



 THE TEXAS
ARCHITECT

THE TEXAS SOCIETY OF ARCHITECTS

The Texas Regional Organization of The American Institute of Architects

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VOLUME 21 / JULY, 1971 / NO. 7

COVER PHOTO: 1970 population census noted 11,196,703 Texans, a 16% population increase since 1960. Total Texas housing units increased from 3,000,000 in 1960 to 3,800,000 by 1970. Housing units increased at the rate of 53,000 in 1966, 90,000 units in 1969 and 1970, and if the present rate of building permits remain constant 120,000 building units will be constructed during 1971. During the last several years 60% of all housing units constructed were in multi-family projects, while 40% were single family residences.

Even with the increased housing unit construction over the past ten years, Texas housing production has not kept pace with the growing population and loss of housing units from existing stock.

Little progress has been made to replace dilapidated units that are not fit to live in. The disadvantage: The poor, elderly, and minorities continued to be locked more tightly than ever into overcrowded, decaying housing. Look around your own city with open eyes and you will see the slum and ghetto areas.

New families are forming at a record rate as the kids born during the population boom of the 1940's reach marriage age. New family formations in 1970 were 40% more than in 1960.

We need to increase housing production, reduce unit costs, and make use of a broad range of labor skills and thereby help overcome the labor shortages that drive up costs and impede the expansion of housing production.

The Texas Urban Development Commission was created to enlist the advice and assistance of interested, capable Texas citizens in the formulation of solutions to housing and other problems of the urban areas of Texas. Texas Society of Architects work in urban and community affairs played a major role in the commission's development. The commission began its work in late May 1970 and submitted its interim report "Toward Urban Progress" December 1970. The commission will be terminated with its final report in August.

In seeking solutions the commission appointed study committees in housing, strengthening local government, natural resources, health, education, recreation, economic development, transportation, human resources and law enforcement.

The commission is presently drawing up its final recommendations and is looking for volunteer organizations, associations, research groups, or whomever else would be interested in accepting projects to attack urban problems or programs to educate people to urban problems, needs and solutions.

Chairman of TUDC is Mayor Tom J. Vandygriff of Arlington and Vice-Chairman is Dr. Earl M. Lewis, Director of the Graduate Urban Studies Program at Trinity University, San Antonio. The Institute of Urban Studies of the University of Texas, Arlington, is providing a full time commission staff under the direction of James F. Ray. TSA members serving as commission resource members were Jack Solka, Ben E. Brewer, Jr., Horance E. Wilson, H. M. Bart Fischer, Howard Barr, David

Graeber, and William Sheveland.

Thanks to Dorothy Blodgett and Texas Urban Development Commission for editorial help and Jay Miller and Austin Urban Renewal Agency for cover photo.

Jim Pluger, Editor

3 Architects Hoover & Morgan proved their firms ability to solve an architectural problem with imagination and directness within a tight budget when they designed their own office utilizing pre-fab modular units.

7 The Texas Society of Architects is honored and proud to have three of its members elevated to fellowships in the American Institute of Architects.

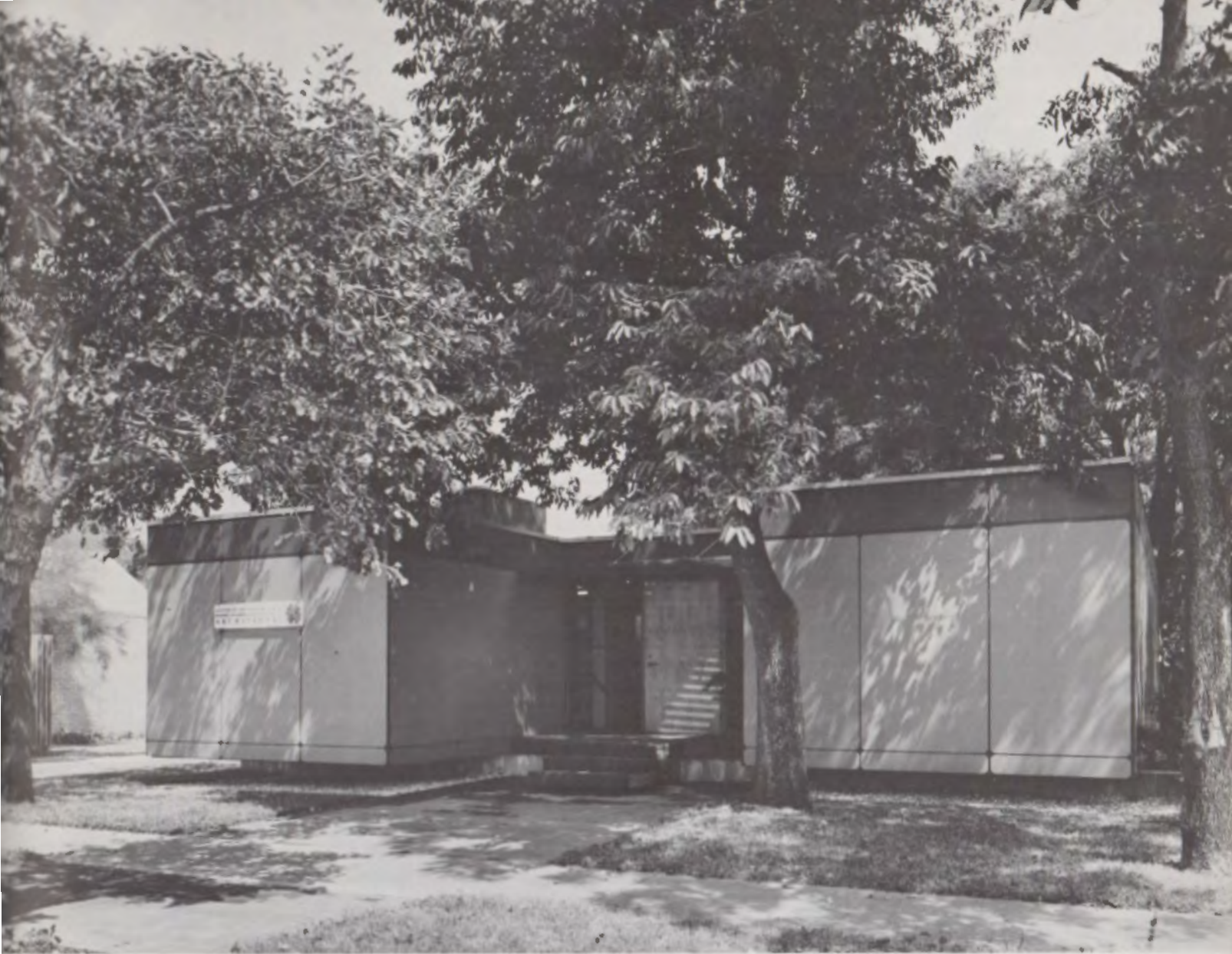
8 The Texas housing shortage is greater than ever and the 62nd Texas Legislature faced more housing legislation than ever. The Legislature has just started to face the problem however and a great deal of work and legislation will be required before each Texan is properly housed.

10 Is factory built housing an answer to the scarcity of low cost housing?

12 Ten projects were selected from eighty-eight proposals to participate in the Austin Oaks experimental Housing Project. A look at ideas and systems to offer home ownership to low-income families.

