corp.	AM 3 1/4	- 1/4
Presidential Realty	AM 9 1/4	- 1/4
Presley Development	AM 3 1/4	- 1/4
Pulte Home Corp.	AM 2 1/4	- 1/4
Radice Rlty. & Const.-d	OT 1	- 1/4
F. D. Rich Hous. Corp.-d	OT 7/8	- 1/4
Robino-Ladd Co.	AM 4 1/4	- 1/4
Rossmoor Corp.	AM 5 1/4	+ 3/8
Ryan Homes-d	AM 14 1/4	- 1/4
Ryland Group	OT 5 3/4	- 1/4
Shapel Industries	NY 10 3/4	- 1 1/4
Shelter Corp. of America	OT 7/8	- 1/4
Standard Pacific	AM 2 1/4	- 1/4
Universal House & Dev.-d	PC 1 3/4	- 1/4
U.S. Home Corp.	NY 6 1/4	- 1 1/2
Valley Forge Corp.	OT 1 3/4	+ 1/4
Washington Homes	OT 1 3/4	- 1/4
Del. E. Webb	NY 4 1/4	- 1/2
Webster Orbis	AM 9 1/16	- 1/4
Westchester Corp.	OT 1 1/2	- 1/4

SAVINGS & LOAN ASSNS.

American Fin. Corp.	OT 12	- 7/8
Calif. Fin.	NY 3 3/4	- 3/8
Empire Fin.	AM 8 1/2	+ 3/8
Far West Fin.	NY 8 1/4	- 2 1/8
Fin. Corp. of Santa Barb	AM 10 1/4	- 1 3/8
Fin. Fed.	NY 11 1/2	- 2 1/4
First Charter Fin.	NY 13 1/2	- 2 1/2
First Lincoln Fin.	OT 3 1/4	- 1/4
First S&L Shares	AM 12 1/2	- 2 1/4
First Surety	OT 3 3/4	- 3/8
First West Fin.	OT 2 1/4	- 1/4
Gibraltar Fin.	NY 13	- 3
Golden West Fin.	NY 10 1/4	- 4 1/8
Great West Fin.	NY 18 1/2	- 4
Hawthorne Fin.	OT 6 3/4	- 3/8
Imperial Corp.	NY 9 1/2	- 2 1/4
Trans World Fin.	NY 7	- 1
Union Fin.	AM 6 7/8	- 1 7/8
United Fin. Cal.	NY 7 1/2	- 2 1/4
Wesco Fin.	NY 14 7/8	+ 1/8

MORTGAGING

Charter Co.	NY 26 3/4	+ 2
CMI Investment Corp.	NY 19 3/4	- 6 1/4
Colwell	AM 5 1/4	- 1 3/4
Cont. Illinois Realty	NY 12 1/4	- 2 1/4
Fed Nat. Mtg. Assn.	NY 16 1/2	- 2 1/4
Financial Resources Gp (Globe Mortgage)	OT 1 3/4	- 1/4
FMIC Corp. (formerly First Mtg. Ins. Co.)	OT 8 3/4	- 2 3/4
Lomas & Net. Fin.	NY 10 1/4	- 1 1/4
MGIC Inv. Corp.	NY 32 1/4	- 8 1/2
Midwestern Fin.	AM 11 1/2	+ 1 1/4
Palomar Fin.	AM 2	- 3/8
Western Pac. Fin. Corp. (Formerly So. Cal. Mort. & Loan Corp.)	OT 1 1/2	- 1/4
UPI Corp.	AM 2	- 1/4
(United Imp. & Inv.)		

MORTGAGE INV. TRUSTS

Alison Mtg.	NY 19 3/4	- 3 1/4
American Century	AM 8	- 1 3/4
Arlen Property Invest.	OT 8	- 1 1/2
Atico Mtg.	NY 13 1/4	- 1 1/4
Baird & Warner	OT 11 1/2	- 2
Bank America Rlty.	OT 21 3/4	- 1 1/4
Barnes Mtg. Inv.	OT 12 1/4	- 3/4
Barnett Mtg. Tr.	NY 16 1/2	- 3 1/4
Beneficial Standard Mtg.	AM 16 3/4	- 2 1/4
BT Mort. Investors	NY 11	- 5 1/4
Builders Investment Gp.	NY 21 3/4	- 4 3/4
Cameron Brown	NY 8 1/4	- 1 1/4
Capitol Mortgage SBI	NY 14 3/4	- 2 1/2
Chase Manhattan	NY 30 1/4	- 7 3/4
CI Mortgage Group	NY 11 1/4	- 2 1/4
Citizens Mtg.	AM 12 3/4	- 1 1/4
Citizens & So. Rlty.	NY 24 1/4	- 2 1/4
Cleve. Trust Rlty. Inv.	OT 14 1/4	+ 3/4
Colwell Mtg. Trust	AM 15 1/2	- 4 1/2
Conn. General	NY 17 1/4	+ 1 1/2
Cont. Mtg. Investors	NY 6 1/4	- 1 1/4
Cousins Mtg. & Eq. Inv.	NY 18 3/4	- 2 1/2
Diversified Mtg. Inv.	NY 14 1/4	- 2
Equitable Life	NY 21	- 1 1/2
Fidelco Growth Inv.	AM 17 3/4	- 2 1/4
Fidelity Mtg.	NY 5 1/4	- 1
First Memphis Realty	OT 15 1/2	- 1 1/4
First Mtg. Investors	NY 6 1/4	- 1 1/4
First of Denver	AM 18 1/4	- 1 1/4
First Pennsylvania	NY 11 1/4	- 1 1/4
Franklin Realty	AM 4 1/4	- 1 1/4
Fraser Mtg.	OT 12	+ 1 1/2
Galbreath Mtg.	OT 10 1/2	+ 1
Gould Investors	AM 7 1/4	- 3/4
Great Amer. Mtg. Inv.	NY 14 1/4	- 15 1/4
Guardian Mtg.	AM 19 3/4	- 7 3/4
Gulf Mtg. & Rlty.	AM 12 1/2	- 2
Hamilton Inv.	OT 13 1/4	- 1 1/4
Heitman Mtg. Investors	AM 9 1/4	- 7/8
Hubbard R. E. Inv.	NY 17 1/4	- 2
ICM Realty	AM 14 1/2	+ 1 1/2
Larwin Mtg.	AM 9	- 2 3/4

Company	Apr. 2 Bid/Close	Chng. Prev. Month
Lincoln Mtg.	OT 3	+ 1/4
Mass Mutual Mtg. & Rlty.	NY 16 3/4	- 1
Mony Mtg. Inv.	NY 7 1/4	- 1/4
Mortgage Trust of Amer.	NY 9 1/4	- 1/2
National Mortgage Fund	NY 10 1/4	- 1/2
North Amer. Mtg. Inv.	NY 18 3/4	- 1 1/2
Northwest Mut. Life Mtg. & Rlty.	NY 21 3/4	- 2 1/4
PNB Mtg. Rlty. Inv.	NY 15 1/2	- 3/8
Palomar Mtg. Inv.	AM 5 1/4	- 3/8
Penn. R. E. Inv. Tr.	AM 11 1/4	+ 3 1/4
Property Capital	AM 12 1/4	- 3/8
Realty Income Tr.	AM 11 3/4	+ 1/4
Republic Mtg. Inv.	NY 11 1/4	- 7/8
B. F. Saul, R.E.I.T.	AM 10 1/2	- 1/2
Security Mtg. Investors	AM 5 1/4	- 1/4
Stadium Realty Tr.	OT 3	- 1/2
State Mutual SBI	NY 10 1/4	- 2 1/4
Sutro Mtg.	AM 8	- 3/8
Unionamerica Mtg. & Eq.	AM 9 3/4	- 3 3/4
U.S. Realty Inv.	AM 11 1/4	- 1 1/4
Wachovia Realty Inc.	NY 15 1/4	- 3
Wells Fargo Mortgage	NY 15 1/4	- 1 3/4

LAND DEVELOPERS

All-State Properties	OT 7 1/4	+ 1/4
AMREP Corp.	NY 3 3/4	+ 1/4
Arvida Corp.	OT 8 1/4	- 1 3/8
Atlantic Imp.-d	OT 5	- 1/4
Canaveral Int.-d	AM 1 1/4	- 1/4
Cavanagh Communities	NY 2 1/4	+ 1/8
Crawford Corp.	OT 5 1/2	+ 1/2
Dellona Corp.	NY 7	- 1 1/4
Disc. Inc. of Amer.	OT 1 1/4	- 1/4
Evans & Mitch. Ind.	OT 1 1/4	- 1/2
Fairfield Communities	OT 1 1/4	- 1/4
Gen. Development	NY 6	- 1
Getty Financial Corp.-d (Don the Beachcomber)	OT 3	+ 1/4
Holly Corp.	AM 1 1/4	- 1/4
Horizon Corp.	NY 5 1/4	- 1/2
Landmark Land Co. (Gulf State Land)	AM 2 1/4	- 1/4
Land Resources	OT 2	- 1/4
Major Realty	OT 4 1/2	- 1/4
McCulloch Oil	AM 6 3/4	- 3/8
South Rlty. Util.-d	AM 4 7/8	- 1/4

MOBILE HOMES & MODULES

Champion Home Bldrs.	AM 4 1/4	+ 1/4
Commodore Corp.	AM 1 1/4	+ 1/4
Concheco-d	AM 9 3/4	+ 5/8
De Rose Industries-d	AM 2 1/4	+ 1/4
Fleetwood	NY 7	- 3/4
Golden West	OT 3	+ 5/8
Moanco Corp. (Formerly Mobil Americana)	AM 1 3/4	- 1 1/4
Mobile Home Ind.	AM 5 1/4	- 1 1/4
Monarch Inc.	OT 2 1/2	- 1/4
Redman Ind.	NY 5 3/4	+ 1 1/2
Rex Noreco	NY 2 1/4	- 1/4
Skyline	NY 18	- 5 1/4
Town & Country	AM 2 1/2	- 3/8
Zimmer Homes	AM 3 1/2	- 3/8

Albee Homes-d	OT 1 1/4	- 1/4
ASM Ind.-d (Formerly AABCO)	OT 01	- 01
Brigadier Ind.	OT 2 3/4	+ 3/4
Environmental Commun.	OT 2 1/4	+ 1/2
Hodgson House	OT 1 3/4	- 1/4
Liberty Homes	OT 1 7/8	- 1/4
Lindal Cedar Homes	OT 3 1/4	+ 1/2
Nationwide Homes-d	AM 6 1/4	- 1/4
Shelter Resources	AM 3 1/4	- 1/4
Swift Industries	OT 1 1/4	- 1/4

DIVERSIFIED COMPANIES

Amer. Cyanamid	NY 23	- 1 1/4
Amer. Standard	NY 14 1/4	+ 1 1/8
Amterra Development-a	OT 1 7/8	- 1/4
Arlen Realty & Develop.	NY 3 3/4	- 3/4
AVCO Corp.	NY 6 1/4	- 1 1/4
Bethlehem Steel	NY 32 1/4	- 2 1/4
Boise Cascade	NY 16 1/4	- 7/8
Building & Land Tech.	OT 2 3/4	- 1/2
CNA Financial (Larwin)	NY 8 1/4	- 1/4
Castle & Cooke (Oceanic Prop.)	NY 14 3/4	- 1 1/2
CBS (Klingbell)	NY 33 1/2	+ 1 1/8
Champion Int. Corp. (U.S. Plywood-Champion)	NY 18	- 1 1/2
Christiana Securities	OT 159 1/2	+ 6 1/2
Citizens Financial-d	AM 3 1/4	+ 1/4
City Investing (Sterling Forest)	NY 11 3/4	+ 1 1/4
Corning Glass	NY 76 1/4	- 5 1/4
Cousins Properties	OT 14 3/4	+ 1 1/2
Davos Inc.	OT 3 1/4	+ 1/4
Dreyfus Corp. (Bert Smoker)	NY 8 1/4	- 1/4
Environmental Systems-d	OT 1 1/2	- 1/4
Evans Products	NY 10 7/8	- 1 1/8
Ferro Corp.	NY 21	+ 2 1/4
First Gen. Resources	OT 1 1/2	+ 1/4
First Rlty. Inv. Corp.	AM 4	- 1/4
Fishback & Moore	NY 42 3/4	- 1 1/2
Forest City Ent.	AM 6 1/4	- 1 1/4

Company	Apr. 2 Bid/Close	Chng. Prev. Month
Flagg Industries	AM 2 1/4	- 1/4
Frank Paxton Corp. (Builders Assistance Corp.)	OT 8 1/2	- 1/4
Fruehauf Corp.	NY 23	- 2
Fuqua Corp.	NY 8 1/4	+ 1/4
Georgia Pacific	NY 42 1/2	+ 5/8
Greatsock Products-d	AM 2 1/4	+ 1/4
Great Southwest Corp.-d	OT 1 1/4	- 1/4
Gulf Oil (Gulf Reston)	NY 22 3/4	+ 1/4
INA Corp. (M. J. Brock)	NY 34 3/4	- 2 1/8
Inland Steel (Scholz)	NY 28 3/4	- 1 1/2
International Basic Econ.	OT 2 1/4	- 1/4
International Paper	NY 50 3/4	+ 2 1/4
Inter. Tel. & Tel.	NY 22 1/2	- 4 3/4
Investors Funding-d	AM 2 1/4	- 1/4
Killearn Properties	AM 2 1/2	- 1/4
Leroy Corp.	OT 3 1/4	+ 1/4
Ludlow Corp.	NY 10 1/4	- 3/8
Monogram Industries	NY 5 1/2	+ 1/2
Monumental Corp. (Jos. Meyerhoff Org.)	OT 14 3/4	+ 1 1/4
Mountain States Fin. Corp.	OT 5 1/4	+ 1/2
National Homes	NY 2 1/4	+ 1/4
NEI Corp.	OT 2 1/4	- 1/2
Occidental Petroleum (Occ. Pet. Land & Dev.)	NY 9 1/2	- 1
Pacific Coast Prop.-d	AM 1 1/4	- 1/4
Perini Corp.	AM 7 1/4	+ 7/8
Philip Morris	NY 98 3/4	- 7 3/8
Pope & Talbot	NY 19 1/4	- 1 1/4
Republic Housing Corp.	AM 2 3/4	- 1/2
R		



**Potlatch has
a feel for
the barn board
look.**

**We call it
Weatherworn.[®]**

The first time you see Potlatch's dramatic Weatherworn plank paneling you'll probably touch it to see if it's "real." That's because we've totally captured the authentic weathered effect of ancient siding sculptured and toned by years of exposure to the elements.

You'll never lose that feeling—or the beautiful natural look Weatherworn brings to your home—inside or outside. Weatherworn's easy-to-handle individual boards make it the perfect choice for entry, walls, wainscote or ceiling—wherever you want that rugged country look.

Potlatch Weatherworn plank paneling can be specified for interior or exterior use; it's factory finished in weathered gray or black.

Weatherworn. The weathered look without the wait.

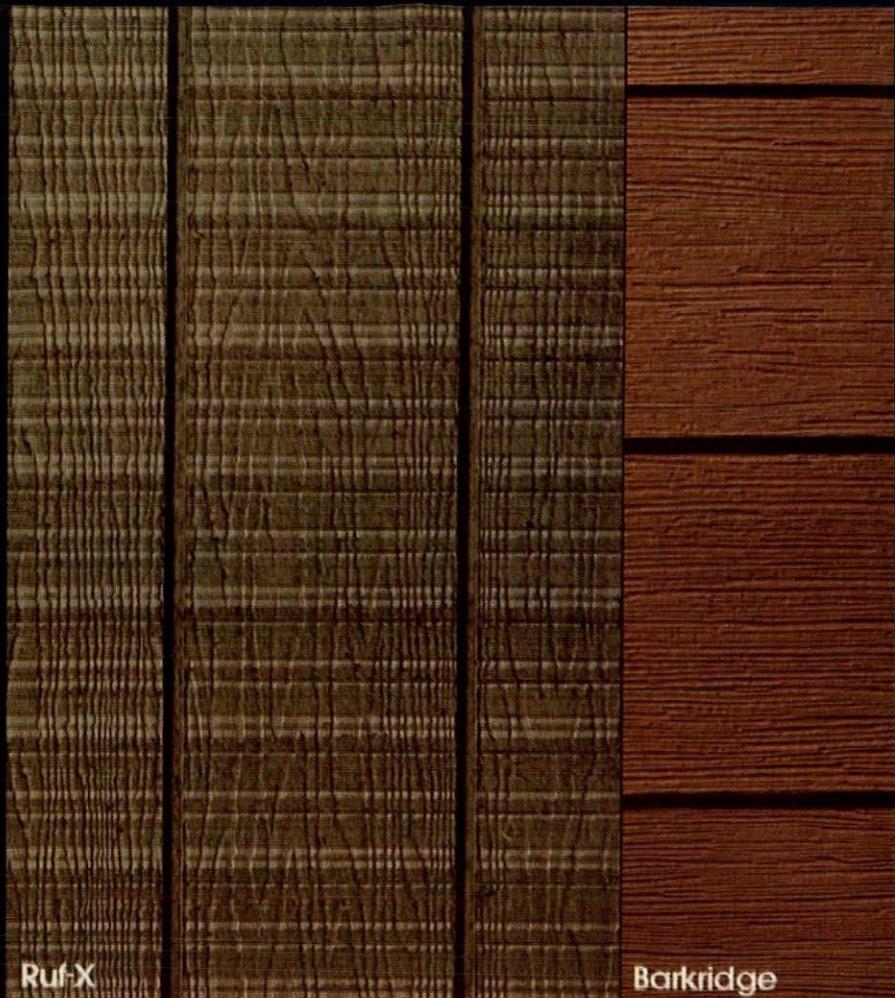


We know our way in the woods.

Potlatch

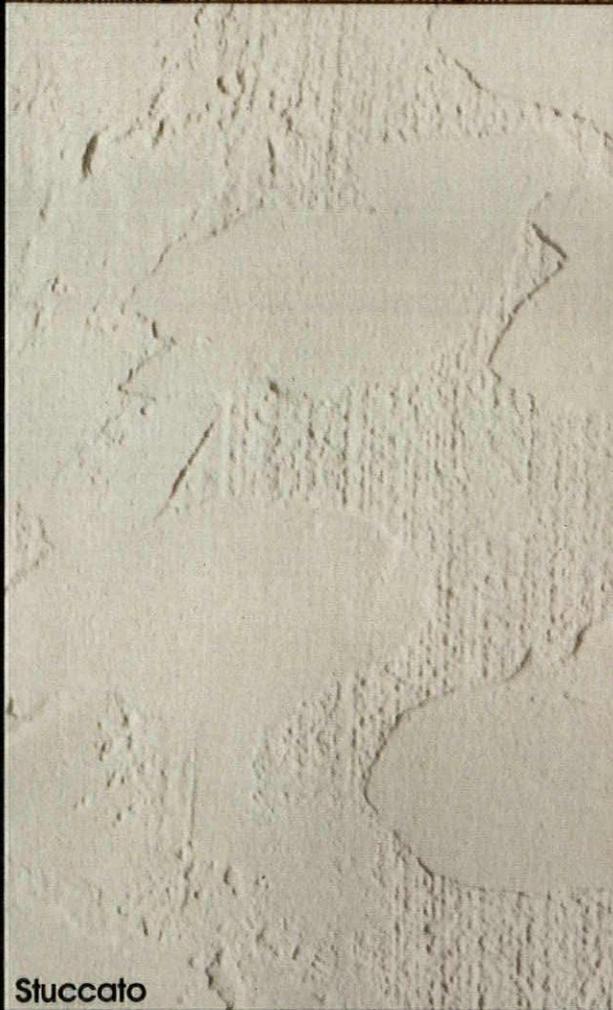
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CIRCLE 45 ON READER SERVICE CARD

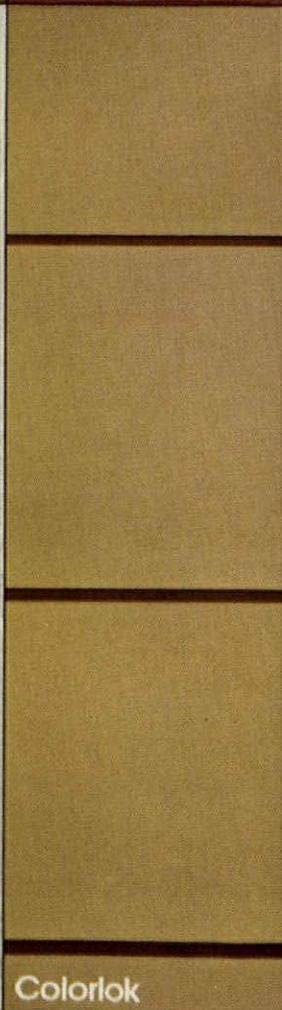


Ruf-X

Barkridge



Stuccato



Colorlok

**Choose sides
for fun
and profit.**



Ruf-X: Beautiful, rustic, rough-sawn appearance. Unprimed, primed or pre-stained in 12" x 16' lap siding or in three styles of 4' x 8' and 4' x 9' panels.

Barkridge: Deep bark-like texture. Unprimed, in 12" x 16' lap siding or 4' x 8' and 4' x 9' grooved panels.

Bayside: The informality of shingles or shakes in a 12" x 16' lap siding. Unprimed or in three pre-stained colors.

Stuccato: Authentic reproduction of skip-troweled stucco. Pre-painted white in 4' x 8' and 4' x 9' panels.

Colorlok: Five beautiful, durable pre-finished colors. Available in 12" and 9-3/8" x 16' lap siding. Also in 4' x 8' and 4' x 9' panels.

Woodsman Planked Panel: Faithful reproduction of rough cedar. Unprimed, primed and in three pre-stained colors. 4' x 8' and 4' x 9' panels.

Other Masonite exterior products include X-90 Lap and Panel Sidings, Panelgroove, V-Groove and Moonspot.

Bayside

The many types of hardboard sidings Masonite has to offer give you a big sales edge. You have a wide choice of different architectural styles, textures and sizes in primed, unprimed and prefinished surfaces to meet the needs of a single dwelling or an entire development.

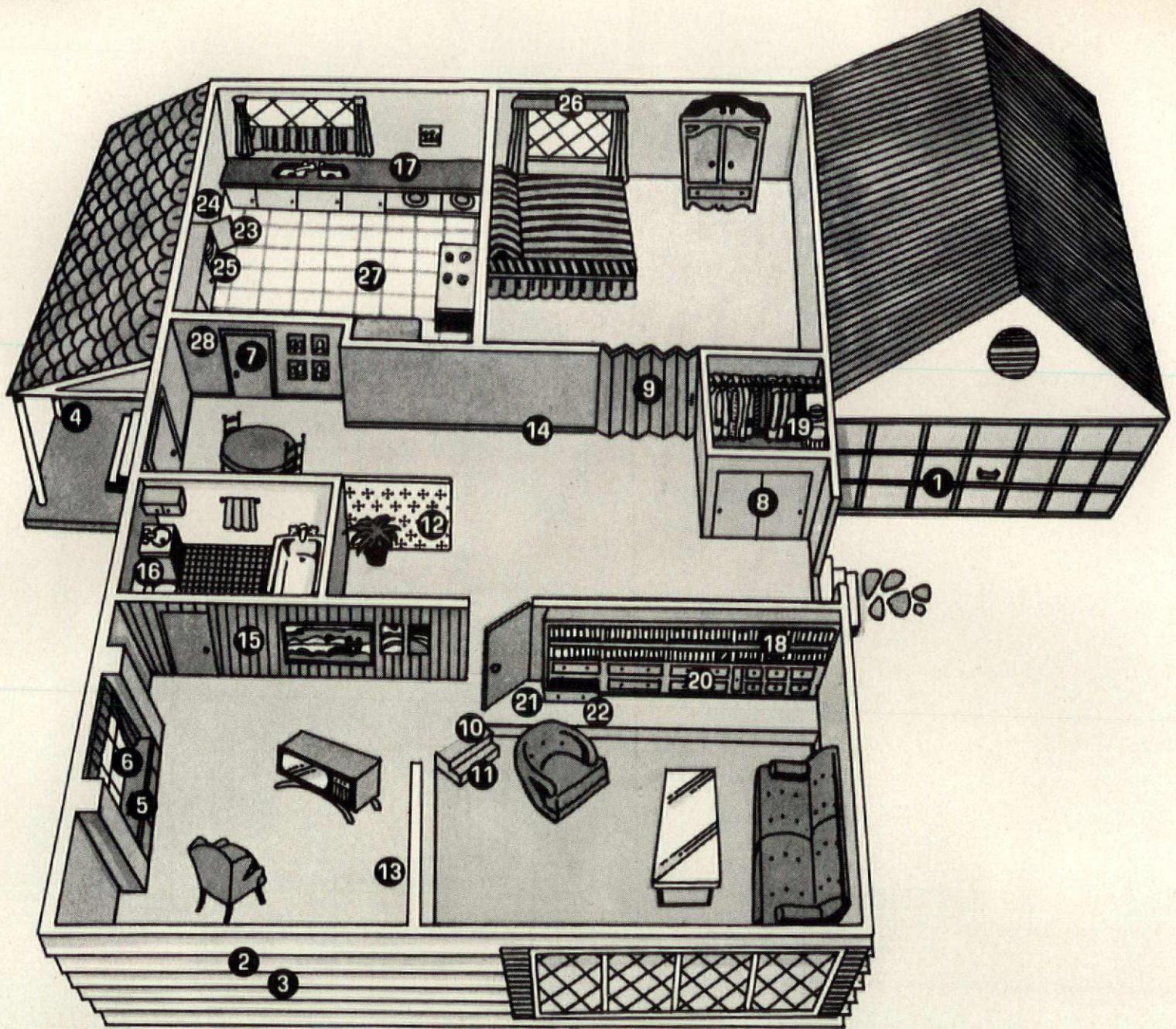
When you build with Masonite brand sidings, you build with beauty that lasts. These rugged hardboard sidings won't split or check. They're practically dentproof and unaffected by extremes in temperature. All are easily installed.

Let your Masonite representative help you select the best Masonite brand siding for your requirements. Or write: Masonite Corporation, Box 777, Chicago, Illinois 60690.

Masonite, Ruf-X, Barkridge, Bayside, Colorlok, X-90, and Moonspot are registered trademarks of Masonite Corporation.



Woodsman



Builders have found 28 uses for particleboard. How many benefit you?

Particleboard has become one of the biggest multiple-use products in building today. And smart builders know it. Whether they're using it on-site or buying products or components, they're specifying particleboard.

It's easy to see why. Particleboard is more readily available and can meet the most exacting standards of builders today.

It's easy to saw, machine and fasten. It has a smooth surface, is free of voids, and paints easily. Manufacturers and fabricators have learned how to use it for superior products as diverse as cabinets and molding.

If you've been using particleboard for traditional applications

only, like underlayment and shelving, it's time you took another look at multiple-use particleboard. And remember, particleboard underlayment manufactured by NPA members is grademarked by NPA and conforms to CS 236-66, your assurance of quality.

To help you, we've developed a free booklet that's yours for the asking. Just ask the National Particleboard Association, 2306 Perkins Place, Silver Spring, Md. 20910, for "MULTIPLE-USE PARTICLEBOARD."

MULTI-PURPOSE APPLICATIONS OF PARTICLEBOARD

- | | |
|------------------------|--------------------------|
| 1 Garage door panels | 15 Wall paneling |
| 2 Sheathing | 16 Vanities |
| 3 Siding | 17 Counter tops |
| 4 Soffits | 18 Book cases |
| 5 Window seats | 19 Closet shelves |
| 6 Window sills | 20 Drawer fronts |
| 7 Doors | 21 Drawer sides |
| 8 Sliding closet doors | 22 Drawer bottoms |
| 9 Bi-fold doors | 23 Kitchen cabinet doors |
| 10 Stair treads | 24 Kitchen cabinet sides |
| 11 Stair risers | 25 Kitchen shelving |
| 12 Partitions | 26 Valances |
| 13 Dividers | 27 Underlayment |
| 14 Molding | 28 Door jambs |

NPA Members: (those with asterisks manufacture underlayment)

American Forest Products Corp.*
Bohemia Inc.*
Boise Cascade Corp.*
Brooks-Willamette Corp.*
Collins Pine Co.
Duraflake South, Inc.*
A Willamette Industries Co.
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International Paper Co.*
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Louisiana Pacific Corp.*
Olinkraft, Inc.*
Ponderosa Products, Inc.*
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Rodman Industries, Inc.
Resinwood Division
Southwest Forest Industries*

Temple Industries, Inc.*
Tenex Division
The Pack River Co.
Timber Products Co.*
Union Camp Corp.*
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**National
Particleboard
Association**
2306 Perkins Place,
Silver Spring, Md. 20910

In these times of energy concern,

you'll be interested in what tests have shown about Therma-Tru doors.

In addition to the wood-look beauty of your Therma-Tru steel door entries and their weatherproof/warp-proof construction, one other important Therma-Tru difference is being pointed up by the energy crisis.

In independent testing, Therma-Tru's exclusive polyurethane injected core proved to offer twice the insulation (13.5 R Factor) of polystyrene-core doors, and four times that of wood!

Heat flow tests showed that while exterior temperatures were lowered to 20° below zero, the interior door surface dropped only 2°, to 68°F... dramatic proof of the insulating value of the polyurethane core.

What's more, there are Therma-Tru's total thermal break to stop cold transmission; the magnetic weather-stripping to seal the entrance refrigerator-tight; and the weather-tight seal at the sill. Therma-Tru keeps winter's heat *in* ... summer's heat *out* ... without a storm door.

For test data—and complete Therma-Tru entry details—contact your Therma-Tru distributor.



THERMA-TRU

Lake Shore Industries, Inc.
2806 N. Reynolds Road
Toledo, Ohio 43615
Phone (419) 531-1667

More and more people want more of a lock.

*Rugged, heavy-duty
locking mechanism.*

*Inside keying defeats an
attempt to cut small
opening and reach in
from outside
to open door.*

5 pin tumbler security.

*Solid steel collar shields
cylinder body; entire collar
revolves freely—prevents
gripping, twisting and
breaking the cylinder.*

*Two hardened steel inserts
concealed inside deadbolt;
can't be cut through
—they roll with the blade.*

*1" throw jimmy-proof deadbolt,
reaches deep into the door
frame to bar forced entry.*

And here's more of a lock.

Weslock

The Leader in Lock Ideas!

Builders on the move: Browning shifts upward in Dallas; some new vice presidents

West & Browning, building since 1970 in Dallas, becomes **Gordon D. Browning Inc.** with the amicable departure of **Charles West**.

Browning, now selling as Browning Homes, revamps product and image. Ads stress quality of homes, neighborhoods. He moves houses up into \$29,000-\$40,000 range; had competed in the popular \$19,000-\$28,000 bracket.

The shift looks successful so far: 96 sales on volume of \$3.5 million for first quarter, up from 51 sales on \$1.5 million in same 1973 period.

Other builders move up, too. Two companies in California name vice presidents.

The Irvine Co. gets two new senior veeps, **Thomas C. Wolff Jr.** for building and land development and Treasurer **Lansing E. Eberling** as chief financial officer. They and President **Raymond Watson** comprise executive management committee.

The Larwin Group makes **Monty G. Polson** vice president of marketing for southern Cali-

fornia. Before joining Larwin, he had been sales manager for Palm Properties and Galaxy Homes.

The Christiana Companies, meanwhile, shift **Raymond F. Logan** from his post as vice presi-

dent of sales to the job held by the late **James S. Moser Jr.**, v.p. of business development.



This Spanish contemporary is typical of the new Gordon D. Browning line of houses in the Dallas market. It sells at \$35,750 with three bedrooms or for \$37,750 with four.

Former FHA figure sentenced in fraud

William F. Pelski has pleaded guilty to conspiring to defraud the U.S. government. His sentence: 18 months in prison.

The former mayor of Pompano Beach, Fla. was director of the FHA office in Coral Gables, Fla. for two years until resignation in 1972. The Justice Dept. charged that he furnished names of builders seeking FHA commit-

ments to **Larry E. Williams**, former fund raiser for Florida's Senator **Edward Gurney**. Williams, the department said, then solicited "voluntary" contributions from the builders. He is serving a one-year sentence for related violations.

Senator Gurney has denied any knowledge of the Williams and Pelski actions.

\$100,000 certificate asked for S&L savers

The Federal Home Loan Bank Board has proposed to let savings and loan associations issue negotiable certificates of deposit to compete with commercial banks for the funds of large investors. The CDs would be issued in minimum denominations of \$100,000.

This is the second negotiable debt instrument the board would allow individual S&Ls to issue. The other is a subordinated debenture approved for use about a year ago for S&Ls that meet certain financial standards.

The S&L's presently issue CDs, but these are not negotiable and the investor pays a substantial penalty for cashing them before maturity. Negotiables could simply be sold to another investor if the original buyer wanted to liquidate. —D.H.

Wood and wood stains... made for each other

Cabot's STAINS

Shingles Clapboards
Siding Paneling
Decking

Florida home: Architect: Don Roban, Miami, Florida, Cabot's Stains throughout

All the exterior and interior wood surfaces of this magnificent home have been treated with Cabot's Stains. These stains, so easy to apply, penetrate deep into the wood, accent the grain, never crack, peel, or blister. A stained surface grows old gracefully; weathering actually enhances its beauty. Cabot's Stains beautify in a choice of 87 colors. For wood at its wonderful best, insist upon Cabot's Stains.

Cabot's Stains, the Original Stains and Standard for the Nation since 1877.

CIRCLE 51 ON READER SERVICE CARD

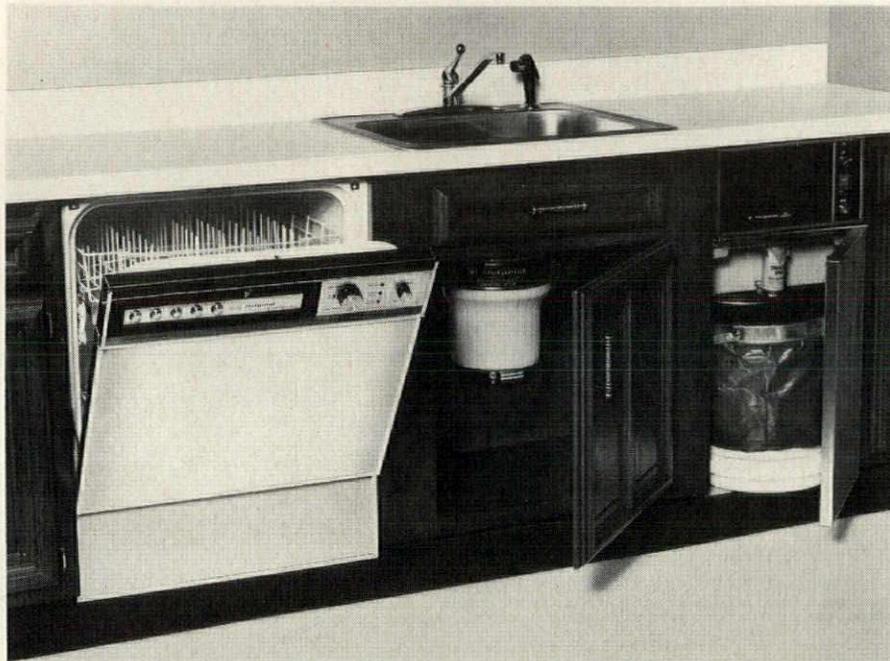


Samuel Cabot Inc.

One Union St., Dept. 530, Boston, Mass. 02108

- Send color card on Cabot's Stains
- Send color card on Cabot's Stain Wax
- 25¢ enclosed for Cabot handbook on stains

The built-in sales clincher: A Hotpoint Clean-Up Center in your kitchens.



HDA900

HMA750

HCH400

Nothing sells a woman quite like a luxury kitchen. And no one sells a husband quite like his wife!

So when you install Hotpoint Clean-Up Centers, you give them both a good reason to buy or rent.

In fact, three reasons:

Hotpoint Dishwashers

You offer your prospects the latest in kitchen convenience when you install a Whisper-Clean® dishwasher. Especially if it's our new Dish-Potwasher shown above.

Its special Dish and Pot Washer Cycle thoroughly cleans crusty pots, pans and casseroles. But that's only one of 11 cycle options that provide the right one for every load. And its new design means reduced operating sound and no pre-rinsing. Just tip off large and hard scraps.

Also, an optional black glass panel, available at extra cost, adds an extra touch of distinction. Or standard reversible color panels match the decor your buyers decide on.

Hotpoint's Trash Compactor

At a time when a sale could go either way, this added appliance may be all the help you need. It compresses the average weekly trash of a family of four into one neat carry-out bag. And our compactor also features reversible color panels.

Hotpoint Disposers

A sound-insulated Hotpoint Disposall® food waste disposer's stainless steel blades grind up a wide range of scraps, including large bones. And frees your buyers

from another messy chore—handling moist bags of garbage.

And where local codes allow, you can install both a Hotpoint disposer and dishwasher on the same 20 amp circuit. This can save you the cost of a 15 amp circuit.

The man to see: A Hotpoint Builder Representative

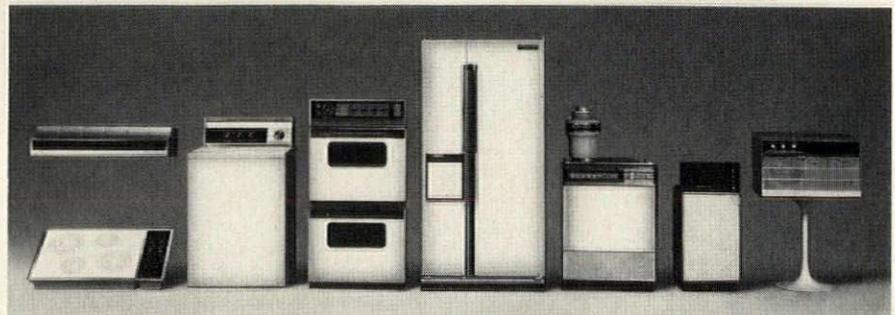
He can make sure everything runs smoothly from order long past installation. That includes arranging on-time deliveries and offering you our full range of builder services.

Like kitchen design assistance, promotion planning and extended service contracts.

He'll also give you the facts about the nationwide service network we're proud to call Customer Care... Everywhere™. And show you how it can take full service responsibility off your shoulders.

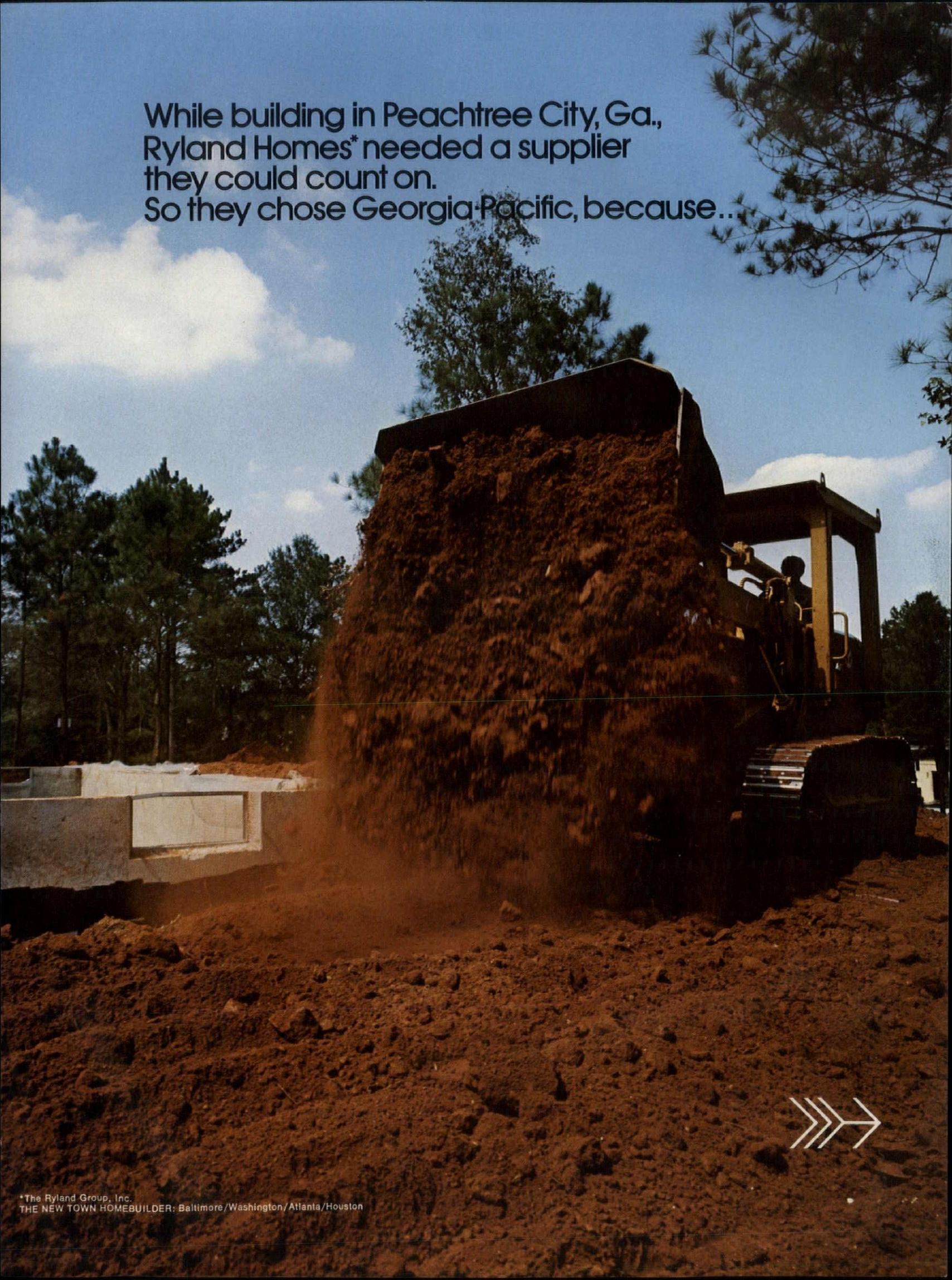
So get in touch with the man from Hotpoint. And he'll tell you how Hotpoint's Clean-Up Center can help you close more sales. It's a built-in reaction!

**The difference
is hustle.**



Hotpoint
A QUALITY PRODUCT OF GENERAL ELECTRIC COMPANY

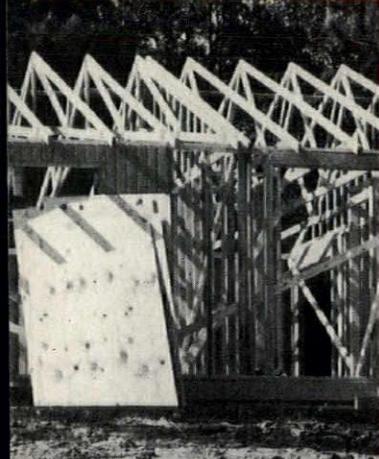
While building in Peachtree City, Ga.,
Ryland Homes* needed a supplier
they could count on.
So they chose Georgia-Pacific, because...



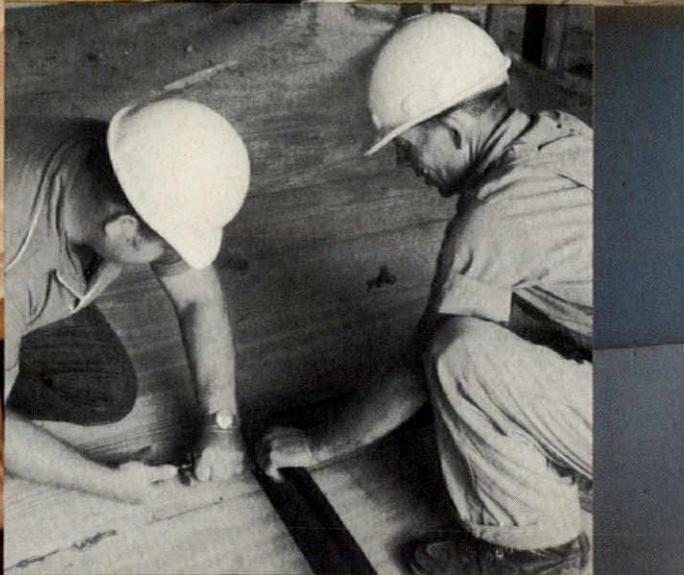
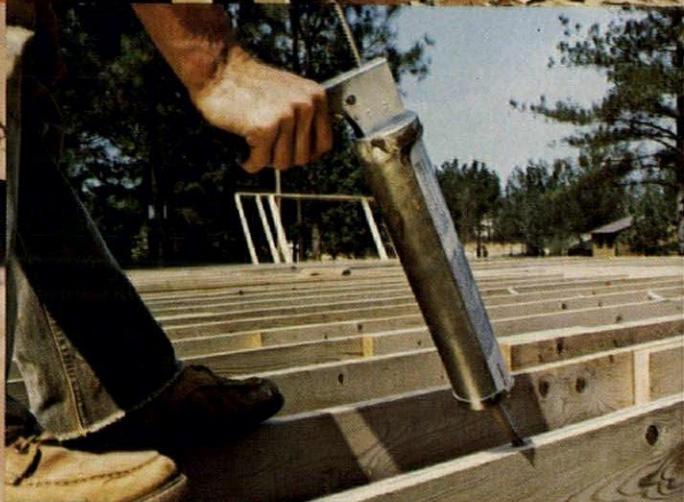
Georgia-Pacific makes Inside, outside. All around.



VINYL SHIELD PVC MOLDING



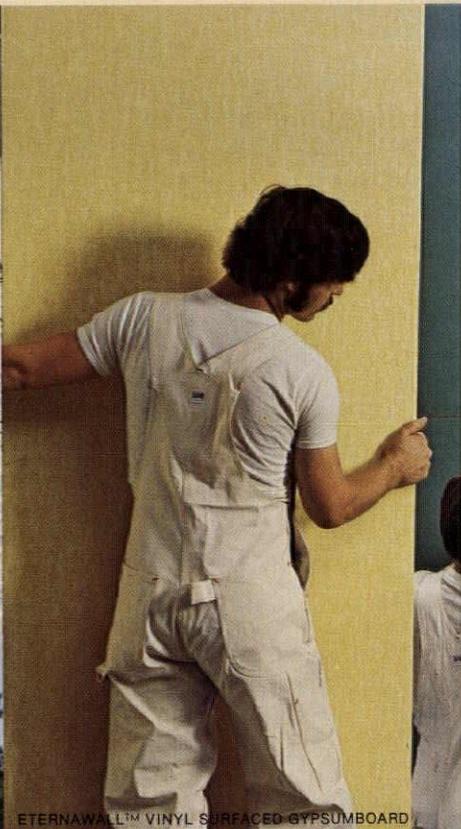
RENAISSANCE PANELING



Georgia-Pacific makes things happen!



