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(REDUCTED NOISE LEVEL)

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Worried builders take their tight money woes to Congress

By the busload, they went up to Capitol Hill to lobby their congressmen. They came down from the Hill sure of support for bills to pump more money into housing (see next page), even though Congress could do little more than give FNMA more money.

"They" were more than 700 builders who trooped into Washington last month in the midst of the airline strike—for a massive assault on Congress that impressed blase Washington with its size and intensity. The cost of the demonstration was high (several groups came in chartered planes) but so were the stakes. So they visited 81 senators and 350 congressmen on one day—no mean feat.

NAHB's "Call To Action" was a remarkable demonstration of what an aroused industry can do. It was also eloquent testimony to the deep concern felt by builders over tight money.

The gathering—it had the aura of a carnival—was staged by NAHB almost on the spur of the moment. President Larry Blackmon has been overwhelmed by the tight money situation and what to do about it. He called this "historic meeting" after June housing starts dropped to demonstrate that something could, in fact, be done.

The builders impressed Congress, although there were skeptics like the congressman who muttered: "I just wish they would take off their diamond rings before they ask me to help."

IMPASSIVE OFFICIALS, though sympathetic, can only listen. FHA's Philip Brownstein is flanked by Philadelphia Congressmen Barrett and Green.

CONGRESSMAN Fuqua (left) greets Florida Builder John Koelmi.

BUSLOAD OF BUILDERS heads toward Capitol Hill to see congressmen. H&H Washington correspondent John Nicholson is second from left.

FULL-DRess gripe session lets Pennsylvania builders air their plight. Housing subcommittee Chairman William Barrett (D., Pa.) presides.

Worried NAHB President Larry Blackmon exhorts 700 builder-lobbyists to collar their congressmen and seek remedies for tight money.

IMPASSIVE OFFICIALS, though sympathetic, can only listen. FHA's Philip Brownstein is flanked by Philadelphia Congressmen Barrett and Green.

BIG CITY MAYOR James Tate of Philadelphia pleads builders' cause.

CONGRESSMAN Fuqua (left) greets Florida Builder John Koelmi.

NATIONAL EXPOSURE is given to homebuilding problems as Chicago builders meet Sen. Everett Dirksen in front of TV and press cameras.
The extra mortgage money housing men have been seeking all year is suddenly materializing, from both old sources and new.

In mid-August Congress suddenly stirred from its lethargy and moved to pump upwards of $3.6 billion into FHA and VA loans via the Federal National Mortgage Assn. The action—coming after months of haggling over ways to cool the battle for savings between commercial banks, S&Ls and mutual savings banks—made business-page headlines because it came after 700 builders descended upon Congress (see p. 5).

Optimistic notes have begun to sound. "Somewhat more money may move toward the mortgage money," HBB Chairman John Horne told Wisconsin homebuilders. Mortgage yields are nearing a peak and the availability of mortgage funds is nearing a bottom, predicted Economist Miles Colean of the Mortgage Bankers Assn.

Chief reason for such optimism is that new long-range help seems to be in the offing. Homebuilding's desperate search for new long-term capital (News, July), has succeeded in catching the interest of a number of pension funds. For years housing has eyed these funds because they were growing faster than any other type of financial institutions. But the pension funds have never become a source of new mortgage money because trustees kept their funds in bond and stock markets.

**New contacts.** Now, in tight-money 1966, pension fund trustees are taking a second look at mortgages and liking them. Faced with a decline in starts of almost 50% (H & H, Aug.), Golden State homebuilders put aside traditional animosities and joined hands in a lobbying effort to get mortgage funds. "Mortgage yields are nearing a peak and the availability of mortgage money, " HLBB Chairperson John Horne told Wisconsin homebuilders, "because trustees keep their funds in bond and stock markets."

State Teachers' Retirement System—which until now has exported its funds to the New York City bond market—has set up a special three-man committee to work studying a shift into mortgages. "We'll get them," says Leonard confidently.

The California success is spreading: House & Home mortgage correspondents in Los Angeles and Honolulu report new interest by out-of-state pension funds. But these funds are aiming at high-yield areas and bypassing the East and Midwest.


Hanna, who comes from California's fastest-growing area, Orange County, has succeeded in getting both House and Senate to agree to add $2 billion to FNMA's buying power by letting the agency borrow up to 15 times its capital base instead of the current ten-to-one ratio.

**HOMEBUILDER'S MORTGAGE MARKET QUOTATIONS**

Reported to HOUSE & HOME in week ending August 12.

**FHA Sec. 203b** Discount paid by builder Min.-Down**a** 30-year limited**b**

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**a** Immediate covers loans for delivery up to three months, future covers loans for delivery in three to twelve months.

**b** Quotations refer to prices in metropolitan areas, discounts may run slightly higher in surrounding towns or rural zones.

**FHA Sec. 203b** Discount paid by builder Min.-Down**a** 30-year limited**b**

**Construction Loan Rates**

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**a** Immediate covers loans for delivery up to three months, future covers loans for delivery in three to twelve months.

**b** Quotations refer to prices in metropolitan areas, discounts may run slightly higher in surrounding towns or rural zones.

**c** Quotations refer to prices of typical average local quality, 3% down on first $15,000; 10% of next $5,000; 5% of balance.

**Footnotes:** a=activity; b=limited activity; c=net yield to investor of 6% mortgage plus fees, e.g., for conventional VA loans also: FHA pays ½ point for more with 10%. =—discounts quoted are net after seller pays marketing fee and ¼%, adjustment for stock purchase. Seller must pay 1½% of mortgage for stock calculated in $100 units, of which $20 is contribution to FHA capital and $100 is for a share trading at about $71.2—applies to 6% loans.

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WASHINGTON WIRE

Starts hit the skids

July housing starts plunged to the lowest annual rate since the 1960 recession and a decline in permits for future construction dimmed recovery prospects. Total starts, including farm (see graph), declined to 1,064,000. That was a drop of about 16% from June’s revised figure of 1,273,000 and 28% from the 1,473,000 of July 1965. Private non-farm starts fell to a rate of 1,044,000, off 16% from June’s 1,249,000 and 28% from the 1,447,000 of July 1965. Said NAHB Economist Michael Sumichrast: “This is the beginning of a sharp decline. The industry is in more than a recession now.” Commerce Secretary John Connor says building won’t revive until mid-’67.

Rent supplements

Congress has agreed to provide $20 million more this year to use toward building commitments for the rent supplement program. The $12 million approved last spring has been used up.

Code study—at last

Hud will soon appoint a national commission to study building codes, zoning, and land taxation policies just as President Johnson promised in March 1965. Congress has appropriated $1.5 million for the study, half of what Hud Secretary Robert Weaver said was needed. Congress okayed the program last year but provided no money.

Vacation houses

Congress is once again considering FHA insurance for second homes. It’s included in one of four Senate housing bills (right) but not in the omnibus house bill. If the two versions are passed by their respective houses, the Senate clause on vacation homes could prevail when last-minute differences are ironed out.

A slide for the S&Ls?

Three savings-and-loan failures within five weeks have aroused fears in the capital that this is only the beginning. Sources close the Home Loan Bank Board say Nevada is now the state to watch. Arizona has just seized the $37-million Gibraltar sat. in Phoenix, (no relation to the $400-million Gibraltar sat. of Beverly Hills, Calif.) Illinois took over the $7.5-million Old Reliable sat. in the Chicago suburb of Berwyn and Idaho seized the $19-million Idaho sat. in Boise.

Congress stymies LBJ’s log-rolling tactics, dimming chances for ‘demonstration city’ aid

History is made in small tidbits—at least, that’s how Congress seems to approach housing legislation this year.

For the first time in over a decade, Congress is taking up various housing proposals pie by pie rather than lumping them into one omnibus bill.

Result: the mass transit program will continue, some tinkering with the federal money agencies will be passed to help the housing industry, but President Johnson’s “demonstration cities” bill is not expected to get the votes.

Log-rolling. In the past, legislative strategists in the federal housing establishment planned to pick up enough support for an omnibus bill by including in it certain bits and pieces that were known to be pet causes of various congressmen.

This year Administration strategists again hoped to log-roll specialities by laying the extension of mass transit aid onto the “demonstration cities” bill. But the LBJ glue came unstuck in the House—mass transit was unyoked and dropped into a separate bill.

At the same time, thanks to Rep. Wright Patman’s (D., Tex.) concern about tight money, a separate bill was being rushed through Congress to provide more money for Fanny Mae (see p. 6).

Lumberjack tactics. Rep. Patman’s committee also was considering LBJ’s “demonstration cities” bill. Ducking the fight, Rep. William Barrett’s (D., Pa.) housing subcommittee decided to let the Administration have all it wanted—from the subcommittee—and then try to get enough votes on the House floor to pass the proposals.

Hud’s experts were heavy-handed in their approach, forgetting that the art of log-rolling is a delicate thing. For instance, after they won committee approval of the controversial $25 million loans for new towns, they told the city lobbyists to take it or leave it since the “demonstration cities” provision for urban centers was also in the bill.

One after the other, the various lobbying groups lost interest. When the s&l interests saw what was happening, they asked their friends in Congress to pull out pet s&l provisions such as letting them finance mobile homes.

Tim-mer-ber! Meanwhile, key senators were watching, and the whole concept of an “omnibus bill” came crashing down in the Senate banking committee.

The Senate committee last month decided to approve four bills, not one. “Demonstration cities” is there, all by itself. Mass transit is there, by itself. Special money aids to橙e the tight mortgage market are there, alone. And there’s a fourth, catchall bill, sans “new towns.”

This was the story at press time: • A House-Senate conference had passed a bill holding the mass transit outlay to $150 million, the amount requested by the President for fiscal 1968.

• Passage of LBJ’s “demonstration cities” plan appeared doubtful despite Senate approval. Headcounts of probable votes in the House showed an extremely close margin.

• Approval of the various bits and pieces woven into the “demonstration cities” bill in the House, and in a separate bill in the Senate, depended in part on what happened to “demonstration cities.” The Administration thought it could salvage some of its technical amendments, but “new town” legislation did not have wide support.

—JOHN NICHOLSON

Top drawer business committee hits overlap of local governments, asks for super-counties

The super-county concept of local government as a means of slashing overlapping layers of administration got the blessing of an influential, blue chip segment of the nation’s business community last month.

The Committee for Economic Development, a nonprofit research organization of 200 business executives and educators, proposes to reduce local governments from 80,000 to 16,000. Such a revolutionary pruning not only would give new efficiency to area administration, but also would counter-balance mushrooming federalism, CED says.

Tax troubles. The study especially scores property-tax administration. “Real property tax administration suffers from two major sources of inequity: unequal assessment and under-assessment,” declares the statement.

“In view of the primary reliance on real property taxes, it is quite shocking that in most parts of the country—urban or rural—it administration may be accurately described as inequitable, inefficient, incompetent, or corrupt.”

Most of the “injustice and waste” could be eliminated if administration were given to strong local units, the CED now maintains.

“Small, overlapping tax assessment and collection districts, with their amateur assessors and collectors, must give way to professionally competent personnel under incorruptible supervision.”

Super-county? As a solution for these and myriad other ills afflicting local government, CED offers the new, larger, and stronger county units. Serving a population of at least 50,000, the remedied county government would wipe out 80% of the present counties, municipalities, townships and a variety of special districts.
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Housing bias ban in Senate: 'We don't have votes unless...'

The "unless" is the formidable opposition of Sen. Everett Dirksen (R., Ill.). As the civil rights bill which bans race bias in housing limped into the Senate last month fresh from a hairbreadth passage by the House, Senate leaders faced the chance that their members might not pass a housing sanction.

"There's no use kidding ourselves," Senate Majority Leader Mike Mansfield (D. Mont.) told questioners. Unless Sen. Dirksen decides to change his position, "we don't have the votes" to get a housing section passed in the Senate.

Sen. Dirksen is the Republican majority leader who has joined Democrats in enacting every major civil rights bill in recent years. But Dirksen denounced the Administration's original proposal for a bias ban that applied to all housing as "unconstitutional" and "an invasion of property rights."

The House applied enough water to the Administration bill to justify new efforts to win Sen. Dirksen to the cause.

"The chair votes..." Even watered down, however, the housing section barely squeaked past the House of Representatives. The crucial vote ended in a tie, so Rep. Richard Bolling (D., Mo.), then the acting speaker, cast the deciding vote in favor of an amendment exempting real estate agents from the discrimination ban if a homeowner specifies that his home is not to be sold to Negroes. The practical effect is that the House-passed version overturns discrimination for new house builders and apartment owners only.

Double-barrel. The anti-bias section would give an aggrieved party the right to go to court directly for an injunction, or to appeal to a new federal board, similar to the NRA, which could issue cease-and-desist orders.

But the aggrieved person could only use the law when a new home was involved (and the builder had sold more than two homes in the previous year), or when a more-than-four-unit apartment house was involved.

The four-or-less exemption, nicknamed the "Mrs. Murphy" rule, obtains only when the apartment building is owner-occupied.

Builders' bid. The National Association of Home Builders opposed the anti-bias section because it "would be detrimental to the growth of the American economy and home building activity at this time."

In effect, said NAHB President Larry Blackmon, the section as approved by the House places "the major emphasis in promoting non-discrimination upon new construction, and bypasses the existing housing supply." Said Blackmon: "I need scarcely emphasize the unfairness of this to the home building industry."

Real estate men have been even more vigorous in their protests. Their storm of protest to Congress was what set the stage for the amendment exempting them.

Housing bias riots in Chicago: 'We don't want to integrate'

To civil rights leaders, Chicago's neat but all-white neighborhoods have long stood as shining symbols of Northern prejudice. Hence it was only natural that when the Rev. Martin Luther King picked a target for his most massive drive yet against segregated housing, he should make those Chicago neighborhoods his target.

But when King led marchers into the segregated neighborhoods last month, he was met with rocks, jeers, and placards honoring Alabama's segregationist Gov. George Wallace, and crowds chanting, "Two, four, six, eight, we don't want to integrate." One rock hit King and drove him to his knees.

Later, the veteran of civil rights strife expressed dismay at the force of his reception: "I have seen many demonstrations in the South but I have never seen any so hostile and so hateful as here today."

But to those familiar with Chicago's explosive feelings on race, the outcome was not unexpected. For King chose neighborhoods heavily populated by second generation Poles, Lithuanians, Germans, and Italians. To these people, a home of their own represents the ultimate possession; they have poured their savings and labor into owning and maintaining their houses.

Furthermore, many of them earn their living in low- and semi-skilled jobs where they compete with Negroes.

Finally, many of those families have moved out of city neighborhoods because Negroes moved in; they vow they will not move a second time.

Cross currents. Out of the riots emerged ideological and religious stresses which could damage some white support of the civil rights cause.

A delegation of white homeowners and businessmen pressed Mayor Richard J. Daley to appeal to Attorney General Nic- hologas de B. Katzenbach "to rid the civil rights movement of Communist agitators."

Mayor Daley remained noncommittal on this plea, but the appeal gained some credence when a Cleveland grand jury charged that race violence in that city (News, Aug.) was organized and exploited by "trained and disciplined professionals at this business." Evidence of the new mood—the U. S. House of representatives shouted through an amendment to the civil rights bill (above) making it a federal crime to cross state lines to incite racial violence.

Anti-bias order. Before the uproar, Illinois Gov. Otto Kerner signed an executive order penalizing realty brokers who discriminate. President Robert Steger of the Illinois Association of Real Estate Boards termed the order as "an arbitrary action which will seriously damage the real estate industry in Illinois."
The kind of bottle Libbey•Owens•Ford makes you can put in every window of your houses.

The kind of bottle made by L•O•F is a skinny, flat one that goes into windows and takes the place of old-fashioned storm windows.

It's called Thermopane® insulating glass with the GlasSeal® edge.

It's made of glass fused to glass.

It's filled with dry air. It's sealed to keep the dry air inside and dirt and moisture out.

Then we etch our trademark Thermopane in the corner where you and buyers of your houses can see it.

When you order materials, ask your supplier to put Thermopane in every window you buy.

(Only Libbey-Owens-Ford makes Thermopane in the U.S.A.

(The leading wood window manufacturers already offer it as a standard option.)

Have a bottle put in your windows.

The one with the name Thermopane in the corner.

You know it's a selling point.

The kind of bottle Libbey•Owens•Ford makes you can put in every window of your houses.
Housing slowdown tightens apartment market; vacancies below 7% for first time since 1959

The graph at right tells the dramatic impact of the cutback in apartment starts:

- Rental vacancies in the second quarter dropped below the 7% mark for the first time since the apartment boom began seven years ago.

- The Census Bureau put nationwide rental vacancies at 6.8% in the latest quarter, down from 7.5% in both the preceding quarter and the year-ago level. Census cautions that one quarter does not set a trend. But Economist George Christi of F. W. Dodge Co., a division of McGraw-Hill, calls the break below the 7% barrier “a really significant decline,” since vacancies had been held steady at 7% to 8% since the fourth quarter of 1959.

- Reports from builders and H&H mortgage correspondents tell of young families filling apartments as a temporary measure until the mortgage market eases.

- Suburban apartments are filling fastest, and the vacancy rate for suburbs plummeted from 7.8% to 5.9% in the first quarter of 1966. Center city apartments are slightly less affected, showing a 6.7% vacancy while units outside metropolitan areas have a still-high vacancy of 7.5%.

- Western spurt. The 11-state western region, where population mobility has made above-average vacancies a way of life, is benefiting most—vacancies there plunged from 12% a year ago to 9.9%.

St. Louis builders meet hard labor line hear-on: ‘Stop erosion of our product in the market’

Model houses were shuttered in St. Louis last month as builders virtually quit building in a dramatic new hard line against unions.

- The builders were demonstrating their support for sheet metal contractors who have been resisting a union shop demand. Sheet metal workers have been on strike for more than seven weeks and there is no sign of a settlement. The bitter dispute could be a prelude to tough bargaining in 1967, when contracts covering 750,000 tradesmen expire.

- The shutdown decision by St. Louis builders came as a result of a split in contractors’ ranks. After 1,200 sheet metal workers went on strike early in July, about 80 small shops, employing about 400 workers, signed interim contracts agreeing to the union hiring hall.

- The larger contractors remained adamant, and after the sheet metal workers rejected a three-year $1.25 hourly wage hike (over a $4.91½ base), St. Louis Homebuilders Assn. President Fred Kemp urged his members “to continue to refrain from pressuring your sheet metal contrac-

The great mail case: city bans boxes at curb, sues U.S.

The Post Office Dept. is finding the little California city of Pleasanton anything but pleasant.

Pleasanton (pop. 7,925) filed suit in federal court in San Francisco to force U.S. postal authorities to rescind an order requiring curbside mailboxes—instead of doorstep deliveries—in new subdivisions.

Pleasanton complains that Postmaster General Lawrence O’Brien’s directive is discriminatory and violates the rights of 300 Pleasanton householders. The reason:

- Last May Pleasanton passed an ordinance prohibiting installation of curbside mailboxes. The measure had the effect of forcing 300 families in new houses to go to the Post Office to get their mail because they have no curbside boxes and the Post Office refuses delivery to their doorsteps. The city also contends that curbside boxes are more easily pilfered, and critics call them a safety hazard for children.

- City Attorney William A. Struthers Jr. says several neighboring cities have indicated they will enter the case as “friends of the court.”

Levitt expands again—best bet is in the Midwest

Levitt & Sons, the nation’s largest home-building company, is moving into its eighth local market. The company has picked a major city—as yet unidentified—for its new operation; industry sources speculate it will be either Chicago or Detroit, two booming industrial areas.

Levitt, headquartered in Lake Success, N. Y., reported a $74-million sales volume last year in seven metropolitan areas, including Paris and San Juan, Puerto Rico.

To head the new venture as vice president and general manager, Levitt picked Richard L. Weiss, 42, an attorney-turned-builder who has been vice president for real estate for Sunset International Petroleum (now a division of Sunasco) in Los Angeles. In that position he headed development of eight communities covering 25,000 acres.

A former vice president of Larwin Companies, Weiss is a University of Michigan law graduate who practiced law in Los Angeles before turning to housing.

12
"Let me see the kitchen"

She's bound to ask. Here's how to capture her taste for elegance with a kitchen you can both be proud of.

Fresh new designs from Formica Corporation to start your kitchen plans. Colorful, carefree cabinets and counters surfaced with FORMICA® brand laminated plastic emphasize convenience and style. Your customers will take it from there.

New FORMICA® brand cabinet moldings and laminate surfaces can turn ordinary cupboards into high style furniture for the kitchen. Choose from a full range of beautiful woodgrains that radiate sell-power . . . never need refinishing.

The cabinet fabricators of FORMICA® brand laminated plastic are prepared with plans and specifications, ready to build real excitement into your kitchens. Whatever your style of architecture and interior, there's a just-right cabinet design from Formica Corporation.

Contact your local Formica District Office or write direct for complete information on cabinet designs with sell-power. FORMICA® is our brand name for laminated plastic, molding, flakeboard, adhesives, wall paneling, industrial plastics, doors and toilet compartments.
Found: a builders’ paradise with cheap land and no codes

Going, going, but not quite gone—the $5,990 two-bedroom home complete with garage and lot.

This dream-priced dwelling, aimed at budget-minded retirees, has spawned a construction boom in a builders’ paradise along central Florida’s Gulf Coast and survives even in the midst of today’s escalating prices.

The builders’ wonderland is located along a ten-mile strip of U. S. 19, 20 to 30 miles north of St. Petersburg, from the Pasco County line to Port Richey. The chief attractions: cheap land, no building codes, and low taxes. As a result population has boomed from 8,000 in 1960 to an estimated 35,000 today.

Elizabeth Whitney, writing in the St. Petersburg Times, calls the stretch the most exciting ten miles in Florida.

Last month she visited the “Terrific Ten’s” 70 subdivisions adjoining each other on both sides of the road expecting to scoff.

“I expected cheap cracker-boxes on rutted dirty roads,” she wrote, “but I returned filled with admiration.”

“I found nicely laid out communities, some with hundreds of houses, on paved streets, with manicured yards and flowers.” Many subdivisions have shuffleboard courts and recreation centers, she reported.

Ironically the 70 subdivisions are booming while neighboring Pinellas County and its major city, St. Petersburg, are afflicted by a housing slump.

In general, the low cost retirement home market, which highlighted a Pinellas construction boom of the late 1950s, has now migrated north along the highway. A few Pinellas builders have moved there too; Wadsworth Homes is selling in the widely advertised Flor-A-Mar subdivision but in a higher price range ($15,000 to $20,000).