TEXAS ARCHITECT ADVERTISERS

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ARCHITECTS

TEXAS CITY

OFFICE

TEXAS

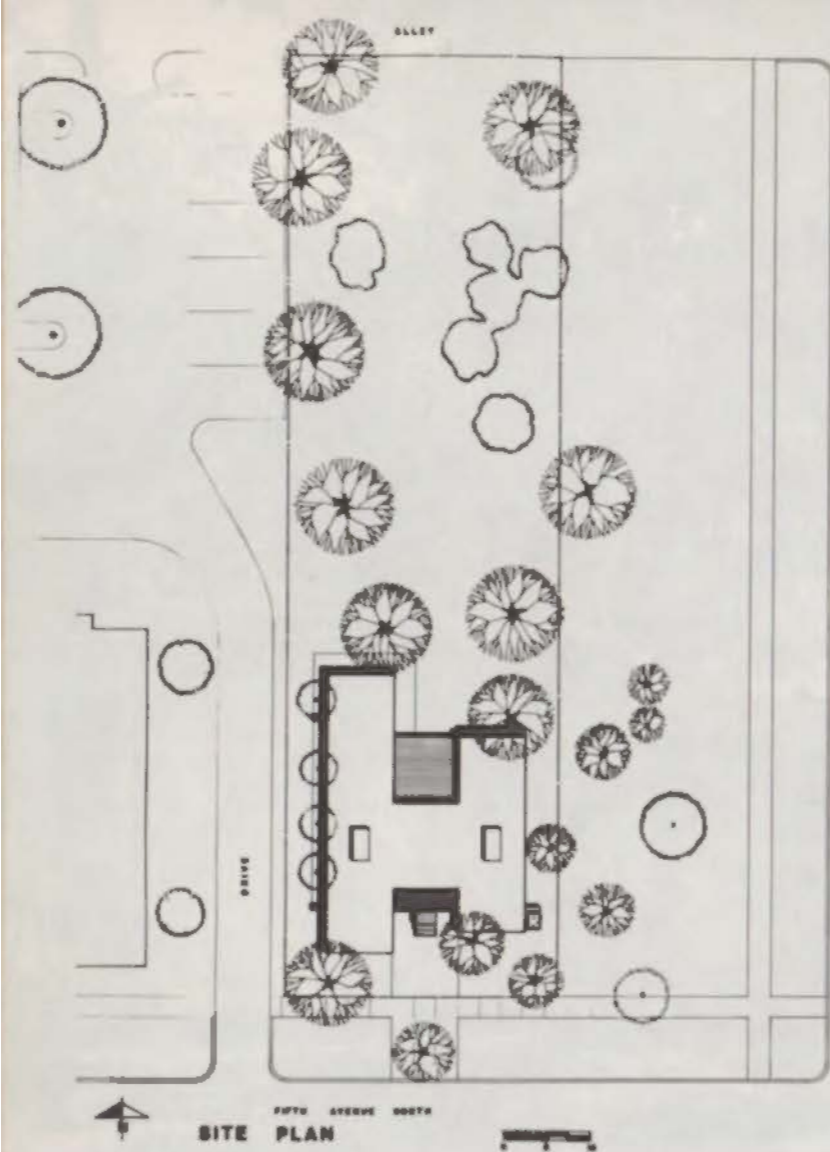
HONOR AWARD · TEXAS ARCHITECTURE 1970

JOSEPH ALLEN HOOVER AIA
ROBERT EDWARD MORGAN AIA
A R C H I T E C T S



JULY, 1971

3



PROGRAM

To design an office for a small architectural firm with two partners each with a private office, a secretary station for one girl to function for the entire office, and drafting room space for four draftsmen. The facility should be easily expandable anticipating growth of the firm. It was felt that the building should exemplify the firms' ability to solve an architectural problem with imagination and directness within the rigid discipline of a tight budget. The site is adjacent to the downtown district in an older residential area that is rapidly becoming professional and commercial. It is heavily wooded with mature pecan trees that restrict the buildable area, but which the owners wish to preserve.

SOLUTION

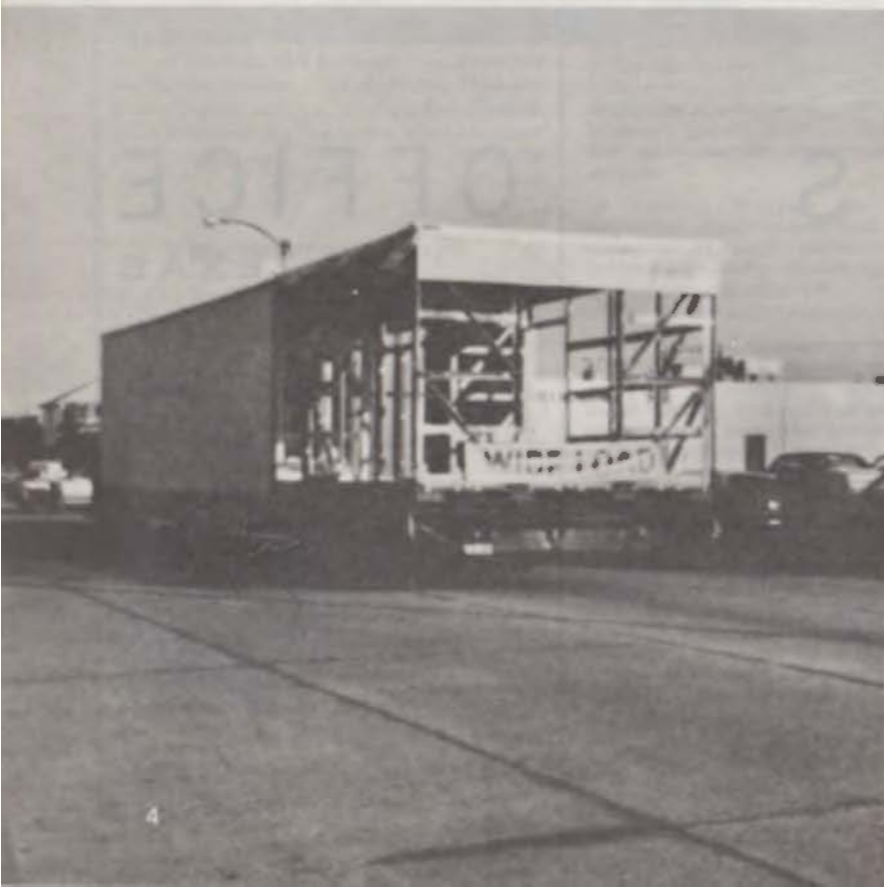
The pre-fab modular unit offered an excellent solution for economy, fast erection and flexibility, and could be placed on the site without losing any of the trees. The manufactured units that were chosen had been designed for use as low cost housing. They had no apparent architectural merit but did have a well engineered structure. The architects capitalized on the positive features by exposing the welded pipe framing, accenting the four foot module and emphasizing the cantilever which was possible with the module engineering. The generous use of glass exploits the shaded character of the site. Three modular unit frames were transported to the site and placed on a prepared foundation in one day. Most of the finish work was completed on the site to satisfy code requirements. Off street parking was provided on an adjacent lot, the rear of the site being preserved for future development.

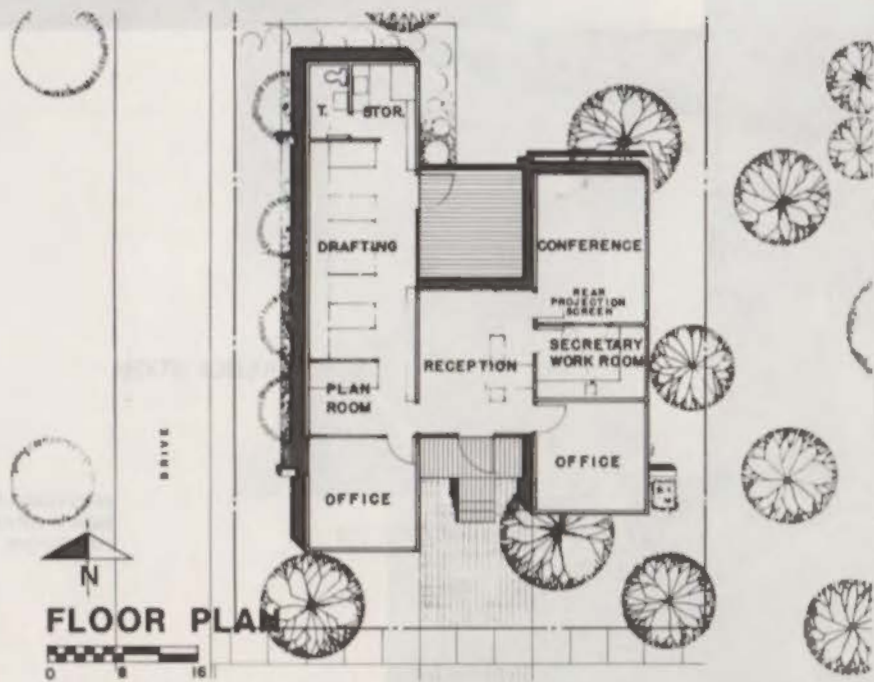
MATERIALS & COST

Basic structure is pre-fab units by Hanover Modular Homes. The exterior walls are prefinished asbestos and bronze glass in duranodic frames. Interior finish is gypsum board, cork and carpet. Total cost of the 1254 S.F. in the building was approximately 9.90 per S.F. in 1969.

