

MAY 1982

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PUBLICATION

# HOUSING



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## KITCHEN & BATH SHOWCASE

Taking advantage of the great outdoors  
Designing the energy-efficient kitchen  
Practical solutions for problem kitchens

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5 lessons you can learn from  
a neighborhood revitalization

---

EXCLUSIVE  
HOUSING's Construction Cost Guide

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# NO-WAX SOLARIAN.<sup>®</sup> THE FLOOR THEY'RE SOLD ON CAN HELP SELL YOUR HOUSE.

Extensive national advertising has presold your customers on the beauty of no-wax Solarian floors. And on the quality of the Armstrong name. Quality that reflects on your entire house.

Nothing brings that quality message home more clearly than our newest floor, Designer Solarian II. Its easy-care no-wax finish makes it an ideal floor for many rooms in the house.

Fast Interflex™ perimeter installation over most

subfloors makes it ideal to work with, too.

There are six Armstrong Solarian lines, in an appealing range of colors, patterns, and prices. Each one offers your customers quality that's "So nice to come home to™." And offers you a merchandising feature that makes your houses easier to sell.

To learn more, call your Armstrong flooring contractor, or write Armstrong, P.O. Box 3001, Dept. 23FHH, Lancaster, PA 17604.



Floor design copyrighted by Armstrong

**Armstrong**  
so nice  
to come  
home to

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**FROM NUTONE, THE FIRST NAME  
IN HOME COMMUNICATIONS,**



**COMES THE LAST WORD IN  
RADIO-INTERCOMS.**

# NUTONE'S A NEW GENERATION IN

## NuTone presents new technology and innovation for 1982.

**IM-806. So advanced, it even answers the phone.**

Come with NuTone and enter a new era in home communications... with the incredible new IM-806. The world's most advanced radio-intercom.

For the first time ever, homeowners can answer the phone through their intercom... from any intercom speaker. The IM-806 with its exclusive optional telephone answering function provides



extra convenience without costly phone extensions.

The IM-806 even helps answer the door. With NuTone's optional chime module, a chime will sound through every station.

**AM-FM radio with digital display and easier tuning.**

The IM-806 lets homeowners tune in a radio station with precision accuracy. The state-of-the-art digital display and thumbwheel tuner make frequency selection easier than ever. And the



highly visible readout tells you at a glance what station you're tuned to.

The IM-806 also features one-button electronic program selection for: AM radio, FM radio, optional phonograph or tape deck.

**Sophisticated operation includes separately controlled patio speakers.**

Here's an important new privacy feature every homeowner needs. The IM-806 Master Station allows patio speakers to be turned off when they're not needed. An



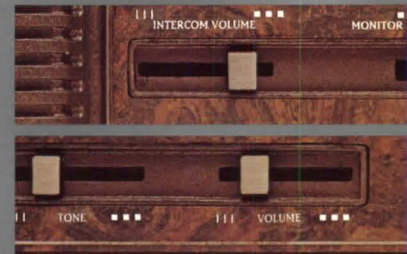
LED indicator shows the status of these speakers at all times.

Also all stations in the IM-806 system provide "hands free" answering. A call made from any station can be answered at any other station without touching a button.

**Fully independent radio and intercom controls.**

The new IM-806 is the first radio-intercom to give homeowners the convenience of independent volume controls for both radio and intercom at each station.

Now, family members in different rooms can adjust the volume of both radio and intercom to suit themselves. Or even turn them off.



# IM-806. HOME COMMUNICATION.



loud and clear, thanks to a new, more sensitive receiver.

The IM-806 can accommodate up to 20 remotes with no volume or fidelity loss.

if there's ever a problem, a NuTone service center will handle it, so you won't have to.

NuTone's new IM-806. Let the world's most advanced radio-intercom put your homes in the vanguard.

It sounds so good to be a radio-intercom.

Unlike other systems, the IM-806 has *separate* speakers and microphones. So, music reproduction is vastly improved.

Voice fidelity is better too, because every station contains a professional quality condenser microphone that is incredibly sensitive across a wide range of frequencies.

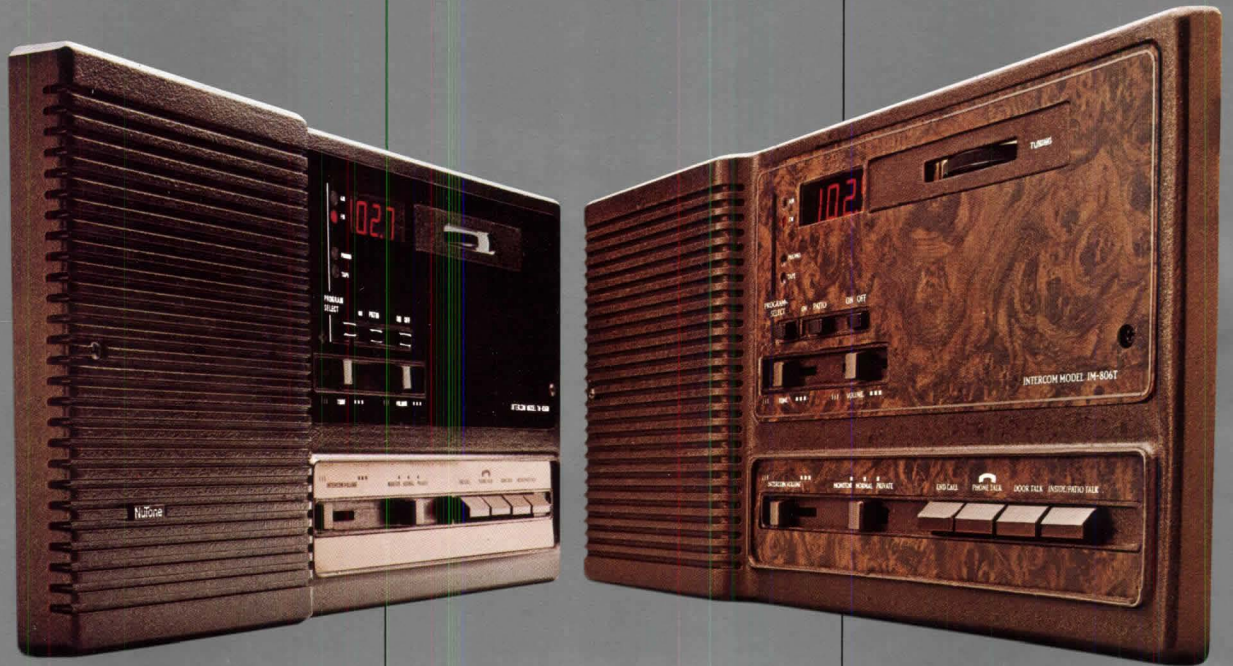
AM radio stations come in

**The IM-806 says a lot about the builder who chooses it.**

If you pride yourself in offering homeowners the newest and most exciting custom features, then you can't overlook the IM-806. From the amazing telephone answering feature to the easy-to-install loop wiring, the IM-806 is engineered with NuTone dependability through and through. And



# THE NEW GENERATION IS HERE.



NuTone's new IM-806 radio-intercom. Ahead of its time in technology and styling.

The IM-806 is available in two distinctive styles—striking contemporary or rich traditional models—that blend beautifully with any decor.

For more information about this exciting new radio-intercom, talk with your nearest NuTone representative or distributor.

For his name, **DIAL FREE 1-800-543-8687** in the continental U.S. or write to the address below. Ohio residents call 1-800-582-2030. In Canada write NuTone Electrical Ltd., 2 St. Lawrence Avenue, Toronto, Ontario M8Z 5T8.

## NuTone

**Scovill**

Dept. HH-5, P.O. Box 1580  
Cincinnati, OH 45201



# HOUSING

<b>KITCHEN &amp; BATH SHOWCASE</b>	69	Indoor/outdoor kitchens and baths
	77	Designing the energy-efficient kitchen
	83	Kitchen design: Practical solutions for problem spaces
	90	Idea notebook: Compartmentalizing baths
<b>THE CITIES</b>	30	Public housing brouhaha stirs up Windy City
<b>COSTS</b>	48	The HOUSING Magazine Construction Cost Guide
<b>COURTS</b>	25	Repeat use of building plans under fire
	25	Civil rights 'violated' by adults-only project
<b>DESIGN</b>	28	Imported idea helps provide housing for elderly
	28	Shared housing: New look for an old idea
	52	Homes for Better Living: 1982 winners
	58	Five lessons you can learn from a neighborhood revitalization
	59	How to build new homes that blend in with the old
	61	How to give new life to old houses without destroying their character
	62	How to inject an infill multifamily project
	63	How to draw buyers to the inner city
	63	How to minimize problems with existing residents
<b>FINANCE</b>	34	Second half: Housing recovery on horizon
	34	People-to-people financing: Sellers helping buyers
	36	Pension dollars start trickling to builders
	47	Now look who's competing with builders
<b>HOTLINE</b>	15	Last-minute news of the housing industry
<b>HOUSE CALLS</b>	44	What has been your most interesting kitchen remodeling job?
<b>INDICATORS</b>	21	What the latest economic data means to housing
<b>MANAGEMENT</b>	66	How a small-volume builder survives in tough times
<b>MARKETING</b>	47	'Rally '82' telegraphs the president
<b>MERCHANDISING</b>	40	Kitchens and master baths: Keep harmony in mind
<b>RENTALS</b>	64	Demand all revved up but nowhere to go
<b>WASHINGTON</b>	39	Congress in mood to help builders — somewhat
<b>DEPARTMENTS</b>	9	Editor's page
	96	New products
	103	Reader service card
	119	Product information index
	119	Classified
	120	Literature
	123	Letters
	124	Advertisers' index
	126	Publisher's page
<b>COVER</b>		Master bath designed by Morton Hoppenfeld of Washington, D.C. (see page 72). Photo: Glen Allison
<b>NEXT MONTH</b>		Merchandising in tough times: Specialty products that make the sale . . . Making the most of interior design — "before and after" model interiors . . . How to keep and compensate salespeople . . . Sales training tips from a pro . . . Selling to the pre-retirement market . . . How the nation's top builders are surviving . . . What you should know about zero financing

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# THE BUILD SMARTER PROFIT LINE



Today's homebuyers were raised to be tough customers.

If you're going to sell them a house, it has to be "energy-efficient," good-

looking, comfortable, and built with only the finest materials.

But wait—they can't spend a whole lot of money. They don't have it.

So how do you build their dream house and still make your profit?

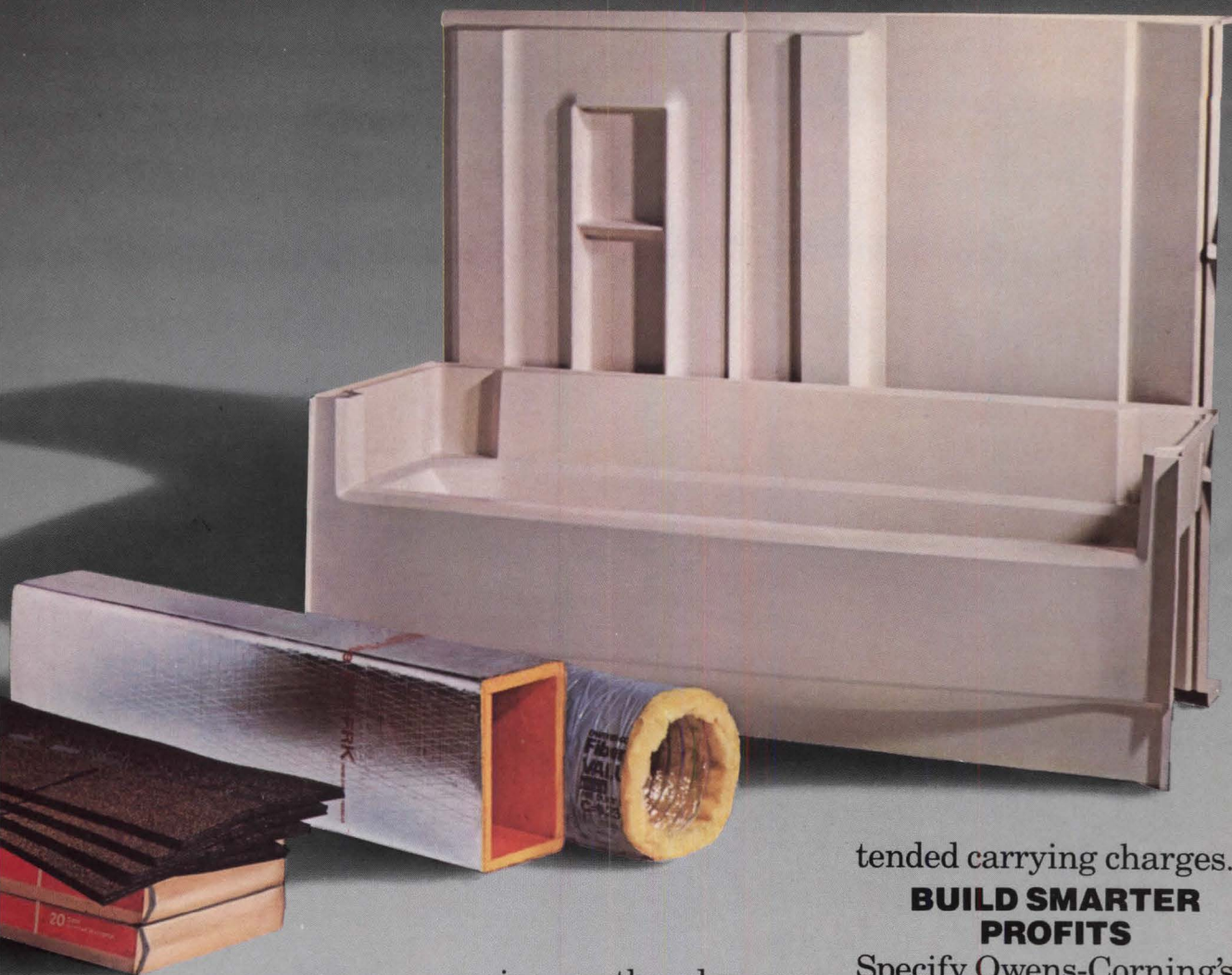
You build smarter—with Owens-Corning's line of Build Smarter products.

## **HOMEBUYERS DEMAND ENERGY-EFFICIENCY**

Sell your customers the option of more Owens-Corning pink Fiberglas® insulation—the brand customers prefer 3 to 1 over any other insulation—and you'll find yourself with a satisfied buyer.

In last year's NAHB





study, over 90% of all homebuyers surveyed said they would pay up to \$500 more for a house with higher levels of insulation in the walls, floors, attics, and crawl spaces.

### **FIBERGLAS PRODUCTS REPLACE OUTDATED MATERIALS**

You can also make a house easier to sell by specifying Owens-Corning Fiberglas shingles. They cost no more than ordinary felt shingles—and they guarantee protection into the 21st century.\* At no extra cost, a Fiberglas roof

can give you the edge over the guy who's still offering ordinary shingles.

### **TECHNICAL DEVELOPMENTS CUT COSTS**

Fully insulated Fiberglas ducts let you sell even more "energy-efficiency"—and they can help cut costs.

Fiberglas HVAC systems need no lining or wrapping. And they're actually easier to install than sheet metal systems.

Fiberglas tub/showers have also been designed to strengthen your balance sheet. Their simple 4-component assembly lets you schedule installation whenever it's most convenient—and that's sure to help you avoid costly delays and ex-

tended carrying charges.

### **BUILD SMARTER PROFITS**

Specify Owens-Corning's line of Fiberglas materials, and you can give today's homebuyers more of what they want—"energy-efficiency," good looks, comfort, and affordability—without having to spend a lot more money.

There's only one word for that—profitable.

And there's only one way to make it happen:

Build Smarter—with the Owens-Corning Build Smarter profit line.

\*The Owens-Corning limited warranty is prorated on the basis of age and replacement cost for the original owner.



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**GRIDDLE**

# COOK-IN COOKOUT.

Magic Chef brings the outside in with the new Modular System cooktop.\* Like magic it converts from electric burner elements to a grill, griddle or optional rotisserie and shish kabob. Now you can offer the convenience of kitchen cooking with outdoor barbecue taste everyday, year-round, rain or shine.

Magic Chef has also built in easy cleaning features. The lift-up grill cover serves as a back-splash. The vent filter lifts out for cleaning and the removable grease trap, which

holds up to 8 pints, can be cleaned in the dishwasher.

For extra surface cooking, an optional two-element module can be simply plugged in to replace the grill. Or, choose the grill module alone to supplement an existing range.

With the Modular System you build in the versatility of preparing summer barbecue meals twelve months a year. So, even if it's 10° outside, it can still be sizzling in the kitchen.



740 King Edward Ave., Cleveland, Tennessee 37311

\*Optional down-draft vent or under cabinet overhead vent available.

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## Smart buyers are buying now . . .



That's the theme of an advertising campaign mounted by a group of Washington-area builder and Realtor associations. The National Association of Realtors has launched a similar program with the theme, "Now Is A Great Time To Buy A Home." And eight industry associations—the NAHB, the Asphalt Roofing Manufacturers Association, Mineral Insulation Manufacturers Association, National Home Improvement Council, National Kitchen Cabinet Association, National Woodwork Manufacturers Association, Passive Solar Industries Council, and the Vinyl Siding Institute—are participating in an event to provide the news media with answers to their questions about housing.

Everytime we open our mail these days, there is fresh evidence of people banding together and fighting against the gloom and doom that has pervaded our industry for so long, and that's certain to have an effect. For the gloom and doom is as much the enemy as high interest rates—as many a builder has found after he has bought down his mortgage rate to a reasonable level to no avail.

## . . . and smart builders should keep up appearances

Builders must also guard against allowing gloom to invade their sales offices. We have been shocked, when touring projects recently, to find shopworn models, limp landscaping and lethargic sales people. Poor housekeeping and poor attitudes are turnoffs in the best of times. In these days, when the confidence of new-home prospects needs as much bolstering as possible, everyone from the project manager down to the newest salesperson has to contribute toward that feeling of confidence—and spanking bright sales areas are the places to start.

## On the road to deregulation—maybe

By the time this issue comes out, the report of the President's Commission on Housing will have been released.

From what's been reported [HOUSING, April] and the advance comments we've heard, it seems that the mood of the commission and the mood of the industry pretty much coincide. Both would like to see less interference in the housing industry from federal, state and local governments.

We'll comment later on the commission's specific recommendations. But we think the commission's work is a good first step on the road to developing a coherent housing policy. The question, of course, is how many of its reforms will be adopted and in what form. —NATALIE GERARDI

**NAHB Research Foundation selects**



**Duraflex™ plumbing pipe. Pipe that outperforms copper and installs for 44% less.**



When the NAHB Research Foundation built HUD's model Energy Efficient Residence (EER-2), it selected Duraflex\* plumbing pipe on the basis of its performance.

Their decision was based in part on a test this independent organization ran in which they compared the cost of plumbing a house with Duraflex polybutylene pipe to that of a similar one plumbed with copper. They found that the use of Duraflex pipe and its fittings reduced the total materials and installation costs by 44%.

In addition to reducing costs, Duraflex polybutylene pipe also improves performance.

Pipe made from this resin won't corrode, since it's not metallic. And it will resist scale build-up.

Polybutylene plumbing pipe has the elasticity to expand when water freezes inside it and to retain its strength when the water thaws. A rigid plumbing pipe system could crack.

The elasticity also gives a quieter plumbing system. The pipe actually cushions the water surge that would cause water hammer in rigid piping systems.

Flexible polybutylene pipe easily bends around corners and takes

fewer fittings to install. One man can quickly plumb a house with polybutylene pipe without any welding or soldering: improving safety and saving time.

### **Polybutylene pipe is getting the acceptance it deserves.**

Recognizing the benefits of Duraflex pipe, eight of the ten top metropolitan areas (based on 1981 housing starts) have approved the use of polybutylene pipe for hot and cold water plumbing. And, polybutylene is the only plastic material approved for use in hot and cold water distribution by all of the major national and regional plumbing codes.

In addition, polybutylene pipe is rapidly gaining recognition as a reliable component for use in fire sprinkler, radiant heating, and solar systems.

The word gets around: Duraflex polybutylene resin has made gray the color of excellence for pipe.

The next time you request plumbing bids, specify Duraflex polybutylene pipe.

For more information, write today: Manager, Polybutylene Department, One Shell Plaza, Houston, Texas 77002.



**Shell Chemical Company**

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\*Duraflex™ is a trademark of Shell Chemical Company for its polybutylene resins. Shell Chemical does not manufacture pipe.



**“When you’re offering  
the only luxury oceanfront condominiums  
on the Maine Coast, you want to be sure  
the cabinets are as good as the location.  
That’s why we picked Scheirich.”**

Robert Marier, President  
Land Design, Inc.

“When we decided to build these luxury condominiums on one of the best pieces of land in the state of Maine, probably the easiest decision we faced was the cabinets.

“We’ve been using Scheirich cabinets for the last five years in our other developments and we know the effect that hand-finished cabinetry has on our prospects.

“When they see that these Queenswood cabinets are made with the same care as their own family heirlooms, it makes our selling job a whole lot easier.

“And on top of that, through Scheirich’s local distributor, Indisco, we’re able to give our buyers a choice of the exact styling and hardware they want. So they not only get the quality they’re accustomed to, but the look they like as well.

“Indisco gives us more than just selection though. They also make sure we’ll have delivery on-site exactly when we need it. We’ve never had a problem with them, and with the kind of quality Scheirich offers, we don’t expect to.”

If you’re looking for the kind of cabinets that can help you sell a development, look up your Scheirich distributor in the Yellow Pages. Or write H. J. Scheirich Co., P. O. Box 21037, Louisville, Kentucky 40221.

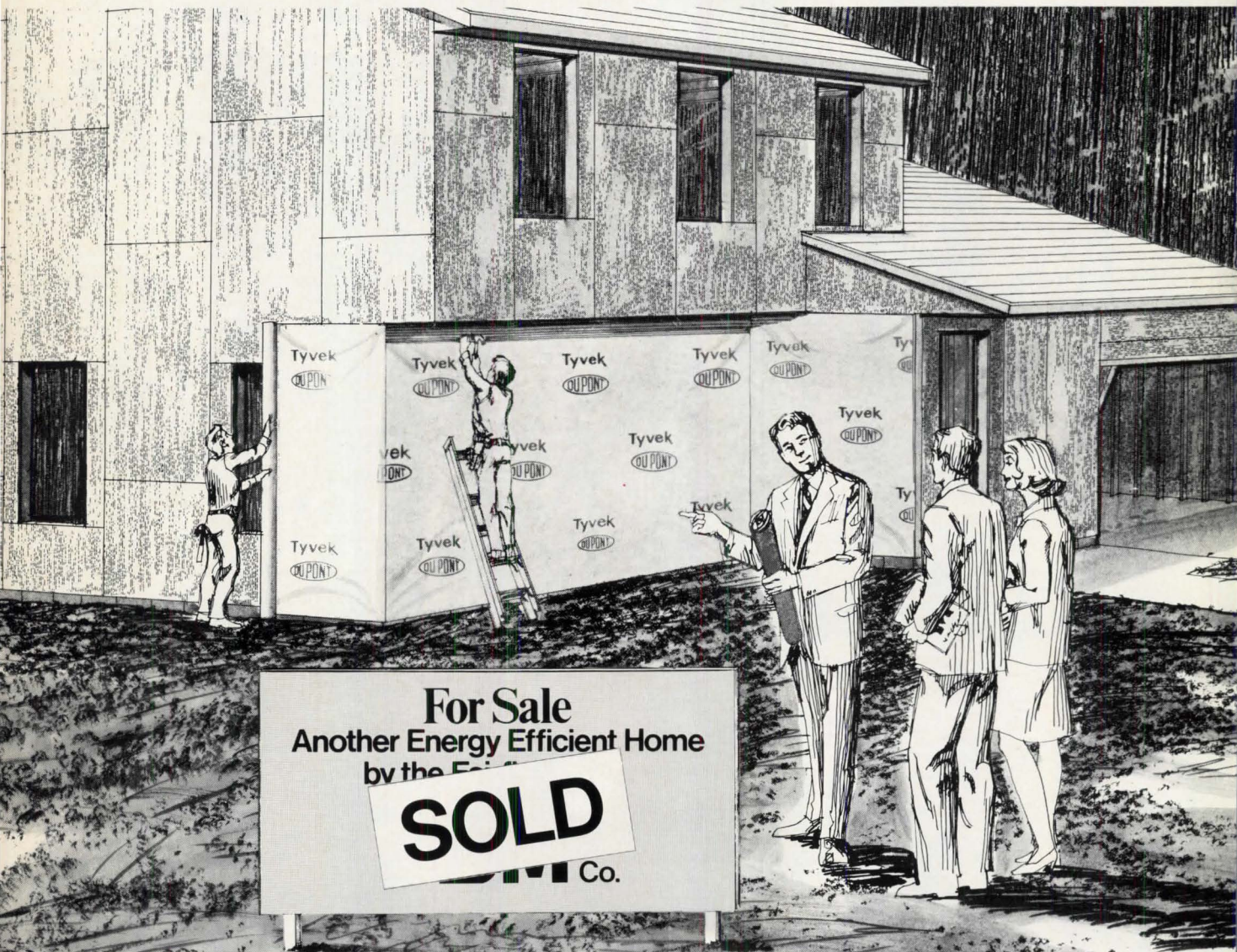
**SCHEIRICH** CABINETRY  
FINE FURNITURE FOR THE KITCHEN AND BATH



*Land Design, Inc. specializes in uniquely-designed luxury condominiums on breathtaking waterfront and woodland sites in the Portland, Maine area. Appealing to quality-conscious professionals and “empty nesters,” these units range in price from \$75,000 to \$180,000 and embody president Robert Marier’s concern for imaginative floor plans, sensitive landscaping and distinctive architecture. The most recent development, Stage Neck Colony in York Harbor, features 40 units of up to 2,400 sq. ft. each with a spectacular view of either the rugged Maine coast or the village’s picturesque harbor.*

# Introducing Tyvek® Housewrap.

## It cuts heat loss through walls by 33%... and that sells homes.



It's a simple, inexpensive way to add appeal to your homes. Reduce heat loss through insulated walls by 33% when you cover sheathing with an air barrier of DuPont TYVEK® spunbonded olefin. Independent tests prove it! BOCA Report No. 79-34 confirms it. It's the kind of energy savings homebuyers are looking for. And it costs very little to add to your homes.

TYVEK Housewrap is not a film or paper. It's a special fabric with unique properties that block

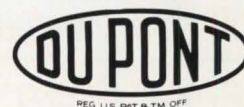
air, but pass moisture vapor to prevent condensation.

It goes up fast. Two men can install 1,800 square feet in less than two hours, with just a knife and staple gun. Once installed, TYVEK seals leaks through sheathing seams and through cracks around doors and windows.

That's a big sales advantage for you. And to make sure homebuyers know it, DuPont offers you FREE handout literature and a display for use in your models and sales office. They can help you close the sale.

Order TYVEK from your building supply dealer, and add solid sales appeal to your homes without adding much to costs. For FREE detailed test data, literature, or the names of your nearest TYVEK dealer, call (302) 999-2474, or write DuPont Company, Room C-11K4-H, Wilmington, De 19898.

\*DuPont registered trademark  
\*Independent laboratory tests using 2x4 frame wall with 3½-inch, R-11 insulation in 15 mph wind.





**A record \$4.6 billion loss by federally insured savings and loan associations** in 1981 is reported amidst anticipation that losses this year could reach \$6 billion. Of the 1981 loss, \$3.1 billion reflects second-half reports, indicating a widening gap between the cost of funds for S&Ls and the yields they get from their mortgage portfolios.

**Not all the thrifts are in trouble.** Consider, for example, 128 new savings associations formed since 1980 under the auspices of the U.S. League of Savings Association. Most of those new S&Ls, says an article in the *Savings & Loan News*, are operating profitably because they're not burdened with low-yield loans. The new thrifts, it is reported, have been able to start new mortgage portfolios "which earn market rates," thus have average portfolio yields near 17% compared with the industry average of about 10%. And, says the article, because new thrifts are still "small," they're also flexible—able to offer just those services germane to their markets. For example, Long Beach (Calif.) Savings doesn't offer NOW accounts because "the blue-collar retired population in the community isn't likely to generate the high-balance accounts needed to make the service profitable."

**One way to reduce federal debt and increase private ownership of land** is an aggressive federal property disposal program. So said Realtor Roy Fair, chairman of the legislative committee of the National Association of Realtors, at a session of the Senate Government Affairs Committee. Under discussion: Senate and House resolutions and an executive order related to federal land disposal. The initial phase of the federal program is estimated by the government to involve some \$17 billion worth of land. Its sale, says the Aurora, Ill. Realtor, "will not be a panacea for all our deficit ills," but will set a "necessary precedent" while reducing the federal debt. An ancillary benefit, he noted: Where federal property encroaches on town limits, local tax bases will be increased as the land moves to private ownership.

**Promoting the use of non-union contractors** in construction is the aim of a special eight-city program launched by the Associated Builders and Contractors (ABC). The group's first effort—a trade fair and seminar in Boston—touched off a street protest demonstration by over 2,500 unionized building tradesmen. Other target cities on ABC's agenda: Atlanta, Cincinnati, Dallas, Houston, Los Angeles, Miami and Seattle.

**Kitchen and bath remodelings—always a big favorite with homeowners—**may get even a bigger play later this year thanks to a new promotion initiated by the American Institute of Kitchen Dealers. In an effort to generate more consumer interest in upgrading the wet areas of their homes, AIKD is sponsoring National Kitchen/Bath Week from Sept. 18-26. According to AIKD, 25 associations and 25 manufacturers are involved. Some manufacturers are reportedly organizing seminars or clinics on kitchen/bath design, and on the use of their products in remodeling.

**First it was 'inclusionary zoning'; now it's 'incentive housing,'** the working title of a new program approved by the City of Carlsbad, Calif. The program was advanced by Donald E. Woodward, president of Newport Beach-based The Woodward Companies, which is responsible for building many homes in Carlsbad. The idea of "incentive housing" is that in order to provide more housing at lower-than-average prices, "both the developer and regulatory authorities make significant concessions," explains Peter Templeton of The Planning Center, a design and planning firm in Newport Beach. Under the program, a developer is required to submit detailed cost information and possibly agree to a negotiated profit and the city offers a "shopping list" of alternative cost-reduction waivers in such regulatory areas as density, parking, open space and setback requirements.

# HOUSING HOTLINE

**'A little more optimistic than a year ago,'** NAHB's chief economist Michael Sumichrast feels that starts have "just about reached bottom," and searching his crystal ball comes up with a "best-case" forecast of 1.17 million starts this year. Further reason for optimism: He foresees an annual inflation rate running at 4.6% in the last five months of the year and cites strong consumer interest evidenced by some 65,000 people paying \$3.00 each to attend a recent home show in St. Louis. On a less-sanguine note, the economist says "there is no hope that mortgage rates are going to decline sharply." His expectations: that FHA rates will fall to the 13½% to 14% range this year "under the best possible circumstances," and that market rates will be declining more slowly.

**Extreme contrasts in vacancy rates** are reported by *U.S. Housing Markets*, the quarterly survey of U.S. and major local markets published by Advance Mortgage Corp. Long-term lows in rental vacancies are reported in professionally managed buildings in New York, Los Angeles, and Minneapolis (one to two percent); in San Diego (two to three percent); and in Dallas (under four percent). On the other hand, in Fort Worth the rate is nine percent. And Boston, South Florida, Washington and San Francisco-Oakland, which have been tight for years, are starting to see measurable vacancies and slow rent-up, the report said. Other figures of interest: "Atlanta, which was still tightening a year ago, is sliding so fast some landlords are ashamed to tell the truth on their vacancy survey." And both Seattle and Detroit occupancy has dropped three to four percent.

**Increased production of rental units in both new and rehabbed buildings** is the aim of a multi-faceted program put forth to Congress by the National Apartment Association. Among NAA's proposals: (1) legislation that would allow renters tax breaks similar to those given homeowners; (2) additional savings incentives to provide more funds for financing new units; (3) tax advantages for the cost of rehabbing low-income rental housing; (4) expansion of the use of revenue bonds for rental housing. The strongest stand taken by NAA, however, is against rent control. The association is recommending that existing laws be amended to deny use of housing community development funds in communities with rent control.

**Reports that the VA guaranteed over \$15 million in loans for manufactured homes** in February is viewed as welcome news by the Manufactured Housing Institute. That was a jump of 18 percent over the amount guaranteed in February, 1981. According to George Alexander of the VA Loan Guaranty Service, the average loan for a single-section home was over \$19,000; the typical multi-section-home loan was about \$22,000. In a related development, HUD has signed a three-year contract with the National Conference of States on Building Codes and Standards Inc., through which NCSBCS continues to check up on the inspection agencies that make sure mobile-home manufacturers comply with the provisions of the mobile-home code.

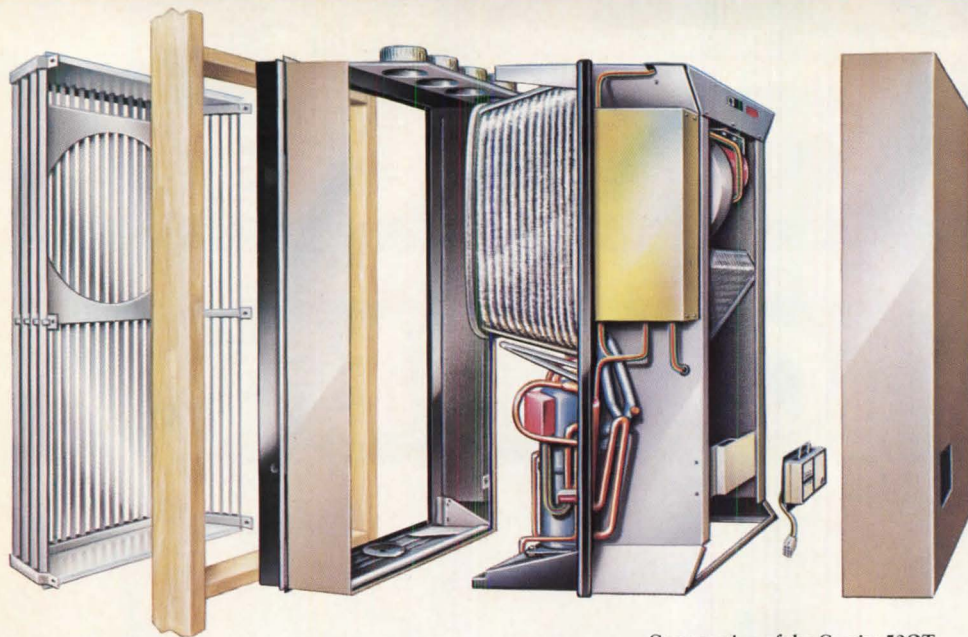
**The latest sales tactic: Offer to pick up loan payments if your buyer loses his job.** That's what United Development, Chicago, is promising. The company's recently introduced "mortgage payment security plan" pledges that it will assume up to six monthly payments—including taxes—if a buyer becomes unemployed within a year of closing on one of its homes, which run the gamut from \$58,490 condos to \$175,000 luxury single-family. "Concern over job security and high interest rates deter potential buyers," says Sheldon Lazar, United's senior vice president. "We're making the decision to buy easier by offering this program in conjunction with below-market financing." Lazar stresses that the payments would not be a loan. "The owner is not required to repay United Development Company."

**ANOTHER**

**BREAKTHROUGH.**

**FROM CARRIER.**

# INTRODUCING THE CARRIER PUM



Cross section of the Carrier 50QT.

## THE CARRIER BREAKTHROUGH

There were lots of skeptics at first even among our own people, but was a compelling new concept as we kept on with it. We saw the statistics that showed the drop in square footage in new homes so we wanted something more compact. Like everyone else, we were aware of the fuel crunch and spiraling cost so we wanted something more energy efficient. And because we're Carrier, we knew we had the technological competence to create a residential heating and cooling system for the smaller home and the higher fuel cost of tomorrow. What we had in mind would have to be very different — not just a new version of an old system. It would be the heat pump of today for the home of tomorrow. After all, they laughed at Fulton, too.

## THE PRODUCT.

It's a through-the-wall unit of very modest proportions and we call it the Carrier Breakthrough. This super-compact, single-unit heat pump will come in 5 sizes, from 12,000 BTUH to 30,000 BTUH.

It's perfect for small homes, apartments, condominiums, townhouses, cluster homes, etc. Unlike anything that has preceded it, it doesn't have to be hidden away and it doesn't take even one inch of floor space. Because it's a heat pump, it slashes winter fuel bills. But the Breakthrough's energy efficiency and visual appeal just begin its list of advantages. It's a builder's dream, too, as you will see when you read on.

## BUILDER APPEAL.

Installation of the Breakthrough is every builder's dream. The sleeve goes in when the wall goes up. Frame it in just like a window. The wiring, drain, and duct connections can be made with no special skills at the time the sleeve is installed.

The sleeve is integral to the building, making the unit less prone to vandalism both before and after occupancy.

The chassis doesn't have to be purchased till the end of the job, when it can be easily slipped into place. Because of today's high interest rates this represents a significant savings in up-front money for the builder.

## THE DATA.

**Model:** 50 QT.

**Type:** One-piece, through-the-wall, heat pump.

**Capacity:** Coming soon in 5 sizes . . . Nominal Cooling: 12,000 to 28,000 BTUH. Nominal Heating (47°F): 12,000 to 30,000 BTUH.  
**SEER:** 7.5 or higher.  
**CFM:** Nominal 400 cfm per ton.

**External Static Pressure:** .25"  
**Refrigerant:** R-22

**Dimensions:** Sleeve — Height 45", Width 29", Depth 13".  
Duct Connections — Four round (6" diameter maximum).

## THE SEER.

The Breakthrough's efficiency ratings for both heating and cooling meet or exceed all existing and proposed state and federal efficiency standards.

**Color:** Beige (May be painted to match indoor decor).

**Voltages:** 208/230-1-60.

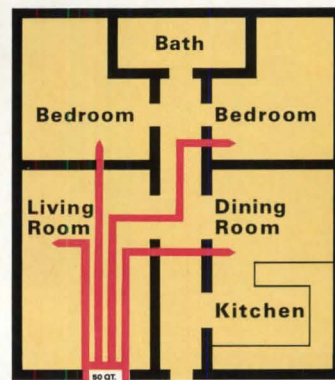
**Electric Heat Options:** 3, 5, 7.5, 10 KW.

## ENGINEERING.

The Breakthrough is a single unit designed to sit in a sleeve in the wall. Its wiring, drain, and duct connections are made directly to the sleeve in advance of the unit's installation. The Breakthrough has a weathertight seal and is insulated to an overall R value of 11. It can accept four flexible ducts. It has a built-in defrost/condensate drain, a thermostat that mounts directly on the Breakthrough or remotely according to your specs, and a self-engaging electrical system.

The exterior parts of the Breakthrough are made of aluminum to cut down on streaking, and covered with a grille that makes the unit good looking on the outside, too.

The Breakthrough is nothing if not compact. Forty five inches high, 29 inches wide. Depth varies with capacity and wall thickness, but it's far smaller than any multi-room heat pump of comparable BTUH size.



Four flexible duct connections.

# YOU DON'T HAVE TO HIDE: 50 QT.

## LESS IS MORE.

The Breakthrough takes up less space. You won't find a furnace where there's a Breakthrough. Or a specially built closet. Or gas flues, gas lines, fuel tanks, or refrigerant lines, either.

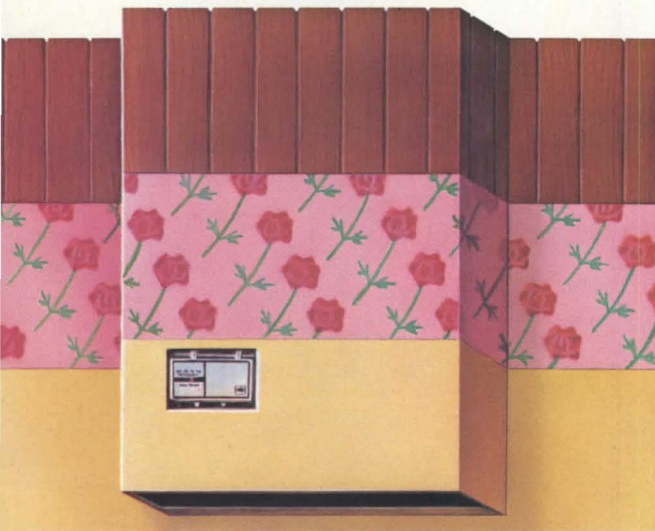
The Breakthrough costs less money to install, to service, and to operate: a vital consideration when you're looking at overall costs.

The Breakthrough requires less energy to run. It's a heat pump so it uses less than half the electricity at 47° F outdoor temperature as electric resistance heat.

The Breakthrough has low sound levels. So you won't hear about it.

The Breakthrough takes less effort to install. No outdoor pad is necessary. No special skills are needed.

The Breakthrough needs less up-front investment money. The chassis doesn't have to go in before the property is sold or occupied.



Paint it. Paper it. Panel it.

## ADVANTAGES.

- Needs no floor space.
- Simple to service.
- Quiet operation.
- Fast-minute purchase.
- Compact.
- Easily installed.
- Attractive design.
- Energy efficient.

## NEW FEATURES.

- Attractive, easy to paint interior cabinet.
- Integral thermostat.
- Aluminum exterior.
- Optional designer-quality exterior grille.
- Self-engaging electrical system, duct and drain connections.
- Built-in defrost/condensate drain.

## THE PRICELESS INGREDIENT.

In every last detail of the 50QT. It's Carrier quality.

## Literature. Slides. Film.

There's literature available with diagrams and specs of the Breakthrough. And there's a slide show and a film.

If you would like a brochure, complete the coupon and send to: Carrier Air Conditioning, P.O. Box 4808, Syracuse, New York 13221.

If you would like a Carrier distributor to show you the slide show and/or the film, telephone the one nearest you.

Name \_\_\_\_\_

Company \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City, State \_\_\_\_\_ Zip \_\_\_\_\_

50 QT  
H-5

## COMPETITION.

There are other through-the-wall units. One has gas heating and electric cooling. It's bigger, less energy-efficient, and it costs more to operate.

The other one is a heat pump. But not in the category of the Breakthrough. Its dimensions are larger and its appearance is strictly backstage. Being scrupulously fair, we have to say the Breakthrough is unmatched in size and appearance, and unbeaten in operating cost, installation cost, and energy efficiency.