End of boom? But time, economics and government are catching up with happy Pasco. Part of its attraction has been lower taxes because the county has been assessing property at only 40% of value. Neighboring Pinellas assesses at 100%.

In July State Comptroller Fred O. Dickinson ordered all counties to assess real property at 100% of true market value. A new appraisal in Pasco County has been started to bring assessments to full value.

Under Florida’s homestead exemption law, the first $5,000 of the assessed value of home is not taxable. Combined with 40% assessments, this meant tax-free living for most buyers.

Many who have gone tax-free in Pasco will find themselves billed for an estimated $10 to $50 while most others will have to pay even higher tax bills.

But though New Port Richey builders still fly the $5,990 flag, these prices may soon fade out for yet another reason: the demand for better housing. For the past two years, most retirees have been buying in the $8,000-and-up range.

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From it, he can select and team up the Carrier products to give you the one air conditioning system ... that best meets your requirements of space, construction, initial and operating cost ... and that gives your tenants independence in both temperature selection and payment of utility bills.

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General Electric Corp. has parted the veil a bit on one of housing's hottest guessing games of 1966: how the industrial giant plans to approach the new-town market.

The answer: G.E. will combine its engineering and executive talent to undertake the most technologically advanced community in the nation. The company is talking in terms of a community of 30,000 units built over 15 to 20 years to house 100,000 persons.

G.E. touched off speculation on its intentions by forming a community systems research division last December.

Last month George T. Bogard, the division's general manager, went before a conference on "The Next Fifty Years," convened in Portland, Ore., by the American Institute of Planners, to sketch the company's decisions to date:

"We believe that General Electric can develop a modular concept of components in electro-mechanical systems which can reduce in-place costs of all essential services provided in new construction." G.E. does not plan to engage in construction itself but the company has (and presumably will use) "the necessary financial staying power to undertake a 15 to 20 year development program." In Bogard's view the long financial commitment is essential to improve the physical product: "Regardless of what a builder-developer might want to do, he could not risk a $5 or $10 million mistake because, in all likelihood, it would put him out of business."

In the housing industry, technological change has been hampered by this high risk, as well as building codes, union work rules, and the reluctance of lenders to finance innovation, said Bogard. Along with its financial commitment, G.E. expects its research and engineering expertise to speed improved technology.

"Without added product features which appeal to customers, without cost reduction programs which result in lower prices and higher values, the building industry is pricing itself out of business at a rate which has stymied any growth in volume for a period of more than ten years."

G.E.'s BOGARD
"A modular concept of components"

Ever since the Del E. Webb Corp. quit building in Clear Lake City, a 15,000-acre development in Houston, officials of land-owning Humble Oil Co. have been trying to recapture the project's original bright promise (H&H, June).

The latest in a series of salvage moves came Monday, when Humble's subsidiary, Friendswood Development Co., appointed First Mortgage Co. of Houston to manage residential sales in the 4,000 acres under initial development.

"First Mortgage is not taking over Clear Lake City" says President John Turner of Friendswood, "only the sales management of single family dwellings." Friendswood will retain control of apartment, commercial and light industry.

Turner says the arrangement has two levels:

1. First Mortgage and Friendswood will jointly finance two new developments in the area, El Dorado West ($22,000 to $26,000) and Clear Lake Forest (about $30,000). Friendswood will make the land available to First Mortgage, who will develop the lots, sell them to other builders who have been operating in Clear Lake City since 1964, and administer builder sales by controlling house quality and organizing sales forces.

2. Friendswood will continue to develop the remaining lots in the initial portion of Clear Lake City and a new subdivision called El Camino South ($15,000 to $20,000), but will retain First Mortgage to manage lot sales.

In making what he acknowledges is his first major decision as president of Friendswood since taking over March 15, Turner is asking First Mortgage to do the complete residential sales job the planners of Clear City thought Del E. Webb Corp. could perform.

Coop selling. "We hope to establish a comprehensive building and sales program to exploit the market fully and build a real city," says F.M. Vice President Richard Basden.

First Mortgage will start by policing builders already operating in Clear Lake City. It will administer building codes, approve plans, rule on aesthetics, and decide on marketability. In addition it will contract with each builder to provide his sales force. Selling "from a car trunk or a garage" will not be permitted, says Basden. "You've got to have the best salesmen in attractive sales offices."

First Mortgage will open two new sales offices in Clear Lake City and staff them with three salesmen each. Only builders operating in the $20,000-or under price-range will be permitted to continue with their own salesmen and models.

Drawback? Basden says initial builder reaction has been favorable, although he expects resistance from a few. "Any who pull out will do so at our urging," he says. "Some of the staff is not up to the quality we want."

Most builders are cautious, but aren't too unhappy with the arrangement. Guy Odom, of Norwood Homes, says the change has not affected his company's operations in Clear Lake City. Norwood has already built about 150 homes there in a year and is on the verge of committing for more.

The second builder, who was asked to go in but declined, is doubtful about the arrangement. He also objects to the joint sales force. "I agree that the quality of the sales forces should be upgraded, but we're not going to operate out of the same office as a major competitor. We have our own selling team and we would lose it under the new plans."
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Housing executives: tight money hurt first half but worst may be over

The flow of mid-year earnings statements by housing's public companies reflected the impact of the mortgage money drought on 1966 operations. But a scattering of housing executives now look for a break in the money shortage.

Among the optimists was Allen Edwards, who said, "So far tight money hasn't hurt and we don't expect it to last too long." His Edwards Industries of Portland, Ore., a diversified homebuilder, boosted profits 33% in the March 1966 year on a 23% rise in income to $5,350,000.

Presidents of the nation's two largest private insurers of home mortgages expect more mortgage money soon. "We already see indications there will be a growth in funds available for mortgage lending during the next six months," said President Max Karl in reporting a 45% jump in net to $1.8 million for his Mortgage Guaranty Insurance Co., Milwaukee. President Bruce Thomas of Continental Mortgage Insurance Co., Madison, Wis., agreed, saying "the eye of the storm has probably passed."

Tight money had no discernible effect at American Realty & Petroleum, New York City-based merchant of Southwest land. AMREP doubled profits to 1.2 million on a 33% gain in revenue to $7.6 million.

Dissenters. However, National Homes Chairman James R. Price said he expects "the full impact of the tightness of mortgage money will be felt by the housing industry during the second half." National's profit plummeted from $8,854,598 in the June quarter, and the nation's biggest prefabbrer posted a $385,000 loss for the first six months.

A weak realty market, rather than tight money, hurt First National Realty & Construction, of New York City. The company lost $1,755,594 on sales of properties, and it caused a $1,469,000 loss before depreciation in the March 1966 year.

Most savings and loan holding companies reported profits down sharply on slightly higher revenues. Any government action to aid housing "will not be felt during the balance of 1966," said President John J. Peters of California Financial Corp. Results through June:

Wall Street knocks down housing stock prices again

Housing stock prices sank in August for the fourth consecutive month. House & Home's average of 73 operating companies fell 4.6% to a new low for the year of 6.22. Only 13 of 94 listed issues showed gains.

The decline continued an investor disinterest in housing stocks that has been unabated virtually all year. The index of these 73 stocks is now 24.6% lower than the 8.25 reading in mid-January. During that same span the Dow-Jones Industrial Average has dropped only 15%.

Homebuilding companies have best withstood the battering, showing only a 9% loss for the year. Levit & Sons, Presidential Realty and Kaufman & Broad are all above their January levels. But last month only Jim Walter Corp. managed a gain in this category, rising 7% to 19 on an $8.8 million sales gain.

The averages:
June 13 July 11 Aug. 9
Building 5.15 5.45 5.33
Prefabrication 2.48 2.34 2.17
S&Ls 7.67 7.20 6.83
Mortgage banking 11.20 10.35 10.04
Land development 6.94 6.47 6.04
Average 6.83 6.52 6.22

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S&Ls

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MORTGAGE BANKING

Advance | 54 |
Amer. Mort. Ins. | 55 |
Associated Mtgs. | 44 |
Charters | 26 |
Contin. Mtgs. Ins. | 25 |
Contin. Mtgs. Ins. | 54 |
Contin. Mtgs. Ins. | 13 |
Lemmon & Nat. Fin. | 10 |
MGIC | 22 |
Natl. Assn. | 34 |
Palmer Mtgs. | 34 |
Southwest | 34 |
United Imp. & Ins. | 34 |

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American Land | 41 |
Am. Rly. & Pet. | 34 |
Atlantic | 10 |

SHORT-TERM BUSINESS LOAN RATES

Percent interest and (net change) in year

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<tr>
<th>AREA</th>
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Sources: New York Manhattan Corp., Gardiner & Co., National Assn. of Securi­
1. Forming corners right on the job with KenCove eliminates unsightly corner seams.

2. \( \frac{3}{8} \)" thickness of KenCove Vinyl Wall Base hides wall irregularities ... for a better-looking job.

3. No accidental kicking off of corners, because base and corners are one piece. KenCove Vinyl Wall Base colors: 10. Heights: \( 2\frac{1}{2} \), 4", 6". Length: 48".

KenCove® Vinyl Wall Base adds quality to any resilient floor. KenCove’s accurate cut and uniform shading assure ends that meet together perfectly, quickly. No unsightly seams at corners either, because corners are easily formed right on the job ... are part of the base itself, not separate pieces. No shrinkage problem. And \( \frac{3}{8} \)" thickness hides possible wall irregularities in your floor.
Get the competitive edge! Give homes new appeal with outdoor features in Decorative Concrete

New-style patios—put colors, textures and patterns to work for you. Here, the builder offers not simply a patio, but a beautifully integrated extension of the home for outdoor living. Appropriate atmosphere is created with a concrete patio surface patterned by partly-buried rocks in muted colors. Yet the floor-level patio relates effectively to both living room and kitchen. An open planter saves an existing, and handsome, tree. Decorative concrete won the builder credit for being different. Concrete's versatility is so broad that it permits decorative effects at any materials-labor cost level.
Buyers today want more distinctiveness in their home setting. This trend offers progressive builders a selling opportunity that can be exploited to the fullest with decorative concrete—in driveways, patios, walks, pools and other outdoor features.

Concrete can be shaped, patterned, colored, textured almost endlessly. It permits “decorator” effects to fit practically any home, any builder’s budget.

Decorative concrete turns outdoor installations into sales “features.” It’s worth looking into. For more information, ask your ready mix or concrete masonry suppliers, or simply contact the PCA office nearest you. Portland Cement Association, 33 W. Grand Ave., Chicago, Ill. 60610. (An organization of cement manufacturers to improve and extend the uses of portland cement and concrete.)

Fresh-flair stairs—concrete shapes up to unusual ideas. A decorative treatment in concrete like this can make a big difference in luring house shoppers through the front door. The idea: use oversize precast discs surfaced in exposed aggregate and set on standard curved units of concrete masonry. Of course, surface treatment, color, shape, size can be fitted to your home style and site. Decorative concrete puts your money where it shows—right where buyers like to put theirs, too!

Driveways with a difference—double as entry walk and play area. This colorful driveway provides drama for the total landscaping theme. Beige Mexican beach pebbles are exposed, treated with a concrete sealer to bring out color and sheen. Stained dividers form irregular modular units to bring driveway into scale. Such decorative effects with concrete, today, are unlimited. And even measured solely by the special buyer appeal that’s added, the extra investment is reasonable.

Decorator entry walks—with stones and a simple design. What could have been ordinary is here made strikingly different with decorative concrete. Exposed aggregate surfacing and black, brushed concrete are used in a pattern of alternating wedges that is repeated by the stairs. A fine design idea carried to full effect by bold exposure of black San Quentin pebbles on both treads and risers. Imaginative use of decorative concrete can make any home look “more for the money.”
**SWINGING NEW IDEAS BY KWIKSET**

**MUSIC TO DECORATE DOORWAYS BY**

Doorways can be easily decorated with a wide selection of handsome Kwikset trim rosettes fashioned to enhance traditional, provincial or contemporary architecture.

- **WHAT A DIFFERENCE A ROSETTE MAKES**
  (Kwikset knob designs look great by themselves but many times greater when accented with a dramatic trim rosette.)

- **ROOM FULL OF ROSETTES**
  (It's a sight to behold to see doorways dressed throughout the house with Kwikset trim rosettes.)

- **THE YELLOW ROSETTE OF KWIKSET**
  (Yellow or brass is the most popular finish but Kwikset trim rosettes come in a luxurious line-up of 13 other fashionable finishes including the new etched and antique.)

- **ROSETTE OF WASHINGTON SQUARE**
  (Kwikset trim rosettes set the tone for every doorway in Washington Square... or anywhere else. They're the easy way to decorate for new or old homes.)

- **ONLY A ROSETTE**
  (Maybe so, but install one behind any Kwikset “400” or Custom Line lockset and see what a distinctively different appearance is created.)

There is no easier, more inexpensive way to add a touch of elegance to doorways than with a Kwikset trim rosette. Kwikset trim rosettes have been smartly styled by leading designers to create that important first impression that will last. They are available in all shapes and sizes from delicate filigrees, sleek stars, captivating contours, graceful circles... some massive and bold, others compact and unobtrusive. You can choose from a gleaming brass with the brilliance that a jeweler would be proud to display, or one of the newest antique or etched finishes for something dramatically different in doorway decor. They’re permanently protected with Kwikset’s famous plastic coating for lasting beauty. Whatever the style, decorative trim rosettes play much prettier with the Kwikset label. (A long selling record.)

**kwikset®locksets**

America’s Largest Selling Residential Locksets

**EVERYTHING COMING UP ROSETTES**
Hal Anderson teams with millionaire to chase jet-set tourist dollars

Two Texans, financial giant Troy V. Post and apartment builder Hal Anderson, have joined forces in bid to capture a fat slice of the luxury tourism market in the Western Hemisphere.

Their new Dallas venture, Intercontinental Realty Corp., is aiming at the heavy-spending international jet set. The ambitious enterprise, owned 60% by Post and 40% by Anderson, is ready to announce its first major project, a huge, plush resort hotel in one of the favored spas of the well-dollared impulse travelers. Anderson, inc. president, isn't saying where the million-square-foot hotel will be built, but Acapulco is an educated guess.

Post is president and chairman of Greatamerica Corp., one of the nation's largest life insurance and financial management companies. It controls companies with assets of more than $2.25 billion, including an airline, Braniff International.

Braniff is the only U. S. carrier to serve Mexico's Acapulco with 12 flights a week, which suggests a mutuality of interest. And the Civil Aeronautics Board has approved a proposed $30 million purchase by Braniff of Panagra, its competitor on the west coast of South America.

The new company, of which Post is chairman, absorbed Hal Anderson Properties, a solely-owned firm, and several subsidiaries. Included in the transaction were all of Anderson's apartment properties—some 1,500 units—and most undeveloped land. Anderson shied from putting a price tag on property he contributed but called an estimate of $60 to $75 million "remarkably accurate."

Major apartment projects owned by Anderson were the famed "behind the pink wall" properties in Dallas which included town houses and high-rises, the 30-story Preston Tower, and the 20-story Athena to be completed late this year.

"The partnership with Mr. Post has at least quadrupled the capability of our firm," Anderson asserts. Anderson's organization of about 100 includes from 25 to 30 architects, engineers and technicians.

Post, born 61 years ago on a farm near Haskell, Texas, amassed his fortune in insurance and banking. Yet he remained almost unknown, even in Dallas, until about five years ago.

Anderson, no stranger to publicity, built one home with a bathtub lined with Italian tile, trimmed with gold leaf, and filled through a gold-plated gargoyle faucet. Another dwelling boasted an air-conditioned doghouse and a third flauted a television set in a bedroom ceiling.

A fourth generation Texan, Anderson is a 47-year-old civil engineer who built airfields, military installations, and some industrial facilities after World War II. He returned to the residential field in 1947 and since 1954, has built no houses under $100,000.

To protect his housing ideas from prying competitive eyes, Anderson blankets them in secrecy. His $100,000 homes were always locked and the windows painted during construction.

DREAMS COME TRUE with Garlinghouse

Your dreams for a new home of your own can come true. Let Garlinghouse, America's Finest Home Plan Service help you find your dream house. Each Garlinghouse home is beautifully designed and skillfully engineered to make the perfect blend of charm and efficiency.

Each of the plan books below has at least 120 designs from which to choose your dream home. Blueprints and material lists can be ordered at reasonable prices.

Cut out this ad, check the Plan Books you desire, attach your check or money order and mail it today.

PA TRNERS POST (1.1) AND ANDERSON
From plush houses to plush hotels

Jason R. Nathan is new renewal commissioner of New York City, a post created by Mayor John Lindsay's reorganization.

Charles L. Farris has quit after 12 years at the helm of St. Louis's housing and renewal program to become president of Urban Planning Corp., also in St. Louis.

News continued from p. 26
Andersen Windows can save you even more in a condominium than they do in a cottage.

(And you might be surprised to know why)
One reason shouldn’t be surprising at all: the more window openings you have, the greater the chance for costly, time-wasting callbacks.

And the higher the "callback potential," the more reason for using windows that are designed to keep you off the premises.

Like Andersen Windows that promise freedom from binding. From sticking. That are pre-assembled for lifetime smooth, trouble-free operation.

Windows so well built that Andersen can stand behind their performance with the industry’s only comprehensive service policy . . . the only staff of field-based window specialists ready to help you with any major application problems.

Of course, builders who use Andersen Windows know about other advantages. Like easier, faster installation using their regular crew (no window specialists needed). Or selling points like 15% fuel savings. Or customer-pleasing convenience features like welded insulating glass or removable grilles. And many more.

And now, there’s a completely new Andersen Window line for you to choose from . . . new Perma-Shield™ Windows and Gliding Doors. They combine the insulating value of wood and the lifetime maintenance savings of a rigid vinyl shield. Their armor-like finish won’t pit nor corrode. They don’t need painting. Nor scraping. Nor rubbing down. Wood and vinyl work together to minimize heat loss, control condensation and sweating. And they come in a full range of styles and sizes.

How about it? Why don’t you consider Andersen Windows for your next job? Your Andersen dealer or distributor can show you the full line, and give you the complete savings story. Call him today. Andersen Corporation, Bayport, Minnesota 55003.
Get extra manpower without hiring extra men!

Good men hard to find? Add the extra workpower of a READING Utility Body to your operations. READING's job-planned compartments keep tools and parts easy to find, eliminate the hours your men lose every day rummaging through equipment haphazardly piled in pickup and panel trucks. Contractors using READING Bodies report increases in man-hour output equal to up to $750 to $1500 per yr. per truck. They more than pay for themselves!

FILE It in a READING Job-Planned Utility Body

Made by master mechanics for master mechanics. See your local truck dealer...or for name of local distributor send this advertisement with your name and address.

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Don't Pile it...FILE It in a READING Utility Body

Circle 40 on Reader Service Card

Get extra manpower without hiring extra men!

Good men hard to find? Add the extra workpower of a READING Utility Body to your operations. READING’s job-planned compartments keep tools and parts easy to find, eliminate the hours your men lose every day rummaging through equipment haphazardly piled in pickup and panel trucks. Contractors using READING Bodies report increases in man-hour output equal to up to $750 to $1500 per yr. per truck. They more than pay for themselves!

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West Coast housing giant emerges as Deane Bros. takes over Hunsaker

A two-way deal last month climaxed persistent talk in Los Angeles circles that Occidental Petroleum Co. was about to “do something” with S. V. Hunsaker Co., its homebuilding subsidiary. The “something” was this: Occidental acquired Deane Bros. of Huntington Beach in an exchange of stock and then merged Hunsaker, acquired in 1964, into Deane Bros.

The net result made Ben Deane, a 53-year-old ex-carpenter who rode the post-war housing boom to success, and his brother Jim Deane the leaders of an organization that accounted for $67 million in sales last year. Together they are operating in 16 southern California subdivisions and own 3,200 acres of undeveloped land.

Richard Hunsaker, last of the Hunsaker family with the company founded by his father, is resigning. Ben Deane has closed Hunsaker headquarters in Irwindale and is transferring key personnel to Huntington Beach. Armand Hammer, Occidental president who has guided the oil producer into housing, said the merger brings Deane Bros.’ “experience and highly capable management abilities” into Occidental’s real estate operations.

Occidental’s reservations about Hunsaker operations have been apparent for months, provoked mainly by a flood of houses that Hunsaker was forced to repossess under terms of sales contracts and second trust deeds signed before Occidental acquired the company (and discontinued conditional sales contracts).

The repos came in such numbers—453 last year—that Hunsaker salesmen had to sell nearly four used houses for each ten new houses. Last year they moved 391 repos and 1,004 new houses, but still the inventory of repos grew by 44 houses to reach 179 houses at year-end. Hunsaker lost $1,679 on each resale. This, plus a decline in new house sales, forced refrentchment last spring. S. V. Hunsaker Jr. left the company (NEWS, May). In June Dick Hunsaker said inventory of new and used houses was dropping and expressed confidence he could ride out the declining housing market. But in late June Occidental began talks with Deane—first seeking a joint venture and then a merger. In five weeks the stock swap was signed.

“We are concerned with orderly growth,” says President Ben Deane. “We will phase out some of the Hunsaker deals and expand as we feel the need to do so.”

He points out that Occidental recently marketed $60 million in debentures and says the capital available gives the combined company great staying power.

He regards the merger as “the fruition of all our efforts of the past few years.”

Those efforts have been substantial. Ben, an Oakland native, became an apprentice carpenter while studying at the University of California at Berkeley. The war cut off graduation but took Ben to war construction in Canada and Alaska.

After the war Ben headed for the booming San Fernando Valley north of Los Angeles and built 12 houses in 1946. He has been growing since. In 1958, when production problems became too big for one man, he asked brother Jim, now 45, to leave the general managership of a furnace company and join him. Jim did. Last year Deane Bros. sold just over 1,000 houses valued at $25 million in four tracts. An innovator, Ben Deane developed the copyrighted garden kitchen (May ‘58) and is constantly tinkering with new house layouts.

“Some new idea may look expensive at first,” he says, “but you often find it is cheaper in actual production.”

NEWS continued from p. 23

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NEWS continued from p. 23
Former NAHB leader Bill Blackfield quits building until money eases

Bill Blackfield has been forced to halt the homebuilding part of his operations by tight money. "I'm out of the homebuilding business for the duration of the tight money situation," he told the Honolulu Advertiser. The 1964 NAHB president said he had been forced to lay off all but seven of his 240-man field force. He built 350 houses in 1965.