TEXAS ARCHITECT

PRE-FAB UNIT IN ROUTE TO SITE





JULY, 1971



RECEPTION



PLAN ROOM & DRAFTING ROOM



CONFERENCE ROOM

PHOTOGRAPHS BY
BERT BRANDT & ASSOCIATES
HOUSTON, TEXAS

TEXAS ARCHITECT



A. I. A. FELLOWSHIPS

The American Institute of Architects has announced the elevation of three members of the Texas Society of Architects to the rank of Fellow, a lifetime honor bestowed for distinguished contribution to the profession. Advancement of the new Fellows will bring the total membership of the College of Fellows to 990, representing 3.9 percent of the corporate membership of the 24,000-member professional organization.



HAROLD BOX
DALLAS



KENNETH E. BENTSEN
HOUSTON



GEORGE S. SOWDEN
FORT WORTH

HOUSING — SIXTY SECOND LEGISLATURE

JAMES F. RAY, Executive Director, Texas Urban Development Commission

The 62nd Texas Legislature gave more sustained attention to housing problems than any legislature in history, laying the groundwork for even further consideration of housing in the future.

Directly and indirectly through several bills and resolutions, the Legislature affirmed a state policy supporting increased housing construction and rehabilitation; enacted legislation to improve standards and to increase the availability of mortgage money; and established a new agency, the Department of Community Affairs, to offer housing information and problem assistance to local government units.

A concurrent resolution officially affirmed an Urban Policy for Texas with specific reference to housing as recommended by the Texas Urban Development Commission.

The Commission explained in its interim report to the Governor and the Legislature prior to the opening of the session that "the state must take affirmative action that will improve the capability of both state and local governments to respond to the challenges thrust upon them" if the demands presented by continued urbanization in Texas are to be met during the 1970's and beyond.

The Commission held that "Because of tendencies toward unbalanced urban growth between various regions of the state and because of the existence of undesirable physical conditions in Texas cities—the lack of adequate housing, transportation facilities and other amenities—which prevent or retard maximum realization of community development potentials, it is essential that a wide range of actions be taken that will assist in enhancing the development of communities in a manner consistent with the best interests of the state."

Responding to the report, the Legislature passed an Urban Policy resolution that declares it to be the policy of the state to:

encourage and assist the construction of new houses and the rehabilitation of existing housing units to improve the availability of decent dwellings in areas where there is a critical present or expected future need.

stimulate increased housing production at lower costs through research programs for advanced techniques of housing construction and by fostering improved approaches for insuring the quality of housing construction.

provide state assistance to municipalities which will encourage the revitalization of deteriorated areas within their boundaries.

promote more equal access to community opportunities such as education, employment, housing, and transportation for all urban residents.

Having affirmed a responsible housing policy for the state, the Legislature took the next step forward: passage of legislation carrying out this responsibility.

It established a new state agency, the Department of Community Affairs, with the central purpose of providing assistance to local governments. The Division of State-Local Relations in the Governor's Office was elevated to this departmental status and the local government functions of the Division of State-Local Relations will form the nucleus of the new department.

One of its general functions is administration of a housing program, encouraging the development of adequate housing through the coordination of federal, state and local government housing programs in Texas. Specific functions of the new department could include assembly of housing information on a continuing basis and sponsorship of research on advanced techniques of housing construction and improved methods of building regulation. It will supervise the operation of the newly established Building Materials Testing and Evaluation Laboratory.

Creation of this new testing facility was another step toward greater state responsibility in dealing with housing. The "Building Materials Testing and Evaluation Laboratory" for new building products, materials and systems will consist of the major state-supported colleges and universities of the state which have substantial engineering and/or architectural departments. The engineering and architectural facilities of these schools can be used for performance testing.

In order to avoid overtaxing the facilities of any single school, a division of labor is envisioned to provide that each school do a separate type of testing. This would permit the school to perform the type of tests which it might be particularly capable of performing and also would avoid extensive preparation which might otherwise be required.

The Laboratory is to be supported on a fee basis by which the manufacturer or producer pays for the cost of the

testing. Such fees should take into account administrative costs and other expenses which might be necessary for the operation of the Laboratory.

The 62nd Legislature strengthened regulation standards for the increasing number of mobile homes. It was following up initial action by the 61st Legislature which took a step forward by requiring that mobile homes manufactured and sold in the state be in conformance with industry standards governing plumbing, heating and electrical systems.

The 62nd Legislature took stronger action through a bill providing for expansion of mobile home construction regulation to include structural standards; strengthening the administration of the uniform code by providing for new

inspection procedures for homes manufactured in the state; and, for a reciprocal inspection arrangement with other states.

The new mobile home law sets up a Performance Certification Board to promulgate standards and requirements for the manufacturer of mobile homes in the state. The nine-member board will include an architect as well as representatives of the industrialized housing industry, the mobile home industry, the insurance industry, structural and electrical engineers and a consumer representative. Enforcement of the mobile home code will remain with the State Bureau of Labor Statistics with provisions for contracting the inspection function to local government.

To encourage the funneling of more money into housing mortgages, the Legislature, in a concurrent resolution, encouraged the six major Texas pension and retirement systems to invest a sizeable portion of their available resources in government insured or guaranteed mortgage-backed securities.


And reaching out to the future, the Legislature created the Texas Advisory Commission on Intergovernmental Relations, an advisory body to state government to be responsible for continuous evaluation of the state's intergovernmental responsibilities, for consultation with federal, state and local officials and for reporting its recommendations to government officials.

Although it did not pass the House, a Texas Housing Finance Corporation proposal was passed by the Senate and reported out of the House State Affairs Committee. The proposal was designed to establish a state corporation to provide technical assistance and seed money loans to non-profit sponsors of housing in order to try to help stimulate building in the low and moderate income market.

Another proposal to create a Redevelopment Housing Corporation to enter into joint ventures with the state's major cities to replace delapidated slum housing did not receive favorable consideration in either house.

Several Commission proposals for authorizing local governments to adopt building codes and subdivision regulations in unincorporated areas also failed to reach final passage.

The state's housing problems are thus far from being solved, but the 62nd Legislature has taken an important step forward. Members of the Urban Development Commission were grateful for the emphasis placed on housing by this Legislature and they are preparing to leave as a guideline for future researchers and legislators their final report to be published in early fall.

Their report will discuss major issues in the housing area. Research is underway on public housing, urban renewal, housing codes and industrial or factory built housing. 



FACTORY BUILT HOUSING: IS IT AN ANSWER TO THE SCARCITY OF LOW COST HOUSING?

J. NEILS THOMPSON, Director, Balcones Research Center, University of Texas at Austin
Chairman, Advisory Technical Panel HUD operation Breakthrough
Co-Chairman, Housing Committee, Texas Urban Development Commission

How can we solve the worsening problem of a scarcity of low cost housing—in Texas and in the nation?

