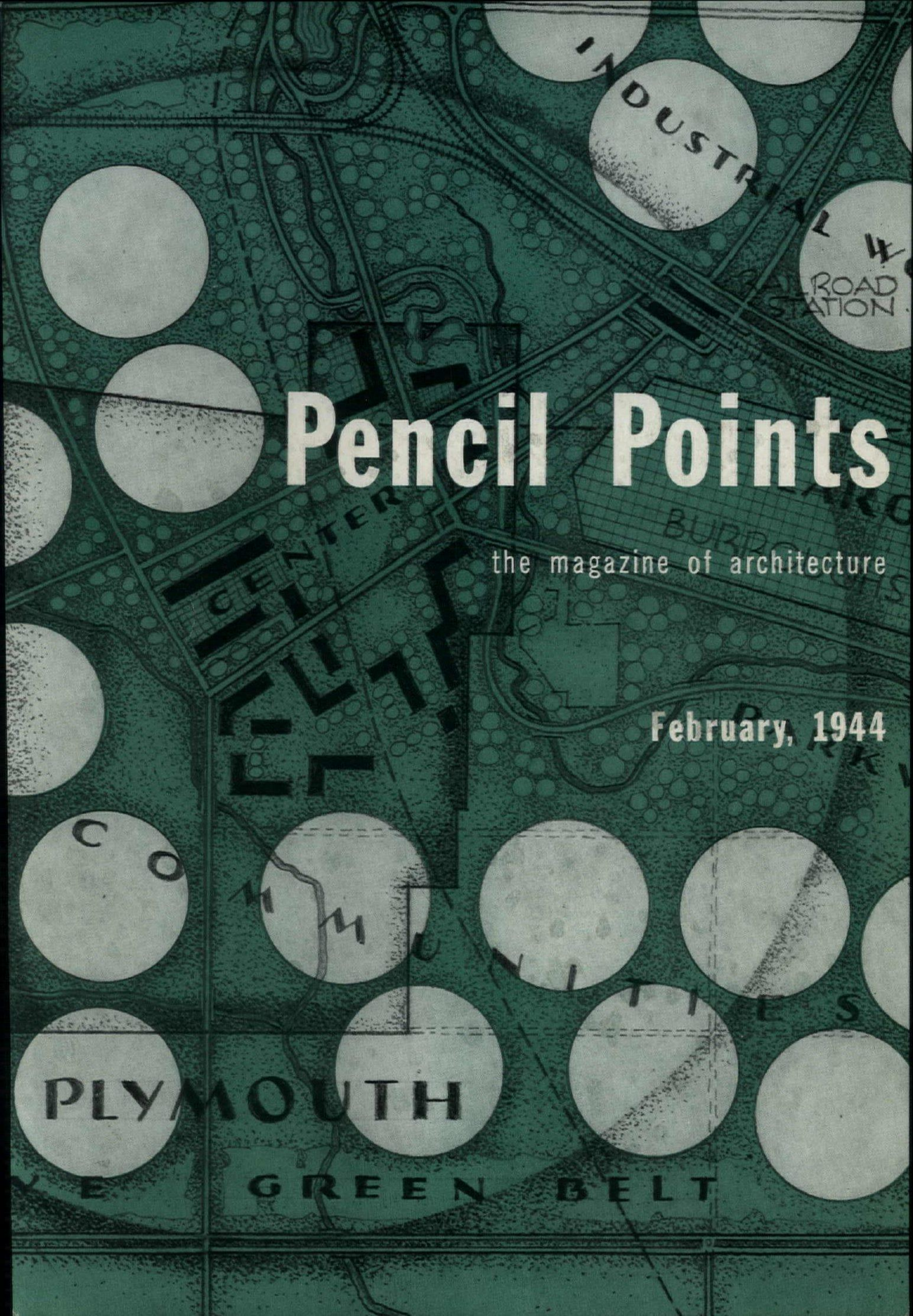
Pencil Points

the magazine of architecture

February, 1944



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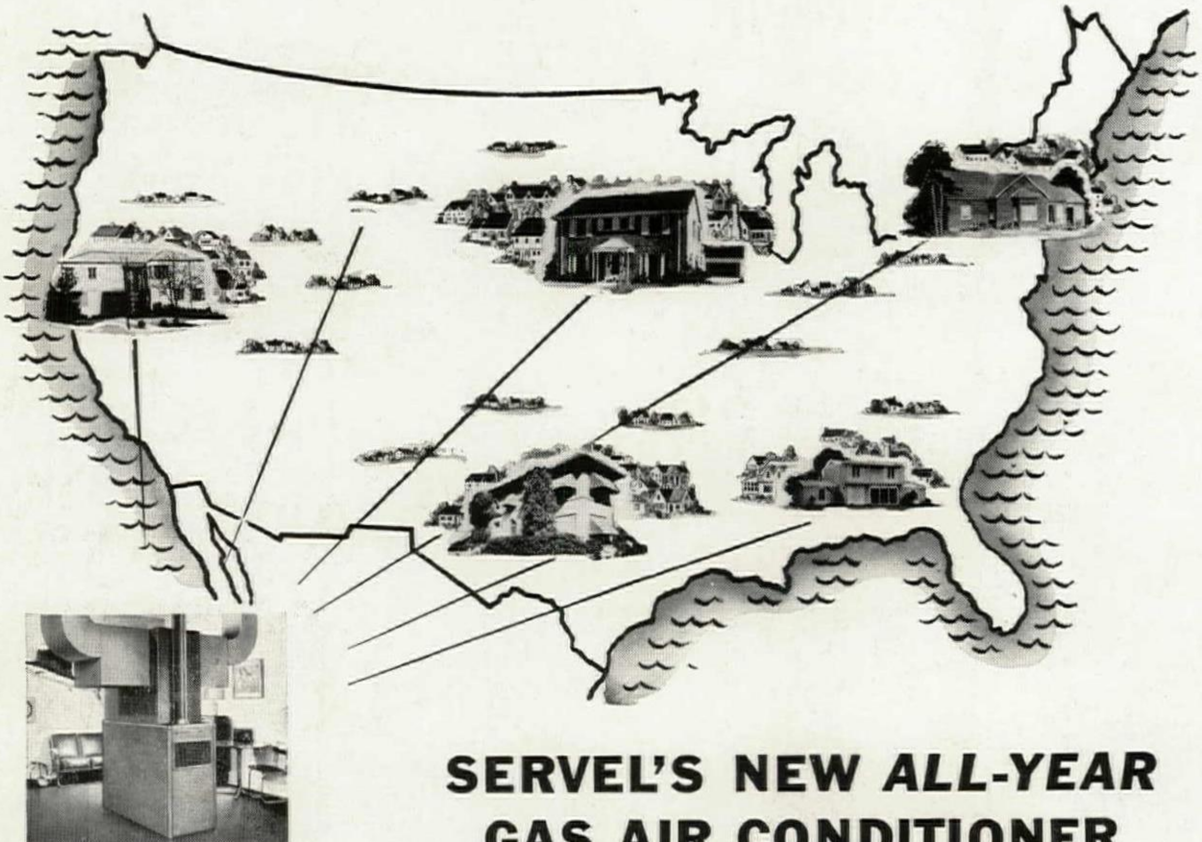

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We would like to say a word of praise and encouragement for those public-spirited manufacturers of building products who have seen the needs of the times and are vigorously advertising the thought that private postwar projects should be planned now. As readers of this magazine should know, the Detroit Steel Products Co. and the Truscon Steel Co. have been hammering away on this theme for some time in their advertising in lay publications. They have been recently joined by Edwards & Co., makers of electric communication equipment, who have also prepared (in cooperation with the Committee on Public Information of the American Institute of Architects) a booklet to be distributed to prospective home owners, urging them not only to plan their postwar homes now, but to "start right—with an architect."

A Job for Advertisers

We are so thoroughly convinced of the urgent necessity of getting an adequate backlog of planned postwar building projects ready for immediate construction following the end of the war, that we urge *all* manufacturers of building materials and equipment to consider the advisability of taking part in this campaign.

There is no need to lay again before our readers the facts and figures that have been assembled by many authoritative sources, from the Department of Commerce down, to form the basis for an estimate of the huge volume of construction that will have to provide the backbone of the postwar reconversion effort. All authorities seem to agree that the perilous period leading from war into peace will contain a threat to the national economic welfare. The reorganization of our working population, including the demobilization of a substantial part of both the armed forces and the twenty-odd million war industrial workers, must be done as speedily as the circumstances will permit. This will demand vast re-employment on construction. A vital part of the preparation for this period is the making of plans and specifications *now* by architects for all kinds of buildings, large and small, for which the need exists and can be foreseen.

A natural tendency, in the midst of the most critical year of the war, is to postpone the preparations for peace. It is right that the bulk of our national thinking and energies should be directed toward gaining Victory; yet thought and action must be taken against the dangers that lie ahead when the Victory has been won.

It is up to the architects and other planners to lead the way, not because they have a perfectly obvious and natural impulse to promote work for themselves, but because as good citizens, trained to foresight, they can appreciate the social and economic necessities of the situation.

The manufacturers likewise have a stake in the future building market, but they too can see the overwhelming social importance of getting the building industry into full swing at the earliest possible moment. We hope that those who have not already done so will soon join in a nation-wide effort to get Mr. and Mrs. America to plan now, with their architects, for their commercial, institutional, and domestic building needs.

Kenneth Reid

When emergency housing programs started, little attention was paid anything but shelter; however, after the first drastic curbs on materials and the well remembered stop-building order, the need for such community facilities as stores, offices, firehouses, schools, recreation centers, and the like became so apparent that materials restrictions were eased for the most essential buildings. Apparently the delay caused by these shifts in government policy gave architects a needed opportunity to study thoroughly problems of design and construction with the almost primitive materials available, for such structures, as they are reported to us from different parts of the country, seem to be more meritorious than the hastily built houses they serve, and in many cases better than comparable prewar structures. If this is indeed the case, it is a hopeful portent for building design when peace returns.

Cabrillo Homes

Community Building

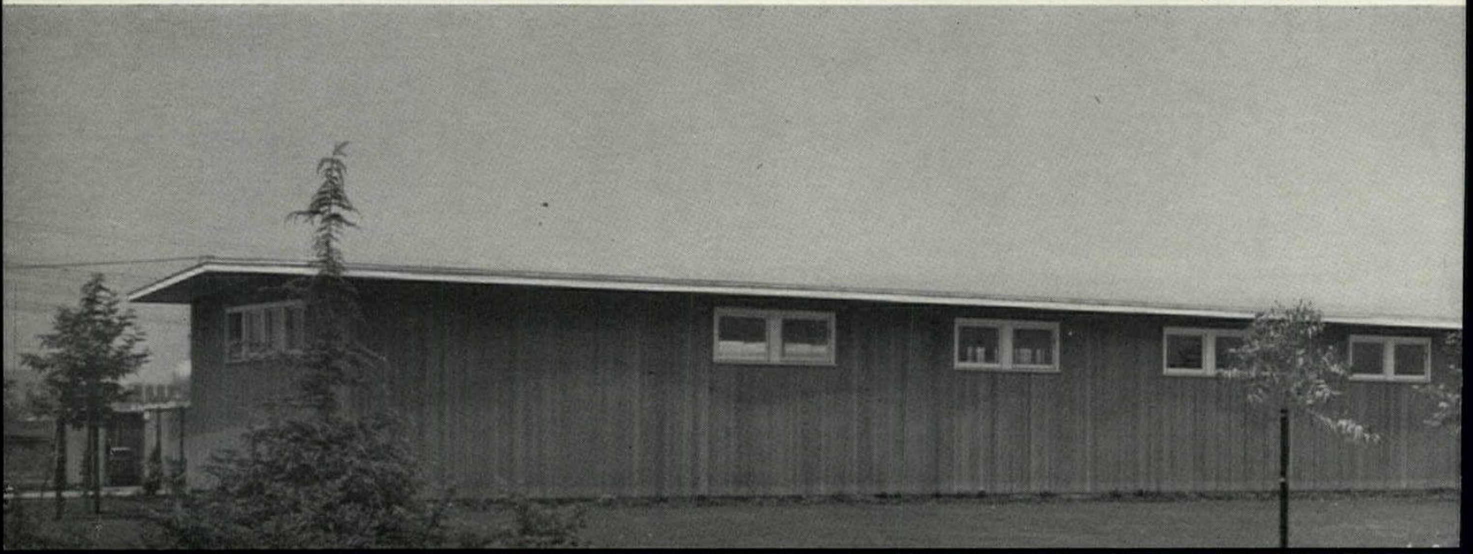
Community Facilities for War Housing: Cabrillo Homes, Long Beach, California. Walter L. Reichardt, Architect

Cabrillo Homes, an emergency project, was started in November, 1941. In the summer of 1942 the community center building was designed for a site which had been allocated to it in the original scheme. The housing which the building serves was presented in PENCIL POINTS for February, 1942.

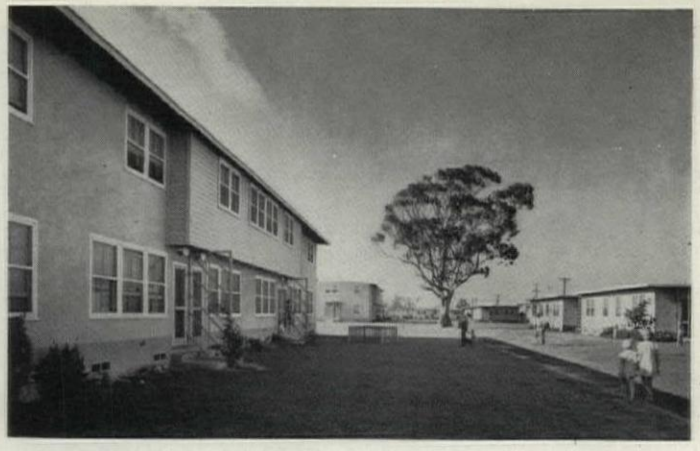
The building is a center for some 600 dwelling units. Construction costs for the entire project were kept low (approximately $2,500 or less per dwelling unit) — a consideration which also prevailed for the community building. This, instead of hampering the architect, seems to have spurred his imagination. By judicious selection from the limited materials available, by avoiding architectural histrionics and concentrating on necessities, he has created an attractive building.

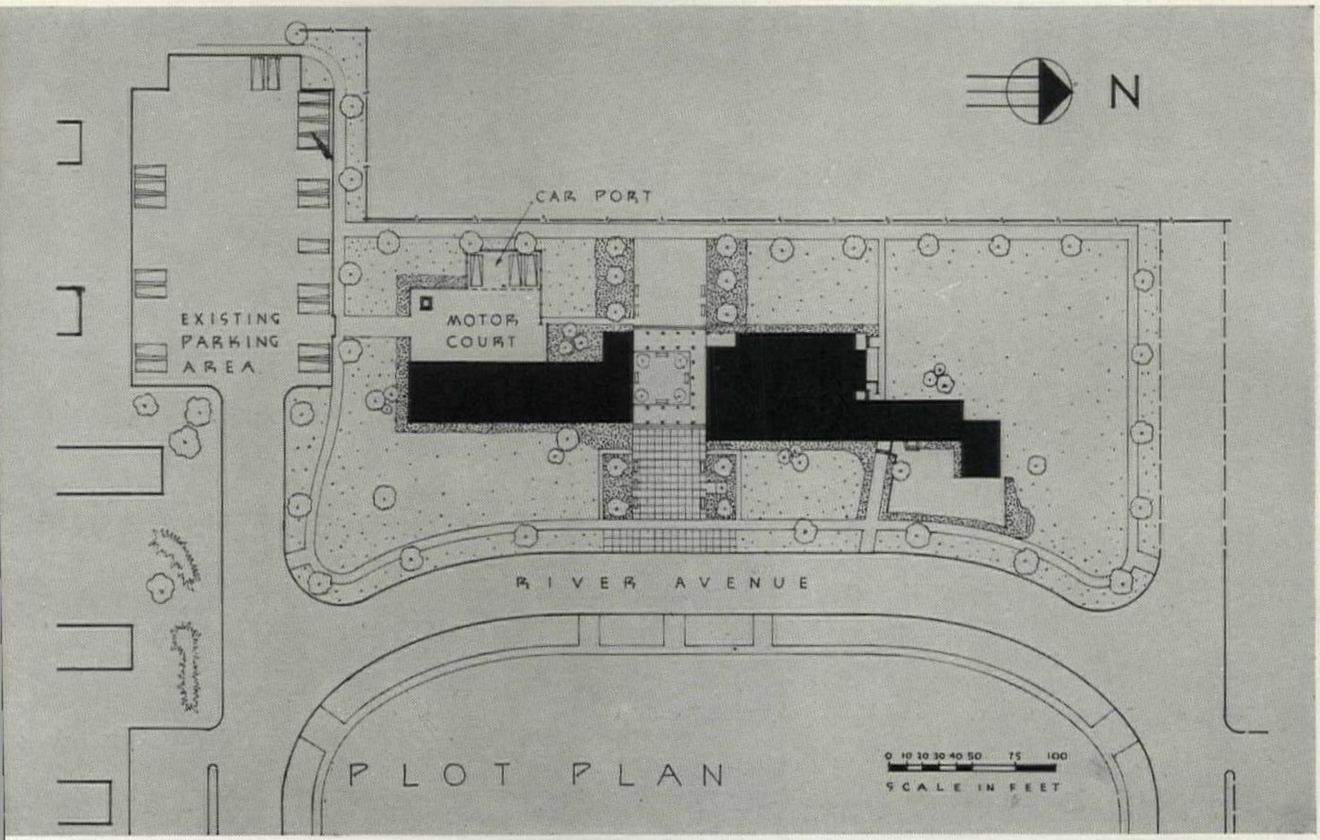
The center has administrative facilities in its south wing, community rooms in the north. The "practical" person may question the real worth of such provisions as meeting halls and activity rooms; inclusion of a baseball field might have been more understandable. It is, of course, true that community spirit does not result from artificial promotion; that swapping experiences with neighbors over the back fence or at the store is a grand way to relax individual tensions; and that some of us Americans don't want to know the family in the next apartment too well. However, the war-worker tenants of emergency housing communities have assembled from many diverse homes, and if providing a modest amount of space and equipment helps them through difficult times, the provision is wise. Community camera clubs or amateur theatricals can thus contribute to the prime purpose of emergency housing: winning the war.

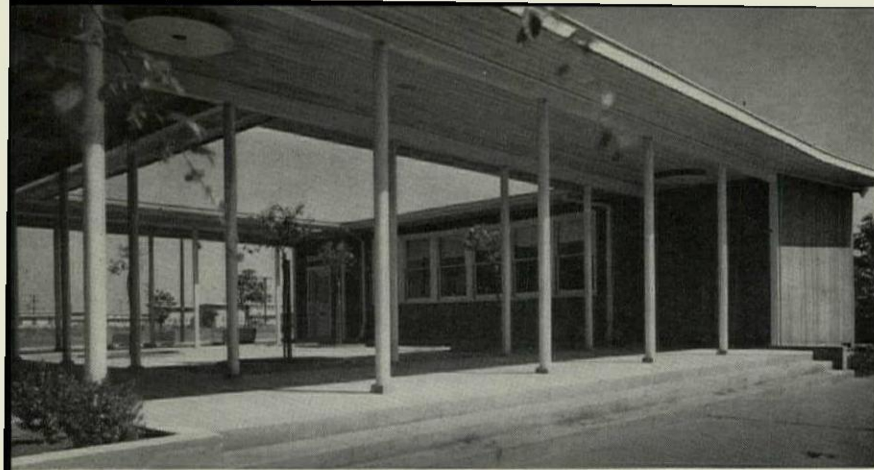
Photos by Julius Shulman



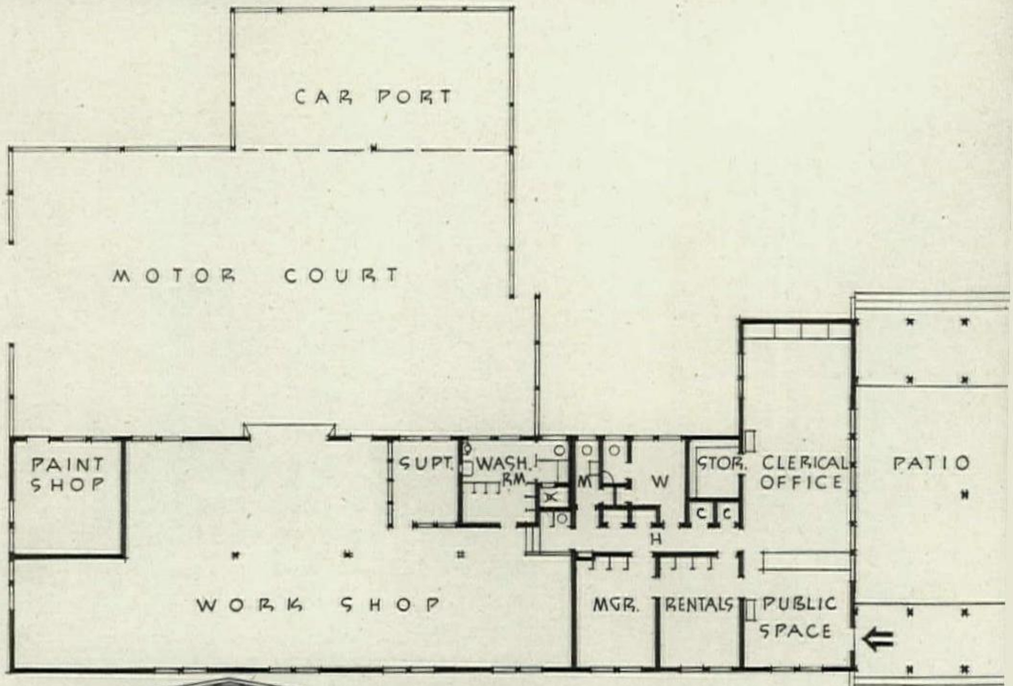
At right are typical houses at Cabrillo Homes. Single-story, double houses contain one- and two-bedroom units; two-story row houses contain two- and three-bedroom units. Density, including an additional 200 units allowed for in the original plan, is 10 families per acre. For the housing, Eugene Weston, Jr., A.I.A., was architect; Walter Reichardt was Associate. H. A. Barnett was the civil engineer; H. M. Gailey, mechanical and electrical engineer; R. H. Annin, structural engineer; Geraldine K. Scott, landscape architect.

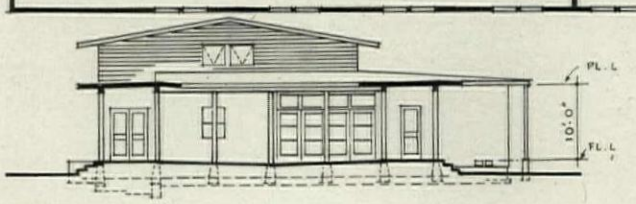






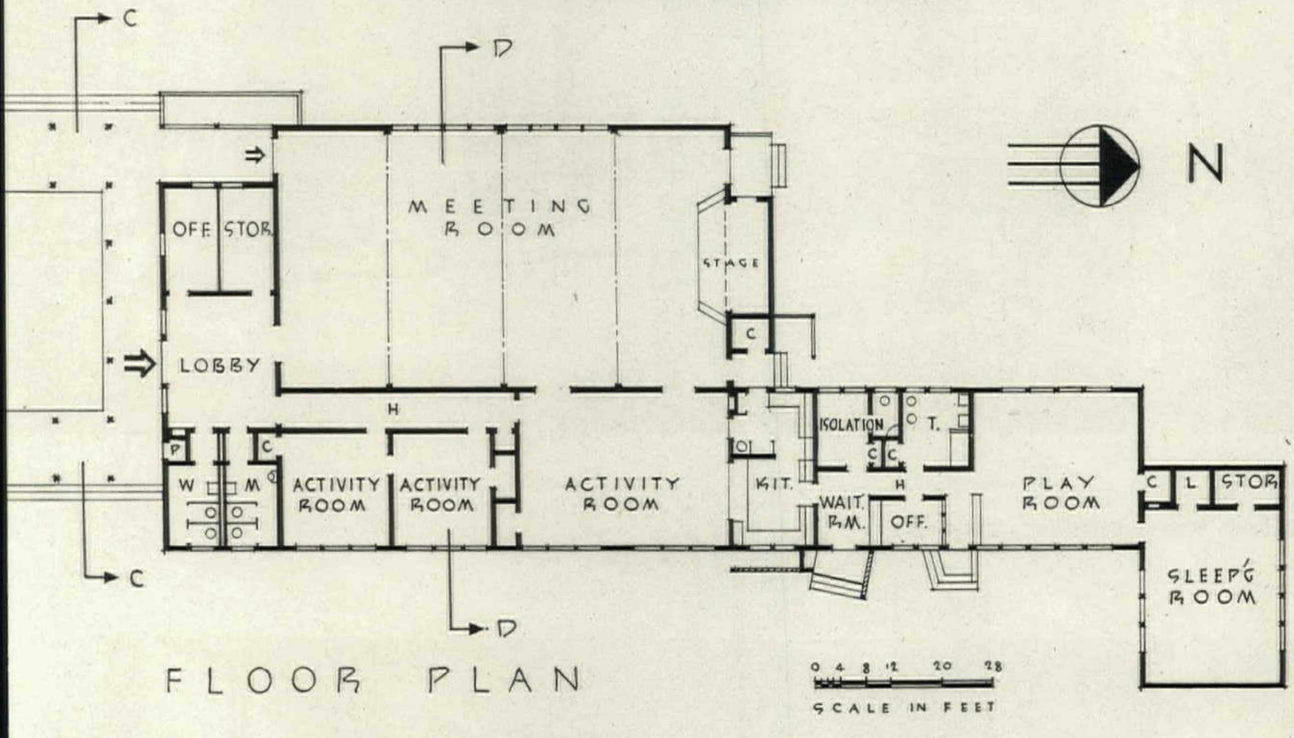
Construction of the Community Building at Cabrillo Homes, like that of most emergency structures, is extremely simple. Framing is of wood, covered on the exterior with building paper, and redwood siding placed either vertically or horizontally. Sash are of wood, double-hung. The redwood siding was given two coats of bleach, which grays the natural color of the wood. The eaves soffit and patio ceiling are stained yellow, and doors are a light tan.