Other parts of his Blackfield Enterprises continue at full strength. They include his mortgage banking subsidiary (Realty Mortgage Co.), a mortgage trust (Western Mortgage Investors), and an airplane distributorship.

"Money isn't just tight; it's non-existent," said Blackfield. He pointed out that Hawaii, where his building operations are centered, imports about 75% of its mortgage money from the mainland. "But it's not coming here any more," he said. "It has dried up completely."

"Construction loans are very hard to obtain," agrees Vice President Howard Stephenson of the Bank of Hawaii. Housing permits are down 32% through July, and Stephenson notes, "Borrowers are being turned down on deals with firm takeout commitments."

John Hall Pushes two-way expansion

John Hall, long one of Phoenix' largest volume builders, has picked both mergers and franchises to expand his operation. His Hallcraft Homes last month moved into the big California market by merging with Ashton & Kies, a Phoenix building company with a San Diego branch. The reorganization under Hallcraft's name makes Ashton & Kies President J. R. Ashton the new executive vice president and general manager.

John Kies becomes a Hall-craft vice president and general manager of San Diego operations, which include a 286-unit townhouse development and two other projects in planning.

Hall has also started franchising his townhouse concept, which has sold well in Phoenix and Denver. A Hall subsidiary, Data Core, has franchised a 1,600-unit Houston project to open in September. Data Core is negotiating similar projects in Dallas, New Orleans, Kansas City, Chicago, and Detroit.

Earl Bennett to head Producers' Council

Earl F. Bennett, veteran executive of Koppers Co., Pittsburgh, has been nominated as president of the Producers' Council, national association of manufacturers of building products.

Election of Bennett and other officers is virtually certain late this month at the Council's annual meeting in New York City.

Bennett will succeed Charles F. Stock, marketing vice president for American Air Filter Co., Louisville.

Bennett, manager of architectural sales for Koppers, has also served as product manager of building sales.

He holds civil engineering degrees from the University of Maine and the Massachusetts Institute of Technology.

BUILDERS: Bill Brangham is the new marketing vice president for Robert E. Simon's new town of Reston near Washington. He formerly headed sales for Ross Cortese's retirement complexes.

Pede Worth and David Stone have teamed up to become marketing consultants for homebuilders. Stone, author of How to Operate a Real Estate Trade-in Program, retains control of the San Jose, Calif. realty firm of Stone & Schulte, marketing adviser for 48 Bay Area subdivisions.

DIED: Douglas W. Orr, 74, champion of closer ties between architects and homebuilders during two terms (1947-49) as president of the American Institute of Architects, July 29 in New Haven, Conn.; Maurice G. Read, 60, homebuilder, mortgage banker, and 1965 president of the National Association of Real Estate Boards, July 29 in Berkeley, Calif.
Trudy Baxter practices
TODAY’S AFFLUENT HOME BUYERS WON’T SETTLE FOR JUST ANY APPLIANCE

THEY WANT QUIETER HOMES

Today’s home buyers are on the lookout for sound-conditioned homes. "Quiet" homes. Frigidaire recognized this trend in modern living by creating undercounter dishwashers and room air conditioners specifically engineered to keep sound way down.

The Frigidaire Custom Imperial Undercounter Dishwasher, for instance, operates with amazing quietness because of its special sound-deadening features. A homemaker can arrange a club meeting on the kitchen phone while her Frigidaire Undercounter Dishwasher is running full force.

New Frigidaire Prestige Room Air Conditioners with Pin-Drop Quietness provide cool comfort without a lot of clatter in a bedroom, a rec room, the kitchen, or anywhere. The family works, plays and sleeps better. This is added value with a meaning.

Before you settle for just any appliances, look into appliances by the people who know and build for today’s kitchen buyers. Frigidaire.

Want to tune in on the thoughts of today’s buyers? Get the complete story of “The Home Buying Affluentials.” Wire, phone, or write your Frigidaire District Office today.

Cater to the taste of the “Affluentials” with the plus of

FRIGIDAIRE APPLIANCES
PRODUCT OF GENERAL MOTORS
INTERIOR DESIGNERS SAY:

Today's style trend calls for Oak Floors

HIMMEL
"I like to use Oak Floors because of their adaptability to every color scheme and their easy maintenance." Richard Himmel, A.I.D., Chicago.

CRAWFORD
"Oak Floors are the ideal background for today's return to elegance in interior design. I can think of nothing more sophisticated than area rugs set off by highly polished hardwood floors." Kathryn Crawford, A.I.D., Los Angeles.

SMITH
"We use Oak Floors frequently, because they are so beautifully at home in any setting. Oak Floors give the decorator complete design freedom." Ving Smith, A.I.D., New York.

The "natural look" of beautiful exposed Oak Floors is a favored trend among today's top interior designers. Most of all, these decorators appreciate Oak's marvelous versatility, the charming way in which it complements any color scheme, any furniture style. Take advantage of this trend to good taste and good sense in floors. Use the floor that's both beautiful and practical, the floor that most people prefer... genuine Oak. For added value, use flooring certified to meet the quality standards of N.O.F.M.A.

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How to improve your chances start your building program.
of making a profit before you

There are six big advantages to becoming a dealer for U. S. Steel Homes' products, and all of them have to do with improving the profit and efficiency of your operation. Check your present building operation to see if it measures up to these six advantages.

1. A broad and flexible line. A U. S. Steel Homes' dealer can build what his local market dictates from a broad line, multi-family housing to a wide range of single family homes, in a price range to fit the market. Complete plans, with accurate price and package descriptions, allow him to move rapidly from one type of housing into another with very little lost motion.

2. Quality structural system and quality components. Only U. S. Steel Homes' products have a steel structural system that adds greatly to their stability. The structural system is the basis for a component system of construction that is uniform throughout the product line. Regardless of the product he builds, the U.S. Steel Homes' dealer doesn't have to change his method of construction. U. S. Steel Homes' packages feature many other quality steel components: steel siding, gutters, downspouts, soffits, fascia, and doors, plus name brand kitchen appliances and heating systems.

3. Lower labor costs. U. S. Steel Homes' dealers save on labor costs because they need fewer skilled workmen and smaller crews to erect the product. The component system of construction makes possible maximum manpower efficiency with a minimum of training problems.

4. Precise scheduling. U. S. Steel Homes' in-plant manufacturing takes the guesswork out of a building schedule. A U. S. Steel Homes' dealer orders a shipment to arrive on a given day at a given time. The site is ready; his crew is ready. There are no costly delays. Closing in the structure is fast, too, with finishing time cut to a minimum.

5. Close cost controls. Costs can be accurately predetermined, so profit goals can be set and met. Speed of erection plus known package costs means faster capital turnover and less interest at a time when interest rates are increasing. Labor costs can be more accurately controlled, too, because there is less on-site labor.

6. Collateral services. U. S. Steel Homes' dealers get valuable assistance in financing, programming, advertising and marketing, and engineering.

How does your present building operation check out? If it lacks any of these 6 elements, you can improve your chances for greater profit potential by writing or calling U. S. Steel Homes for more information. Do it today.

United States Steel Homes, 2549 Charlestown Road, New Albany, Indiana 47150.

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In Canada: Paslode Canada Reg’d, Scarborough, Ont.

Price and where-to-buy information.


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Grumbles hardly ever happen when you install trouble-free Day & Night air conditioning. There's too much dependability built in.

Want proof? Examine a unit part by part. You'll find quality right down the line, not just in a few “talking spots.” Check the overall design. You’ll see reflected the advanced designing and engineering skills that enabled Day & Night to create a brand new industry within our industry—the first compact gas-and-electric combination air conditioner for outside installation, the famous Duopac.

There's a Day & Night system to fit virtually any air conditioning job, in homes, apartments, office and commercial structures. One and a half to fifteen ton units, conventional, heat pump (with or without supplementary heating coil), heating and cooling together or separate, inside or outside, electric or gas-and-electric. For happy facts on complaint-free air conditioning for your next job, call your Day & Night distributor. Or write:

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2350 W. 39th Street, Chicago, Illinois / Distributors in principal cities.

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This combination could cure all

Think about it! A complete line of exterior wood products and a no-nonsense performance guarantee that eliminate the on-site priming problems you’ve had. What’s more, you’ll save money on in-place costs.

Primewood siding comes in a broad range of styles and materials so you can use it with any kind of house you build. Also available: pre-primed trim, fascia and door jambs.

The special primer we use is baked on in infra-red ovens right at the factory. The result is a tough, uniformly smooth base. Paints last longer, look better and cover more area faster on Primewood.

The biggest single saving you’ll make with Primewood is the elimination of job-site priming. But the nickels and dimes you’ll save other ways add up fast. You can knock off one whole scaffolding operation.
Weyerhaeuser PRIMEWOOD EXTERIOR PRODUCTS

PERFORMANCE GUARANTEE

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<th>Lumber:</th>
<th>Hardboard:</th>
<th>Plywood:</th>
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<tr>
<td>Bevel siding</td>
<td>Lap siding</td>
<td>Medium density overlaid</td>
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<td>grooved panels</td>
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The factory-applied primer on all Weyerhaeuser Primewood exterior products is guaranteed for FIVE YEARS after initial installation to be peel-proof and blister-proof, provided a finish paint coat is applied within 60 days after initial installation and thereafter maintained in good condition.

Also, the entire product is guaranteed for the same period to give satisfactory performance as exterior siding when installed in accordance with instructions accompanying each shipment and when finished as indicated above.

Should any Primewood product not comply with this guarantee, Weyerhaeuser will, at its option, repair, replace, or make a fair allowance for same, up to the original price of the material as delivered for the installation. However, Weyerhaeuser must be given written notice within 90 days after discovery of such noncompliance and a reasonable opportunity to inspect the product prior to any alteration or repair.

Weyerhaeuser’s sole responsibility is as stated herein, and it shall not be liable for consequential, indirect or incidental damages.

This performance guarantee automatically extends to purchasers from Weyerhaeuser of Primewood products, if it may be exercised upon resale of such products, in which case any claims are to be processed through the intermediate party or parties.

This guarantee is in addition to the standard product quality guarantee set forth in the Weyerhaeuser general terms of sale.

Weyerhaeuser Company • Tacoma, Washington

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There aren't any culls or defects, every inch is usable. You may even save a little on the cost of the finish paint cover because the paint goes farther on Primewood.

You can pocket these savings without cutting corners on quality. Weyerhaeuser backs up their product line with an unbeatable performance guarantee that will protect you against any kind of failure in the prime coat for a full five years.

Ask your nearest Weyerhaeuser dealer for information on price and delivery. And for more details, write us at Box B-2343, Tacoma, Washington, 98401.
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BUSINESS
starts on p. 44


See them all at your nearby Kemper Distributor or write for your free, full color catalogs on Kemper's complete line of wood Kitchens and bathroom vanities and lavanettes.

Kemper®
KEMPER BROTHERS, INC., RICHMOND, IND.
Wood windows vs. metal windows:

here are the facts about heat loss.

A metal window frame is cold. Cold to touch. Cold to be near. It's the nature of metal, caused by what heating engineers call excessive thermal conductivity.

Are metal windows really "refrigerators?"
Unfortunately, it's true.

Findings listed below show heat loss of various materials 1" thick, 12" square, with only 32 degree difference between inside and outside temperatures:

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<thead>
<tr>
<th>HEAT</th>
<th>Wood . . . 25 BTU's per hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOSS</td>
<td>Glass . . . 186 BTU's per hr.</td>
</tr>
<tr>
<td></td>
<td>Steel . . . 9,984 BTU's per hr.</td>
</tr>
<tr>
<td></td>
<td>Aluminum . . . 45,312 BTU's per hr.</td>
</tr>
</tbody>
</table>

The chart tells the whole sad story. Aluminum conducts heat over 1770 times as fast as wood.\(^1\) Thus a wood window frame is over 1770 times as effective in preventing costly heat losses through radiation as aluminum, the most common type of metal window.

Cold metal surfaces, as they conduct heat from a room, also conduct heat from the body, causing chills. In addition, as warm air comes against a cold surface, it cools and drops rapidly to the floor. This creates a cold draft.

In fact, these metal-caused cold drafts can reach velocities of 12 feet per second.\(^2\) Pretty windy for a family living room, don't you think?

Wood by its very nature is a superior insulator. This chart gives you the facts. Quality windows with wood sash are plainly more comfortable to live with. See for yourself.

Here are the cold hard facts about metal windows.

\(^1\) ASHRAE Guide and Data Book 1965, Chapters 4 and 24.
\(^2\) Electricity in Building Magazine, September, 1964.
The answer in a word is—value.

From the beginning, Levitt & Sons, Inc. has operated on the premise that quality housing at moderate cost was a powerful sales inducement.

To implement the strategy, Levitt has relied perhaps more heavily than some builders on the magic of familiar brand names like G.E. Levitt homes are equipped with many G-E appliances the home buyer has already learned to trust.

For example, all these tastefully appointed homes feature G-E kitchens and laundries, equipped with built-in ovens, dishwashers, refrigerators, washers and dryers. Levitt's heavy emphasis on quality and the success of its numerous communities carry a lesson for everyone who builds homes to sell. The advanced design and legendary dependability of General Electric appliances can work to your great advantage if you'll only let them.
Your General Electric distributor will tell you why and show you how. He’ll work right along with you to plan, promote and sell. Give him a chance. Levitt did.

Kitchen A, the Jamestown Model, features the following G-E appliances: JD-14 Oven, SD-200 Dishwasher, JP-76 Surface Plate. Kitchen B, the Hampshire Model, features the TB-14S Refrigerator-Freezer. Laundry Room C features the WA-650 Washer and the DE-620 Dryer. Complete G-E equipped laundry rooms are in all Levitt houses. Kitchen D, The Eton Model, features the JD-14 Oven, TB-14S Refrigerator-Freezer and JP-76 Surface Plate.
Planning to build an unusual home?

Here's how zone control can solve your heating and cooling problems with little additional cost

Successful builders are finding that a slightly unusual feature or floor plan makes their homes stand out from the competitive homes. It can capture the prospect's imagination and often is just enough to clinch the sale. But these same features can create heating and cooling problems, too. And of course, no matter how exciting the feature, if the home is uncomfortable, you'll have a dissatisfied customer.

Chances are, you have some of these features in the homes you are building now.

Here's a list of six common design features and the problems they can cause with heating and cooling systems.

1. In any two or three level home, warm air tends to rise, leaving cooler air in the rooms on the lower level.

2. Special activity rooms. It is obvious that bedrooms call for cooler temperatures than living areas for real comfort, but game rooms and family rooms can create comfort problems, too.

3. Large glass areas provide a great view, but they cause inside temperatures to vary with the outside weather changes... even with double-pane windows.

4. With a spread-out floor plan, sun, shade and wind in different areas cause widely differing heating and cooling needs.

5. Rooms over unheated areas, such as garages, often have cold floors and walls.

6. A finished basement, because it is below ground level, places unusual demands on heating and cooling systems.

Lots of potential problems, but zone control solves 'em all

Dividing your homes into two or more areas with accurate temperature control in each provides maximum comfort. Your buyers can have different temperatures in different zones, or the same temperatures in all zones under varying heating and cooling requirements.

You will be pleasantly surprised at the cost of zone control

As you can see, zone control makes a lot of sense, and it isn't very complicated. The cost of additional equipment is nominal. Compare the cost with the problem it solves, such as cold floors or uncomfortable bedrooms, and zone control becomes a necessity.

Speaking of unusual features... you've just added another one

Honeywell zone control not only solves problems connected with unusual features—it is one all by itself. It's an interesting talking point and attracts attention.

After all, what's more important in a home than comfort?

SEND ME THE NEW BOOKLET on Honeywell zone control systems.

Honeywell, Dept. HH9-402
Minneapolis, Minnesota 55408

Honeywell
Show your framing for all it's worth... faster home sales!

When buyers walk into a home like this, the handsome, open joists and decking of Western Wood expose real strength and beauty. Builders across the country are turning to exposed framing, bringing it out of hiding from behind ceilings and walls. Framing now contributes to the overall feeling and design of the home... and to its sales appeal.

Exposed framing of Western Wood can take many forms. It can be brawny beams that turn an ordinary model home into a manor at low in-place cost. Or, it can be a room divider of studs that defines space. Outside, posts, railings and decking of framing stock withstand weather beautifully and lend a distinctive appeal. Want more ideas in exposed framing and how it can help you sell more homes faster? Clip the coupon and we'll send you a full-color framing idea book. It's free, of course.

Western Wood Products Association

Western Wood Products Association
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Yeon Building, Portland, Oregon 97204
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Firm
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City State Zip
You're looking at 49 Reynolds Aluminum building ideas... all under one roof!

More than 8000 pounds of strong, lightweight, rust-free aluminum add value to this custom home.
Double fenestration windows with 2" air lock cut heat loss to absolute minimum. Inside windows stay practically same temperature as walls.

All the ductwork throughout this home—for both heating and cooling—is made from Reynolds Aluminum.

Four extruded aluminum columns add classic beauty to this custom home. The 8" aluminum siding with long lasting Colorweld® finish gives years of service and beauty without repainting.

Closet rods may not be uppermost in your mind, but they are one more example of how aluminum can add extra low-maintenance convenience in the most unexpected places.

Matching charcoal gray Colorweld® shutters and shingles beautify and protect. These Colorweld building products won’t rust, rot, chip or peel. (Colorweld is available in a variety of colors.)

One of the most popular uses of aluminum is in the soffit. Reynolds Aluminum Roll Soffit slides right into place, easily and quickly. This cuts labor costs, speeds completion of work.

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Please send me free literature on the Reynolds Aluminum Product Line.

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COMPANY NAME

ADDRESS
WHAT THE LEADERS ARE BUILDING

Two houses for narrow—and expensive—waterfront lots

This is one of seven plans designed for irregular cul-de-sac lots in a waterfront community being developed by Huntington Harbour Corp. This particular plan has accounted for eight of 60 sales in a newly opened section of the project. Prices range from $82,700 to $111,000 and include lots costing from $41,700 to $67,000.

Architect Robert E. Jones divided the 2,696-sq.-ft. house into two completely separate sections, connected only by the entrance gallery and an upper hallway. One section contains the living areas and two bedrooms; the other contains the garage and two more bedrooms.

The living room, dining room and master bedroom open to decks that face out over the waterfront. The two-story, glass-walled living room also looks out onto a side court, around which the U-shaped plan is wrapped. This entrance court can also be reached from the central family living areas.

This model was designed for rectangular waterfront lots (50' x 100') in other areas within the same Huntington Beach project. One of ten plans by Architects Thomas & Richardson, the house currently accounts for 18 of 175 sales. Priced at $84,500 on a $42,500 lot, it is available in three elevations.

Architects start on p. 74

Circle 59 on Reader Service Card
PLYWOOD SHEATHING AND SUBFLOORING IS THE FINEST CONSTRUCTION MONEY CAN BUY.

(It's also the least expensive.)
1. LOWEST COST PLYWOOD FLOOR SYSTEM

2. Plywood underlayment (may be applied parallel to joists, or, for greater stiffness, perpendicular).

3. COST BREAKDOWN FOR LOWEST COST SYSTEM

<table>
<thead>
<tr>
<th>Item</th>
<th>Shop Labor</th>
<th>Field Labor</th>
<th>Total Labor</th>
<th>Total Mtl.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framing</td>
<td>6.20</td>
<td>11.22</td>
<td>17.42</td>
<td>124.47</td>
<td>141.89</td>
</tr>
<tr>
<td>Subfloor</td>
<td>1.45</td>
<td>9.48</td>
<td>10.93</td>
<td>116.00</td>
<td>126.93</td>
</tr>
<tr>
<td>Bridging</td>
<td>7.65</td>
<td>20.70</td>
<td>28.35</td>
<td>240.47</td>
<td>268.62</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td><strong>37.71</strong></td>
<td><strong>245.89</strong></td>
<td><strong>283.40</strong></td>
</tr>
</tbody>
</table>

4. PLYWOOD UNDERLAYMENT APPLICATION

5. Plywood underlayment (may be applied parallel to joists, or, for greater stiffness, perpendicular).

6. SOUND-CONDITIONED PARTY FLOOR WITH PLYWOOD SUBFLOOR-UNDERLAYMENT

7. Blanket insulation
   - Carpet
   - Pad
   - 3/4" T&G subfloor-underlayment plywood
   - 2 x 12's 10" o.c.
   - Resilient clips
   - Lath and plaster ceiling
Boards or plywood?

New cost study proves what most builders already know:
Plywood subfloors cost less for both labor and materials.

(And plywood underlayment does the best job under any kind of resilient flooring.)

Plywood won hands down when the Small Homes Council-Building Research Council of the University of Illinois recently took a look at the costs of five floor systems.

All five were installed by the same crew, under the same conditions. Builder was William Leichliter, Longmont, Colorado.

(1) Plywood over butted joists (rather than lapped) was used for both the lowest cost systems.

(2, 3) The lowest of all ($283 for the 912-sq.-ft. floor) used 1/2" plywood over 2x10's, 24" o.c.

Other systems used plywood over 2x8's, diagonal and T&G boards, and preframed plywood panels.

Builders may obtain the complete report for $1.50 from the Small Homes Council, University of Illinois, Urbana, Ill.

All the floor systems included in the above study were designed for the type of hardwood flooring which doesn't call for separate underlayment. As a base for resilient floor coverings, use plywood underlayment (not ordinary plugged Interior sheathing).

(4, 5) Underlayment-grade plywood with a smooth sanded face and a special second ply will resist bumps, concentrated loads, jabs and blows. It comes in thicknesses from 1/4" on up.

(6) Extra-strong, 1 1/4-in. 2x4-1® plywood is subfloor and underlayment all in one panel. It has T&G edges, needs support only at 4-ft. intervals.

(7) This plywood floor system with 3/4" T&G subfloor-underlayment was specified in a Livonia, Michigan, apartment because it proved less expensive than a competitive fiberboard system, and gave superior control of airborne sound. Architects: Melvin H. Sachs & Associates. General Contractor: K & C Associates.

Send for free booklets on plywood floor systems, with recommendations on grades, application methods. Write (U.S. only): Floors, P. O. Box 951, American Plywood Association, Tacoma, Washington 98401.

(Continued)
Even though you’re already saving money with plywood roof sheathing you can probably save still more.

New research shows dozens of ways to cut in-place roof costs.

A recent study by the NAHB Research Foundation for the American Plywood Association pinpointed areas of biggest material and labor savings by using plywood roof sheathing more efficiently. Up to 15 per cent savings can be realized on most roof sheathing jobs.