Is mass produced industrialized or factory-built housing an answer?

No one is certain about the answer, but there is general agreement that the question has become an explosive economic and political one demanding solution.

The problem is being attacked nationally through the Housing and Urban Development Department's "Operation Breakthrough"—an effort to find new approaches to the total system of housing design, production, financing, marketing, management and land use. A technical panel of seventy architects and engineers appointed by the National Academies of Sciences and Engineering is advising HUD in this large experimental program involving 3,000 housing units.

The AIA Journal's March, 1971 issue reviews this program fully, concluding "Breakthrough represents an opportunity, not a threat, to the (architecture) profession."

The project was born as a result of Section 108 of the National Housing Act of 1968 which called for a national experiment in which "qualified organizations, public and private," would submit plans for development of housing "using new and advanced technologies."

The federal government is coordinating and giving financial support to 22 housing systems producers to encourage innovation by industry with the final goal—a solution to scarcity of low cost housing.

Demonstration housing is expected to be the project's most obvious product. Less obvious will be the stimulation of technology transfer into the more industrialized sectors of housing construction. Least obvious but nonetheless important would be the guide criteria, the project's evolving performance criteria for housing construction by performance requirements—fire safety, room-size minima, and the like—rather than by building-industry traditional and prescription specifications for building design.

The guide criteria is intended to provide for maximum advantage of construction and design innovation within constraints of cost, comfort and environmental protection.

It would not be another model code. This guide criteria would constitute a surviving lesson in "performance concept" as used in Breakthrough for experimental purposes.

Beyond its technological considerations, the project is seeking advice on the social aspect—the current state of knowledge of ethnic and socio-economic mixing in human habitats. A social sciences panel is studying how to increase the options to provide for ethnic integration and to achieve a socio-economic mixing for all needing housing.

While the federal government has been spurring experimentation in mass produced low cost housing, nine states have enacted legislation allowing industrialized housing for the first time to supply housing needs in their state in any volume. In 18 other states similar legislation has been introduced and in at least six other states laws are being drafted and discussed in the executive branches.

The legislation passed by the nine states was basically a law or laws providing uniformity of building regulations for industrialized housing, eliminating the differences among local codes. Industrial housing producers cannot operate efficiently if they have to adapt design and tooling to meet different code requirements in each housing development location.

The laws have approached the problem in these ways in the nine states:

1. Established a process for state review and certification of industrialized housing systems.
2. Adopted federal standards for industrialized housing as certified to the state by HUD.
3. Authorized a mandatory state building code for all types of building, achieving both state-wide uniformity and creating a mechanism for the state approval of innovative industrialized housing systems.

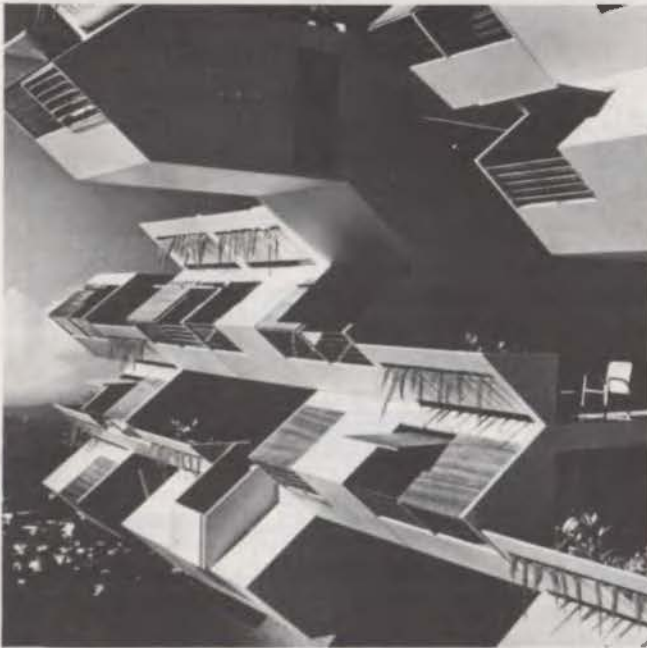
The experience of these states can be observed by other states as a guide. Modifications will be necessary, of course.

I do not believe there will be any significant reduction in the housing shortage nor in construction costs for low-cost

housing achieved in Texas in the future without industrialized housing, and the state must adopt a reasonably uniform and applicable code to make industrialized housing possible.

It simply is not feasible without a uniform code because the producer cannot aggregate a large enough market. The city of Houston just might generate enough market, but a more realistic market would be Texas, Oklahoma and Louisiana if all adopted similar regulatory codes.

If the states do not adopt individual uniform codes, we may have a national code. I am opposed to a national code which would be moving in an area that belongs to the state, but it is a distinct possibility because this problem of low cost housing is urgent.



Habitat Puerto Rico, Moshe Safdie Architect



Studies show that the state's largest cities are growing faster than their housing capacity and the greatest population gains are in low income groups least able to afford adequate housing. Lending practices have discouraged and prevented home ownership of unsubsidized housing by low income families.

Although the greatest need is here, the large percentage of single-family and multi-family homes are priced for those earning \$10,000 or more annually. Industrialized housing would not be in competition with the present home builders market but would be filling a need now largely unmet.

Increased land and construction costs in urban areas and inflation which has decreased the amount of house available for the money make the problem worse.

The aim of factory built housing is to turn out houses faster through mass production techniques, using a broader labor base than possible in on-the-site construction. Houses are constructed in two or more parts to be delivered and assembled at sites within a 50 to 200 mile radius of the factory. Four firms are in business in Texas in San Antonio, Dallas and Houston.

Industrial housing will allow the home builder more versatility in services. The builder can purchase from the manufacturer units that could be moved virtually into place, but it would be up to the builder to adapt the home to the site. It could mean an increase in the total number of houses sold. Although a primary benefit is seen for the low-income housing market, houses can be factory produced at all prices and a market could be built in any price range.