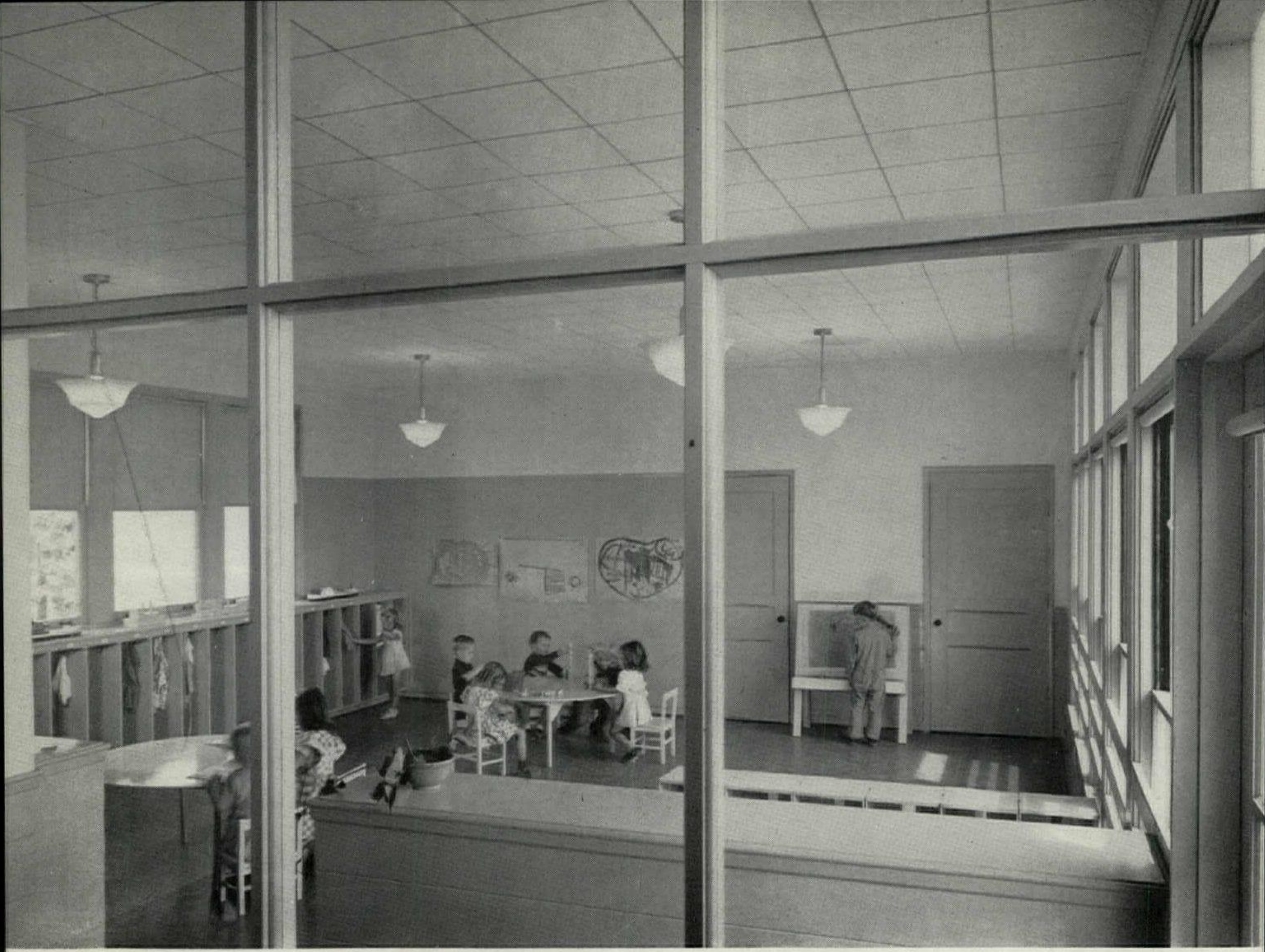




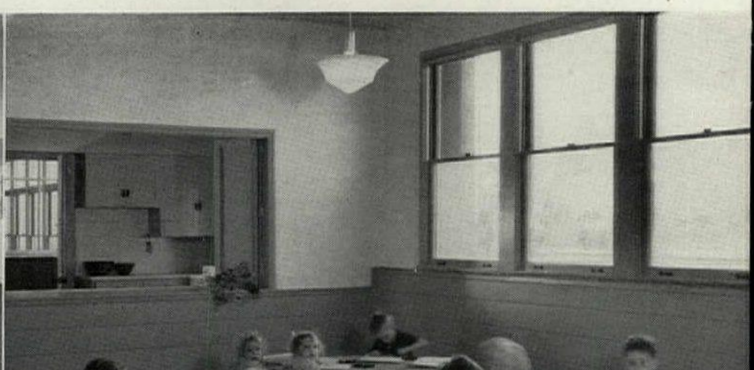
SECTION "C-C"

The patio divides the building into two parts: the south wing contains administrative offices and maintenance shops; the north, rooms for community use. Much of this wing is given over to a nursery, which has play, sleeping, and isolation facilities easily supervised from a glass-walled office. The adjacent kitchen is also used in conjunction with the nursery, and so is the largest of the three activity rooms.





Nursery, Cabrillo Homes Community Building

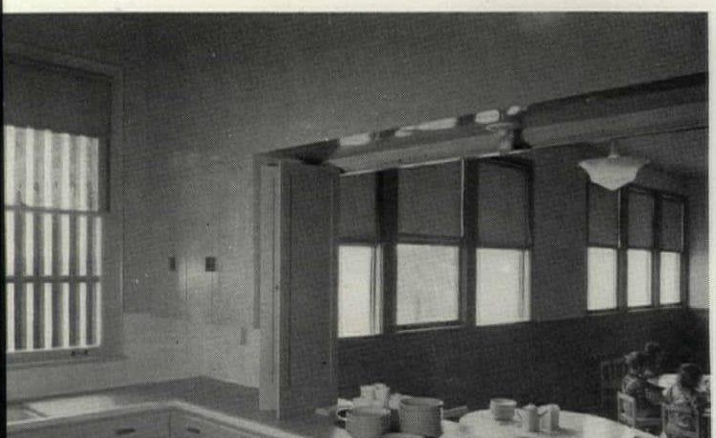


Office

Interiors of the Community Building have walls surfaced with interior stucco throughout, except where wood wainscoting occurs. In the major rooms, ceilings are of insulating tile; in minor rooms, including kitchens and toilets, stucco is used. Floors are oak in meeting room, lobby, and activity rooms; elsewhere, linoleum.

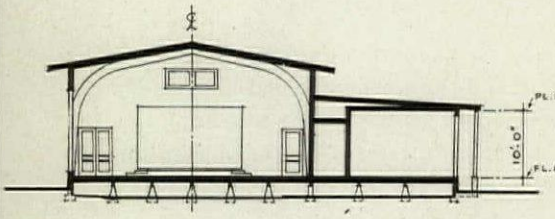
Above is the general clerical office and public space, in the administrative wing of the building. Here the stucco walls are tan, the ceiling is white, the floor is black marbelized linoleum, and the woodwork is sage green. These colors are used throughout this end of the building.

The remaining photographs on these two pages are of the nursery. In the play room the floor is of blue linoleum, and the woodwork and bulletin boards are a grayed blue. The large activity room (used by the nursery) has the same tan stucco walls; its ceiling is the natural gray-tan of the insulation, the woodwork is dark tan, and the floor oak. The kitchen has gray walls and woodwork, blue linoleum floor, and gray-and-blue tile work.



In plan and equipment the Cabrillo nursery follows good nursery school practice. and it is a pleasant, reassuring sort of place in which warworker mothers can leave preschool-age children. The large photograph, taken looking from the office into the play room, shows how the glass wall permits close yet unobstrusive supervision. Photographs at left show the play room, looking toward the office; activity room, toward kitchen; and a view from the kitchen toward the activity room. The play room has wall space where children can tack up their work, individual clothing cubicles, plenty of light, and, above all, spaciousness. What seem to be bars at the kitchen windows are the members of a trellis outside, which screens the kitchen from passers-by. In the lower left photograph there is a glimpse of the fenced outdoor play yard which is accessible from the play room.

Meeting Room, Cabrillo Homes Community Center



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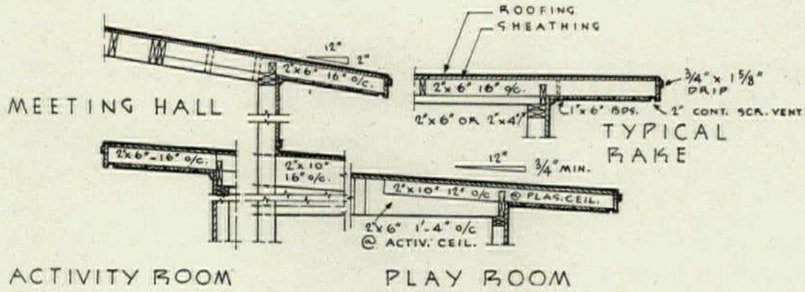
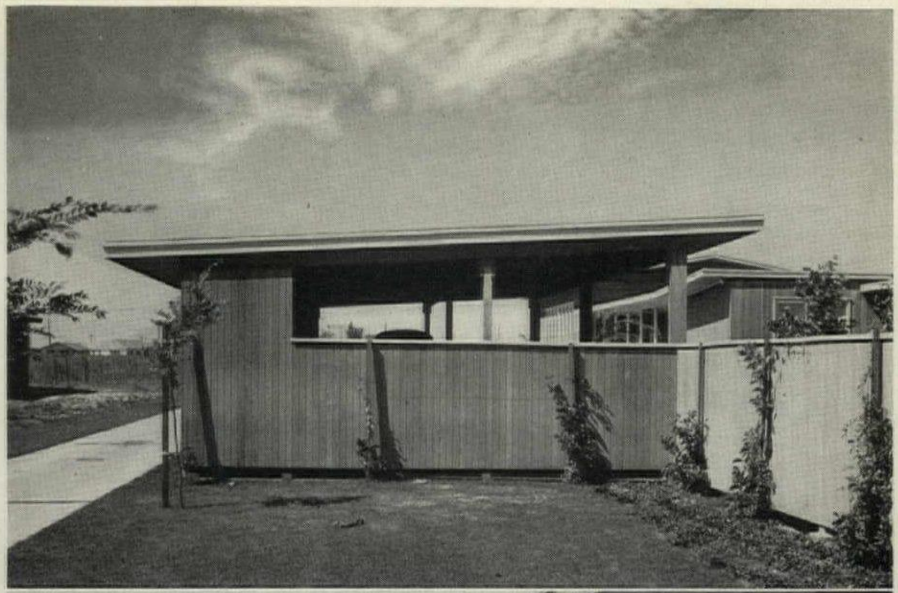
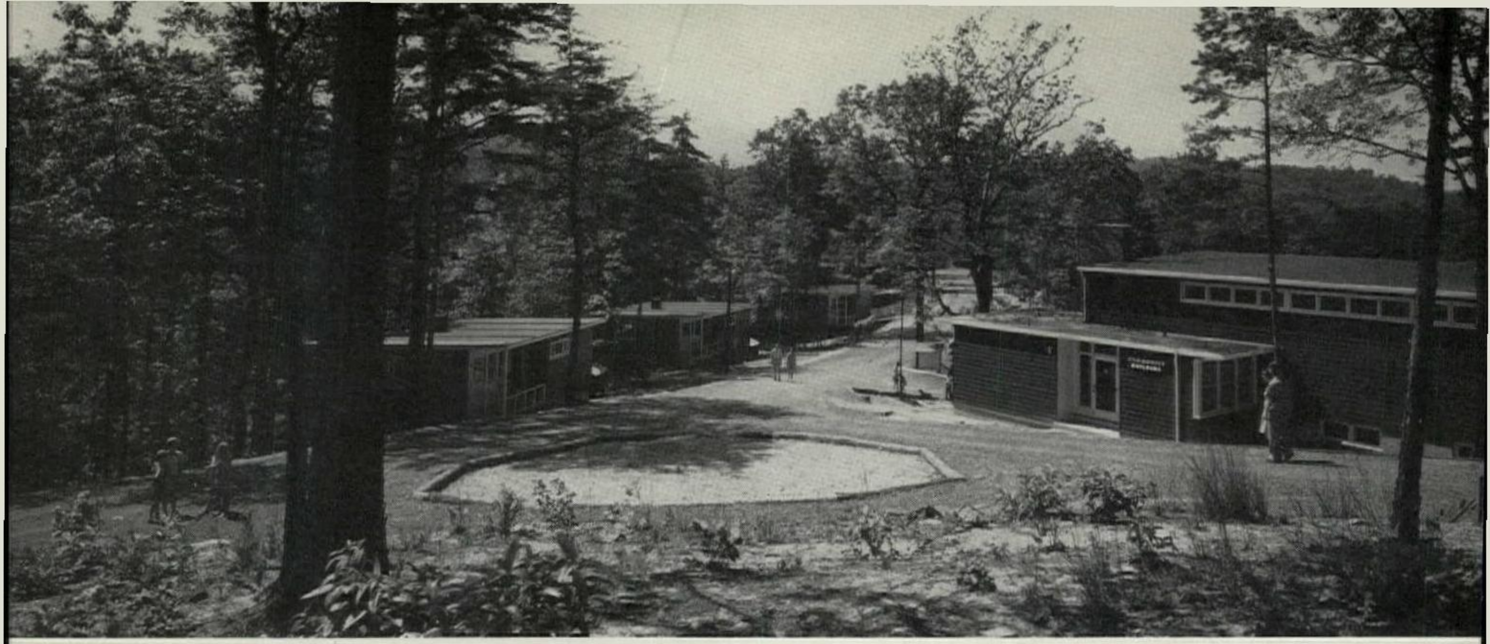


EAVE SECTIONS



Like the remainder of the project, the Cabrillo meeting room is extremely simple—a projection of the structure with no pretension. The arches are built up of 20 laminations, and are 1 ft. 3 in. deep at the curve, 7¼ in. thick. The triangle between the haunch, roof, and wall is filled in with tongued and grooved boards to eliminate a dust-catcher. Purlins, 2 by 8 in., 16 o.c., rest on the arches. The ceiling is ½-in. acoustic tile, left its natural color.

Above are two minor appendages of the Cabrillo Community Center: top, the car shelter in the motor court beside the maintenance wing; bottom, screen barrier between the nursery entry and playground. In these the architect has gone straight to the point with his architecture, exactly as he has in the entire structure. In the whole building the strictest economy has been observed as to materials, but this has *not* resulted in a poverty-stricken building. It is honest, dignified, with even a certain elegance to give the people of Cabrillo Homes pride in their surroundings—yet nowhere is pretense visible. The center has its shortcomings, it is true; for instance, foresight might have led officials or the architect, whichever had the say, to insist upon more and better-organized play rooms, so that it would be easier to use and supervise them. Converting what was obviously planned as an activity room for adults into a playroom must complicate the nursery organization. Despite faults, however, this is a building to be proud of.



Smith Creek Village

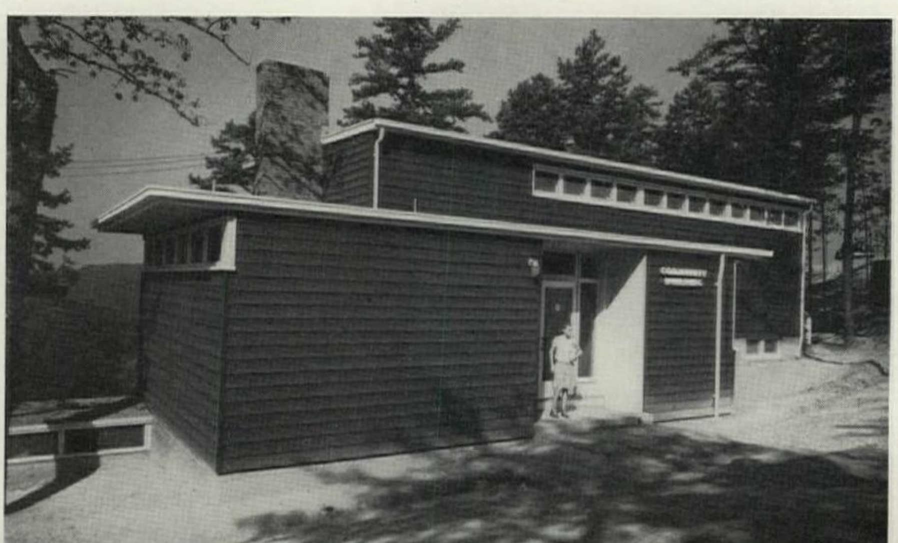
Community Center

Apalachia Dam, Tenn., Tennessee Valley Authority; Roland A. Wank, Head Architect

Smith Creek Village is composed of just 20 single-family houses for operations and safety service personnel at TVA's Apalachia powerhouse. Its community building is designed to provide resident employees a reasonable opportunity for wholesome group activities outside of their working hours, including entertainment, training, recreation, and social gathering. The typical American country store and post office are well known as natural gathering places. This, and matters of convenience and economy, led to their inclusion in the building. A listing of the elements of the plan will indicate how shrewdly the designers have contrived to make certain that this building will be intensively used: School room (serves also as community room), 23 by 36 feet; general (food) store; post office; shop; training office; large, open terrace; necessary utility areas, including toilets, storage rooms, boiler room.

The community building is centrally located in the village, at the point where the road leading from the main highway to the powerhouse intersects the village roads which follow the top of a ridge. The site is a hillside, which led to an interesting development, with store and terrace at one level, the wide-windowed classroom above, and entrance halfway between.

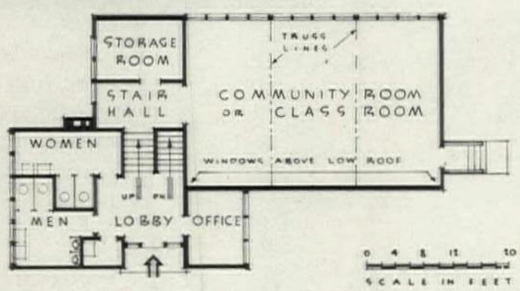
The terrace is conveniently located in relation to the entrance and large display windows of the general store. It forms an open-air gathering place for the village residents and is enhanced by the many nearby shade trees,



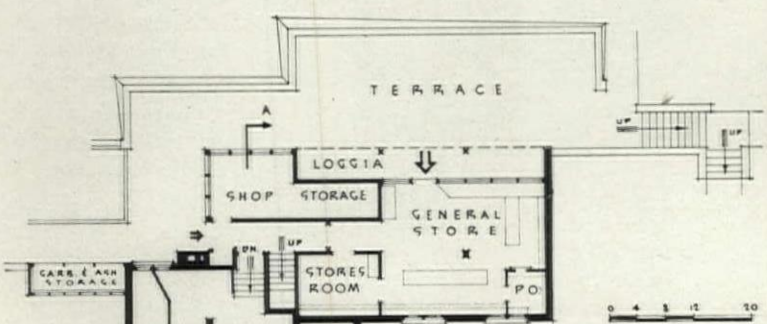
the facinating distant views of the Kimsey and Smith Mountains and the surrounding wooded hillsides of the Cherokee National Forest. Service access to the building is provided adjacent to the boiler room.

The building is of conventional frame construction, with permanent brick foundation walls, on concrete footings waterproofed with a bituminous compound on the exterior face below grade. Exterior walls are of studs with horizontal shiplap siding applied over 15-pound, asphalt-saturated felt on wood sheathing laid diagonally. Interior wall finish in the main entrance lobby and stair hall is Douglas fir plywood; elsewhere, plaster board is used except in boiler room, where asbestos-cement board is used for fire-protective purposes. Oak strip flooring is used throughout the building except in the boiler room, general food store, post office, and shop on the ground floor, where a 6-in. concrete floor slab, with a troweled monolithic finish, scored in squares, is laid over 8 inches of tamped gravel.

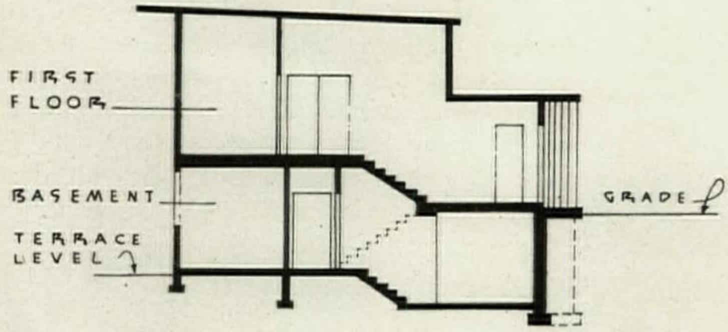
The roofs are covered with a 3-ply built-up composition roof, with metal flashing, gutters, and downspouts.



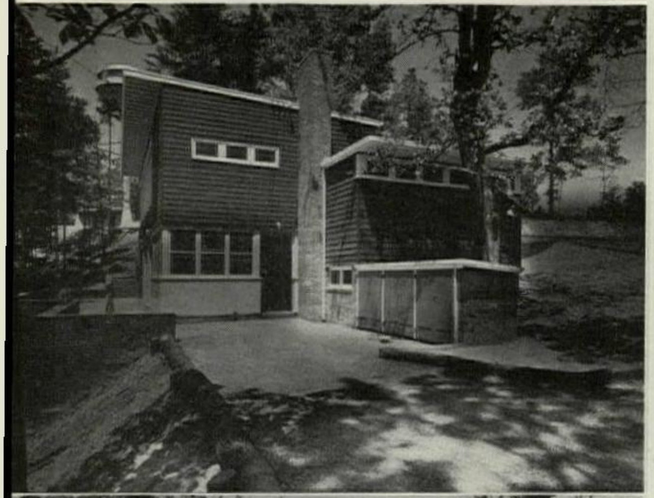
FIRST FLOOR PLAN



BASEMENT FLOOR PLAN



SECTION "A-A"



The building is heated, from a steam boiler, by two blower-type steam unit heaters in the community room and by radiators elsewhere. A 30-gallon electric water heater and tank supplies hot water. Plumbing pipes are concealed, and protected by anti-freeze pipe covering and insulation in exposed locations. A concrete septic tank with open-jointed drain tile lines provides sewage disposal. A 230-115 volt single phase 3-wire 60-cycle electric service entrance line provides the electrical energy to accommodate the connected load of 15.3 kilowatts for lighting fixtures and electrical appliances.

The brick foundation walls and chimney are unpainted; the horizontal siding of the main body of each wing is stained with a red-brown oil stain; vertical shiplap walls at shop and general food store, posts supporting community room overhang, cornice soffits, and reveals at general store and main entrance are painted yellow; window and door trim, window sash, sills, trim, mullions, and cornice fascia are stained white; metal gutters, downspouts, porch railings and wood letters at entrance are painted white; porch floors and stair treads are painted gray while stair risers and stringers are stained red-brown to match the main exterior walls; exterior doors are enameled royal blue.

Interior walls, except in main lobby, stair hall, and toilet rooms, are painted powder blue; lobby, stair hall walls, and interior trim except in community room are varnished natural wood color; toilet rooms are unpainted asbestos-cement board with interior trim painted royal blue; ceilings throughout and trim in the community room are painted white; interior sash and doors are painted royal blue; exposed clear-span wood trusses in the community room are varnished natural wood color.

Community Facilities in the Oregon-Washington Area

Maintenance Shops, Administrative Center, McLaughlin Heights, Vancouver, Washington. Roi L. Morin, A. I. A., Architect

This maintenance unit is part of the community center of which the administrative, health, and social group was shown in the August, 1943, issue of NEW PENCIL POINTS. The maintenance compound is about 1000 feet from the other group, a division which was made necessary by the size of the community facilities required. In the McLaughlin Heights administrative group are centered the controls for all housing under the jurisdiction of the Housing Authority of the City of Vancouver—some 10,000 dwelling units and 8,000 dormitories.