The study used the Time and Methods Analysis Program (TAMAP) approach. Here are the recommendations that promise biggest savings:

(1) Pre-plan framing or truss placement to take advantage of plywood’s 4-ft. module. Draw a roof plan allowing for use of as many full sheets as possible.

The diagram at left shows layout for a 1,371-sq.-ft. roof. If the 44 sheets in this layout are cut and used as shown, there’s only eight square feet of scrap.

(2) Then work out a cutting plan so leftover pieces can be used elsewhere.

(3) Save labor by minimizing handling. Use conveyors or forklifts to get sheathing to the roof.

(4) Or for smaller jobs, a simple lean-to rack may be the answer.

(5) An adjustable platform to keep stacks of plywood level on pitched roofs can save a surprising amount of labor.

The report also covers other areas of potential savings, from comparison of fastening methods to tips on tool storage.

For your free copy of the TAMAP report, see coupon at end of this section.

(Continued)
Half-inch plywood is the strongest wall sheathing you can use, but if costs are really important, try 3/8" or 5/16".

And if you want to save even more, try Exterior plywood that serves as siding and sheathing too.

Bert Lenting, partner in Vista View Builders, Renton, Washington, switched to 3/8" plywood wall sheathing eight years ago.

"It costs a good deal less than half-inch," he says, "and it's plenty strong." Lenting's firm (like Schulte & Blackwell, below) saves time with tilt-up.

(1) Wall sections are sheathed on the job, then (2) tilted up into place. Siding and plywood accent panels are applied later.

Lenting uses plywood roof sheathing too, and figures that altogether he saves at least $100 a house with time-saving plywood applications.

Vista View builds about 24 quality homes per year in King County, Washington. Most are in the $24,000-$30,000 range.

Single-wall plywood construction saves two weeks per house for Schulte & Blackwell, Santa Clara County, California builders.

(3) They use rough-sawn grooved plywood, applied directly to the studs. (In this area, insulation between studs isn't necessary.) (4) They assemble entire walls on the deck slab, then tilt them into place. The wall system cuts labor costs so much that it compares with stucco—the most inexpensive surfacing in the area.

(5) Blackwell says, "This means we can offer homes in the same price range with stucco, but with the extra beauty of wood siding." They were worried at first about public reaction to a non-stucco house, but sales have been ahead of building schedules from the start.

For free booklets on plywood wall sheathing and new plywood sidings, write (U.S. only): Walls, P.O. Box 869 American Plywood Association, Tacoma, Washington 98401.

The DFPA grade-trademark is your assurance of quality plywood.

It's essential to use highest quality plywood sheathing—whether for roof, wall or floor. You must be able to assure your customers of quality construction, and you want to avoid costly callbacks. So it pays to insist on the American Plywood Association's DFPA grade-trademark whenever you buy or specify plywood. That means it was manufactured according to the high standards of the Association's testing and inspection program. Always look for this grade-trademark on every panel.
Send for these helpful plywood booklets.

They're new. They're fully illustrated. They're free.

(A) Plywood for Construction - Application and specification guide to plywood wall, roof and floor systems.

(B) 2.4.1 Subflooring - Latest on T & G 24.1 with installation notes, load-span tables. Underlayment Grade Plywood folder includes plywood underlayment grades and applications.

(C) Plywood Roof Sheathing Cost Study - Summary of TAMAP sheathing research.

(D) Guide to Plywood Sidings - Standard and specialty sidings guide.

For more facts, contact us in Tacoma or at any of our regional offices: Atlanta, Chicago, Dallas, Detroit, Los Angeles, Minneapolis, New York, San Francisco, Washington, D. C.

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BRONZEGLOW® BIRCH ROYAL® BIRCH HEATHER® BIRCH MOONGLOW® VANITIES
Open occupancy

H&H: Your editorial on open-occupancy housing (July) was excellent. It is about time that a responsible publication within our industry started to publish the practical points involved. Your four points are the practical reality of the situation.

I hope your editorial is a starting point from which you will expand the theme, give coverage to the available examples, and generally help our industry more from a position of ignorance, fear, and passiveness to a position where it will not write off a growing and major segment of our rightful market.

It will interest you that a group of developers, real estate brokers, mortgage bankers, and attorneys responded to a call from the Chicago Conference for Religion and Race, and have formed a housing task force that is involved with the obvious obligations of our industry toward this problem. Thus far we have aided nonprofit sponsors, are helping to create a development trust, and have formed a housing task force within our city. At the most we have begun to build a bridge of confidence between our industry and the major religious groups involved.

Marvin B. Myers
Marvin B. Myers Real Estate Development Chicago

H&H: Congratulations on your editorial on open-occupancy. You have presented the issue very fairly and are to be commended for your conclusions.

James L. Pease, Jr.
Pease Woodwork Co.
Hamilton, Ohio

H&H: After reading your editorial I am certainly disappointed in your attitude toward forced housing.

I do not see why forced housing should be inevitable, and it is impossible for me to comprehend why a long established and cherished right of ownership should be taken away from the majority in order to grant a so-called right to a minority group. Surely the right to own property includes the right of freedom to dispose of this property.

I truly hope and pray that your opinion and those of others in positions of influence will change after giving further thought to this drastic proposal.

Robert P. Albergotti, Jr.
Norfolk, Va.

H&H: It was really refreshing to read your editorial on open-occupancy housing. It is always good to know there are men like you who will write what they believe.

May you have the courage to continue to write such articles in support of our drive toward full equality of opportunity.

Frederick D. Gaines
Frederick D. Gaines Real Estate Philadelphia

Tight-money squeeze

H&H: Congratulations on your June editorial. I quite agree that the low and lower-middle income housing is being hardest hit as a result of the current tight money market. It could lead to more direct government lending as private rates have to go up and also to more public housing since private industry can't meet this need.

As an economist I agree with the reasons for the present Federal Reserve action. But as a private lender, I feel that the savings and loan industry, and in turn the building industry and the homeowner, have been caught in the middle of a squeeze resulting from the lack of coordination of policies to which you referred. Using monetary policy as the only instrument to meet the problems of inflation and the balance of payments is like trying to shoot an elephant with a B-B gun.

I think you are doing a fine job with House & Home. Somehow the editorial and articles reflect more realism and a greater attention to all segments of housing than was previously the case.

Karl L. Falk, president
First Federal Savings and Loan Assn.
Fresno

H&H: Your editorial on the housing and mortgage situation makes a great deal of sense. It is a most timely interpretation of our present crisis.

P. L. Greenwald, president
The Kinsell Company
Springfield, Ohio

Planned unit development

H&H: I have read with interest your article on planned unit development (July). It will be helpful to planning boards and governing bodies of the numerous municipalities throughout our metropolitan area.

David Brandon, director
Herkimer-Oneida Counties Comprehensive Planning Program
Utica, N. Y.

Publicly held companies

H&H: Your July article on publicly held companies is very timely. I consider it about the best analysis of the whys and hows of building companies so far as the financial community is concerned.

I would like to call your attention to one error. You show Continental Homes with $96,000,000 debt. If you will look at our statement again, you will see that our debt is $96,000. You have given us too much credit there.

Ralph C. Lester, chairman of the board
Continental Homes Inc.
Roanoke

Reader Lester is right H&H apologizes for a proof-reading slip.—Ed.

Heating-System Rivalry

H&H: My compliments on your roundup of heating and cooling (June). Your article was certainly comprehensive and struck me as being objective—no mean task with the pressures you must feel in today's competitive market.

Ray Schumack, executive director
Better Heating-Cooling Council
New York

New towns

H&H: Your analysis of new-town concepts and problems (June) was most incisive, cutting through the veil of glamour with which such massive operations are cloaked and exploring the fundamental obstacles with which they are confronted.

Paul G. Gitl, management consultant
Stony Brook, N. Y.

H&H: ... an excellent job.

W. Lawrence Prell Jr., director
Department of Applied Economics
Southwest Research Institute
Houston

Compact sewage treatment

H&H: I am interested in contacting anyone interested in designing a compact, electrically operated sewage disposal unit which would be affixed to an individual toilet or to several toilets.

It should be no larger than a household washing machine and should use only a quart of water or less each time the toilet is flushed. The unit would separate solids from liquids. Separated liquids would be treated chemically and disposed of through the system carrying off other household water. Separated solids would be chopped into small particles and consumed by an electric or gas-fired burner. Resultant gases would be forced through a deodorizer, then vented to the outside.

Pressed from plastic or light-gauge steel, the unit should cost no more than $200 installed. Operating costs should be no higher than those of a clothes washer or dryer.

Use of such a unit would eliminate the need for packaged sewage treatment plants H&H and even of large sewage disposal plants, with their land requirements for settling basins, lagoons, etc.

F. OdelWelborn
1108 Oakdale Road NE
Atlanta, Ga.
Someone's going to hear about it if you put a KitchenAid dishwasher in this remodeling job.

The folks that get a KitchenAid dishwasher in their remodeled kitchen are pleased because it works so well.

So naturally they tell their friends about it. Even brag a little. And all this happy talk leads to more referral business for you.

You might wonder what we've done to get KitchenAid talked about like this.

Plenty. We build high-quality home dishwashers, just as well as the commercial models we've been building for the last 80 years.

They work dependably for years and years, and look as good as they work. (Vari-Front panels make it easy to match any kitchen decor.)

There are three built-in models to choose from, three price ranges. And the only dishwasher-sink combination on the market.

Let us help you make your remodeling jobs the talk of the town. See your distributor. Or write KitchenAid Dishwashers, Dept. 6DS-9, The Hobart Manufacturing Company, Troy, Ohio 45373.

KitchenAid Dishwashers are products of The Hobart Manufacturing Company.
After introducing a 4-ton unit, the 7\(\frac{1}{2}\)-ton unit, the 15-to-the 20-ton unit...
The 2-in-1 condenser coil provides almost 20 degrees of sub-cooling with increased operating efficiency.

In addition to our 3-ton unit, we have 4-ton, 5-ton, 7½-ton, 10-ton, 15-ton and 20-ton units that do the same kind of job.

On your next light industrial or commercial job, look into the Bryant line of heating (warm air, hot water, steam) and air conditioning (gas or electric). You may be pleasantly surprised with the quality, pricing and flexibility of the Bryant line.

Call the local Bryant dealer, distributor or Factory Branch.

Bryant Manufacturing Company, Indianapolis, Ind. 46207.
The fullest line in the business

Now you can have true freedom of choice... Hotpoint's Single-Source Builder Program offers every kind of builder appliance, plus an almost unlimited selection of models to fit your cost, size and style requirements perfectly. It's the fullest line in the business! And it's backed by Hotpoint's 90-Day Replacement Guarantee of Satisfaction, in addition to the standard parts and labor warranties.
...the best in professional builder services

And Hotpoint helps you keep costs low with a full range of expert technical and building services. Example? A builder was planning to install a U-shaped kitchen in the homes of one of his major subdivisions; he called in Hotpoint early and our Kitchen Planners showed him how a corridor-kitchen plan could be substituted. This eliminated costly corners and more than 100" of countertop, saving the builder more than $45.00 on each unit.

You'll sell better with Hotpoint, too. Because it's a name customers know and respect. Over a million dollars in dramatic TV and magazine advertising is pre-selling prospects on Hotpoint's outstanding features—like Teflon-coated oven walls, No-frost refrigerators on wheels, and an automatic washer that does hand-washing better than hands.

Your local Hotpoint distributor stocks the full-line. So, call him today to get the full story on our Single-Source Builder Program. He wants your business, and can deliver the products and services to earn it!
The USO is a marine’s chance to unwind over a cup of coffee 200 yards from the barbed wire edge of trouble. If you care.
The USO is a warm American greeting for a lonely sailor away from the teeming streets of a foreign port. If you care.
The USO is a smile lighting up a soldier’s tension-creased face as Bob Hope entertains on a Southeast Asian battleground. If you care.
The USO is there, only if you care. Only your donations enable the USO to bring a little touch of home into the lives of our 2,300,000 citizens in uniform—lives they are pledged to risk wherever freedom is threatened. Someone you know needs the USO. Someone you know wants a choice of conduct during his off-duty hours. Someone you know wants a haven in a hostile world. Someone you know needs a reminder that folks back home really care. Show him you care. Give to the civilian-supported USO through your local United Fund or Community Chest.
USO is there, only if you care.
The 21 conveniences of Long-Bell action kitchens give profitable eye and buy-appeal to your homes

You've seen it happen time and time again. Invariably, homebuyers head for the kitchen and start opening doors and drawers. In most other rooms they just stand and look — but the kitchen is an action center. That's why Long-Bell action kitchens pack such sales power. They have the conveniences your customers want.

Take the Lazy Susans shown above. They are strong and sturdy, yet turn effortlessly. The shelf edges are banded for elegance. The 90-degree base corner unit has a full-width bi-fold door which opens wide for full access. No pinched fingers, no unsightly gaps because the door is not attached to the shelves. When closed, the door rests on the face frame, and the front of the Lazy Susan cabinet looks the same as the adjoining cabinets. Popular? You bet. So are the self-closing drawers, sliding shelves, two-way access cabinets, lid and tray racks and other Long-Bell conveniences.

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Available in Shadowline, Provincial and Contemporary styling; and birch tone, walnut tone, white and gold, and natural finishes. A network of plants assures quick delivery nationwide.

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Eljer's Planter Top... another proven attention-getter for display homes!

Prospective buyers like the "extra touch" of beauty Eljer's Planter Top adds to model-home bathrooms. They appreciate its handy recessed shelf for storing toilet articles and books... and built-in planter that holds live or artificial greenery. Eljer's Planter Top is decorative and useful, features sure to please your most discriminating customers.

Increase your sales with Planter Top, available in Eljer pastels and white. Fits Eljer's Emblem, Ellis, Walford, Estate and Orlando toilets. For information on more Eljer plumbingware traffic stoppers, call your Eljer representative, or write Wallace-Murray Corporation, Eljer Plumbingware Division, Dept. HH, P.O. Box 836, Pittsburgh, Pa. 15230.

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This is Mexican Agate—a Luran Airtred™ vinyl flooring, richly veined as translucent marble. A RUBEROID Original! Extra-heavy vinyl wear surface is suitable for many commercial installations as well as fine homes. Tiny foam pillows under the surface resist indentations, help hide subfloor irregularities...subdue noise, give underfoot comfort. Luran comes in rolls 6' wide—easy to cut and fit. Seam expertly fused with Vinylweld® is almost invisible. Use on, above or below grade. Ask your RUBEROID flooring dealer to show you other RUBEROID Originals—vinyl flooring and vinyl asbestos tile. Want more information? Write RUBEROID, Fullerton, Pa., Dept. HH-96.
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We've got a metal door that is designed, engineered and priced for your needs, in three price ranges. So why install anything but Float-Away when you can get better value from our single source operation?

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Queen's Circus, London S. W. 8, England
EDITORIAL

Our urban future

No 1984 awaits us, if we work towards a profitable, meaningful melding of public and private sectors

Few of us today doubt that the U.S. faces an urban, even a suburban crisis in physical environment. The violent events of this summer show clearly that despite massive federal aid to urban areas, not many answers to the problems of urban living have been found. The government has done a creditable job with interstate highway systems, flood control, agriculture, defense, and the like. But when it comes to improving the very fabric of our urban plant, we are still stymied. Our cities pollute the air and water. They are choked with traffic. And their rotting cores are increasingly abandoned by business and the affluent and the middle class.

One reason for this crisis: Entrepreneurs and private enterprise have traditionally stuck to the blind faith that out of economic motivation would come an unplanned but functional beauty. That, needless to add, is not true.

As Harvard Economist John Kenneth Galbraith told the American Institute of Architects, “There is no reason to believe that an unplanned metropolis will have any better chance of beauty than an unplanned office building, and it won't be any more functional.”

In Galbraith's words, “The problem of environment ... is that we have for long assumed that it must be subordinate to economics. Accordingly, questions of beauty, livability, even health, have been of secondary importance. Cities, it has been assumed, must grow. That is economic progress. They are ugly but that is the price of progress.”

Obviously, the trouble with relying only on economic progress is that it does not provide public services, area-wide planning, open space, adequate educational facilities, pleasant and healthy environments, medical facilities, or an opportunity for everyone to make his own contribution to society.

We know from our past experience with urban sprawl that public services must grow if private enterprise is to continue to thrive in the cities, the suburbs, and the whole megapolis. Public control of water, air, and transportation must expand if private growth is to be even possible, let alone profitable.

There are those who would confine government's function to controlling predatory elements in society. But all predation does not consist of police-blotters crime. Slums are predation; air and water pollution is predation; and unfettered land use can be predation. Clearly, government's function is also to promote the general welfare and the goals that individuals cannot achieve unaided: education, parks, clean water, sewage disposal, flood control, adequate transportation, etc.

Whether these public services are provided by local communities (where builders have more of a chance to make a contribution) or by the federal government is really a matter of how well the communities use their tax base.

Well-managed communities — those with good financial control, realistic assessments, imaginative planning — will probably pay for improved services through resultant increases in property values, and without necessarily raising taxes.

On the other hand, communities which have suffered from decades of political mismanagement are caught in a fiscal bind. Obsolescence plus failure to maintain basic services have eroded the tax base so that the community not only must raise its tax rates but also needs plenty of revenue sharing from higher levels of government. The Committee of Economic Development, a council of national business leaders, suggests that a breakdown in local services is simply a crisis in local government. For builders and developers, running the gantlet of local-planning, zoning, and building officials defeats all but the most ambitious effort toward innovation and beauty.

These problems are as common in small towns as they are in many large metropolitan areas. And in both places the housing industry must learn more about working effectively with state and federal bodies.

The need for closer cooperation between private enterprise and government is particularly urgent because our metropolitan areas will have to accommodate 150 million more people in the next 30 years. The task ahead: completely rebuild our urban environment in the next four decades.

It's clear that housing will be deeply involved with governmental bodies controlling the necessary public services for that phenomenal growth. While we study the prospect of closer alignments with bureaucracy, let's hope the bureaucrats will know full well how closely they will have to work with us. For instance, while urban renewal has recreated a viable tax base in many downtown areas, it has also lost most of private enterprise's goodwill. Waiting an extra three months to get a project moving, while some civil servant pushes paper around a desk, has bankrupted many a builder and ruined many excellent plans.

—RICHARD W. O'NEILL
RECREATION

It's today's fastest-growing market demand

And if you think this demand is still in the optional-extra class, you're shutting your eyes to the most important housing trend of the decade. Today's buyer wants — and is usually able to pay for — not only a home but also an active and sociable way of life. This can take many forms: swimming clubs, community centers, golf and tennis clubs, marinas, etc. But whatever the form, the record shows that when well-conceived, well-run recreation facilities are part of a project, they pay off in sales for the builder.

Says Max Okun, builder and owner of the 246-unit Kenilworth Apartments in Kansas City, Kan.: "We are forcing other builders in our area to provide recreation facilities like ours as a competitive necessity."

Says President Philip Stollman of Biltmore Development Co., developer of Detroit's 2,400-unit Somerset Park: "We consider our recreation areas the No. 1 reason we can't build apartments fast enough to meet the demand."

Says Sales Vice President Don L. Byrnes of Huntington Harbour Corp., which is developing a 2,500-home community south of Los Angeles: "Our beach club is the most important sales tool I've ever had. It is absolutely essential to our operation."

But while recreation is selling houses now, its implications for the future are even more significant. Says Emil Hanslin, whose 3,000-acre New Seabury community on Cape Cod is based on recreation (H&H, Apr. '62, Feb. '66): "Recreation is just one aspect of people's growing need for self-expression. The time is coming when recreation will be just one part of a full-scale cultural center, and this center will be the focal point of the entire community."

Recreation facilities are the housing industry's first major step towards this goal. To see how the best of them are designed, built, and operated, begin on the next page.
Swimming pools: most popular facility, and readily tailored to any type of project

In larger projects the pool may be just one part of a big recreation complex. But if the size of the project is limited, the swimming club invariably gets first call. According to Leon Panitz, developer of Joppatowne, Md., "Homebuyers just plain expect a pool, even if they don't use it."

In lower-priced projects, the big community pool is usually best

Lower-priced projects tend to have more small children, and they can be more easily and less expensively supervised if they are in one place. In the absence of private clubs, the pool, together with some form of community center, is the social heart of the project. And perhaps most important, one big pool is a much less expensive proposition than a string of smaller neighborhood pools.

Typical of the community pool is one installed by Builder Andy Place of South Bend in Scottsdale, a project of 600 homes with an average price of $18,000. Part of a community center, the L-shaped pool is 25 meters (Olympic distance) by 25 yards and has one- and three-meter diving boards. Price, including patio area and a children's wading pool, was $43,000 — slightly lower than usual because Place dug his own excavation and poured his own concrete apron.

High-income buyers don't mind community pools if they don't serve too many families. At Builder Ed Bennett's Carderock Springs in Maryland, where the average house price is $45,000, one pool complex serves 350 families. It includes a 25-meter by 43-foot main pool, a junior pool and a wading pool. Cost: $8 a sq. ft., or a total of $125,000 including decks and equipment.

(The increasing popularity of competitive swimming makes the Olympic distance important, and the irregularly-shaped pool a problem. For this reason an odd-shaped pool at Huntington Harbour, Calif., has created difficulties. But a Z-shaped pool at Joppatowne works out well because its design includes six 25-meter racing lanes.)

Kenilworth Apartments in Kansas City offers tenants year-round swimming in a 50' x 80' outdoor pool (cost: $23,000) and a 30' x 50' indoor pool whose price tag of $15,000 does not include that portion of the community building which houses it.

Higher-income families prefer smaller neighborhood pools

In Fullerton, Calif., for example, Lakeside Partnership has two pools for a project of 29 houses in the $50,000 range (H&H, Apr.). Each 1,000-sq.-ft. pool cost $4,500 (anything larger would be classed as commercial, with more expensive specifications), and the whole area, including cabana (see cover photo) cost $18,000.

These neighborhood pools solved another problem: California buyers in this bracket are used to private pools. Lakeside's small lots precluded this, but buyers liked the idea — stressed by Lakeside salesmen — that neighborhood pools would give them most of the advantages of private pools without maintenance worries.

In Detroit, 2,400-apartment Somerset Park, with a rental range of $155 to $290, will have seven 1,200-sq.-ft. neighborhood pools. Cost, with appurtenances: $26,000 apiece. The high family-to-pool ratio takes into account the fact that the project will include few children, and most of those will probably use an eighth Olympic-sized pool which will be built later as part of a big recreation center.