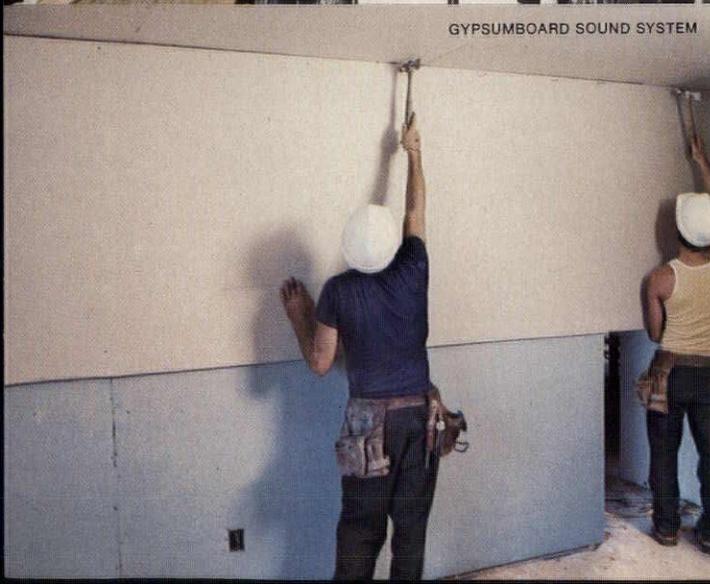
es things happen! und the house.



ETERNAWALL™ VINYL SURFACED GYPSUMBOARD



GYPSUMBOARD SOUND SYSTEM



Whatever you need, wherever you need it, you can rely on Georgia-Pacific.

Just ask Ryland Homes. They're building homes in Peachtree City, near Atlanta, Georgia, using G-P products from the ground up. And with 130 distribution centers nationwide, G-P can act as your one-stop shopping center for just about any basic building material.

See us for Dimensional Lumber. We carry a good inventory of dimensions, species and grades.

See us for **Underlayment**, either plywood or particleboard and we'll pass on a few hints about installation that can save you time and labor. See us for **Sound Systems** and take advantage of our 1/4" Gypsum Sound Deadening board and Firestop® gypsumboard. They can give you excellent STC ratings at a lower cost per thousand sq. ft. of wall area. See us for **Renaissance**® plywood paneling** for an antique look in a brand new room, or **Eternawall**™ colorful vinyl surfaced gypsumboard for easy-to-clean walls. See us for **Moldings**, especially G-P's new Vinyl Shield® molding (PVC) that nails, staples, paints and miters easily. See us for **Siding**. We've got all kinds—from plywood to hardwood to solid lumber to economical Cladwood™ siding. And we've got them in a variety of textures, patterns and prices.

For more information, check your Sweets Catalog. Or give your Georgia-Pacific sales representative a call. He'll help make things happen for you!

Simulated antique finish plywood 1/4" *Simulated woodgrain finish plywood 1/4"

He'll help make things happen for you!

For more information, check your Sweets Catalog. Or give your Georgia-Pacific sales representative a call. He'll help make things happen for you!

Simulated antique finish plywood 1/4" *Simulated woodgrain finish plywood 1/4"

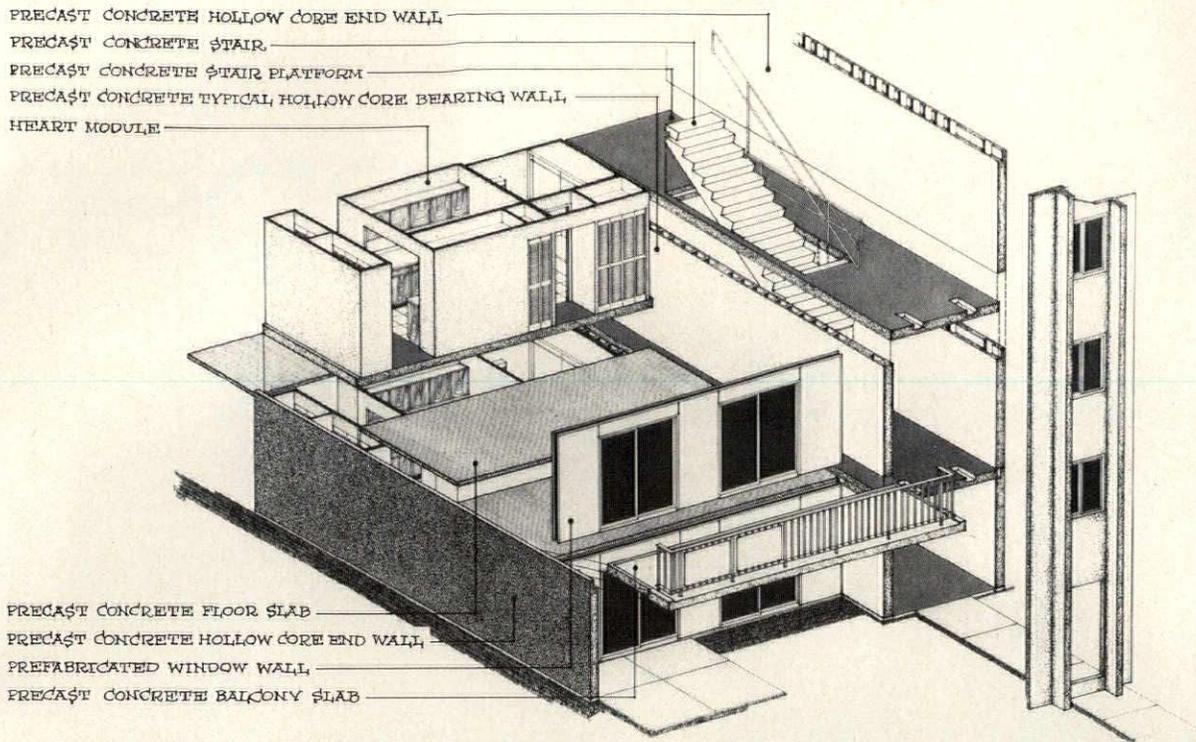
Georgia-Pacific

The Growth Company

Portland, Oregon 97204

CIRCLE 54 ON READER SERVICE CARD





This structural system combines pre-cast and poured-in-place concrete

It speeds construction by up to 30% primarily because there's no need to set up and strip formwork. And it tightens cost control and improves quality because the precast components, which also serve as the formwork, are produced under weather-free factory conditions.

So reports the system's developer, Forest City-Dillon Inc. of Akron, Ohio. The company, a division of Cleveland's Forest City Enterprises, claims no cost savings, however, and simply says costs are competitive with those of conventional construction methods.

Two types of precast components are used: 1) hollow-core, load-bearing wall panels and 2) thin floor-and-ceiling slabs.

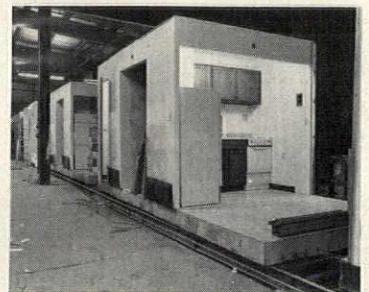
In the factory, the wall panels and the ceiling sides of the slabs get a smooth finish suitable for painting without resurfacing, and the floor sides of the slabs are roughened to make for a tight bond with poured concrete.

At the site, panels and slabs are erected and reinforcing installed as shown in the drawings below. Then concrete is poured over the slabs and into the wall panel cores, locking the slabs and panels together into a single

monolithic structure.

Along with the pre-cast components, Forest City-Dillon uses three factory-built subsystems: 1) the bathroom and kitchen core shown at right, 2) an elevator system (pre-cast shaft, car and rooftop motor enclosure), 3) a penthouse containing heating, hot water, air conditioning and other mechanical equipment.

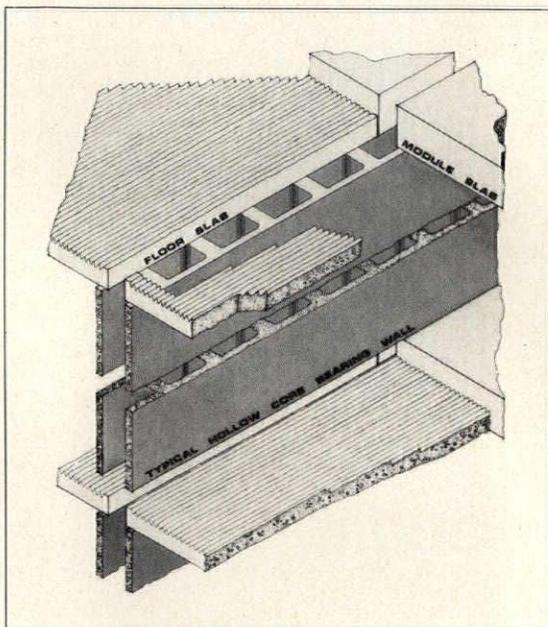
The Forest City-Dillon system, an Operation Breakthrough winner (see page 9), grew out of the company's interest in producing subsidized housing for the elderly, but has also been used for other highrise building.



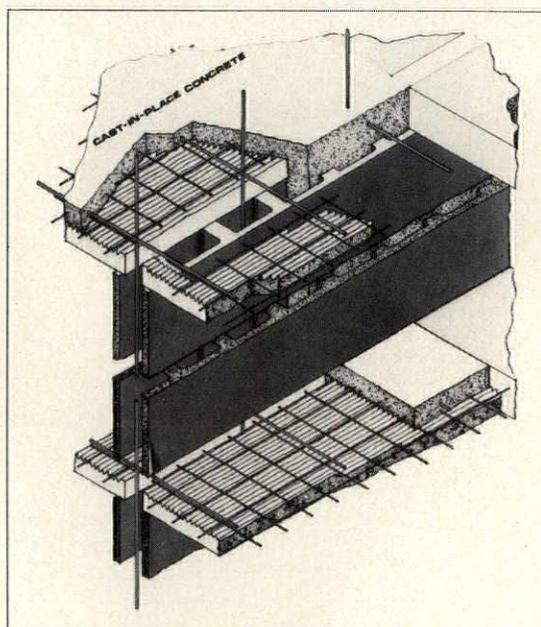
Utility cores come off the assembly line completely finished and fully equipped. Built on concrete slabs, the cores do not rack during shipping.



Finished bath is part of utility core. American Olean, Lansdale, Pa., supplies "Redi-set" adhesive-backed tile sheets drilled to production specifications.



Basic components, hollow load-bearing walls and floor/ceiling slabs, are positioned on-site as shown above.



Bar and mat reinforcing steel is set in place and concrete poured over slabs and into hollow walls to make a unitized structure.

When you introduce a window and then have to work extra hard to keep up with the demand, you start looking for a reason. With Marvin Singl-Lift and Singl-Glide windows, we found three reasons. First, there's the energy crisis. These windows are made of wood and double glazed, and it can cost one-fourth less to heat with them than with single-glazed aluminum windows.* Second, they cost less than most conventional double hungs and gliders because (A) one sash is stationary and (B) they don't require separate storms and screens. Third, people

looking at these windows are very impressed with them. They see

wood windows that will make their home more beautiful and gracious. We'd like to send you new literature on these bewitching windows. Please write or call us about Singl-Glides and Singl-Lifts. Marvin Windows, Warroad, Minn. 56763. Phone: 218-386-1430.

Bewitching windows.

Now it costs less to live better



*Research data available

CIRCLE 57 ON READER SERVICE CARD



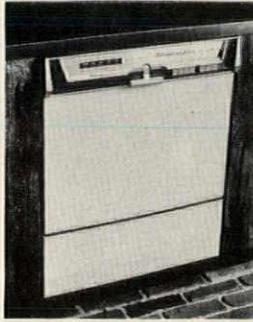
Doug Marriott is specifying KitchenAid dishwashers. Because like everything else in Quail Valley, they stand for quality.

Doug Marriott's been specifying KitchenAid dishwashers for the past five years. He wouldn't recommend any other.

His reasons are simple. "My customers are pleased at getting the top of the dishwasher brands. The housewife loves them."

In Quail Valley, Doug's new town home and single family home community near Provo, Utah, he's adding trash compactors made by KitchenAid as well.

"Quail Valley will be a quality living environ-



ment from the ground up," Doug reports. "And when your emphasis is on quality, KitchenAid is a natural. My own experience with KitchenAid dishwashers is that they require very little upkeep - very little maintenance."

Perhaps you should be specifying KitchenAid products in the homes you build. Call your KitchenAid distributor about his builder plan. KitchenAid Division, Dept. 4DS-5, The Hobart Manufacturing Company, Troy, Ohio 45374.

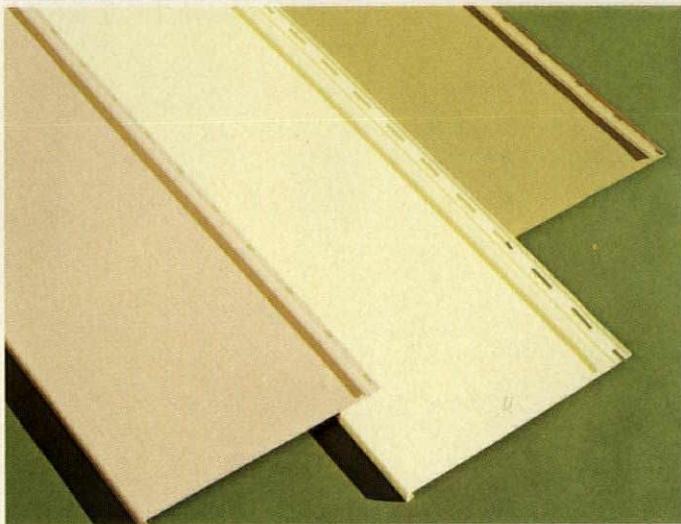
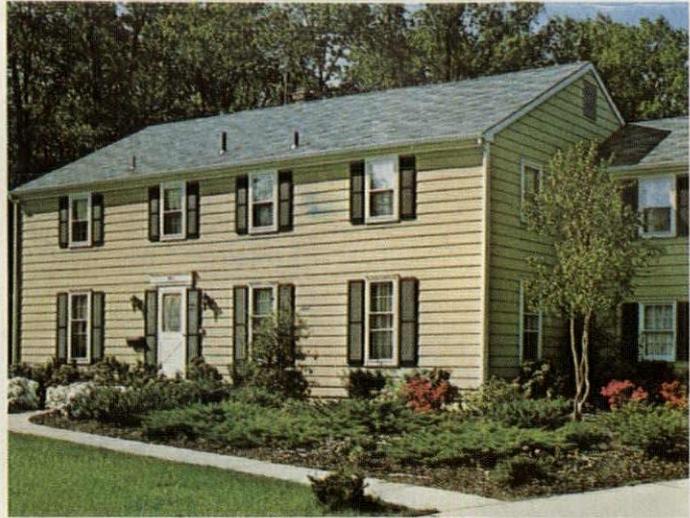
KitchenAid® Built better. Not cheaper.

CIRCLE 58 ON READER SERVICE CARD

Dishwashers • Trash Compactors • Disposers • Hot-water Dispensers



A siding for all reasons... from Norandex.



Aluminum, Steel & Vinyl.

Because you have different siding requirements, it makes sense to be able to offer you the choice of aluminum, steel or vinyl siding. And you can handle *all* of your needs with superior quality siding from one convenient source . . . Norandex.

Once you've decided which type of siding is best for your needs, Norandex can offer you a variety of contemporary siding colors and textures to suit every taste, climate and need. And when you order siding from Norandex, ninety strategically located warehouses make on-the-job delivery just a phone call away.

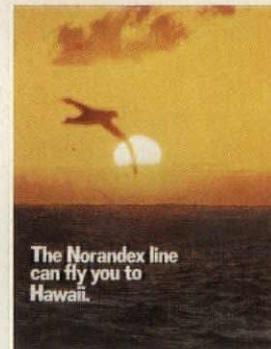
Profit more in '74 with Norandex. When we say we've got more to offer than great siding, we're not kidding.

Awnings and Carports • Garage Doors • Sliding Glass Doors • Storm Doors • Mobile Home Skirting • Ornamental Railings and Columns • Interior Products—Carpeting, Kitchen Cabinets, Vanities, Bi-Fold Closet Doors • Prime Windows—Awning, Single/Hung Slider • Rain-Carrying Equipment • Shutters and Louvers • Soffit and Fascia

• Storm Windows • Replacement Windows • Siding—Aluminum, Steel, Vinyl • Steel Entrance Doors.

For the location of the Norandex warehouse nearest you, write to 7120 Krick Road, Cleveland, OH 44146 or call (216) 232-5500.

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aristocrat / **norandex**
BUILDING MATERIALS



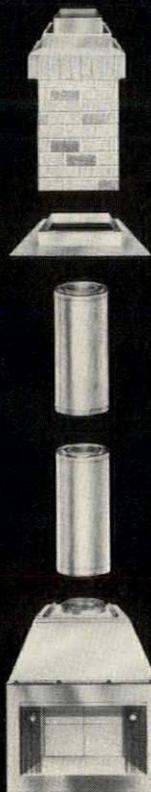
Martin fireplaces...

build in easier,
perform better,
increase your
profits!

Martin "Build-In-Anywhere" Fireplaces build in easier because they're engineered for ZERO CLEARANCE. You can locate them anywhere, on any floor, against any wall, combustible or not! And you can stack them directly above each other for multi-level installations, thanks to simplified chimney offsets.

Martin "Build-In-Anywhere" Fireplaces perform better because each is a carefully-engineered system, complete in itself, with factory-built, hearth-to-chimney-top components including round contemporary or simulated brick roof-top terminations. And because the outer walls of each Martin firebox are insulated with 1" compressed insulation. Minimum heat loss from room when fireplace is not in operation!

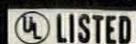
Martin "Build-In-Anywhere" Fireplaces boost profits because they're easy and economical to install, yet add immeasurably to the competitive appeal, saleability, or rentability of any residential property. It's good business to install fireplaces ... good sense to install "Build-In-Anywhere" Fireplacing by Martin!



Features:

1. Flush front design ... no holes or air intakes. Unlimited trim possibilities.
2. Tapered shape for minimum corner in stallation.
3. No special starter sections required as with other manufactures. Simplifies stocking.
4. Round 3-wall pipe with 30° & 15° offset elbows.
5. Round contemporary or simulated brick roof-top terminations.
6. 1" compressed insulation around outer walls of firebox.
7. Simple, fast installation requiring no foundation.
8. Designed for single or multi story in stallation.
9. UL listed.

Martin offers a complete line of quality fireplaces, such as: Free Standing, Built In, and Wall-Hung, in gas, electric, and wood burning models.



SEE CATALOG IN SWEET'S
LIGHT CONSTRUCTION FILE.

MARTIN

FIREPLACE PRODUCTS DIV.
MARTIN STAMPING & STOVE CO.
P.O. BOX 1527
HUNTSVILLE, ALA. 35807

Scald-Guard[™] keeps you and your customers from getting burned.

Most shower faucets require careful manipulation of the handles to get a comfortable blend of hot and cold water. Scald-Guard does not.

Most shower faucets have a quick handle turn into the critical hot water zone. Scald-Guard does not.

Most shower faucets require messy, expensive crosspiping and wrong-side, awkward maintenance. Scald-Guard does not.

Scald-Guard is simple to install and even simpler to operate.

It's safe. Constant. Reliable. With the optional pressure balance valve, dishwashers, flushed toilets and clotheswashers don't affect the shower water temperature.

And Scald-Guard rarely drips - because like all Delex faucets it has no washer to wear out.

Don't get burned. Don't let your customer get burned. Specify Scald-Guard.

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

Delta Faucets.
Washerless. To work as good
as they look.



Expandable sewage systems can save 75% in front-end costs

The idea is to construct only those sewage handling and treatment facilities needed to service each construction phase, and so avoid paying for expensive facilities that may not be used for several years.

A case in point is Rotonda West, a new community 40 miles south of Sarasota, on Florida's west coast. The developer, Cavanagh Communities, plans a 20-year build-out to house 60,000 people in 20,000 units on a 26,000-acre site. And the project's sewage treatment and handling facilities are paced to meet a construction schedule made erratic by swings in market demand.

The project is basically a lot-sales program, and its first building phase, started three years ago, is planned for more than 1,000 units. But only 400 units have been built to date because people who have bought lots have not ordered houses in large numbers.

Says Clyde Turner, a professional sanitary engineer and vice president of Rotonda West Utility Corp., a Cavanagh subsidiary:

ground contact stabilization treatment plant with 50,000 gpd capacity. Cost: \$23,000. The two package treatment plants serve 1,000 people in 400 homes. Later this year, another 50,000 gpd extended aeration plant, costing \$25,000, will be built to serve the 200 to 300 new units anticipated in the next 18 months.

Cavanagh expects orders for houses to increase significantly in the next year, and to meet this increased demand, the developer is inviting independent builders who soon will be putting up models in Rotonda West.

If this upsurge in sales materializes, Turner plans to construct a permanent treatment plant with a 500,000 gpd capacity. At an estimated cost of 75¢ per gallon of capacity, the plant should cost about \$350,000. It will serve more than 2,500 units.

When the permanent plant is operational, the package treatment plants will be moved by low bed vehicles to serve other areas not yet developed. Says Turner: "These package plants will be written off over a ten or 15 year period as they are moved from site to site."

pump, available in interchangeable capacities ranging from 100 gpm to 625 gpm.

"I decided on the single wet-well approach," says Turner, "because we could start with a small capacity pump, and then replace it with a larger capacity unit when needed."

Turner says three years of usage has confirmed his original judgment.

"The submersible pumps made by Flygt Corp. have turned out to be very reliable and just as flexible as I'd hoped."

A spokesman for Flygt Corp. points out that larger capacity

pumps can be quickly installed as needed. "The pumps are not fixed to the base of the well, but instead are free to ride up and down on guide rails. So it's easy to raise a pump for replacement or maintenance."

The smaller capacity submersible pumps are then used in the early stages of development in other parts of Rotonda West.

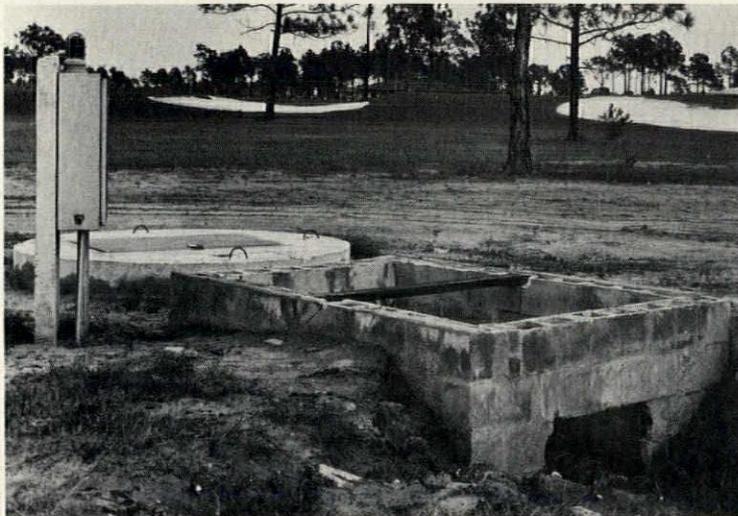
The wet wells are concrete structures 6' in diameter and 20' deep. Says Turner:

"We've installed eight wet wells in greenbelts and the golf course; there's no odor problem and the noise level is very low."

COMPARATIVE COSTS OF SINGLE- VERSUS DOUBLE-WELL PUMPING STATIONS (At Rotonda West, Florida)

	Submersible single-well	Dry pit/wet well
Basic equipment (pumps, valves, piping, concrete shell, controls)	\$8,000	\$11,000
Auxiliary equipment (sump pump, ladder, ventilation, etc.)	—	1,000
Wet-well installation	10,000	11,000
Dry-pit installation	—	4,000
Total	\$18,000	\$27,000

Source: Cavanagh Communities



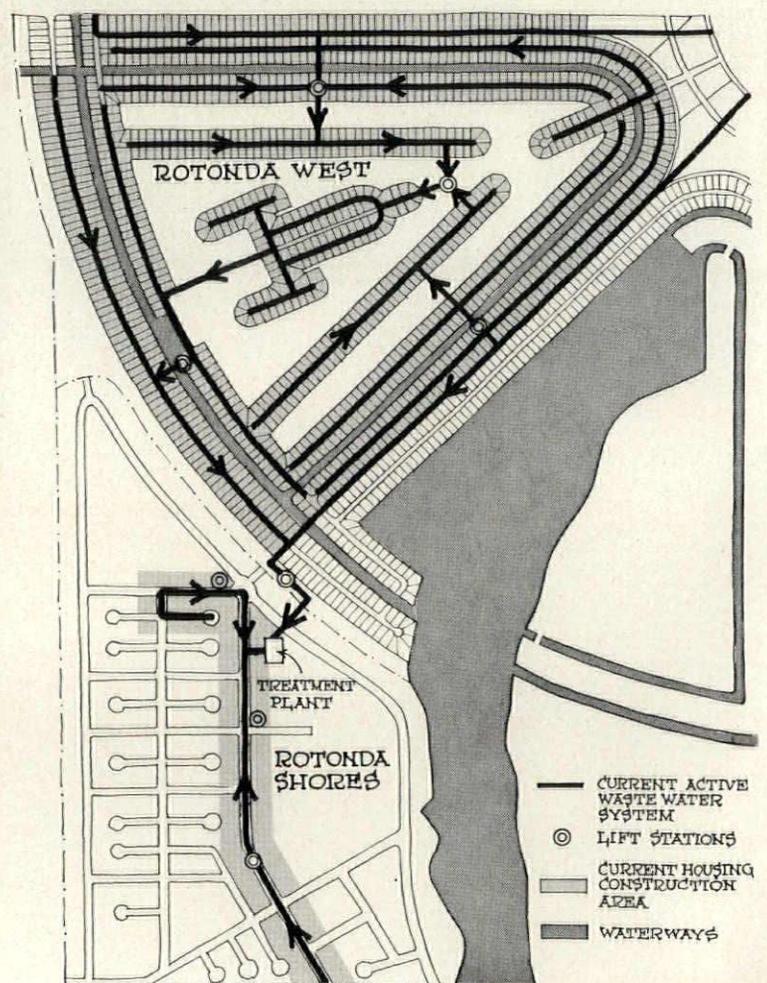
Wet wells are located in the golf course and greenbelts. Typically, two or three wet wells, which contain submersible lift pumps, are needed between a residential area and the treatment plant. Each round wet well, at left in photo, is adjacent to a square concrete block chamber, at right, containing check and gate valves.

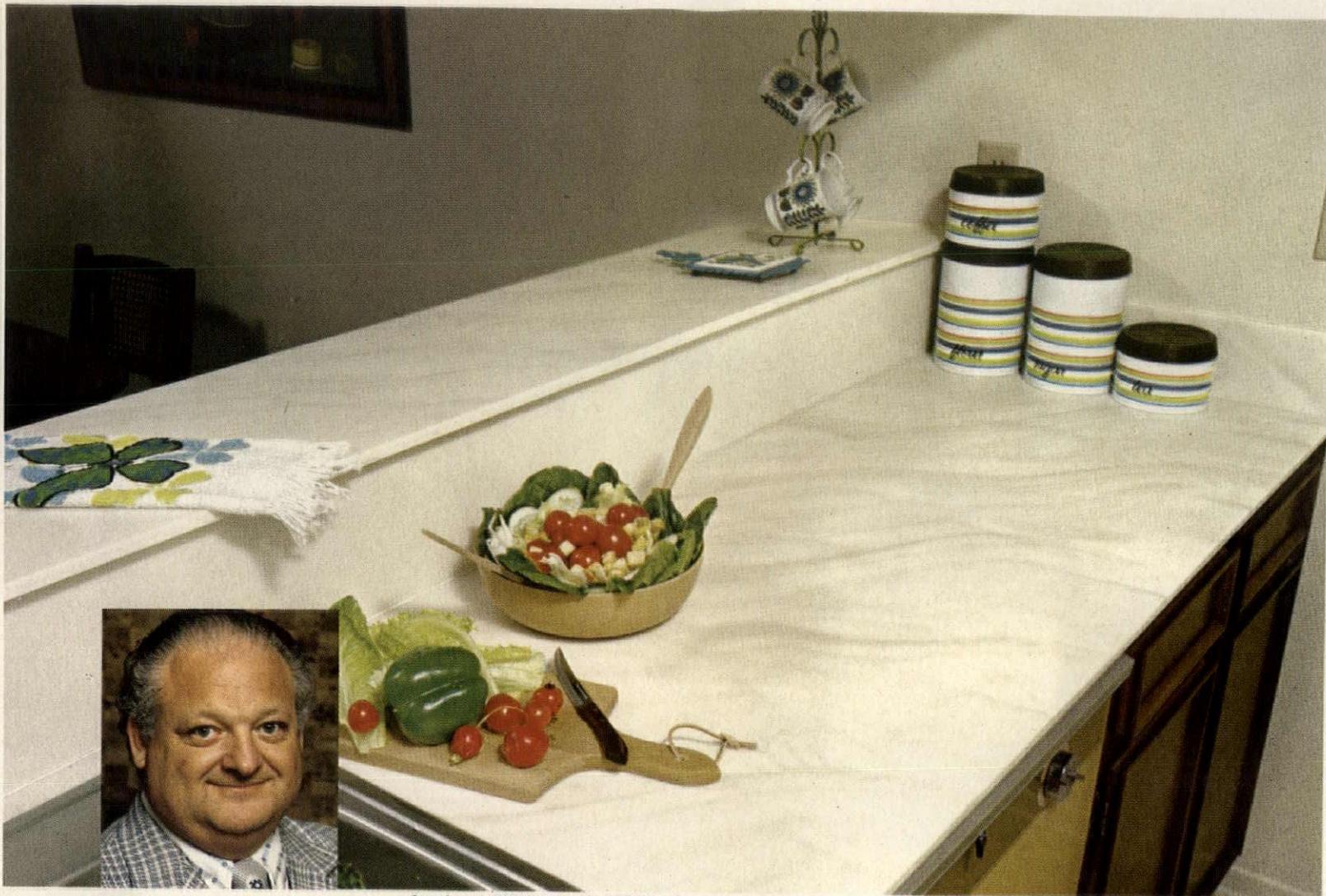
"We want to install only what's needed now, and as the population grows, add more capacity. This way we figure that our initial capital outlay is just about 25% of what it would cost to build a system to meet total requirements in years to come."

For treatment, Turner started off using an above-ground extended-aeration plant with a 25,000-gpd capacity. Cost: \$18,000. Next he added an above-

For lift pumps Turner had two alternatives. He could put in dry pit/wet well lift stations which cost \$25,000 to \$30,000 each (see comparative chart above) and have a 500 to 600 gpm capacity, although only a 100 gpm capacity was needed for the next few years.

Alternatively, he could put in single wet-well lift stations costing about \$18,000 each. They would use a submersible





One of nearly 300 kitchens with CORIAN countertops in Fondren Place, Houston.

“I can’t just build them and walk away. So I use DuPont CORIAN. It’s beautiful—and it stays beautiful.”

—Dr. Eugene Winograd, Owner, Judwin Construction Co., Houston, Texas

The beauty of CORIAN is what appeals to Judwin Construction Company’s prospective tenants at Fondren Place garden apartments in Houston.

The fact that CORIAN *stays* beautiful over a long period of time is what appeals to Judwin’s owner.

“I’ve used CORIAN in my projects before” says Dr. Winograd, “and I’ve yet to see a prospect who doesn’t like its appearance and easy cleanability.

“As both the builder and the owner/manager of these rental units, I want materials that not only look beautiful, but will last. CORIAN costs a little more initially, but it’s worth it in the long run. It’s easy to install. And because it’s a solid material, we can even repair minor countertop damage between tenants.”

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Take advantage of the Practical Elegance of CORIAN® building products. CORIAN is available in sheet stock for custom surfaces (it can be worked with regular tools), kitchen countertops, wall wainscoting, bathtub and shower surrounds. One-piece molded vanity tops and bowls of CORIAN also available. For more information and the name of the distributor nearest you, write to Du Pont, Room 23915, Nemours Building, Wilmington, DE 19898.



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House & Home—May 74

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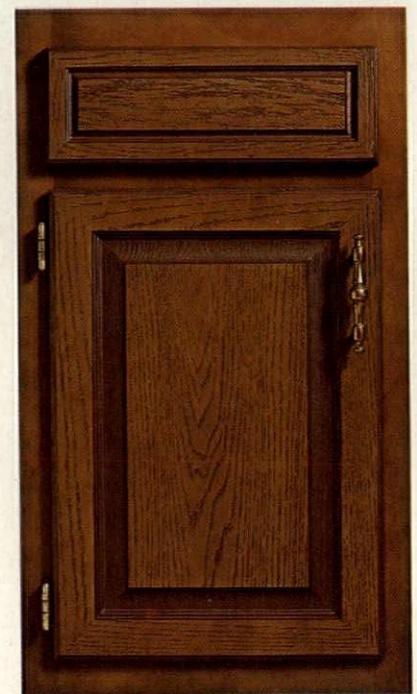


If you thought of everything you wanted in a cabinet—including the price range—chances are pretty good you'd be the second person to design PLAZA ONE. It has the handsome look of deep-grained oak; the durability found only in a man-made material like Durium; it won't warp or peel; practically eliminates service call-backs. Look in the Yellow Pages for your nearest distributor or write Kitchen Kompact, Inc., KK Plaza, Jeffersonville, Indiana 47130. See PLAZA ONE at NAHB booth #3245.

America's #1 Cabinet Value



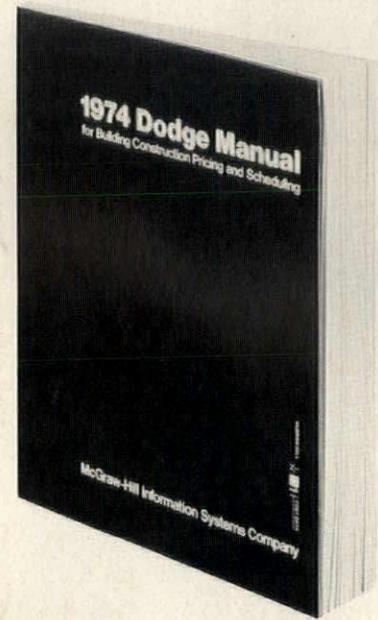
Antique brass pull with matching self-closing hinge.



You can determine general building costs faster than ever, with more confidence in your figures, when you rely on the

1974 DODGE MANUAL

FOR BUILDING CONSTRUCTION PRICING AND SCHEDULING



Here's why this remarkable pricing tool should be at your fingertips right now—

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- **It's accurate and to-the-minute.** Information for the Dodge Manual is retrieved from the computer of Wood & Tower, Inc., one of the nation's leading construction cost management firms. Data is fed into the Wood & Tower computer from actual job sites throughout the country. With the Dodge Building Cost Services/Wood & Tower team, you can be sure all data accurately reflects current costs.
- **It's the only cost manual which includes productivity figures.** And by pinning down productivity for you, the Dodge Manual helps you sharpen your competitive edge.
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site clearing/excavation/backfilling/caissons/utilities/sewage disposal/paving/landscaping/formwork/concrete reinforcing steel/roof decks/masonry/stonework/general carpentry/millwork/kitchens/doors and frames/roofing/store fronts/tile/painting/hardware/swimming pools/plumbing/ventilation/air conditioning/furring and lathing/electrical work/greenhouses/windows and trim/incinerators.

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Please ship _____ copy(ies) of the 1974 Dodge Manual for Building Construction Pricing and Scheduling @ \$14.95. I may examine the Manual for 10 days and return it to you for a refund if not satisfied.

Check enclosed. I save \$1.00 postage and handling. Bill me @ \$14.95 plus \$1.00 postage and handling. Add applicable sales tax. HH/1

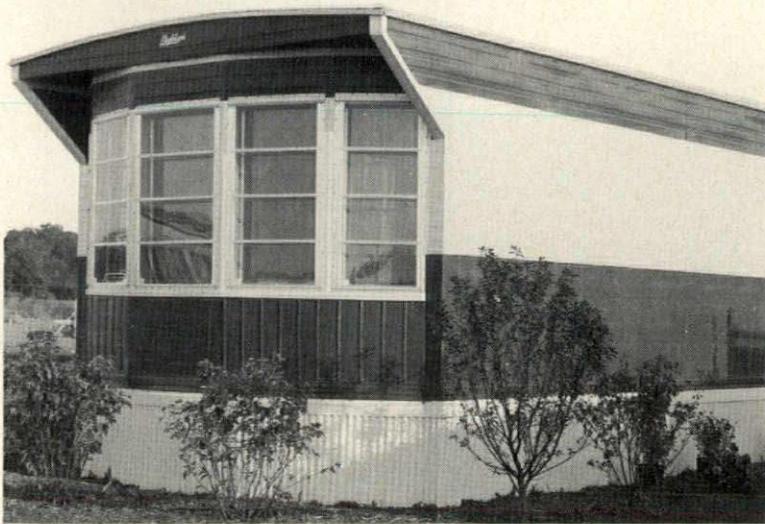
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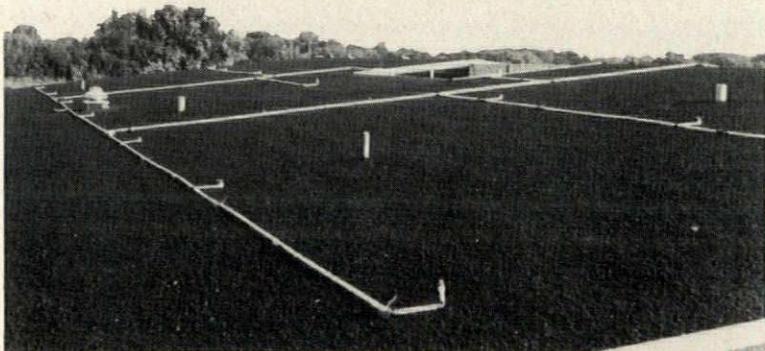
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Just when you think the problem can't be solved, someone finds an answer in vinyl.



Tough specs made it difficult to build a curtain wall at ground level around this mobile home. The material selected had to resist denting and scratching. It had to be rigid and strong, yet light in weight. Weathering would be a problem. Low maintenance was desired. And the finished panel must be readily removable for easy access to utilities and storage. General Plastics Corporation, Marion, Indiana, found all the answers in one material — Geon® vinyl.



A special kind of pipe was needed for this roof-top cooling system. It would encounter prolonged exposure to sunlight. Freedom from rust and interior corrosion was highly desirable. So was light weight. The Neumark Company of Albuquerque, New Mexico, found what they wanted in white, Schedule 40 PVC pipe made of Geon vinyl.



In the restful new residential community called Level Green, Virginia Beach, Virginia, minimum maintenance was uppermost in the builder's mind. So R.G. Moore Building Corporation chose siding made of Geon vinyl by Bird & Son, inc., East Walpole, Massachusetts. Because this siding is made of Geon vinyl, it resists dents, won't rust. Color goes all the way through the vinyl.



More than 50 years old and completely vandalized, this building was only a shell. But it was structurally sound enough for rehabilitation. Products made of Geon vinyl were used extensively—windows, siding, DWV, interior trim, flooring, enclosures around tub and showers. Performance and cost advantages of vinyl were impressive. Ask us for a complete report. B.F. Goodrich Chemical Company, Dept. H-32, 6100 Oak Tree Boulevard, Cleveland, Ohio 44131. The people who started it all in vinyl.

B.F. Goodrich Chemical Company





HOW MUCH MORE MONEY TO BUILD IT THIS YEAR?

In general, plenty—as both industry and the homebuyer know all too well. The construction dollar is buying less because housing costs are shooting up at an annual rate of anywhere from 10% to 15%, depending on the area. And there's every indication that the combination of materials shortages, fostered by the energy crisis, and unchecked inflation will make the rate of increase even higher.

But the industry needs to know more than just that. What, for example, are the labor and materials costs of key construction jobs? How much has the unit cost of each job increased in the last 12 months? And how do total costs compare in different cities?

For the answers, start reading on the next page.

Construction

This report brings you:

A two-page cost index that compares average construction costs in 82 market areas.

Four major construction categories are covered: 1) structural, 2) plumbing, 3) heating, ventilating and air conditioning, 4) electrical. There is also a general adjustment, or combined average, of all categories.

Comparisons are made as percentages—100% (or 1.00) represents a standard derived from costs in 20 key cities, and the index shows how much costs in individual cities vary above and below this standard.

Take the combined average, for example. The highest-cost city is Anchorage, Alaska, at 1.21, the lowest Jackson, Miss. at 0.79. Right in the middle at 1.00 are Columbus, Ohio; Louisville, Ky.; and Phoenix, Ariz.

Fourteen pages of cost tables that break the construction process down into selected basic jobs or components.

Sixteen major groupings are covered in this order: earthwork, cast-in-place concrete, unit masonry, rough carpentry, finish carpentry, waterproofing, insulation, roofing and siding, sheet metal, sealants, doors and frames, windows, wallboard, tile, flooring, painting.

For each construction component, the tables show:

The size and make-up of the crew—so many carpenters, for example, or so many roofers.

The crew's daily output—so many square feet of plyscore sheathing or so many lineal feet of shoe molding.

costs across the country

The unit cost—broken down into materials and labor and then totaled.

Finally, the tables show the percentage of change in each total unit cost in the last 12 months. Not surprisingly, all of these changes are upward. But the range of change is astonishingly wide—all the way from around 3% for certain site grading jobs and some insulation to more than 60% for some drywall installations.

Source of this data: the world's most authoritatively based construction cost manual

It's the 1974 *Dodge Manual for Building Construction, Pricing and Scheduling*, and it's published by Dodge Building Cost Services, a division of McGraw-Hill Information Systems Co. The material in this issue of HOUSE & HOME was selected for its particular applicability to light construction; however, it represents only a small portion of the manual, which comprises 206 pages and is also concerned with heavy construction. By the same token, in addition to the material shown on the next two pages, the city-by-city cost index in the manual includes detailed breakdowns within the general categories. For example, the structural category is broken down into rough carpentry, roofing, glazing and 20 other trades.

The complete manual is available from Dodge Building Cost Services, Room 2149, McGraw-Hill Information Systems Co., 1221 Avenue of the Americas, New York, N.Y. 10020. To order, send \$14.95 plus your local or state tax where applicable. If you wish to be billed, there will be a \$1 charge. Discounts are available on bulk orders.