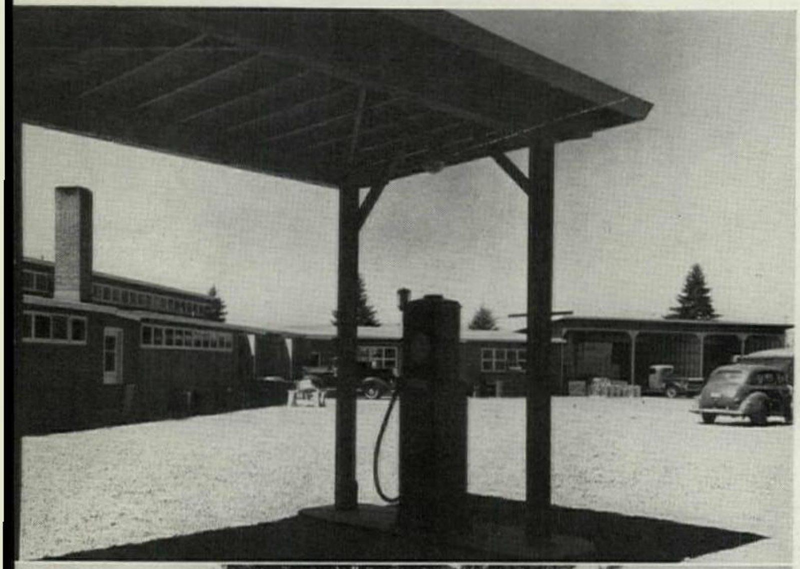
The design problem was complicated not only by the size of the community served, but also because no standards existed upon which to base design, and because requirements became larger while construction was proceeding, so that some maintenance and service buildings had to be enlarged while they were being built.

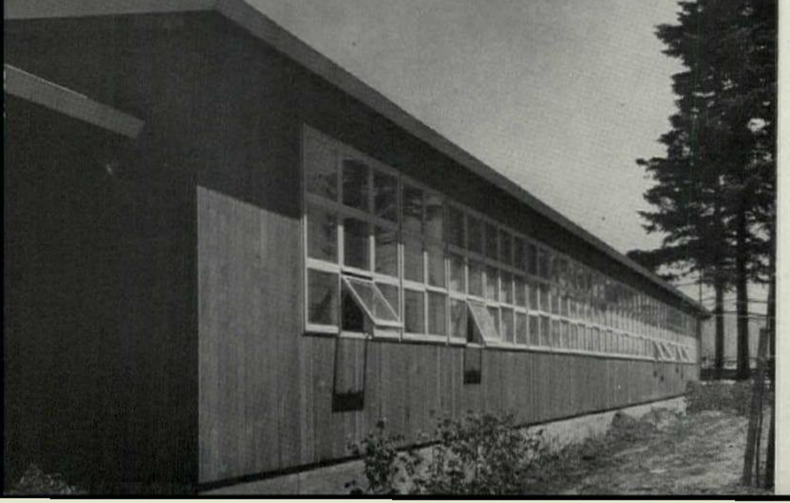
The architect was assisted by Eyler Brown, Harlow Hudson, and Wallace Hayden of the University of Oregon. Thomas E. Taylor was the mechanical engineer; George Pettingell, electrical engineer; Josephine L. Matsler, landscape architect.

Below are, at left, a general view of the administrative-health-social group and, right, typical McLaughlin Heights dwelling units.

Photos by Leonard Delano

PLOT & FLOOR PLAN

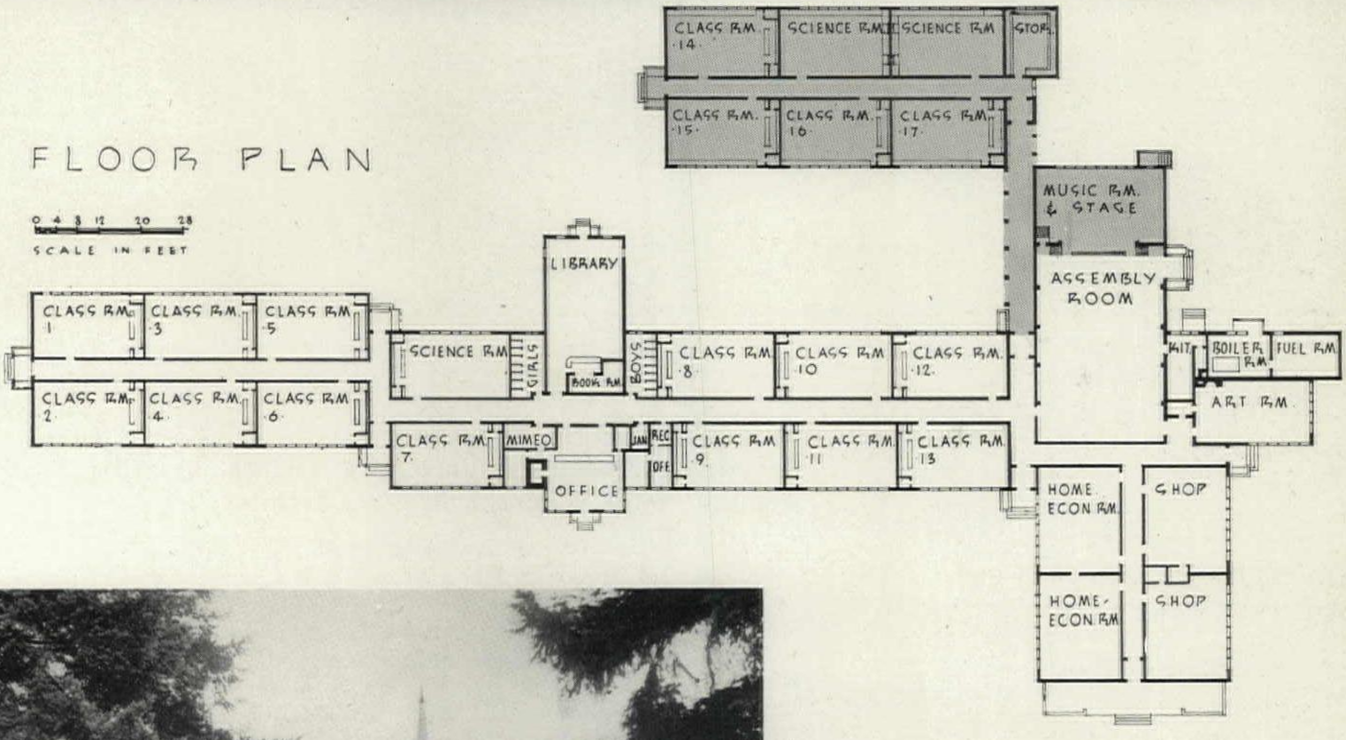


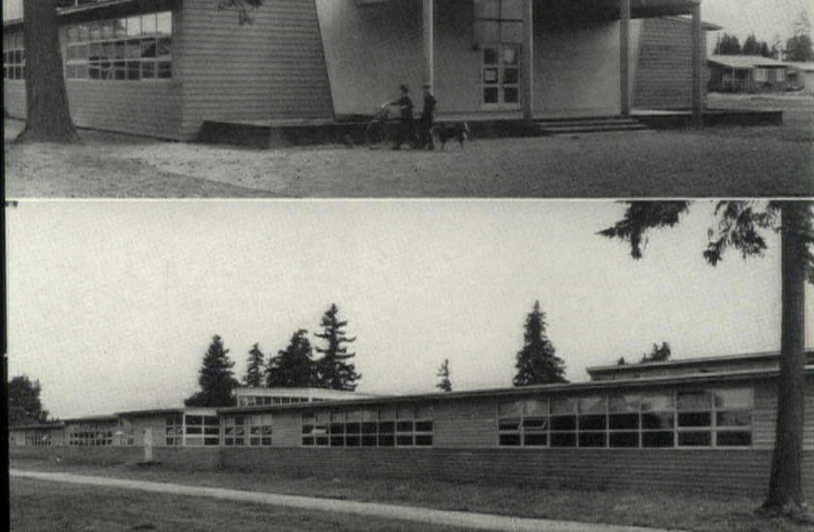


At left are, top, a view from the firehouse at the south side of the compound; center, sheriff's office adjoining the fire house; bottom, the long storekeeper's wing.

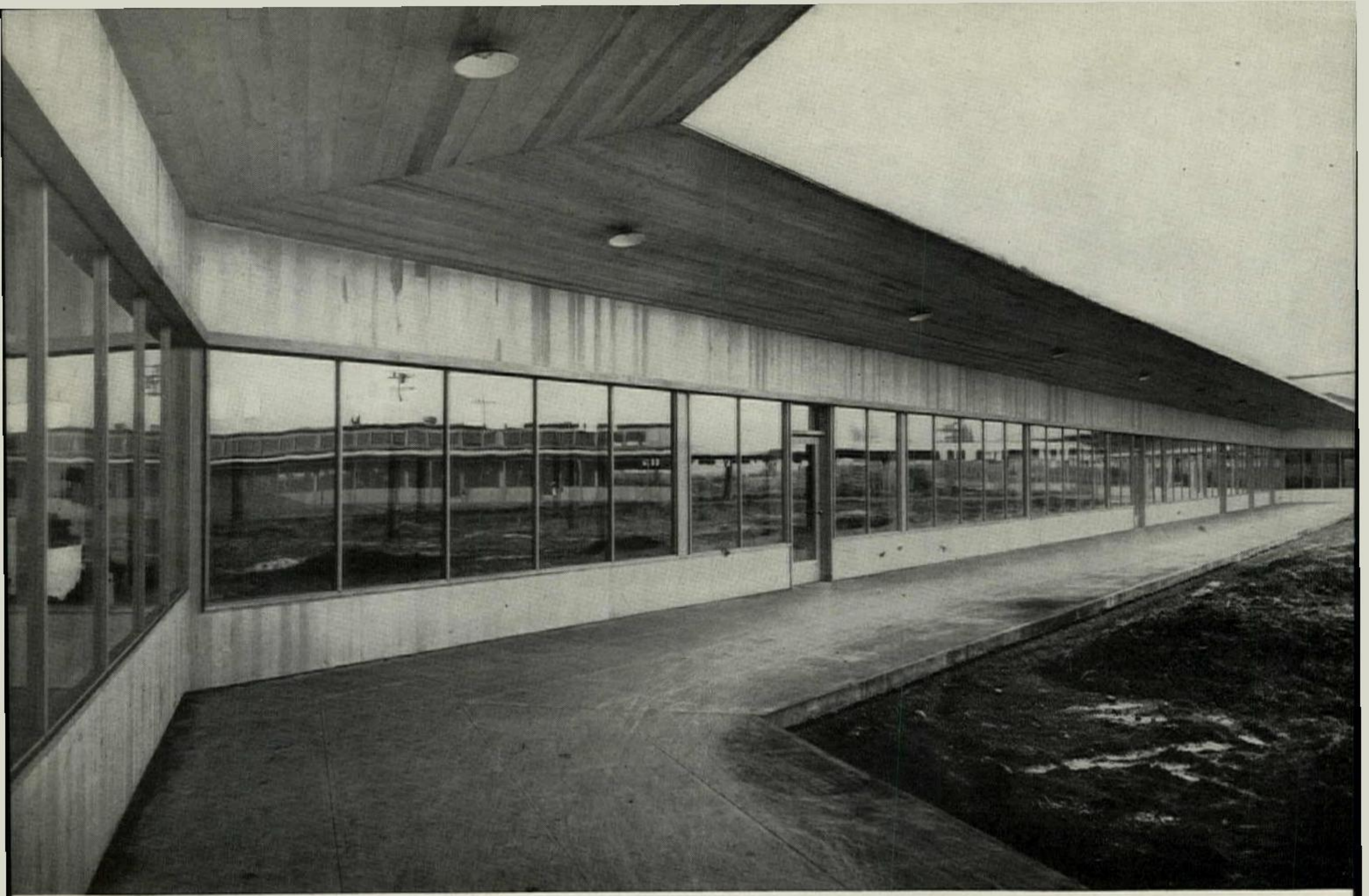
Construction is simple. Foundations are concrete; floors unreinforced concrete slab; walls stud, sheathed with reject plywood covered with 1 by 6-in., T & G, V-jointed, rough-sawn cedar boards set vertically. Exterior walls are stained a warm brown, sash and trim painted cream color. Where interior finish was required, it is sand-finished plaster on wood lath.

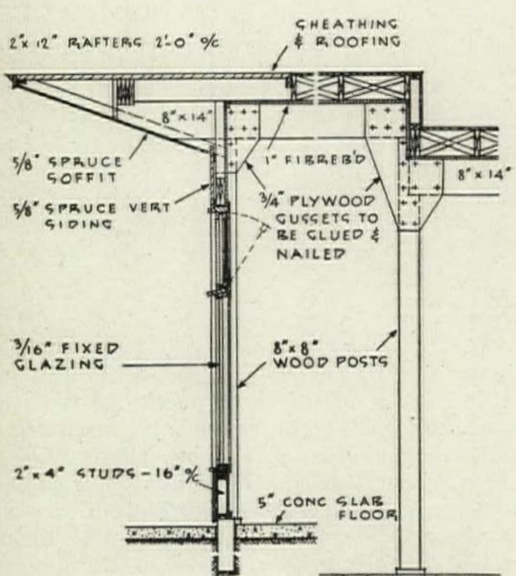
The plan is laid out to make the work of maintaining the community as simple as buildings can. Trucks can drive directly into the storekeeper's wing, the paint shop, carpenter shop, and pipe shop. The truck shed, with truck maintenance facilities (greasing, washing) is at the northwest corner of the compound, out of the way of the entrance, while the gasoline pump is conveniently close to the entrance. Fire and police headquarters are together at the south side, with entrances from outside the compound. It may be whimsy, or it may be excellent planning, that places the complaint department so close to the sheriff's office—at any rate, grouping their entrances is economical.





This is only one of three public schools in McLaughlin Heights by the same architect. Shaded portion of plan above shows additions made since the buildings were completed as originally designed. The odd shape of the plan is caused by the size and shape of the school property available. Buildings are frame, on concrete foundations, have exterior walls surfaced with rough cedar siding, stained. Interior walls have gypsum plaster wainscoting with fiberboard walls above; floors are oak; ceilings are exposed roof joists, untreated. Roofs have 1 inch of insulation topped with mineral-surfaced roofing. Interiors of the three schools are painted pastel shades (yellow, green, rose, tan, white); exteriors, green, buff, yellow, or rose.





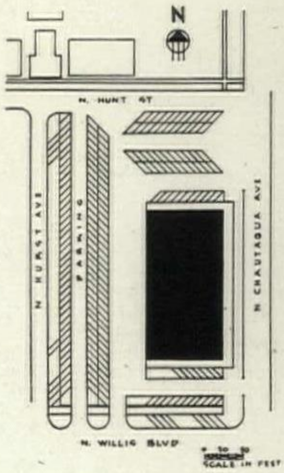
SECTIONS

Commercial Buildings, University Heights, Portland, Oregon. Pietro Belluschi, A. I. A., Architect

The plan of the commercial building at the right shows a development of the supermarket idea to suit a particular set of conditions. The 208½-by-112½-ft. structure is a market—Fred Meyer, Inc. It is thoroughly departmentalized, with a fruit market at the north end, next a meat and grocery section, then drugs, variety store, and bakery, in the order named. Fixtures are so laid out that there is a 7-ft.-10-in. aisle along the east side, the main storefront, from which all departments are accessible through turnstiles. At about the center of the east side, are check-cashing and counting booths, electrical and janitor's closets, and a popcorn booth. The only other permanent partitions surround the various stock and receiving rooms, prescription section, toilets, and refrigerators.

Normally such a supermarket might have a roof supported by long-span trusses. Under the circumstances, it was decided to support the roof on 8-by-8-in. posts 16 ft. o.c. both ways. These carry 8-by-14-in. girders, on which the 2-by-12-in. roof rafters rest. Walls are wood-framed, and surfaced on the exterior with spruce siding placed vertically. Sash and trim are wood. Plate glass is used in the fixed storefront sash; on the west side heat resisting glass is used in the small, bottom-hinged sash. Interior partitions are faced with wallboard. Ceilings are 1-in. fiberboard. Interior and exterior woodwork is finished with one coat of pigmented oil.

The structure rests on a 5-in. concrete slab. There is a 5-ft. difference in grade, from north to south, in the length of the building. This is taken up in the concrete slab of three 1-ft.-8-in. steps at divisions between departments. The public aisle is ramped from level to level. The roof, which has a uniform pitch of ¼ in. per foot, steps down at each change in floor level.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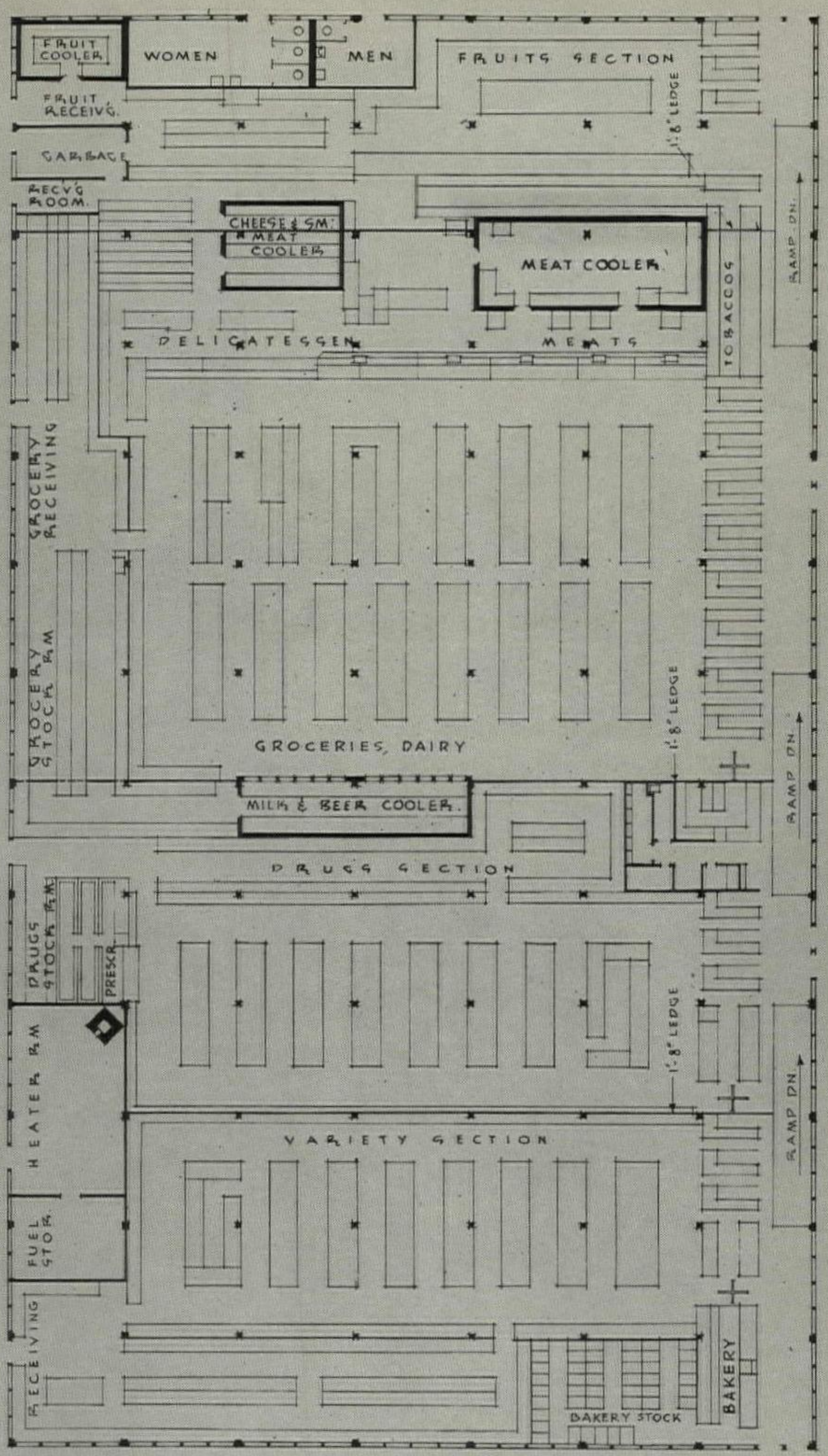
FRUIT COOLER
WOMEN
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GARBAGE
RECVG ROOM
1'-8" LEDGE
CHEESE & SM. MEAT COOLER
MEAT COOLER
TOBACCOS
RAMP DN.
DELICATESSEN
MEATS
GROCERY RECEIVING
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VARIETY SECTION
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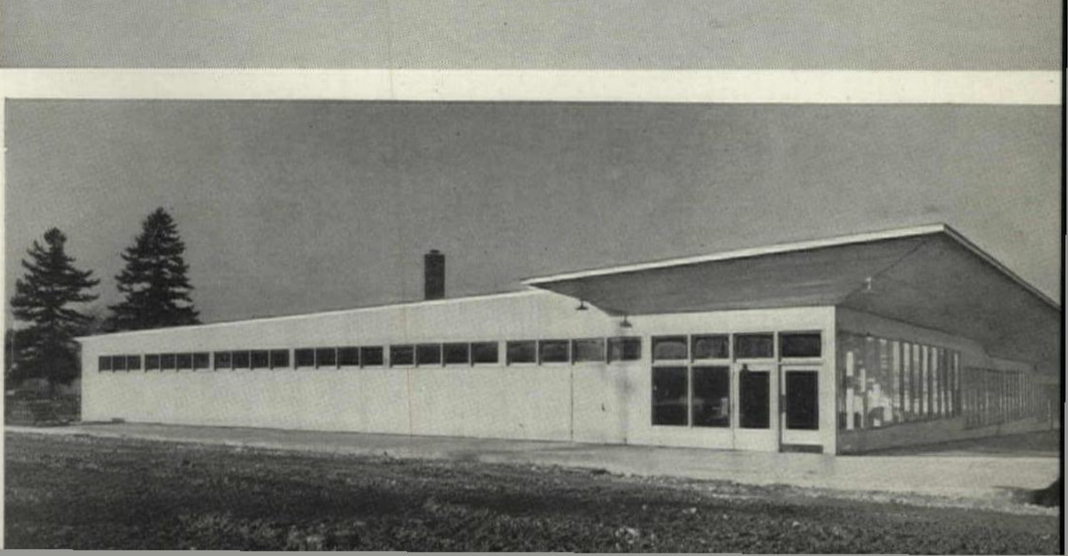
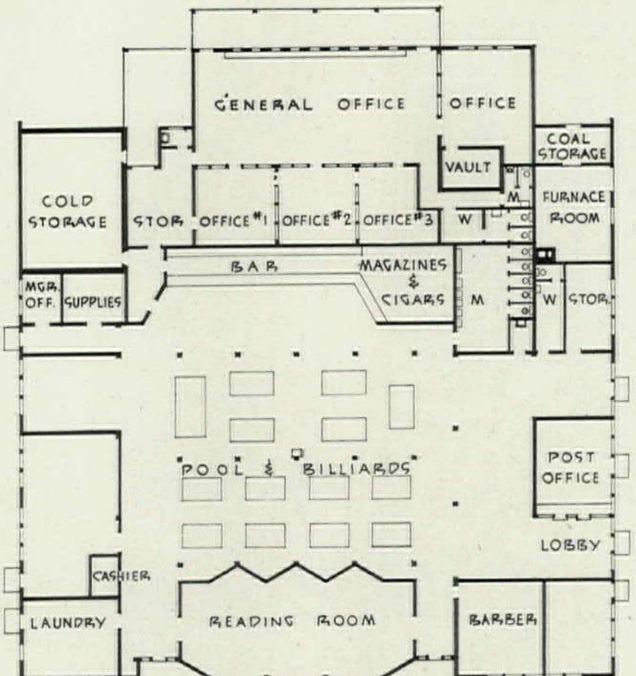
RECEIVING
BAKERY
BAKERY STOCK

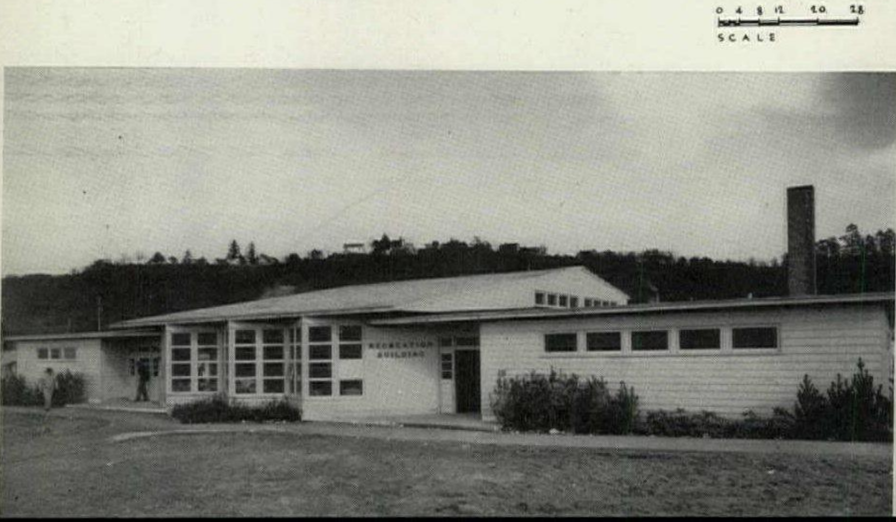


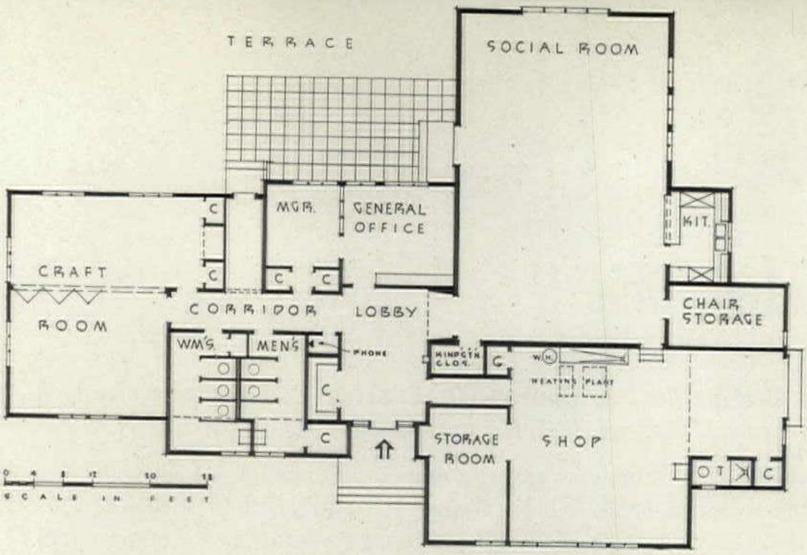
Recreation Building, Swan Island Barracks Group, Portland, Oregon.
Wolff and Phillips, Architects

The Swan Island Barracks, built for the Kaiser Co., Inc., were designed in two groups. The first was for 5000 individuals, the second for 2048. The first group included all community buildings: recreation building, dining hall, gymnasium, theater, clinic, etc. The second, on a nearby site, contained living quarters only.