## COSMETIC APPEAL.

The Breakthrough is a beauty among beasts. The standard exterior grille is perfectly acceptable for the front or sides of a building. No more having to hide it in the back. And the deluxe grille is that much handsomer.

The interior of the unit, protruding only minimally into room space, is a clean, simple cabinet front. It can be painted or otherwise architecturally incorporated wherever it is installed. And it's off the floor, which makes it seem less bulky than other heating and cooling systems.



Beauty outside, efficiency inside.

## EASY SERVICING.

The cabinet front comes off easily for servicing the unit. And there's a minimum of discomfort for the occupants in the event that the Breakthrough has to be repaired. The chassis slips out as easily as it went in.



## THE NEXT MOVE.

### A telephone call.

Alabama	Birmingham	(205) 956-5400
	Mobile	(205) 476-2220
Arkansas	Little Rock	(501) 376-4471
Arizona	Phoenix	(602) 272-5541
	Tucson	(602) 323-7617
California	Bakersfield	(805) 325-4291
	Fresno	(209) 266-7882
	Los Angeles	(213) 965-2441
	Sacramento	(916) 381-2880
	San Bernardino	(714) 888-2251
	San Diego	(714) 276-8582
	San Francisco	(415) 873-1660
Connecticut	Hartford	(203) 243-0361
	New Haven	(203) 295-6011
Colorado	Denver	(303) 761-5461
District of Columbia	Alexandria, VA	(703) 548-2045
Florida	Clearwater	(813) 577-2222
	Jacksonville	(904) 737-0610
	Miami	(305) 652-4511
	Ocoee	(305) 656-1014
	Tallahassee	(904) 385-7005
	Venice	(813) 484-9514
Georgia	Atlanta	(404) 873-6311
Hawaii	Honolulu	(808) 847-6511
Illinois	Chicago	(312) 681-6220
	Peoria	(309) 682-6832
	Rockford	(815) 397-9401
Indiana	Evansville	(812) 426-9600
	Indianapolis	(317) 872-9543
	South Bend	(219) 259-6838
Iowa	Davenport	(319) 324-1954
	Des Moines	(515) 276-7757
Kentucky	Louisville	(502) 491-9970
	Paducah	(502) 442-9116
Kansas	Salina	(913) 827-9306
	Wichita	(316) 265-4241
Louisiana	New Orleans	(504) 733-8662
	Shreveport	(318) 227-2611
Maryland	Baltimore	(301) 866-6800
	Beltsville	(301) 937-0150
Massachusetts	Boston	(617) 868-2300
Michigan	Detroit	(313) 522-5000
	Grand Rapids	(616) 942-0670
Minnesota	Bloomington	(612) 884-1981
Mississippi	Jackson	(601) 354-8787
Missouri	Kansas City	(816) 471-1466
	St. Louis	(314) 535-4910
	Springfield	(417) 887-9387
Nebraska	Omaha	(402) 334-7777
Nevada	Las Vegas	(702) 736-7786
New Jersey	Newark	(201) 227-9550
New Mexico	Albuquerque	(505) 344-3531
New York	Buffalo	(716) 668-6574
	New York City	(212) 392-9100
	Rochester	(716) 424-3140
	Schenectady	(518) 372-4751
	Syracuse	(315) 451-2660
N. Carolina	Charlotte	(704) 394-7311
	Greensboro	(919) 299-3131
	Raleigh	(919) 829-0155
N. Dakota	Fargo	(701) 293-5431
Ohio	Cincinnati	(513) 896-3800
	Cleveland	(216) 881-7800
	Columbus	(614) 272-1333
	Dayton	(513) 294-3632
Oklahoma	Oklahoma City	(405) 525-0551
Oregon	Portland	(503) 620-1870
Pennsylvania	Camp Hill	(717) 761-0240
	Philadelphia	(215) 879-7000
	Pittsburgh	(412) 281-6505
	Wilkes-Barre	(717) 824-9851
S. Carolina	Columbia	(803) 799-8510
	Greenville	(803) 288-2526
Tennessee	Knoxville	(615) 522-1221
	Memphis	(901) 278-7211
	Nashville	(615) 236-1176
Texas	Amarillo	(806) 373-3700
	Beaumont	(713) 866-1442
	Dallas	(214) 258-0040
	El Paso	(915) 779-6100
	Fort Worth	(817) 332-9132
	Houston	(713) 869-3511
	Lubbock	(806) 765-8175
	San Antonio	(512) 824-7261
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Utah	Salt Lake City	(801) 972-4014
Virginia	Norfolk	(804) 857-6061
	Richmond	(804) 355-0651
	Roanoke	(703) 343-8054
Washington	Bellevue	(206) 747-5911
	Spokane	(509) 326-1711
W. Virginia	Charleston	(304) 345-2385
Wisconsin	Madison	(608) 271-7500
	Milwaukee	(414) 463-1234



# poggenpohl

## How to increase the value of a condominium without increasing the cost to build it.

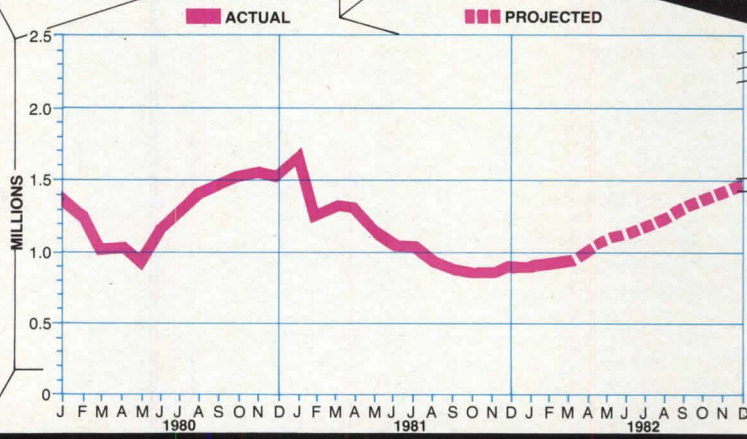
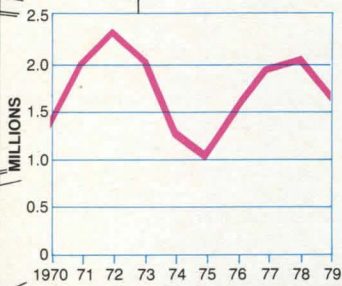
Poggenpohl kitchen and bath cabinetry is a strong selling feature in luxury condominiums. And better yet, it is competitively priced. Combining the talents of German craftsmen with engineers results in state of the art cabinetry in 18 styles, over 170 colors, and over 450 accessory features that defy today's space limitations. Moreover, discriminating homeowners recognize the Poggenpohl name and appreciate the value of owning the best. If this is the clientele for whom you build, call us to bid on your next job. You'll find us surprisingly affordable. Poggenpohl USA, P.O. Box 10 H, Teaneck, NJ 07666 (201) 836-1550. Poggenpohl Kitchen and Bath furniture manufactured by Fr. Poggenpohl K.G. Herford, West Germany.

POGGENPOHL FORM 2000 SERIES CH 60

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**Housing Starts**  
The Long-Term Picture



Homebuilding racked up its fifth consecutive monthly gain in March. Yet the rise still leaves starts below the one million annual rate. Builders don't have much confidence in the immediate future and thus are reluctant to speculate in many new starts. And caution is the watchword with mortgage rates floating in the ionosphere, in turn casting a cloud on the

spring selling season. Still, our outlook is for a steady advance in construction. Inflation has slowed to a crawl and interest rates will ease in deference. Helping out will be a budget compromise. Finally, the tax cut and lower inflation mean sharp acceleration in real personal income growth come mid-year, and that will further boost housing demand.

**Starts rose an anemic 2.5% in March** to a 947,000 annual rate, improving only after February's preliminary estimate was revised downward sharply. Fine detail also paints a less-than-rosy picture. Single-family starts remain nearly 30% below the pace a year ago. Construction activity in the bellwether Southern region plunged 6.6%, more than offsetting a quickening in the West. More positively, building permits advanced 9.4%, though single-family authorizations were up just 8.1%. Permits in the South rose a scant 5%, but the West saw a 17.5% increase. And in fact, authorizations outperformed expectations, given the collapse in new-home sales during February. Hopefully, the mix between completions and units under construction will continue to shift toward the latter. For as builders become more optimistic, they will grow less conservative, committing to new units instead of just nurturing what is already a-building.

**Plunging 11.8% in February** sales of new single-family homes hit a meager 336,000 annual pace, nearly matching last September's rate as the worst in recorded history. Moreover, the falloff since December was more than 26%. Sales fell 24% in the South during February, while volume in the West shrank by 10%. At February's pace, the supply of new houses for sale would last 10.3 months. Moreover, the rise in mortgage rates obviously squeezed the middle-income market out, as the average sales price rose 3.3% to \$81,800. Existing home sales rose an encouraging 2.2% to a 1.9-million yearly pace. Moreover, the National Association of Realtors also released its forecast for resales in 1982, predicting a 2.4 million total. Also on the rise in February were shipments of mobile homes, increasing 19%.

**Construction Activity**

In Thousands of Units/Year <sup>(7)</sup>

	3/82	2/82	3/81	Change From Previous Mo.	Change From Year Ago
<b>Private Housing Starts</b>	947	924	1,318	+ 2.5%	-28.1%
Single Family	606	559	863	+ 8.4	-29.8
Two-to-Four Unit Bldgs.	85	83	108	+ 2.4	-21.3
Other Multifamily	256	282	347	- 9.2	-26.2
<b>Total Building Permits</b>	870	795	1,153	+ 9.4	-24.5
Single Family	468	433	678	+ 8.1	-31.0
Two-to-Four Unit Bldgs.	85	76	108	+11.8	-21.3
Other Multifamily	317	286	367	+10.8	-13.6
	<b>2/82</b>	<b>1/82</b>	<b>2/81</b>		
<b>Private Housing Completions</b>	894	1,063	1,365	-15.9%	-34.5%
Single Family	534	638	937	-16.3	-43.0
Two-to-Four Unit Bldgs.	68	70	124	- 2.9	-45.2
Other Multifamily	292	355	304	-17.7	- 3.9
<b>Private Units under Construction</b>	694	685	928	+ 1.3	-25.2
Single Family	403	394	535	+ 2.3	-24.7
Two-to-Four Unit Bldgs.	47	46	69	+ 2.2	-31.9
Other Multifamily	244	245	323	- 0.4	-24.5

**Market Activity**

Annual Rate

	2/82	1/82	2/81	Change From Previous Period	Change From Year Ago
<b>New Single-Family Sales<sup>(7)</sup></b>	336	381	511	-11.8%	-34.2%
Average Sales Price <sup>(7)*</sup>	\$81,800	\$79,200	\$80,000	+ 3.3	+ 2.3
<b>Backlog of New Homes<sup>(7)</sup></b>	10.3 mo.	8.6 mo.	8.1 mo.	+ 1.7 mo.	+ 2.2 mo.
<b>Existing Home Sales<sup>(6)</sup></b>	1,900	1,860	2,590	+ 2.2	-26.6
Average Sales Price <sup>(6)*</sup>	\$80,100	\$79,200	\$75,700	+ 1.1	+ 5.8
<b>Mobile Home Shipments<sup>(7)</sup></b>	251	211	254	+19.0	- 1.2
	<b>1981</b>	<b>1981</b>	<b>1980</b>		
	<b>4th Qtr.</b>	<b>3rd Qtr.</b>	<b>4th Qtr.</b>		
<b>Spending on Home Repair, Etc. (billions/year)<sup>(7)</sup></b>	\$47.4	\$47.4	\$49.2	0.0%	- 3.7%

## Construction Cost Indices

1967 = 100

	3/82	2/82	3/81	Change From Previous Mo.	Change From Year Ago
<b>Wholesale Price Index—</b>					
All Construction Materials <sup>(6)*</sup>	293.3	292.8	282.7	+ 0.2%	+ 3.7%
Asphalt Paving <sup>(8)</sup>	596.2	599.4	551.9	- 0.5	+ 8.0
Portland Cement <sup>(8)</sup>	338.2	338.2	324.3	0.0	+ 4.3
Softwood Lumber <sup>(6)</sup>	319.5	319.8	346.0	- 0.1	+ 7.7
Plywood <sup>(8)</sup>	237.1	235.7	248.8	+ 0.6	- 4.7
Plastic Products <sup>(2)</sup>	149.8	153.2	154.9	- 2.2	- 3.3
<b>Production Index—Construction</b>					
Supplies <sup>(4)*</sup>	124.7	126.3	149.0	- 1.3	-16.3
Construction Employment (000) <sup>(6)*</sup>	4,122	4,168	4,416	- 1.1	- 6.7
Unemployment Rate—Constr. <sup>(8)</sup>	17.9%	18.1%	14.7%	- 0.2	+ 3.2
Hourly Constr. Earnings Index <sup>(8)</sup>	138.0	138.0	128.6	0.0	+ 7.3
	<u>2/82</u>	<u>1/82</u>	<u>2/81</u>		
New Materials Orders (000) <sup>(7)</sup>	\$10,921	\$10,778	\$13,001	+ 1.3%	-16.0%
Materials Shipments (000) <sup>(7)</sup>	\$11,204	\$11,333	\$13,040	- 1.1	-14.1

## Financial Activity\*

	2/82	1/82	2/81	Change From Previous Mo.	Change From Year Ago
<b>Net New Deposits, S&amp;Ls</b>					
(millions) <sup>(3)</sup>	\$ 700	(\$ 138)	\$ 879	\$ 838	(\$ 179)
<b>Outstanding S&amp;L Mortgages</b>					
(millions) <sup>(3)</sup>	\$15,255	\$15,073	\$16,197	+ 1.2%	- 5.8%
<b>Mortgage-Backed Securities—</b>					
<b>S&amp;Ls (millions)<sup>(3)</sup></b>					
	\$37,008	\$34,783	\$27,557	+ 6.4%	+34.3%
<b>Net New Deposits—Mutual</b>					
<b>Savings Banks (millions)<sup>(5)</sup></b>					
	(\$ 285)	(\$ 1,064)	(\$ 385)	\$ 779	\$ 100
	<u>3/82</u>	<u>2/82</u>	<u>3/81</u>		
<b>Effective Mortgage Commitment</b>					
<b>Rate (Convent., 25-yr., 75%)<sup>(3)</sup></b>					
	17.52%	17.50%	15.47%	+0.02	+2.05
Atlanta	17.44	17.61	14.67	-0.17	+2.77
Boston	17.41	17.46	15.29	-0.05	+2.12
Chicago	17.11	17.13	15.30	-0.02	+1.81
Dallas/Ft. Worth	16.45	16.79	14.83	-0.34	+1.62
Denver	16.92	16.97	15.82	-0.05	+1.10
Los Angeles	17.24	16.70	15.14	+0.54	+2.10
Miami	16.33	16.43	14.95	-0.10	+1.38
Washington, D.C.	16.91	17.23	15.53	-0.32	+1.38
	<u>6/83</u>	<u>12/82</u>	<u>6/82</u>		
Ginnie Mae—8% Futures					
Contract—% Yield <sup>(1)</sup>	15.076	15.018	14.903	+0.115	+0.173

## General Economic Indicators

	3/82	2/82	3/81	Change From Previous Mo.	Change From Year Ago
<b>U.S. Industrial Production Index</b>					
(1967 = 100) <sup>(4)</sup>	141.2	142.3	152.1	- 0.8%	- 7.2%
<b>Personal Income</b>					
(billions of dollars) <sup>(7)</sup>	\$2,524.8	\$2,514.3	\$2,340.4	+ 0.4	+ 7.9
Savings Rate <sup>(7)</sup>	5.5%	5.3%	4.9%	+ 0.2	+ 0.6
Total Employment (Millions) <sup>(8)</sup>	99.492	99.590	100.406	- 0.1	- 0.9
Unemployment Rate <sup>(8)</sup>	9.0%	8.8%	7.3%	+ 0.2	+ 1.7
<b>Wholesale Price</b>					
Index (1967 = 100) <sup>(8)*</sup>	297.9	298.5	290.3	- 0.2	+ 2.6
Retail Sales (billions of dollars) <sup>(7)</sup>	\$87,164	\$87,574	\$86,128	- 0.5	+ 1.2
<b>Domestic New Car Sales</b>					
(millions/year) <sup>(7)</sup>	5,878	6,311	7,639	- 6.9	-23.1
	<u>2/82</u>	<u>1/82</u>	<u>2/81</u>		
CPI (1967 = 100)	283.4	282.5	263.2	+ 0.3	+ 7.7
CPI - Home Ownership	368.7	367.5	335.8	+ 0.3	+ 9.8

Sources: (1) Chicago Board of Trade; (2) Electrical Marketing Newsletter; (3) Federal Home Loan Bank Board; (4) Federal Reserve Board; (5) National Association of Mutual Savings Banks; (6) National Association of Realtors; (7) U.S. Department of Commerce; (8) U.S. Department of Labor. All data seasonally adjusted unless marked by an asterisk (\*). In most cases latest figures are preliminary, with revisions shown in next month's table.

Supply markets brightened faintly in March. Wholesale prices for construction wares advanced 0.2%. Included was a slight stiffening in plywood quotes, a good indicator of stronger markets if an uptrend develops. Also encouraging: a small drop in the unemployment rate among building tradesmen during March, though the total number of jobs slipped by 1.1%; construction wages unchanged, suggesting better control of labor costs to contractors; and a 1.3% rise in new orders for construction goods during February though shipments continued their downtrend. The bad news: a drop in production of construction materials and supplies during March though output remains slightly ahead of the January low. All told, the picture in materials markets shows that while February's strength was inflated due to the bounceback from January's harsh weather, a resumption of the recessionary downside did not really take place in March.

Money markets have turned volatile as traders and investors watch and worry about the pending budget compromise between Congress and the White House. In fact, however, credit demands have eased slightly, and with inflation brushing the 3% range, pressures on rates could ease abruptly. While getting the deficit below \$100 billion in fiscal 1983 is a remote prospect, some improvement from the most disastrous projections will instill confidence in traders' hearts. Moreover, the savings rate has been creeping up and will likely continue to do so after the mid-year tax cut. Thus our forecast still sees long-term rates easing through this summer and into the fall, shedding about 200-basis points. Any sharper improvement in mortgage rates appears unlikely, since S&Ls have been locking in their financial costs by extending the maturity of their liabilities, sometimes as a negative spread.

The recession is bottoming out. Industrial production fell 0.8% in March, but remains ahead of January. The five-month rise in homebuilding is also adding to the forces of recovery. And the latest growth in personal income, 0.4%, exceeds the inflation rate. Most importantly, inventory liquidation has sped along at a record pace for the post-WW II era. Thus as even modest gains in real income are translated into demand, production will rise and employment and income will also increase. Aiding these internal forces of recovery will be the tax cut at mid-year and the sharp boost in defense spending, due to jump by 7% in real terms. There is more certainty that the Federal Reserve will not torpedo the recovery now. But concerns are mounting about the strength of the expansion in 1983. Our forecast is for real growth of about 4% next year—subpar for a cyclical snapback but in keeping with the elevated level of interest rates.



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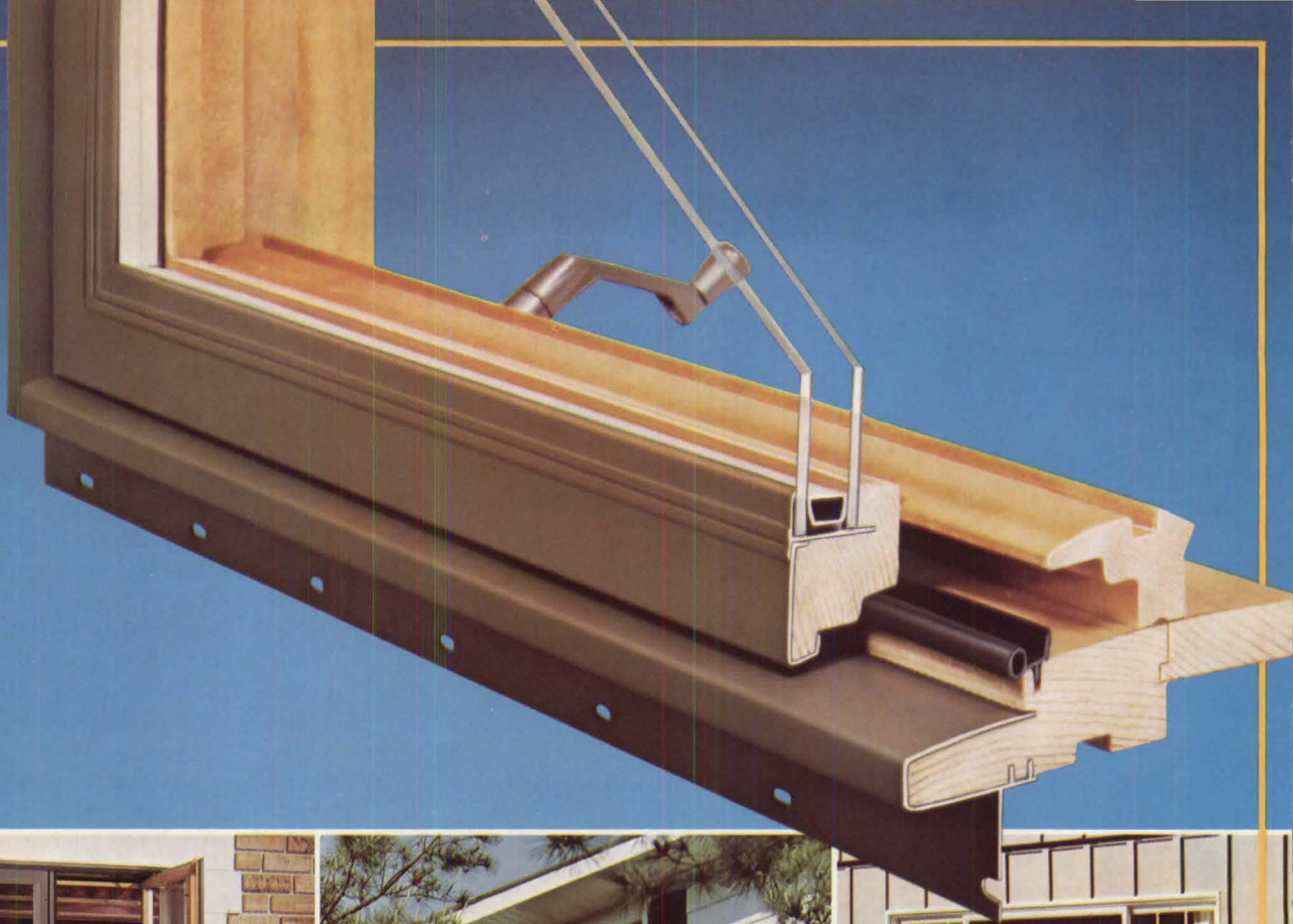
Some things we can't do. Some, we can. "Worrying about those things over which we have no control can seriously handicap the industry's efforts to make the most of what is available," says J.A. Rankin, Executive Vice President of Scovill's NuTone Housing Group. "NuTone is dedicated to helping the home construction industry in every way possible. Offering special RALLY pricing and working with employees to increase productivity and with suppliers to hold or reduce costs are our immediate goals!"

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## Repeat use of building plans under fire

Just how much leeway does a developer have with designed-to-order plans? A battle now being fought in an Omaha courtroom—in a case that may end up at the U.S. Supreme Court—indicates that builders are not automatically free to use plans they have bought from an architect for one project on another. At issue is a central definition of the relationship between builder and architect. The case, which has attracted national attention through participation of such groups as the American Institute of Architects and the National Society of Professional Engineers, is believed to be the first test of how the 1976 Copyright Act applies to an architect's plans.

The dispute involves a pair of apartment buildings in Lincoln, Neb. The first, completed in 1979, by Belmont Construction Co., was designed by Aitken, Hazen, Hoffman, Miller P.C. Later, Belmont began moves to use the plans again on an adjoining lot.

The Aitken firm, learning of the proposal for a twin building, applied for a copyright on the original plan, and warned Belmont that reusing the drawings would be a copyright in-

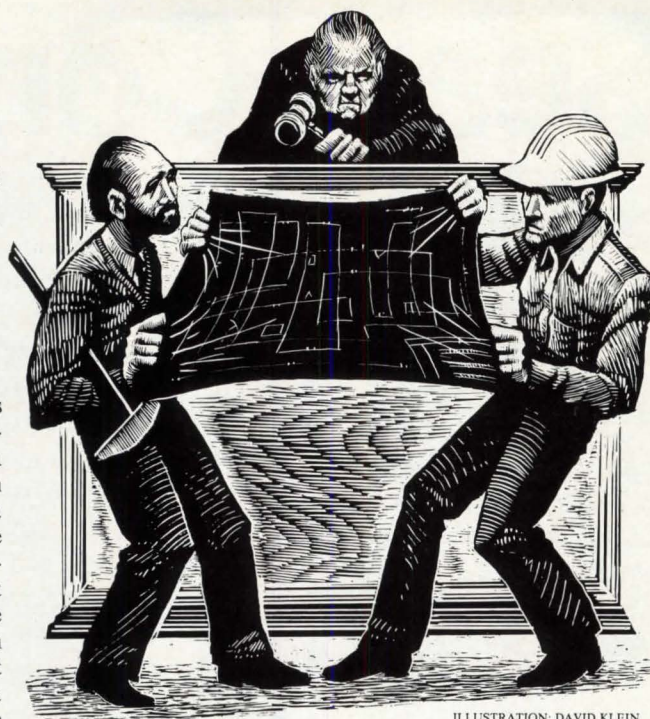


ILLUSTRATION: DAVID KLEIN

fringement. While the copyright law does not protect the actual design of the building, it does curb the ability of anyone not authorized by the copyright owner to make physical copies of plans. And, according to an initial ruling by federal district court Judge Warren K. Urbom, the architect continues to own rights to the plans, even though Belmont paid for—and received—a physical copy of the plans.

That does not end the dispute, however, because two other points raised by Belmont in its defense against the infringement suit impressed Urbom as at least worthy enough to go to trial.

One involved the builder's claim that the firm was really co-author of the plans, since so many of Belmont's ideas about how the apartment should

look were relayed to the architects in conversations and sketches, and ended up in the final plans. Were Belmont a "co-author" with the Aitken firm of the plans, it would, of course, have the rights to copy them. One major impediment of eventually winning on that point, however, is that under state law only those licensed as architects can draw up plans. "The argument that Belmont cannot become a co-author if what it did to become one was illegal under the Nebraska statutes is attractive and has considerable policy strength," Urbom has commented.

Still to be ruled on is Belmont's contention that, even if it is not a "co-author," the architects were working for the construction company when they drew up the plans, so Belmont—as the employer of the "author"—is the real owner of the documents. At trial, Urbom suggests that issue will be resolved by looking at just how much power a builder has to "direct and supervise" how an architectural firm does its work.

The deal between the builder and architects was oral, pointing up how risky such unwritten agreements are. Had there been a written contract specifically transferring ownership of the copyright of the plans to Belmont, there would have been no case, Urbom notes.

—DANIEL MOSKOWITZ  
*McGraw-Hill World News, Washington*

## Civil rights 'violated' by adults-only project

An "adults only" apartment complex violates California's civil rights law, even though that statute specifically bans only discrimination based on "sex, race, color, religion, ancestry or national origin."

Although a trial court had upheld a prohibition on families with children in the complex as reasonable given the fact that youngsters are "rowdier, noisier, more mischievous and more boisterous than adults," [HOUSING, Dec. 1979] the high court overturned the ruling.

Civil rights laws are supposed to mean that each person is treated as an individual, the justices explained, so

any rule that assumes that a person can be discriminated against because of the class to which he or she belongs is unlawful. The reasoning would not apply to housing projects for the elderly, the high court said, because there is clear public policy supporting specialized facilities for these residents. Other decisions of interest to the industry:

It can violate a state consumer protection act for a **homebuilder to be late in making promised repairs on houses**, even if the delays are caused by weather and other factors which the builder cannot control. The Washington Court of Appeals overturned the conclusion

of the trial court in awarding damages to a group of homebuyers who had to wait months for closing because needed repairs were not done on time. An experienced builder should expect some weather problems and subcontractor delays and factor them into his time estimates, the appellate judges ruled. Not doing so means that the estimates "possess a tendency or capacity to deceive," which violates the law. The decision suggests that had the builder missed deadlines only in "isolated occurrences" there would have been no cause for a damage award.

*Court briefs continued on page 39*

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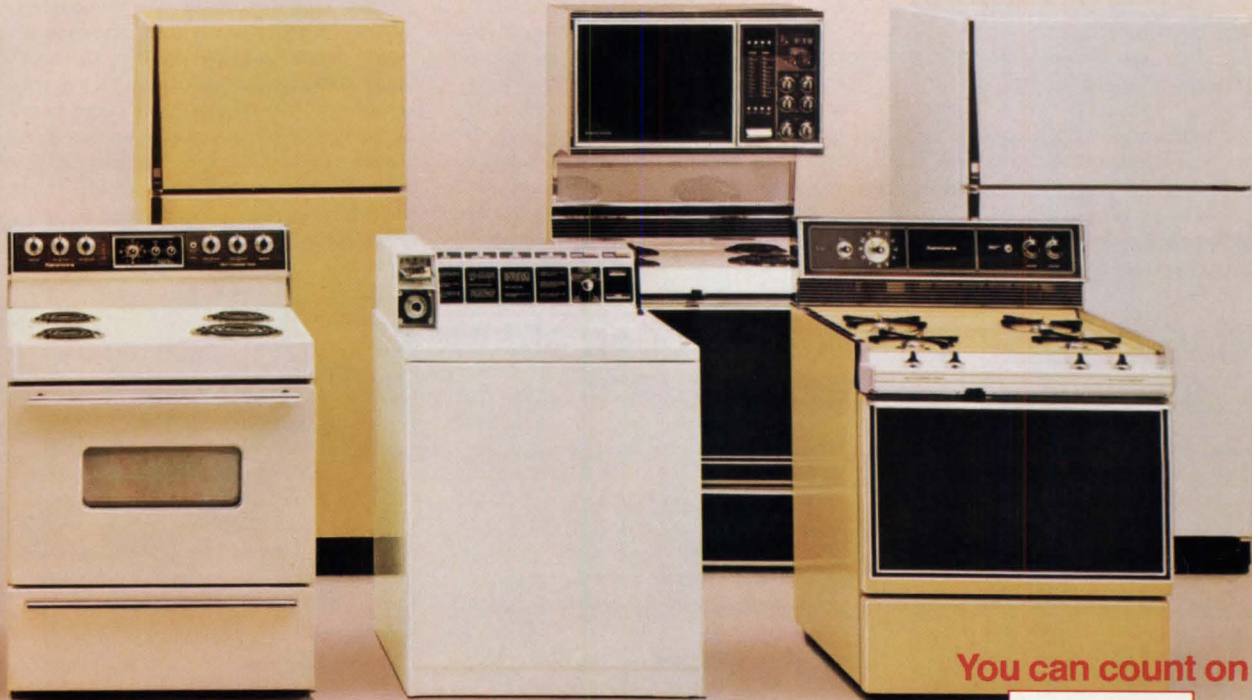
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## Imported idea helps provide housing for elderly

The idea behind a government program that never quite got off the ground may turn out to be a new way to provide housing for the elderly. The idea was borrowed from the Australian government, which rents small, moveable cottages called "Granny flats" to people who wish to care for their parents, but who do not have room in their own homes. The cottages are placed on the next-of-kins' developed single-family lots.

Five years ago, Peter Dys, executive director of the Office of Aging in Lancaster, Pa. began working on a similar program for Lancaster.

**No funds.** Dys was unable to obtain HUD money for the program, but he did attract the interest of Edward Guion, a local manufacturer of paneled homes. Guion's company, Costal Colony Corp. designed a line of for-sale modular units to be used as "Granny flats"—most people in the U.S. call them elder cottages. The largest cottage in the line contains 720 sq. ft.

Guion's model drew 6,000 people in a six week period when it was displayed in Lancaster. Four have been sold out and the company has orders for two more.

**Zoning.** Lancaster County couldn't find money for the program, but at least six municipalities in the area have said they will provide code variances on a unit-by-unit basis for the cottages. The units can be placed on developed single-family lots of next of kin if the occupant of the cottage is 62 or older or can qualify for social security disability benefits—and if the unit can be serviced by utilities from the existing residence. When the occupant



'Granny-flat' drew 6,000 visitors when it was displayed in Lancaster.

dies or moves away, the cottage must be removed.

Costal Colony's line includes a one-bedroom, 508-sq.-ft. unit that sells F.O.B. at the factory for \$16,965, and a two-bedroom 720-sq.-ft. unit that sells for \$21,380.

The houses can be erected on standard concrete slabs, but Guion recommends installing them on pressure-treated wood foundations for easy removal. Site work and freight add about \$2,000 to the cost.

**Specifications.** The cottages are built to standard building codes and shipped on flat bed trucks, like any modular unit. Special features of the elder cottages include doors that are wide enough to accommodate a wheelchair, grab bars in the bath and wall switches that are lower than normal and outlets that are higher for people confined to wheelchairs.

**Other markets.** While the units were designed for the elderly, Guion says many younger people have expressed interest in them. He has a waiting list of 51 people who want the homes, but who do not have a lot.

"The biggest boom for this type of housing is not going to be the Australian idea of placing them in the backyard of the next of kin," Guion says. "The biggest potential is their use as regular housing in high-density areas."

Joan Espenshade of the Lancaster County Office of Aging says that young people are interested in the cottages for vacation homes and as starter housing. "But the people who are interested offer a reason to use the houses as elder cottages," she says. "It tells the relatives of the elderly that there is a market for the house once it is not being used by the elderly."

—F. J. D.

## Shared housing: New look for an old idea

What has at least two master suites, but only one kitchen, living room and dining room? A shared house. It's an old idea, but according to the more than 100 participants at a recent HUD-funded conference at Princeton University, its time may have come again.

"Changing lifestyles, the high divorce rate and the increased longevity of the population are all trends that will continue," Dennis Day-Lower, director of Philadelphia's Shared Housing Resource Center (which put on the conference for HUD) said. "Shared housing is the flexible and adaptable solution that we need to meet the diverse housing needs of the future."

Day-Lower and others pointed to

recent Census figures that show that 28 percent of all households in the United States are non-family units with two unrelated households living together. "It's the makings of a roommate culture," Princeton sociology professor Suzanne Keller told the group, in a keynote speech.

**Varied opportunities.** Shared housing seems to have appeal across the age spectrum, attracting young professionals, single parents and childless couples. Many projects discussed were group homes for the elderly or the handicapped.

Different varieties of shared housing discussed during the two-day meeting ranged from match-up services like Seattle's Homesharing for Seniors to

the Boston Shared Living House—a Back Bay townhouse with 14 bedrooms and common kitchen, living and dining areas, in which an intergenerational group of residents lives. And the audience saw detailed plans for a solar-heated group house that the Tennessee Valley Authority is promoting. (Even Southfork, the home of the Ewing family in the popular TV series, "Dallas," is shared housing, one conference participant noted.)

The "mingles" market opens up broad new possibilities for the homebuilder. Day-Lower pointed to tandem housing built by Lewis Homes in California and the units designed by Berkus Group Architects in several states

*Continued on page 32*

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## Public housing brouhaha stirs up Windy City

CHICAGO—In this city of contrasts, where rich and poor live only a few miles apart in their respective skyscrapers, a paper war has flared up over the agency that manages the skyscrapers of the poor: the Chicago Housing Authority (CHA).

The combatants in this war include public housing experts from around the country; an undersecretary of the Department of Housing and Urban Development (HUD) in Washington; public officials both inside and outside the CHA in Chicago; and a civic watchdog group, the Better Government Association (BGA), working with Chicago newspapers.

The weapons in the paper war are, of course, mostly paper: reports, rebuttals to reports, letters, newspaper articles, and, ultimately, checks issued by the U.S. Treasury. But the victims, surprisingly, are not likely to be the some 142,000 tenants living in the CHA projects.

**Round one.** According to the opening salvo—a 288-page study commissioned by HUD and prepared by a nationwide team of public housing experts—the CHA tenants are already about as victimized as they can get, by having to live in miserably managed, decrepit housing units.

The intended victim in the present war is the CHA management, whose primary purpose, the report charges, is “not primarily (to provide) . . . good quality assisted housing, but rather (to acquire) . . . as many federal government dollars as possible for the creation of patronage jobs and financial opportunities.”

As one outsider explains it, “This thing started out as an issue of fiscal responsibility—why was the CHA running a growing deficit each year when its contract with Washington required a balanced budget each year? But now, it’s broadened. It’s become political. What’s most on HUD’s mind is this: What about the people in units who don’t get the services and don’t see the money?”

**The combatants.** After the last shot is fired and the dust settled, the victims may well be CHA Chairman Charles R. Swibel, CHA Executive Director Andrew J. Mooney, the board of CHA directors, and the alleged vast army of patronage workers that serves the CHA bosses. HUD is making fairly bold threats of withholding federal operating subsidies, the lifeblood of the CHA, if changes aren’t made. At a Chicago press conference late in March, HUD Undersecretary Donald I. Hovde called for Swibel to resign.

If he doesn’t? Hovde was asked. “We have a number of different measures we could take,” he replied. “We give the city of Chicago over \$300 million a year” (\$82 million of which is CHA operating subsidies).

A larger question also looms: What are the implications of a very visible attack on a public housing authority whose management of units “ranks among the worst (in the country),” at a time when stated HUD policy is to



**Deficient management,** leading to project deterioration like that shown above, is one charge leveled at CHA.

break away from subsidized housing altogether? HUD Secretary Samuel R. Pierce told the *Washington Post* in early November that the Reagan administration wants to get out of the business of subsidizing housing for the poor by 1984 or 1985.

**Round two.** Though by all indications this particular HUD effort to change the CHA was not intended to serve as a watershed in a changing federal public housing policy, its timing may make it so. Aware of deep discontent among liberals with the Reagan administration’s stringency in social spending, the CHA attacked the report as “an ideological attack on public housing generally” in its voluminous point-by-point response to the HUD-ordered report.

This rebuttal, sent to HUD, was rebutted by a letter to Hovde from Oscar Newman, a New York City urban expert who headed the study team. “We had expected that the CHA’s tone might be defensive, perhaps even hurt,” the letter reads in part, “but we were disappointed to find their response little more than a series of

unsupportable allegations.” The letter goes on to call the CHA statement “a clever smoke screen designed to deceive the media. It was obviously put together,” Newman charged, “with the premise that if the lie were made big enough, someone might actually believe it.”

### Who’s Chicago’s ‘Deep Throat’?

The media play a key role in the paper war; it wasn’t until the BGA, an investigative private group that collaborates with newspaper and television investigations of Chicago corruption, “leaked” the report to the *Chicago Sun-Times* and the *Chicago Tribune* that the issue came to a head. (For the record, HOUSING’s copy of the HUD-commissioned report was also obtained from the BGA.)

The report was previously highly confidential. Apparently all HUD copies were kept in Washington “under lock and key,” according to an insider; the suspicion is that a disgruntled CHA or city worker “leaked” the report to the BGA, which is mum about who provided it.

It was on St. Patrick’s Day, with the Chicago River dyed green and green-clad celebrants frenetically filling the streets, that this latest chapter in the bumptious politics of Chicago began. “U.S. requests Swibel ouster, CHA overhaul,” said inch-high letters bannered across the front page of the *Chicago Sun-Times*. Actually, “the U.S.” had not yet made any such statement—a report had been leaked, and the report was not even officially acknowledged by HUD. But wide publicity forced relations between Chicago and HUD in Washington to pick up speed, and two days later, as papers were flying through the mails, Hovde made a personal appearance in Chicago and demanded the resignation of Swibel. At the same press conference, Hovde officially released the report.

What was in it? The most serious allegations, from a public policy point of view, have been lost in the fray: that housing conditions for CHA tenants were almost unliveable, and that the financial status of the CHA was completely out of control.

**The beginning.** The report was initiated on a strictly financial matter. Last May, says the report, the CHA asked HUD for an “administrative loan” of \$49 million to supplement its \$59.9 million subsidy for 1981—funds which, according to the report, it had already used up. In other words, with four months left in fiscal 1981, the CHA had already used up its annual

*Continued on page 32*



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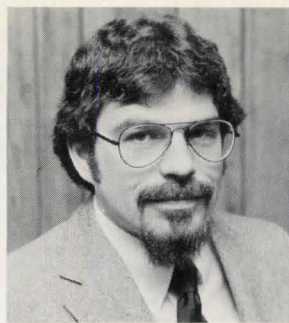
HUD Secretary Pierce agreed to a loan of \$16 million, provided that the CHA would agree to a list of reforms to reduce operating costs. The report also states that last June 24, Mayor Jane M. Byrne of Chicago agreed to the conditions and agreed that Chicago and the CHA would cooperate in a federally funded study to pick out further areas for improvement "and will take prompt action to implement any management changes recommended by the audit and approved by HUD."

The study shows gross ineptness in fiscal management: Chicago's public housing runs a \$42 per unit deficit per month, the highest in its region. The Chicago Housing Authority is the second largest public housing authority in the country. The largest—New York City Housing Authority, runs a monthly deficit of only \$3.40 per unit, according to the study.

A further sign of mismanagement, according to the study: The CHA is running an operating deficit, which carries over from year to year. "Since 1977, the CHA has been unable to operate a balanced budget and has been developing an increasingly large and serious deficit." At the end of 1980, the report says, the operating deficit was \$33.6 million. Now, according to some estimates, that deficit has grown to \$38 million.

(This is particularly important in light of the battle between HUD and CHA: An unbalanced budget breaks the "annual contributions contract" between the two agencies, and gives HUD powers over the CHA it would not normally have.)

**Management criticized.** The study also shows gross deficiencies in management of the housing projects.



**Under fire:** CHA officials Charles R. Swibel, chairman, (left) and Andrew J. Mooney, executive director, are among those whose jobs may be on the line.

It includes reports of such physical problems as deteriorating roofs and flooring, broken elevators and broken and missing doors.

Also, energy waste is reported: "Apartments are universally overheated:" 80° to 85° F. was a typical reading in most units (in the winter) night and day, says the report. "Residents commonly had their windows half open on cold days to reduce internal temperatures.