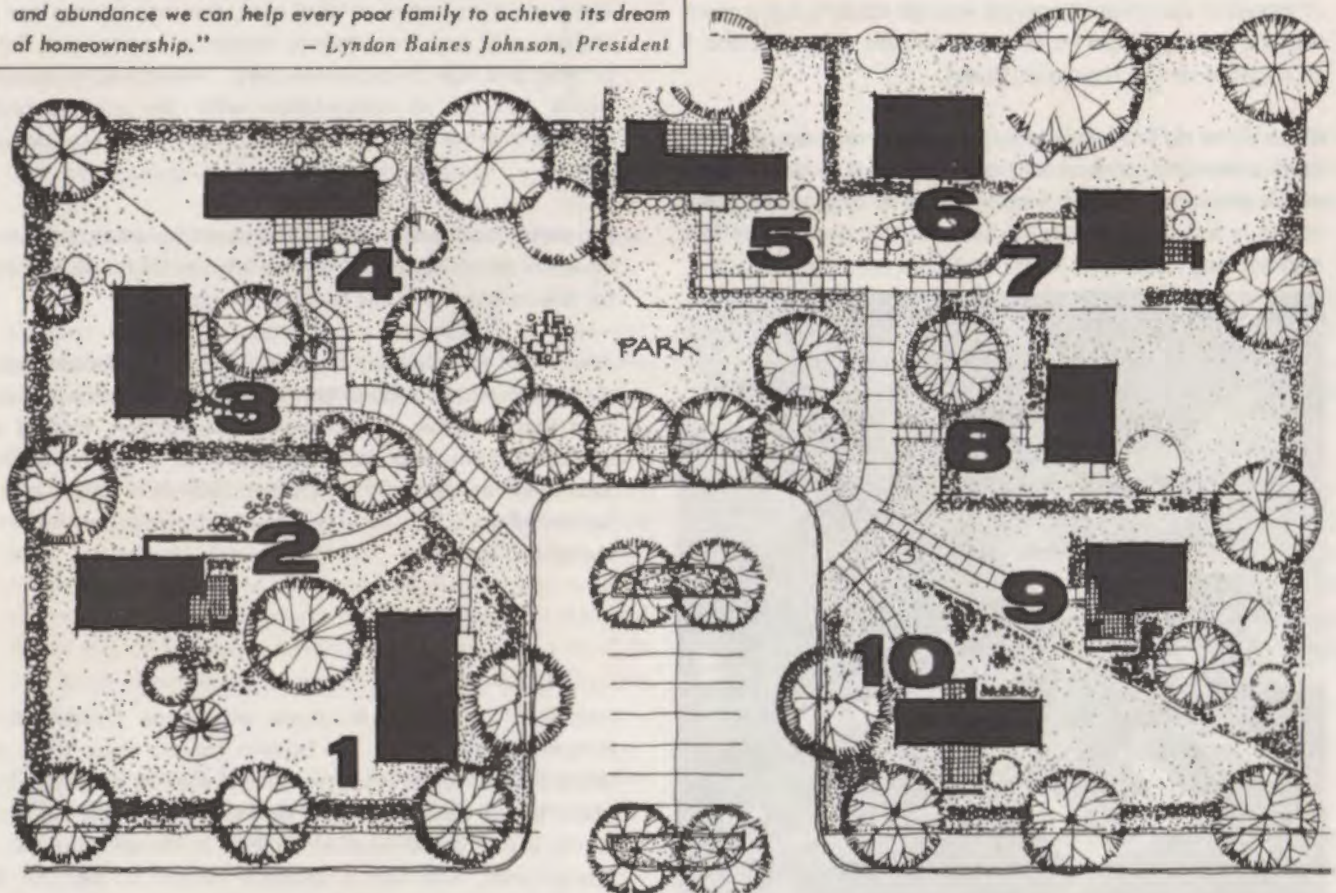
For architects and home builders, the Legislature's establishment of a Building Materials and Testing Laboratory is an opportunity for more flexibility in housing design in both structure and materials. Whereas builders are now tied to specific code provisions, the new testing facility will allow certification on the basis of performance—asking, will the wall withstand certain wind loads rather than "Is the wall 2 x 4 studs spaced at 18 inches?"

Designs or samples can go to the laboratory for testing and evaluation, an objective third party laboratory for the first time in Texas.

A step forward in meeting housing problems has been taken by the 62nd Texas Legislature. Industrialized housing was not placed before the session although the Commission endorsed a uniform code in its interim report. But with the rising national demand for low cost housing and the accompanying political pressures, a future Texas Legislature may want to take a closer look at this proposed solution. 🏠

austin oaks

"If we succeed here, then one day in this Nation of so much wealth and abundance we can help every poor family to achieve its dream of homeownership."
— Lyndon Baines Johnson, President



This is an unusual experimental housing project. It represents some of the best approaches available for producing very low-cost housing—new ideas, new materials, and the finest in technical skills. These houses offer opportunity to low-income families for home ownership.

The project was undertaken by the Department of Housing and Urban Development who negotiated with the University of Texas to handle the project. We hope you will examine these houses from two points of view:

1. What they do for the families who occupy them, and
2. What similar houses produced in great volume could do for lower income families in your community.

Prices quoted were supplied by the contractors; for further information please communicate directly with them.

Extensive landscaping creates a restful and pleasing atmosphere and adds natural beauty to the development. Not only will the trees be beautiful because of their growth habit and the texture of their foliage; but they will be cool and refreshing in the summer. The lawn areas have been seeded with winter rye grass for a luxuriant green carpet for the winter months and over seeded with Bermuda grass for the summer months.

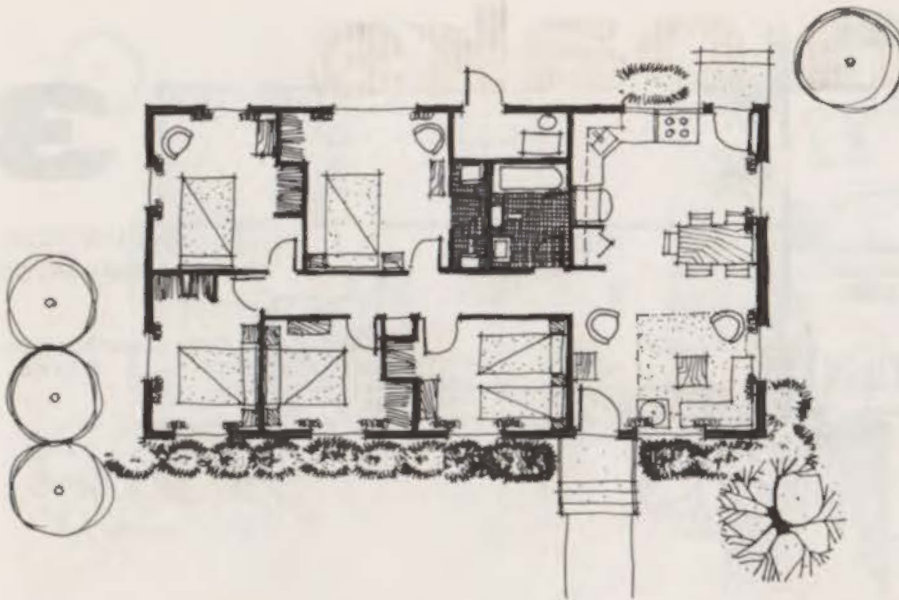
J. Neils Thompson was Project Administrator, William B. Saunders, A.I.A., Construction Coordinator and Architects Alan Taniguchi and Robert Mather Architectural Studies Research.

Editor's Note: The University of Texas role included not only coordinating the project and observing construction details, cost and techniques but also architectural, sociological, and psychological evaluation of the homes in use. The "Texas Architect" will publish home owners comments and results of the U.T. Survey in a future issue.

1

SAM INDUSTRIES

PLYWOOD PANELS - HONEYCOMB CORE
960 SQUARE FEET \$7000±



Foundation is spot footings and piers. House constructed with plywood "stress-skin sandwich panels" with honeycomb core. Built in factory in two parts and put together with lag bolts and butyl caulking compound and hauled in on trucks. Site work, foundation and exterior plumbing started six days prior to shipment of house from Florida. One more day to move house onto foundation, two to three days to touch up and connect utilities.



The construction time is four weeks on job. Foundation is drilled piers and perimeter grade beams. Concrete floor slab. Concrete frame, precast post, lintels, and beams.

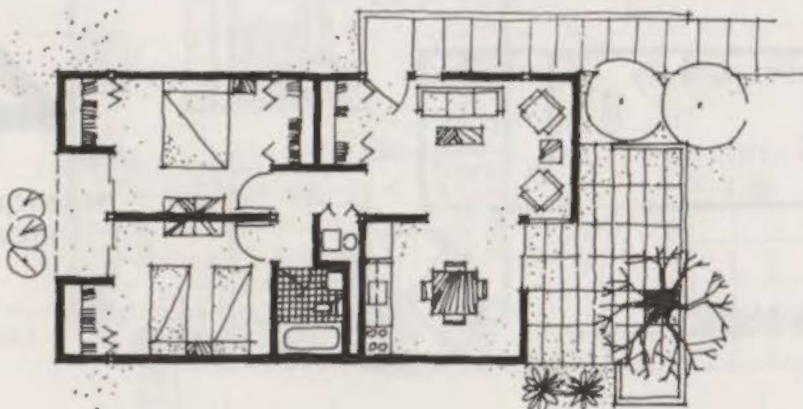
The roof is precast slab—2" concrete, 2" insulation, 2" topping slab. Elastomeric Roofing Membrane. The exterior walls are 2 x studs between the precast columns. Gypboard sheathing, texture 111 plywood, fiberglass insulation, and gypboard interior.