Photographs above show, at left, reading room in the recreation building; at right, theater interior. Plan, and photograph below, are of the recreation building. The three triangular bays across the front form alcoves in the reading room, which are repeated on the opposite side of the room in solid partitions. Note the variety of facilities included: barber shop, laundry, post office, bar, magazine stand, and project offices (separated from the public part of the building) as well as space for pool tables and reading. Construction is of wood frame. Offices and public areas have walls of wood-grained gypsum board, and mastic flooring; other areas, plywood walls and exposed concrete floors.



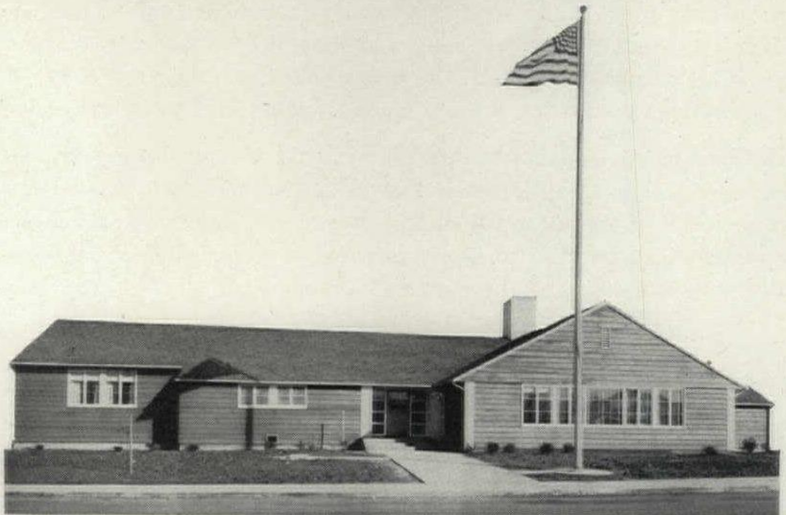




Administration Building, Columbia Villa, Portland, Oregon. Glenn Stanton, A.I.A., and Hollis Johnston, A.I.A., Architects

This pleasant, unpretentious building is, in purpose, much like the Cabrillo Homes community building on page 36, though it is much smaller and differently handled. Principal elements are a large, multipurpose room (the social room), craft rooms, project offices, lobby, and maintenance shop.

Construction is of wood frame on concrete foundations, with wood siding on exterior walls, plywood wainscots with plaster above on interiors. Ceilings are fiber board. Floor in shop is concrete slab, reinforced with wire mesh; elsewhere, wood floors on 2-by-10-in. joists, 1 ft. 8 in. above grade, are used. Walls of lobby are finished with vertical fir boarding. Roof is of wood shingles; gutters and downspouts are of wood.



Firehouse, Canton, Ohio

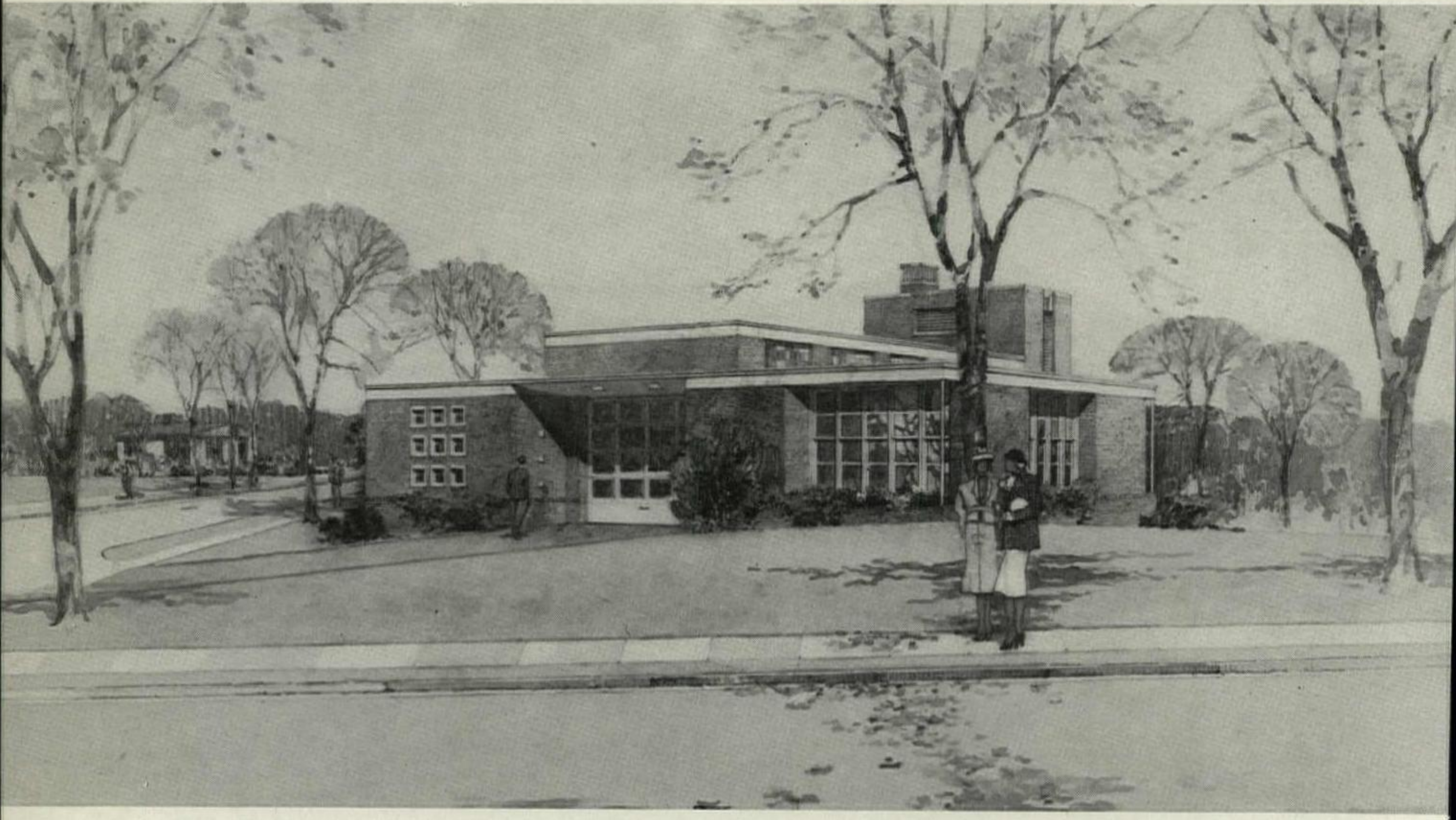
Fire Station No. 9, Canton, O. Charles E. Firestone, A. I. A., and Lawrence J. Motter, A. I. A., Architects

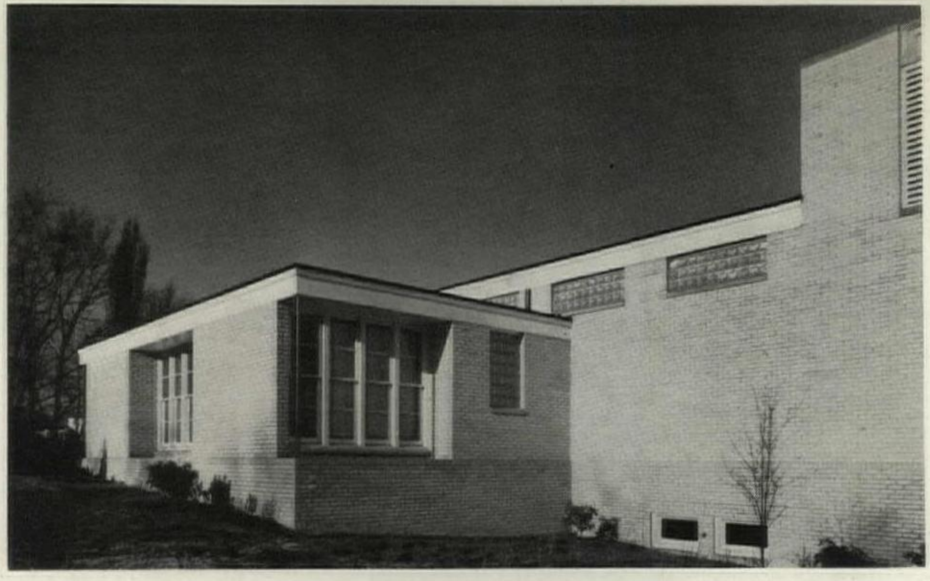
Expanded war industries and the additional housing which was thus necessitated were seriously overburdening the municipal facilities of the city of Canton, Ohio. To help relieve the load on fire stations in other parts of the city, and to furnish much needed protection to a residential section of high value, Station No. 9 was erected.

The entire department, including Station No. 9, operates on the platoon system: twenty-four hours on duty, twenty-four hours off. Thus, locker space was required for sixteen men, and dormitory space for eight. The building is all on one floor—". . . the brass pole," say the architects, "is no longer the symbol of the fire station, and we are all glad to be rid of it."

The existing conditions as to availability of materials, priorities, etc., led the architects to plan and to design details in the simplest way possible. The station has been in operation for approximately six months, and has proved highly satisfactory both as to use, and in ease of maintenance due to the durability and simplicity of the materials employed.

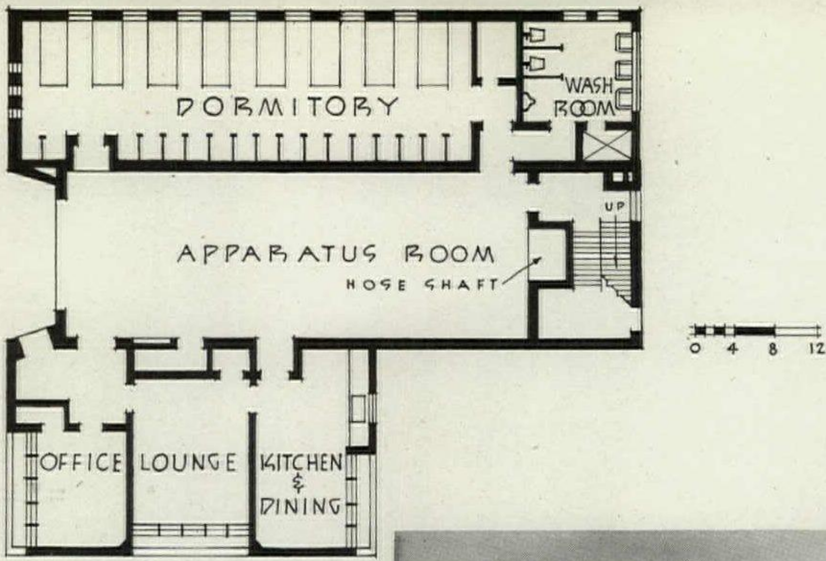
Photos by Ezra Stoller

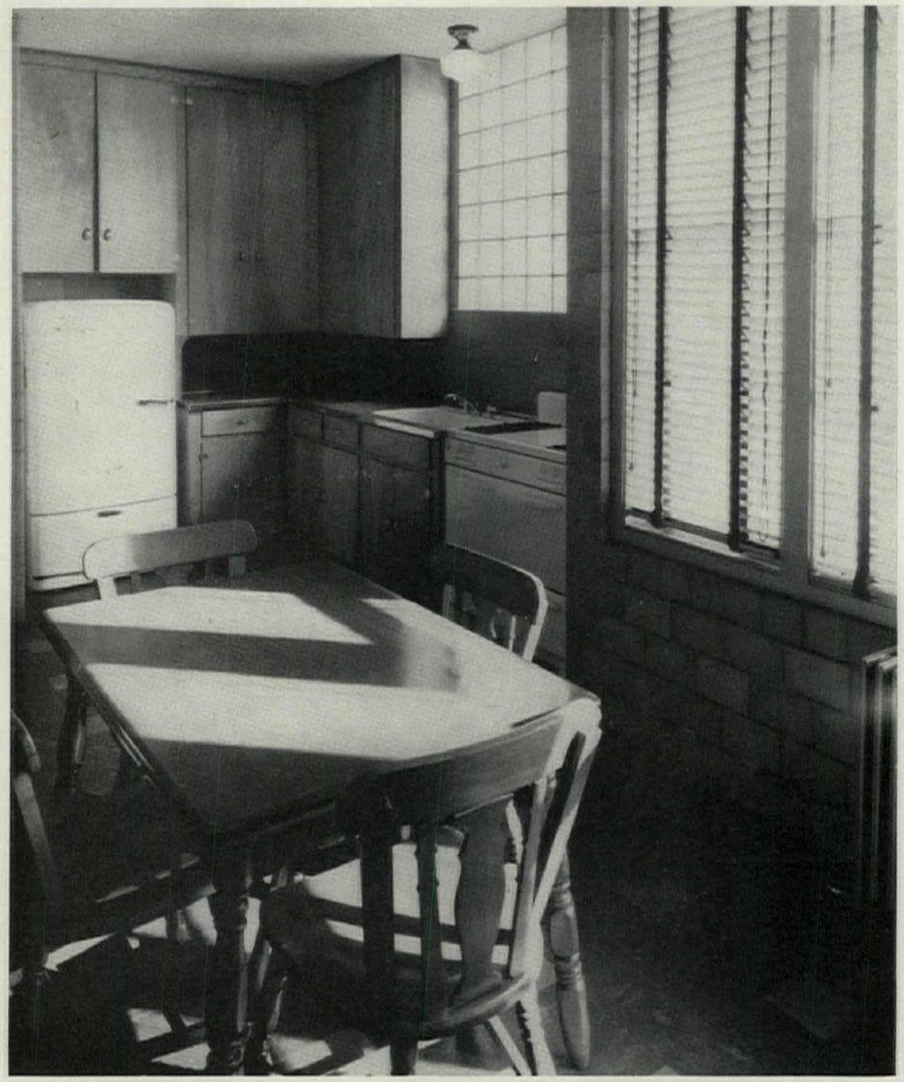




Construction is of brick for all walls, with concrete foundations. Floors are concrete slab; roof is wood framed, with an inch of insulation board above and four inches of mineral wool at the bottom of the joists, forming an air space between insulations. The ceiling is plastered directly to the joists; furring was eliminated to economize on materials.

Exterior walls are of light face brick; interiors, in office, lounge, and kitchen, a specially selected brick; in all other areas, ceramic glazed brick. Exterior stone trim is red sandstone. Exterior woodwork, including cornice and sash, is painted. Interior woodwork is birch, naturally finished; ceilings are plaster. Dormitory and lounge have asphalt tile floors.





Above is a view of the kitchen and dining room. Several items in plan are noteworthy. The hose shaft extends down to a long pit running the length of the apparatus room. From here, the hose is doubled and pulled up into the hose-drying tower, which is louvered to provide ample ventilation. The tower is also used for ladder drills; and a standard fire hose connection is used for hose drills.

The building generally is heated by a coal-stoker-fired, forced hot water system, except in the dormitory. Here, forced warm air is used, with return air pulled from floor level, through the lockers, thus furnishing locker ventilation.

The apparatus, shown above in part and known as a "Quad," includes pumper booster, hose truck, ladder truck, and tool complement, with some small additional chemical apparatus, which, the architects say, plays a small part in modern fire-fighting equipment.

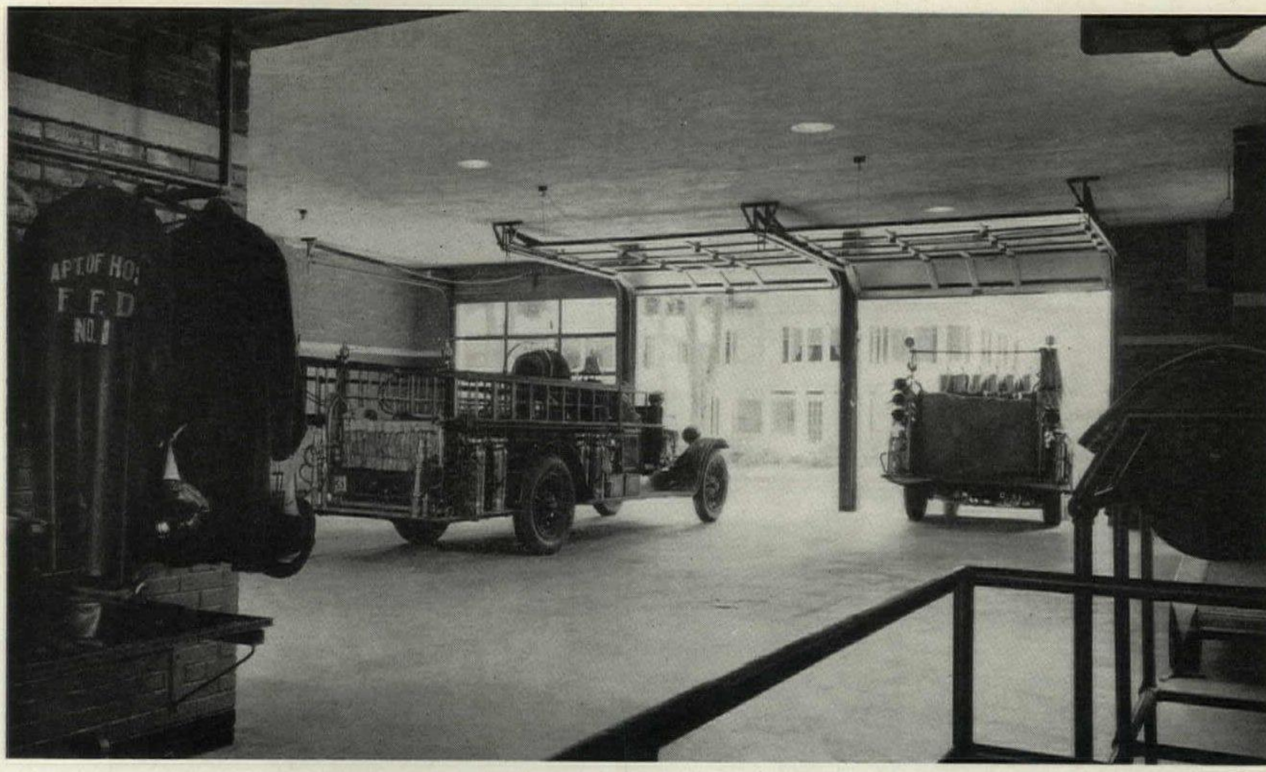
Below is the dormitory, with eight bunks and sixteen lockers, two to a bunk. Note that the warm air heating supply duct is furred in above the lockers; air is exhausted below them, through spaces between the bottoms of the doors and the floor.

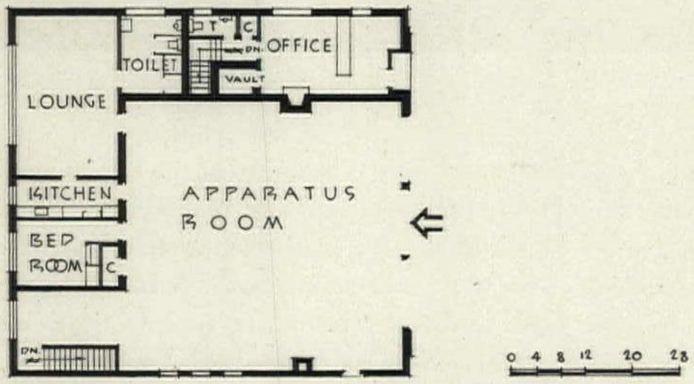
Firehouse, Farmington, Me.

Fire Station and Water Department Offices, Farmington, Me. Alonzo J. Harriman, Architect-Engineer

In Farmington, the Farmington Village Corporation, which is owned by the town and is not private, controls sewer, water, and fire protection for the town. The building shown here was built to house the fire department and the water department. Most of the first floor, as can be seen in the plan, is devoted to the fire department, which is principally volunteer, with one man on continuous duty. The water department requires only a small office space and vault on this floor.

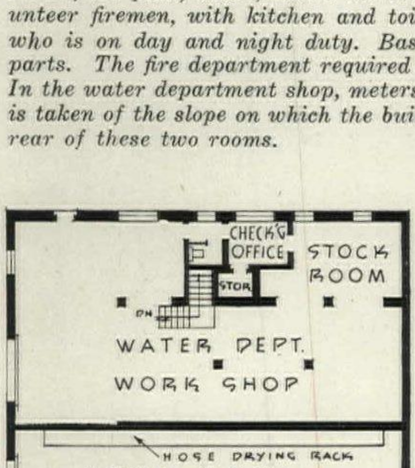
The building is of fireproof construction, with common brick walls, faced on the street front with native Maine granite. Entrance doors to the apparatus room are painted a fire-cart red; to the water department, a deep marine blue. Lettering on the front is of stainless steel.

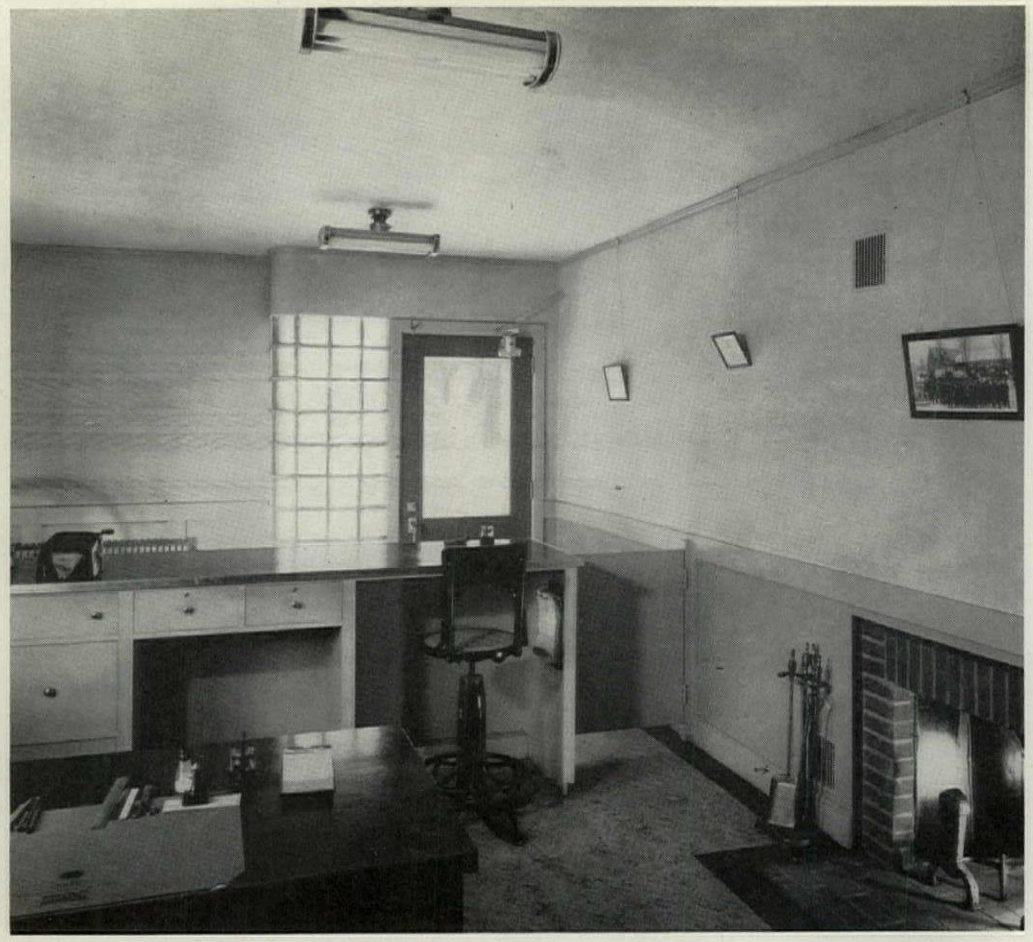




FIRST FLOOR PLAN

First floor plan, above, shows the large lounge, or community room, for the volunteer firemen, with kitchen and toilet adjoining. Bedroom is for the one man who is on day and night duty. Basement, plan below, is also divided into two parts. The fire department required only a hose drying room, with special racks. In the water department shop, meters, etc., are stocked and repaired. Advantage is taken of the slope on which the building sits to provide outside entrances at the rear of these two rooms.





