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APRIL 1944

21 A	
NEWS	65
PLANNED NEIGHBORHOODS FOR	194X
INTRODUCTION	71
A SYMPOSIUM ON NEIGHBORHOOD PLANNING	
Authorities on the planning, real estate and investment phases of residential development analyze the problems and possibilities of city and community planning.	
Objectives of Neighborhood Planning	79
Prerequisites of Planned Development	87
Pros and Cons of the Planning Process	95
Financing Urban Redevelopment	103
Planning for Private Investment	109
Conservation of Neighborhoods	117
Uniform Neighborhood Boundaries	125
An Organic Theory of City Planning	133
POSTWAR NEIGHBORHOOD PROJECTS	
Ten teams of Architects, Builders and Bankers present a variety of designs for new and rebuilt residential and civic areas.	
1. Small Rural Development, Boston, Mass.	73
2. Suburban Rental Housing, New York City	81
3. Rural Activities Center, Tenn. Valley	89
4. Public School System, Delano, Calif.	97
5. Desert Housing Project, Tucson, Ariz.	105
6. Riverfront Reconstruction, St. Louis, Mo.	111
7. Waterfront Development, Portland, Ore.	119
8. Residential Development, Burlington, Vt.	127
9. Recreation Center, Kansas City, Kan.	141
10. A Plan for Harlem's Redevelopment	145
FORUM OF EVENTS	4
Restoration of Naples Postwar design of the month A multi-projection theatre.	
PRODUCTS AND PRACTICE Home-Freezing: Deepfreeze comes out of the locker plant into the home.	12
BUILDING REPORTER	18
Wood bowstring trusses magnetic induction cooking new products technical literature.	10
BOOKS	34
Town Planning and Road Traffic Movable and Long Span Steel Bridges.	
LETTERS	44

NEXT MONTH: Fontana Steel Works . . . Living Memorials . . . Fifty Outstanding Buildings, selected by the Museum of Modern Art . . . Dental Clinics . . . House Portfolio . . . Prefabrication

Since January 1, 1943, TIME, LIFE, FORTUNE and THE ARCHITECTURAL FORUM have been cooperating with the War Production Board on conservation of paper. During the year 1944, these four publications will use 73,000,000 lb. (1,450 freight carloads) less paper than in 1942. In view of the resulting shortage of copies, please share your copy of THE FORUM with friends.

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Inside Story of Oil – In this diagram the dark droplets represent molecules that are more valuable for paint-making. The lighter ones are less desirable in a paint-film, but possess other commercial applications.



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OWI Photo by Palmer in an Allegheny Ludlum plant



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FORUM OF EVENTS

Restoration of utilities, railways, and buildings in Naples is vital in backing advanced Allied forces.

PWB Photo from OWI



Americans (left) inspect water main damaged by German mine. British (below) complete repairs on another main wrecked by Allied bombs prior to occupation.



Naples was twice "knocked out of the war"—for the Germans by Allied bombs, for the Allies by the German mines and delayed action bombs.

When our troops entered the once white mecca for tourists they were held up by mountains of rubble and wreckage that blocked many of the main thoroughfares. Naples had no water, no food, no fuel. Communications, utilities and banking, postal, hospital and fire-fighting facilities had been blown to bits.

Giving new life to this dead city became for the Allies an immediate necessity. As the front advanced northward supply and communications through Naples gained hourly in importance. British sappers and American soldiers had no time to bewail the loss of Naples' historic monuments. It took all their ingenuity and stamina to perform the gigantic task of restoration, and it was done in record time. Neopolitans who for centuries have annually beheld the miraculous liquification of St. Januarius' blood have this year witnessed a less mystic but equally dramatic transformation.

Photos: British Combine







The German gift for invention is translated into the sinister looking track buster (above, left). Herring bone pattern of the ties (center) bears witness to its efficiency. Italians lend the Eighth Army a hand in re-laying the rails (right.) Delayed action mine which exploded in Naples modern postoffice after Allied occupation wrecked interior and took a huge toll in life. Exterior was practically unharmed. Pictures below show explosion and restored building as it appears today.







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FORUM OF EVENTS



POSTWAR DESIGN OF THE MONTH

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This advertisement appears in Saturday Evening Post, March 4, 1944

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on industrial doors that help speed the flow of material IN and product OUT!

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LUPTON METAL WINDOWS

PRODUCTS AND PRACTICE

HOME - FREEZING — Commercial food freezing is a relatively new but increasingly lusty industry. As a technique, it is slated in the postwar world to come out of the factory and locker plant into the home.

Quick-freezing food at home is by no means as speculative a postwar technological dream as plastic houses and glass ovens. Before the war homefreezers were already established in many a farm home. With rationing, the demand for home-freezers zoomed. Victory gardeners, hunters, farmers and average housewives, eager to build a barricade against food shortages, stampeded the home-freezer market. Old ice cream cabinets worth \$25 as scrap were revamped into home-freezers and sold for as much as \$800.

The refrigerator industry is fully aware of the fact that the present demand for home-freezers may well be artificially hiked up by wartime food shortages. Nevertheless, the hardest heads among them are convinced that there will be a big postwar market for home-freezers. Spread throughout the U. S. there are now about 5,000 locker plants renting freezing space to some 1,600,000 patrons, with hundreds of thousands more licking their chops for a vacancy. These locker customers are regarded as prime prospects for postwar home-freezers, for they are obviously already sold on the freezing idea, and transporting food to and from the locker plant is something of a nuisance. Already, refrigerator companies are signing locker plant operators as sales agents for postwar homefreezers. While few companies are at present willing to discuss their homefreezer plans, virtually every company that made home-freezers before the war, and many others besides, are now at work blueprinting their product and market. Some refrigerator men are predicting a postwar volume of as many as 1,000,000 home-freezers a year -which would come to some \$200,000,-000 at prewar prices.

The introduction of the freezer into the home is bound to have as significant an impact on kitchen and utility space design as the refrigerator had in its day. For the apartment house dweller, the industry is talking of a combination refrigerator and freezer a small unit which might conceivably fit into an odd corner of the small urban kitchen. Most of the freezers produced prior to the war were of the chest type, opening at the top. If this design continues to preponderate, urban freezers might well be considered another unit to be built into the general work counter of the small, well-planned kitchen. Most existent kitchens however—small and large are space-wasters of a high order. Thus the introduction of still another standard unit might well force either a more efficient reorganization of their space, or a complete redesigning job. As for the brave, new postwar kitchen, it is certain that foresighted builders and architects will plan it with an eye toward the logical housing of the house freezer.

Why Home-Freezers?

Food preserved by freezing has many advantages. A recent Cornell University bulletin puts it this way: "Vegetables and fruits fresh as the day they were gathered from the garden, with color. texture, flavor and nutrients practically unchanged, can be stored in season for out-of-season use. A meat supply can he constantly at hand, varied in kind and cut, with original flavor and quality. No longer need there be a feast or a famine; no longer need meat be eaten to save it. Animals may be slaughtered during any season, at the time and at the maturity desired, with a saving in feed bill and in care.

"The busy housewife finds frozen food a real time-saver, for much of the preparation for cooking has already been done in the freezing process. Frozen vegetables take only a few minutes to cook. With planning, meats are thawed in the refrigerator and cooked as if fresh. Fruit juices and pulp may be frozen in the summer for jam and jelly-making later in the less busy days of winter. . . The family sharp-freezer and the storage cabinet or commercial locker make possible a diet more varied and satisfying, . . . and infinitely better eating."

THE FREEZING CYCLE. Stringbeans are drained and cooled after scalding, then packed in a carton lined with a "moisturevapor proof" envelope. The envelope is heat-sealed with a household iron (upper pictures). The foresighted housewife labels her carton as clearly as possible, for as the two middle lower pictures demonstrate, convenience-in-use is a problem still unsolved in freezer design. Most farm and home-freezers have two or more compartments, one for the freezing of foods—with temperatures maintained at from -10° F. to -20° F., the others for storage after freezing—with temperature maintained at 0° F. Some are equipped with a fan to speed freezing. Home-freezers are in general as easy to operate as refrigerators. Each freezer is built with much the same equipment as a refrigerator; an electric motor, a refrigerating compressor, and usually an adjustable temperature control.

All of the vegetables which are commonly cooked—with the notable exception of tomatoes—can be successfully frozen. Vegetables generally eaten raw, like celery and lettuce, are usually not very palatable after freezing. If carefully selected and properly prepared, most fruits take excellently to freezing. Freezing tends to make beef, pork, veal, game, poultry and game even more tender than it was au naturel, but poor meat to start with makes an even poorer frozen product





Eggs, cream, butter and cheese may be successfully frozen, and recent experiments have shown that bread, doughnuts, pies and baking dough retain their flavor and texture after months of freezing.

Thus, freezing is a far more versatile method of home preservation of foods than canning, for example. A further advantage over canning is the ease with which food can be frozen. Vegetables need only be scalded in boiling water, packed in the proper moisture-proof containers, and stored in the freezing compartment of the cabinet. Most fruits must be packed in heavy sugar syrups or mixed with sugar, for they are easily oxidized by contact with air. and freezing accelerates oxidation by breaking down fruit tissues. With oxidation reduced by the sugar pack, fruits are simply packaged like vegetables and placed in the freezing compartment.

Meat for freezing is cut into sizes and portions convenient for the family's needs. Meat should be boned as thoroughly as possible, to conserve freezer space, and it is packaged in the same way as fruits and vegetables—in vaporproof paper. If a lightweight paper such as cellophane is used, a stockinette wrapper is used over the paper to protect it from tears and breaks.

As with other methods of food preservation, home-freezing presents certain hazards to the unwary practitioner. A trap for the careless yawns at the

packaging stage. Because of the low relative humidity and the constant circulation of air in a freezer, foods held in storage dry out quickly unless they are protected by a "moisture-vaporproof" wrapper or package. Food that dries out in storage becomes rancid. takes on foreign flavors, and is tough and dry when cooked. Trouble has arisen because housewives have mistaken waterproofness for vaporproofness, and have used ordinary household waxed or oiled papers with disastrous results. A current factor added to the snares of packaging for freezing is the fact that most of the good wrappings developed for home-freezing have grown scarce since 1942. Vapor-proof cellophane supplies were cut short by the war, as were materials containing rubber and latex which had just begun to prove effective. Meat in particular, if badly wrapped, is subject to "freezer burn" or desiccation.

Certain kinks remain to be ironed out in design of home-freezers, the most important of which is the problem of convenience in use. The daily sorting and handling of packages to find a particular food when it is wanted has too often resulted in a scramble through the lot, or in the top packages being used first, with no regard as to which was frozen first. The present internal organization of the homefreezer is in the hands of the user, and while many ingenious housewives have devised methods of compartmentalizing and dividing the interior for easy handling, these efforts should more logically be the concern of the freezer manufacturer. Industrial designers are aware of the problem. One idea, already worked out, provides freezer compartments classified by name so that the housewife may press a tab in the same way she pushes a button to change radio stations, and presto, the freezer ejects a packet of peas.

The Industry's Plans

Large home-freezers are a natural for farmers, and possibly for suburban gardeners. But what of the city apartment dweller? The refrigerator industry is satisfied that it has the answer to his needs, and indeed, it looks for the biggest immediate postwar boom in a two-temperature refrigerator designed to meet both ordinary refrigeration needs and freezing needs. Such a box, a few of which were already on the market before the war, would have in addition to the regulation household storage compartment, a large separate freezing space in which frozen foods could be stored and fresh foods frozen.

Such a development would have tremendous significance. For one thing, it would undoubtedly have an effect on future kitchen layout and design. For another, it would undoubtedly help to speed the revolution in food distribution already taking place. (Frozen food distributors, for example, who started from scratch in the late 1920's, packed



PRODUCTS AND PRACTICE



CONTINENTAL refrigerator's lower compartment keeps foods frozen.



HARDER 6 cu. ft. home-freezer, designed for small families and urban use.



FRIGIDAIRE home-freezer's mechanism is designed for proper air circulation.



"ARCTIC TRUNK" freezer, pared to the bone as far as gadgets are concerned, costs less than the most popularly priced home refrigerator. 800 million pounds of food last yeara volume which will undoubtedly continue to grow by spurts and bounds in the postwar years.) Farm cooperatives are talking of building freezing factories and going into the marketing of frozen foods. Freezer companies themselves are interested in making quantity purchasing easy by delivering frozen foods, cooked and uncooked directly to the home. The Deepfreeze division of Motor Products Corp., which plans to make 150,000 homefreezers a year after the war, is already servicing Chicago North Shore residents with French-fried potatoes, soup, chicken a la king and other dishes prepared by a local night club. Deepfreeze's inventor, Willard L. Morrison, foresees the development of a fooddistribution system whereby large quantities and varieties of food cooked and frozen at central stations can be distributed from house to house. He is sure the day will come when housewives will be able to carry on for weeks without cooking anything. His views seem to be shared by others.

More Plans

Many refrigerator companies are planning to put out all types and sizes of home-freezers. Others plan to specialize in either rural or urban models, in one size or another. The Wilson Cabinet Co. for example, plans to put out a complete line from the small home storage unit up to large farm freezers of several thousand pounds capacity. Wilson, in 1939 put out an upright freezer when other companies were making the chest type similar in design to the standard ice cream cabinet. It is likely that the company will continue with the upright models after the war. Wilson, for one, doubts that a successful combination refrigerator and freezer can be put out, except in very small sizes. The company says that it has been working on a unit of this type, but that it has been unable so far to solve the problem of proper control of two temperatures with one condensing unit of this type. "As long as it is necessary," the company says, "to add a lot of gadgets to produce two distinctly different temperatures, we believe it will be advisable to stick to the present type of home refrigerator and install a separate unit for proper food freezing and storage."

Emil Steinhorst & Sons, which manufactured "Zero Temp" farm freezers and storage lockers before the war, sees the postwar market divided into two distinct markets—the rural and the urban. "The farm freezer unit," Steinhorst says, "must be of sufficient capacity to provide year round, home grown, well planned meals. The urban unit can be separate or incorporated in a two-temperature household refrigerator," but the size need not be very large.

The Harder Refrigerator Corp. will start its postwar production on farm and home-freezers in five different sizes, designed to cover every home needfrom small city apartment dwellers and others who will purchase frozen foods from their retailers, to large households which grow and preserve food for family use. The smallest size will have capacity for 100 to 150 pounds of frozen foods and will be designed to harmonize with other kitchen equipment. The next size will be 6 cu. ft. and will have a storage and freezing capacity for 150 to 250 pounds of frozen foods.

Harder plans to produce three other models—a 12 cu. ft. an 18 and a 26 cu. ft. capacity—two, three, and four door models of chest type with lift lids. Every model will be 29 in. deep so as to go through a 30 in. door. The 12 cu. ft. model will accommodate a family of two to four people; the 18 cu. ft. a family of 5 to 8 people and the 26 cu. ft. a family of 8 to 12.

The Sanitary Refrigerator Co., one of the largest prewar manufacturers of farm freezers, is not yet ready to discuss its postwar plans. Like the rest of the industry, however, it sees the postwar market divided into urban and rural models, with the urban model probably designed primarily for frozen food storage rather than freezing. Rural units, it thinks, may be built as large as 40 cu. ft. capacity.

Deepfreeze, like Sanitary, prefers not to discuss its postwar ideas. The company, however, will be ready to bring out new models, based on its patented circular design.

Of all the goodies temptingly packed in the technologists' postwar kit, the home-freezer seems slated to be one of the first served up. The frozen food industry is already talking about a postwar daily menu of 265 different kinds of food, including a scientifically mixed and fool-proof cake batter. Whether the frozen food boom will mean millions of large home-freezers, or millions of two-temperature combination refrigerators and frozen food storers, the technology of home refrigeration and the householder are bound to benefit. The builder who designs his kitchens or his utility space for the reception of these units should find himself in an advantageous spot.

The following companies also helped to provide material for this article: Refrigerator Corp. of America, Frick Co., Vilter Mfg. Co., Armstrong Cork Co., General Electric Co., C. V. Hill & Co., Inc., Victor Products Corp.



BYERS RADIANT HEATING

Every man concerned with building seems confident of a tremendous housing boom after the war . . . and many feel that Byers Radiant Heating will represent one of the greatest single changes from past practice. But with the immediate problem presented by the return of millions of veterans, repair and remodeling will probably have first call on available materials, and first attention from the building field . . . which has led to many questions about Byers Radiant Heating in modernization work.

Not only is Byers Radiant Heating completely practical for such jobs . . . but you'll probably find it the easiest, simplest solution to the problem. It calls for no more than the same thought and ingenuity that you apply to any phase of a remodeling project.

The first step . . . as with any heating installation . . . is to make a preliminary calculation of heat losses, and to provide weatherstripping, double glazing and other insulation where practical. Experience has proved that such expenditures reduce the installed cost of any heating system and will effect a continuing saving in fuel. Next, the number of feet of coils required, the spacing necessary, and the water temperatures needed, should be calculated. This offers no difficulties to anyone experienced in heating; we will be glad to give our assistance if any questions arise.

Placing of the coils involves no new problems; the sketches show several methods, all of which have been used in existing installations. The coils may be laid on strips of insulation on the sub-floor, with sleepers between to which the finished floor is nailed . . . or they can be laid on the joists, to which spacers are fastened to provide clearance and a nailing surface for the floor. A third sketch indicates how a header may be carried directly below the joists, and the coils bent to fit up into the space between them. In both the second and the third methods, insulation will be needed below. Generally the simplest way is to box in the joists, and insert loose insulating material.

In installing ceiling coils, the pipe is secured with adequate hangers, lath attached, and plaster applied. The heat loss calculations will indicate how much insulation should be placed above. Sometimes the height of the room will permit a false ceiling to be used, and the coils fastened to the old ceiling. However, your own experience will probably have indicated that it is not usually good practice to leave an old plastered ceiling in place when remodeling, as its life is uncertain.

The excellent fabricating and service qualities of Byers Wrought Iron make the same important contribution to remodeling jobs as to new installations ... and our technical bulletin "Byers Wrought Iron for Radiant Heating Installations" is full of helpful "how to do it" information. Do you have a copy?

A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS WROUGHT IRON

IN CORROSIVE APPLICATIONS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

1.



Architects recognize the importance-to our fighting men and to the general welfare of our country-of starting postwar plans before the fighting stops.

But architects are limited in the extent to which they can promote the starting of plans -and the directing of that planning to their own boards.

It was with this thought in mind that Fenestra, almost a year ago, inaugurated its "Start an Architect on a Plan Now" advertising. Ever since last July, we have advertised this message nationally in NEWSWEEK and other publica-

ALABAMA CHAPTER THE AMERICAN INSTITUTE OF ARCHITECTS

817-18 First National Bank Building Montgomery, Alabama

Detroit Steel Products Co., Detroit 11, Mich.

I am sure that I express the wholehearted sincere appreciation of all the architects in the country when I say congratulations on the fine advertisements concerning "Start an Architect on a Plan Now" sponsored by your company. Your strong suggestions on employing an architect, so that work can be started quickly upon the lifting of building re-strictions or at the cease of hostilities, are some of the best I have seen, if not the best.

With strong wide-awake firms like yours taking such active steps we in the construction industry are keeping faith that a better world will be born in the postwar era.

Again, CONGRATULATIONS for a swell job.

Sincerely yours, CA Ce e Clyde C. Pearson, President Alabama Chapter, A.I.A.

tions read by the men who must make the decisions to start plans and call architects into the planning picture.

Where is our gain? Frankly, we know that industry will fare better in the postwar period if plans are ready for immediate construction when the war ends. We know that it is our duty to do all we can to provide jobs for returning service men. And we welcome the opportunity to direct postwar planning toward architectsthe men who have helped us for so many years to sell the idea of better fenestration with good steel windows.

> DETROIT STEEL PRODUCTS COMPANY Now Chiefly Engaged in War Goods Manufacture Dept. AF-4, 2252 East Grand Blvd., Detroit 11, Michigan Pacific Coast Plant: Oakland, California

> > We have received many letters from architects commenting favorably on this campaign. A number of these architects have asked us for reprints of this NEWSWEEK advertising. Just how they are using them, we are not sure-although they are probably posting them in their offices and sending them to prospective clients. If you would like to have reprints of the advertisement shown on the opposite page, just write us. Be sure to state the quantity desired.

CCP:s

PROMOTES POSTWAR PLANNING



this war is over-not months later. That demands planning-now.

Who's going to do it? The government will do some. Business is making an earnest effort to provide millions of immediate postwar jobs.

But much of it has to come from you. You are the person who must start the plans that will lead to the building of that new home, apartment, store-or other building you want after the war. Architects and engineers are ready now to work with you-to work your ideas into blueprints so construction can start the day this war ends.

And you can do more. If your community needs a new school, hospital or any public building, call the need for planning it now to the attention of your school, hospital and public

Don't underestimate the job-building power of a single plan. A school or hospital can provide many months of work-both on and off the site-for the boys who return to your community. Even one small home makes the equivalent of a year's work for two men. Multiply that by the number of new homes needed in your community and you can see the huge potential of jobs in home building.

Start those plans now. It's one practical, concrete way you can show the boys at the front that while they are fighting your battles, you are working for their welfare.



DETROIT STEEL PRODUCTS COMPANY Now Chiefly Engaged in War Goods Manufacture Dept. NW. 2 , 2270 East Grand Blvd. • Detroit 11, Mich. Pacific Coast Plant at Oakland, California





BUILDING REPORTER







EXPERIMENTAL HOUSE in Coventry, England, makes use of a two-story prefabricated plumbing unit as well as a welded steel frame. Photo shows bathroom in upper part of unit. Located directly beneath, on the first floor, is the sink. Steel frame for walls, second floor and roof consists of welded tubular steel members and holds prefabricated piping.

MAGNETIC INDUCTION COOKING operated by magnetic waves, corresponds in principle to the energization of a radio receiver by a radio transmitter. The transformer in the range-top transmits 60 cycle magnetic pulsations from the open-ended transformer cores. The waves surge through iron pole-pieces in the bottom of the utensil, causing eddy currents to circulate in the aluminum mass of the utensil. This cold stove's resemblance to a wireless is demonstrated by a napkin placed on the range top. The napkin shows no scorch or burn after food has been cooked over it for the power comes through the napkin not as heat, but as magnetic waves.

NEW PRODUCTS

FIREPROOF FABRIC for drapery use.

Features: Fabrics of different textures, colors and designs are being woven of the glass yarn, Fiberglas. Most of the usual drapery materials can be made with this fireproof yarn, including plain materials, stripes and figures. Materials are not affected by extremes of temperature or atmospheric changes. They shed dust readily, are mildew proof, and impervious to moths and other natural fibre eating insects. Colors do not fade with sunlight or cleaning. Since the fabrics are permanently fire-

TECHNICAL NEWS

WOOD TRUSSES 200 ft. long, have been erected at the San Diego plant of the Ryan Aeronautical Co., under the supervision of the Bureau of Yards and Docks. These bowstring type trusses, which should not of course be confused with arches, are believed to be the longest wood trusses ever built. They were not only cheap to put up but they shorten the height of the walls required. The building in which they were used is 570 ft. long, 200 ft. wide, and has a 35 ft. clear height under the trusses. There are 31 trusses, 25 ft. high at the center, placed 19 ft. apart. The upper chords are laminated, permitting the use of smaller sizes of timber, and making curved chords relatively easy to build. The lower chords are solid timbers joined with steel splice plates. The trusses are designed to sustain customary loads, plus certain moving crane loads applied to the lower chords. All parts of the trusses were treated with a wood preservative to minimize shrinkage of the green lumber. Expert workmanship was required at the dapped joints of the diagonals and the spots where steel keys were employed at the heel joints and lower chord splices. Space was provided in the daps for pouring in melted lead, which not only insured dead fits, but also equalized distribution of stresses among the keys. Four "crawler" cranes were used at the start to lift the units into place. When a sufficient number of trusses were tied together by horizontal and vertical bracing to support laterally succeeding trusses, three cranes were sufficient. Close coordination was necessary between the cranes to maintain equal distribution of load while maneuvering into position.

proof, they make eminently suitable draperies for all places of public assembly-theaters, schools, offices, industrial buildings, ships and planes. Manufacturer: Thortel Fireproof Fabrics, 101 Park Ave., New York, N. Y.

DISHWASHER is entirely hydraulic. Name: O.E.D. Dishwasher.

Features: This motorless hydraulic unit requires only water connections for a complete and efficient dishwashing operation. Normal water pressure, (Continued on page 228)



IT DIDN'T DO THAT ON PAPER!

WE USED THIS PICTURE back in the spring of 1941 to illustrate a point about electrical appliances that is now being emphasized by many industry leaders in their discussions of post-war merchandise.

Row Brown Parts Bay

NUM

Manha

"The real test of any appliance," we said, "lies in successful performance in its natural element-the home."

The Bendix Automatic Home Laundry had met this test in more than 300,000 homes before the factory converted to war work.

And we think that is a pretty important fact to remember, because the preferred "washer" in completely equipped postwar homes will be automatic. And the Bendix principle is the only one proved by years of successful service outside the laboratory.

BENDIX HOME APPLIANCES, Inc. SOUTH BEND, INDIANA

The People who Pioneered and Perfected the Automatic "Washer"





STEEL, as produced today, is not a *single* metal limited in application by a few definite qualities. STEEL is *many* metals—ranging from the simple carbon steels to the most noble of ferrous metals, the stainless steels.

And while each of these grades of steel has specific properties that enable it to perform some certain task better than others, STEELS collectively offer the designer and builder a combination of qualities found in no other construction material.

When you plan a housing project, hospital, school, market, office building, industrial plant or other structure, remember that Steel-

- —is strong, tough, stiff, safe.
- —is high in strength to weight ratio—permitting reduction in bulk—saving space.
- -will not warp or shrink.
- -will not absorb moisture.
- -is fireproof, vermin proof, splinter proof.

0

0

-resists heat and cold, wear, corrosion, oxidation.

- provides a stable base for finishes -- metallic, vitreous enamel or various colored surface coatings.
- provides, in stainless grade, a permanently attractive, lustrous, silvery finish.
- —is sanitary and clean.
- -is easy to fabricate both by shop and job methods.
- -is adaptable to prefabrication and machine production.
- -is inherently long in life with little need for maintenance.
- -is low in cost per year of service.
- —is available in a wider range of forms than probably any other material.

Before the war, Republic offered you the most complete line of steels and steel products made by a single manufacturer. After the war, you may expect new benefits of our wartime experience, new developments in steel and new expansion of facilities to bring you more and better Republic Products than ever before.

Plan to use STEEL. It is versatile. It has been proved safe, sound, practical, economical. It will be ready for you when you are ready for it.

SEE SWEET'S FILE

or write us for detailed information on these Republic Steel Building Products.

Pipe—Steel, Copper-Bearing Steel, Toncan Iron Sheets—Steel, Copper-Bearing Steel, Toncan Iron Roofing—Steel, Copper-Bearing Steel, Toncan Iron Enduro Stainless Steel . . . Toncan Enameling Iron Electrunite Steeltubes (E.M.T.) . . . Fretz-Moon Rigid Steel Conduit Taylor Roofing Ternes . . . Steel Shingles . . . Steel Siding Upson Bolts, Nuts and Rivets . . . Wire Nails . . . Metal Lath Concrete Reinforcing Materials . . . Berger Lockers, Bins, Shelving Truscon Steel Windows, Doors, Joists, Steeldeck Roofs and other fabricated steel building products

REPUBLIC STEEL CORPORATION GENERAL OFFICES: CLEVELAND 1, OHIO

Berger Manufacturing Division Steel and Tubes Division Export Department: Chrysler Building, New York 17, New York



STEEL PRODUCTS

BETTER LIVING BUT ONE BY-PRODUCT OF

BETTER Living-in the mechanical sense-is indeed but one by-product of Victory. Men fight and die for more-far more-than postwar automobiles, radios, refrigerators or home heating plants. Certainly War Bond dollars will eventually build, buy or rent tomorrow's homes . . . will furnish them with innumerable mechanical aids to better living. And Oil-O-Matic will be proud to serve these homes with the finest products in its history . . . through dealerships that will mean the finest opportunity in the automatic heating field. But first, War Bond dollars must keep a tidal wave of battlewinning equipment flowing to our Fighting Men on all fronts. Victory must come first! The American way of life was the best way of life long before the day of the automobile, the radio, the electric refrigerator or automatic heating. Better living-the truly American way-is made up of countless little things-things that refuse to stay little when multiplied by more than one hundred and thirty million Americans. Better Living for any American-for all Americans-can come only from the work, the sacrifices, the lives, that will purchase Total Victory.

SAVINGS STAMPS & BONDS

WILLIAMS OIL-O-MATIC HEATING CORPORATION

BLOOMINGTON, ILLINOIS

OIL-O-MATIC

THE BONDS YOU BUY TODAY

ARE YOUR GUARANTEE OF A Better Tomothow

BUY

tra Maybe you've heard the story that's de going the rounds . . . and it's supposed to ki cours . 1ac going the rounds, and to save was alone en in her apartment when a fuse burned out to and put her in absolute darkness. Frantically, she got the electric company on the phone and asked for immediate help. an Phone and asney by men out on night us at service calls anymore," she was told. "But el you don't understand—this is an emergency,' she wailed. "Sorry," came the er t- reply, "we discontinued emergencies three " atl th is wa That's what everybody says about the ra r-1 of months ago." th

WHEN you include the Square D Multi-breaker in your specifications, you protect your clients against any such emergencies. And this modern convenience and protection costs little more than the fusible equipment it replaces—often actually less.

For large units, small units, prefabricated or otherwise—there is a Multi-breaker of exactly the right type and size. Your nearby Square D Field Engineer will be glad to work with you in setting up the best electrical specifications for any project you are planning. Currently, every Multi-breaker we produce is assigned to wartime service. But the same features which make it so valuable to the war effort, earn it a place in the homes which will be built in the future.

The Multi-breaker eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the shockproof lever restores current. There are no delaysnothing to replace.



esigned for SAFETY in dust-laden atmospheres

Carbon black, coal dust, coke dust and grain dust are hazards. To guard against dust explosions which may be set off by exposed arcs,



a large New England utility company (not identified for obvious reasons) is equipped with Dust-light Circuit Breaker Panelboards in all hazardons locations.

> At left: Lighting Standard type Dust-tight Panelboard and Cabinet for wall or exposed column mounting. (12" or 15" wide, as required.)



were expressly designed. They are proving vital protection in shell-loading plants, coal mines, coal processing plants, grain mills and other places where dust is dangerous. They are approved by Underwriters' Laboratories, Inc., for "Class II, Groups F and G, Hazardous Locations."

Instead of the usual steel front with door, these panelboards have a solid steel front plate, gasketed all 'round and secured with screws to the extra wide box flange. They are further rendered dust-tight with welded hubs for conduit outlets, welded box-corners, and handle bushings riveted directly to the steel cover plate. External mounting brackets are provided to maintain the dusttight construction.

The circuits are externally operable by a mechanism of new (6) design. The handles operate through dust-tight bushings, and engage the regular handles of the circuit breakers inside the cabinet. ON and OFF positions are indicated on the front of the cabinet.

The @ Dust-tight Panelboard may be had in standard type or in narrow column type. It is of the circuit breaker type, with either @ Type AC or @ Dublbrak circuit breakers (or other types of lighting branch-circuit circuit breakers)... Capacities: Lighting Panels — 50 amperes or less, for 3 wire, single phase, or 4 wire, 3 phase mains, with lugs only or main breaker. Available with 4 to 42 circuits. Power Panels—50 to 600 amperes, 250 volts AC or DC, and 600 volts AC... Frank Adam Electric Company, Box 357, St. Louis, Mo.





The BEST Advertisement ANY BUILDING OWNER COULD WRITE

The best advertisement, in this case, is never written. It is merely an impression which unconsciously hits the rental prospect as he enters, and glances about the building lobby. That impression can be good or bad, depending on what the prospect sees.

The well-dressed lobby is smart looking. Just as carefully chosen accessories complement and add focal interest to a room interior, so do Dahlstrom Elevator Entrances "point up" a lobby's design. It is here that leases are often signed before pens are ever touched to paper. In your lobby modernization planning, Dahlstrom offers the assistance of its staff of experienced designers. Working with you, there is every assurance that your elevator entrances will enhance the lobby's attractiveness. You can take a long step forward with your postwar modernization projects by putting our organization to work *now*. May we hear from you?





IF you read the recent announcement that Westinghouse Air Conditioning in the larger applications had been moved to the Westinghouse Electric Elevator Company, you may have wondered why. What does air conditioning have in common with elevators? Several things:

- **1.** Most air conditioning systems, like elevators, are "tailor-made" jobs, from the manufacture of the equipment through the final installation.
- 2. They both require engineers at the factory and in the field who are capable of this type of manufacture and application.
- From long experience, the Westinghouse Electric Elevator Company's factory and field organization is fully equipped to handle such work from beginning to end.

Thus, by a "regrooving" of responsibility — utilizing to best advantage, the engineering talent and facilities of a great company — service to the planners and buyers of Westinghouse Air Conditioning is vastly improved.

For information and engineering assistance on elevators and air conditioning in essential wartime uses or post-war plans, call your nearest Westinghouse office, or write Westinghouse Electric Elevator Company, 150 Pacific Avenue, Jersey City 4, New Jersey.



FACTS vs. FOLKLORE

THE FAIRY TALE ABOUT WOOD FLOORS

Once upon a time architects were afraid that wood sub-floors would cause cracking in asphalt tile laid directly on them. That's because some asphalt tile was too brittle and installation methods were faulty. But Kentile can now be laid *directly* on firm floors with T&G boards up to 3" wide and on most any wood floor when asphalt underlayment is used. Thousands of such installations have been made and every one is wearing perfectly.

THE BASEMENT COLOR-BOGEY

It was a terrible thing—that uncertain feeling architects had when they specified unusual colors for below-grade installations. They never knew what would happen. Now they can have an *unlimited* range of pattern and color combinations in any basement, because *every* one of Kentile's 44 colors can be laid below grade—with assurance.

THE PRIMING SUPERSTITION

Until a few years ago there was hardly a flooring contractor in America who didn't believe that below-grade concrete had to be primed before receiving asphalt tile. Then Kennedy demonstrated by hundreds of installations that Kentile, when installed with our recommended cement, can with absolute safety be placed directly on any below-grade concrete in good condition without any of the expense or time-waste of priming.

Asphalt





Here's the problem as Mr. Sanders sees it ... and what could be done

- "THE food store is especially dependent upon thoughtful planning and clear illumination for successful operation. The shopper must be able to find what she wants with ease; she must be able to identify color and read labels. Furthermore, she should be attracted to further purchases.
- "Good lighting tools were available to the public before the war; improved ones will be on hand with the coming of peace. With them, lighting effects can range from delicate subtlety to dramatic accent. For fresh vegetables, lamps that bring out crisp green qualities; for meats, soft warm light.

Through improved controls and equipment, emotional as well as visual scope of illumination has been happily expanded. When peace permits our fixture manufacturers and our designers and architects to fully utilize new lighting tools, we will find both selling and living easier,

pleasanter and more efficient."

FOR AN INTERESTING BOOKLET with further details on Morris Sanders' interpretation of lighting for postwar food store, write General Electric Co., Division 166-AF-4, Nela Park, Cleveland 12, Obio.



POSTWAR FOOD STORE

General Electric presents an interpretation by MORRIS SANDERS, AIA

This is the first of a series of visualizations on postwar lighting. General Electric commissioned several leading architects and designers to make them; and offers them as stimulating suggestions that will help you make light serve your clients most effectively.

P ERUIT



Sketch of fluorescent fixture suggested for fruit and vegetable section. For decorative effect, these would be mounted in coffered laminated ceiling panels.



This suggested luminaire for the grocery section would provide general lighting of floor and ceiling and concentrate light on adjacent stock shelves.

As you plan for postwar, or for present, remember this: Good lamps are the *beart* of any lighting installation. The creed of General Electric Lamp Research is to make G-E lamps

Stay Brighter Longer

Hear the General Electric radio programs: "The G-E All-Girl Orchestra", Sunday 10 p. m. EWT, NBC; "The World Today" news, every weekday 6:45 p. m. EWT, CBS.







M-H FUEL SAVING CONTROLS NOW AVAILABLE FOR COMMERCIAL BUILDINGS!

CONTROL

WHETHER you divide a building into heating zones in accordance with occupancy demands or to compensate for outside weather conditions, or both, you not only conserve fuel but save money as well.

Minneapolis-Honeywell Zone Control equipment is now available for all types of commercial buildings, tailor-made to meet your individual requirements. You use heat saved in low-temperature areas to heat those requiring higher temperatures. The cost of installation is nominal and will quickly pay out in fuel saved . . . Thus, you will be helping the war effort and saving money besides.

Your heating engineer or contractor, or the Minneapolis-Honeywell branch in or near your city can quickly show you how easily you can obtain M-H Zone Control equipment. A fuel saving survey for your building, made by our engineers without cost or obligation, will show you the economy of Zone Control. Investigate at once. Call the Minneapolis-Honeywell branch office in your city or write Minneapolis-Honeywell Regulator Company, 2740 Fourth Avenue South, Minneapolis 8, Minnesota.

EMS

SYS

Back the Attack - Buy MORE War Bonds!

Permanence ... Not in a "House of Cards"



TAKES ANY FORM OF DEC-ORATION — Any finish that is sprayed, brushed or pasted on may be successfully applied on Sheetrock: or it may be purchased already decorated — ready to apply.

FIREPROOF — Made from Gypsum rock that will not burn, Sheetrock walls and ceilings form a fire-armor that fights the spread of fire and protects the building framework underneath.



"WELDED WALLS"—Panel joints concealed and welded together by Perf-A-Tape ... stronger than the panels of Sheetrock themselves.



USS

VERMIN-PROOF—Sheetrock has a mineral core . . , it does not attract or support vermin of any kind.

WON'T WARP OR BUCKLE— Sheetrock is like a stone wall. It does not twist and pull out of shape with changes in temperature and humidity conditions.

SHEETROCK Fireproof WALL AND CEILING PANELS

This is a changing world—but sound principles of building construction always remain the same. People want permanence in their homes, lasting strength, beauty that endures. No one wants to live in a "House-of-Cards."

Sheetrock* precast walls and ceilings measure up to this universal desire for safe and sound homes. These strong, smooth panels are built to endure and to protect life and property. The mineral core of Sheetrock will not buckle or warp, nor support destructive vermin. Sheetrock is made in a full range of sizes, thicknesses and types of finish to suit varying uses and cost-requirements. It lends itself to any decoration; or can be had already decorated in smooth pastel shades or in beautiful woodgrain finishes.

Sheetrock, the fireproof wallboard, provides a fire-armor to halt the spread of fire. Twenty years and more in the proving ground of building have tested its enduring qualities. Continual improvement places Sheetrock well at the head of the preferred list for the buildings of tomorrow.

*Trademark Reg. U. S. Pat. Off.



This famous trademark identifies products of United States Gypsum Company—where for 40 years research has developed better, safer building materials

SUM PRODUCTS . STEEL . INSULATION . ROOFING . PAINT

GYPSUM WALLBOARD . SHEATHING . LATH . PLASTER

FIREPROOF GYPSUM

The World's most widely used Mineral for making Fireproof Wall and Ceiling Products

GYPSUM FIREPROOF ROOF DECK AND PARTITION TILE



In this music room Nairn Veltone Linoleum was used for floors, threads and risers; Nairn Plain Linoleum for feature strips and insets. Note how Nairn Linoleum meets the architect's need for a flexible material in modern circular design.

One of America's most modern schools

installs the most modern floor and walls

Active youngsters give a school plenty of tough wear. But the new J. W. Sexton High School at Lansing, Michigan, can "take" it. For walls and floors throughout are of Nairn Linoleum . . . beautiful, quiet and resilient, durable, colorful. Today in this most modern of schools, tomorrow's floors and walls of Nairn Linoleum are being previewed, pretested. A handbook on linoleum specifications for walls and floors is available for your use. May we send you your copy. CONGOLEUM-NAIRN INC., KEARNY, N. J.

Kearny plant recently awarded renewal star for Army-Navy "E" for continued fine record in the production of war equipment. Dig deep... buy War Stamps and Bonds regularly.





Domestic Science room that used Nairn Veltone Linolevm on floor, borders and base, as well as on window ledges and work surfaces. The walls are Nairn Wall Linoleum.





GAS-FIRED FURNACES AND HEATING UNITS

NCORPORATING EXCLUSIVE, TIME-PROVEN BURNER AND HEAT TRANSFER PRINCIPLES SUCH AS:

THE "Mutti-Thermen" HEATING TUBE

• The Janitrol Multi-Thermex heat exchanger utilizes a new principle in which each burner flame is directed into its individual tube of a battery of heat exchanger tubes. This eliminates the undesirable features of the old combustion chamber principle in which all the gas is burned in a large chamber before it is discharged through heat exchanger tubes. With Multi-Thermex—heat from the burned gases immediately comes in contact with the areas for heat transfer and is rapidly conducted through the tube walls to be wiped off by the circulated

air stream.