Before you use the tables, you should know that:

1. Labor costs are based on union scale and are typical of large jobs where supervision is poorer and productivity therefore lower than on most smaller jobs.
2. All cost calculations were projected in late 1973 and thus reflect the Mideast crisis, and subsequent oil shortage, as well as last fall's labor union settlements.
3. There are some unfamiliar abbreviations in the tables. So you may want to check this list before reading further:

BL—bricklayer
CM—cement mason
CP—carpenter
csf—hundred square feet
EO—equipment operator
LA—laborer
LH—lather
m—one thousand
mf. bm.—thousand feet board measure
opg—opening
PA—painter
RF—roofer
SI—structural iron worker
SM—sheetmetal worker
TM—teamster
TS—tiletsetter
WP—waterproofer

The cost index begins on the following page
The cost tables begin on page 76

ADJUSTMENT FACTORS: A CITY-BY-CITY COMPARISON

City	General Adjustment			Architectural and Structural Work			Plumbing Work			H.V.A.C. Work			Electrical Work		
	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.
Albany, N.Y.	1.08	0.98	1.03	1.08	1.00	1.04	1.08	0.96	1.02	1.02	0.96	0.99	1.14	0.99	1.07
Albuquerque, N.M.	1.01	0.85	0.93	0.99	0.79	0.89	1.04	0.93	0.99	1.03	0.92	0.97	1.00	0.84	0.92
Anchorage, Alaska	1.11	1.31	1.21	1.12	1.32	1.22	1.10	1.34	1.22	1.09	1.32	1.20	1.09	1.24	1.16
Atlanta, Ga.	1.02	0.88	0.95	0.99	0.85	0.92	1.03	0.86	0.95	1.02	0.87	0.94	1.06	0.98	1.02
Austin, Tex.	0.98	0.77	0.88	0.95	0.76	0.86	1.01	0.78	0.90	0.99	0.78	0.89	1.02	0.79	0.91
Baltimore, Md.	1.03	0.86	0.95	1.04	0.87	0.96	1.00	0.86	0.93	1.02	0.86	0.94	1.05	0.85	0.95
Birmingham, Ala.	0.98	0.78	0.88	0.93	0.77	0.85	0.99	0.81	0.90	0.98	0.81	0.90	1.08	0.76	0.92
Bismarck, N.D.	1.02	0.77	0.89	0.98	0.73	0.85	1.01	0.77	0.89	1.01	0.77	0.89	1.11	0.86	0.98
Boise, Idaho	0.99	0.81	0.90	1.02	0.83	0.92	0.98	0.79	0.89	1.02	0.79	0.90	0.92	0.79	0.86
Boston, Mass.	1.06	1.03	1.04	1.08	1.04	1.06	1.04	1.01	1.03	1.05	1.01	1.03	1.04	1.02	1.03
Bridgeport, Conn.	1.07	1.02	1.05	1.08	1.04	1.06	1.10	1.02	1.06	1.02	1.02	1.02	1.07	0.98	1.02
Buffalo, N.Y.	1.09	1.10	1.10	1.10	1.13	1.11	1.24	1.07	1.15	1.13	1.08	1.11	0.91	1.08	0.99
Camden, N.J.	1.03	1.05	1.04	1.01	1.05	1.03	1.05	1.06	1.05	1.01	1.06	1.04	1.05	1.02	1.04
Charleston, W.Va.	1.06	0.93	0.99	1.08	0.94	1.01	1.13	0.91	1.02	1.12	0.91	1.02	0.88	0.93	0.91
Charlotte, N.C.	0.99	0.62	0.81	0.98	0.61	0.80	1.00	0.63	0.82	1.02	0.63	0.82	1.00	0.62	0.81
Chattanooga, Tenn.	1.00	0.77	0.88	0.98	0.74	0.86	1.01	0.80	0.90	1.03	0.81	0.92	1.00	0.78	0.89
Cheyenne, Wyo.	1.00	0.80	0.90	1.00	0.80	0.90	0.96	0.79	0.87	1.03	0.79	0.91	1.05	0.81	0.93
Chicago, Ill.	1.05	1.05	1.05	1.05	1.08	1.07	1.06	1.03	1.05	1.03	1.03	1.03	1.06	1.03	1.04
Cincinnati, Ohio	1.01	1.05	1.03	1.00	1.08	1.04	1.00	1.04	1.02	1.02	1.03	1.02	1.05	1.00	1.02
Cleveland, Ohio	1.01	1.11	1.06	0.97	1.15	1.06	1.04	1.07	1.05	1.00	1.07	1.04	1.07	1.07	1.07
Columbus, Ohio	1.01	0.99	1.00	0.98	0.96	0.97	1.04	1.07	1.05	1.00	1.05	1.02	1.05	0.96	1.00
Dallas, Tex.	0.99	0.89	0.94	0.97	0.83	0.90	0.95	0.85	0.90	1.01	0.84	0.93	1.06	1.11	1.08
Denver, Colo.	1.03	0.90	0.97	1.01	0.91	0.96	1.04	0.90	0.97	1.04	0.90	0.97	1.06	0.89	0.98
Des Moines, Iowa	1.03	0.87	0.95	1.06	0.85	0.95	0.99	0.87	0.93	1.02	0.87	0.95	1.01	0.90	0.96
Detroit, Mich.	1.00	1.14	1.07	0.93	1.15	1.04	0.99	1.13	1.06	1.13	1.13	1.13	1.07	1.13	1.10
El Paso, Tex.	0.96	0.68	0.82	0.95	0.66	0.80	0.92	0.70	0.81	0.98	0.71	0.85	1.01	0.70	0.86
Evansville, Ind.	1.02	0.88	0.95	0.98	0.88	0.93	1.02	0.95	0.98	1.13	0.93	1.03	1.04	0.79	0.92
Harrisburg, Pa.	1.01	0.90	0.95	1.00	0.89	0.95	1.01	0.92	0.97	1.00	0.91	0.96	1.02	0.88	0.95
Hartford, Conn.	1.04	1.02	1.03	1.06	1.05	1.06	1.04	1.02	1.03	1.03	1.02	1.02	0.98	0.98	0.98
Honolulu, Hawaii	1.08	0.90	0.99	1.05	0.84	0.95	1.03	0.92	0.98	1.07	0.93	1.00	1.19	0.98	1.08
Houston, Tex.	0.97	0.80	0.89	0.95	0.77	0.86	0.93	0.82	0.88	0.99	0.82	0.91	1.04	0.82	0.93
Indianapolis, Ind.	1.01	0.89	0.95	0.99	0.91	0.95	1.01	0.84	0.93	1.00	0.85	0.93	1.04	0.93	0.99
Jackson, Miss.	0.91	0.67	0.79	0.84	0.65	0.74	0.97	0.71	0.84	0.94	0.70	0.82	0.97	0.68	0.83
Jacksonville, Fla.	1.01	0.75	0.88	0.98	0.70	0.84	1.03	0.83	0.93	1.04	0.82	0.93	1.05	0.73	0.89
Kansas City, Kan.	1.02	1.00	1.01	1.06	1.03	1.05	0.95	1.03	0.99	1.01	1.03	1.02	1.01	0.90	0.96
Lansing, Mich.	0.99	0.98	0.98	0.94	0.98	0.96	1.03	0.97	1.00	1.00	0.97	0.99	1.05	0.98	1.01
Las Vegas, Nev.	1.01	1.04	1.03	1.00	0.99	0.99	1.00	1.12	1.06	1.03	1.10	1.07	1.04	1.06	1.05
Little Rock, Ark.	0.91	0.79	0.85	0.84	0.74	0.79	0.99	0.81	0.90	0.93	0.77	0.85	0.98	0.88	0.93
Los Angeles, Calif.	0.99	1.09	1.04	0.94	1.04	0.99	1.01	1.14	1.07	1.04	1.15	1.09	1.06	1.10	1.08
Louisville, Ky.	1.00	0.99	1.00	0.98	0.99	0.98	1.02	0.96	0.99	0.99	0.97	0.98	1.05	1.05	1.05
Madison, Wis.	1.01	0.93	0.97	1.01	0.93	0.97	1.04	0.93	0.99	1.00	0.93	0.97	1.00	0.93	0.96

ADJUSTMENT FACTORS: A CITY-BY-CITY COMPARISON

City	General Adjustment			Architectural and Structural Work			Plumbing Work			H.V.A.C. Work			Electrical Work		
	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.	Mat'l	Lab.	Tot.
Manchester, N.H.	1.03	0.88	0.96	1.05	0.88	0.96	1.03	0.89	0.96	1.03	0.89	0.96	0.98	0.89	0.94
Memphis, Tenn.	0.97	0.79	0.88	0.96	0.78	0.87	0.94	0.80	0.87	0.99	0.79	0.89	1.02	0.80	0.91
Miami, Fla.	1.01	1.02	1.02	0.98	0.99	0.99	1.03	1.06	1.04	1.04	1.06	1.05	1.05	1.03	1.04
Milwaukee, Wis.	1.02	1.00	1.01	1.01	1.03	1.02	1.06	0.98	1.02	1.00	0.98	0.99	0.99	0.99	0.99
Minneapolis, Minn.	1.01	0.93	0.97	1.00	0.93	0.97	1.00	0.92	0.96	0.99	0.93	0.96	1.06	0.95	1.00
Mobile, Ala.	0.97	0.79	0.88	0.93	0.76	0.84	0.96	0.84	0.90	0.97	0.83	0.90	1.06	0.81	0.94
Nashville, Tenn.	0.96	0.73	0.84	0.94	0.71	0.82	0.95	0.78	0.87	0.99	0.77	0.88	1.01	0.67	0.84
Nassau-Suffolk, N.Y.	1.07	1.15	1.11	1.07	1.21	1.14	1.11	1.15	1.13	1.02	1.15	1.08	1.09	1.01	1.05
Newark, N.J.	1.08	1.09	1.08	1.07	1.09	1.08	1.09	1.09	1.09	1.03	1.08	1.06	1.10	1.11	1.10
New Orleans, La.	0.97	0.82	0.89	0.88	0.79	0.84	1.03	0.85	0.94	1.10	0.85	0.97	1.01	0.85	0.93
New York, N.Y.	1.07	1.24	1.15	1.09	1.27	1.18	1.02	1.21	1.12	1.02	1.21	1.12	1.09	1.21	1.15
Norfolk, Va.	1.00	0.68	0.84	1.01	0.66	0.83	1.00	0.68	0.84	1.00	0.68	0.84	0.98	0.73	0.86
Oklahoma City, Okla.	0.96	0.79	0.87	0.95	0.77	0.86	0.91	0.82	0.86	1.00	0.82	0.91	0.99	0.80	0.90
Omaha, Neb.	1.03	0.90	0.96	1.05	0.84	0.95	0.99	0.94	0.97	1.04	0.92	0.98	1.02	0.97	0.99
Philadelphia, Pa.	1.03	1.07	1.05	1.01	1.07	1.04	1.04	1.06	1.05	1.01	1.06	1.04	1.07	1.09	1.08
Phoenix, Ariz.	1.01	0.99	1.00	1.00	0.96	0.98	0.97	1.03	1.00	1.03	1.02	1.02	1.06	1.00	1.03
Pittsburgh, Pa.	1.08	1.04	1.06	1.09	1.06	1.08	1.14	1.02	1.08	1.15	1.02	1.09	0.97	1.04	1.00
Portland, Me.	1.04	0.77	0.90	1.05	0.74	0.90	1.05	0.80	0.92	1.03	0.80	0.91	1.00	0.76	0.88
Portland, Ore.	1.01	0.91	0.96	1.02	0.93	0.98	1.00	0.90	0.95	1.03	0.89	0.96	0.97	0.89	0.93
Providence, R.I.	1.04	0.95	0.99	1.06	0.97	1.01	1.04	1.00	1.02	1.03	1.00	1.01	1.02	0.80	0.91
Richmond, Va.	1.00	0.71	0.86	1.01	0.69	0.85	1.01	0.70	0.86	0.98	0.71	0.84	0.99	0.76	0.88
Rochester, N.Y.	1.08	1.08	1.08	1.08	1.08	1.08	1.15	1.10	1.12	1.09	1.09	1.09	0.98	1.05	1.02
St. Louis, Mo.	0.98	1.00	0.99	0.99	0.99	0.99	0.93	1.03	0.98	0.97	1.03	1.00	1.01	0.99	1.00
Salt Lake City, Utah	1.00	0.84	0.92	1.01	0.85	0.93	0.94	0.82	0.88	1.02	0.82	0.92	1.04	0.87	0.96
San Diego, Calif.	0.99	1.03	1.01	0.98	1.02	1.00	0.98	1.06	1.02	1.00	1.05	1.03	1.03	0.99	1.01
San Francisco, Calif.	0.98	1.16	1.07	0.94	1.15	1.05	0.93	1.23	1.08	1.07	1.20	1.14	1.06	1.10	1.08
Savannah, Ga.	1.00	0.76	0.88	0.98	0.69	0.84	1.01	0.78	0.89	1.04	0.76	0.90	1.02	0.89	0.96
Seattle, Wash.	1.02	0.93	0.98	1.02	0.92	0.97	1.04	0.97	1.01	1.04	0.98	1.01	0.99	0.90	0.95
Shreveport, La.	0.91	0.70	0.81	0.84	0.66	0.75	0.97	0.75	0.86	0.93	0.74	0.84	1.00	0.72	0.86
Sioux Falls, S.D.	1.00	0.82	0.91	0.98	0.81	0.90	1.03	0.80	0.92	1.01	0.81	0.91	1.03	0.87	0.95
Spokane, Wash.	1.00	0.91	0.95	1.02	0.90	0.96	0.99	0.94	0.96	1.02	0.93	0.98	0.94	0.86	0.90
Springfield, Ill.	0.98	0.89	0.94	0.99	0.91	0.95	0.94	0.88	0.91	0.99	0.88	0.94	1.01	0.86	0.93
Springfield, Mass.	1.04	0.97	1.01	1.05	1.02	1.04	1.05	0.92	0.99	1.02	0.93	0.98	1.03	0.91	0.97
Syracuse, N.Y.	1.05	1.01	1.03	1.07	1.04	1.05	1.07	0.95	1.01	1.02	0.98	1.00	1.02	1.02	1.02
Tampa, Fla.	1.01	0.85	0.93	0.99	0.80	0.90	1.01	0.94	0.97	1.03	0.92	0.97	1.03	0.84	0.94
Topeka, Kan.	1.03	0.86	0.95	1.06	0.89	0.98	1.00	0.92	0.96	1.00	0.89	0.95	1.02	0.70	0.86
Trenton, N.J.	1.07	1.09	1.08	1.06	1.08	1.07	1.08	1.08	1.08	1.05	1.06	1.06	1.09	1.13	1.11
Washington, D.C.	1.02	0.94	0.98	1.01	0.93	0.97	1.02	0.91	0.97	1.03	0.92	0.97	1.03	0.99	1.01
Wichita, Kan.	1.03	0.85	0.94	1.05	0.84	0.95	1.00	0.89	0.94	1.04	0.89	0.97	1.03	0.81	0.92
Wilmington, Del.	1.03	1.01	1.02	1.01	1.03	1.02	1.05	1.00	1.02	0.99	1.00	1.00	1.06	0.98	1.02
Youngstown, Ohio	0.99	0.97	0.98	0.94	0.96	0.95	1.04	0.96	1.00	0.98	0.96	0.97	1.04	0.99	1.01

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
EARTHWORK								
SITE GRADING								
Earth excavation, average soil on minimum of 5 acre site. Equipment shown as material cost.								
Balanced cut & fill w/max. haul 500':								
front-end loader	1 CY	1 LA, 1 EO	350	cu. yd.	0.67	0.46	1.13	+4.6
	2 CY	1 LA, 1 EO	400	cu. yd.	0.55	0.40	0.95	+4.2
	3 CY	1 LA, 1 EO	520	cu. yd.	0.43	0.31	0.74	+5.7
rubber-tired scraper	10 CY	1 LA, 1 EO	720	cu. yd.	0.37	0.22	0.59	+3.5
	15 CY	1 LA, 1 EO	1000	cu. yd.	0.28	0.16	0.44	+4.7
Balanced cut & fill with 1000' haul:								
rubber-tired scraper	10 CY	1 LA, 1 EO	600	cu. yd.	0.57	0.27	0.84	+5.0
	15 CY	1 LA, 1 EO	850	cu. yd.	0.39	0.19	0.58	+3.6
	20 CY	1 LA, 1 EO	1050	cu. yd.	0.30	0.15	0.45	+4.7
scraper with dozer	10 CY	1 LA, 1 EO	550	cu. yd.	0.65	0.29	0.94	+4.4
	15 CY	1 LA, 1 EO	800	cu. yd.	0.47	0.20	0.67	+4.7
	20 CY	1 LA, 1 EO	975	cu. yd.	0.37	0.16	0.53	+3.9
tractor scraper	10 CY	1 LA, 1 EO	430	cu. yd.	0.78	0.37	1.15	+3.6
	15 CY	1 LA, 1 EO	600	cu. yd.	0.60	0.27	0.87	+4.8
	20 CY	1 LA, 1 EO	780	cu. yd.	0.48	0.20	0.68	+4.6
Cut & load on trucks. Hauling not included.								
Open site:								
loader	1 CY (earth)	1 LA, 1 EO	650	cu. yd.	0.46	0.25	0.71	+5.9
	2 CY (earth)	1 LA, 1 EO	1100	cu. yd.	0.31	0.14	0.45	+2.3
	3 CY (earth)	1 LA, 1 EO	1500	cu. yd.	0.22	0.10	0.32	+3.2
	1 CY (clay)	1 LA, 1 EO	450	cu. yd.	0.71	0.36	1.07	+4.9
	2 CY (clay)	1 LA, 1 EO	620	cu. yd.	0.53	0.26	0.79	+3.9
	3 CY (clay)	1 LA, 1 EO	800	cu. yd.	0.39	0.20	0.59	+3.5
Less than 5 acre site add to labor & materials:								
3-5 acres	25%							0
1-3 acres	50%							0
less than 1 acre	100%							0
Highway congestion, road crossings, add to labor & materials:								
	50%							0
Site grading, overall grading to approx. grade with cut & fill limited to 6":								
uncongested	less than 1 acre	1 LA, 1 EO	800	sq. yd.	0.12	0.20	0.32	+3.2
	1-5 acres	1 LA, 1 EO	1000	sq. yd.	0.10	0.16	0.26	+4.0
	over 5 acres	1 LA, 1 EO	1200	sq. yd.	0.08	0.13	0.21	+5.0
moderate congestion add to labor & materials:								
	50%							0
heavy congestion add to labor & materials:								
	100%							0
Truck hauling, including loading time:								
1 mile round trip	5 CY	1 TM	150	cu. yd.	0.47	0.47	0.94	+5.6
	8 CY	1 TM	200	cu. yd.	0.43	0.35	0.78	+5.4
	12 CY	1 TM	280	cu. yd.	0.36	0.25	0.61	+5.2
3 mile round trip	5 CY	1 TM	100	cu. yd.	0.69	0.71	1.40	+6.0
	8 CY	1 TM	135	cu. yd.	0.60	0.52	1.12	+4.7
6 mile round trip	12 CY	1 TM	200	cu. yd.	0.50	0.35	0.85	+4.9
	5 CY	1 TM	75	cu. yd.	0.85	0.95	1.80	+6.5
	8 CY	1 TM	110	cu. yd.	0.75	0.64	1.39	+5.3
	12 CY	1 TM	150	cu. yd.	0.60	0.47	1.07	+4.9
Heavy traffic add								
Off-site disposal add								
	50-100% dump charges							
BUILDING EXCAVATION								
Basement excavation, machine work only. No shoring, pumping or lay-out. Excavation loaded on trucks hauling not included:								
front-end loader	1 CY (earth)	1 LA, 1 EO	400	cu. yd.	0.64	0.40	1.04	+5.0
	2 CY (earth)	1 LA, 1 EO	600	cu. yd.	0.44	0.27	0.71	+5.9
	1 CY (clay)	1 LA, 1 EO	300	cu. yd.	0.90	0.54	1.44	+5.9

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973
	Crew	Per Day	Unit	Material	Labor	Total	
BUILDING EXCAVATION continued							
2 CY (clay)	1 LA, 1 EO	450	cu. yd.	0.58	0.36	0.94	+5.6
1 CY (hard pan)	1 LA, 1 EO	200	cu. yd.	1.37	0.81	2.18	+5.3
2 CY (hard pan)	1 LA, 1 EO	300	cu. yd.	0.89	0.54	1.43	+5.9
Trench or pier excavation w/backhoe. Earth piled adjacent to excavation, no sheeting or pumping: to 4' deep							
1/2 CY	1 LA, 1 EO	100	cu. yd.	1.59	1.62	3.21	+5.5
3/4 CY	1 LA, 1 EO	140	cu. yd.	1.21	1.16	2.37	+5.3
1 CY	1 LA, 1 EO	170	cu. yd.	0.84	0.95	1.79	+4.7
4' to 10' deep							
1/2 CY	1 LA, 1 EO	80	cu. yd.	1.90	2.03	3.93	+5.4
3/4 CY	1 LA, 1 EO	115	cu. yd.	1.48	1.41	2.89	+5.5
1 CY	1 LA, 1 EO	140	cu. yd.	1.21	1.16	2.37	+5.3
For clay add to labor & materials:							
50%							
For hard pan add to labor & materials:							
100%							
CAST-IN-PLACE CONCRETE							
Placing costs only. Materials cost is for placing equipment:							
footings under good conditions							
20-50 cu. yd.	5 LA, 1 CM	40	cu. yd.	0.55	11.24	11.79	+6.9
over 50 cu. yds.	7 LA, 1 CM	70	cu. yd.	0.45	8.48	8.93	+7.2
footings under difficult conditions							
20-50 cu. yds.	6 LA, 1 CM	25	cu. yd.	6.74	20.87	27.61	+8.2
over 50 cu. yds.	8 LA, 1 CM	50	cu. yd.	4.49	13.31	17.80	+8.3
walls under good conditions							
walls under difficult conditions	6 LA, 1 CM	25	cu. yd.	6.74	20.87	27.61	+8.2
slabs w/float finish							
on grade	6 LA, 2 CM	50	cu. yd.	0.22	12.24	12.46	+6.7
above grade	6 LA, 2 CM	50	cu. yd.	4.49	12.24	16.73	+8.2
columns & beams							
6 LA, 1 CM	30	cu. yd.	6.30	17.39	23.69	+6.4	
Winter cast-in-place extra costs:							
add to material cost							
add to labor cost 10%							
add to finishing cost 20%							
for heat & protection							
1 LA	50	cu. yd.	1.12	1.43	2.55	+9.0	
UNIT MASONRY							
BRICK MASONRY							
Masonry prices are for all labor & material including hoisting, scaffolding and cleaning straight walls.							
Productivity shown is based on average output. Since wide variations occur, estimator should adjust for actual production.							
Common brick:							
red clay							
4" back up	4 BL, 2 LA	2	m	110.00	262.48	372.48	+9.0
8" back up	4 BL, 2 LA	2.1	m	113.00	249.98	362.98	+9.3
12" wall struck joints	4 BL, 2 LA	2.2	m	114.00	238.61	352.61	+9.4
16" wall struck joints	4 BL, 2 LA	2.3	m	114.00	228.24	342.24	+9.5
4" wall used as face brick	4 BL, 2 LA	1.6	m	111.00	328.10	439.10	+8.6
Face Brick:							
red clay, standard size running bond							
4" veneer	4 BL, 2 LA	1.5	m	157.00	349.97	506.97	+9.2
4" cavity wall	4 BL, 2 LA	1.5	m	158.00	349.97	507.97	+9.2
special bonds 4" veneer:							
full headers at 6th course	4 BL, 2 LA	1.4	m	160.00	374.97	534.97	+9.0
snap headers at 6th course	4 BL, 2 LA	1.4	m	166.00	374.97	540.97	+9.1
Flemish, full header at 6th course	4 BL, 2 LA	1.4	m	159.00	374.97	533.97	+9.0
special types, standard size							
glazed brick 4" veneer	4 BL, 2 LA	1.4	m	215.00	374.97	589.97	+9.7
sand-line brick 4" veneer	4 BL, 2 LA	1.5	m	151.00	349.97	500.97	+9.1
special sizes, 4" veneer:							
scantled brick, moderate	4 BL, 2 LA	1.2	m	169.00	437.46	606.46	+9.0
jumbo	4 BL, 2 LA	1.4	m	204.00	374.97	578.97	+9.7

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973
	Crew	Per Day	Unit	Material	Labor	Total	
BRICK MASONRY continued							
Norman Roman	4 BL, 2 LA 4 BL, 2 LA	1.5 1.4	m m	274.00 291.00	349.97 374.97	623.97 665.97	+10.6 +10.5
Brick paving. Hard red brick, standard size laid with mortar joint on prepared concrete bed. Concrete not included:							
common bond basketweave	2 BL, 1 LA 2 BL, 1 LA	170 100	sq. ft. sq. ft.	1.18 1.29	1.54 2.62	2.72 3.91	+10.1 +9.2
herringbone	2 BL, 1 LA	65	sq. ft.	1.34	4.03	5.37	+8.5
Brick steps. Treads and risers on concrete							
common or stacked laid flat	2 BL, 1 LA	80	sq. ft.	1.38	3.28	4.66	+8.8
common or stacked on edge	2 BL, 1 LA	60	sq. ft.	1.88	4.37	6.25	+9.1
CONCRETE UNIT MASONRY							
Block back-up hollow cinder block, 8"x16" 2" furring "soap"							
	2 BL, 1 LA	300	sq. ft.	0.27	0.87	1.14	+5.6
3" furring "soap"	2 BL, 1 LA	280	sq. ft.	0.30	0.93	1.23	+5.1
4" block back-up	2 BL, 1 LA	260	sq. ft.	0.35	1.01	1.36	+6.2
6" block back-up	2 BL, 1 LA	230	sq. ft.	0.40	1.14	1.54	+6.2
8" block back-up	2 BL, 1 LA	200	sq. ft.	0.46	1.31	1.77	+6.0
10" block back-up	2 BL, 1 LA	170	sq. ft.	0.55	1.54	2.09	+6.1
12" block back-up	2 BL, 1 LA	140	sq. ft.	0.65	1.87	2.52	+5.9
Block back-up, concrete load bearing, 75% solid 2" furring "soap"							
	2 BL, 1 LA	295	sq. ft.	0.29	0.89	1.18	+6.3
3" furring "soap"	2 BL, 1 LA	275	sq. ft.	0.34	0.95	1.29	+6.6
4" block back-up	2 BL, 1 LA	255	sq. ft.	0.39	1.03	1.42	+6.8
6" block back-up	2 BL, 1 LA	225	sq. ft.	0.45	1.16	1.61	+6.0
8" block back-up	2 BL, 1 LA	195	sq. ft.	0.52	1.34	1.86	+6.3
Block foundation walls, cinder block, 8"x16"							
8" hollow load-bearing	2 BL, 1 LA	200	sq. ft.	0.53	1.31	1.84	+6.4
8" full solid	2 BL, 1 LA	180	sq. ft.	0.63	1.45	2.08	+5.6
12" hollow load-bearing	2 BL, 1 LA	135	sq. ft.	0.76	1.94	2.70	+6.3
ROUGH CARPENTRY							
DECKING							
Wood decking:							
3" cedar plank	1 CP	150	sq. ft.	1.24	0.61	1.85	+17.1
4" cedar plank	1 CP	125	sq. ft.	1.48	0.73	2.21	+16.3
3" white fir plank	1 CP	150	sq. ft.	1.11	0.61	1.72	+16.2
4" white fir plank	1 CP	125	sq. ft.	1.36	0.73	2.09	+16.1
3" laminated plank	1 CP	150	sq. ft.	0.99	0.61	1.60	+15.9
4" laminated plank	1 CP	125	sq. ft.	1.24	0.73	1.97	+15.9
Floor planks T&G, fir:							
2"x6"	1 CP	500	bd. ft.	0.31	0.18	0.49	+16.7
2"x10"	1 CP	600	bd. ft.	0.31	0.15	0.46	+17.9
3"x6"	1 CP	600	bd. ft.	0.34	0.15	0.49	+16.7
LIGHT FRAMING							
Girders:							
10"x16"	1 CP	850	bd. ft.	0.37	0.10	0.47	+17.5
12"x12"	1 CP	800	bd. ft.	0.36	0.11	0.47	+17.5
Headers:							
2"x8"	1 CP	230	bd. ft.	0.21	0.39	0.60	+9.0
2"x10"	1 CP	260	bd. ft.	0.21	0.35	0.56	+12.0
Joists:							
2"x6"	1 CP	350	bd. ft.	0.21	0.26	0.47	+11.9
2"x8"	1 CP	360	bd. ft.	0.21	0.25	0.46	+12.2
2"x10"	1 CP	380	bd. ft.	0.21	0.24	0.45	+12.5
2"x12"	1 CP	400	bd. ft.	0.22	0.22	0.44	+12.8
Plates:							
2"x4"	1 CP	200	bd. ft.	0.21	0.45	0.66	+10.0
2"x6"	1 CP	250	bd. ft.	0.21	0.36	0.57	+9.6
Posts & Girders:							
4"x4"	1 CP	350	bd. ft.	0.22	0.26	0.48	+11.6
4"x6"	1 CP	390	bd. ft.	0.23	0.23	0.46	+12.2
Rafters:							
2"x6"	1 CP	340	bd. ft.	0.21	0.26	0.47	+11.9
2"x8"	1 CP	355	bd. ft.	0.21	0.25	0.46	+12.2
2"x10"	1 CP	370	bd. ft.	0.21	0.24	0.45	+12.5
Rafters hip & valley:							
	1 CP	300	bd. ft.	0.22	0.30	0.52	+10.6
Roof cants:							
4"x4"	1 CP	350	ln. ft.	0.29	0.26	0.55	+12.2
6"x6"	1 CP	300	ln. ft.	0.44	0.30	0.74	+13.8

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
LIGHT FRAMING continued								
Roof curbs:	2" x 6"	1 CP	210	bd. ft.	0.21	0.43	0.64	+10.3
	2" x 8"	1 CP	230	bd. ft.	0.21	0.39	0.60	+9.0
Rough stair stringers:	2" x 10"	1 CP	260	bd. ft.	0.22	0.35	0.57	+11.8
	2" x 8"	1 CP	100	bd. ft.	0.21	0.91	1.12	+7.7
Rough bucks-doors:	2" x 10"	1 CP	120	bd. ft.	0.21	0.76	0.97	+7.8
	2" x 12"	1 CP	140	bd. ft.	0.22	0.65	0.87	+8.8
Rough bucks-windows:	2" x 6"	1 CP	200	bd. ft.	0.22	0.45	0.67	+9.8
	2" x 8"	1 CP	250	bd. ft.	0.22	0.36	0.58	+9.4
Sills & Plates: Sleepers, treated:	2" x 10"	1 CP	300	bd. ft.	0.23	0.30	0.53	+10.4
	2" x 6"	1 CP	200	bd. ft.	0.22	0.45	0.67	+9.8
Studs:	2" x 8"	1 CP	250	bd. ft.	0.22	0.36	0.58	+9.4
	2" x 10"	1 CP	300	bd. ft.	0.23	0.30	0.53	+10.4
Wood firestops:	4" x 6"	1 CP	350	bd. ft.	0.23	0.26	0.49	+11.4
	2" x 4"	1 CP	200	bd. ft.	0.29	0.45	0.74	+10.4
Studs:	2" x 6"	1 CP	280	bd. ft.	0.29	0.32	0.61	+10.9
	2" x 8"	1 CP	360	bd. ft.	0.29	0.25	0.54	+12.5
Wood firestops:	2" x 4"	1 CP	335	bd. ft.	0.21	0.27	0.48	+11.6
	2" x 6"	1 CP	435	bd. ft.	0.21	0.21	0.42	+13.5
Wood firestops:	2" x 8"	1 CP	470	bd. ft.	0.21	0.19	0.40	+14.2
	2" x 8"	1 CP	280	bd. ft.	0.22	0.32	0.54	+10.2
Wood firestops:	2" x 10"	1 CP	310	bd. ft.	0.22	0.29	0.51	+10.9
	2" x 12"	1 CP	340	bd. ft.	0.23	0.26	0.49	+11.4
SHEATHING								
Walls:	3/8" plyscore	1 CP	560	sq. ft.	0.23	0.16	0.39	+18.1
	1/2" plyscore	1 CP	535	sq. ft.	0.28	0.17	0.45	+18.4
Roof:	5/8" plyscore	1 CP	500	sq. ft.	0.31	0.18	0.49	+19.5
	Fiber-board, insulated	1 CP	470	sq. ft.	0.24	0.19	0.43	+16.2
Roof:	1" x 8" T&G	1 CP	450	mf. bm.	0.22	0.20	0.42	+16.7
	1" x 8" boards	1 CP	440	mf. bm.	0.22	0.20	0.42	+16.7
Roof:	1/2" plyscore	1 CP	500	sq. ft.	0.28	0.18	0.46	+17.9
	5/8" plyscore	1 CP	480	sq. ft.	0.31	0.19	0.50	+19.0
Roof:	3/4" plyscore	1 CP	440	sq. ft.	0.34	0.20	0.54	+20.0
SUBFLOORING								
Subflooring:	1/2" plyscore	1 CP	630	sq. ft.	0.28	0.14	0.42	+20.0
	5/8" plyscore	1 CP	600	sq. ft.	0.31	0.15	0.46	+21.1
Subflooring:	3/8" particleboard	1 CP	550	sq. ft.	0.11	0.16	0.27	+12.5
	5/8" particleboard	1 CP	520	sq. ft.	0.13	0.17	0.30	+15.4
Subflooring:	3/8" wood fiber-board	1 CP	550	sq. ft.	0.13	0.16	0.29	+11.5
	5/8" wood fiber-board	1 CP	520	sq. ft.	0.19	0.17	0.36	+16.5
FINISH CARPENTRY								
WOOD TRIM								
Moldings & trim: casing door or window	2-1/2" pine	1 CP	240	ln. ft.	0.21	0.38	0.59	+13.5
	3-1/2" pine	1 CP	220	ln. ft.	0.26	0.41	0.67	+13.6
chair rail	2-1/2" oak	1 CP	180	ln. ft.	0.42	0.50	0.92	+15.0
	2-1/2" pine	1 CP	240	ln. ft.	0.33	0.38	0.71	+14.5
cove molding	2-1/2" oak	1 CP	180	ln. ft.	0.72	0.50	1.22	+18.4
	1"	1 CP	300	ln. ft.	0.13	0.30	0.43	+10.2
cornice	2"	1 CP	300	ln. ft.	0.20	0.30	0.50	+13.6
	3"	1 CP	280	ln. ft.	0.26	0.32	0.58	+13.7
picture molding	1" x 2" pine plain	1 CP	240	ln. ft.	0.13	0.38	0.51	+10.9
	1" x 4" pine plain	1 CP	230	ln. ft.	0.23	0.39	0.62	+10.7
shoe molding	1" x 6" pine plain	1 CP	220	ln. ft.	0.40	0.41	0.81	+17.4
	1" x 8" pine plain	1 CP	210	ln. ft.	0.50	0.43	0.93	+17.7
shoe molding	1" x 10" pine plain	1 CP	200	ln. ft.	0.58	0.45	1.03	+17.0
	1" x 12" pine plain	1 CP	200	ln. ft.	0.71	0.45	1.16	+19.6
shoe molding	3/4" x 1-5/8" pine	1 CP	180	ln. ft.	0.28	0.50	0.78	+11.4
	3/4" x 1-5/8" oak	1 CP	120	ln. ft.	0.58	0.76	1.34	+13.6
shoe molding	3/4" pine	1 CP	300	ln. ft.	0.15	0.30	0.45	+9.8

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION		OUTPUT			UNIT COSTS			% CHANGE FROM 1973
		Crew	Per Day	Unit	Material	Labor	Total	
WOOD TRIM continued								
baseboard	3/4" oak	1 CP	240	ln. ft.	0.27	0.38	0.65	+14.0
	1"x4" pine plain	1 CP	200	ln. ft.	0.23	0.45	0.68	+11.5
	1"x6" pine plain	1 CP	180	ln. ft.	0.39	0.50	0.89	+14.1
	1"x4" pine molded	1 CP	175	ln. ft.	0.41	0.52	0.93	+13.4
	1"x6" pine molded	1 CP	145	ln. ft.	0.65	0.63	1.28	+16.5
	1"x4" oak plain	1 CP	140	ln. ft.	0.44	0.65	1.09	+13.5
MILLWORK								
Cabinets, prefinished base: kitchen								
	base, no countertop							
	24" deep, 35" high	1 CP	18	ln. ft.	39.00	5.08	44.08	+26.0
	wall, 12" deep, 30" high	1 CP	24	ln. ft.	26.00	3.81	29.81	+26.0
	drawers for base unit	1 CP	10	each	20.80	9.14	29.94	+20.9
	corner base unit	1 CP	8	each	84.50	11.43	95.93	+26.3
	Lazy Susan corner base unit	1 CP	8	each	117.00	11.43	128.43	+27.2
	84" broom closet	1 CP	12	ln. ft.	78.00	7.62	85.62	+27.2
	corner china unit-unfinished pine	1 CP	3	each	162.00	30.48	192.48	+24.8
vanity base cabinets	30" high w/drawer & door	1 CP	6	ln. ft.	32.50	15.24	47.74	+20.6
	30" high w/door only	1 CP	6	ln. ft.	19.50	15.24	34.74	+17.4
Beams & Columns: hand-hewn pine								
	4"x6"	1 CP	80	ln. ft.	1.69	1.14	2.83	+18.4
	6"x8"	1 CP	80	ln. ft.	2.92	1.14	4.06	+21.6
	8"x8"	1 CP	70	ln. ft.	3.90	1.30	5.20	+22.3
	6"x10"	1 CP	75	ln. ft.	3.44	1.22	4.66	+22.3
	6"x12"	1 CP	75	ln. ft.	4.22	1.22	5.44	+23.4
simulated hand-hewn	2"x6"	1 CP	110	ln. ft.	1.95	0.83	2.78	+21.9
	4"x6"	1 CP	100	ln. ft.	2.14	0.91	3.05	+21.0
rough sawn cedar	4"x4"	1 CP	80	ln. ft.	0.71	1.14	1.85	+12.8
	4"x6"	1 CP	80	ln. ft.	0.97	1.14	2.11	+14.7
square column	3-1/2"x3-1/2"	1 CP	50	ln. ft.	1.49	1.82	3.31	+14.1
	4-1/2"x4-1/2"	1 CP	50	ln. ft.	2.34	1.82	4.16	+17.1
solid round fir	3-1/2" diameter	1 CP	46	ln. ft.	1.82	1.98	3.80	+15.1
	hollow round fir	1 CP	36	ln. ft.	4.16	2.54	6.70	+19.0
	8" diameter	1 CP	32	ln. ft.	5.13	2.85	7.98	+19.5
	10" diameter	1 CP	28	ln. ft.	6.11	3.26	9.37	+19.8
Countertops:								
Factory formed stock unit w/4" backsplash								
	economy type-3/4" thick	1 CP	30	ln. ft.	4.37	3.04	7.41	+15.6
	plastic laminated top, 7/8" plastic edge							
	no backsplash	1 CP	24	ln. ft.	8.75	3.81	12.56	+18.0
	with backsplash	1 CP	24	ln. ft.	11.25	3.81	15.06	+19.1
Fireplace mantels:								
Built-in-place	plain	1 CP	3	each	43.75	30.48	74.23	+15.7
prefabricated colonial	economy	1 CP	4	each	50.00	22.86	72.86	+17.7
	deluxe	1 CP	2	each	187.00	45.72	232.72	+20.1
Fireplace mantel beams:	3"x10" hardwood	1 CP	24	ln. ft.	5.00	3.81	8.81	+15.3
	4"x8" rough type	1 CP	24	ln. ft.	3.12	3.81	6.93	+12.9
	4"x10" rough type	1 CP	24	ln. ft.	3.75	3.81	7.56	+13.9
Paneling:								
prefinished, 1/4" thick	4'x8' birch	1 CP	260	sq. ft.	0.81	0.35	1.16	+18.4
	oak	1 CP	260	sq. ft.	0.81	0.35	1.16	+18.4
	walnut	1 CP	260	sq. ft.	0.81	0.35	1.16	+18.4
	cherry	1 CP	260	sq. ft.	0.81	0.35	1.16	+18.4
	chestnut	1 CP	200	sq. ft.	2.50	0.45	2.95	+21.4
	mahogany-African	1 CP	275	sq. ft.	0.85	0.33	1.18	+19.1
	mahogany-Lauan	1 CP	275	sq. ft.	0.32	0.33	0.65	+14.0
knotty pine	1/4" thick	1 CP	260	sq. ft.	0.50	0.35	0.85	+16.4
Pegboard:								
untempered	1/8" thick	1 CP	260	sq. ft.	0.11	0.35	0.46	+9.5
	1/4" thick	1 CP	240	sq. ft.	0.15	0.38	0.53	+10.4
tempered	1/8" thick	1 CP	240	sq. ft.	0.20	0.38	0.58	+11.5
	1/4" thick	1 CP	220	sq. ft.	0.26	0.41	0.67	+11.7

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973
	Crew	Per Day	Unit	Material	Labor	Total	
MILLWORK continued							
Hardboard: plastic-faced	1 CP	240	sq. ft.	0.68	0.38	1.06	+16.5
plain	1 CP	200	sq. ft.	0.93	0.45	1.38	+16.9
	1 CP	260	sq. ft.	0.08	0.35	0.43	+7.5
Shelving:	1 CP	240	sq. ft.	0.12	0.38	0.50	+8.7
	1 CP	120	ln. ft.	0.43	0.76	1.19	+10.2
1"x8" pine	1 CP	110	ln. ft.	0.62	0.83	1.45	+12.4
	1 CP	100	ln. ft.	0.75	0.91	1.66	+12.9
1"x12" pine	1 CP	80	ln. ft.	0.56	1.14	1.70	+10.4
3/4"x12" plywood edged							
	1 CP	32	ln. ft.	1.25	2.85	4.10	+9.9
12" closet shelf & rod							
Stairs:							
prefabricated	1 CP	16	ln. ft.	25.00	5.71	30.71	+20.6
	1 CP	14	ln. ft.	27.50	6.53	34.03	+20.5
	1 CP	12	ln. ft.	30.00	7.62	37.62	+20.2
	1 CP	10	each	62.50	9.14	71.64	+21.9
open, 3' wide, oak treads, w/handrail							
	1 CP	10	each	68.75	9.14	77.89	+22.2
handrails	1 CP	35	ln. ft.	15.00	2.61	17.61	+21.4
balusters	1 CP	16	each	1.37	5.71	7.08	+7.8
1-1/4"x30" pine							
	1 CP	16	each	1.87	5.71	7.58	+8.8
1-1/4"x30" birch							
WOOD SIDING							
Siding:	1 CP	360	sq. ft.	0.35	0.25	0.60	+20.0
	1 CP	400	sq. ft.	0.32	0.22	0.54	+20.0
	1 CP	320	sq. ft.	0.35	0.28	0.63	+15.9
16" cedar shingles	1 CP	290	sq. ft.	0.64	0.31	0.95	+21.8
1"x4" redwood T&G							
	1 CP	340	sq. ft.	0.59	0.26	0.85	+23.1
1"x8" redwood T&G	1 CP	240	sq. ft.	0.47	0.38	0.85	+19.7
1"x12" board & batten							
WATERPROOFING & DAMPPROOFING							
WATERPROOFING							
Membrane waterproofing: on foundation wall	1 WP	330	sq. ft.	0.05	0.26	0.31	+6.9
	1 WP	260	sq. ft.	0.07	0.33	0.40	+5.3
	1 WP	230	sq. ft.	0.09	0.37	0.46	+4.5
on slab	1 WP	360	sq. ft.	0.05	0.23	0.28	+3.7
	1 WP	285	sq. ft.	0.07	0.30	0.37	+5.7
	1 WP	260	sq. ft.	0.09	0.33	0.42	+5.0
DAMPPROOFING							
Asphalt mastic: sprayed on	1 WP	1100	sq. ft.	0.03	0.07	0.10	0
	1 WP	600	sq. ft.	0.06	0.14	0.20	+5.2
2 coats	1 WP	400	sq. ft.	0.07	0.21	0.28	+3.7
troweled on							
	1 WP	290	sq. ft.	0.14	0.29	0.43	+2.4
1/8"	1 WP	300	sq. ft.	0.08	0.28	0.36	+2.9
brushed on							
VAPOR BARRIERS							
Polyethylene:	1 CP	35	csf	0.83	2.61	3.44	+4.2
	1 CP	35	csf	1.04	2.61	3.65	+4.3
	1 CP	35	csf	1.35	2.61	3.96	+4.2
.004"							
.006"							
.008"							

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
INSULATION								
WALL INSULATION								
Batt fiber glass:	2-1/2"	1 CP	1000	sq. ft.	0.05	0.09	0.14	+7.7
	3-1/2"	1 CP	1000	sq. ft.	0.06	0.09	0.15	+7.1
Mineral fiber batts:	2"	1 CP	770	sq. ft.	0.05	0.11	0.16	0
	3"	1 CP	770	sq. ft.	0.07	0.11	0.18	0
Polystyrene:	4"	1 CP	770	sq. ft.	0.09	0.11	0.20	0
	1"	1 CP	650	sq. ft.	0.13	0.14	0.27	+3.8
Polyurethane:	2"	1 CP	650	sq. ft.	0.27	0.14	0.41	+5.1
	1"	1 CP	650	sq. ft.	0.21	0.14	0.35	+2.9
Fire-resistant urethane:	2"	1 CP	650	sq. ft.	0.41	0.14	0.55	+3.8
	1"	1 CP	750	sq. ft.	0.24	0.12	0.36	+5.9
	2"	1 CP	710	sq. ft.	0.41	0.12	0.53	+1.9
PERIMETER INSULATION								
Fiber glass:	1"	1 CP	690	sq. ft.	0.18	0.13	0.31	+3.3
	2"	1 CP	690	sq. ft.	0.30	0.13	0.43	+4.9
Polystyrene:	1"	1 CP	690	sq. ft.	0.13	0.13	0.26	+4.0
	2"	1 CP	690	sq. ft.	0.27	0.13	0.40	+5.3
Polyurethane:	1"	1 CP	690	sq. ft.	0.21	0.13	0.34	+3.0
	2"	1 CP	690	sq. ft.	0.41	0.13	0.54	+3.8
ROOF INSULATION								
Batt fiber glass:	6"	1 CP	1000	sq. ft.	0.12	0.09	0.21	0
Mineral fiberboard:	1"	1 CP	600	sq. ft.	0.10	0.15	0.25	+4.5
	1-1/2"	1 CP	600	sq. ft.	0.14	0.15	0.29	+3.6
	2"	1 CP	600	sq. ft.	0.19	0.15	0.34	+3.0
Fiber glass sheets:	3/4"	1 CP	600	sq. ft.	0.09	0.15	0.24	+4.3
	1"	1 CP	600	sq. ft.	0.12	0.15	0.27	+3.8
Polystyrene sheets:	2"	1 CP	600	sq. ft.	0.25	0.15	0.40	+5.3
	1"	1 CP	600	sq. ft.	0.12	0.15	0.27	+3.8
Polyurethane:	2"	1 CP	600	sq. ft.	0.25	0.15	0.40	+5.2
	1"	1 CP	600	sq. ft.	0.22	0.15	0.37	+2.8
Sprayed urethane:	2"	1 CP	600	sq. ft.	0.41	0.15	0.56	+3.7
	1"	1 CP	250	sq. ft.	0.36	0.36	0.72	+2.8
	2"	1 CP	200	sq. ft.	0.62	0.45	1.07	+3.9
BLOWN-IN INSULATION								
Fiber glass:		1 CP	380	cu. ft.	0.20	0.24	0.44	+2.3
Mineral wool:		1 CP	380	cu. ft.	0.25	0.24	0.49	+4.3
Vermiculite:		1 CP	380	cu. ft.	0.46	0.24	0.70	+2.9
ROOFING & SIDING								
SHINGLES								
Asphalt shingle roofing w/15# felt		1 RF	5	csf	13.65	17.26	30.91	+5.1
Asbestos shingle roofing:		1 RF	2.7	csf	33.60	31.97	65.57	+5.1
standard	325 #/CSF							
	500 #/CSF	1 RF	1.7	csf	58.80	50.77	109.57	+5.0
	540 #/CSF	1 RF	1.6	csf	68.25	53.95	122.20	+5.1
colored	325 #/CSF	1 RF	2.7	csf	36.75	31.97	68.72	+5.1
	500 #/CSF	1 RF	1.7	csf	61.95	50.77	112.72	+5.1
	540 #/CSF	1 RF	1.6	csf	71.40	53.95	125.35	+5.1
hip & ridge roll		1 RF	50.0	ln. ft.	0.84	1.72	2.56	+4.9
Asbestos shingle siding:	9"x32"	1 CP	240	sq. ft.	0.31	0.38	0.69	+4.5
	12"x24"	1 CP	240	sq. ft.	0.26	0.38	0.64	+4.9
Wood shingle roofing:								
#1 red cedar	16" w/5" exposure	1 RF	2.0	csf	35.49	43.16	78.65	+17.3
	18" w/6" exposure	1 RF	2.2	csf	38.22	39.23	77.45	+18.6
	18" w/7" exposure	1 RF	2.3	csf	43.68	37.53	81.21	+20.0

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
SHINGLES continued								
	16" fire-rated	1 RF	2.0	csf	143.00	43.16	186.16	+27.5
	18" fire-rated	1 RF	2.2	csf	146.00	39.23	185.23	+28.4
hand split red cedar shakes		1 RF	2.5	csf	43.68	34.52	78.20	+20.6
white cedar	standard	1 RF	1.9	csf	34.12	45.43	79.55	+16.6
	select	1 RF	1.9	csf	39.58	45.43	85.01	+17.7
Wood shingle siding:								
#1 red cedar	16" w/5" exposure	1 CP	1.5	csf	35.49	60.96	96.45	+14.4
	18" w/6" exposure	1 CP	1.7	csf	38.22	53.78	92.00	+15.8
	18" w/7" exposure	1 CP	1.8	csf	43.68	50.80	94.48	+17.2
	16" fire-rated	1 CP	1.5	csf	143.00	60.96	203.96	+24.8
	18" fire-rated	1 CP	1.8	csf	146.00	50.80	196.80	+26.4
hand split red cedar shakes		1 CP	1.8	csf	39.58	50.80	90.38	+16.4
white cedar	standard	1 CP	1.4	csf	34.12	65.31	99.43	+13.6
	select	1 CP	1.4	csf	39.58	65.31	104.89	+14.6
Slate shingles:								
Pennsylvania	ribbon	1 RF	1.2	csf	54.07	71.93	126.00	+6.4
	clear	1 RF	1.2	csf	70.29	71.93	142.22	+6.6
Vermont	black	1 RF	1.2	csf	102.00	71.93	173.93	+6.4
	gray	1 RF	1.2	csf	102.00	71.93	173.93	+6.4
	green	1 RF	1.2	csf	102.00	71.93	173.93	+6.4
	red non-fade	1 RF	1.2	csf	194.00	71.93	265.93	+7.1
ROOFING TILE								
Clay tile:	flat red, 11" exposure	1 RF	1.4	csf	59.48	61.65	121.13	+6.6
	colored glazed interlock	1 RF	1.4	csf	86.52	61.65	148.17	+6.9
	Spanish tile	1 RF	1.4	csf	86.52	61.65	148.17	+6.9
	Mission tile	1 RF	1.2	csf	97.33	71.93	169.26	+6.9
Concrete tile:	Greek tile	1 RF	1.0	csf	237.00	86.32	323.32	+7.0
	flat standard	1 RF	2.0	csf	36.30	43.16	79.46	+7.3
	flat selected	1 RF	2.0	csf	39.60	43.16	82.76	+7.4
	interlocked	1 RF	2.0	csf	38.50	43.16	81.66	+7.4
PREFORMED ROOFING & SIDING								
Aluminum siding:	horizontal plain	1 SM	240	sq. ft.	0.44	0.45	0.89	+8.5
	insulated	1 SM	240	sq. ft.	0.49	0.45	0.94	+8.0
Epoxy panels, aggregate mounted on plywood		1 CP	80	sq. ft.	2.14	1.14	3.28	+7.9
Felt underlayment	asbestos 15#	1 CP	50	csf	2.75	1.82	4.57	+7.5
	asphalt felt 15#	1 CP	50	csf	0.99	1.82	2.81	+6.0
	asphalt felt 30#	1 CP	50	csf	1.76	1.82	3.58	+6.9
	coated asphalt 30#	1 CP	50	csf	2.53	1.82	4.35	+7.4
	coated asphalt 40#	1 CP	50	csf	3.02	1.82	4.84	+7.6
MEMBRANE ROOFING								
Built-up roofing:	3 ply	1 RF	480	sq. ft.	0.11	0.18	0.29	+3.6
	4 ply, 10 yr. bond	1 RF	400	sq. ft.	0.14	0.21	0.35	+6.0
	4 ply, 20 yr. bond	1 RF	400	sq. ft.	0.16	0.21	0.37	+5.7
	5 ply, 10 yr. bond	1 RF	370	sq. ft.	0.15	0.23	0.38	+5.6
	5 ply, 20 yr. bond	1 RF	370	sq. ft.	0.17	0.23	0.40	+5.3
	for gravel surfacing add			sq. ft.	0.02		0.02	0
SHEET METAL								
FLASHINGS								
Aluminum:	.019"	1 SM	150	sq. ft.	0.32	0.73	1.05	+7.1
	.032"	1 SM	150	sq. ft.	0.37	0.73	1.10	+7.0
	.040"	1 SM	150	sq. ft.	0.43	0.73	1.16	+7.4
	.050"	1 SM	150	sq. ft.	0.54	0.73	1.27	+7.6
Copper:	16 oz.	1 SM	150	sq. ft.	1.99	0.73	2.72	+37.3
	20 oz.	1 SM	150	sq. ft.	2.45	0.73	3.18	+39.4
	24 oz.	1 SM	150	sq. ft.	3.06	0.73	3.79	+41.4
Zinc:	12 oz.	1 SM	150	sq. ft.	0.48	0.73	1.21	+6.6
Fabric-bkd. copper:	5 oz.	1 SM	320	sq. ft.	0.64	0.34	0.98	+6.5
Fabric-bkd. aluminum:	.005"	1 SM	320	sq. ft.	0.30	0.34	0.64	+6.7