Buyers or tenants foot the bill for both building and maintaining

In house subdivisions, the original cost of the pool — and other communal facilities as well — is hidden in the price of the house. In Andy Place's Scottsdale, the added cost for the pool was about $70 per house; in Lakeside, about $1,200.

Operating costs are usually paid by homeowners through membership dues for using the pool, as well as other community facilities. At Scottsdale, the $8,000 annual operating cost of the pool takes 80% of the $39 to $46 each family pays to belong to the community center. And at Lakeside, dues of $72 a year for each of the 29 families cover all operating and maintenance costs for the two swimming clubs.

Most builders retain ownership of the pool or pools until at least half, and sometimes all, the project is built. The reason: If the pool is badly run it could adversely affect the sales of remaining houses. Then the pool, together with contiguous facilities, is turned over to a community association, usually for a nominal $1.

In apartment projects, both original and operating costs are carried through higher rents. At Somerset Park, the annual cost of running each pool is projected at $7,000. This makes but a small dent in the average of $10 per month added to each rental to cover maintenance and operation of all recreation facilities.
COMMUNITY POOL is part of recreation center in a community of 18,000 houses. Section with marked swimming lanes is Olympic length—25 meters. Builder: Place & Co., South Bend, Ind.

APARTMENT POOL is in Kenilworth Apartments, a 246-unit Kansas City project with rentals from $137 to $385. A second pool is inside a community clubhouse.

NEIGHBORHOOD POOL is one of seven in Somerset Park, a 2,400-unit apartment project in Detroit. Clubhouse is shown beyond pool at left.
Community centers: a way to offer new residents quick entry into social and civic activities

Most Americans are gregarious. Finding themselves in a completely new neighborhood, their first thought is to meet other people. Because it provides an immediate answer to this need, the community center can be an even more important sales asset for a builder than his houses.

The center also has long range advantages. If it is well run it creates a thriving community life, hence a reputation that will improve sales as the project grows. And residents who later move up to more expensive houses will automatically turn to an upgraded project by the same builder.

There are three basic types of community center

The small community house is the simplest to set up and operate, and it may actually be nothing more than a house. In Joppatowne, Leon Panitz has two such centers—one a $22,000 house (formerly a sales office), the other a new addition to a local church that Panitz leases for $424 a month.

The large community center is usually part of a full-scale recreation complex. At Scottsdale, Place & Co. has a $77,000 center adjoining the swimming pool. It includes a kitchen, dressing rooms for the pool, and a 40' x 80' hall that is booked up year-round by Girl Scouts, bridge clubs, community dances, etc. Max Okun gave Kenilworth Apartments a $268,000 center which includes, besides an indoor pool, a lounge, billiard tables, sauna and exercise facilities plus a private bottle club. And giant Somerset Park will have five community centers which will cost $130,000 apiece, including pools.

The country club serves the same basic functions as the community center; the difference is that it is private, almost always part of a high-income project, and often keyed to a particular activity: golf, boating, or a beach. Huntington Harbor’s $750,000 beach club, for example, serves the community in much the same way as Scottsdale’s community center. But it has more elaborate recreation facilities, plus private dining and meeting rooms, a cocktail lounge, and a staffed main dining room.

Community centers are usually a bargain for project residents

Scottsdale’s center, including the pool, added only $200 to house prices. As noted earlier, each family pays about $40 a year in dues, but just 20% of this covers the $2-3,000 operating costs of the community building itself. And Kenilworth Apartments adds less than $10 to each tenant’s rent to cover its annual operating costs of $20,000.

The full-fledged private country club carries the heaviest dues structure. Huntington Harbor’s beach club charges an initiation fee of $100 and annual dues of $240. The club, which is owned by the developer, currently has 450 members and an annual gross income of about $250,000; it will pass the break-even point with another 100 members.

Some community centers in higher-priced projects are very nearly private clubs in their price structure. Builder Ed Bennett’s Carderock Springs Tennis and Swimming Club requires a $700 premium on each house, and its operating costs—about $38,000 a year—call for annual dues of $87 per family.

Here are four tips from developers who have built community centers

1. Build it early. Buyers or tenants won’t really believe in a recreation center unless they see it. Both Kenilworth Apartments and Huntington Harbor benefited from having their centers built before anyone moved into the projects.

2. Promote it. Particularly in the early stages when there are few members, centers need programs—and money—to get them rolling. Leon Panitz has established a loan and gift fund to support the community activities at Joppatowne; it is administered by a committee of residents and one member of Panitz & Co.

3. Don’t turn it over to residents too soon. Without sound financing and management, a center could turn into a liability rather than a sales asset. Most developers maintain control until the project is at least half sold out; Ed Bennett is holding on to his club until Carderock Springs is completely sold out.

4. Create separate facilities for teenagers. This is especially true in apartments and higher-priced projects. Both Kenilworth and Huntington Harbour have belatedly found they need separate teenage areas in response to adult demand. And Somerset Park is anticipating the problem by building a completely isolated teenage recreation center (p. 95).
COUNTRY CLUB at Sea Pines Plantation on Hilton Head Island, S.C., cost $800,000. Low profile and heavy overhangs fit in with the semi-tropical surroundings.

EXTERIOR VIEWS of Somerset Park club show house-like scale of building. In front is a large entrance canopy; in rear a roofed porch, walled patio and swimming pool.

GOLF AND COUNTRY CLUB at Tantallon in southern Maryland is colonial in design, serves as recreation center for the development. Club was completed a year ago for $300,000.

RECREATION CENTER at Scottsdale combines function of civic center and clubhouse. Place & Co., South Bend, built the entire complex, including pool, for $120,000.
**Golf courses: costliest facilities, but also potentially profitable investments**

As a form of recreation, golf is enjoying an enormous growth in popularity. (At Somerset Park, more than half of the 700 tenants who have moved in say the golf course was the project's chief attraction for them.) As a symbol of prestige, the golf club has always been at the head of the list. For both of these reasons, a golf course can be a tremendous sales asset for those builders who can afford the high initial outlay. And in the long run, the initial cost can be returned—and then some.

**Golf courses offer both immediate and long-range profits**

The immediate gains are better sales and considerably higher lot prices and rents. A golf course attracts not just golfers, but all who like plenty of open space. So the course raises the value of all lots in a project, and especially those on fairways. Fairway lots bring 25% to 50% more than off-course lots at Tantallon, a 750-lot development in southern Maryland. A typical fairway lot at Charles Fraser's Sea Pines Plantation on Hilton Head Island, S.C., sells for $11,000, while lots separated from the course by only a roadway sell more slowly at just $7,900. And at Somerset Park, fairway apartments add from $50 to $75 to rents—and are the ones most in demand.

In the long run a golf course can turn a handsome profit for itself, although it usually takes three to five years to get into the black. Fraser's first golf course, for example, was built in 1960. It broke even three years ago and will gross about $250,000 this year, showing a profit of $70,000 to $80,000. Fraser is now completing a second golf course on the island and plans to build two more sometime within four years.

Golfers spend money not only on the golf course, but on food, drink and entertainment. So a golf course can become the nucleus for a whole host of ancillary facilities which sometimes earn more than the course itself. Fraser, for example, has built an $800,000 club, plus a $2.5-million inn and cottage complex that operates in the black almost entirely because of the golfing trade. Hamilton Crawford, developer of Crofton, Md., is now building a $5-million private-club complex. And Phil Stollman plans a $500,000 club for Somerset Park's golf course.

**The typical golf course costs about $500,000—plus land**

But this figure can vary greatly depending on the type of course, the terrain, and the financing. And since a typical course needs about 100 acres of land, the total package can easily reach $1 million.

At Somerset Park, Stollman laid out $350,000 to build a nine-hole, 45-acre golf course in a low-lying marshy area. But land costs came to another $850,000 because to acquire all 45 acres, Stollman had to buy and raze 26 homes ranging in price from $6,000 to $50,000.

Most courses aren't that expensive. Crawford paid only $380,000 to construct an 18-hole course at Crofton; the land cost about $600,000. Swammy terrain complicated the construction of Charles Fraser's first course at Hilton Head, but it still cost only $600,000, less land. Fraser is keeping costs down to $450,000 on his second course by employing his own construction crew. But the land on which the course is laid out, valued at $300 an acre only a few years ago, is now worth from $3,000 to $5,000 an acre.

**Operating costs run from $40,000 to $100,000—plus debt service**

The precise cost depends on the size of the course and the quality of care it gets.

Stollman estimates that his annual costs, not allowing for mortgage payments, will come to $60,000, including salaries of six full-time staffers.

Crofton's golf course, which completed its first full year of operation last year, cost $150,000 to run. Of this sum, $94,000 went into course maintenance, and the balance was for interest and loan repayment. The course employs 24 employees in summer and 14 in winter. (Management estimates that this year maintenance costs can be cut to $80,000.)

At Hilton Head, operating expenses for a ten-month period through June came to $137,000. Of this figure, $80,000 went for course maintenance (including salaries of 20 employees), $37,000 for pro-shop maintenance, and $20,000 for taxes and administrative and promotional expenses.
FAIRWAY HOUSE LOTS at Tantallon in Maryland bring 25% to 50% more than off-course sites. Prestwick, Inc., the developer, has 200 sites around its 135-acre course.

GOLF CLUBS were built by Mackle Bros. at Deltona (above) and Marco Island (below), Fla. Deltona club, with nine holes, cost $225,000; Marco Island club, with 18 holes, cost $500,000.
In fact, almost any form of recreation can be turned into a community asset

And in most cases, a site’s natural assets can be turned into recreation facilities. Some facilities—boating marinas, for example—are expensive. But if the area is at all wooded, hiking trails can be cleared for relatively little cost. Wider trails will serve as bridle paths for riding. And natural ponds can be stocked for fishing.

Water sports are second only to golf in popularity

As much as a year before the opening of Joppatowne’s $560,000 marina, a sample survey of 190 residents showed that almost half either already owned or were planning to buy boats. “Today,” says Leon Panitz, “our marina and waterways are the most compelling attraction we have.”

Buyers will pay even more for waterfront lots than for fairway lots. At Joppatowne and Tantallon, both on Maryland’s eastern shore, waterfront lots with private mooring docks are most in demand. At Joppatowne, these lots sell for $13,000, vs. $5,000 for interior lots. Tantallon’s waterfront sites sell for up to $45,000—four times the price of inland lots and twice the price of fairway lots. And at Huntington Harbour, a waterfront site may bring up to $20,000 more than an inland lot.

Marinas are both an immediate sales asset and a long-term profit maker. The marina, with its boat storage and repair facilities, is the focal point of the water-oriented recreation community; it may cost anywhere from $50,000 to $500,000 depending on its size. (Joppatowne’s $560,000 marina was costlier than usual because it required channel dredging and extensive bulkheads.) It usually takes a year and a half for a marina to break even. During the first ten months of operation, for example, Joppatowne’s marina rented year-round storage space for 88 boats and took in $26,000—a deficit of $15,000. But, foreseeing a profitable future, Panitz is already planning to add additional piers, another boat storage building; a major repair shop, and a restaurant. Charles Fraser, who began with a $75,000 marina on Hilton Head Island, is now adding a $380,000 marina with wet and dry facilities for 200 boats. And Tantallon plans to have a 350-slip marina within three years.

Tanglewood Lake, a project near Cleveland planned for 500 homes in the $40,000 class, Bainbridge Development Co. has put in a 30-acre artificial lake for swimming, sailing and fishing. Cost: $100,000. And Philip Stollman built a 5-acre lake in Somerset Park. (Part of the golf course budget, it cost $78,000.)

Horseback riding and hiking are increasingly popular

At new Seabury on Cape Cod, Builder Emil Hanslin has cleared 5½ miles of riding trails and built a stable, corral and show ring. He leases these facilities, which cost about $35,000, on a break-even basis to a private riding academy. The academy currently cares for several privately-owned animals, rents out 20 horses, and expects its stable to expand to 30 or 40 horses within the next five years. And at Tanglewood Lake, Bainbridge Development is converting an existing barn into stables and expects that it will operate with from 20 to 40 horses within four years.

To meet a growing interest in hiking, Leon Panitz is clearing trails in a wooded 62-acre section of Joppatowne. About 600 homes will go up in 300 acres surrounding this area; they will be interconnected primarily by footpaths. And at Hilton Head, $70,000 is being put into hiking trails within the development’s 1,280-acre forest preserve.

Tennis courts have become staples in many communities

The courts are usually part of a larger recreational complex that includes a club and swimming pools. But if the recreation budget is limited they are often constructed as individual facilities. Their cost may run anywhere from $4,000 to $10,000 apiece, depending on how much grading is necessary. At Carderock Springs the first two courts cost $12,000. Now the project needs two more, and they will cost $22,000 because heavy grading will be required.

Tennis is so popular that many developers have found the number of courts they have installed is inadequate to meet the demand. Huntington Harbour, for example, built two courts a few years ago. So many people wanted to play that lights had to be put in for evening play; and now the demand has increased to the point where two additional courts are needed.
BACKYARD BOATING is available at Tantallon on Maryland's eastern shore. Waterfront lots like this one command prices of up to $45,000, four times price of interior sites.

FISHING is recreational pastime for both children and adults at Crofton, Md. Two existing lakes in the large development were cleaned up and stocked with gamefish.

WATER SPORTS are a popular feature at Joppatowne, Md. Shore-front homes in background have their own docks for boats. Here, residents come by land and by sea to hear a concert.

HORSEBACK RIDING (left), an increasingly popular sport, is an attraction in many new communities. This trail was built in Sea Pines Plantation, Hilton Head Island, S.C.

Here's a plan for a 12-acre recreational park built primarily for children

Builders of upper-income projects have found that adults demand separate recreational facilities for their children. This park is Philip Stollman's answer to the problem in his 2,400-unit Somerset Park apartment project in Detroit.

The park, to be completed this fall at a cost of about $500,000, will serve all children in the project. It includes a $200,000 teen-age center (twice the size of adult centers in the project) and an Olympic-sized pool. There will also be eight tennis and six shuffleboard courts, a sledding hill, baseball field, and a four-acre wooded picnic area.
Do your kitchens have the extra excitement that buyers want?

The sad fact is that most builder houses have dull kitchens. Buyers may not have a clear idea of what they want in a kitchen, but when they see new and exciting ideas, they'll respond. Here are six pages devoted to just those kinds of kitchen ideas.
Do your kitchens offer the same outdoor views as the rest of your rooms?

There's no reason why they shouldn't, and in fact, a strong case can be made for opening them more to the outdoors than even living or family rooms. The housewife may spend the majority of her day in the kitchen; she'll appreciate its being made a bright, pleasant room to work in, and she won't feel cut off from the rest of the world. And she'll never again be happy with the traditional single undersized window over the kitchen sink.

Ralph A. Goodhill

PICTURE WINDOWS run along entire length of the counter. Door, left, leads to deck. Arch.: Kuhn & Drake. Location: Watchung, N.J.

Rendel Partridge


George Lyons

WINDOW WALL opens one entire end of kitchen to view of lagoon. Arch.: Robert E. Jones. Location: Huntington Beach, Calif.

Julius Shulman

WOOD DECK has glass doors that add a feeling of space to kitchen. Arch.: Cooke, Frost, Greer & Schmandt. Location: Santa Barbara, Calif.

continued
Do your kitchens put food and utensils within easy reach?

Every housewife knows the annoyance of trying to find a particular pan or can that is hidden in the back of a cabinet or under a sink. So if you show her convenient built-ins like the ones on this page she will recognize their usefulness immediately.

HANGING BOARD above range has heavy movable wood pegs. Spice rack is at bottom. Arch.: Dennis, Whitaker & Slavsky. Location: Hawaii.

SLANTED CABINETS make top shelf easy to reach because narrow bottom shelf isn't in the way. Builder: Kaiser Ind. Location: Hawaii.

OPEN SPICE RACK is close to cooking area, fits in an otherwise useless corner. Arch.: Dennis, Whitaker & Slavsky. Location: Hawaii.
Do your kitchens turn every possible cubic inch into useable storage space?

You don't have to limit yourself to standard overhead or under-counter cabinets. Any stretch of wall is a potential spot for a shallow cabinet or closet, and the resulting storage may be the roomiest and easiest to reach in the entire kitchen.
MULTI-PURPOSE ISLAND has cook-top, plus room for food preparation and eating. Arch.: Liebhardt & Weston. Location: San Diego.

FOOD-PREPARATION ISLAND with stainless steel sink can double as a bar. Builder: Kaiser Ind. Location: Hawaii.

Do your kitchens include the extra counter area that islands can provide?

The important thing about extra counters is that they offer flexibility. An island can turn useless floor space in a big kitchen into a cooking, food-preparation, or all-purpose area positioned so that it becomes an integral part of an efficient working layout.

COOK-TOP ISLAND is near oven, concentrates all cooking in one area of kitchen. Arch.: Johnson & Perkins. Location: Hawaii.

ROOM-DIVIDER ISLAND has range plus a wet bar near adjacent family room. Arch.: James Levorsen. Location: Foster City, Calif.

HOUSE & HOME
Do your kitchens have the general illumination needed in a work room?

Good general lighting means both a pleasant kitchen and a kitchen that is less fatiguing to work in. Big windows (see p. 97) can be a partial answer, but they don't help at night, and in many houses and apartments the kitchen is not on an exterior wall. Two possible solutions to these problems are shown in the photos at left and above.

Do your kitchens necessarily have to have square corners?

No, indeed. This kitchen, designed by Otto Kolb Associates for a house in Watchung, N.J., is basically a semi-circle. And while it would give most producton builders the cold shivers, it is, nevertheless, a highly efficient small galley-type kitchen. There is counter space next to every work area, and everything can be reached with a minimum of steps.

continued
Are your kitchens built around traffic patterns that make work easier?

"Good traffic flow is the key to an efficient kitchen," says George Warren, head of General Electric's kitchen design department. And as these drawings show, it's relatively easy to turn a poor traffic pattern into a good one. Warren's department took builders' original plans, reworked them, and then made renderings to show the final result: better—and more salable—kitchens.

A badly placed hall door produced a traffic aisle in the original kitchen's work area. The door was relocated to shift the aisle nearer the eating area. And the new L-shaped kitchen now has room for about three feet of extra counter length.

The eating and working areas of the original kitchen were not clearly defined. But by moving both doors, traffic was pulled out of the work area and a separate eating area was created. The new plan also has room for an extra utility closet.
The original work areas of this kitchen were sprawled out all over the room. With the shifting of one counter the kitchen was turned into a compact U which eliminated cross-traffic. And the snack bar was made much more useable by moving the range top.

The refrigerator in the original plan was isolated from all counter space. To correct this, one door was moved. The kitchen was thus turned into an L, which also eliminated a traffic lane through the work area and added corner cabinet space.
QUESTION:
Which of these construction types is the best solution to the country's low-income housing problem?

ANSWER:
The one that can offer the most feasible financing

In simpler terms, the big deterrent to low-income housing isn't technology—it's financing.

Whenever government agencies talk about ways to house our nine-million families with annual incomes of less than $3,000, or the 20-million who make less than $6,000, they usually offer two solutions: 1) lower the cost of new construction, and 2) lower the cost of rehabilitating the country's existing housing supply. Yet a survey of what's going on in low-income housing around the country shows there are plenty of construction systems that get costs down to $7 to $8 per square foot. Good financing, however, is something else again. Items:

1. Builder Phil Emmer, known nationally for his successful low-income projects in Gainesville and Pensacola, Fla., is abandoning low-income building because the financing programs he had depended on—the 40-year mortgage for 221d2 buyers and FNMA's Special Assistance program—have been curtailed. Those changes, along with higher interest rates and an increase in Florida property taxes, have pushed up monthly mortgage payments a critical $25 for Emmer's low-income buyers.

2. Inland Homes, for years one of the biggest suppliers of prefabricated low-cost houses, is going to expand out of that market and into houses approaching the $25,000 range. Inland is being acquired by a new owner who feels the company's long experience with low-income houses can't pay off adequately without a dramatic improvement in their financing possibilities.

3. Boise Cascade tried for a year to market a technologically advanced low-cost house in Washington and Alaska (p. 108). Last month it dropped the house because as a spokesman put it, "It's not feasible in today's market."

But while one segment of low-income construction is coming to a standstill because financing is unfavorable, another is booming because financing is abundant.

Federal grants concentrate on low-low incomes—and experiments

Low income, to the Low Income Housing Demonstration branch of HUD, is generally defined as under $3,000. To get housing for these lowest income families, the demonstration department—in operation since 1961—hands out grants for housing research, experimental models, and pilot housing projects. Examples:

Migrant-laborer housing. A HUD demonstration grant financed a two-year research project at the University of California (p. 109) that produced three starkly contemporary wood houses for West Coast farm workers. (The workers themselves had mixed feelings about whether they wanted to live in the units.) The program ended with the construction of the houses. Now HUD is financing a new program for the State of California to find other ways to house the workers. This time, ten manufacturing and construction companies have been invited to build demonstration models emphasizing masonry.

Indian housing. To demonstrate the economics and the feasibility of self-help homebuilding, HUD, working with the Office of Economic Opportunity, is financ-
LOW-COST HOUSES come in a wide choice of designs and materials. Left to right, top: Lockheed Aircraft aluminum-framed concrete house proposed for California; Leon Weiner townhouses in Wilmington, Del.; Continental Homes sectional house in Kentucky. Bottom: Lincoln Estates (Phil Emmer) conventionally built house in Florida; Novoa system precast-concrete house proposed for Miami; Richardson mobile home.

ing pilot projects on Indian reservations. Using simple construction systems (p. 107), Indians will build their own houses and man component assembly shops. The cash value of their labor will be deducted from the cost of their new houses.

Slum rehabilitation. In big-city apartment demonstrations—which have tended to draw emphasis away from single-family low-income housing—HUD is financing attempts to streamline heavy remodeling work (H&H, Aug.).

The money spent on these programs has little direct benefit for homebuilders, although it may prove the feasibility of some new construction methods and house designs. But in the absence of feasible buyer-financing programs, the work—except that being perpetuated by non-profit institutions—eventually reaches a dead-end.

The best evidence that feasible financing is what makes low-income housing successful comes from a part of the market that doesn't share in the demonstration grants.

Mobile homes don't offer cheap financing—but it's easy to get

And that's why mobile-home sales have been increasing 20% a year despite housing slumps, tight mortgage money and all the other evils that beset conventional homebuilders.