• The unique design of the Janitrol Amplifire burner permits the products of combustion to be directed into the Multi-Thermex heat exchanger tubes. These cast iron Amplifire burner heads have accurately milled slots into which are welded a series of alloy strips to form the burner ports. They are grouped together and welded in place in the milled slot of the burner head, thus forming a mass of tiny, deep ports. The patented, alternate or my, usep ports, the parameter, and the alloy corrugated and flat sections of the alloy strips allow for uniform expansion and contraction. The result is a clear blue, ribbonlike flame having a long range of turn-down combined with quiet operation.

THE Complifice BURNER



SURFACE COMBUSTION TOLEDO, OHIO

Janitrol Time-proven GAS-FIRED

S CONDITIONER MODEL FAC 1.00 AIR NTER MODEL FCS **GRAVITY AND THERMO-ATTIC FURNACES** MODEL BACA



WINTER AIR CONDITIONER . MODEL FAC

The Janitrol Gas-Fired Winter Air Conditioner for residential installation is offered in a complete range of sizes to handle requirements of from modern bungalows to large homes. The larger units also have found wide acceptance in commercial usage. Features include "Thermo-Drip Humidifier," "Multi-Thermex" principle of heat exchange, "Amplifire Burners," large capacity blowers and replaceable filters.

Catalog Number		Overall Dimensions (Inches)			Rating Btv.—Hr.	
		Front (Width)	Side (Width)	Height	A.G.A. Input	A.G.A. Output a Bonnet
FAC	60-14	183/8	27	58	60,000	48,000
FAC	90-14	223/8	27	58	90,000	72,000
FAC	105-14	243/8	27	58	105,000	84,000
FAC	120-14	273/8	30	58	120,000	96,000
FAC	150-14	343/8	30	58	150,000	120,000
FAC	180-14	423/8	30	58	180,000	144,000

WINTER AIR CONDITIONER . MODEL FCS

Janitrol FCS-24 Series Gas-Fired Heating Units as now used in hundreds of War Housing installations are the ultimate in low cost-compact -heating units for this type of work. Built as they are to meet the most rigid of specifications they still use a minimum amount of vital materials and as a result more heat per pound of weight is obtained than with ordinary equipment. FCS-24 Series Units are fully assembled and shipped in one crate.

Catalog Number	Overall Dimensions (Inches)			Bating Btv.—Hr.	
	Front (Width)	Side (Width)	Height	A.G.A. Input	A.G.A. Output d Bonnet
FCS 60-24	181%	26	481/8	60,000	48,000
FCS 75-24	183/8	26	487/8	75,000	60,000
FCS 90-24	243/8	27	51%	90,000	72,000

THERMO-ATTIC FURNACE . MODEL BACA

For basementless homes or where headroom is not sufficient, the Janitrol Thermo-Attic is ideally designed. Heat in winter-ventilation in summer, with a definite saving in floor space, chimney length and duct work are possible through this blower driven unit, installed compactly in the attic. This space saving unit is equally adaptable to certain industrial and commercial properties.

This type, the Janitrol Gravity

Furnace, utilizes the gravity principle instead of forced

circulation. Horizontal air flow principle assures maximum

Btu. output. Equipped with

complete automatic controls, this furnace meets the re-

quirements and refinements of

winter comfort. The compactness of the GAC makes it

perfectly suited for basements

with low ceilings yet allows for proper duct design.

	Overall Dimensions (Inches)			Rating Btv.—Hr.	
Catalog Number	Front (Width)	Side (Width)	Height	A.G.A. Input	A.G.A Output Unit
BACA 75-14	185/8	345/8	34	75,000	60,00
BACA 105-14	245/8	345/8	34	105,000	84,00
BACA 125-14	275/8	345/8	34	125,000	100,0
BACA 225-14	28	487/8	47	225,000	180,0

GRAVITY FURNACE • MODEL GAC

Overall Dimensions (Inches) Rating Btu.-Hr Catalog Front (Width) Side (Width) Height A.G.A. Input Output GAC 66-14 223/ 41 411/-66.000 52.80 GAC 88-14 303/ 41 70.40 411/4 88,000 GAC 110-14 373/8 41 110,000 88.00 41% GAC 132-14 411/2 105.60 443/8 41 132,000 GAC 154-14 123.2 154,000 513% 41 411/2

The Janitrol units shown on these two pages are equipped with Multi-Therm
URNACES AND HEATING UNITS

UNIT HEATER • MODELS UAS and UAC

e self-contained heating plants circulating rge volumes of heated air. The unit is spended overhead, directing warm air wn to the space where heat is most use- propeller type fans.

nitrol Gas-Fired Suspended Unit Heaters ful. Thousands of industrial, commercial and military installations are testimony to the Janitrol Unit Heater's popularity. The UAS and UAC series have direct connected

Catalog Number		Overall Dimensions (Inches)	Rating Btv.—Hr.		
	Front (Width)	Side (Width)	Height	A.G.A. Input	A.G.A. Output
UAS 50-14	161/2	211/2	257/8	50,000	40,000
UAS 65-14 UAC 65-14	191/2	223/4	273/8	65,000	52,000
UAS 85-14 UAC 85-14	221/2	237/8	303/4	85,000	68,000
UAS 100-14 UAC 100-14	251/2	251/8	303/4	100,000	80,000
UAS 125-14 UAC 125-14	281/2	251/8	33	125,000	100,000
UAS 175-14 UAC 175-14	24	321/4	34	175,000	140,000
UAS 200-14 UAC 200-14	281/2	321/4	34	200,000	160,000
UAS 225-14 UAC 225-14	281/2	331/2	34	225,000	180,000

UNIT HEATER • MODELS BAC and DUCT

wer Unit Heater: Where it is necessary deliver air at higher velocities than possi-with propeller type fan, and to deliver ated air against greater static pressure, Blower Unit Heater (BAC-14) is recomnded. Typical installations are in fac-ies and commercial establishments. Sizes mparable to UAS and UAC above.

itrol Floor Mounted Unit Heat-, similar in construction and tures to the FAC Series are al for stores, halls and comrcial buildings demanding a per-service kind of heating that n be supplied only by a blower be of floor heater. Efficient air tribution is accomplished by ans of the Adjustable Air Difer. If desired, duct work may attached to the top of unit and rm air grilles or registers ced in suitable locations.

Janitrol Heavy Duty Floor unted Unit Heater is ideal for plane hangars, tempering of ntilating air, large erecting ors, warehouses, shops and large space heating applicans. Its extreme simplicity coud with adaptability to all types kinds of buildings effects at savings of valuable, proctive floor space. Complete age of sizes and capacities is sible. Janitrol BBC-24 utilizes tional construction up to 1,-0,000 Btu. or larger in multiple ts. Each sectional unit has an ut rating of 250,000 Btu. per ar, per section. Adaptable to h duct work and directional user outlets.

Duct Heater: These units are for duct installations on heating or air tempering jobs where air is circulated by a blower system. The DUCT-14 is less fan, motor, brackets, louvers, fan control, casing and fan guard but provided with wind tunnel or casing to which can be attached rectangular inlet and outlet ducts. Sizes comparable to UAS, UAC.

UNIT HEATER • MODEL FACF

Catalan		Overall Dimensions (Inches)			Rating Btu.—Hr.	
Nu	mber	Front (Width)	Side (Width)	Height Including Diffuser	A.G.A. Input	A.G.A. Output at Bonnet
FACF	60-14	183/8	27	90	60,000	48,000
FACE	90-14	223/8	27	90	90,000	72,000
FACF	105-14	243/8	27	90	105,000	84,000
FACF	120-14	273/8	30	90	120,000	96,000
FACF	150-14	343/8	30	90	150,000	120,000
FACF	180-14	423/8	30	90	180,000	144,000

HEAVY DUTY UNIT HEATER • MODEL BBC

	Overall Dimensions (Inches)			Rating Btu.—Hr.	
Catalog Number	Front (Width)	Side (Width)	Height Including Nozzles	A.G.A. Input	A.G.A. Output
BBC 250-24	2' 33/8"	38″	1081/2	250,000	200,000
BBC 500-24	4 63/4"	38″	1081/2	500,000	400,000
BBC 750-24	6' 10½"	38″	1081/2	750,000	600,000
BBC 1000-24	9' 11/2"	38‴	1081/2	1,000,000	800,000
BBC 1250-24	11' 47/8"	38″	1081/2	1,250,000	1,000,000
BBC 1500-24	13' 81/4"	38″	1081/2	1,500,000	1,200,000
BBC 1750-24	15' 115%"	38″	1081/2	1,750,000	1,400,000

Heat Exchangers and Amplifier Burners as described on preceding page.



Uanitro Time-proven (GAS) FURNACES AND HEATING UNITS



JANITROL CONVERSION BURNERS

A wide range of capacities, sizes and shapes is offered in Janitrol Conversion Burners for every round or rectangular pot. Clean, completely automatic gas heat can thus be had in present boilers and furnaces. Push button lighting, finger-tip control and Janitrol leaning-overlapping baffles are a few of the features that have made these units widely accepted in modern conversion to gas heat.

Kathabar System for HUMIDITY CONTROL

A simple accurate method of humidity control and air conditioning for hundreds of industrial and commercial applications has been made possible by Kathabar System. The Kathabar System is complete, compact and will dehumidify, or humidify, in accordance with the need to maintain the desired percentage of air moisture. Kathabar performs this dual function of balancing air moisture as a single automatic operation, independent of air temperature. Sizes from the new Package Units starting at 750 c.f.m. to large, specially designed central systems of 100,000 c.f.m. give the designer a complete selection from which to choose.

Model	Capacity	0	Unit Weight		
		L	w	н	Pounds
75	750	48	30	78	1600
150	1500	62	30	78	2000
350	3500	941/2	42	82	3500
	5000	1071/-	49	84	4800

KATHABAR PACKAGE UNIT DATA

JANITROL WAR PRODUCTS

While regular residential Janitrol Gas-Fired Winter Air Conditioning equipment has not been fully available during the war, the facilities and engineering skill of Surface Combustion have by no means been idle. Many products for war use have been manufactured in large quantities. With the years of experience in heat and heating problems it is natural that Surface Combustion's contributions to the war effort would be along this line. Surface Combustion has been producing:

The Janitrol Aircraft Heater for cabin heating; cockpit warming; foot warming; windshield and all glass surface anti-icing, defrosting and defogging; wing and empenage anti-icing; engine warming; gun breech heating; heating of cameras, bomb sights, automatic pilots and instruments; cargo and transport—sick and wounded space heating.

The Janitrol Portable Ground Heater for aircraft engine, cockpit and cabin warming on ground; heating field hospital tents, headquarters tents, assembly tents, etc.; preheating engines, cockpit and cabin of amphibian planes; ice removal from ships, docks, wharves, etc.; heating mobile truck repair units; to prevent freezing of perishable goods during loading and unloading or while in temporary storage; for temporary, localized heating in unheated warehouses; to supply heat for concrete mixing or to prevent concrete freezing during severe weather; thawing frozen rolling equipment treads, brake drums, radiators, etc.; emergency heating of barracks, etc., during heating plant outages; man heating on outdoor labor during sub-zero weather and localized heating in shipyards, factory yards, and other locations beyond the limits of regular heating systems.

Many developments have been made along this line by Surface Combustion with consideration of peace-time applications. As an example, the Janitrol Portable Heater should find much use on construction projects wherever heat is necessary or heating during construction, before the permanent heating system is installed, keeping material stock piles above freezing point, etc.

TOLED

For further information on Janitrol equipment ask for specification sheets giving complete engineering data.

SURFACE COMBUSTIO



TO PROVIDE MORE BEDROOMS FOR GROWING FAMILIES

WATCH WOODWORK

"Give us more bedrooms in our postwar crowded families throughout the country especially those with growing children—surveys indicate. But to provide such extra partitioning in small homes often taxes the designer's ingenuity.

Here, again, doors, frames, windows and woodwork of toxic-treated Ponderosa Pine supply a practical, economical answer. In Ponderosa Pine, stock designs provide not only variety, but the assurance of precision manufacture which every home owner wants. Wood—thanks to modern research—is today a better building material than ever, fitted to the most modern needs and demands.

To make the homes of tomorrow more useful . . . more economical . . . more convenient . . . it's worth your while to *watch woodwork*.

A STOREHOUSE OF PLANNING IDEAS

See this 32-page idea book, "The New Open House," in planning windows, doors, frames and woodwork for every room! Dozens of photographs, illustrations and diagrams—pages of helpful information! Your copy is free—mail the coupon for it!





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Name	
Address	
City	State

BOOKS

An intelligent, farsighted study from England, a demonstration of the effects of traffic problems on the theory of town and country planning . . . A textbook on movable and long-span steel bridges.

TOWN PLANNING AND ROAD TRAFFIC. By H. Alker Tripp. Edward Arnold & Co., London. 118 pp. Illustrated with plans and diagrams. 6 x 81/2.

Perhaps the most exciting thing about planning in its current state is the really extraordinary unity of outlook that is developing throughout the professions and throughout the world. What makes it exciting is that this unity has not existed for a very long time.

City planning, in the past half century, has gone through a series of swift transitions which have paralleled the thinking in other fields. In England. when the traditional black drabness of the British industrial towns had reached an all-time low, the garden city idea of Ebenezer Howard was put forth. Definitely a reaction against the swollen ugliness of the metropolis, the ideal advanced was that of new communities, pure in air and a soft green in color, where production, shopping and residence were concentrated in communities of manageable size. The garden city dream was popular and a few were built. As transport developed. however, the pattern actually produced was that of the ribbon development, which merely spread the blight of the big towns across the countryside. To meet this new disaster, the scheme of

the satellite town was advanced, an attempt to cut the ribbons, as it were, and to tie them up into communities which were essentially dormitory towns. This, unlike the garden city, was realistic to the extent that such suburban units were in the process of rapid formation. In fact, they did so very well that our towns are now concerned with the effects of the decentralization process, for values and population at the center are shrinking and municipal bankruptcy seems to be one of the more probable postwar events. In the U. S., at least, there was a stage between decentralization as a rosy feeling in the collective bosom of the Chamber of Commerce and decentralization as the instrument which was to wreck our cities. This stage, which occurred in the middle twenties, was memorialized by the renderings of Hugh Ferriss and the later projects of Norman Bel Geddes. It envisioned the endless expansion of the metropolis, the creation of a new Babylon where man finally swapped his legs for elevators and moving sidewalks.

The picture today, unlike that of the garden city, the dormitory town or the super-metropolis, not only has the virtue of apparent conformity with the needs of the times, but it seems to be a rather attractive one in the bargain.

This picture is the one developed in the special issue of last October, and continued in the present number. Briefly, it envisions the creation of units large enough to support certain neighborhood facilities such as shops and schools, but small enough to be negotiated on foot. It resolves the problem of how to use automobiles and buses at efficient speeds within cities without further disrupting and endangering the lives of pedestrians. It does not deny the validity of the city as a market and cultural center, but it attempts to bring within the city those highly desirable features normally associated with the small town. This concept was not invented by anybody, nor is it limited to any country, any economy or any ideology. It appears in the planning projects for Amsterdam, Willow Run, Moscow, London and Stalingrad. Even with the new influences brought to bear by air transport, it appears as a very clear picture of the goal toward which cities the world over will move during the next fifty or hundred years, or at least until that hard-to-imagine time when all need for the city as a social and economic organism will have disappeared.

One reason that such assertions can



Three drawings showing 1) the site for a small subdivision 2) the developer's road plan and 3) the plan as modified by the traffic specialist. Note the elimination of intersections



A, C and G. At the intersection of the subarterial road CBF and the main highway AFE a traffic circle has been introduced. Junction D has been staggered and two sets of traffic



signals were introduced on road CBF. Without disturbing the general plan of the development the traffic safety factor was increased by 300 to 400 per cent.



For the First Time . . . a House Completely Factory Built!

As the largest builder of homes in the United States during the war period, producing as many as 20 different types of housing units, Palace is universally acknowledged as having achieved the greatest technological advance in home construction that has been made in centuries.

Starting from scratch, unhampered by building practices of the past which dictated that houses should be built thus-and-so, Palace conceived the idea of designing a house that could be completely built and equipped within the walls of a factory, then folded up and transported to the building site by motor truck.



The result is a type of house entirely different from anything ever built in the past — an expansible house that can be varied in size according to each individual family's needs. And, because it is based upon a principle of design which makes possible economies never before dreamed of, it marks a tremendous forward step in the solution of the problem of low-cost housing.

The fact that the Palace expansible house can be delivered direct from the factory to the lot on which it is to be placed enables it to be marketed through retail channels with only a very small investment. It presents, therefore, an exceptional opportunity to those who are making plans to be identified with the home-building industry in the boom years that will follow the war.

Send for Literature.



BOOKS (Continued from page 34)

be made with considerable confidence is the appearance of a book like this study by Mr. Tripp. Mr. Tripp is the Assistant Commissioner of Police at Scotland Yard. A policeman and not at all a planner in the academic sense of the word, he has nevertheless been led, through his official concern with traffic and traffic accidents to a position on city planning which is exactly the same as that of the professional planners. It is this which is the most exciting and significant fact about planning today.

When the traffic expert, in his job of reducing accidents, arrives at a plan; when the school authority, working with pedestrian radii for elementary and secondary schools, arrives at a similar plan; when a social worker (see Dr. Deardorff's article, page 125) comes to the same conclusions for different reasons—then it becomes clear that planning is being molded by the conditions of life itself and it has passed beyond the stage of escapist suggestions and paranoiac visions, and becomes a useful social art.

Mr. Tripp's conclusions are typical, and their logic is inescapable: "To try to work in water-tight compartments is fatal. If anyone thinks for example that the use-zoning in the town plan can be left entirely to one party and



Plan diagram showing three "precincts" in a city, with arterial roads as the barriers between them. The arterial roads are treated like U. S. express highways, except for the substitution of traffic circles for the more expensive highway bridges. The local roads within the precincts are designed to discourage any kind of through traffic, and connect with the surrounding highways only at the traffic circles. The section below the dotted line shows the unplanned street pattern. the communications entirely to another, he is on the high road to failure. The whole structure must be intimately knit and truly balanced. The object of the present book is to convey some of the major demands which road traffic control must make upon the town and country planner." These demands are stated with commendable brevity: "From the traffic point of view, it is of the utmost importance that there shall be three generic types of road and three only, viz., 1) arterial, 2) subarterial and 3) local, i.e., minor."

"Traffic and transport", says the author, "are different matters, though most people seem to use the terms as if they were interchangeable. Road transport relates to the science and art of portage and haulage, whereas road traffic relates to interchange and passage, and includes the whole interplay between public and private vehicles. goods vehicles, pedestrians, driven animals and everything else. In the design of town and country road systems, the approach must be from the point of view of traffic, and not merely from that of transport. . . Secondly, it is necessary to think in terms of complete road systems, and not merely of major roads."

From these premises the book goes on to develop the traffic theme-the functions of the police, the engineers and other technicians, the special problems of separating different classes of traffic, methods of handling intersections, and so on. These chapters provide an excellent general survey of the question of roads and traffic, though there are differences between U.S. and British practice and theory, but the sections of major interest to planners generally are those which develop town plans from the viewpoint of the traffic engineer. The author has approached a great variety of specific situations, as in the three illustrations on page 34, and he shows specific solutions. In fact. the illustrations which appear in the book are of the greatest interest, for they are intelligible-something not always true of planning studies-and highly practical. Among the most striking are three which show the generic types of town plan, the rectangular, the radial combined with rectangular (Washington is a good example) and the radial combined with circular (Moscow and the County of London plan). The last is supported as the most desirable from the traffic viewpoint, and it seems equally effective on other counts.

The planner who has tended to overlook traffic in favor of other factors will find Mr. Tripp's study an excellent introduction, and a thoroughly stimulating discussion of questions which reach far beyond those of road layout. And in conclusion he will find a warning which is especially valuable in its emphasis on the essentially collaborative nature of planning work: "In particular, liberties must not be taken with traffic details by designers not possessing sound traffic knowledge. The abiding trouble is that everyone in these days thinks himself a born traffic expert, and if the foregoing pages induce in others a little of the specialist's more cautious habit of mind, they will not have been written wholly in vain."

"Cautious", however, is not written in the sense of "timid", for Mr. Tripp, like many of his countrymen is in no mood to make little plans, and his statement to that effect is categorical: "If (planning) is handled in a spirit of easy compromise, the desired results will not accrue; the pursuit of safety must be unyielding, and in the long run the boldest measures will almost certainly be the cheapest."

U. S. highway engineers, particularly those inclined to scoff at planning as "visionary" might find Mr. Tripp's book illuminating. No professional group has a better or more direct opportunity to improve our cities.

MOVABLE AND LONG SPAN STEEL BRIDGES. By George A. Hool and W. S. Kinne. Re-

vised by R. R. Zipprodt and H. E. Lang. McGraw-Hill Book Co., New York. 488 pp. Illustrated. 6x9. \$5.

The revised and enlarged edition of this well known reference book provides the engineer and student with an unusually detailed and thorough work relating to the design and construction of various types of movable and long-span steel bridges. New additions include recent developments in bascule bridge design, more material on vertical lift spans, and comparison between the George Washington and Golden Gate Bridges. The latter (Section 6). covers such matters as the erection of towers, erection of foot-bridges, spinning of cables and the erection of trusses and floor systems.



MOMENT DIAGRAMS for two-hinged stiffening truss for suspension bridge.



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Mr. Burns

Sloan Valve Company

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specifications NOW!

Here is a book designed for architects to use—not just look over. It's for architects who are planning postwar buildings—and expect to get actual work started immediately after the war is won. Architects who want to incorporate real improvements in heating—the comfort, convenience and economy of the most modern copper convectors. Architects who want to know exactly what those convectors will be like so they can put them right into the specifications now. That's exactly what's in this book. Coupon brings New Catalog SA-44.

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目動運動的設備的意思的思想

MAIL

COUPON



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Every time most people switch on a light, listen to the radio, or use a percolator or any other electrical appliance, they are burning bituminous coal.

For most electric power comes from coal-which means, of course, bituminous coal.

For one thing, a ton of water would have to drop a mile to generate the same amount of energy as there is in a pound of coal, properly burned.

For another, an electric power plant which uses coal ordinarily costs only about one-third as much to build as a hydroelectric plant having the same capacity. And in most parts of the country it is usually much more economical to carry coal from the mine to the place where it is needed to make electric power than it is to transmit the same amount of electric energy from a power dam.

These are only two of the many reasons why bituminous coal is "No. 1 Public Energy"-America's most important source of heat and power.

And, knowing this, the men who operate the bituminous coal mines have a keen sense of responsibility to the nation, to their customers, and to the men who work for them.

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FIRE-RESISTANCE (wood vs. steel)

 $\mathbf{B}_{\mathrm{the\ fire\ in\ this\ Casein\ plant\ at}}^{\mathrm{ECAUSE\ of\ combustible\ powders,}}$ Frankfort, N. Y., was short and hot. Steel roof trusses quickly collapsed. Result-a total loss. But note how this heavy wood member, a 12" x 16" nailed, laminated beam, stood up after hours of burning and supported the twisted steel girders.

This beam was installed before the development of today's specialized timber-fabricating plants. A modern, glue-laminated member with firestop

Glues for Industry

inserts and treated or coated with a fire-resistant material would have showed far greater durability.

Wood doesn't collapse. It holds until the cross-section is actually reduced to a breaking point by steady flame. It allows time-very often time enough to save the structure. That's why heavy, mill-type wood framing earns low insurance rates.

Specify glued, laminated wood for resistance to fire or water, for low

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THE ARCHITECTURAL FORUM

42



Sand-blasted Tremolite . . .

A PREVIEW OF POST-WAR PANEL TREATMENTS

In addition to their decorative value, sand-blasted Tremolite spandrels and panels, assure permanence and lasting economy. Initial cost is moderate because sections cut as thin as 7/8" are practical. The school buildings pictured above illustrate this modern treatment and the use of the interesting sandblasted effects which will no doubt feature school, hospital and institutional building design in the post-war period. In fact, the designers of many structures of the 194x period that now dot the

American scene have used Alberene Dark Stones for facade treatments.

A request on your business letterhead will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York 16, N. Y. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.

ALBERENE TREMOLITE

Moderate in Cost . . . Negligible in Upkeep

LETTERS

An appeal ... Tomorrow and tomorrow and tomorrow ... "Planning With You" in Canada.

BACON MEMORIAL

Forum:

The Executive Committee of the A.I.A. has suggested a nation-wide program on behalf of Mrs. Henry Bacon, widow of the designer of the Lincoln Memorial. Their appeal follows:

Over a period of several years some of Mrs. Bacon's friends have attempted



Lincoln Memorial

to initiate action by Congress to take the form of a grant or pension for her. The idea was based upon the fact that Henry Bacon spent about \$27,000 of his own money over and above his fee to complete his assignment. Included in the work for which he was not reimbursed were the preparation of models and paintings which were essential to perfect his designs and which are ordinarily paid for by extra funds. Also he was not repaid for traveling and hotel expenses incurred on the approximately thirty-six trips a year between New York and Washington for eleven years during which the memorial was being planned and built.

The above information serves to establish a moral basis for an appeal to the generosity of Americans who look with respect upon the memory of Henry Bacon. His work on the Lincoln Memorial was more than a fulfillment of a contractual obligation. It embodied devotion to the highest tasks of a great artist seeking perfection at personal financial sacrifice, a sacrifice shared by his wife. Anything less than the incomparable monument to Lincoln which resulted from Henry Bacon's efforts would have been an esthetic calamity for Washington and for the forty-eight states.

It is now suggested that an appeal be made to our American people individually to help lighten Mrs. Bacon's burdens. A Committee on the Lincoln Memorial, Architectural League, 115 East 40th Street, New York 16, N. Y., will receive funds.

FLETCHER COLLINS HAROLD A. CAPARN EDCAR I. WILLIAMS Committee On The Lincoln Memorial

POSTWAR LAKE DWELLERS

Forum:

I've had a lot of fun reading THE FORUM, particularly when your writers went off the deep end over "The House of Tomorrow." I'll admit that the only certain element we can depend on is the certainty of change, and venture to guess that it will be "day after tomorrow" before John Q. Public and his wife sign on the dotted line for those freakish creations of a disordered imagination, no matter how efficient they might be inside.

Also, the scientists, who love to delve into the past history of "Genus Homo," reconstruct for us the houses of those who were termed the Lake Dwellers of Such and Such a place. It is of interest to note their buildings had roofs of about the same slant or pitch as ours of this date. We are told that these dwellings antedate little Moses in his bulrushes by several thousands of years. It would appear that public opinion is somewhat in a groove on the question of roof shape unless it be for a chicken house structure, which we are ready to admit is generally quite efficient for the purpose but for some reason or other is usually put up around at the rear of the property.

So many new materials, methods and gadgets are promised the prospective home owner after the war that one might have a reluctance to build for fear his house would be out of date by the time he moved in. Your advertising columns impress this trend to a marked degree, even to the situation where, if one doesn't get along with his neighbors, he simply knocks off work for the afternoon, loads the residence on a truck and looks over the country for a more desirable location. We are not informed whether this interferes with the evening meal, but undoubtedly the family enjoys the ride.

So-let the funny houses keep on coming. We enjoy them more than a little and don't have to live in them. In fact, there is a structure designed and built right here at this airport which we are told is meeting with widespread approval in the remote countries where it finally lands. The fact that this structure previously contained a "Hellcat" or "Corsair" simply adds local color and interest. We understand these are the best houses they ever had!

LEWIS F. BROWN

Roosevelt Field Mineola, New York

GILDING THE MAPLE LEAF

Forum:

At a recent exhibition by the Department of Architecture of the University of Manitoba, held in the Winnipeg Art Gallery, one thousand pamphlets of your "Planning With





You" were distributed to the public. The exhibition was entitled "New Horizons in Architecture." The feature was a large display of a city planning proposal for the replanning of one section of Winnipeg. This study, prepared as a series of maps, master plan and models, represents a part of the work of the new program of classes in town planning which the third and fourth year students in architecture are taking. This is one of the recent changes in curriculum which have been inaugurated in order to bring the study of architecture at Manitoba in line with the newest developments in planning methods, construction, new materials and design in general.

(Continued on page 46)

Say "Yes"

An overwhelming endorsement! Highly significant for home planners.

When queried by an independent research organization for their opinion of dry-built full-wall construction, 85% of actual wartime users named it the system for homes of tomorrow. Because Strong-Bilt Panels solve the old problems of brittle interior walls and panel joint troubles. Because they contribute added dollar value to the finished job.

Highly successful use in thousands of homes from coast to coast and endorsement by prominent builders attest the value of this improved method of construction. Have you investigated its advantages? We will gladly send booklets and detailed information. Phone, wire or write The Upson Company, Lockport, New York.

Upson Quality Products Are Easily Identified By The Famous Blue Center



LETTERS

(Continued from page 44)

One large panel told graphically of the functions of the architect, another explained what "modern" means when applied to architecture and design. At the end of the exhibition, a large red and white display advertised "Planning With You" and invited each visitor to take a copy. Many commented upon this pamphlet for its most readable and graphic presentation of the need for immediate planning for the future.

JOHN A. RUSSELL Associate Professor of Architecture Winnipeg, Manitoba

"Planning With You" pamphlets are still for sale. (See pg. 70) Ed.

\$25 A MONTH GERM

Forum:

As developers of Princeton Park. the housing project on Chicago's South Side, we have determined positively that private enterprise can build and operate large-scale low-rent housing at rentals of \$25 to \$35 per month. We would need 90 per cent 60 year mortgages at 3 per cent interest and 1/4 of 1 per cent mortgage insurance, and a limitation of 6 per cent on dividends.

The citizen who really needs help is the man who is ambitious and earns a bare living, but cannot earn quite enough to move his family into better surroundings which will stimulate his and their productivity. Rehousing him will leave his unit to be occupied by the man below him, and the necessary germ of ambition will remain in our system as a spur to individuals to strive to obtain better housing.

DONALD O'TOOLE, Real Estate Chicago, Ill.

BRITISH BLARNEY

Forum:

I want to tell you how much I enjoy reading THE FORUM.

It is certainly a pleasure to be presented each month with such talented, courageous material, invariably submitted in a most stimulating and interesting manner and illustrated in such a masterly and forceful way. You are undoubtedly on the right course, and by selecting for review projects of such high and inspiring standards, and by advocating such farsighted, hopeful and realistic policies you are contributing more than any other publication to the planning and eventual realization of the World of Tomorrow.

P. A. CROFTON SLEIGH London, England

A LETTER FROM THE PUBLISHER



Dear Reader:

Here is a portrait of an editor who is as precise about being wrong as about being right. To the discomfort of those who work with him, around him and at him, he often proves to be right even when he seemed wrong in the first place. This phenomenon is not the result of prescience but of a habit of mind which draws Henry Niccolls Wright's attention to a wide variety of interests. Henry doesn't do much guessing whether he is pondering camera lenses, Paracutin, the newest Mexican volcano, or inventing a sun machine (which he did back in 1927 in the pre-Buckminster-Fuller-igloo period). In any and all matters, Wright comes up with a fine, partisan attitude which he is ready to defend at the drop of someone else's hat, since he rarely wears one of his own.

Born in St. Louis in 1910, Wright proves the value of both heredity and environment. His father, the pioneer city planner and social philosopher, whose name he bears, brought to his dinner table a procession of serious, informed people, and young Henry was developing his ability at debate which eventually emerged as a full-blown cantankerous nature. It is reported, however, that his sweetness of character is reserved for home and his three youngsters, who play not with blocks but with super-blocks.

The fact that Wright never went to college merely proves that others should. Starting his technical training in his father's office when Radburn, N. J. "The Town for the Motor Age" was being cooked, the route took him to the office of the Bertram Grosvenor Goodhue Associates and next to Albany working for the N. Y. State Department of Public Works. When interviewed on the presidential prospects of Governor Dewey, Wright disdainfully remarked: "I am no longer in politics." Obviously, this is just a stall until he completes his expose of the Gallup Polls.

Next, at Columbia University he showed the professors how to research the effects of sunlight on planning, along with some special studies for the Pierce Foundation.

When THE FORUM had to find a Technical Editor, there was no need to look around. Like his place in the sun, Wright's place on THE FORUM was a natural. Soon THE FORUM's technical departments became important and provocative. The quibble disappeared and the magazine began to advocate such advances as radiant heating, stressedskin construction, light-weight structures, many another technique now becoming accepted. But the subject which has brought fame to THE FORUM and anonymous fame to its moving spirit has been prefabrication. Its earliest and still its staunchest advocate, people in the prefabrication business will tell anyone, THE FORUM threw around more weight in getting prefabs into the war program and into the hearts of its countrymen than anything else in or out of print. Mr. Wright quietly retires to his Victorian villa these cool spring nights and ponders this result with satisfaction.

Like other FORUM people, Wright takes an occasional three-dimensional swing at architecture. The Hansen House (see ARCH. FORUM, Sept. '40) is representative of Wright the architect (not connected with any other firm of the same name). One of the first U.S. houses to use radiant heat, solar orientation, corrugated metal heating panels and reinforced brick cavity walls, the house has now passed to its third owner, each time at a substantial increase in price. This inversion of normal experience surprised only the neighbors. Architect Wright merely comments: "What else did you expect?"

This gives you a rough idea of Wright, who, with George Nelson, managing-edits this magazine. For an even better acquaintance, follow him in THE FORUM and start saving for a copy of the book which both gentlemen are now authoring for Simon & Schuster—of course it's about houses, and these boys eat Cape Cods twelve months a year.

H.M.

Windows 9 Can Specify?"

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That's right! We mean Hospital Windows that you draw into your plans TODAY and can depend on getting later. Over 35 standard-types are shown in the new Mesker Brothers' 1944 Book of Hospital Windows. Like our new book of School Windows, this Hospital Window Book has been especially designed BY an architect for architects. It contains many

new Hospital Window uses and treatments, helpful architectural renderings, plus an invaluable Detail Supplement. Paper shortage limits quantities. Write for yours NOW. No obligation.

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HOSPITAL WINDOWS

AF44



Food For Thought

Out behind the lines, on hundreds of fronts, Uncle Sam's field-kitchens are working to top capacity to serve up the "chow" that makes our Army the best-fed army in the history of the world. In many of these kitchens, York Heat is supplying the heat to bake the bread and stew the stew.

Fortunately for York, conversion to war did not mean an end to York Heat for the duration. Just as we helped to make living more comfortable for thousands of homes before the war, we are now applying renewed energy to bring comfort and cleanliness to the men and women in our great Army and Navy.

A new kind of York Heat has been developed to meet these needs. While it can't be made available for home-heating right now, it is something worth thinking about for the future. It is going to provide a new kind of heating performance that translates itself into new economy and new comfort.

* * * Each Bond you tuck away helps to hasten the day.

YORK

HEAT

Division of YORK-SHIPLEY, INC.

York, Pa.



AKER, CHER, тне CANDLESTICK MAKER

and millions of other typical Americans, are resolved to enjoy the benefits of improved oil heat, come peace and normalcy. Their preference is being irresistibly focused upon York Heat by consistent national advertising . . . of which the advertisement shown at the left is an example.

When the "Busy for the Duration" sign comes down from the York-Shipley plants, superbly efficient and saleable YORK HEAT units will emerge from them, to satisfy this carefully nurtured demand. Be prepared to cash-in upon this swift transition from post-war planning to post-war production.

APRIL CONSUMER AD ---

This is the latest of the YORK HEAT series appearing regularly in: AMERICAN HOME . HOUSE and GARDEN HOUSE BEAUTIFUL . BETTER HOMES and GARDENS TIME (Canadian Edition) . BUSINESS WEEK



YORK. ORK-SHIPLEY, INC., Dintsion



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built of Stainless Steel!

The larger, faster, longer-lived freight planes of tomorrow will spread staipless wings over America and the world . . . flying high-value cargoes of peace . . . fabricated of gleaming stainless steel for greatest strength and durability. Important in this picture is Superior Stainless Strip, as welded tubing, in vital airframes and for fittings and trim throughout these coming ships. High Tensile, Heat Resisting, or Drawing Quality as required.

> Superior Steel CORPORATION



NOTHING TO

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RESTFUL AS FOAMEX'

Foamex is the new name for Firestone foamed latex seat cushioning.

It's a good name to have in mind for postwar interiors. Because Foamex makes comfortable built-in seating easier to build in.

It simplifies deep-cushioned upholstering. Replaces old-fashioned innards with one molded material that's both soft and springy. This logical combination adds comfort to any kind of seat, chair or sofa, because it supports the sitter more buoyantly, more evenly and completely.

The state Sector Sector of the state

Naturally, our entire Foamex production today is for military purposes. After peace Foamex will again be a powerful ally to the interior designer. STRADE MARK





Windows ... in Harmony with GOOD Design



ANOTHER STEP TO AID IN "Serving Industry... which Serves Mankind"

MONSANTO CHEMICAL COMPANY announces the acquisition of I. F. Laucks, Inc., Seattle, world's largest manufacturer of industrial glues. This union of two familiar names is in accord with the well-known Monsanto policy of providing the most complete service possible to industries in the many fields it serves.

Already widely known in the forest-products industry through its products for the wood preservative and paint fields, Monsanto now rounds out its service to the plywood, woodworking and allied industries through this joining of the Monsanto and Laucks interests.

This means a much broader service, both to Laucks and Monsanto customers. The full line of Laucks products will be maintained, of course, with the further advantage of Monsanto research and production resources on which to draw.

To the qualities of leadership in service to the forest-products industries that have marked the Laucks organization, the broad background of one of the world's great chemical organizations has now been added—thereby providing a greatly expanded service fully in keeping with the splendid present and even more promising future of the plywood, woodworking and allied industries.

MONSANTO CHEMICALS SERVING INDUSTRY.... WHICH SERVES MANKIND



Hailed by users as "The next essential for the home of tomorrow"

Cooled, dehumidified air in summer. Warmed, humidified air in winter. Clean, filtered air all the time. All at the flip of a finger, from one simple unit. That's what Servel's New All-Year Air Conditioner offers your clients for their post-war homes.

The product of ten years' intensive development, this new unit offers for the first time all the advantages of indirect fired heating and absorption refrigeration in one easy-to-operate, gas-fired unit. Steam from a central generator operates both cycles . . . heats and humidifies in winter, cools and dehumidifies in summer. Clean, filtered air is supplied for both cycles, or may be circulated independently, at choice.

More than 300 test installations among homeowners and certain types of commercial buildings have evoked enthusiastic approval. One satisfied user wrote us, "We cannot conceive of any home in the future being built without this equipment."

Your clients will feel the same way when you tell them all the comfort features of this "Next Essential for the Home of Tomorrow." You'll be able to offer them this equipment just as soon as materials and productive capacity are released from war work.

So start to familiarize yourself with all the details about Servel's New All-Year Air Conditioner. Write at once for further information to Servel, Inc., Evansville 20, Indiana.

SERVEL GAS REFRIGERATORS are standard equipment in the nation's finest apartment houses.





America's Leading Makers of Modern Gas Appliances



MAYBE CARDS CAN FORETELL THE FUTURE

... but here's a practical approach



CASE HISTORIES: II-"Down East"

√Our products—vitreous china or welded steel, or both—play a part in New England's contribution to the war: in Naval schools and stations at Harvard and at Quonset—in big Army posts such as Fort Devens, Camp Edwards, Camp Myles Standish—at Army Air Bases like Westover Field, Grenier Field, Presque Isle. √Case products are installed in

submarines built at New London, LST's at Hingham, minesweepers at East Boothbay.

\sqrt{In} arsenals and ordnance plants, in hospitals, on the farms, Case products are cogs in New England's vast war machine.

√IF YOU LIVE IN NEW ENGLAND, your Case Distributor is ready to serve you, and well-equipped for the job. Look for "Case" under "Plumbing Supplies" in Classified Telephone Directories of Boston, Fall River, New Bedford, Worcester, Providence, Hartford, Bridgeport and New Haven. For other locations, write us. Instead of trying to guess what's "in the cards" in the way of peacetime bathrooms, why not simply jot down the name "Case"?

Your own experience should provide sound, practical reasons for doing this.

Perhaps you remember, for example, how many problems ceased to be problems when we introduced the now famous Camel *Water Saver* Closet. Its highly efficient performance met a definite need in many localities. Being free-standing, it permitted installation without defacement of tile or paper. It offered powerful yet quiet action, the convenience of a shelf-type tank cover, a design that "dated" bathrooms years ahead, and twice-fired vitreous china...at a really modest cost.

We've had long experience in helping to solve your problems. We're preparing to continue.