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
FLASHINGS continued								
Mastic-bkd. copper:	3 oz.	1 SM	320	sq. ft.	0.37	0.34	0.71	+6.0
	5 oz.	1 SM	320	sq. ft.	0.59	0.34	0.93	+6.9
Mastic-bkd. aluminum:	.004"	1 SM	350	sq. ft.	0.27	0.31	0.58	+7.4
	.016"	1 SM	350	sq. ft.	0.43	0.31	0.74	+7.2
Fabric:	17 oz.	1 SM	360	sq. ft.	0.19	0.30	0.49	+6.5
	40 oz.	1 SM	360	sq. ft.	0.26	0.30	0.56	+7.7
Plastic:	.020"	1 SM	300	sq. ft.	0.14	0.36	0.50	+6.4
	.030"	1 SM	300	sq. ft.	0.19	0.36	0.55	+5.8
	.060"	1 SM	280	sq. ft.	0.31	0.39	0.70	+7.7
GUTTERS								
Galvanized steel:	4" wide	1 SM	100	ln. ft.	0.54	1.09	1.63	+7.2
	6" wide	1 SM	100	ln. ft.	0.64	1.09	1.73	+6.8
Aluminum:	5" wide .027"	1 SM	100	ln. ft.	0.54	1.09	1.63	+7.2
	5" wide .032"	1 SM	100	ln. ft.	0.64	1.09	1.73	+6.8
Copper:	4" wide 16 oz.	1 SM	100	ln. ft.	2.15	1.09	3.24	+33.9
	6" wide 16 oz.	1 SM	100	ln. ft.	2.99	1.09	4.08	+37.3
DOWNSPOUTS								
Aluminum .025":	2" x 3"	1 CP	150	ln. ft.	0.37	0.61	0.98	+5.4
	3" x 4"	1 CP	150	ln. ft.	0.48	0.61	1.09	+5.8
Copper 16 oz.:	3" diameter	1 CP	150	ln. ft.	2.37	0.61	2.98	+40.0
	4" diameter	1 CP	125	ln. ft.	3.21	0.73	3.94	+40.7
	2" x 3"	1 CP	150	ln. ft.	3.37	0.61	3.98	+43.1
	3" x 4"	1 CP	125	ln. ft.	4.29	0.73	5.02	+43.4
Galvanized steel:	3" diameter	1 CP	150	ln. ft.	0.23	0.61	0.84	+5.0
	4" diameter	1 CP	150	ln. ft.	0.32	0.61	0.93	+5.7
	2" x 3"	1 CP	150	ln. ft.	0.45	0.61	1.06	+6.0
	3" x 4"	1 CP	150	ln. ft.	0.58	0.61	1.19	+6.3
LOUVERS								
Aluminum eave vents		1 SM	175	ln. ft.	0.37	0.62	0.99	+6.5
Attic vent 12" x 24"		1 SM	11	each	5.40	9.98	15.38	+7.6
Foundation vents 12" x 6"		1 SM	50	each	1.08	2.19	3.27	+7.6
Brick vents		1 SM	6	each	17.28	18.30	35.58	+7.7
SEALANTS								
CAULKING								
Butyl caulking:	1/2" x 1/2"	1 WP	200	ln. ft.	0.13	0.43	0.56	+5.7
	3/4" x 3/4"	1 WP	180	ln. ft.	0.21	0.47	0.68	+4.6
Polysulfide caulking:	3/4" x 1"	1 WP	160	ln. ft.	0.28	0.53	0.81	+5.2
	1/2" x 1/2"	1 WP	200	ln. ft.	0.15	0.43	0.58	+5.5
	3/4" x 3/4"	1 WP	180	ln. ft.	0.23	0.47	0.70	+4.5
	3/4" x 1"	1 WP	160	ln. ft.	0.32	0.53	0.85	+4.9
Silicone caulking:	1/4" x 1/2"	1 WP	140	ln. ft.	0.41	0.61	1.02	+6.3
	3/8" x 3/4"	1 WP	115	ln. ft.	0.91	0.74	1.65	+5.8
DOORS & FRAMES								
WOOD DOORS & FRAMES								
Wood frames:								
exterior stock units	without sill	1 CP	8	each	17.28	11.43	28.71	+6.6
	with sill	1 CP	6	each	23.76	15.24	39.00	+6.6
	with side lites	1 CP	4.5	each	59.40	20.32	79.72	+7.1
interior stock units	3' x 7'	1 CP	14	each	12.21	6.53	18.74	+8.6
	6' x 7'	1 CP	13	each	39.96	7.03	46.99	+5.9
	3' x 10' w/transom	1 CP	12	each	17.76	7.62	25.38	+9.0
	6' x 10' w/transom	1 CP	11	each	51.06	8.31	59.37	+10.0
interior custom units	3' x 7'	1 CP	14	each	22.20	6.53	28.73	+9.4
	6' x 7'	1 CP	13	each	49.95	7.03	56.98	+10.1
	3' x 10' w/transom	1 CP	12	each	28.86	7.62	36.48	+9.6
	6' x 10' w/transom	1 CP	11	each	57.72	8.31	66.03	+10.1

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973
	Crew	Per Day	Unit	Material	Labor	Total	
WOOD DOORS & FRAMES continued							
Prehung door, including frame, sill & hardware:							
exterior	1 CP	7	each	147.00	13.06	160.06	+10.0
interior	1 CP	9	each	55.50	10.16	65.66	+9.9
Pocket door frame w/hardware	1 CP	6	each	22.20	15.24	37.44	+8.3
Flush type door, hollow core 1-3/8" thick:							
birch face	1 CP	2	each	14.43	45.72	60.15	+6.0
2'6"x6'8"	1 CP	2	each	16.65	45.72	62.37	+6.1
2'8"x6'8"	1 CP	2	each	18.87	45.72	64.59	+6.3
3'0"x6'8"	1 CP	2	each	19.98	45.72	65.70	+6.4
3'0"x7'0"	1 CP	2	each	21.09	45.72	66.81	+6.6
lauan face	1 CP	2	each	11.10	45.72	56.82	+5.7
2'6"x6'8"	1 CP	2	each	13.32	45.72	59.04	+5.9
2'8"x6'8"	1 CP	2	each	16.65	45.72	62.37	+6.1
3'0"x6'8"	1 CP	2	each	17.76	45.72	63.48	+6.2
3'0"x7'0"	1 CP	2	each	19.98	45.72	65.70	+6.4
Flush type door, hollow core 1-3/4" thick:							
birch face	1 CP	2	each	22.20	45.72	67.92	+6.5
2'8"x6'8"	1 CP	2	each	24.42	45.72	70.14	+6.7
3'0"x6'8"	1 CP	2	each	26.64	45.72	72.36	+6.8
3'0"x7'0"	1 CP	2	each	31.08	45.72	76.80	+7.0
lauan face	1 CP	2	each	16.65	45.72	62.37	+6.1
3'0"x6'8"	1 CP	2	each	19.98	45.72	65.70	+6.4
3'0"x7'0"	1 CP	2	each	22.20	45.72	67.92	+6.5
3'0"x8'0"	1 CP	2	each	26.64	45.72	72.36	+6.8
Flush type door, particle board filler 1-3/8" thick:							
birch face	1 CP	2	each	24.42	45.72	70.14	+6.7
3'0"x6'8"	1 CP	2	each	27.75	45.72	73.47	+6.8
3'0"x7'0"	1 CP	2	each	31.08	45.72	76.80	+7.0
lauan face	1 CP	1.8	each	38.85	50.80	89.65	+7.2
2'8"x6'8"	1 CP	2	each	19.98	45.72	65.70	+6.4
3'0"x6'8"	1 CP	2	each	23.31	45.72	69.03	+6.6
3'0"x7'0"	1 CP	2	each	26.64	45.72	72.36	+6.8
3'0"x8'0"	1 CP	1.8	each	34.41	50.80	85.21	+7.0
Flush type door, particle board filler 1-3/4" thick:							
birch face	1 CP	2	each	35.52	45.72	81.24	+7.2
3'0"x6'8"	1 CP	2	each	38.85	45.72	84.57	+7.4
3'0"x7'0"	1 CP	2	each	41.07	45.72	86.79	+7.5
3'6"x7'0"	1 CP	1.5	each	55.50	60.96	116.46	+7.5
4'0"x7'0"	1 CP	1.5	each	59.94	60.96	120.90	+7.6
3'0"x8'0"	1 CP	1.5	each	57.72	60.96	118.68	+7.5
3'6"x8'0"	1 CP	1.5	each	75.48	60.96	136.44	+7.4
4'0"x8'0"	1 CP	1.5	each	79.92	60.96	140.88	+8.0
lauan face	1 CP	2	each	31.08	45.72	76.80	+7.0
3'0"x7'0"	1 CP	2	each	33.30	45.72	79.02	+7.1
3'0"x8'0"	1 CP	1.5	each	46.62	60.96	107.58	+7.2
Flush type door, fire-rated 3/4 hour, w/particle board filler:							
2'8"x6'8"	1 CP	2	each	44.40	45.72	90.12	+7.6
3'0"x6'8"	1 CP	2	each	46.62	45.72	92.34	+6.4
3'0"x7'0"	1 CP	2	each	48.84	45.72	94.56	+7.7
3'6"x7'0"	1 CP	1.5	each	66.60	60.96	127.56	+7.8
4'0"x7'0"	1 CP	1.5	each	72.15	60.96	133.11	+7.9
Plastic laminate doors:							
add to birch prices	35%						
Flush type solid doors:							
pine	1 CP	2	each	81.03	45.72	126.75	+8.6
2'8"x6'8"	1 CP	1.5	each	83.25	60.96	144.21	+8.1
3'0"x6'8"	1 CP	1.5	each	88.80	60.96	149.76	+7.6
Panel type doors 3'x7'x1-3/4", raised panel:							
oak	1 CP	1.5	each	66.60	60.96	127.56	+7.8
walnut	1 CP	1.5	each	83.25	60.96	144.21	+8.2
Exterior wood doors, 3'x7':							
birch	1 CP	2	each	66.60	45.72	112.32	+8.2
1-3/4" thick	1 CP	1.5	each	77.70	60.96	138.66	+8.0
2-1/4" thick	1 CP	1.5	each	55.50	60.96	116.46	+7.5
pine paneled	1 CP	1.5	each	55.50	60.96	116.46	+7.5

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973
	Crew	Per Day	Unit	Material	Labor	Total	
WOOD DOORS & FRAMES continued							
colonial design w/frame & trim Bi-folding, prehung:	1 CP	1	each	122.00	91.44	213.44	+8.1
louvered pine	1 CP	4	each	33.30	22.86	56.16	+8.2
	1 CP	3.5	each	53.28	26.12	79.40	+8.8
pine paneled	1 CP	4	each	37.74	22.86	60.60	+8.4
	1 CP	3.5	each	66.60	26.12	92.72	+9.1
birch	1 CP	4	each	33.30	22.86	56.16	+8.2
	1 CP	3.5	each	58.83	26.12	84.95	+8.9
hardboard	1 CP	4	each	31.08	22.86	53.94	+8.1
	1 CP	3.5	each	53.28	26.12	79.40	+8.8
SPECIAL DOORS							
French doors, 5'x7':	1 CP	0.5	opg	165.00	182.88	347.88	+7.0
	1 CP	0.5	opg	181.00	182.88	363.88	+7.0
Sliding glass doors 6'x7':							
standard	1 SI	1.7	each	170.00	57.03	227.03	+8.9
deluxe	1 SI	1.7	each	374.00	57.03	431.03	+9.5
Storm & screen combination doors:							
residential	1 CP	3.5	each	82.50	26.12	108.62	+8.6
	1 CP	3.5	each	66.00	26.12	92.12	+8.4
OVERHEAD DOORS							
Wood w/o frames sectioned 1-3/8" thick:							
8'x7'	1 CP	0.8	each	97.20	114.30	211.50	+6.1
16'x7'	1 CP	0.5	each	205.00	182.88	387.88	+6.3
Fiber glass & aluminum w/o frames:							
standard	1 CP	0.8	each	97.20	114.30	211.50	+6.1
	1 CP	0.8	each	172.00	114.30	286.30	+6.3
deluxe	1 CP	0.8	each	135.00	114.30	249.30	+6.4
	1 CP	0.8	each	205.00	114.30	319.30	+6.6
Steel w/o frames:							
standard	1 CP	0.8	each	86.40	114.30	200.70	+6.0
	1 CP	0.5	each	162.00	182.88	344.88	+6.1
deluxe	1 CP	0.8	each	108.00	114.30	222.30	+6.2
	1 CP	0.5	each	183.00	182.88	365.88	+6.0
Wood w/hardboard panels, w/o frames:							
standard	1 CP	0.8	each	86.40	114.30	200.70	+6.0
	1 CP	0.5	each	172.00	182.88	354.88	+6.0
deluxe	1 CP	0.8	each	102.00	114.30	216.30	+5.8
	1 CP	0.5	each	194.00	182.88	376.88	+6.2
WINDOWS							
STEEL WINDOWS W/O GLAZING							
Basement sash:							
2'8"x1'2"	2 SI	15	each	12.96	12.92	25.88	+7.3
2'8"x1'6"	2 SI	15	each	15.12	12.92	28.04	+7.3
2'8"x1'10"	2 SI	15	each	19.44	12.92	32.36	+7.4
ALUMINUM WINDOWS W/O GLAZING							
Average costs per sq. ft.:							
fixed	1 SI	70	sq. ft.	1.51	1.38	2.89	+7.0
casement	1 SI	70	sq. ft.	3.67	1.38	5.05	+7.4
projected	1 SI	70	sq. ft.	4.75	1.38	6.13	+7.5
sliding	1 SI	70	sq. ft.	2.91	1.38	4.29	+7.3
screens	1 SI	550	sq. ft.	0.86	0.17	1.03	+7.3
Awning type:							
3'1"x2'2"	2 SI	10	each	52.92	19.39	72.31	+7.6
4'5"x2'2"	2 SI	10	each	61.56	19.39	80.95	+7.6
3'1"x3'3"	2 SI	9	each	56.16	21.54	77.70	+7.6
3'1"x4'3"	2 SI	7	each	62.64	27.70	90.34	+7.5
4'5"x4'3"	2 SI	6	each	72.36	32.32	104.68	+7.5
4'5"x5'3"	2 SI	5	each	77.76	38.78	116.54	+7.5
Casement, standard:							
3'1"x2'2"	2 SI	14	each	28.08	13.85	41.93	+7.5
4'5"x2'2"	2 SI	11	each	44.28	17.63	61.91	+7.6

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
ALUMINUM WINDOWS W/O GLAZING continued								
3'1"x3'3"	2 SI	11	each	32.40	17.63	50.03	+7.5	
5'9"x3'3"	2 SI	7	each	54.00	27.70	81.70	+7.5	
5'9"x4'3"	2 SI	7	each	61.56	27.70	89.26	+7.5	
5'9"x5'3"	2 SI	6	each	68.04	32.32	100.36	+7.5	
Double hung standard:	7'7"x5'3"	2 SI	6	each	72.36	32.32	104.68	+7.5
	2'4"x3'1"	2 SI	8	each	56.16	24.24	80.40	+7.5
3'8"x3'1"	2 SI	6.5	each	63.72	29.83	93.55	+7.5	
3'8"x5'9"	2 SI	5.5	each	75.60	35.25	110.85	+7.5	
WOOD WINDOWS								
Average cost per sq. ft. w/o glazing:								
sliding	1 CP	55	sq. ft.	2.70	1.66	4.36	+6.6	
double hung	1 CP	50	sq. ft.	2.37	1.82	4.19	+6.1	
casement	1 CP	60	sq. ft.	3.24	1.52	4.76	+7.0	
Bow window w/glazing:	picture	1 CP	55	sq. ft.	3.24	1.66	4.90	+6.8
	7'0"x5'0"	2 CP	2	each	142.00	91.44	233.44	+6.3
8'9"x5'0"	2 CP	1.5	each	194.00	121.92	315.92	+6.5	
7'0"x6'6"	2 CP	1.8	each	189.00	101.60	290.60	+6.7	
8'9"x6'6"	2 CP	1.4	each	237.00	130.62	367.62	+6.6	
Basement sash w/o glazing fixed:								
2'8"x1'4"	2 CP	16	each	16.20	11.43	27.63	+6.6	
2'8"x1'10"	2 CP	15	each	18.36	12.19	30.55	+6.6	
2'8"x1'4" top hung	2 CP	12	each	19.44	15.24	34.68	+6.4	
2'8"x1'10" top hung	2 CP	10	each	23.76	18.28	42.04	+6.4	
Casement w/glazing:	2'0"x2'6"	2 CP	8	each	43.20	22.86	66.06	+6.8
	3'6"x2'6"	2 CP	6.5	each	83.16	28.13	111.29	+7.1
5'0"x2'6"	2 CP	4.8	each	109.00	38.10	147.10	+7.1	
3'6"x3'0"	2 CP	6	each	95.04	30.48	125.52	+7.1	
Picture window, w/glazing & D.H. side sash:								
10'3"x4'6"	2 CP	3	each	308.00	60.96	368.96	+7.1	
12'3"x4'6"	2 CP	2.4	each	383.00	76.20	459.20	+7.3	
12'3"x5'6"	2 CP	2.0	each	432.00	91.44	523.44	+7.4	
12'3"x6'6"	2 CP	1.8	each	518.00	101.60	619.60	+7.3	
Double hung pine w/o glazing:								
2'0"x3'2"	2 CP	7	each	35.64	26.12	61.76	+6.5	
2'0"x4'6"	2 CP	6	each	39.96	30.48	70.44	+6.5	
2'8"x3'2"	2 CP	6	each	37.80	30.48	68.28	+6.4	
2'8"x5'2"	2 CP	4.2	each	47.52	43.54	91.06	+6.3	
3'4"x5'2"	2 CP	3.8	each	54.00	48.12	102.12	+6.3	
Window trim:								
pine	1"x4" molded	1 CP	180	ln. ft.	0.35	0.50	0.85	+4.9
	1"x6" stool	1 CP	100	ln. ft.	0.47	0.91	1.38	+5.3
oak	1"x4" molded	1 CP	130	ln. ft.	0.42	0.70	1.12	+5.7
	1"x6" stool	1 CP	90	ln. ft.	0.59	1.01	1.60	+5.3
birch	1"x4" molded	1 CP	110	ln. ft.	0.54	0.83	1.37	+6.2
	1"x6" stool	1 CP	80	ln. ft.	0.71	1.14	1.85	+5.7
Storm windows:	to 12 sf	2 CP	9	each	14.04	20.32	34.36	+5.9
	12 to 20 sf	2 CP	8	each	21.60	22.86	44.46	+6.2
WEATHERSTRIPPING								
Doors:								
3'x7'	zinc	1 CP	4	opg	8.80	22.86	31.66	+6.0
	bronze	1 CP	4	opg	17.60	22.86	40.46	+6.8
6'x7'	zinc	1 CP	3	opg	10.45	30.48	40.93	+5.8
	bronze	1 CP	3	opg	20.90	30.48	51.38	+6.7
Windows:								
3'x5'	zinc	1 CP	6	opg	6.60	15.24	21.84	+6.1
	bronze	1 CP	6	opg	13.20	15.24	28.44	+7.0
3'x7'	zinc	1 CP	5	opg	8.25	18.28	26.53	+6.2

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973
	Crew	Per Day	Unit	Material	Labor	Total	
WALLBOARD							
GYPSUM DRYWALL							
Drywall including taping: 3/8"	1 CP	780	sq. ft.	0.08	0.11	0.19	0
1/2"	1 CP	750	sq. ft.	0.11	0.12	0.23	+9.5
5/8"	1 CP	700	sq. ft.	0.12	0.13	0.25	+8.7
5/8" + 3/8" laminated	1 CP	420	sq. ft.	0.19	0.21	0.40	+5.3
5/8" + 5/8" laminated	1 CP	400	sq. ft.	0.22	0.22	0.44	+7.3
Suspended drywall ceiling, including channel:	1 CP	250	sq. ft.	0.24	0.36	0.60	+5.3
Drywall nailed to wood joists:	1 CP	300	sq. ft.	0.11	0.30	0.41	+5.1
Drywall partitions complete:							
2-1/2" metal studs 1/2" drywall	1 CP	98	sq. ft.	0.33	0.93	1.26	+41.6
5/8" drywall	1 CP	86	sq. ft.	0.37	1.06	1.43	+57.1
5/8" + 3/8" laminated	1 CP	69	sq. ft.	0.57	1.32	1.89	+31.3
5/8" + 5/8" laminated	1 CP	53	sq. ft.	0.61	1.72	2.33	+57.4
3-5/8" metal studs 1/2" drywall	1 CP	90	sq. ft.	0.35	1.01	1.36	+51.1
5/8" drywall	1 CP	80	sq. ft.	0.39	1.14	1.53	+66.3
5/8" + 3/8" laminated	1 CP	65	sq. ft.	0.59	1.40	1.99	+37.2
5/8" + 5/8" laminated	1 CP	51	sq. ft.	0.63	1.79	2.42	+62.4
TILE							
CERAMIC TILE							
Wall tile:							
glazed on mud set							
one color 1" x 1"	1 TS	75	sq. ft.	0.93	1.14	2.07	+6.7
4-1/4" x 4-1/4"	1 TS	75	sq. ft.	0.82	1.14	1.96	+6.5
multi-color 1" x 1"	1 TS	75	sq. ft.	1.04	1.14	2.18	+6.9
4-1/4" x 4-1/4"	1 TS	75	sq. ft.	0.93	1.14	2.07	+6.7
glazed on thin set							
one color 1" x 1"	1 TS	105	sq. ft.	0.93	0.81	1.74	+6.7
4-1/4" x 4-1/4"	1 TS	105	sq. ft.	0.82	0.81	1.63	+6.5
multi-color 1" x 1"	1 TS	105	sq. ft.	1.04	0.81	1.85	+6.9
4-1/4" x 4-1/4"	1 TS	105	sq. ft.	0.93	0.81	1.74	+6.7
Floor tile:							
mud set							
one color 1" x 1"	1 TS	95	sq. ft.	0.93	0.90	1.83	+7.0
multi-color 1" x 1"	1 TS	95	sq. ft.	1.04	0.90	1.94	+7.2
thin set							
one color 1" x 1"	1 TS	120	sq. ft.	0.93	0.71	1.64	+7.2
multi-color 1" x 1"	1 TS	120	sq. ft.	1.04	0.71	1.75	+7.4
For epoxy grout add:							
For abrasive non-slip tile add:							
Cove base tile:							
mud set 4-1/2" x 4-1/4"	1 TS	38	ln. ft.	0.71	2.25	2.96	+5.7
6" x 4-1/4"	1 TS	38	ln. ft.	0.77	2.25	3.02	+6.0
6" x 4-1/4" sanitary	1 TS	38	ln. ft.	0.82	2.25	3.07	+5.8
thin set 6" x 6" sanitary	1 TS	38	ln. ft.	0.93	2.25	3.18	+5.7
4-1/2" x 4-1/4"	1 TS	46	ln. ft.	0.71	1.86	2.57	+5.8
6" x 4-1/4"	1 TS	46	ln. ft.	0.77	1.86	2.63	+6.0
6" x 4-1/4" sanitary	1 TS	46	ln. ft.	0.82	1.86	2.68	+5.9
6" x 6" sanitary	1 TS	46	ln. ft.	0.93	1.86	2.79	+6.1
Bullnose trim 4-1/4": mud set	1 TS	34	ln. ft.	0.77	2.52	3.29	+5.8
thin set	1 TS	42	ln. ft.	0.77	2.04	2.81	+6.0
FLOORING							
WOOD STRIP FLOORING							
Fir, no finish: 1" x 4" T&G	1 CP	230	sq. ft.	0.72	0.39	1.11	+9.9
1" x 6" T&G	1 CP	250	sq. ft.	0.69	0.36	1.05	+10.5
White or red oak 25/32" x 2-1/4": no finish	1 CP	135	sq. ft.	0.86	0.67	1.53	+10.1
prefinished	1 CP	130	sq. ft.	0.97	0.70	1.67	+9.9
Sanding & finishing	1 CP	225	sq. ft.	0.07	0.40	0.47	+4.4

BREAKDOWN OF CONSTRUCTION COSTS

DESCRIPTION	OUTPUT			UNIT COSTS			% CHANGE FROM 1973	
	Crew	Per Day	Unit	Material	Labor	Total		
WOOD BLOCK FLOORING								
Hardwood blocks 25/32": Parquet flooring 5/16" thick:	1 CP	120	sq. ft.	0.86	0.76	1.62	+9.5	
no finish	oak	1 CP	120	sq. ft.	0.94	0.76	1.70	+9.7
	walnut	1 CP	120	sq. ft.	1.30	0.76	2.06	+10.8
prefinished	teak	1 CP	120	sq. ft.	1.15	0.76	1.91	+10.4
	oak	1 CP	110	sq. ft.	1.06	0.83	1.89	+10.5
	walnut	1 CP	110	sq. ft.	1.41	0.83	2.24	+10.9
	teak	1 CP	110	sq. ft.	1.26	0.83	2.09	+10.6
CARPETING								
Wool carpet:	shag		sq. yd.	17.43		17.43	*	
	plush		sq. yd.	14.85		14.85	*	
Nylon carpet:	shag		sq. yd.	8.25		8.25	*	
	plush		sq. yd.	5.50		5.50	*	
Acrylic carpet:	plush		sq. yd.	8.63		8.63	*	
Polyester carpet:	shag		sq. yd.	6.87		6.87	*	
Commercial carpet:	acrylic		sq. yd.	10.39		10.39	*	
	nylon		sq. yd.	7.70		7.70	*	
Indoor/outdoor carpet w/foam backing:			sq. yd.	5.50		5.50	*	
RESILIENT SHEET FLOORING								
Linoleum:	standard gauge 3/32"	1 CP	275	sq. ft.	0.53	0.33	0.86	+7.5
	heavy gauge 1/8"	1 CP	275	sq. ft.	0.60	0.33	0.93	+8.1
Sheet vinyl flooring:		1 CP	325	sq. ft.	0.71	0.28	0.99	+7.6
RESILIENT TILE FLOORING								
Vinyl asbestos tile:	9"x9"x1/8"	1 CP	400	sq. ft.	0.36	0.22	0.58	+7.4
	9"x9"x1/16"	1 CP	400	sq. ft.	0.45	0.22	0.67	+8.0
Vinyl tile:	9"x9"x.08" type A	1 CP	400	sq. ft.	0.49	0.22	0.71	+7.6
	9"x9"x1/8" type B	1 CP	400	sq. ft.	0.80	0.22	1.02	+8.5
	9"x9"x1/8" travertine	1 CP	400	sq. ft.	1.10	0.22	1.32	+9.1
	9"x9"x1/8" florentine	1 CP	400	sq. ft.	1.45	0.22	1.67	+9.2
PAINTING								
EXTERIOR WALLS								
brush applied, 2 coats:								
wood	oil base	1 PA	500	sq. ft.	0.05	0.16	0.21	+5.0
metal	oil base	1 PA	450	sq. ft.	0.05	0.18	0.23	+4.5
masonry	latex	1 PA	450	sq. ft.	0.05	0.18	0.23	+4.5
shingles	stain	1 PA	410	sq. ft.	0.03	0.20	0.23	+4.5
windows & doors	enamel	1 PA	300	sq. ft.	0.05	0.28	0.33	+6.1
INTERIOR WALLS								
Brush applied:								
plaster or drywall	3 coats flat	1 PA	500	sq. ft.	0.05	0.16	0.21	+5.0
wood	2 coats enamel	1 PA	400	sq. ft.	0.07	0.21	0.28	+7.7
	2 coats enamel	1 PA	375	sq. ft.	0.07	0.22	0.29	+3.6
masonry or concrete	filler, stain, 2 coats varnish	1 PA	320	sq. ft.	0.08	0.26	0.34	+6.3
	2 coats latex	1 PA	190	sq. ft.	0.14	0.44	0.58	+7.4
CEILINGS								
Brush applied:								
plaster or drywall	2 coats flat	1 PA	425	sq. ft.	0.05	0.19	0.24	+4.3
wood	2 coats enamel	1 PA	400	sq. ft.	0.05	0.21	0.26	+8.3
	2 coats enamel	1 PA	360	sq. ft.	0.06	0.23	0.29	+3.5
masonry or concrete	filler, stain, 2 coats varnish	1 PA	205	sq. ft.	0.12	0.41	0.53	+8.2
	2 coats latex	1 PA	360	sq. ft.	0.05	0.23	0.28	+3.7

*No comparable figures from 1973

1974's



winners

The sixteen winners chosen in the 1974 Homes for Better Living awards program include two projects that took First Honor Awards and 14 that received Awards of Merit. In the multifamily category awards went to federally aided rental projects for senior citizens and students, a communal project, two remodelings, inner-city townhouses and hillside and waterfront rental complexes. Winners in the custom-home category include both year-round and vacation homes as well as a 100-year-old remodeled barn. This year's awards also went to a patio-home project—the first merchant-built winner since 1971. This was the 19th year for the HFBL program which is the oldest and largest design competition devoted solely to housing. The winners were chosen during a two-day judging session at headquarters of the American Institute of Architects, which sponsors the program in cooperation with HOUSE & HOME and *American Home* magazine. In selecting multifamily winners, six of which are featured this month, judges considered overall land use, unit siting, common facilities and parking, floor plans and use of materials.



STAN JENNINGS

The custom-home jury and its selections

1. **Hugh Newell Jacobsen, FAIA**
Jury chairman
Washington, D.C.
2. **Frank Tomsick, AIA**
San Francisco, Calif.
3. **Evan Frances**
Architecture & design editor
American Home
4. **Francis Gassner, FAIA**
Memphis, Tenn.
5. **William Morgan, AIA**
Jacksonville, Fla.

BALTHAZAR KORAB



AWARD OF MERIT Architect:
Wm. Kessler & Assoc.; build-
er: Walter H. Desimpel Co.

EZRA STOLLER



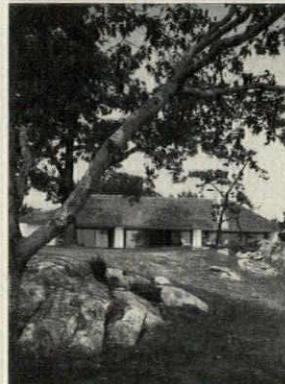
AWARD OF MERIT
Architect: Robert Whitton;
builder: Hector Osmond

BILL MARIS



AWARD OF MERIT
Architect: Myron Goldfinger;
builder: Pollock & Wyson

JULIUS SHULMAN



AWARD OF MERIT Architect:
Huygens and Tappé;
builder: Ernest R. Rau

BELTON S. WALL



AWARD OF MERIT Architect:
Freedman/Clements/Rumpel;
builder: Peter L. Rumpel

HEDRICH-BLESSING



AWARD OF MERIT Architect:
Booth & Nagle; builder: Bry-
an Crown Construction Co.

PHILIP TURNER



AWARD OF MERIT Architect:
Stanley Tigerman & Assoc.;
builder: Lester Krummerai

Coming next month: custom-home winners

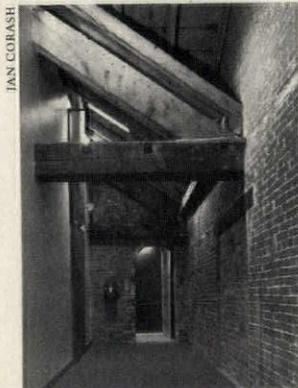
These remodeling winners . . .



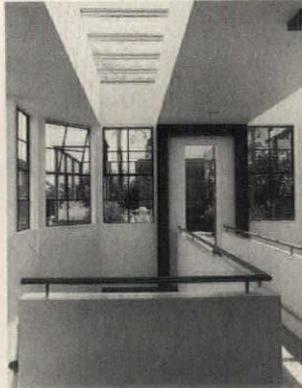
STAN BENNING

The production-housing jury and its choices

1. **John W. Moutoussamy, AIA**
Chicago, Ill.
2. **Russell V. Baltis Jr.**
Builder
North Kansas City, Mo.
3. **Jack Craycroft, AIA**
Dallas, Tex.
4. **June R. Vollman**
Associate editor
HOUSE & HOME
5. **Ralph Jackson**
Architectural student
Harvard Graduate School of Design
6. **A. Robert Fisher, AIA**
Jury chairman
San Francisco, Calif.
7. **Charles H. Pawley, AIA**
Miami, Fla.



JAN COBASH



JOSHUA FREIWAID

FIRST HONOR AWARD Arch: Anderson Notter Assoc.; bldr.: Trustees of Custom House Block

AWARD OF MERIT Architect: Daniel Solomon; builder: H.D. Grae

... will be seen in HOUSE & HOME's July issue



JEREMIAH O. BRAGSTAD

FIRST HONOR AWARD
Waterfront rental units
See page 92



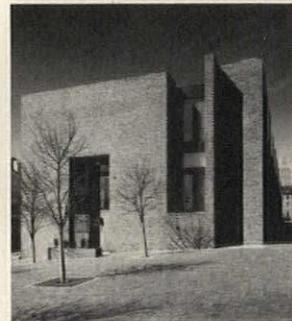
STEVE ROSENTHAL

AWARD OF MERIT
Student rental housing
See page 93



JOSHUA FREIWAID

AWARD OF MERIT
Communal housing
See page 98



DAVID HIRSCH

AWARD OF MERIT
Inner-city townhouses
See page 96



BERGAN & KLINBERG

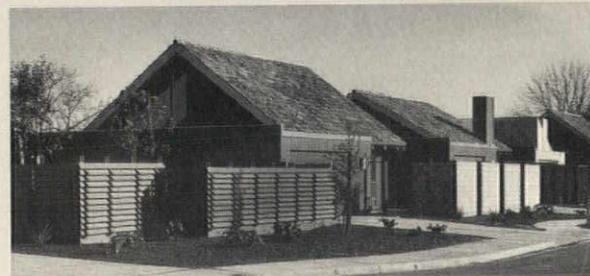
AWARD OF MERIT
Housing for the elderly
See page 94



NATHANIEL LIEBERMAN

AWARD OF MERIT
Hillside rental units
See page 100

In this issue: For six multifamily winners, turn the page



JEREMIAH O. BRAGSTAD

AWARD OF MERIT
Architect: Robert E. Jones & Edwin K. Hom;
builder: Bahl Homes

Coming in October: merchant-built patio homes



PHOTOS: JEREMIAH O. BRAGSTAD

The jury: "An interesting plan that really works with its site"

HOUSE & HOME said about the same thing last month when we featured this project in a report on successful rental housing.

The mixed-use project—it includes offices, stores, and a marina as well as apartments—is buffered from surrounding industrial buildings and railroad lines by parking and berming. Visually, it is reminiscent of a Mediterranean village. In plan, it separates residential and non-residential uses and orients all apartments to a view of the Oakland/Alameda Estuary. The 200 completed units (600 more are planned) range from efficiencies to four-bedrooms (*larger units are not shown*) and rent for \$185 to \$425.

FIRST HONOR  AWARD

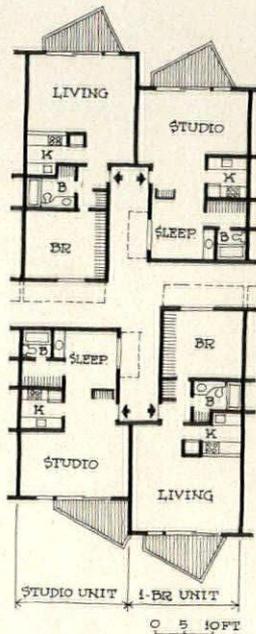
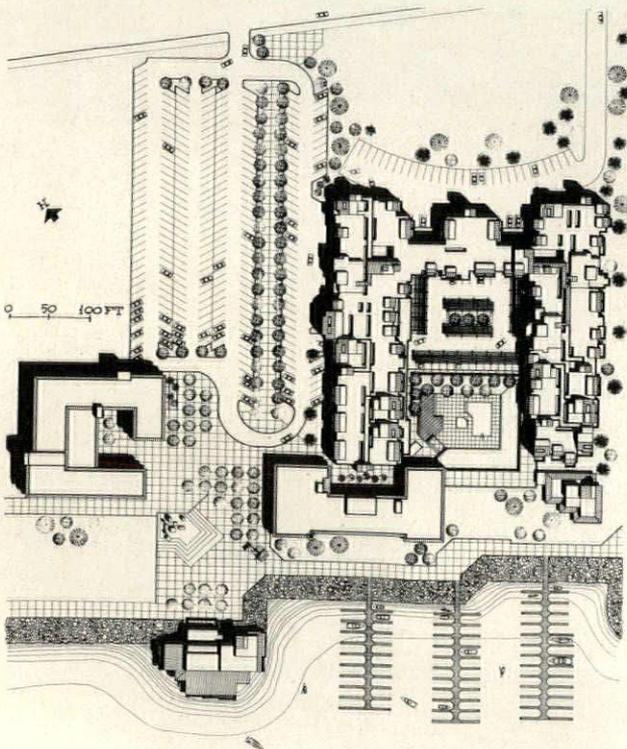
ARCHITECT: *Donald Sandy Jr., AIA, James A. Babcock*

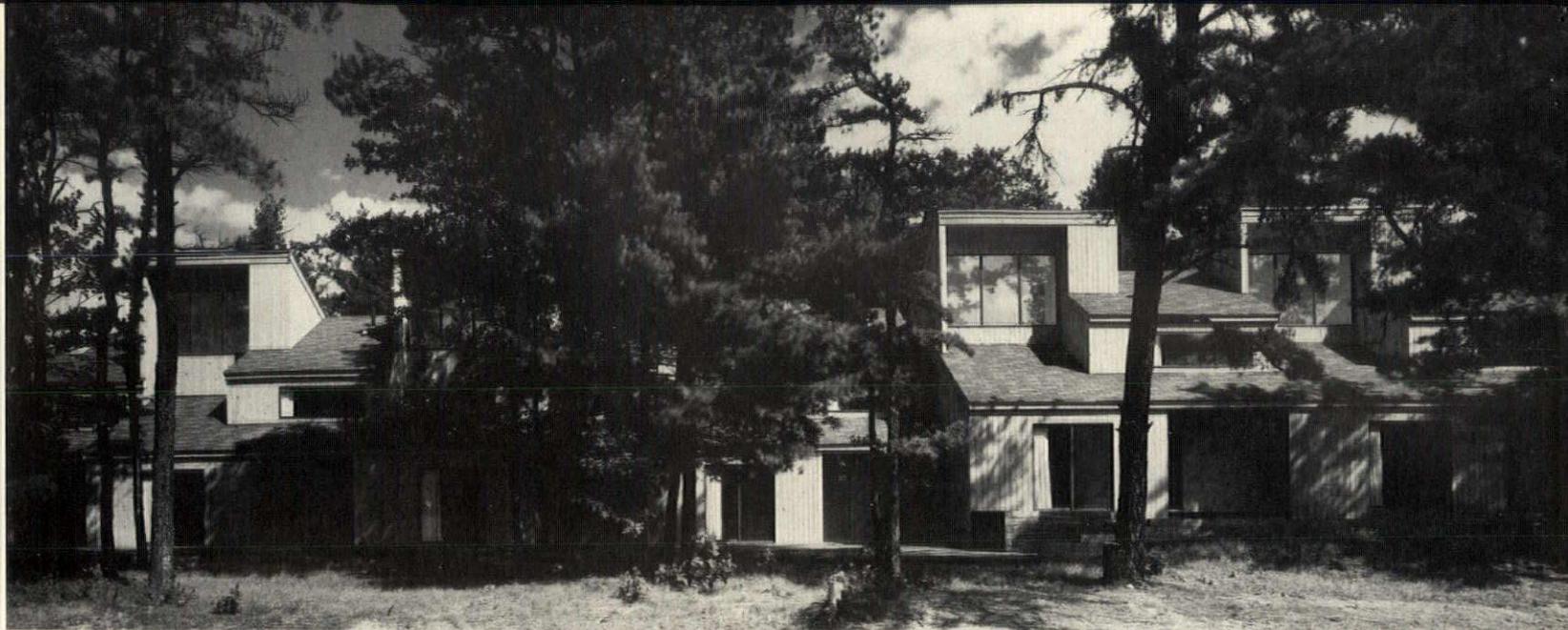
DEVELOPER & OWNER: *Grubb & Ellis Development Co. and Santa Fe Plaza Corp.*

LANDSCAPE ARCHITECT: *Anthony Guzzardo and Associates Inc.*

PROJECT NAME: *Portobello*

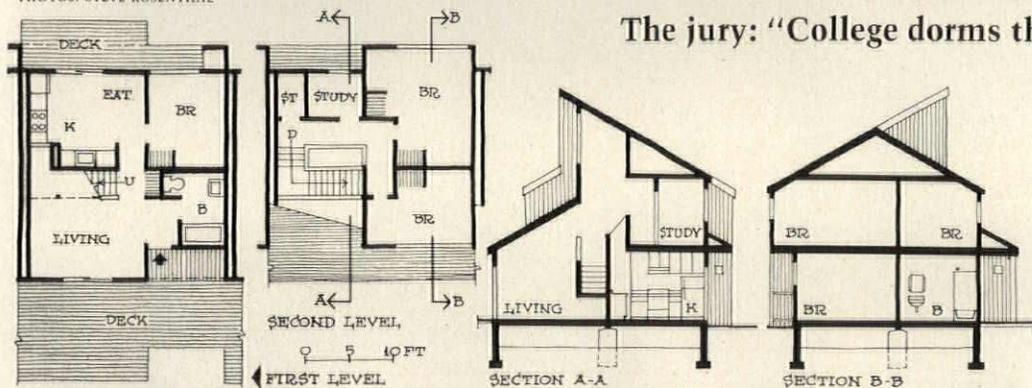
LOCATION: *Oakland Estuary, Calif.*





PHOTOS: STEVE ROSENTHAL

The jury: "College dorms that could easily be resort housing"



In plan and design, these townhouse-like units resemble some of today's best looking vacation condominiums. In actual use, they are a new kind of student dormitory at Bowdoin College in Maine.

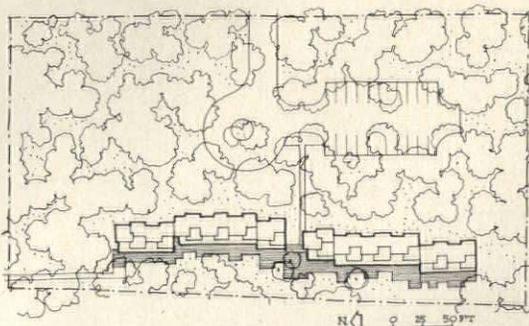
All told, there are 24 units in four buildings. Two buildings are on one site (*below*) and two on another (*not shown*). In each building units are staggered to minimize the monotony of identical design. Each unit contains two single and one double bedroom, a bath, a study and a kitchen-dining area.

Why this design approach? Primarily because the college wanted units that could easily be converted to faculty housing or even sold to private individuals. As a matter of fact, the location is a prime vacation area, and the units are being rented for this summer to college alumni at \$125 per week—a rate well below open market value, according to Bursar Thomas Libby.

Original plans called for an additional half-bath (which the judges would have preferred) plus a basement with laundry facilities. They were eliminated because of budget problems (the project was HUD-aided). Student rent is included in the tuition.

AWARD  OF MERIT

ARCHITECT: *Design Five Maine Inc.*
 SUPERVISING ARCHITECT: *Wright, Pierce, Whitmore, Architects*
 BUILDER: *Great Eastern Building Co.*
 OWNER: *The President & Trustees of Bowdoin College*
 PROJECT NAME: *Bowdoin College Student Housing*
 LOCATION: *Brunswick, Me.*





The jury: "It's hard to believe this is publicly aided housing for the elderly"

Too many government-aided projects for old people are sterile, institutional and totally lacking in human scale. Not so this one. In fact, this rental housing (financed under section 236) could easily be taken for a neighborhood of attached homes for rising young executives and their families. Specifically, here's what contributes to this feeling and also what impressed the judges:

First, the 14-acre site is broken into four mini neighborhoods, which are defined by circular driveways and screened from each other by stands of mature trees. There are three 12- and 16-unit buildings in each of the neighborhoods.

Second, the staggered design of the buildings not only gives them the appearance of townhouses, but in some cases minimizes stairclimbing to the upper units.

Third, even though the apartments are small (482 and 622 sq. ft. respectively for one- and two-bedroom plans), they are laid out like small homes with good traffic patterns, cross ventilation, private outdoor living areas at both front and rear and extensive storage space.

Fourth, the centrally located community

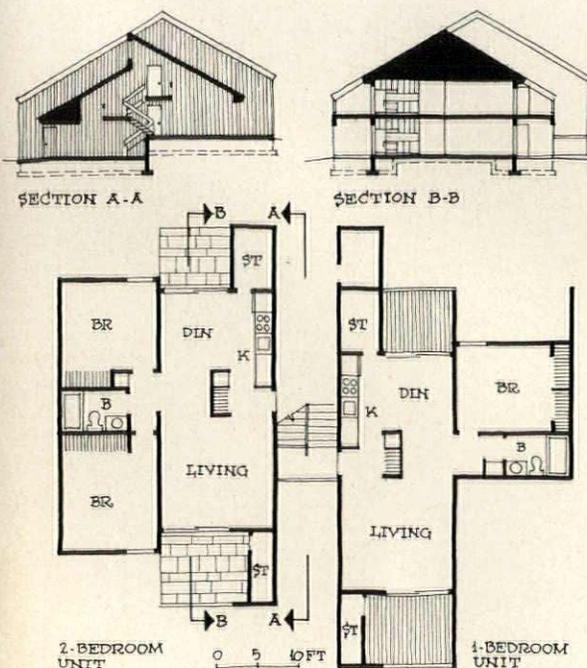
building [lower photo, facing page] is easily reached from each neighborhood by pedestrian paths, thus serves as a focal point for interaction among the residents. It contains a laundry, meeting rooms, snack bars and craft studios.