Above is a photograph of the water department of the Farmington building. Construction throughout is fireproof: the first floor is a reinforced concrete slab; the roof is supported on long-span steel joists. All sash are steel. Some opening are glazed with glass block. Heat is furnished by a magazine-fed, coal-burning boiler to a forced hot water system. Interior walls and ceilings are plastered. The water department has linoleum floor covering and fluorescent lighting.

Detroit and the Detroit Area: Parts 5, 6, 7

by J. Davidson Stephen

The studies of Detroit and the Detroit Area carried out at Cranbrook are divided into the following parts:

1. *DETROIT; A Preliminary Study of the City, 1942.*
2. *THE REGION; Studies for "The Detroit Sphere of Influence, 1990."*
3. *LIVING AREAS; The Development of the "Area Scale."*
4. *INDUSTRIAL AREAS; Relation to Living Areas.*
5. ***COMMUNITY PLANNING; Plymouth, Michigan, 1990.***
6. ***NEIGHBORHOOD PLANNING; The New Center of Plymouth, 1990.***
7. ***DETROIT; A "Master Plan" for Community Development, 1990.***

Part 1 was published in the December, 1943 issue; parts 2, 3 and 4 in the January, 1944 issue. Parts 5, 6 and 7 are presented below.

PART 5; COMMUNITY PLANNING: Plymouth, Michigan, 1990

Plymouth, Michigan, part of the Detroit Metropolitan district, was chosen for this study because it is typical of the industrial sections of the Detroit area and because its location, highways, rail communications, water power and terrain offer interesting problems for the planner. Both old and newly established industries are included among its plants. Its position with relation to Detroit is indicated on Fig. 32.

Plymouth is also shown in Fig. 25 (Jan. issue, page 64), illustrating organic decentralization of the Detroit sphere of influence in 1990; and on Fig. 31 (Jan. issue, page 66), illustrating railroad lines and the decentralization of industry in the Detroit of 1990. In Fig. 32, the circle indicates a population of 90,000 in 1990.

Plymouth lies between Gratiot and Michigan Avenues, both main arteries, about twenty miles west of the center of Detroit. In the locality is a junction of the Pere Marquette Railroad from which lines radiate east to Detroit, south to Toledo, west to Lansing, and north to Flint. Plymouth is now accessible through the two-lane Schoolcraft Highway connecting with the Davison crosstown highway and underpass. Other routes to the community are Plymouth Road, terminating in the City of Plymouth, and Joy Road, along Plymouth's south edge, which connects with Ann Arbor Road and Ann Arbor Trail. Both of these are inconvenient for through traffic. Traffic on Schoolcraft that is not intended for Plymouth must turn north to Fenkell or McNichol. Similar traffic on Plymouth Road must pass through the narrow streets of Plymouth to reach Ann Arbor Trail, Ann Arbor Road, or North Territorial Road.

Plymouth is on a branch of the River Rouge. Several nearby dams furnish water power for small Ford factories: a plant at Northville; one at Waterford, between Plymouth and Northville; one at the northern limits of Plymouth; and the last below Plymouth at the edge of a good-sized lake. The John Hines Parkway parallels the stream from Rouge Park, Detroit, west to Plymouth and thence north.

Fig. 33 shows, in greater detail, the reasons for selecting Plymouth for study. The junction of the Pere Marquette Railroad is indicated, with the railroad lines to Detroit, Toledo, Lansing, and Flint. The new outer belt line is indicated by a dotted line at the right-hand side of the drawing.

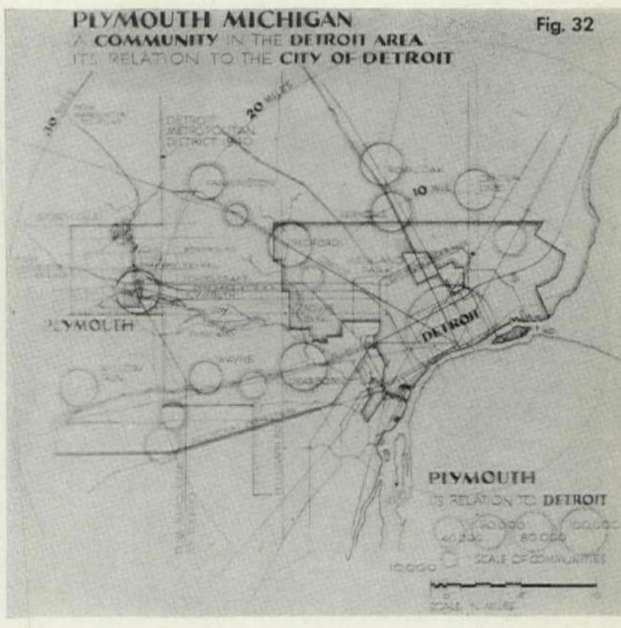


Fig. 32

The present city limits are shown by a strongly outlined shape in the center of the circle representing the living area for 90,000 in 1990. The older industries are adjacent to the present railroad lines inside Plymouth, and the newer industries are in the area marked "Industries," between Plymouth Road and the Pere Marquette line to Detroit, outside the present city limits. Solid black circles represent the Ford plants, which make small parts such as valves, gauges for use in machine work, etc., and are part of Ford's plan for decentralizing the main plant at River Rouge, Dearborn.

The parkway along the River Rouge is indicated just south of Plymouth Road; it continues east to River

Rouge Park in Detroit and is ultimately to be part of the Huron-Clinton Parkway Authority. The John Hines Parkway runs north from Plymouth to Northville and is to be a part of the same system.

Another branch of the River Rouge enters the Plymouth city limits north of the southern boundary line along Ann Arbor Road, where it forks, one branch passing north through Plymouth and the other branch going west through the city's southern boundary. The branch through the center of Plymouth has caused some serious flood problems.

Schoolcraft Road's two-lane highway ends near Plymouth where one road goes into the town and the other continues northwesterly to connect with Fenkell. Plymouth Road crosses the River Rouge and continues southwest through the city, intersecting Ann Arbor Trail and North Territorial Road at a triangular intersection. This triangle, shown on the map, is a park in the center of Plymouth and is the central business area of Plymouth. Traffic can be very congested at this point at certain times. Joy Road passes south of the present city limits and continues westward to connect with Ann Arbor Road.

The area of Plymouth is about 1.88 square miles. The population (U. S. Census, 1940) is 5,360. This illustration makes no attempt to show that almost as much land has been plotted for residential development outside the city limits as within them, but such is the case. There has been a very rapid increase in the population of Plymouth Township (outside the City of Plymouth) from 1920 to 1940. Plymouth has some blighted areas. In other words, Plymouth has its own decentralization problem, though on a very small scale compared with Detroit's.

Data used in the preparation of the study were furnished by the City Planning Commission of Plymouth. Here is a town of 5,000 that has a city planning commission! Plymouth is not on the main highways, Gratiot and Michigan Avenues; it is more or less out of the beaten track of traffic, but its community pride has led it to recognize the need for city planning. It wants to retain its identity as a separate community. Location of new industrial plants in Plymouth has caused no increase in population; such increase will no doubt come later when employees have had a chance to relocate themselves, to sell their present homes elsewhere, etc. Understand that only about 10 percent of the employees in one of the new industries now live in Plymouth. The balance come to Plymouth each day from distant homes.

To sum up, Plymouth has many factors that make it an interesting town to study:

It is a railway junction and may be adjacent to the future outer belt line railroad.

It is an industrial town and has been selected as a new location by industries that are now in Detroit.

It is off the beaten-track of main highway traffic. The roads seem to either terminate at Plymouth or be routed onto other roads in the vicinity of Plymouth.

It is on a river which furnishes power for small factories built under Ford Motor Company's decentralization plan. It has its own decentralization problems, blighted areas, etc., which have led to the formation of a city planning commission.

It has (and this is most important) its own community consciousness, and wants to retain its identity as a separate community.

It is situated on fairly rough terrain which makes for an interesting planning solution.

The table in Fig. 34 shows the growth of the city of Plymouth and of Plymouth Township from 1920 to 1930, and 1930 to 1940. The present population of Plymouth is approximately 5,360; of Plymouth Township, 2,270. The ratio of urban to rural population for the two shows that the rural area is gaining more rapidly—an indication that the population of the city of Plymouth has tended to spread over the surrounding countryside during these last 20 years.

Fig. 35 shows the population increase for Plymouth from 1920 to 1940, and the estimate of the population increase from 1940 to 1990 which will result from new industries. For comparison, this chart also indicates the growth of Highland Park from 1910 to 1930, following the building

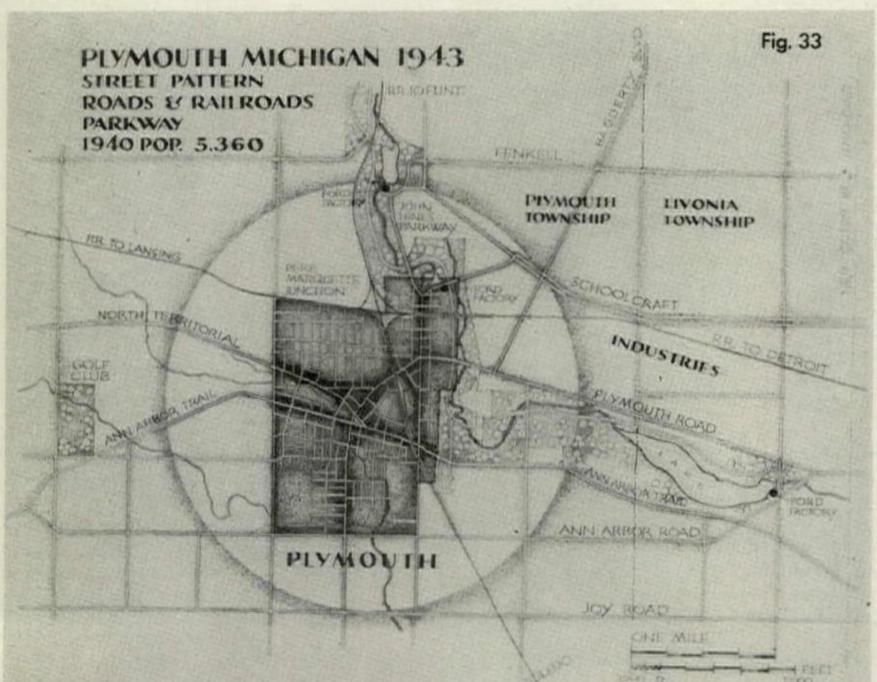


Fig. 33

PLYMOUTH MICHIGAN
POPULATION DATA

CENSUS AREA	1920 POPULATION	GAIN 20-30 NUMBER	GAIN 20-30 %	1930 POPULATION	GAIN 30-40 NUMBER	GAIN 30-40 %	1940 POPULATION
PLYMOUTH CITY	2.857	1.627	56.9	.4484	876	17.3	5.360
" TOWNSHIP	682	872	129.3	1.554	716	31.5	2.270
BOTH	3.539	2499		6.038	1.592		7630

Fig. 34

POPULATION INCREASE ESTIMATE

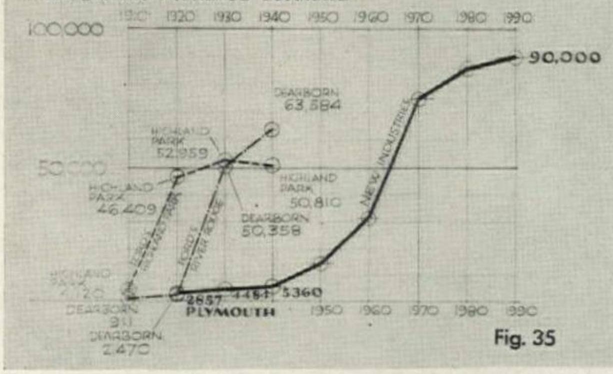


Fig. 35

of the Ford Highland Park plant; the recent decline in the population of Highland Park from 1930 to 1940; the growth of Dearborn from 911 persons in 1910 to 63,584 in 1940 and that the period of greatest increase was from 1920 to 1930 following the building of the Ford Plant at River Rouge. The growth of Highland Park and Dearborn is shown to illustrate how rapidly population can increase as a result of the relocation of a large industry.

The population estimate of 90,000 in 1990 for Plymouth may seem fantastic. But it should be remembered that this does not mean that the population must grow to 90,000; simply, such a possibility is being considered in planning for Plymouth so that future developments can be taken care of without disturbing the main features of the plan.

To determine the main features of the plan of Plymouth in 1990 a comparison with the principal elements of a "defense city" of 38,000 is made in Fig. 36. Reference should be made to Fig. 25 (page 63, Jan. issue of PENCIL POINTS). The defense city requires a living area of 2,007 acres, or 3.1 square miles; Plymouth in 1990 requires a living area of 4,792 acres or 7.5 square miles.

PLYMOUTH 90.000 IN 1990

Fig. 36

COMPARISON WITH A DEFENSE CITY 38.000

RECAPITULATION OF AREAS :

DEFENSE CITY 38.000

TEN (10) NEIGHBORHOODS @ 3800	TOTAL	EACH
1. LIVING (HOUSING) AREAS:		
4.000 SINGLE FAM. @ 7. D.U. PER ACRE	571.	57.1
3.000 DOUBLE " @ 10. " " "	300.	30.0
3.000 MULTIPLE " @ 15. " " "	200	20.0
10.000 TOTAL DWELLING UNITS	1.071.	107.1
2. SCHOOL AREAS:		
6.000 NURSERY ELEM @ 600 : 10 × 6. ACRES	60.	6.0
3.000 JUNIOR HIGH @ 1.500 : 2 × 10 "	20.	—
2.300 SENIOR " @ 2.300 : 1 × 20 "	20	—
11.300 TOTAL SCHOOL CHILDREN	100.	6.0
3. NEIGHBORHOOD AREAS:		
10 RECREATIONAL AREAS @ 5. A	50.	5.0
10 CIVIC CENTERS @ 2.5 A	25	2.5
10 SHOPPING CENTERS @ 2.5 A	25	2.5
TOTAL NEIGHBORHOOD AREAS	100	10.0
SUB TOTAL NEIGHBORHOOD AREAS:	1.271.	123.1
4. CENTRAL COMMUNITY AREAS:		
1 RECREATIONAL AREA	200	
1 CIVIC CENTER "	5	
1 BUSINESS " INCL. PARKING FOR 700 CARS	9	
TOTAL CENTRAL AREAS	214	
5. DISPERSED COMMUNITY AREAS		
GREEN PROTECTIVE BELT	260	
PRINCIPAL STREETS	262	
TOTAL DISPERSED AREAS	522	
TOTAL FOR WHOLE COMMUNITY	2007 ACRES	

PLYMOUTH 90.000

TWENTY-FOUR (24) NGHRHDS @ 3800	TOTAL	EACH
1. LIVING (HOUSING) AREAS:		
9.472 SINGLE FAM @ 7. D.U. PER ACRE	1.357	57.1
7.104 DOUBLE " @ 10. " " "	710	30.0
7.104 MULTIPLE " @ 15. " " "	476	20.0
23.680 TOTAL DWELLING UNITS	2.543	107.1
2. SCHOOL AREAS:		
14.208 NURSERY ELEM @ 600 : 24 × 6 ACRES	144	6.0
7.104 JUNIOR HIGH @ 1.500 : 5 × 10 "	50	—
6.000 5.446 PLYM CITY 90.000 FOR 554 ADJ. TOWNSHIPS.	66	—
27.312 TOTAL SCHOOL CHILDREN	260	6.0
3. NEIGHBORHOOD AREAS:		
24 RECREATIONAL AREAS : 5. A	120.	5.0
24 CIVIC CENTERS @ 2.5 A	60.	2.5
24 SHOPPING CENTERS @ 2.5 A	60.	2.5
TOTAL NEIGHBORHOOD AREAS	240	10.0
SUB TOTAL NEIGHBORHOOD AREAS	3.043	123.1
4. CENTRAL COMMUNITY AREAS:		
1 RECREATIONAL AREA	474	-
1 CIVIC CENTER "	12	-
1 BUSINESS " INCL. PARKING FOR 1.658 CARS	22	-
TOTAL CENTRAL AREAS	508	
5. DISPERSED COMMUNITY AREAS:		
GREEN PROTECTIVE BELT	616	
PRINCIPAL STREETS	625	
	1.241	
TOTAL FOR WHOLE COMMUNITY	4.792 ACRES	

DIAGRAM OF THE ELEMENTS

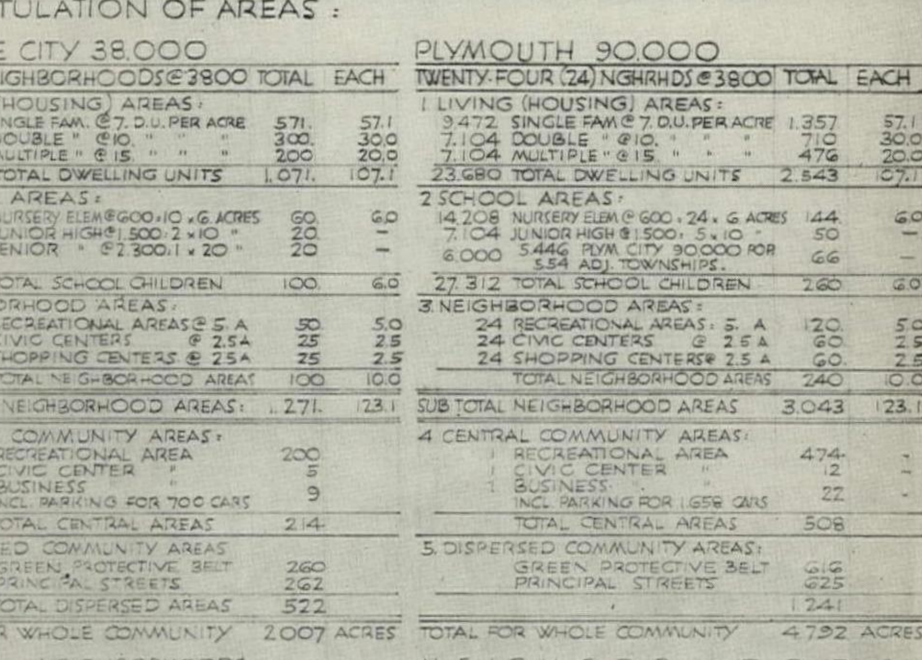


Fig. 37

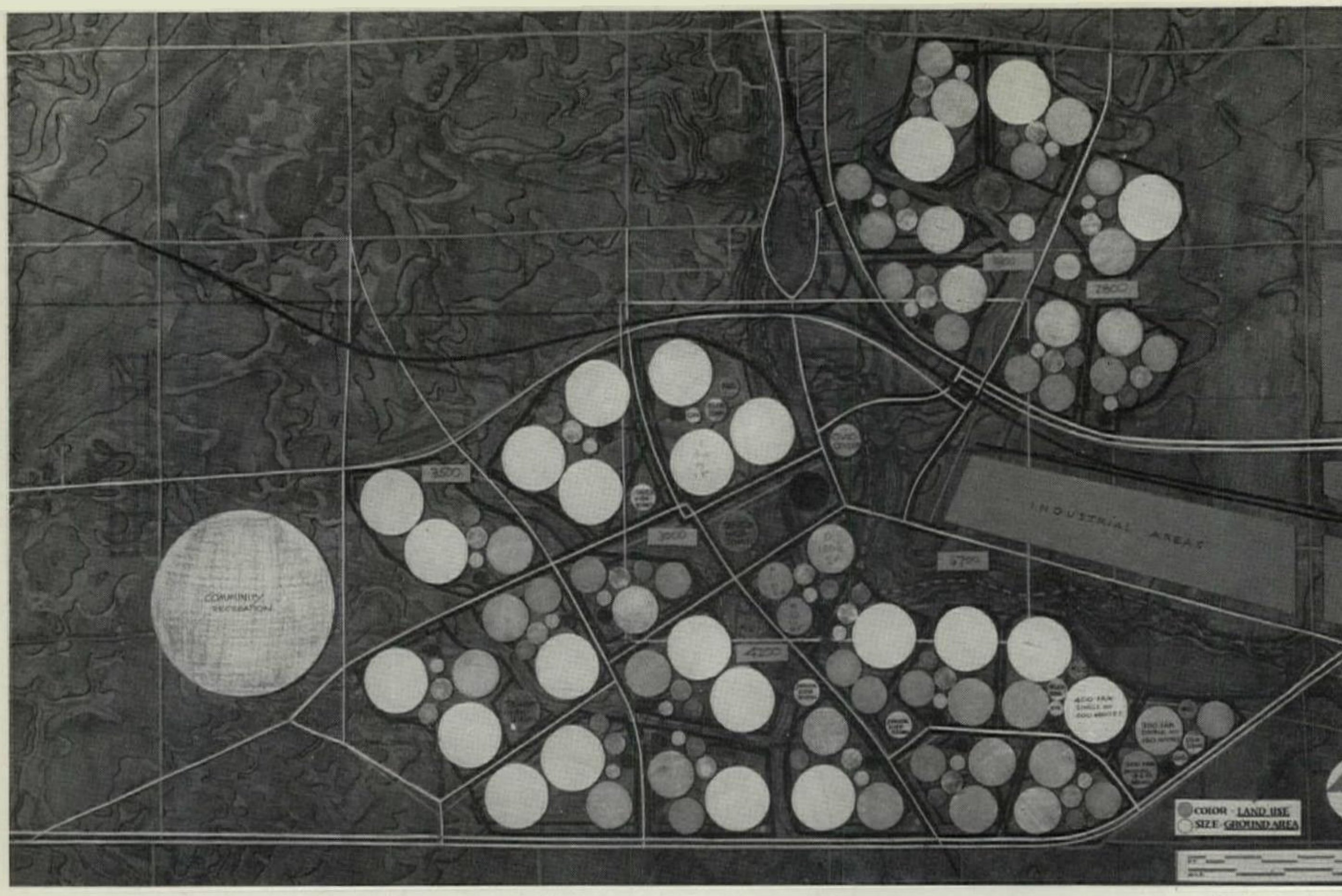


Figure 39, above, is a photograph of a three-dimensional model of Plymouth and adjoining portions of Northville and Livonia Townships. In addition to summarizing the proposed changes in the highway and railroad systems, it shows graphically the method of using the area scales. Varying shades of gray indicate colors on the scale units or circles, which, in the original, show the use to which the land is put. Size of circles indicates area. Neighborhoods are surrounded by heavy outlines.

The comparison shown in Fig. 36 indicates that the defense city of 38,000 would consist of ten neighborhoods, and that the Plymouth of 1990 containing 90,000 persons would consist of twenty-four neighborhoods.

Fig. 37 compares neighborhood and community feature arrangements for a defense city of 38,000 and the Plymouth of 1990.

Fig. 38 compares the present city limits of Plymouth with the living area required for 90,000 persons. It shows the railroad lines within the present city limits of Plymouth moved to a new location, parallel with Schoolcraft and crossing the River Rouge on a new railroad bridge south of Fenkell. The new outer belt railroad intersects the Pere Marquette line to Detroit; the Pere Marquette would follow the outer belt line railroad to Toledo but would use its present route to Lansing and Flint.

Certain changes are made in the highways. The first scheme extends Haggarty Boulevard as a double road running from the new railroad station south of Schoolcraft through the center of Plymouth, and a by-pass road permitting through traffic using Plymouth Road to by-pass the City of Plymouth by going southwest to join Joy Road. In the first scheme, the road along the parkway is retained, and the parkway is extended into the center from the east and John Hines Parkway is extended into the center from the north.