W. A. Case & Son Mfg. Co. Buffalo 3, N. Y. Founded 1853.

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FOR TOMORROW'S HOMES!

IN TOMORROW'S HOMES, the *walls* must do two jobs in addition to enclosing the structure.

Modern standards of heat control make it necessary that walls provide adequate insulation.

Air-conditioning demands that walls be so constructed as to reduce *moisture condensation* within the walls to a minimum.

When you specify the Approved Insulite Wall of Protection, you effectively meet these two problems. The Approved Insulite Wall of Protection has these advantages:

- Double Insulation
- Superior Bracing Strength
- Protection against internal moisture condensation

The cross section of the wall to the right explains these points. For specifications refer to Sweets Architectural File, Section 10, or write for "Scientific Facts" booklet. Address: Insulite, Minneapolis 2, Minn.



INSULITE DIVISION OF MINNESOTA & ONTARIO PAPER COMPANY, MINNEAPOLIS 2, MINNESOTA

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On outer-walls, Insulite Bildrite Sheathing. The large boards provide a windproofed, weather-tight wall. Bildrite Sheathing has a bracing strength four times that of wood sheathing, horizontally applied.



On inner walls—Insulite Sealed Lok-Joint Lath, furnishes a second wall of insulation. The patented "Lok-Joint" provides a strong, rigid plastering surface, prevents joints from opening under trowel pressure.



How moisture condensation is effetively minimized in the Approved Insulite Wall of Protection. Sealed Lok-Joint Lath, with asphalt barrier against the studs, effectively retards vapor travel. Bildrite Sheathing, being permeable to vapor, permits what little vapor escapes to pass naturally towards the outside.

MADE EXCLUSIVELY FROM WOOD



CO. EXCHANGE BUILDING, PROVIDENCE, R. I. HOWE & PROUT, Architects, Providence : HOLLIS FRENCH, Engineers, Boston : E. TURGEON, General Contractor, Providence : JOHNSON BROS., Painting Contractors, Providence.

N this recently-completed addition to the original eight-story building of the New England Telephone and Telegraph Company in Providence, R. I., Pratt & Lambert Paint and Varnish serve as preservative and decorative agents. The addition provides a substantial increase of floor space to meet the Company's expansion requirements. The building, of fireproof construction throughout, with exterior finish of brick and marble, is an important unit in the business life of a progressive community.

Competent, whole-hearted co-operation with architects, engineers and management, is a dominant factor with the Pratt & Lambert Architectural Service Department.

Let this Department assist you in securing maximum decorative results with minimum effort, regardless of the type of work you are now doing.



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New Development in Air Conditioning of Multi-Room Buildings



(Above) Conduit for air conditioning (rear) and water pipes (in foreground) furnish heating and cooling for room Weathermaster. Branch connections lead to room Weathermasters.



(Above) Floor sleeves, much smaller than used for conventional risers, provide ample openings through floor for conduit, water pipes, and drain of Carrier Conduit Weathermaster System.



Individual room Weathermaster (above) receives high velocity conditioned air direct from outdoors. A turn of the dial sets the temperature desired and flow of hot or cold water through unit is automatically controlled. Air and water connections completely concealed. Unit has no moving parts—operation is noiseless.



In the new Statler, Washington (above) use of Carrier Conduit Weathermaster system saved space equivalent to two extra floors. Architect and Consulting Engineer of the new Statler: Holabird and Root. Heating and Ventilating Contractor: Mehring and Hanson Co. General Contractor: Harris Co.

FOR NEW OR EXISTING BUILDINGS... PROVIDES INDIVIDUAL ROOM CONTROL

A basic improvement in the design of ducts and room air conditioners saves floor space and head room in existing multi-room buildings and new construction.

Instead of using conventional air ducts, the Carrier Conduit Weathermaster System carries high velocity air (humidified or dehumidified) from a central station apparatus to individual rooms through compact *conduits*. Uses only 15% to 20% as much space as ducts. Less story height required; usable floor space is conserved. In new construction, space saving approximates one floor to each eight in structure.

Lower construction cost plus increase in available usable space helps liquidate cost of Conduit System. Can be installed readily in old buildings; conduits normally utilize space formerly occupied by steam pipes they replace. Room occupant dials "warmer" or "cooler" and individual Weathermaster provides room with cleaned outdoor air and automatically controls temperature and humidity. Some rooms may be cooled, others warmed, at same time. Odors and noise are not transmitted from room to room. Write now for attractive brochure on Carrier Conduit Weathermaster System.

CARRIER CORPORATION, Syracuse, New York.



Carrier engineers will gladly co-operate with architects and consulting engineers toward incorporating air conditioning, refrigeration and unit heating in the design and renovation of post-war structures.



WELDED FRAMING

for ships and buildings

A comparison of the structural framing in the hold of a welded ship and that in a welded steel building shows certain points of similarity between the design problems of the naval architect and the building architect.

In building Liberty ships welding is used to save time and materials and to achieve rigidity and structural strength. These are also desirable objectives in welded building construction. Therefore the latest methods employed in welded ship construction will probably interest architects and structural engineers.

Air Reduction's Applied Engineering Department has acquired extensive experience in the use of welding in the construction of both ships and buildings. Architects, engineers and designers are invited to make use of Air Reduction's experience in working out problems of design for welded structures.



In the hold of a transversely framed, all-welded cargo ship (top), the main transverse hatch end beams receive their end support from the side frames of the vessel and their center support from main pillars or stanchions. These beams support heavy longitudinal girders to which transverse deck beams are endconnected. The deck plating is welded to the beams as a battle deck type floor might be in a building. In some buildings there is an advantage in developing continuity of beams and girders which is greatly facilitated by the use of welding as employed in a ship's structure.

"House in a Laboratory"

tests KIMSUL^{*} Insulation under realistic conditions !



When it came to designing a device for testing KIMSUL's thermal efficiency, the Kimberly-Clark engineers were not satisfied with an easy, ordinary method. "We'll check KIM-SUL", said they, "in the environment in which it is to be used—under actual *structural* conditions."

... Not as easy as it sounds, that project! The structure had to be put up right inside our laboratory, so that every factor could be controlled and measured. A giant "torture cabinet" was built, and in it a scientifically-regulated "hot" room and "cold" room.

Here are achieved tests far more thorough and refined than could be made in any other way known to us. Full-scale sections of KIMSUL* are tested in the presence of structural framing material, and in contact with other building materials or air spaces. These variables influence the performance of an insulation.

It is this intensive research which has made versatile, easily-applied KIMSUL one of the most effective insulations. The navy has recognized KIMSUL's merit, used it in the famed Quonset huts from the frozen north to the sweltering tropics. This product has a thermal efficiency of 0.27/Btu/hr./sq. ft./deg. F./inch (J. C. Peebles). It is Tomorrow's insulation.



In this laboratory "hot" room KIMSUL'S thermal efficiency is checked and double checked. Note test panel, and the "measured heat source" unit.



The Kimberly-Clark laboratory's "cold" room, for testing KIMSUL. Test panel is seen at right. Pipes overhead are for refrigeration.



The "torture cabinet", exterior view of the "hot" and "cold" room laboratory, showing refrigerator compressor unit.





As trucks and jeeps of the 5th Army toil through deep mud in Italy, engineers at the right are building a bridge to break the traffic bottleneck.

TO THE boys who are battling General Mud in Italy and in Pacific jungles, a real bathtub is one of their dreams of home. When they get back they will join the other Americans who are planning to remodel their homes or build new ones. Millions of new bathtubs, lavatories and sinks will be required in your plans.

Then you can specify modern *Formed* Iron Plumbing Ware finished in beautiful por relain enamel. This durable finish is glossy-smooth, easy to clean and keep clean. It is acidresisting at no extra charge and will be available in colors as well as the ever-popular white. Many architects will be interested to know that these *Formed* Iron Fixtures can be porcelain on ARMCO Enameling Iron — the *original* enameling iron and the most widely used base metal for this exacting purpose. The American Rolling Mill Company, 1261 Curtis Street, Middletown, Ohio.

EXPORT: THE ARMCO INTERNATIONAL CORPORATION

Help Finish the Fight-





bathrooms and kitchens FOR THE HOMES YOU ARE PLANNING



WHATEVER type of homes you are planning for tomorrow's market, you will find, in the complete postwar line of Crane plumbing, equipment that will bring your clients a lifetime of comfort, convenience and satisfactory service—besides adding value and salability to the homes you build.

Already the Crane line of tomorrow is past the experimental stage. These new fixtures will suit the taste of America's prospective homeowners, as expressed in a recent nation-wide survey conducted by Crane Co. They will go into production as soon as war conditions permit.

What's more, Crane Co. is conducting an aggressive program to help stimulate the desire for new homes to aid in translating that desire into action. Colorful advertisements in many of the nation's leading magazines are offering a portfolio of helpful ideas and suggestions that will be sent to thousands of prospects for tomorrow's homes.

Be sure to include modern Crane bathrooms and kitchens in the homes you are planning. It is your assurance of immediate consumer acceptance.

CRA ANE CO., GENERAL OFFICES: 836 S. MICHIGAN PLUMBING . HEATING . PIPE . PUMPS . FITTINGS . VALVES

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

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"ACH! THOSE STRAFERS COME IN FAST"

WING DUCTS made by FRINK help give them speed!

One American-built fighter plane has proved especially effective against the Nazis in Russia. It is deadly efficient at surprising and strafing enemy troops from house-top heights. "Shaving," our Russian allies call it. They call the plane "Little Shaver."

"Little Shaver" owes much of its effectiveness to its speed. Its speed depends in part on its cooling system. And that's where Frink comes in. Frink makes the aluminum ducts that rush cold air from the leading edge of the wings back to the engine. Without this cooling draft of air the engine would quickly over-heat and stall.

The Frink Corporation has specialized in precision manufacturing and engineering for 86 years. During that time the name Frink has become synonymous with quality and skill in the lighting industry.

A pioneer in Fluorescent illumination as well

Subsidiaries: Sterling Bronze Company, Inc. Barkon-Frink Tube Lighting Corporation as Incandescent lighting, The Frink Corporation developed LINOLITE, the famous "engineered for vision" Fluorescent equipment now giving such efficient and profitable service in many of America's foremost factories, stores and banks.

Today Frink is heavily engaged in producing war equipment. Tomorrow Frink will resume engineering and manufacturing the highquality lighting equipment that has gained such an enviable reputation in the industry.

LIGHTING SINCE 1857



All Frink employees invest at least 10% of their earnings in War Bands. WE ARE PROUD OF THAT RECORD. LET'S ALL BUY WAR BONDS!





The Questions before

THE WAR—as we at General Electric very well know —is not over by a long sight.

But it's perfectly right and natural that the people concerned with postwar home building should already be starting to think about the houses of the future.

For before the house of the future is designed, built, and financed there'll be some questions to be answered and some problems to be solved.

Now, we're one of the interested parties, since we shall be making so much of the equipment that turns a house into a liveable home.

We don't mean just wiring, heating, and air-conditioning equipment, but also ranges, refrigerators, electric dishwashers, electric garbage disposal units, kitchen cabinets, water heaters, et cetera, et cetera.

Here's what we'd like to ask

Shouldn't this kind of equipment—some, or all of these appliances—be designed right into the house by architects... built right into the house by builders... financed with the house by mortgagees?

Shouldn't this be done, not just with the fancy \$10,000-and-up jobs, but with homes that sell for as

low as, say, \$4000 or \$5000?

We think this is a proposition worth some serious thought.

Of course, it's no brand-new idea. Up to Pearl Harbor a substantial number of homes had been built and financed that way—with some or all of the major electrical appliances included.

FHA regulations permitted the inclusion of such items in mortgages in many cases and thereby helped establish the precedent for banks, mortgage companies building and loan associations.

There was, definitely, the beginning of a trend.

Now the war comes in

War being what it is, the trend had no chance to de velop further.

For the duration, Mr. & Mrs. John Q. Public can' buy a new home, can't let loose their natural urge to own the "latest thing."

This creates a great, pent-up buying impulse.

At the same time, there's being built up a grea buying power. It's estimated by the U. S. Dept. o





the House

Commerce that, if the war lasts through 1944, consumers will have received approximately 100 billions of dollars more than they have been able to spend since the start of the war.

And also at the same time, our friends Mr. & Mrs. J. Q. are being told of the wonders they can expect in new things after the war. Their appetites are being whetted for something different, something finer, than they knew before the war.

Witness, for example, the advertising General Electric s running right now in a number of leading national magazines.

New days...new expectations...new habits

We think these factors can give an impetus to the puilding, financing, and selling of houses <u>complete</u> with <u>lectrical operating equipment</u>.

We think they'll increase the public's desire toward uying that kind of house. People won't expect houses o be offered as they were before the war. They'll be ipe for changes and improvements. And they won't be linging to old buying habits, old buying resistances. All of which, we believe, is food for thought for architects... builders... financial people.

Have you any questions?

We at General Electric have gone very deeply into the ways and means of building and financing the kind of home we're talking about.

We've had considerable experience. We've collected a lot of data, both engineering and financial.

Have you any questions? We'd like to have them, as well as your opinions. Won't you drop us a line?





Hear the General Electric radio programs: "The G-E All-GirlOrchestra"Sunday10P.M.-E.W.T. NBC. "The World Today" news every weekday 6:45 P.M.-E.W.T. CBS.

"... AND IT HAS A FIREPLACE IN EVERY ROOM!"



AND you can bet this old house needed it because heat probably seeped out almost as fast as it came in! But today fireplaces are luxuries rather than necessities. For even though there have been relatively few structural changes in house building in many years, there have certainly been a lot of improvements in materials which make for more comfortable living.

Take Gold Bond Rock Wool for example. Of course there is nothing new about rock wool as an insulator—



it was used as far back as 40 years ago. But there is something new about the following improvements now being built into Gold Bond Rock Wool Batts:

Density is more uniform and thickness more uniform, insuring greater efficiency and better performance on the job. All batts are extra sturdy with plenty of body, fully moisture-proofed and faced with a vapor barrier. These quality features developed by Gold Bond Research are maintained through constant laboratory control.

Rock Wool is just one of 150 Guaranteed Gold Bond Building Products for better construction. You will find the full line described in our section in Sweet's. National Gypsum Company, Buffalo, New York.

Gold Bond Rock Wool is more than merely fire-resistant—it is absolutely fireproof and can't burn, thereby providing an effective fire stop in the walls.



BUILD BETTER WITH GOLD BOND

Wallboard · Lath · Plaster · Lime · Metal Products · Wall Paint · Insulation · Sound Control

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Churchill says prefabs for heroes (this page) . . . First-come communities will be first-served (this page) . . . Chicago and St. Louis housing meetings slug it out (pages 66-68) . . . Twentieth Century Fund diagnoses Building, prescribes its future (page 69) . . . Fulton Lewis mixes housing facts and fancy (page 158) . . . Vacancy squabble boomerangs in Bridgeport (page 162).

REVIEW

ARCHITECTURAL FORUM APRIL 1944

Last month Building got many a solemn recipe for putting its cluttered house in order. There was the crowded meeting of the National Committee on Housing in Chicago, where a dozen ideological boxing matches went to no decision. There was the Twentieth Century Fund's careful survey, a scholarly scrutiny of the reasons why housebuilding has never grown up enough to produce for a mass market.

But within and without the industry attention was diverted from basic Building problems by the dangling straw-man of the "public housing menace." Organized home builders were still slugging it out with the National Capitol Housing Authority; radio reporter Fulton Lewis, Jr., was out sniffing for the unpleasant scent of bureaucracy in prewar slum clearance projects. It was hard for many to distinguish clearly between the temporary war housing program and earlier federal housing ventures; evidence of vacancies in temporary projects served as an ample indictment of the public housers and all their works. On their part, the housers met in St. Louis, heard Federal Public Housing Commissioner Herbert Emmerich's conciliatory proposal to finance postwar slum clearance projects by private capital bolstered by government guarantee of interest and principal.

Quick Building Start. While Building bickered, signs mounted in Washington that the beginning of the mammoth postwar job was not as far away as it seemed. Truman Committee probings underlined the fact that, except for lumber, material shortage is a less formidable bogey. With WPB opinion veering away from the quota system as a means of keeping new entrants out of a business while old producers are still tied up with war orders, the many questions of reconversion seemed to settle around the prime question of manpower. Areas where surplus labor shows up will get first chance at available materials.

From Washington came a tip for Building: communities ready with quick-starting construction programs can expect to get the first go-ahead signal. Where labor is available, decision on material allotment will probably be made on the basis of how long it will take for a job to get underway. Careful local programming, supplemented by plans and specifications, data as to financing, convincing evidence of draft exempt building workers in need of employment, is the surest way to get off to a prompt postwar construction start.

ROBUST TREATMENT

If squalor is a tougher giant than want, as Sir William Beveridge remarked, then one of England's ablest giantkillers is aligned against it. From the Prime Minister himself last month came assurance of the government's resolution not to be ditched on the promise of "food and homes and work for all."

But the Prime Minister was impatient with busy wiseacres who remind that land must be acquired before houses are built. "The state has the power, which it will on no account surrender," Churchill reminded, "to claim all land needed for public purposes at values fixed before wartime conditions supervened. Legislation to enable the local authorities to secure any land required for the reconstruction of our towns has been promised and will be presented to Parliament. (Continued on page 69)

NEWS CHICAGO HOUSING CONFERENCE

Building men measure the size of their postwar job, agree that there is more than one way to get better housing for more Americans.

"The home building industry will play a most important role in postwar America — furnishing dwelling accommodations for millions of families in the United States who will be seeking new homes after the war. In performing this task, it will be furnishing employment in all sections of the country.

"This is primarily a job for private enterprise, government must continue, however, to lend appropriate assistance to private enterprise in this undertaking, and to assume direct responsibility for doing only that part of the total job which private enterprise is unable to do itself."

-President Franklin D. Roosevelt

The occasion was without parallel in U. S. housing history. Gathered at Chicago's Prake Hotel were nearly

600 builders, housers, realtors, architects, planners, lenders, manufacturers, -a more broadly representative group than had ever come together to diagnose and to prescribe for ailing cities and the many ills of the housebuilding industry. Mrs. Dorothy Rosenman's National Committee on Housing had done little drum-beating, prepared for not more than 200. That some 600 conferees poured into the Drake was both a tribute to the skill of Mrs. Rosenman's program construction and an accurate sounding of the high tide of present interest in making housing and urban rebuilding something more than a football for special interests in the critical years ahead.

Discussion was brisk; disagreement, incisive. No cure-all formulas were discovered, and none had been expected. But thought ignited thought, and often the result had all the explosive force of a new idea. What the conferees sought is best stated by Dorothy Rosenman:

"In days of peace we look for housing to be a mighty force to keep this nation pulled up on the bootstraps of prosperity. The task is mighty.

"That is why the National Committee on Housing has set these three days of conference to consider three of the great factors that concern the success of a post-war housing program... Realizing that time has accumulated many obstacles and that heated words or preconceived prejudices will not develop methods of conquering those obstacles, we have pursued our policy of facing each problem and studying it with the help of many minds."



KEYNOTERS IN ONE KEY: Kaiser, Rosenman, Blandford.

JOHN H. BLANDFORD PROPOSES HOUSING PRINCIPLES FOR AMERICA

Housing serves human needs. Decent housing is vital to the health, safety and welfare of the families of the nation.

All Americans should get decent housing. We have the manpower, resources, industry, and brains to do the whole job. The slums must go. Their economic and social cost is intolerably high. They must be replaced gradually through a rounded program including housing within the means of slum dwellers.

Better housing makes better cities. Local revenues are affected by home values. Well-planned and well-built housing reduces the cost of congestion and blight.

Prosperity depends in large measure upon housing. Home building creates jobs, business opportunity and income on a vast scale affecting our whole economy. Housing must be progressive. We must

search for more efficient design, construction and livability standards applying to the housing unit, the neighborhood, the community.

Housing progress must be shared. We must combine improvements in techniques with assurances of fuller employment at steadier pay for those whose livelihoods depend upon building.

Housing should conserve when it can. Sound housing that has begun to run down should be rehabilitated. Neighborhoods should be maintained.

Opportunity for home ownership should be enlarged. The first step is lower cost. New types of financing, such as the mutual method, should be explored. Rental housing should be available. Housing is predominantly a job for private enterprise. The acceptance of this principle is.a starting point for housing progress.

Housing differs from public works. Most of it is privately financed. The publiclyaided portion must also be handled as housing, so that there may be a coordinated approach to the whole housing need.

Housing is mainly a local responsibility. The federal government should constantly seek to reduce its ownership or operation of housing. It should not assume responsibility for local planning.

The federal government's role in housing should be supplementary. It should help private enterprise to serve the largest possible portion of the nation's housing needs.

Housing requires local cooperation. Private enterprise and local communities should agree upon distribution of responsibility for meeting needs.

American housing needs unity, founded upon free and fair debate, upon facts and reason rather than prejudice or emotion, and upon intelligent adjustment of conflicting interests.

Democratic principles must apply. Housing will advance when the driving force behind it is the needs of the American people, recognized, expressed, and fulfilled by themselves. Solving the housing problem means providing more American families with better housing at lower costs.

HENRY J. KAISER DEFINES THE HOUSING GOAL

A considerable segment of the American people have never been decently housed. Their earnings have never been sufficient to provide a dwelling worthy of the American home ideal. If industry has the courage and the resolution to organize, expand and exploit production so as to raise the income of every willing worker, this housing goal can be accomplished in far less time than we dare to forecast. Many of us are aware that the extent to which we fail to meet this challenge will be a direct invitation to the federal government to take over the job which is fundamentally our own. For we have moved forever into that zone of social responsibility where rights cease to be abstract, and

where every responsible citizen can claim his share of that prosperity which is made possible by the very social organization of which we are all a part. . .

The long-term upward swing in building construction was checked at the halfway mark on December 7, 1941. Everything is propitious for a revival of building activity which can well be unparalleled in the history of the United States. Chief among the factors is the will of the American electorate to bring the opportunity for respectable and comfortable dwellings within the reach of every citizen who is willing to make an honest effort to contribute to his own, and to the national well-being.

REBUILDING THE CITIES ROLE OF THE STATE then you can make a start on the prob-

IRA S. ROBBINS, Acting Commissioner of Housing of New York State

Legislation along the lines of the best of the various types of urban redevelopment corporation laws which have been passed in six or seven states in the last three years must be enacted to



capital to play the major part in redeveloping substandard areas. on an investment and not a speculative basis.

induce private

Two aspects are fundamental. One is that the cor-

porations get the benefit of the power of eminent domain. . . The other is that any undertaking of the corporation be strictly in accordance with the master plan of the municipality. . .

Whether or not redevelopment corporations or projects in redeveloped areas should pay full taxes is a question to be decided by each municipality. . . In the state of New York all such projects must pay taxes on the assessment on both the land and the buildings which existed on the date of acquisition of the properties. It is only the surplus value created by the construction of the new project that may be exempt for a specified period.

MUNICIPAL REALIGNMENT

SIMEON LELAND, chairman Dept. of Economics, University of Chicago

If you can once get in the counties the kind of responsible government that you have in an urban community,

lem of providing regional government. You can tax all of the industries that are now outside of the city limits and are put there solely to avoid city taxes. You can tax the income of people who work in the city and who commute to the suburbs and yet who cast their burden upon the city for public service. . . There ought to be only one unit of local government in a particular spot.

FEDERAL AID

HUGH POTTER, president, Urban Land Institute

Although local tax exemptions by municipalities and aids from states where they can be obtained are to my mind good and usable. . . I firmly believe it to be impossible for a comprehensive slum-clearance, low-cost housing project job to be done without federal aid.

If the government guaranteed municipal bonds issued for the purpose of assembling land, over and above the limitations now imposed upon municipalities with reference to the issuance of bonds and not secured by other

Gueldre



than the proceeds from the assembling process, such bonds would sell for 2 per cent on the open market. If that is a correct analysis, it would be one comparatively simple way to

help bridge the gap between the excessively high cost of blighted area lands and the actual use value of those lands for rebuilding purposes.

LOW-COST HOUSING BIGGEST MARKET

ELIZABETH WOOD, executive secretary, Chicago Housing Authority

Everyone knows that the largest market, in terms of need, exists in the providing of housing for the low and lowest income groups. Every bit of implementation that permits the production of an increased number of



houses for families now living in substandard houses increases the actual amount of business for all elements of the building industry. At the same time the program of providing houses for low income groups is the program which will settle the fate of the city.

CREDIT EASEMENT

MORRIS MACHT, president, Welsh Construction Company

Volume building should, of course, reduce capital costs. But . . . in a typical case, a 20 per cent reduction in labor cost would give only a $4\frac{2}{3}$ per cent reduction in monthly fixed charges, a 20 per cent reduction in material cost would result in a 91 per cent reduction in fixed charges, whereas a 20 per cent reduction in interest and amortization would result in a 16 per



cent reduction in monthly fixed charges. The road to lower rental is, it would thus appear, the road of lower interest rates and longer amortization. . .

What can be done by way 'of

credit aid to solve the American problem along the lines of home ownership? A substantial reduction in monthly fixed charges can be had by prolonging the period of amortization. A 40 to 45 year period spanning the most useful life of the property itself might be considered. . .

We shall need to take advantage, too, of the lowest possible interest rate and of an FHA mortgage guarantee. If in addition it were possible to reduce the down payment to 5 per cent, another of the big hurdles would be overcome.

TOOLS, TECHNIQUES PREFAB SOLUTION

JOHN C. TAYLOR, Jr., president, American Houses, Inc. Developments in the construction in-

dustry have created three problems: ► There has been great increase in

variety of materials and of design. Specifications have become more rigid and, as a result, we have been asking the contractor to perform at the site a lot of operations which he cannot perform efficiently.

There should be research that studies



all kinds of materials and equipment in relation to each other and fits them together as parts of a house without regard to who the manufacturer is; a research program so close to

field operations that adjustments in materials can be made for any part of the country.

►There is a logical need for something which would "positivize" costs.

I believe that prefabrication is the answer to these three problems, for prefabrication is a refining operation set down between the manufacturers of building materials and the contractor.

BUILDING TRADESMEN'S VIEW

M. H. HEDGES. research director, Intl. Brother-hood of Electrical Workers

If large prefabricating companies opcrating through branch manufacturing units should deal with the building trades unions, they would have to reach an understanding before any agreements were signed that would preclude jurisdictional disputes. . . Building trades unions have long learned to work together in building trades coun-



cils with one single business manager. These councils can function with as much unanimity as an industrial union, without loss of craft value.

Under such a set-up I do not

forsee that wages would be a stumbling block. Here I am speaking largely for the electrical workers. The electrical construction industry is now undertaking to pass to an annual wage basis. If this is successful, there will be little difficulty in permitting electrical workers to sign up with the local factory branch.

TAX INCENTIVES FOR REBUILDING



HERBERT U. NELSON, executive vice-president, National Association of Real Estate Boards

HUGH R. POMEROY, executive director, National As-sociation of Housing Officials NO



I suggest adjustment of the Federal Revenue Act . . . to bring about incentive taxation. I suggest a specific program:

YES

Local redevelopment authorities might be set up by municipalities under state enabling acts and given the right of eminent domain to acquire large blighted areas. The authority, after its plan had been approved by the city, would carry forward the necessary public improvements to prepare for rebuilding.

Bonds of the redevelopment authority would in effect be municipal bonds . . . and by definition be exempt from personal property taxes and from state and federal income taxes.

Incentive taxation might be used to achieve the exceedingly low interest rate which is necessary to write off excess land values. It is suggested that the federal government remit all federal taxes upon the portion of current income of persons or corporations which is used in the purchase of such bonds. This process would mean that persons and corporations in the higher brackets could invest 50, 40, or even 20 cent dollars in the purchase of such bonds. This might well drive the combined interest and amortization rates on such bonds down to new lows of 1.3 or 1.5 per cent.

Rebuilding would be undertaken by private builders according to the plan for the area. The terms of annual leases or sales could be 1/4 or 1/2 per cent above the interest rate of the bonds, based on the cost of the ground to the authority.

Low-rent housing might be built by corporations as a part of a general diversified neighborhood with capital which would also be deductible from current taxable federal income. The income from such lowcost housing developments should also be exempt from federal taxes. Such corporations might be limited to net earnings of 3 per cent, all income earned in excess of this to be plowed back in lower rents.

The so-called "tax incentive" is no more nor less than tax exemption and, as applied, is a direct subsidy. . . It would mean that other taxpayers, including those who invest in postwar industries, or, in fact, in any other form of development would have to carry the extra load. The income of the owner of every home not built in a redeveloped area would have to pay more taxes to subsidize the redevelopment. The income of the owner of every store or factory not in a redeveloped area would be taxed to subsidize every store or factory in the redeveloped area. . .

Every new house, every new private housing development that was not in a redevelopment area would be strangled by the competition of housing in the area, with its favored treatment by an 80 per cent capital grant (assuming those 20-cent dollars), a further annual subsidy equal to the interest return on the handout (2.4 per cent annually on the 80 per cent basis), and by tax exemption on that return. The pickings-from the other taxpayers' pockets-that such a scheme would afford would be marvelous to see.

Public low-rent housing operates with no capital grant, and with an average annual federal subsidy of 2.8 per cent (before the war; considerably less now). It looks as if public housers were pikers.

The whole scheme would have a striking effect on the economics of housing production. No longer would we need to worry about the operations of the producer of half a dozen houses a year-or half a hundred. He would disappear. The great army of home builders in communities throughout the nation would be replaced by great corporations, who would have the "incentive" to invest their funds-tax exempt-in house building.

The production of housing would be geared to the cycles of industrial income. In periods of high employment, and consequently high prices, building money would be available.

Press Assoc., Inc.



NEW WAY TO MOVE WAR HOUSING is this barge convoy. Last month 120 houses floated slowly down the Ohio river, are now being re-erected to house civilian workers at Camp Breckinridge, Ky. Cost of moving the houses from Pt. Pleasant, W. Va. (400 miles) will amount to \$350,000.

(Continued from page 65) this session."

For the "comfortable people who want to put off everything until they have planned, and got agreed to in every feature, a White Paper or a blueprint for the regeneration of the world," Churchill had words even sharper. "These people would rather postpone building homes for the returning troops until we had planned out every acre in the country to make sure the landscape is not spoiled. In time of war we have to face immediate needs and stern realities, and it surely is better to do that than to do nothing whilst preparing to do everything."

To Churchill it is clear that emergency housing must be provided to meet immediate needs of bombed-out families and returning troops. Among England's brick-solid, built-for-centuries dwellings, a half-million prefabricated houses will be set down by the government, with "private industry harnessed to its service."

The Prime Minister also expects to have 200,000 to 300,000 permanent homes "built or building by the end of the first two years after the defeat of Germany." One urgent reason: "Our population is unhappily about to

enter upon a period of numerical decline which can only be checked by the most robust treatment of housing and of all its ancillaries."

Americans, surveying their own small resources for action, could not help but agree that blitz-scarred England seems a good deal readier "to make a clean sweep of all those areas of which our civilization should be ashamed."

CASE HISTORY AND CURE?

For four years the Twentieth Century Fund has added up facts about the housebuilding industry. Diverted only temporarily from its major objective by a natural urge to give advice about war housing problems, the Fund was finally ready last month with 400-odd pages pointing to how the industry might grow up to its twentieth century destiny.

That housebuilding, seemingly unable to integrate its shattered personality, is caught in a lamentable adolescence has long been dimly understood by most building men. The case history, prepared under the direction of able analyst Miles Colean, documents the plight of a giant industry whose "production processes are dispersed among seven, often discordant, func-

tional divisions." Housebuilding has not been able to produce for a mass market mainly because no competent and responsible managerial force has emerged as a cohesive agent.

But looking beyond the obvious, the Fund's housing committee finds other reasons. Chief among them: the undigested remnants of housebuilding's long past. Traditional methods of uncontrolled land use have resulted in subdivision activity as distinct from building activity, while land speculation has been the chief block to the large-scale assembly necessary for a planned development. Housing finance has taken its pattern from real estate financing, which has "retained all the hoary legalisms characteristic of medieval land transactions." The traditional mortgage has "resulted in a fusion of producer and consumer credit not common in other forms of enterprise" and made it virtually impossible for the housebuilder to acquire enough financial independence to gain control of production processes.

Nor do Fund thinkers believe the government has been effective in helping housebuilding work out its problems. "With few exceptions, the policy of government has been to accept the housebuilding industry in its traditional formlessness and wastefulness and to compensate for high costs by various forms of financial relief."

The industry, the committee concludes, might grow up to its future with help in these specific directions:

Extension of public regulation of land use, development of realistic assessment policies, improvement of land assembly facilities. Zoning and regulation of subdivision should be extended by county or state enactment beyond the corporate limits of cities; if this fails, state-organized administrative bodies should be created to acquire and hold reserve lands outside corporate city limits.

Encouragement of larger producing organizations and establishment of more direct and economical methods (Continued on page 70)



MASS PRODUCTION DESIGNERS of Detroit offer these models for tomorrow's house. Exhibit spot-light was on Sundberg-Ferar bathroom-kitchen unit, molded of Valinite, with plumbing, wiring, heating ducts te be factory assembled.

NEWS



NEW YORK DISCOVERS AN ARCHITECT

At home in the flat plains of the Middle-West, the architecture of Frank Lloyd Wright has markedly failed to stir the imagination of the big investors responsible for New York's swank avenues. But if the East has been indifferent to Wright, Wright has been more than indifferent to what he calls the "architectural fashion-mongers", who have littered New York with a collection of "archeological dry bones bleaching in the sun."

Last month the Guggenheim Foundation, responsible for giving New York a bowing acquaintance with such non-objective painters as Ladislas Kandinsky and Rudolf Bauer, said it was planning to introduce Frank Lloyd Wright to Manhattan. Planned for a quick

of materials distribution.

Reorganization of marketing processes. Producers of houses for sale, whether they operate through their own sales organizations or through dealers, should develop means for handling trade-ins and for servicing The used house, dwellings sold. whether for sale or rent, should be combined with repair and maintenance services.

Simplification of mortgage procedures or the creation of other less cumbersome methods of long-term finance. Substantial guarantees will be required to interest long-term investors in equity investment in rental housing.

Utilization of public aid in a com-

postwar start was a Wright-designed museum to house the Guggenheim collection of non-objective paintings, only part of which can find space in the present galleries on east 54th Street. Exterior, Wright said, would be steel, marble, glass. Paintings would be almost literally built into the interior. There were few other clues as to what New York's first Wright-designed building would look like, but total effect was bound to be something like hanging Mondrian next to Maxfield Parrish. Site chosen is the nowvacant southeast corner of Fifth Avenue at 89th street (assessed value, \$826,000), facing the pompous facade of the National Academy of Design, not far from the chilly portico of the Metropolitan Museum.

prehensive attack on the housing problem. Public activity should be aimed to achieve reduced costs and more efficient industrial operation. "The use of public housing as an instrument for moderating the violence of the housebuilding cycle and for supplementing the controls and stimuli possible through purely financial measures has hardly been explored."

LESS ROPE

The Navy wanted \$3,000,000 worth of houses at Pearl Harbor. Vacationers were crowding war workers out of housing in Miami, Fla.; stop-gap units were needed until the tourists would go home again. There were still big blocks of housing need in Los Angeles, San Francisco, Chicago, and Detroit. There was an equally urgent bundle of small needs in towns off the main line of war production, mostly housing for railroad maintenance workers.

The remaining public housing job was small-only about 23,261 unitsbut it was also ticklishly unpredictable. Since nobody knew how long the bombs would be dropping on Berlin, nobody knew how long the plants that make the bombers would be operating. Would today's housing shortage disappear by tomorrow? Many a congressman thought so.

The House Appropriations Committee fingered dozens of statistical justifications, murmured about vacancies, finally gave NHA a good deal less rope than it asked. Of \$25,000,000 requested, NHA came away with no more than \$7,500,000.

Giving the Federal Works Agency a solemn pat on the back for its part in preventing "a serious impairment, if not a breakdown entirely, of community operations during this war period," the Committee was more generous. Of \$115,000,000 appropriated to FWA for community facilities, the agency has permission to spend \$5,000,000 for building stores in the vicinity of war plants, as predicted by the FORUM.

SPRING ON CAPITOL HILL

Underneath the big tent the biggest show on earth was underway. Brayed the Senator from Missouri: could the Vice President flagrantly and brazenly disregard the rules of the Senate? Current low-man on the Democratic totem pole, Henry Wallace stood alone as rebellious Senators rode out to rope (Continued on page 154)



THE FORUM'S now famous pamphlet continues to break recordsclose to 150,000 copies now distributed. Order today-\$10 for the first 100, \$5 for each additional 100 copies ordered simultaneously.

THE ARCHITECTURAL FORUM 19 West 44th St., New York 18, N. Y.

PLANNED NEIGHBORHOODS FOR 194X

The appearance of this issue marks the second time, in a space of less than a year, that THE ARCHITECTURAL FORUM has devoted a special number to neighborhood planning. This repetition of emphasis on a single subject expresses a conviction of the editors that town planning is due to assume an importance that its most enthusiastic supporters would still hesitate to predict.

To some extent this attitude stems from the projects in the issue. The study of the downtown area of Portland, Ore., and the scheme for the St. Louis riverfront, while not official or definitive solutions, are actual examples of problems now being seriously considered by the communities. In this respect they are typical of studies, as yet unpublicized, going on all over the country. The design for a rural activities center, by Wank and Bianculli, touches planning at its other extreme, Lut the field is no less important. Rural planning has been virtually non-existent in the years past, in part because the problems were less obvious though no less pressing, also because the generally low economic level of the farming areas made an approach to planning seem impracticable.

Far more impressive as support for the editorial optimism expressed here is the data now being accumulated for the 1944 Municipal Yearbook of the International City Managers' Association. According to its surveys, 67 per cent of all communities over 25,000 now have regular planning agencies. Moreover, the work of these agencies is being implemented by actual cash appropriations which, while not overly impressive, are nevertheless adequate for a beginning. Almost half of the cities which reported 1944 planning budgets will spend more than \$10,000 each, while five have contemplated expenditures of \$100,000 or over. The capital expenditures set up for the first five years of peace are estimated at three and a half billions, but these figures are not complete and they do not take into account the much larger private expenditures which will have an effect on planning.

The findings of the ICMA and the projects in this issue have one interesting common characteristic: neither contemplates a full-scale, simultaneous attack on all of the community's problems. The process of rebuilding, *if coordinated in a general plan*, can go along perfectly well in a piecemeal manner. This approach has obvious advantages. It is realistic. No community will have the power or the money or for that matter, the know-how to make itself over in one fell swoop. Also, the procedure would allow the greatest freedom for individual local initiative. With a coordinating plan, each project, whether a small filling station or a complete residential neighborhood, would be a step in the rehabilitation of the city.

This approach also ties in with a general attitude displayed by the planners who collaborated in this issue and in the number of October 1943. Nowhere is there the slightest evidence of a desire to return to the super-metropolis dream. Planners have agreed, at long last, that a unit of manageable size must be the cell from which the city grows. Within such a unit, whether residential neighborhood or a commercial center, man's two feet again become a pleasant and efficient means of getting around. At the same time, in the process of restoring to the pedestrian the domain which is rightfully his, the motor vehicle almost automatically obtains the channel it must have for safe, fast movement. This thesis, basic in all modern planning work, is developed with admirable clarity in the article by Herrey and Pertzoff on page 133.

Replanning the city on a neighborhood or sub-community level is not only realistic: it is the only scheme yet advanced which holds out any hope of regaining a *human scale* without losing the manifold virtues of the urban environment. Enormous obstacles in the way of planning exist, and they will not disappear overnight by any means. But the picture now being completed by the planners is one that can be understood, appreciated and supported by any citizen. And this single fact is reason enough for the conviction that our cities and our countryside, come hell or high water, are going to be replanned and rebuilt.

SMALL RURAL DEVELOPMENT, BOSTON, MASS.

Architects Glaser and Rado plan a 54-house suburban development near Boston. The site plan is unusual in road layout, orientation and ingenuity, the houses in comfort, spaciousness and utility.



GLASER



SAMUEL GLASER received his B.S. in architecture at MIT in 1925 and his M.A. a year later. He worked in several leading architectural offices in Boston and with Clarence Stein in New York. In 1931 he established a private practice. Since then he has written a well known book, Designs for 60 Small Homes.

LADISLAY L. RADO, a native of Czechoslovakia, received his degree as architect-engineer at the Technical University of Prague and an M.A. in architecture at Harvard. He practiced as an architect, industrial designer and stage designer in Brno, Czechoslovakia and has won prizes in several competitions for public buildings and city planning. During the past four years he has practiced architecture and industrial design in Boston.