The judges did have some negative thoughts about the automobile parking. While they recognized the environmental value of keeping cars out of sight of most units, they were concerned about two inclement weather problems: the parking areas' rather remote location from the units and the fact that they are uncovered.

There are 152 apartments in the project. Subsidized rents are \$128 and \$149; market rents are \$215 and \$265.

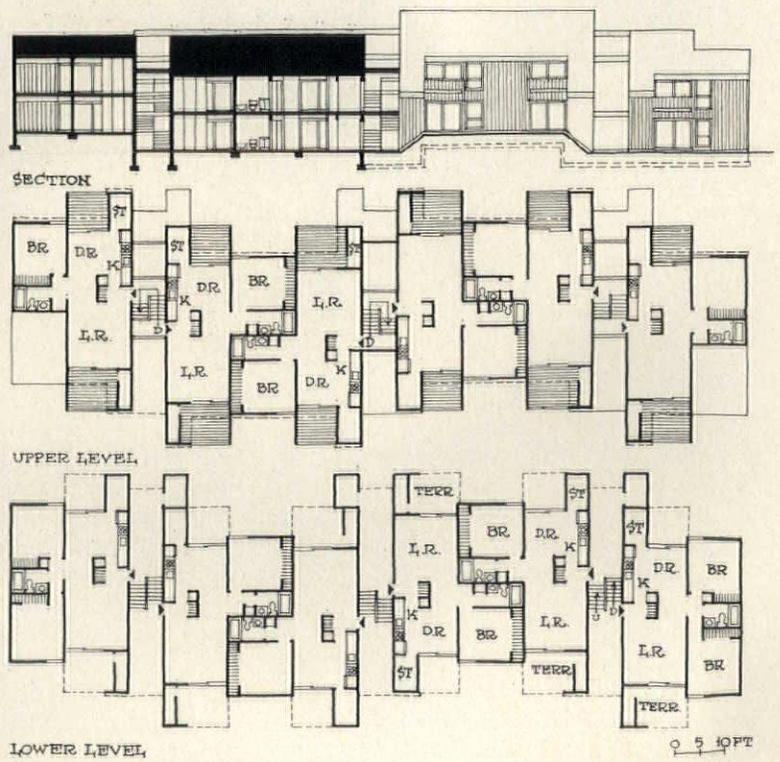
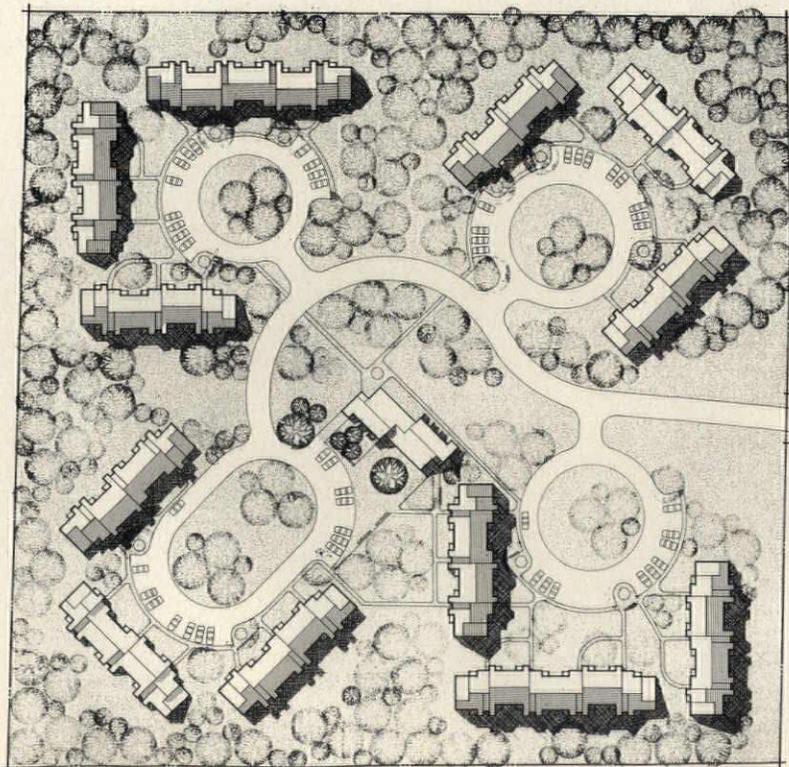
AWARD  OF MERIT

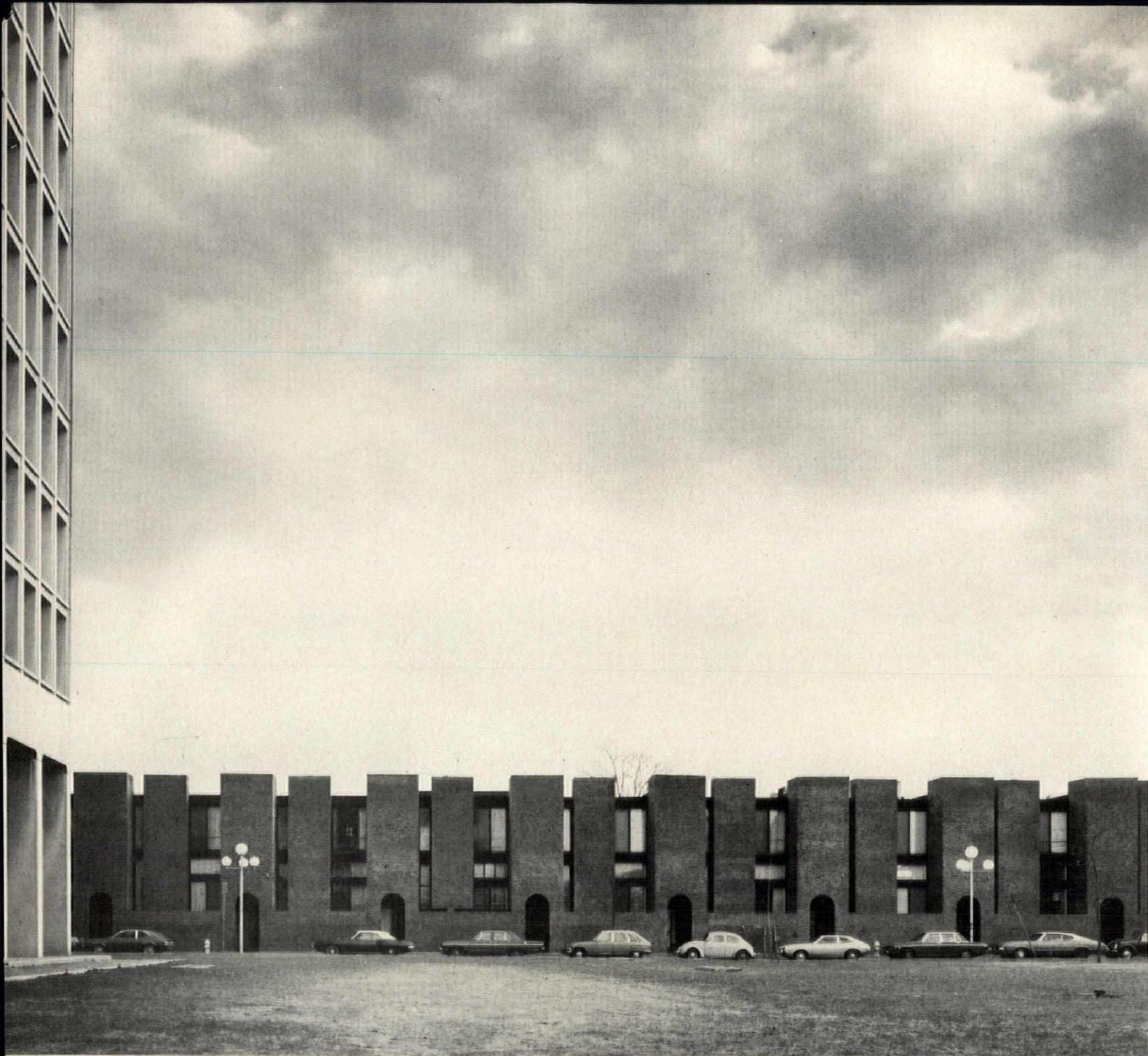
ARCHITECT: *Schleicher-Soper Architects*
 BUILDER: *Community Technology Inc.*
 OWNER: *N.Y. State Urban Development Corp.*
 PROJECT NAME: *Centerville Court*
 LOCATION: *Village of North Syracuse, N.Y.*





PHOTOS: BERGAN & KLINBERG





The jury: "These townhouses are surprisingly compatible with their highrise neighbors"

Re-establishing a traditional urban housing style—the townhouse—in an area dominated by apartment towers can pose a sticky design problem. This project, the judges agreed, pulls it off. Here's how:

First, as the photo above shows, the facade of the townhouse row is a series of brick mini towers that echo the form of three nearby highrise buildings. Each of the 16 townhouses has two of these mini towers—one for chimney and utility stacks, the other containing the entryway and storage areas above.

Second, the townhouse row seems to form a wall along one side of a large grassy area between the highrise buildings and also appears as a skyline when viewed from the three highrise buildings.

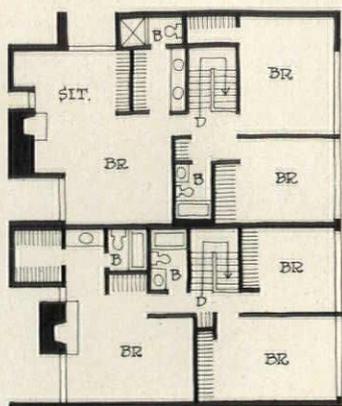
But visual compatibility is not the project's only attraction. The judges also cited the floor plans, which step down the slope of the small (.81-acre) site to achieve several living levels.

The varied-level arrangement puts the living-dining area and sleeping quarters above the street so that pedestrian and vehicular noise does not intrude. It also allows for a secondary entrance into the recreation room, which is a half-level below grade at the front but which opens on-grade at the rear and at the same time furnishes access to the garage and private garden. And it gives the interiors (bottom photos, facing page) an open feeling—a quality that's difficult to achieve within the confines of narrow townhouse design.

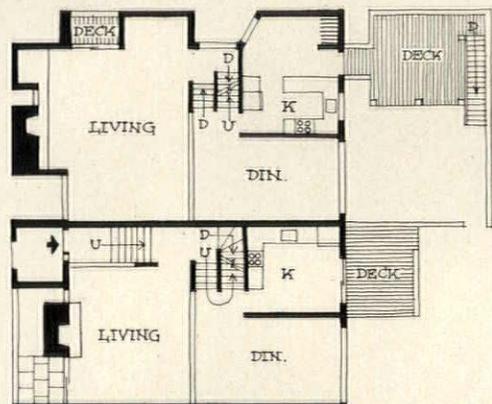
Fifteen of the townhouses are identical (plan A) and provide 2,700 sq. ft. of living area. One end unit (plan B and top photo, facing page) is slightly larger but has the same basic layout. Prices averaged \$47,500.

AWARD OF MERIT

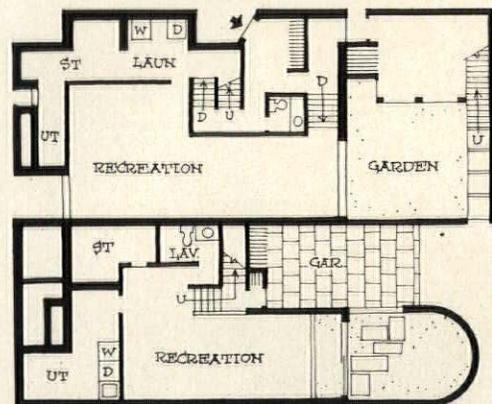
ARCHITECT: *Louis Sauer Associates*
 BUILDER: *Ducat Company*
 OWNER: *Locust Townhouse Corp.*
 PROJECT NAME: *Locust Street Townhouses*
 LOCATION: *Philadelphia, Pa.*



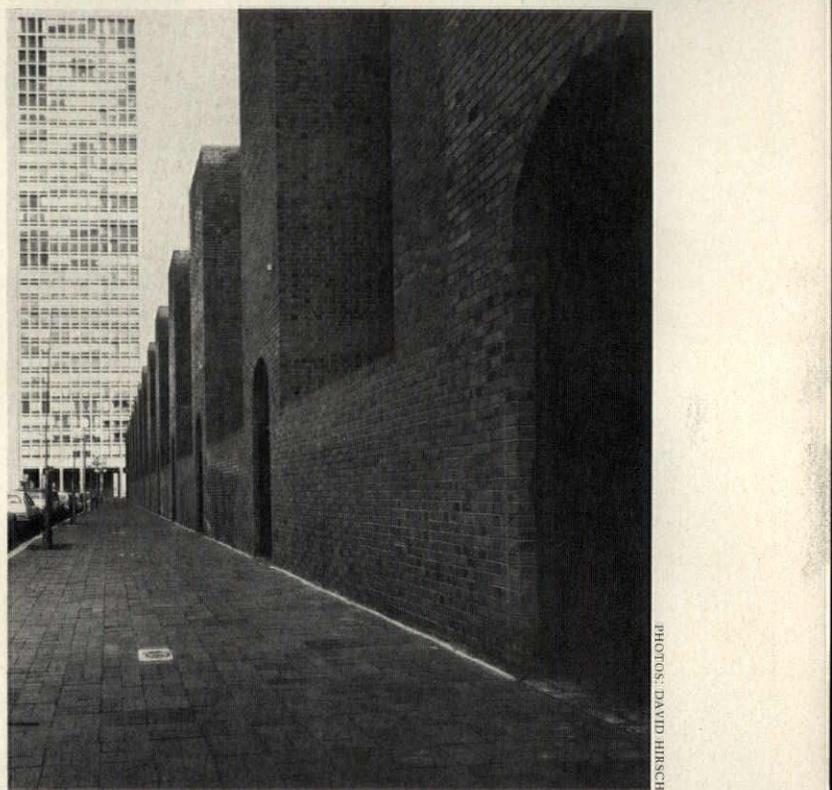
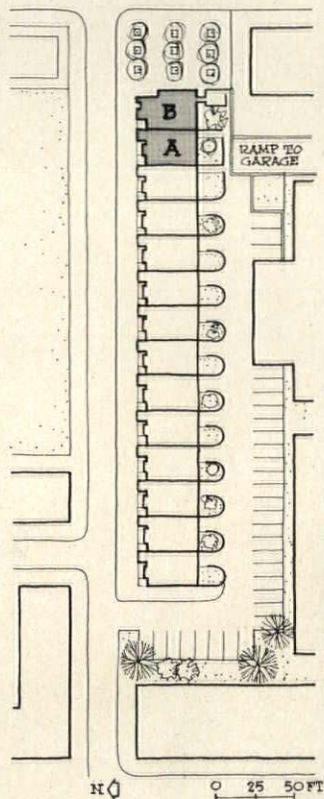
THIRD LEVEL



SECOND LEVEL

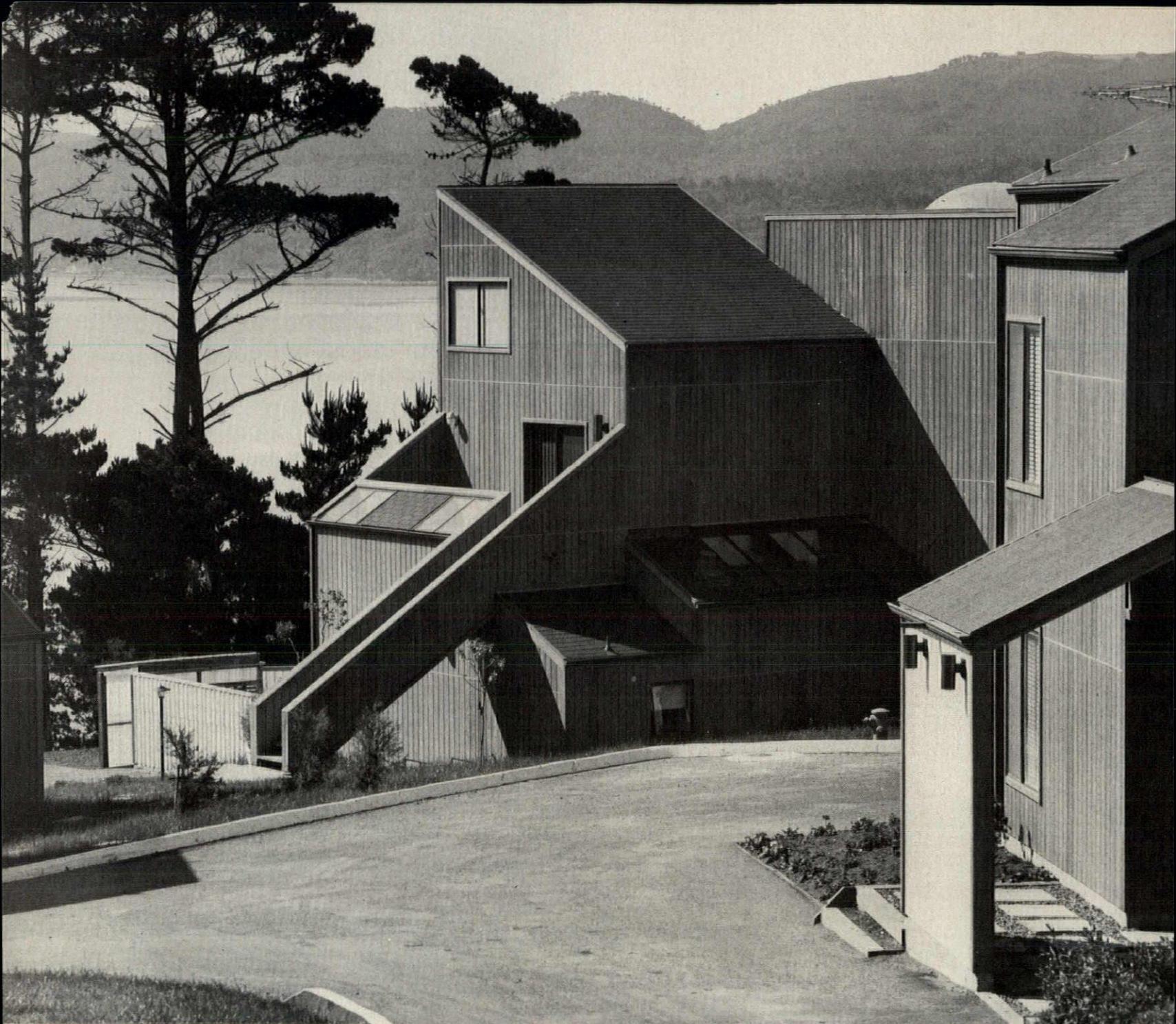


FIRST LEVEL



PHOTOS: DAVID HIRSCH





JOSHUA FREIWALD

The jury: "Top-notch design to meet a unique shelter need"

This is a very special project: communal housing for people enrolled in the Synanon drug-treatment program. It's so special, in fact, that the judges at first questioned whether it qualified for the HFBL program.

But there were few questions about the quality of the project's design. It is not merely a collection of private and group living spaces (prerequisites for the Synanon program). It also offers an environmental quality that, the judges agreed, makes it eminently adaptable to other group shelter needs—student housing, for example. This quality is achieved through basically simple plans and shapes and also through materials that are indigenous to the area—in this case the northern California coast.

There are two types of living quarters. "Caves" (*plan, far right, facing page*) are in three-level buildings. They provide small, private sleeping and bathroom facilities on the first two levels plus loft spaces which are

designed for study or additional sleeping quarters and which offer views of the surrounding hills and bays. The "Hatchery" (*plan, near right, facing page*) is designed for up to a dozen expectant mothers, who share it for three months before delivery and nine months after their children are born.

Although there are no rental rates for the units as they stand, the architect estimates that similar units would rent for \$50 to \$85, depending on maintenance, depreciation and length of school year, if they were built for, say, students.

AWARD OF MERIT

ARCHITECT: *Kaplan and McLaughlin*

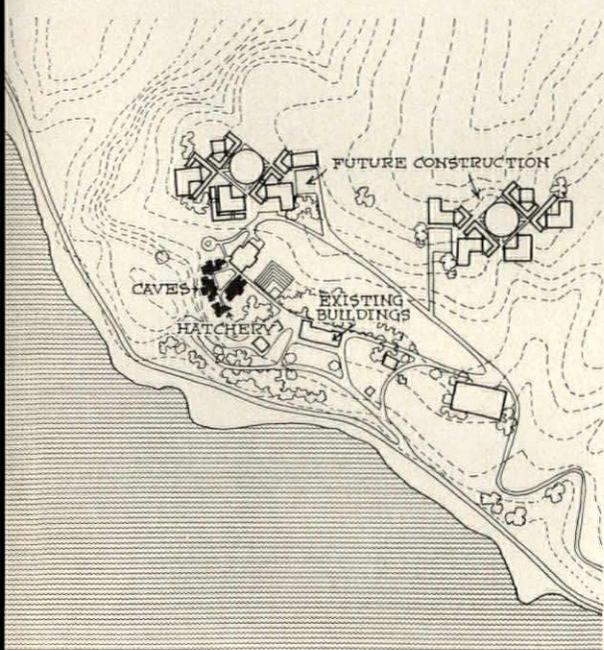
BUILDER: *Olsen Construction Co.*

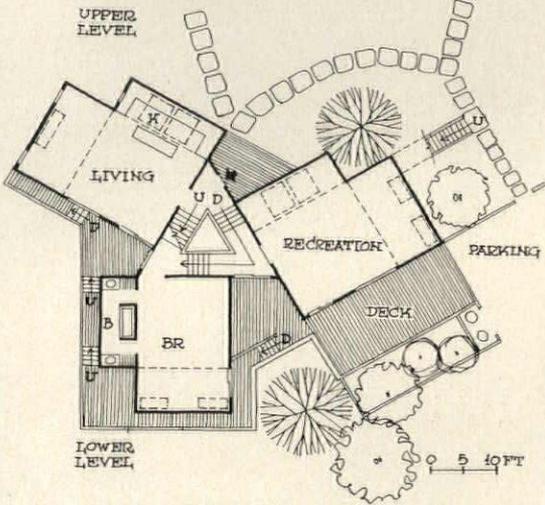
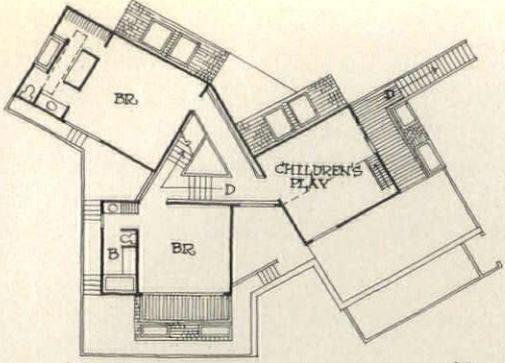
OWNER: *Synanon Foundation Inc.*

LANDSCAPE ARCHITECT: *Douglas Baylis*

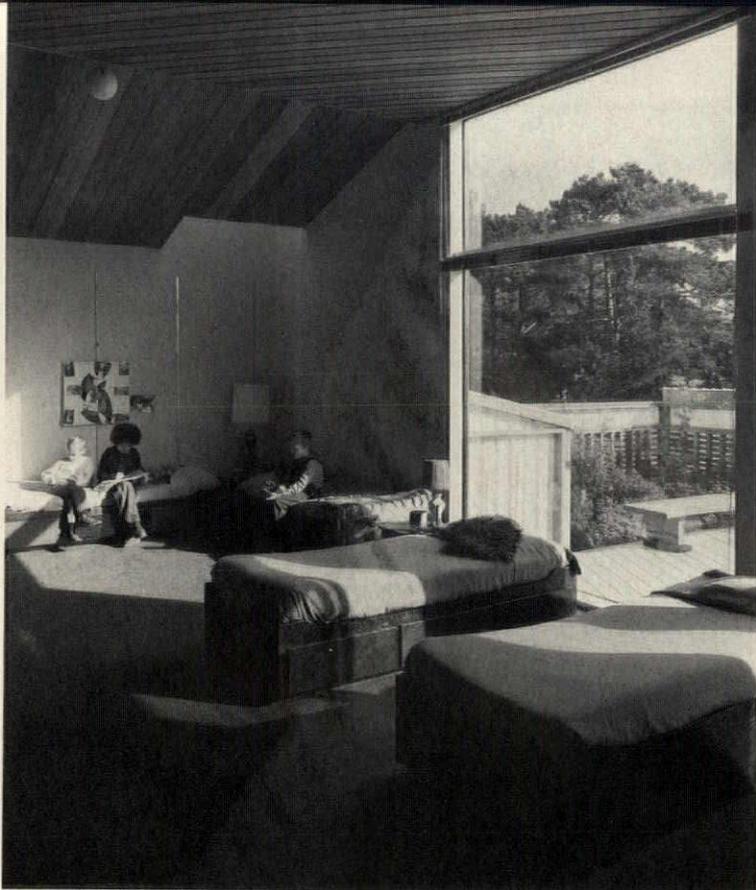
PROJECT NAME: *Synanon Caves*

LOCATION: *Tomaes Bay, Marshall, Calif.*

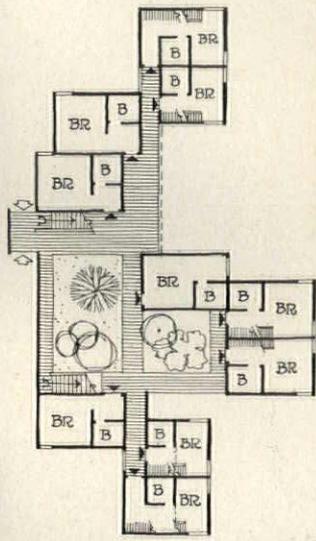


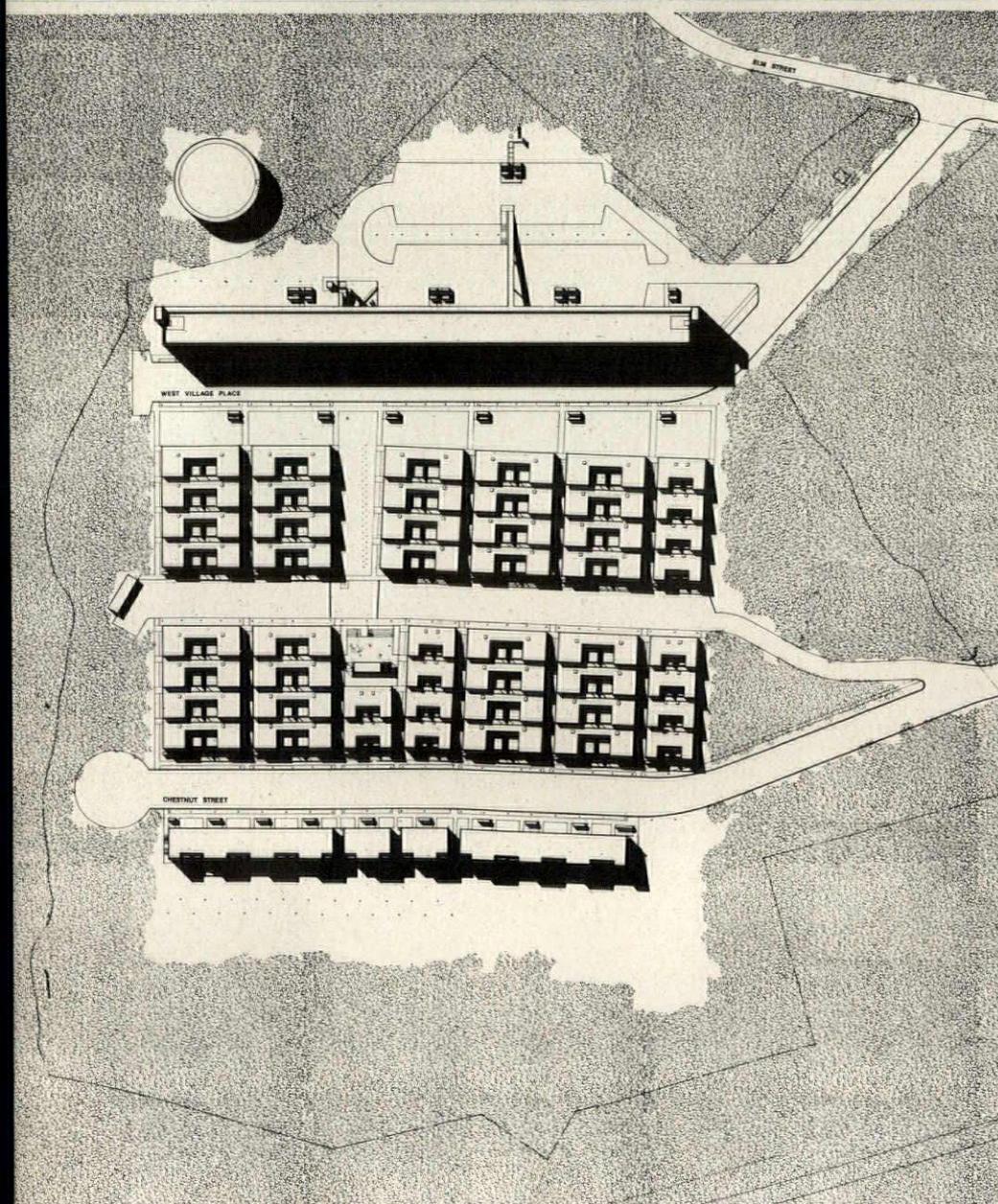
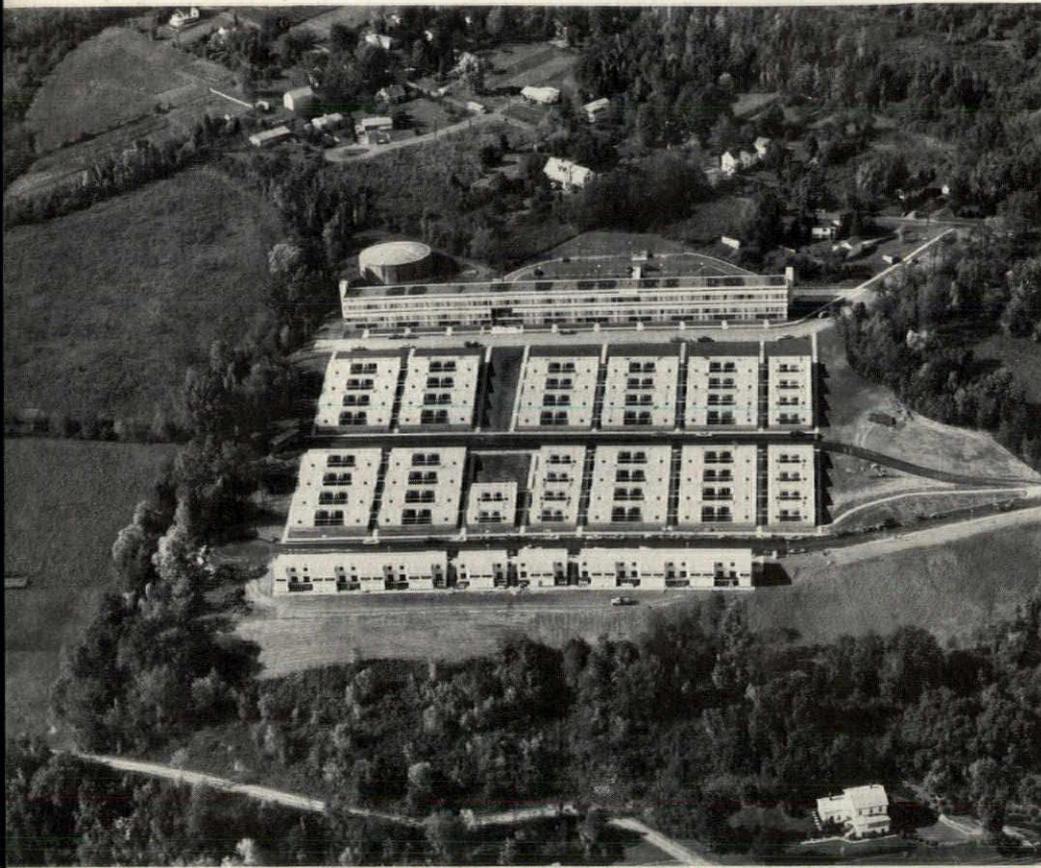


JOSHUA FREIWALD



DAVID P. ESLER





The jury: "It's hardly typical, but it solves some typical development problems"

The problems were posed by those old housing industry bugaboos, terrain and budget restrictions. Almost half of the 17.65-acre site was unbuildable because of large rock outcroppings; yet the program called for a medium-high density (about 14 rental units an acre) plus 120% parking, rental and management offices, two laundries and a playground. And, since the project was funded under section 236, the budget was extremely tight.

The judges agreed that while the project's design is unorthodox (it bears many hallmarks of European hillside towns), it provides a high degree of privacy and environmental quality and also takes full advantage of the surrounding views. Here's how it works.

There are three building types. One-story atrium units (*plans, below*) occupy the major (middle) portion of the site. They step up the hill in a terraced arrangement and are separated by stepped walkways (*photo, top right, facing page*) that provide each of these units with a private entrance.

A five-story building spans the top of the site. It houses the project's laundries and stores on the ground floor and contains two layers of two-level, two-bedroom units. The upper layer of units is reached via a bridge (*left photo and section, top of facing page*) that leads to the project's upper parking.

At the foot of the site is a series of three-story townhouses (*bottom photo, facing page*). These contain two-level, four-bedroom units over one-bedroom flats.

Additional features that impressed the judges: No resident can see into any other unit; every unit has a private outdoor living area; and all but a few have cross ventilation. Rents range from \$123 to \$179.

AWARD  OF MERIT

ARCHITECT: *Werner Seligman & Associates*

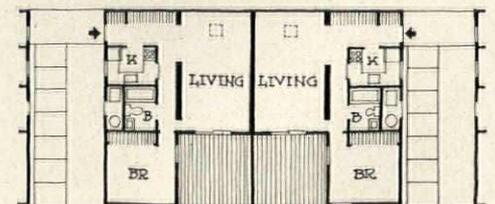
BUILDER: *D.M. Abbott*

OWNER: *N.Y. State Urban Development Corp.*

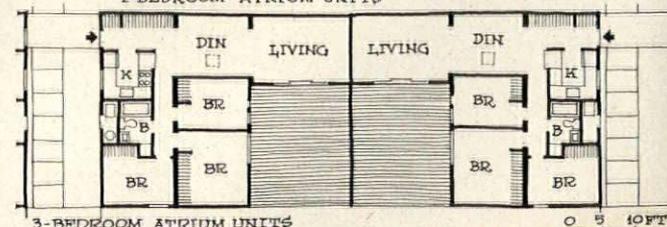
LANDSCAPE ARCHITECT: *Harold E. Schumm Associates*

NAME: *Ithaca Scattered Site Housing*

LOCATION: *Ithaca, N.Y.*



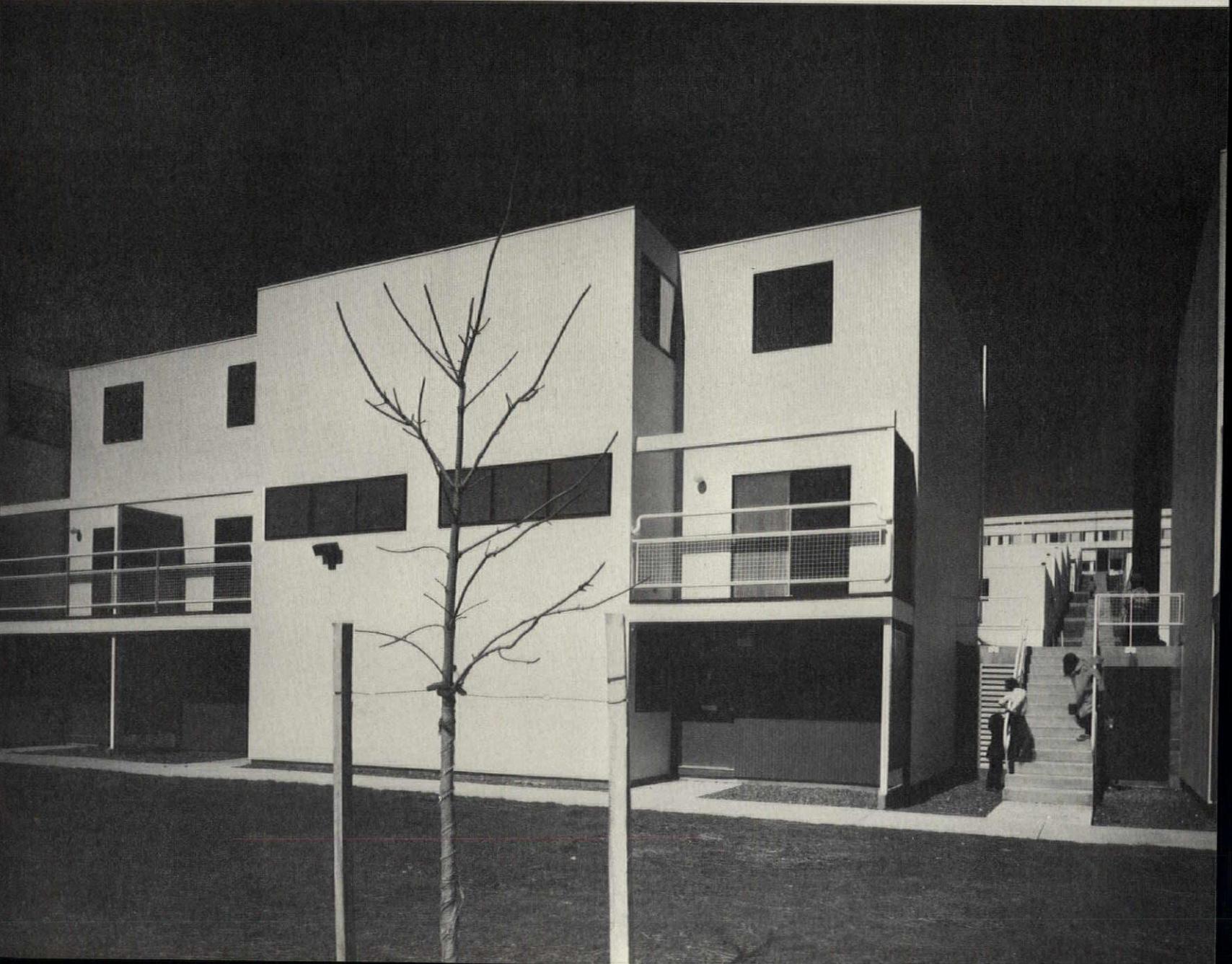
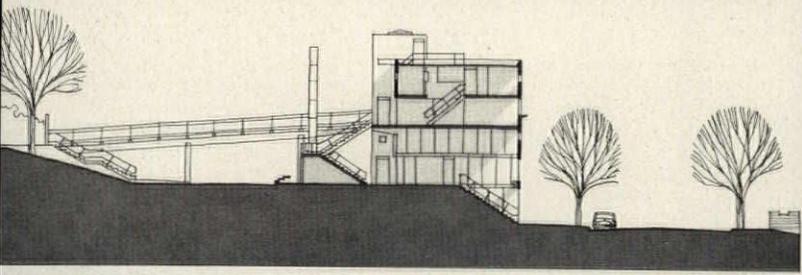
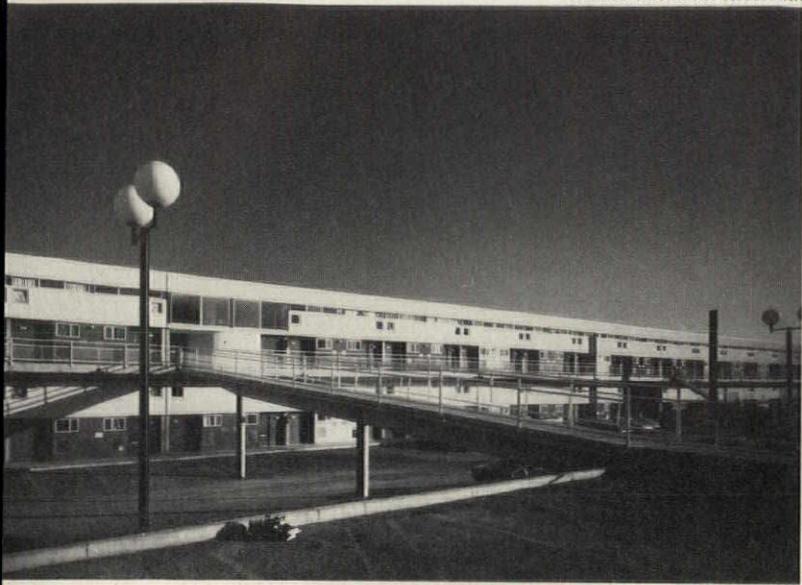
1-BEDROOM ATRIUM UNITS



3-BEDROOM ATRIUM UNITS

0 5 10 FT

PHOTOS: NATHANIEL LIEBERMAN



PROJECT
PORTFOLIO

18



HUGH LOOMIS

PROJECT: Flying Hills
LOCATION: Cumru Township, Pa.
DEVELOPER: William Whitman
BUILDER: Berkshire Greens Inc.
ARCHITECT: Paul Sangree, Harrisburg, Pa.
PLANNER: Rahenkamp, Sachs, Wells & Associates, Philadelphia
SITE AREA: 305 acres
NUMBER OF UNITS: 137 single-family detached, 585 townhouses,
615 rental apartments
PRICE AND RENTAL RANGE: \$29,500-\$63,000; \$155-\$260



Flying Hills lays to rest the notion that PUDs are necessarily huge projects with heavy front-end loads, developed only by big operators in big market areas. The developer formerly built only about 50 houses a year. His front-end costs, including outlays for land and an 18-hole golf course, were under \$650,000—more than half of it in utility costs that should eventually be recoverable. And in an unsophisticated and largely rural market area (Reading, Pa.) with only 300,000 people, he is currently moving units at the rate of better than 80 a year. In today's market, many much bigger developers would be delighted with that volume.

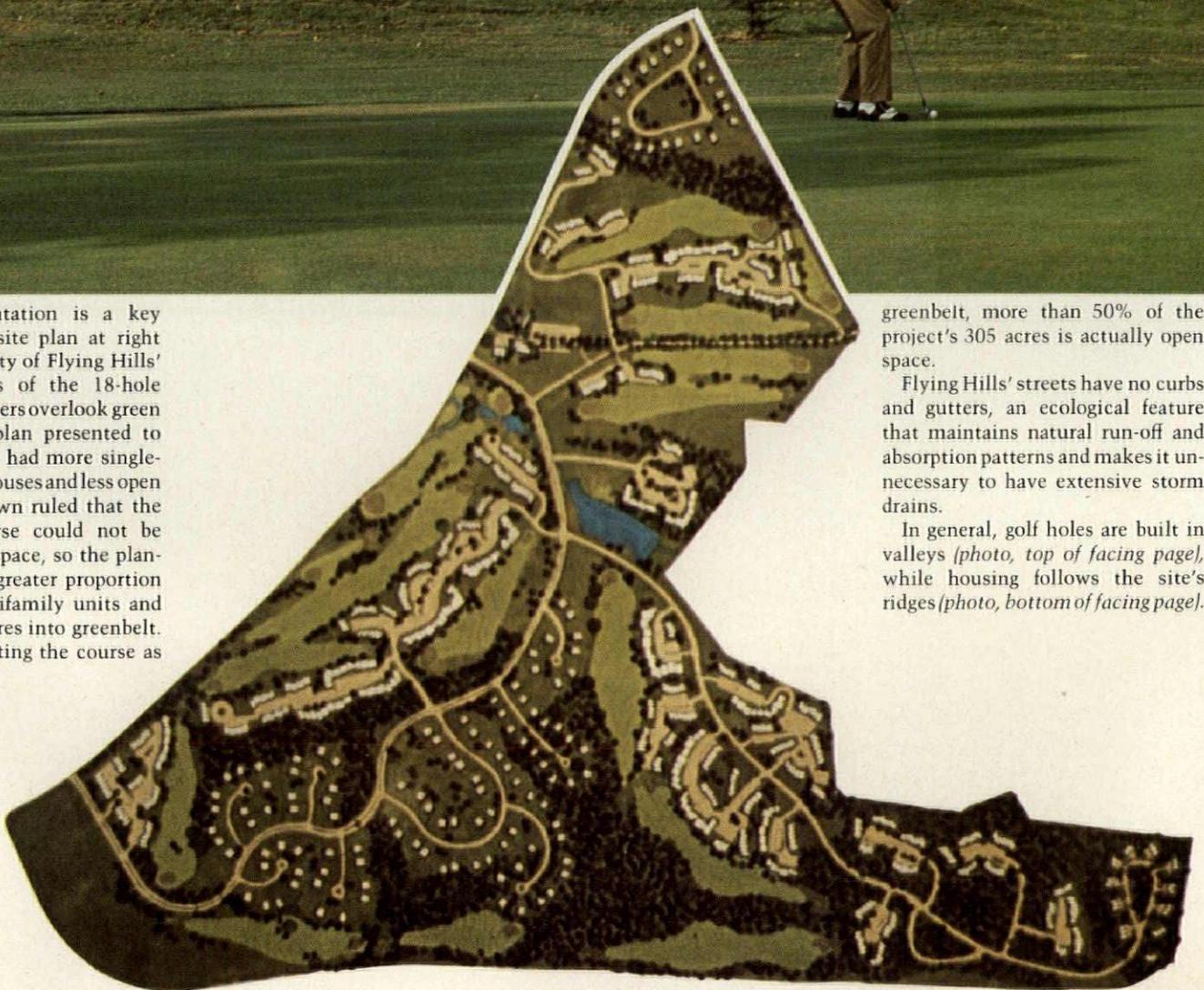


Golf-course orientation is a key amenity, as the site plan at right shows, the majority of Flying Hills' units have views of the 18-hole course, and the others overlook green areas. The first plan presented to township officials had more single-family detached houses and less open space. But the town ruled that the 95-acre golf course could not be counted as open space, so the planners shifted to a greater proportion of clustered multifamily units and put another 60 acres into greenbelt. The result: Counting the course as

greenbelt, more than 50% of the project's 305 acres is actually open space.

Flying Hills' streets have no curbs and gutters, an ecological feature that maintains natural run-off and absorption patterns and makes it unnecessary to have extensive storm drains.

In general, golf holes are built in valleys (photo, top of facing page), while housing follows the site's ridges (photo, bottom of facing page).