The report characterizes the CHA as an intentional boondoggle: "The CHA operates as it does because it suits its purpose to do so . . . Until now, it has been the assumption of the CHA that the higher its operating costs, the greater would be the in-flow of federal dollars to bail it out." Even HUD does not escape criticism here: "And the Department of Housing and Urban Development has in the past acted to lend credence to that assumption."

On March 31, less than two weeks after the press conference, Hovde told HOUSING that "they (the CHA) have \$14½ million due today which they're not going to get." And true to his word, the next day the CHA did not receive the second part of the first half of its annual operating subsidy from HUD, although there was confusion as

to why. A CHA spokesman claimed it was merely a bookkeeping error, although Hovde calmly insisted the meaning of the missing money was unmistakably clear. Swibel must leave, and a "management oversight review committee" to guide a streamlining effort must be formed, before the CHA will get any more operating subsidies from HUD.

**National implications.** In his March 30 interview, Hovde stressed the importance of this showdown: "All the other public housing authorities in the country are waiting to see what we do in Chicago," he said. "If we back down on this, then the ball game's over."

So in two weeks the paper war escalated into a full-fledged political battle where jobs and money have become the weapons. The issue will ultimately wend its way down to the bottom line, predicts one outsider. Hovde is adamant about reform through restaffing at the top; politically powerful Byrne, who has been neatly sidestepping financial facts in recent public appearances, is just as adamant about keeping her influential ally, Swibel, on board. But, says the insider, "the real crunch is going to come when the money is gone." —DAVID GARFINKEL

## Shared housing *continued from page 28*

as evidence of growing builder interest. Most of these units are designed for joint ownership by unrelated owners and are, says Day-Lower, "a way to buy into the housing market."

Remodeling is another growth area for the shared housing market. There are more than seven million households headed by elderly homeowners living in homes of five rooms or more, according to Census figures. These houses are expensive to maintain, but because of both equity build-up and the desire to stay in a familiar place, most elderly don't want to give up their large homes. In many communities, such houses are being remodeled to include small accessory apartments. These offer a double benefit: The owner can continue to reside in familiar

surroundings and receive income; and rental units are created—often in communities where there is a shortage of rental housing.

**Widespread interest.** A Tri-State Regional Planning Commission survey cited at the conference indicated that 132 communities in the New York metropolitan area alone have shared housing. Day-Lower says his group receives, on average, about 12 inquiries a day, and has seen interest expressed from every state.

There remain barriers to implementing the concept, however. They include a wariness on the part of both private and public financial institutions about bankrolling shared housing, although one private lender at the meeting said: "Shared housing is not such an alien

idea that a bank won't be able to figure out how to do it." A forthcoming bill in Congress would explicitly allow Sec. 8 subsidies to be used for shared housing. Several participants also noted that the concept fits right in with the Administration's proposed housing voucher program.

Zoning and building codes were other barriers cited, although several areas have started programs to sanction, yet regulate, the creation of shared units. The biggest problem, says Day-Lower, is simply lack of information. His conference should begin to address that problem. The planners plan to issue a detailed report this spring that will help spread the word about this promising idea.

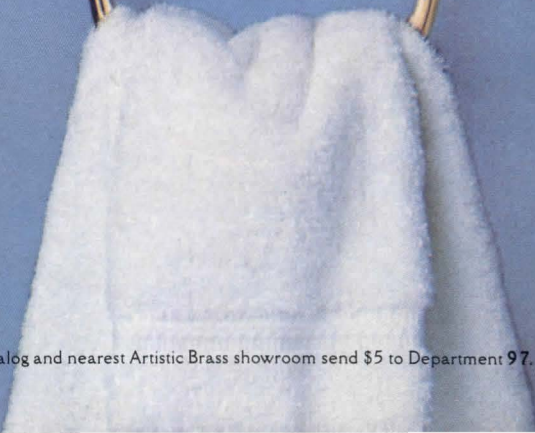
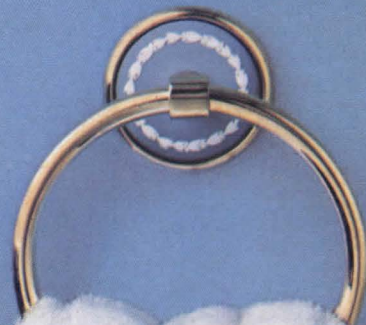
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## Second half: Housing recovery on horizon

NEW YORK—A dose of optimism and a glimpse at the future shape of the housing industry was presented to an audience of corporate executives, financial analysts and investors during a seminar hosted here by the investment firm, Goldman Sachs. The seminar touched on a number of major topics of interest to the housing industry, including the new shape of finance, changes in design, the movement toward higher density and the location of future residential development.

Robert Sheehan, NAHB director of economic research, provided one upbeat note, stating he is "somewhat optimistic" about the industry beginning a long-awaited recovery from its current slump after the second half of this year.

Sheehan's economic forecast called for mortgage rates to drop as low as 13% this year, leading starts to pick up substantially in the third quarter. His scenario called for starts to hit an annualized rate of 1,350,000 units for the fourth quarter. Still, because of the poor beginning this year, Sheehan predicted the third and fourth quarter rebound would only bring total starts for the year to 1,150,000 units.

But, according to Sheehan, "1983 looks more positive" and starts could hit 1.5 million. He cautioned, however, that this forecast hinges on the Reagan administration "making some accommodation" to lower its projected

budget deficit for 1983 and on a continued improvement in the savings rate. He is also counting on the upcoming tax cut to lead the economy out of its current recession.

Sheehan warned the audience that a housing recovery does not mean a return to what many industry observers have used as a bench mark of a healthy industry: annual starts of 2 million units. "That's not likely for the 1980s," he said, noting that average yearly starts of "1.7 million units would be optimistic, considering the bad start the decade got off to."

**New finance system.** The changing face of housing finance was a topic of major interest at the seminar. "The home finance system has undergone a wrenching re-adjustment," said Arthur Solomon, executive vice president of the Federal National Mortgage Association. He predicted that the "system that will eventually emerge will be entirely different" than the one in place before the current period of upheaval.

One significant change, according to Solomon, will be the source of funds for housing. "Historically, over 50 percent of the funds for housing came from the thrifts," he noted. On the brink of collapse, thrifts can hardly be counted on to continue to fill that role. Solomon believes "some of the slack" will be taken up by commercial banks, while seller financing, increasingly

used in recent years, will also be an important source of capital (*see related story, below*).

But the secondary mortgage market, with its ability to tap the capital markets, will be the single most important player in the new housing finance system, according to Solomon.

**Wave of the future.** Mortgage-backed securities will be the wave of the future for channeling loans to investors, Solomon claimed, noting that in one five and a half month period alone, Fannie Mae packaged and sold over \$6 billion in mortgage-backed securities. "Much of this was purchased by pension funds," said Solomon, "which I see as significant to the question of where capital will be coming from." He predicted that the funds will become a more important source of money for the housing industry as changes in ERISA make it easier for them to invest in housing. ERISA, the Employee Retirement Income Security Act, regulates pension funds' investments.

**The mortgage maze.** Seminar speakers also addressed the proliferation of alternative mortgage instruments—the mortgage maze. [HOUSING, June '81]. Frank Crossen, chairman of the board for Centex Corporation, said the vast number of mortgage instruments has been more hindrance than help. "Our problem is trying to

*Continued on page 36*

## People-to-people financing: Sellers helping buyers

The use of second mortgages by homebuyers is increasing, according to a survey of more than 7,000 members of the National Association of Realtors conducted earlier this year. Although assumption of an existing mortgage is still the most popular form of financing (43% of single-family home sales), three-quarters of the respondents reported that in the past 12 months they had been involved in at least one transaction where the buyer had taken a second mortgage. In 80% of those transactions, the second mortgage was used in conjunction with the assumption of an existing mortgage.

The survey also indicates that in 65% of the people-to-people transactions the seller is the source of the second mortgage, while financial institutions and private investors make up the remaining 35%.

"It is unquestionable that at the present time people-to-people financing is helping to keep a depressed housing market afloat," said Dr. Jack

Carlson, chief economist and executive vice president of the NAR. "With the high incidence of mortgage assumptions, any federal preemption of state due-on-sale bans, as recommended by the President's Commission on Housing, will seriously damage an already depressed housing market."

**More first-time buyers.** Another survey—this one by the Chicago Title Insurance Company—shows that first-time buyers raised their market share in 1981 to 39.4%, up from 32.9% in 1980. Chicago Title speculates that this may be a result of a decreasing escalation of prices: The median price of a home purchased by first-time buyers was \$63,180 in 1981, up only 2.8% from \$61,450 in 1980. The previous year, the median price jumped 20.9% from \$50,800 in 1979.

Not so encouraging is the increase in average median monthly mortgage payments, up 19% to \$665 from \$558 in 1980. The average monthly payment as a percentage of income was

also up—to 38.4% in 1981 from 35.6% in 1980.

**Down payment trends.** Reversing an earlier trend, the survey shows that fewer first-time buyers relied on help from relatives in making the down payment. In 1981, only 7.3% reported receiving half or more of the down payment from relatives, a dramatic decrease from the 26.2% that did so in 1980. As part of the same trend, the percentage of first-time buyers whose down payment came from personal savings and investments increased sharply in 1981, rising to 63.8% from 51.1% in 1980.

Among 1981's repeat homebuyers, 46.2% generated all of the down payment from the sale of a previous home, compared with 39.7% of 1980's repeat buyers. Median purchase price by the "repeat" market in 1981 moved up to \$82,220 from \$75,750 in 1980—an 8.5% increase. Average mortgage payments rose to \$725 from \$660, a 9.8% increase.

—MARY A. RIORDAN

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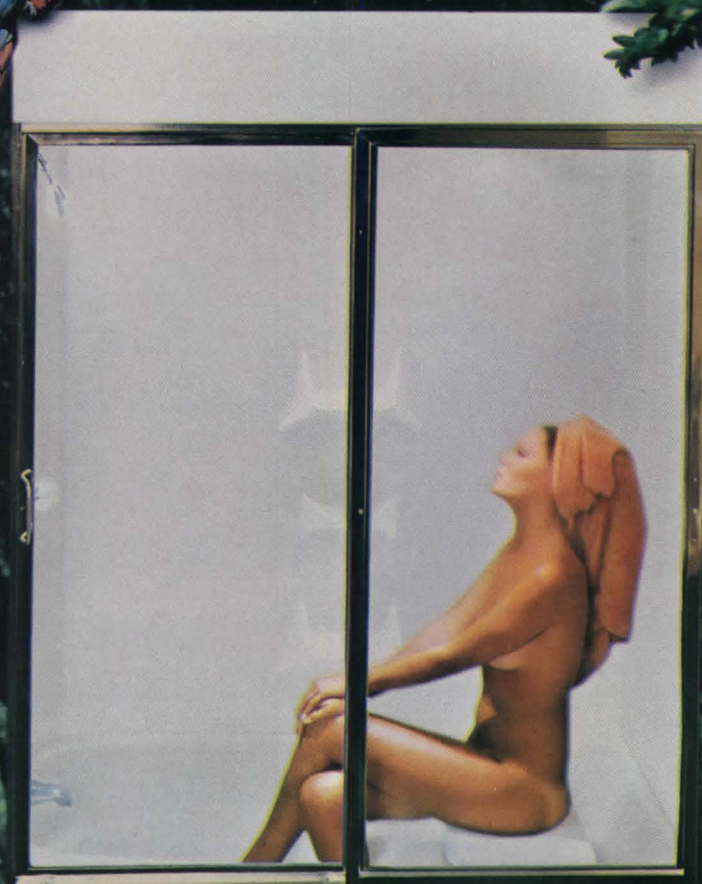
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# Pension dollars start trickling to builders

Homebuilders starved for new mortgage money are at long last getting attention—and money—from the managers of pension funds, particularly those who manage public funds.

The breakthrough came when the Federal National Mortgage Assn. (Fannie Mae) negotiated its first sale of guaranteed securities to a state pension fund under a new program that channels money specifically into new-home construction.

The \$20 million from the pension fund will be turned into mortgages issued by Loyola Federal Savings and Loan, Maryland's largest federally chartered S&L. The mortgages will bear interest rates as low as 13.5%. No subsidies are involved, but builders will "buy down" the rate to this level through the payment of cash (points) which, when passed back to the Maryland State Retirement System (MSRS) fund, brings its return to 16%.

David O. Maxwell, Fannie Mae chairman, says the financial package "will forge a direct link" between pension funds and the homebuilders. He says that the deal "is a prototype" that already has triggered nationwide interest. J. Donald Klink, Fannie Mae vice president for mortgage securities, says he has "been working with six other state pension funds"—New York, Florida, Indiana, California, Texas

and Virginia—and "has been getting calls daily" from still others.

Randy Barber, a Washington pension consultant to many pension funds, says "over the next year or two, I would expect that Fannie Mae would package such targeted mortgage securities amounting into the billions of dollars."

**Five-year takeout.** Loyola Federal Savings and Loan is obligated under the terms of the deal to renegotiate the

principal and interest, they say, "is akin to a surety bond."

Loyola quickly allocated \$16 million in commitments to "15 or 20 builders," according to Thomas R. Marvel, Sr., a vice president of the firm. One of them, Morton J. Macks of Baltimore, expects to use about \$800,000 or \$900,000 of his allocation during the next six months.

Macks plans to build and sell 84 homes this year, and he admits that some of the money will be used on "existing houses that need to be sold so a customer can buy a new house." His only problem, he says, is with government regulations that tell the customer "this is a balloon mortgage and it all falls due in five years."

Many state pension funds have for some time been investing in residential mortgages, mostly in the form of Fannie Mae securities backed by seasoned mortgages or Government National Mortgage Assn. (Ginnie Mae) securities backed by mortgages insured by FHA and VA.

All told, state and local pension funds now total about \$226 billion, and private plans about \$500 billion. But their investment in new mortgages won't come anywhere near providing the full quick shot in the arm the home builders want. —HERBERT CHESHIRE

*McGraw-Hill World News, Washington*

**"...a very safe investment at a very high rate of return"**

—Arthur M. Lynch  
Maryland State Retirement System

mortgages at the end of the five years at a rate tied to the return on Fannie Mae securities. Arthur M. Lynch, a senior portfolio manager for the Maryland pension fund, says "We felt this was . . . a very safe investment at a very high rate of return . . . particularly with this five-year takeout."

**A sure-thing investment.** Fannie Mae officials say that buying their securities "makes investment easy," for pension funds. The guarantee of

## Housing recovery *continued from page 34*

explain all these programs to our salesmen. We can't get them to understand them, let alone our customers." NAHB's Sheehan agreed, calling the alphabet soup of mortgages "destructive to the market—builders can't cope and buyers can't cope."

One way to avoid such problems is for a builder to offer his own mortgages, which is what Pulte Homes Corp. does. James Grosfeld, Pulte's chairman, said the company provides mortgages to almost all its buyers through its ICM Mortgage Corp. subsidiary. Most are fixed-rate, 30-year loans. Grosfeld believes consumers are, and should be, wary of most of the adjustable-rate mortgages on the market. "Our feeling is we should stay away from those instruments," he said. "We want to get as long a term as possible and a fixed rate."

**Product changes.** Besides new financial instruments, seminar speakers predicted builders will be offering new housing products to buyers: "More units, smaller units, smaller tracts of land" was the concise summary by Leonard Miller, president of

Lennar Corporation, of the new trend in product offerings.

Robert Strickland, chairman of Lowe's Inc., a supplier of building materials to builders and do-it-yourselfers, said the housing industry will have to learn from the auto industry, which has re-designed its product in the face of competition from foreign imports. "The 'Europeanization' of American housing will continue," he said. "Houses will follow autos and become downsized and more efficient."

Centex's Crossen concurred: "I don't think we'll ever return to the good old days of the big house on the big lot." According to Crossen, Centex subsidiaries Fox & Jacob and Centex Homes have gone from once offering almost all detached homes to single-family clusters, duplexes and triplexes, some with units as small as 900 sq. ft. Strickland, in an aside, predicted that recycling and rehab activity will continue to grow in the near future.

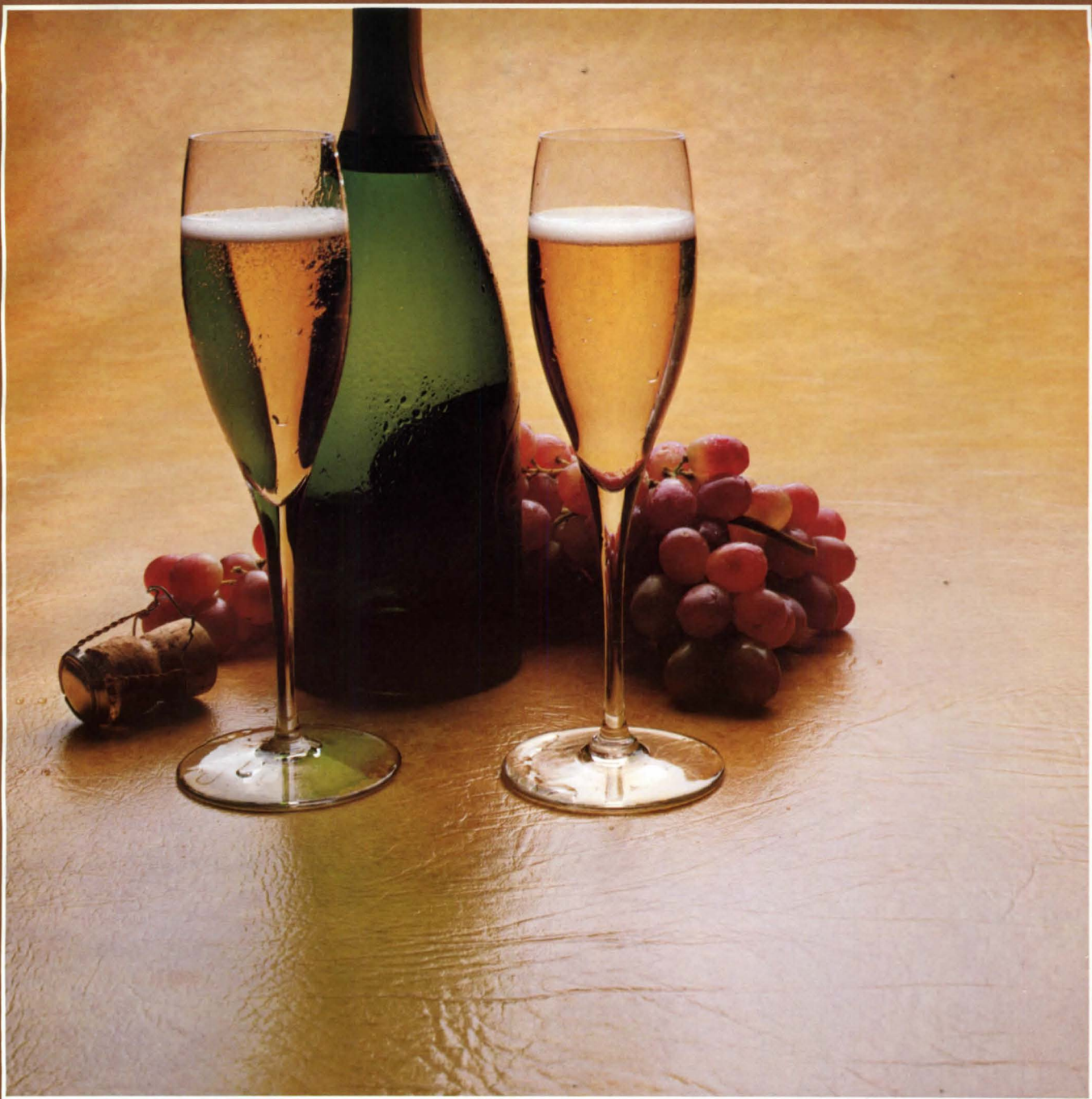
**Future activity.** There was no disagreement over which region of the country would most enjoy increased

housing production once the turnaround came. "It is the Sunbelt that's going to experience the greatest growth," said Sheehan, reflecting the consensus of the seminar speakers. Sheehan predicted Texas and Florida would lead the way. "California will recover too," he said, because of increased defense spending.

Ultimately, industrial activity will be the determining factor behind development, according to Sheehan. "Development will take place where industry locates," he said. Cities such as Dallas and Atlanta, with growing service industry, will have a strong base for recovery. Regions which attract high-technology industry—the Rocky Mountain states, for instance—or companies engaged in military-related activity will also prosper.

Sheehan predicted more growth for smaller metropolitan areas in the South and some selective growth in the Northeast. But, for the northern Midwest, and cities like Detroit and Chicago, he could only offer gloom: "North Central is in great, great trouble."

—WALTER L. UPDEGRAVE



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# Congress in mood to help builders—somewhat

The administration's "short-term" program to help homebuilding is nowhere near the \$1 billion-a-year mortgage rate buy-down program builders want.

But the legislation the President opposes is moving ahead in Congress, as political pressure increases on all House members and one-third of the Senators up for election this fall.

The National Assn. of Home Builders, having lost any hope of getting backing from the President, is focusing its lobbying efforts on Congress. Among other things, the industry's political action committee—Build-Pac—is withholding campaign contributions until it determines from their records which candidates deserve financial help.

**Reagan still opposed.** President Reagan, ten days after a widely publicized meeting with homebuilders at the White House, let them know he would flatly oppose the proposal they favor to rescue the industry:

"You are not asking the federal government for multi-billion [dollar] bailout schemes," he pointedly told a meeting of the National Assn. of Realtors in Washington. Such "budget-busting bailouts," he said, "will only aggravate the interest-rate problem—the underlying problem in the housing industry."

(The Realtors have opposed the "buy-down" proposals of the homebuilders, insofar as they funnel federal aid only to buyers of newly built homes and not buyers of existing houses, the mainstay of the Realtors' business.)

However, after the President's speech, Senator Jake Garn (R-Utah), the powerful chairman of the Senate Banking Committee, and a solid fiscal conservative, said he didn't consider the industry-backed bill "a bailout."

That legislation, introduced by Sen.

Richard Lugar (R-Ind.), chairman of the Senate housing subcommittee, calls for the government to be compensated for the \$5 billion it would advance by requiring repayment at the time a house is sold or re-financed.

**NAHB prexy reacts.** Reagan's aid package is a handful of changes that Fred Napolitano, president of the National Assn. of Home Builders, characterized as "too little and too late."

Reagan's "plan for short-term relief of the housing industry" has two points that would help provide money for mortgages but neither proposal is new.

Reagan would "quickly" loosen up regulations that have kept state housing agencies from issuing mortgage revenue bonds. This could "provide funds for 50,000 more homebuyers at lower cost," he said.

To open up private pension fund investment in single-family mortgages, Reagan said that within a month or two the Department of Labor would finalize changes in regulations that have had the effect of steering fund managers away from such investment.

**Periphery help.** Reagan's other three points are only indirectly linked to financing of housing sales. One would ease up FHA rules that would help sell low-cost condominiums and allow relatives "to assist young people in the down payment."

A second would make it easier for real estate brokers to go into the title insurance business, for example. Yet another administration move, the President said, would "encourage the private sector" to take over the processing of FHA loan applications.

But these proposals, Napolitano said, "would be ineffective in stimulating new construction and new jobs." The trouble is, he added, that "the

President continues to cling to his basic economic program despite mounting evidence of deepening recession, record-high interest rates and rising unemployment."

**Volcker's stance.** Reagan, however, took his stand after Federal Reserve Board Chairman Paul Volcker, in answering a letter from Sen. William Proxmire (D-Wis.) said that "new federal programs to channel credit and activity to any one sector"—referring to the Lugar bill and others like it—"will add to financial pressures and choke off activity elsewhere."

Volcker said he was well aware of the "distress" in the housing industry, but that attempts to deal with the problem by "encouraging excessive money growth" would be "clearly self-defeating" since it would signal a "retreat" in the fight against inflation.

**Democrats speak up.** Senate Democrats, after seeing Republican Lugar's proposal begin to move ahead, came forward with similar, but even broader, subsidy proposals for housing. This clearly puts a Senate majority in favor of some kind of federal buy-down of mortgage rates.

However, the Democrats would permit part of the subsidy to be for sale of existing homes and new homes in inventory—which Lugar's bill would exclude. Also, the Democratic bill would lend up to \$5,000 for down payments to first-time homebuyers who could match the federal amount.

One unrelated action that seems well on the road to approval would extend the Section 235 program, which provides mortgage subsidies to low-income homebuyers. Already appropriated funds are sufficient to finance an estimated 8,000 starts.

—DONALD LOOMIS

*McGraw-Hill World News, Washington*

## COURT BRIEFS *continued*

A note covering seed money advanced to get going a deal that is expected to result in a real estate development partnership is a "security" within the terms of the 1933 and 1934 Investor Protection Acts. After the initial payment, the parties could not agree on the partnership terms, and the would-be investor who advanced the initial money never joined the deal. When the note was not paid off, the would-be investor sued, but a district court said that the transaction was not covered by the securities laws. The

U.S. Court of Appeals in the District of Columbia reversed that ruling, saying that only strictly commercial notes are excluded from the laws' coverage.

It is not a violation of a subdivision's single-family zoning to locate there a group home for six retarded adults and their "houseparents." The Minnesota Supreme Court upheld the validity of a state law specifically telling cities to consider such residences as single-family, but the justices implied that even without the

statute they would have allowed the home, since those living there operate like a single family.

The Department of Housing and Urban Development is not bound by apartment lease provisions guaranteeing tenants the first chance to buy should the property be converted to a condo or a cooperative. The U.S. Court of Appeals in New Orleans told tenants they could not force HUD to sell them the building it took over after the owner defaulted on the HUD-backed mortgage.



**CAROLE EICHEN**  
Carole Eichen Interiors  
Fullerton, Calif.

## Kitchens and master baths: Keep harmony in mind

Since these two rooms make a particularly strong first impression, you want to be sure that the kitchen and master bath of each model have a similar look: Prospects should remember them as typifying a particular home.

This isn't an easy job, however. For kitchens and baths are an odd couple. In some ways they're similar: Both are wet rooms and both are at the top of your prospects' "must-see" list. But in terms of function, they're poles apart—one's primarily a public, work-oriented space, the other's an intimate, more glamorous area.

How can you do justice to these separate identities, while at the same time creating a sense of continuity? There's no one way—as the three case studies at right show. But there are some rules of thumb:

*Color* is the primary means of establishing a visual connection. However, you don't have to use a color the same way, or in the same place, in both kitchen and bath. A red used on the kitchen wall might be repeated in bath countertops, for example. Or wallpaper in both rooms could be in the same color scheme, but in a very different pattern.

*Same-style cabinetry* can be used in kitchen and bath. Since you don't ordinarily hang wall cabinets in the bath, repeating a door style won't make the room appear "kitchen-y."

*Hardware*, on the other hand, is one way of differentiating the two spaces. The fittings used in the master bath, where luxury is all-important, shouldn't duplicate the more functional kitchen fittings.

### Case Study No. 1



PHOTOS: IRLAND LEE

**The same basic ingredients**—cabinets with arched panel doors, bright blue ceramic tile and a garden orientation—give this kitchen/bath pair a similar flavor. Yet even these common elements are slightly altered from one room to the other.

The tile on the kitchen countertops is 3" square, for example, while 2" square—a better scale for a smaller space—is used in the bath. Likewise, the relationship to the outdoors is somewhat different. The kitchen is quite exposed: The greenhouse window is uncurtained and the drapes are tied back from the nook windows. In the bath, vertical blinds are pulled across the window behind the tub, so that only slivers of greenery outside are visible: You must reassure prospects that they'll have privacy in this room.

Floor and wallcoverings express distinctive "kitchen" versus "bath" characteristics. Practical, hard-surfaced flooring—ceramic tile—is used in the kitchen, while the bath is carpeted—a sign of luxury appreciated by affluent prospects.

Wallpaper in the kitchen is unobtrusive, a neutral backdrop. In the bath, a larger-scale, more playful pattern is used, although the color scheme is similar.

Fittings in the kitchen are chrome, and the sink is cast-iron with a white enamel surface, bespeaking a functional work center. Fittings in the bath are a more fashionable polished brass.

Project: Chanteclair, Thousand Oaks, Calif. Builder: Mark III Homes. Project director for Carole Eichen Interiors: Irene Slaughter.

## Case Study No. 2



PHOTOS: DAVID ROSS

**Wood trim and cabinetry** tie together a traditional-looking kitchen and bath. Trim around the bathroom mirror echoes that used around a kitchen luminous ceiling.

Color also unifies. Kitchen wallpaper has a creamy ground with a red dot pattern; Paper in the bath has a similar-tone ground and red in the floral design.

A point of difference: Beige tiles are used in the bath; bright blue in the kitchen, a larger space where the more-contemporary tile color doesn't detract from the overall conservative look of the model.

Project: Potomac Landing, Laguna Niguel, Calif. Builder: Warmington Development. Project director for Carole Eichen Interiors: Vickie Schrimmer.

## Case Study No. 3

**Color is enough** to create a family resemblance in this case—namely, the red background of kitchen curtains and wallpaper is echoed in red carpet and tile in the master bath. Because the color is a strong one and is used in liberal amounts, a visual connection is established.

And there are other, more subtle, similarities. The rustic-looking cabinets used in the kitchen don't appear in the bath, but their porcelain knobs are recalled by bathroom fittings with porcelain handles. Lighting fixtures in both rooms are in the same old-fashioned vein, and both rooms feature blue accessories. White sinks and tub in the bath recall the white countertops used in the kitchen. Finally, the traditional pattern of the bathroom wallpaper recalls the ambiance of the kitchen, with its French door to the patio rather than a more contemporary slider.

Also note the contrast between the large scale of the bathroom wallpaper print and the smaller print seen on the kitchen walls. As a general rule, bolder patterns can be used in the bath, since it's a room where people expect excitement and individuality. Moreover, kitchen wallpaper needs to be easier on the eyes, since people tend to spend longer stretches of time there.

Project: Potomac Landing, Laguna Niguel, Calif. Builder: Warmington Development. Carole Eichen Interiors project director: Margo Hazlett.



PHOTOS: DAVID ROSS

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# What has been the most interesting remodeling



**Howard Chapman, CKD, Creative Kitchens, Albuquerque, N.M.** We did a job for a young couple on a reservation who had built their own home.

It was an attractive home except that it didn't have any running water or plumbing as they hadn't dug their well yet. So, when we started on the kitchen we were really beginning from scratch.

They finally decided on a fairly rustic kitchen with adobe walls and dark cabinets to match the adobe exterior of the house. The offbeat design feature of the kitchen, however, is not the color scheme. I designed a semi-circular sink area or what I call a "compass" kitchen. Its shape makes all the counter area and drawers around the sink accessible from in front of the sink. The job was particularly interesting for my mechanics. The couple had an infant who was upset by the hammering and sawing, so my men had to learn to calm the papoose down by swinging it from the rafters. □



**Ken Peterson, CKD, M.A. Peterson Inc., West Hartford, Conn.**

There is a small group of people—less than one percent—who have a high idea of what a kitchen should look like. For them, it should be aesthetically pleasing like the ones featured in shelter magazines. I had this kind of client come into my shop and tell me, "I want you to create the kind of kitchen you might find in an English abbey."

In effect, she wanted a tiled, recessed cooking area. Its focal point is a commercial griddle and barbecue installed in stainless steel countertops in an arched alcove measuring 10½' x 5'. Above is a plywood hood covered with white tile. The alcove also has a plate rail. In front of the alcove is an island with a cooktop and open shelves. Above the island is a commercial pot and pan rack to match the commercial equipment in the alcove. All walls in the kitchen are covered with the same tile. The cabinetry is oak with a white stain. □



**Don Nicholson, CKD, The Kitchen Shop Inc., Lansing, Mich.**

We were asked to call on a couple who are midgets. He's 4'4" and she's 3'9". The job became a joint effort between ourselves and the Michigan Rehabilitation Service.

We ended up with an L-shape kitchen, and we had to work with an oven and a cooktop, because a conventional range wasn't going to help them as it is too high. The oven was placed in a base cabinet. All the countertops are 22" high, and we used drawers wherever possible because the couple can't reach back into regular cabinets. There is also a side-by-side refrigerator so she can get into both the "fridge" and the freezer. The tops of the wall cabinets line up with the tops of the refrigerator so everything in the kitchen looks tied together.

Afterwards, my client had the thrill for the first time of bumping his head on a kitchen cabinet. □

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# job you've done in a kitchen?

**David Linzer, Lingold Construction Co., Rego Park, N.Y.** I designed a kitchen for a home in Guatemala City. The job was particularly difficult as the kitchen area was constructed almost entirely of concrete. My design included cabinets from an American manufacturer that could be bolted into concrete. My mechanics customized, planned and fitted the cabinets at the factory, and then we flew them down at a cost of \$10,000. I then spent four days with non-English speaking carpenters putting together this "puzzle" kitchen. I sketched what I wanted and the workers understood everything without my having to say a word. The only problem I had was getting a level. The carpenters only had one that was 16", but I needed a longer one. After a two day search they came up with a 24" level. Apparently they don't make them any longer than that in Central America, but the finished job was still very nice. □

**Charles Poole Jr., CKD, Bath & Kitchen Designers Inc., Ft. Lauderdale, Fla.** My most interesting remodeling job began in Hamburg, Germany. A woman who lives in the Bahamas was visiting a shop in Hamburg and saw a rattan style cabinet. Unfortunately, she was told at the shop that the cabinets were unavailable outside of Europe. Soon afterwards, however, she asked us if we could design a kitchen with the cabinets she had seen. After some persuasion across the language barrier—the factory in Hamburg agreed to a one-time export. They are constructed from a solid oak frame with a door of raised diagonal strips of rattan. The rattan motif is perfect for the tropical decor of the kitchen. It has three sub-zero units (each 36" wide), a full-size freezer and a refrigerator. The really unusual thing about her request for all the cold storage, however, is that she lives alone. So I guess she must have a lot of guests! □



**Martha Kerr, CKD, Neil Kelly Co., Portland, Ore.** The kitchens that I have enjoyed doing the most have not necessarily been the most spectacular, but they have tied in very closely with the integrity of the existing home. For example, I worked in a stucco home with Spanish styling. It had a very small, old kitchen with a staircase leading to the basement. The house overlooked the city, but there were no windows in the kitchen.



We removed the kitchen staircase and found access to the basement in another area of the house. We then were able to open up the kitchen to the outside by cutting in a picture window. The window matches the existing windows in style, and it is a very dramatic transformation. Although the kitchen is very functional and convenient, you don't walk into it and feel like it has just been remodeled. It looks like it belongs to the house. □



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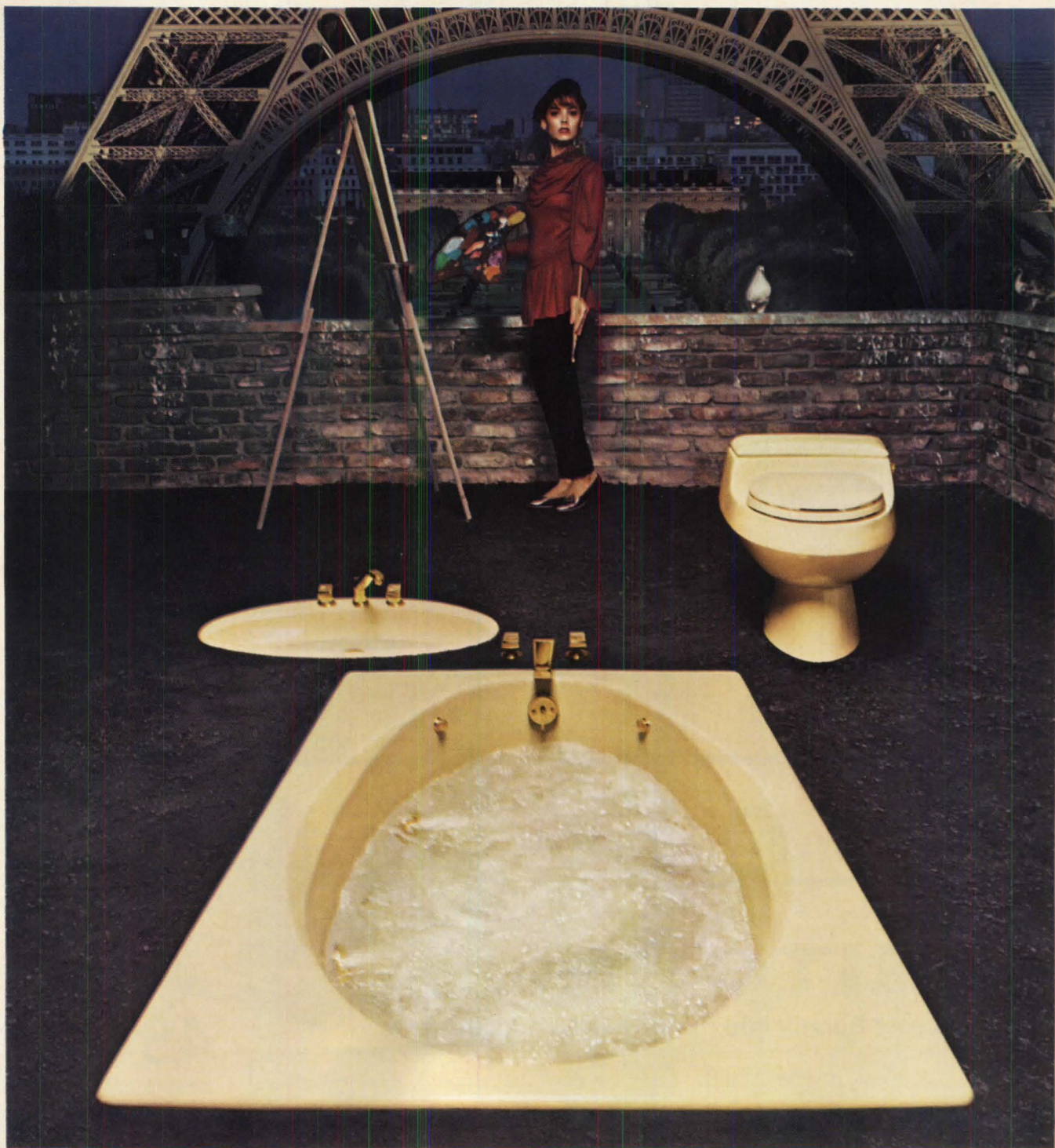


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toilet. Just a small part of the gallery of bath and powder room fixtures Kohler has created in French Vanilla.

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## Now look who's competing with builders

Pity the poor homebuilder. His major worry—high interest rates—is creating an added problem in certain areas of the country: competition for homebuyers from some of the nation's largest corporations.

The problem cropped up because the housing slump is slowing down employee transfers. In fact, in a survey conducted last year by the Employee Relocation Council (ERC), 30 percent of 526 member companies reported they expected to make fewer transfers in 1981 than in 1980, a year in which one-third of the members had already experienced reductions. And, three-fourths found employees reluctant to transfer—"high mortgage interest rates" frequently cited as the reason.

**Corporate assistance.** To help ease the burden, many companies offer real estate sales assistance programs in which they either accept financial responsibility of the transferee's home until it is sold or buy it outright. Now, faced with an increasing inventory of homes in a depressed market, these corporations are forced to offer special financing packages and promotions to make sales. And this is making the already stiff competition for builders

that much tougher.

In March, Proctor & Gamble offered a mortgage buy-down rate of 11½% for two years on 45 homes that the company had purchased from transferred employees and listed with brokers in the Cincinnati area. The houses are selling but, according to one real estate agent, the company is "losing quite a bit of money on every house."

With 40 years of buying homes behind them, General Motors ran its first special promotion last September. [HOUSING, Nov. 1981] They offered a new car with each of their houses sold in a tri-county Michigan area. Of the 110 homes in the program, 47 were sold during the five-week promotion. Later last year, the same offer ran in the New York/New Jersey/Connecticut area. Twenty-nine of 42 homes were sold, again in five weeks. In what he considers a difficult area to sell, Charles Kehoe of the property management and residential properties department at GM calls the promotion "very successful."

"We're losing money on a month-to-month basis at this time," Kehoe says, but, "so is everyone." At the end

of March, GM was holding 550 homes nationwide. "That's three times higher than you'd like it to be . . . but a few months ago, it was 600."

**Third-party service.** Unlike most of the major corporations, Proctor & Gamble and General Motors have not turned to a third-party buying firm like Home Equity or Merrill Lynch Relocation Management Company. "We prefer the personal relationship with the employee," GM's Kehoe says. "And we can do a good job because we have a staff of 118 in the real estate department."

An earlier ERC survey had found that the most popular sales assistance program involved the use of a third-party buying firm. This plan was offered by 56% of the 507 responding companies, while only 11% operated an in-house purchase department. ERC is a non-profit association of about 800 corporations that transfer employees.

Despite the rising cost of relocation and employee reluctance, some corporate transfers must be made. And the solution to the current inventory problem seems to be special financing packages—even if it means a loss for the company. —M.A.R.

## 'Rally '82' telegraphs the president

"Dear President Reagan:

In order to help move our country, its economy and the home building industry out of the current recession, we, the employees of the NuTone Division of Scovill Inc., urge you to declare the balance of 1982 as the "RALLY" Year.

"We ask that you use the strength of your office to encourage builders, savings and loans, financial institutions and all companies connected with the home building industry, to rekindle the spirit, initiative and imagination that made America great, in order that America's home building industry can once again lead the nation out of recession by providing employment for millions and homes to fulfill the American dream.

"We firmly believe that if all companies maintain or lower prices where possible, if all workers commit to increased productivity, if all management stringently reviews real profit needs, and all tighten our belts accordingly, we can start the RALLY needed



**Involved employees** of Scovill's NuTone Housing Group shown with 65'-long telegram sent to President Reagan (text of telegram appears at left). The telegram is part of Rally '82 [HOUSING, April], a promotion designed to rev up NuTone sales, which turned into a national campaign designed to stir up the entire housing industry. Employees pictured are only a handful of the 1,900 who signed the telegram, which was reproduced as an ad in the *The Wall Street Journal* and other media. Rally '82 was extended to July 23.

to return our nation to the economic strength and standard of living we have enjoyed throughout most of our lifetime.

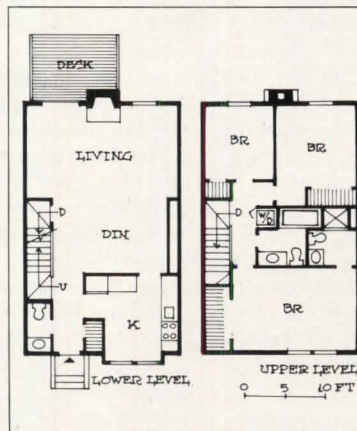
"We, the undersigned, as members of the NuTone family of employees,

commit ourselves to strive in every way to set the example, to increase our productivity in order to strengthen our company, thus protecting our jobs, our personal lives and our country.