THE SITE

The site for this 54-house suburban development is situated about 10 miles from Boston-a twenty minute automobile drive or a thirty minute streetcar or bus ride. The site is part of the Chestnut Hill district and it is located between two important arteries flowing west of Boston.

The accessibility of the site should make it a natural choice for young heads of families who wish to live within easy commuting distance of their businesses and the cultural facilities of a city like Boston. Within easy reach of the city, this site offers a country-like atmosphere seldom found in a suburban moderate price subdivision property.

The property is only four minutes walk to the bus line for Boston, five minutes walk to the railroad station for trains to the city. By bus, it is possible to transfer to other lines feeding adjoining communities for the same fare. By car, the property is within a radius of six to eight miles from Watertown, Waltham, Cambridge, Charlestown and other industrial towns.

The schools and public library, all of which are very well equipped, are about a mile away. There are two shopping centers near the development, a small one half a mile away and a larger one about a mile away.

Part of the property borders on a pond which is used during the winter for skating. The rest of the property borders on land owned by the Commonwealth of Massachusetts which may be used as a park. The land is well wooded, rolling ground sloping gently toward the pond.

SITE PLAN

In preparing the site plan, Glaser and Rado were guided principally by the consideration of three factors: the necessity to screen out properly the local railroad tracks which form the northern boundary of the property; the necessity to plan intra-development roads so that each house be assured privacy on its garden side; the necessity for a minimum of cross and through traffic within the development.

To screen out the railroad, the architects created a planted area fifty feet wide between the railroad property line and the project's road line. (This road, incidentally, is the only two-way through street in the project). The first

1

row of houses is built on the south side of this road opposite the green strip screening out the railroad. Other project roads are one-way and lead off of and flow into the two-way road. The one-way roads are 18 ft. wide with an added 3 ft. sidewalk on the south side only. The two-way road is 30 ft. wide with the same kind of sidewalk and a tree belt on the south side.

500

CHURCH

LIBRARY

FIRE STA

R.R.STA

1000

1500

FT

SHOPPING

SCHOOL

CENTER

CHURCH

In every case, the houses are set on the south side of these roads, instead of the more usual arrangement of houses lining each side of the roads. The utilities are planned to run underground between each two rows of houses.

Although this road and houseplacing plan works out to be more expensive than the more usual arrangement, the additional cost is more than offset by the special and pleasing advantages gained in organizing the house plan and its open areas.

To illustrate the advantages of the final plot plan, designers Glaser and Rado worked out a theoretical plot plan based on the usual method of road layout (Scheme A, this page.) The disadvantages of this scheme are apparent. About half the lots are on the "wrong" side of the street. The wide roads invite heavier and faster traffic. However, the number of lots and the cost of utilities in both plans are approximately the same. But the cost of the roadwork, sidewalks and tree belts in the final plan totals \$20,240 as against Scheme A's \$19,680. The difference of \$560, or \$9.60 per lot, for the final plan is wholly justified by the greater privacy, better orientation and reduction of traffic hazards afforded each house.



POND

BUS STA. TO BOSTON

PARK

SCHEME A: A CONVENTIONAL PLAN DISCARDED BY THE ARCHITECTS

R.R.ST

BOSTON

SHOPPING

PROJECT NO. 1



PLEASANTLY WOODED SITE SLOPES TOWARDS A SMALL POND, VISIBLE FROM ALL PARTS OF THE PROPERTY



THE HOUSES

Glaser and Rado decided upon two types of houses for the development which they felt would answer the requirements of comfortable living, efficiency in operation, economy in construction and expandability for the future. The first type, House A (see p. 77) is the smaller of the two, and has been grouped in twos to provide each lot with a greater amount of outdoor living space.

Both types of houses are planned so that each room faces south onto an outdoor terrace and garden area which is laid out both for privacy and as an integral part of the living room. The outdoor living area is also laid out so that it ensures privacy from the street and the opposite house. The service yards, grouped efficiently between each two A houses, have been so planned that they are completely screened and easily supervised from the kitchen if used for small children's play.

Both the smaller A houses and the larger B houses (see p. 78) have been conceived as maidless homes. This circumstance has dictated the use of one plan throughout the development. Glaser and Rado also decided to omit basements as an unnecessary expense. Basements in the Massachusetts climate invariably become damp, dank areas, and since the projected heating system is to be gas-fired radiant floor heating, the basement is not needed.

In partial replacement of the basement, adequate space in both types of houses has been provided above ground for all utilities and storage in the utility room adjoining the kitchen. Omission of the expense of the basement has also resulted in additional luxuries and niceties essential to comfort and liveability aboveground.

In House A, as in the larger B, the three bedrooms form an independent and private unit, connected to the rest of the house by a ramp alongside the porch. The living space is ample, wellplanned, and beautifully integrated with the outdoor living areas. The trick of installing a wall of closets to form a foyer is also a good idea. Closet space in general is generous, and the combined kitchen and utility room forms the kind of ample work center postwar planners are talking about. Each master bedroom is provided with its own bath, although occupants of the two other bedrooms must emerge into a fairly public passage to reach the scene of their ablutions. House A will sell for \$11,490, with all-in-one payments, on a 20-year basis, at \$86.73 per month.

COLUMNIED DODIO	
HOUSE A	
Construction	\$ 8,900.00
Land	2,050.00
Broker's fee	440.00
Selling price	\$11,390.00
Taxes (assessment @	
80 pag cent) \$9,192.00	
Tax nate @ \$27 248.18	
Manthly tay navment	\$ 20.68
Monthly tax payment	4 20.00
Down payment 20 per	
cent \$2,290.00	
Mortgage loan-\$9,192.00 @ 5	
per cent for 20 years, inter-	
est and amortization pay-	
ments per month	\$62.05
Water	2.50
Insurance (fire and public liabil-	
ity)	1.50
Total monthly payments	\$86.73
HOUSE B	
Construction	\$10,300.00
Construction	2,350.00
Deskan's fee	500.00
Broker's tee	
Selling price	\$13,150.00
Taxes (assessment @	
80 per cent) \$10,520.00	
Tax rate at \$27.00 284.00	
Monthly tax payment	23.66
Down payment 20 per	
cent \$ 2,630.00	
Mortgage loan-\$10.520.00 @ 5	1 · · · · ·
per cent for 20 years, inter-	
est and amortization pay-	
mente per month	71.01
Ments per month	2.50
water	2100
insurance (fire and public flabil-	1.5/
ity)	1.50
Total monthly payments	98.67

MATED COSTS







HOUSE A, The SMALLER OF THE TWO TYPES, IS PAIRED TO PROVIDE MORE GENEROUS OUTDOOR SPACE





The larger house, House B, uses the same fundamental plan as House A but it is more generously planned and more spacious. In addition, the B houses have been grouped around the pond and park property on somewhat larger lots than the A houses. (The A houses, incidentally are provided with a pond view, since the site slopes gently toward the pond.) In the B house, a corner of the living room has become a study by virtue of a fireplace wall which cuts it off from the end of the living room, and there is enough space to place the bathrooms in a private corridor of their own. As in the A house, all rooms, save for the kitchen, enjoy the view. While the B house will sell for \$13,150, carrying charges are only \$12 more monthly than on the A house.



INTEGRATED WITH THE OUTDOORS, THIS HOUSE IS SPACIOUS INSIDE AND OUT

OBJECTIVES OF NEIGHBORHOOD PLANNING

Tracy B. Augur, of the Tennessee Valley Authority, believes that the prime purpose of all planning activity must be to give the people what they want. His estimate of what this means.



TRACY B. AUGUR received his A.B. degree from Cornell in 1917, his M.L.A. from Harvard in 1921 and conducted a private practice in city planning in New York and New England until 1933. At that time he was appointed consultant to the Housing Division, PWA, and also consultant on the planning of the town of Norris for the TVA. He is now assistant to the director, Department of Regional Studies, TVA, and works closely with other agencies.

T HE history of man's concern with city planning is divided into eras marked by successive centers of preoccupation. He has planned cities impregnable, cities beautiful, cities profitable, cities traversible, with varying modica of success. The current interest in the planning of residential neighborhoods is an encouraging indication that the next era of city planning will be devoted to making cities livable. The era is well overdue.

As long as people seemed bent on moving into cities anyway, and land values were on the up and up, the matter of livability was easily dismissed as a detail unworthy the attention of practical city builders. When people began moving to the suburbs and in-town values started down and down, concern for the conditions in which city people lived ceased being an idealistic exercise. Practical men learned that where there are no people, the cities perish.

The change in the urban tide began when people discovered they no longer had to live on the car line in order to get to work. At that point economic necessity lost out to social desirability as the prime force in the choice of a place of living. When people discovered that they could live where they wanted to instead of where they had to, a social force of the first magnitude was let loose.

The purpose of neighborhood planning is to create an urban environment in which people will want to live, to recapture for American cities a quality of life that many small towns have kept but most large ones have lost. If that purpose is not achieved no other purpose is worth striving for. A neighborhood plan that presumes to show a neat 6 per cent return on the investment isn't worth a hoot if it does not first provide an environment that people will enjoy and continue to enjoy year after year after year.

Freedom of choice in one's place of living is an intoxicating freedom. City folks have had but small taste of it to date but it has sent them reeling far beyond the city limits. As time goes on, it will grow easier and easier for them to exercise wide freedom in choosing their place of residence. More and more they will live at a given point, not because it is the only place they can find or the lesser of two evils, but because it is to them the most desirable choice from the ten or twenty or thirty choices that are open to them. Those choices will not all lie within a one mile circle; they will be spread over a ten or twenty or thirty mile circle and frequently include a number of competing urban areas.

Looked at in this light, the question of whether new neighborhoods should be planned on the periphery of metropolitan areas or in their centers becomes a question of the relative attractions that the two sites can offer. If people have their hearts set on a cottage, be it ever so humble, with grass and trees around it, they will go where such a cottage can be had. If their tastes run to freedom from yard care or nearness to downtown activities they will go where they are obtainable. People are not all alike in their preferences, nor do the same people hold the same preferences through youth, the child rearing years and later life. Different families will want different things, but none of them will be ready to sacrifice their wants just to preserve the financial integrity of municipal or mortgage bonds.

WHERE SHALL WE BUILD?

One of the great dilemmas faced in the redevelopment of in-town areas is that the degree of density prescribed by the price of land is apt to remove most of the city's residents from the potential market. If fifty thousand out of a half million people can be expected to want to live in downtown areas at a density averaging one hundred to the acre, they will furnish a market for less than a square mile of redeveloped area. But there may be five, ten or twenty times that amount of blighted downtown land crying for some constructive use. If it is all developed at high density there will be takers for only a fraction of it. If it is developed at a sufficiently low density to attract full occupancy, there will be no support for current land prices and assessments.

The dilemma is grave, but where redevelopment for residential use is indicated, there is only one real choice, namely to plan and build what people will be willing to use. The centers of cities are in direct competition with the peripheries for the bulk of the residential market. They may have an edge for the people who want to live near the center of things, at least until these things move out also, but for the population of many cities "downtown" no longer holds any locational advantage over the periphery. In fact, where industry and business have decentralized extensively, the old downtown area may actually be at a disadvantage. Suburban points may offer freer access to the places people want to reach than does the city center.

When these stark facts are faced, the process of planning for neighborhood development becomes much simpler. The planner doesn't have to start with the price of land and work back from that, he can start with the kinds of living city people will be willing to accept five or ten years from now and work toward that. If he concludes that 80 per cent of urban families will be seeking the kind of living space that the newer suburbs are now offering, that will rule out the planning of apartment neighborhoods for more than 20 per cent of the total. It will probably also rule out any expectation that, in the long run, downtown lands will be worth more for residence than lands on the city periphery.

The size and design of neighborhoods is determined by the living requirements of the people who are to live in them. It is normal to center the neighborhood around a school, because the rearing of children usually represents the core of family activity, but neighborhoods can also be justified for adult use alone. The social interests of people without children are apt to be different from those of families with children. There is no reason to expect them both to live according to the same neighborhood pattern. Plans for large cities may well include neighborhoods containing no provision for schools or other services for children, with the understanding that their residents will have no legitimate claim against the city for such services.

The usual design criteria are those that produce a workable elementary school district. But these factors obviously do not apply to a childless neighborhood. There the desirable minimum size is one that will preserve the social desirability of the area, and may be determined as much by conditions outside the development as by those within. In many cities there are downtown nooks—sections of waterfront, hilltops, or other small protected areas—where a relatively small adult neighborhood can maintain itself. In others, the entire central area is so polluted with smoke or industrial fumes, or so completely run down physically, socially and economically that no adult neighborhood could be successful unless on a very large scale or planned and built in association with other types of redevelopment that give it needed protection.

COORDINATED DEVELOPMENT

Detroit is a familiar example of a city in which the central blighted area has become so extensive and continuous that no single neighborhood of any kind would have much chance of survival. In such situations the minimum unit for successful redevelopment may be a group of neighborhoods in which one or more high-density sections for adult occupancy are combined with lower-density family neighborhoods and with new parks or rehabilitated waterfronts to give a total area big enough to successfully resist infection.

The design of normal neighborhoods has been so well covered in recent writings that it needs no extended comment, but a word may be in order about the upper and lower limits of size. As noted earlier, it is customary to base the size of the neighborhood unit on the population needed to support a good elementary school, but there is no universal standard for the size of such a school. An elementary school may run from kindergarten through the eighth grade. or only through the sixth, or the first grade or two may be separately handled in conjunction with nursery schools. Many educators favor large schools catering to as many as fifteen hundred or two thousand families. It is questionable how much of the quality of neighborliness is left in a residential unit of so large a population. It would seem better, if need be, to sacrifice ultimate efficiency in the use of the school plant to keep the neighborhood unit down to not more than 1,000 families.

There is an unfortunate tendency to call any new residential development a neighborhood unit, regardless of its size or composition. It is true that a group of as few as 50 or 100 families may enjoy a high degree of neighborliness, particularly if drawn together by relative isolation from other contacts. It would be rare, however, that a group of less than 500 dwelling units built within a major urban area would be large enough to maintain itself against outside pressures. The school is a good rallying point for the building and maintaining of neighborhood unity. A neighborhood too small to support such a rallying point is apt to prove too small to maintain its integrity in the surrounding city structure.

The basic idea of the neighborhood unit is that it is a unit of something else. It is a device for organizing big cities into manageable parts in which the citizens may have a practical voice in determining the conditions in which they live. A neighborhood meeting is a good place to air opinions on such close-to-home subjects as garbage collection, care of dogs, noise abatement, the kind of schooling the kids are getting, or even the service given by local merchants or the neighborhood movie house. It can also serve the political purpose of the New England town meeting, for neighborhood opinion that has been well crystallized and organized can have a potent effect on municipal administration.

A few well planned neighborhood units in a metropolitan district whose population runs into the hundred thousands or the millions will obviously have little effect on the social or political life of the community as a whole. The planning of a few units in each of the country's metropolitan areas would provide interesting jobs to a large number of design organizations, and their building would provide useful work for the construction industry, but it would not solve the basic problem of making big cities livable. That involves making them livable for their whole population and not just for a few thousands in special neighborhoods. In short, the job that the country faces is that of planning and building many thousands of new neighborhood units in and adjacent to all of its major cities. Unless this is done and done well, those cities face continued distintegration and decay. Free enterprise is the badge of the little American familyman as well as the big American businessman, and as soon as he can get gas and tires again, he will resume the exercise of that freedom in choosing a place to live. If he is not offered an attractive place in town he will seek the only solution open to him, that of escape to the suburbs. Nothing can be more demoralizing to a great city than to have its citizens move out!

URBAN "TAG" GAME

Now that the automobile has endowed the average city resident with as much freedom of enterprise as that enjoyed by his realtor, builder or purveyor of city utilities, the relationship of public and private effort in city development is being examined in new light. When freedom of enterprise is shared by consumers and producers alike an interesting game of urban tag gets started in which residents, businessmen, property owners and tax collectors chase each other all over town, the suburbs and the surrounding country. and important players stroll off into peripheral pastures and don't come back. Complete freedom of individual enterprise does not produce the teamwork that it takes to build good cities. What starts out as good clean sport ends up in a riot and the surviving players are farther than ever from having a livable or workable environment for their respective pursuits.

The type of free enterprise that allows every owner or occupant of city property to use it, misuse it or not use it (Continued on page 184)

SUBURBAN RENTAL HOUSING, NEW YORK CITY

A small, privately financed rental project for a suburban community demonstrates several planning principles that can be applied to all multiple dwelling developments, regardless of size.



MERONI

SUNDERLAND SCHULTZE MORGAN LEONARD SCHULTZE was graduated from CCNY and attended the Architectural School of the Metropolitan Museum of Art. Associated with the firms of Reed & Stem and Warren & Wetmore, he acted as chief of design for the Grand Central Terminal and later as executive in charge of all buildings connected with the terminal. In 1921 the firm of Schultze & Weaver was formed. After the death of S. F. Weaver it became Leonard Schultze and Associates. Since its inception the firm has executed some of the largest hotel and office buildings in the country.

LLOYD MORGAN was graduated from Pratt Institute of Architecture, studied at the University of Pennsylvania and MIT. He was Paris Prize winner in 1921. The next ten years were spent in Europe at the Ecole des Beaux Arts and working in offices. He has been associated with Leonard Schultze since 1926 and was made a partner in 1929. Besides acting as professor of Architecture at Yale and NYU, he has also conducted his own school, the Atelier Morgan.

EUGENE V. MERONI was graduated from the Mechanics Institute and had two years of Beaux Arts Institute of Design training. He worked on many of the buildings connected with the Grand Central Terminal and in the Construction Quartermaster Division at Camp Merritt, N. J., during the last war. He joined Schultze & Weaver in 1921 and became a principal of the firm in 1922.

WILLIAM SUNDERLAND was graduated from Pratt Institute of Architecture and studied at the Beaux Arts School of Design, Columbia and NYU. After ten years of architectural experience with various public works he joined Warren & Wetmore as a designer. He has been with Schultze & Weaver since 1921 and was made a partner in 1934.

THE PROBLEM

Suburban communities all over the country have one or more sites suitable for the construction of small rental projects-this phase of building should not be overlooked as an important element of the postwar building program. Though the idea of home ownership has gained tremendously in popularity during the war, there will always remain a sizable group who prefer the convenience of rented homes to the responsibility of individual ownership. They have recently become planningconscious. They have been taught to expect and will be able to afford better than prewar living conditions. The majority will prefer suburban living to the noise and congestion of a large city.

The site selected for this project is typical of many to be found in small communities and suburban areas. While it is comparatively small and rectangular in shape, certain lots along the perimeter have been sold off, leaving an irregular outline. As the site for a rental project it presents some planning problems common to this type of realty. The solution calls for the use of two story row-house units grouped in such a way as to maintain a coverage of only 13 per cent. Had the design utilized detached or semidetached houses with individual garages the percentage of coverage would have been almost double.

After exhaustive study and research in connection with two huge housing projects in California and one in Washington, D. C., executed for the Metropolitan Life Insurance Co., Leonard Schultze & Associates arrived at certain planning principles which they have successfully applied to this project on a greatly reduced scale. The same basic pattern (consisting of radial streets forming wedge-shaped blocks) was used for Metropolitan's 11,200 room housing development in Los Angeles and for this suburban project of little more than one-tenth its size.

The basis of the planning principle

2

is the intra-block relationship of a number of housing units, providing a central lawn area and better-thanaverage living and service facilities for the apartment. Each block offers individual terraces, drying yards, play space for smaller children and adequate parking for tenants and visitors —tenants in parking compounds between the apartment buildings, visitors in off-street parking bays. Main recreation areas and community buildings are introduced outside the block pattern and at less frequent intervals.

THE PLAN

Only three typical building shapes are employed: two variations of the U-shape and the standard bar. In most cases the U-shaped buildings are used alone with the parallel wings forming entrance courts. In two instances U-shaped units are placed opposite each other creating a generous central lawn. Generally speaking, the barshaped buildings are used parallel to the roadways shielding the interior of the block, more rarely they are placed at right angles to the street, facing each other, sometimes at a slight angle. In all cases garages are located at the buildings and are reached through adjacent parking courts. Units are two stories with laundries, storage and heating in the basement. The site was graded for easy access to these facilities. The combination of apartment building layout and connecting parking compounds allows privacy and quiet for the principle green areas. The fact that there is but one circulating street with three short access streets indicates a minimum of utility construction.

The project consists of 336 apartments. Individual apartments provide three, five and six rooms. The three and a half room unit has a living room, dining alcove, bedroom, kitchen and bath. The larger apartments have standard dining rooms, one additional bath and one or two more bedrooms. Wherever two baths are provided, one is connected with the larger bedroom. Bedrooms are of two sizes throughout, 10 x 12 ft. and 12 x 16 ft.

A development of this sort should not be built for speculative purposes, but should be built by owners who intend to remain in possession of the property and operate it. Though the character of the project would not permit its construction for speculative purposes, it will show a very fair profit and amortization on an investment of longer term. Built of fireproof materials on moderately high-priced land, it will cost approximately \$3,200,000; and demand an estimated rent of \$25 per month.

VELOPMENT

PRIVATELY OWNED

PROJECTED HOUSING DEVELOPMEN

COMMUNITY

FOR

NEAR & LARGE CITY

COVERAGE 13%

LEGEND-

NOT

SUBURBAN

FATION

ADMINISTRATION

COMMUNITY UNIT

I E S

LEONARD SCHULTZE AND ASSOCIATES ARCHITECTS NEW YORK CITY

5

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PATTERN OF IRREGULARLY GROUPED BUILDINGS, CURVING ROADWAYS CREATES AN INFORMAL ATMOSPHERE





QUARTER SECTION of the large oval in the center of the project clearly indicates the close intra-block relationship between apartment buildings, service facilities and small children's play area. Bar-shaped buildings not immediately connected with a car court have the added advantage of a more secluded location. Flat roofs on wings of U-shaped buildings provide sun terraces for duplex apartments. Plans show half of a typical U-shaped building.









VARIED GROUND LEVELS and roof construction, terraces and porticos break up the monotony of uniform construction. Living rooms at the rear of the buildings overlook principal park areas.



PREREQUISITES OF PLANNED DEVELOPMENT

Bryn J. Hovde, administrator of the Pittsburgh Housing Authority, believes that some form of public control of land, on the outskirts as well as in the centers of cities, is essential to planning.



BRYN J. HOVDE received his M.A. and Ph.D. degrees at the University of Iowa. After thirteen years of teaching history and political science, he was named director for the Department of Welfare, City of Pittsburgh. Since 1938 he has held the post of Administrator of the Housing Authority of that city along with short-term assignments in the Management Diviof the USHA and the sion Pittsburgh office of the Defense Housing Division of the FWA.

T HE CAUSES underlying the so-called "flight from the city" are so numerous and so basic that peripheral development may be expected to continue at a moderated pace even around cities with practically stationary population. What is urgently necessary, however, is a recognition by the citizen body and by public officials that future peripheral development must be planned and controlled. Those who struggle with the problems of replanning older city areas often wish that the original developers of these areas had had the foresight to plan them in the beginning. The opportunity to exercise this foresight exists today in the peripheries of our cities, but paradoxically it is precisely there that urban planning is most weak.

There should definitely be limits on site expansion. Unlimited site expansion results in over-extended and extremely expensive installations and maintenance of roads, streets, and public utilities, and renders planned expansion practically impossible. Metropolitan municipal governments should be consolidated and made coincidental in boundary with the whole metropolitan area, including a wide belt of vacant land on the periphery. Within the area of future expansion, very adequate public limitations should be established upon the speculative tendency to open new sites indiscriminately. Preferably, the metropolitan city should proceed, and if necessary be aided, to purchase the vacant land so that the local planning body may directly lay out the new developments on such bases as will interest the soundest private capital.

Admitting that some part of the population in inner-city areas will continue to move to the periphery, it will still be necessary to undertake the redevelopment of older in-citv areas. Flight from these areas will contribute to a desirable reduction of their density. But it is inconceivable that we can allow the great run-down areas in our cities to lie as mere festering sores. Viewed from the point of its best potential use, this land is exceedingly valuable urban asset. No self-respecting city will long endure a residential junk pile at its core. With proper attention to site planning and architectural design, it should be possible to redevelop the inner-city areas at excellent standards and still preserve a higher density than would be justifiable in peripheral areas. Experience with three-story walk-up apartments for families of all kinds and sizes seems to indicate that it would be wiser to assemble the smallest apartments and a few larger apartments for families with adult members in tall buildings served by elevators, thus making it possible to provide individual or row-housing of good design for families with growing children. These latter families would thus have private gardens and the apartment families would have spacious grounds communally used.

PLANNING OF DESIRABLE NEIGHBORHOODS

Public powers and instrumentalities for land acquisition and control are the prerequisites of neighborhood planning and development. It is inconceivable that all urban land will in the foreseeable future be acquired by the public for its own ownership. But public ownership of certain kinds of land, at least until developed or redeveloped for its best use, is now widely regarded as justifiable. Such lands are a) peripheral vacant lands, b) tax-abandoned lands, c) slum lands, d) lands intended for the public service.

Some local public agency should acquire these types of land, as and when purchase money becomes available from whatever source. The right of eminent domain must be vested in this agency, and should never be extended to a private agency. In all but a few states most of the necessary acquisition powers have already been vested in a local agency, namely in local housing authorities. In the words of the Institute of Municipal Law Officers' Committee on Public Housing: "The proper approach would clearly seem to be to take advantage of this machinery, already tried and tested, rather than attempt to create altogether new machinery and thus unnecessarily seriously slow up and complicate the whole program of urban redevelopment."

Preferably, the land ought to remain forever in public ownership and be leased to private enterprise at its use value. In many specific instances, however, it may be found to be more immediately practicable to sell it under deedrestrictions as to its future use. Much of this land is so fictitiously, but irrevocably, over-valued that public subsidy will be necessary to write it down to its proper use value. This form of public subsidy should be kept clear and distinct from all other forms by special financing, such as direct grants-in-aid or public insurance on the demanded yield of the bonds covering the purchase price of the land. The local authority, if it is used as the public assembly and ownership agency, should be permitted to pool all its land operations so that capital gains from the development of low-cost lands might in whole or in part offset capital losses from high-cost land. Thus the land subsidy could be kept to a minimum.

With or without the desirable consolidation of municipal governments, city planning commissions must draft master plans for the most desirable residential new development and redevelopment. The achievement of good neighborhoods in which citizens may live and raise their families must take precedence over considerations of transportation, though it is freely admitted that the problem of transportation is of exceedingly great importance to a good neighborhood. In other words, good neighborhoods should be defined as far as possible, and the major highway and street system should, if necessary, be warped to fit the requirements of a good neighborhood.

Since good neighborhoods consist not only of dwellings and a transportation system but also of well planned and integrated services, the neighborhoods must include well planned commercial centers, ready access to churches, schools and cultural facilities, parks and playgrounds. Both in the interest of the commercial entrepreneurs themselves and in the interest of a planned neighborhood, the opportunities to open new stores indiscriminately and on inadequate financial foundations must be limited by space and by public controls on the design of such commercial facilities.

A well planned neighborhood is one which avoids extreme stratification of family income groups; consequently every effort should be made to make the community attractive to families representing as broad a belt of incomes as possible. Public housing for the lowest income groups should be intermingled with private housing for higher income groups extending so far as possible toward the top of the income scale. The American family considers itself "on the make" if it lives in the same neighborhood with successful people; similarly higher income groups can learn sympathy and understanding for families of low income if they live as neighbors. What we want to achieve is a neighborhood to produce good Americans, not good low income Americans or good upper income Americans.

Since the demand for rental housing seems to be irresistible, it must be accepted. If rental housing is to be supplied, it should be planned and programmed as rental housing; in the past the demand has been supplied almost only through default of ownership. Once accepted, provision should be made for it, as well as for ownership housing, in good neighborhoods. Properly planned and maintained rental housing may have a very beneficial effect upon the maintenance of privately owned properties in the same neighborhood, thus contributing somewhat to the stability and longer life of the latter. This would be especially true if some satisfactory scheme for the cooperative maintenance of ownership housing could be devised.

A form of housing enterprise suitable to all income groups, except the one which requires public subsidy, is mutual home ownership. But it seems peculiarly fitted to the needs of the group immediately above the public subsidy group, since it operates on the basis of full cost, but no profits. In effect it provides its membership with the use of and a mounting equity in housing rather than in a house. Mutual ownership housing would be a valuable asset to any good neighborhood.

Neighborhood planning should be done on a large scale; execution of the plan can be piecemeal on a much smaller scale, provided the grand plan is adhered to. To be a neighborhood at all, the community must contain enough families to support a shopping center, a common recreation area with indoor as well as outdoor facilities, an elementary school, and perhaps a church. In other words, the neighborhood must be planned in size to provide a good basis for those neighborhood activities and interests which derive from every-day residential, as distinguished from occupational and public, life. In actual number of families, this will probably be somewhere between 250 and 1,000 tamilies. Less than 250 would probably be unable to support the desirable common facilities; more than 1,000 would mean rapid loss of truly neighborhood characteristics.

There must, of course, be a high degree of accommodation between all-over city planning controls and neighborhood planning. The city planning body must necessarily place the interests of the city as a whole above the interests of any single group of neighborhood families. It must make determinations concerning the proper use of land and concerning the major transportation network. Nevertheless, the city planning body should always remember as its primary function the planning of a city consisting of good neighborhoods. A new highway should never, by location or design, be permitted to blight a good neighborhood, even for lower construction costs. Proper zoning will not permit the intrusion of even a new and desirable industry upon a well planned neighborhood. In the actual planning of the neighborhood itself, wide latitude on detail should be allowed the developer, whether private or public, provided he meets good minimal standards set by the city planning body and local ordinances.

DEVELOPMENT OF WELL-PLANNED NEIGHBORHOODS

If new or redeveloped neighborhoods are well planned and the land of the latter written down to its use value, the problem of financing their development should be relatively simple. All authorities agree that, when the war is over, there will be staggering amounts of money available for investment at low interest rates. And the war has proved the enormous capacity of the country to produce goods and services. Capital will in the future, perhaps even more than in the past, insist on good business and public guarantees for the safety and yield of investment. Business guarantees consist of the lender's judgment concerning the productive power of the investment; a well-planned neighborhood is obviously a safer proposition than one that is poorly planned. Not even the FHA has heretofore been willing to insure mortgages on new or renovated properties in badly blighted areas. This is itself an argument for large-scale neighborhood planning. For some types of redevelopment it may very well be necessary for the public to insure a limited yield on the bonds of private redevelopment corporations. at least until the caution and skepticism of investors has been partially overcome. Such public aid should be extended under proper commitments for the service of the public interest.

In the main, it may be said that the public interest that should be served in return for this public insurance of a limited yield, is the adequate housing at affordable rents of those families who lie immediately above the group served by public housing and immediately below the group served by private housing enterprise with only FHA mortgage insurance. This group cannot generally afford to own their own homes, but can afford to pay an economic rent plus a strictly limited profit. The bonds of mutual home ownership corporations would also be proper objects of a limited public yield insurance.

The small businessman in building will continue to be an important, even perhaps the most important, factor in the development of new peripheral neighborhoods. These will be developed in relatively small segments, a few structures at a time, but (we hope) within the framework of definite and good neighborhood plans. The small busi-(Continued on page 188)

RURAL ACTIVITIES CENTER, TENN. VALLEY

Architects Wank and Bianculli plan a rural activities center in the Tennessee Valley, to grow up around the needs of a power co-op. Facilities for processing, marketing, and education are included.





NANK

BIANCULLI

ROLAND A. WANK practiced architecture in New York and Florida on his own and as an associate of well known architectural firms. For the past eleven years he has been head architect of the TVA and during part of that time was consultant to the Rural Electrification Administration and the Resettlement Administration.

MARIO BIANCULLI practiced architecture in New York with several engineering and architectural offices, including his own, from 1924 to 1935. Since then he has worked as senior architect with Roland Wank in the design of a variety of buildings, including powerhouses. Together, they have also taken great interest in the redevelopment of small towns and communities.

The project expresses the architects' own ideas and does not imply concurrence by any official agency.

The architects acknowledge the assistance of Mr. P. W. Voltz on the agricultural aspects of the project.

BACKGROUND OF THE PROJECT

This rural activities center project in the Tennessee Valley is patterned after a number of similar ones which were either in rudimentary stages of development before the war, or in discussion. Neither precedent nor tried methods of organization and financing existed for these programs. Donations of land, work relief funds and similar windfalls were essential for any progress, and the termination of federal works programs at the approach of war effectively suspended the planning of all rural activities centers.

Despite the forced cessation of thinking along these lines, Architects Wank and Bianculli feel the idea has struck roots deep into the pattern of rural living. They feel it important that a few of these rural centers reach a stage of development where they may form the basis of inspiring a more comprehensive program.

The U.S.'s farm country needs modern technology and economic organization. Of all farm areas, that need is greatest in the South. Thus, most prewar rural activities projects were conceived there, including the one which Wank and Bianculli have adapted for discussion here. While land contour, roads, watercourse and the projected buildings resemble those of the original plan, Wank and Bianculli have predicted their adaptation on the basis of an expanded area.

INCEPTION OF THE PLANNING

Focal point of the project is the rural electric power cooperative, one of some 800 in the country. It is assumed that several years of successful operation and expansion have made it necessary to add a new Diesel plant to the interconnected power grid. Space for offices, warehouses and garages of the co-op also has to be built.

The co-op's board of directors farmers, small town merchants and a sprinkling of lawyers and country doctors—has been transformed through years of operating experience into a hard-headed business-like unit. It is aware that its objective—ample electric power at a price within the reach of all—can be attained and maintained only by continued expansion. Expansion in turn, depends on the prosperity of the area served.

The prosperity of a farming area depends on full use of technological advances, diversification of crops and ceaseless effort to increase the amount of processing done within the area in order to keep a large share of wages and profits at home. (The power co-op of course has a special interest in processing enterprises: a creamery or freezer plant in an outlying district assures a certain minimum consumption of electricity, and thus may permit the extension of lines into otherwise uneconomic territory).

To accomplish these objectives, resi-

dents of the area must absorb many new ideas and techniques. The board believes that the best way to learn is to do. For the youngsters, this means practical vocational instruction on the farm, in shops and in processing and marketing. For their elders, it means observation of the methods practiced and participation in co-op processing and marketing—which will incidentally help to defray the cost of the project and to improve the income of members whose produce is brought in for handling.

FIRST STEPS

The land for the proposed rural activities center lies at the intersection of a federal and state highway, at the approach to the county seat and trading center. Its accessibility is an important point in its favor. Marketing is promoted by proximity to the channels of trade. City residents are encouraged to drive out and buy fresh farm produce. The demonstration program is greatly facilitated by accessibility.

The power co-op acquires all this tract out of its accumulated surplus, but will continue to hold only that portion necessary for its own business. The rest will be re-sold in part to the educational center, and in smaller parcels to the processing and marketing co-ops as they become organized.

The powerhouse, its headquarters building, switchyard and transmission line work, are of course, the first structures to be designed. The balance of the project is more difficult to lay out -but the board remembers that only 8 years ago, rural cooperative power seemed just as remote and improbable. The first step in planning the remainder of the project is to hold a series of meetings through which the directors obtain the support of farmers' organizations, the State Extension Service, the state and county departments of education, the county courts, civic clubs, chamber of commerce, etc. Leadership is then handed to a working committee of representatives of these groups.

Once this support is assured, the remaining problem is to finance utilities, roads, buildings and land improvements. It is likely that the State Dept. of Education will contribute to the cost of shops and classrooms; the State Library Commission adopts the library as one of its regional centers; the land-grant college of the state contributes toward the demonstration farm; civic clubs and the American Legion donate funds for the community building in return for free use of its facilities; the Chamber of Commerce votes some funds because it expects



PRELIMINARY SKETCH OF SITE SHOWS MAIN ELEMENTS OF FINAL SCHEME

BUSINESS ZONE

- 1. Powerhouse and switchyard
- 2. Market and farmers' exchange
- 3. Processing buildings

COMMUNITY ZONE

 Community building
Administration, mess hall, museum and library

VOCATIONAL CENTER

- 6. Classrooms
- 7. Athletic center
- 8. Dormitories
- 9. Staff cottages 10. Infirmary
- 11. Shops
- DEMONSTRATION FARM

500

- 12. Farm manager 13. Farm employes
- 14. Farm buildings
- 15. Truck farm
- 16. Pasture

the project to benefit business. While the money raised in these ways will fall short of the total amount needed, Wank and Bianculli feel sure that some federal help will be forthcoming after the war. In the meantime, plans are to proceed to the blueprint stage. If construction must take place as funds appear, at least fully developed plans will form the framework.

Organization of the processing and marketing enterprises follows a different pattern. Equity money for them consists of the membership fees of prospective cooperators with which application will be made for a loan to the Farm Credit Administration. The types of enterprise which will be included will be selected in discussions with farmers with the advice of the Extension Service, and after careful analysis of production, cost of processing and marketing influences. Next, committees of farmers are formed to incorporate and solicit membership. The planning process continues for many months and during its course, a firm of site planners, engineers and architects is engaged to convert ideas into construction plans, specifications and estimates.

SITE PLAN

The business zone of the rural activities center (see plan below) contains the premises of the power co-op and the farmers' co-ops. The latter, organized on the Rochdale principle, are designed primarily to serve their members and return patronage dividends, but they will also cater to city folk and casual tourists. Central to the group is an auto service station arranged to handle the display and demonstration of tractors and other farm machinery as well. West of it, a food market will display and sell the products of the processing plants and farmers' produce.

The exchange, east of the service station, is primarily a consumers' co-op for the bulk purchase of items the membership may require. It will also accept from members their produce in exchange and dispose of it by sale. Building requirements will include a large amount of warehouse space, weighing and freight handling equipment and trucking access to interior as well as exterior loading docks.

Processing plants are disposed in a semicircle around the exchange, with easy trucking access.



The community zone comprises those parts of the educational plant which also serve the co-ops and the public with meeting space, recreation and related facilities. The zone centers on a lake made by damming the creek which flows across the property. An informal swimming dock is provided and above the swimming hole, the mess hall, administration building and library of the school stretch in a group connected by covered walks overlooking the lake. East of the library and close to the main highway is the athletic field with a gym and field house.

The vocational center area, which includes dormitories, teachers' cottages, infirmary and a structure with classrooms and laboratories for instruction in theory, is comparable to the campus of a small college-except that all pretense is avoided. Construction and finish of buildings are scaled to the norms which farm youngsters would find applicable during their later life. Ample parking space is provided. While the project is within easy driving distance of its tri-county service area, visiting lecturers, officials or adults may wish to stay overnight on occasion, and a small guesthouse is provided for their convenience.

Shops and practical laboratories are standardized structures spread out along the interior road leading to the demonstration farm, with ample room for later additions and expansions.







end is the day nursery, where children may be parked while

their mothers shop.

POWERHOUSE AND CO-OP HEADQUARTERS are housed in an impressive building situated at the apex of the property. The front of the generator hall is made of heat-absorbing glass, and horizontal structural louvers further protect it from overheating by the sun. The east wing houses two sets of offices in parallel: the generating co-op which sells power to local distribution co-ops, and the local co-op for the immediate area. The west wing contains garages for line construction and repair equipment, warehouse, laboratory, etc. Offices, garages, warehouses are arranged for easy expansion.



duction. Overhead tracks have been used to reduce the manual labor of feed distribution and manure collection. The manure pit was placed at the end furthest from the houses and nearest the truck crops. Expansion of units is possible by lengthening or widening the wings of the buildings. The chicken house is nearest the houses to facilitate its management by the farm women. The shop, tool and equipment shed are centrally located and are also near the shops of the vocational center.



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PROS AND CONS OF THE PLANNING PROCESS

Hugh R. Pomeroy, president of the American Institute of Planners, discusses the various questions which must be resolved before planned development can proceed, and suggests the answers.



HUGH R. POMEROY was educated at Occidental College in Los Angeles. After acting as advisor on planning for various cities and counties in California, he served as director of the Virginia State Planning Board and is now executive director of the National Association of Housing Officials. He is also serving as president of The American Institute of Planners, and member of the board of directors of the American Society of Planning Officials.

THE current conversational contributions to urban redevelopment are prodigious. They are prodigious not only in quantity, but also in their range from the futile to the fantastic. It is certainly futile to expect that continued development at city outskirts will automatically result in some sort of purification of internal urban decay. It is just as futile to expect that we can develop procedures —and, even if we could, that we would be willing to use them—bringing the charm, quietness, and spaciousness of the countryside into the heart of a city and thereby halt the outward movement of people seeking pleasanter surroundings than are now found in the city interior.

It is as fantastic as the foregoing is futile to expect that solid economic facts can be waved aside by focusing activities on people rather than profits or be exorcised by some magic formula that is supposed to sanctify subsidies, otherwise thought to be immoral, by calling them "incentives." Special incentives to investment may be needed, but we should be honest about what they are and how they work.