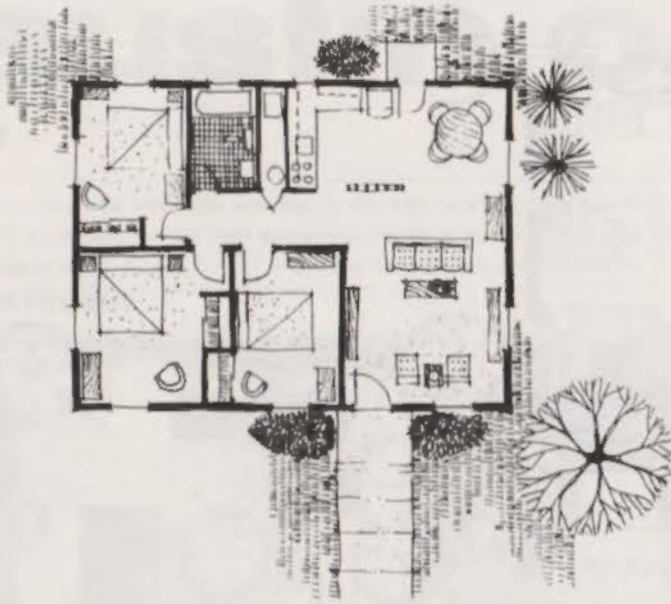


2

INTERNATIONAL CONSTRUCTION & MARKETING

LIGHT WEIGHT CONCRETE
705 SQUARE FEET \$7000±





3

INDUSTRIAL LAMINATES

FRAME PANELIZED CONSTRUCTION
929 SQUARE FEET \$1,000

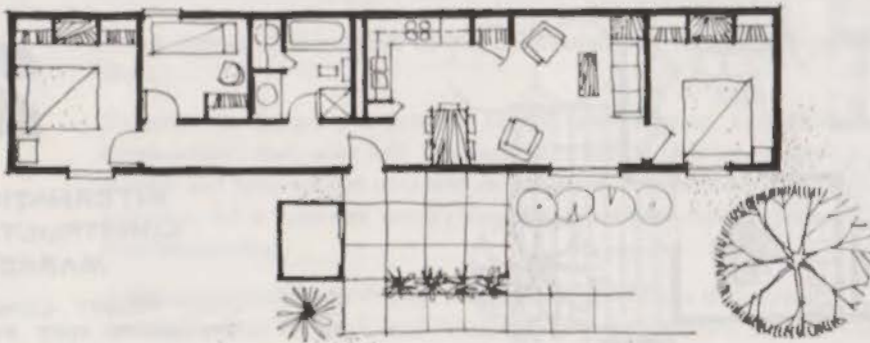


Foundation is spot footings and piers. Sills are 4 x 6 with 2 x 6 floor joist 24" o.c.

Floor deck is 1 1/8 inch 2-4-1 plywood with long edges tongue and grooved. Walls are Laminated Load Bearing Panels consisting of "Weyerhaeusers" 5/16" P-15 aluminum clad plywood exterior, 1 1/2" expanded polystyrene core, 2 x 4 wood frame, tongue and grooved long edges, and 1/2" prefinished mahogany plywood interior face.



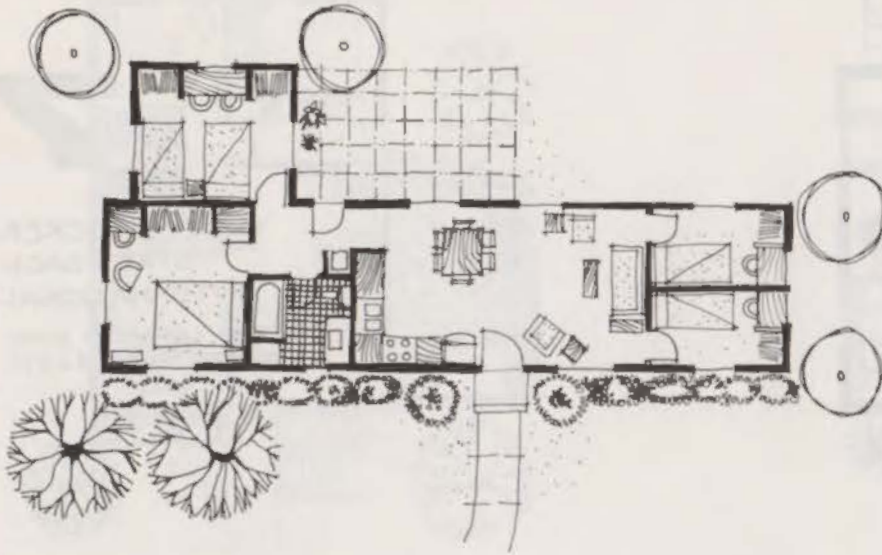
This house was constructed in the factory and shipped to the site to be placed on the foundation by crane. The foundation consists of concrete piers. The roof decking is 3/8 inch plywood covered by 28 gauge galvanized sheet metal. Exterior walls are 2" x 4" studs, 1/2" Firecode sheathing and pre-finished aluminum siding. Interior partitions are 2" x 2" studs. All interior finish is 1/4 inch Luavun plywood except 3/8" gypboard ceilings. Floor framing is 2" x 6"-16" o.c. with 5/8 inch plywood subfloor.



4

NATIONAL HOMES

MOBILE HOME TECHNIQUE
672 SQUARE FEET \$600



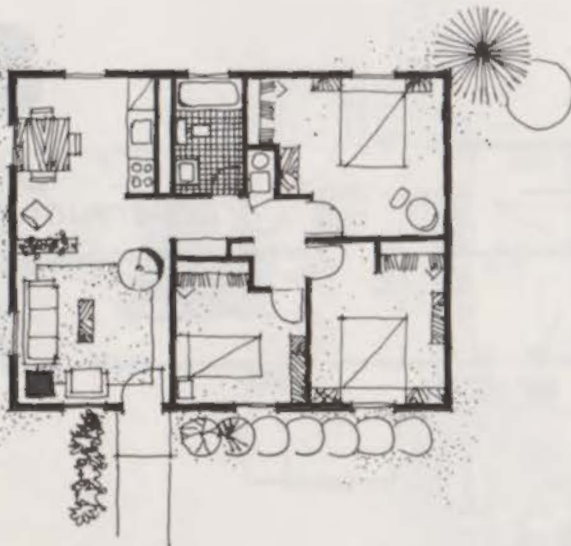
5

MAGNOLIA HOMES

MOBILE HOME TECHNIQUE
720 SQUARE FEET \$6,144

House was mobile home prefab at factory and sent to site on truck. Constructed in ten days. Foundation is concrete piers. Roof is 2 x 4 trusses, 1/2" plywood decking, covered with 235# asphalt shingles. Exterior walls are 2 x 4, exterior plywood painted and covered with Texcote. Interior walls are 2 x 2 studs, 3/8 inch gypboard prefinished with battens. Ceilings, 3/16 inch prefinished plywood. Floors are wood framing 2 x 6's with 5/8 inch plywood, covered with vinyl asbestos in all areas.

Panelized building. The panels are aluminum skin with honeycomb core. The exterior panels are 3 inches thick and the interior panels are 2 inches thick. The panels have an Alcoa Tone Cote baked synthetic enamel finish. The roof is also aluminum skin panels. The plumbing wall is prefabricated at the factory. All of the panels are 4'-0" x whatever height needed. There will be two weeks scheduling time spent in the factory, with only one day to cut all panels, three days travel time, and one week on site for foundation, utilities, and setting up of all panels.