PHOTOS: HUGH LOOMIS

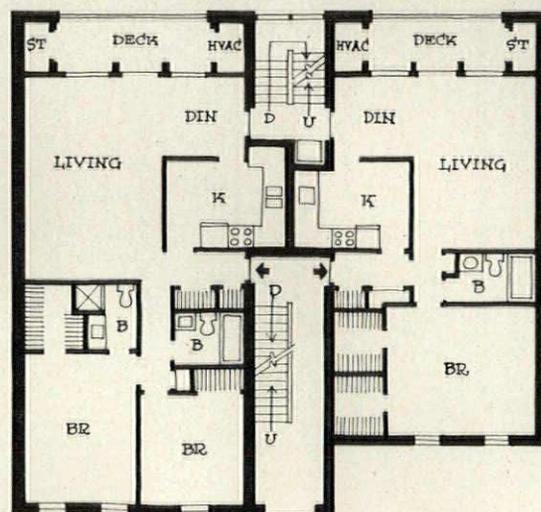




PHOTOS: HUGH LOOMIS

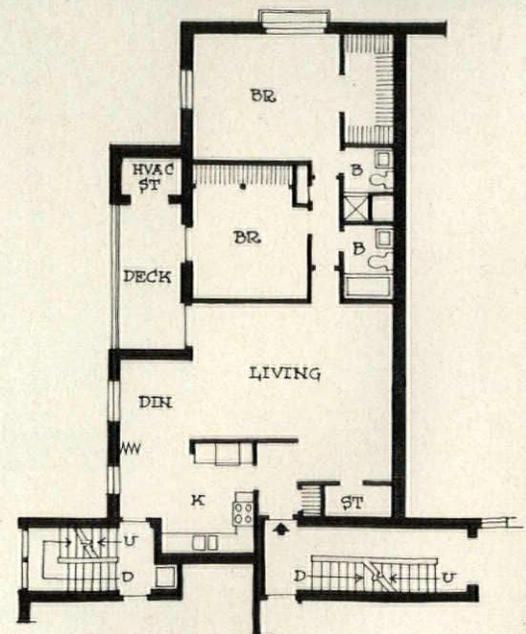
Brick is the dominant building material in Flying Hills, partly for marketing reasons—Berks County is famous for its high-quality brick houses—and partly because of fire regulations for apartments. The apartment buildings (above) are all brick; townhouses (photo, facing page) are partially finished in wood to help keep costs down.

Since the project opened in 1971, 203 units have been built: 25 single-family detached houses (15 sold), 82 townhouses (only four are unsold) and 48 garden apartments (all rented). Also, 50% of another apartment building now under construction is pre-rented.

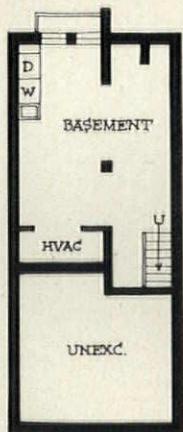


TWO-BEDROOM UNIT
TYPICAL APARTMENT MODULE

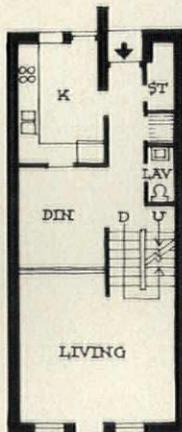
ONE-BEDROOM UNIT



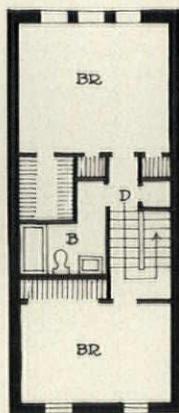
ONE-BEDROOM UNIT
TYPICAL CORNER MODULE



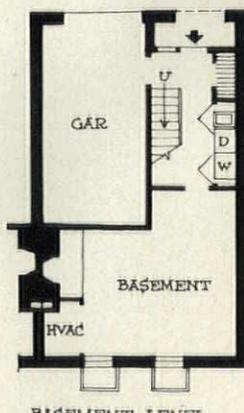
BASEMENT LEVEL, TYPICAL TWO-BEDROOM SPLIT LEVEL UNIT



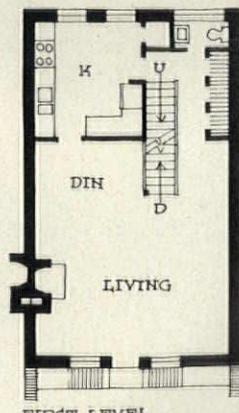
FIRST LEVEL,



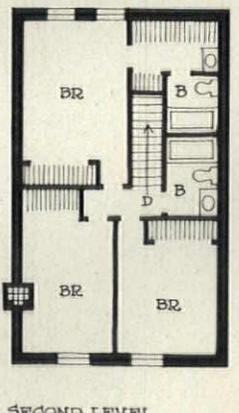
SECOND LEVEL,



BASEMENT LEVEL, THREE BEDROOM & GARAGE UNIT



FIRST LEVEL,



SECOND LEVEL, 0 5 10 FT

Rental apartments (plans, facing page) are available as one- or two-bedroom units; some are end units (right-hand plan). Tenants are chiefly young marrieds, empty nesters and singles. The three-story structures are built on slopes, hence can be entered at the second level.

Townhouses have two bedrooms (plan, far left) or three (plan, above), have been sold mostly to young families and retirees. Prices start at \$29,500. Families with children usually buy detached houses which start at about \$50,000; they are spec built, often sold before completion.

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Capitol doesn't let today's problems inhibit tomorrow's plans. Another plant is presently in the planning stage to anticipate the growing demand for aluminum windows. And last but not least, we have the variety of product line and the most reliable delivery in today's market.

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With Spacemaker cabinets you can get up to 25% more storage without increasing floor space. And that's a big plus whether you're in remodeling or new construction.

The secret is in our 15" deep wall cabinets, our unique 42" high model, door-mounted shelves (optional) and our extra-spacious drawers. If you're not concerned with extra space and want a standard kitchen, all Spacemaker wall cabinets also come 12" deep.

You'll find Spacemaker big on looks, too. Both sides of doors, panels and shelves



are permanently laminated with pecan wood-grain polyester sheets. And because tops and bottoms are finished, wall cabinets can be inverted, eliminating the need for rights and lefts.

In addition, Spacemaker has some very unique construction features. For details, see your Yorktowne distributor or write for our brochure. Yorktowne, Red Lion, Pennsylvania 17356. Manufacturer of fine kitchen cabinets since 1936.



Yorktowne

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Spacemaker makes any kitchen larger without knocking out walls.

Available in all standard heights plus new 42" model.



Cabinets are finished inside and out with tough, pecan polyester laminate for easy cleaning and lasting good looks.

Handsome hardware with open back plate. Want color? Add accents!

15" deep units have added shelf depth plus optional door storage. Store more!

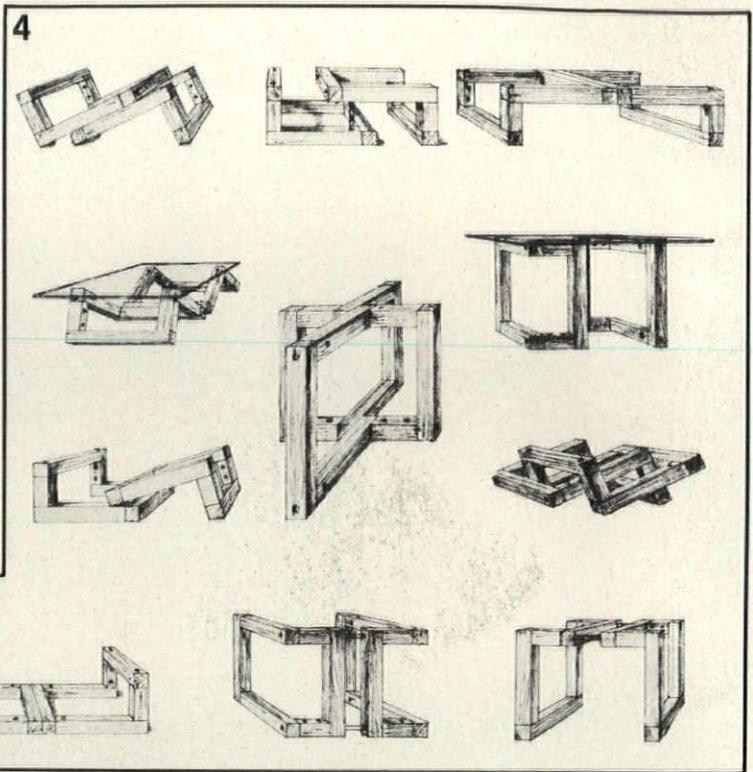
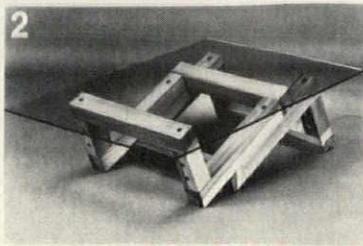
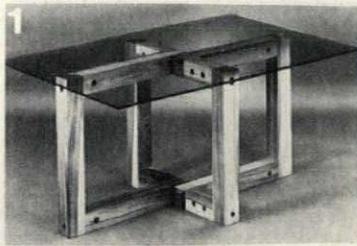


Single door base cabinets have easy gliding slide-out shelves. And they're adjustable.

Self-closing drawers, larger than any others on the market.

All doors have self-closing adjustable hinges.

Versatile base modules provide a wide variety of furniture designs



A host of different tables and a rolling lounge chair can be created using base modules designed by Bruce Arzig. The two natural poplar modules can be combined as illustrated (4) or used singly against a wall for side tables. They can be set upright in five different 29"-high dining table designs such as the trestle version (1). Turned sideways modules can be used in seven positions for a choice of 16"-high cocktail tables including a slanted triangular model (2). Matching lounge chair (3) is made from the modules, stainless steel fittings, slung leather webbing, cushions and ball casters. Mixed Media Designs, New York City.

CIRCLE 207 ON READER SERVICE CARD

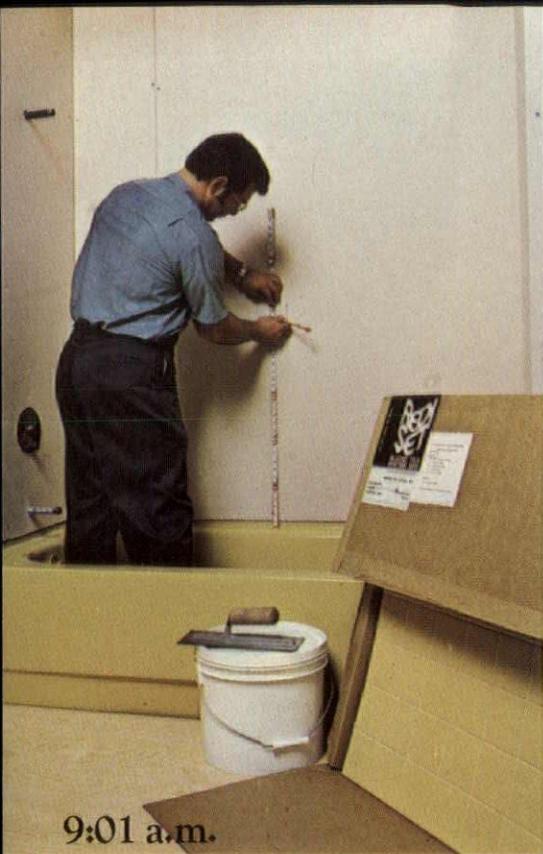


Hip-stitched seating group has a luxurious Western look down to the leather corner hinges on the upholstered base. The collection consists of a sofa, a lounge chair and a love-seat. Polyurethane-filled seat and back cushions are reversible. Brookfield Furniture, High Point, N.C.
CIRCLE 209 ON READER SERVICE CARD

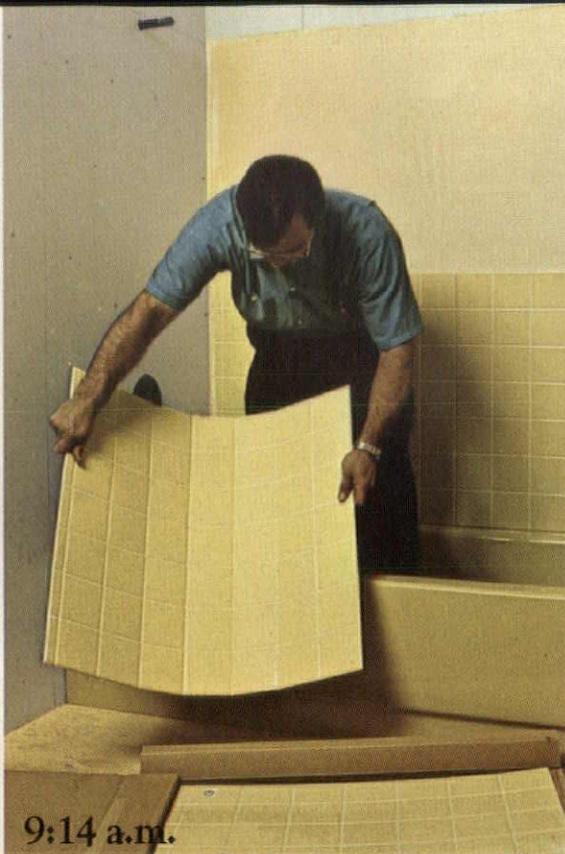
Voluptuously rounded soft seating, "Cumulus", is low and luxurious. The contemporary furniture, designed by Sergio Mazza and Giuliana Granigna, is constructed of foam over a wood frame. The series consists of the three-seat sofa and lounge chair shown, a two-seat sofa and an ottoman. Stendig, New York City.
CIRCLE 210 ON READER SERVICE CARD



Casual armchair features a continuous flowing frame in oak, ash, walnut or special finishes including a leather covering. Part of Bob Becker's C-103 collection, the chair comes with the fine-webbed cane backing shown, conventionally upholstered or with the entire frame covered with fabric. Helikon Furniture, New York City.
CIRCLE 208 ON READER SERVICE CARD



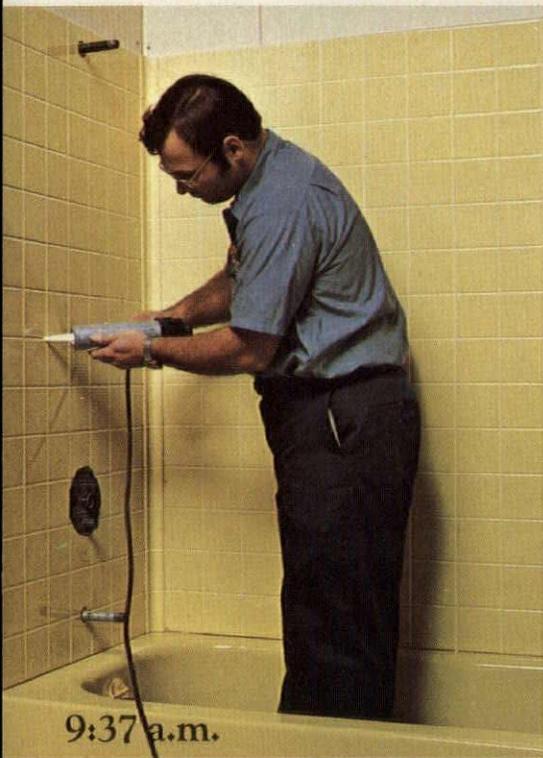
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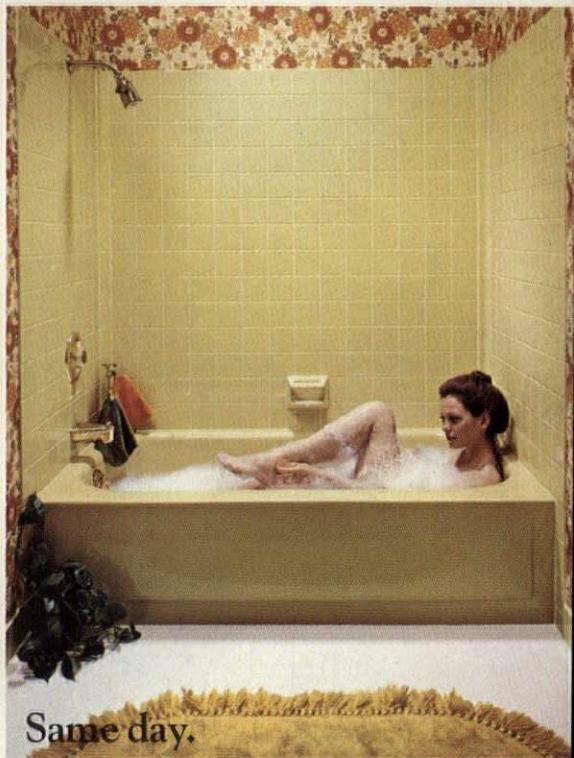
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9:37 a.m.



9:52 a.m.



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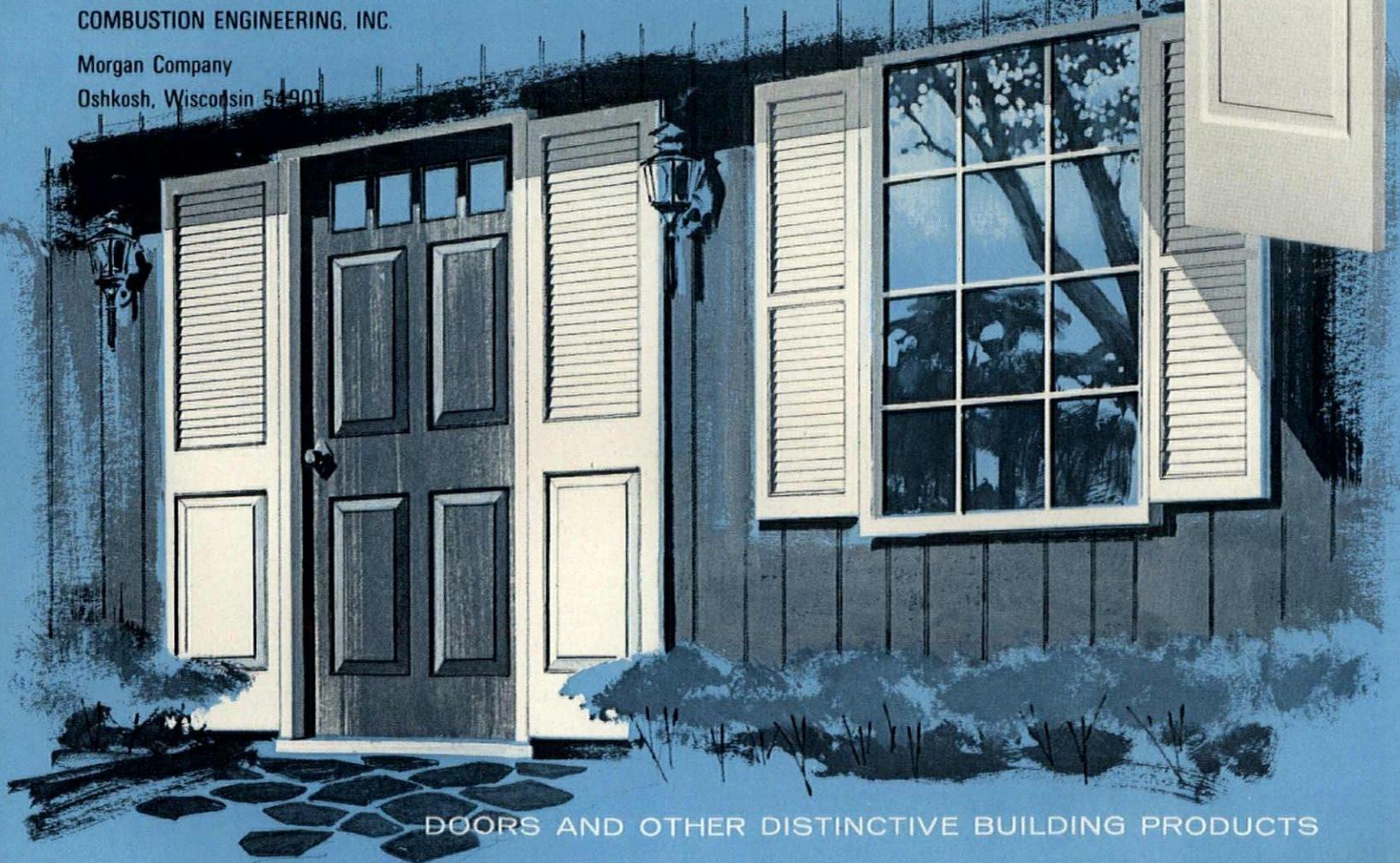
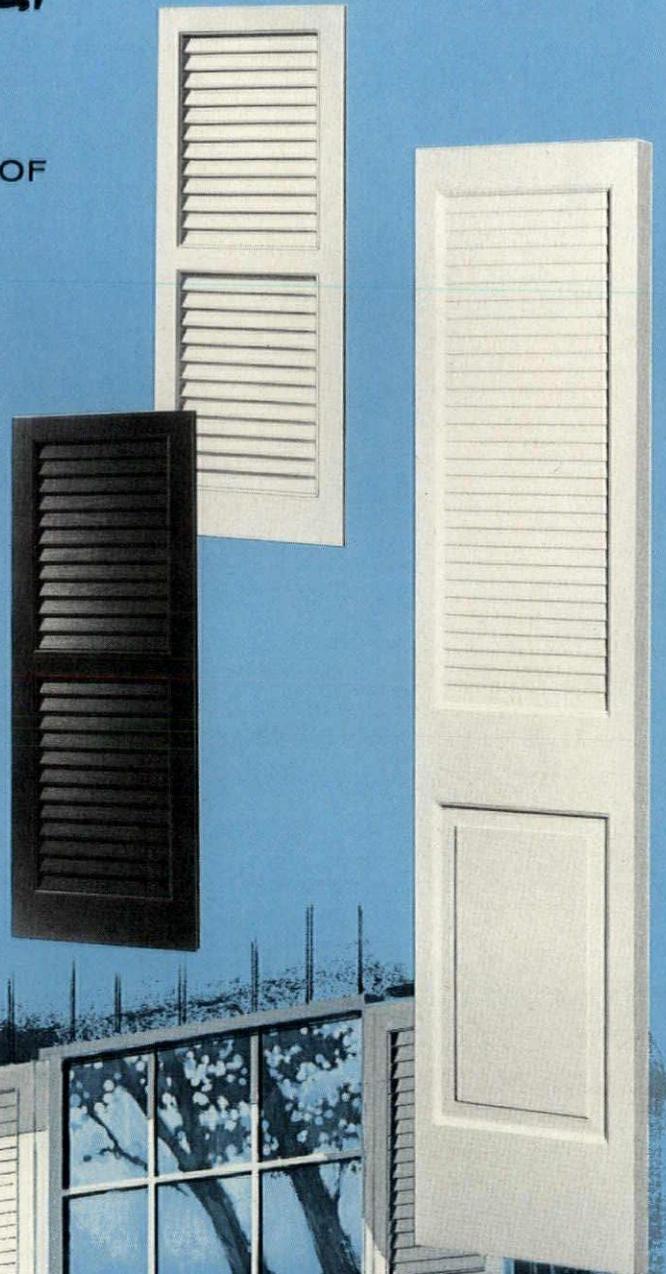
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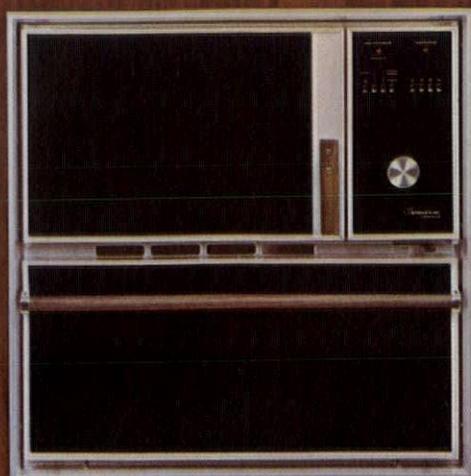
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MTR11/ MTR12—Built-in Single Microwave Ovens



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Fuel Conservation. That's what it's all about today . . . and that's what you get with Thermador's fine family of Microwave Ovens. They require as little as one-fourth the time used by conventional cooking methods and will save as much as 75% of the energy required for conventional methods. They also save pre-heating time, defrosting time, and dishwashing time, since food can be cooked in serving dishes, paper plates, paper napkins, and shallow metal trays. All models feature a browning element.

We show just 5 of our 6 great models: Model MTR 30 MICRO-WAVE OVEN/ STAY-HOT OVEN/SELF-CLEANING OVEN gives your customer a choice of fast cooking or conventional

cooking and a way to keep it warm 'til she's ready to serve.

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Model MTR 10 combines a MICROWAVE OVEN with a STAY-HOT OVEN for keeping a meal warm until serving time.

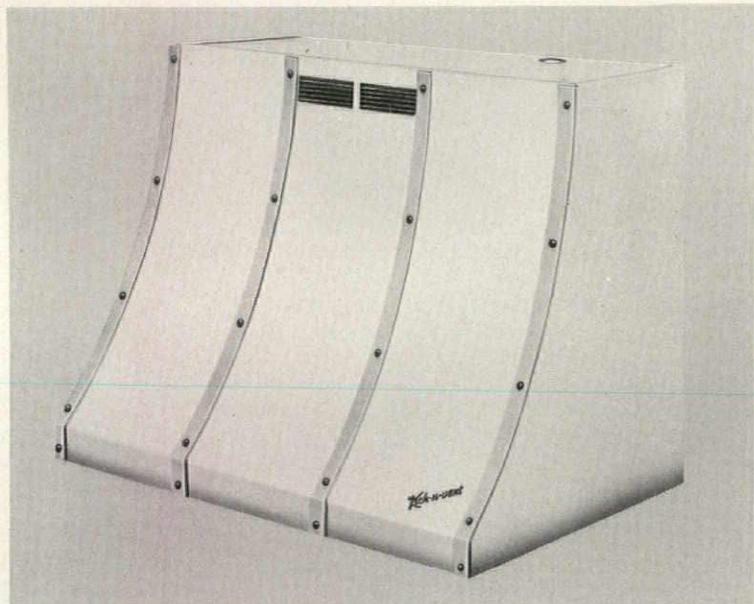
Models MTR 11 and 12 MICROWAVE OVENS install under a cabinet or may be built-in. 120V or 240V.

So to save energy — yours and your customers — sell the microwaves that sell themselves! Write for further information.

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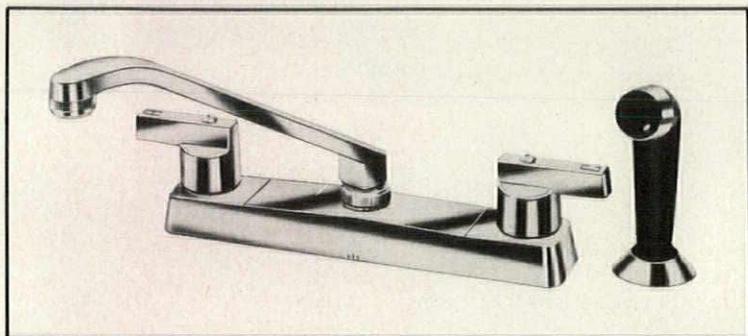
5123 District Blvd., Los Angeles, California 90040



Ductless "Kitch-N-Vent" range hood is tall enough to install directly to ceiling or furring strips. The hard-to-reach cabinet above the stove is eliminated. The unit, in a choice of colors, has pushbutton controls and a two-speed fan. Home Metal, Plano, Tex. CIRCLE 200 ON READER SERVICE CARD



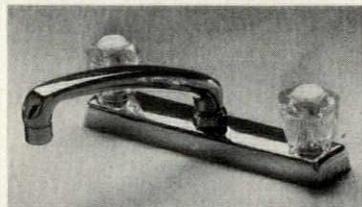
Trash compactor for built-in or freestanding use compresses waste to 1/4 of its original volume. Available in copper, avocado, gold or white the unit has up to 3,000 lbs compaction force. Trash is contained in plastic bags in a round bucket. Caloric, Tipton, Pa. CIRCLE 203 ON READER SERVICE CARD



Dual control, deck-mounted faucets, "Waverly," have square or tubular triple-plated chrome swing spouts. Units for 8" centers come with lever or round handles and with or without soft-stream rinser sprays. Mansfield Sanitary, Perrysville, Ohio. CIRCLE 201 ON READER SERVICE CARD

Distressed oak cabinetry with cathedral-style raised panels provides an old-world look (below). Featuring "Colonade" antique English hardware, cabinets are available with matching appliance fronts. Whitehall, East Rockaway, N.Y. CIRCLE 202 ON READER SERVICE CARD

Washerless "Omega" faucet features crystal-like "Coronet" handles in charcoal, amber or clear. Equipped with an aerator, faucet has a single-unit stem, bonnet and seat system that can be replaced in seconds. Streamway, Westlake, Ohio. CIRCLE 204 ON READER SERVICE CARD



Deep-bowl utility sink ideal for laundry and work rooms is made of porcelain-enamel cast iron. Something Extra,™ also featuring a shallow, easy-to-reach scrub deck, is available in a choice of 60 colors. Graning, El Monte, Calif. CIRCLE 205 ON READER SERVICE CARD



Economy-priced modular cabinets have a fruitwood-tone finish baked on, oak solid-core doors and solid oak frames. "Monmouth", with antique brass hardware and beveled raised-panel drawers, has adjustable shelves. Excel Wood, Lakewood, N.J. CIRCLE 206 ON READER SERVICE CARD



Best Buys in Double Security

Double security on entrance doors is a most wanted and needed feature. And the cost is surprisingly low when you install Harloc Pacemaker Double Security Sets. With Harloc you choose from a wide selection of designs, finishes and our rugged new Cylinder Deadbolts with every feature that great deadbolts should have.

We've made it easy for you by packaging two types of complete Double Security Sets in kits. Each kit includes a Key-in-Knob Entry Door Lockset with deadlocking latch, a Cylinder Deadbolt (with $\frac{5}{8}$ " or 1" bolt throw) and an escutcheon or entrance door handle.

#C-700DB Double Security Kit has a combination escutcheon that ties the lockset and deadbolt into a single handsome unit.

#C-700H Double Security Kit has a beautiful solid cast brass entrance handle.

You can also install the rugged new Harloc Cylinder Deadbolts on existing entrance doors for double security. They can be keyed alike with most other popular makes of locks.

Whatever your preference, Harloc gives you fine quality in design, features and construction . . . all unconditionally guaranteed . . . all at best buy prices.

Let our representative or your building supply dealer show you why Harloc is America's fastest growing lockset line. Phone (203) 934-3465 or write the Harloc Products Corporation, West Haven, Conn. 06518.

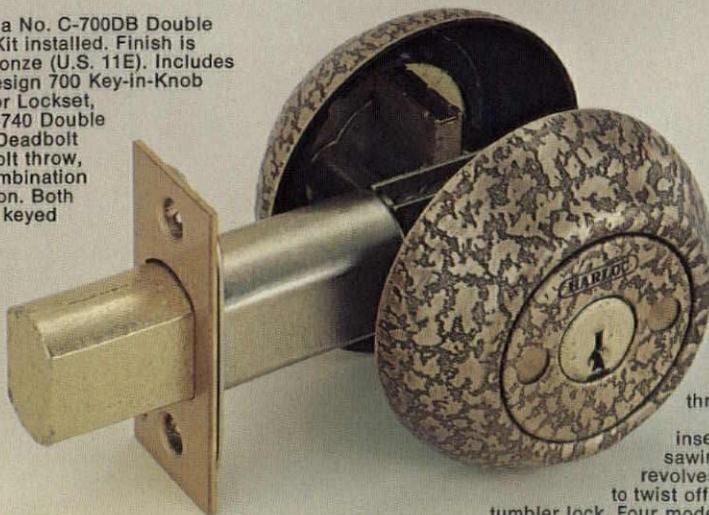
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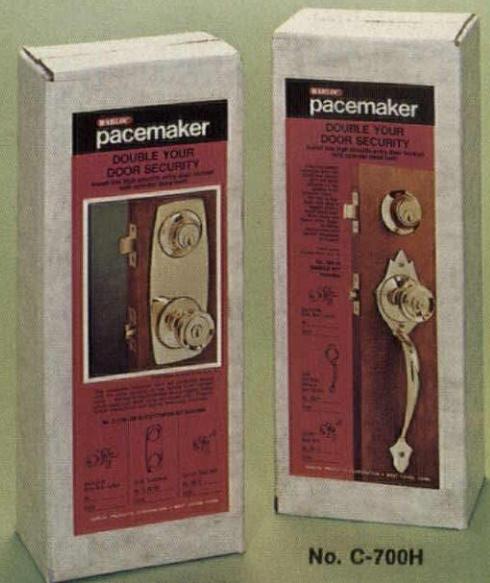
CIRCLE 121 ON READER SERVICE CARD



Shown is a No. C-700DB Double Security Kit installed. Finish is etched bronze (U.S. 11E). Includes Oxford design 700 Key-in-Knob Entry Door Lockset, a No. DB-740 Double Cylinder Deadbolt with 1" bolt throw, and a Combination Escutcheon. Both locks are keyed alike.



Harloc No. DB-740 Double Cylinder Deadbolt. Fits door thicknesses $1\frac{3}{4}$ " to $1\frac{3}{4}$ ". Holding screws are concealed and protected. Rugged bolt ($\frac{5}{8}$ " or 1" throw) has hardened steel free-turning insert. Prevents hacking-sawing. Cylinder guard revolves with any attempt to twist off. Solid brass 5 pin tumbler lock. Four models for every need.



No. C-700DB

No. C-700H

Harloc Double Security Kits. Everything you need in a single box.



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starts
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When they see Whirlpool appliances in the kitchen, your home has a selling edge. That Whirlpool nameplate says a lot for your good name as a builder.

People in every income group know that it stands for quality. They know, too, that if you didn't cut corners in the kitchen, chances are good you didn't compromise on the construction details they *can't* see in your home or apartment.

And there are some other definite advantages to you as *the builder* after you turn over the keys. Whirlpool accepts full financial responsibility for servicing products

in keeping with our simplified warranty letters.

Whirlpool pays franchised Tech-Care service companies promptly for any in-warranty service required. (Out of *our* pocket; not yours.) And we maintain a toll-paid telephone line to dispense service information to consumers day or night. (So they'll call *us*, instead of you.)

Ask about
Help where it counts
Whirlpool Distributor pre-sale
and post-sale services.

All in all, it makes sense to specify Whirlpool appliances for your next home or apartment project. Give your Whirlpool Distributor a call now. The earlier the better. And make sure the "sell" starts in the kitchen!



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The new Weldwood Collection. Suddenly, anything else seems out of date.



Introducing The Weldwood Collection,[™] from U.S. Plywood. Quite simply, the finest group of prefinished panels available anywhere in the world.

The Weldwood Collection. A paneling created exclusively for those once-in-a-lifetime opportunities when nothing less than the finest in quality is acceptable. Where superb hardwoods are crafted into face veneers worthy of the term "heirloom".

The Weldwood Collection features veneers of hickory, teak and walnut. Just these are given a formal planked effect, with slender eighth-inch-wide grooves spaced two or four inches on center. Some are medium and dark shaded. Others light-toned for a contemporary feeling.

Three more fine woods — walnut, oak and cherry — are highlighted like fine furniture with normal random spacing and eighth-inch grooves. We also have retained the very best panels from our Charter[®] and Deluxe groups: Charter pecan and Gothic oak.

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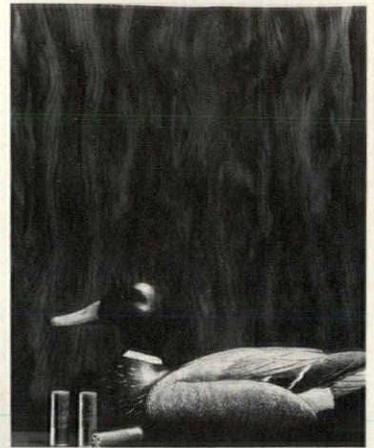
 **U.S. Plywood** Division of Champion International

CIRCLE 123 ON READER SERVICE CARD

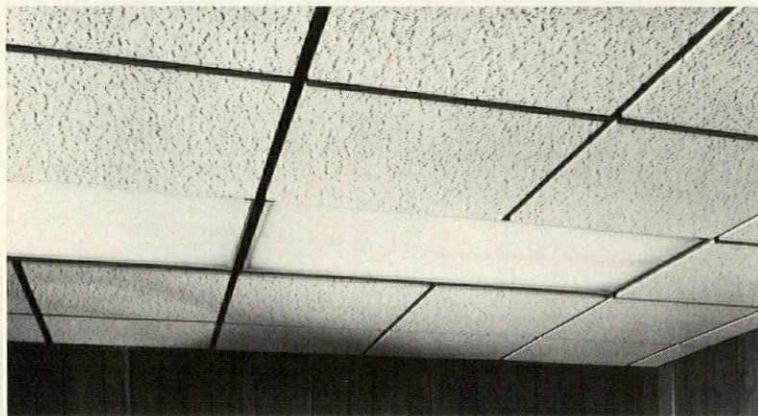
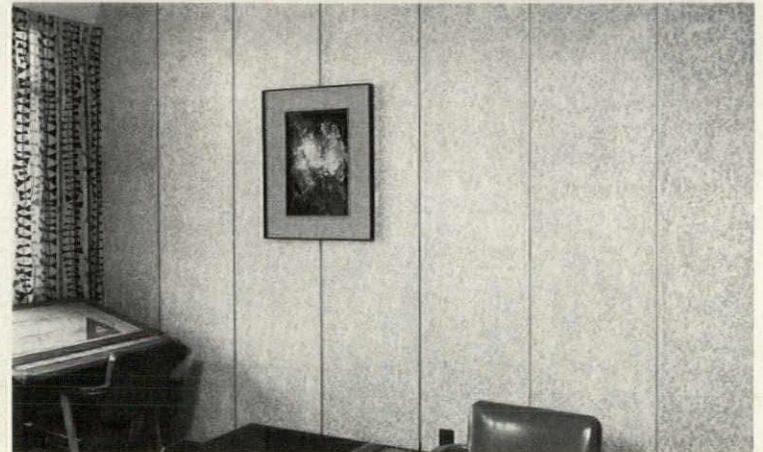


Architectural wood veneer panels, "Tech-guard," can be easily converted from Class III to Class II flamespread ratings. Unfinished panels are installed, treated with clear "Flamort WC" fire retardant and finished in the appropriate woodtone. Tech-Sales, Portland, Ore. CIRCLE 218 ON READER SERVICE CARD

High pressure plastic laminate, "Weathered Yew," has the look of aged wood. Dark irregular grain and accent lines throughout the medium-brown-toned pattern give it a slightly distressed appearance. Nevamar, Exxon, Odenton, Md. CIRCLE 221 ON READER SERVICE CARD



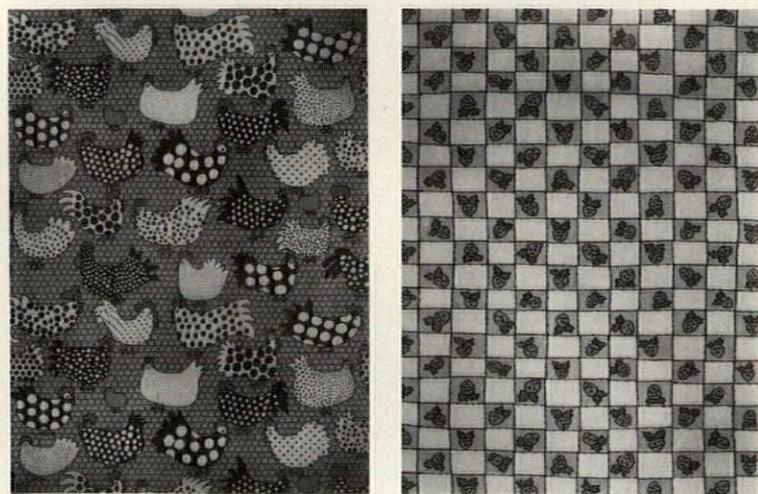
Textured particle board paneling (below) is an inexpensive means of achieving decorative accent walls. Unique three-dimensional surfaces can be painted in a variety of ways for a wide range of effects. Elmendorf Research, Palo Alto, Calif. CIRCLE 222 ON READER SERVICE CARD



Textured ceiling panels, "Tegular," have the look of fissured marble. The 2'x2' white panels are supported by a recessed black grid thus creating a three-dimensional effect. The acoustical panels are rated non-combustible. Armstrong, Lancaster, Pa. CIRCLE 219 ON READER SERVICE CARD



Prefinished woodgrained hardboard paneling, "Conestoga," is a reproduction of knotty cedar. Offered in 16"x8" planks, the T&G panels are easily installed over old walls or new framing. The easy-to-maintain material resists wear. Marlite, Dover, Ohio. CIRCLE 223 ON READER SERVICE CARD



Two vinyl wallcoverings are designed for the kitchen. "The Egg & I" (above, left), in four colorways, is whimsical barnyard fowl. "Domino" (above, right), in three colorways, is alternating rectangles of color dotted with berries. Seeman, Garden City Park, N. Y. CIRCLE 220 ON READER SERVICE CARD

For appliances, cabinets and service... consider Sears first.



Sears stands ready to serve as your single source for a wide range of top-quality merchandise. Refrigerator-freezers. Dishwashers. Ranges, gas or electric. Disposers. Laundry equipment. Compactors. Cabinets. And all from one single source. Doesn't life sound a little simpler already?

Sears appliances offer you a wide range of selection, too—all the way from our most dollar-conscious buys to the most-wanted luxury features (like self-cleaning ovens and frostless refrigerator-freezers). You're sure to find a fine value at your price point.

Next time, think of Sears. Because Sears has been doing a lot of thinking about you, and how we can help you solve some of those problems of yours.

Here are 10 good reasons to consider Sears:

1. Single source for appliances and many build-

ing products. **2.** Product leadership. **3.** Dependable service. **4.** Contract Sales Specialists. **5.** Value/Price. **6.** Kitchen planning available. **7.** Delivery to your schedule. **8.** Strong brand recognition. **9.** Product quality. **10.** Over 87 years of consumer satisfaction.

OK I'll consider Sears Contract Sales

- Send brochure
- Have Contract Specialist call
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CIRCLE 127 ON READER SERVICE CARD



TEST PROVES: NO NYLON FIBER HIDES SOIL BETTER THAN ENKALURE II.

The truth is out about soil-hiding nylon commercial carpet fiber.

Enkalure® II is as good as the best.

It's been tested and proven by the independent testing laboratory, Nationwide Consumer Testing Institute. They placed carpets made of the leading nylon fibers in one of the most heavily traffic'd airports in the country.

And when the results came in, Enkalure II's soil-hiding ability proved to be every bit as good as the best-known soil-hiding nylon.

The reason is that, unlike conventional nylon fibers, Enkalure II bulked continuous filament nylon has no deep grooves to trap and hold dirt. Also, its special multilobal construction causes light actually to bounce off the fiber in every direction. So

the color looks clean, even when the carpet is dirty.

Then there's another test. Each prototype carpet is tested by Nationwide to make certain it meets our specifications. That's why we can guarantee that Enkalure II carpet will wear no more than an average of 10% for 5 years when certified by Nationwide and the mill, and when properly installed and maintained—or we'll replace it.

If you have the kind of floor that takes a lot of traffic, you should specify Enkalure II.

For specific carpet information and a 14-page report of the test results, contact American Enka (Dept. HH), 530 5th Avenue, N.Y., N.Y. 10036. (212) 661-6600.

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And your sales job will become easier as that preference grows even stronger with our new '74 collection. We're introducing 18 contemporary new colors, pattern and woodgrain designs that are consumer tested and keyed to the HOUSE & GARDEN color trend guide. Your fabricator can also supply you with a variety of innovative textures, dimensionals and metallics.

We'll even help you locate fabricator-sources who will co-ordinate colors and designs, meet the delivery schedule you set and give you prices as competitive as you'll find anywhere for comparable quality.

These are just some of the ways you get more when you buy, give more when you sell. See your fabricator, or write direct, Dept. HH-5.



© 1974 • Formica Corporation • Cincinnati, Ohio 45202, subsidiary of 

Patterns: Poppy, 881; Salem Birch, 443 and Butcherblock Maple, 204.

Vanitory: Fire Agate, 820 and Gunstock Walnut, 492. Walls: Spring Pastoral, 691.





The outrageous imitator

No-wax, no-work cushioned vinyl that looks like custom wood, but doesn't cost like it.

Spanish Wood is rich, warm, incredibly carefree. It has a Perma-Polish finish that's for real. So there's no scrubbing. No waxing. A damp cloth does it all.

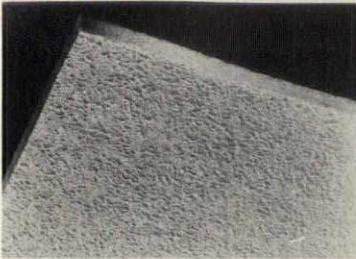
Spanish Wood is cushioned. Which makes it easy on the feet. Easy to install, too. The convenient 6' and 12' wide rolls work on any grade level.

Spanish Wood from Mannington's MillionAir

collection. The 100% fake with authentic home sale impact.

Mannington Mills, Salem, New Jersey 08079. 60 years of fine flooring. Other fine floor coverings by Wellco Carpet Corp. of Calhoun, Georgia. A wholly owned subsidiary of Mannington Mills, Inc.

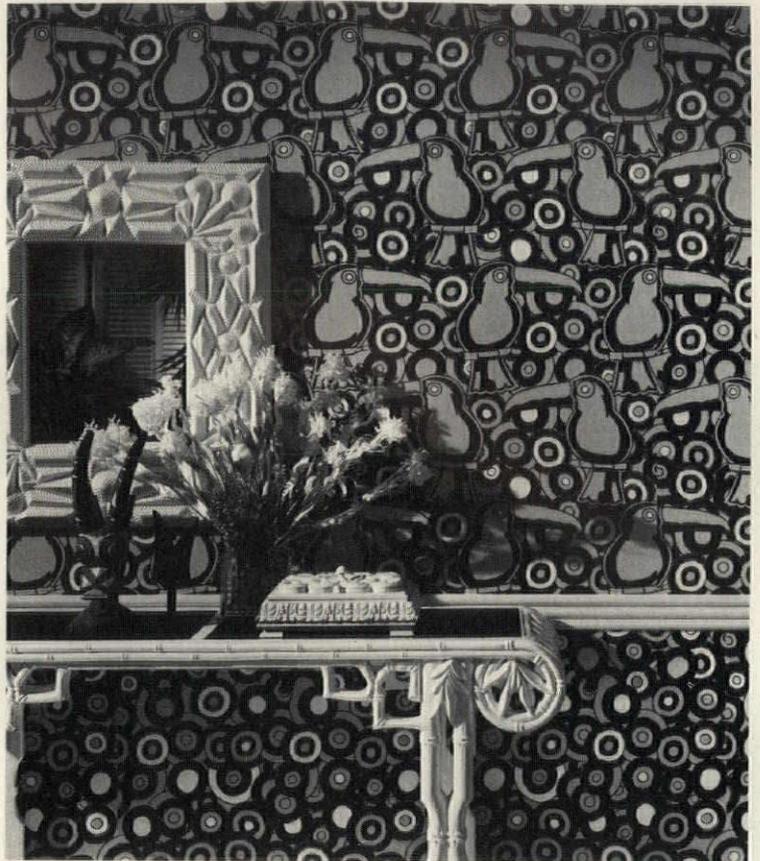
Mannington 
Tough. Smart. And out to floor you.