The entire area between the railroad and Plymouth Road is shown cross-hatched to indicate industrial land use. This is not intended to imply that all industry must be located within this area; that would be contrary to the principles of the dispersion of industry. As mentioned before, modern industrial plants are, in many cases, an asset to a community and a challenge to both their surrounding living accommodations and the commercial areas serving these communities. The cross-hatched area is for industrial use based on present tendencies; several smaller industrial areas might be developed.

With reference to the 90,000 population and the twenty-four neighborhoods mentioned in connection with Figs. 36 and 37, these twenty-four neighborhoods are indicated by smaller white circles arranged in such a way as to avoid the courses of the several branches of the River Rouge, to fit into the general overall pattern of the new highways through the City, and at the same time to allow for community features: civic center, shopping and business center, shown near the center of the present City of Plymouth.

Some of these twenty-four neighborhoods extend beyond the circle for a population of 90,000 in 1990. The reason is that the industrial area has taken up a part of the area included within the circle and the parkways have also taken a portion of the area within the circle.

In this first scheme for the distribution of the neighborhoods by means of an area scale for each neighborhood, some have been located north of Schoolcraft and have been marked "industrial workers" because that area is adjacent to the large industries.

Following the comparison of the defense city of 38,000 and the Plymouth of 1990, and the distribution of the twenty-four neighborhoods (Fig. 38), additional data was obtained from the Plymouth City Planning Commission about present land use, contour maps, etc., and on the basis of this material models were prepared.

The first model (Fig. 39) includes all of Plymouth Township and parts of Northville and Livonia Townships. The location of present and proposed highways is indicated. Schoolcraft is shown continuing north to McNichol or Six Mile Road east of the new location of the Pere Marquette line to Flint. On the south side of the new railroad line a new highway is shown. It runs parallel with the new railroad, to connect with North Territorial Road. The old connection from the end of the two-lane Schoolcraft highway into Plymouth is retained and the same bridge will be used in the new plans for Plymouth. Two new highways run southwest through the present city of Plymouth. The upper road continues into Ann Arbor Trail and thence to Joy Road along the southern border of the Plymouth of 1990. By that time Joy Road will have been converted into a two-lane highway with a connecting two-lane link to Plymouth Road at the right side of the model. And the lower of the new highways through Plymouth cuts across and down to Joy Road. Also Plymouth Road continues into the City and across the River Rouge over the same bridge now used. The locations of the Pere Marquette Railroad and of the New Outer Belt Line Railroad are essentially the same shown in Fig. 38.

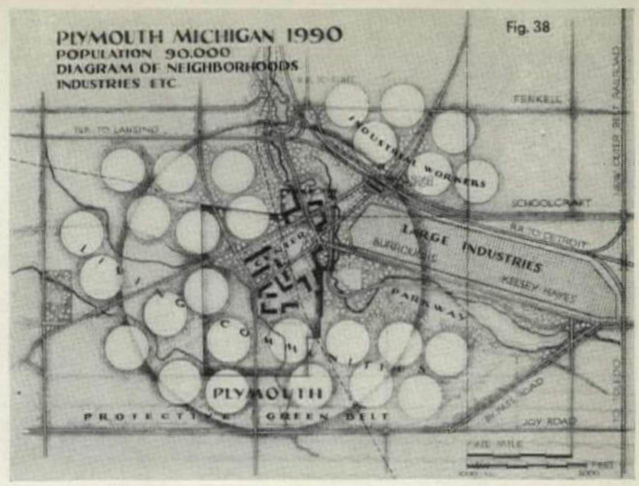


Fig. 38

two-lane highway on Schoolcraft. The Burroughs Plant is shown north of Plymouth Road, east of the intersection of Haggerty Boulevard. The size of the parking lot next to the Burroughs Plant is interesting; industry now requires much larger areas than are actually needed for the plant and possible plant expansion to provide for parking employees' cars. The road leading into Plymouth from the end of the two-lane highway on Schoolcraft uses the present bridge over the River Rouge; the Ford Factory south of the bridge is shown in the model together with the lake adjacent to the point that provides the water power. The new highway parallels the new Pere Marquette line to Lansing from the new railroad station, crosses the River Rouge, and then continues parallel with the railroad to connect with North Territorial Road as shown in Fig. 39.

The new central high school, north of the present high school, on ground now owned by the city of Plymouth, is designed for increased adult educational facilities and for greater use by the community. It has a large stadium, an outdoor swimming pool, tennis courts, etc., and a small auditorium that terminates the western walk of the northern portion of the mall. The municipal auditorium is provided for larger musical productions by the schools or community musical groups, but this is located so as to be considered part of the central high school group.

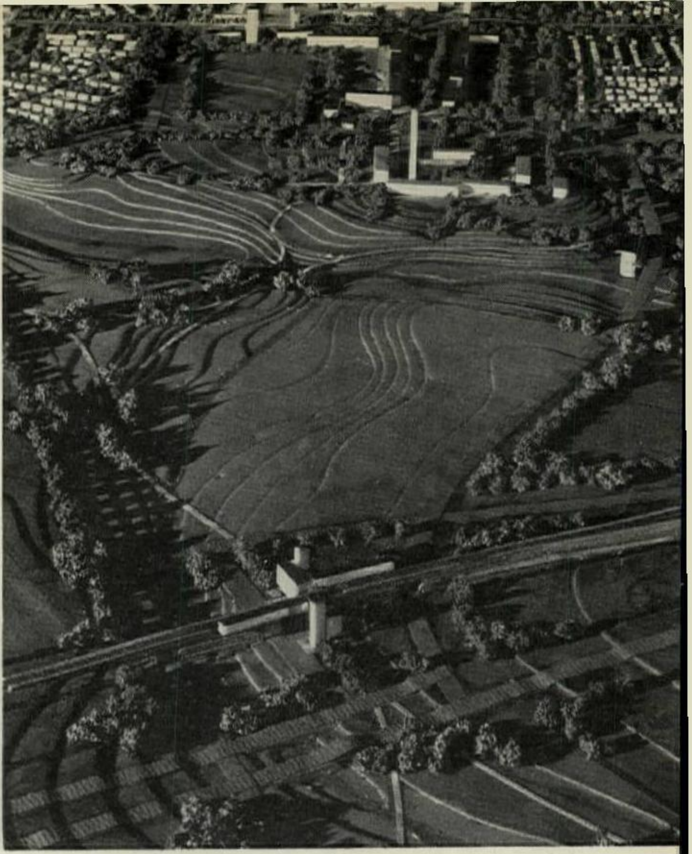
PART 6; NEIGHBORHOOD PLANNING: The New Center of Plymouth, 1990

Fig. 40, a three-dimensional model, is about four times the scale of the smaller model in Fig. 39. It includes the two neighborhoods shown in the oblong shape—a single-family house neighborhood at the upper left, connected by a wide mall cutting through the new center to a two-family and multi-family house neighborhood at the bottom center. Each neighborhood has its own civic, shopping, and recreation centers; the one-family house neighborhood has its centers about half way up the mall, and the other at the south end.

A junior high school is shown at the left center of the model. The railroad station is south of the end of the

Figures 41 to 44, inclusive, show details of the large-scale model which appears in Figure 40. *The sketch in the center* (Figure 41) *is included to simplify identification of details.* Figure 42 *(photograph No. 1) shows the railroad station in the foreground; Ford plant at right; proposed civic center, marked by the tower, in the background, with shopping center and school group beyond.* Figure 43 *(photograph No. 2) has the one-family house neighborhood in the foreground, shopping and business centers in the background. In* Figure 44 *(photograph No. 3) the municipal auditorium and a secondary shopping center occupy the foreground.*

1



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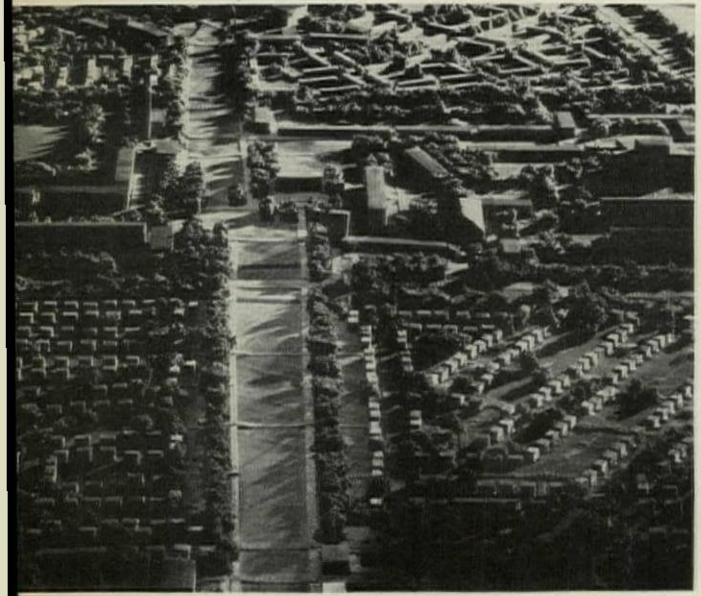
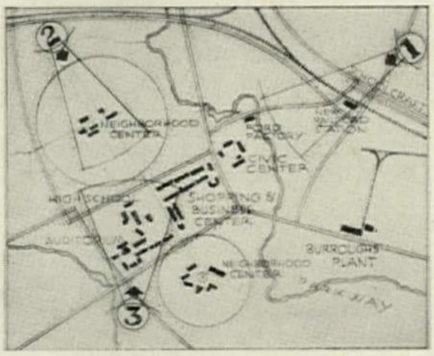




3

At the northeastern end of the principal shopping center, the new civic center is located on a promontory jutting out into the parkway. The civic center is marked by a vertical shaft visible from all parts of the community. Other vertical elements are the one tall business building and the apartment building on the hill in the single-family house neighborhood. In a community as large as this, some means of orientating oneself is desirable. It should be noted that the principal elements are at stiff right angles so that none of the formlessness inherent in constantly curving roads will be found in this planning.

The new principal diagonal roads through the city intersect the mall and the north and south roads at right angles and at intersections that permit a circular movement of traffic. None of the roads that run through the city are permitted to run very far in straight lines without some "break" that would warn the driver to be careful and go slowly. Wherever possible, the intersections require only one decision from the driver. Access from the principal highways is provided at several places for each of the neighborhoods, and secondary roads pass through the neighborhoods themselves, giving access, in turn, to the roads leading to the houses.

The existing street pattern is utilized in both neighborhoods except for the new principal and secondary highways. Existing underground utilities could be used; for example, the streets in the southwest corner of the one-family house neighborhood are extremely regular and parallel; this portion of the area is the present street pattern within the city limits. The street pattern in the two- and multi-family house neighborhood is also the contemporary pattern. In preparation of this model, the first stage was a model showing the present land use and street pattern. The final stage was developed directly over this.

Fig. 42 shows the new railroad station in the foreground, the Ford factory stands at the right, and center. The new civic center, is marked by the vertical element. Beyond are the shopping and business centers. Still further is the new high school group and the municipal auditorium.

The one-family neighborhood is visible at the upper right and the two- and multiple-family house neighborhood can be seen at the upper left. Notice how the new diagonal highways and their accompanying green areas at both sides of these highways have separated the neighborhoods from the shopping center area.

The principal shopping and business centers are shown on the left of Fig. 43 and the new high school with the stadium and the municipal auditorium are on the right beyond the one-family houses in the foreground.

Fig. 44 shows the municipal auditorium at the left foreground together with the secondary shopping center. At the right near the top is a portion of the principal shopping center. The top shows the southern edge of the one-family house neighborhood.

PART 7; A "MASTER PLAN" for Community Development, 1990

It is the purpose of this stage of the study to organize and relate the communities of Detroit to each other and to the whole, i.e., a Master Plan. The communities of the Detroit sphere of influence are shown in the January issue of PENCIL POINTS (Fig. 26, page 64).

Economically, the life-blood of Detroit and its surrounding communities flows from its industries. Detroit is the country's foremost mass-production center, and in normal times most of the larger industries are concerned primarily with manufacturing processes involved in the automotive industry.

Fig. 45 shows the four main industrial areas in or immediately adjacent to Detroit by means of shaded circles which enclose the industrial plants, shown in solid black. The industrial areas are (1) Connor's Creek; (2) Milwaukee Junction; (3) the new industrial area in northwest Detroit; and (4) the River Rouge Area at Dearborn, Michigan. This illustration also shows two new industrial areas outside the City of Detroit near Warren, in Macomb County, and at Plymouth, Michigan.

Studies made by the Detroit Street Railways and the Michigan State Highway Department, concerning workers available and required for the conversion of the automobile industries to war industries, showed that workers in the Detroit industrial areas lived in sections of the city adjacent to these industrial centers, as indicated on this map by the larger circles surrounding the industrial centers.

The new railroad pattern conforms to the suggested plan for the railroads shown in Fig. 31, decentralization of industry and railroad lines (page 66, Jan. 1944, issue PENCIL POINTS). This plan again provides for one passenger terminal at the present Michigan Central station, and provides for the elimination of some of the railroad lines serving the older industrial areas of Detroit in accordance with the suggestions outlined in Part 1, "DETROIT, A Preliminary Study of the City, 1942" (NEW PENCIL POINTS, December, 1943). The new outer belt line, mentioned in Part 4, is again shown in this illustration. In this scheme for the future plan of the railroads, a new port is provided downstream from River Rouge. Detroit's waterborne traffic is quite heavy now and the advent of the St. Lawrence Waterway will probably increase traffic considerably. The location of the port would permit trans-shipment by rail without the need of rail traffic through the center of the city.

Fig. 46 again indicates the industrial areas by the same means as in Fig. 45, and shows the living areas that would house the employees of these industries.

It should be mentioned here that Figs. 46 and 47 have the nature of a transparency. Each adds information to the others; all should be considered together.

For example, the larger circles surrounding the indus-

Fig. 45

LIVING AREAS OR COMMUNITIES RELATED TO INDUSTRIAL AREAS

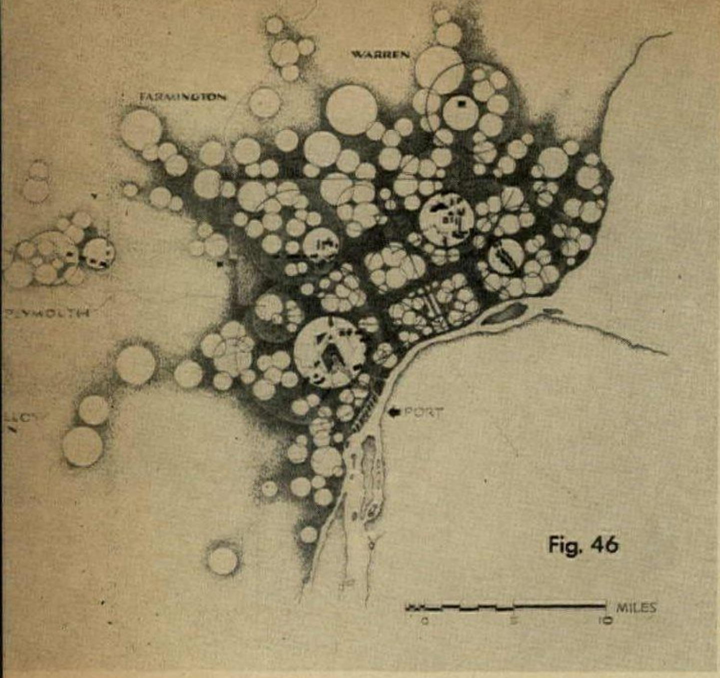


Fig. 46

DETROIT 1990

NEW HIGHWAY PATTERN
A MASTER PLAN FOR THE RELATION OF LIVING AND INDUSTRIAL AREAS

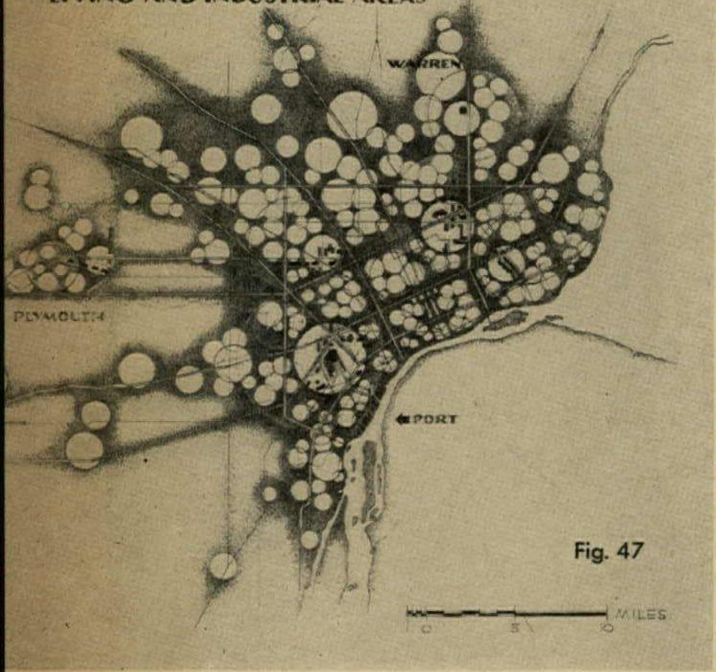


Fig. 47

trial areas are repeated to indicate the tendency of the workers to live in sections of the city adjacent to their work. Other circles, indicating individual communities, have been added. The larger circles surrounding the industrial areas include several of these clustered circles or communities.

Any one group of the clustered communities may be, with respect to population, as large as the Plymouth of 1990. Therefore, it may be better to consider the smaller circles as neighborhoods within the cluster representing the community.

Not all of the clustered circles fall into the larger circles surrounding the industrial areas. This is true of the center of the city on both sides of Woodward Avenue, where it was considered feasible to house white-collar and service workers employed in the central business district. These circles are fairly small, to indicate multi-family dwellings where an elementary school will require a small area. In the midtown area north of Grand Boulevard is another cluster of neighborhoods not attached to an industrial area, and here the size of the circles (area of the neighborhood) has been increased to correspond with anticipated use by higher income groups. Just west of Highland Park, in the Palmer Woods Section, is another high income group community. Others are shown in the Grosse Pointe Area east of Connor's Creek, etc.

Green Areas, indicated in this illustration by shading, separate the living areas from each other and from the industrial areas. In Detroit, these industrial concentrations, because of the huge financial investment involved, are likely to remain in their present locations. For this reason they might also be considered communities. The location of these green areas is based on the present location of highways that will be retained, on plans for super-highways now under consideration, and on new locations of railroads shown in Fig. 45.

This stage of the planning study of Detroit is one step in advance of the community planning phase. In other words, the next step would be to make further studies of a group of the clustered circles—a community—and develop a study showing the disposition of the neighborhood units, as shown in Figs. 38 and 39.

Fig. 47 includes the industrial areas and repeats the larger circles which include living areas. Fig. 47 includes all data used in Fig. 46, plus the new highway pattern.

In general, this illustration is intended to define and relate the living areas and industrial areas, i.e., the future land use pattern for Detroit and its surrounding communities, and to serve as a master plan to co-ordinate further studies for the development of the city and adjacent communities.

This master plan includes the living and industrial areas; the green areas separating them; a system of highways consisting of the main highways that will be retained and super-highways now under consideration to prevent passage of heavy traffic through the living areas of the city; and a plan for the future development of the railroads, similar to the plans now under consideration, to provide a single passenger terminal for all the railroads and to eliminate the little-used lines in congested areas of the city.

The term, master plan, is misleading, as it implies a static quality not inherent in a working city plan. Planning for a city should reflect the constantly changing living habits and interests of the population. I believe this master plan is capable of adjusting itself to changes.

SUMMARY:

In this study it was intended to demonstrate that the planning of a city must take into account an area considerably larger than that included in the legal city limits, and to demonstrate a procedure whereby the separate communities may be examined in detail while keeping in mind their relation to the larger concept of planning for the area.

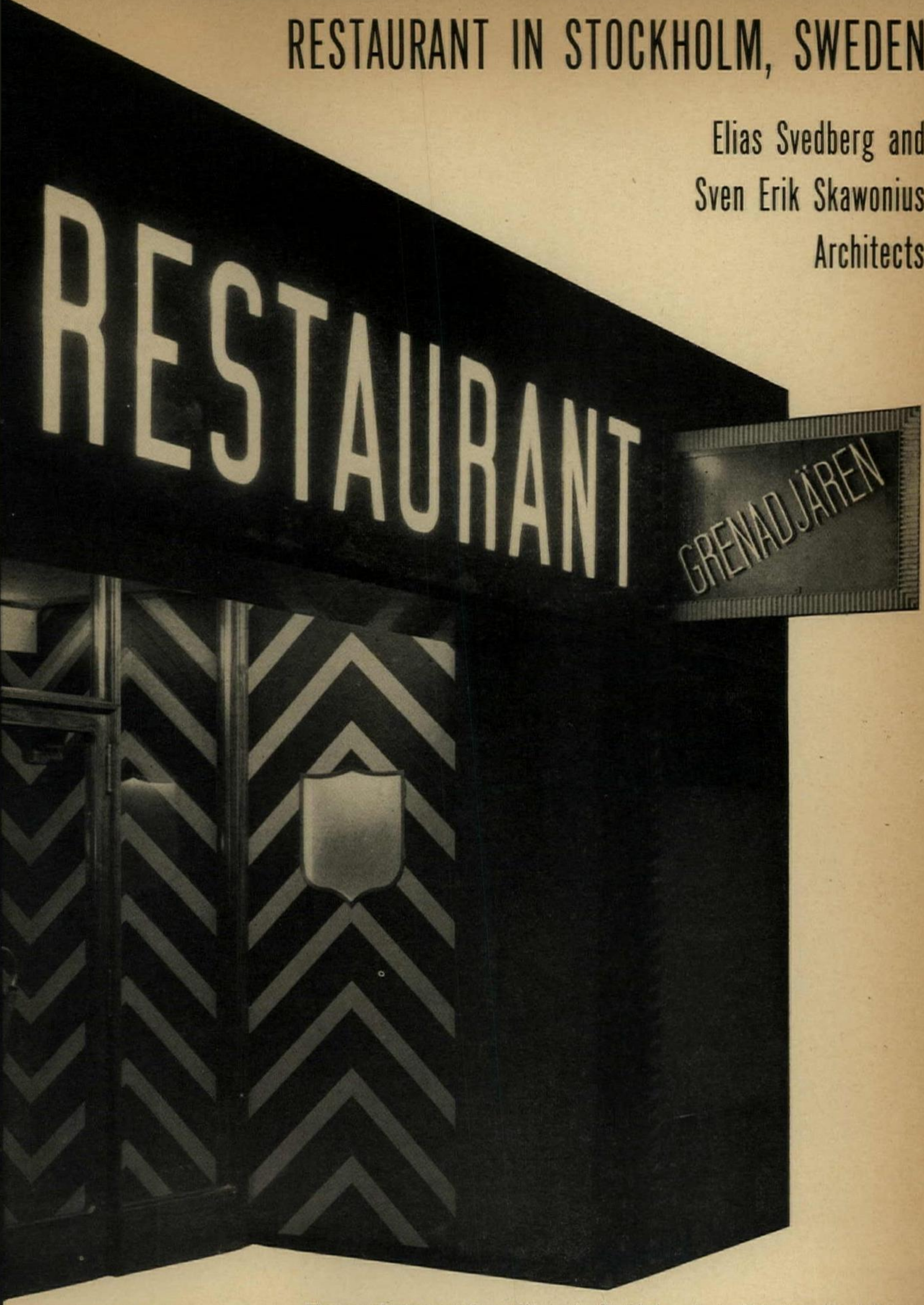
It is further intended to indicate that the method of studying a separate community may be expanded to provide a procedure for developing a master plan for the whole city; such a master plan has a flexible quality that would permit further study of the individual communities that compose the city and of their relationship to each other and to the whole.

It has been brought to our attention by Buford Pickens of Detroit that the use of the name of L'Enfant in connection with the plan of the downtown area of Detroit on page 54 of the December, 1943, issue might be misunderstood and lead to the belief that L'Enfant himself was the author of the plan. This, of course, is not the case, and Mr. Stephen used the name only descriptively to identify the type of geometrical planning associated with the plan of Washington. The matter has been referred to Mr. Stephen for reply in a later issue.