Urban redevelopment, neighborhood building, or whatever else it is called, involves comprehensive city and metropolitan area planning, the acquiring of land, the financing of land acquisition and of construction, land use controls, construction techniques, organization, and numerous other problems. It should be obvious that improvement in methods is called for. Existing methods have permitted widespread urban decay, a total housing supply that is over 30 per cent substandard, and inconvenient and costly urban patterns. But solutions cannot be found by first seeking remedies for evidently faulty procedures. There must be a clear understanding of what we are after-and that, essentially, is a satisfactory living environment, set forth in an urban pattern that is serviceable, convenient, and economical to operate governmentally. Suggested standards should be tested against such an objective. Proposed methods should be measured by their relative effectiveness in attaining the objective and by the efficiency with which they use the public's money.

An endeavor to find solutions to the problem of both obtaining and maintaining sound neighborhoods should be guided by the following premises:

1. The character and design of the general development plan of the city should not be determined primarily by formulae but by desiderata and standards that express the kind of cities we want—the kind that best serve the needs of the people in the particular situation and their seeking for a satisfactory living environment.

2. A satisfactory living environment consists of both desirable neighborhood patterns and desirable housing. The quality of neighborhoods is largely dependent on the quality—both initial and continuing—of the housing that constitutes their principal content.

3. No satisfactory neighborhood planning is possible on the basis of an economic compartmentalizing of families or groups of families, each expected to pay its pro rata share of the cost of providing and maintaining a satisfactory living environment. The maintenance of at least the standard of adequacy that the community is willing to set as a minimum is properly a responsibility in which the whole community is regarded as an economic unit.

It follows, then, that the issue between new peripheral development and redevelopment of older in-city areas is not a black and white issue at all, but becomes a question of effectuating a general community pattern, designed best to serve the needs and desires of the people of that community. Peripheral development has frequently been accompanied by land speculation that, in resulting higher costs of housing, has restricted the market for the housing to better advantaged economic groups. But, with some exceptions, the peripheral development has not been caused by land speculation but has resulted from the seeking of the people for better surroundings. Much waste has resulted from improper and premature subdividing, but again, the driving force which made it possible represented a normal and desirable trend from outmoded and deteriorating neighborhoods. Much waste can be prevented by rehabilitation and redevelopment of older neighborhoods. But it is unlikely that any plan of redevelopment could provide a living environment so desirable and so diverse that it would remove the incentive for peripheral development. Families may be expected increasingly to seek a spaciousness, seclusion, and quiet that never can be provided in close-in neighborhoods.

FAMILY NEEDS

Two classes of families can be expected to provide the principal market for housing in redeveloped older neighborhoods. One of these—by far the smaller in most cities will be families who prefer apartment house life regardless of their economic status. Such families could be well served in properly redeveloped areas. But the total amount of land needed to serve them will prove to be surprisingly small in most cities. Furthermore, newer concepts of comprehensive neighborhood design may be expected to provide opportunities for apartment house development in new areas which, under traditional subdivision standards, would be available only for detached houses.

The other group consists of families of lower incomes who, under conditions of available housing supply, housing cost, and pattern of industrial location heretofore generally obtaining, could not afford homes in other than close-in areas. These conditions, however, are changing. A likely postwar accelerated program of replacement of deteriorating older housing will tend to free lower income families from their confinement to the areas in which such housing predominantly is found. The annual cost of housing may be expected to be reduced by improving technology and organization in house production, establishment of use-value and land taxation based thereon, financing based on long-term amortization of the capital cost of housing and the relating of the life of structures to such amortization, devices for assuring adequate maintenance, mutual ownership, increasing use of investment capital in producing housing as a result of improved and new methods for assuring security, more economical patterns of site layout, and better methods for providing neighborhood protection. Finally, industrial decentralization, as strikingly illustrated by much of what has happened during the war, will free large numbers of families from the necessity of living in areas of older development.

These factors raise serious questions as to the size of the demand that may be expected to provide a market for housing in redeveloped areas. There certainly can be little justification for endeavoring to thwart trends serving real needs in order to maintain a market artificially.

DECENTRALIZATION OR CENTRALIZATION?

It has been generally assumed that considerations of economy of local governmental operation call for compactly developed cities. But these assumptions begin with patterns of streets and utilities and land values that reflect the compact type of city. No adequate data exist on which to conclude that this type of city is, in fact, more economical to service and operate than a decentralized city would be. If the value of the utilities in place be thought determinative, it might be that the cost of redevelopment, usually including the writing down of excessive land values, would be greater than that of abandoning the utilities.

No conclusion is offered here. But certainly there is no conclusive basis for assuming that extensive urban redevelopment is required in order to provide desirable living conditions and to assume economy of municipal operation. The one thing that is conclusive is that the provision of desirable living conditions and the preventions of excessive governmental costs call for the elimination of the housing in slum and blighted areas and for the rehabilitation of deteriorating neighborhoods in which the housing is subject to salvage. The high social and economic costs of bad housing have too often been proved to require reiteration.

It is obvious that the mere removal of bad housing is only a part of the answer. There must be an adequate supply of good housing to replace that which is eliminated. Most of this can be provided by the normal operations of private builders. Improvements in methods previously noted will enable private builders to produce better housing at less cost. In normal times there still remain considerable numbers of families who can afford to pay little or no more than the cost of maintenance of decent housing. No reduction in the cost of producing housing can enable these families to obtain decent housing by building excess amounts ot housing for higher income families and letting it "filter down" to low income families as it deteriorates in quality or desirability. The "filtering down" process has had full opportunity to work for the past hundred years or more, and it has produced all our slums and blighted areas. The only way in which families could get better housing than they can afford would be for there to be an unprofitable surplus of housing; and such a surplus would be of good quality only until lack of maintenance dragged it down.

There is now general recognition that there is a part of the population that requires subsidy in order to obtain decent housing. Experience has proved that this subsidy can be effective only if it is applied directly to the production of decent housing. There is no practical way in which the payment of subsidy in the form of rent relief to families could operate other than to perpetuate slums and blighted areas, placing an insuperable obstacle in the way of the elimination of unfit housing and urban redevelopment. In no way could rent relief offer any secure basis for rebuilding, other than for relatively minor repairs.

OVER-ALL PLANNING

It is beyond the scope of this statement to discuss the various analyses required in order to determine the housing need in a community. Whatever the need and whoever produces the housing to supply it, the housing should be located in accordance with a general physical plan for the community. Such a plan should be the basis for the neighborhood pattern of the community. It should provide the general structural framework of the community, within which the design of neighborhoods can be worked out in detail according to established standards.

The community plan should indicate the desirable utilization of decayed areas in which bad housing is to be removed from use. Some of the cleared land may be needed for specific public purposes, such as recreation areas, public building sites, automobile parking areas, helicopter landing fields, public markets, and the like. Some of it-much of it under the concept of the decentralized city-may be used simply as open space. Some of it may be redeveloped for intensive urban land uses, principally housing. Whenever the land is acquired, it must obviously be paid for at its current market value. However, the city, by effective enforcement of building and housing codes, should see to it that the market value is not too greatly sustained by a return on badly substandard housing. And the city should also endeavor to see to it that values are not sustained by a shortage in the community of housing serving that income level. This calls for an ample supply of serviceable housing that will be competitive with the slum housing. Such housing must be within the same rental range and, if it is to be effectively competitive, it must be largely public housing. If the community commits itself, it will enevitably find itself engaged in a program of huge cost to the public. If, on the other hand, the community understands its housing needs and is engaged (both private builders and the housing authority) in a comprehensive housing program, it is largely free from the danger of hold-up or inflated prices of land.

Whatever the cost of the land, its availability for redevelopment should be at a cost appropriate to the proposed use. If this cost is less than that at which the land was acquired, funds must be found by which to "write down" the value. A considerable write down of the annual cost of (Continued on page 196)

PUBLIC SCHOOL SYSTEM FOR DELANO, CALIF.

Of the three existing schools in the Delano Union Elementary School District, two are outmoded and the other inadequate. The Ernest J. Kump Co. tackles the job of replanning the whole system.



SIMPSON REED WILLIAMS KUMP

ERNEST J. KUMP was graduated in 1932 from the University of California School of Architecture. He received his M.A. from the Harvard School of Graduate Design in 1934 and later formed a partnership with Charles H. Franklin. The firm specialized in the design of schools in California. Since 1942 Mr. Kump has also performed technical engineering services for the U. S. Army and Navy. He is a member of the National Advisory Council of School Building Problems, of the U. S. Department of Education.

PIERCE WILLIAMS served as executive director of the National Bureau of Economic Research and is experienced in economic and sociological investigation and research for the government. He was regional director of the FWA housing and public works program on the west coast and a member of the North African Economic Board.

ALASTAIR SIMPSON received his architectural degree from the University of California in 1934. He has practiced architecture since 1937 and has been associated with Mr. Kump in the development of prefabricated school buildings. Previously he acted as project engineer for a 3,000 unit housing project at Vallejo, California.

JOHN LYON REID holds an A.B. and M.A. degree from the University of California. He received his M. Arch. from MIT in 1931, and served as a staff member from 1932 to 1940. He has since been connected with the design of school buildings in California.

The architects acknowledge the assistance of William F. Kines, District Superintendent of the Delano Elementary School District who supplied information.



BACKGROUND OF THE COMMUNITY

Delano Union Elementary School District, composed of two former oneteacher school districts—Jasmine and Midland—and the city of Delano, lies in the northernmost part of Kern County, Calif., covering 176 sq. mi. As the map shows, the District is irregularly shaped. The elongated area dependent from that part of the District east of Delano is sparsely populated. But it is the seat of one of Kern County's important petroleum sections, and the assessed valuation of the field bulks large in the total taxable resources of the school district.

The city of Delano is 32 mi. north of Bakersfield, and 142 mi. from Los Angeles and accounts for only 4 sq. mi. of the total area of the school district. But of an estimated school district population of 7,000, Delano accounts for some 5,700.

Delano has the warm dry climate characteristic of the upper San Joaquin Valley. Its growing season—some 275 days—is relatively long but depends on artificial irrigation. Irrigation is now provided by water pumped from wells or by water turned onto the crop lands from irrigation ditches. But the federal Central Valley Water Project, due for completion after the war, is likely to change all this, and with it the future agricultural development of the Delano section.

ECONOMIC BASE OF THE COMMUNITY

Delano's income is derived almost entirely from agricultural production and less importantly from incidental service employment. Like the rest of California, Delano's agricultural employment pattern is characterized by two sharply divergent trends: on the one hand, a great many farms tend each year to produce less than \$1,500 worth of gross income; on the other hand, bigger farm incomes are becoming concentrated in the hands of large farms operated with hired wage labor. If this trend continues, it may well result in the community's decreasing dependence on direct farm income, and its increasing dependence on wages received for day labor in the fields and packing sheds.

The volume of industrial employment is insignificant, and Delano has no war industries. Before the war, its farming was largely dominated by four crops wheat, grapes, cotton and potatoes. Now various factors have combined to

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stimulate the growth of truck gardening in California's interior valleys, and a shift is apparent away from these field crops toward lettuce, peas, etc.

SCHOOL POPULATION

The predominance of laborers of Mexican descent in Delano's population presents the community with a problem of cultural assimilation. Of Delano's three present elementary schools, two of them-Ellington St. and Fremont St .- have a combined enrollment this year of 466 children of Mexican descent out of a total of 572. However, the problem is not exclusively that of building a bridge between the folkways of a typical California community and its Spanish-American families. Of 817 pupils in Delano's other elementary school, the one at Cecil Ave., only 32 were of Mexican extraction, 9 were Filipino, 2 Korean and 18 the children of parents born in Europe. Thirty per cent of the enrollment was made up of children of Americans born in Arkansas. Oklahoma and Texas. There is a feeling in Delano that these particular children (not to mention their parents) embody a culture sufficiently different from native Californians' or other native Americans', to present special community problems.

Between 1930 and 1944, average daily attendance in Delano's three schools increased from 676 to an estimated 1,185—a jump of almost 74 per cent. (This is almost the same percentage increase as the city of Delano's.)

It seemed reasonable to the Kump Company for the purpose of replanning the school district to count on an average annual increase in daily school attendance of 40 pupils. Tentatively, the following figures represent their forecast of the number of pupils to be provided for in Delano's elementary school program for the years from 1945 through 1965:

To infough 1700.	
1944-1,185	1955-1,425
1945-1,225	1960-1,625
1950-1,425	1965-2,025

SUPPORT OF THE SCHOOLS

As far as capital outlays for school support are concerned, California law authorizes elementary school districts to issue bonds up to 5 per cent of the assessed valuation of taxable property, subject to voters' approval. The assessed valuation of the oil bearing lands in the Delano District has jumped from \$2,121,290 in 1930 to \$12,291,120 this year, or nearly six times what it was 14 years ago. The Kump Company also foresees a stendy rise in the assessed value of farmlands in the District with the bringing in of new water from the Central Valley Project.

Thus Delano appears to have an ample bonding margin to take care of needed capital outlays during the immediate postwar period. On the basis of Delano's current assessed valuation, up to \$1,229,000 worth of bonded debt could be floated. (There is no unextinguished school debt now.)

Current expenditures for school operation and maintenance in California are derived in two ways: by a state contribution based on the number of pupils in average daily attendance, and by school district tax revenues. On the basis of an assumed gradual rise in assessed valuations both for farmlands, urban property and oil-bearing lands within the district, there is no reason to fear that the maximum legal tax levy would not be enough to cover costs of school operation, maintenance and debt service for an adequate program.

EXISTING SCHOOLS

Of the three existing elementary schools Delano now boasts, the Cecil Avenue school goes from kindergarten through the eighth grade; the Elling-





THE FREMONT SCHOOL front and back view. Its pupils are mostly Mexican, its building unlawful.



THE ELLINGTON SCHOOL is also on the wrong side of the tracks. Both will be eliminated.

ton St. school goes from kindergarten through the second grade, and the Freemont St. school goes from the third to the eighth grade.

The location of the schools in Delano (see map) serves to accentuate the existing pattern of nationality segregation. The enrollments of the two west side schools, Fremont and Ellington, are composed largely of the children of Mexicans and other foreign born parents. Cecil Avenue's pupils are mainly the children of American born parents. In the High School, all the children of the town are brought together for the first time as a unified group.

Since both of the two west side schools were built before 1933 their construction does not comply with the Field Act, a California law requiring schools to abide by certain standards of structural design to render them earthquake-resistant. All school buildings must meet the provisions of this law. Thus, these two schools will either have to be remodeled or else replaced by new structures. Inasmuch as both schools are educationally and functionally inadequate to meet the demands of a modern curriculum, it seems inadvisable to invest the money necessary to remodel them.

The Cecil Avenue school has been built over a period of years and much of the newer work complies with the provisions of the law—namely, the auditorium, the three classroom wings and shop along Cecil Avenue, the cafeteria and the kindergarten. The remainder of the school does not fulfill the provisions of the Act.

THE PLAN FOR REDEVELOPMENT

First plank in the platform for educational reform is the plan that the Cecil Ave. school care for the 6th, 7th and 8th grade children of the entire district. This provision will exert a unifying influence on the different nationality groups which exists only in the High Schol at the present time. Since the upper grades must have facilities which are more costly than classroom space-i.e. shops, laboratories, etc .-the move will eliminate costly duplication of facilities. The present high school plant contains most of the facilities whose use may be shared by the community so that it is not necessary to consider these as elements of the new Cecil Ave. school.

Two school plants on the west side of town are believed to be unnecessary. The master plan proposes that they be supplanted by two new schools, one on the east side of town and the other on the west. Each of these schools will serve the kindergarten grades and the 1st through the 5th grade. The school district now owns a large plot of land adjoining the Fremont school and this is the site of the new west side elementary school. Since the town is growing in a northeasterly direction, the site of the new east side school has been selected at a little distance from the center of the present residential area.

The master plan indicates only the ultimate stage of construction that may be reached about 1965. The type of construction and the site arrangement provide sufficient flexibility so that population growth and its needs can be accommodated as they develop. The plan thus represents the expected ultimate growth only, but its usefulness may be projected beyond 1965. By that time a revaluation of the district may indicate the need for additional new plants.

CONSTRUCTION AND DESIGN

Construction is based on a structural system of metal. All dimensions and parts conform to a standardized module of 4 ft. Floors and foundation walls are concrete poured on stand-





ardized forms. Walls and ceilings will be of manufactured unit panels. Storage equipment and furniture are not built-in but free of the buildings so that they may be rearranged easily.

The entire building will be assembled of manufactured units which may be interchanged and rearranged with a minimum of time, effort and cost. The entire space under each building wing will be open so that mechanical lines will be readily accessible. Materials have been selected for minimum maintenance costs. Bilateral lighting is used throughout.

If the district wished to spend more or less money on the proposed rebuilding the quality or quantity of buildings might be altered accordingly. The plan does not go into the details of financing the program. It stops at the point where the cost of needed future building can be estimated with some certainty and the ability to meet these costs assured. These costs in general include architects' and inspectors' fees. landscaping, furniture and equipment. Estimated cost for remodeling and adding to the Cecil Avenue school comes to \$249,400. The new west side school should come to about \$310,000. and the east side school to \$472,000.



THE EXISTING CECIL AVE. SCHOOL, LEAST BAD OF DELANO'S THREE






TDOOR ACTIVITY AREA MERGES WITH CLASSROOM PORTION OF UNIT THROUGH SLIDING, FLOOR-TO-CEILING DOOR





CLASSROOMS HAVE SHELTERED ACCESS FROM CORRIDORS AND ENTRANCES THROUGH THE INDIVIDUAL COURTS



FINANCING URBAN REDEVELOPMENT

Professor Alvin H. Hansen, of Harvard University, describes and evaluates various schemes for priming the city planning pump with federal funds. His choice: grants-in-aid.

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special eco-ALVIN H. HANSEN, nomic adviser to the Federal Reserve Board and professor of economics, Harvard University, is probably best known for his documentation of the "mature economy" theory in support of a federal policy of compensatory spending. Long keenly interested in urban rebuilding, Hansen is one of the authors of the Thomas bill, а federal aid formula.

This article is a summary of a speech by Professor Hansen, delivered last month at the National Conference on Postwar Housing (see pages 66-68). It is an admirably concise statement on the four major proposals for financing urban redevelopment after the war:

PLAN 1: Federal advances

The method here proposed is that of federal advances of funds (Thomas and Wagner bills) to the cities enabling them to purchase slum and blighted land for a comprehensive urban redevelopment program. The revised Thomas bill, for example, provides that the cities in no way pledge their faith and credit to repay the sums so advanced. Instead, they merely engage to pay over to the federal government net returns (over and above local taxes) on the lease of land to private development companies. These payments from net rentals would continue until the principal sums advanced by the federal government were repaid, plus 1 per cent annually on advances remaining unpaid. To be sure, the net rentals thus paid over might never equal even the sums advanced by the federal government. The obligation of the city is simply that the payment of the net rentals shall not cease until repayment in full of the sums advanced plus 1 per cent per annum upon each advance or the balance thereof not covered by prior payments.

The Administrator is directed in making an advance to consider broadly the effect of the development program upon the productivity and real income of the community as a whole, rather than the probable payments from net rentals which any project area may yield. The idea is that the federal government shall be prepared to absorb losses accruing from the difference between the acquisition cost and the use value of the land. It is hoped that (while the loss might be considerable at first) over several decades, as development progressed, the ultimate loss to the federal government would be slight. In this connection, it should be noted that the financial success of the plan might be regarded as fairly good if the sums advanced were repaid without any interest whatever and highly successful if repaid plus 1 per cent. Clearly, the federal government makes a substantial contribution under this plan even assuming the very best results.

PLAN 2: Guaranteed revenue bonds

It is proposed that Urban Land Authorities, organized and controlled by the cities, shall issue bonds amortized over 99 years, fully guaranteed by the federal government. These bonds should be issued to finance only those projects which it is believed would be self-sustaining, i.e., would cover interest and amortization charges. Being revenue bonds they would not come within the debt-limitation of the city. These bonds presumably would be exempt from federal taxation. In view of this exemption, together with the federal guarantee and the long amortization period, it is expected that the fixed charges would be very low. This plan contemplates no actual subsidy by the federal government. It contemplates merely that the government will guarantee the urban redevelopment bonds and this together with the other features indicated would insure a low rate of interest.

Under this program the land acquisition is made on the basis of the expectation that the development project in question will yield sufficient net rentals (over and above local taxes) to cover the fixed charges on the bonds. It is clear that the proposal here under consideration would permit, (in comparison with the Thomas bill for example) a more limited program of urban redevelopment. Much of the seriously blighted land would in fact not yield sufficient net rentals to cover the fixed charges of such guaranteed Urban Land Authority Bonds. If this program were adopted, we would be compelled to resign ourselves to a somewhat limited program. Moreover, there is danger that the areas that could profitably be developed would tend to be suburban in character, leaving in large measure the problem of slum and blight in the central and interior parts of the cities unsolved.

PLAN 3: Tax incentive scheme

It has been suggested that the Urban Land Authorities, organized and controlled by the cities, would issue bonds in order to secure funds for land acquisition. The bonds would be accorded by federal legislation a special tax privilege which, it is expected, would make them marketable at a very low rate of interest. It is proposed that federal legislation be passed permitting any individual, in calculating his taxable net income, to deduct a sum (say up to 25 per cent for example) invested in new issues of Urban Land Authority Bonds.

The interest from the bonds would, moreover, as with all local bond issues, be exempt from federal income taxation. That this plan would greatly increase the volume of local tax exempt bonds is a point against this proposal. But this is all also true of Plans 2 and 4.

The special feature of Plan 3 is, however, the deduction from income allowed in arriving at taxable net income. This would be figured in the same way as is now done: a) with respect to gifts for charitable purposes up to 15 per cent of income, or b) with respect to payments of interest on mortgages on one's home. As an illustration, assume that Mr. A. has an income of \$100,000 and that he has invested, within the year on which his tax liability is calculated, \$25,000 in new issues of Urban Land Authority Bonds. He would then be permitted to deduct, in addition to other deductions legally permitted, \$25,000 in arriving at his taxable net income. If, in addition, he has made charitable gifts of \$15,000, and has paid interest amounting to \$2,000, his taxable net income would be \$58,000.

It would be expected that such a tax deduction would induce wealthy individuals to buy Urban Land Authority Bonds in large volume, and that accordingly the bonds could be placed in the capital market at a very low rate of interest. It is not probable that these bonds could be sold on sufficiently favorable terms unless backed by the full faith and credit of the city.

In the case of Plans 1 and 2 above, it is assumed that bonds issued in the manner indicated would not come within the statutory debt limitations of the states. Bonds issued under Plan 3 would be included under the debt limitation since they would probably have to be backed by the full faith and credit of the city in order to make them salable on favorable terms.

Whether or not this plan deserves support depends fundamentally upon one's view of the merits and demerits of this particular method of federal aid as compared with other methods of financing. This plan is likely to cost the federal government more than other methods which can clearly be calculated. Under Plan 3, however, the cost is hidden and could never be accurately ascertained beforehand. Finally it should be noted that while a tax incentive designed to encourage new ventures, new construction and employment, has much to commend it, this plan offers tax relief to *financial* investors, and at best only indirectly promotes employment and new real investment projects.

It is evident that under all three plans, in one form or another, the federal government is underwriting an urban redevelopment program and stands a risk of loss of funds. An important question is how much urban redevelopment can be expected under each plan, or, in other words, how much does one get for the federal assistance rendered. One wants to be reasonably sure that major public benefits will flow from the federal support, in whatever form provided. Under Plan 1 (assuming that Congress were willing to go along and make the necessary appropriations as urban redevelopment proceeded), really large results could be expected. Under Plan 2, a more limited program would result since an effort would be made to limit the projects to those which might reasonably be expected to cover the fixed charges. Under Plan 3, presumably a somewhat larger program could be undertaken since the fixed charges would probably be lower than in Plan 2. On the other hand, the amount of indirect federal subsidy involved is problematical and might in fact turn out to be substantial. Plan 3 might in fact cost the federal treasury more than Plan 1, while the results would probably be meager in comparison with those that could be obtained under Plan 1.

PLAN 4: Guaranteed bonds with grants-in-aid

Since there is considerable doubt that Plan 1 can be enacted in view of current opposition to outright financing of land acquisition by the federal government, and since there are fairly serious limitations or weaknesses, as indicated above, in Plans 2 and 3, another suggestion is made (Plan 4) as follows. Under Plan 4, it is proposed that the land acquisition bonds issued by the Urban Land Authorities shall be fully guaranteed by the federal government with respect to both interest and principal. In addition, in order to get on with large-scale urban redevelopment, particularly in the slum and blighted areas where land acquisition cost is high, it is proposed that for each separate development project the city and the federal government jointly make annually grants-in-aid on a fifty-fifty basis for, say, a 25 year period.

This plan has several great advantages. It would enable a large redevelopment program. The federal annual matching grants would have no strings attached except that the project must be developed on the basis of a comprehensive master plan and in accordance with a detailed area plan. The city would, under this proposal, be prepared to go forward with the development of slum and blighted areas even though the difference between the acquisition cost and the use value of the land was very great. In view of the expected benefits from urban redevelopment, including prospective increases in local tax revenues, the city could probably afford to shoulder, out of tax revenues, its share of the assumed grants-in-aid. Thus the Detroit City Plan Commission has estimated that a typical blighted area comprising 128 acres, if redeveloped would increase the tax return to the city from \$85,000 as at present to \$225,000. The Commission estimates that the increased tax return would recover for the city about 75 per cent of the loss involved in the excess acquisition cost of land over and above its use value.

On this basis any slum and blighted area could be developed if it were thought to be desirable from the standpoint of a broad redevelopment program, even though the acquisition cost was substantially in excess of the use value of the land. As the development process continued over a couple of decades, losses would probably diminish and in one or two decades the net rentals might pretty much cover the annual fixed charges. Thus, the subsidy to urban redevelopment both by the federal government and the city government would progressively diminish. The main point is that urban redevelopment could go forward and would not be limited by the self-liquidating criterion which attaches to each of the preceding three plans, though least to Plan 1.

This proposal, as compared with Plan 1, has the merit that Congress would not be asked to appropriate any large capital sums. Congress would be asked to guarantee the Land Authority Bonds and to make annual grants for 25 years on a fifty-fifty matching basis on specific projects which could not otherwise be redeveloped-projects which would be important parts of a sound development of the city. Its obligations could be set down fairly specifically and it would be found that the sums were quite insignificant in terms of alternative proposals for the stimulation of employment and business activity through government action. It could be shown with overwhelming evidence that the indirect benefits to the Federal Treasury from these relatively small annual subsidies would he large in terms of the redevelopment of our cities and the enhanced taxable capacity of the entire country. From the standpoint of the Federal Treasury, it would be a thoroughly good investment despite the fact that these annual grants would not be recoverable.

The plan, moreover, has the advantage that the cities themselves would make a definite contribution to urban redevelopment out of local tax revenues. Some contribution by the cities themselves for a broad program of urban redevelopment is deemed desirable. Plan 4, as also with Plans 2 and 3 above, involves financing in the regular capital markets by the Urban Land Authorities and no capital financing by the federal government.

DESERT HOUSING PROJECT, TUCSON, ARIZ.

A 64-house development in one of the U.S.'s greatest health resorts is planned for outdoor living and recreation. Orientation takes full advantage of the sun, the climate and mountain site.



FAURE BROWN DRACHMAN JOYNT

ARTHUR T. BROWN holds B.S. degrees from Takio College and Ohio State University. He spent six years working for David Adler, Chicago, and one at the Chicago Fair. In Tucson he became a partner of Richard A. Morse and specialized in residential work until 1942. Since that time he has worked on FHA and private defense housing and on HOLC conversions. In recent months his interest in lightweight construction led to his development of the 4-Cylinder house (see ARCH. FORUM Aug. '43 p. 102).

ANDRE M. FAURE was born in France and educated in the U.S. He began his planning work with the Fairfield County (Conn.) Planning Association on town plans for Stratford and Saybrook. For six subsequent years he served as town planner for Montclair, N. J. During 1941 he was executive officer and chief of the Planning Section of the Hampton Roads Regional Defense Council at Norfolk, Va. He is now resident planner for the Tucson Regional Plan, the City Planning and Zoning Commission, and the Pima County Post War Planning Board.

ROY P. DRACHMAN was born in Tucson and has taken an active part in community affairs for many years serving on boards of civic organizations and institutions. During the past few years he has been manager of the Tucson Sunshine Climate Club and has had the opportunity to study first hand the housing needs and tastes of the area.

JOHN W. JOYNT was graduated from the General Motors Institute of Technology and after seven years as automotive engineer for Oldsmobile, he moved to Tucson. There he entered the building field and before the war became known as a residential builder. Since Pearl Harbor his organization has been active in defense construction and has built more than 500 War Department and defense housing units.



THE CITY

In order to understand the rationale of this 64-house development on the outskirts of Tucson, it is first necessary to know something about Tucson itself. Tucson, a city of 40,000 inhabitants living in some 8 sq. mi., is located in a wide valley surrounded by high mountains. The city's economy is based primarily on its dry, healthful climate and its desert location which attract health and fun-seekers. The tourist trade aside, mining and ranching are the principal industries.

Tucson is about 2,400 ft. above sea level. Mt. Lemmon, the highest peak in the Santa Catalina Mountains twenty miles north of the city, rises more than 9,000 ft. above sea level. A new, nearly completed highway will bring the summit within two hours' drive of Tucson. Thus, winter skiing and skating and summer fishing, hunting and horseback riding on Mt. Lemmon will be readily accessible to the Tucson citizenry. In addition, Tucson itself offers golf, tennis, swimming and riding the year round.

THE SITE

The site chosen for the development by Architect Brown, 8 miles northeast of Tucson's center, extends from the extreme sheer slope of the Catalina Mountains down a mile over the rolling foothills. It consists of about 300 acres and in its present unimproved condition is worth about \$100 an acre. But roads and a water system must be built which will bring up the original cost of the land.

The site, as the map on this page shows, is located within easy and central reach of a number of Tucson's facilities. One of the main city thoroughfares extends to and terminates with the property. The exceptionally heavy growth of beautiful desert flora, ocotillo, grease wood, cholla and other types of cacti, will make landscaping of the home sites virtually unnecessary.

SITE PLAN

Architect Brown has laid out 64 lots. ranging in size from 31/2 to 5 acres each. Orientation of these lots has been determined principally by the terrain, the mountainside location, the position of the sun and the view of the valley and the mountains to the south. rather than by roadway accessibility. Terrain and topography conditions were of more than usual importance. This Tucson foothill country is rugged and marked by numerous draws and dry washes, with site grades ranging from 10 to 30 per cent. The average 10 per cent roadway grades (see site plan) seem steep, but in the locality they are moderate for the type of terrain.

The roadway pattern was conditioned primarily by the exigencies of topography and by the fact that the site is at the end of a main highway. Since integration with adjoining properties was not a factor, interior circulation was the main accessibility problem. There are two roadways into the property from the main road, one from the west, the other from the southwest. The bridle paths indicated supplement interior circulation. A principal trail from below rises into the tract along the dry wash and is shown branching out along the rear property line of one of the blocks, heading into the Coronado National Forest to connect with upper mountain trails.

Utilities will be run along rear lot lines. Sanitary drainage will be by septic tank, paving bituminous macadam.

Since people come to Tucson primarily for the winter sun, the houses have been designed to take full advantage of the sun without overexposure in the summer. Summer protection is assured by building the houses long and thin, thus leaving no broad side exposed to the summer sun, and by providing projecting eaves or tilted louvers over exposed wall and glassed areas.

ESTIMATED COSTS

Land — \$100 per acre = \$500/lot average Water — \$12,800 plant = \$200/lot average Paved Roads — \$35,000 = \$300/lot average Real estate = \$100/lot average

\$1,100/5-acre lot



VIEW OF DESERT SITE: THE HOUSES WILL NEED NO ADDITIONAL LANDSCA



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and the second se	HOUSE A	B	C	D
Lot development	\$ 225.00	\$ 280.00	\$ 50.00	\$ 125.00
Concrete and masonry	880.00	970.00	1,470.00	760.00
Carpentry and lumber (millwork and roofing)	1,910.00	2,050.00	2,000.00	1,660.00
Utilities (heat, electricity and plumbing)	690.00	840.00	900.00	640.00
Tile, linoleum, plaster, etc.	425.00	470.00	625.00	390.00
Painting and decorating	335.00	370.00	550.00	325.00
TAXES AND INSURANCE	285.00	320.00	340.00	260.00
Total	\$4,750.00	\$5,300.00	\$5,935.00	\$4,160.00
Profit	475.00	530.00	600.00	420.00
Bid price	\$5,225.00	\$5,830.00	\$6,535.00	\$4,580.00
Cast par so ft	3,57	3.63	3.45	3.50



HOUSE A

"A homely house, a barn-like structure," Architect Brown calls this house built entirely for comfort and livability. This type of house, built close to the foot of the mountains. will face south and overlook the valley. Its entire south side is glazed so that the winter sun will provide most of the heat, and projecting eaves protect it. The north wall may be built into the side of the hill so that it is almost completely underground, thus facilitating the maintenance of an even year-round temperature with few additional heating and cooling facilities.

HOUSE B

More elaborate than the first house, this house has two bathrooms, two large dressing rooms, and a separate laundry and service room. Wood louvers, tilted 30 degrees from the horizontal, are used as a sun shade instead of an eaves projection. This type of house will be situated further down from the mountains and may have high windows on the north side of its living room to overlook the mountains. Since each room opens on the living terrace, little traffic need go through the living room. Future rooms may be easily and logically added.



HOUSE B





HOUSE C

0 5 10 15 20FT-

HOUSE C

Almost no window surface is presented to the summer sun in this house, but glass areas are still exposed to the winter sun. The children's room is located on the north side, and may be entered without going through any portion of the house or outdoor living areas. The plan is especially suitable for a level site, but may be adapted to a rising site by providing for different levels in the house.

HOUSE D

A modern interpretation of the old Arizona ranch house, this house is more compact than the others. Its central unit is a kitchen and bathroom, with the living, dining and bedrooms around it. Outer walls will be made almost entirely of sliding glass panels.



HOUSE D



PLANNING FOR PRIVATE INVESTMENT

L. Douglas Meredith, vice president of The National Life Insurance Co., describes the attitude of private capital toward neighborhood development.



L. DOUGLAS MEREDITH received his M.A. from Syracuse University in 1927, his Ph. D. from Yale in 1933. After several years of college teaching he was appointed Vermont Commissioner of Banking and Insurance. He is at present vice president of the National Life Insurance Co., Montpelier, Vt., and chairman of its Committee on Finance. He is author of "Merchandising for Banks, Trust Companies and Investment Houses."

A VERY keen banker friend of mine, an apple-grower in his own right, was asked how he would appraise an apple orchard. After a moment of calm deliberation, he replied softly but earnestly, "Determine the value of the land and subtract the cost of removing the trees." This cryptic reply revealed no intent to belittle the apple-growing industry. My friend sought only to emphasize that disease or a severe winter soon can convert a formerly high-income producing orchard into a field of black skeletons.

Risks of this kind constitute the type of hazard that investment officers seek to avoid. Every new suggestion calling for the use of additional capital, or affecting in any way the existing uses of capital for housing, industry or agriculture demands closest scrutiny for the two-fold purpose of detecting opportunities to invest and avoiding unwarranted risk. Neighborhood planning, a comparatively recent development, with its promise of improved housing in the future, is a subject of constant study by investment officers, charged with the responsibility of investing new millions safely each day.

Although the planning of neighborhoods embraces a broad field, it readily may be resolved into the designing of new communities and the reclaiming of old communities. In the former, the odds favor the planner, for he makes an entirely new start. He chooses his site, the types of structures, the price range, the neighborhood layout, and includes those elements which he believes a planned community should embody. In reclamation, he encounters multitudinous obstacles of peculiar natures. These include possible limited sites, vested interests, varied ownership of constituent parcels, undesirable nearby influences, mixed surroundings, and high assessed valuations.

These concepts of neighborhood planning merely represent an evolutionary phase of a process with many historical antecedents ultimately destined to become overall and longrange city planning. William Penn recognized the merits of planning when he laid out the "Friendly City" of Philadelphia, but even his vision could not comprehend the circumstances of an electronic age three centuries later. Neighbor-

hood design, in a restricted sense, early became evident with lot restrictions stipulating setbacks, certain types of structures, buildings of not less than prescribed minimum values, and use limitations. City planning on substantial scale first appeared in this country in the comprehensive zoning ordinance adopted in New York in 1916 and in earlier but less far reaching attempts in Boston and Los Angeles. Since the first World War, numerous planning commissions have appeared on the scene. "Neighborhood planning" constitutes an interim phase prompted by the social motives of architects and designers, smart merchandising on the part of developers, and the large scales upon which the latter have begun to operate and will operate after the bells proclaim the tidings which most of the world awaits. Recognition of the merits of neighborhood planning should lead promptly to more extensive overall city planning.

INVESTMENT SPECIFICATIONS

Institutional investors recognize the social and economic merits of neighborhood planning, but before committing private capital to a housing project or any other investment, the undertaking must survive the unyielding scrutiny of investment officers. A plan itself does not justify investment unless the project has been soundly conceived from an economic point of view.

To justify a commitment of private capital, a project must measure up to all of the following standards:

1. The net earning capacity must provide a margin of income in excess of requirements, adequate to withstand the most severe downward fluctuations;

2. The net earning capacity must provide not only for interest on the indebtedness or other adequate return on the capital, but also sums sufficient to liquidate the debt or return the capital advanced before the project ceases its useful existence;

3. The project must possess a recognizable value, stemming, of course, from the property's income-producing qualities, and reconciled with its reproduction costs. This value must exceed the investment in the case of a loan, and equal it in the case of a complete equity commitment;

4. The project also must conform to the requirements, if any, contained in the investor's charter and the statutes of the jurisdiction in which the investor is domiciled.

In case of failure to conform to any or all of the first three of these standards, the investment may, in lieu of one or more of them, possess the unequivocal guarantee of an instrumentality, such as a city or state, the endorsement of which provides the substance otherwise missing.

If the project for which funds are sought is being designed for offering in the so-called "free market," that is, if the project is to be made available to customers at the market rate for similar accommodations, the problem of analysis becomes comparatively simple. The land value can be more or less readily determined and construction costs estimated. Probable income can likewise be estimated and experience permits prediction of operating costs.

Of course, these figures alone are not sufficient for the investor. He must take into account at all times the nature of the project as reflected by its layout, design, location and the character and capacity of the project's management; he must investigate the city in which the project is located; and, finally, must take stock of the competition and the nature of the competition, present and potential. with which the project will be confronted.

EFFECTS OF PLANNING

Thoughtful and practical planning of a project adds materially to its probable income-producing capacity, to the stability of its income, and, in turn, to the stability of its value. Experience to date certainly more than justifies in the minds of investment officers the considered efforts of designers to plan complete projects. Larger plots, curved streets, overall landscaping, a unified pattern of architecture, varied exteriors, integrated shopping centers, schools and other public or quasi-public buildings produce an environment conspicuously missing from the stereotyped and thoughtless developments of identical dwellings located on small lots a generation ago. The planning of individual residential units with insistence upon adequately proportioned rooms, cross ventilation, sunlight, and conveniences assumes no less importance than overall neighborhood planning. In recent years, the achievements of the Federal Housing Administration in all of these particulars deserve generous commendation. These efforts have imparted to planning an impetus and momentum which otherwise might not have been attained for many years.

The significance of planning to housing projects increases rapidly from an investment standpoint as the size of projects becomes greater. The large amounts of capital at stake experience less exposure to loss when careful planning contributes to their long-term successful operation. Neighborhood planning, whether in new or old areas, usually finds more effective and efficient expression on a large scale than on a small scale. A large project permits retention of more highly skilled designers, lower construction costs because of the extent of the operation, and creation of the neighborhood's own environment. Sometimes a small development in a new area can be blended into prior and adjacent developments, but if an old area is to be reclaimed, it must be large enough to make certain that it can be lifted above its marginal surroundings. Well designed projects constructed to care for an expressed housing demand contribute to stability of values of surrounding properties.

Property values should remain more stable in a carefully planned city than in one without the benefits of prudent planning which establishes high standards of civic enjoyment and comfort. It anticipates, as far as possible, new ideas which will be likely to increase the appeal of new areas if old areas are without them. Insofar as practicable, planning adapts areas within a city to new improvements as they become available, thus maintaining modernity. Wide streets, parking areas, diversion of commercial traffic from residential areas and similar evidences of civic wisdom add to the enjoyment of life in a planned city. Obsolescence is reduced and rapid depreciation of property values resulting from misplaced stores and factories and unsightly gas stations never occurs. The tenure of ownership, commercial or residential, will be longer, for there is less incentive to seek new quarters and to follow trade and residential shifts.