Fiber glass suspended ceiling panel, "Seville", is one of four designs in a vinyl-faced line. Suitable for either residential or commercial use, the boldly-stippled, rugged-looking panels provide good sound absorption and high thermal efficiency as well as excellent light reflection. Certain-teed, Valley Forge, Pa. CIRCLE 212 ON READER SERVICE CARD



Brightly colored hardwood plywood paneling, with an embossed woodgrain finish, is a lively accent for any casual living area. Available in six bold shades, "Piccadilly" features an easy-to-maintain, modified-polyurethane coating. Georgia Pacific, Portland, Ore. CIRCLE 213 ON READER SERVICE CARD



Fanciful exotic birds facing in alternating directions are the focal point of "Raga" wallcovering from the "Afro Collection". Companion background design, "Mega", shown as a dado, also comes in a matching fabric. Bill Miller Wallpaper, College Point, N.Y. CIRCLE 217 ON READER SERVICE CARD

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MARK II SUPER ECONOMY + SUPER PERFORMANCE

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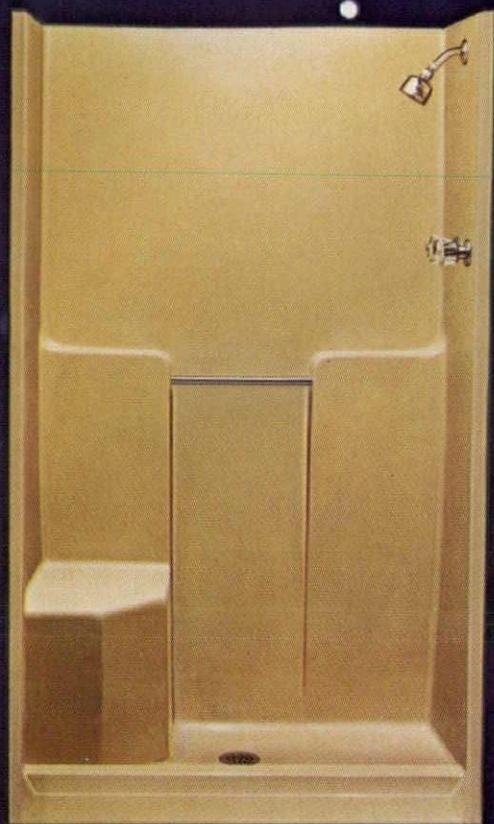
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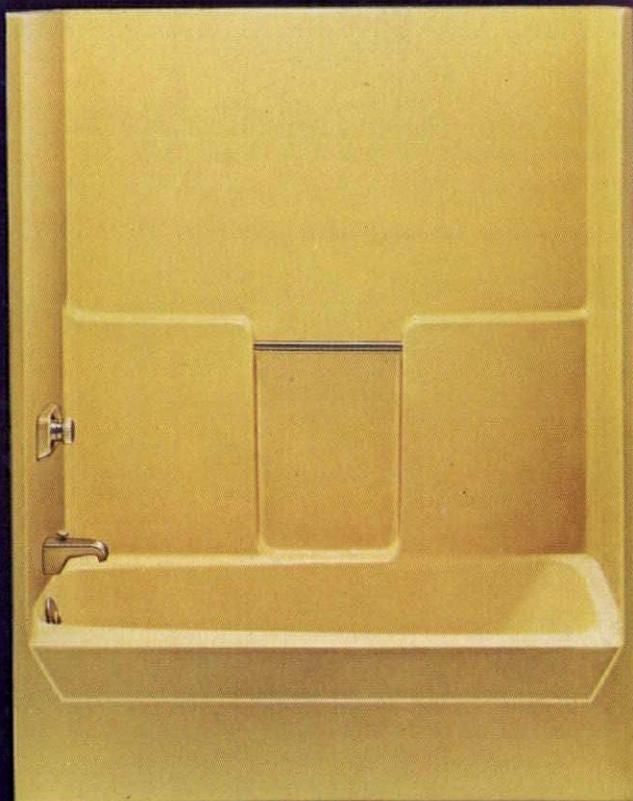
You're looking at our new Galaxy fiberglass tub/shower and shower stall.

The strong, lightweight, one-piece fiberglass construction makes them a dream to install—you just slip them into place.

The durable, high-gloss finish with stain, mar and scratch resistant surfaces are beautiful to behold. And economical, too, in the initial cost, in installation and in use.

Choose from five Galaxy models for all kinds of construction: private homes, hotels, motels, condominiums.

What's more, they're available now, in white and four decorator colors: Avocado, Aztec Gold, Sky Blue and Sun Tan. Check your local Crane distributor for all the details, or write Crane Co., 300 Park Avenue, New York, New York 10022. Galaxy. The dream spas. From Crane.



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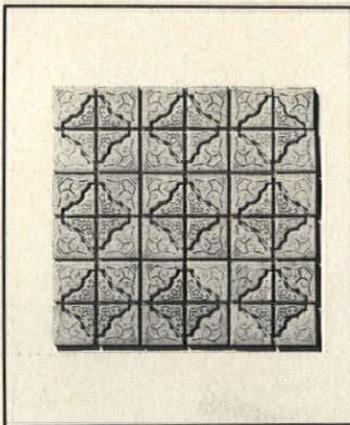
CIRCLE 132 ON READER SERVICE CARD



Brick-like accent wall of Roxite masonry paneling adds elegance to an entryway. Shown in Dover white, the panels have the texture and look of weathered brick. Easily installed with nails or adhesive, each panel covers about 2 sq. ft. Masonite, Chicago. CIRCLE 211 ON READER SERVICE CARD



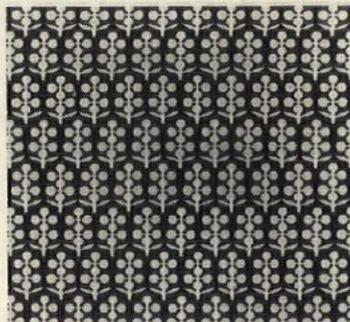
Decorative Thin-Brick,™ ½"-thick kiln-dried bricks, can be applied to any interior wall with adhesive. Corner pieces are available. Mortar-Sticks,™ a pre-formed joint material, provides a realistic finished effect. Ridgerock, Sebring, Ohio. CIRCLE 214 ON READER SERVICE CARD



Ceramic mosaic tiles, "Venus", comes in nine colors ranging from brilliant to subdued. Mounted on web-backed sheets, the frostproof, 3-dimensional tiles are suitable for floor or wall use indoors or out. Quamagra, North Hollywood, Calif. CIRCLE 215 ON READER SERVICE CARD



Small scale patterns from the "Horizon 9" collection are inspired by Indonesian designs. Both Jakarta (above, left) and Java (above, right) are miniature prints, which from a distance seem to merge into overall textured effects. Karl Mann, New York City. CIRCLE 216 ON READER SERVICE CARD



A Lindal distributor recently grossed \$156,000... working one day a week.



A Saturday afternoon well-invested.

We're not sure how Gene Pettipas managed to limit his first year's activities to a Saturdays-only basis. And we certainly don't recommend his schedule.

Not when, by putting in an extra day or two each week, he could have grossed at least \$300,000, for an income of well over \$70,000.

How do we know?

During the same period, Jim Brady, another *first-year* distributor, grossed a total of *1 million!*

The simple truth is, we make exceptionally solid houses—precut cedar homes that also offer unique insulating virtues and unusual design flexibility. Homes that make a great deal of money for our distributors. (1973 sales were up again, by 33%.)

And, as Gene and Jim can attest, you *don't* need any

related background to be successful. We supply the experience—some 28 years of housing and selling know-how; plus training and day-to-day assistance, advertising and leads.

Much of that assistance is spelled out in our comprehensive distributor guide, the Lindal Profitmaker.

It costs \$10, but it's a big book which covers all the bases, including the details of our distributor options and opportunities. (We'll also include a copy of our newest Planbook, containing 73 Lindal designs.)

If you'd like a copy, just return your check or money order with the coupon below. But please act promptly.

Even in this period of rising costs, our sales are rising even faster. And, at Lindal, we make houses that make money.

LINDAL CEDAR HOMES

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HH 45 H

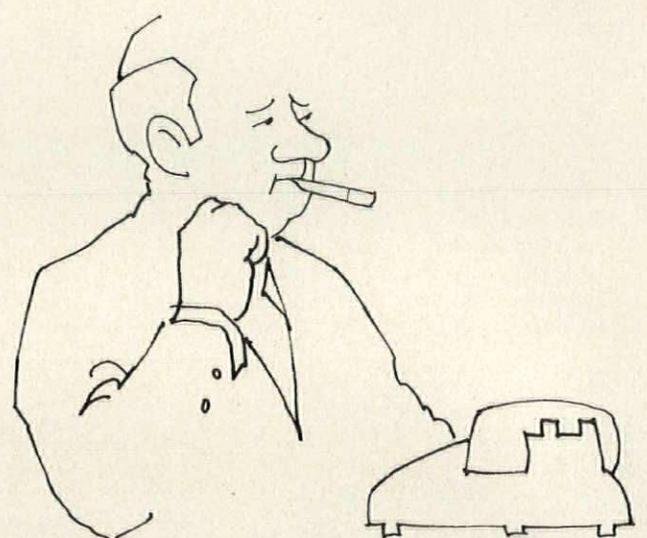
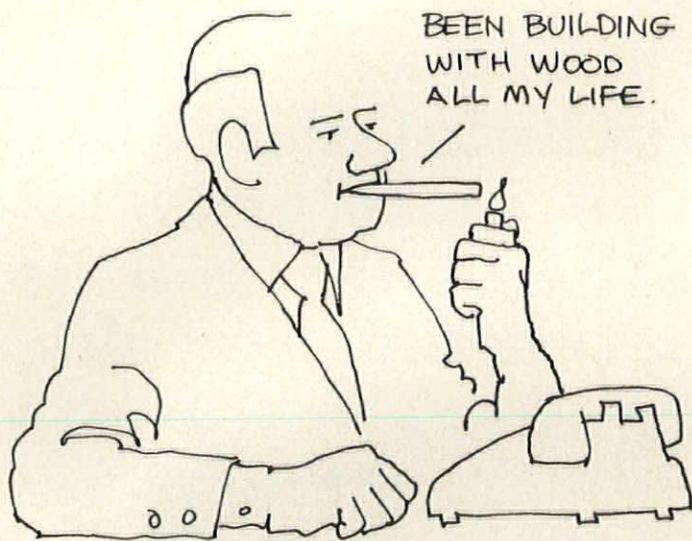
Enclosed is \$10 for my copy of the Lindal Profitmaker and accompanying materials.

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There just may be things you don't know about studs.

For instance: Test proves that 24" on center stud walls using Western Wood studs are 2 to 4 times stronger than code!

If you're using 2 x 4's 16" on center for exterior walls, imagine the time (labor) and money (less materials) you could save using studs 24" on center! Well, now you can. And you can save even more time and money by using the lowest grade capable of doing the job. Because a recent test proved that UTILITY grade studs and 24" framing meet all code requirements for one-story construction.

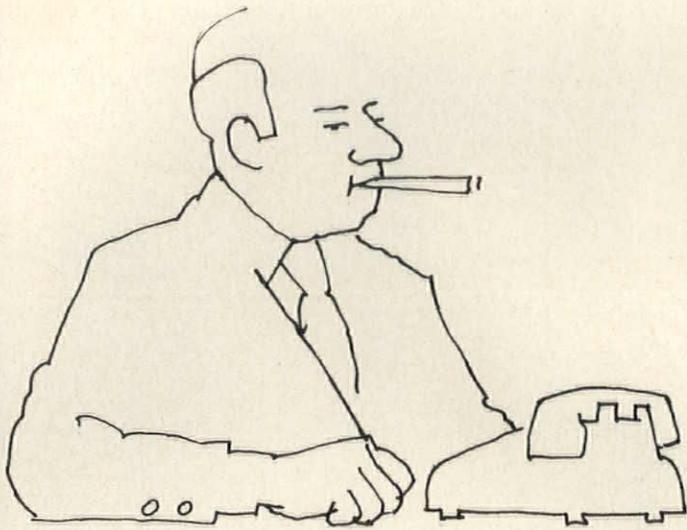
In the test, four experimental walls were constructed according to the design specifications of the FHA. The studs for the walls were selected from 250 UTILITY grade Engelmann spruce studs, the lowest grade capable of doing the job. This grade is lower in quality than Select Structural, No. 1, Construction, No. 2, Standard and Stud grades commonly specified for stud use. WWPA Quality Supervisors

selected from pieces containing strength reducing characteristics such as knots. The purpose was to construct walls with less strength than would result with normal site use of Engelmann Spruce UTILITY grade studs.

To assure this, materials selected for test walls came from a computer study of 1,000 possible wall combinations. Thus, units selected for destructive testing represented the weakest 1-1/2% of all walls that could possibly be built from the sample.

Two experimental walls were built 16" on center, and two 24" on center. All were sheathed on the exterior with 5/8" cedar bevel siding, and the interior with 3/8" gypsum wallboard. The walls were tested by vertical loads equivalent to 2-story construction and by increasing air-bag lateral pressure to destruction.

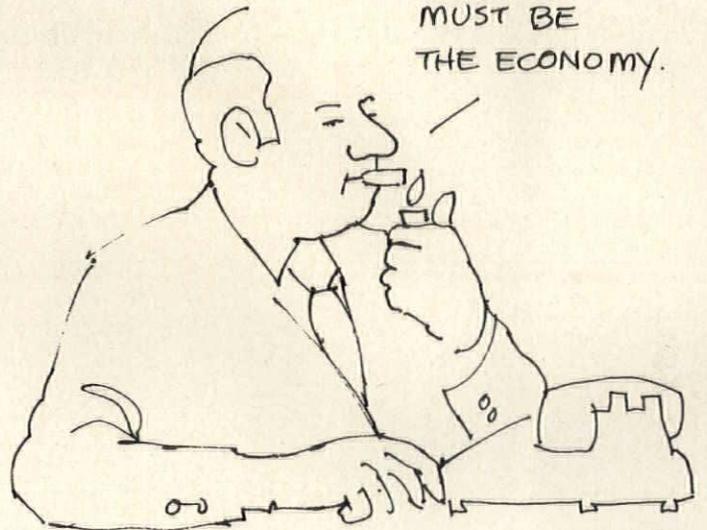
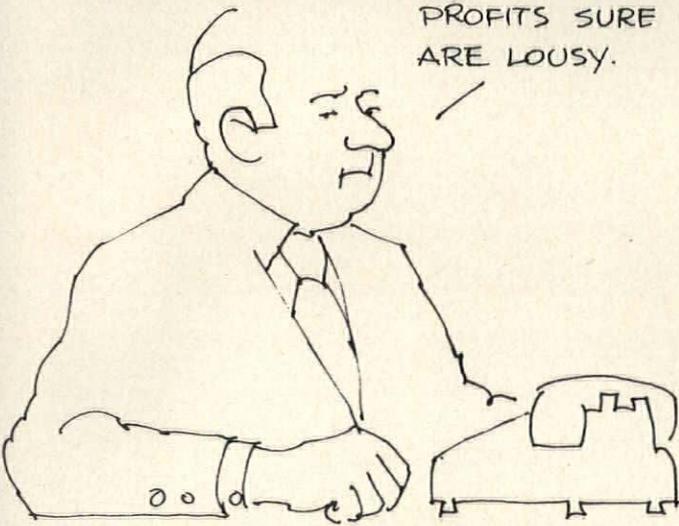
Result: Walls with 16" stud spacing failed under a lateral load *four times*



SAM, WE NEED SOME STUDS.

PROFITS SURE ARE LOUSY.

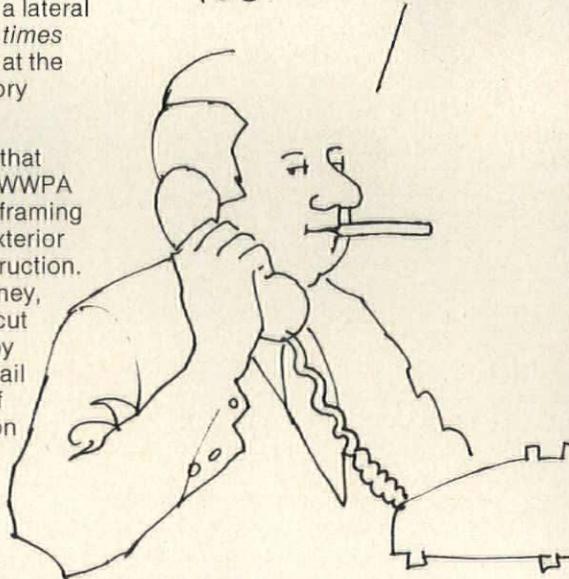
MUST BE THE ECONOMY.



SAM, CHANGE THAT ORDER TO STUD GRADE...AND LOOK INTO UTILITY GRADE, TOO.

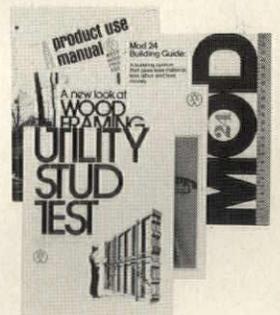
greater than the required wind load according to FHA specifications. Walls with 24" spacing failed under a lateral load of two and a half to three times the required wind load. While at the same time carrying a full 2-story vertical load.

This test proved conclusively that the weakest combinations of WWPA UTILITY grade studs and 24" framing are more than adequate for exterior walls, even with 2-story construction. So you can save time and money, safely, with 24" framing, and cut building costs, significantly, by using UTILITY grade studs. Mail the coupon for more details of the test report, plus information on 24" framing and other Western Wood grades and uses.



Free! All you need to know about studs.

Free data file includes: RESULTS OF UTILITY STUD TEST which contains complete data on the Utility Stud Wall Test conducted by the Forest Research Laboratory, Oregon State University. File also includes A NEW LOOK AT WOOD FRAMING which shows why many of today's most successful builders use Western Wood framing; CATALOG A, PRODUCT USE MANUAL—a guide to use selection of Western Wood; and MOD 24 BROCHURE—a comparative cost study with technical data on 24-inch framing. Mail the coupon for your free file today.



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Western Wood Products Association

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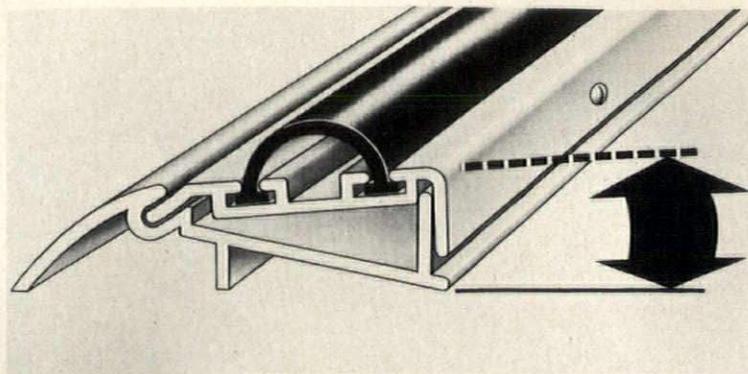
One of a series by members of the American Wood Council.



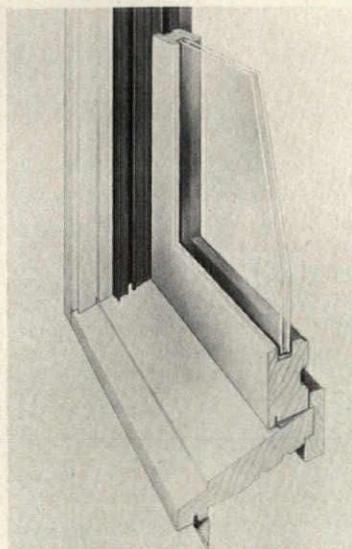
Solid wood-core mahogany doors are handcarved on one side and flush on the other. The 1 3/4"-thick doors with mahogany edgbanding are treated with a wood preservative that aids in painting or staining. All models, including the "Seville" shown, are also available with a 20-minute fire rating. Acme Hardware, Los Angeles. CIRCLE 231 ON READER SERVICE CARD



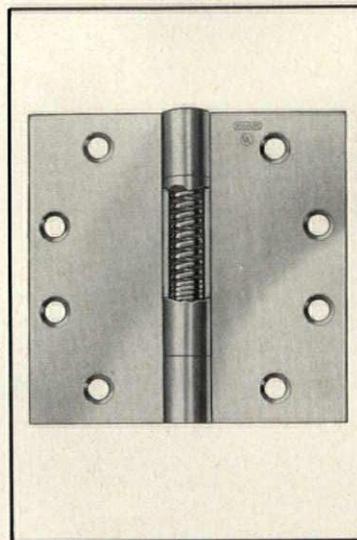
Elegant carved entry door, "Britannia," captures the style of medieval England. The door consists of nine 1 1/8" decorative panels. The center panel features a hand-carved heraldic lion, a symbol of royalty. Doors are available in a standard 6'8"-high, 3'-wide model or special custom sizes. Simpson Timber, Seattle, Wash. CIRCLE 232 ON READER SERVICE CARD



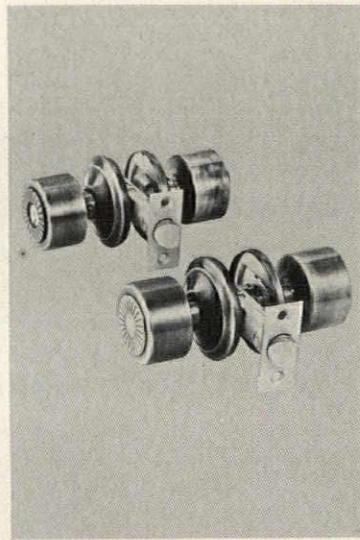
Adjust-a-seal threshold provides a weatherproof door seal. The easy-to-install unit features vertical adjustment controls that automatically compensate for uneven doors, bowed sills, angled floors, warped doors and other minor construction flaws, ending costly call-backs. Ames Metal, Saddle Brook, N.J. CIRCLE 236 ON READER SERVICE CARD



Double-hung tilt-in wood windows feature Clad-X, a protective film permanently laminated to exterior surfaces. The waterproof finish won't crack, peel or yellow. It provides complete protection from the elements during construction and eliminates the need for painting. Rimco, Rodman, Rock Island, Ill. CIRCLE 237 ON READER SERVICE CARD



Spring hinge with concealed-bearing design is engineered to meet multi-family building codes requiring self-closing doors. The factory preset, permanently assembled steel hinge features a standard template and can be used on doors to 135 lbs. Hinge is available in two models. Stanley Works, New Britain, Conn. CIRCLE 233 ON READER SERVICE CARD



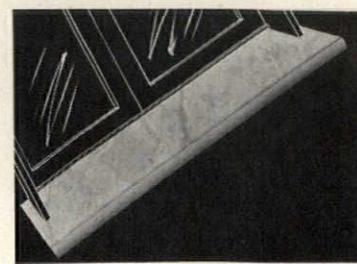
"Galant" style knob, part of the Dexlock line, features a raised, grooved face. Available in antique brass or silver finishes, the easy-to-install lockset comes with exposed or concealed tie screws. Steel parts are zinc-plated and dichromate-treated for corrosion resistance. Dexter, Grand Rapids, Mich. CIRCLE 234 ON READER SERVICE CARD



Economy-priced bi-fold doors, fabricated of structural foam have a woodgrain look. Factory-finished doors, which can be painted if desired, will not chip, warp, shrink, expand, rot, crack or crush. Vented louvers permit free passage of air, eliminating moisture built-up inside. Walled Lake, Richmond, Ind. CIRCLE 238 ON READER SERVICE CARD



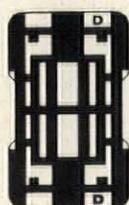
Spanish style door, "Toreador," is available in 1 3/4" and 1 3/8" thicknesses for exterior and interior use. Accented by 1 3/16" thick decorative panels, doors are of western ponderosa pine and can be stained or painted. Matching "Glide and Fold" bifold units are also offered. Ideal Div., Certain-teed, Waco, Tex. CIRCLE 239 ON READER SERVICE CARD



Window sills, with the look of natural white marble, are constructed of "White Onyx" Formica laminated to particleboard cores. Easily installed with nails, screws or mastic, the sills will not fade in sunlight and never need painting. They come in standard widths and 10' and 12' lengths. Laminated Plastics, St. Louis, Mo. CIRCLE 235 ON READER SERVICE CARD

"Ticket-Operated Maytags give us better laundry room security and tight money control at Channelwood Village," reports Mr. Reeves.

These washers and dryers minimize coin-box problems. Instead of coins they use an Electronic Ticket that is invalidated on insertion.



Channelwood Village is a new community in Opportunity Park, Akron's 400-acre urban renewal area. Conceived by the Akron Chapter of Alpha Phi Alpha and federally financed, it was built by Forest City/Dillon, Inc.

Channelwood's 551 units include high-rise apartments, garden apartments and town houses. The complex's laundry rooms have Ticket-Operated Maytags, 32 washers and 32 dryers. These use an exclusive Electronic Ticket instead of coins.

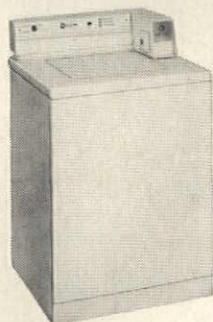
"It was natural for us to pick Ticket-Operated Maytags because we've had years of experience with them," says Mr. Gerald C. Reeves, Forest City/Dillon's Property Management Coordinator. "They give us better security and money control, because tickets are sold in the office. In addition, we have found Maytags work dependably and residents like using them."

"The combination of Maytag and our local Maytag Route Operator has made our laundry operation run smoothly," concludes Mr. Reeves.

Naturally, we don't say your experience will be exactly like that at Channelwood Village, or that Ticket-Operated Maytags will eliminate all security problems. But if you want a significant improvement over coin-operated equipment, plus famous Maytag dependability, mail the coupon now.



Mr. Reeves with Mr. James R. Williams, Chairman of the Board of Alpha Phi Alpha Homes, Inc.



THE MAYTAG COMPANY

Advertising Department HH-5-74, Newton, Iowa 50208



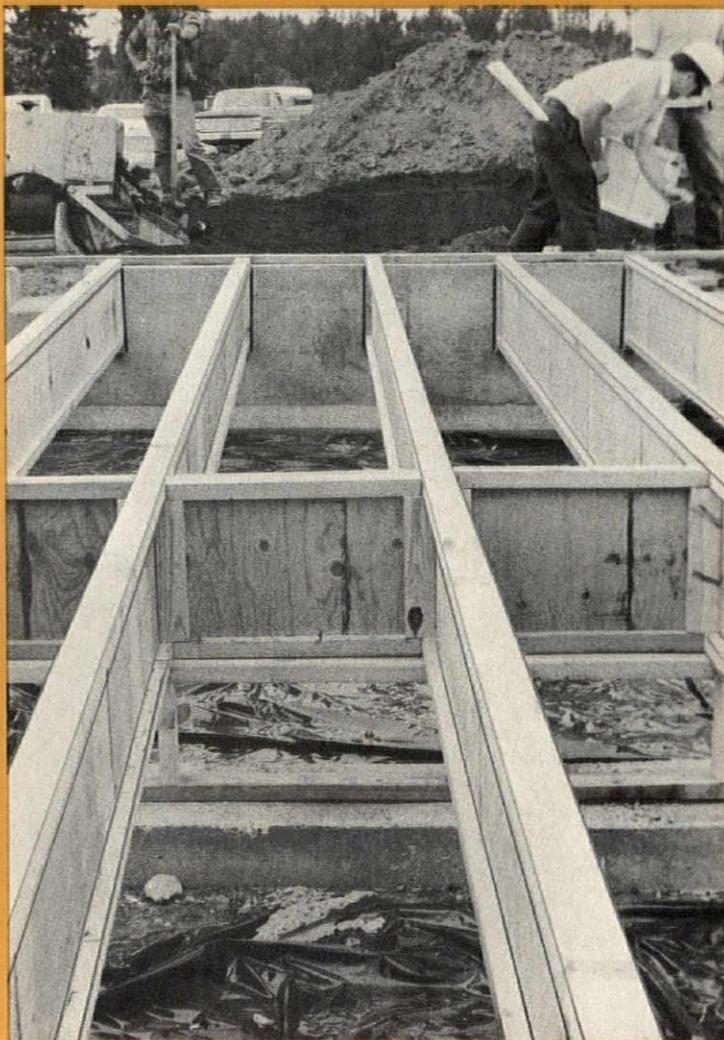
Send details on how Ticket-Operated Maytag Washers and Dryers can help curb security problems, and contribute to a more trouble-free self-service laundry operation.

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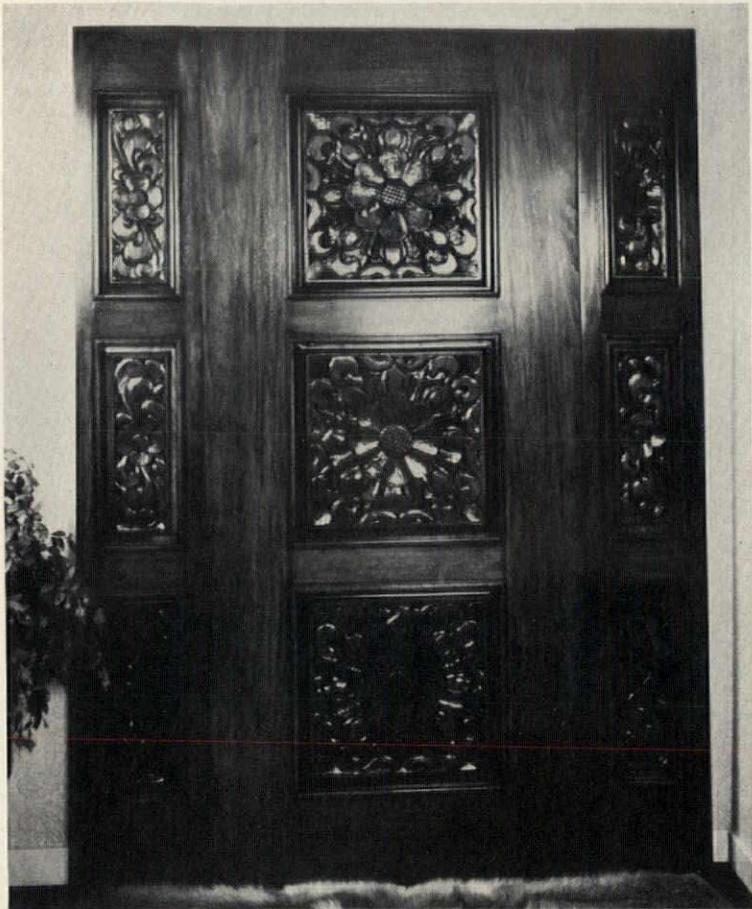
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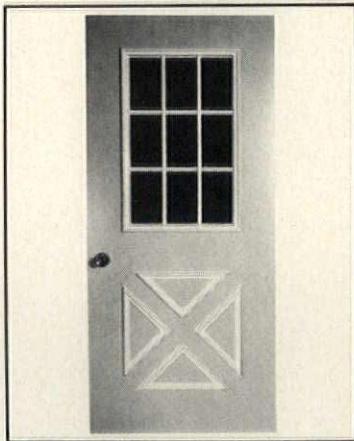
9777 W. Chinden Blvd. Boise, Idaho 83702 208/375-4450



Elegant hand-rubbed rosewood entry door, "St. Moritz", features a deeply carved, intricate petal design. Pattern is picked up on optional matching side panels. Door, with a plain back panel, comes in two sizes as do the side panels. Elegant Entries, Worcester, Mass. CIRCLE 240 ON READER SERVICE CARD

Doorlites, designed for both 3'-wide and 2'8"-wide flush doors, are engineered to last as long as steel doors. "Excellite Divided Lites" feature molded polystyrene frames and divider bars as well as safety glazing. Visador, Jasper, Tex.

CIRCLE 241 ON READER SERVICE CARD

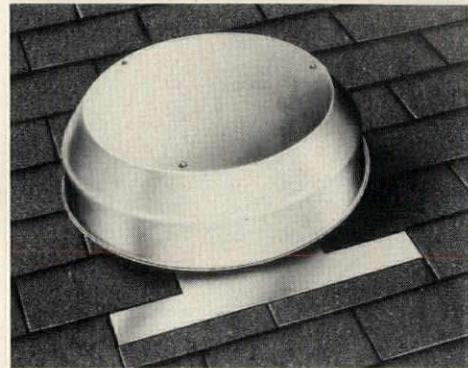


Three-way vanity wardrobe door (below) has two end panels that adjust to any position and a center panel that slides either way. Unit comes with a gold or satin aluminum or deep bronze finished frame. Monarch Mirror Door, Van Nuys, Calif.

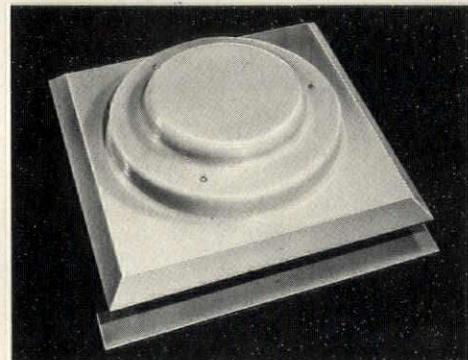
CIRCLE 242 ON READER SERVICE CARD



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Model RF-68. 1265 CFM. For larger attics. Aluminum housing, self-flashing flange. 7½ changes per hour — 10,000 cubic foot attic.



Model RF-58. 1000 CFM. 8 air changes per hour — 7,500 cubic foot attic.

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NuTone Housing Products

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Madison and Red Bank Roads
Cincinnati, Ohio 45227
Dept. HH-5

Form 2221,

Printed in U.S.A.

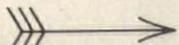


You can install the All-Weather



Try that
with concrete.

Wood Foundation in 1½ hours.

Read on 



A top speed for the All-Weather Wood Foundation is 1½ hours. Seven times faster than concrete block. And \$300 cheaper.

We're not saying you're going to install it that fast every time. Or ever.

It usually takes about three hours to install an average-sized All-Weather Wood Foundation, according to Bennett Barnes, a treater/fabricator of 700 wood foundations.

The 1½-hour foundations were installed in April 1969 by John



Typical foundation by Bennett Barnes, Barnes Lumber Corp., Charlottesville, Virginia.

Clifford of Lexington Park, Maryland. NAHB time-studied three wood foundations and one concrete block foundation — all 1,008 sq. ft. and all built by Clifford with a five man crew.

The wood foundations were installed on schedule, even in drizzling rain, while the concrete block foundation was continually postponed (because of rain).

"It's practically impossible to lay concrete block in the rain, even in light rain," said Clifford.

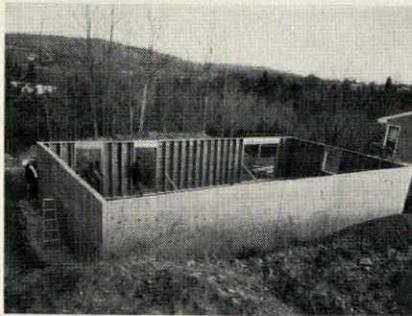
"Once the weather cleared, it took us nearly 10½ hours to lay the concrete block foundation as compared to 1½ hours for the All-Weather Wood Foundation," Clifford said.

More speed stories.

What is probably the world's speed record was set in Milan, Illinois, by Shoemaker-Wells Homes.

They placed and aligned a full-basement wood foundation, then installed an interior partition wall (studs only), paneled first floor, and basement stairway — all in just over 2 hours from start to finish.

In Charlottesville, Virginia, the Farmers Home Administration recorded construction of an All-Weather Wood Foundation and the erection of a modular home for the George Brill family. Starting from an ungraded lot, the home was ready for occupancy in just 8 hours.



What it is.

Basically, the All-Weather Wood Foundation is a pressure-treated plywood-sheathed stud wall set below grade on gravel footings and a treated wood plate. The exterior is covered with polyethylene film. And joints, in both plywood and plastic film, are sealed.

But is it durable?

APA says yes.

NAHB says yes.

The U.S. Forest Products Laboratory, after testing a pressure-treated wood foundation for thirty years, says yes.

And all model building codes say yes.

Send for the book.

All you need to get started is a copy of the new All-Weather Wood Foundation booklet and thirty minutes of talk with an APA field man.

Both free. For a coupon.

**American Plywood Association
Department H-054
Tacoma, Washington 98401**

This I gotta see. Please send me the APA All-Weather Wood Foundation booklet.

I have too many questions. Please rush me an APA field man with enough facts to get me started now.

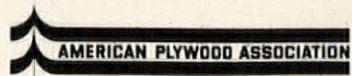
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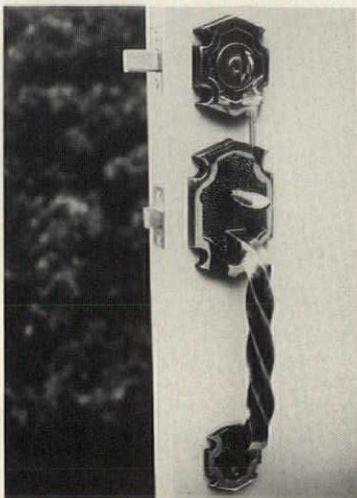


the cost cutter

PRODUCTS/DOORS, WINDOWS

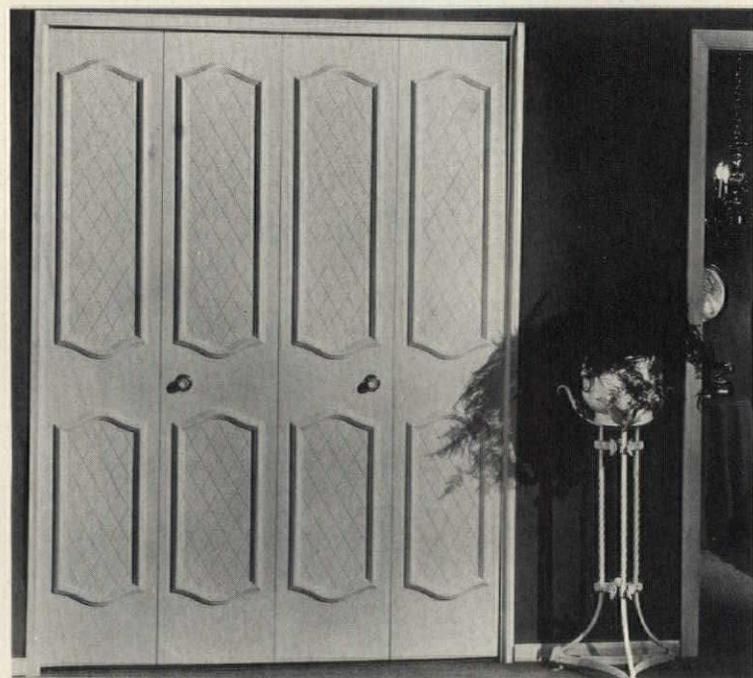
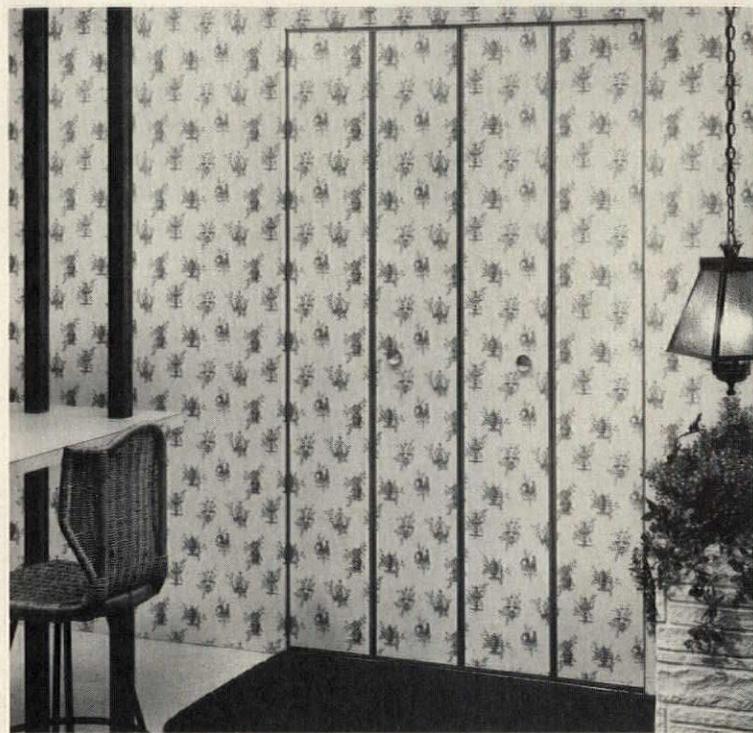
King-size two-piece handleset, "Riata", is nearly 20" long. Massive-looking entry unit with a twisted handle features a hammered-texture face. It is available in antique brass, antique silver, antique bronze or a highlighted bronze finish. Weslock, Los Angeles.

CIRCLE 243 ON READER SERVICE CARD



Custom-made doors in bi-fold or bi-pass styles are constructed to exact builder specifications using standard frame and track parts. Doors with unlimited decorative options can feature any panel material including mirrors or covered board (below). Leigh, Coopersville, Mich.

CIRCLE 244 ON READER SERVICE CARD



Bi-fold doors with the look of genuine wood are injection-molded high-impact polystyrene. Panels, constructed in one-piece, will not swell or shrink. Available in walnut or white, doors can be installed for left- or right-hand opening. Self-lubricating nylon bearings and precision hardware provide for easy gliding. Clopay, Cincinnati, Ohio. CIRCLE 245 ON READER SERVICE CARD

"In 1974 we want to help you promote your homes and condominiums using In-Sink-Erator products."



Robert M. Cox
Executive Vice President-
Marketing
In-Sink-Erator Division,
Emerson Electric Co.

CHOOSE ONE OR BOTH OF THESE EXCITING PROGRAMS.



Sunday Magazine Listing

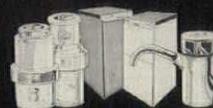
In most major disposer markets in 1974, In-Sink-Erator is advertising in the Sunday magazine sections of the newspapers in those markets. You can be listed in these ads as a builder that features In-Sink-Erator products.

Be on TV with the Today Show



Beginning in June, In-Sink-Erator is taking a heavy schedule on the NBC "TODAY" Show. Special salutes to the National Home and Apartment Week will be included. You can be listed at the end of the commercial in your market. This will be a great program for you.

For more than 37 years, In-Sink-Erator has worked to establish a quality name. When your prospects see In-Sink-Erator in your homes or condominiums, they'll know you did a little more to make sure they got the best.



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**How are
you
coming
with your
share of
the \$40
Billion?**

**\$40 Billion . . .
that's what forecasters
have said will be spent
on new housing in '74.**

By this time of the year you may find your building, marketing or sales targeting needs a little sight adjustment. We've got just the thing to help the aim for your '74 goal . . . hit close to center—**THE BLUE BOOK OF MAJOR HOMEBUILDERS.**

We set out to create the one homebuilding study everyone needs to help increase their business this year. We made it all new for '74 with new features to make it more useful for you than any prior edition.

BLUE BOOK buyers tell us every day how invaluable it is as a reference tool to expand their share of business. If you would like more information, write and tell us and we'll include a listing of '74 **BLUE BOOK** buyers. Here are a few of the kinds of business buyers that have found great value from their **BLUE BOOK:**

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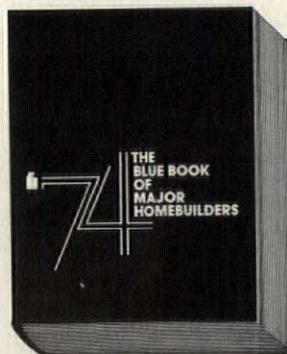
- Townhouses, Quadplexes, etc.
- Multi-Family, Low-Rise
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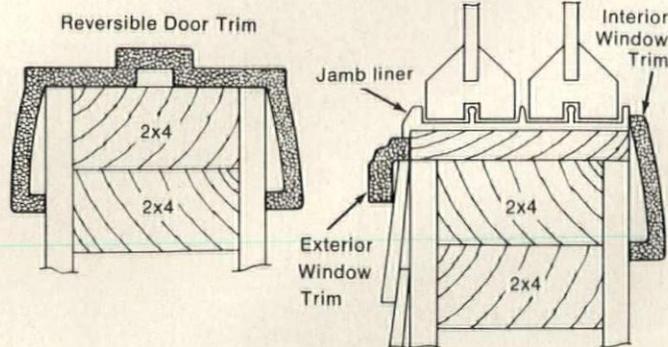
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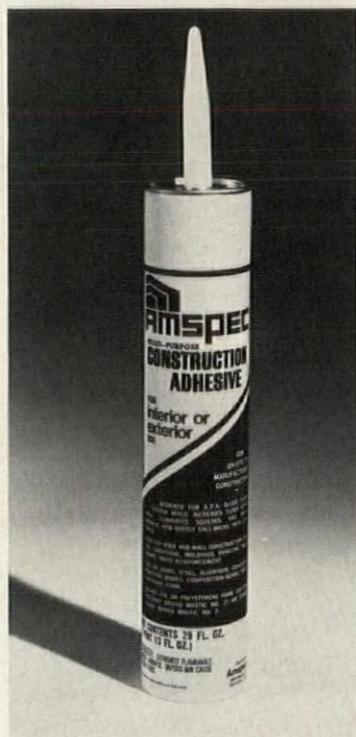
CranePlastics

CIRCLE 71 ON READER SERVICE CARD



"Drylok Fast Plug" stops leaking water instantly. The fast setting powder material is ideal for sealing floor and wall joints as well as cracks in masonry walls and swimming pools. It is also excellent for anchoring bolts, hooks, machinery and motors to masonry surfaces. United Gilsonite, Scranton, Pa.

CIRCLE 261 ON READER SERVICE CARD

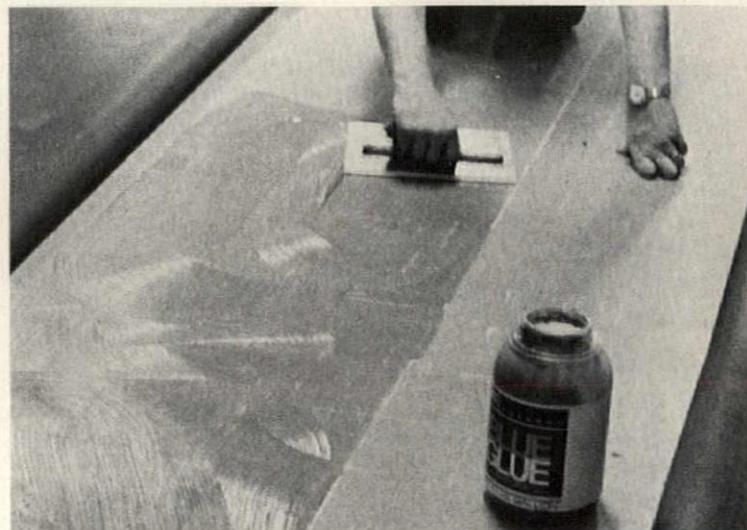


Multi-purpose construction adhesive, especially designed for a glued floor system, is suitable for all gluing applications. The mastic can be used with wood, metal, concrete, composition board and polyurethane foam. Amspec, Columbus, Ohio.