Over half of mobile-home buyers are low-income families earning less than $5,000 a year. They aren't buying the home because it's mobile, but because it's the only kind of housing for which they can get easy financing. Most of the so-called mobile homes are only moved once—when they are first delivered from the factory.

Banks won't touch mobile homes, so finance companies handle them. The homes are on wheels, so the lenders finance them like cars, at high interest rates. Monthly payments average $65 to $85. Lot rental—for water, sewers and electricity—ranges from $12 to $22. Total carrying charges: $77 to $107 a month, for a house including complete furnishings and a lot.

Those prices aren't for the low-low income group, but they are within reach of the majority of unsubsidized low-income buyers.

Only two restrictions—zoning and physical size—keep mobile homes from making even greater strides. And these are being overcome by another kind of mobile house that also is only moved once.

Sectional houses make low-income financing work in rural areas

They solve two problems that have always hindered rural financing:

1. High costs for getting subcontractors to travel great distances to scattered rural housing sites.

2. Long waits for inspectors to come out from far-away lending agencies.

Sectional houses solve these problems with the same assembly-line methods used by mobile-home manufacturers. Over 90% of their construction is done in the factory, eliminating the need for subcontractors at the site. And preliminary house inspections are also made in the factory instead of at the site.

Judging by the rate at which manufacturers are entering sectional housing, these aids to financing make a big difference. For the sectional house has nothing new to offer in the way of construction. It is simply a conventionally framed house, shipped by road in two prefinished halves that can be joined in about a day on a foundation. Its design is severely limited by width and height requirements. And its cost—usually about $8 a sq. ft.—is no lower than many other kinds of low-cost houses.

But the same can be said of most low-income housing technology—there are few dramatic cost differences, and little likelihood that any are forthcoming.

No need to wait for breakthroughs—low-cost systems are plentiful

In fact, some homebuilders feel that low-cost technology is already super-refined. There are systems available in every kind of material—the latest is loadbearing asbestos-cement—and with all kinds of fastening methods, from neoprene zippers to slots. They have a greater or lesser degree of design flexibility, depending on their material and how much factory-engineering has gone into them. Some seem unusually inexpensive, but these generally have drastic shortcomings that restrict them to a special market or environment.

For a sampling of recently developed low-cost systems—from building-material manufacturers, government demonstrations, a university, and an architect—plus a study of how 16 available systems compare, see the following four pages.

continued
T-joists glued to plywood make a cheaper stressed-skin floor system

Precise savings, says this system's sponsor—Potlatch Forests—are 11¢ a sq. ft. compared with a conventional floor system. Assuming field labor at $5 an hour, Potlatch estimates the conventional system costs 45¢ a sq. ft., while the new T-joist system costs 34¢.

Joists consist of two 1"-thick members—a web and a flange—glued together. They are bonded to the underside of plywood subflooring like inverted "T's," 12" apart, and the flange bears directly on ledgers and girders.

Potlatch has installed the system in two experimental houses in Pierce, Idaho. The test panels are 1/2" plywood on 1"x4" T-joists, and measure 4'x24' over two 12' spans (drawings above). Span limits could be increased by thicker plywood and deeper webs.

Besides lowering costs, the panels can also help to lower floor lines. Reason: The adhesive that holds them together is unaffected by the effects of temperature and moisture. Thus, in both its test houses, Potlatch has set the panels only 8" above ground and is using the under-floor space as a heating plenum, eliminating the need for ducts. Heat rises through register holes in the panels, and a vapor barrier on the ground beneath is fireproofed with a layer of sand (detail above).

FHA is insuring mortgages on both Potlatch houses under its experimental design program.

Concrete-and-masonry shells minimize subcontracting problems

Subcontracting this Portland Cement Assn. design is made easy in two ways:

1. A single sub erects the entire house shell including foundation.
2. The interior is finished with preassembled components. It requires just three additional steps—installing a plumbing core, erecting prefished storage-wall partitions, and wiring.

If Portland Cement's estimating is correct, the house will cost less than $7 a sq. ft. including kitchen and laundry appliances (but not land). Finished construction cost is expected to be under $7,000 for a plan of more than 1,100 sq. ft.

The roof is poured in place on block walls. But unlike most low-cost concrete roofs, it is sloping rather than flat. This design feature is made economical by symmetrical house design (elevations right) that simplifies engineering and layout.

Roof construction is further simplified by using 3/4" reinforcing bars throughout, instead of 1/2" bars. The lighter bars are easier to place and bend.

Portland Cement designed the house specifically for migrant farm laborers in Yakima County, Wash. Income level: less than $3,000. The county needs some 8,000 units of durable, extremely low-maintenance housing for families that average six people. Builders and manufacturers work through a local non-profit corporation that draws 90% of its administrative expenses from federal funds.
Concrete panels in metal frames produce a foolproof house shell

Unskilled workmen mastered this system in Puerto Rico, and now it will get a tryout in California. The attractions are 48-hour construction (with six men), and a sales price of under $7 a sq. ft. with appliances and heating.

Key to the system: a fastening method—Panel-Lok—designed and patented by Lockheed Aircraft Corp.

Concrete is poured into extruded aluminum frames that serve first as forms, then as load-bearing columns when the cured panels are erected. The frames contain integral locking bands so designed that panels can be connected by clips driven into joints at 2' intervals. A strip of trim is fastened over the locking bands to cover wall seams (details left).

Roof panels, also joined by the clip method, are sealed at joints with bitumen—the only finish applied to the otherwise bare concrete roof.

The house shell is held together by tensioned tie-rods. They run continuously through roof panels, down each vertical wall joint, and are connected to floor-slab reinforcing at open pockets that are later covered.

Wall panels are 2" thick, 8' high and 4' wide, with a broom finish outside and steel-trowel finish inside. Roof panels are 3½" thick, 13' long, and—because they weigh 1,600 lbs.—must be placed by crane.

Cost varies with design, which is flexible. The under-$7 price mentioned above is for migrant-farmer triplexes—785 sq. ft. per unit—to be built in Wasco, Calif., by Myers Bros. Construction Co., with a grant from HUD.

All-wood foundations simplify do-it-yourself houses for Indians

By eliminating masonry foundations, Battelle Memorial Institute has come up with a house that can be prefabricated and erected entirely by amateur carpenters. The foundation is just a nailed-together column on a wood pad, set in a post hole (details left).

Indians on South Dakota's Rosebud Reservation—average income, $1,500—will build the house under the guidance of Battelle and four federal agencies that are backing it with $1.7 million. House cost, less labor: $3,000 for 620 sq. ft. (plan right).

How good is a wood foundation? It could last 100 years, say researchers at Washington State University—provided it's pressure-treated. Their recommendation: a pentachlorophenol system developed by Koppers Co. It leaves wood odorless and paintable.
Foam-core curtain walls make a packaged prefab easier to handle

Roof of 22-gauge steel panels is erected on posts and beams before walls.

Exposed posts and beam ends serve as trim highlights in exterior design.

Framing post is joined to double 2x12 sill with two 9"-long bolts.

Floor panel of 1½" t&g plywood is backed with polystyrene slab.

Joint connection is designed so floor-panel joint bears on girder.

Sandwich-panel walls are prefinished skins glued to polystyrene.

Boise Cascade designed this system primarily as a way to get Poly/Bord polystyrene into homebuilding. But after experimenting for over a year, Boise announced last month that it would not be selling the house after all, because efforts to market Poly/Bord as residential insulation had been abandoned.

An 864-sq.-ft. model was built at Renton, Wash., with a sale price of $8,900 including appliances and wall-to-wall carpet. It combines steel, wood, and plastic. The roof is 22-gauge corrugated steel stiffened by closely spaced 2x4s, and bolted together in 2' x 14' panels. It is erected before the walls on a simple post-and-beam frame: 3x4 posts topped by 3x10s at outside walls and a 4'-deep girder truss at the center. The truss—double 2x6 chords and 2x4 webs—creates the ridge line and simplifies interior bearing-wall construction.

A shell built entirely of one basic steel panel is how Detroit architects George and William Keck would approach low-income housing. The panel is channel-shaped—4" wide with 4" flanges—and lightweight because it is made of thin 3/16" plate. A welder joins the flanges in one pass, creating structural "T's", and the welds are ground smooth. Estimated construction time for a typical low-cost house: two days.

But the Kecks haven’t applied the system to low-income housing yet. They tried it out in a higher-cost custom home—using a fabricator and workmen who were encountering the panels for the first time—and found that square-foot cost equaled that of conventional construction. The architects are certain that volume production could cut costs to the low-income range.

The system produces a distinctive contemporary house, and its flexible fastening method—welding—offers unlimited plans.
Wood decking for walls, floors and roof cuts out finishing materials

Plank walls are painted white and windows are screened to reflect sunlight.

A shell built entirely of t&g planks finished on two sides gave the University of California's architecture department an easy-to-build—and very distinctive-looking—low-cost house.

The university architects tried two kinds of plank walls. One is a sandwich made of two layers of white-pine t&g 2x6s—one layer vertical, the other horizontal—with vapor barrier between. The other wall is a single thickness of red cedar 4x8s. Both walls are fully loadbearing with the aid of lateral bracing at critical intersections. In the case of the sandwich wall, the bracing is sheetmetal concealed between the two layers of decking.

All-wood interior is provided by exposed surfaces of load-bearing decking.

Systems scorecard: How pure research rates ways to build low-income houses

Only one system passed every requirement set by the University of California's architecture department. The requirements:
1. Minimum labor and materials cost.
2. Adaptability to a variety of house designs.
3. Adaptability to all kinds of climate.
4. Suitability for small houses (about 900 sq. ft.).
5. Feasibility for self-help projects—i.e., minimum skills, minimum construction operations, and easily handled components.

The system that passed: The single-skin shell of t&g planks finished on both sides (see above). Other wood systems rated almost as high, but the university found them less than ideal on one or more counts. Double-skin western frame takes too much skill and too many construction operations. Single-skin western frame is not suitable to all climates. Post-and-beam and stressed-skin systems were judged not flexible enough in design, and not cheap enough.

Systems that scored lowest on the university's scale were thin-shell concrete, space-frame, and triangular networks. They were unsatisfactory on all counts except materials cost.

One non-wood system—cellular-core panels—surpassed some of the wood scores. But the cellular panel—resin-impregnated core with skins of plywood, asbestos cement, aluminum or enameled steel—was rejected because its module is too rigid to permit variety in house design. The scorecard is shown at the right (note: low score wins). On the basis of these ratings, university architects built three demonstration houses in Fresno, Calif.—two of plank and one of double-skin western frame.

The university's choice of construction was determined by comparing the merits of every possible system (box, below). But its design is an architect's attempt to give low-income houses more interest and variety inside, and to make them serve large families more efficiently.

First-time cost—without volume production—was $9 a sq. ft.

<table>
<thead>
<tr>
<th>CONSTRUCTION TYPE</th>
<th>MINIMAL COST</th>
<th>SUITABILITY FOR SMALL HOUSES</th>
<th>TOTAL RATING</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Labor</td>
<td>Materials</td>
<td>Design</td>
</tr>
<tr>
<td>Western frame</td>
<td>1</td>
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<tr>
<td>double skin</td>
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<td>Western frame</td>
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<td>single skin</td>
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<tr>
<td>Post and beam</td>
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<tr>
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<tr>
<td>single skin</td>
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<tr>
<td>Cellular core</td>
<td>1</td>
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<tr>
<td>Stressed skin</td>
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<tr>
<td>Folded plate</td>
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<td>Portable systems</td>
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<td>Concrete (poured</td>
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<td>or precast)</td>
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<tr>
<td>Masonry</td>
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<td>Tilt-up</td>
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<tr>
<td>Network systems</td>
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<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Space frame</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

1 = ideal; 2 = average; 3 = unsatisfactory
A top-quality job can be worth its extra cost

The workman above is adjusting a damper in response to radioed instructions from a second man, who is checking the system with an air flowmeter in another room. This sort of precision has given Contractor Watson Marlowe (left) of Summit, N.J., an air-conditioning business that grosses $500,000 a year, and a reputation for quality that brings in 85% of that business through referrals.

Needless to say, such precision is hardly typical of most air-conditioning systems in merchant-built houses. The reason is price: Marlowe's systems cost an average of 20% more than a minimal system, and so few builders are willing to pay this premium that Marlowe's work is confined almost entirely to new systems in older houses.

But it can be argued that a builder—particularly one in the higher-priced market—would find the 20% premium well worthwhile. He could offer his buyers a quieter and more comfortable system; its appeal is shown by Marlowe's rate of referrals. He would have fewer callbacks; Marlowe finds he needs to schedule only one routine service call a year. And his scheduling would not suffer; even a big remodeling job takes Marlowe less than three days, and new construction would be much faster.

The following three pages show where—and why—Marlowe's extra money is spent. The figures are based on a new $2,300 system in a 3,200-sq.-ft. house (the plan is on p. 112) and do not include remodeling costs.
For $160 more: a well-soundproofed air conditioning system for a big house

The size of the house required a very big cooling system—58,000 Btus and 2,400 cfm of air flow—and so a potentially noisy system. Here’s how Marlowe quieted it down:

Vibration noise was confined to its source—the machinery. The heat exchanger and fan unit was hung from stringers (fastened to the attic collar beams) by means of spring-mounted rods (photo top left). And a prefabricated vinyl connecting joint was put between the fan unit and the main duct to keep vibration out of the duct system. Cost: about $50.

Marlowe uses three devices to cut down air noise. Specifically:

1. Where takeoff ducts are at the end of feeders, the feeder is extended about a foot past the takeoff (above). Result: Air trapped in the feeder extension acts like a shock absorber. Cost: $20.

2. Oversized registers (left) are installed in every room. Result: Air flow slows down as it enters the register box and makes less noise as it leaves the register grille. Cost: $60.

3. Extra dampers are installed in the attic portion of the takeoff ducts. Result: Most of the damping action, with its attendant noise, takes place in the attic instead of at the register damper. Cost: about $30 for three dampers.

For $190 more: a moistureproofed system

Sweating anywhere in an air-conditioning system can not only ruin the effectiveness of duct insulation but also cause damage to the house. To guard against this, Marlowe insulates every inch of his systems, and in many areas, uses extra insulation. Specifically:

The main duct, which is in the attic and hence very vulnerable to sweating, is wrapped with extreme care in a heavier blanket than usual. Its cost: 40¢ a square foot. And instead of taping duct sections together, Marlowe screws them. Reason: taped joints could rattle loose, causing an air leak and a potential sweat area. Cost of insulating and joints: $90.

Fiber-glass ducts, which are self-insulating, are used for all feeders, and where metal ductwork is necessary—for dampers or takeoff stubs, for example—the fiber-glass is fitted around the metal like a sleeve. As a result, feeders are so sweat-proof they can be run right through closets (right) without danger of dampness and resultant damage to clothes. Cost: about $100.
For $21 more: the kind of extras that make call-backs a rarity

Marlowe has found that call-backs can result from inattention to the most routine installation details.

For example, ordinary diffusers, which blow air in all directions, would have caused the picture window shown in the photo above to fog. Marlowe anticipated the problem and installed three-way diffusers which do not exhaust on the side nearest the window.

He also used three-way diffusers for ceiling outlets placed right next to a wall (above right). Otherwise the cool air would bounce off the wall and onto anyone sitting or standing below. In all, 7 three-way diffusers were used in the split level.

Cost: $3 apiece.

Two other touches which are typical of Marlowe's jobs: Two small diffusers were used instead of one large one in the living room to help balance the long room. And in another job (left), the ducts were jammed up against attic knee walls and takeoffs were run under the floor. Result: The owners can finish off extra rooms in the attic.

For $120 more: an air-conditioning system sized exactly to suit each room

Comfort is the raison d'etre of air-conditioning, and Marlowe doesn't want his customers complaining that one room is too cold while another isn't cool enough. Careful engineering allows him to call for—and receive—flows as accurate as 225 cfm in one room and 250 cfm in the next.

The first step is a meticulous study of the house. Marlowe went over this split-level twice before drawing his air-conditioning plan (above). He specified oversized ducts to insure that more than enough chilled air was available (an existing air-conditioning system had to be removed because its ducts were too small).

"I didn't use a room outlet with a diffuser or a takeoff smaller than eight inches," says Marlowe.

Next, the system is adjusted precisely by means of extra dampers in each room's takeoff. Two mechanics with walkie-talkies and air-measuring instruments adjust the flow to Marlowe's exact specifications. Then each damper (above) is locked into position with two nuts. There are 12 such dampers, and they cost $10 each.
And for $73 more: a system that is well hidden inside and outside

The trick is to keep the system out of sight without hiding it so thoroughly that its effectiveness is compromised.

For example, Marlowe had to run an unsightly main duct through a small room to get from one side of the split-level to the other. He hid it inside a functional workbench (above), but he also provided a large enough outlet to make the once-stuffy room livable (plan above). Total cost: $70.

An air return must be centrally located to draw evenly from all parts of a house. Thus, the return in the split-level was placed in the central entry foyer. But instead of cutting it into the ceiling, where the return would have been visible from the living room, Marlowe built it into the wall (right, top).

In another job (right, bottom), Marlowe kept the return in an efficient spot but out of sight by placing it in a hallway ceiling at the top of a central flight of stairs.

On the house exterior, it is usually simple to hide feeder lines from condenser units. Marlowe runs the lines next to the downspout, then covers them with ordinary downspout pipe (far right) which costs about 14 cents a foot. Total cost of hiding lines in the split-level: $3.

Here is Marlowe's advice to builders who want to offer quality air-conditioning

The advice is based on 30 years of air-conditioning experience. And it is of special interest to builders because it comes from a successful contractor who, although he will gross nearly $500,000 this year, has consistently refused to work for builders. He has preferred to grow by building a solid reputation for top quality—something he says he couldn't have done by working with overly-cost-conscious builders. Says Marlowe:

1. Find the best possible air-conditioning contractor well ahead of time. "Good contractors are busy enough to be scheduled up to six months ahead." Marlowe adds, "If you find some one at the last minute who isn't busy—watch out."

2. Keep the house close to schedule. "A busy subcontractor can't afford to work for a builder who keeps him waiting."

3. Use brand-name equipment. "And make sure the manufacturer has replacement parts available locally."

4. Put adequate electric service in every house that might later be air-conditioned. Marlowe prefers 150-amp service. "The buyer won't mind paying the extra $25 or so when he realizes that it would cost him $150 to boost the service later on."

5. Always install warm-air ducts that are big enough for the cooling load. "Builders often try to cut corners by using four-inch ducts, and before long customers are complaining about the air-conditioning. I rarely use anything less than six-inch round ducts—each with air-balancing dampers."

6. In a forced-air heated house, install a circulating fan big enough to handle cooling. "I recommend a fan with 2,000 cfm for an 1,800-sq.-ft. house."
‘Success can kill you if it catches you unprepared,’ says the president of Canada’s mushrooming Alcan Design Homes. ‘And the killers are money and land.’ Here he offers . . .

Six ideas to help the growing builder lick his land and money problems

“The most dangerous time for any homebuilder is that interval between smallness and largeness.” So says John C. Neely, whose Alcan Design Homes, a wholly-owned subsidiary of giant Alcan Aluminum Ltd., is Canada’s fastest growing homebuilder.

The danger is that when a small builder starts to expand, problems in financing and land inventory force him to spend so much time chasing money and land that he has no time for buying, building, and selling—the things he does best.

Statistics point up the perils of expansion. In the first three months of this year, 224 U.S. building contractors failed. Their liabilities averaged only $163,000, indicating that most failures occurred during early growth.

Jack Neely’s credentials for giving how-to-grow advice are unusually solid. Alcan Design Homes has gone from a standing start in 1963 (fewer than 100 units for a volume of $2.5 million) to a predicted $19 million volume in 1966 (650 houses, at an average price of just under $30,000).

The company is now building in five major markets spread over 2,500 miles—Montreal, Toronto, Edmonton, Calgary, and Vancouver—and in 14 different subdivisions (the smallest consists of five townhouses in a high-income Montreal neighborhood). It builds conventional houses (p. 116) with conventional methods (everything is subbed out) and conventional mortgage financing.

All this work is done with a small staff—40 employees, including 11 at Montreal headquarters. Nevertheless ADH turns over working capital 20 times annually, and last year earned 20% on invested capital.

The same management foresight that gave ADH its healthy growth, says Neely, can be adapted by any medium-size builder to stave off the problems that stem from booming sales and sudden growth. Here are Neely’s four basic financial rules:

1. ‘Don’t get yourself locked in with a single banking source’

The builder who develops at least two different sources for his commercial banking is protected against the chance that one of them may be temporarily unable to meet his needs. And when money is not as tight as it is today, competition between lenders will help him hold down his financing costs.

“Like building materials, money is a commodity,” Neely notes. “You can shop for the best buy.”

ADH uses six Canadian commercial banks in the five markets where it builds, and these bankers are already aware of possible financing demands by the company in the next few years.

Neely also advises builders to use separate sources for their construction financing and permanent mortgaging. The reason: “If all your borrowing is through one source, and money tightens up for him, you get cut off from both temporary and permanent financing. With different lenders, you might be able to get temporary bridging money while you shopped around for your takeout mortgages. Or if you had takeouts from one lender, you could go looking for construction funds with these commitments as security.”

Although ADH places mortgages with every major permanent mortgagee in Canada, it does not look to them for construction money. Instead, it does all its interim financing through commercial banks, taking short-term business loans like any other commercial enterprise.
2. ‘Your signed contracts are the key to lowest-cost borrowing’

Builders should remember, says Neely, that a signed contract from the homebuyer—backed up by a firm mortgage commitment from a permanent lender—can be almost as much a receivable as a General Motors order for auto parts or a Macy’s order for men’s shirts. Banks can be persuaded to make short-term business loans against collateral, and the builder will not have to make draws against the mortgage, which normally carries a higher interest rate.

And uses all its signed contracts (its houses are pre-sold from models) as receivables and borrows the full amount of each mortgage at the current Canadian prime rate of 6%. The loan is a revolving one—new contracts are credited, and any cancellations are debited from the total.

Since mortgages in Canada now carry a 7 1/2% rate, it is 1 1/2% cheaper for Neely to borrow this way. In the U.S., the spread is similar but smaller—conventional mortgage rates range from 5 3/4% to the West Coast’s 7%, and the prime business rate is now 5 3/4%.