"Let the RALLY start here. Now!"

# CONSTRUCTION

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**Foundation**—excavation and footings  
**Floor on grade**—fill, concrete, steel-trowel finish  
**Roof system**—framing, sheathing, insulation plus stairway and second-floor framing  
**Roofing**—shingles, flashing, gutters, downspouts  
**Exterior walls**—framing, sheathing, wood siding, insulation, paint, wood doors, aluminum windows, insulating glass, block party wall  
**Partitions**—studs, drywall, doors  
**Wall finishes**—paint, ceramic tile  
**Floor finishes**—ceramic tile, vinyl asbestos tile, carpeting  
**Ceiling finishes**—drywall, paint  
**Fixed equipment**—range, range hood, exhaust fans, refrigerator, counters, cabinets, vanities, medicine cabinets, bathroom fittings  
**HVAC**—forced hot air heating plus air conditioning  
**Plumbing**—water heater, bathroom fixtures, kitchen sink, pipes, laundry rough-in  
**Electrical**—light fixtures, switches and outlets, connections for major appliances, service panel, wiring

	Foundations			Floors on Grade			Superstructure			Roofing			Exterior Walls			Partitions		
	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.
ALBANY, NY [B]	871	551	1.14	423	325	0.60	2,230	2,410	3.72	490	545	0.83	3,610	4,203	6.27	2,597	2,907	4.42
ALBUQUERQUE, NM [B]	764	645	1.13	344	413	0.61	2,029	2,598	3.71	447	596	0.84	3,513	4,589	6.50	2,539	3,184	4.59
ALLENTOWN, PA [B]	775	642	1.14	404	406	0.65	1,960	2,637	3.69	483	606	0.87	3,511	4,642	6.54	2,476	3,227	4.58
ATLANTA, GA [C]	718	588	1.05	359	367	0.58	1,836	2,441	3.43	401	556	0.77	3,387	4,290	6.16	2,380	2,977	4.30
AUGUSTA, GA [C]	560	573	0.91	291	375	0.53	1,401	2,346	3.01	270	529	0.64	2,642	4,071	5.39	1,876	2,827	3.77
AUSTIN, TX [E]	320	291	0.49	388	351	0.59	2,005	2,368	3.51	412	549	0.77	3,477	4,243	6.20	2,556	2,955	4.42
BAKERSFIELD, CA [E]	1,174	687	1.49	588	442	0.83	2,972	2,661	4.52	635	634	1.02	4,773	4,828	7.71	3,445	3,356	5.46
BALTIMORE, MD [C]	806	687	1.20	401	461	0.69	1,987	2,649	3.72	436	615	0.84	3,747	4,691	6.77	2,457	3,252	4.58
BATON ROUGE, LA [C]	770	587	1.09	351	394	0.60	1,927	2,346	3.43	439	529	0.78	3,353	4,071	5.96	2,446	2,827	4.23
BIRMINGHAM, AL [C]	701	599	1.04	326	377	0.56	1,736	2,467	3.37	398	563	0.77	3,233	4,330	6.07	2,189	3,007	4.17
BOISE, ID [B]	867	580	1.16	426	367	0.64	2,166	2,402	3.67	485	545	0.83	3,760	4,201	6.39	2,599	2,927	4.43
BOSTON, MA [B]	912	745	1.33	462	475	0.75	2,366	2,951	4.27	538	694	0.99	4,210	5,285	7.62	2,931	3,665	5.29
BUFFALO, NY [B]	1,011	624	1.31	505	432	0.75	2,569	2,410	4.00	575	545	0.90	4,311	4,203	6.83	3,035	2,907	4.77
CHARLESTON, SC [C]	474	655	0.91	246	434	0.55	1,258	2,589	3.09	271	595	0.70	2,384	4,555	5.57	1,730	3,168	3.93
CHARLOTTE, NC [C]	507	596	0.89	252	375	0.50	1,356	2,478	3.08	292	560	0.68	2,395	4,330	5.40	1,793	3,003	3.85
CHATTANOOGA, TN [C]	727	552	1.03	326	351	0.54	1,778	2,327	3.29	418	523	0.76	3,106	4,035	5.73	2,267	2,807	4.07
CHICAGO, IL [B]	972	608	1.27	500	399	0.72	2,500	2,449	3.97	593	556	0.92	4,383	4,284	6.69	2,998	2,982	4.80
CINCINNATI, OH [B]	1,011	632	1.32	511	432	0.76	2,594	2,448	4.05	600	551	0.92	4,390	4,287	6.96	3,088	2,983	4.87
CLEVELAND, OH [B]	1,047	800	1.48	541	472	0.81	2,669	3,294	4.79	628	795	1.14	4,475	5,994	8.40	3,190	4,152	5.89
COLORADO SPRINGS, CO [B]	825	696	1.22	430	445	0.70	2,045	2,760	3.86	490	646	0.91	3,708	4,909	6.92	2,525	3,410	4.76
COLUMBIA, SC [B]	471	597	0.86	253	394	0.52	1,225	2,410	2.92	294	545	0.67	2,349	4,203	5.26	1,761	2,907	3.75
COLUMBUS, OH [B]	900	651	1.24	445	421	0.70	2,236	2,607	3.89	535	599	0.91	3,978	4,602	6.89	2,716	3,192	4.74
DALLAS-FT. WORTH, TX [C]	805	650	1.17	413	447	0.69	2,043	2,501	3.65	464	568	0.83	3,754	4,376	6.52	2,645	3,033	4.56
DAYTON, OH [B]	953	649	1.29	470	430	0.72	2,446	2,562	4.02	540	588	0.91	4,159	4,509	6.96	2,946	3,137	4.88
DENVER, CO [B]	893	579	1.18	440	360	0.64	2,282	2,425	3.78	538	549	0.87	3,884	4,243	6.52	2,783	2,955	4.61
DES MOINES, IA [B]	881	700	1.27	444	459	0.72	2,248	2,742	4.00	555	636	0.96	4,107	4,868	7.20	2,830	3,384	4.99
DETROIT, MI [B]	858	626	1.19	413	402	0.65	2,146	2,544	3.76	498	584	0.87	3,793	4,466	6.63	2,568	3,102	4.55
EL PASO, TX [D]	1,105	722	1.47	536	448	0.79	2,771	2,898	4.55	657	685	1.08	4,707	5,189	7.94	3,344	3,602	5.57
EUGENE-SPRING, OR [B]	542	658	0.96	257	457	0.57	1,394	2,525	3.15	325	578	0.72	2,483	4,428	5.55	1,815	3,077	3.93
FLINT, MI [B]	940	597	1.23	456	396	0.68	2,346	2,372	3.79	538	541	0.87	4,202	4,164	6.71	2,862	2,892	4.62
FRESNO, CA [C]	921	702	1.30	451	432	0.71	2,293	2,850	4.13	541	670	0.97	4,012	5,100	7.31	2,842	3,542	5.12
	1,191	732	1.54	582	457	0.83	3,077	2,929	4.82	596	686	1.03	5,064	5,238	8.27	3,608	3,625	5.80

# COST GUIDE

The average for 100 SMSAs (Standard Metropolitan Statistical Areas) is now \$36.22 a sq. ft.—up \$1.65 from November, when the Cost Guide last reported on this house. Increases show up in all but three cities—Cincinnati, Fresno, Oklahoma City. Changes vary widely—ranging from a drop of 72¢ per sq. ft. in Cincinnati to an increase of \$4.22 per sq. ft. in Stockton, Calif.

A few points to keep in mind as you read the cost tables:

- The townhouse (*plan, facing page*) is a 1,246-sq.-ft. interior unit, sharing party walls with houses on both sides. Its construction is wood frame on slab. Its quality is "above average", according to McGraw-Hill's Cost Information Systems Division, which developed and now updates the Cost Guide.

- The Guide divides the house into 13 elements (listed next to the plan) and breaks out the labor, materials and per-square-foot costs for each element.

- Some estimates may strike you as high. That's partly because they don't reflect the cost-cutting benefits of repeating the same model, and partly because labor costs are based on union scale—typically higher than non-union, but easier to pin down accurately.

- House specs are altered to suit each of five climate zones ranging from coolest (Zone A) to warmest (Zone E), with each city labeled accordingly (e.g., A for cold Milwaukee, E for hot San Antonio). Specs for HVAC, roof insulation and foundations suit each zone. Roof insulation is 9" in Zone A, 6" in B, C and D, 3½" in E. Foundation footings are 4' deep in Zone A, 3' in B, C and D. In all Zone E markets except Los Angeles, specs call for monolithic slabs with no footings.

- The 100 Cost Guide markets are the same SMSAs covered by our quarterly Housing Demand Index. They were selected primarily for their size—85 are among the 100 most populous—but geographical distribution was also a factor.

Wall Finishes			Floor Finishes			Ceiling Finishes			Fixed Equipment			HVAC			Plumbing			Electrical			Totals		
Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.
975	442	1.14	546	1,762	1.85	852	386	0.99	882	4,795	4.56	1,822	1,653	2.79	3,290	1,581	3.91	1,493	1,112	2.09	20,081	22,672	34.31
960	485	1.16	545	1,936	1.99	853	430	1.03	912	5,186	4.89	2,144	1,817	3.18	3,587	1,739	4.27	1,550	1,213	2.22	20,187	24,831	36.12
1,133	461	1.28	520	1,959	1.99	919	429	1.08	843	5,236	4.88	2,063	1,845	3.14	3,445	1,760	4.18	1,339	1,228	2.06	19,871	25,078	36.08
1,072	441	1.21	494	1,804	1.84	879	394	1.02	855	4,888	4.61	1,700	1,692	2.72	3,218	1,619	3.88	1,560	1,135	2.16	18,859	23,192	33.73
760	402	0.93	390	1,703	1.68	624	371	0.80	711	4,663	4.31	1,618	1,602	2.58	2,711	1,533	3.41	1,321	1,080	1.93	15,175	22,075	29.89
951	443	1.12	550	1,781	1.87	880	398	1.03	928	4,838	4.63	1,903	1,166	2.46	3,624	1,600	4.19	1,560	1,123	2.15	19,554	22,106	33.43
1,365	500	1.50	753	2,042	2.24	1,203	451	1.33	1,131	5,422	5.26	2,495	1,338	3.08	4,556	1,834	5.13	2,009	1,275	2.64	27,099	25,470	42.21
1,019	493	1.21	529	1,981	2.01	865	436	1.04	874	5,282	4.94	2,091	1,862	3.17	3,280	1,782	4.06	1,551	1,236	2.24	20,043	25,427	36.47
924	402	1.06	526	1,703	1.79	840	371	0.97	878	4,663	4.45	1,915	1,602	2.82	3,214	1,533	3.81	1,483	1,080	2.06	19,066	22,108	33.05
989	445	1.15	461	1,821	1.83	825	398	0.98	799	4,927	4.60	1,593	1,708	2.65	3,149	1,637	3.84	1,340	1,146	2.00	17,739	23,425	33.03
1,002	439	1.16	561	1,764	1.87	852	394	1.00	887	4,799	4.56	1,377	1,658	2.44	3,607	1,586	4.17	1,574	1,112	2.16	20,163	22,774	34.48
1,366	542	1.53	626	2,248	2.31	1,136	494	1.31	1,009	5,876	5.53	2,752	2,113	3.50	3,898	2,019	4.75	1,827	1,387	2.58	23,533	28,494	41.76
1,264	442	1.37	649	1,762	1.93	1,068	386	1.17	1,011	4,795	4.66	2,293	1,653	3.17	3,517	1,581	4.09	1,762	1,112	2.31	23,570	22,852	37.26
729	452	0.95	359	1,921	1.83	638	420	0.85	691	5,154	4.69	1,525	1,810	2.68	2,538	1,727	3.42	1,151	1,206	1.89	13,994	24,686	31.06
581	443	0.82	379	1,822	1.77	569	394	0.77	688	4,929	4.51	1,377	1,715	2.48	2,784	1,638	3.15	946	1,149	1.68	13,419	23,432	29.58
916	408	1.06	494	1,686	1.75	758	366	0.90	819	4,630	4.37	1,767	1,580	2.69	2,962	1,518	3.60	1,466	1,074	2.04	17,804	21,857	31.83
1,160	448	1.29	656	1,798	1.97	1,014	403	1.14	1,023	4,874	4.73	2,334	1,691	3.23	3,703	1,617	4.27	1,866	1,135	2.41	23,702	23,244	37.68
1,282	444	1.39	658	1,799	1.97	1,068	398	1.18	998	4,884	4.72	2,307	1,697	3.21	3,820	1,618	4.36	1,698	1,135	2.27	24,025	23,308	37.98
1,293	625	1.54	690	2,569	2.62	1,093	568	1.33	1,029	6,593	6.12	2,199	2,409	3.70	3,674	2,309	4.80	1,751	1,570	2.67	24,279	32,150	45.29
1,073	493	1.26	540	2,085	2.11	865	450	1.06	883	5,509	5.13	2,199	1,960	3.34	3,667	1,873	4.45	1,718	1,295	2.42	20,968	26,531	38.14
805	442	1.00	381	1,772	1.72	638	386	0.82	673	4,795	4.39	1,282	1,653	2.36	2,569	1,581	3.33	929	1,112	1.64	13,630	22,787	29.24
1,264	487	1.41	578	1,941	2.02	1,015	432	1.16	912	5,197	4.90	2,252	1,822	3.27	3,774	1,745	4.43	1,499	1,217	2.18	22,104	24,913	37.74
1,146	447	1.30	572	1,840	1.94	975	398	1.10	928	4,971	4.73	1,957	1,730	2.96	3,280	1,656	3.96	1,584	1,160	2.20	20,596	23,777	35.61
1,253	447	1.36	615	1,903	2.02	1,041	415	1.17	973	5,109	4.88	1,579	1,793	2.71	3,603	1,712	4.27	1,699	1,194	2.32	22,277	24,448	37.51
1,170	443	1.29	579	1,781	1.89	988	398	1.11	936	4,838	4.63	1,983	1,674	2.93	3,562	1,600	4.14	1,658	1,123	2.23	21,696	22,968	35.82
1,438	491	1.55	612	2,064	2.15	1,122	450	1.26	963	5,468	5.16	2,387	1,939	3.47	3,878	1,857	4.60	1,813	1,284	2.49	23,278	26,342	39.82
1,140	446	1.27	538	1,883	1.94	905	405	1.05	875	5,066	4.77	2,091	1,770	3.10	3,506	1,693	4.17	1,605	1,180	2.24	20,936	24,167	36.19
1,488	535	1.62	733	2,205	2.36	1,230	490	1.38	1,103	5,781	5.52	2,535	2,071	3.70	4,227	1,983	4.98	1,971	1,364	2.68	26,407	27,973	43.64
653	448	0.88	358	1,862	1.78	569	409	0.78	680	5,016	4.57	1,416	1,754	2.54	2,626	1,675	3.45	1,201	1,169	1.90	14,319	24,056	30.78
1,274	428	1.37	612	1,751	1.90	1,039	383	1.14	969	4,770	4.61	2,535	1,642	3.35	4,383	1,573	4.78	1,871	1,102	2.39	24,027	22,611	37.44
1,291	534	1.46	632	2,166	2.25	1,065	478	1.24	984	5,692	5.36	2,201	2,037	3.40	3,671	1,945	4.51	1,711	1,341	2.45	22,615	27,489	40.21
1,355	545	1.52	793	2,227	2.42	1,243	489	1.39	1,183	5,831	5.63	2,414	2,087	3.61	4,314	2,002	5.07	1,921	1,380	2.65	27,341	28,228	44.58

	Foundations			Floors on Grade			Superstructure			Roofing			Exterior Walls			Partitions		
	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.
GARY, IN [B]	942	628	1.26	458	403	0.69	2,452	2,570	4.03	558	591	0.92	4,176	4,513	6.97	2,930	3,131	4.86
GRAND RAPIDS, MI [B]	792	669	1.17	407	436	0.68	2,057	2,624	3.76	452	608	0.85	3,510	4,649	6.55	2,594	3,219	4.67
GREENSBORO, NC [C]	446	615	0.85	198	395	0.48	1,101	2,522	2.91	257	573	0.67	2,159	4,423	5.28	1,538	3,063	3.69
GREENVILLE, SC [C]	446	668	0.89	214	424	0.51	1,108	2,696	3.05	268	626	0.72	2,177	4,783	5.59	1,606	3,318	3.95
HARTFORD, CT [B]	736	671	1.13	364	435	0.64	1,966	2,684	3.73	483	616	0.88	3,557	4,735	6.65	2,445	3,282	4.60
HONOLULU, HI [E]	408	468	0.70	492	579	0.86	2,561	3,260	4.67	596	807	1.13	4,364	6,085	8.39	3,122	4,208	5.88
HOUSTON, TX [D]	890	604	1.20	442	416	0.69	2,248	2,372	3.71	502	533	0.83	4,051	4,109	6.55	2,798	2,854	4.54
HUNTSVILLE, AL [C]	625	570	0.96	327	368	0.56	1,508	2,348	3.09	369	524	0.72	2,752	4,057	5.46	2,010	2,840	3.89
INDIANAPOLIS, IN [B]	846	705	1.24	402	418	0.66	2,124	2,969	4.09	485	701	0.95	3,921	5,325	7.42	2,646	3,682	5.08
JACKSON, MS [C]	606	595	0.96	289	398	0.55	1,522	2,394	3.14	384	538	0.74	2,809	4,151	5.59	1,994	2,883	3.91
JACKSONVILLE, FL [E]	278	301	0.46	304	374	0.54	1,727	2,183	3.14	384	492	0.70	2,995	3,837	5.48	2,220	2,668	3.92
KANSAS CITY, MO-KS [B]	897	579	1.18	422	374	0.64	2,242	2,388	3.72	544	541	0.87	4,037	4,169	6.59	2,668	2,882	4.45
KNOXVILLE, TN [B]	635	543	0.95	294	354	0.52	1,579	2,239	3.06	369	493	0.69	2,947	3,855	5.46	2,061	2,681	3.81
LANSING, MI [B]	910	626	1.23	428	390	0.66	2,270	2,589	3.90	522	595	0.90	3,984	4,555	6.85	2,769	3,168	4.76
LAS VEGAS, NV [D]	1,041	598	1.32	514	385	0.72	2,646	2,441	4.08	670	556	0.98	4,747	4,290	7.25	3,160	2,977	4.93
LEXINGTON, KY [B]	785	586	1.10	379	367	0.60	2,017	2,449	3.58	465	556	0.82	3,483	4,284	6.23	2,448	2,982	4.36
LITTLE ROCK, AK [C]	673	562	0.99	312	347	0.53	1,771	2,387	3.34	434	541	0.78	3,028	4,164	5.77	2,249	2,879	4.12
LOS ANGELES, CA [E]	1,191	732	1.54	591	457	0.84	2,988	2,859	4.69	668	686	1.09	5,162	5,238	8.35	3,585	3,625	5.79
LOUISVILLE, KY [B]	812	557	1.10	410	357	0.62	2,057	2,323	3.52	491	521	0.81	3,663	4,009	6.16	2,544	2,795	4.28
MADISON, WI [A]	1,133	827	1.57	413	373	0.63	2,084	2,499	3.68	501	551	0.84	3,652	4,287	6.37	2,504	2,983	4.40
MEMPHIS, TN [C]	742	578	1.06	372	390	0.61	1,848	2,312	3.34	439	520	0.77	3,424	3,989	5.95	2,345	2,779	4.11
MIAMI, FL [E]	295	307	0.48	395	379	0.62	1,848	2,321	3.35	484	533	0.82	3,409	4,109	6.03	2,354	2,854	4.18
MILWAUKEE, WI [A]	1,301	928	1.79	458	405	0.69	2,420	2,809	4.20	552	645	0.96	4,072	4,914	7.21	2,786	3,414	4.98
MINNEAPOLIS, MN [A]	1,151	1,001	1.73	418	446	0.69	2,159	2,984	4.13	515	688	0.97	3,828	5,234	7.27	2,652	3,631	5.04
MOBILE, AL [C]	727	598	1.06	361	382	0.60	1,836	2,448	3.44	399	551	0.76	3,245	4,287	6.04	2,351	2,983	4.28
NASHVILLE, TN [C]	680	531	0.97	306	358	0.53	1,736	2,186	3.15	397	477	0.70	3,168	3,721	5.53	2,180	2,592	3.83
NEW BRUNSWICK, NJ [B]	857	628	1.19	430	407	0.67	2,172	2,548	3.79	549	582	0.91	4,035	4,470	6.83	2,718	3,106	4.67
NEW HAVEN, CT [B]	940	673	1.29	465	429	0.72	2,437	2,701	4.12	557	626	0.95	4,126	4,781	7.15	2,990	3,311	5.06
NEW ORLEANS, LA [C]	765	611	1.10	388	406	0.64	1,966	2,425	3.52	418	547	0.77	3,433	4,343	6.16	2,441	2,953	4.33
NEWARK, NJ [B]	871	625	1.20	449	421	0.70	2,172	2,476	3.73	544	558	0.88	4,081	4,227	6.75	2,749	3,011	4.62
NEWPORT NEWS, VA [C]	630	626	1.01	297	429	0.58	1,585	2,425	3.22	316	547	0.69	2,978	4,243	5.80	2,090	2,953	4.05
NORFOLK, VA [C]	630	632	1.01	297	433	0.59	1,595	2,448	3.24	316	551	0.70	2,978	4,287	5.83	2,090	2,983	4.07
OKLAHOMA CITY, OK [C]	715	579	1.04	336	391	0.58	1,736	2,303	3.24	427	514	0.76	3,149	3,978	5.72	2,219	2,786	4.02
OMAHA, NE [B]	715	595	1.05	357	396	0.60	1,829	2,387	3.38	434	541	0.78	3,018	4,164	5.76	2,211	2,879	4.09
ORLANDO, FL [E]	271	307	0.46	336	379	0.57	1,681	2,321	3.21	386	533	0.74	3,063	4,109	5.76	2,170	2,854	4.03
PENSACOLA, FL [E]	283	301	0.47	355	374	0.59	1,778	2,205	3.20	368	502	0.70	3,013	3,887	5.54	2,315	2,694	4.02
PEORIA, IL [B]	1,016	630	1.32	511	401	0.73	2,628	2,596	4.19	582	596	0.95	4,323	4,557	7.13	3,064	3,160	5.00
PHILADELPHIA, PA [B]	862	698	1.25	442	417	0.69	2,212	2,907	4.11	558	684	1.00	3,949	5,198	7.34	2,738	3,610	5.09
PHOENIX, AZ [D]	866	704	1.26	427	435	0.69	2,166	2,850	4.03	524	670	0.96	3,960	5,100	7.27	2,703	3,542	5.01
PITTSBURGH, PA [B]	953	748	1.37	488	489	0.78	2,346	2,907	4.22	594	684	1.03	4,203	5,198	7.54	2,780	3,610	5.13
PORTLAND, OR [B]	1,028	630	1.33	486	418	0.73	2,553	2,489	4.05	616	571	0.95	4,443	4,379	7.08	3,041	3,045	4.88
PROVIDENCE, RI [B]	768	649	1.14	400	386	0.63	1,868	2,747	3.70	440	637	0.86	3,400	4,876	6.64	2,252	3,380	4.52
RALEIGH, NC [C]	451	634	0.87	247	406	0.52	1,146	2,562	2.98	248	588	0.67	2,208	4,509	5.39	1,589	3,137	3.79
RICHMOND, VA [C]	616	667	1.03	314	430	0.60	1,494	2,671	3.34	397	621	0.82	2,957	4,735	6.17	2,012	3,285	4.25
ROCHESTER, NY [B]	912	622	1.23	469	439	0.73	2,306	2,372	3.75	535	533	0.86	3,946	4,109	6.46	2,817	2,854	4.55
SACRAMENTO, CA [D]	1,169	707	1.51	577	466	0.84	2,972	2,776	4.61	705	640	1.08	5,152	4,918	8.08	3,591	3,406	5.62
ST. LOUIS, MO [B]	942	579	1.22	476	387	0.69	2,417	2,326	3.81	551	519	0.86	4,344	4,024	6.72	2,869	2,815	4.56
SALT LAKE CITY, UT [B]	824	601	1.14	408	393	0.64	2,037	2,425	3.58	495	549	0.84	3,581	4,243	6.28	2,514	2,955	4.39
SAN ANTONIO, TX [E]	289	298	0.47	343	361	0.57	1,801	2,396	3.37	415	551	0.78	3,004	4,287	5.85	2,354	2,983	4.28
SAN DIEGO, CA [E]	959	697	1.33	469	437	0.73	2,358	2,717	4.07	575	660	0.99	4,289	4,995	7.45	2,939	3,454	5.13
SAN FRANCISCO, CA [D]	1,261	753	1.62	608	516	0.90	3,192	2,842	4.84	763	666	1.15	5,603	5,057	8.56	3,880	3,507	5.93
SAN JOSE, CA [E]	1,191	756	1.56	576	501	0.86	3,041	2,838	4.72	723	684	1.13	5,328	5,198	8.45	3,649	3,610	5.83
SEATTLE, WA [B]	1,113	725	1.48	547	476	0.82	2,744	2,831	4.47	666	663	1.07	4,586	5,060	7.74	3,304	3,500	5.46
SHREVEPORT, LA [C]	693	605	1.04	329	397	0.58	1,778	2,441	3.39	414	556	0.78	3,068	4,290	5.91	2,293	2,977	4.23
SPOKANE, WA [B]	1,015	600	1.30	500	394	0.72	2,569	2,433	4.01	597	552	0.92	4,240	4,246	6.81	3,017	2,935	4.78
SPRINGFIELD, MA [B]	828	595	1.14	419	378	0.64	2,146	2,449	3.69	490	556	0.84	3,616	4,284	6.34	2,615	2,982	4.49
STOCKTON, CA [D]	1,159	744	1.53	543	474	0.82	2,942	2,929	4.71	655	686	1.08	5,080	5,238	8.28	3,567	3,625	5.77
SYRACUSE, NY [B]	854	652	1.21	425	413	0.67	2,166	2,624	3.84	565	608	0.94	3,697	4,649	6.70	2,618	3,219	4.68
TACOMA, WA [B]	1,110	676	1.43	548	446	0.80	2,730	2,649	4.32	640	615	1.01	4,650	4,691	7.50	3,224	3,252	5.20
TAMPA, FL [E]	271	307	0.46	336	379	0.57	1,681	2,321	3.21	386	533	0.74	3,063	4,109	5.76	2,170	2,854	4.03
TOLEDO, OH [B]	1,064	661																

Wall Finishes			Floor Finishes			Ceiling Finishes			Fixed Equipment			HVAC			Plumbing			Electrical			Totals		
Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.	Labor	Material	Sq. ft.
.116	451	1.26	641	1,901	2.04	1,026	409	1.15	1,015	5,108	4.91	2,144	1,787	3.15	3,384	1,708	4.09	1,564	1,193	2.21	22,406	24,393	37.54
.054	488	1.24	546	1,961	2.01	893	432	1.06	873	5,241	4.91	2,023	1,845	3.10	3,352	1,762	4.10	1,344	1,226	2.06	19,897	25,160	36.16
613	445	0.85	291	1,863	1.73	502	405	0.73	604	5,022	4.52	1,202	1,747	2.37	2,157	1,675	3.08	1,123	1,169	1.84	12,191	23,917	29.00
614	491	0.89	343	2,022	1.90	515	444	0.77	615	5,376	4.81	1,174	1,901	2.47	2,314	1,818	3.32	859	1,262	1.70	12,253	25,829	30.57
.044	501	1.24	526	1,998	2.03	865	444	1.05	869	5,324	4.97	1,930	1,874	3.05	3,040	1,796	3.88	1,486	1,249	2.20	19,311	25,609	36.05
.402	627	1.63	686	2,610	2.65	1,162	568	1.39	1,058	6,683	6.21	2,307	1,708	3.22	3,861	2,344	4.98	1,994	1,591	2.88	24,013	31,538	44.59
.264	408	1.34	598	1,720	1.86	1,039	375	1.13	938	4,703	4.53	1,996	1,618	2.90	3,294	1,546	3.88	1,571	1,090	2.14	21,631	22,348	35.30
.791	407	0.96	410	1,700	1.69	690	375	0.85	753	4,657	4.34	1,754	1,595	2.69	2,941	1,530	3.59	1,411	1,080	2.00	16,341	22,051	30.80
.133	540	1.34	568	2,266	2.27	961	490	1.16	929	5,922	5.50	1,794	2,126	3.15	3,242	2,034	4.23	1,667	1,402	2.46	20,718	28,580	39.55
.768	411	0.95	421	1,737	1.73	663	378	0.84	738	4,739	4.40	1,714	1,634	2.69	2,854	1,560	3.54	1,270	1,101	1.90	16,032	22,519	30.94
.946	401	1.08	481	1,599	1.67	813	353	0.94	828	4,431	4.22	1,767	1,041	2.25	2,963	1,436	3.53	1,310	1,021	1.87	17,016	20,137	29.80
.97	438	1.31	579	1,746	1.87	960	383	1.08	925	4,758	4.56	1,996	1,638	2.92	3,706	1,566	4.23	1,801	1,104	2.33	21,974	22,566	35.75
.928	402	1.07	436	1,607	1.64	743	354	0.88	754	4,448	4.17	1,781	1,512	2.64	2,802	1,442	3.41	1,283	1,027	1.85	16,612	20,957	30.15
.261	452	1.37	599	1,921	2.02	1,039	420	1.17	937	5,154	4.89	1,888	1,810	2.97	3,723	1,727	4.37	1,541	1,206	2.20	21,871	24,613	37.29
.486	441	1.55	699	1,804	2.01	1,189	394	1.27	1,067	4,888	4.78	2,469	1,692	3.34	4,887	1,619	5.22	1,997	1,135	2.51	26,572	23,220	39.96
.980	448	1.15	528	1,798	1.87	838	403	1.00	861	4,874	4.60	1,957	1,691	2.93	3,263	1,617	3.92	1,499	1,135	2.11	19,503	23,190	34.27
.824	437	1.01	458	1,745	1.77	731	382	0.89	815	4,754	4.47	1,875	1,636	2.82	3,140	1,565	3.78	1,476	1,102	2.07	17,786	22,501	32.34
.662	545	1.77	773	2,227	2.41	1,338	489	1.47	1,150	5,831	5.60	2,495	1,453	3.17	5,045	2,002	5.66	2,167	1,380	2.85	28,815	27,524	45.23
.995	407	1.13	553	1,676	1.79	852	368	0.98	904	4,602	4.42	2,117	1,575	2.96	3,542	1,506	4.05	1,752	1,064	2.26	20,692	21,760	34.08
.055	444	1.20	516	1,799	1.86	866	398	1.01	851	4,884	4.60	2,078	2,512	3.68	3,479	1,618	4.09	1,551	1,135	2.16	20,683	24,310	36.09
.067	405	1.18	509	1,667	1.75	851	366	0.98	844	4,584	4.36	2,023	1,568	2.88	3,488	1,500	4.00	1,553	1,059	2.10	19,505	21,717	33.09
.009	408	1.14	483	1,720	1.77	825	375	0.96	837	4,703	4.45	2,212	1,120	2.67	3,158	1,546	3.78	1,685	1,090	2.23	18,994	21,465	32.48
.198	514	1.37	598	2,086	2.15	992	461	1.17	939	5,518	5.18	2,104	2,900	4.02	3,533	1,875	4.34	1,695	1,294	2.40	22,648	27,763	40.46
.148	537	1.35	568	2,226	2.24	960	490	1.16	929	5,828	5.42	2,132	3,100	4.20	3,555	2,000	4.46	1,756	1,376	2.51	21,771	29,541	41.17
.027	444	1.18	477	1,799	1.83	851	398	1.00	809	4,884	4.57	1,957	1,697	2.93	3,275	1,618	3.93	1,295	1,135	1.95	18,610	23,224	33.57
.934	365	1.04	470	1,547	1.62	771	332	0.89	787	4,164	4.10	1,700	1,455	2.53	3,049	1,389	3.56	1,325	990	1.86	17,503	20,259	30.31
.204	454	1.33	575	1,880	1.97	1,014	414	1.15	939	5,057	4.81	2,293	1,170	3.26	3,820	1,689	4.42	1,703	1,180	2.31	22,309	24,185	37.31
.193	502	1.36	645	2,020	2.14	1,041	444	1.19	1,001	5,368	5.11	2,252	1,897	3.33	3,408	1,815	4.19	1,732	1,262	2.40	22,787	25,829	39.01
.1009	440	1.16	522	1,782	1.85	852	394	1.00	866	4,845	4.58	1,767	1,681	2.77	3,065	1,601	3.74	1,482	1,124	2.09	18,974	23,052	33.71
.1,127	449	1.26	575	1,816	1.92	973	403	1.10	951	4,921	4.71	2,091	1,714	3.05	3,822	1,633	4.38	1,805	1,147	2.37	22,210	23,501	36.67
.876	440	1.06	436	1,782	1.78	716	394	0.89	757	4,845	4.50	1,687	1,681	2.70	2,823	1,601	3.55	1,213	1,124	1.88	16,404	23,090	31.71
.876	444	1.06	436	1,799	1.79	716	398	0.89	757	4,884	4.53	1,687	1,697	2.72	2,823	1,618	3.56	1,213	1,135	1.88	16,404	23,309	31.87
.984	397	1.11	474	1,666	1.72	784	368	0.92	796	4,583	4.32	1,822	1,565	2.72	3,035	1,500	3.64	1,422	1,057	1.99	17,899	21,687	31.78
.914	437	1.08	458	1,745	1.77	757	382	0.91	799	4,754	4.46	1,687	1,636	2.67	3,198	1,565	3.82	1,486	1,102	2.08	17,863	22,583	32.45
.889	408	1.04	452	1,720	1.74	744	375	0.90	783	4,703	4.40	1,943	1,120	2.46	2,897	1,546	3.57	1,411	1,090	2.01	17,026	21,465	30.89
.786	402	0.95	490	1,619	1.69	702	353	0.85	786	4,477	4.22	1,645	1,064	2.17	2,723	1,455	3.35	1,147	1,031	1.75	16,391	20,364	29.50
.360	456	1.46	645	1,919	2.06	1,094	414	1.21	965	5,149	4.91	2,266	1,805	3.27	3,546	1,725	4.23	1,555	1,205	2.22	23,555	24,613	38.68
.202	544	1.40	610	2,207	2.26	1,014	489	1.21	948	5,786	5.40	1,970	2,076	3.25	3,565	1,983	4.45	1,499	1,367	2.30	21,573	27,966	39.75
.149	534	1.35	567	2,166	2.19	946	478	1.14	935	5,692	5.32	2,117	2,037	3.33	3,281	1,945	4.19	1,891	1,341	2.59	21,532	27,494	39.33
.366	544	1.53	603	2,207	2.26	1,055	489	1.24	939	5,786	5.40	2,117	2,076	3.37	3,791	1,983	4.63	1,748	1,367	2.50	22,983	28,088	41.00
.338	435	1.42	674	1,848	2.02	1,095	404	1.20	1,051	4,986	4.85	2,819	1,741	3.66	4,715	1,662	5.12	2,098	1,159	2.61	25,957	23,767	39.90
.055	501	1.25	467	2,061	2.03	811	451	1.01	782	5,463	5.01	1,861	1,936	3.05	3,096	1,852	3.97	1,400	1,287	2.16	18,600	26,226	35.97
.661	447	0.89	308	1,903	1.77	541	415	0.77	605	5,109	4.59	1,174	1,793	2.38	2,207	1,712	3.15	931	1,194	1.71	12,316	24,409	29.48
.847	487	1.07	421	2,004	1.95	703	439	0.92	723	5,334	4.86	1,687	1,882	2.86	2,962	1,800	3.82	1,126	1,251	1.91	16,259	25,606	33.60
.197	408	1.29	601	1,720	1.86	1,000	375	1.10	940	4,703	4.53	2,321	1,618	3.16	3,875	1,546	4.35	1,714	1,090	2.25	22,633	22,389	36.12
.773	502	1.83	806	2,083	2.32	1,405	451	1.49	1,164	5,508	5.35	2,885	1,960	3.89	4,830	1,871	5.38	2,129	1,297	2.75	29,158	26,585	44.75
.267	401	1.34	607	1,685	1.84	1,039	372	1.13	967	4,623	4.49	2,414	1,581	3.21	3,389	1,515	3.94	1,886	1,068	2.37	23,168	21,895	36.18
.054	443	1.20	526	1,781	1.85	879	398	1.02	875	4,838	4.59	1,849	1,674	2.83	3,095	1,600	3.77	1,600	1,123	1.99	19,737	23,023	34.32
.892	444	1.07	501	1,799	1.85	771	398	0.94	838	4,884	4.59	2,078	1,777	2.61	3,481	1,618	4.09	1,400	1,135	2.03	18,167	22,331	32.50
.454	511	1.58	647	2,123	2.22	1,141	463	1.29	1,013	5,597	5.30	2,491	1,391	3.12	4,626	1,908	5.24	1,912	1,314	2.59	24,873	26,267	41.04
.830	508	1.88	854	2,148	2.41	1,472	463	1.55	1,289	5,647	5.57	3,830	2,018	4.69	6,390	1,929	6.68	2,750	1,333	3.28	33,722	27,387	49.06
.640	544	1.75	797	2,207	2.41	1,364	489	1.49	1,232	5,786	5.63	3,184	1,443	3.71	4,898	1,983	5.52	2,465	1,367	3.08	30,088	27,406	



# 1982 WINNERS

This year's Homes for Better Living awards program produced a mixed bag of winners, ranging from a converted schoolhouse to a 3,250 sq.-ft. custom home.

There are seven entries in the custom-home category, which received First Honor Awards. Three of them are remodelings, including two recycled barns.

First Honor Awards in production housing went to a rental complex for the independent elderly, a schoolhouse turned condo, and two new condominium projects.

Six Awards of Merit were given to an urban infill complex, an inn recycled into condo units, two rental projects, a subsidized complex for the elderly and a condo in which two new units were built between two remodeled units.

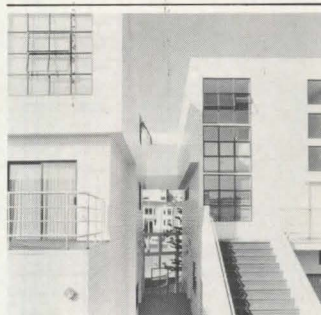
The HFBL program, the oldest design competition devoted solely to housing, is sponsored by the American Institute of Architects in cooperation with HOUSING. Two juries spent two days judging 210 custom entries and 221 production entries at the AIA headquarters in Washington, D.C.

## FIRST HONOR AWARDS

### MULTIFAMILY

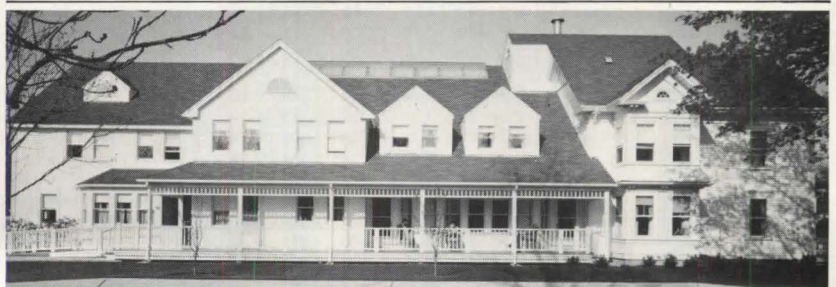


1. Scottsdale, Ariz.  
Architect: Fisher-Friedman Associates  
Builder: Prometheus Development Co.



2. San Francisco, Calif.  
Architect: Daniel Solomon, Paulett Taggart  
Builder: Shannon Construction

### MULTIFAMILY REHABILITATIONS

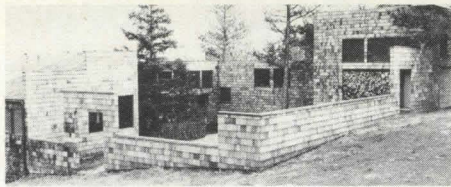


3. Hyannis, Mass.  
Architect: Donham & Sweeney, Architects of Record; Korobkin Jahan Associates; Zeisel Research  
Builder: McDuff Building Corp.



4. Boston, Mass.  
Architect: Graham Gund Associates Inc.  
Builder: Erland Construction Co.

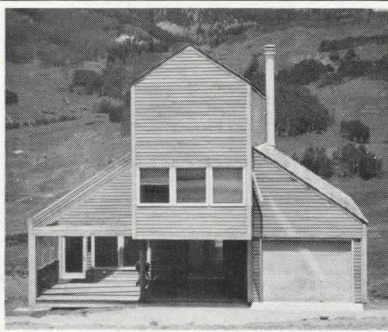
## CUSTOM HOUSES



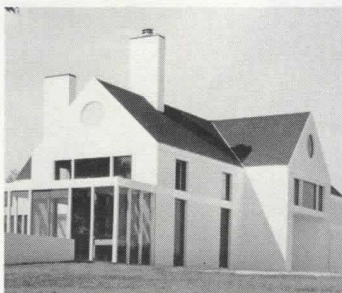
5. Missoula, Mont.  
Architect: Eric Hefty and Associates, P.C.  
Builder: Eric Hefty



6. San Diego, Calif.  
Architect: Rob Wellington  
Quigley, AIA  
Builder: Wodehouse and  
Associates



7. Crested Butte, Colo.  
Architect: Nagle,  
Hartray & Associates, Ltd.  
Builder: Paul Buscovick  
Construction Co.



8. Eastern Shore, Md.  
Architect: Hugh Newell Jacobsen, FAIA  
Builder: Harper and Sons, Inc.

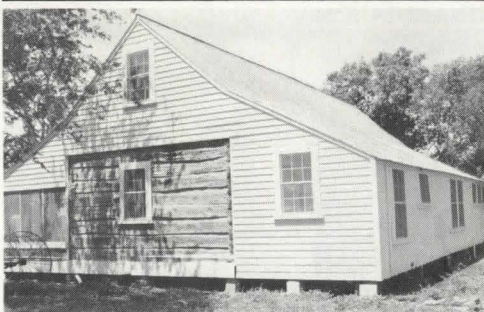
## CUSTOM REMODELINGS



9. Oakland, Calif.  
Architect: Agora  
Associates & Planners  
Builder: John Campbell



10. Washington, D.C.  
Architect: Kerns Group  
Architects, P.C.  
Builder: The Lenkin Co.



11. Fayetteville, Tex.  
Architect: Clovis Heimsath, FAIA  
Builder: Jerry Michalsky

**For production houses**, from left;  
(standing) Do H. Chung, AIA;  
June Vollman, managing editor,  
HOUSING; Donald Sandy, Jr., FAIA, jury  
chairman; James P. Cornwell; Stephen  
A. Schwartz, architectural student;  
(seated) Burton Bines, builder; Cynthia  
Weese, AIA.