6

BELLAIRE PRODUCTS

ALUMINUM SKIN PANELS
784 SQUARE FEET \$7,000.00



7

**DICKER
STACK SACK
INTERNATIONAL**

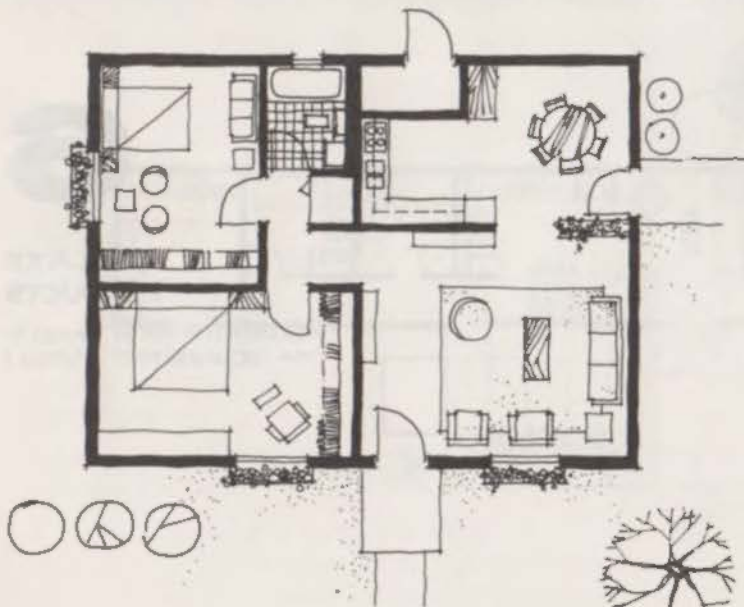
STACKED CONCRETE BAGS
676 SQUARE FEET \$4,975.



Foundation is continuous concrete beams. Exterior walls are sack, dry mix (10" reinforcing pins), after the first two layers are installed then concrete slab poured, then the exterior walls are carried up to their final height with the sacks. The sacks are sprayed with gunnite material inside and out. The exterior is painted with Glidden-Blockaid. One interior wall is sack sprayed with Blockaid and the rest of the walls are 2 x 4 framing with painted gypboard. Roof is 4 x 6's beams with 5/8 inch plywood decking covered with 1 inch celotherm with built-up roof surface. All of this house built on the job in fourteen working days.



Built completely on site in 21 working days. Foundation is concrete slab. Exterior walls are concrete block with one coat fill and one coat vinyl. Interior walls are 2 x 4's with 1/2" gypboard. Roof is wood trusses, 1/2 inch plyscore decking covered with 235# asphalt shingles. The kitchen and bath is finished with one coat sealer and one coat enamel.



8

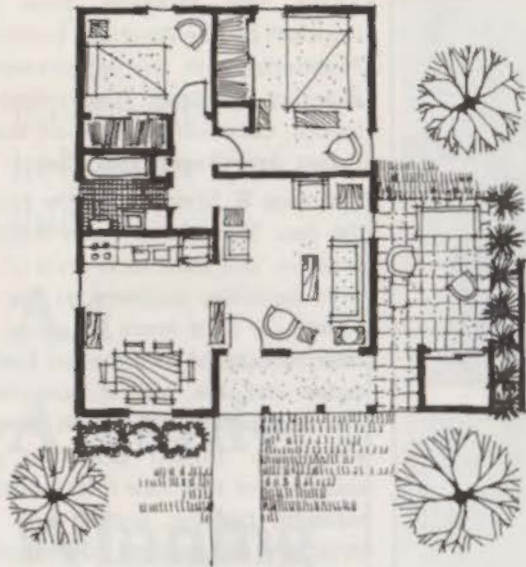
**CHANEN
CONSTRUCTION CO**

CONVENTIONAL CONCRETE BLOCK
110 SQUARE FEET \$5,000

9

CERTAIN-TEED PRODUCTS

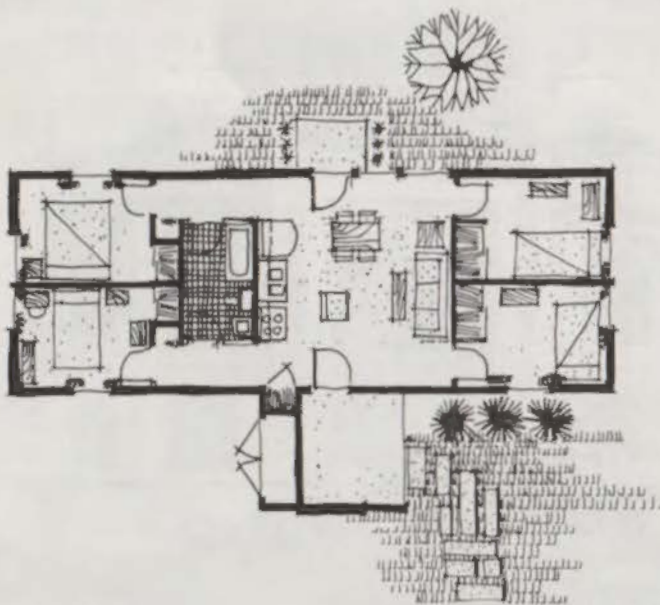
EXTRUDED CEMENT ASBESTOS
615 SQUARE FEET \$6000



Foundation is slab on fill. Exterior and interior walls are CTX post and panel system with asbestos cement extrusions. Exterior finish is acrylic latex and interior finish is paint. Roof is wood trusses, 3/8 inch plywood sheathing covered with 235# asphalt shingles. All electric. P.V.C. soil pipe and plastic hot and cold water piping.



Type of construction is panel lock system, 2 inches thick 4' x 8' with aluminum extrusion around edges. Fifteen working days or three calendar weeks on construction time. Foundation is concrete slab with styrofoam block, knock out, @ 4'-0". Hook bar placed every 4 feet. Weight of panels is 800 pounds. Prefab bath, closet, and kitchen core by the Commodore Corporation. PVC soil system. All electric.



10

LOCKHEED AIRCRAFT SERVICE CO.

PREFAB CAST CONCRETE PANELS
704 SQUARE FEET \$5,975

1971 F. W. DODGE CONSTRUCTION OUTLOOK

national estimates				
construction contract value (millions of dollars)		1970 actual	1971 forecast	per cent change
nonresidential buildings	commercial	\$9,091	\$9,350	+ 3%
	manufacturing	3,614	3,075	-15
	educational	5,233	5,500	+ 5
	hospital/health	2,823	3,000	+ 6
	public	1,016	1,250	+23
	religious	582	575	- 1
	recreational	1,137	1,300	+14
	miscellaneous	940	1,025	+ 9
	TOTAL	\$24,496	\$25,075	+ 3%
	residential buildings	one- and two-family homes	\$15,531	\$19,250
apartments		7,854	10,500	+34
nonhousekeeping		1,409	1,500	+ 6
TOTAL	\$24,794	\$31,250	+28%	
TOTAL BUILDINGS		\$49,290	\$56,325	+14%
nonbuilding construction	streets, highways and bridges	\$7,545	\$7,800	+ 3%
	utilities	4,058	5,500	+36
	sewer/water supply	3,255	3,500	+ 8
	other nonbuilding construction	3,848	3,600	- 6
	TOTAL	\$18,706	\$20,400	+ 9%
TOTAL CONSTRUCTION		\$67,996	\$76,725	+13%
DODGE INDEX (1967=100)		129	138	
physical volume of floor area (millions of square feet)				
nonresidential buildings	commercial	536	545	+ 2%
	manufacturing	209	185	-11
	educational	195	196	-
	hospital/health	76	77	+ 1
	public	29	34	+17
	religious	27	26	- 4
	recreational	46	52	+ 6
	miscellaneous	41	42	+ 2
	TOTAL	1,181	1,197	-
	residential buildings	one- and two-family homes	1,116	1,300
apartments		549	705	+28
nonhousekeeping		65	66	+ 5
TOTAL	1,730	2,073	+20%	
TOTAL BUILDINGS		2,891	3,270	+12%



Three new programs have been launched by The American Institute of Architects, with the appointment of directors for State Government Relations, Continuing Education, and the Codes and Regulations Center.