A PROJECT AND ITS CITY

Analysis of a particular project may demonstrate adequate earning capacity. Appraisal may reveal sufficient value both from an income standpoint, and from the standpoint of reproduction costs. The particular planned community may elicit the loudest praises of the prospective investor. However, the latter will not yet be ready to commit his capital to the undertaking.

The future of any housing investment depends in large measure on the city in which the project is located, and American cities and their futures must be considered from a long range point of view when giving consideration to housing plans.

Nearly all city officials are prone to think of their cities in terms of five or ten years instead of fifty, one hundred or two hundred years. Yet all know the stories of the ancient and once prosperous Nineveh and Tyre, cities mentioned by Kipling in his "Recessional" as stern reminders of what can happen.

What will the leading cities of this country twenty years ago be like forty years hence? Consider carefully the manner in which the relative importance of Philadelphia, Boston, Detroit and numerous other American cities has changed from time to time. On comparable bases, Philadelphia, once the nation's capital, exceeded New York City in size prior to 1810 but in 1940 ranked third, with a 1 per cent loss of population from 1930. Boston, another city of lasting historic and great economic significance, ranked fifth in 1910, but ninth in 1940, and also was obliged to concede a slight loss in population during the Thirties. Detroit, which gained 58 per cent in the Twenties, added 3.5 per cent in the next decade and ranked fourth in 1940, against ninth in 1910. Meanwhile, between 1930 and 1940, Washington, D. C., grew 36 per cent, San Diego 37 per cent, Miami 55 per cent and Austin, Texas, 65 per cent!

At least one imaginative pioneer in aviation has dared to suggest the virtual disappearance of coast-port cities if midwest manufactured products are loaded into planes and delivered to their ultimate distribution centers in Europe. Africa and South America without passing through a transfer point. Visionary? Time alone will answer that question. But time already has amassed mountains of evidence to show what has happened to east coast ports of the clipper ship era. Who now can foretell the extent to which prosperous cities may develop around some of the newly-constructed war plants and permanently attract population from formerly prominent manufacturing centers when new war-time facilities become adapted to peace-time production? The complexions of cities change rapidly, and the prospective investor desires to know just as much about the future prospects of a city in which he contemplates a large investment as about the project itself.

COMPETITION

The investor looks at a prospective project not solely on the basis of immediate earning capacity, but also, and with equal, if not greater interest, on the basis of earning capacity five, ten and twenty years hence. This, of course, depends upon many factors of which one of the most important rests in competition.

No project owner or investor fears intelligent and enlightened competition, supplying its own funds obtained in the current market, and able to analyze local conditions in order to determine whether or not a competing project will support itself. In fact (Continued on page 208)

RIVERFRONT RECONSTRUCTION, ST. LOUIS, MO.

An extensive project for the restoration of the St. Louis riverfront includes a memorial park, a large high density development, and new recreational, transportation and commercial facilities.



JACKSON SHOTWELL ARMSTRONG

HARRIS ARMSTRONG was born in Edwardsville, Illinois and studied architecture at Washington University, St. Louis, and Ohio State University. Until establishing his own practice in 1931 he worked in various architectural offices including that of the late Raymond Hood. While the bulk of his work has consisted of private residences and physician's buildings, he has also done furniture and industrial design and acts as consulting architect to department stores and manufacturers.

HUSON JACKSON was born in Sewickley, Pa., and studied architecture at the Harvard Graduate School of Design where he received his M.A. in 1939. He worked for the USHA and practiced in Boston from 1940 to 1942 with particular interest in community planning and housing. He is now architect for the Aluminum Ore Co.

HENRY T. SHOTWELL was born in Brooklyn, N. Y., and received his B.A. from the Pratt Institute School of Architecture in 1938. Until 1940 he worked in the Washington office of the National Youth Administration. Since then he has been in charge of architectural work for the Rural Electrification Administration (see ARCH. FORUM, Feb. 1943).



THE ST. LOUIS City Plan Commission has recommended that the obsolete areas of the city, shown shaded on this map, be rebuilt as a series of postwar residential projects. The key position of the river front development in relation to these districts is clearly shown on this map.

THE PROBLEM

As long as the Mississippi remained the great carrier of goods and people. the St. Louis riverfront thrived as a prosperous and active business center. With the diminishing importance of river traffic, the gradual extension of transportation and public utilities, and unlimited expanses of land on three sides of the city, the residential section tended to move further and further away from the original town. Following in the first steps of this uncontrolled development, the commercial center moved back from the river. Today, the only portions of the city that have been modernized and remain unblighted are those that were changed from early residential to present commercial use.

Eight years ago, 37 blocks of the old, decaying and historic waterfront were cleared for the Jefferson Expansion Memorial. The purpose of this project is to develop that area to the full extent of its usefulness and to stimulate the restoration of the natural urban center.

The Jefferson National Expansion Memorial was created by executive

order of the President in 1935. The bulk of the necessary funds was supplied by the federal government with the city of St. Louis participating to a lesser degree. Decaying buildings in the area were demolished after fragments and photographs of historically important structures had been preserved.' Since then the land has lain idle. Several solutions for the development of the area have been advanced by interested groups though the design of the memorial building is to be the subject of a national architectural competition, the final program of which has not yet been determined. The present project attempts to resolve the various differences in opinion already expressed in the hope that the city will be sufficiently interested to consider the creation of a coordinating committee to make objective studies and prepare plans for immediate postwar construction.

The project has two broad objectives; 1) to solve the circulation problem and outline the use of the Jefferson Expansion Memorial and neighboring areas, 2) to influence the character and redevelopment of the central business and residential districts. The city has



AERIAL MAP OF DOWNTOWN DISTRICT SHOWS OPEN AREA FOR MEMORIAL



recently secured passage of state legislation permitting the establishment of urban redevelopment corporations to rebuild slum areas. The City Plan Commission is now engaged in studies for this work.

Most authorities believe use to be the final criterion of land value, whether for a memorial or any other purpose. The embellishment of this area by monumental public buildings alone would not be successful because it fails to provide activity, a necessary component of central urban projects. The area's primary need is for the injection of a vital new function.

Avoiding any indication of the form or function of the memorial proper, it is assumed that the portion of greatest historical importance can be contained in an equilateral triangle, the base of which is the shore line and the apex of which is the old Court House. The balance of the cleared land should be turned into a municipal development of economic and social value.

The most important problem of the waterfront project is that of circulation. Plans are already established for a major interregional highway paralleling the river and following the western boundary of the memorial area on an elevated structure. This scheme serves only to separate the project from the central business district. Our solution calls for a depressed highway (in one spot completely decked over), which would afford an uninterrupted visual sweep of the park and river from the city. It would also provide adequate grade separation and interconnections with other major thoroughfares. New railroad tracks sunk in a deep cut between the two lanes of the north-south interregional highway would eliminate the unsightly elevated railroad trestle which now parallels the water's edge and destroys the relationship between the river and the site. A new railroad terminal would connect with the air lines building located in the northwest portion of the site. The latter is intended to serve as a central ticket office and to provide transportation to the outlying major air fields. In anticipation of future developments, the roof is equipped for helicopter landing.

The riverfront itself presents unusual possibilities for recreational facilities. A river boat terminal and restaurant are indicated for the spot where excursion boats and river packets now berth. Further down the shore a more elaborate waterfront restaurant and floating yacht club are provided.

Like most large cities, St. Louis is glaringly lacking in downtown parking facilities. This solution provides an underground parking area for about 3,000 cars near the project site.

During the last ten years nearly all the new residential work in St. Louis has taken place beyond the city limits. If this trend remains unchanged it will result in a population loss, higher taxes, delinquencies and foreclosures. In contrast, the land adjacent to the memorial developed as high density residential property would stimulate less elaborate housing developments on the near north and south sides. These in turn would propagate themselves westward until eventually the central district would be ringed with a new and healthful growth. Such a change would undoubtedly necessitate municipal assemblage of the ground, also a new tax rate based on the change from commercial to residential use. The land could be leased on long terms at its residential value to limited dividend

LEGEND

- A...Waterfront restaurant B...Air terminal C...Hotel D...Apartment hotel E...R.E.A. Building F...New Merchants Exchange Building G...22 story apartment buildings H...14 story apartment buildings J...Floating Yacht Club and dock K...City bus waiting station
- _Inter-City bus terminal
- M_Interregional highway south bound
 N_Interregional highway north bound
 Q_North-South railroad connection
 P_Eads Bridge
 Q_Subsurface parking for central business
 R_Subsurface parking for apartments
 S_Old Court House
 T_Sports area
 U_Jefferson Expansion Memorial Site
 Y_Rock House, oldest building in St. Louis
 W_Old St. Louis Cathedral
 X_River boat terminal and restaurant
 Y_Municipal Bridge
 - Z_Westbound superhighway

PROJECT PLAN, SUPERIMPOSED ON AIRVIEW, SHOWS SUGGESTED COMMERCIAL AND RESIDENTIAL REDEVELOPMENT



or non-profit organizations under public or private ownership which would erect and manage the dwellings. Undeniably, the development must be planned in accordance with master plans in order to secure the greatest benefit from the open air space and river view afforded by the memorial. The federal government owns most of the area to be developed and can only permit that the land be used for a park and historic site according to the existing legislation. The needs of St. Louis are so compelling, however, that a way must be found to return to the municipality title to the historically unimportant parts of the area. On these the city can construct highways, transportation and recreational facilities making the memorial the nucleus of a wellplanned, thriving residential and commercial neighborhood.

NEW HIGH-DENSITY development at the rear of the project links the shorefront park to the city's central business section and makes the memorial an integral part of the municipal plan. Apartment buildings to the left of the centrally located Court House border on potential residential property to the south and west. Hotels, offices and other commercial buildings to the right of the Court House are conveniently located near the air, rail and bus terminals. Though the principal traffic artery and railroad cut across the park itself, decked over construction in the central section gives the impression of an uninterrupted lawn stretching from the Court House to the river. Restaurant and yacht club are located at lower left. Shore front building near Eads bridge at right is a popular priced restaurant.

SCHEME FOR JEFFERSON EXPANSION MEMORIAL IN ST. LOUIS RETAINS MEMORIAL PARK AND HISTORICAL BUILDING









INTERMEDIATE FLOOR



100 200 300FT.



A Auto ramps to street B To underground parking C Passage to R.R. station D Automobile parking E Escalators to concourse F Baggage room G Mail room H Elevators J Information desk K Kitchen L Bar M_Dining room N_Main concourse O_Waiting room P_Men's washroom Q_Women's rest rooms R_Offices and ticket sales S_Shops T_Pedestrian entrance U_Helicopter loading V_Telescoping marquees W_Helicopter landing area



Seen from point below highway and railroad, airport terminal building is open on the ground floor level permitting motor circulation and parking. The lobby, waiting rooms and airlines offices are located on the intermediate level. Helicopter deck on the roof is 350 ft. in diameter. Underground passages connect this building with the downtown railway station (foreground) and with subsurface downtown parking area which accommodates 3,200 cars.



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CONSERVATION OF NEIGHBORHOODS

Antonio C. Kayanan, of the Regional Association of Cleveland, offers a simplified basis for popular participation in city planning, with the objective of protecting property values.



ANTONIO C. KAYANAN received his B.S. in civil engineering at the University of the Philippines in 1932. He was awarded a graduate scholarship at MIT where he later received his M.A. in city planning. His experience in the Islands included engineering, two editorships and a post as professor at Adamson University in Manila. Since 1942 he has held the position of planner with the Regional Association of Cleveland.

This guide to participation in planning is reproduced in slightly condensed form from "Neighborhood Conservation," a handbook well worth obtaining. Such material as this, addressed directly to the layman, is an invaluable aid to architects and other professionals who wish to assume positions of leadership in local planning, for it offers a means of establishing contact with the public:*

The process of Neighborhood Conservation is simple. It consists of four steps: 1) The people organize a Neighborhood Council which 2) studies the problems and 3) helps make the plan. 4) This plan is then carried into effect through private, group and public action.

FIRST STEP: The people should organize a neighborhood council, a group dedicated to the improvement of the local community. Its membership should be truly representative of the residents.

If there is already such a group in your neighborhood, join it. The participation of local civic bodies, like the Parent-Teachers Association, church groups, neighborhood business

associations, garden clubs, and others, in the activities of the Council will be invaluable. In organizing your Neighborhood Council, you may be able to take advantage of the "Block Plan" of your Civilian Defense set-up.

Technical aid from city-wide agencies like the Regional Association, City Planning Commission, Board of Education, and other agencies may be obtained on request. These agencies are always ready to help.

Call a meeting of your neighbors and get started.

SECOND STEP: The neighborhood council should study the problem before it makes any proposal, just as a physician first finds out what is wrong with his patient. The Council must know existing conditions.

It should know the people in the neighborhood-their number, composition, and characteristics. How have they increased and how are they distributed now? How big are the families? What are their income levels? How long have they lived in the neighborhood? Do residents walk to work, or do they ride the *THE FORUM extends its thanks to the Regional Association of Cleveland for the privilege of using this material. streetcars and buses? Do they own cars? The Council should know the people so that the plan will fit them.

It should have information about the houses-their construction, age, condition, size, values, rentals (if rented), occupancy, etc. What are the prevailing types: one-family, twofamily, apartments, or row-houses? Are they built close to each other or are they well spaced? Are there fire hazards, or are the houses safe, clean, and sanitary? What percentage is occupied by the owners? This information about ownership is necessary because the responsibility in the maintenance and conservation of owner-occupied houses differs from that of houses which are rented. Both types need to be conserved, however, for both are investments.

The Council should know about the land use pattern of the neighborhood. How much land is used for the different types of houses, for the stores, commercial buildings, factories, and open spaces? How are these different uses distributed? Is there too much of any kind? Are there vacant lots? Maybe the zoning ordinance should be studied. Maybe there are objectionable uses that should be stopped. If there are any, why are they still there?

The Council should know also about the existing public utilities and services—water, sewerage and drainage, electric and gas services, street lighting, collection of garbage, police and fire protection, street maintenance, mass transportation, and others. Is the water pressure sufficient? Is transportation convenient?

Then there is the matter of schools and other institutionstheir number and distribution, type, construction, age, and condition. Are the schools too few or are they too small? What is their capacity and enrollment? Are the schools safely located? Are they easily reached? Do they need more yard space? Are the libraries and church facilities adequate? Are there active welfare agencies?

What about the recreation facilities? The Council should know the number, size, and type of existing play spaces—their distribution, equipment, supervision, and maintenance. Are they removed from heavy traffic and other dangers? Which are public, private, and commercial? Are those who use the play spaces satisfied? And by the way, what is the attitude of the residents near the playgrounds? Are there small parks?

The street system is another matter which the Council should study as part of the neighborhood problem—its layout and its capacity to accommodate present and expected traffic. Are there too many streets or are there not enough of them? Are pedestrians well taken care of?

Then about smoke, dirt, and other nuisances. How much smoke comes from the houses and how much from the factories? Is soft coal being used? Are there city regulations regarding the construction of furnaces? The Council should study the causes of dust, noise, and other nuisances, get information about the rubbish and junk that may clutter the streets and vacant lots.

The general appearance of the neighborhood is also part of the problem to be studied. Has the neighborhood a definite character, or is there a con- (Continued on page 204)

NEIGHBORHOOD CONSERVATION --- CHECK LIST

Check your neighborhood against this list of questions. Answer each question "yes" or "no". The answers will serve as a guide in NEICHBORHOOD CONVERSATION, a planned and organized action of

REGIONAL ASSOCIATION OF CLEVELAND

ARE THEY SAFE AND SOUND? ARE THEY WELL PLANNED? NEAT AND IN GOOD REPAIR? HARMONIOUS WITH EACH OTHER? . SPACED FOR LIGHT, AIR, AND PRIVACY? ARRANGED IN INTERESTING GROUPS? . ENOUGH AND SPACIOUS ROOMS? . . MODERN PLUMBING SYSTEM? . . . A GARAGE FOR THE CAR? . . .

LANDSCAPED AND PLANTED? PROPERLY GRADED FOR GOOD DRAINAGE? ORGANIZED USABLE SPACE? CLEAN AND WELL KEPT?

RIGHT TYPES FOR YOUR NEEDS? WITHIN WALKING DISTANCE FROM HOMES? . SAFE FROM TRAFFIC? ATTRACTIVELY PLANTED? CLEAN AND WELL MAINTAINED? ARE THEY PROVIDED WITH PLAY EQUIPMENT? . SUPERVISED BY COMPETENT PEOPLE? . .

CENTRALLY LOCATED IN NEIGHBORHOOD? UP TO DATE AND IN GOOD CONDITION? . . BIG ENOUGH FOR THE NUMBER OF CHILDREN? . DO YOU HAVE ENOUGH OF EACH TYPE? . . WELL EQUIPPED AND MAINTAINED? . . SAFE FROM TRAFFIC? NEXT TO PLAYGROUNDS? AWAY FROM NUISANCES? . . .

QUIET AND SAFE LOCAL STREETS? . . . DIRECT AND CONTINUOUS THOROUGHFARES? WIDE ENOUGH FOR TRAFFIC?

EFFECTIVE TRAFFIC CONTROL? PAVED AND WITH GOOD DETAILS? . PLANTED AND LANDSCAPED? . .

CLEAN AND IN GOOD REPAIR?

PROPERLY LIGHTED? FREE OF BILLBOARDS?

3. PLAYGROUNDS AND PARKS ARE THERE ENOUGH OF THEM? . ARE THEY BIG ENOUGH? . . .

LOCATION OF NEIGHBORHOOD

1. HOUSES

2. YARDS

4. SCHOOLS

5. STREETS

improving your community and preventing i	ts decay.
23200	6. SHOPPING FACILITIES
HEY SAFE AND SOUND?	CONVENIENTLY AND SUITABLY LOCATED?
JEY WELL PLANNED?	ORGANIZED, COMPACT, AND PLEASANT?
AND IN COOD PEPAIR?	ENOUGH FOR LOCAL NEEDS?
	ADEQUATE OFF-STREET PARKING?
IGED IN INTERESTING GROUPS?	7. PLACES OF EMPLOYMENT AND BUSINESS
CH AND SPACIOUS POOMS2	WITHIN WALKING DISTANCE FROM HOMES?
	GROUNDS AND BUILDING SOCLEAN AND
AGE FOR THE CAR?	PLEASANT?
	ARE FACTORIES CORRECTLY LOCATED WITH
IRDS	RESPECT TO WINDS?
CAPED AND PLANTED?	HOMES PROTECTED FROM FACTORY NUISANCES
RLY GRADED FOR GOOD DRAINAGE?	BY PARK STRIPS OR OTHER BUFFERS?
NIZED USABLE SPACE?	
AND WELL KEPT?	8. SERVICES AND UTILITIES
	REGULAR GARBAGE COLLECTION ?
AYGROUNDS AND PARKS	ADEQUATE POLICE FORCE?
HERE ENOUGH OF THEM?	SATISFACTORY FIRE PROTECTION?
HEY BIG ENOUGH?	SUFFICIENT WATER SUPPLY AND PRESSURE?
TYPES FOR YOUR NEEDS?	GOOD SEWERAGE SYSTEM?
N WALKING DISTANCE FROM HOMES?	CONVENIENT TRANSPORTATION SERVICE?
ROM TRAFFIC?	A second second second second second
CTIVELY PLANTED?	9. ZONING AND OTHER LAWS
I AND WELL MAINTAINED?	ORDERLY DISTRIBUTION OF RESIDENCES, STORES,
HEY PROVIDED WITH PLAY EQUIPMENT?	FACTORIES, ETC.?
VISED BY COMPETENT PEOPLE?	RESIDENTIAL AREAS PROTECTED FROM UNDESIRABLE USES AND FROM NUISANCES?
CHOOLS	UP-TO-DATE AND EFFECTIVE ZONING LAW?
ALLY LOCATED IN NEIGHBORHOOD?	STRICT ENFORCEMENT OF THE BUILDING CODE? .
DATE AND IN GOOD CONDITION?	HOW ABOUT FIRE-PREVENTION LAWS?
NOUGH FOR THE NUMBER OF CHILDREN?	AND LAWS FOR THE PROTECTION OF HEALTH? .
DU HAVE ENOUGH OF EACH TYPE?	SMOKE ABATEMENT?
EQUIPPED AND MAINTAINED?	PREVENTION OF UNNECESSARY NOISE?
ROM TRAFFIC?	CONTROL OF PESTS AND OTHER NUISANCES?
TO PLAYGROUNDS?	
FROM NUISANCES?	10. MISCELLANEOUS
	SOUND, STABLE, AND SAFE PROPERTY VALUES? .
TREETS	TAX CLEAR PROPERTIES?
AND SAFE LOCAL STREETS?	SATISFACTORY SOCIAL CONDITIONS?
T AND CONTINUOUS THOROUGHFARES? .	ACTIVE CIVIC AND WELFARE AGENCIES?
ENOUGH FOR TRAFFIC?	DO YOU HAVE A NIGHBORHOOD COUNCIL?
TIVE TRAFFIC CONTROL?	PROGRESSIVE COMMUNITY INTERESTS?
AND WITH GOOD DETAILS?	IS THE DEVELOPMENT OF YOUR NEIGHBORHOOD
ED AND LANDSCAPED?	IN HARMONY WITH ADJACENT AREAS?
RLY LIGHTED?	IS IT RELATED TO THE REST OF THE CITY?
OF BILLBOARDS?	ARE YOU PROUD OF YOUR NEIGHBORHOOD?

DESIGN DAT

THE ARCHITECTURAL FORUM

ARE YOU HELPING TO IMPROVE IT? . .

A "no" answer indicates where to apply correction; a "yes" answer, where to exercise vigilance and protection. Improve your community so that it may be a better place in which to live, play, work, and invest.

WATERFRONT DEVELOPMENT, PORTLAND, ORE.

A blighted area adjoining Portland's business center is opened up and improved by a civic center and transportation routes keyed to Robert Moses' plan for coordination of arterial traffic.



MORIN

THE PROBLEM

Originally, the center of Portland, Ore ... was on Front Street near the west end of Burnside Bridge. As early buildings became inadequate commerce moved to the south and west while the residential section receded to the north and east. The resulting obsolescence of the natural midtown section is much the same as that illustrated in the case of St. Louis. (see pg. 111). Today the bulk of Portland's department stores. theatres, newspaper plants and tall office buildings are huddled within an area not more than eight blocks long and four blocks wide. The capital investment is enormous, the congestion. serious.

Portland has always been industrially important since it is the natural watergrade port of the vast Columbia basin. Recent, federally built water power projects will make available after the war four times the power formerly consumed. This one factor offers great potentialities for expansion and prestige in the postwar era. To develop them to their full extent, large portions of the city will have to be entirely rebuilt.

The widely discussed Moses report submitted to the Portland City Council last fall was limited, by request, to a two year postwar construction program. Consequently, it is principally confined to major traffic arteries, bridges and other large scale public works. While we believe that Moses' works should be carried out first, to the limit of Portland's financial capacity, supplementary studies should be available immediately after the program is completed. This project is intended as one of these. **ROY L. MORIN** was born in Massachusetts and studied civil engineering at the Worcester Polytechnic Institute. He later attended the Beaux Arts Institute of Design in New York. After serving overseas with the U. S. Marine Corps in the last war, he worked in various architectural firms and established his own practice on the west coast in 1928. Since then he has been chief draftsman for the U. S. Engineers on the Bonneville project and has executed numerous contracts for USHA and FPHA housing.

The architect acknowledges with thanks the use of WPA compiled statistics from the Department of Public Works; the Robert Moses report as a basis from which to start; the London County Council Plan presented to Mayor Earl Riley on his recent good-will tour; data from Mr. Arthur D. McVoy, director of the Portland City Planning Commission and his assistant Mr. Ernest F. Tucker; the work of architect's draftsmen, Mr. Bruce Kinne and Mr. Raymond Butcher; the unflagging enthusiasm of Mr. William A. Bowes, Commissioner of Public Works.



OUTMODED BRIDGES WERE A MAJOR CONCERN OF MOSES PLAN (BELOW)







Map showing traffic volume indicates that population center is near the intersection of N. E. Union and Fremont (indicated by ring). Consequently, Moses' recommendation for a high bridge across the lower river would do more to relieve old bridges than anything else. Recently widened Fourth Avenue, now carries the largest volume of down-town traffic.

Hatching indicates various types of parking facilities. of parking space is in outdoor, public lots where no r sibility for cars is assumed. New scheme provides covered parking space than the total amount whic exists between Burnside and Jefferson.

Heavy traffic congestion in an area devoid of natural advantages is not a characteristic exclusive to Portland. It applies to most other American cities of similar size. The familiar concentration of commercial enterprise in a small area surrounded by plenty of low density or vacant land is merely the product of short sighted and uncontrolled development. The solution lies not in involved and far fetched theories of design, but in common sense.

Unlike the Armstrong project for the St. Louis waterfront where there already exists a large tract of cleared land, photographs of Portland clearly indicate that there is too great a capital investment represented in the congested area to make migration of private enterprise feasible or effective. Nevertheless, a large measure of relief could be effected by proper development of the waterfront. This study encompasses the relief of congestion in the downtown business area, rehabilitation of the west side waterfront and development of an adequate Civic Center. To do this, it is necessary:

1. To supplant or move bridges which spill traffic directly into congestion. 2. To arrange arterial loops for traffic in and out of the business area with off-side parking facilities.

3. To set up "stoppers" at bridge approaches to slow traffic in the spots where so many accidents occur.

 To extend all bridges over trackage along the east side waterfront, thus isolating this district as a warehousing terminal and switching area.
 To rehabilitate the west side water front by providing buildings for all government agencies beyond the boundaries of the congested area.

6. To tie in the existing public buildings to a Civic Center properly integrated with the new waterfront.7. To provide a main passenger railroad terminal with good approaches.

The plan was developed on the basis of these assumptions. It is not intended for an ideal new city center, but for the existing city, opened up, refurbished, made to function more smoothly and to present a handsomer appearance. Every effort has been made to avoid disturbing both public and private buildings, streets and other improvements whose capital investment would not warrant the change. While it may remove much property from the tax rolls, increased valuations elsewhere, particularly on properties adjacent to the improvement, would compensate for the loss. The new development will also tend to stem the tide of migration beyond the city and county limits.

Within the congested area, or immediately adjoining it, there are at least eight federal agencies and many more state, county and municipal offices estimated to employ at least 5,000 people who have no justification for working in the heart of the commercial and recreational district. Furthermore, these offices are scattered about in rented space. Removing all governmental activities from this area would considerably relieve congestion. It could be accomplished by the joint effort of government funds and private capital under local control.

Twelve years ago Portland was provided with a million dollar market on the river. Deplored by the AIA for obstructing future development of the waterfront, the venture proved economically unsound. The public continued to patronize the cramped street markets in obsolete structures along Yamhill Street. The new market, still in excellent condition, will sooner or later be acquired by the city under an RFC loan. Remodeled and stripped of its towers, it could be turned into a fine passenger bus terminal. It is large, centrally located, and would greatly relieve this type of transportation which now ties up 5th, 6th and Taylor streets. Following this conversion, a new, modern market with underground parking and a large plaza for occasional farmer's stalls should be erected on Taylor Street between 2nd and 4th Avenues.

Contrary to the Moses recommendation to repair the old Hawthorne Bridge and retain the Morrison Bridge, we propose a new eight lane basculetype bridge to span the river from East Hawthorne to West 4th near Clay (at right angles to the river as requested by the Army Engineers).

After the completion of the Moses Throughways, the bascule bridge and the high-level bridge at Fremont, it is not unlikely that the Morrison span could be done away with. Both the Hawthorne and Morrison Bridges were designed and located to accommodate the horse and buggy traffic of the late nineteenth century. They pick up





videning, usually because of expensive buildings. The center of the block beween Clay and Market seemed the best solution, provided the auditorium be kept as a bridgehead. Since the building is used only about 150 hours per year, adjacent parking connected by pedestrian tunnels would provide adequate approaches. The bridge amps could sweep around it near the econd floor level. The Moses report states that any atempt to persuade the railroads to

of the congested area.

railroad tracks on the east side of the river and pour it directly into the heart The west terminus for the new bridge was carefully studied. The present span lands on Madison Street. Endings at the five blocks north and south of his spot presented obstacles to street

tration of fatalities is in the central business district. It is becoming evident aded and curving boulevards broken by plazas and squares are the safest phfares, acceleration and straight lines the most dangerous factor. traffic that has crossed three sets of



dicate that a large percentage of traffic accidents occur on widened arterials dge approaches upon which much public money is inadvisedly spent. Heaviest



Greatest density of pedestrian traffic sur-rounds the large retail stores which use the street for trucking. Municipal governments should force such establishments to load and unload within their property lines.



WATERFRONT AND CONGESTED VIEW OF PRESENT MIDTOWN AREA

OBSOLETE BUILDINGS IN THE FOREGROUND NOW OCCUPY PROJECT SITE









Fast moving, north-south traffic will be carried on major arteries such as 2nd, Park and 14th Avenues, eliminating through vehicles in the business district. Congestion in the center of town will be alleviated by this fact and by moving government agencies and other non-commercial offices to the space provided in the waterfront proect, (L, M, and N). The feeder streets. Burnside and Hawthorne serve the east side where 75 per cent of the population lives. Together with the widened ring streets, 2nd, Park and 14th Avenues, they form the loop plan. The scheme is presented with no air of inality. It is more a suggestive planpattern requiring considerable detail study. Eventually it would probably evolve into a smaller, more human project with better relationship beween the buildings. It is unfortunate hat the city hall and courthouse are not nearer the river for the sake of the levelopment. A more comprehensive plan would include at least a dozen other public buildings scattered to the west of the riverfront development.



SECTIONS OF OBSOLETE AREA TO BE RAZED-COURTHOUSE TO REMAIN



PLAZA IS FLANKED BY RECREATIONAL AND EDUCATIONAL BUILDINGS. THROUGH TRAFFIC UNDERPASSES PARK





PROPOSED MARKET, COURTHOUSE, SCHOOL AND MUNICIPAL AND COUNTY OFFICES FACE PARK BEHIND PLAZA



F . 12

UNIFORM NEIGHBORHOOD BOUNDARIES

Neva R. Deardorff analyzes the effect of jumbled precincts, districts and zones on the neighborhood spirit in the average city; pleads for uniform, coordinated social data.



NEVA R. DEARDORFF received her A.B. at the University of Michigan in 1908, her Ph. D. at the University of Pennsylvania in 1911 and an honorary M.A. at Michigan in 1933. Since then she acted as associate editor of *The Survey* and served as director of The Research Bureau of the New York Welfare Council. She is now serving as assistant executive director of the Welfare Council of New York City.

A CITY may have a personality different from that of its component neighborhoods, but all cities even such behemoths as New York, draw their breath from neighborhood life. Sutton Place might well be transported bodily to Boston for all the relationship it bears to uptown Washington Heights. There are denizens of deepest Brooklyn who have never set foot in Manhattan and are none the worse for their lack of wanderlust. In other words, many if not all city neighborhoods are more or less self-contained units set, to be sure, within much vaster boundaries, but living insularly and often independently of the larger city life.

Of course, the tentacles of the city reach into the neighborhoods. Municipal agencies render services to every city district. The Fire Department, the Health Department, the Police, School and Welfare Departments all impinge on neighborhood life. While these municipal agencies *impinge* and offer aid, they do not participate in the life of the district. Conversely, the inhabitants of the neighborhood have little if anything to do with the operation of the public services rendered in their behalf.

The city planning movement now gathering momentum all over the country holds as one of its primary tenets for successful planning, the need for public participation in that planning. The need for public participation is nowhere more clearly illustrated than in the relationship of city neighborhoods to their municipal service agencies. The people who live in a given neighborhood should have the opportunity to take part in the planning for that neighborhood, and in the operation of the public agencies that service their district. As far as city planning is concerned, such a move would constitute a process of municipal boring from within, a healthy process of building a new whole up from the sum of its reconstituted parts. The building of a better foundation for neighborhood planning through the better decentralization of municipal services, is an idea well worth investigating.

NEED FOR INFORMATION

It seems most unlikely that we shall ever be able to unchor city planning firmly into the ongoing neighborhood life of any community unless, on the one hand, knowledge pertinent to planning is forthcoming regularly year after year and, on the other hand, habitual and unagitated consideration is given to it. Intelligent management of the affairs of the neighborhood and of the larger community depend upon the production of this knowledge and the thoughtful consideration of it by persons in positions of influence and authority throughout the social structure. The congeries of communities that we call the great city, is no better than the aggregate of its several parts.

But how to secure continuous and authentic knowledge of living conditions in the several sections of a city and to insure purposeful consideration of that knowledge? These social processes are, of course, interacting. A start can be made with either and it wil tend to draw in the other. If either is deprived of the other, its progress is stymied. But neither of these will come about except as there is human organization to bring them about. And where in our great cities must we look for the seeds of that organization, and how can we grow it? How can we prepare the ground for it?

DIFFUSED SOCIAL DATA

Insofar as primary fact gathering is concerned, we must look to our governmental agencies. They are the only ones with authority and opportunity to observe human affairs comprehensively and accurately and with resources sufficient to analyze and smelt down into usable form the varied and bulky collections of observations that must of necessity be made. In the main these governmental agencies are the U. S. Bureau of the Census and the departments of municipal governments. But trouble lies in the fact that as things now are in most cities, no two of these governmental agencies other than the Census Bureau and health departments. regularly collect and present data with any regard for each other's findings. As highly complex chains of closely related circumstances, human affairs are not properly observed and analyzed by means of limited and fragmentary assignments to government departments, each carrying out its stint in isolation from the others, even to the extent of presenting its story for a population base unique to it.*

This is not, of course, done deliberately. It is an inadvertence growing out of the fact that, generally speaking, observations are made, recorded and analyzed as part of an administrative duty. As they build up their organizations and return their data, municipal departments are seldom, if ever, regardful of anything other than their own most obvious and immediate interests. The point of view is almost without exception intra-mural. In the absence of a well thought-out plan of wider scope and deeper meaning this is

*The City of Milwaukee has by municipal ordinance required that, "Each department, bureau, board and commission of the city government shall in the preparation and publishing of official statistics and data gathered in accordance with either city or state law, or such statistics or data as are deemed necessary by the municipal reference librarian in the preparation of official reports, conform to the methods adopted by the federal bureau of the census in its use of census tracts." to be expected and until there is at least the beginning of such a plan it is probably just as well for each department to keep to its own business. But one kind of order can be introduced that would make not only for better knowledge but also for better social organization, both within the governmental structure and in the relations of citizens to governmental officials.

As we said above, this step has to do with improvements in the districting systems of the various municipal departments whose functions are closely related to the improvement of living conditions and of health, to education and to the protection of persons and families. We gravely need a more systematically coordinated geographical decentralization of our public and voluntary services that now deal directly, in fact pretty intimately, with our citizens and with their household affairs. We need districting arrangements which enable citizens to confer with groups of responsible officials about problems, more clearly defined and specially located and requiring for their solution the combined attack of more than one department of government. Nobody can work in the field of local community organiza-



NATURE ABHORS a municipal vacuum, or so this diagram of the East Harlem Health Center District would seem to prove. Areas of administrative responsibility among five different municipal agencies lap and overlap each other in a frenzied appliqué. But each agency is concerned only with its own bailiwick. Fact-finding is fragmentary and chaotic. tion without becoming deeply impressed with the need for organizational arrangements and meeting places which facilitate acquaintance among municipal officials themselves (below the rank of city department heads), and also with the leaders of the voluntary civic and social agencies. That is the only way that officials come to learn accurately about each other's work and plan together and with citizen groups for the solution of problems that defy solution through separate and isolated attacks.

Illustrations of the condition that now largely defeats the easy acquisition of knowledge, good teamwork and ready access to responsible personnel are drawn from New York City, but there is no reason to believe that this condition is worse in that city than in most other large cities.* Two areas are analyzed here: one is an area on the upper east side of Manhattan, East Harlem; the other is the Bedford District, an area in the heart of Brooklyn. Both of these sections are "problem" areas in that to a considerable extent they are peopled by fairly recent migrants to the city, that housing conditions are poor and that they suffer from considerable notoriety. But without better social data than we have, nobody knows for sure that their reputations are deserved.

ELIMINATING OVERLAPPING DISTRICTS

3 completely, 6 partially.

Using the health center district boundaries as a master outline, the district lines of four departments have been overlaid upon them. Police precincts and fire districts are primary operating units as are the welfare districts. School districts are not those of a single school but of an area. all the schools of which are under a district superintendent The following facts emerge:

The Bedford Health Center District, with a population of 257,810, overlaps 7 police precincts, 1 completely, 6 partially; 5 school districts, all partially; 4 welfare districts. all partially; 16 fire department districts, 4 completely. 12

partially. The East Harlem Health Center District (left), which in 1940 had a population of 208,028 persons, overlaps 2 police precincts, both partially; 3 school districts, all partially; 2 welfare districts, both partially; 9 fire department districts.

(Continued on page 216)

*For citizens outside the cities better teamwork among and accessibility to officials closely related to family life seems to present a problem. In their book, *Roots in the Earth* (Harper, 1943), Waring and Teller write: "The way we farmers know the USDA is as we meet it on

"The way we farmers know the USDA is as we meet it on the farms where we live for only a few of us ever get to Washington. Out here the lack of coordination is partly the result of physical causes. When a farmer goes to the county seat, for instance, with a problem on which he wishes help, the question arises at once, to whom shall he go? We have no farmers' building, no agricultural center, no central bureau. The five bureaus of the Department of Agriculture are scattered about in our town and you may or may not find them. If, for example, we had a county agricultural office where all five of these bureaus could be housed, then a man coming in could go to the information desk, state his case, and be directed to the bureau or representative that could best help him.

"Another problem of administration is that of departmental jealousy. One bureau won't work with another, won't even refer a fellow to another bureau. When a farmer finds it out he is not only horrified, he is disillusioned. He usually says: "To hell with these government men.' We've heard them say it.

"... We farmers don't want our Department of Agriculture to fall a prey to bureaucracy, and to grow so distant that we cannot reach it. We want to help run it because it is an integral part of our agriculture. And, moreover, out here where we live in our uncoordinated and individualtistic fashion we need the department to bring direction and coordination into our agricultural community life."

RESIDENTIAL DEVELOPMENT, BURLINGTON, VT.

8

A 25-house project, designed for middle-income owners, and located in a sparsely settled section, gives Burlington the opportunity to condition both the direction and character of its growth.



FREEMAN

FREEMAN, FRENCH, FREEMAN, a Vermont architectural firm consisting of William W. Freeman, John C. French and Ruth Reynolds Freeman, has had an active practice throughout New England since 1936. They have designed numerous state buildings, public schools, municipal buildings, churches, residences, etc. In 1938 they were selected as architects for the Burlington Housing Authority and developed preliminary plans for a 100 family development. Mr. and Mrs. Freeman are both graduates of the College of Architecture at Cornell University. Mr. Freeman is at present serving as Lieutenant in the U. S. Naval Reserve. Mr. French is a graduate of Westworth Technical Institute.

GEORGE G. HOLDEN, mortgage banker and vice president of the Burlington Federal Savings and Loan Association has been active in encouraging building and the financing of construction loans in the vicinity of Burlington for more than seventeen years.

-

MORRISSEY

HENRY M. BALDWIN, associate of Mr. Holden and treasurer of the Burlington Federal Savings and Loan Association has in past years made extensive studies of building development in addition to his activities in the fields of home ownership and financing of residential developments.

EUGENE F. MORRISSEY who heads the firm of Wright & Morrissey, Contractors, has for the past 24 years been active in a variety of construction projects, including several housing projects. He is now serving as state senator and director of the Burlington Chamber of Commerce.



MAP OF CITY OF BURLINGTON, VERMONT

- 1. UNIVERSITY OF VERMONT PROPERTY
- 2. AVAILABLE LAND HIGH PRICE BRACKET
- 3. INDUSTRIAL SECTION
- 4. MUNICIPAL WINTER SPORTS AREA
- 5. MUNICIPAL BATHING BEACH
- 6. PUBLIC SCHOOL
- 7. SITE OF PROPOSED PROJECT

THE PROBLEM

The development of plans for a postwar neighborhood in Burlington, Vt. presented a number of problems. There is a large group of young businessmen in the city with yearly incomes of \$2,000 to \$3,500 who would like to own homes but have been discouraged by the scarcity of reasonably priced land. Thus, members of the project's architectural team were agreed that Burlington's most obvious need was for a group of houses which would sell at prices ranging between \$5,000 and \$8,000.

But where in Burlington should such a development be located? In the past, Burlington's residential growth, like that of many another U. S. city, has been allowed like Topsy to spring up at random. With a planned project, however small, there would be an opportunity to direct the future growth of the city.