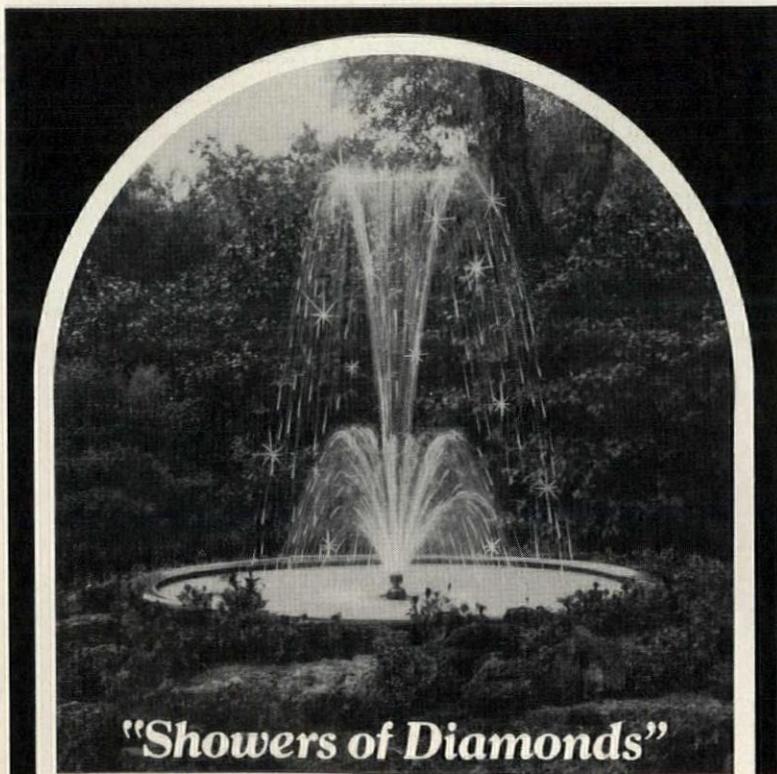
CIRCLE 262 ON READER SERVICE CARD

Latex caulk, for sealing around doors and windows and exposed joints, can be used indoors or out. Durable caulk can be used between similar or dissimilar materials. Available in 11 oz. cartridges, it is treated with a fungicide. Macco, Wickliffe, Ohio.

CIRCLE 263 ON READER SERVICE CARD



Easily applied non-flammable, non-toxic adhesive is designed for fast, efficient carpet installation. Suitable for bonding carpet backed with polypropylene, latex foam, vinyl foam, sponge, unitary vinyl and jute secondary to all types of floors, the odorless high-tack adhesive is easy to apply and is water resistant. 3M, St. Paul, Minn. CIRCLE 264 ON READER SERVICE CARD



"Showers of Diamonds"

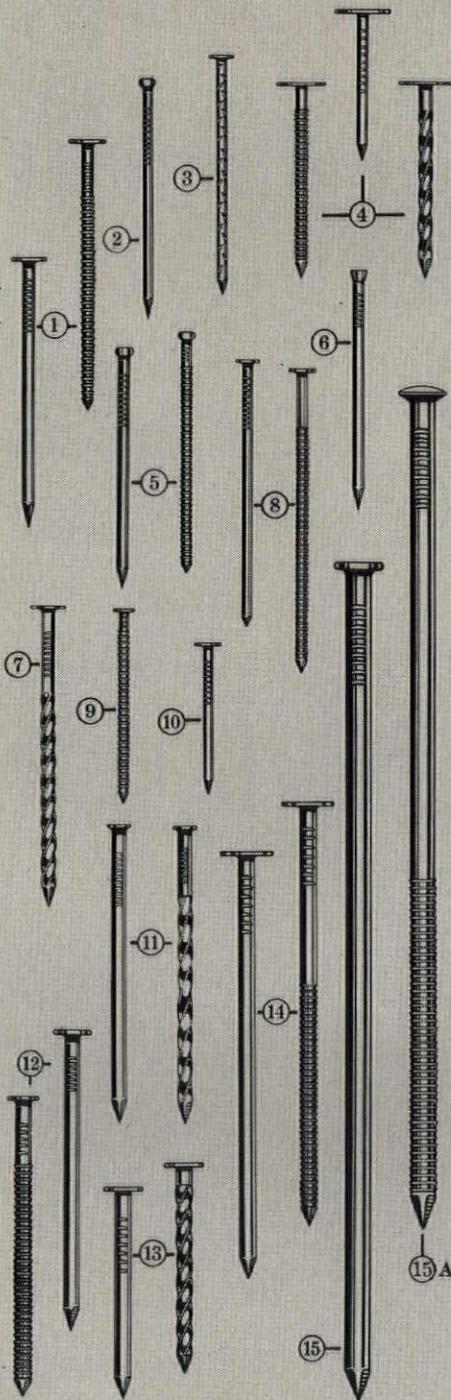
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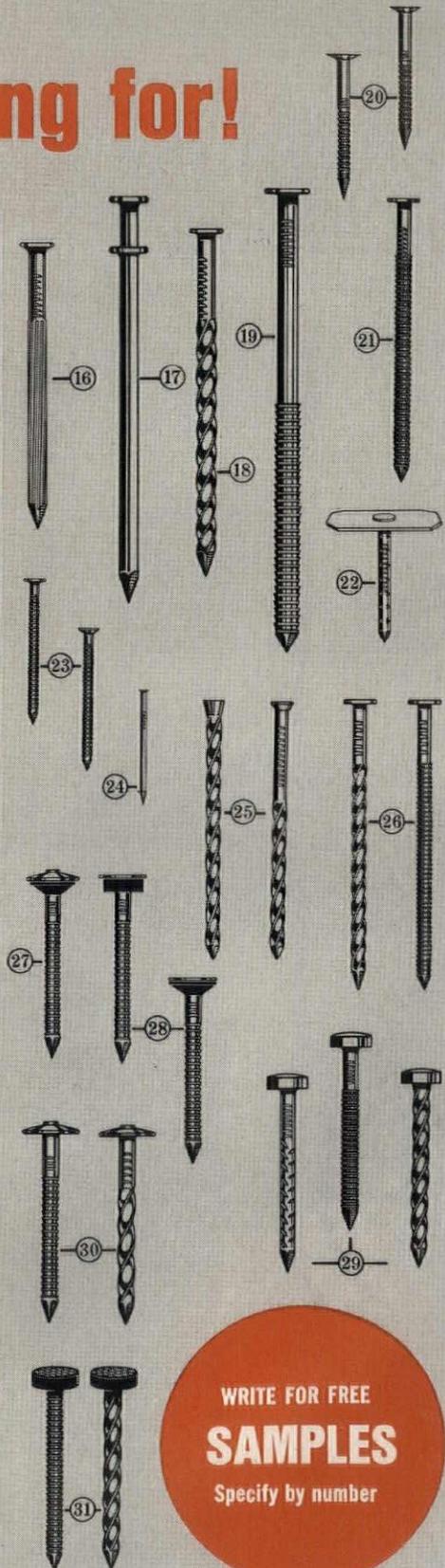
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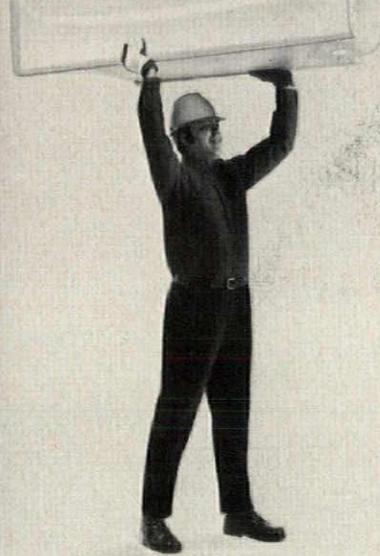


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*New Ventures in Non-Vitreous fired materials

"And saving our backs."



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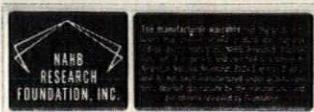
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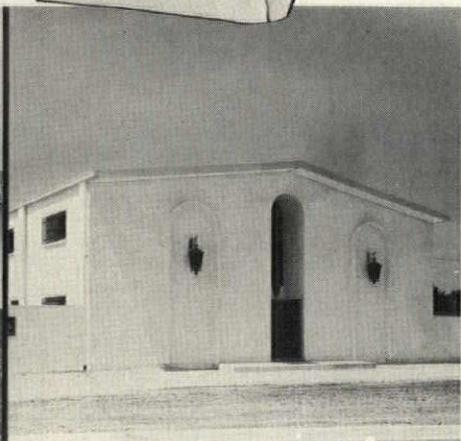
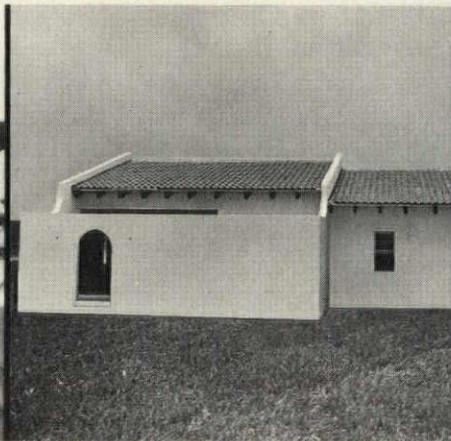
Universal-Rundle

MATERIALLY AHEAD IN THE BATH

CIRCLE 148 ON READER SERVICE CARD

T.M.

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in Texas.

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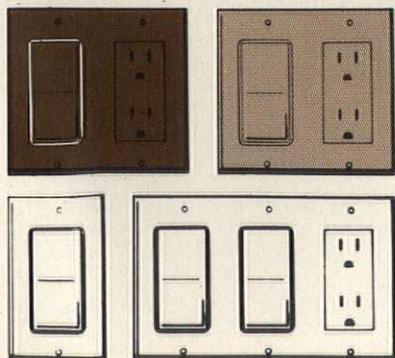
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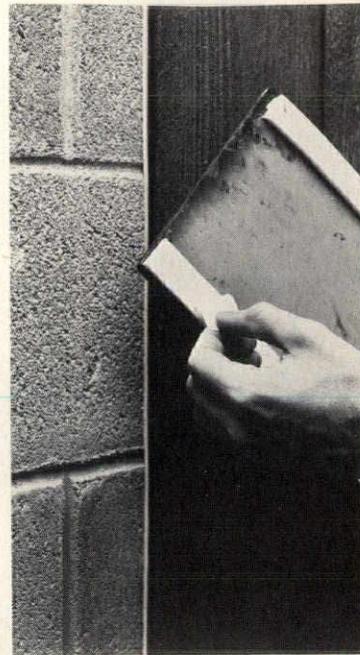
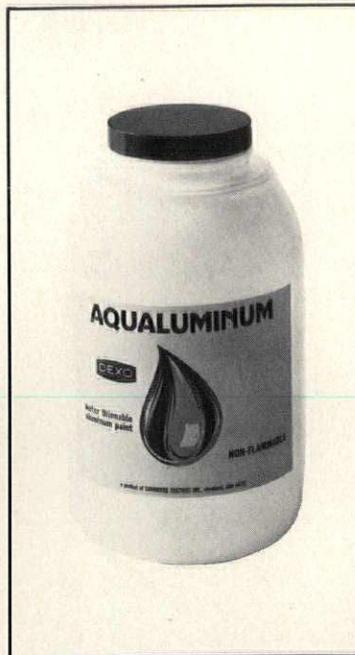
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Pressure-sensitive foam tape laminated to the back of paneling provides easy one-step mounting. "Fas-Mount" foam tape is a closed-cell, cross-linked polyurethane-foam carrier, coated on two sides with a heavy mass of high-performance pressure-sensitive adhesive. Fasson Div. Avery, Painesville, Ohio. CIRCLE 266 ON READER SERVICE CARD

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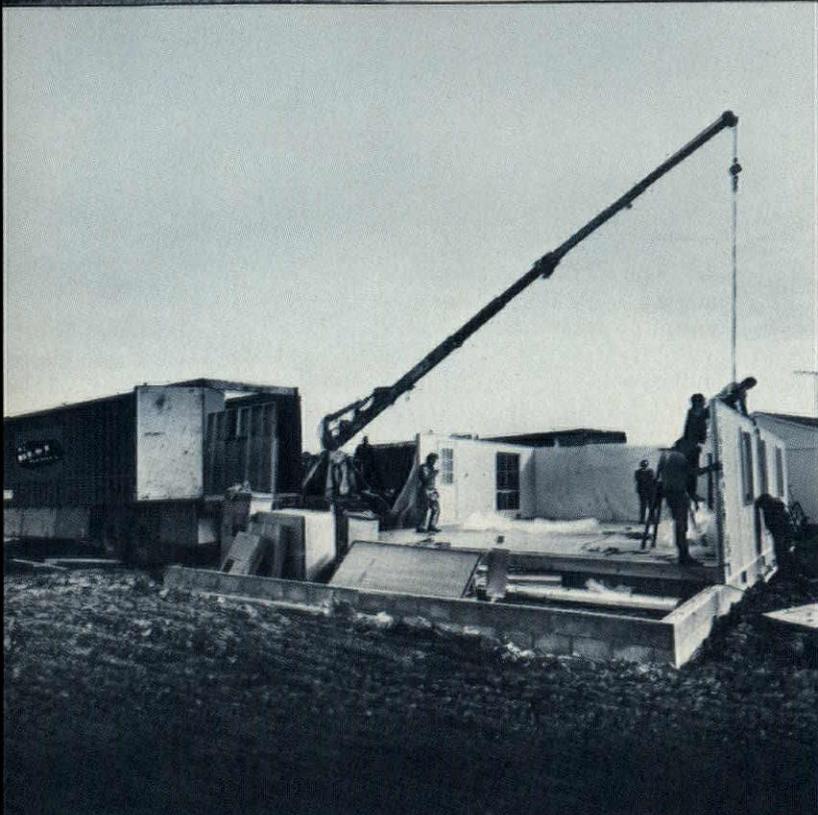
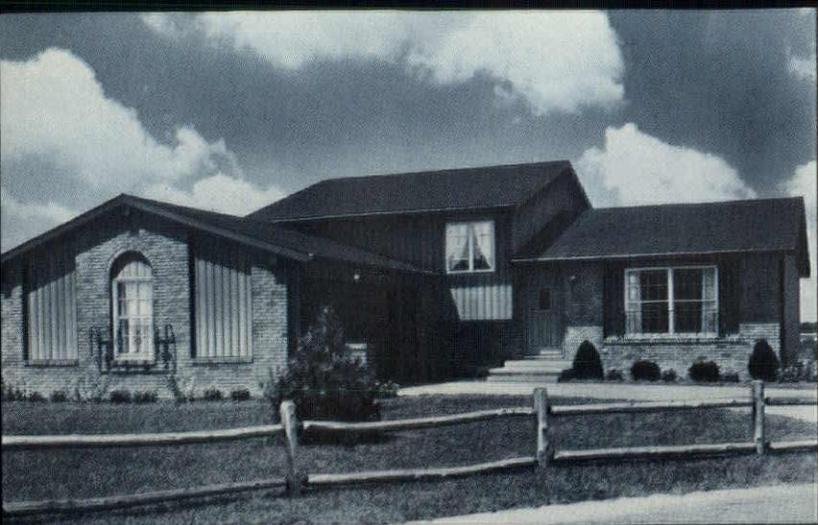
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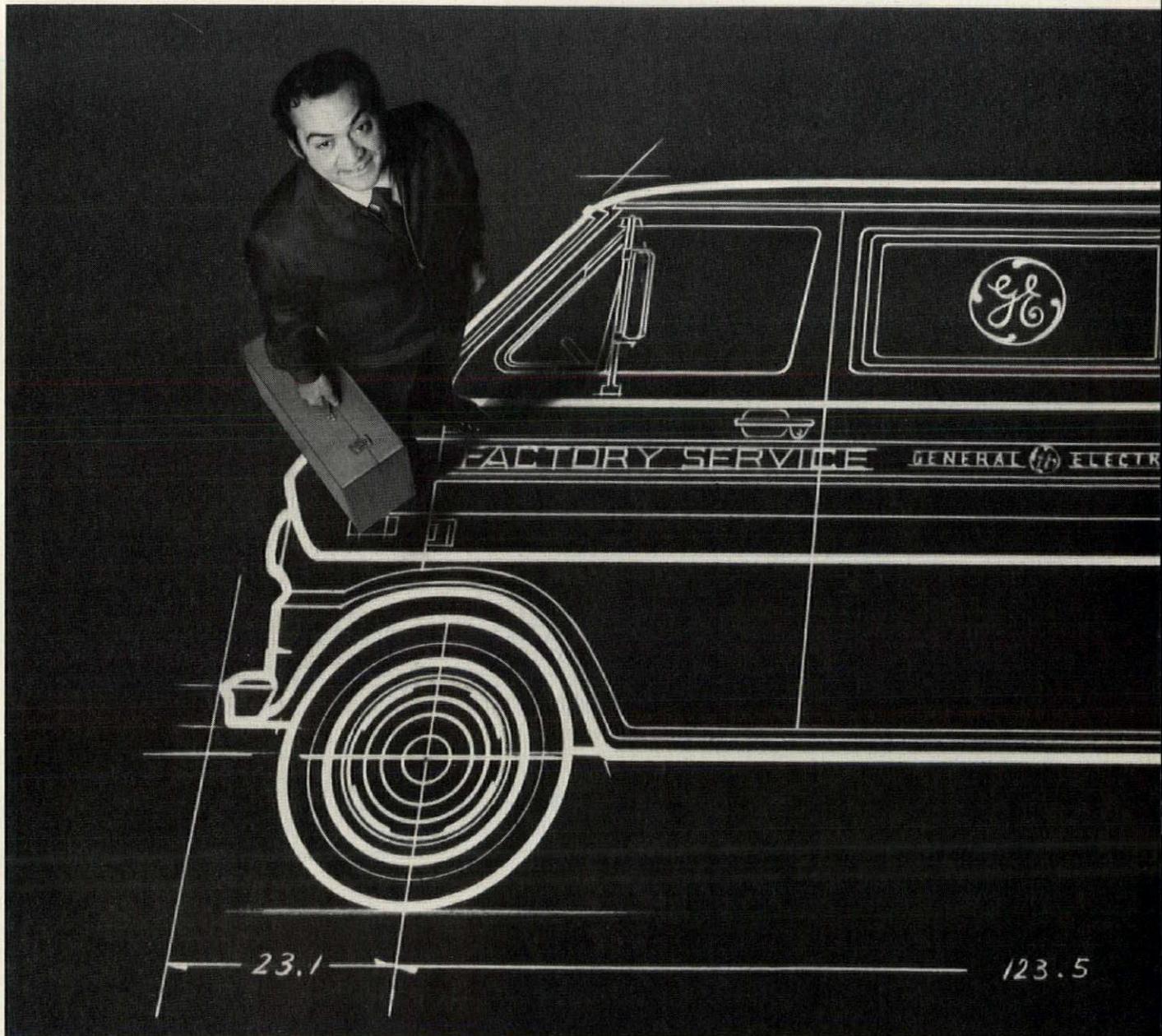
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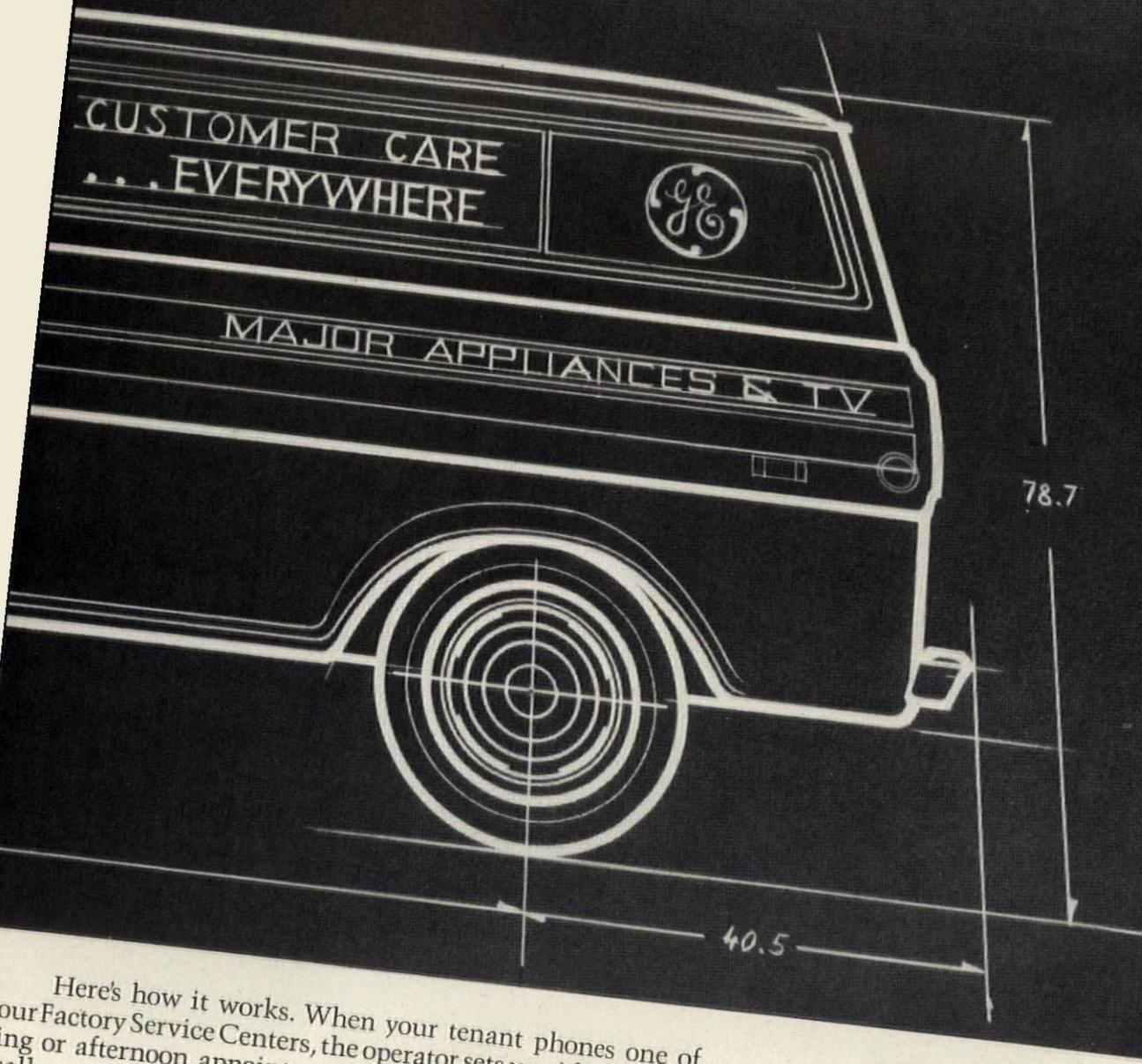
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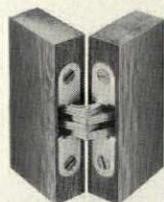
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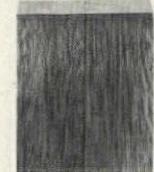


Six patterns available including squares and strips.

CIRCLE 73 ON READER SERVICE CARD



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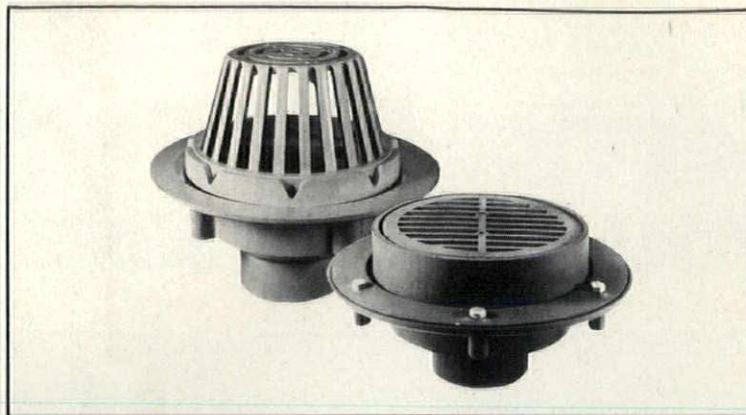


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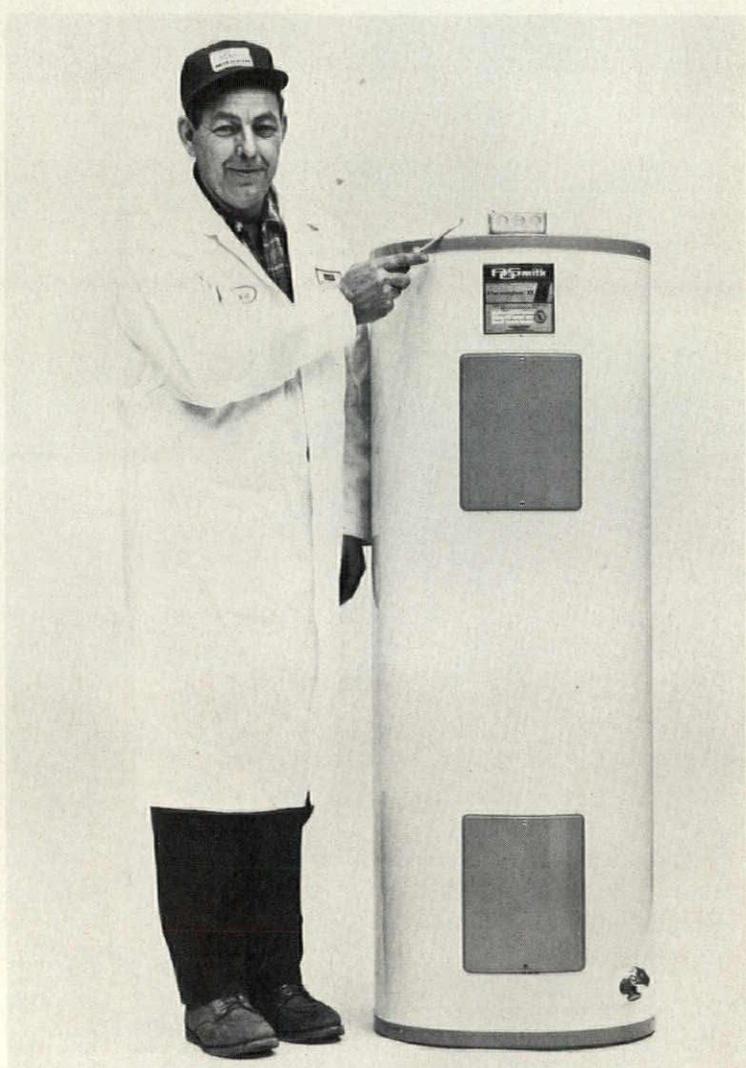
Plastic roof and floor drains are lightweight and durable. Roof units come in gray PVC with 2", 3" and 4" solvent weld hub outlets. Floor drains are available in gray PVC or black ABS with 3" or 4" outlets. R&G Sloane, Woodland Hills, Calif.

CIRCLE 255 ON READER SERVICE CARD



"CP Series" of pumps consists of deep and shallow capacity models. Powered by 1/3 to 1 1/2 hp dual voltage motors, pumps have diaphragm-operated pressure-regulating valves and heavy brass shaft couplings. Flint & Walling, Kendallville, Ind.

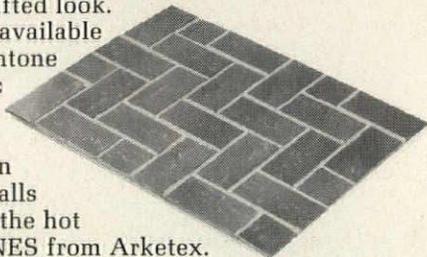
CIRCLE 256 ON READER SERVICE CARD



Light-duty electric water heaters, "DEN," are standard upright models with capacities ranging from 30 to 120 gallons. Factory-wired for 3-phase circuits, units feature "Hydrasteel" glass fused to steel construction for rust-free operation. A.O. Smith, Kankakee, Ill. CIRCLE 257 ON READER SERVICE CARD

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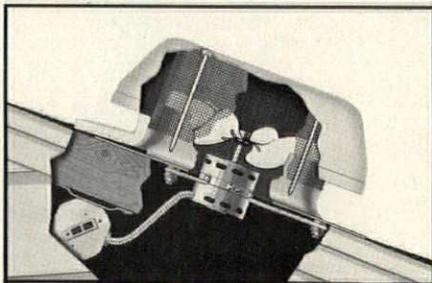


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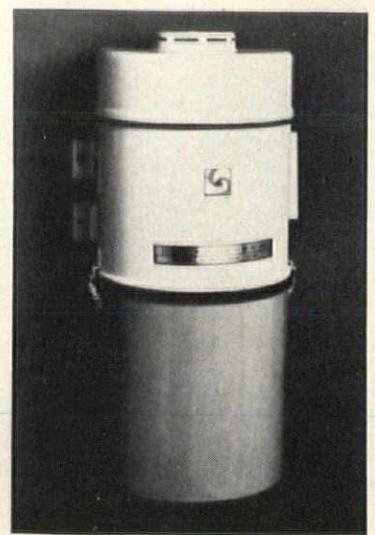
When attic temperature reaches 100° KOOL-O-MATIC's powerful fan automatically is activated to remove superheated attic air before it penetrates living areas to make air conditioning work harder, longer. And KOOL-O-MATIC goes on working in the winter to keep insulation dry, reduce heating costs, add years to life of the home.

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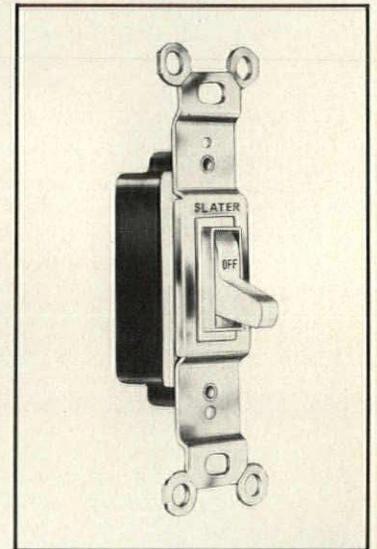


Built-in central vacuum system is easy to operate. The power suction unit (above), available in two sizes, can be wall-mounted in basements, attics, utility rooms or even outside. The power turns on automatically when the 25' suction hose is plugged in. Sears, Chicago.

CIRCLE 246 ON READER SERVICE CARD

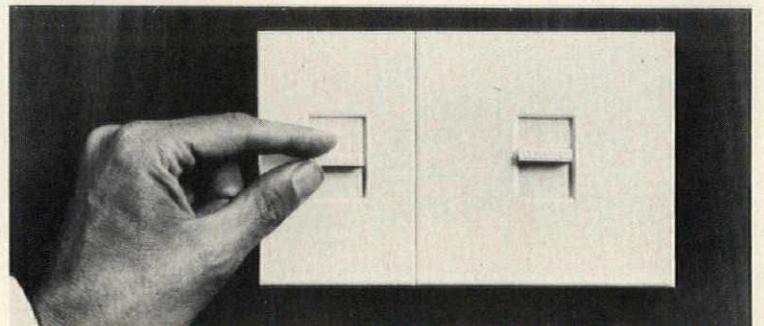
Redesigned Series 660 switches can now be backwired as well as side wired with #10 AWG copper-clad. Each terminal features two speed-wire holes for flexibility. To provide a secure grip on the wire, the terminal is etched with a diamond pattern that ensures a positive connection. Slater Electric, Glen Cove, N.Y.

CIRCLE 247 ON READER SERVICE CARD

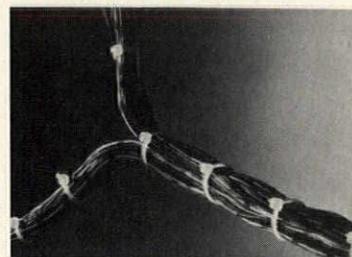


Ground-fault protection system includes a relay unit and a test panel. The surface-mounted, UL-listed relay is adjustable for operating time and current sensitivity. The test panel, which indicates when a fault occurs, also relates control power available and provides a test switch. Federal Pacific, Newark, N.J.

CIRCLE 248 ON READER SERVICE CARD



Slide control dimmers for fluorescent lighting have been added to the "Nova" line. Available in three sizes, the solid state dimmers match the incandescent units and can be gauged with them. Devices come in a choice of decorative colors. Lutron, Coopersburg, Pa. CIRCLE 249 ON READER SERVICE CARD



Self-locking nylon ties, Nytyes®, can bundle cables, wiring or hoses from 1/16" to 8 1/8" in diameter. Easily assembled by hand or tool, the ties are available for regular or heavy duty use. Regular ties (1/16"-4" bundle) feature a curved-tip design for easy angle insertion. Heyman Mfg., Kenilworth, N.J.

CIRCLE 250 ON READER SERVICE CARD

future growth: a thoughtful response



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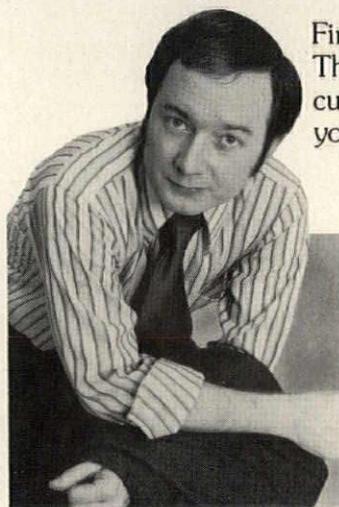
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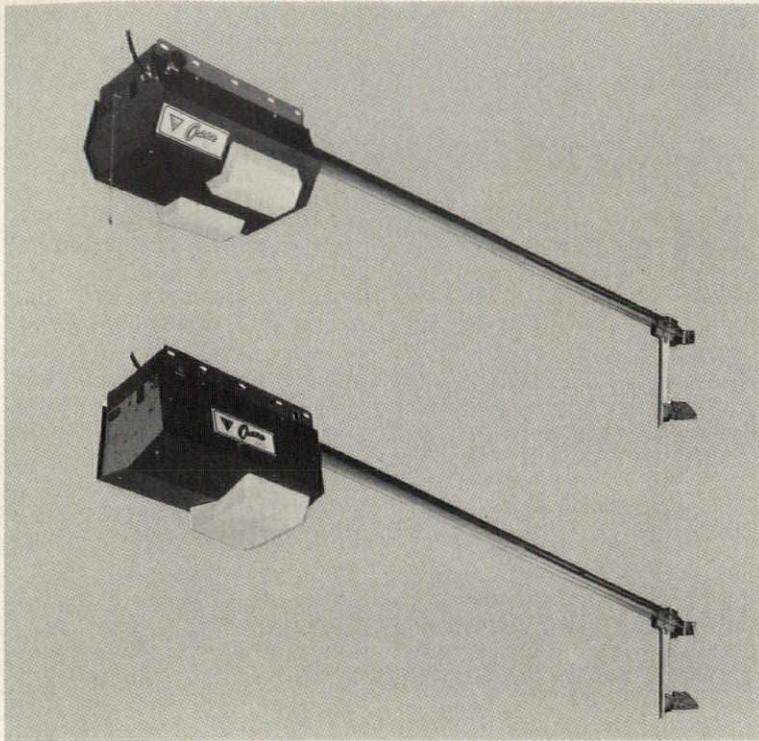
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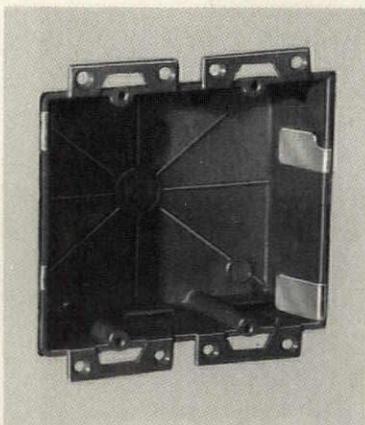
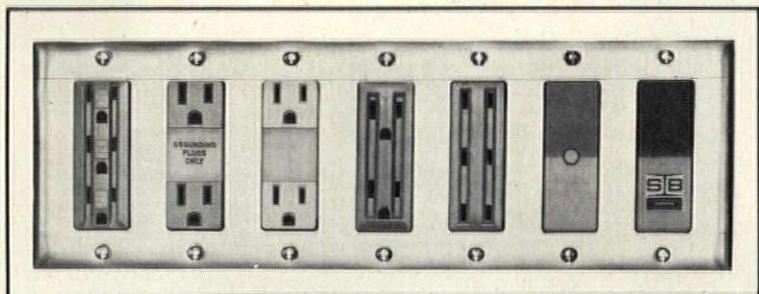


Solid-state garage door openers are designed for style as well as performance. Shown above are the deluxe model (*top*) featuring two lamps and an automatic reverse, and the custom unit (*bottom*) with a single lamp and a safety stop. Both are equipped with time-delay light switches. H.W. Crane, Maywood, Ill.

CIRCLE 251 ON READER SERVICE CARD

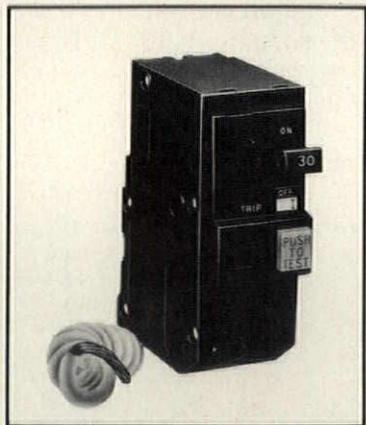
Full line of 1"-wide wiring devices includes illuminated switches and receptacles (*below*). The UL-listed, OSHA-accepted units all fit the same trim size #9 opening wall plates. Coordinated plates come in a choice of colors, textures and finishes in plastic or metal to blend with any decor. Sierra, Gardena, Calif.

CIRCLE 252 ON READER SERVICE CARD



"Fold-it" is a fastening device for locking electrical switch boxes into hollow walls or plasterboard. The galvanneal steel unit is installed by sliding the horizontal bar between the wall and the switchbox and then bending the two metal tabs firmly into place inside the box. Fastway, Lorain, Ohio.

CIRCLE 253 ON READER SERVICE CARD



Two-pole circuit breaker, Quikgard®, features built-in ground-fault protection. Unit features a testing mechanism for the ground-fault interruption system. Occupying the same space as a standard 2-pole breaker, the dual-function device comes in 15, 20, 25 and 30 amp models. Square D, Lexington, Ky.

CIRCLE 254 ON READER SERVICE CARD



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Compotite is not only economical, easy to use, faster to install, and perfectly adaptable to any size shower or bathroom installation, but COMPOTITE IS AVAILABLE FOR IMMEDIATE DELIVERY! Orders are processed the same day they are received, shipped from either East Coast or West Coast warehouses. That makes Compotite the fastest waterproof, corrosion-proof shower pan material you could choose for your construction needs.



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CIRCLE 75 ON READER SERVICE CARD

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CIRCLE 161 ON READER SERVICE CARD

Precut cedar homes are featured in full-color photographs. Each model shown is accompanied by illustrations of optional floor plans and dimensions. Building components—such as beams, flooring, exterior walls, insulation, etc.—are described in detail. The 42-page "Plan Book" is available by sending \$1 to Joyce Campo, Lindal Cedar Homes, P.O. Box 24426, Seattle, Wash. 98124. Or, order the company's free booklet of abbreviated model descriptions and plans. It poses and briefly answers questions concerning cedar, house construction, ordering and delivery.

CIRCLE 301 ON READER SERVICE CARD

Gypsum, the industry, its products and their uses in building are the topics covered in a 48-page booklet published by the Gypsum Association. Comprised of 30 articles written by several gypsum industry experts, "Gypsum in the Age of Man" discusses such specifics as fire resistance and sound control. Briefly illustrated. Gypsum Association, Chicago.

CIRCLE 302 ON READER SERVICE CARD

Wood doors, including entry, French, louvered, interior and sash models, are displayed in full color. One full page discusses door care and finishing. Another page employs drawings

as well as text to suggest decorating ideas. A glossary of door terminology is included. Specifications are listed for all models. St. Regis, Tacoma, Wash.

CIRCLE 303 ON READER SERVICE CARD

Concrete turf-reinforcement grids, called grass pavers, are explained in a question and answer booklet. It also includes charts, specifications, photographs of actual applications and

Ordered-growth zoning explored in Bucks County Planning Commission book

Performance Zoning is a well illustrated, easy-to-read explanation of zoning possibilities for regulating growth and development. Written by the Bucks County, Pa. Planning Commission, it was compiled from the county's research into alternatives to traditional zoning.

In its first four chapters, the six-section report considers elements which affect land development: land use intensity, design and site variables and public facilities such as roads and recreational areas.

A chapter entitled "New Standards, Administration" discusses the integration of these variables for successful orderly growth.

illustrations. Several possible product uses are discussed. Grass Pavers Ltd., Royal Oak, Mich.

CIRCLE 306 ON READER SERVICE CARD

Ceramic tile selection book catalogs over 170 colors, textures and designs. Actual product applications are pictured. The 20-page, full-color booklet also briefly discusses swimming pool design. A custom mosaic-mural design service is offered and tile

specs are listed. Romany-Spartan, U.S. Ceramic Tile, Canton, Ohio.

CIRCLE 307 ON READER SERVICE CARD

Custom-built wood cabinetry is the subject of a consumer-oriented booklet. Helpful to builders as an idea book, "Picturebook IV" illustrates several custom solutions to household storage problems. Wood-Mode, Kreamer, Pa.

CIRCLE 308 ON READER SERVICE CARD

Exterior building products—shingles, siding, soffits and fascias—are shown in full-color photographs. Product characteristics are discussed and accompanied by illustrations of accessories. Certain-teed, Valley Forge, Pa.

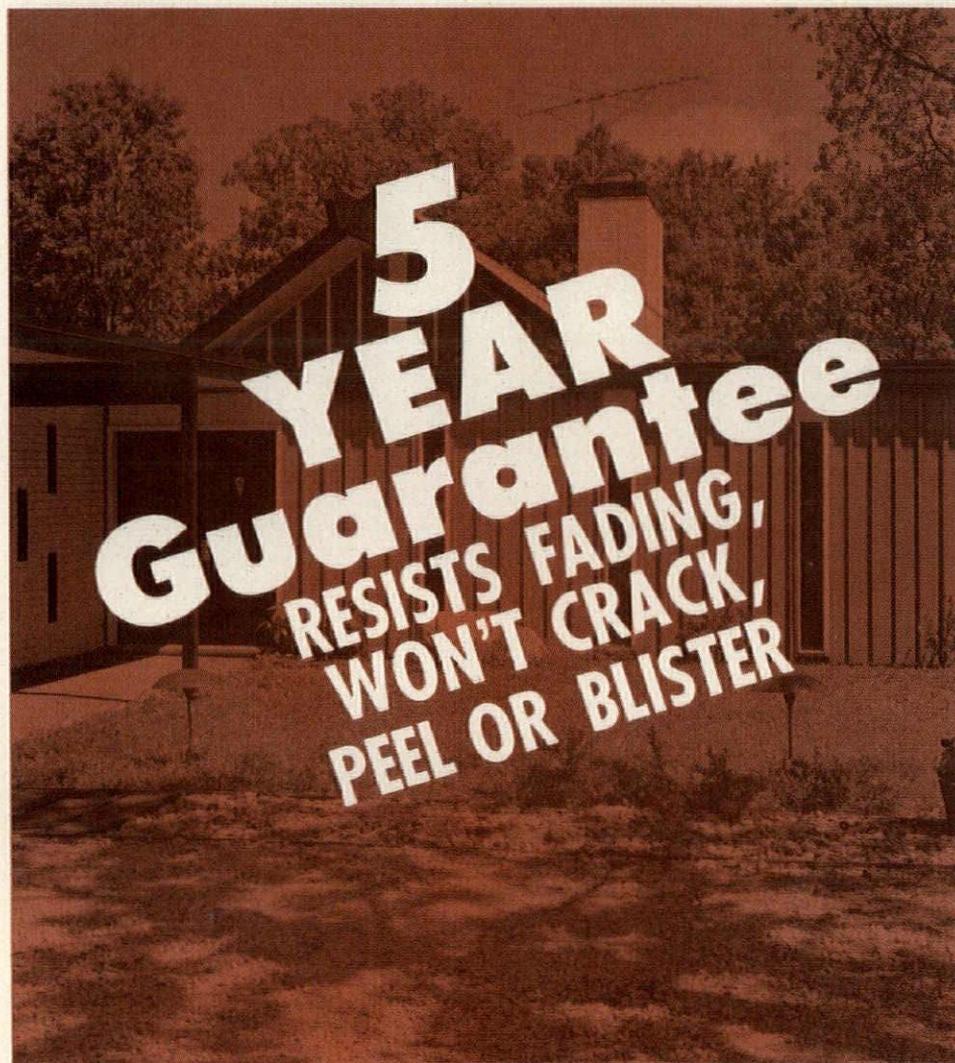
CIRCLE 309 ON READER SERVICE CARD

Building materials catalog lists windows, doors and millwork—all available through the mail. Each item is illustrated and fully described. Specifications are included. Morgan-Wightman, St. Louis, Mo.

CIRCLE 310 ON READER SERVICE CARD

Lighting fixtures, from chandeliers to outdoor units, are pictured in full color. Models are accompanied by charts listing specifications. Southwest Lighting, San Antonio, Tex.

CIRCLE 311 ON READER SERVICE CARD



Rez® Solid Color Latex Stain

On exterior or interior wood surfaces, REZ Latex Stain forms a tough, flexible film—so tough that we **guarantee*** that it won't crack, peel or blister for 5 years. And the color stays "like new."

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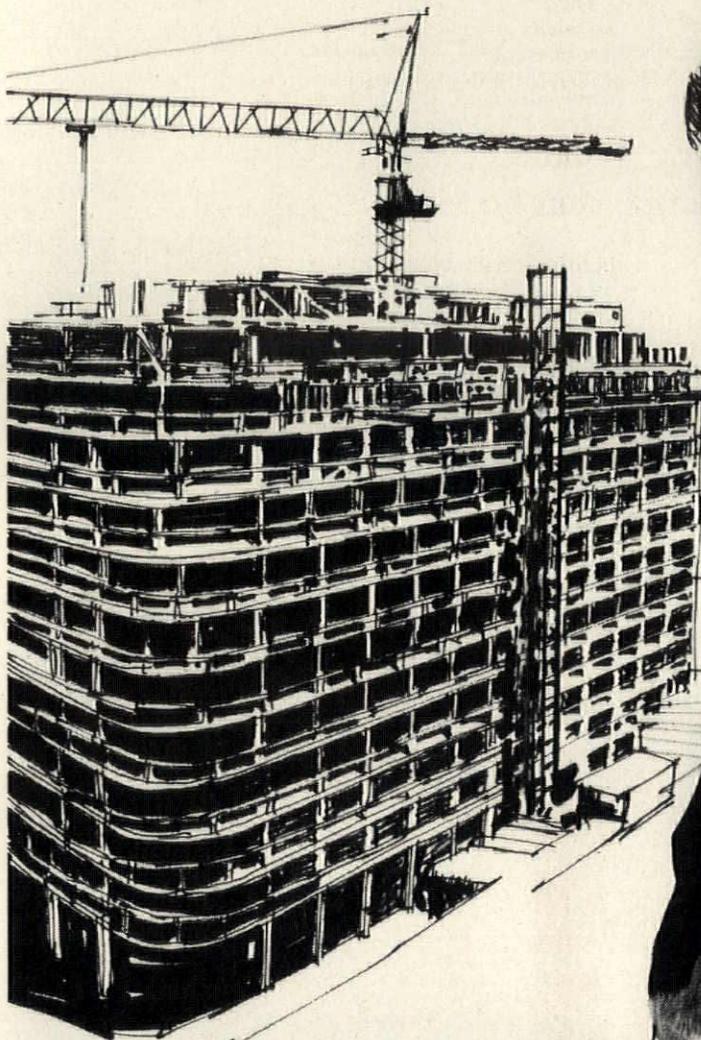
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