## THE JURORS



**For custom houses**, from left:  
(seated) Arne Bystrom, AIA; Charles  
Dagit, Jr., AIA, jury chairman;  
Robert D. McKerrow, architectural student;  
Walter F. Wagner, editor, *Architectural  
Record*; Ingeborg B. Rose, AIA; (standing)  
James Childress; Dwight Holmes, AIA.

# AWARDS OF MERIT

## MULTIFAMILY



**12.** Laconia, N.H.  
Architect: Claude Miquelle  
Associates  
Builder: Keewaydin Shores Inc.



**13.** Birmingham, Mich.  
Architect: Carl Luckenbach,  
Robert L. Ziegelman Inc.  
Builder: Beacon Hill Construction Co.



**14.** Brooklyn, N.Y.  
Architect: Alfredo De Vido, AIA  
Builder: Ian Bruce Eichner

## MULTIFAMILY RENTALS



**15.** San Francisco, Calif.  
Architect: Daniel Solomon and Associates  
Builder: U.C. Construction



**16.** Sacramento, Calif.  
Architect: Dreyfuss & Blackford Architectural Group  
Builder: J.R. Roberts Construction Co.

## MULTIFAMILY REHABILITATION



**17.** Glenbrook, Nev.  
Architect: Backen Arrigoni & Ross Inc.  
Builder: Squaw/Wynn Construction Co.



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The sleek, designer lines of Whirlpool® home appliances enhance any decor. And you're giving your prospects a name they know and trust. They're both good reasons to make Whirlpool appliances part of your plans.

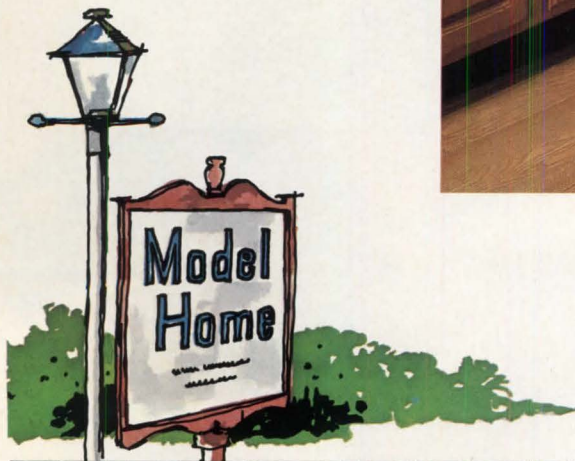
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Your prospects are pre-sold on these appliances by a national television and magazine advertising program designed to reach almost every American every week.

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It can help you make the sale.





You want **Whirlpool**  
HOME APPLIANCES

Making your world a little easier.

You won't find too many opportunities to revitalize a 100-acre neighborhood, as has happened in Columbus, Ohio. But you'll probably find plenty of smaller districts that are ripe for fix-up.



**New and old side-by-side:** Frame house at left was recently built; brick house at center has been restored; detached house at far right is also new.

# 5 LESSONS YOU CAN LEARN FROM A NEIGHBORHOOD REVITALIZATION

Here are

## 1 HOW TO BUILD NEW HOMES THAT BLEND IN WITH THE OLD

"When the models opened, people asked how we put new foundations on old houses," says builder Irv Schotenstein. "They thought they were looking at rehabs."

Such comments—and the photo at left—are testament to how well the new homes—some 67 in all, on scattered sites—fit into the Renaissance streetscape. The detailing, roof pitches, window sizes and front porches echo the surrounding homes. Inside, too, these homes share characteristics people are used to seeing in the neighborhood dwellings, such as entry foyers and separate formal living rooms (*see plans and photos overleaf*).

One major difference: price. The new—and smaller—homes sell from \$65,800 to \$72,400, while many of the restored homes are priced well over \$100,000.

Cost-efficient construction helped. "We used as many standard-size items as possible," says Schotenstein, whose company, M/I Schotenstein Inc., built and sold the homes under contract to Olentangy Management Co. (*see box page 60*). "And we used roof trusses, aluminum siding, etc."

Schotenstein, who's used to building subdivision-style in the suburbs, had to make some adjustments for this inner-city job. "Vandalism is always a problem in a transitional neighborhood," he says. "We learned to schedule work very tightly, so that materials were delivered as they were going to be used. Vandals seldom steal something nailed in place."

Other difficulties: "We were using 50- and 60-year-old maps to locate the sewer lines," he says, "and sometimes they weren't where

TO NEXT PAGE



B. R. GOFF/QUICKSILVER PHOTOGRAPHY

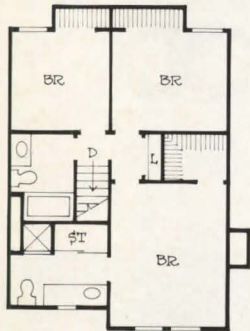


they were supposed to be.” And the lots were very narrow—houses are only a foot or two from the property line—so there wasn’t much room to maneuver. “Sometimes grading had to be done by hand.”

Those narrow old lots had one big advantage, however—low cost. Only about \$1,000 of the sales price represents land. (Already improved,

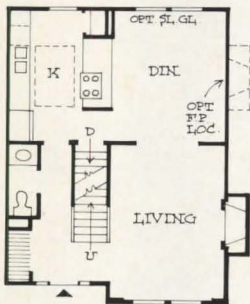
but vacant, lots were owned by Battelle Memorial Institute, which mounted the revitalization effort, as explained in box at the bottom of this page.)

BUILDER: M/I Schotenstein Inc., Columbus  
 DEVELOPER: Olentangy Management Co., Columbus  
 ARCHITECT: Bohm-NBBJ, Columbus  
 INTERIORS: Pam Maser, Columbus



UPPER LEVEL

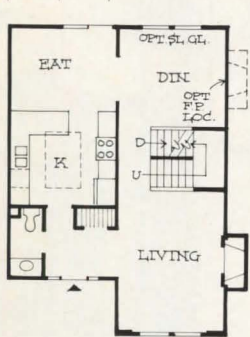
**New two-story (right)** sits on narrow 30' inner-city lot. This plan—the smaller of two offered—has 1,280 sq. ft. and sells for \$65,800. Old-fashioned center stairs (plan left) recall adjacent century-old homes, while master suite and kitchen with pass-through to dining area suit the tastes of young professional buyers.



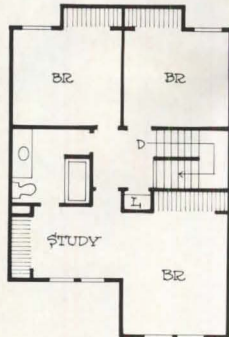
LOWER LEVEL

**More popular choice** was larger, 1,488 sq. ft. house (plans and photos below). Sales price: \$69,400 for version shown; \$72,400 for alternate with two full baths upstairs and no master bedroom study area. Living-room fireplace is an option, as is detached two-car garage, accessible from a back alley.

0 5 10 FT



LOWER LEVEL



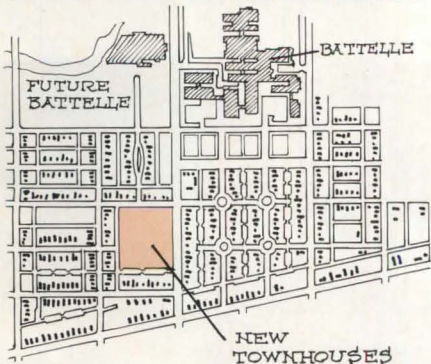
UPPER LEVEL



PHOTOS: B. R. GOFF/QUICKSILVER PHOTOGRAPHY



## HOW RENAISSANCE HAPPENED



In the late '60s, Battelle Memorial Institute—a large, not-for-profit research institute—began buying up property close to its Columbus, Ohio headquarters (see map left). The goal: to create a reserve of land for future expansion.

By the mid-70s, Battelle owned some 65% of the adjacent residential area, a once-prestigious neighborhood where roomy single-family homes were renting for as little as \$100 a month.

Then Battelle's ideas about expansion changed; it decided a mere 15 acres would do the trick. So the institute decided to divest itself of the excess real estate—and recoup its investment in the process.

To that end, Olentangy Management Company (OMC) was formed in 1976. This for-profit Battelle subsidiary has carried out the neighborhood revitalization effort tagged "Renaissance."

You could call it a planned-unit redevelopment," says former OMC President Barry K. Humphries. "We were able to orchestrate a 22-square block project."

# 2

## HOW TO GIVE NEW LIFE TO OLD HOUSES WITHOUT DESTROYING THEIR CHARACTER

It takes advance preparation for one thing, and lots of patience.

"Before we start work, we go into each room and do a 'medical' exam. An old plaster wall that looks great, may really be on the verge of collapse." So says John Hondros, president of Columbus Restorations Inc., which was contracted by OMC for interior work on three of the 54 structures that were completely renovated. (Another 125 received only exterior and energy-related attention, to keep prices within reach of more moderate-income buyers).

Another concern: materials. "For new construction, you know how many 2x4s you need for a 3,000-sq.-ft. house," says Hondros. "Here we have to go through each room and count the materials we need, item by item."

What's more, some materials aren't readily available anymore. "Back then, 2x4s were 2" by 4"," points out Antonio Colosimo, president of 3/D Construction, which worked on a half dozen of the restorations. "If you tear one out, you have to replace it with lumber of the same dimension. In some cases, we've been able to recycle studs. In others, we've had to have 'real' 2x4s made."

Millwork is saved, if possible. Sometimes all the trim in one room is stripped and used to fill gaps in other rooms of the same house. Often new

pieces have to be custom-made to match. Colosimo goes to a local millshop. Hondros has a 65-year-old craftsman on staff who knows how to run an old lathe.

That veteran workman is typical of both Colosimo's and Hondros' crews. "We looked for seasoned veterans with 20 to 25 years experience in remodeling," says Colosimo.

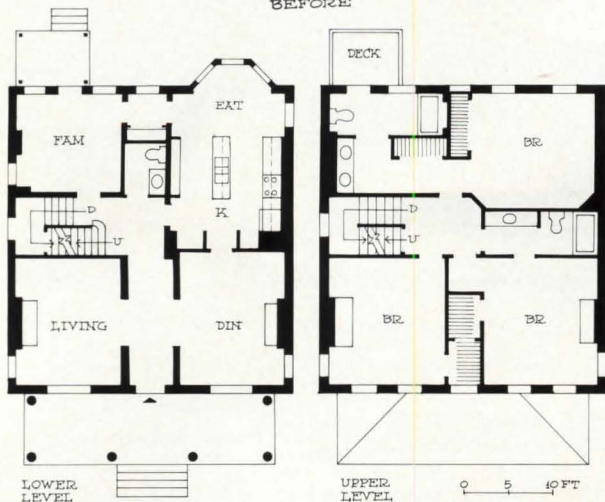
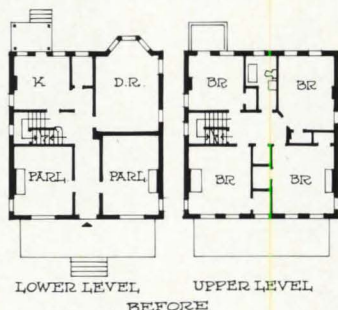
"Younger people are knocking at our door now because new construction—where they can make more money—has fallen off," says Hondros. "And some of them are learning to love this kind of work."

Subs have to be experienced, too. "A sub used to new construction might not realize that re-wiring, for example, could take three days instead of one—and cost twice as much," says Hondros. "Wires may have to be fished through the wall to avoid damaging floors or walls more than is necessary."

Areas where restoration isn't desirable: mechanical equipment, kitchens and baths. Old gas-fired heating systems were replaced with updated units, with central air conditioning capacity. Kitchens were modernized, and sometimes relocated. And second-floor layouts were changed to accommodate a true master bath. "In these old homes there was just a hall bath upstairs," says Colosimo (*see typical before and after plans below*).



PHOTOS: B. R. COFFO/OLIVER SILVER PHOTOGRAPHY



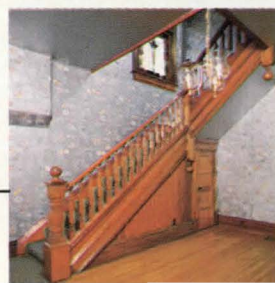
### Restored two-story

(above) carries a price tag of \$172,000 for 2,530 sq. ft. Before and after plans (far left) show how kitchen layout was updated and master bath created in former bedroom. A two-car garage is detached. This home is one of six which were moved, re-sited around a courtyard and sold as condos.



### Typical interiors show

best of old and new. Kitchen (top) is all new. Window trim and hardwood floor in adjoining dining area (center) are restored, but stained glass is new. Period balustrade (bottom) was salvaged from a demolition.



CONSULTING ARCHITECT:  
Bohm-NBBJ, Columbus  
DEVELOPER:  
Olentangy Management Co.,  
Columbus

# 3

## HOW TO INJECT AN INFILL MULTIFAMILY PROJECT

For starters, keep the units in tune with the surrounding homes.

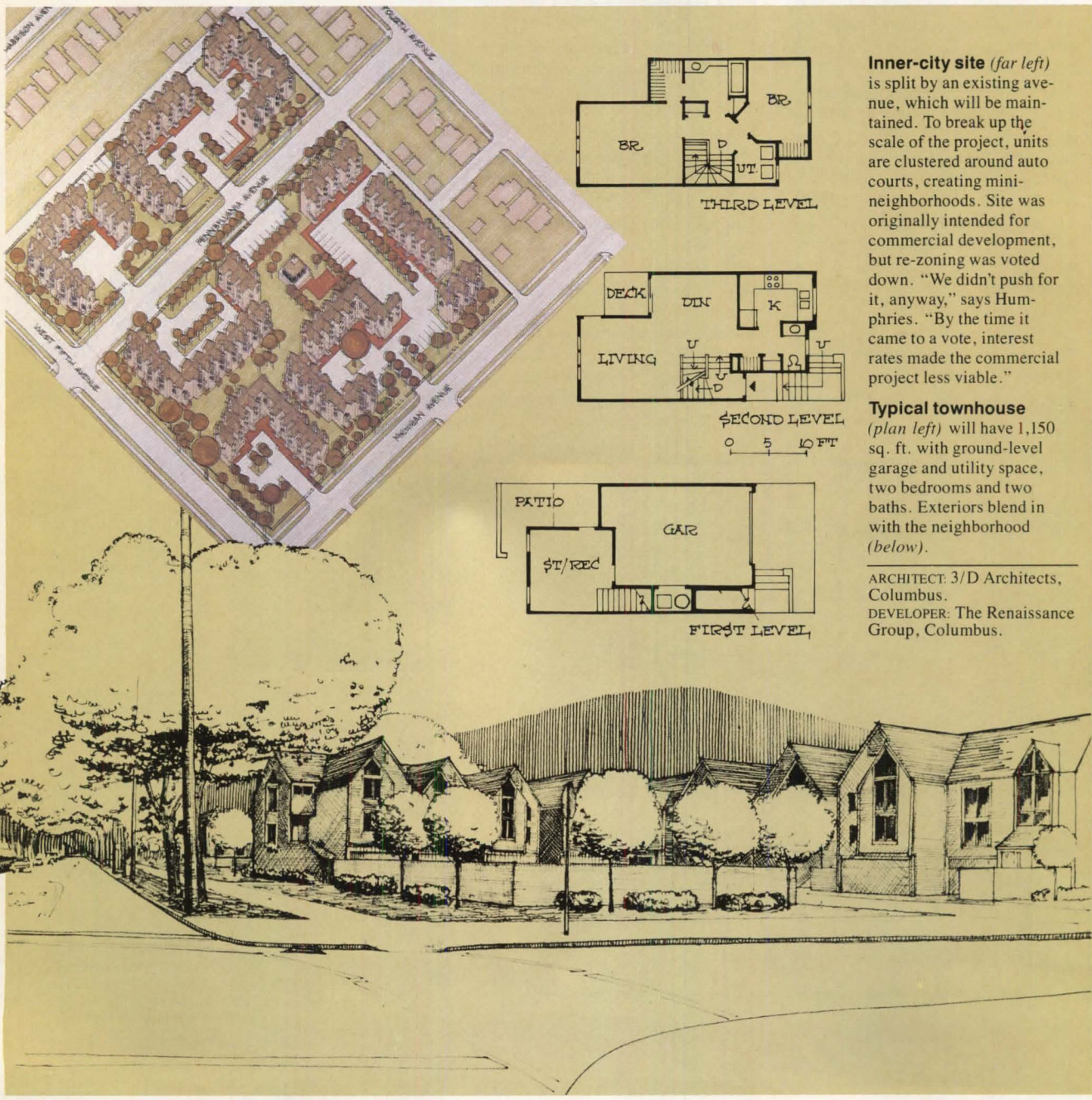
That's the reason for the steep roof pitches and tall windows on the townhouses shown below—87 units planned for a 5.2-acre site right in the middle of the Renaissance redevelopment area. (see map, page 60). And they'll resemble those detached homes in other ways, as well.

For one thing, they'll be sold fee-simple. "The condo market is still young here," explains former OMC President Barry Humphries, who now heads his own company, The Renaissance Group. He's acquiring the site from Battelle and will be developing the townhouse infill

project for his own account.

Selling price: about \$60,000. They should attract young professionals working for Battelle, at downtown offices or for Ohio State University, just a few blocks away.

Humphries also notes that developers used to suburbia look askance at adding to the already unusual mix of housing product in the area. "They think we're crazy," he says. "They're so used to areas where there are only \$80,000 houses or only \$120,000 houses, that they find it hard to imagine \$170,000 restorations, \$40,000 "sweat equity" rehabs and new \$60,000 housing in the same neighborhood."



### Inner-city site (far left)

is split by an existing avenue, which will be maintained. To break up the scale of the project, units are clustered around auto courts, creating mini-neighborhoods. Site was originally intended for commercial development, but re-zoning was voted down. "We didn't push for it, anyway," says Humphries. "By the time it came to a vote, interest rates made the commercial project less viable."

### Typical townhouse

(plan left) will have 1,150 sq. ft. with ground-level garage and utility space, two bedrooms and two baths. Exteriors blend in with the neighborhood (below).

ARCHITECT: 3/D Architects, Columbus.

DEVELOPER: The Renaissance Group, Columbus.



"Our research showed that well-built homes close to the city center were attractive to young adults," says Humphries. "But they would buy in suburbia where they thought their investment more secure." So the developer's first task was to set the area apart from others of the inner city and stress a long-term commitment to it.

Thus, the name "Renaissance," which suggests a once-prestigious neighborhood regaining its stature, and a marketing program which kicked off with top-of-the-line, highly publicized restorations.

"The first two models sold for \$120,000," says Humphries. "Before that, the highest price in the

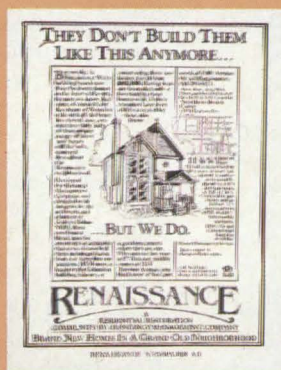
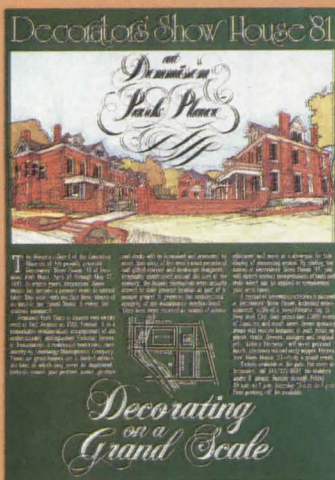
neighborhood was \$35,000." Tours, Realtor parties, etc. got people talking about those showplaces—and Renaissance. "We had 1,350 go through one weekend."

Even more successful was the promotion of Denison Park Place—six "historically significant" structures re-sited along a well-traveled street. "Relocation costs were so high, we knew we'd take a loss, but we felt we'd make up for it in improved values—and perceived stability—for the area as a whole."

What's more, the homes were chosen for a charity decorators' showcase—and some 37,000 Columbus residents paid to see them.

# 4

## HOW TO DRAW BUYERS TO THE INNER CITY



**Ad campaign** by Adgraphix Inc. of Columbus stressed quality and distinctive design of the Renaissance homes—both old and new. "Research showed that the chance to live in an architecturally exciting neighborhood was as appealing to prospects as being close to work," says Humphries. Note also the romantic image of life in a Victorian-era community promoted in the ad at right above.

Inner-city redevelopers face a problem that suburban builders don't—namely, dealing with people living in the very houses they plan to restore and sell to others. In this case, Battelle, as landlord, could conceivably have evicted its tenants and let the chips fall where they may. But the political outcry that surely would have resulted could have stopped the project dead. So, from the outset, OMC tried to provide for neighborhood participation and minimize displacement backlash.

For example, OMC invited community groups to a meeting where the redevelopment master plan was unveiled and asked for suggestions. Many of their recommendations were adopted, such as an exteriors-only rehab plan to keep some prices moderate. OMC also:

- donated \$250,000 worth of homes to a neighborhood non-profit housing corporation;
- developed a tenant-purchase program so some renters could buy the homes they were living in;
- employed a tenant assistance

officer to counsel tenants regarding purchase programs, relocation, etc. (photo right);

• committed 79 homes—mostly smaller, frame dwellings—for purchase by moderate-income households through an innovative grant program. (That program—\$2 million from HUD to the City of Columbus—included funds for \$10,000 grants for moderate-income buyers and \$400 relocation benefits for tenants who couldn't—or chose not to—buy.)

Such programs weren't enough to satisfy every neighborhood activist, but the common goal—saving the neighborhood—was achieved. Says Marsha Moorehead, an ex-renter who bought her house and worked as OMC's tenant assistance officer: "When you put a big effort like this together, some people are going to be hurt and some of the work—the bricks-and-mortar stuff—isn't going to be the best either. But ten years ago, anybody who knew Battelle and this area thought it would be leveled."

# 5

## HOW TO MINIMIZE PROBLEMS WITH EXISTING RESIDENTS



# RENTALS

## DEMAND ALL REVVED UP, BUT NOWHERE TO GO

It is the best of times and the worst of times for the rental housing market. On the demand side, the prospects for a recovery are rosy, as evidenced by the following:

- Starts of for-sale housing have been way off the past two years and it doesn't appear the trend will be broken this year. Advance Mortgage Corp., one of the country's largest mortgage bankers, predicts 1982 will be the third straight year housing starts fall 500,000 units short of demand;

- Rising prices and high interest rates have placed this already short supply of new housing, and much of the existing stock, out of the reach of a rising number of would-be buyers;

- Vacancy rates are at record lows—well below 5% in many markets. Because of this tightness, rents have moved upward and actually kept pace with inflation last year.

Meanwhile, demographic factors point to more household formations as baby-boomers leave parents' households. According to Jerry Reinsdorf, chairman of Skokie, Ill.-based Balcort Company, a major syndication firm, there will be 15 million more people in the 25-to-44 year old age group in the 1980s than there were in the 1970s.

The result: More strain on an already tight housing market and more demand for rentals—4.1 million units more of demand in the 1980s, according to George Sternlieb, director of the Center for Urban Policy Research at Rutgers University.

However, the bright demand picture in itself won't lead to a dramatic upsurge in the production of rental units. There are some negative factors making this one of the worst of times for the rental market:

- Current high interest rates have caused interest expense in rental projects to skyrocket;

- Cash flows, though improving as rents increase, are often still too low unless a developer puts very substantial equity into the project;

- In many cases, developers find they can't get a commitment for a mortgage unless they give the lender some equity in the project.

Of course, rental production in a particular market comes down to how the above opposing sets of factors balance out. In Houston, for instance, the rental market is relatively healthy. "Demographic growth is really strong in Houston," says Steve Ross, president of The Related Companies, a developer of for-sale and rental housing with headquarters in New York City. Because of that, he says, "the rental market is exceptionally strong." Just how strong is demonstrated by this bit of data from Advance Mortgage Corp: Starts of unsubsidized rentals in Houston last year accounted for about 15 percent of the country's 100,000 total unsubsidized starts.

### Go or no-go depends on rental rates

Reinsdorf notes that, whatever the demand, "you can only make sense of new construction when you can get rents that are high enough." He sees such markets as Dallas, San Antonio, El Paso, Midland (Texas), Denver and Colorado Springs as good examples of markets where rents can support new construction. In fact, Reinsdorf claims that the Midland market is so overpopulated and underbuilt that would-be renters are camping out in tents until they can find apartments.

Still, even in the strong markets, a successful rental project must have the right combination of innovative financing, good design and cost-effective construction.

According to Ross, in today's high interest-rate environment a financing package for a rental project more often than not requires the developer to give a piece of the action to the lender. Reinsdorf agrees, noting that "you have to give the lender an equity participation (in exchange for) a lower rate." Reinsdorf believes those builders waiting "for the good old days" of high leverage and no lender participation "are dead and they don't know it." He sees no way a builder is going to

build much of anything in rentals these days without giving equity participation to the lender.

The design element in rental projects is more crucial than ever before since, most industry observers agree, virtually all rental units being built today are done with an eye toward condo conversion.

"You're not building a typical rental," says Ross. "You design a project as if you're designing a condo." According to Ross, that means sticking to better locations, a good amenity package and an overall higher level of specs for a project. Quality, especially in what consumers see, counts because, he says, the higher end projects "convert easier" than those built for low-end markets.

Reinsdorf agrees that potential condo conversion is an important consideration when building a rental project these days. "I think the condo phenomenon will spread across the country," he says. "It really hasn't yet." Reinsdorf argues that aside from a few widely publicized markets—New York, Chicago, Washington, D.C., Miami—there really hasn't been that much converted. However, he cautions against going into a project where the profit hinges exclusively on equity appreciation to be recouped via a later conversion.

"I don't think you should go into a deal with the idea that you must convert it, because I like to have a cash flow from the value proper," he says. "I want it to work as a rental. I learned in school that the value of an asset should be the present value of its future income stream, and I still believe that."

### Lower construction costs are also a factor

Bob Lee Jr., marketing director of Ruslin Inc., a building company that is based in Beaumont, Tex., has found that an effective way to improve that income stream is to reduce construction costs. In fact, Lee says, a new construction system has so reduced costs that financing is now "workable"

on a planned rental project.

Ruslin Inc. is building a 50-unit, single-level apartment project in Beaumont using concrete block instead of conventional wood framing. The cores of the blocks are filled with insulation, giving them an R-11 value, adequate for the temperate climate. The exterior finish is stucco, interior surfacing is drywall. Lee says the company uses a flat roof on the units and coats the roof with urethane for waterproofing.

"Building this way cuts down on the steps and skill needed to build the structure," says Lee, figuring his construction costs run about \$25 a sq. ft. versus the \$32 a sq. ft. he estimates his competitors are coming in at.

But even this substantial cost differential doesn't adequately demonstrate the advantages of his construction method, he says. Where others are offering comparatively bare-bones units of 710 sq. ft., Ruslin, at its lower cost, is offering 900-sq.-ft. apartments with two bedrooms, two baths, fireplaces and ceilings between eight and 14 feet high. These features will allow his units to fetch rents of \$450 a month and up, according to Lee.

On the financing side, Lee says the company decided to joint venture with an outside investor instead of joint venturing with a lender. The company and the investor had to come up with substantial equity—about 20%—and the loan the bank offered has tough terms: The loan is amortized over 25 years, but is actually due in three years. Its rate floats above prime and is renegotiated quarterly. Also, the loan had to be personally guaranteed by the investor.

Still, Lee figures that at an 18% rate, the rental income will offset

maintenance costs and debt service. If the rate falls below 18%, cash flow moves into the black.

The key to what Ruslin is doing, Lee says, is "being able to hold onto the project, defer profit and take it in the form of equity" when the units are sold as condos two or three years down the road.

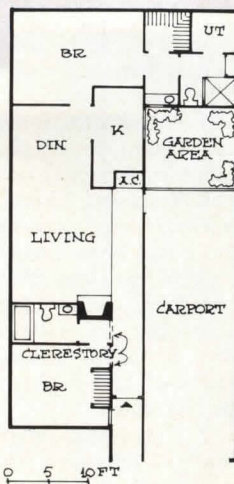
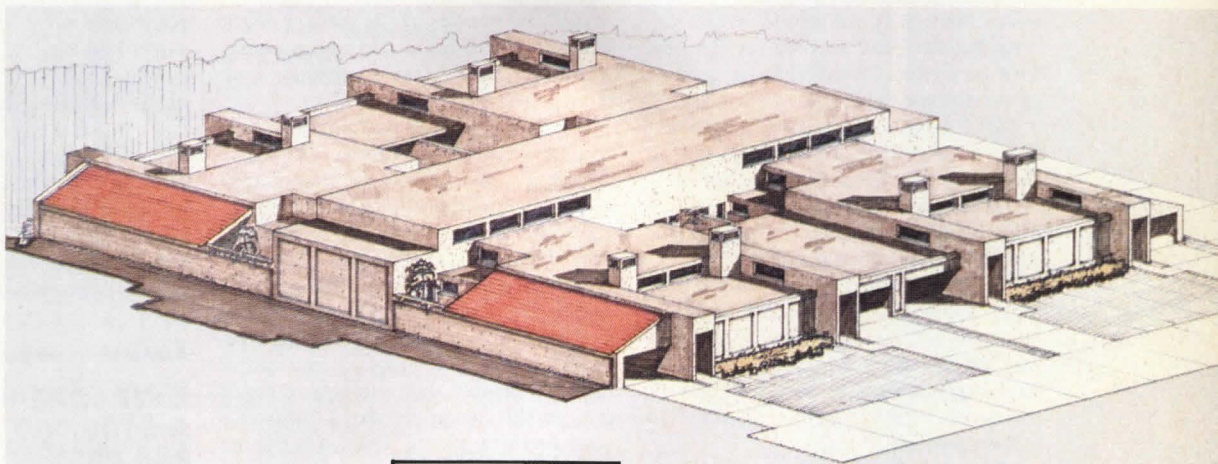
"We already have the condo agreements drawn up and ready to go," he says, even though only the first eight units of the 50-unit project are near completion. Until they can cash in on the equity buildup, investors in the project will have to settle for the tax benefits of accelerated depreciation.

If this first project in Beaumont works out, Lee says that his company will do similar projects in other small-

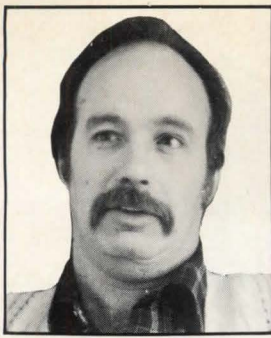
to medium-sized cities throughout the Sunbelt region, most likely on a joint-venture basis.

Still, despite opportunities in specific markets, the prospects for a nation-wide recovery for rentals aren't good—even though there is a continuing need and demand for rentals. Those prospects are perhaps best summed up by the prediction of National Multi Housing Council co-Chairman Preston Butcher. Appearing before the President's Housing Commission, Butcher said that, given recent low levels of production for nonsubsidized rentals and the current state of the company, "it is not expected that rental production will see significant expansion in the near future."

—WALTER L. UPDEGRAVE



**In-the-works:** 50-unit rental project is being built in Beaumont, Tex. by Bob Lee in a joint venture with a non-lender investor. The project is slated to turn condo someday, hence such upgrades as fireplaces, two baths, etc., untypical for rentals in the area. Building and unit design are also of for-sale quality.



AS MARKET CONDITIONS SHIFT,  
SO DOES DALE FRYFOGLE'S WAY OF  
DOING BUSINESS. THAT'S...

# HOW A SMALL-VOLUME BUILDER SURVIVES IN TOUGH TIMES

**B**y today's rugged standards, Dale Fryfogle of Sykesville, Md. is a success. He's still in business selling single-family houses in the counties north of Baltimore. He has been hurt, but not as severely as many of his colleagues now out of homebuilding. "They're not many of us left," Fryfogle says with honest regret.

He has no magic formula. Fryfogle hangs in there by adapting, rapidly when necessary—a tactic small-volume builders can employ to compensate somewhat for the financial muscle of their large-volume competitors.

"If I bend over backwards to get buyers into a house, and it works, that's good for them and good for me," he says. "I may not make as much profit as I would in good times, but it sure beats making nothing."

Six years ago—five years after Fryfogle started building on his own—he put into action the adapting program that's keeping his business alive today: Running contrary to most builders at the time, Fryfogle let his buyers chip in sweat equity.

"Most of them were young, inexperienced and didn't want to do any more than interior painting, or grading and seeding—jobs that don't call for a lot of know-how," he says. "But letting them do it knocked the price down just enough to let them squeeze by the payments."

Nowadays, Fryfogle goes further. He'll take a 3% consulting fee to oversee construction of a house by its owners. "I check their work two or three times a week for about 15 minutes at a clip," he says. "What I don't do is lift a hammer. That's their job."

Where he does spend time is justifying work on footings, block and framing, since subsequent phases depend on

accuracy of the first jobs. "I don't bother with electrical or plumbing," he explains, although he will recommend the subs he uses in those trades. "The inspector sees to that. Beyond those jobs, not much can go wrong that's serious, so my total time on a job doesn't add up to a whole lot."

Fryfogle allows that a \$1,500 fee for consulting on a \$50,000 house isn't much. "But it helps pay the rent," he says, "and besides, those owners might just ask me to build their next house, which is usually bigger than their first. It has happened."

Typically, Fryfogle's company, Del-Mar Development, builds 24 to 26 houses a year—a volume that generates in the neighborhood of \$2 million. Last year he built only 11 houses and scrambled to get the orders. And during the first two months this year he sold three from an inventory of six, and pre-sold two others. An inauspicious start, but Fryfogle is optimistic for two reasons: He anticipates a small upturn this summer and a return to good times by spring, 1983. Then, even if business stays flat, there are 11 reasons beyond taking sweat-equity clients that keep his mood buoyant. They are:

1. All his work is subbed out, reducing overhead expense to an office, office equipment, two trucks, himself and Mrs. Lenos Liston, secretary/bookkeeper/receptionist/salesperson (she has a real estate license).

"I've had crews on the payroll in the past," he admits. "But, there's no way I can compete with subs. Paying my own crews for downtime now would kill me. And most subs do the jobs better, faster."

2. "The same subs have been with me for a long time," he says, "and we

have a good rapport. But last year was rough, and I had to press them or go shopping. I'd trade. For example, if the plumber guaranteed a \$100-price cut on each job, I'd give him everything for the next six months. Let's face it. They're hungry, too."

3. Whenever he can, Fryfogle builds on spec. "Custom turns a good profit sometimes," he says. "More often, change orders slow us down to the point that we're losing money on spec work, and not making enough on the custom job. Naturally, we charge for change orders, but it's the time we can't make up."

4. Clients come back when they need an addition, dormers or a deck—a sign of confidence. Fryfogle accepts the work, completed by a spin-off firm, Del-Mar II, which also takes on other remodeling work. At present, remodel-

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## 'EVERYONE WANTS A \$100,000 HOME FOR \$50,000'

The nearest Fryfogle comes to granting that wish is the rancher (*near right*) that offers two bedrooms, a bath, kitchen and living area in 700 sq. ft. Another rancher (*far right*) is a consistent best seller. Its 1,092 sq. ft. "may not have everything a buyer wants, but has everything he needs," the builder says.

His hottest model in the \$50,000 to \$60,000 category is a Cape Cod, offered with a bedroom, bath, kitchen and living room on the first floor, space for two more rooms and a bath on the second, and a full basement. It's like the model (*lower right*) shown under construction in his brother's subdivision—except that Dale Fryfogle uses T&G polystyrene rather than plywood under aluminum siding.

ing accounts for about 10% of the company's total volume. While it's overshadowed by the homebuilding operation, Del-Mar II represents one more adaptation to the times; one more plug against leaking profits.

5. By working with most of the same subs year after year, sticking to three or four basic house designs, and keeping a tight rein on his flow chart, Fryfogle chips away at construction time. His record is 25 days, pretty good for a stick builder, and a saving—over a typical 120-day completion—of more than \$1,200 in interest on construction money.

6. In the counties north of Baltimore, houses are moving in the under-\$60,000 and over-\$100,000 categories. Fryfogle opts mostly for the low-end group, which draws young marrieds.

"If they can't quite make the down payment, I'll take back a second mortgage. I never charge more than 12%. The idea is to get these people into my houses with payments they can handle.

"I could offer buy-downs, but I won't. All that does is delay for a short time the jolt they're going to get when the interest rate hops back up to 17%, or whatever. Besides, all a buy-down does is make sure the bank gets its full cut."

7. Fryfogle attracts buyers to his houses with energy-saving construction. For example, he has been packing

ceilings with R-30 insulation ever since he started building. Now he adds another fillip: a pad and an 8" flue in the basement for a wood stove (that's in addition to his standard electric forced warm-air heating system).

Thus, he says, buyers of some of his newer houses tell him of very low electric heating bills, "one as low as \$12 for a 1,092-sq.-ft. house for an entire winter," and others at around \$40 (compared to about \$300 for similar homes in the Baltimore area with the same kind of heating system). "And folks around here cut most of their own wood," he says.

Fryfogle chooses an outside wall location for the stove, then puts no insulation between the basement and first floor. "Some owners turn on their furnaces for ten minutes or so half a dozen times during the winter," he says, "just to make sure they still work."

8. He opts for aluminum siding. "Compared to brick (common in the area), which goes up in about a week, aluminum is installed in a day-and-a-half. And there's no cleanup with aluminum. My sub takes the scrap."

Fryfogle says another reason for choosing aluminum is its in-place cost: only slightly over \$100 a square compared to over \$400 a square for brick.

9. "Like other builders, I cut corners on construction where it makes sense,"

he says. "For example, I knock the gable-end roof extension to zero. People don't even notice. I keep the eave overhang at two feet. Some builders cut it back further, but I think it makes more sense to split a plywood sheet once down the middle and use all of it. It's cheaper in the long run."

10. One of Fryfogle's two vehicles is a dump truck. Sometimes, it hauls material for his subs. But its number-one use is for cleanup. Fryfogle is a stickler for keeping his properties clean *during* construction—even those that are pre-sold. At whatever stage he shows a house to a prospect, it's neat, and, though the impression is subtle, the impression remains. Buyers like it.

11. There are times he puts his own hand to construction or finishing, an inherent advantage of being a small-volume builder. "As long as I have the time to pitch in without hurting my management chores," he says, "I enjoy it, and I save a little on hiring subs."

Collective builder wisdom warns against "living in your own subdivision." Dale Fryfogle has always lived in his. "There's not a house I've built where I can't knock on any door and be invited in for a cup of coffee," he says. "Maybe that's why most of my new work comes to me through recommendations of past clients. I don't look on those people as buyers, but as friends."



PHOTOS: STAFF



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TAKING  
ADVANTAGE  
OF THE  
**GREAT  
OUTDOORS**

The idea is to give prospects more than a view of what's happening outside. You want to make them a part of it. And, as the kitchens and baths shown here and on the next five pages demonstrate, enhancing outdoor spaces with decks or patios lets you extend functional living space from what are often cramped and overworked interiors.

That's not to say kitchens and baths can be treated alike when opened to the outdoors. For exterior spaces off kitchens have to function very differently from those off baths. An outdoor dining area, for example, is social space—an extension of the kitchen, which is typically *the* busiest room in the house. Thus, primary concerns should be how to control traffic and how to serve indoor and outdoor dining areas efficiently.

The outdoor space off a bathroom, on the other hand, is a retreat, the most intimate space in the house. That's why you should be sure that the outdoor area is entirely enclosed, either by landscaping or privacy fences—and that no windows, including

those on an upper floor, overlook the bath area. In fact, bath privacy is so important that all bathroom windows should be able to accept drapery or shades, no matter how enclosed the patio area is.

Other factors to pay attention to:

- Because there will probably be a lot of glazed area, perhaps including a skylight, be careful that the space won't become overheated. Put drapes or blinds up if necessary.

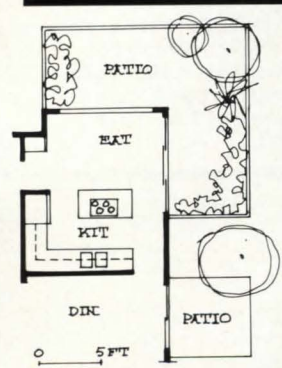
- Shelter a portion of the exterior living space with overhangs, trellises or screens. That way the outdoor area can be used even when weather isn't perfect.

- There are many ways to visually reinforce the indoor/outdoor relationship. The most effective: extend colors, textures and materials from one space to the other. "Coordination is key to indoor/outdoor decorating," says Sue Ball, vice-president/operations at Carole Eichen Interiors, Santa Ana.

Market acceptance will probably be the least of your worries. Says architect Thomas Kruempelstaedter: "No one type of person likes the indoor/outdoor design. Its popularity cuts across age and income groups."

And can it work in the colder climates? With double glazing and tight construction, the answer is yes. "During inclement weather," says Barry Berkus of the Berkus Group, "your connection may be only visual but you'll still get the drama of the landscape and the extension of space." Adds Kruempelstaedter: "This design does not depend upon climate, but upon lifestyle."