Neely points out that this method of interim financing applies only to pre-sold houses—it cannot be used for models or speculative houses, which are not true receivables because they are built without a signed contract or a mortgage commitment. What’s more, it demands an informed, confident, banker-builder relationship (see below).

An extra advantage of this financing method is freedom from the delays and extra costs of the inspections and certifications that go with construction loans or draws against the mortgage. And, depending on the credit rating of the builder, a short-term loan may escape the fees charged to construction loans.

3. ‘Tell your bankers everything they must know to help you’

Advises Neely: “I would bring to these lenders a thought-out program for the next three to five years, including an estimate of my financing needs at every step along the way. Bankers should not only understand your program but also sympathize with it and feel confident of your ability to carry it out.”

Confidence comes from performance, of course, and the best proof of performance is a monthly profit and loss statement given voluntarily to the lender. Says Neely: “A series of favorable statements will come in handy after you have had a few bad ones and need money. But for some reason, many builders hate to make full disclosure to their lenders unless they are in trouble, and then the more they tell, the worse it looks. A banker likes to be in on the flight plans, not just the crash landings. Since undercapitalization is going to be a way of life with you as long as you are a homebuilder, your relationship with your banker will be continuous. And he has a right to know as much about your affairs as you do.”

Most builders find that a monthly profit-and-loss statement has a second value: It forces them to straighten out their own problems before serious trouble develops.

Neely practices what he preaches. Each of the five ADH divisions is a so-called ‘profit center’ with its own separate profit and loss statement. These running scorecards are checked constantly by the headquarters auditing staff. Actual cost figures are compared with previous estimates, and wherever the projections have been exceeded, they must be explained. For example: If a house is using more material than was budgeted, the manager must know if this represents a bad estimate, wasteful installation, or theft, and he must take the necessary corrective steps.

4. ‘Don’t be afraid to sell equity to get the capital you need’

Borrowing on the best possible terms depends partly on credit rating but more heavily on a strong equity capital position. Neely admits the advantage of his Alcan backing but insists that many builders ignore possible sources of equity capital.

“Friends, family, suppliers, syndicates and partners are all possible sources of money,” he says. “And the builder should tap them if such extra capital will permit a profitable growth that would not otherwise be possible.”

Although builders historically have resisted any watering down of their ownership and authority, it is getting harder and harder to build capital out of retained earnings. The extra strength given to a balance sheet by an infusion of equity money is a great convener to potential lenders, and no businessman should object to sharing profits with outside capital that made those additional profits possible.

Adds Neely: “Having partners also forces your operation to be more efficient and profitable. One common weakness in homebuilding is unprofitable construction that is hidden by a profit on land. It’s easy for a builder to fool himself about where his profit is coming from.

“Of course, taking in outside capital means accountability to the other owners, plus a rein on your own freedom. But an unwillingness to accept other opinions or compromises may well be a sure sign of eventual failure.”

As important as money is, the hardest raw material for any builder to replace is developed land. And, says Neely, if a growing builder runs short of land, a boom in sales can put him out of business.

Neely has two suggestions for builders who want to assure themselves of a steady supply of finished lots at prices they can afford:

‘Draw up a land-need blueprint for several years ahead’

To the objection that it is difficult to predict land requirements three to five years in advance, Neely replies, “You must schedule your growth, not let it schedule you.”

Since most builders cannot tie up the capital needed for long-term land buying and developing, Neely advises them to form combinations with other builders, lenders, syndicates, or investors to option, buy, and develop land on a schedule geared to the building operation. The individual builder doesn’t have to be big enough to buy all the lots in the developed land; what he doesn’t need can be sold off to other builders. But the development company has his firm takeout as the backbone of sales success.

Alcan Design Homes did just that. Rather than pour huge amounts of Alcan capital into land buying and development, Neely formed a land development company, Markborough Properties Ltd., and enlisted the backing of some 20 of Canada’s leading institutional and commercial companies. (The parent aluminum company owns only a minority interest.) Mar­borough buys and develops land for sale to ADH and other builders at negotiated prices and on schedules the builders have agreed to. Right now, ADH has its finished lots guaranteed for the next three years.

‘Help the land developer get the financing he needs’

Neely urges builders to cooperate closely with their land developers in the initial stages of land purchase. A firm commitment from the builder to take a certain number of finished lots at a certain price can be the very guarantee that will clinch a development loan for the land owner. If other builders add their commitments, the developer will have an assured market that will give him access to funds and terms that he never could get if the subdivision were completely speculative in approach.

An example: ADH recently committed itself to buy $6 million worth of finished lots from a Toronto owner of raw acreage. With the agreement in writing, ADH went with the developer to his bank and helped him negotiate a $4 million development loan to put in improvements. The loan was at a better interest rate than the owner could have gotten without the commitment, and the saving in financial costs was reflected in a lower price per lot to ADH. And the guaranteed supply of lots at fixed prices gives Neely a basis for planning several years ahead.

Another sweetener to the lender: Neely
agreed that as he took up his options he would remit a percentage of each lot price directly to the lender, thus reducing the indebtedness on the remaining property.

**Why Alcan is succeeding where other product manufacturers failed**

The litany is long and sad: Alside, Union Carbide's Qualstan, U.S. Steel Homes, Koppers, Alcoa, Reynolds, and Armco—all of them leading producers and all disappointed in their efforts to market single-family houses.

By contrast, the growth of Alcan Aluminum's homebuilding subsidiary has been steady and impressive. Much of this success stems from differences in approach between Alcan Design Homes and other producers. For example:

*ADH is not a subsidized operation that is justified by the sale of aluminum.* Says President Neely: “We see homebuilding as a way of creating a favorable environment for aluminum building materials and products, but our division stands or falls on its own balance sheet. We are expected to give Alcan a normal—or better—return on the capital it has invested in us.”

*ADH uses the parent company's product—in this case aluminum—only where it makes economic and marketing sense.* "We're not confused by the fact that Alcan owns us," says Neely. "Of the 1,500 houses we have built, some 95% have been solid masonry homes that the local markets demanded.”

But wherever siding is used, it is aluminum, as are gutters, downspouts, flashing, soffits, windows, and sliding doors. And, as a matter of fact, ADH now uses an average of 2,000 lbs. of the metal per house against a previous average of only 40 lbs. (Fabricators supplied by Alcan must compete against fabricators who use other aluminum companies’ output.)

Where the metal is not competitive, there is no demand that it be given preference. In part of Canada, for example, aluminum heating ductwork is a specialty item, while galvanized steel is standard. Since the homebuyer will not pay the extra cost, ADH uses galvanized. When aluminum becomes competitive, it will replace steel.

*ADH keeps its corporate overhead low.* Each of the five ADH divisions budgets 1.8% of sales as its share of corporate overhead, a figure that is revised each year to insure its accuracy. Since ADH is an autonomous subsidiary of Alcan, it does not bear a proportionate share of the parent company's overhead, but needs only to return a profit on invested capital. Although Neely is accountable to the Alcan board, the building operation does not require the time and attention of Alcan executives on a day-to-day basis.

Overhead of the five divisions (including an ad budget of only $143,000) is 2.2% of sales, and direct sales costs are another 1.2%. So total sales and overhead costs come to only 5.2% of sales.

*ADH pushes authority and responsibility to their furthest limits.* Each division is set up as a profit center under a manager who is almost as independent as a self-employed builder. He hires all subcontractors, buys all materials (although company headquarters negotiates for some standard, nationally distributed products), oversees all work, handles sales, and hires and fires everyone below him. In return he is paid a salary plus a share of his division's profits. (In fact, all ADH employees, even down to stenographers, share the profits of their own operation.)

Says Neely: “We give our managers everything they say they want or need to do the job. Then we demand from them strict accountability for performance. If you jam something down a guy's throat, he has an excuse for nonperformance.”

Headquarters provides most design services. But, Neely points out, the local manager has “about a 90% voice” in the models and floor plans for his projects. Reason: He has to do the selling, and he should know what his buyers want and need.

*ADH builds conventional houses for buyers with average tastes in design and plan.* None of its designs are strongly competitive or temporary. And, except for some models with a distinct French-Canadian flavor, most of the company's houses would be at home in most U.S. cities. In fact, Neely and his staff travel widely to U.S. subdivisions to keep abreast of changing styles and amenities. One result of these trips is a Spanish-style model which, though previously unfamiliar to the Canadian market, is already a favorite with ADH buyers.

*ADH holds its capital investment in land to a minimum.* The company's land buying and developing arm, Markborough Properties, is owned by a long list of blue-ribbon financial and industrial giants, including Air Canada, T. Eaton (department stores), Canadian National Railways, and all of the major Canadian life insurance companies.

Markborough uses ADH’s contracts to buy lots to get development loans (see above); the building company does not have to tie up huge amounts of capital in land. Instead, land is bought as it is needed, and working capital is turned over fast in the construction and sale of houses.

What about ADH’s future? Within weeks, eight prototype prefab houses will be delivered to Toronto and Montreal sites (News, July), with price tags under $10,000, not including land. Public housing authorities in Ontario and Quebec are obvious markets for the units, as are lower-middle-income families. If Neely can deliver these appliance, carpeted, and largely furnished houses at the projected prices, if he can solve union and/or code problems, if he can get the cooperation and acceptance of the communities that need low-income housing, ADH may be entering a growth period that will make the first four years look modest. Perhaps it will become the first Canadian company to enter the charmed circle of homebuilders who build more than $30 million in new housing each year.
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In a recent series of tests by an independent laboratory, two pieces of our weatherstripping like those above were placed in a sliding glass door and subjected to water infiltration according to AAMA testing procedures. The silicone-treated Poly-Pile* sample prevented seepage in the door track **twice as long** as the untreated one.

A second set of samples was subjected to 20,000 strokes with an aluminum abradant in a Stoll Wear Tester. After this kind of wear, silicone-treated Poly-Pile weatherstripping still held a bead of water for 15 minutes. The untreated sample absorbed water immediately.

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Pretty conclusive evidence, isn’t it? Silicone treating dramatically affects the performance of synthetic-pile weatherstripping. That’s why every foot of prime window Poly-Pile weatherstripping by Schlegel is silicone treated and will continue to be.

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In some areas contractors are applying Tuff-Lite on the job. It trowels on smoothly and evenly. Just a $\frac{3}{4}$" layer is all that's necessary. Will adhere to practically any substrate—concrete, brick, wood or other surface. Aggregate can be seeded immediately. And Tuff-Lite holds aggregate in place until matrix has cured. Conforms to almost any surface shape whether round, flat or square. Can even be troweled overhead. Available in any color, Tuff-Lite retains that color, remains clean and bright. Requires no maintenance. Withstands temperatures from $-40^\circ F$ to $120^\circ F$ and higher.

In other areas of the country, contractors are using pre-formed lightweight panels (as below) to give completely finished exterior or interior walls to homes and other buildings. These pre-fabricated panels are available from licensed Fuller Tuff-Lite applicators.

Give your homes a distinctive look, a 'selling' look. Check into Fuller Tuff-Lite Epoxy Matrix. You'll find it the key to a totally new construction technique. Write for more information.

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Fiberglass masonry saves money—but not because it's cheaper than the real thing

The savings lie in the installation cost—not in the cost of the material. Items:

1. Fiberglass masonry is lightweight—0.9 to 1.5 lbs. per sq. ft.—so unlike real brick or stone, it requires no footings or special wall construction.

2. Fiberglass masonry doesn't use up critical wall space—it adds only a fraction of the thickness (3/8" to 2", depending on the style) of real masonry.

3. Fiberglass masonry can be applied in any kind of weather because it isn't dependent on mortar consistency.

4. Fiberglass masonry can be prefabricated in a shop.

But perhaps the most important advantage is that fiberglass masonry requires no job-setup time. It is ready to apply as soon as the panels—roughly 4'x8'—are delivered to the job site. Carpenters apply it with 11/4" shingle nails, then hide the nail heads and joints with a matching-color compound activated by a catalyst.

The lack of setup time is a big cost-saver on small jobs. Example: Two sheets of fiberglass brick contain 488 bricks—a day's work for two masons if setup time is included—but can be installed and finished in less than an hour.

As job size increases, however, fiberglass masonry becomes less competitive with real masonry. Reason: masons' setup time is absorbed in a big job, so the cost of the material becomes the deciding factor—and brick generally costs less than a fiberglass imitation.

Fiberglass masonry becomes very competitive in stone-face styles (photos). In Connecticut, for example, in-place costs for fiberglass field stone are as low as $3.25 a sq. ft.—compared with $5.50 to $6.50 a sq. ft. for the real thing.

And to make fiberglass masonry still more desirable in terms of both installation cost and feasibility, the manufacturer is adding a new kind of panel adhesive that stays resilient down to minus-40°F. Cavrok, Hartford, Conn.

Circle 295 on Reader Service card

Radiant-heat drywall—one layer does the job

As the photos show, this simple heating system consists of 5/8" gypsum wallboard applied to ceilings with conventional wallboard-hanging techniques. The board, which has electric heating cables embedded in its core, is nailed directly to ceiling joists—no insulated nails required—and joints and nail heads are finished in the usual manner.

Each wallboard panel is a self-contained, separate heating unit with a 12' non-heating lead. Leads are connected in parallel to a 240-volt circuit during installation, and wired to a single thermostat. Conventional 5/8" wallboard panels are used side by side with the radiant panels to distribute heating surface and keep it to required minimums.

Panels come in seven models with guidelines for nailing. All panels—except the 4'x4' size—have up to 15" of trim area at sides and 32" at ends. Brand name: Rayboard. National Gypsum, Buffalo, N.Y.

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Pictured above—Floor: Bruce Fireside Plank. Wall: BrucePly Colonial Cherry Paneling.
Baths

Wide-spread faucet fitting with acrylic crystal handles is adjustable from 8" to 15" centers, and can be mounted on marble tops up to 2¼" thick. Also available for tub and shower combinations. Harcraft Brass, Torrance, Calif. Circle 261 on Reader Service card

Low water closet incorporates pushbutton flushing action. The saddle tank syphon jet model is only 26½" high, has an anti-syphon ballcock, and requires 12" rough-in space. Comes in white and choice of colors. Briggs Mfg., Warren, Mich. Circle 266 on Reader Service card

Bathroom vanity — 36"—encloses oval porcelain-on-steel basin in molded plastic counter-top. It has solid core door and drawer fronts with one-piece maple faces. Fixtures are chrome-plated brass. Finish: tawny maple. Brammer, Davenport, Iowa. Circle 263 on Reader Service card

Counter-top lavatory of enameled cast iron incorporates concealed front overflow drain. Diameter: 18". Colors include apricot, tomato, larkspur, avocado, fern, butterscotch, cocoa and five pastels. Universal-Rundle, New Castle, Pa. Circle 260 on Reader Service card

Self-rimming lavatories accommodate any 4" center-set fittings. Available in three models: 19" round (top), 20"x17" oval (center), and 20½"x16½" rectangle (bottom). Colors include pink, blue, turquoise, jade, and yellow. Crane, Chicago. Circle 264 on Reader Service card

Electric built-in clothes dryer fits flush with finished wall in standard stud space. Dimensions of all-steel cabinet: 4"x14"x60". Equipment includes fan, electric motor, timer and thermostat. U.S. Metalite, Lafayette, Ind. Circle 262 on Reader Service card

Cultured marble surface for countertops, floors, and walls has colorful imbedded finish. Manufactured surface resists stains because it is not porous. It is less likely to break than quarry marble, and is easily repaired. Polylkrystalon, Houston. Circle 265 on Reader Service card

New products continued on p. 145

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FOR THOSE WHO CARE ABOUT QUALITY...

There's always "that certain quality" ingrained in the fine things of life that are "unmistakably the best." Recognizing this, more and more of the nation's leading builders, dealers and architects are specifying Kirby pine plywood and lumber products. Kirby's famous qualities of straightness, strength and dryness assure maximum performance in all residential and commercial environments. Builder and dealer inquiries are invited. Kirby Lumber Corporation, P. O. Box 53029, Houston, Texas, 77052. Phone: 713-225-0421.
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OOPS! ... HE WAS THERE A MOMENT AGO

SPEEDY LITTLE FELLOW, ISN'T HE?

Here's how he works. There are 34,000 post offices in the United States. No one could be expected to know the exact location of every one. So, mail often must be sorted several times . . . first by section of the country, then by state, then by different areas of the state, then by city, etc.

However, an address with ZIP Code immediately tells the mail clerk which major post office (or sectional-center) is closest to the final destination. This can eliminate several time-consuming and expensive sortings.

With fewer sortings, mail moves faster and more efficiently . . . and at less cost too. Cost and efficiency are important because the U.S. is in the midst of a mail explosion. Seventy-two billion pieces of mail will be delivered this year.
BUT YOUR PROSPECTS WILL BE MIGHTY LIMITED!

TODAY, 85 MILLION PEOPLE KNOW ABOUT OIL HEAT.
AND EXPECT IT IN THEIR NEW HOME.
OUR NATIONAL ADS MAKE SURE OF THAT!

True, our national ads haven't captured much of the Eskimo market.
But they're powerful stuff with the more likely prospects.
Like the 85 million comfort lovers tuned in to oil heat advertising, month after month, in Life, The Saturday Evening Post, American Home, Reader's Digest, and Better Homes and Gardens.
They know oil heats better. Faster. Heats water three times faster than any other fuel. They know oil heat is safe. Clean. Dependable. Economical. Makes a house better to live in—and a better value if they ever sell.
That's why oil-heated homes sell faster.

Everybody profits!
The buyer.
And the builder!
With oil heat you build where you want; you're not tied to high-priced land. Build when you want; no waiting for mains or laterals to be run. Save $40-$50 per house when unsold homes must be heated in cold weather. Avoid expensive call-backs: the oil dealer takes over service and maintenance.
Your oil dealer's a good man to know. Know him! And know what oil heat can do for you! Write National Oil Fuel Institute, Inc., 60 E. 42nd St., New York, N.Y. 10017.
**Built-in oven and range top** come in seven colors including avocado and coppertone. Oven has a removable bottom. Surface units range from 26" to 33" (plus a 42" model with barbecue grill). Tappan, Mansfield, Ohio. *Circle 238 on Reader Service card*

**Pilotless gas range** remains cold when off, yet ignites top burners, oven, and broiler electronically within two seconds after range is turned on. Model is available in white, shaded coppertone, and walnut-veneer finish.

Sears, Chicago. *Circle 232 on Reader Service card*

**Washer/dryer combination** has special cycles for permanent-press fabrics. Washer has four spins and seven cycles; dryer has two-speed tumbling and automatic heat-minding system. Colors include two-tone green.

Frigidaire, Dayton, Ohio. *Circle 230 on Reader Service card*

**Corner cabinet**—a 90° lazy susan—has bifold door that swings open free of the shelves. The open door lies flat in front of adjacent cabinets. Features: adjustable, sliding shelves; self-closing drawers.

Long-Bell, Portland, Ore. *Circle 240 on Reader Service card*

**Range hood**—with 200 cfm impeller fan—may be ducted horizontally or vertically through 3½"x10" duct. Hood has aluminum mesh filter and enclosed light. Colors include copper, white, turquoise, yellow, and beige enamel.

Nutone, Cincinnati. *Circle 231 on Reader Service card*

**Eye-level gas range**—36" wide—features two ovens, three broilers, rotisserie, and Teflon griddle. Burner in top oven can be adjusted to broil or bake. Unit can be left free-standing or built-in. Four models, six colors.

Wedgewood, Culver City, Calif. *Circle 233 on Reader Service card*

**Surface range**—36" wide—incorporates a barbecue well with grill, and griddle. Also: infinite-heat rotary controls, two 8" high-speed units, and an appliance outlet. Finish: brushed chrome.

Hotpoint, Chicago. *Circle 234 on Reader Service card*

**NEW PRODUCTS**

*start on p. 135*

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Hotpoint, Chicago. *Circle 234 on Reader Service card*
NEW PRODUCTS
start on p. 135

Tools & equipment

Compact backhoe for narrow places digs a 5'6"-deep trench 16" wide, and weighs slightly more than 1,000 lbs, so it can be transported on a pickup truck. Controls are operated by hydraulic pump, Gravely, Dunbar, W. Va. Circle 212 on Reader Service card

Spike driver for prefabbing wood subassemblies takes 10d or 16d "J" spikes (closeup, right) in taped clips of up to 180. Air-powered driving head nails one or two spikes at a time. Lumber is automatically straightened. Triad, Minneapolis. Circle 215 on Reader Service card

Self-leveling backhoe, designed for the manufacturer's own crawler tractor, has hydraulic cylinders that tilt the tractor's upper structure to a level position on slopes of up to 20%. Digs to 11' deep. Davis, Wichita, Kans. Circle 217 on Reader Service card

Framing hammer for heavy-duty nailing comes in three weights—20, 28, and 32 oz—with plain or checkered face. Extra-long hickory handle comes in choice of 14", 16" or 18". Leather holster is extra. Stanley, New Britain, Conn. Circle 213 on Reader Service card

Long hand pump—for removing liquids from post holes, catch basins, and underground utility vaults—has a pumping length of 6' and removes a gallon of liquid with each stroke. Constructed of polyvinyl chloride. Beckson, Bridgeport, Conn. Circle 214 on Reader Service card

Portable soldering torch uses self-contained, miniature compressed-gas cylinders. Using standard-size soldering tips held in tip adapter, it produces a pinpoint flame of more than 5,000° that also welds. Microflame, Minneapolis. Circle 216 on Reader Service card

Lightweight tamper, hydraulic-powered, is an attachment for the manufacturer's trenching machines. Hookup is accomplished by snap-lock hose fittings. The tamper comes with three quick-change shoes and weighs 25 lbs. Brown, Omaha, Neb. Circle 218 on Reader Service card

Machine-gun stapler drives a complete magazine load of staples automatically when the trigger is pressed once. Fires from one to seven staples per second. Spacing of staples depends on how fast stapler is moved across work. Senco, Cincinnati. Circle 219 on Reader Service card

New products continued on p. 148
HILITE IS READY WHEN YOU ARE

Wherever you are. Coast-to-coast. Three huge main plants, half a dozen secondary plants, a dozen warehouses, fleets of trucks. A thousand stocking dealers.

And they aren’t about to lose your business for lack of service. They know everything else is going for them: Hilite volume, Hilite price-options, the full range of quality Hilite aluminum products, from sliding glass doors to windows of all kinds, to wardrobe doors and tub or shower enclosures. Champagne Pale Gold and other protective finishes, adjustable handles, convertible after installation, you name it, Hilite has it ready for you. Hilite dealers can make you a package price, produce exactly what you want exactly when you want it. They can’t afford to do anything less; it’s their own business. Get a Hilite package price . . . it’s your profit.