Lawrence S. Stinchcomb, the head of the new State Government Relations program, will assist local units of AIA with legislative problems at the city, county, or state levels by acting as a clearinghouse of information from all states and the federal government. The Continuing Education program will work toward preparing professionals for their new roles in areas of research, housing, project and construction management, development, and urban and regional planning under Dr. Stuart W. Rose.

James R. Dowling, Director of the Institute's new Codes and Regulations Center, is in charge of developing the new AIA codes center as a clearinghouse for information, which also will promote architects' involvement in effecting changes in codes and regulations to assist in improving the man-made environment.

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An Award- Winning Kitchen!



Pictured on this page is the North Plains Hospital in Borger, Texas. This beautiful new 121-bed hospital was recently the recipient of the Food Service Magazine's Golden Laurel Award for excellence in kitchen facilities. The design of this kitchen incorporates a labor-saving and step-saving layout plan which provides for fast and efficient patient care.

The hospital's meal flow is based on a mobile central tray make-up area, with mobile proof boxes and pass-through refrigerators. The kitchen, ultra-modern and all-electric, depends largely upon so-

phisticated steam equipment and convection ovens to process food for the patients, as well as for the 50-seat cafeteria utilized by the hospital staff. There is also a larger, separate scullery department using booster heaters. Three electric ranges, two broilers and a fry kettle support the menu program with specialized applications.

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Mosher Covers The Field

This is the Texas Stadium, the new home of the Dallas Cowboys, the 1970 NFC Champions.

Located in Irving, Texas, just west of Dallas, the stadium has been designed specifically for football and the comfort of Cowboy fans.

Over 2,814 tons of Mosher steel was used in the construction of the unique roof which covers the seating area but not the field. Its arch design eliminates the need for posts giving a clear view of the game from any area in the stadium.

Covering a width of 625 feet and a length of 780 feet, the seating capacity of the structure handles up to 65,000 attendance.

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REYNELL PARKINS

Associate Prof. Reynell Parkins of the UT Austin School of Architecture and Mrs. Parkins have been named Danforth Associates and cited by the Danforth Foundation of St. Louis, Mo. as being among 175 couples throughout the U.S. "whose gifts in teaching and human relations, whose interest in students as persons, and whose sensitivities to values derived from religious faith and ethical concern, demonstrate a capacity for distinctive leadership among American youth."

WOLF HILBERTZ

Visiting Associate Prof. Wolf Hilbertz, University of Texas School of Architecture, joins distinguished architects Moshe Safdie, Paolo Soleri, Ian McHarg, Ralph Knowles and Buckminster Fuller invited by the U.S. State Department to submit material for a traveling exhibit in Europe. Hilbertz is a specialist in form/space manipulation and the new cybernetic architecture known as cyberecture. His material submitted for the exhibit concerns "an attempt to formulate a conceptual framework for an evolutionary environmental system. Life is a self-regulating process. All living systems tend to adapt themselves to a set of specific purposes by evolution which results from internal and external selective forces. Organizational patterns and mechanisms created by evolution, in turn, make the evolutionary process possible. Thus all existing forms of life constitute an enormous wealth of experience from which we can draw. If we examine and consciously integrate the principles and mechanisms of evolutionary processes into technology, we will discover man-made and machine-made environments with new unheard-of capabilities. We can no longer analyze, conceive and create isolated elements and processes. We must examine the effects of elements upon each other and properties of entire systems, their performance depending on various degrees of complexity."

PAUL M. TERRILL, JR.

Paul M. Terrill, Jr., AIA, associate partner of Neuhaus & Taylor/Architects and Planning Consultants, has been named director of the firm's Dallas office.

STACEY SMITH, JR.

Dallas Architectural firm of Boyter & Smyrl, Inc., Architects - AIA, announces that Stacey Smith, Jr., has joined the firm as an Associate Partner.

JOINT VENTURES

On August 6-7, 1971, Southern Methodist University and the Practicing Law Institute will offer "Joint Ventures in Real Estate" designed for those who wish to appraise themselves of the latest developments in the real estate industry. For further information regarding this course, please contact Judy Witherspoon, Conference Coordinator, at Area Code 214, 363-5611, extension 639.

AIA SCHOLARSHIPS

David Maldonado and Alfred Munoz of Austin attending University of Texas (Austin) and Hurdis Rhodes of Houston attending Prairie View A&M have been named among thirty 1971 recipients of the American Institute of Architects/Ford Foundation architectural scholarship program.

The program attempts to give scholarships, not just to those youths in financial need, but to those who otherwise would have no opportunity for a professional education.

The goals these students profess—to help rebuild America's cities and ghettos and to help their own people—are as impressive as the talents they possess.

The students were selected from over 100 nominated by architects, high school counselors, civic organizations, community design-development centers, and government-aided programs such as the Neighborhood Youth Corps.



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HOUSING

The American Institute of Architects has urged Congress to grant the Department of Housing and Urban Development (HUD) full funding as authorized in the Housing Act of 1968. Any less of an effort will prevent reaching the goals of the Act—to solve the housing crisis and provide decent places to live for all Americans.

Testifying before the House Appropriations subcommittee on housing, the

AIA said "We share the exasperation of many who are dismayed that the Administration is withholding funds for housing and community development appropriated by Congress and approved as Public Law by the President." Congress should continue to express its commitment to meet the housing needs of our country by appropriating the necessary funds despite this present action of the administration. Architects across the country

have thousands of units of housing on their office shelves representing a part of the tremendous backlog of applications now languishing in the pipeline. These units cannot be built without funding and until they are built, the needs of millions of Americans for better housing will go unfulfilled.

In several programs, large discrepancies exist between what the Administration is willing to spend on the social needs of housing, urban renewal, new communities, model cities, and open space and what Congress has decided could be spent for programs in these areas.

Of the \$2.6 billion authorized for urban renewal the Administration has requested less than one fourth—only \$600 million for fiscal 1972. There is now a backlog of \$2.6 billion in renewal applications which could be adequately met with full funding.

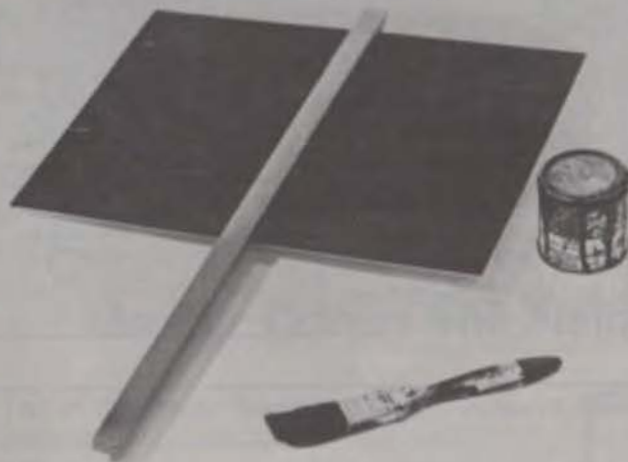
Despite concerted efforts by the Congress to make more funds available for urban renewal, a Presidential veto and the Administration's freeze on funds has permitted only a billion dollars to be (currently) allocated to local communities for removing the blight and deterioration that permeates so many of our cities.

In public housing programs, of a total of \$417 million in contract authority available in fiscal 1972 the Administration plans to utilize only \$207 million or less than 50 percent.

In open space programs, the AIA supported the Administration's request of \$200 million. There are presently only four major tools for shaping urban growth at the disposal of public agencies—zoning, major transportation, water and sewer supply systems, and open space. The use of open space to control and shape metropolitan growth has been largely overlooked as such a tool. It is just as important to determine where urbanization should not take place as it is to determine where urbanization should take place.



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