—JENNIFER A. WAGNER



'Landscaped' kitchen houses as many plants as the planter and patio outside, contributing to indoor/outdoor feel. Patio is slipped into narrow space—you can see adjoining unit. All of which shows that you don't need a lot of space for indoor/outdoor treatment. Project: University Green, Clear Lake City, Tex. Builder: Village Builders, Clear Lake City. Architect: Kaufman Assoc., Houston. Interiors: The Childs/Dreyfus Group, Chicago

LAURIE RUBIN



FOR DETAILS, SEE  
PRODUCT INFORMATION INDEX

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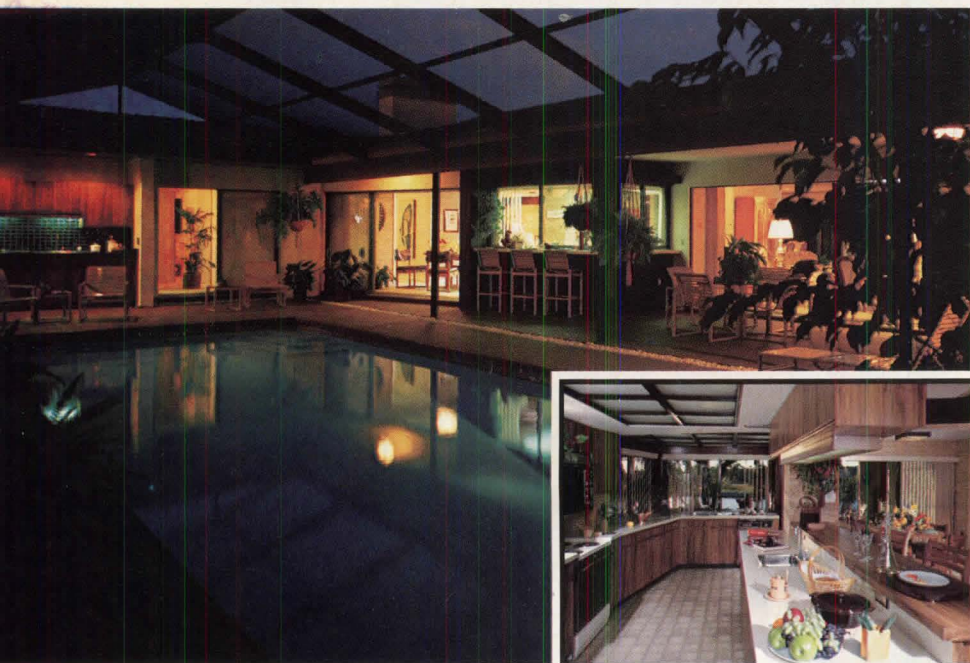
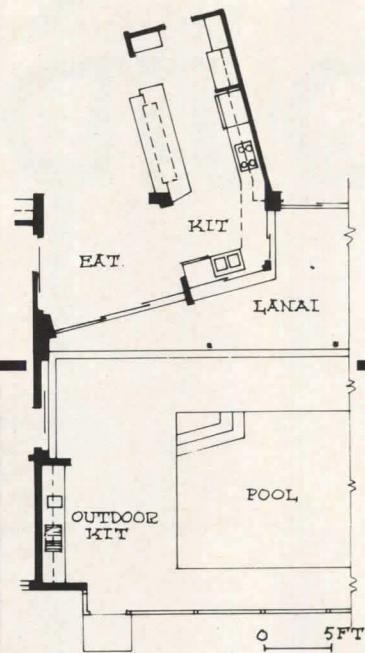
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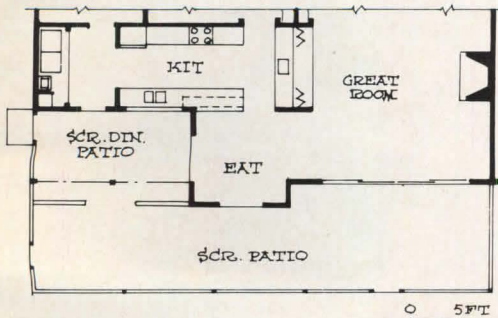
more space



**Outdoor kitchen** shown at far left in larger photo is designed for informal cooking and dining in a sheltered pool area. It includes a modular cooktop/grille, small sink, storage space and an expansive counter. Pass-through from primary kitchen serves an eating bar with three stools (*center of photo*).

Primary kitchen (inset) provides a second pass-through (left of sink) to service the family room. Project: Sweetwater Creek, Tampa. Architect: Arthur Rutenberg Corp., Clearwater, Fla. Builder: Lions-Raffo Corp., Tampa. Interiors: Toni Porter, Naples, Fla.

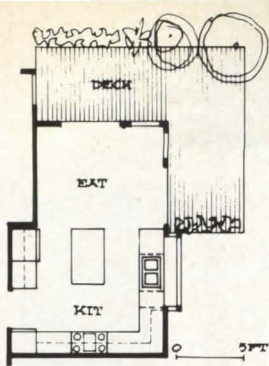
**Sheltered outdoor dining area** (*right*) includes an auxiliary kitchen similar to the one shown above. With this type of layout, cautions Robert Kiefreider, president of Brandywine Homes Inc. in Dune-din, Fla., "the outdoor kitchen becomes the dominant feature of the back porch, and it can easily interfere with both flow and usability of the outdoor area." So be sure, he suggests, to either recess it or locate it so that you don't effectively cut the porch in two. Project: Marshaltown, Palm Harbor, Fla. Interiors: Pauline Obrentz Interiors, ASID



FRANZIS HALE







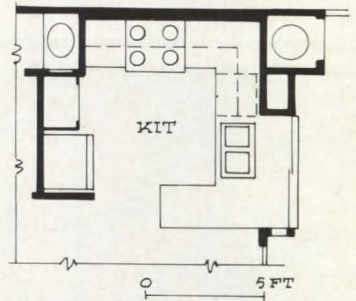
**Harbor view** through French doors creates tremendous visual impact in kitchen at Seaside Pointe, Huntington Harbour, Calif. Access to open-air dining moves traffic away from work area—around back of island (see plan). Note extended backsplash planter shelf above sink. Architect: The Berkus Group, Santa Barbara. Builder: The Christiana Companies Inc., San Diego. Interiors: Carole Eichen Interiors, Santa Ana



LELAND Y. LEE



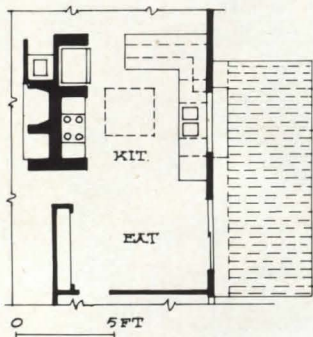
LELAND Y. LEE



**"Glass wall" and pop-out window** above sink provide access and view to patio dining area, which was tucked between a small townhouse and its garage. The functional connection between indoors and out is reinforced visually; for example, touches of blue on chairs, napkins, even salt and pepper shakers pick up outdoor tile color. Says Sue Ball of Carole Eichen Interiors: "These are subtle touches, but all help draw the eye outdoors and back in again. A successful indoor/outdoor space doesn't just happen. All these details must be considered." Project: Diamond Gate, Diamond Bar, Calif. Architect: Red Moltz & Assoc., Santa Ana. Builder: SIR Developers Inc., Santa Ana

**Pass-through window** over the sink serves a 20'-long trellised patio designed for outdoor dining (see plan). Says architect Thomas M. Kruempelstaedter: "We wanted the kitchen to be a pivotal point from which both indoor and outdoor eating areas could be easily serviced." Traffic is skirted around the work area, through back of kitchen, family room or breakfast area.

Kruempelstaedter stresses that, particularly in young, two-income families, the kitchen becomes the major room of the house, where a lot of entertaining and family discussion goes on. "And this kind of open plan, where areas blend into one another, means the cook is not isolated from company or family, whether they are indoors or out." Project: La Reserve, Tamarac, Fla. Builder: KBP Properties, Tamarac. Interiors: Las Olas Interiors, Ft. Lauderdale

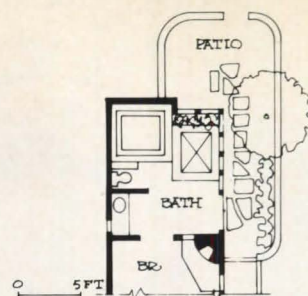


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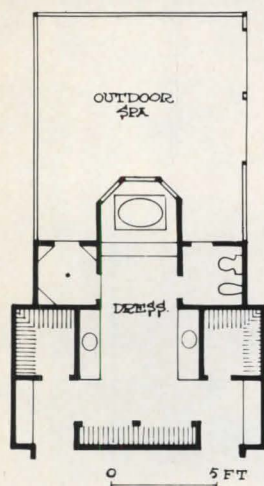
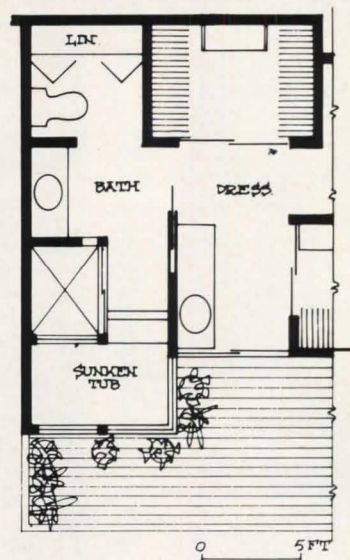
**Playful greenhouse-like bath**, designed by the architect for his own house, features a "lattice awning" that will screen sunlight as well as cast unusual shadows. The bath (also shown on our cover) opens onto a small, private courtyard used for sunning and recreation. It is enclosed by a 6'-high wall.

Notice the use of plants and of similar materials indoors and out, such as brick and wood, as visual reinforcement. Architect: Morton Hoppenfeld, Washington, D.C. Construction manager: Ron Romero, Albuquerque, N.M.



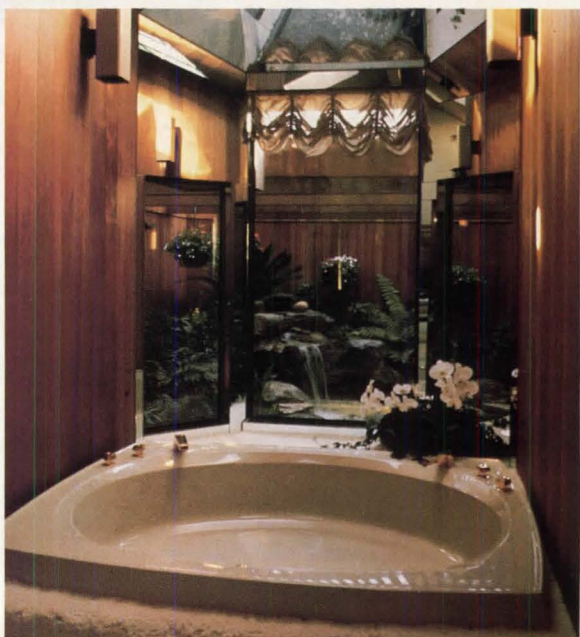
**Glass-enclosed soaking tub** pokes into private deck, fulfilling client's request for as much of an outdoor environment as possible. Shower is tucked behind the tub, also in glass case, so that view is enjoyed from there too. Plants highlight garden atmosphere indoors and out. To screen sundeck from neighbors, a high privacy fence (not shown) was built. Access to deck is through slider on right.

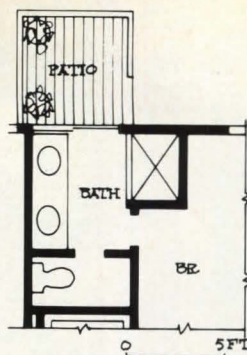
Architect Bill Hegert of The Evans Group in Orlando, Fla. stresses that "the biggest mistake is to do something unusual like this as an afterthought. Because it'll look that way. And people will spend a lot of time here." General contractor: Walter Temple



**Peninsula-like tub**, with windows on three sides, projects into a large, 12' x 18' spa area. The intimate feeling of this bath and patio was created with lush plantings and landscaping, which can be seen in the photo at right. Trellises overhead block visibility from above, and a redwood privacy fence encloses the entire outdoor area. "The success of an indoor/outdoor bathroom," maintains architect Robert DeGrasse of Ken Wolf AIA, Assoc. in Modesto, Calif., "depends entirely on its privacy."

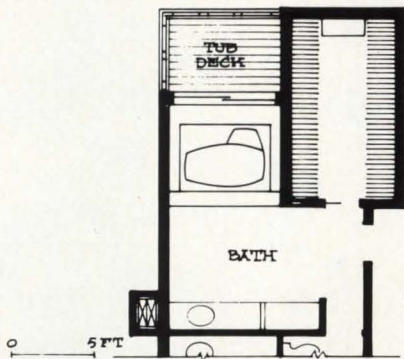
Working with such a large outdoor space, the architect had to be careful not to "overwhelm" the interior with the volume of the exterior space—the lush landscaping kept that volume to scale. He adds that outdoor access is as important in the bath as in the kitchen. "Find the most unobtrusive way to get outdoors." Thus the two passages through shower and w.c. (see plan). Builder: Larry Wall, Modesto. Landscape architect: Jones & Peterson, Mt. View, Calif.



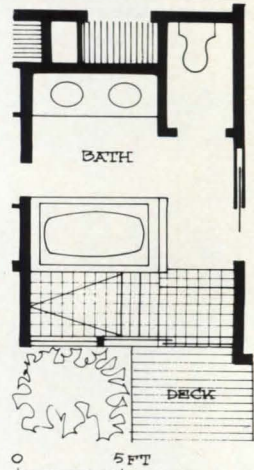


**Compact bath**, doubled in size by wood sundeck, is equipped with hot tub to create a private spa. Vanity mirror extends to slider, giving "the illusion of *being* outdoors when you stand there," says architect Mark Kaufman. The builders were initially skeptical of the garden-bath concept, he says. "But we convinced them that it was a terrific visual effect, because prospects don't typically expect that much specialness in so small a bath." Project: University Green (see credits page 69).

**Step-up tub** provides access to slider which opens to the cedar sun deck. Like several of the other projects shown, the enclosed courtyard is screened by trellises for privacy and shelter. Interior garden atmosphere is enhanced by plants around the tub and the floral pattern of drapery and furniture material. The ultimate in privacy, the bath shown in plan below is only one-half of the master bath complex: A "his" bath similar to this one (but with a few modifications) branches off the other side of the dressing area (not shown). Architect: Barry Sugerman, AIA, N. Miami, Fla. Builder: Lincoln Developments, Davie, Fla. Interiors: Sugerman/Newman, N. Miami



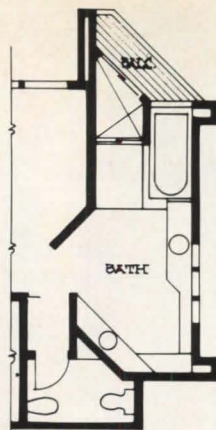
**Tiled shower pit** is sunk below deck level to give residents of this custom home an unusual view into the landscaped patio outside. Bathroom faces northeast, and therefore receives morning sun. "I wanted to create a sort of solarium," says San Francisco architect Kirby W. Fitzpatrick, "an extremely intimate environment." Privacy was created by cutting the deck into a hillside that thus cradles the patio. "The entire back area off the master bedroom and bath is now like a big, outdoor living room." The water closet has its own compartment, so that there is no feeling of exposure. Builder: Vantage Corp., Danville, Calif. Landscape architect: Max A. Schardt



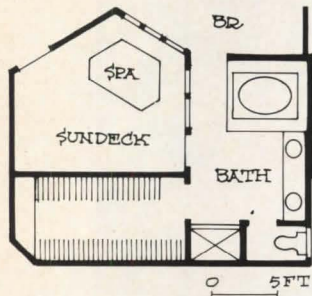
FOR DETAILS SEE PRODUCT INFORMATION INDEX



BOB KOHN



**Long, narrow tiled bath**, with tile and horizontal wood paneling drawing the eye out, was designed to take advantage of a dramatic water view. Note that access to the deck in this custom home is through a shower with a glass door. Architect: The Berkus Group, Santa Barbara, and Marshall Lewis, Los Angeles. Builder/owner: John Schuck of Franciscan Developments, Santa Barbara.



**Spacious master bathroom** in a custom house opens onto an equally spacious spa area, which includes the whirlpool visible in photo. The spa area is enveloped by the master suite; the bath creates one wall, the walk-in closet a second, the bedroom yet a third. The mirror above the long vanity reflects the outdoor area. Architect: Jean-Paul Jean (JPJ Corp.), Costa Mesa, Calif. Owner/builder: Jules Vandenbroeke, Laguna Beach.

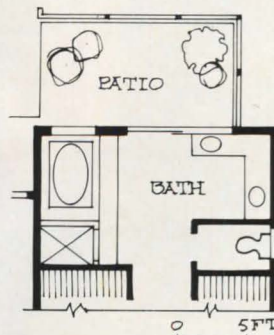


STEVE CARBER

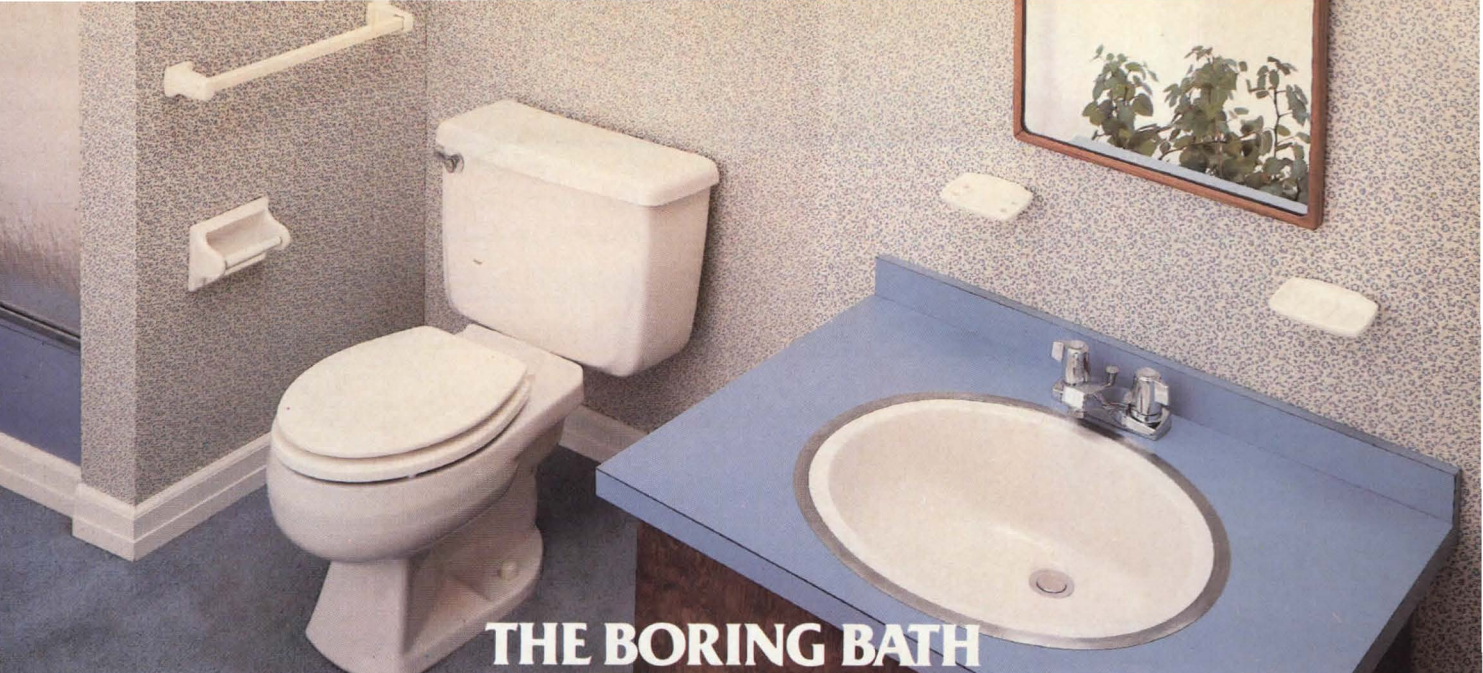


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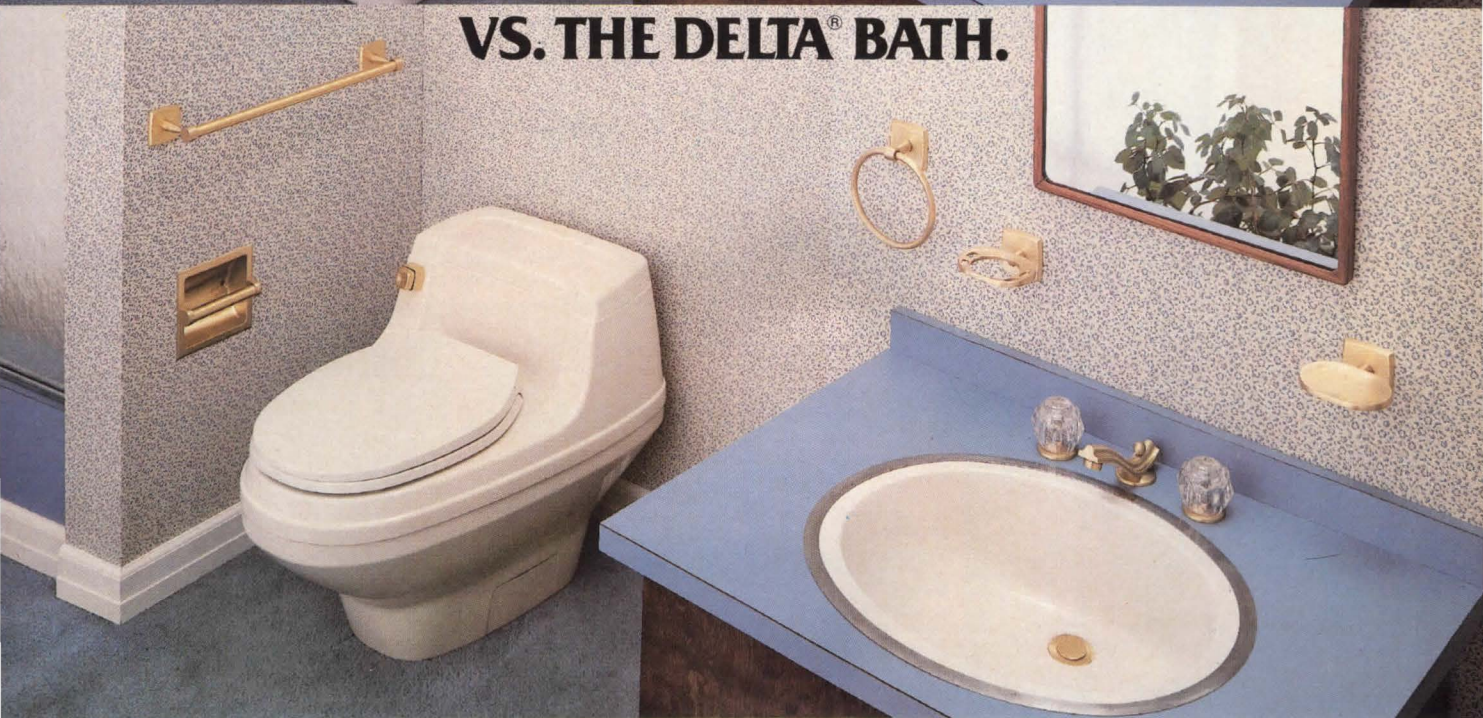
**Step-up tub**, surrounded by a 'jungle' of plants, enjoys a view of the enclosed outdoor retreat through an expanse of fixed glass. The glass-enclosed shower also looks out to landscaped patio. Cautions the architect, Arthur Rutenberg: Landscaping is more than an outside amenity. "Remember that the prospect is looking at it from inside as well." Another tip: "Don't be timid about using a lot of glass. But people need to know they can cover it if they feel uncomfortable." Project: Sweetwater Creek, Tampa, Fla. (see credits page 70).



FOR DETAILS, SEE PRODUCT INFORMATION INDEX



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Direct gain with sufficient mass provides heat for this Apple Gate, Calif. home designed by SEAGroup Solar Environmental Architects.

# DESIGNING THE ENERGY-EFFICIENT KITCHEN

To many architects, builders and kitchen designers, the term energy-efficient kitchen means one that contains energy-saving appliances. But that is only part of the story. Efficient appliances, although important, account for a small portion of the potential energy savings

the well-designed kitchen can offer. Passive solar heating and cooling,

and advanced lighting techniques for the kitchen present the architect and builder with a number of options for increasing the energy efficiency of not only that room, but the entire house.

However, few kitchen designers take advantage of the options. But there are reasons for this. There are few rules on energy efficiency, especially where kitchens are concerned, that are chiseled in stone. Energy choices, which often lead to energy tradeoffs, depend on many things, including the design of the entire house. Add to this the fact that kitchens have special requirements, "because of the very nature of the room," says David Wright of SEAGroup, an architectural firm in Nevada City, Calif. "A lot of things take place in the kitchen that don't take place in other rooms. In some houses, it is the living hub of the home.

It offers the greatest emotional impact, along with the master bath, of any room."

Wright and his company have designed scores of passive solar houses. His problem comes in matching energy-efficient kitchen design with the needs and desires of his clients.

Many kitchen designers, especially those who concentrate on remodeling, face a different problem:

"Kitchen designers need to be educated on how the kitchen fits into the energy scheme of the house," says Ken Peterson, president of the American Institute of Kitchen Designers, Hackettstown, N.J. "I suspect there is more attention paid to solar applications in new construction than in remodeling."

Peterson is right. Architects, particularly those involved with energy-efficient design, seem to be just about the only ones who have recognized the energy potential kitchens offer; although some re-

modeling firms have been designing kitchens with energy efficiency in mind (see box at right).

**There is a natural affinity between passive solar and kitchens.** "Both tend to be associated with daylight and brightness," says Scott Lewis of Energy Design Collaborative, a consulting firm in Scarsdale, N.Y. "Kitchens have hard surfaces like slabs, and tile counters and floors that correspond to the mass storage used in passive solar homes. So it is usually easy to talk clients into installing thermal mass in the kitchens."

The availability of a sure place for thermal mass shouldn't be overlooked, according to Paul Pietz of Equinox Inc., an architectural and engineering firm in Peterborough, N.H. Many customers want carpeting in living rooms, family rooms and bedrooms. Kitchens, on the other hand, usually offer a significant amount of unobstructed floor space that is tailor-made for thermal mass.

Besides similarities in materials, kitchen design also corresponds to passive layout. Both tend to be open to allow for easy circulation of air. Some things to consider:

**Siting.** The rule of thumb for a passive solar house's layout is to put buffer spaces on the north side of the house and frequently used living spaces on the south in direct sunlight. Many people see the kitchen as a buffer space since the room generates some heat through cooking and appliance use, and in many households it is empty most of the day.

Kitchens on the north side allow the architect or builder to get additional thermal efficiency out of the north wall and increase storage space like cabinetry at the same time. For example, a pantry along the north wall provides an additional buffer zone between the cold north wall and the living area. A pantry can be built only if the wall is not used for thermal storage.

Others, however, do not consider the kitchen a buffer area. They opt for placing the room on the southeast corner of the house.

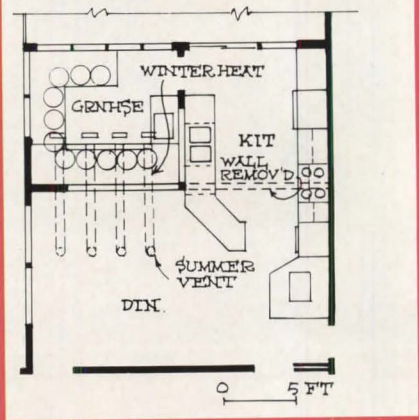
"The southeast corner allows the kitchen to get the early morning sun," says architect Richard Sales, of Sunflower, Boulder, Colo. "The morning light is pleasant and so a southeast kitchen is a nice place to start up the home's solar heat-gathering process. And the location is protected from the afternoon sun."

**Direct gain.** Many architects use direct gain for collecting energy in passive solar kitchens because it brings heat and light directly into the room while providing views for owners. In first-generation passive homes, the "walls of glass" certainly

## REMODELING FOR SPACE AND ENERGY SAVINGS



**New sunspace** and remodeled kitchen by the Neil Kelly Co. expanded this Portland, Ore. home. The sunspace provides the kitchen with light through a window over the sink, and heat through vents that lead to the dining room (see plan). Sunspace's thermal storage moderates nighttime temperatures.



lowered heating bills, but "the kitchen is a work area that also produces its own heat," says Lewis. "People in a work area are less tolerant of overheating. And the glazing in many early passive homes led to overheating.

"In the '80s the emphasis is on the quality of living area as opposed to quantity of heat an area can collect," Lewis says. "A lot of glass will collect a lot of heat, but it will not necessarily make the space comfortable."

Today's architects realize that an appropriate amount of thermal storage must accompany glazing. Such mass storage will not only store heat for later use, but also protect against overheating. One rule of thumb calls for 3 sq. ft. of 4"-thick masonry in direct sunlight for every square foot of glazing.

However, there is a drawback to using thermal mass walls in the kitchen. In order for a mass wall to work, it has to remain free of obstructions—cabinets, for example. That means a wall used for thermal storage cannot be used for storage space or work area. But even this stipulation offers an advantage, as shown in the Brookhaven House, page 80.

**Indirect gain.** Trombe walls that make up part of the kitchen can help solve the overheating problem, but they also cut

down on views. Also, the kitchen side of the wall should be clear of shelves, cabinets and work surfaces in order for the system to work effectively.

But if a Trombe wall or some variation of the system fits into the overall energy objectives of the house, that may be sufficient reason for its use. Many architects agree with Wright when he says, the important point to remember is to "integrate the system into the fabric of structure."

**Isolated gain.** Scott Lewis believes that greenhouses and sunspaces should be located near the kitchen. A greenhouse typically requires plumbing, hence can be linked to the same line as the kitchen. From a design standpoint, a sunspace is an excellent way to extend the space and feeling of openness of a kitchen.

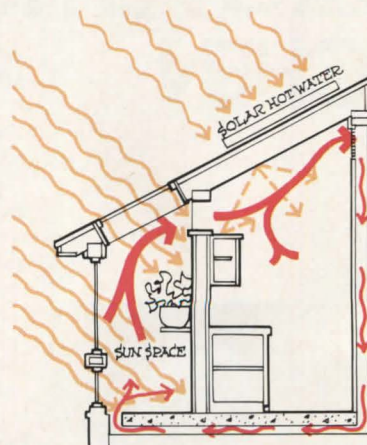
"If the kitchen is on the south side in one of our remodeling projects, there is a good chance the customer will bring up the subject of solar," says Paul Olson, vice president of the energy division at Neil Kelly Company.

The Portland-based company has been designing sunspaces for remodeling customers for some time. In many cases, a sunspace is added to the remodeled kitchen.

Richard Sales says: "We don't use direct gain in the kitchen but like to take light and heat thrown off windows in the dining room," he says. "When the dining room heats up, some of the heat flows to the adjoining kitchen. This helps keep the kitchen from overheating during the day. It's useful when adjacent areas like a dining room and kitchen can help one another."

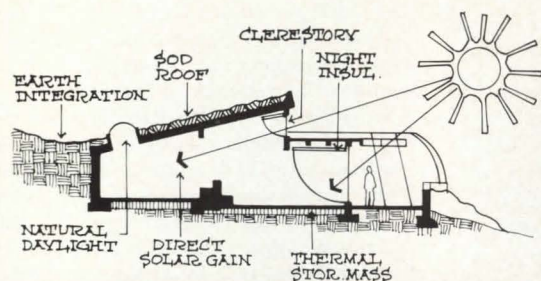
**Mechanical systems can enhance passive designs.** There are a number of ways to improve the efficiency of mass storage.

**Radiant slab.** In this system, any excess heat generated by the sun or internal gains is collected near the ceiling and ducted down to below the slab floor with



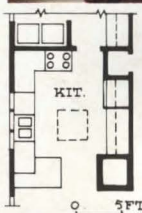


## TWO EXPOSURES; TWO ENERGY STRATEGIES



KAREN TERRY

**Earth sheltered house** in Santa Fe, N.M., designed by SEAgrouP. The kitchen is placed against the north wall, which, as can be seen in the drawing, is bermed to the plate line. Internal gains supply heat in winter, and earth and distance from direct sunlight help keep it cool in summer.



**Western exposure** could cause overheating in this SEAgrouP designed house in Mendocino County, Calif. But exterior shading, thermal mass floor and three rockbeds, one which is near the kitchen, prevent unwanted heat buildup. This room is open to a south-facing dining room for cool weather solar gain.



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the help of a fan, see diagram left. The warm air spreads evenly under the slab. Scott Lewis says there are a variety of ways to do this. For example, the slab can rest on a series of iron groin vaults which interlock with one another and allow air to pass beneath them. A similar system uses concrete blocks placed on their sides to form a series of tunnels from one side of the under-slab area to the other. (For more on this system see "Energy Update," HOUSING Sept., '81.)

In both systems, the heat is absorbed by the slab, which then radiates it into the room; or some can be ducted directly into the kitchen, although it will be at a significantly lower temperature. Or, the system can be extended, using excess kitchen heat to condition another part of the house. "The heat is recovered and made useful again, instead of just 'dumping' it out a window," says Lewis.

**Mechanical aids.** Many designers and architects are specifying ceiling fans in the kitchen to recirculate heat that settles near the ceiling. "In our designs we are generally dealing with high spaces," says Sales. "We have to pull the heat down somehow." Sales says he prefers to

use ceiling fans that can reverse direction: one direction pulls warm air down, which can be 10° to 15° warmer at the ceiling than the air at floor level; the other direction keeps air circulating during the summer.

Mechanical ventilation systems should also be considered, especially with today's tightly constructed houses.

Many companies offer range hoods that can be vented outdoors during the summer or, in the winter, they can be adjusted to remove smoke and fumes and recirculate the warm air back into the kitchen.

Some architects are taking a close look at air-to-air heat exchangers for residential use. These devices draw fresh outside air into the house while venting inside air out. As the two air streams pass each other, the warm stream gives up its heat to the colder. These systems can be used in both winter and summer, but they offer the greatest energy savings in the winter: They enable a design-

er to get fumes and grease out of the kitchen without losing heat.

Manufacturers of residential heat exchangers say the products capture about 60% to 80% of the heat in the air, according to *Air-to-air Heat Exchangers for Houses* by William Shurcliff author of several books on energy-efficient design. They cost between \$400 and \$1,000.

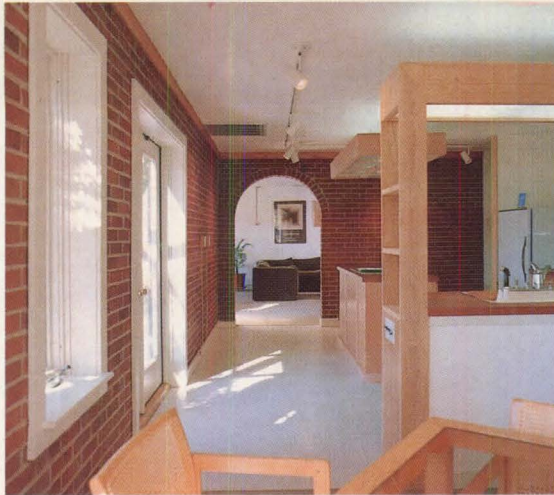
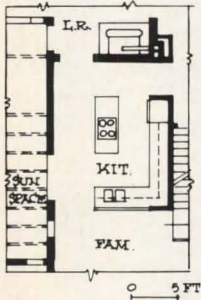
"Air-to-air heat exchangers are a good way to deal with problems common to conditions in tight construction," says Paul Pietz. "But the problem is in finding the hardware an architect or builder can have confidence in. One that he knows a contractor can install and service properly."

Air-to-air heat exchanger on the market are designed to service the whole house. Pietz would like to see a system that is tied into an intake vent in the range hood. This, he feels, would better take care of kitchen problems like smoke and fumes at their source.

**Natural cooling.** In kitchens as well as any other room, a well-designed passive solar house will include protection against summer heat gain through the use of overhangs and shading. A good cross ventilation system, including skylights and operable clerestories to act as

## MASS WALLS STORE ENERGY NOT SUPPLIES

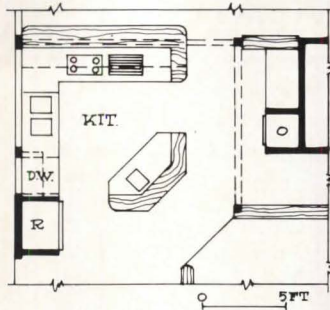
Thermal storage walls in the kitchen of the Brookhaven House, designed by Total Environmental Action, Harrisville, N.H., keep an area free of obstructions for easy air circulation.



## MECHANICAL SYSTEM ENHANCES PASSIVE DESIGN



Ceiling fan in this house designed by Sunflower architects serves two purposes: In the winter, it pushes heat that rises to the ceiling down to floor level. In the summer, it reverses direction and keeps the air in the room circulating. The kitchen opens to the dining and living areas for distribution of light and heat.



summer cooling vents, is crucial.

**Major appliances are more energy efficient now than before the energy crisis.** The Association of Home Appliance Manufacturers in Chicago says major appliances are significantly more energy efficient. A sampling: refrigerator-freezers improved 58%; freezers 52% and dishwashers 45% since 1972.

Manufacturers have been marketing energy efficiency since the first oil cutbacks. For the last two years, appliance buyers have been able to see how much it costs to operate an appliance by checking the product's "Energy Guide Label." The label is required on all furnaces, refrigerators, freezers, water heat-

ers, clothes dryers, dishwashers and room air conditioners. By using the information on the label, the buyer has a good basis for comparison when making a buying decision.

Ranges and microwave ovens are not labeled because there is little difference in the amount of energy consumed by all models. But some designers say the newer generation of self-cleaning ovens are better insulated than the older models and are therefore more efficient. Paul Olson suggests that if the self-cleaning feature is only used once a month, the owner will end up saving energy.

"There is not as much heat generated in the kitchen today as there has been in the past," says Ellen Cheever, Kitchens by Ellen Sacramento, Calif. "Self-cleaning ovens have twice more insulation than ranges without the feature, and

don't allow as much heat to escape into the room. Microwaves don't generate heat. Use of energy-efficient appliances combined with a good ventilation system will help keep unwanted heat out of the kitchen." (For a look at some of Cheever's work, see page 83.)

One relatively new product that has many designers excited and got the NAHB curious enough to include it in last year's Energy Efficient Residence II test house is an induction range. This uses a magnetic field to create heat in a ferrous metal vessel, like stainless steel. But the surface of the range doesn't get hot. The induction range works on a principle similar to that of a microwave oven. It uses less energy than conventional units.

A builder or architect doesn't have much influence over how an owner uses appliances. But they can give advice. For example, David Wright advises against trash compactors if a home is in an area with regular trash pickups because of the energy they consume.

**Lighting efficiency depends on replacing outmoded sources with new concepts.** "Lighting is still a big problem for us," says Paul Olson. "Many customers prefer incandescent lights to fluorescent."

The DOE says that a fluorescent light fixture is about four times more efficient than the more commonly used incandescent light. In fact, 90% of the electrical energy an incandescent bulb consumes is dissipated as heat. These bulbs use electricity to heat a tungsten filament or an inert gas until it glows, causing the light. Fluorescent lighting, on the other hand, does not depend on converting energy to heat and then light. In these fixtures, an electric charge "excites" gases within the tube. The charge causes the phosphorous coating on the inside of the tube to "fluoresce" and emit visible light.

Architects like to factor in as much natural light as possible in their designs. Wright says he prefers to have light enter through skylights and clerestories and then have it bounce off white walls.

Scott Lewis recommends borrowing an idea from commercial buildings that reduces glare. He suggests building storage cabinets under clerestories using the top of the cabinet as a light shelf. This allows the light to bounce off the cabinet above eye level and diffuse throughout the room.

Such cabinets built on the north wall can not only serve as a light shelf but also act as a thermal buffer, although an architect should specify triple-glazed clerestories to cut down on the heat loss.

—FRAN J. DONEGAN

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Kitchen designer  
Ellen Cheever,  
Sacramento, Calif.\*

KITCHEN UPDATES

# PRACTICAL SOLUTIONS FOR PROBLEM SPACES

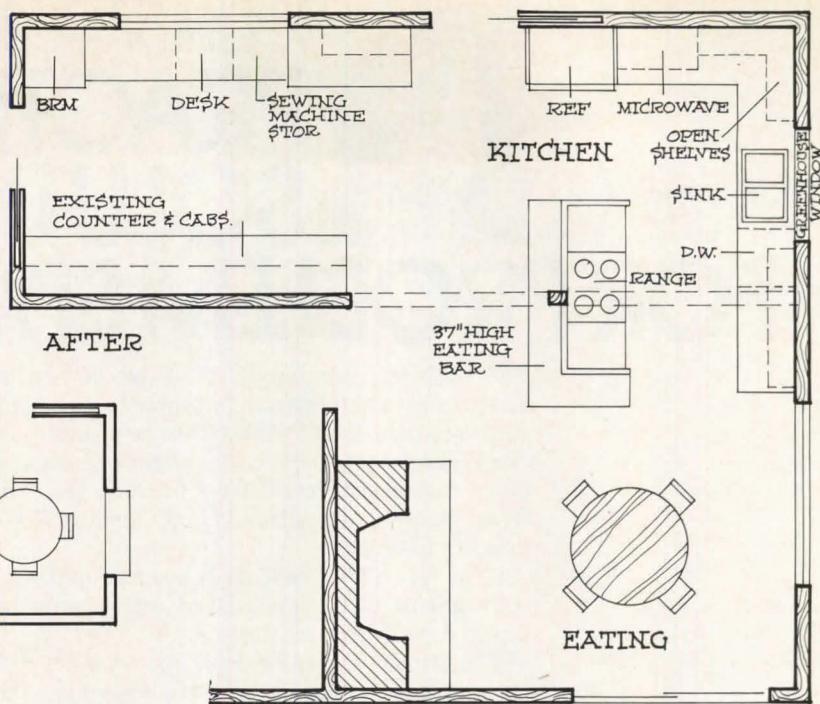
The problems are typical of those thrown at kitchen designers every day—tiny kitchens with entrances in improbable places, for example, or old-house kitchens with surprises behind the walls. Cheever's solutions, however, are far from typical; each one is carefully tailored to the client's tastes and style of life. And each is coordinated down to the last detail; for Cheever's firm\* offers a complete package of services, from planning to selection and installation of wallcoverings, floorcoverings and lighting fixtures.

"The way a kitchen looks is just as important as how it works," she says. "We don't want clients to feel dissatisfied with a remodeling because, without guidance, they selected wallpaper unwisely."

The kitchen shown below is one example of the harmonious look which results. To find out more about it—and five other Cheever re-dos—turn the page. —B.B.G.

\*Ellen Cheever and her husband, Joe, own Kitchens Inc., an 11-year-old company based in Sacramento, Calif. Cheever is a certified kitchen designer (CKD).