ADOR/HILITE WESTERN
2601 W. Commonwealth Ave., Fullerton, California 92633

AIRCO/HILITE CENTRAL
900 West Central Avenue, Toledo, Ohio 43610

LOOK/HILITE SOUTHERN
P.O. Box 911, Millen, Georgia 30442

*Made of quality Reynolds aluminum.
**Solid vinyl tile** combines Spanish, Moorish, and Roman themes, and blends with traditional or contemporary settings. Tile—1/8" thick—comes in 12" squares, and five colors: beige, red, brown, gold, and white. Kentile, Brooklyn. Circle 200 on Reader Service card

**Low-cost linoleum** comes in a series that simulates natural vein of marble. In three colors—beige, ivory, and white—with blue and green accents. Series comes in 6'-wide sheet form and in 12" square tiles. Armstrong, Lancaster, Pa. Circle 201 on Reader Service card

**Cushioned vinyl flooring**—with inner layer of foam vinyl and clear vinyl surface—requires no adhesive. Flooring—in 6', 9', and 12' widths—comes in large stone pattern and in herringbone bricks. Mannington Mills, Salem, N.J. Circle 204 on Reader Service card

**Vinyl asbestos tile** comes in four embossed patterns: travertine, wood, marble, and pebble. Pattern is enhanced by background mot­ting of the tile as well as by the embossing. All four are available in 9" squares. Azrock, San Antonio. Circle 202 on Reader Service card

**Vinyl flooring** features sculptured brick design in a variety of colors. The design is available in 72" sheet with special backing, and in solid-vinyl 12" square tiles. Flooring can be used above or below grade. Goodyear, Akron, Ohio. Circle 203 on Reader Service card

**Vinyl runner** for model houses is 1/16" thick, lightweight, and resistant to wear. It is offered in a mosaic non-skid pattern in black, brown, green, beige, and gray. Standard width is 36", in rolls 25 yards long. Robbins, Tuscumia, Ala. Circle 205 on Reader Service card

**Vinyl runner** for model houses is 1/16" thick, lightweight, and resistant to wear. It is offered in a mosaic non-skid pattern in black, brown, green, beige, and gray. Standard width is 36", in rolls 25 yards long. Robbins, Tuscumia, Ala. Circle 205 on Reader Service card

**Ceramic floor tile** is recommended for use in entrance halls, lobbies, dining areas, and enclosed patios. Tile's glazed sur­face needs no waxing. Interlock­ing design comes in five colors: gold, sage, blue, rose, and silver. Cambridge, Cincinnati. Circle 206 on Reader Service card

New products continued on p. 150
Slips right in between wall studs 16" on center. Or can be surface-mounted using accessory kit. Grille is detachable for easy cleaning.

Cross-flow blower (A) pulls in cool air at bottom and pushes it out through heating element (B) at top. Sensing bulb (C) on thermostat models.

Compact unit produces up to 8533 BTU/H. while grille temperature averages 30° lower than competitive heaters.

- Very quiet; ideal for homes, apartments, motels, offices
- Available with or without thermostat (bulb-type line voltage)
- Beige finish blends with any decor
- Budget priced—economical to operate
- Easy to install; fan motor wired in series with heating element
- Rough-in size: 14¾" x 8¾" x 4½" deep. Grille: 15¼" x 9"
- Guaranteed 5 years. 240 volt or 208 volt.

MAIL TODAY FOR DATA

Hunter Division, Robbins & Myers, Inc.
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Please send full information on the new Hunter HIDE-AWAY Electric Wall Heater to:

Name
Address
**NEW PRODUCTS**

*start on p. 135*

**Heating, cooling, ventilating**

**Compact electric furnace** comes in four models—34,000 to 85,000 Btuh—in a universal cabinet 36" high, 15" wide, 28" deep. Cooling may be added quickly by installing matched coil and outdoor condenser. Airtemp, Dayton, Ohio. Circle 280 on Reader Service card

**Air-cooled condenser** for low-silhouette roof-mounting comes in two sizes with direct-drive fans. Unit consists of three fans with independent motors, and two-section condenser coil. For 7½- to 30-ton air-conditioning. McQuay, Minneapolis. Circle 283 on Reader Service card

**Hot-water circulator** for hydronic heating systems contains a unitized shaft housing that can easily be removed for servicing or replacement. Other features: an over-sized pump shaft and a flexible coupled motor. Deming, Salem, Ohio. Circle 284 on Reader Service card

**Steam radiator** for baseboard mounting consists of 1¼" steel pipe with steel fins, costing much less than cast-iron baseboard. It offers room-by-room damper control. Rating per linear foot: 980 Btu. Slant/Fin, Greenvale, N. Y. Circle 286 on Reader Service card

**Sauna heater** hangs on a wall bracket and can be connected directly to 120-volt house current. The unit contains two thermostatically controlled heating elements with enough capacity for rooms up to 4'×4' in size. G.E., LaGrange, Ill. Circle 281 on Reader Service card

**Wall-hung boiler** for hot-water heating systems takes no more space than a small television set. Core of the unit is a heavy-duty 1/4" boiler-plate heat generator. Available model capacities: 20,472 to 68,260 Btu. Electromode, Auburn, N.Y. Circle 282 on Reader Service card

**Under-cabinet heater** is a plug-in hot-water unit only 3½" high, 22" wide, 14" deep. It slips into the toe space beneath kitchen cabinets or bathroom vanities. Electric heating element is sealed in copper tubing. Int'l Oil Burner, St. Louis. Circle 285 On Reader Service card

**Electric cornice heater** fits into the angle of wall and ceiling. Suggested uses: over kitchen cabinets, on window walls, over doors. Unit consists of 850-watt steel element in 40" housing. Vitratherm, South Norwalk, Conn. Circle 226 on Reader Service card

**Electric-heat thermostat** mounts flush to the wall and offers simple hook-up options that permit easy matching to wattage loads. Snap-action switching eliminates burning of contacts and reduces television interference. Hotpoint, Chicago. Circle 227 on Reader Service card

*New products continued on p. 152*
YESTERDAY:
Floors were laboriously laid tile by tile.

TODAY:
Torginol experts pour entire floors out of cans!

Torginol seamless-waxless flooring — a product of space-age chemistry — offers classical beauty and 20th century practicality. Competitively priced with conventional flooring it is easily installed by trained applicators. It appeals to the modern homemaker because it offers her complete decorating freedom with unlimited colors and designs. And, because it's seamless and waxless it reduces her maintenance time to the quick swish of a damp mop. It's easy on her feet, will outlast other flooring and in addition is virtually scuff, stain and skid proof. She can use it in her entry way, kitchen, bath, rumpus room and on her patio and sundeck — even poolside. Because its broad expanse is completely seamless she never has to worry about spilling anything. Even after years of use in heavy traffic areas it will retain its deep-set brilliance.

Builders, flooring dealers, applicators and salesmen like it because there is nothing else that does the job as well. It sells faster at a higher profit. There are 5 Torginol plant facilities coast to coast and over 15,000 trained Torginol applicators to help you with your flooring problems. For detailed information without obligation and a FREE full color brochure, fill in the attached coupon.

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Circle 96 on Reader Service Card
HOW CAN ANYONE MAKE A 50% MARKUP ON HOMES?

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OVER 100 SALES-PROVEN MODELS!

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- Company in business over 1/4 Century

Every Lindal Structure is precision pre-cut from fine Canadian Red Cedar, packaged for quick assembly — shipped anywhere in the world.

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Vertically laminated beams of Idaho white pine come in three grades and a wide choice of depths and widths. The selection above includes rough-sawn with stain (center) and a five-ply premium beam. Potlatch, San Francisco. Circle 207 on Reader Service card

Truss connector of 19-gauge galvanized metal is designed for trusses of 20’ to 50’ span. Teeth are angled 20° to compensate for directional load factors. Must be applied by hydraulic press, available from manufacturer. TECO, Washington, D.C. Circle 208 on Reader Service card

Stainless-steel rebar for supporting concrete reinforcing offer an advantage over plastic-coated rebars. They permit grinding of concrete surfaces without danger of rust stains appearing at a later date. Dayton Sure-Grip, Miamisburg, Ohio. Circle 209 on Reader Service card

Under-slab vapor barrier of reinforced plastic fabric is unusually strong compared with average plastic films. It resists rips, tears and punctures under the weight of both workmen and wheelbarrows. In flat sheets and rolls. Griffolyn, Houston. Circle 210 on Reader Service card

Helical nails have a fully twisted shank that gives up to three times more holding power than smooth shanks. Available in all sizes and five types, including bright general purpose, quench hardened flooring, and truss. U.S. Steel, Pittsburgh. Circle 211 on Reader Service card

New products continued on p. 154
RIGID URETHANE FOAM UNIFIES PLASTIC AND METAL STRUCTURAL COMPONENTS INTO STRONG, EASILY ERECTED, INSULATED MODULE

Using rigid urethane foam-filled prefabricated aluminum wall and roof sections, two men reportedly can erect a complete 432 sq. ft. building or add a 12' x 36' room to an existing structure in less time than it usually takes to put in the wall studs by conventional building methods.

Developed by the Security Aluminum Co., Detroit, the wall system is composed of foam-core sandwich panels, 4 ft. wide and up to 16 ft. long. The thickness of 51/3 inches was chosen as a coordinate module of the standard 16-inch building dimension on which all the structural design features are based.

The panel skin is 0.032-inch vinyl-coated aluminum sheet, finished on exposed sides. The studs or cross members are of extruded vinyl, specially slotted to interlock with the aluminum sheet to maintain uniform spacing between the skins prior to foaming, and to impart some rigidity to the finished panels.

But the essential element of the whole idea, according to the manufacturer, is the rigid urethane foam core which provides structural properties that exceed building code requirements for snow and wind loads in any part of the country and a U factor of 0.03—equal to 16 inches of glass fiber.

Other advantages of the urethane foam contribute measurable benefits to the end user. The owner gains by elimination of maintenance expenses caused by corrosion, rotting, rusting, cracks, leaks or termites; lower insurance rates owing to the nonburning classification of urethane foam (ASTM 1692-59T); and lower heating and cooling costs due to its near-perfect insulating properties.

Using factory mass production methods, the panels are fabricated in 10 to 12 minutes each. The metal skins and plastic cross members are assembled in forms with doors and windows set in place. The urethane formulation is then injected into the box void formed by the facing skins.

As the urethane foam expands, it envelopes the internal bracing members and completely fills every space. As the foam hardens, it forms a permanent bond with the aluminum skins to create a strong, fully insulated, monolithic structural unit.

Advantages of Foam Core Wall
- Adaptable to residential and commercial buildings
- Stronger, more rigid than conventional structures
- Offers architect complete design freedom
- Provides excellent sound barrier
- Erected easily, quickly and economically
- Excellent barrier for heat, cold, moisture
- Eliminates maintenance problems

During the initial foaming operation, a 2½-inch void is left on either side of the panel. When the panels are connected at the job site, plumbing, wiring and other fixtures are installed in the 5-inch space, which is then filled with urethane foam to unify the entire wall.

Further information on this application may be obtained from Security Aluminum Co., 385 Midland Ave., Detroit, Mich.; or Callery Chemical Co., Callery, Pa., manufacturer of chemical system.
NEW PRODUCTS

start on p. 135

Lighting

Hand-forged wrought-iron chandelier has six flame-shaped candelabra lamps. Chandelier is 25" in diameter, with a 23"-high body and an overall height (including chain) of 42". Lighting Corporation of America, Philadelphia. Circle 270 on Reader Service card

Adjustable unit for 250-watt single-ended iodine quartz lamp features a cast or spun aluminum shade. Threaded stem unit has spring-tension swivels that stay put at any angle. In silver glow or brushed satin aluminum. Swivelier, Nanuet, N.Y. Circle 271 on Reader Service card

Side-mounted spotlight—constructed of extruded and die-cast aluminum—can rotate in a full circle around its vertical and horizontal axis. Two diameters: 5" and 6". Exposed parts are brushed aluminum. Prescolite, San Leandro, Calif. Circle 272 on Reader Service card

Wall-mounted fluorescent fixture—designed as an illuminated showcase—is one of six fixtures in a decorator line that adapts to a variety of residential applications. Fixture features simulated-walnut wood trim. Sylvania, New York. Circle 273 Reader Service card

DELTA

SINGLE HANDLE BALL FAUCETS

Created for those who prefer the absolute finest in dependability, style, convenience and variety. Delta faucets are proven in millions of installations throughout the country. There are over 450 model applications to satisfy your every exigency. Specify DELTA . . . the greatest name in faucets.

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IN CANADA: Delta Faucet of Canada Ltd. • Rexdale, Ont.
How Geon vinyl helps Andersen Perma-Shield Windows promise “lifetime maintenance savings”

They call this the window “that does not need painting. Nor scraping. Nor rubbing down. With a finish that won’t pit. Won’t corrode. Won’t dent. Won’t warp. Can’t rust. And stubbornly resists scratching.” Geon vinyl makes it true. Thick rigid vinyl is extruded directly over a wood core, giving the finished window an all-vinyl exterior. Maintenance problems are almost totally eliminated. As manufacturers of building products discover the advantages of Geon vinyl, you find them using it more and more—in siding, electrical conduit, pipe, baseboard raceways, built-in vacuum tubing, shutters, and many others. For additional information on the use of Geon vinyl in building products, write B.F. Goodrich Chemical Company, Dept. H-3, 3135 Euclid Avenue, Cleveland, Ohio 44115.
New Literature

Colonial and planter spindles offer new ideas for interiors

And many are included in a folder for architects from E.A. Nord Co. Sketches show spindles used as fences and gate, wainscotting, stair rails, balustrades, island counters, and bathroom dividers. The spindles—of straight-grain, kiln-dried Western hemlock—come in a wide range of lengths in three sizes: 2”x2”, 3”x3”, and 4”x4”. Turned areas are sanded, ready for stain, paint, or other finish. To make it easy for architects to draw the right size spindle into a sketch, Nord offers a free tracing template (reproduced above) that can be slipped between drawing and tracing. E.A. Nord, Everett, Wash. Circle 375 on Reader Service card.

For copies of free literature, circle the indicated number on the Reader Service card, page 143.

Lighting Fixtures. Twelve-page catalog illustrates manufacturer’s line of pendant fixtures and includes price list. Glowtex, Erie, Pa. Circle 354 on Reader Service card.

Scale Model Architectural Siding. Display card shows line of plastic siding and roofing materials molded in colored plastic. It can be cut, cemented, shaped, and painted. In three scales: 1/16”, 1/4”, and 1/2” equal to 1 ft. Holgate & Reynolds, Evanston, Ill. Circle 301 on Reader Service card.

New literature continued on p. 159.
Dunn & Snoddy Real Estate gets the Action-People—and this ad brings them!

"This ad sold a home for us," says Charles Dunn, Jr., Dunn & Snoddy Real Estate, Bloomington, Ind. "A new family moved into our town and was looking to buy a house. They saw our Yellow Pages ad, called, and that phone call ended in a sale. The Yellow Pages is the best way we know of reaching new people in town. These new people are the lifeblood of our business. They're the hottest prospects. They generally buy more expensive homes. As you can see, the Yellow Pages really does a big job for us."

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*The 3 out of 4 busy Americans who shop the Yellow Pages way.
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The uniform operating characteristics of B&G Zone Control Valves assure the quiet, dependable control a good hydronic system deserves. A unique thermal expansion heat motor provides controlled "slow opening" to minimize expansion noises by eliminating abrupt changes in water temperatures. "Slow closing" to eliminate noise due to water hammer.

These valves provide positive shut-off against differential heads of 60 feet and system pressure up to 125 psig. No gears or cams to wear. This compact Zone Control Valve can be easily installed. Virtually leakproof, yet it can be very readily serviced without draining the system.

Here's a truly low cost way to achieve quality zone control...for modern comfort conditioning. Available in ½", ¾", 1" or 1¼" solder connections for operating temperatures up to 240° F. Contact your local heating wholesaler. Or, for free copy of Bulletin A-417, write ITT Bell & Gossett, Fluid Handling Division, Morton Grove, Illinois, Dept. 10Q.

"50 Years of Quality, Leadership and Service"
NEW LITERATURE
starts on p. 156

SAUNA PLANS. Guide shows how to build complete Sauna rooms and tells how to install equipment. Also includes manufacturer's line of prefabricated rooms, heaters, and accessories. Normandy Products, Pittsburgh. Circle 304 on Reader Service card

CURTAIN WALLS AND ALUMINUM WINDOWS. Fully illustrated 25-page catalog includes specifications, for existing, projected, reversible, double-hung, and awning windows in single and multi-story curtain walls. Stanley Building Specialties, Summerville, S.C. Circle 305 on Reader Service card

UNDERGROUND WIRING. System for total underground residential distribution permits pole-type loadability in the hole. Bulletin examines pole-mounted fixtures, Summerville, S.C. Circle 306 on Reader Service card

BUDGET LIGHTING. Thirty-two-page, full-color catalog illustrates an expanded line of decorative and functional fixtures. More than 200 designs include Mediterranean styles in black wrought iron, early American crystal and candelabra, chandeliers, and multi-colored Tiffany glass designs. Virden Lighting, Cleveland. Circle 307 on Reader Service card

HYDRONIC BOILERS. Cast-iron boilers in five capacities (175,000 to 385,000 Btu), supply heat and hot water for large homes and apartments. Product sheet—with specifications and diagrams—includes application recommendations. Hydrotherm, Northvale, N.J. Circle 308 on Reader Service card

SUSPENSION FASTENERS. Guide illustrates—with more than 100 product and application sketches—uses for fasteners. Twelve-page catalog also includes complete line of a variety of screws, roof anchors, metal snap-on anchors, and wire loops. Fastway Fasteners, Lorain, Ohio. Circle 309 on Reader Service card

CUSTOM HARDWARE. Elaborate 78-page catalog includes complete selection of brass, bronze, and aluminum builder's hardware. Included: powder room accessories, entry door pulls, lever door handles, door grilles, bell buttons, and accessories. Sizes, weights, specifications, and price lists. Peabody, Los Angeles. Circle 310 on Reader Service card

TWO-WAY RADIO. Sixteen-page bulletin includes operating characteristics of manufacturer's line, and discusses power outputs and frequency bands. Also: advantages of heat-resisting silicon transistors. General Electric, Lynchburg, Va. Circle 312 on Reader Service card

REPEAT WALL COVERINGS. Four-page brochure illustrates 12 varied patterns in a collection by Donald Soderlund. Special colorings are available for every design. James Seeman Studios, Garden City Park, N.Y. Circle 313 on Reader Service card

WALL AND PARTITION PANEL. Abrasive-resistant plastic film bonded to ¼"-thick tempered hardboard can be installed over slightly irregular surfaces, providing a surface for hanging needed. Six-page brochure shows how to apply 15 wood-grain patterns and 34 colors in panels of 4' x 8' and 4' x 10'. Good year, Akron, Ohio. Circle 314 on Reader Service card

CERAMIC TILE. Sixteen-page color brochure shows how designers use ceramic tile in almost every room of a house. Decorating ideas are supplemented by a section that keys color schemes to bathroom fixture colors. For a copy, send 10¢ to American Olean Tile Co., Lansdale, Pa. 19446

DRYWALL ACCESSORIES. Reference catalog shows corners, jambs, tape, and cement. Featured: new rounded corner moldings that reduce maintenance requirements by resisting corner damage. Both cement-on and nail-on accessories are included. Beadex, Seattle. Circle 322 on Reader Service card

WELDING ALUMINUM. A 96-page technical handbook in cartoon form illustrates how workmen—who have never welded light metal before—learn how to do it. An appendix includes details of recommended joint designs, filler wires, speeds, arc voltages, welding currents, gas volumes, porosity standards, and U-bend tests. Reynolds Metals, Richmond, Va. Circle 323 on Reader Service card

CONCRETE CURING COMPOUND. Non-membrane silicate curing concentrate cures, hardens, and dustproofs concrete in one application. Brochure enumerates advantages and gives application instruction. Jahn Concrete Forming Products, Denver. Circle 324 on Reader Service card

CONSTRUCTION EQUIPMENT. More than 80 gasoline, electric and air-powered tools—plus accessories—are presented in a fully-illustrated 32-page catalog. Included: concrete vibrators, gas and diesel generators, concrete finishing screens, power trowels, rammer and plate soil compactors, and paving breakers. Skil, Chicago. Circle 325 on Reader Service card

FIBERGLASS INSULATION. Four-page folder shows where and how to insulate. Information covers vapor barrier, electric heat and air-conditioning, sidewall insulation and sound control. Also: Standards for all-weather comfort, reasonable comfort, and minimum acceptable comfort. Philip Carey, Cincinnati. Circle 315 on Reader Service card

DISPOSABLE AIR FILTERS. Design and construction information on filters in a choice of three efficiency ranges is contained in an eight-page illustrated bulletin. Charts show the rated capacity for each basic size. Installation data for flat, single 'V' and double 'V' filter banks is included. Farr, Los Angeles. Circle 316 on Reader Service card

AERIAL ELECTRIC AIR CONDITIONING. Sixteen-page catalog—with diagrams and schematics—gives complete specifications for full air-conditioning line: 12 condensing sections, 24 evaporator sections, and three single-package units. Armstrong Furnace Co., Columbus, Ohio. Circle 317 on Reader Service card

HARDBOARD. Suggestions for hardboard uses in paneling, built-ins, remodeling, outdoor living, and siding are among 27 ideas presented in a product information folder. Weyerhaeuser, Tacoma, Wash. Circle 318 on Reader Service card

GRAB BARS. Full-line catalog illustrates heavy-duty brass bars for nursing homes. Includes installation specifications, drawings, suggested method of attachment. Miami Carey, Cincinnati. Circle 319 on Reader Service card

PLASTIC COATED WINDOWS. Steel windows with polyvinyl chloride polymer coating are described in a 24-page brochure which explains benefits and gives architects specifications. A sample of the coating is included, along with results of standard salt spray, water immersion, and abrasion tests. Cenco Corp., Chicago. Circle 320 on Reader Service card

STAIRBUILDING INSTALLATION MANUAL. Twenty-four-page pocket-size manual—illustrated with photographs and diagrams—outlines installation methods for prefabricated steel stair forms for concrete and terrazzo. Also: tips on concrete mixing and pouring. Stairbuilders, McCook, Ill. Circle 321 on Reader Service card
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