—Editors

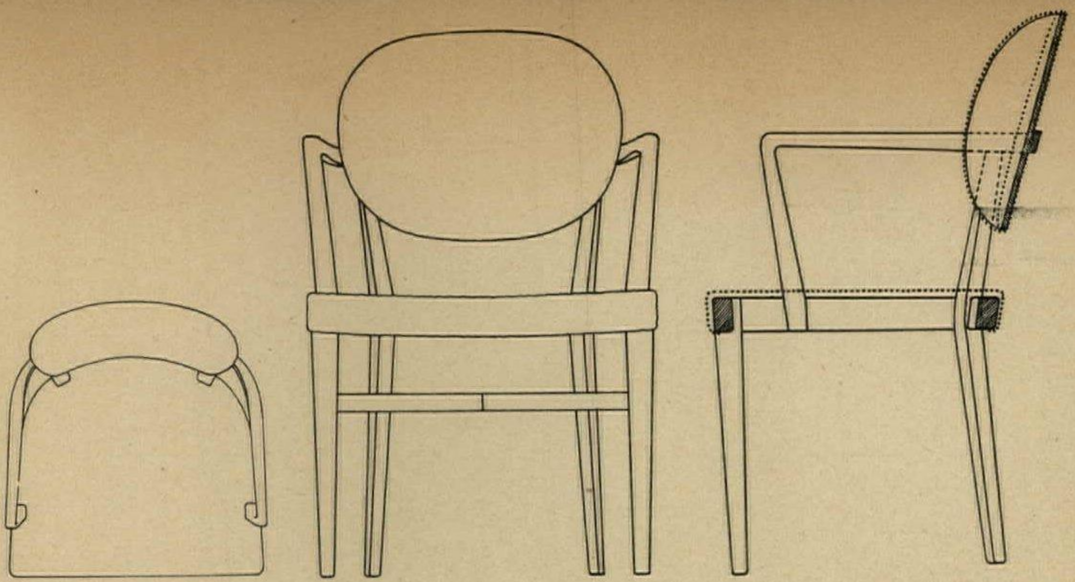
RESTAURANT IN STOCKHOLM, SWEDEN

Elias Svedberg and
Sven Erik Skawonius
Architects

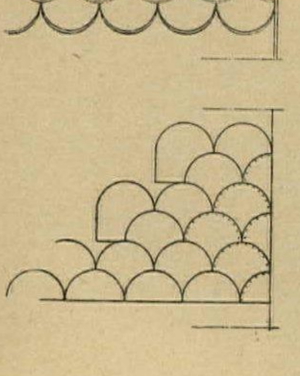


The new Restaurant Grenadjären, in Stockholm, shows, it is true, the influence of what department store decorators in the United States used to call Swedish Modern. But the rooms and their furnishings display something more than the elements which some of us have tried to make into a style: the interior, clean, fresh, and restful, is not sharply smart; and the architects have not been afraid to employ ornament which seemed to them appropriate.

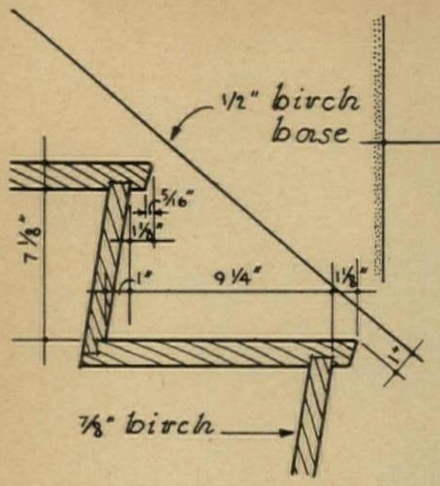
The wall mural, done in pastels, depicts a scene of the late eighteenth century on the spot where the restaurant now stands. There are two principal areas: one for the public, and one for tenants of the apartment house of which the restaurant is a part. This latter room is shown at the far right. Two of the public rooms are separated by sets of vertical louvers, of which, unfortunately, it has been impossible to obtain photographs. Furniture drawings at top right were prepared by the architects.



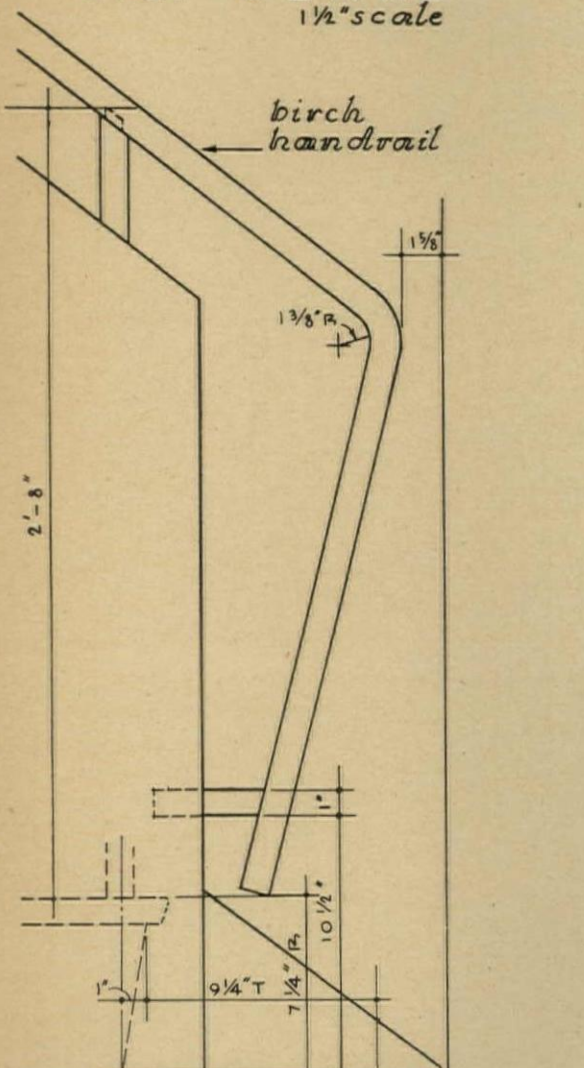
Photos by Wahlberg from Storch

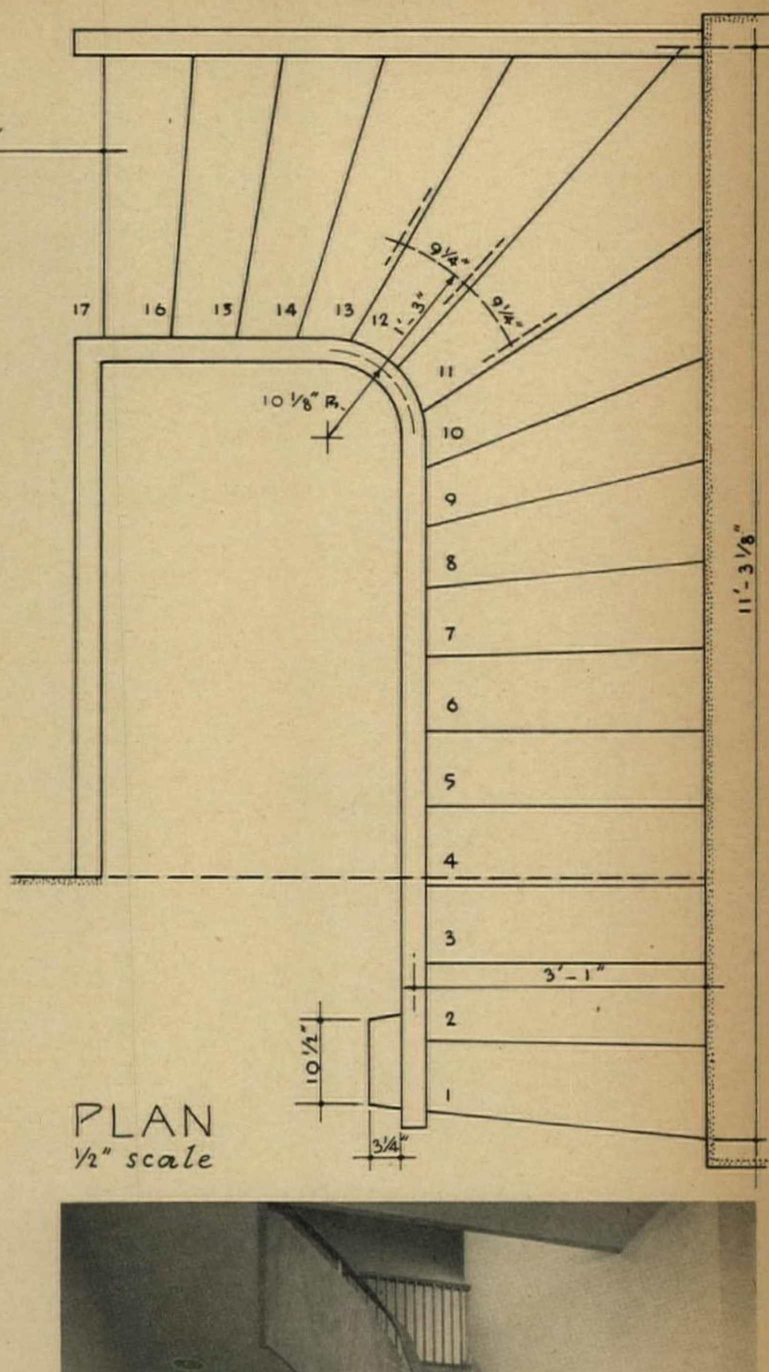


At left is a detail of the lapped wood panelling used on the wall of one dining room. This is much like shingling, except that the individual "shingles" are butt-nailed.

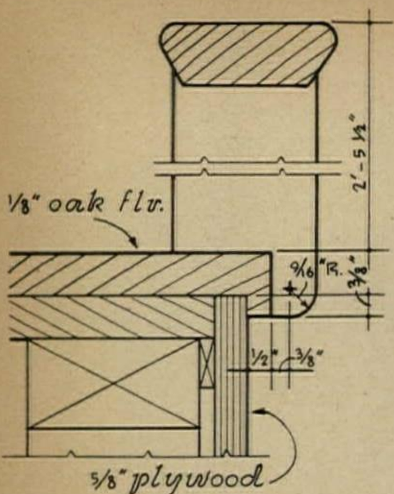


STEP DETAIL
1½" scale

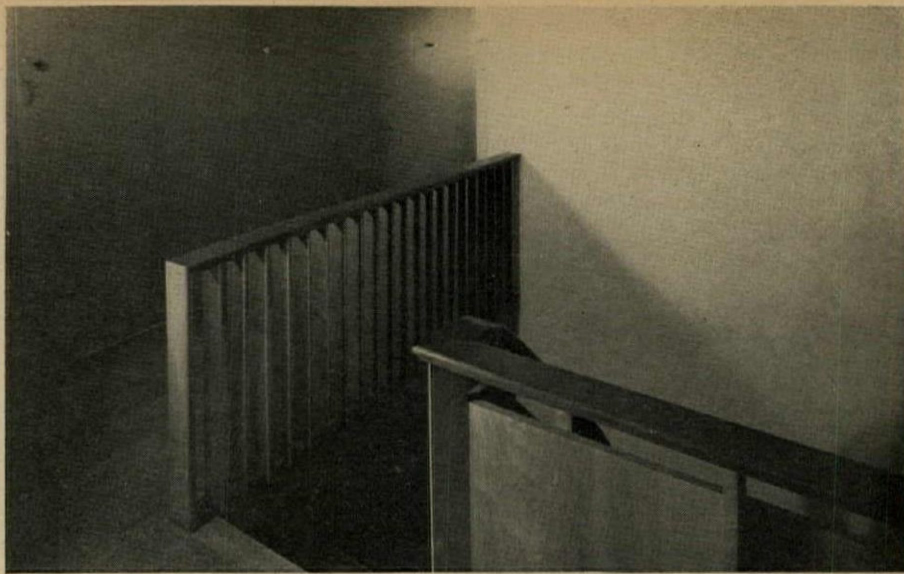


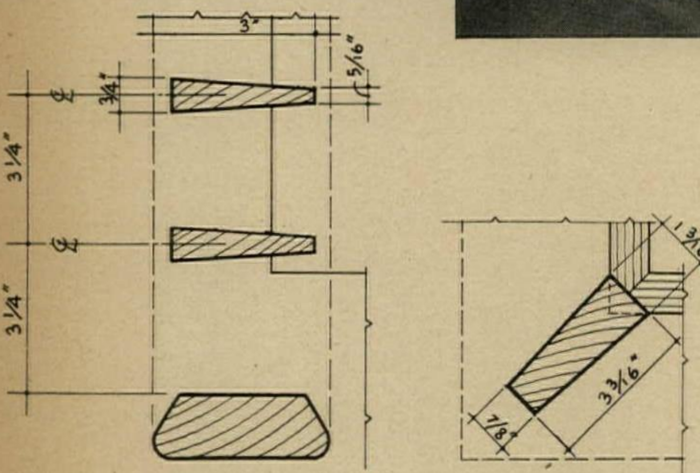


PLAN
½" scale

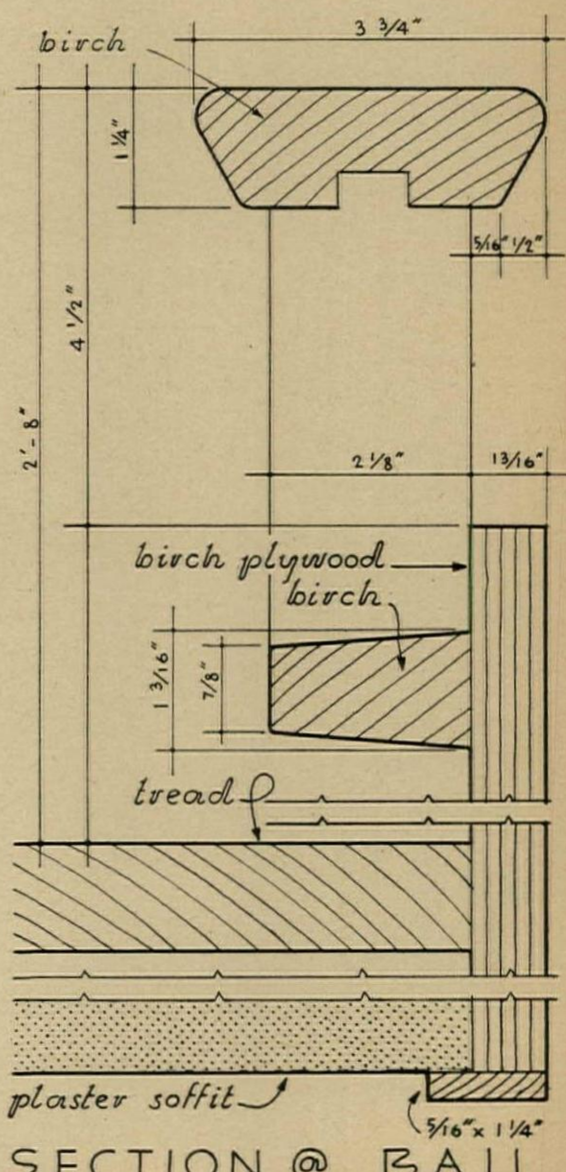


DETAIL OF RAIL

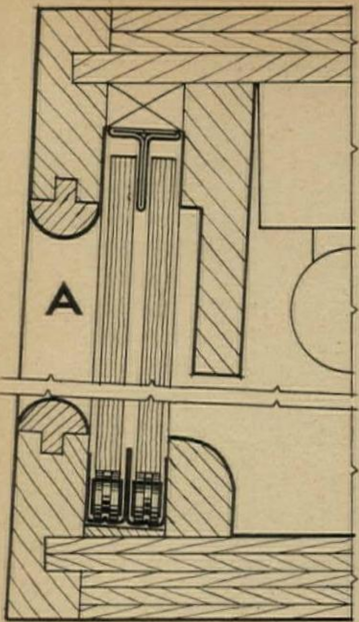




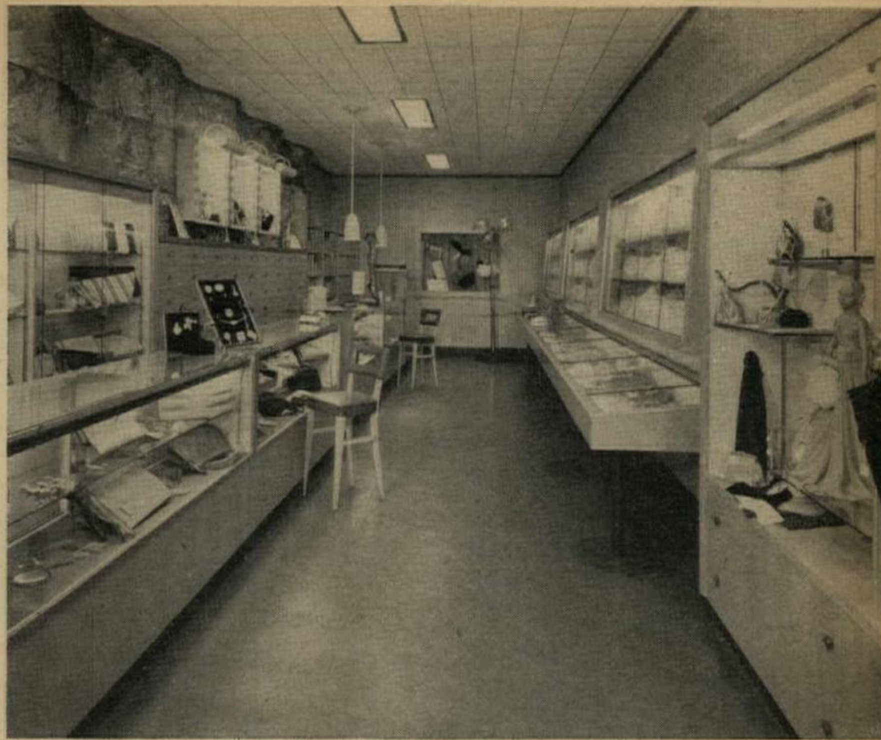
PLAN @ SECOND FLR.
1/2" scale



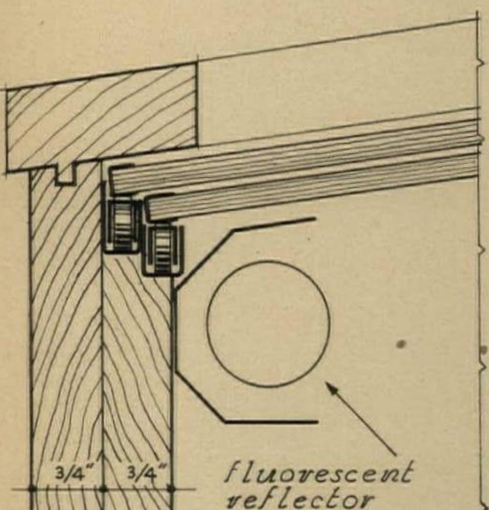
SECTION @ RAIL
half full size



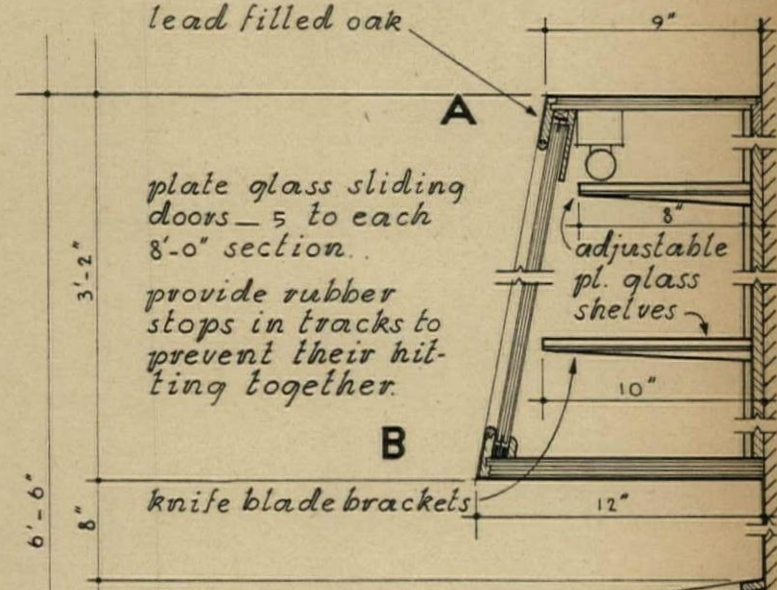
SECTION @ B
half full size



WILLIAM W. THOMAS

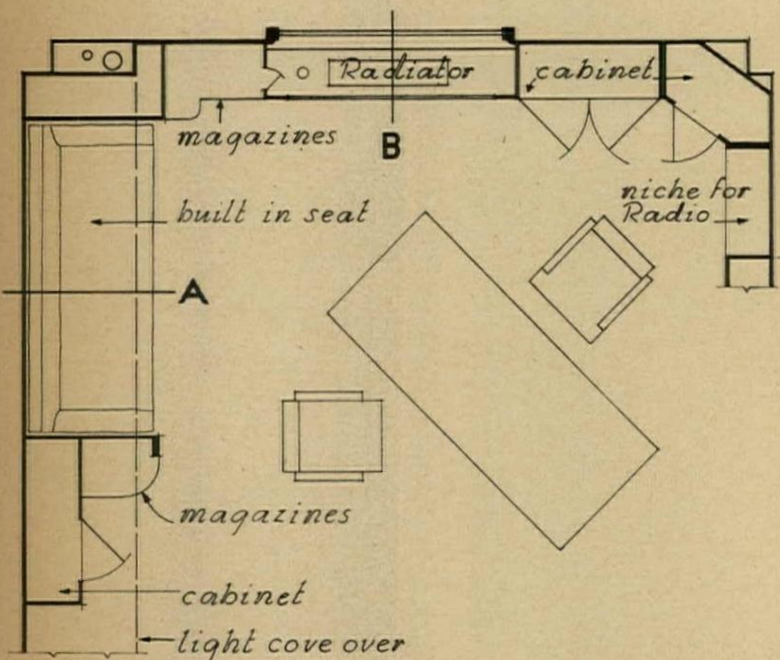


SECTION @ C
half full size

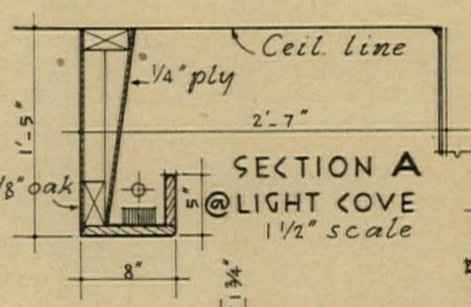


DETAIL OF HANDBAG CASE
1½" scale

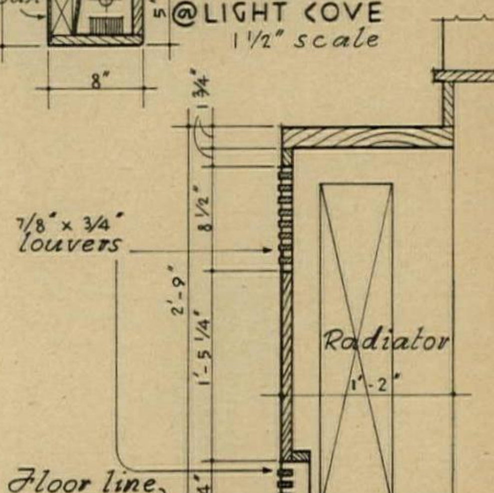
F. S. LINCOLN



PLAN OF OFFICE
1/4" scale



SECTION A
@ LIGHT COVE
1 1/2" scale



SECTION B @ RADIATOR
1 1/2" scale

Again, when he (Socrates) said about houses that beauty and utility were the same, he was giving a lesson in the art of building houses as they ought to be. He approached the problem thus: "Is it not true that to have the right sort of house it should be both useful and pleasant to live in?"

And this being admitted, "Is it pleasant," he asked, "to have it cool in summer and warm in winter?"