## An awkward corner can be turned into an asset

Take the space around a sloping wall, like that one shown below, for example. It was one of the limitations Cheever faced when she was asked to extend a kitchen into space that had been used for a breakfast nook. (The clients had already built an addition to their house, and wanted to take advantage of it to increase kitchen and informal eating space, as shown in the before and after plans above.)

Though unsuitable for cabinets, the niche did prove ideal for open shelves, which in this kitchen are used to show off the owner's collection of Oriental porcelain—display space that was one of the client's requests.

Cheever, warns, however: "If you call for something out of the ordinary, such as open shelves, provide detailed drawings. Workmen understand wall cabinets, but may not understand how—or where—you want to install something else."

In addition to the sloping wall, which is the underside of a staircase, Cheever had to work around structural members that could not be removed when the house was extended—a header and the post supporting it (see plans above, photo previous page).

The deft solution: an island is built around the post, minimizing its impact on the room—both visually and as a potential traffic hazard.

The island is a few inches lower than is typical—33" at the range—to accommodate the primary cook, who is only 5'1" tall. (The microwave is also installed in a lower-than-normal wall cabinet.)

The former kitchen space was turned into a home office and sewing center (see plan), thus making good use of the old cabinets, which were remodeled and refinished. Some were also moved to a child's bedroom.

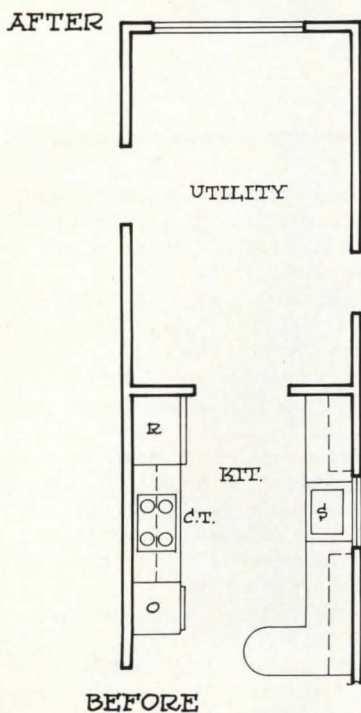
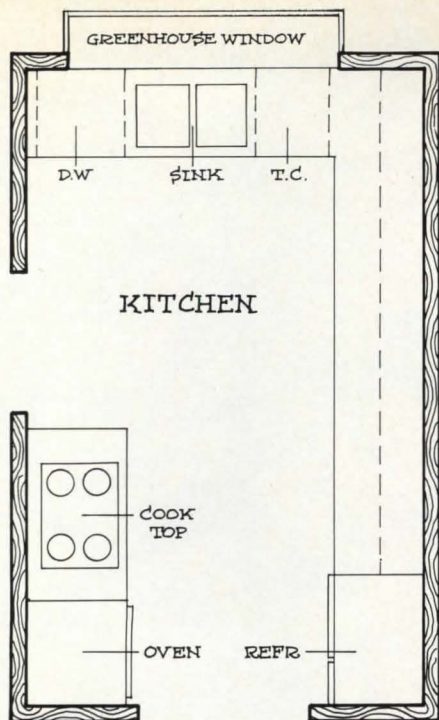
Incidentally, the woodgrain laminate used on the island was a "mistake."

"It was supposed to be almond, the same as the other countertops," says Cheever, "but the man goofed—and the clients like it his way better!"

Other features worth mentioning: Small appliances are hidden from view in a wall cabinet extended down to the countertop (photo previous page); The refrigerator is boxed in with 3/4" panels and a 24" cabinet is used above it.



WOOD CABINETS: St. Charles C-series  
COUNTERTOP: Kitchen area: almond laminate  
Island, top: wood grain laminate  
FLOORING: Armstrong Designer Solarian vinyl  
SINK: Elkay LR-3322  
FAUCETS: Delta No. 100  
DISHWASHER: Existing retained  
RANGE: Jenn Air D120  
MICROWAVE: Litton 520  
REFRIGERATOR: Existing retained



## Underused utility space suits a relocated kitchen

In this remodeling, the client didn't want a bigger kitchen—he wanted a bigger living area, to make the most of views of a beautiful riverside site. So Cheever designed an all-new kitchen in what had been an oversized (9' x 15') utility room, adjoining the original kitchen (see before plan, left).

To make that space practical for a kitchen, Cheever eliminated the door leading to a storage room. This didn't pose problems, since that room could also be reached from a bedroom-wing hallway (not shown). And laundry equipment was moved to that same storage area.

At the same time, the doorway leading from the kitchen into the dining area (the former kitchen space) was widened, in keeping with the open feeling of the house as a whole (see photo right). For visual continuity, the tile on the dining room floor is carried through into the kitchen. And, contrary to Cheever's usual practice, the kitchen wall is completely tiled.

"We often use a tile backsplash and carry that tile around the window," she says. "Here the kitchen is so compact that there is little wall area other than around the window: I didn't want to introduce a sliver of paint or wallpaper here and there."

Decorative tiles were interspersed at the client's request.

Although wallcoverings are included

in Kitchen Inc.'s package, they're not selected until fairly late in the game. "The plan is most important," says Cheever. "We don't show clients wallpaper or flooring samples until they've signed a contract. Until then we talk generally—in terms of allowances—just to set budget goals. This keeps us from getting bogged down before a

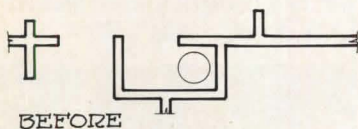
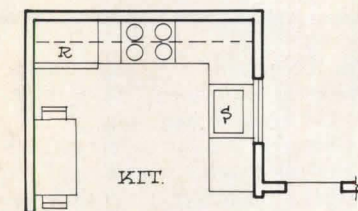
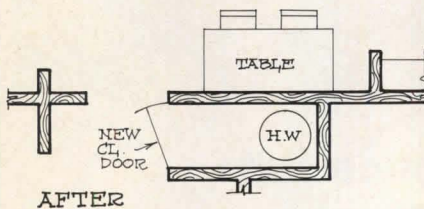
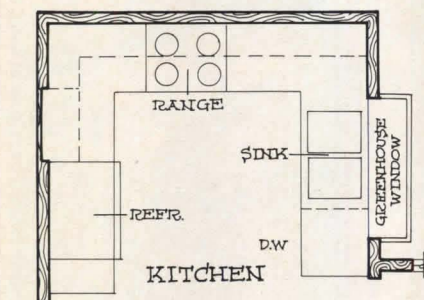


firm commitment is made."

Appliances and cabinetry are chosen earlier, however. In this case, rustic-looking cabinets were picked to complement the informal look of the home. And a wide greenhouse window was specified—not only to visually expand the available space, but to enhance the view of the river.

CABINETS: Diamond Rustic Heritage  
 COUNTERTOP: Deck: 1½" maple butcher block  
 Walls: Terra cotta 4" x 4" Mexican tile with randomly placed decorative tiles  
 FLOORING: Mexican paver tiles  
 SINK: Kohler K-5924  
 FAUCET: Delta 100  
 DISHWASHER: Existing retained  
 COMPACTOR: Kitchen Aid KCS-100B  
 OVEN: Thermador CMT-21  
 COOKTOP: Thermador Cook"n"Vent  
 REFRIGERATOR: G.E. TFF 20 RB  
 HOT WATER DISPENSER: ISE 77

DAVID BROOKS



## Eliminating a door leaves room for improvement

It's no wonder that the owner of this 10'x12' kitchen called for help—three entrances, a closet door and a breakfast table left hardly any room for storage and counter space (see *before plan left*).

The solution? For starters, Cheever called for relocating the closet door, since access could be provided from an adjoining hallway instead. The switch created several feet of uninterrupted wall space—a spot for a slim 2' x 4' custom-made Parsons table. (The client insisted on an eat-in kitchen in spite of the limited space.) This new eating arrangement freed up a wall for kitchen equipment and, with a new U-shape layout, the client got the additional work space she needed (see *plan at left above*).

"Moving or eliminating a door and/or doing away with a freestanding table can work wonders in a small kitchen," says Cheever. (For another application of this maxim, see facing page.)

The client also asked for a kitchen with a distinctive appearance.

"She's an artist and ceramic specialist," says Cheever, "and she wanted a colorful environment."

Thus, the unusual tile wall treatment—a checkerboard look that not everyone could live with, but one that suits this client's preferences to a T.

"One thing we try very hard to do," says Cheever, "is to make sure each kitchen reflects its owner's tastes and lifestyle, not the designer's."

So, Cheever or one of the firm's other

three designers show prospective clients a 140-slide presentation, which includes kitchens in a wide variety of layouts and color schemes.

"People can't always verbalize what they want, but they will react to what they see," says Cheever. "As we go through the slides they'll remark 'that color is nice' or 'that's just the kind of bay window we're looking for.'"

What's more, Cheever points out that a slide presentation is "much less expensive than a display and much easier to change." Her company's is updated two or three times a year to keep it current with the latest design trends.

And the information-gathering process doesn't stop with the slides. At a second meeting—this time in the client's home—Cheever and her associates use a survey developed by AIKD (American Institute of Kitchen Dealers) to further pin down a client's preferences.

Using the survey has other advantages. "It impresses people with our professionalism," says Cheever.

- WOOD CABINETS: St. Charles C-series
- COUNTERTOP: Ceramic tile
- FLOORING: Congoleum vinyl
- SINK: Kohler K-5924
- FAUCET: Delta 100
- DISHWASHER: G.E. GSD 1200S
- RANGE: Jenn Air D120
- MICROWAVE: Litton No. 425
- REFRIGERATOR: Existing retained



# Moving a door can make all the difference in the world

Case in point: the highly functional U-shaped kitchen pictured below—the result of relocating a door to the dining room. Originally, the doorway interrupted the work area. Now it separates kitchen and nook (*see before and after plans at right below*). Not only does the change save the cook steps, but it keeps traffic out of her way—traffic that can totally disrupt food preparation in a kitchen as small (approximately 9' x 9') as this one.

But Cheever didn't stop there.

"I convinced the clients—a young couple—that they didn't have space for a separate oven and cooktop, such as they were used to," she says. "Dropping in an oven/range unit leaves them more room for storage."

Similarly, a large single sink replaces the double unit they'd had before.

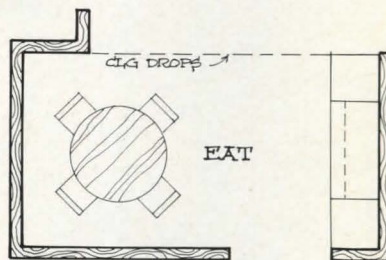
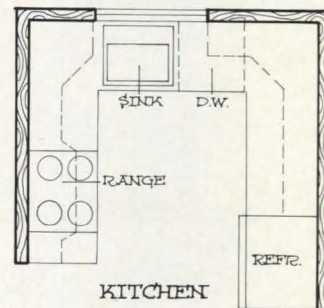
And, even though their existing refrigerator was "perfectly good," Cheever recommended replacing it with a built-in unit. "It's worth spending the extra money because the new refrigerator makes the room seem so much bigger: It continues the line of the cabinets instead of protruding into the room."

Color also plays an important role in visually expanding space; so light-toned cabinets and appliances were chosen. But they're "framed" by a darker-colored tile floor and wallpaper along the soffit.

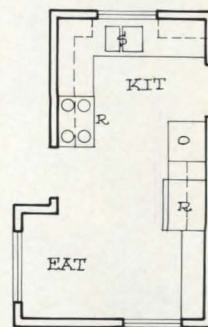
"The contrast gives the room some definition," explains Cheever.

Another reason for using the complementary darker wallpaper above the cabinets: The paper used on the kitchen walls (and in the adjoining nook) has a relatively large-scale print—too large to be repeated on the 12'-high soffit.

WOOD CABINETS: St. Charles C-series  
 COUNTERTOP: DuPont corian  
 FLOORING: Congoleum vinyl  
 SINK: Kohler K5960  
 FAUCET: Delta 300  
 DISHWASHER: Existing retained  
 RANGE: Modern Maid QKU-759  
 HOOD: Thermador H-98-36-SS  
 REFRIGERATOR: Sub Zero 211 RFD



AFTER



BEFORE

DAVID BROOKS

## There's little room for error in a wide-open kitchen

In this case, the clients knew that something was amiss with the kitchen an architect planned for their first custom house—but they didn't know how to improve his scheme. So they brought the plans to Cheever—and she spotted the basic flaw right away.

The architect had called for two peninsulas flanking an island (see *before plan*, left). This layout forced him to put the refrigerator, cooktop and oven next to each other. To make matters worse, this appliance jam was right in the path of traffic.

In fact, the whole kitchen seemed jammed, in spite of the "open" plan which put the kitchen within view of the main living area (on other side of angled counter).

"There wasn't enough walking space between counters and the island," says Cheever, "and a second sink was placed impractically on the island, much too close to the edge, with no real working space around it."

A total revamping was needed—but one that didn't compromise the flow of space the architect had intended.

Cheever's solution: an angled L-shape plan with an island incorporating a cooktop (see *after plan*). With this arrangement, there's room for the refrigerator along the exterior wall, creating a compact work triangle uninterrupted by traffic. Moreover, the island was designed with an angled end to echo the line of the existing counter and other angled walls that are characteristic of the house.

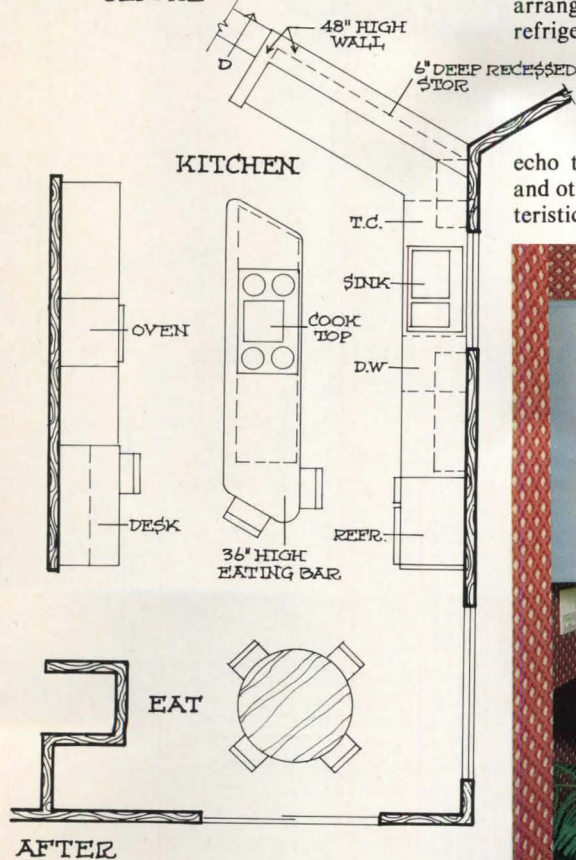
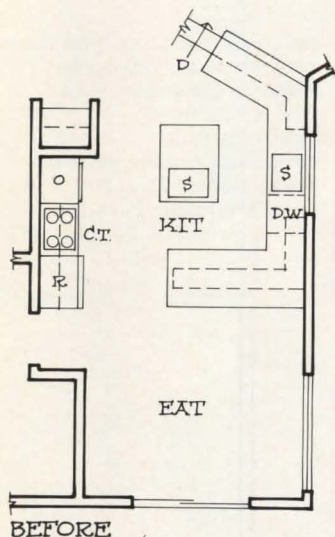
Because of the openness of the kitchen to living areas, the clients wanted places to hide away items usually left in view.

"Toasters, can openers, coffeemakers, etc., need to be close at hand, but they can become eyesores," Cheever points out. The answer, in this kitchen, an "appliance garage," a free-standing tambour-door cabinet placed on the counter next to the refrigerator.

Other equipment can be tucked out of sight in the angled counter: It features a 6"-deep storage space with sliding doors (photo below).

The spacious kitchen also includes two secondary work centers—a bar and a desk. Both are placed well away from the main food preparation area.

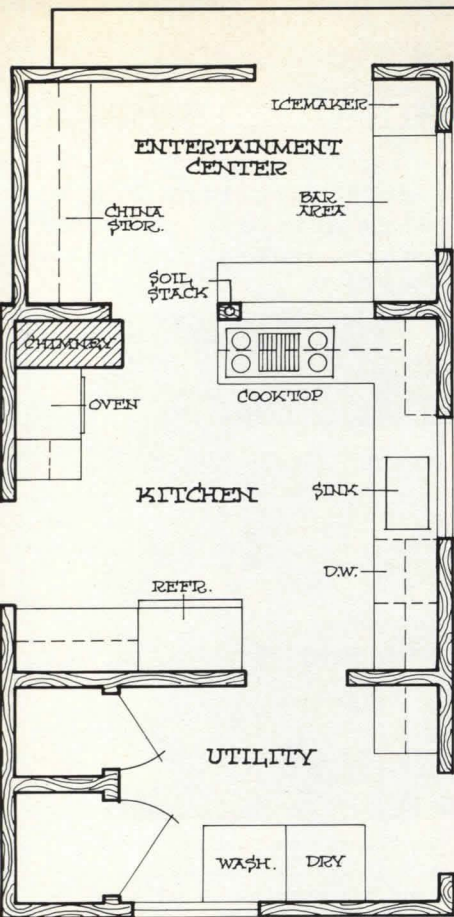
A detail to remember: the custom-designed wood hood over the island is lined with the same plastic laminate used on the countertops. This makes it easier to clean.



- WOOD CABINETS: St. Charles C-series
- COUNTERTOP: Desk and sink area; brown laminate
- ISLAND TOP: 1½" laminated maple butcher block
- FLOORING: Pure vinyl tiles
- SINK: Kohler No. K5960
- FAUCET: Delta 100
- DISHWASHER: Kitchen Aid KDS-19
- COMPACTOR: Kitchen Aid KCS-100B
- COOKTOP: Chambers GSU-42E-1
- HOOD VENTILATION: Thermador VCK-6, housing; VR1000, ventilator
- OVEN: Thermador CMT-21
- REFRIGERATOR: G.E. TFF-20 RB

DAVID BROOKS





AFTER



DON HORTON

## An old-house pantry can become a party headquarters

Here, the homeowners—both professional lobbyists—wanted to be able to entertain guests without husband or wife being shut away in the kitchen. “They wanted to get their points across, as well as serve dinner,” explains Cheever.

What’s more, the poor traffic flow in the existing kitchen (see *before plan, left*) made preparing even a simple family meal “chaotic.”

The cure for both ills: updating an adjoining “butler’s pantry” (the house is over a half-century old) into an entertainment center. It’s integrated with the kitchen by means of a new pass-through, and includes a bar and counter space for serving hors d’oeuvres.

The pass-through was made possible by relocating the entrance to the kitchen from the former pantry—a switch which also gets most traffic out from under the cook’s feet. But the move was ticklish because of two in-the-wall obstacles.

The first: a soil stack which had to be exposed in order to create the pass-through. But it became an asset rather than an eyesore: Cheever encased it in

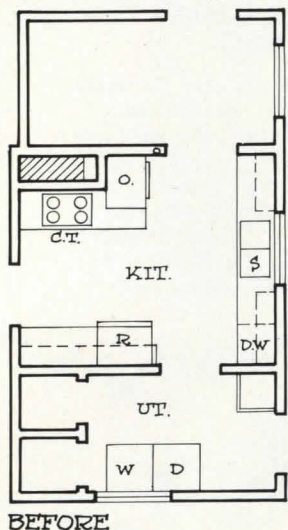
wood and it defines the entrance to the kitchen.

The other obstacle: a brick chimney from the furnace below. “The clients only knew that there was a funny jog in the wall,” says Cheever. “That, and the fact that the wall was thicker than normal tipped me off that there was a chimney behind it.”

Exposing the chimney was a necessity in order to create a sufficiently wide entrance from the entertainment area. But the brick creates a pleasant textured counterpoint to the smooth-surfaced cabinets.

A hutch wall in the entertainment area holds china, crystal and other dining-table appointments.

WOOD CABINETS: St. Charles C-series  
 COUNTERTOP: DuPont corian  
 FLOORING: Congoleum vinyl  
 SINK: Kohler K5960  
 FAUCET: Delta 300D  
 DISHWASHER: Kitchen Aid KDS-19  
 REFRIGERATOR: Existing retained  
 OVEN: Thermador CMT-21  
 COOKTOP: Modern Maid GT-451  
 HOOD VENTILATOR: Thermador VCK-1 housing with VCK-300 ventilator



BEFORE

# Idea Notebook Compartmentalizing Baths

Giving bath space super-functionality makes good marketing sense. Compartmentalization, designing an area for each activity, provides that functionality--and more of the privacy that owners want.

TOM KNIBBS



Private bathing nook (above) is created by secluding a Roman tub and shower in an alcove. Natural light is provided by 4' x 4' skylight installed over the tub, a feature that reinforces the integrity of this bathing compartment.

A view of the landscaped patio outside further distinguishes the alcove as a private retreat. Mirror heightens the indoor/outdoor effect. Yet the tied-back drapery furthers a feeling of privacy. Project: La Reserve, Tamarac, Fla. Architect: Thomas M. Kruempelstaedter. Interiors: Las Olas Interiors, Ft. Lauderdale.

CHARLES HARRISON PAWLEY



Step-up tub (above) is pushed beyond plane of exterior wall, enlarging and brightening up an otherwise narrow, dark bath. Architect: Charles Harrison Pawley, Miami. Builder: Lewis Weaver, Miami.

Bathing "zone" (below) is formed by a step-up tub and shower. Angled vanity provides ample space for two users. Project: The Ranch, Denver. Architect: Graphic Design Group, Dallas. Interiors: The Childs/Dreyfus Group, Chicago. Builder: Front Range Properties, Denver.





Archway (left) provides a dramatic entrance to an unusual "bath bay". Note half-partition with plants that screens the water closet from the vanity. It creates a sense of privacy without blocking view and natural light from windows. Project: Spinnaker Point, San Rafael, Calif. Architect: G. Thomas Telfer, Novato, Calif. Developer: Seaport Development Co., Mill Valley, Calif.

Partial wall (below) screens the bathing area from vanity--a technique repeated in the other baths shown on this page. Unusual windows, divided by a nonstructural beam, offer a view of pool area. Project: Coachman Ridge, Clearwater, Fla. Builder: Arthur Rutenberg Corp., Clearwater.

Recessed bath/shower area forms one of several functional areas in bath below. Tiled tub is partially screened by vanity to enhance privacy. Wall extending from shower jogs back to suggest a dressing/lounge area for closets (not shown). Project: The Trails, Dallas. Architect: Danielian Assoc., Newport Beach. Builder: Talmadge Tinsley, Dallas. Interiors: The Childs/Dreyfus Group, Chicago.



For details, see Product Information Index



LELAND Y. LEE

Freestanding cabinetry offers a nonstructural way of partitioning a bathroom, while providing always welcome storage space. At right, for example, a white laminate peninsula bisects master bath into his-and-her rooms, with separate L-shaped vanities and dressing areas. Notice how the deep, open shelves provide easy-to-reach but out-of-the-way storage for towels and linens. Centrally located skylight floods both areas with sunlight. Project: Sugar Ridge at Sabal Point, Fla. Architect: The Evans Group, Orlando. Builder: Sabal Point Properties, Orlando. Interiors: Design Spectrum, Winter Park.

Floor-to-ceiling closet (below) screens w.c. from vanity area; above-w.c. storage also encourages a feeling of privacy. The angled vanity area is defined by the tall closet wall system at right and somewhat by recessed lighting under soffit.



Multipurpose grooming area shown in photo below forms two adjacent but distinct "compartments." The dual-sink vanity provides his-and-her washing facilities, while the mirror and vanity on the left are designed for grooming. Project: Potomac Landing, Laguna Niguel, Calif. Architect: Architecture West, Orange, Calif. Builder: Warmington Development Co., Irvine. Interiors: Carole Eichen Interiors, Santa Ana.



For details, see Product Information Index



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# Talk Starters

Today's market demands that everything—even down to the kitchen sink—carry merchandising value. That's why faucet manufacturers are coming up with a record number of decorative fittings designed to complement and enhance even the most unusual kitchens and bathrooms.

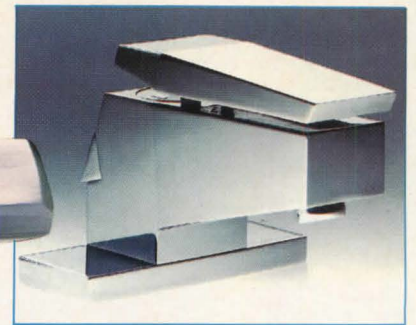
Witness the bath fixtures shown on this and the following page. They run the design gamut from old-fashioned Victorian to ultramodern.

Shown is a fitting of solid brass; another is finished with 24-carat gold. One has onyx handles, another handles made of genuine Wedgwood™. And there's even a "limited edition" lavatory faucet that more resembles a modern sculpture.

Says Mike Nistal of JP Industries: "In remodeling and new construction alike they're fitting out bathrooms decoratively—in brass, gold, chrome, you name it. Decorative faucets make up 30% of sales; 40% are single-control, which is another big trend right now."

Nor does change overlook kitchen fitting styles. The recent boom in contemporary-style cabinetry demands compatible faucet fittings. And single-control faucets are making up 70% of that market, according to Nistal.

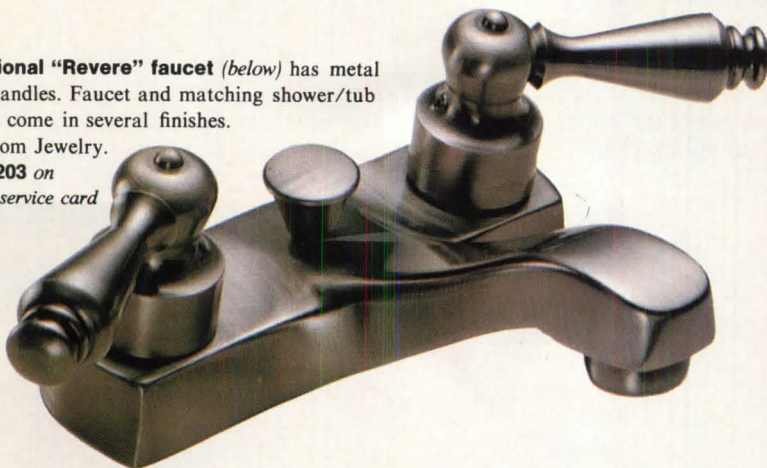
—JENNIFER A. WAGNER



**Two lavatory faucets** from the Roma™ line are shown at left and above. *Left:* Onyx handles enhance contemporary chrome-over-brass bases. *Above:* a limited edition, single-control fitting. Both fittings feature 2.5 gpm flow restrictors. American-Standard. **Circle 200** on reader service card



**Traditional "Reverse" faucet** (below) has metal lever handles. Faucet and matching shower/tub fittings come in several finishes. Bathroom Jewelry. **Circle 203** on reader service card

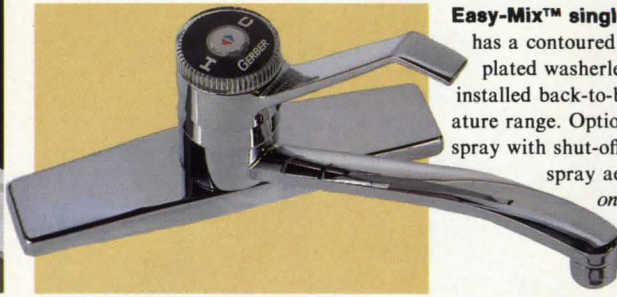


**"Satin Brass" single-control faucet** (middle photo, above) has a gold-like finish. Moen. **Circle 201** on reader service card

**"Valley XL" faucet** (above) comes with chrome or gold finish. U.S. Brass. **Circle 202** on reader service card



**Hi-Arc™ faucet** (above), for kitchens and wetbars, has crystal-like handles. Faucet can be mounted on-deck or with concealed deck. Traditional and contemporary-spout models are offered (the latter is shown). Elkay. **Circle 206** on reader service card



**Easy-Mix™ single-handle faucet** (left) has a contoured 9" swing spout. Chrome-plated washerless faucet, which can be installed back-to-back, offers wide temperature range. Options include "Rinse-Quik" spray with shut-off diverter or swivel spray aerator. Gerber. **Circle 207** on reader service card



**Widespread faucet** at left is shown in polished brass, one of the manufacturer's "Society Finishes." Price Pfister. **Circle 208** on reader service card



**A fluted spout** with an antique brass finish is the feature of the graceful faucet shown above. The handles are made of Cultured Onyx™. Other spout finishes and handles are available. Delta Faucet. **Circle 204** on reader service card



**Widespread lavatory fitting** (below) features Wedgwood® handles and polished brass spout. An antique silver finish is also offered. Artistic Brass. **Circle 205** on reader service card



**Traditional, two-handle faucet** (above) has polished brass finish and ceramic handles. Chicago Faucet. **Circle 210** on reader service card

**The "Bravura" faucet** (below) is highlighted by a bold, contemporary design. The model shown has a 24-carat, polished gold finish. Several other metallic finishes are also available. Kohler. **Circle 209** on reader service card





**Primitive Encore® ceramic tile** has a slip- and stain-resistant glaze. The durable tile is recommended for both vertical and horizontal applications indoors and for special exterior purposes. Four nominal sizes are available: 4"×4", 8"×8", 8"×4", and 8" hexagon. American Olean Tile. **Circle 223** on reader service card



**"Pavillion" line of vinyl sheet flooring**, available in 6'- and 12'-wide rolls, is offered in four designs; shown above is "Gracefield," which simulates polished marble. Flooring comes in five colorways: white/bisque, graystone/peach, sage green/almond, bronze/honey gold and tobacco brown. Congoleum. **Circle 224** on reader service card



**"Jasba Omnia" glazed ceramic wall and floor tiles** are shown above in two shades of beige/brown. Also available are a variety of accent tiles, with a choice of single-flower, small reed or kitchen-utensil designs. All tiles are 4" square. Amsterdam Corporation. **Circle 225** on reader service card

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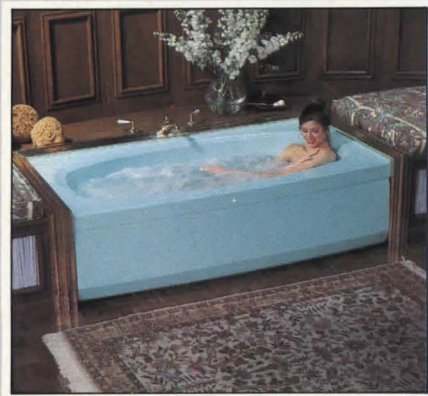
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\*Government testing procedures were used to determine all annual operating costs.

## It helps sell homes.



**Gas: The future belongs to the efficient.**

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**"Willow Lane" no-wax sheet flooring**, available in five colorways, has a 3'-sq. quarry tile pattern. Armstrong. Circle 221 on reader service card

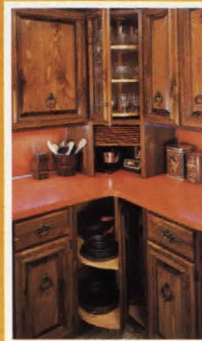


**Resilient sheet flooring**, with foam cushioning, is part of the "Aristocon" no-wax collection. "Summertime" is available in four colorations and comes in 6'- and 12'-wide rolls. Mannington Mills. Circle 222 on reader service card

# Distinctive Custom Cabinetry



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Circle 101 on reader service card

## New cabinetry developments add more storage options

And those options are appearing where they're still needed most—in the kitchen. European manufacturers were first to come up with the innovative basket and shelving systems—and they're still at it. A case in point is Poggenpohl's "Dimension 75" system, which is featured in photographs below and at right. This line of contemporary-style "midway" cabinets is designed to fit into the backsplash area—normally wasted space. Twenty roll-top units—some for food storage, others for utensils or appliances—are offered (three are shown below). For more information on "Dimension 75," circle 246 on reader service card

American manufacturers, too, are adding new styles, storage features and accessories to their lines. Some of their newest contributions are shown on this and the following pages.



**"Tahitian" bathroom cabinetry** offers a variety of storage options. The doors feature decorative cane inserts. All wood has a hand-rubbed finish; the hardware is optional. Home-Crest Corp. Circle 247 on reader service card



**European-style "Vienna" cabinetry** is constructed of warp-resistant particleboard with either oak or cherry veneers on all exposed faces. Cabinet interiors are finished with birch veneers. A variety of finishes is offered. Rutt Custom Kitchens. Circle 248 on reader service card



**Wire basket** adds storage to manufacturer's closet system. Closet Maid. Circle 249 on reader service card



**Skandia vanity** with oak door/frame, has cultured marble top. General Marble. Circle 250 on reader service card





**Cabinetry line**, the "Berkshire International Collection," is available with laminate or oak surfaces. Twelve door styles are offered; shown is "Bordeaux" with natural wood pulls. Interior features include wire baskets and pull-out shelving. Rich Craft Custom Kitchens. Circle 251 on reader service card

**Modular storage system**

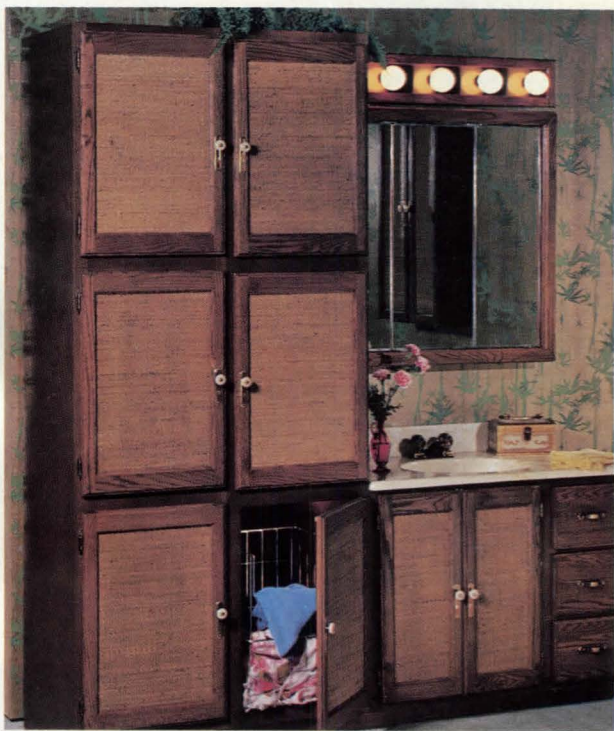
(right) features slide-out basket drawers for maximum space utilization. The "Sani-Shelf Stor-Drawer" units, offered in a choice of bright white and chocolate brown, are available in three widths, three depths of baskets, and four frame heights. All metal parts are constructed of welded steel rods and coated with an epoxy finish. All necessary hardware is included. Schulte Corporation. Circle 252 on reader service card



**"Candlelight" cabinetry line**, with self-closing hinges, has oak exteriors and polished brass hardware. Pictured in the corner is an optional appliance center with sliding tambour door; a variety of other storage options are available. All interior surfaces have an easy-to-clean, stain-resistant "Aristex" finish. AristOKraft. Circle 253 on reader service card



**"Honeytree" cabinetry** has oak face frames, door and drawer surfaces. Hardware is optional, as are the built-in wine and condiment racks shown above. Other accessories include matching dishwasher front, tilt-out trash unit, range hood cover and hutch. Brammer. Circle 254 on reader service card



**Bath storage module** is 18" wide by 84" high and is offered 18" or 21" deep. Doors, with inset wicker panels, are available in oak or polystyrene. Chemcraft. Circle 255 on reader service card



**"Oakridge" vanity set**, with oak frame and door panels, features pull-out hamper and over-sink storage. Diamond. Circle 256 on reader service card



**Dishwasher** has tilt-out control console. With "Delay Wash" option, it can be programmed to operate at any time up to nine hrs. after setting. Whirlpool. Circle 239 on reader service card



**European designer sink**, "Style EBM860 Standard," is made of stainless steel. Enamel and copper models are available. Luwa. Circle 240 on reader service card



**Electric/microwave range** has a black ceramic cooktop, solid-state touch control panel, automatic temperature control and digital display. Tappan. Circle 243 on reader service card



**Above-the-counter Radarange™ microwave oven**, with over one cu. ft. of cavity space, measures 30" wide by 17 1/4" deep. Features include microprocessor-based controls and stainless steel interior. Amana. Circle 241 on reader service card



**Built-in electric oven** is shown with gas cooktop. Surface is enamelled for easy cleaning. Gaggenau. Circle 244 on reader service card

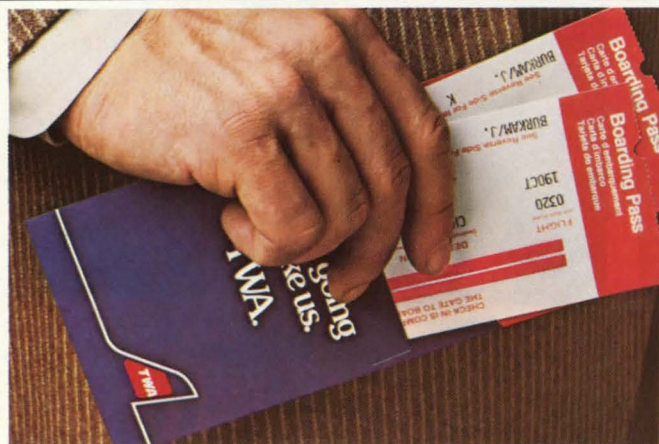


**Surface Saver® cutting surface** is offered in 13 patterns; shown is the almond border design. Board comes in two sizes: 12" x 15" and 16" x 20". Nonporous surface resists stains and burns. Built-in model (shown) comes with mounting hardware and trim. Vance. Circle 242 on reader service card



**"MicroMate" microwave shelf and range hood** measures 30" wide by 19 1/2" deep and will accommodate most ovens. A "Heat Sentry" feature automatically turns the centrifugal blower to high speed when excess heat from range is detected. Broan Manufacturing. Circle 245 on reader service card

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**Two-tone bath collection** shown above is in "Lavender Haze," one of three "Blended Hues" colorations. Fixture line also comes in "Morning Rose" and "Blue Mist". Eljer Plumbingware/Wallace Murray. **Circle 232** on reader service card

**Lightweight water closet**, shown at right in antique red, is from the "Delta 4000 Series". One-piece unit has insulated tank, recessed mounting bolts, push-button flush, and "water saver" feature. Stain-resistant water closet is also available in white, parchment and bone. Delta Faucet. **Circle 233** on reader service card

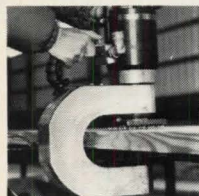


**Cast-iron bathtub**, shown with companion ceramic pedestal lav and bidet, has a porcelain-enamelled interior. Fixtures from the "Flora" line are available in white, bone, parchment and sand. Water Jet. **Circle 235** on reader service card

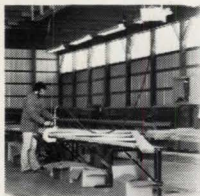


**Prima VI™ fiber glass bath**, measuring 6'x3', can be installed recessed (shown) or freestanding, using an optional snap-on skirt. Features include 1/2hp pump, three Whirlpool™ inlets, vented overflow, and easy-to-reach control console. Twelve colors are offered. Jacuzzi Whirlpool Bath. **Circle 236** on reader service card

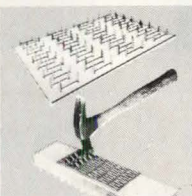
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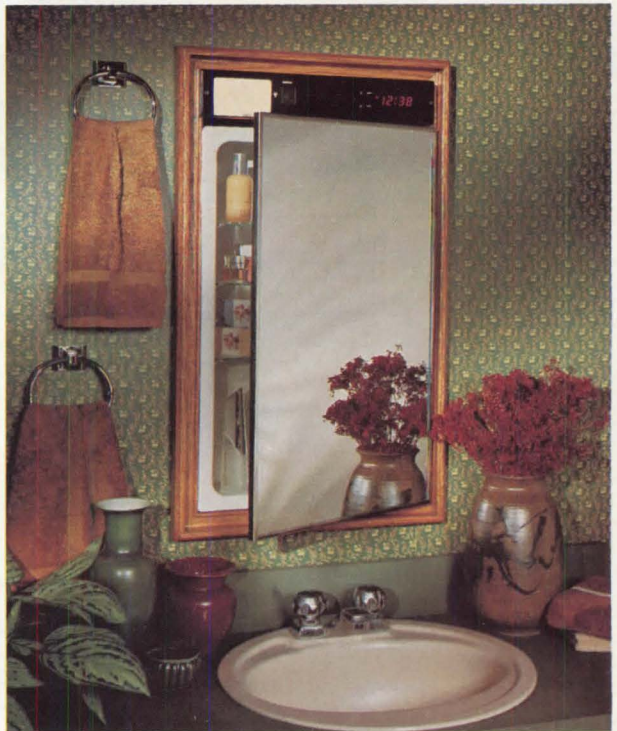
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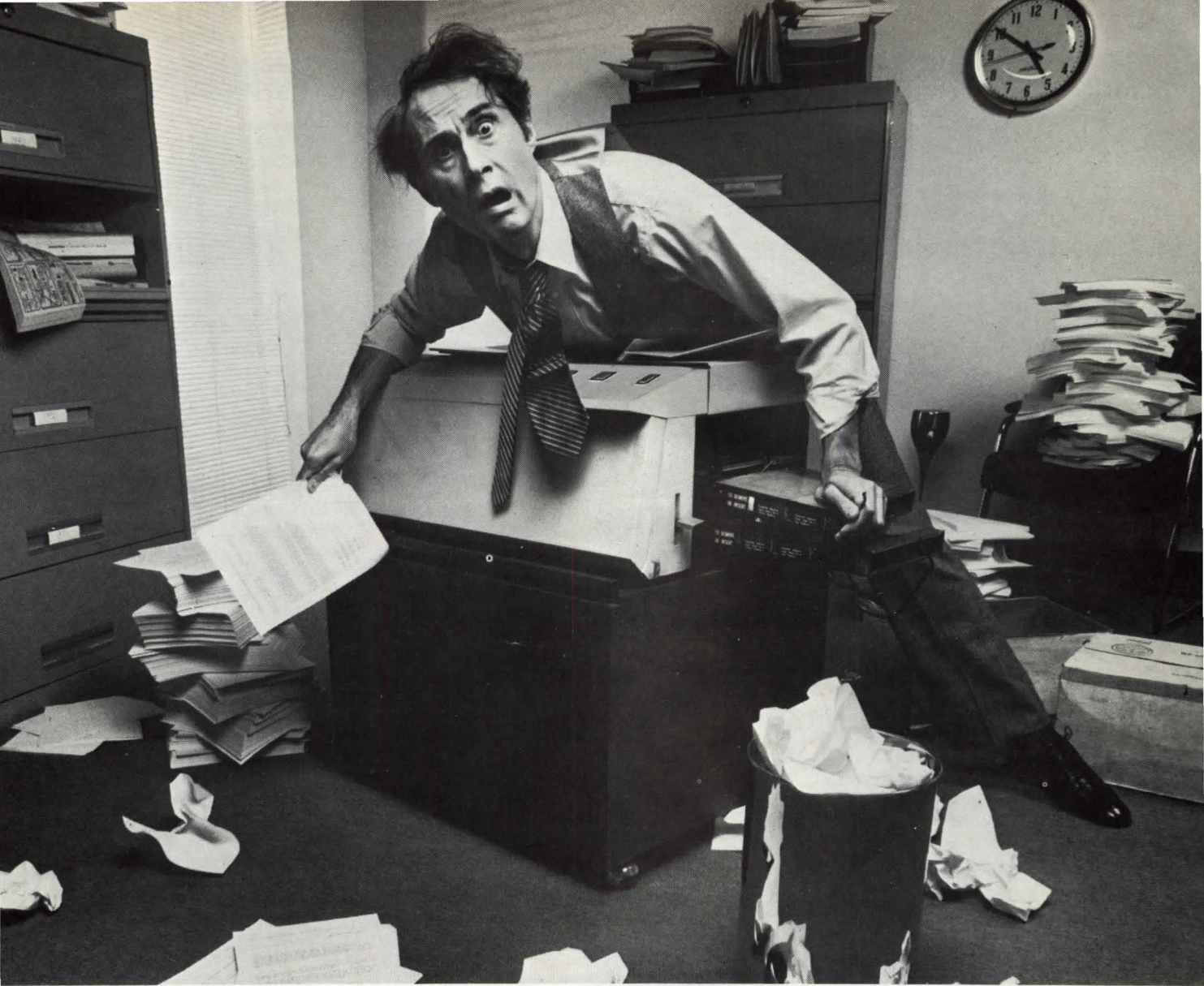
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**"Greenwich" bathroom cabinet**, with digital clock, features a night light on left-hand side of top panel that is positioned to shine into the cabinet when the door is open. Mirrored door, edged in stainless steel, measures 16" x 26". Oak framing for the 19" x 32" unit is finished with a walnut stain. NuTone Div./Scovill. **Circle 234** on reader service card