Near Burlington's harbor, the area known as "The Hill" is so thickly settled that population density approaches congestion. Where The Hill falls off to the south in a flat plain there is near congestion. But Burlington's northern section is sparsely populated, and land there is valued at about \$200 an acre against The Hill's



building lot valuation of \$2,000 to \$6,000 and the southern area's \$1,500 to \$2,500.

THE SITE

Thus, in order to establish a trend of home building, to equalize population density and land valuation, and to assure a low initial land cost, the architects chose Burlington's northern section for the project's site.

The chosen site, located in a large grove of oak, birch and pine trees formerly part of a sizeable farm estate, has certain definite virtues. It is just off a main arterial street, only two and a half miles from the center of Burlington's shopping district. A bus line furnishes transportation at regular thirty minute intervals, and within a distance of about four city blocks there are a public school and church. Also within easy walking distance is Burlington's largest and most beautiful park. The municipal bathing beach on the lake shore is less than a mile away. Sidewalks and concrete roads have been laid on all main arterial streets leading to the section, and the city sewer system has been extended to include the area.

The hardest heads among the project's team felt that the development should be limited to the number of houses—20 to 25, they figured reasonably likely to sell quickly. Thus, only a portion of the land available was used for the project. As a result, there is ample future room for the development to expand as the growth of the community demands.

The immediate site for the projected 25 houses consists of 10 acres, valued at about \$200 an acre. Broken down into lots, no one of which would have less than an 80 ft. frontage, the average land cost per lot comes to around \$80. Physically, the land is good. The top soil is rich and thick. Under it. since the area was once part of a lake bed, is clean white sand and gravel. The levelness of the land will simplify construction. The sandy soil will make excavation easy. The fine natural growth will make landscaping costs negligible.

SITE PLAN

In laying out the houses, the architects were motivated by their desire to provide spaciousness and accent an atmosphere of informal living. Three basic house designs, conservative in mass to harmonize with the general character of Vermont homes but contemporary in their regard for utility and convenience, were felt essential to meet the needs of families of various size and income. By varying the posi<text>

ESTIMATED COSTS

	HOUSE A	В	C
Construction cost	\$5,650	\$4,800	\$7 000
Land cost (including improvements			\$7,000
Landenanias	750	700	750
Landscaping	75	75	75
Broker's fee	100	85	120
Calling			
Selling price	\$6,575	\$5,660	\$7,945
Down payment	\$1,315	\$1,132	\$1,589
Mortgage	\$5,260	\$4.528	\$6.356
Mortgage plan, 5 per cent, years Monthly	18	16	20
Interest and amortization	\$36.98	\$34.32	\$41.95
Fire insurance	.60	.50	.70
Real estate tax	10.00	8.50	12.00
Water tax	.75	.75	.75
Monthly Payments	\$48.33	\$44.07	\$55.40

tion of the attached garages, the three types of houses are made to look like seven. All the houses are designed for the easy addition of future rooms. Full basements have been provided not only because basements are expected in Vermont, but because by the time excavation for footings has been made to below the frost line (5 ft.), the additional cost is negligible.

Each house is set on a generous lot, and most of them front on the intraproject road where there is no danger of heavy, through traffic. True, a few houses front on Shore Road, a public artery, but the likelihood in a city as small as Burlington and in an area as new as the project's is that there would be no danger of excessive traffic.

No provision has been made for a protective belt, but again the necessity for screening in a project and city so small, is dubious. Besides the church property effectively screens at least half the project area fronting the public road.

Selling prices for the houses vary from \$5,660 to \$7,945. By lengthening the amortization period for the larger houses, monthly down payments would vary only \$11 between the minimum and maximum house. This device, the architects feel, will attract owners of about the same income bracket.





VERTICAL SIDING AND SHINGLE ROOF CREATE TRADITIONAL FEELING

HOUSE A

This house was designed to meet the need for a middle-sized, middle pricerange unit for the project. The future addition of a third bedroom which the architects have foreseen, would make it comparable in size to house C. While its living-dining area is smaller, it is provided with three exposures and more glass area than is usual for its type.

The living room window areas in this house, as in the two other project types, were planned to obtain the proper balance between over-large units with their consequent heat loss, and standard stock frames with their inability to provide sufficient light and outlook.





ALL BEDROOM WINDOWS ADD PRIVACY AND NEEDED WALL SPACE

APRIL 1944

B.R

FUTURE SECOND FLOOR

HOUSE B

The smallest and cheapest of the three project types, this house is based on the standard four room rectangle. Within its orthodox framework, the architects have striven to create a maximum feeling of spaciousness. Like its larger brethren, the living area is provided with three exposures, an outdoor terrace, and a view out into the centers of the blocks.

The stair-well was located to allow the easy installation of a future stairway to the attic space, which can be developed as two bedrooms. While the architects have planned future bedrooms and closet space, they have made no provision for an additional bathroom, a questionable arrangement.



ALTERNATE EXTERIOR TREATMENT FOR THE LARGEST OF THE HOUSES SUGGESTS FLAT ROOF AND SMOOTH WALLS



ACCESS TO FRONT AND SERVICE ENTRANCES IS FROM STREET SIDE

B. R. 14*12 B. R. 100 . 90 B. R. 100 . 90 B. R.

HOUSE C

This house, the largest of the three basic types, is also the only one with two stories. The family living area has been planned to provide maximum spaciousness. More than 25 ft. long, its three walls are equipped with large glass areas, and an ample outdoor living space also opens from it. It fronts the rear of the plot, thus assuring privacy from the street and better views. The second floor is a standard three bedroom plan with a minimum of hall space. To maintain a low unit cost the bathroom has been located adjacent to the plumbing risers, directly over the kitchen. Flexible location of garage and terrace provides variety.

AN ORGANIC THEORY OF CITY PLANNING

The Herreys and Constantin Pertzoff present a carefully documented approach to planning, based primarily on the re-establishment of "social spaces" within the community.



HERMANN HERREY received his M.A. in engineering at the Polytechnic Institute in Charlottenburg after leaving his native Vienna. He practiced architec-England before comture in ing to this country where he has specialized in planning. This article is partially based on the research done by Mr. Herrey for the American Philosophical Society (Penrose Fund) and taken in part from a speech before The American Academy of Arts and Sciences.

CONSTANTIN PERTZOFF (M.A. Harvard 1924), son of the noted Russian architect-engineer, worked on replanning the Greenbelt towns and now practices in Boston.

ERNA M. J. HERREY, Physicist Ph.D., has worked extensively on the application of physics to highway problems. She teaches physics at Queens College, New York.

T HE hardest single fact for the planner to remember, in face of the complex and urgent problems posed by the contemporary city, is that the *urban community is a living organism*, not just a large accumulation of people.

It will be evident from the most cursory examination of the city as it is and as it used to be, that it is no longer a clearly defined, well-proportioned organism. It is a place where people work, shop and perhaps sleep as well. But it is not any more the tightly-knit community, say, that existed in Colonial New England. It has become too big, too complex, too discouragingly impersonal. Moreover, its plan makes impossible a resurrection of community feeling even if the desire for it existed. The fact that the city's functions are impaired in this respect, or even destroyed, constitutes a major problem.

When we speak of the functions of the community, we do not mean particular functions, like receptions for returning heroes or holiday parades. We are talking about ordinary daily social intercourse—the conversations on the street, in cafes or restaurants, the playing of children the casual activities and associations in the old towns where space for such things existed and provided thereby the social foundations on which the community was built.

The fully developed community comprises all relationships most essential for our individual satisfaction, for our livelihood, and for the texture of our public life. To the social environment belong our relatives and friends, our associates in work, employers and employed, contacts in the everyday exchange of goods and services. This is the sphere in which we express our joys and anxieties, our scope for love and adventure, our ambitions. Here too we choose our local and national representatives and fulfill the other responsibilities of citizenship.

This is the social environment. This is our real "home." House, street, landscape and city are only its vessels and channels. For its preservation man is—as we are now experiencing—prepared to pay any price, because if this fabric is destroyed or if he is torn away from it, he becomes a mere shadow.

When the citizen stopped being a person, known to all the townspeople, and became instead a statistical unit, the real source of community life dried up. This happened partly because cities were inflated out of all relation to human scale, partly because the concomitant growth of mass organizations eliminated those functions where personal factors are decisive. Today we are totally incapable as individuals of coping with the overwhelming assault of the myriad issues of daily life in the big city. It is equally impossible to become conscious of one's responsibilities, because the number of people is too large to be grasped as an imaginable reality by any mind. Hence the flight from responsibility, the characteristic disease of our time.

No responsible professional will suggest that planning is a panacea. But he can argue with complete reason that provision of suitable external conditions will go a long way towards restoring our choked communities to the healthy state in which they once existed. The essential factor in process is the breaking up of the city into social units which have a recognizable individuality and a manageable size.

Between the old-style city, with its hopelessly inadequate social spaces and wasteful street and utility systems, and the residential units illustrated on the following pages, there is no comparison whatever on the basis of livability, human efficiency or cost of maintenance. We have presented individual residential units, and theoretical combinations to form cities, which are superior in every case to the towns we live in today. Others can calculate the savings in medical care, police supervision, fire protection, etc. Our contention is that the direct money savings to the community through reduced road, utilities and maintenance costs are sufficient to justify consideration of the plans.

These plans can become very complicated indeed. On page 140, for example, the application to Manhattan is shown. Nevertheless, in its essence the theory is exceedingly simple, for it is based on a limited number of fundamental theses. First is the assumption that the community unit must have a human, i.e., pedestrian, scale. Any unit where a person could not walk from the outer edge to the center in ten minutes is too large. Secondly, every such unit must provide for its inhabitants a continuous interior space, accessible on foot from all the houses, where the required social activities can be carried on. Traffic, including both private and public, must be provided with a network that gives access to all dwellings and public buildings. Finally, the two systems-traffic and social spaces-must be so arranged that they never cross. In a plan with such characteristics the community will finally recover the most ancient of its social amenities while providing for the most modern conditions of living and transportation.



LONDON: County Council Plan

Within the framework of the modern city there is a process which goes on hourly, best described, perhaps, as the formation and breaking up of social groupings. To take an average citizen, by way of illustration, he is at one moment with his family, at another a factory or office worker, a commuter, pedestrian, shopper or hobbyist. In each of these roles he forms part of a social grouping, and the same is true of all his fellow citizens.

The sum total of these shifting patterns, symbolized by the sketch above, is exceedingly complex in the modern city. And the only plan which can accommodate them is a very flexible one. What is more, it must be very generous as regards public, or social, spaces. In bygone days. as suggested by Brueghel's famous painting below, the community had these spaces in which to carry on its life. The photograph of New York, where even the sidewalks are no longer adequate, shows how completely the traditional social spaces have been destroyed. The new plan for London, based on the analysis diagram above, demonstrates the need to break up the city into communities of manageable size, each equipped with the spaces in which social activities can be carried on without danger from traffic.

NEW YORK: Broadway



BRUEGHEL: Battle Between Carnival and Lent



Nucleus of a neighborhood. This might be the beginning of a crossroads town, or a village not yet incorporated into the body of a nearby metropolis.



A traffic network develops, with the beginning of a classification of streets and roads. The streets still serve a predominantly social function.



Several neighborhoods developing independently. Each has rudimentary educational, shopping and social facilities. These are nucleii of a future city.

As the neighborhoods grow, vehicular traffic starts to compete for space with walking. The street begins to become exclusively a traffic artery.



Walkways and roads are established to link the several neighborhoods as directly as possible. Traffic is not a problem or danger at this stage.



As the network fills with two-way traffic complications develop—at intersections, and where vehicles go through purely residential neighborhoods.



Attempts to solve the problems of intersections through grade separations are too costly, and take too much space for the average town.



Moreover, these solve only the problem at the crossroads and do not provide a replacement of the social functions once served by the street itself.



The beginning of circumferential two-way traffic, but with through roads still running through the centers of the residential neighborhoods.



A diagram showing the complete traffic system in isolation. A complete community would contain several such units. Note use of culs-de-sac inside.



System of one-way circumferential traffic, with feeders to neighborhoods. These create minor points of interference where they cross links between neighborhoods.



The social spaces, shown in isolation. Taken as a whole they form a continuous space, linked only by pedestrian ways. No roads cross the space.



Completion of the process of development: two separate systems, one for traffic, the other for the social spaces. They meet only at the individual dwelling.



The boundaries of the neighborhoods which make up a community are fluid and overlap, reflecting the changing social relations of the people who live in them.



VERONA



VENICE



THE HAGUE



LONDON-WHITEHALL



VIENNA



CHART: Given one side of a roughly rectangular site, the other side and the area can be found. Where the inscribed rectangle will cross the parabola is the point giving the area. TABLE: In addition to the above, the table will give the length





Walks are fully indicated only in upper right hand section.



NETHERLANDS, 1510



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			-			¥	*	5	8	10	12	15	20	25	30	40	50
	2,440	400	5,680	976,000	22.3	2,640	11	51.0	31.9	25.5	21.3	17.0	12.8	10.2	0 5		
	2,240	1 200	6,080	1,792,000	40.9	2,640	12	30.4	19.0	15.2	12.7	10.1	7.6	6.0	5.1	0.4	5.1
	1.840	1,200	6,900	2,450,000	55.8	2,640	12	23.2	14.5	11.6	9.7	7.7	5.8	4.6	3.0	3.8	3.0
	1,040	1,000	0,000	2,940,000	67.0	2,640	13	22.6	14.1	11.3	9.4	7.5	5.7	4.5	3.9	2.9	4.0
	1,700	2,000	7,040	3,100,000	70.7	2,640	13	19.9	12.8	9.9	8.3	6.6	5.0	4.0	3.3	2.9	2.3
	1,440	2,000	7,200	3,270,000	74.8	2,640	14	19.5	12.2	9.7	8.1	6.5	4.9	3.9	33	2.0	2.0
	1,320	2,400	7,000	3,400,000	79.2	2,640	15	19.4	12.1	9.7	8.1	6.5	4.9	39	33	2.0	1.0
	1.240	2,010	8 090	3,460,000	79.5	2,640	15	19.9	12.5	10.0	8.3	6.6	5.0	4.0	33	25	20
	1.040	3 200	9,000	3,470,000	19.3	2,640	15	20.2	12.5	10.1	8.3	6.7	5.1	4.0	34	26	2.0
	1,000	3,280	9,560	3,330,000	70.2	2,640	16	22.3	13.9	11.1	9.3	7.5	5.6	4.5	37	2.0	2.0
	880	3 520	8,900	3,260,000	75.0	2,640	16	22.8	14.3	11.4	9.5	7.6	5.7	4.6	3.8	20	23
	Circula	0,020	0,000	3,100,000	10.1	2,640	17	25.2	15.8	12.6	10.5	8.4	6.3	5.0	4.2	32	2.5
)	Semici	r-1,320 rcular :	8,300	5,471,000	121.0	2,640	10	13.7	8.6	6.9	5.7	4.6	3.4	2.7	2.3	1.7	1.4
1	Sectori	r-1,710 al:	8,800	4,600,000	105.5	1,710	13	16.7	10.4	8.3	7.0	5.6	4.2	3.3	2.8	2.1	1.7
	ar	r-2,640) c-3,520	8,800	4,630,000	106.2	2,640	12	16.6	10.4	8.3	6.9	5.5	4.1	3.3	2.7	2.1	1.6

of road per family, maximum lengths of walk, etc., for either rectangular, sectional or circular units. The effect of density on these figures can also be determined. Where the units are irregular in shape, the table can be used to obtain approximate results.

Both chart and table give data if the following conditions are met: 1) population of 2,000 families at 25 per acre, or less; 2) maximum walking distance from home to center: 10 min.; 3) maximum driving time on the circumferential road of 5 min. at 20 m.p.h.







SMOUTH, N. H.

left-hand column the hatched areas show the spaces available to the population of old cities for walking, congregating, etc. The bottom illustrations further develop a picture of community amenities that have long since vanished. A major problem facing the community today is to recreate these social spaces while providing at the same time the most effective possible network for automobile traffic. An approach to the former is illustrated in the above diagrams. If, within a sub-community, the residential neighborhoods (big circles) are connected directly with walks, a certain pattern begins to emerge from the intersections of the various lines of travel. This pattern gives the plan basis for the interior of the unit: a continuous space made up of walks, park, playgrounds, adult recreation areas, and so on. The plan, it should be noted, can be widely varied to fit the terrain and other conditions without losing its essential qualities of safety and direct pedestrian communication.

Compared with its predecessors, the modern city shows a startling decline in efficiency as a social organism. In the

MARBLEHEAD, MASS.



on an analysis of social activities and functions with respect unit sizes range from 500 to 2,000 families (2,000 to 8,000 The large drawing shows a diagrammatic plan for two residential units totaling about 1,250 families. It is based to population and areas, which reveals that the desirable people). Each unit is built up of smaller units-neighborhoods of 30 to 60 families each.

The plan also makes concrete the idea previously discussed, that the life of the community must be provided for by interior spaces dedicated entirely to social functions. that traffic flows along circumferential roads, with culs-de-sac leading to the residences, and that these systems never cross at any point without grade separation.

The scheme is also based on the premise that no unit of settlement should be larger than could be walked through from the edge to the social center in ten minutes. In such while apartments and row houses would be needed for the a unit 500 families could be accommodated in single houses, higher densities.

Separation of community life and traffic has an organic It is important to note that only this separation will make parallel in the two circulatory systems of the human body. possible the integration of the community's social functions. In this plan, churches, schools, theaters, libraries, health All are accessible on foot from the houses or from each other. Thus, those services which now exist in the city centers, etc., are all a working part of the public spaces. as isolated, specialized parts, can become part of a complete functioning community. Such a solution is as urgently needed by the community today as the home by the family.

tion of New York's borough of Queens demonstrates clearly The diagram showing the plan superimposed on a porthat the solution is far more efficient than the existing arrangement. Street lengths are greatly reduced-but with faster moving traffic.

appear in the sketches at the right. Note that traffic flows When the units are combined to form a city-large or small, it makes no difference-some of the forms produced in only one direction, and that there are no intersections. The units are grouped along ring roads, which surround which can only be supported by the combined populations the larger social facilities, such as high schools and theaters, of a number of community units.



Comparison of conventional and proposed street patterns



FRENT

- A. Commercial area

- B. Park area
 D, E, F, Settlement units
- 1. Approach road with speed re striction curve
 - Speed restriction curves
 Weaving lanes
- 2a. Main street
 3a. Parking space in square
 3b. Parking space for trucks
 3c. Parking space for social arrea

- and Commercial square
 Open market space
 Shopping space
 Administration
 Police and fire station
 Public school
 High school
 Vocational school and

adult

- 12. Community club 13. Restaurant, caf education
- "Ins" and cafe
 - facilities
- - Auditorium
 Theater
 Public Library
 Public Library
 Flotel
 Site for open air cafe
 - 9a.
- 19. Public bath and swimming pool Health and welfare center

 - Gymnasium 20.
 - 21. Sport field
 - opectators' stand 21a.
 - 22. Soft ball
 - 23. Tennis courts
 - 23a. Picnic areas
- 24. Site for hospital 25. Churches 26. Open-assembly squ
- **Open-assembly** square
- 27. Open air concert square
 - Day nurseries 53
 - Branch library
- 31. Open amphitheater with portable 30. Branch drug stores
- horse-shoe greens. stage and screen 32. Bowling
 - 33. Playgrounds for children pitching courts, etc.
 - 33a. Model yacht pond
 - Segregated rest places 34.
 - Discussion court 35.
 - 35. Athletic courts 37. Food store Food store
 - Pavilion 38. 39.
 - Gasoline station Exit road



The drawing at the top of the page shows a plan for a hypothetical town of 100,000 or less. Its purpose is merely to illustrate the manner in which the typical community units might be grouped to form a city. In practice the shape would probably never be so regular, unless the project were built on vacant, flat land. It is proposed that a halfmile wide belt be established between the town and the industrial zone as a buffer for the community; the actual shape and width of the belt, which might be given over to agriculture or parks, would depend on local conditions such as direction of prevailing winds, topography, land costs, etc.

The plan of Manhattan at the right illustrates the application of these planning principles to one of the most difficult urban sites in the country. Rectangular rather than curved units would be employed, to make use of the existing pattern of streets and utilities, but most of the streets would be eliminated in favor of broad ring roads which connect with the express highway belt. Through traffic which has ruined all of the city's residential sections would be confined to the main highways.

The aim of such a plan, whether applied to Manhattan or to any other city, would be to create conditions in which community life could develop naturally and spontaneously, without artificial stimulus from the outside. Such a city, composed of numerous flourishing communities, would not only cost less to run than any municipality in U. S. history, but by virtue of its attractiveness and ease of getting around, would be far better fitted to compete for its share of the nation's markets.



RECREATION CENTER FOR KANSAS CITY, KAN.

An existing municipal park is replanned to provide recreational facilities for a large industrial development. The team includes a new type of collaborator, an executive of a great railway system.



WINN BUSH SHARP STANLEY NEVILLE HARE

HOMER F. NEVILLE attended the University of Kansas and subsequently studied abroad. Since then he has served as project planner for the Federal Public Housing Authority's project at Wichita and has carried on a private practice since 1931.

MARK S. SHARP attended Kansas City University and Columbia. For the past seventeen years he has been connected with important projects in the Midwest and has been a partner in the firm of Neville & Sharp since 1940.

GUY E. STANLEY, executive assistant to the president, Union Pacific Railroad Co., and vice president of the Kansas City Industrial Land Co., practiced law until the development of the Fairfax Industrial District was started which now covers more than 2,000 acres and whose concerns employ approximately 35,000 workers.

S. HERBERT HARE, attended Harvard University, School of Landscape Architecture and City Planning. He is president of the American Society of Landscape Architects and has acted as city land consultant and landscape architect in 28 states.

DONALD W. BUSH, landscape architect, graduated from the University of Illinois, School of Landscape Architecture. He directed the landscaping of the Centennial Exposition at Dallas, Tex., that of 63 schools in Ft. Worth, Tex., and many other important works.

LARRY WINN, president of the Winn-Senter Construction Co., heads one of the oldest firms in the Midwest, the business having been organized by his father in 1896. He has handled many industrial and commercial buildings, housing and war projects.



THE PROBLEM

Many U. S. communities, especially the manufacturing centers, have undergone phenomenal increases in population due to the in-migration of thousands of workers attracted by the wages paid in war industry. Experience with many large federal housing projects built to meet the demands of swelling populations in such localities, indicates that the inclusion of recreational and entertainment centers does much to avoid the sociological repercussions of such mushroom growth. Where community centers existed and were large enough to accommodate the entertainment demands of the young and adult of both sexes, fewer delinquency problems were experienced and it was argued that such facilities would be beneficial after the war. Day nurseries for the younger children of working mothers will be needed as the proportion of women in industry increases. Community recreational centers pay dividends to communities, employers and individuals and are excellent postwar projects. Since the manufacturing zone of Kansas City, Kan. and its business section are separated by the river there was a special need for the center in the residential area behind the industrial section.

9



THE SITE

Kansas City is primarily an industrial town. It does not provide as great a variety of amusement as its Missouri neighbor and consequently offers a greater chance for success to such a community enterprise.

Like the rest of the state, Kansas City, is progressive. Its city officials and real estate operators are eager to improve their town and add to its attractiveness. Development has followed studies made by eminent city planners for several years and the work on the city's future plan is still in progress. During the depression the Kansas City Industrial Land Company developed one of the best planned and most successful industrial sections in the country. It covers 2,000 acres and has been restricted to eliminate smokeand nuisance-producing industries. Since 1938 the population, mostly engaged in war production, has risen from 7,400 to about 35,000.

The Kansas City Industrial Land Co. is a subsidiary of the Union Pacific Railroad Co., long known for its foresight and long-range planning. The railroad itself was one of the first great

postwar projects ever planned in the U. S., conceived during the Civil War and carried to completion afterwards under the direction of General Dodge. W. M. Jeffers, current president of the Union Pacific is planning-conscious along sound lines of private enterprise, and likes to work with cities and communities served by his railroad to the benefit of both. The Union Pacific has taken a hand in the redevelopment of Kansas City, Kan. in order to be assured of a labor supply for the industries in their district. These factors all figured in the selection of a site for the recreational center.

The whole district lies on low, reclaimed ground, protected by dikes from the rivers and separated by a high bluff from the elevated residential area. The Federal Public Housing Authority recently built a 350 family project there and another FHA development of about the same size will start construction soon. Both projects lie between existing houses and the industries less than a mile distant.

A nearby public park was finally selected as the best site. It was assumed that the project would be a municipal development and that therefore the park land could be had free of charge. No comparable facilities exist in the neighborhood.

The park now contains about 26.7 acres and many fine trees but has only two tennis courts, picnic ovens and tables. The topography provides splendid natural locations for swimming pools and an outdoor amphitheatre for summer concerts. It was decided that the project should include the following:

1. An auditorium seating about 1,000 with a flat floor for dances, etc.

2. A gymnasium for basketball, boxing, wrestling, roller skating or other organized athletics.

3. Bowling alleys.

4. Indoor game rooms.

5. Day nursery and children's play area.

6. Food service facilities: luncheonette, dining terrace and refreshment stands.

Office and small meeting rooms.
 Pools for wading, diving and swimming.

9. Area for outdoor sports and a children's playground.

10. Expansion of existing picnic grounds.

11. Outdoor amphitheatre.

12. Parking.





STREET ELEVATION

ESTIMATED COSTS

LAND	
No cost-public property	
SITE IMPROVEMENTS	
Grading	\$15,000.00
Drives	3,560.00
Walks	21,200.00
Retaining walls	3,000.00
Steps	4,750,00
Fencing	3,550.00
Auto parking-area paving	34,200.00
Playorounds-area paving	7,400.00
Planting	6,200.00
Seeding	3,140.00

BUILDINGS (and outdoor pla	y facilities)
Swimming pools	98.000.00
Amphitheater	42,000.00
Soft ball field and stadium	12,000.00
Tennis courts	4,000.00
	\$566,000.00
EQUIPMENT	
Main building	\$68,000.00
Play area equipment	2,500.00
Miscellaneous	3,000.00
	73,500.00
UTILITY SERVICES (includi	ng
park lighting)	\$38,500.00 \$38,500.00

\$678,000.00

BALCONY AND LOGGIA AT REAR OF COMMUNITY BUILDING OVERLOOK WADING AND SWIMMING POOLS

\$102,000.00



A PLAN FOR HARLEM'S REDEVELOPMENT

William Lescaze demonstrates practically with maps, charts and cost estimates how to cure New York's sickest slum. In thus concretizing a solution, he has performed a notable public service.

Byron Ehrenberg

KATZ JENKINSON STETTNER GRUBER WEBER LESCAZE SINN WILLIAM LESCAZE was born in Switzerland and received his architectural degree at the Ecole Polytechnique Federale in Zurich. After coming to the U. S. he entered partnership with George Howe and has headed his own firm since 1934. Outstanding among his works are the Philadelphia Savings Fund Society building (in association with Howe,) the Williamsburg Houses in Brooklyn, N. Y., the Aviation Building (in association with James Carr) and Swiss Pavillion at the New York Fair, and the Longfellow Building in Washington, D. C.

JAMES FELT graduated from the University of Pennsylvania in 1924 and later established the firm of James Felt & Co., Real Estate Brokers, Appraisers and Managers, New York. He is one of the board of governors of the Real Estate Board of New York, director of the Citizen's Housing Council, and acts as real estate consultant for the New York State Division of Housing.

MEMBERS OF THE LESCAZE OFFICE associated on the development of this project were Gustav Sinn, Sidney L. Katz, Walter Gruber, Read Weber, Cynthia Jenkinson, Stella Stettner and Lieutenant (j.g.) John W. Wassell.

William Lescaze and Associates wish to acknowledge with thanks the advice and assistance give them by Mr. Edward Lewis, executive secretary of the New York Urban League, Dr. Warren Banner, research director of the National Urban League and Dr. Neva Deardorff, assistant executive director of the Welfare Council of New York. The following organizations and city departments supplied valuable statistical data, maps and other information: the City Planning Commission, the Board of Education, the Department of Parks, the Police Department, the Office of the Borough President, the Regional Plan Association and the Citizen's Housing Council.



THE NEGRO MOVES UP BUT NOT ON

Until the end of the 18th century, Manhattan's Negro population clustered in segregated areas below Canal St. (1 & 2). By 1820, the Negro population of 7,000 was concentrated in the neighborhood of Bleecker and Mercer Streets on the lower east side (3). By 1880, the bulk of the city's 19,000 Negroes had spread westward around the periphery of Washington Square (4). Within the next ten years, large numbers of Negroes moved to the upper 20's and lower 30's west of 6th Ave. (5) for this was a sporting neighborhood and many Negroes had become jockeys and prizefighters. By 1900, Negroes had shifted northward to the overcrowded San Juan Hill district (6), where rents were exorbitant, housing bad and disease rampant. The move to Harlem and the Bronx (7) occurred between 1900 and 1910, after the city's fourth race riot. Harlem shelters "more Negroes to the square mile than any other spot on earth."

THE PROBLEM

Despite a movement away from Harlem to the east Bronx, Washington Heights and Brooklyn, and despite an estimated loss of 25,000 Negroes from the city's population since 1940 due to migration to war centers, the population of Harlem is constantly replenished. Roi Ottley, the brilliant Negro writer, calls Harlem "a vast crowded area teeming with black men. Its population is pushing hard to a million and is crammed into two square miles. . . Within the community's restricted area housing, educational, cultural and recreational facilities have never expanded sufficiently to meet the phenomenal growth of the population. . . The human and prosaic characteristics (of Negro life) are scorched beyond normal recognition in the crucible of a segregated society. Negroes become slum-shocked."

The popular impression is that the Negroes "invaded" Harlem. This is far from the truth. At the turn of the century, Harlem had been overbuilt with new apartment houses. It was far uptown and rapid transportation facilities were scarce. Landlords eagerly accepted the proposition of a Negro champion that colored tenants be allowed to move into the empty houses. From the point of view of the landlord, Negroes moved into bankrupt property and increased the returns on





THEY ARE OLD Father Knickerbocker. Nearly 75 per cent of the buildings in this Harlem area are 42 years old or more. They look awful, smell worse.

THEY ARE COSTLY Father Knickerbocker. Assessed valuations in the area, in relation to age and condition of buildings, are high. So are rents.



TRAFFIC FLOW within and around the Harlem area is heavy and continuous. The district is crossed and bounded on east and west by through traffic lanes. Hatched streets are proposed non-stop, arteries scheduled for postwar construction.





BUT IT'S EASY to get in and out. As this diagram shows, the area is lush with transportation facilities. more than a replanned district would need.

THE AREA REPLANNED Number 1 is a six-block district Lescaze has planned in greatest detail. Dotted rectangle (4) is reserved for public housing. Other numbers indicate private projects.

the property enormously-although theoretically the land value decreased.

Today, more than 75 per cent of Harlem's workers fall into the marginal or unskilled class. According to the Welfare Council "a population that would work but cannot lapses into substandard ways of living, into hunger and suffering, into disease and delinquency-into social disintegration. Families begin to congest in illsmelling apartments to save rent; migrant lodgers enter the scene to interrupt family routines. The community toll of illness and disease, of family distintegration, of delinquency and crime mounts higher and higher, past even the levels of the usual 'slum' areas, and the city wakes to find a new racial problem at its doorstep."

THE PHYSICAL HARLEM

So much for the historical and sociological aspects of Harlem. In preparing the background for his study of the West Harlem area, Lescaze also made a careful analysis of the physical characteristics of the area.

As the charts on these pages show, the area he chose for study consists of some eighty blocks (356 gross acres), bounded on the west by Morningside Park, on the north by 126th St., on the east by 5th Ave., and on the south by Central Park. Nearly 75 per cent of the buildings in this district are 42 years old or more. In general, it might be said that they are all substandard, although those fronting on Central Park and Morningside Park are in slightly better condition than most of the others. Some of the frontage along 7th, Lenox and Manhattan Avenues and Cathedral Parkway consists of new law apartments, while the majority of the remaining buildings on cross streets and 8th Ave. consists of old law tenements and converted row houses. Considering the age and condition of these buildings, assessed valuations run high, and it is not at all unusual for some of the oldest buildings to bear the highest assessments.

Traffic flow around the area is heavy and existing transportation facilities remarkably good. The West Harlem Community Study made by the Mayor's Committee on City Planning in 1937 stated that "no residential section of New York City has better rapid transit facilities than West Harlem in the sense of either speed or cheapness. Practically every part of the city is readily accessible from one or another of the many subways and elevated stations or bus stops which are found at convenient points throughout the area."

OBJECTIVES OF THE PLAN

First Lescaze objective was to prepare the general outlines of a scheme for rebuilding the whole West Harlem area during the generation following the war, so that most of the people now living there may continue to do so by reason of greatly improved surroundings, safety and increased recreational, educational and health facilities.

His second objective was the graphic

presentation of his analysis and plan in order to stimulate specific and realistic action on the part of public agencies. Such action might take the form of the City Planning Commission adopting a locality or community master plan for Harlem which would guide all future public and private construction there. In addition to public developments, Lescaze also hopes to encourage privately sponsored housing projects for middle income groups and public housing projects for low income groups. The advantages of both types of projects being planned in conformance with a master locality plan are obvious.

Basic to Lescaze's approach to the redevelopment of the area was the consideration of human needs—sun, air and space enough for a normal life. Equally important was the necessity to keep costs within the reach of the people living there.

THE PLAN

Lescaze has based his reorganization of the area, as the diagram in the upper right hand corner of this page shows, on the development of superblocks. All but a few of the cross streets have been eliminated to achieve this end, and traffic studies indicated the desirability of discontinuing St. Nicholas, Morningside and Manhattan Avenues. With these streets eliminated only the necessary main thoroughfares remain: 8th Ave. to handle north-south traffic west of Central Park; Park Avenue all north-south traffic east of





PHOTOMONTAGE (LEFT) AND AIRVIEW (ABOVE) SHOW THE AREA TO BE REPLANNED AND DORIE MILLER PROJECT

to total space. Adoption of interior

bathrooms, elimination of all minor

breaks in general building form and

adoption of larger and fewer building

units led to the development of the

superbuilding unit. This unit, by con-

centrating utilities and using the more

efficient interior bathroom, attains

economies of space in use similar to

those attained in the superblock.

Central Park; and a widened 126th St. to handle all east-west traffic between the Triborough Bridge and the West Side Highway. Main city and state traffic would be logically handled by the West Side Highway, the East Side Highway and the new Harlem River Drive connection to the west side and George Washington Bridge. Thus the only remaining traffic in the area would be solely for local service. Getting people to and from work, or to other parts of Manhattan, is adequately handled by the Eighth and Lexington Avenue subways and local bus lines.

Each superblock might form a minimum unit suitable for development by a single corporation or as a single public or private project. In the physical design of such units, those fronting on Central Park would allow for open spaces which would extend the beneficial features of the park several blocks north into the area. The superblock does more than make additional building space available. It leads to a more integrated zoning solution, each block being zoned in relation to the needs of its inhabitants. Zoning and use become one.

"SUPERBUILDING" UNITS

In planning the typical building units, Lescaze was guided by the desirability of reducing the average exterior wall area per room, and increasing if possible the percentage of living space

betting Density, apartment size and financial other set-up were constantly checked in preliminary surveys until the first of these superbuilding units was arrived at, nes. Solar analysis showed that if the building units were turned at an angle of approximately 30 degrees to the avenues, a maximum amount of sunlight would be obtained for all apartments. Analysis also showed that the south-

would be obtained for all apartments. Analysis also showed that the southeast wings might be higher while the southwest wings should be kept low in order to get the setting sun's rays to penetrate more apartment area and to create less shadow area. Furthermore, fixing the buildings at an angle created more privacy from the streets, better vistas and a resultant decrease in noise penetration.

The superbuilding concept led inevitably to an integrated pattern for directing and controlling the development of the entire community plan. The activities of daily life can be logically organized by superblock neighborhood zoning. Extraneous travel can be eliminated. Large areas can be set aside for residential use, smaller ones for shopping, and one large chunk for a cultural civic center. Design and layout of buildings can create good orientation and lessen street noises.

Furthermore, it seemed important that the redevelopment should transform the entire area as far as possible, into a series of wide parks. Manhattan has an average of 1.32 acres of park space per thousand people, while Harlem has .43. (The 1943 County of London Plan calls for 4 acres per thousand in residential areas.) With Lescaze's superbuilding units, net ground coverage is 23 per cent.

In order to demonstrate further the advantages of the superbuilding, Lescaze also prepared a detailed analysis of a specific neighborhood project, the proposed Dorie Miller houses. A comprehensive neighborhood study was inaugurated, including simultaneous studies of individual buildings, apartments, service units, community, shopping, garage, parking and recreational facilities. In Lescaze's over-all thinking, Dorie Miller houses should be the first to be built, whether by a private or public agency. With such a pilot project, he feels, with the economic and social needs of a typical basic Harlem neighborhood planned in use, some of the problems of the future development and growth of the Harlem community as a whole, would be determined.





EACH SUPERBLOCK BUILDING unit in Lescaze's detailed neighborhood project contains wings made up of either 13-apartment floors or 8-apartment floors. In planning the units, Lescaze did not consider minimum standards as such, decisive. Instead, by careful planning, he provided better than minimum standards—balconies for each apartment, cross ventilation (through mechanical exhausts in interior bathrooms), ample closets, dining spaces, short corridors, minimum waste space. Lescaze says he has designed these units not in conformity with known and worn-out formulas, but in anticipation of tomorrow's needs. This, he believes has produced buildings with a very low obsolescence factor.





41ROOMS

151

PROJECT NO. 10



WINTER SUNLIGHT: 2 O'CLOCK, DEC. 21

SUN, AIR, SPACE and the banishment of the pungent pervasive odor of slum living from Harlem, were the governing concerns of Lescaze's project. Above, the neighborhood project is shown at two o'clock in the afternoon of the shortest and longest day of the year. Obvious from these views is the fact that an unusually large number of apartments are exposed to sunlight even when sunlight is scarce. Aiding the general openness of the project is the fact that no rentable apartment is located on the ground floors of any of the units. Instead, only such space as is needed for lobbies, storage, management facilities, stores etc., is occupied on the ground floor. The rest of the space under the buildings is left open as loggias or sheltered walks.



SUMMER SUNLIGHT: 2 O'CLOCK, JUNE 21

ESTIMATED COSTS

Cost of land (95 per cent of assessed valuation)
Cost of apartmant buildings (construction only)\$ 8,500,000
13,200,000All other costs (Demolition, grading, paving,
drainage, landscaping, utilities, construction
of community building, stores, garages, tech-
nical services, carrying charges, pre-occupancy
expenses)2,800,000
2,800,000Total\$24,500,000

Total rooms	13,906
Total apartments	3,637
Gross area per room	240 sq. ft.
Estimated population	12,000 persons
37 per cent of all apartme	ents have 21/2 or 3 rooms
63 per cent of all apartmen	nts have $3\frac{1}{2}$, 4, $4\frac{1}{2}$ and 5 rooms.
Average rental, \$12.80 per services)	r room per month (including \$.50 for
Fixed assessment, \$8,500,0	000 for first 25 years; \$16,000,000 for

Estimated retirement period of the project, 52 years

THE PROJECT IS OPEN, THE PARK CONTINUOUS AND THE COMMUNITY CENTER BUILDING FOCALLY SITUATED



166 lescare anon 7 20-44



in MICHAELS "Time-Tight" Cases

IF you are looking for cases to display your exhibits to the best advantage, your choice will be Michaels Time-Tight Cases with exclusive "Innerlocking" frames. The illustration is a good example of perfection in exhibition. The photograph was taken in the State Archives and History Building, Montgomery, Ala. Although Michaels Cases are not available, our illustrated folder which gives complete information, will help you with your postwar plans. When the war is over Michaels will resume the production of Time-Tight Exhibit Cases, MI-CO Parking Meters, Bronze Tablets and other ferrous and non-ferrous metal products.



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Architects Parker & Wolfe of Sandusky, Ohio, designed this classroom floor of Armstrong's Linotile (Oil-Bonded). It was selected for its long-wearing qualities and high resistance to indentation. Armstrong's Asphalt Tile was installed in the corridor, shown at right, because it's easy to clean and withstands heavy traffic. These attractive, serviceable floors are in the Huron (Ohio) Elementary and High Schools.

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WHETHER you're planning school floors for installation now, or for after the war, you'll find a colorful Armstrong resilient tile floor for every area-classrooms, corridors, shops, auditoriums, gymnasiums, cafeterias,

and kitchens. For all the facts, consult Sweet's, Section 13, Catalog 23, or write to Armstrong Cork Company, Resilient Tile Floors Department, 2304 Duke Street, Lancaster, Pa.