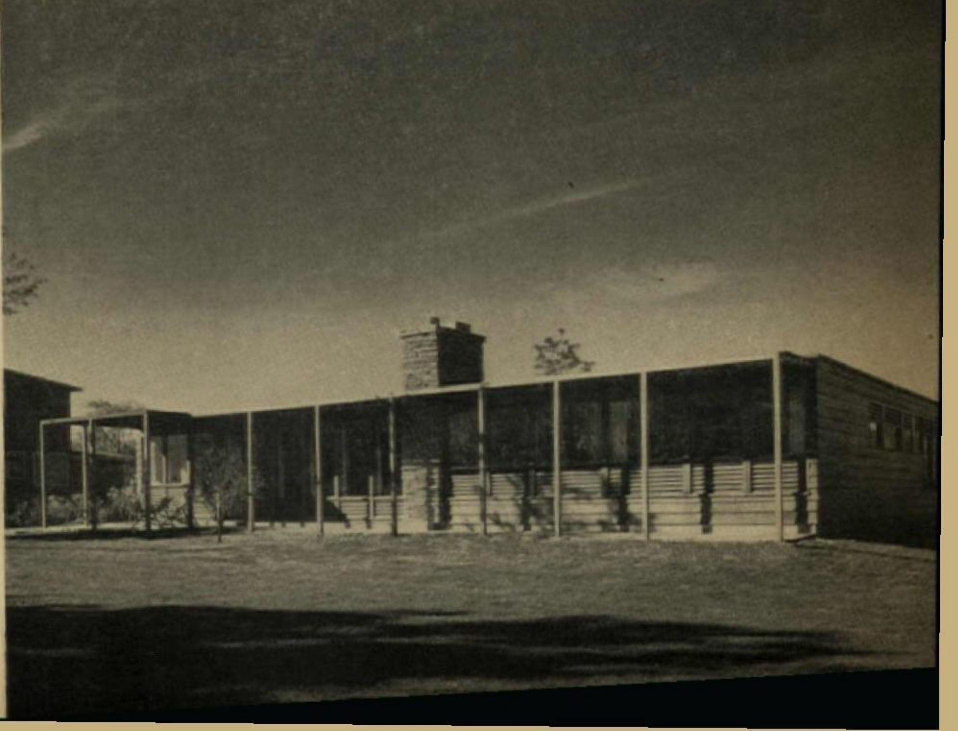
And when they agreed with this also, "Now in houses with a southern exposure, the sun's rays penetrate the porticos in winter, but in summer, being less inclined, they afford us shade. If, then, this is the best arrangement, we should build the south side loftier to get the winter sun, and the north side lower to keep out the cold winds. To put it shortly, the house in which the owner can find a comfortable retreat at all seasons and can store his belongings safely is presumably at once the most pleasant and the most beautiful. As for paintings and decorations, they rob one of more delights than they give." — *Xenophon's* Memorabilia, *Bk. III, Ch. VIII, translated from the Greek by Nino Repetto.*

INSOLATION and House Design

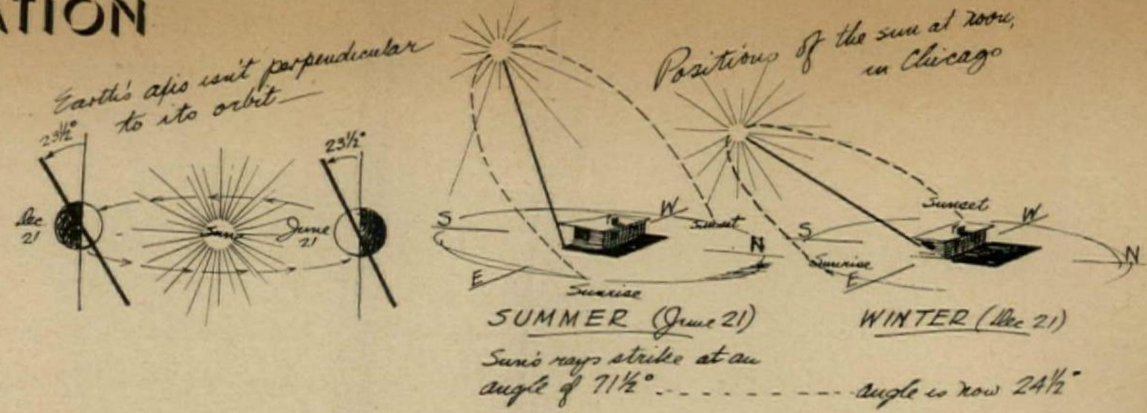
George Fred Keck, Architect

George Fred Keck may have consciously applied Xenophon's remarks in designing this and several other "solar" houses, or he may not—that is immaterial. Our purpose in quoting from the Memorabilia *is to demonstrate that logical house design antedates style, and that those who thought clearly about their houses, even in ancient times, valued comfort and safety above decor. It is regrettable that we in modern times have so often allowed antique forms to interfere with the convenience which our advanced engineering, materials, and equipment could afford us. On subsequent pages, the owner, Howard M. Sloan, a Chicago realtor, tells what he thinks of his house. Mr. Sloan has sold a whole subdivision full of houses like this one. They were recently reported, rather luridly, in a popular magazine.*

Photos by Hedrich-Blessing



INSOLATION



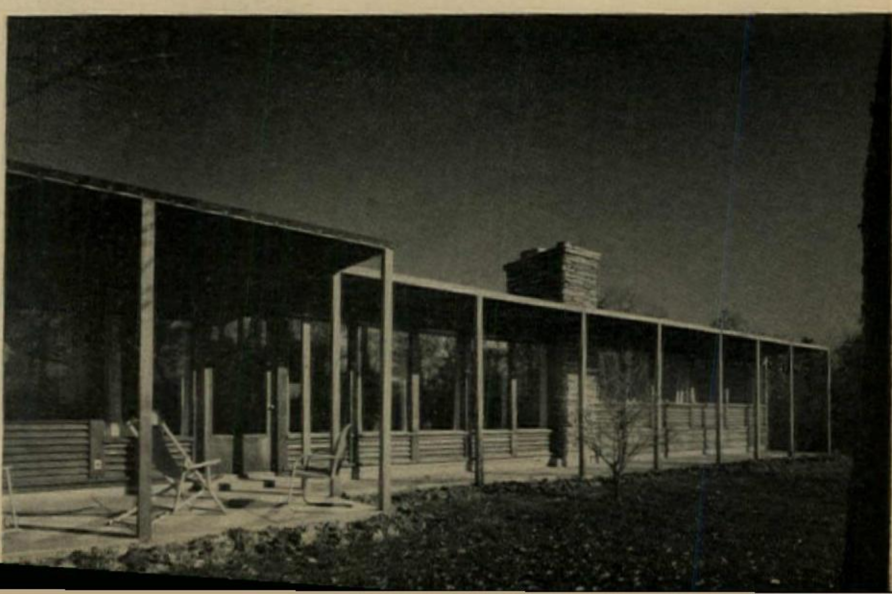
We Call Ours a Solar House .... by Howard M. Sloan

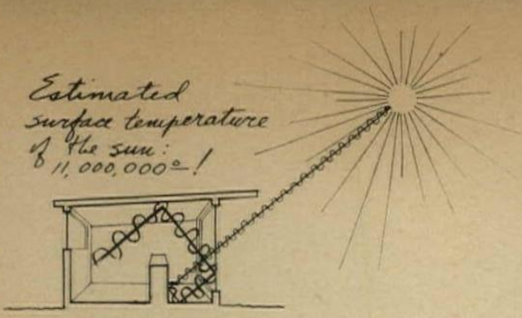
Sunday feature writers and others have been stating that the modern house, the so-called postwar house, will provide better living. How, and why? I shall try to tell you why I believe a house designed to utilize the numerous benefits of the sun will make for better living. Most of the story is based on our own experience; we have lived in a "solar" house for three years.

In our opinion, our eyes benefited most from the design of this house. Surveys show that 60 to 80 per cent of American housewives have defective eyes—that as a class they are surpassed only by draftsmen, stenographers, and others who do intensive eye work. The reason, in my estimation, is the design of our dwellings. Light in the traditional house on a sunshiny day will not average better than five footcandles, even in living rooms, which are usually the best lighted.

My wife was a good example. She lived, from the time she was two years old until she finished college, in the same house in Fargo, North Dakota. The house had the usual number of small windows, well protected from sunlight by curtains and drapes, resulting in the usual low intensity of daylight indoors. My wife, like millions of others, was compelled to wear glasses while she was attending grade school, high school, and college. She continued to wear them until six months after moving into our solar house. Since then her glasses have remained in the desk drawer, except for six weeks this summer.

A short time ago I visited Nela Park, Ohio, and called on Matthew Luckiesh, Director of General Electric's Lighting Research Laboratory. I laid out on his desk pictures of my home, and asked him if such a house could produce an improvement of the kind my wife has experienced. He assured me that it was possible. He spoke of how far the bars had to be lowered in Army eye examinations in order to conscript an army of ten million, because the eyes of the America's young men were in pitiful condition. But the most interesting fact is not how few boys could pass the eye test on entering the service, but the large percentage of one-time failures who *could* pass the eye examination after a few months under the bright sunlight of the drill field. Let's examine our home to see how daylight has been engineered for eye conservation.





Sketches at left show how wide, overhanging eaves on south side of house prevent direct sunlight from entering rooms in summer, yet are designed to admit it in winter. Mr. Sloan states that direct sun heat travels on a wave-length short enough to pass through heat-resistant glass while reflected heat has such a long wavelength that it bounces back from his windows. At right, light meter readings are being taken in the Sloan living room. Results are not yet ready for publication.

Interior of the living room. The patterned glass is in a movable sash between living room and game room.

Photo at left, below, shows relatively high intensity of natural light in the living room as it was designed. At right, alternate sash have been covered, remaining openings treated with muntins; note glare and low light intensity.

INSOLATION

1. In our home, all important rooms face to the south. Instead of holes in the wall for windows, we have walls of glass, which produce extremely high intensities of daylight.

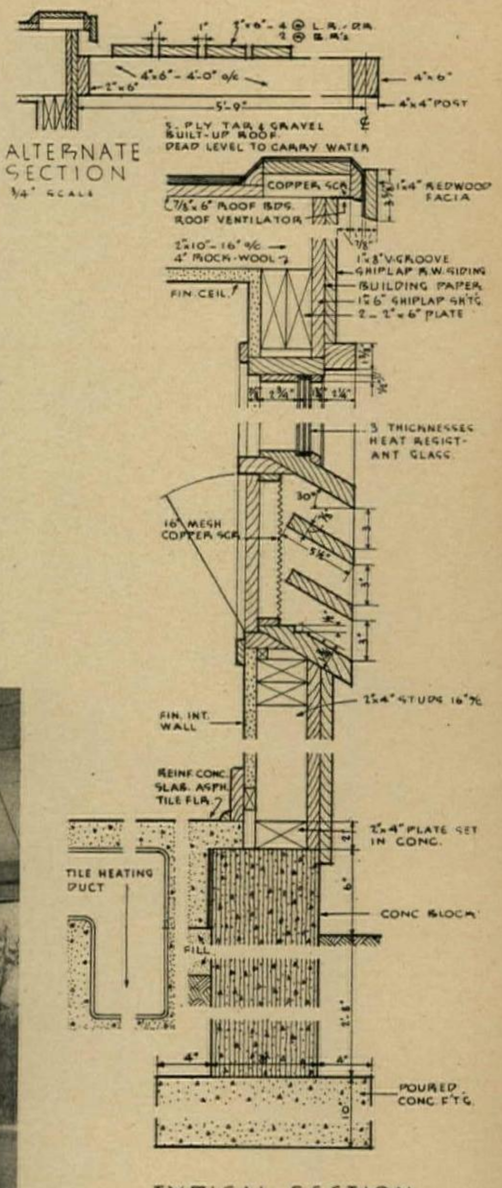
2. These continuous windows, from wall to wall, provide an all-important spread of even light. We have no "hot spots" produced by small windows surrounded by a wall, therefore no contrasts of light and dark to create damaging glare.

3. In our home the glass walls create a most pleasing, and more important, a very restful atmosphere. No matter where we are reading, sewing, or playing, if we lift our eyes, they cannot fail to get the momentary rest that results from looking beyond 20 feet. In a room without a glass wall, where no dimension is greater than 20 feet, the eyes are compelled to focus or work constantly, so the room is tiring.

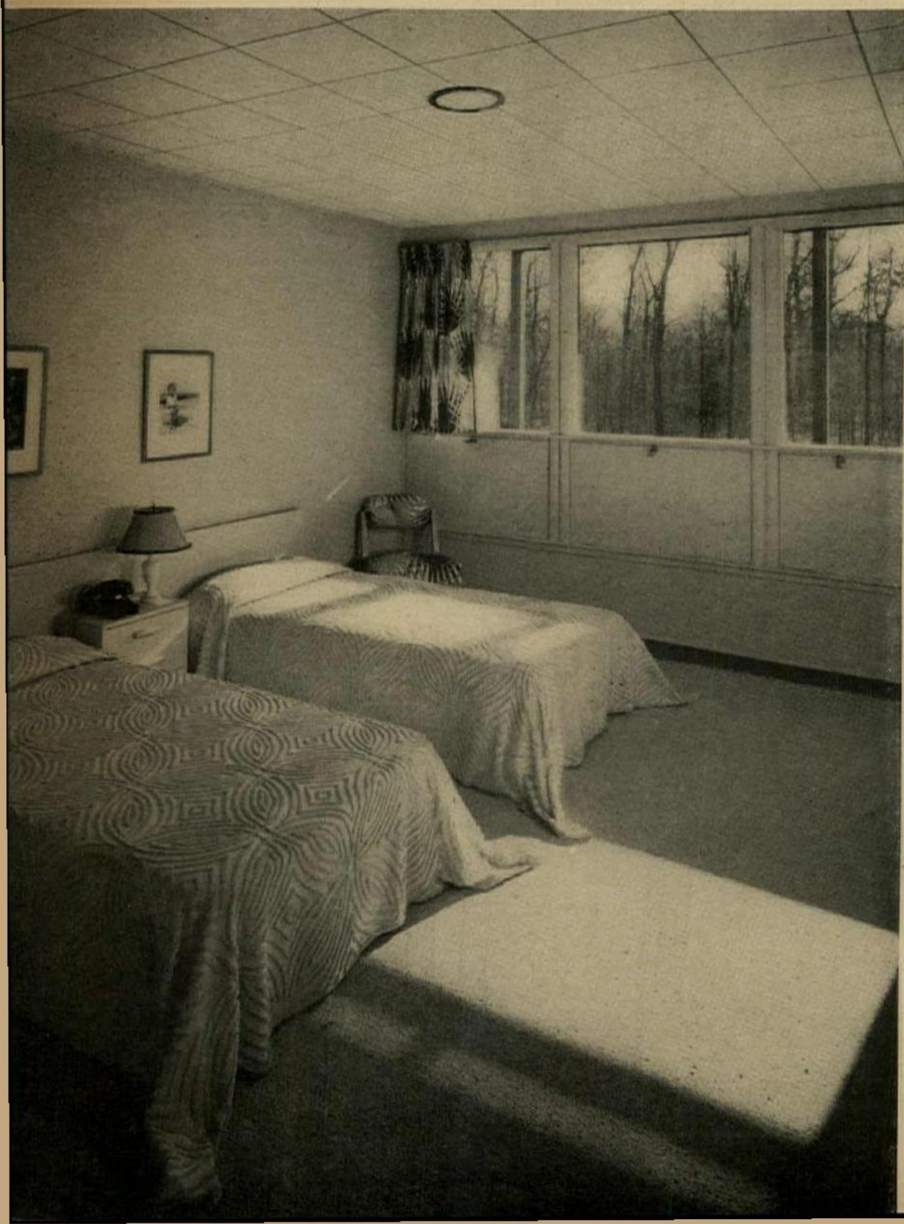
Architects think of the window over the kitchen sink as a means of watching neighbors, or children, or enjoying flowers. We think it the most restful feature in our home. The average housewife during an average lifetime spends 50,000 hours in the kitchen, which is usually small. Her eyes are compelled for a large share of the time to focus on a blank wall or cabinets only a few feet in front of her. A window over the sink is most important (according to eye specialists) for providing a complete rest for her eyes.

We think of children at play as doing no serious eye work, but their eyes are compelled to focus, and good, even light without glare, combined with the opportunity of resting their eyes with a distant view, is most important when they are young and their eyes are in the formative stage.

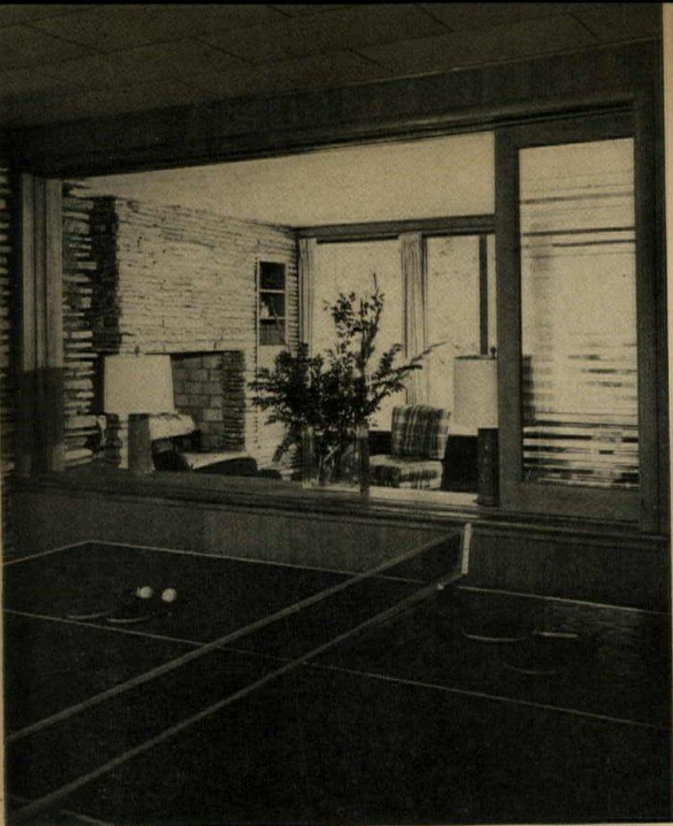
Our home is heated by a 115,000-pound radiator, made of 55,000 pounds of hollow tile over which was poured an estimated 60,000 pounds of

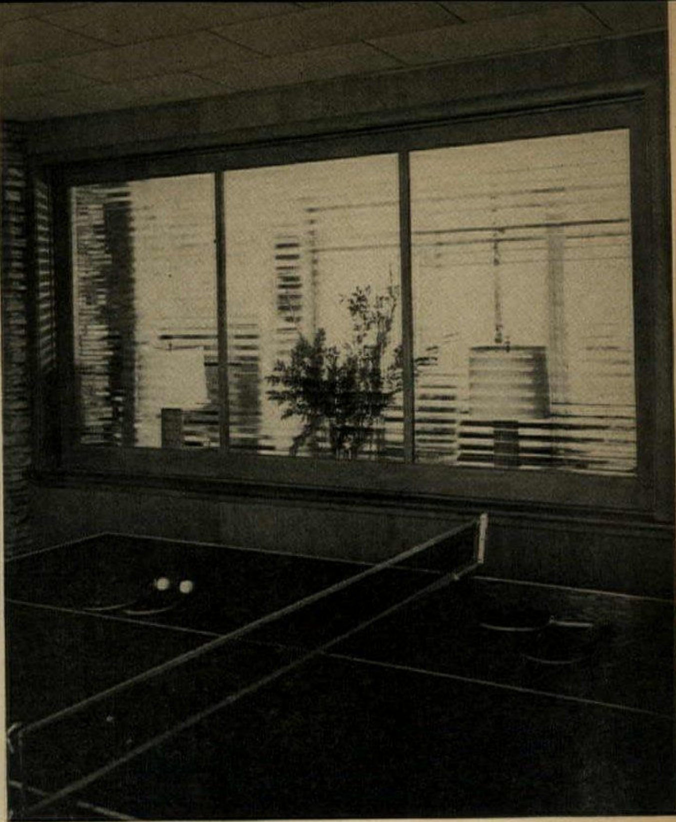


TYPICAL SECTION
1½" SCALE

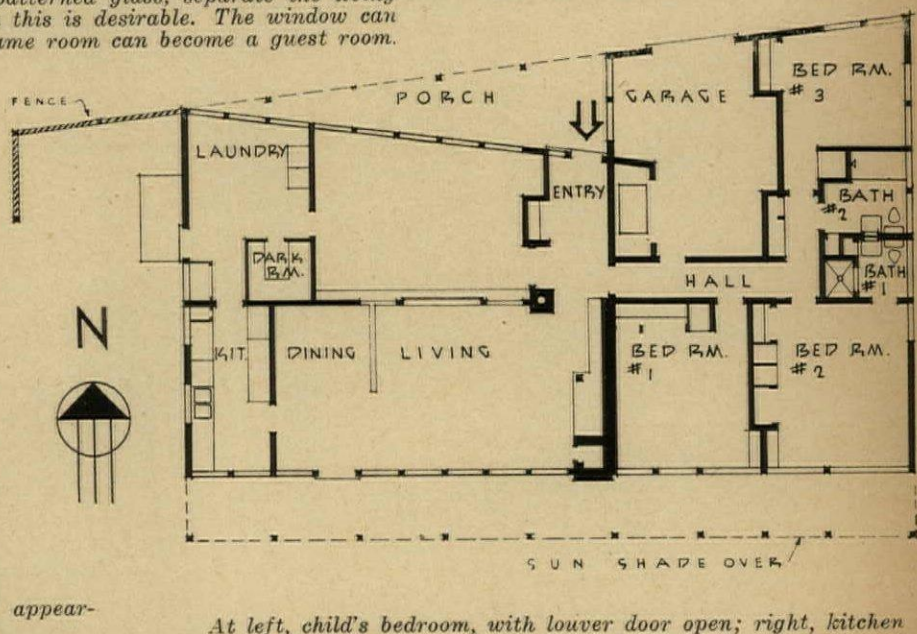


Principal bedroom interior, left, wall details above, and exterior photograph at right illustrate some unusual features. Note in section that roof can be flooded for summer cooling. Alternate section shows sunshade whose slats can be removed or replaced according to the season and the angle of the sun. Ceiling and walls have 4 inches of mineral wool insulation. Radiant floor heating system utilizes forced warm air distributed through glazed tile ducts.

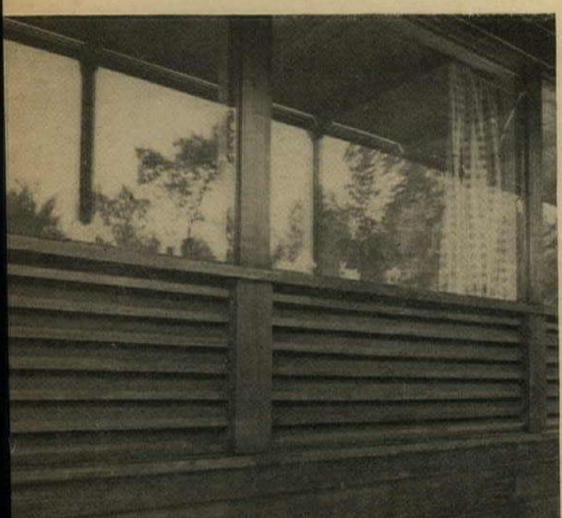




Sliding sash, glazed with patterned glass, separate the living room and game room when this is desirable. The window can be curtained, so that the game room can become a guest room.



Exterior wall showing appearance of redwood louvers



At left, child's bedroom, with louver door open; right, kitchen

In photo at left, muntined sash and alternate blacked-out panels are still in place. Note dark areas either side of the "window," family huddled in the light.

INSOLATION

concrete. Hot air flows through the tile, warming the floor, producing the finest heat we have ever enjoyed. We will never willingly have a home without floor heat. The concrete floor is covered with asphalt tile except the kitchen, which has linoleum.

The sun is a real aid in heating our solar home. Day after day the temperature reaches 75 and 76, relieving the furnace for 8 to 10 hours at a time even in extremely cold weather. When the sun is not shining, there is still solar heat. Irving F. Hand, head of solar studies for the U. S. Weather Bureau, wrote me that on a cloudy day we will receive 5 to 50 percent of the solar heat received on a sunny day, and on a hazy day 60 to 80 percent.

The Public Service Company of Northern Illinois, when they estimated my expected annual fuel bill for gas heat, figured $220.00 from September 15th to June 15th. I have a transcript of the actual gas bills for the first year, and my total bill was $135.96 for a winter 6 percent colder than normal. They admit that they know very little about estimating houses designed to utilize solar heat.

Since the story on Solar Housing in the January issue of *Reader's Digest*, 136 people have visited our house, more than half of them women. Their reactions may be interesting; as a majority they prefer:

1. House all on one floor.
2. Laundry room above ground and adjoining the kitchen, so they can sew, wash, or iron, and at the same time watch the cooking. They want to eliminate climbing basement stairs to answer the telephone or door bell.
3. Recreation room above ground, usable as a combination ping-pong room, den, children's playroom, and extra guest room.
4. Bedrooms on the ground floor for ease of maintenance. They agree that after the war servant problems will never be the same again.
5. The pan closet in the kitchen is a *must*, with all pans in easy reach.
6. Built-in features of all kinds are extremely popular.
7. I don't believe anyone has entered our home without admiring our panelled plywood wall.
8. Louvers for ventilation because this treatment makes windows rainproof, burglar-proof (big features with women); eliminates screens which mar views; permits ventilation while drapes are drawn for privacy.
9. Sliding partition between living room and recreation room.

I spent some time with Mr. Stanley Kershaw, head of the Home and Farm Division of the National Safety Council, who stated that the design of our house would prevent most accidents that occur in the average home. These accidents happen on basement stairs when both hands are occupied with carrying an object; on stairs to the second floor; in washing second-floor windows; and putting up and taking down screens. Sixteen thousand people die in a year from falls.

The U. S. Housing Authority has built thousands of houses, and the accident rate in their homes is 61 percent below our national rate. Since they have made studies which reveal where accidents occur in their home, they state they can cut the rate 31 percent more. So something can be done. We think war is hell, but in the past 24 months more civilians have been killed or injured in homes than all the American casualties on all battlefronts.

A dark day makes us feel depressed; we describe the day as gloomy. Houses, according to the available daylight, can either be dark and gloomy, or brighter and more cheerful. We never feel as chilly in a well lighted room as in a dreary one. Studies have been made showing that 67 degrees in a well daylighted home is as comfortable as 70 in a poorly lighted one.

Last week at one of our midwestern universities I had the pleasure of spending the afternoon with the Dean of the Architectural School, who called in the heads of the Home Economics Department, Art Department, Eye Research Department, and Psychology Department. We discussed for hours ways in which the home can increase happiness; and their conclusions were that a combination of a one-story house, designed without basement to reduce the effort required to care for it, plus properly engineered daylight for the benefit of the eyes, plus the psychological benefits of light and a cheerful color scheme, add up to a home safer, healthier, and happier for the occupants than our traditional homes could possibly be.