← **Circle 108** on reader service card



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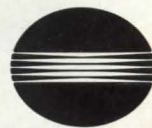


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**MINOLTA**

Circle 109 on reader service card



**Companion wallcoverings** (above), "Tiffany," with an iris motif, and "Tiffany Stripe," are from the "City and Country Kitchen and Bath Etcetera" collection. Both come on Mylar paper. "Tiffany" is offered in four colorways, "Tiffany Stripe" in five. James Sceman Studios. **Circle 226** on reader service card

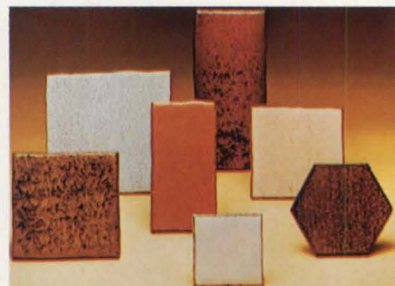
**Vinyl wallcoverings** shown installed at right are "Edinburgh," the plaid pattern, "Sydney," the grid pattern, and "Berlin Reverso," with dots. Wallcoverings, from the Color Classic Fashion® collection, are available in 22 colorways. General Tire. **Circle 227** on reader service card



**Decorative plastic laminate** is shown installed on countertops and cabinetry. The color scheme, including tawny blush on cabinet doors, and balsa on countertop and backsplash, was determined according to the manufacturer's "Color Grid" system. Formica. **Circle 228** on reader service card



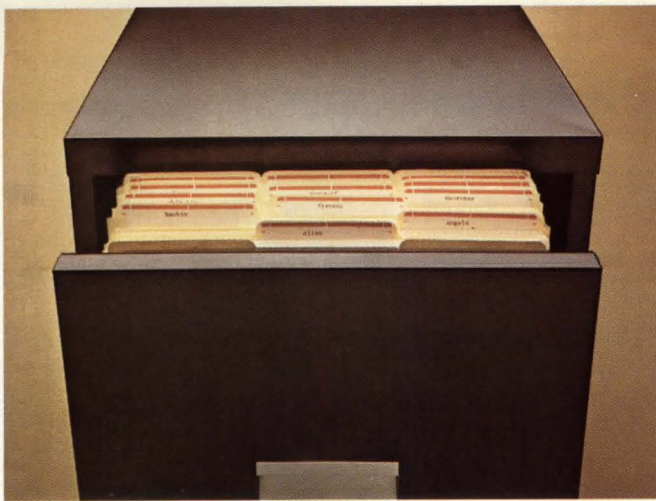
**Paneled spa** (above) is constructed of clear grade redwood with sapwood highlights. Redwood was also used to construct bench. Calif. Redwood Assn. **Circle 229** on reader service card



**Wall and floor tiles** shown above are from a line that comes in six sizes and 15 colors. Glazed tiles are 1/4" thick and come mounted on one-sq.-ft. sheets. Matching countertop trim (not shown) comes in all colors. Summitville Tiles. **Circle 230** on reader service card



**Satinstones tile**, with a rippled surface, is recommended for countertops, floors and walls. Tiles measure 4 1/4" sq. and come in a variety of pastel colors, such as pearl and adobe. Huntington/Pacific. **Circle 231** on reader service card



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**Patterned ceramic tiles** surface the floor and tub surround shown above. The glazed "Daino" tile measures 8" sq. and comes in beige only. The imported Italian tiles are water- and stain-resistant and are virtually maintenance-free. Eliosceramica. *Circle 257 on reader service card*

**Mottled ceramic tile**, shown at right on countertops and walls, is available in five colors: rawhide, suede, cordovan, buckskin and leather brown. Countertop trim pieces are also available, as shown. The tile is from the "Hand Craft" group. Wenczel Tile. *Circle 258 on reader service card*



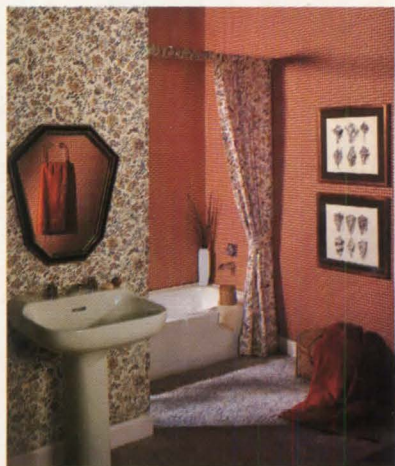
**Mandarin tree motif** is formed by a tile group from the "Valentino" series, background tiles come in white only. All tiles measure 8" x 8". Piemme. *Circle 260 on reader service card*



**Complementary wallcoverings**, are screen-printed upon vinyl-coated strippable paper. Both are from the "Fresh and Natural" collection. Katzenbach & Warren. *Circle 261 on reader service card*



**Stained, random-plank wallpaneling**, is constructed of 1/4" plywood, with genuine hardwood veneer, and it comes in 4' x 8' and 4' x 10' panels. Top-of-the-line rustic hickory Craftsman paneling carries a Class C flame spread rating. Champion Intl. Corp. *Circle 259 on reader service card*



**Fabric-backed vinyl wallcoverings**, "Samantha" and "Ridgefield," are strippable and scrubbable. Sanitas. *Circle 262 on reader service card*





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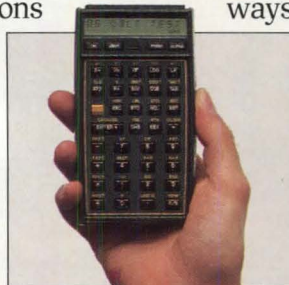
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### The HP-87.

The HP-87 sets a new level of performance for personal computers in its price range. You get built-in screen graphics, up to 544k bytes of RAM, and an 80-column integrated CRT. Plus the same flexible I/O structure for control applications as the HP-85. Because of its extended memory, you can take advantage of a VisiCalc® PLUS worksheet with up to 16,000 cells. And since the HP-87 has a built-in HP-IB, it's easy to add instruments, disc drives, printers, plotters, and even a graphics tablet. To give you even more to work with, there's an optional CP/M® module. And all applications developed for the HP-85 in BASIC are upward-compatible to the HP-87.

### The HP 9826.

Designed to handle high-speed data acquisition and tests, the 9826 has a powerful MC 68000 CPU, a built-in flexible disc, up to 2 megabytes of read/write memory, and power-fail protection. Plus a built-in HP-IB in-

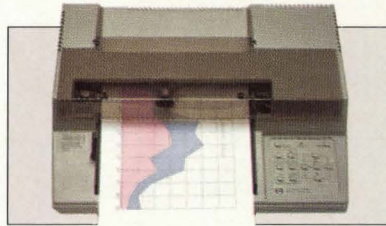
terface and a variety of other interface cards, so you're free to concentrate on testing. Instead of system configuration.

To give you even more flexibility, you can run applications in HP-enhanced BASIC, HPL, or Pascal. We've also built a CRT display with advanced graphics into the system, so you can see and interpret your data the instant you get it. And since everything about this system is built for speed, we've developed a special rotary control knob that lets you edit programs, calibrate instruments, and control motor speed, all with fast analog inputs.

### The HP 9836.

This full-function workstation does it all: design, computation, and high-speed testing. Because it gives you all the high-performance features of the 9826. And then some. With the 9836, you get a big, easy-to-read CRT. Sophisticated graphics capability. Two flexible disc drives. Room for up to two megabytes of memory. And an even longer list of engineering software and peripherals to choose from.

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HP-41  HP-85  HP-87  HP9826  
 HP9836

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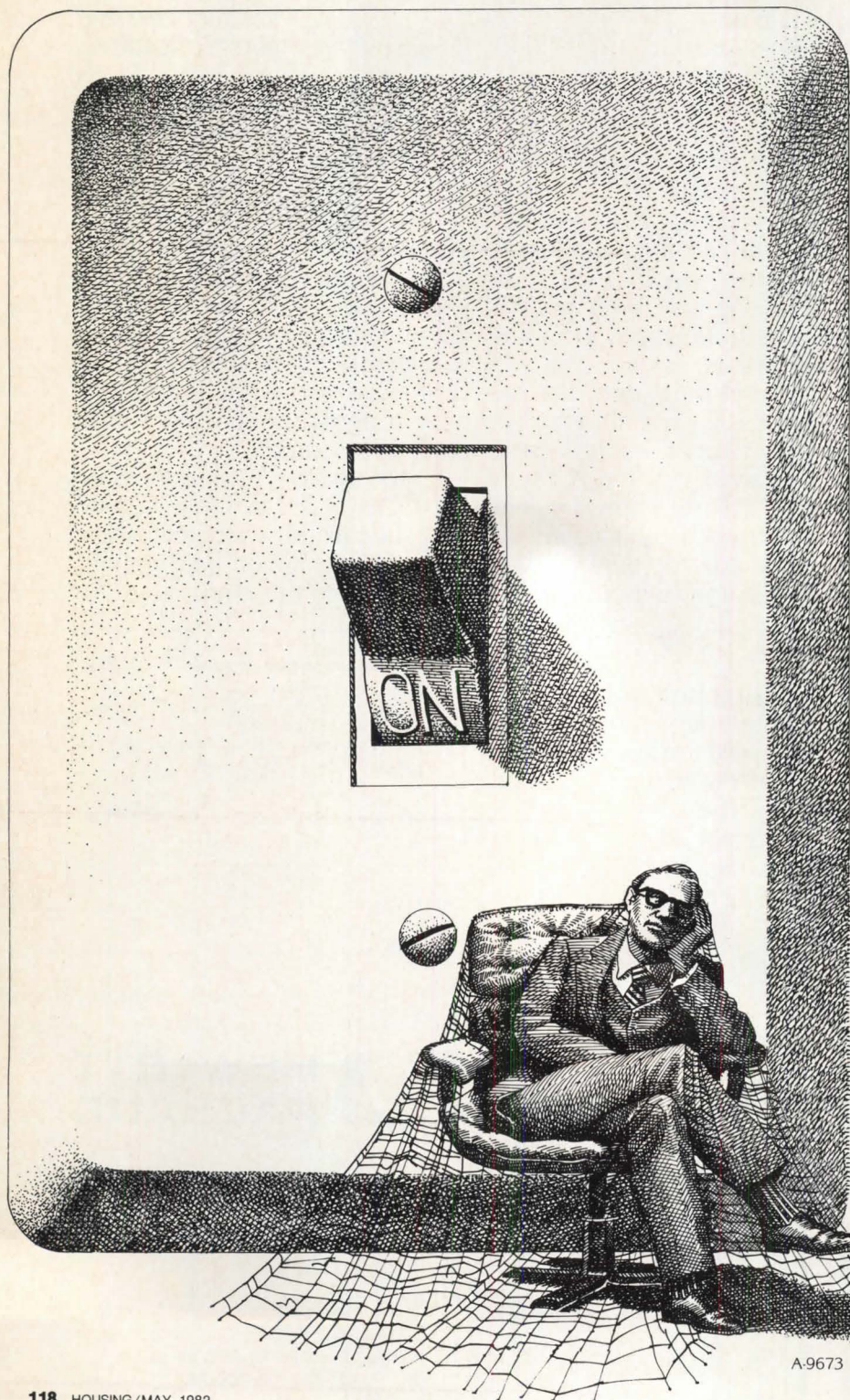
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HP-9826 — CIRCLE 66    HP-9836 — CIRCLE 67

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# The real energy crisis is the company that does nothing about it.



Back when the energy crisis was no more than a gleam in a speculator's eye, few of us gave much thought to lighting costs.

Today, few companies give more than a passing glance at their light bills — despite the fact that now there's plenty they can do about them.

Westinghouse saw that energy costs would skyrocket so we did something about them.

## **Saving electricity is as simple as switching light bulbs.**

We introduced the Econ-o-watt® lamp, the lower-watt fluorescent that saves up to 20% of your energy costs. For the Lockheed company, the savings came to \$323,948 a year in one plant alone.

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To really maximize your energy savings, a total system replacement with Ceramalux-4™ lamps would be just the ticket. Ceramalux-4 lamps save up to 80% of the energy of incandescents. And they are the first high pressure sodium lamps to produce a light quality equal to or better than cool white fluorescents.

## **Call or write for your free copy of "Substitute for Savings!"**

If you're the do-something kind of executive, get up off your apathy right now and give us a call. Ask us for a copy of "Substitute for Savings!"

**Call toll-free: 800-631-1259.**

The brochure gives a non-jargon rundown on what you should know about lighting costs and what you can do about them.



**Westinghouse**

Lamp Divisions  
Bloomfield, New Jersey 07003

Circle 118 on reader service card

A-9673

## PRODUCT INFORMATION INDEX

For help in locating manufacturers listed below,  
use HOUSING's Buyers' Guide (Apr. '82)

### INDOOR/OUTDOOR KITCHENS AND BATHS

Pages 69 to 74

**Page 69**—Flooring; ceramic tile. Cooktop; Jenn-Air. Countertop; Formica®. Deck; redwood lumber.

**Page 70**—*Inset*: Cabinetry; Formica® surfaces with oak pulls, made by Beaver Industries, Clearwater, Fla. Range with microwave oven; GE. Refrigerator; GE. Countertops; Formica®. Sink and faucets; Moen. InstaHot; KitchenAid. Lighting; wood-framed fluorescent, designed and constructed by Arthur Rutenberg Corp. Windows; Alcan. *Top*: Outdoor kitchen includes a cooktop by Jenn-Air and tile countertop. Cabinetry; Beaver Industries, Clearwater, Fla. *Bottom*: Cabinetry, custom-made. Cooktop; Jenn-Air. Countertops, Formica®. Sink; Kohler bar sink. Lighting; recessed "R-10" cans over cooking area.

**Page 71**—*Top*: All appliances are Thermador/Waste King. Countertops; Franciscan Tile. Built-in food processor; NuTone. *Middle*: Cabinets; oak, Gordon's Cabinet Co., Anaheim, Calif. Flooring; Armstrong's "Cambray" sheet vinyl. All appliances; Gaffers & Sattler. Refrigerator; Whirlpool. Countertop; Dallas Ceramic Tile. Sink; Commercial Plumbing Fixtures. Faucets; Delta No. 100. Luminous ceiling; Jayco. *Bottom*: Oven; Thermador/Waste King, 30" black glass, self-cleaning oven with griddle range top. Dishwasher; GE's "Potscrubber." Trash compactor; GE. Refrigerator; GE's 24-cu.-ft. side-by-side unit with icemaker and dispenser. Sink; Kohler's "Trieste."

**Page 72**—*Top*: Tile; Mexican. Tub; Kohler. Mixing valves; Kohler. *Middle*: Cabinets; custom-made. Tub; American Standard. Lavatory; American Standard. Fittings; Moen. *Bottom*: Tub; Kohler. Fittings; Kohler. Lighting; DH-7 downlights, Halo. Paneling; 3/8" T&G redwood, vertical grain.

**Page 73**—*Top*: Cabinets; marble vanity, custom-made by Pyramid Woodcraft, League City, Tex. Flooring; Armstrong vinyl. Fittings; Delta Faucets. Deck; redwood lumber. *Middle*: Tub; Kohler. Lighting; Lightolier. Sliders; Miller Industries. Deck, fence and siding; Western red cedar. *Bottom*: Tub surround; Stonelight ceramic tile. Tub; Kohler steeping tub. Fittings; Kohler. Lavatory; Kohler. Sliding glass door; Blomberg. Shower fittings; Moen. Paneling; cedar. Deck; redwood.

**Page 74**—*Top*: Cabinets; custom-made, painted wood. Flooring and tub surround; tile from Diastone Ceramics. Lavatory; Kohler. Fittings; Kohler. Shower; custom-

made in place. *Middle*: Cabinets; custom-made. Tile; Latigo. Tub; West Trend. Lavatory; Kohler. Fittings; Kohler. Lighting; Halo. *Bottom*: Flooring: "Georgian" line of carpeting from Westpoint-Pepperell. Tub surround; ceramic tile, imported, "Classic Black—Random Pattern." Tub; acrylic, DPI. Fittings; Moen.

### DESIGNING ENERGY- EFFICIENT KITCHENS

Pages 77 to 80

**Page 79**—*Right*: Flooring; American Olean. Oven and range; Whirlpool Corp. Dishwasher; Whirlpool Corp. Trash compactor; Whirlpool Corp. Refrigerator; Whirlpool Corp. Countertops; Hacienda product group by H&R Johnson Inc.

**Page 80**—*Bottom*: Cabinets; custom-made by Joel Leach. Oven; Jenn-Air. Microwave oven; General Electric. Cooktop; Modern Maid. Dishwasher; General Electric. Trash compactor; Kenmore. Refrigerator; General Electric. Countertops; Best Tile. Lighting; Halo. Ceiling fan; Nutone.

### IDEA NOTEBOOK

Pages 90 to 92

**Page 90**—*Above left*: Flooring; "Moment" carpeting from World Carpets. Tub; simulated marble from C & C Marble, Miami. Fittings; Price Pfister, Series #06. *Above right*: Cabinetry; custom-made. Flooring; Italian tile from Designers Tile Intl., Miami.

**Page 91**—*Lower left*: Cabinetry; built locally, ash wood. Flooring; Karastan® carpeting. Lavatory; Kohler. Fittings; Valley. *Lower right*: Cabinetry; Beaver European Kitchens, Clearwater, Fla. Flooring; carpeting from Sunwest Mills. Tile; Japanese, from Impo. Tub; DPI. Fittings; Moen. Lighting; Lightolier. Skylight; Kennedy.

**Page 92**—*Above*: Cabinets; Formica® almond surfaces, by Vern's Cabinet's, Orlando. Flooring; "Radiance" carpeting from Galaxy. Tile; Florida Tile, "Potter's Touch." Toilet; Kohler. Lavatory; Kohler. Fittings; Kohler. *Left*: Photograph and cabinetry supplied by American Woodmark. Shown is "Hanover" style with a honey maple finish. *Right*: Cabinets; Gordon's Cabinets. Tile; Latco's "Sixagonal II," SX 20. Lavatory; Western Pottery #196A. Fittings; Harden Top Brass. Lighting; custom-made by the Lite Gallery, #L-7200.

### CORRECTION

The photographer for Chanticleer, Southfield, Mich. [April, page 60,] is Hursley & Lark.

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## Catering to all tastes in kitchen/bath furnishing

A 16-page **kitchen planning guide** provides creative ideas on kitchen layout and design. Drawings and photographs suggest possible appliance arrangements. The guide also serves as a catalogue for the manufacturer's line of ranges, refrigerator/freezers and conventional or microwave ovens. Product specifications are included. Amana. **Circle 300 on reader service card**

A complete line of **kitchen appliances** is exhibited in a 50-page catalogue. Products shown: refrigerator/freezers; chest and upright freezers; laundry centers; freestanding ranges; built-in cooking products; microwave ovens; dishwashers; trash compactors. Most are shown in four-color photographs. Energy-saving and convenience features are described and illustrated. The booklet costs \$1.00. Frigidaire, 3555 S. Kettering Blvd., P.O. Box WC4900, Dayton, Ohio 45449

The aesthetics of **matched appliances** are stressed in a 56-page catalogue. Illustrated and described is a full line of products, from refrigerator/freezers to air conditioners. Included are dimensional drawings and feature checklists. Hotpoint. **Circle 301 on reader service card**



Literature package describes three builder lines of **cabinetry** (photo above). Each two-page flyer includes four-color photos of room settings. Highlighted are specialty cabinets for food storage, revolving corner units and other features. Also available: a specification book for the above lines, with illustrations of all cabinet types and accessories. Yorktowne Cabinets. **Circle 314 on reader service card**

The ColorVantage™ system of door and drawer design, using the manufacturer's **plastic laminates**, is introduced in a fold-out brochure. Working drawings outline each of the 26 styles

offered in the system. Four-color photos show how use of complementary laminate surface can help coordinate kitchen and bathroom decor. Wilson-art. **Circle 316 on reader service card**



A full line of **faucets and fittings** for kitchens and bathrooms are displayed in a 20-page catalogue (photo above). Four-color photographs and line drawings illustrate kitchen and lavatory faucets, tub and shower valves, specialty shower products, bidet and mobile home fittings. Widespread and bar faucets are introduced. Indiana Brass. **Circle 308 on reader service card**

Cleanability and efficiency are product qualities emphasized in a 24-page catalogue of **electric, gas and microwave cooking appliances**. Other products covered: dishwashers, refrigerator/freezers, disposers and trash compactors. Many models are shown in color. Product feature lists for most models are tabulated. Tappan. **Circle 305 on reader service card**

A full line of **home appliances** for the builder market is exhibited in a 64-page catalogue. The comprehensive brochure has dimensional drawings and four-color photographs of all products. The publication is offered for \$1.25 from Whirlpool Corp., Benton Harbor, Mich. 49022

**Bathroom cabinetry** plus accoutrements is the subject of a 46-page publication. Products featured include medicine cabinets, wall storage systems, vanities, countertops of cultured marble and onyx, towel racks and other accessories. Perma-Bilt. **Circle 311 on reader service card**

**Compact kitchens and refrigerator/webars** are displayed in a 16-page brochure. Emphasis is on versatility

both in terms of space requirements and decorative possibilities. Features and options are enumerated. Also shown is a "barrier-free" series designed for the handicapped. Specifications are included. Cervitor. **Circle 307 on reader service card**

A line of traditional **vanities** is depicted in a 28-page, four-color publication. Photographs display each model in a furnished setting. Specifications and dimensions are tabulated for each model. A modular system including cabinets, vanity top and medicine cabinet is introduced. Miami-Carey. **Circle 313 on reader service card**

**Cooking appliances** are the subject of an eight-page publication. Shown are drop-in, slide-in and freestanding electric ranges, wall ovens, convertible cooktops and microwave units. A "feature finder" summarizes product details. Modern Maid. **Circle 303 on reader service card**

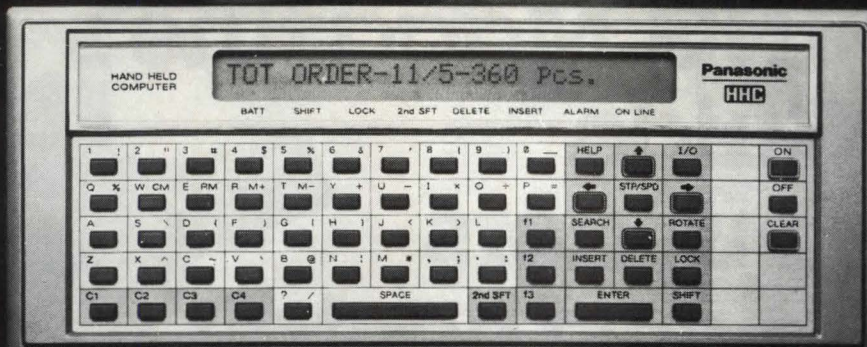
Space-saving and energy-efficient features are highlighted in an eight-page **appliance brochure**. Products such as washer/dryer sets, ranges, refrigerator/freezers and other kitchen fixtures are fully detailed and illustrated in color photos. White-Westinghouse. **Circle 306 on reader service card**

An eight-page foldout explains the therapeutic benefits and product features of a line of **whirlpool-steambath spas**. A variety of easy-to-install spa packages are described. ThermaSol. **Circle 309 on reader service card**

**Dishwashers and disposers** are highlighted in an eight-page brochure. Exclusive product features are described and pointed out in four-color photographs. Maytag. **Circle 302 on reader service card**

A 36-page catalogue presents a full line of **household appliances**—including not only kitchen fixtures but also fireplaces, heat pumps and water heaters. Product features are pointed out and illustrated in photographs or diagrams. Sears, Roebuck and Co. **Circle 304 on reader service card**

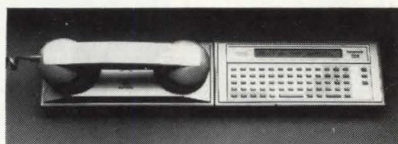
Innovative applications of **ceramic materials** are included in a 12-page brochure. Six lines are described and illustrated in color photographs of room settings. Applications shown include flooring, exterior paneling and wall-covering. Gail Ceramics. **Circle 315 on reader service card**



## The Link™ from Panasonic.

### The portable computer that lets you take the advantages of an office computer anywhere you go.

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Imagine. Using just The Link, anyone in the field, the plant or on the sales floor—like salesmen, managers, engineers or retailers—can now answer questions that used to mean a trip back to the office. A sales engineer, for example, types data into The Link and gets detailed product information and specs on the spot.

And The Link is part of an entire computer system: By adding different optional components, you can create whatever kind of computer you need. Wherever you need it.

By adding the telephone modem, for example, a salesman can put his company's main office computer or a data bank

to work for him from any telephone booth. He can check credit ratings and inventory, trace

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## Builders discuss political clout, HDI and other matters

### Builders' rights

HOUSING: I am amazed at the lack of political "clout" that the building industry has, considering the size of this industry.

I am equally amazed at the lack of effective leadership in our industry. I receive newsletters from the National Association of Home Builders showing the current president of the association meeting with the current President of the United States and members of Congress . . . but all to no avail. Except for mailing pieces of two-by-fours and asking the question, "Where will our children live?" I am at a loss to see any meaningful and substantive results or collective flexing of political muscle from our local or national building associations. Other interest groups do it. Why not us?

When are we going to . . . put our elected officials and their appointees on notice that unless we see results and solutions we are going to be instrumental in turning them out of office? And you know that our elected officials don't like to be denied all the perks of their position!

I would be interested in seeing your thoughts in HOUSING and some response from our fellow industry workers and small businessmen. Let's get the ball rolling!

PATRICK H. RUPERTUS  
Chesapeake Land Company of Virginia  
McLean, Va.

### Mobiles moving

HOUSING: I read with great interest a small news item dealing with mobile/manufactured homes that appeared in the HOUSING Hotline [Feb.].

That news account quotes Jack Wynn, "editor of Manufactured Housing Investor newsletter," as saying that mobilehome shipments will decline in 1982 to a level of 215,000 to 220,000 homes. Mr. Wynn cites unemployment among blue collar workers—"the prime purchasers of mobile/manufactured homes"—as being the culprit in this projected sales slump.

As President of the Manufactured Housing Institute (MHI), the national association representing America's manufactured housing industry, I couldn't be in more disagreement with Mr. Wynn's rather bleak assessment of the industry's immediate future.

If HOUSING had contacted MHI, we would have reported that in 1982 the industry should experience a 10 to 15 percent sales increase over 1981, which in itself recorded a nearly 10 percent boost over the previous year. In terms of the demographics of the mobile/manufactured homebuyer, current research reveals that, indeed, the typical purchaser of our homes is today better educated and more affluent than ever before. This contrasts sharply with Mr. Wynn's description. In fact, manufacturers, retailers and

lenders involved in the field tell us of a newly emerging type of mobile/manufactured homebuyer: one who traditionally would have belonged in the vast middle class market of American housing consumers.

WALTER L. BENNING, president  
Manufactured Housing Institute  
Arlington, Va.

### Engineered wood qualities

HOUSING: I read with interest the article "Engineered wood: What it is and how to use it" [Feb.].

Although the article was in most cases quite accurate, there is one area which may prove misleading for those who are not fully informed about the differences between waferboard and oriented strand board. On page 151, the second column, beginning "Reconstituted wood panels differ from plywood in several ways," you highlight several characteristics which may be true of waferboard but are not necessarily true of oriented strand board.

By aligning the strands so that, within a layer, they all lie in the same direction, oriented strand board can take full advantage of wood's inherent strength and stiffness in the fiber direction. This advantage is not gained with the random orientation found in waferboard. Oriented strand board

*Continued on page 125*

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# ADVERTISERS INDEX

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• See Advertisement in Housing  
April 1982 Buyers Guide

- Circle  
No.
- 100 American Gas Assn. ....100  
J. Walter Thompson Co.
  - 43 American Stair-Glide .....44  
Aspen Adv. Agency
  - 68 American Standard .....68  
Clinton E. Frank Inc.
  - 2 Armstrong World Ind. Inc. ....Cov. II  
Marsteller, Inc.
  - 33 Artistic Brass  
Div. of Norris Ind. ....33  
Joel Goldstein Marketing  
Communications, Inc.
  - 83 Bostitch .....102A  
Potter Hazlehurst Inc.
  - 86 California Redwood Assoc. ....112A  
Foote, Cone & Belding/Honig Inc.
  - 19 Carrier Air Conditioning Co. ....17-19  
GGK New York  
Classified .....119
  - 24 Crestline .....24  
The Cramer-Krasselt Co.
  - 111 Datapoint Corp. ....111  
Ogilvy & Mather
  - 75 Delta Faucet .....75  
Rosenfeld, Sirowitz & Lawson, Inc.
  - 14 Dupont Co.-TYVek Housewraps ....14  
N. W. Ayer Inc.
  - 82 Eljer Plumbingware  
Div. Wallace Murray .....82  
Marsteller, Inc.
  - 76 Formica Corp. ....37, 38  
Michael R. Abramson Assoc. Inc.
  - 93 General Electric .....93  
BBDO, Inc.
  - 123 Hertz Corp. ....123  
Scali, McCabe & Sloves, Inc.
  - 63 Hewlett-Packard .....116, 117
  - 64 Hewlett-Packard .....116, 117
  - 65 Hewlett-Packard .....116, 117
  - 66 Hewlett-Packard .....116, 117
  - 67 Hewlett-Packard .....116, 117  
Wilton, Coombs & Colnett, Inc.
  - Hilton Hotels Corp. ....115  
McCann-Erickson, Inc.
  - Housing Seminars  
Non-Residential Development 42, 43  
Smaller Higher-Density House 94, 95
  - 3 Howmet Aluminum Corp. ....Cov. III  
Crume & Assoc., Inc.
  - 44 Iron-A-Way .....44  
Creative Adv.
  - 99 Jacuzzi Whirlpool Baths, Inc. ..98, 99  
J. Walter Thompson
  - 45 King Refrigerator Corp. ....45  
KRC Corp.
  - 29 Kitchen Kompact .....29  
Halbleib & Moll Assc., Inc.
  - 46 Kohler Co. ....46  
Campbell-Mithun, Inc.

- Circle  
No.
- 8 Magic Chef .....8  
Keller-Crescent Co.
  - 84 Maze Nails  
Div. of W. H. Maze Co. ....102C  
Hanson Adv. Inc.
  - 55 Merillat Industries, Inc. ....76  
Creative House Adv. Inc.
  - 109 Minolta Corp. ....109  
Bozell & Jacobs, Inc.
  - Nutone Div., Scovill Inc. ....1-4, 23  
Dektas & Eger, Inc.
  - 4 Olympic Stain .....Cov. IV  
Kraft Smith
  - 7 Owens-Corning Fiberglass .....6, 7  
Ogilvy & Mather
  - PCBC .....112B
  - 121 Panasonic Co. ....121  
Grey Adv. Inc.
  - 108 Panel Clip .....108  
Creative House Adv., Inc.
  - 20 Poggenpohl .....20  
William B. Johns & Partners, Ltd.
  - 87 Potlatch Corp. ....112B, 112C  
David W. Evans, Inc./Calif.
  - 101 Quaker Maid .....101  
Schultheisz/Kennedy
  - 13 Scheirich Co., H. J. ....12, 13  
Doe-Anderson Adv.
  - 27 Sears, Roebuck & Co. ....26, 27  
Stern Walters/Earle Ludgin
  - 11 Shell Chemical .....10, 11  
MDR Inc.
  - 52 Sikes Corp./Florida Tile .....55  
Fry/Hammond/Barr Inc.
  - 88 Smith-Cattleguard Co. ....112A  
Ad Design, Ltd.
  - 35 ThermaSol, Ltd. ....35  
MacManara, Clapp & Klein Adv.
  - Trans World Airlines, Inc. ....107  
Ogilvy & Mather, Inc.
  - 125 UNR Home Products .....125  
Dellow & Assoc.
  - 81 Universal Rundle .....81  
Marketing Support, Inc.
  - 31 Weiser Lock  
Div. of Norris Ind. ....31  
Norris Communications
  - 118 Westinghouse/Lamp Div. ....118  
Ketchum, MacCleod & Grove/  
Pittsburgh
  - Whirlpool Corp. ....56, 57  
The Netedu Co.
  - 85 Zinc Institute .....102D  
Colarossi/Griswold-Eshleman

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can be made as strong, and in some cases stronger than plywood.

While waferboard may be classified as a lower cost substitute for plywood that will "get the job done," a properly made oriented strand board is equal to, and in some respects superior to, plywood for most residential, light commercial and industrial uses. It would be a service to your readers to point out this distinction.

G. J. CEDZIDLO

Weyerhaeuser Company  
Tacoma, Wash.

*We agree there are differences between waferboard and oriented strand board, but the purpose of the article was to show how these products taken together are penetrating the plywood-dominated market. After some further research, we found your statement "Oriented strand board can be made as strong . . . (as) plywood" is theoretically true. But it should also be noted that many within the industry do not feel there is enough evidence or manufacturing experience to say the products are always as strong as plywood. We would like to restate the fact that the American Plywood Association's program of performance standards sets criteria for specific applications, eliminating any worry about choosing a product that is not as strong as the next.*

#### How Is HDI compiled?

HOUSING: As market research director for a Baton Rouge, La. developer and builder, Larry Walsh Homes Inc., I found your article, "Housing Demand Index" very enlightening. Naturally, we are encouraged at the signs of a strong market in Baton Rouge, as related in your article.

I am writing to inquire if your organization could send us additional details of this research into the Baton Rouge market. It would be extremely valuable information to have on file in our company—as I am in the process of instituting a formal research function.

Most specifically, I am interested in sources of information for your conclusions about Baton Rouge, and the method of analysis employed to reach these conclusions.

Thank you very much for your help—we send our high regards to HOUSING for providing a first rate source of information for those of us in this industry.

MARGARET G. MAXWELL  
Larry Walsh Homes Inc.  
Baton Rouge, La.

*For more detailed information on Baton Rouge—or any of the 99 other markets listed in the index—you can contact Dr. Alfred Gobar directly at Alfred Gobar Associates, 207 S. Brea Blvd., Brea, Calif. 92621.*

*We invite your reaction to the views expressed on these pages—or to anything else that affects your interests and those of the housing industry. Write to: Natalie Gerardi, Editor in Chief, HOUSING, 1221 Ave. of the Americas, New York, N.Y. 10020. Due to space limitations, we reserve the right to edit any letters that we publish.*

## 1982 BUYERS' GUIDE CORRECTIONS

The distributor listing for Osmose Wood Preserving on page 142 is amended to:

NY Meyer, Grimes & Weiner Inc.  
Brooklyn  
(212) 389-5070

NY A.C. Dutton Lumber Co.  
Poughkeepsie  
(914) 454-7000

OH Dayton Flameproof &  
Wood Preserving Co.  
Dayton  
(513) 224-1141

WY Ayres & Baker Pole & Post  
Mt. View  
(307) 782-3170

The listing for Aqua Glass on page 120 is amended to:

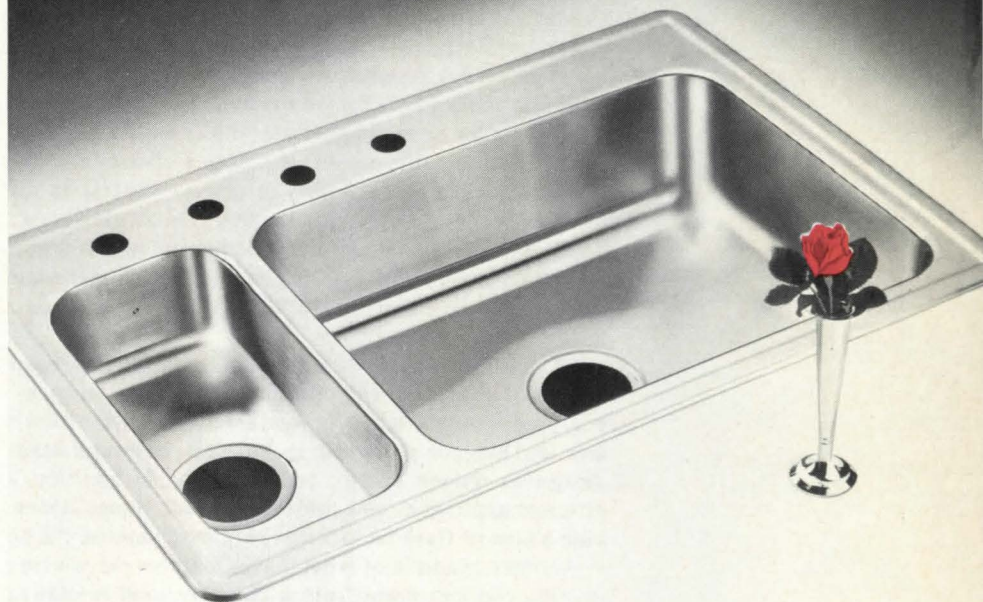
Aqua Glass  
PO Box 142  
Adamsville, Tenn. 38310  
(901) 632-0911

Replace Fern/Hanaway Inc. on pages 130, 225, 235 with:

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## When less is more



Lately we've done a lot of talking in the pages of HOUSING about downsizing — about the need for smaller lots, smaller units, tighter planning, and about the products that have been specially designed and engineered for use in downsized units. Most notably we presented HMX-1, HOUSING's prototype, illustrating the creative use of small space.

Although editorial space doesn't permit us to tell you more about our HMX-1 survey as we had hoped to this month, we can share one detail with you: The downsizing concept is catching on so fast throughout the industry that we're planning more along those lines for the near future.

HOUSING's commitment to downsizing shows up in other ways — as you may have noticed. For over the last year or so, there's been substantial change in the look of our editorial pages. The idea behind those changes: to better do our job of making every page of HOUSING work best for you whether you design, build or manufacture.

A general example of the way we've adopted the less-is-more theory in HOUSING's pages is how we use photographs. Space once devoted to large photos is now often given to smaller, better illustrations — and more explanation, to boot. A more specific example can be found in this issue: The Cost Guide, a HOUSING exclusive (page 48) has been redesigned from eight to four pages, while continuing to provide you with the same information. The redesign by Art Director Joe Davis provided Managing Editor June Vollman with four more pages for pertinent news. I guess you can call it a dose of our own "Smaller Space/Higher Density" medicine.

Talking about this month's HOUSING, it's one of our twice-a-year Kitchen and Bath Showcase issues. They're always special to me: personally because along with a lot of HOUSING's readers, I'm an avid cook; but most importantly because our research continues to pinpoint kitchens and baths as the two most important areas of the house to buyers. That's why some 33 pages of this issue are devoted to these critically important areas, covering everything from design to products.

Of special interest — and an example of the reason why HOUSING is *the* source of useful, borrowable ideas for your business — is "Designing the energy-efficient kitchen" (page 77) by Associate Editor Fran Donegan. In his article, Donegan points out that a great deal more needs to be done in kitchen design to reduce energy consumption. In addition to the use of energy-efficient appliances and construction techniques, Donegan's suggestions provide a host of flash factors that help merchandise the home to the consumer.

Another example of what makes HOUSING *the* source can be found in "Five lessons you can learn from a neighborhood revitalization" (page 58). The article by Senior Editor Barbara Gers made this issue because Gers' in-depth research unearthed important information that had not been written about elsewhere. If you have ever worked on an infill project, I'll venture you wish you had been able to read Gers' copy beforehand. And if infill is in your future plans, the article and its five lessons are must reading. You'll have fewer headaches and more success by benefitting from this Columbus, Ohio experience.

On page 47 there's an update on what's happened with "Rally '82," which NuTone presented in a 31-page promotion in our April issue. In the true spirit of "When Less is More," Paul Zender's idea is worth your time and study. There's something each of us can do to get our industry moving.

As a starter, we at HOUSING rescinded a budgeted subscription rate increase planned for mid-'82 — despite cost increases in paper, printing and postage.

What about you? Have you written your Congressman and Senator? Has your voice been heard at the NAHB and your local builder association? A little bit less of "Let George Do It" and more "What Can I Do" may just help get our business moving.

—G. ROBERT GRISWOLD



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