MONTH IN BUILDING

(Continued from page 70)

the Tennessee Valley Authority, tied it firmly by amputating its revolving fund and limiting all future expenditures to Congressional appropriations. But this was only the last act of a month-long performance on the Independent Offices Appropriation bill.

Earlier sideshows: The House discerned the ghost of the National Resources Planning Board in a Budget Bureau request for enough money to coordinate and review federal public works programming, quickly stripped the bill of this item. Gunning for the Fair Employment Practices Committee with an amendment to deny funds to all federal agencies less than a year old and not set up by Congress, the Senate Appropriations Committee inadvertently hit some administrative agencies against which Congressmen have no special grudge. One of them: the effective committee on congested production areas (FORUM, May, June, 1943) whose record in unwinding war housing snarls on a local basis has been notable. From the Administration came a prompt rescue attempt: a request for special legislative endorsement and \$669,000 to keep the committee in business over the next year.

The Federal Housing Administration was saved from a \$300,000 strip-tease by its alumnus, Senator Arthur Walsh of New Jersey. Prudent Senator Walsh persuaded his colleagues that further reductions in FHA's already slim budget would weaken the agency for its urgent postwar job of spark-plugging the housebuilding industry. An earlier whittling by the Budget Bureau had caused the dismissal of 170 FHA employees over the country. The additional cut proposed by the Senate Appropriations Committee would have meant dropping 100 more. Since Pearl Harbor, FHA has lost 44 per cent of its personnel.

Houses to Rent. While Congressmen argued over the FHA budget, the agency itself moved to put its administrative gears in shape for a smooth postwar start. Under the new set-up the land planning and technical divisions will be tied closely to the rest of FHA's machinery. Upped to Assistant Commissioner, capable Curt C. Mark will take over supervision of these divisions in addition to his present duties as head of the underwriting division. Howard Vermilya continues as technical director and Seward Mott as land planning director. With aggressive Deputy Commissioner Earle S. Draper taking over direct responsibility for (Continued on page 158)

THE ARCHITECTURAL FORUM



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Tomorrow's homes will have windows that flood the house with daylight, making possible better vision and less eyestrain and fatigue. They will have picture windows and corner windows that make rooms seem a part of the outdoors, bringing eye-thrilling views of gardens and lawn and shrubbery. Thanks to Libbey Owens Ford's new transparent insulation, with built-in double glazing, you can incorporate all of these benefits in the homes you will plan and build for the days of peace. Daylight Engineering, made possible by this newly perfected glass, truly will be the keynote of tomorrow's living.

There will be many new features about this new product that will interest you. But most important-builders of new homes will find it within their practical means to have this new type of insulation. Look for an important announcement next month from Libbey Owens Ford Glass Company, 944 Nicholas Building, Toledo 3, Ohio.





Check these advantages of Kinnear Rolling Doors and you'll find that no other door offers so many outstanding features. Kinnear's sturdy, interlocking steel-slat construction is resistant to intrusion, fire, damage, wear, and weather. The Kinnear Rolling Door coils neatly overhead out of the way of damage, saving floor, wall and ceiling space — it opens straight up, over snow, ice, and stored materials — neat in appearance, it harmonizes with any architectural style. With Kinnear Rolling Doors and Motor Operation — a matchless combination — you simply press a button and the door rises smoothly and easily into a compact coil above the opening. Kinnear Motor Operation also means savings in time and labor, in heating and air-conditioning costs. If you're not already profiting from these advantages, write immediately for full details on Kinnear Rolling Doors and Motor Operation. The Kinnear Manufacturing Company, 1640-60 Fields Avenue, Columbus 16, Ohio.

Offices and Agents in All Principal Cities



MONTH IN BUILDING

(Continued from page 154)

the rental housing division, outlook is that houses-built-to-rent will not remain a step-child in the FHA family when the postwar building pick-up comes. So far federal housing aids have been most effective in promoting home ownership and slum clearance; little has been done to encourage private capital to supply rental housing.

PUBLIC HOUSING EXPOSE

Ex-Hearstling, ex - non - interventionist Fulton Lewis, Jr., whose radio newscasts reach an estimated 3,000,000 listeners every night over the Mutual Network, is no specialist in profound analysis of the news behind the news. His charm (measuring upwards of \$2,500 a week) for Americans who like their news in handy capsule form lies in his knack for reducing almost any complex national issue to its simplest, most personal terms. If Lewis has any impelling conviction other than a professional belief in the sensational ex-



LEWIS: contributor to confusion

posé, it is his notion that New Deal bureaucracy is a "progressive sort of cancer."

Last month Lewis was off on another witch-hunt; like most of the others it led straight to the bumbling, fumbling "economists, professors and officials in Washington", whose "principal building tools are statistics." This time Lewis was out to burn the federal slumclearance program. In Chicago, Spokane, Seattle, a dozen other cities he took a look, leaned over to the mike to give his followers the inside dope on the whole thing.

Anxious as always to make things as simple as possible for everybody, Lewis managed to contribute substantially to the general confusion about the prewar federal slum clearance and low-cost housing program. One initial hurdle he cleared successfully: per-(Continued on page 162)

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In design and construction this Kewanee embodies all the characteristics which make firebox type boilers so well adapted for Hi-Pressure.

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THE EYELINE OF FIFTH AVENUE





Illustration shows the shop of Mosse Inc., 659 Fifth Avenue, New York City. Paul T. Frankl, Designer. Morris Ketchum, Jr., Associate. Anaconda Bronze Work by General Bronze Corporation, Long Island City, N.Y.

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Now is the time to investigate this modern principle of window detention, already in use in various leading psychiatric institutions. Can be installed on your present building. Plan for it in your post-war construction. Write for complete details today on all types of screens, weather strips, rock wool insulation, calking and storm windows.



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MONTH IN BUILDING

(Continued from page 158)

manent housing built with federal aid for low-income families has nothing to do with the temporary housing built by the government to meet emergency war need. But after that Lewis happily skipped all complexities. Highlights:

"Since we went into the war (the federal low-cost housing program) has been adapted in some superficial particulars to have the appearance of a war housing program. Untold millionof dollars worth of new housing is being built all the time on the very same basis as the (prewar) plan. . . There are at least thirteen known families living in government buildings in Chicago who receive more than \$3,000 a year, and there is a very large percentage of them that receive from two to three thousand dollars a year, and yet they are receiving the benefit of these low subsidized rents with help from the government, the taxpayers, for which the public at large is footing the bill."

The less-simple facts:

Some federal building of permanent housing continued until organization of the National Housing Agency in February, 1942. Since that time no federal money has been earmarked for permanent housing; the shift to temporary structures has meant a saving of \$400 million in public funds.

Earnings of families admitted to prewar public housing projects averaged \$832 at the time of admission. Because of war housing shortages. local housing authorities have temporarily modified their tenant selection policies to accommodate war workers in higher income brackets.

BAD TEMPER IN BRIDGEPORT

Like bullets, housing vacancies are an asset in wartime, a liability in peace. The apt phrase came from Celeman Woodbury, assistant administrator of the National Housing Agency. But NHA had facts as well as phrases to counter criticism of war housing vacancies, head-lined by the Times in New York, repeated enthusiastically by many a bureaucrat-hunter as new evidence of federal fumbling. In Bridgeport, Conn. the vacancy issue reached a froth of bad temper, finally boomeranged back at the critics themselvesthe housing committee of the local Chamber of Commerce.

When Senator Francis Maloney (Dem., Conn.) read an irate letter of complaint from the Bridgeport Chamber's housing committee, his own temper got a little out of hand. Distressed by the large number of vacancies in (Continued on page 166)



The new Hotel Statler in Washington, D. C., designed by Holabird & Root, architects; A. R. Clas, Associate, is completely air conditioned the year round. Individal controls in every room permit guests to order their own indoor weather. View above shows Congressional Ball Room on the second floor of the hotel.

A full-scale model of tomorrow's **Hotel Air Conditioning**

HEAD OF THE TIMES in many A ways, the new Statler located in Washington, D. C., is the first great hotel equipped throughout for yearround air conditioning. It offers guests the utmost in hotel comfort and creates satisfaction of the kind that makes for a full house at all times.

Air conditioning units high above street level feed clean, fresh air through a "high velocity" system to the hotel's 800 rooms. Every room is provided with its own outlet, which is individually controlled by the guest. The turn of a dial brings heat or cold and whatever degree of humidity is de-

"Freon" refrigerants are widely used in heavy duty air conditioning and refrigerating units. Non-toxic, non-explosive, non-flammable, non-irritating, they are the world's safest refrigerants.

sired. Only fresh air is circulated in each room. Re-circulation is effected within the room. There is no exchange of air between rooms, and stale air is taken out through an exhaust.

Two compressors, each of 600 tons capacity, located near the conditioners are used for temperaturing the air and water circulated through the system. "Freon" refrigerants are used throughout. A normal inside temperature of 80°F., dry bulb and relative humidity of 50% are maintained when outside conditions approximate 98°F., dry bulb and 78°F., wet bulb. The first and second floors of the ho-

tel's 6,800,000 cubic feet of space are conditioned by units located in a basement machinery room.

Here is air conditioning today as the traveler will demand it tomorrow. The new Statler may be considered a full-scale working model of things to come in the hotel field. It has met the need for new designing with air conditioning as a focal point. Plan now for the future. Build up your own reference file of air conditioning facts. Write today for data on "Freon" -safe refrigerants. Address: Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington, Delaware.





Nothing is more important to the success of a retail establishment than the face it presents to the world. Glass, in a wide variety of forms, is a store front medium of limitless design possibilities . . . one with which architects can achieve effects impossible with other materials. Pittco Store Front Products were originally designed to be used together in the creation of unified, harmonious fronts; and the architect can depend upon them to carry out faithfully, in glass and metal, his store front conceptions.



How Pittsburgh Glass better commercia





"Inviting" is the word for Herculite Glass doors. Fal ricated of rich, crystal-clea \$\[4]" Heavy Plate Glass, the not only permit vision into store from the sidewalk, bu strike a note of modern good looks where it is most effective. Herculite Doors are spcially tempered to give the four times the strength of regular plate glass of equathickness. Architect: Morr Ketchum, Jr. Associate dsigner: Victory Gruenbaum





Interior design finds in Pittsburgh Mirrors and Carrara Structural Glass two of its most versatile tools. For creating an atmosphere of spaciousness and smartness, mirrors are unrivaled. And Carrara Glass contributes permanent beauty. In this restaurant interior, mirrors are flesh-tinted, while the panels of Carrara separating them are ivory with sand-blasted figures. Architects: Williams and Grimes.

can help you design puildings · · ·





RIL 1944

Complementary contours. The wide variety of units composing the Pittco Store Front Metal line affords an opportunity for the architect to achieve unusually pleasing combinations of members. Each unit in the line bears a definite design relationship to all other members which may be combined with it. The contrast between smooth, sweeping surfaces and adjacent surfaces which are interrupted by beading or sharp contours, is a design element provided generously by Pittco Metal.

PITTSBURGH PLATE GLASS COMPANY, GRANT BUILDING, PITTSBURGH 19, PA



THE ACCEPTED LINE FOR EVERY ARCHITECTURAL USE

"PITTSBURGH" stands for Quality Glass and Paint



MONTH IN BUILDING

(Continued from page 162)

federal-built dormitories, the Bridgeport group was anxious to have much of the temporary war housing removed immediately. From his files the Senator thoughtfully lifted a 1942 telegram from the same group, quoted it: "We have been patient with your delays but Harris & Buing



SENATOR MALONEY saw a boomerang

our patience is near exhaustion. . . Please report what steps have been taken to speed passing of the Lanham Act and hasten construction of the 500 units scheduled for construction here months ago." Looking further, the Senator found another early Chamber of Commerce complaint: "Family dwelling units planned for the city will not by any kind of housing stretchout meet the urgent requirements of war plants. . . The situation calls for swift, direct action, unhampered by any procedures which will invite or permit delay of any kind." In dignified language, the Senator advised the Chamber to keep its shirt on.

In Bridgeport, the Herald used stronger words: "If there is any waste in public housing in Bridgeport as a result of overbuilding-and everyone must admit there is plenty of wastethe two organizations to blame for it are the Bridgeport Chamber of Commerce and the Bridgeport Manufacturers Association. . . The housing officials were doing their job when they, convinced by the volume of demands from the Chamber, the Manufacturers Association, and the factory personnel managers, built the hundreds of dwelling units which never have been needed. Now, with election coming up, the Chamber and its stooges see a chance to hurt the President, so through their press agents, they are working day and night, trying to blame the Administration for waste that was caused by their own stupidity."

From the NHA came the facts on Bridgeport dormitory vacancies: Of four temporary dormitory projects, two, with a total of 796 rooms, have been placed in a stand-by status with (Continued on page 170)

Marching along together ... in the WAR AGAINST WEATHER!



Very much like the tales of childhood days, the story of White Lead protection begins a long, long time ago.

But, unlike most of them, it's a story that really happened.

For early American home builders did use Pure White Lead to protect their simple dwellings against the stern weather of the new world.

And as the nation grew, and these honestlybuilt and well-protected homes endured through the years, Pure White Lead earned its place beside the Architect, as his ally in the never-ending War Against Weather.

So today, it is not surprising to find the Architect and the Dutch Boy marching shoulder to shoulder. 11

For experience has shown the Architect that Dutch Boy Pure White Lead makes paint which hugs tight and lasts long ... paint that won't crack and scale. He knows that homes and other structures protected with it will not only look young but stay young-

and that when repainting time finally rolls around, his customers won't have the expense of first burning and scraping off the old paint.

And here's the moral of this story : Dutch Boy Pure White Lead is the Architect's "First choice for making things LAST!"



Today, Dutch Boy is available not only in the long-familiar Paste form but also as the new ready-to-use Dutch Boy Pure White Lead Paint. This comes in two special forms: (1) Exterior Primer for a first coat with extra sealing and high covering power and (2) Outside White for an unusually durable finishing coat or for general painting. Together they set a standard for two-coat protection even on new wood.

PASTE OR PAINT Specify

DUTCH BOY PURE WHITE LEAD

NATIONAL LEAD COMPANY-New York, Buffalo, Chicago, Cincinnati, Cleveland, St. Louis, San Francisco; Boston (National-Boston Lead Co.); Pittsburgh (National Lead & Oil Co. of Penna.); Philadelphia (John T. Lewis & Bros. Co.).

Making a sales force of store fronts

You can combine customer appeal and functional design in store fronts when your plans include the use of clean, smooth, colorful, porcelain enameled sheets.

Inside the store too—for shelving, trim, racks, show cases, display fixtures, counters and working surfaces —the use of this easily cleaned, durable material effects worthwhile savings in labor costs and in reduced damage to destructible goods.

The enduring beauty of the porce-

lain enameled finish depends upon selection of the right metal base. For this purpose—by a special process— $U \cdot S \cdot S$ VITRENAMEL sheets are produced.

These sheets are light and strong, can be drawn, stamped and formed, are also sufficiently rigid to use for flat areas. Their treated surface enables the frit to establish a firm bond when fired. The uniformly high quality of U·S·S VITRENAMEL Sheets is assured by rigid control of each special process in their production.

You can safely recommend $U \cdot S \cdot S$ VITRENAMEL based enameled panels to your clients when they want to build "sales appeal" into their stores, inside and out.

For general information, consult our "Architectural Sheets" section in Sweet's Catalog. Upon request, our technical staff will be glad to discuss your individual problems with you in full detail.

Write us today, their service is free.

U·S·S VITRENAMEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION Pittsburgh and Chicago

Columbia Steel Company, San Francisco, Pacific Coast Distributors United States Steel Export Company, New York




Play Safe -- Install Marlite!

Those insidious Blurmite Brothers have a nasty habit of moving in on interior wall installations the moment they are completed. Unless their destructive action is successfully repelled, workmanship suffers and customer satisfaction goes into a slump. What's the answer?

*Blurmites — destructive agents harmful to the finish of many wall, ceiling and counter surfaces.

Progressive builders, contractors and dealers supply the reliable answer with interior wall and ceiling installations of practical, plastic-finished Marlite. Available in many patterns and colors and long a pre-war favorite for installations where



permanence, dependability, attractiveness at moderate cost are required, Marlite stepped into an even more prominent role in war-time construction.

Marlite, the pioneer high-heat-bake-finished wall paneling, is immediately available for all of today's *priority construction work*. Furthermore, you'll want to get a line on Marlite now for post-Victory jobs.

MARSH WALL PRODUCTS, Inc. 41 MAIN STREET, DOVER, OHIO duty-ful OR CREATING BEAUTIFUL INTERIORS





No laboratory ever exposed wood to more severe test conditions

BANANA ripening rooms are held at temperatures between 56° and 70° F. Humidities are about 95%. Ideal conditions for rapid growth of wood-destroying fungi, but Wolmanized Lumber* is no ordinary wood. It stands up here.

VACUUM PRESSURE impregnation with Wolman Salts* preservative accounts for this unusual ability. Ordinary wood is thus made highly resistant to decay and termite attack—a fact proved by many similar installations of Wolmanized Lumber, in service for many years, in banana ripening rooms.

THIS WOOD ADDS its insulating value to that of the cork-lined walls, while serving primarily as a strong framework for the structures. Wolmanized Lumber is clean, odorless and paintable. Its use introduces no unusual problems; it is light in weight, easy to handle and erect.

SERVICE RECORDS on many other types of installations, covering millions of feet of Wolmanized Lumber, provide equal evidence of its lasting ability. Plan on profiting by the use of this long-lived wood by specifying it for your postwar construction. American Lumber & Treating Company, 1647 McCormick Building, Chicago 4, Illinois.

*Registered trade marks



Alloyed FOR SAFETY AND ENDURANCE

AMERICAN LUMBER & TREATING COMPANY

MONTH IN BUILDING

(Continued from page 166)

ultimate disposition depending on future need. Of two projects now open. one has 744 rooms, 243 occupants. The other has rented only 95 of its 360 rooms. Said NHA soberly: "Bridge port war plants indicate a need for 1,400 additional workers by July, 1944 Whether these workers will be of a type requiring domitory accommodations cannot be accurately predicted."

One answer to what to do with dormitories empty because of shifts in war production: use them to house war prisoners employed in farm work. The War Department was taking a look at this proposal, but at month's end had made no decision.

VACANCY MEDICINE

Coming to the rescue of builders with vacant rental war housing on their hands, the Federal Housing Administration will soon offer a plan for easement of mortgage payment in such cases. Under a regulation now being written by FHA, a mortgagor making only part payments may have up to 21/2 per cent of the payment applied to interest-enough to forestall foreclosure. Heretofore, FHA rules have required lenders to apply any part payment first to principal. Major boon involved: the mortgagor will be able to pay as much interest (21/2 per cent of the unpaid balance) as the lender would get from FHA debentures if he foreclosed. While the new arrangement presumably would make the lender just as happy as a foreclosure, it can be used by a mortgagor only with the consent of the lender and of the FHAdministrator. It will apply only to one- to four-family houses (Section 603, Title VI). Terms will be specially tailored to fit each case.

This small change in bookkeeping rules bulked big to builders in communities where a temporary lull in war production had brought a sharp fall-off in housing demand; many of them could now expect to be tided over until more renters arrive. In the tense postwar interlude between the day war workers move out and the day when the builder finds something else to do with his housing, the new rule would also be useful.

LUMBER BLOCK

Lumber shortage (4½ billion board feet) bulked as the biggest block to any but the most urgent war construction jobs. For anyone who built more than five 6-room frame houses in the last quarter of 1943 and expects to go on building frame houses this year. (Continued on page 174)



• Putting "OR EQUAL" after specifying Flintkote Cold Process Roofing for flat roof work shows a nice open mind...but...

There's really no substitute for Flintkote Cold Process Specifications to cover any condition encountered in repair, reconditioning and new construction of flat roofs.

Feature reason, of course, is Flintkote Static Asphalt!

It outlasts any other type of bituminous coating exposed to the weather.

And it won't "alligator," crack, slip, flow or support combustion.

Fire hazard during application is entirely eliminated. There are no volatile materials in Flintkote Static Asphalt.

All Flintkote Cold Process materials are packaged at the factory to insure uniformity.

And all materials and application methods are custom made for the kind of work they are designed to do... the result of years of testing and development in the laboratory and in the field.

So, the next time you write your specifications for flat roof work, why not save the contractor a useless search for the "or equal"?

6 Flintkote Cold Process Specifications

SPECIFICATION CP-1: The Re-Nu Process, provides a preservative treatment and patching method for repairing asphalt and metal roofs in fair condition.

SPECIFICATION CP-3: For new construction over wood decks or as a re-roofing method over old composition roofs or where it is necessary to build up from the roofdeck.

SPECIFICATION CP-4: For use with Flintkore C. P. Roof Insulation over wood decks in new construction or over old composition roofs with wood decks. SPECIFICATION CP-5: For new construction with concrete or gypsum decks and as a re-roofing method for old structures where the deck is concrete or gypsum.

SPECIFICATION CP-6: For use with Flintkote C. P. Roof Insulation over concrete or gypsum decks in new construction or in re-roofing old structures.

SPECIFICATION CP-7: Provides a method for applying Flintkote C. P. Roof Insulation in conjunction with a built-up roof over metal decks in new construction.



The Flintkote Company - 30 Rockefeller Plaza, New York 20, N.Y. Atlanta - Boston - Chicago Heights - Detroit - East Rutherford - Los Angeles - New Orleans - Waco

Just specify "Flintkote Cold Process Roofing-or else!"



The Air-Conditioning Industry is ready with some SWell ideaS

TODAY, the plans for the modernization of hundreds of chain stores are now on the drawing boards of architects and engineers.

Air conditioning figures largely in those plans. For the new air-conditioning units and equipment now under consideration will bring new store comfort and merchandising efficiency.

Dust-Stop* Air Filters will be an important part of these new air-conditioning systems.

BERGLAS*

Before the war, design engineers in air conditioning had included these filters in systems installed in theaters, office buildings, hotels, and many industrial plants. Dust-Stops have found an even wider acceptance during the war in providing controlled, dust-free conditions in many types of precision manufacture.

So, in considering your new, postwar, air-conditioning system, remember that Dust-Stops are an important part of satisfactory operations. For

STOP

further engineering data, get in touch with your air-conditioning equipment manufacturer. Owens-Corning Fiberglas Corporation, Toledo 1, O. Fiberglas Canada, Ltd., Oshawa, Ont.





THE ARCHITECTURAL FORUM

AIR-FILTERS

MORE WINDOWS the Easy Curtis Way!

• Check this yourself: More and more people who plan to build after the war want more windows in their homes-to-be. And that's your opportunity to design and build more charming, more livable homes, with right windows, rightly chosen.

For your postwar plans, Curtis offers more than three-fourths of a century of research and successful experience in window manufacture. That's why you can be sure of correct styling-easy operation-weather-tightness-and economical installation when you choose Curtis Silentite. Here are a few Silentite window applications.



Give Them

Window groups can be used to ad-vantage even in the smallest homes. This group of stock Curtis Silentite double hung units assures greater weather-tightness because the win-dows are accurately pre-fit and thor-oughly weather-stripped.



A stationary Curtis "picture" window, such as this, expresses the trend to-ward more window area in posswar homes. Notice the attractive design of these windows—the narrow mun-tins. Curtis offers several different sash styles.



Bay windows need not be costly— when they are made up of Silentite stock units. Bays, too, are a means of increasing effective living space in small homes—and of adding charm and distinction, as well. Curtis makes many different styles of bays.

Corner windows are modern and stylish—and they will prove increas-ingly popular in postwar building. Curtis Silentite double hung windows eliminate pulleys, cords, weights— are always easy to operate—treated to add longer life.

CURTIS WOODWORK IS SOLD BY RELIABLE DEALERS EVERYWHERE

CURTIS RESEARCH IS A STEP AHEAD

Although the present Curtis Silentite window line goes uriber, we believe, than any other in meeting modern win-dow needs, Curtis research is constantly directed toward window improvement. That is why it is worth your while to keep in touch with Curtisfor the latest news on windows and other stock architectural woodwork. Mail coupon for free window booklet.

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AFRIL 1944



MONTH IN BUILDING

(Continued from page 170)

WPB's newest tightening of lumber controls held a large question mark.

All consumers who used more than 50,000 board feet of lumber in the last three months of 1943 must file applications covering their second and thirdquarter requirements for 1944 before April 25. When all applications are in WPB will draw up the final order establishing procedures under which delivery of lumber will be authorized. In general, construction approved under L-41 will be eligible for lumber allocation. Basic formula for the new plan (FORUM, March, '44) has already been approved by eight WPB lumber industry advisory committees.

Prime shortage was, as usual, setting off unforseen secondary shortages in other quarters. In Ohio, lack of lumber meant that demand for brick outdistanced production, brought OPA authorization of a \$3 per thousand price increase for shale and clay building bricks. At mid-month OPA also moved to increase mill ceiling prices for Southern Pine.

Sample of where lumber is going: Two thousand carloads were used to rebuild the docks at Naples in order to land materials for U. S. troops.

STANDARD: 6 ROOMS, BRICK VENEER

There had been mass meetings, letters to the newspapers, telegraphed appeals to Congressmen. Five hundred dollars had been raised to block the prospective "shanty town." Finally indignant property owners went to the city council. One made the tearful plea; "My husband writes about our home in every letter. Is it fair to let it be damaged while he is away fighting?" Charges of "chicanery and trickery", "pressure from Washington" were not lacking.

Facts were confused, emotion rampant. The city council moved to suspend all war housing permits, revoked its recent resolution permitting certain wartime deviations from the building code. Building operations in Omaha, Nebraska virtually came to a dead stop. At the bottom of the row were 47 four-room houses, to be built under FHA insurance. Ten of them were underway when the Florence Field neighborhood, most of which lives in five- or six-room houses, took a look, decided unanimously to put a determined foot down. Their objections. The houses are "unsightly, small, dingy, substandard." The location is 18 miles from the Ft. Crook bomber plant, which employs most of Omaha's 30,000 in-migrant war workers. Principal (Continued on page 176)



Let's look at their record! Installed in 1931 the 1752 aluminum windows in the Gulf Building, Pittsburgh, have, during the past 13 years, given outstanding performance. Their fine condition today is visible evidence that they'll give many more years of satisfactory service.

Aluminum was selected only after considerable study of various window materials. Aluminum was known to be able to withstand the high sulphur atmosphere without protective coating and the weathered color of the aluminum would

The Window of the Future is Aluminum blend harmoniously with the limestone selected for the structure.

Since their installation maintenance expense has been negligible, being confined almost entirely to the cost of making occasional adjustments on weather stripping to meet the requirements of summer and winter temperatures. Weathering of the exposed aluminum has fulfilled all expectations, and the outward appearance of the window frames and sash has elicited nothing but favorable comment. No surface protection nor other exterior maintainance has been found necessary.

Good looking, maximum glass area, easy opening and closing, low on maintenance; excellent reasons for inserting "Aluminum Windows" in those postwar specifications you are writing. ALUMINUM COMPANY OF AMERICA, 2167 Gulf Building, Pittsburgh 19, Pennsylvania

ALCOA

Pat. Of

Reg. U. S.

ALCOA ALUMINUM

Presenting THE JOHNS-MANVILLE SYSTEM OF UNIT OFFICE CONSTRUCTION

The complete office unit ... WALLS · CEILINGS · FLOORS

One simple specification—one manufacturer's responsibility. Provides the complete flexibility required in the post-war office.

IF you were to design and lay out the ideal office arrangement for a client, your specification would probably be as follows:

You would specify movable walls to allow quick, low-cost office rearrangement. You would use an acoustical ceiling to insure quiet and efficient working conditions. You would want a resilient, colorful flooring which permits alterations and repairs without evidence of patching. And, finally, because of their structural relationship, you will undoubtedly prefer one responsibility for this complete office unit.

Johns-Manville offers you this ideal specification in the J-M System of Unit Office Construction-

Movable, salvageable walls, easily erected and dismantled. Acoustical Ceilings of demountable units which provide for a flush-type system of fluorescent lighting. Resilient floors—units readily replaced to permit easy office alterations.

Realizing the need for flexibility in the layout and arrangement of post-war offices, architects will find an important significance in the Johns-Manville System of Unit Office Construction. We invite your thorough investigation of this development. It may help to solve many of your problems of the future. A new brochure, "Unit Offices by Johns-Manville," is available on request. For your copy, address Johns-Manville, 22 East 40th Street, New York 16, N. Y.



Movable Walls. These are Johns-Manville Transite Wall Panels. They are strong, sturdy, and durable. They provide a complete system of dry-wall construction, including the furring of exterior masonry walls. Transite Walls offer all the privacy of a fixed partition, yet they can be taken down and re-located in a hurry with 100% salvage. They are available for any height and even for low railings and counters.

Made of asbestos and cement combined under great pressure, they have a smooth, hard surface that withstands shock and abuse. They are fire-proof and last indefinitely. Furthermore, they may be left in the attractive gray finish in which they come or can be painted or decorated as desired.





THIS OFFICE is part of a complete layout consisting of 3 private offices with secretary's ante-room, a general office, a reception room and storage space. See plan at right. The Johns-Manville System of Unit Office Construction permits quick, low-cost rearrangement at any time. In the above view note the interesting detail around the windows, the furring of the exterior masonry wall, the fluorescent lighting and the provision for efficient heating and air-conditioning.





Acoustical Ceilings. The ceilings of the J-M Unit Office System are sound-absorbing acoustical panels which quiet the busy clatter of typewriters and office noises, and thus reduce errors and increase efficiency. J-M Acoustical Panels permit hung ceiling construction which has the advantage of concealing air-conditioning ducts, overhead conduit, etc. The demountable panels make this service

equipment readily accessible at any time. J-M Acoustical Ceilings also provide for the use of flush-type Fluorescent Lighting through an exclusive Johns-Manville method of construction. This enables the architect to combine the best in acoustical treatment with the efficiency of this modern lighting system.



Colorful, **Resilient Tile Floors**. Johns-Manville Asphalt Tile Flooring completes the J-M System of Unit Office Construction. Available in a wide variety of plain and marbleized colors in individual tile units, they permit an almost endless combination of designs

and patterns. They are quiet and comfortable to walk on, easy to clean, easy to maintain. Made of asbestos and asphalt, they have unusual ruggedness, will withstand hard wear and give long years of satisfactory service. J-M Asphalt Tile Floors come in small units which make it simple to extend the floor of any office without evidence of patching. They permit quick replacement of tiles damaged by accident or office alterations.

UNIT OFFICES

UNDER THE NATION'S ROOF

April, 1944

Committee on Postwar Construction of the Dodge Corp. has tabulated <u>24,721 specific projects awaiting the green light</u>. Total aggregate cost 5½ billions. More than half of these are now in designing stage...mostly non-residential and public in character.

AAAAAAAA



Thinking in terms of roofing it's a safe bet that most of these projects will call for Built-up Roofing.

No <u>ONE</u> type of Built-up Roof construction fits all types of buildings. But the <u>four popular types of Built-up Roofs</u> do give the architect complete freedom of design.

Here are a few <u>basic roof facts</u> for the specifier's notebook: Four popular types of Built-up Roofs are: (a) Coal Tar Pitch and Felt; (b) Asphalt and Asphalt Felt; (c) Smooth finished Asphalt and Asbestos Felt; (d) Combination roof of Asbestos and Asphalt Felt with Asphalt. Ruberoid is not wedded to any one type. Ruberoid engineers and Approved Roofing Contractors <u>recommend the most suitable roof to meet</u> any condition.

It is a fact that no <u>Built-up Roof is better than its flashings</u>. Ruberoid has practical flashing specifications <u>to meet every</u> <u>condition</u>. Ask for Specification Catalogue A.1.A-12-B-1.

Actual field use has proven <u>Perforated Asbestos and Asphalt Felts</u> definitely <u>minimize "blistering</u>." The two-way perforations permit escape of moisture, trapped between the plies of felt, allow the Asphalt to seep through giving a better bond. <u>Perforated Felt is</u> <u>standard</u> on all Ruberoid Asbestos and Asphalt specifications.



In <u>postwar building</u>, the <u>use of standing water on roofs</u> of industrial plants for cooling purposes <u>will increase</u>. Also, many more apartment dwellings will be built with <u>roof gardens</u>. Ruberoid has <u>special "spray deck" specifications</u> to meet these unusually severe conditions.

The RUBEROID Co.

Asphalt and Asbestos Building Materials

For up-to-the-minute information on your roofing and building problems consult our nearest sales office : NEW YORK (18)—500 Fifth Ave. • CHICAGO (1)—307 North Michigan Ave. • BALTIMORE • ERIE • MILLIS (Boston) • MINNEAPOLIS • MOBILE

Tomorrow's Goal

Sound Motion Pictures for ALL Schools

Our armed forces have learned what our schools have long known, that talking motion pictures make learning easier, shorten the time required for instruction and increase the retention of important facts. Modern educators have looked forward to the day when this progressive method of audiovisual instruction will be available for all schools. Of course every projector we make TODAY goes to the Armed Forces. But TOMORROW all of Ampro's engineering skill and experience will be directed to the constructive task of helping teachers teach.

School architects are urged to write for latest Ampro Catalog of 16mm. silent and sound projectors.

Ampro Corporation, Chicago · Precison Cine Equipment

mprosound Model YSA



Post-War Dreams

In pioneer days all the young man asked was good health, a hoe and an axe.

Today the demand is more complex, calling for modern design, quality construction and sound financing to make dreams come true.

The National Life of Vermont is financing thousands of home owners throughout the country through mortgage loans.

In its statement of December 31, 1943, the National Life Insurance Company showed mortgage loans throughout the United States as follows:

Loans insured by FH	IA \$110,235,187
Other City Loans	30,198,068
Farm Loans	10,878,705
Total	\$151,311,961

We invite the opportunity to correspond with you on your post-war financing.

Address Department D.

NATIONAL LIFE INSURANCE COMPANY HOME OFFICE MONTPELIER VERMONT PURELY MUTUAL - ESTABLISHED 1850

MONTH IN BUILDING

(Continued from page 174)

gain would accrue to contractors, real estate dealers, finance companies; the war effort would benefit but little.

But from the War Manpower Commission came a reminder of facts of another kind: Omaha's vacancy rate stands at 1.5 per cent. Of 1,400 war housing units programmed for the city, only 800 have been built. WMC conclusion: if private enterprise in Omaha could not supply needed housing, it would be necessary to ask the National Housing Agency to put up temporary dwellings.

With construction halted by the council's suspension order on not only the Florence Field project but on some 250 war houses throughout Omaha, worried contractors kept councilmen's telephones ringing. Finally the council took another and clearer look, revalidated all building permits, reinstated wartime exceptions to the building code. Contractor Robert Dillon agreed to increase the size of the Florence Field houses, increase exterior variations, brick-veneer as many as possible. Back of their own brick facades, Florence Fielders relaxed, partly mollified, to wait for their new neighbors.

NOD TO TRAILERS

Since the busy year of 1942 when 47,000 trailers rolled out of plants and into the ownership of migrant war workers, the prevailing quiet of the trailer industry has been broken only by the low moans of manufacturers going out of business. Since the fall of 1942 no trailers have been manufactured except on specific order from the National Housing Agency. With the NHA finding only small use for trailers, last year's production slumped to 9,400; by last summer most makers had finished their NHA orders, confronted an empty shop.

Against the memories of peak production, 3,000 trailers seemed little better than a teaser. But for the trailer men who had stuck it out, WPB's March nod of approval on manufacture of 3,000 trailers was a good deal better than nothing. Best news of all was the hint that WPB would by July be in a mood to authorize more production.

The initial batch will be allocated among 100 companies; only manufacturers who built trailers between January 1 and September 30, 1942 will be eligible to participate. Some will have to whittle their designs; not more than 410 pounds of iron and steel may be used in each trailer. Trailers may be purchased only for housing migratory war workers.



Give those after-Victory houses extra sales appeal. Equip them with modern automatic electric water heaters which provide instant hot water at extremely low cost !

They're SAFE—flameless, fumeless, CLEAN—sootless and smokeless; EFFI-CIENT, since flues or vents are not needed, they can be installed close to principal hot water outlets and need no lengthy hot water pipes.

Include one in every home you build

ELECTRIC WATER HEATER SECTION NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

CLARK • GENERAL ELECTRIC • HOTPOINT • HOTSTREAM • KELVINATOR • MONARCH • NORGE • PEMCO • REX • Selectric • Thermogray • Thermo-Watt • Universal • Westinghouse



THE NEXT SWITCH

Thousands of women were switching from coal-oil lamps to new-fangled electric car-bons-and the age of Electricity was here! New home buyers insisted on wiring for electric lights!



mges:

WILL BE TO

Electricity got another big boost in the twenties, with Electric Refrigera-tors leading the way for an overwhelming demand for additional outlets.

BEFORE THE WAR-the switch was to the speed, safety and cleanliness of electric cooking! 450,000 electric ranges were sold in 1940 ... 780,000 in 1941 ... with over 3 million now in use!

AFTER THE WAR-cash in on this great swing, plan NOW to wire the homes you're going to build, for Electric Ranges. Built-in, such wiring is negligible in cost-powerful in sales appeal.

For details on wiring costs and advantages, write for the booklet "WIRING AHEAD". Address:

ELECTRIC RANGE SECTION, NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION 155 East 44th Street, New York 17, New York



OVER 150,000 VOLUNTEERS

SINCE PEARL HARBOR

have been installed for the Army, Navy and in government housing projects

The war emergency called for bathing equipment for military use that required a minimum of critical materials and that could be erected quickly on the job.



Engineered in advance and ready for the emergency, the Volunteer has proved to be a most successful shower, now used daily by thousands of our fighters and war workers.

The clean-cut appearance of the Volunteer, its rugged strength and positive leakproof qualities makes it suitable for many civilian installations. The Volunteer can be erected faster than any other shower cabinet. The installation time saved with the Volunteer makes it particularly attractive to contractors

on large projects. Now available for immediate delivery



WALLS: Tempered, hard pressed treated fibre-board conforming to Federal Specifications LLL-F-311, Class B. Coated both sides with waterproof baked-on enamel. gray or white. Metal frame pieces, including tension corner joints, front stiles threshold and head rail, rustproof steel. All parts formed to eliminate raw edges within the compartment.

RECEPTOR: Pre-cast reinforced cement. Non-slip, leak proof, sanitary. Drain cast integral with receptor.

SIZE: 32" x 32" x 75"—On special request 30" x 30" x 75' can be furnished.

FIAT METAL MANUFACTURING COMPANY

SPECIFICATIONS

Know the Name

Today and Tomorrow

A DVANCED aluminum, magnesium and brass products engineered and fabricated by Bohn are playing a vital part in war production.

From the drawing-boards of today are coming ideas which, when adapted to commercial uses, will mean advancements in transportation, housing, electrical appliances and in many other fields in the post-war era.

Light alloys, engineered and fabricated by Bohn will play a vital part in these new designs. So remember the name Bohn—headquarters for non-ferrous alloys backed by a wealth of experience to aid industry in the solution of its future problems.



BOHN ALUMINUM AND BRASS CORPORATION, DETROIT, MICHIGAN GENERAL OFFICES-LAFAYETTE BUILDING Designers and Fabricators-ALUMINUM • MAGNESIUM • BRASS • AIRCRAFT-TYPE BEARINGS



FACTRI - FIT doors are pre-fit, trimmed, ready to hang. This new feature does away with s a w i n g, planing, and s I o w, laborious, oldfashioned hand fitting.

SPECIFY these new, improved DOUGLAS FIR DOORS*

HERE'S the door you can conscientiously specify for every building job—today AND tomorrow. New basic 3-panel designs give added beauty. New FACTRI-FIT features save time 'and money on the job

Write for catalog showing the complete series of Douglas Fir Interior Doors, TRU-FIT Entrance Doors, and new specialty items.



Savings on the job more than offset the slight additional cost of FACTRI-FIT features!

*Now available only for war needs and other essential buildings.

Modern 3-panel layouts are now suggested as basic designs in the stock line of Douglas Fir interior doors. Unusually attractive and suitable for all types of building. Every door is GRADE-MARKED, too. Makes ordering easy, eliminates all guess-work and confusion.

> FIR DOOR INSTITUTE Tacoma Building, Tacoma 2, Wash.



Order these fine doors completely machined, if you wish—gained and bored or mortised for locks by high-speed precision tools that really do the job RIGHT.

Every door is scuffstripped for complete protection in handling and shipping—added assurance that each door will reach the job ready to hang.

How the Post-war Home can be heated for \$31 per year





EL RENO PROVES CENTRAL HEATING PRACTICAL FOR SMALL HOME COMMUNITIES

This is the story of a housing project completed in 1937, by a man whose thinking was years ahead of his time. On a 11/2 acre tract in Reno, Nevada, he erected 18 buildings-15 separate dwellings, a garage, caretaker's cottage, and a central heating plant. Every detail in the project was carefully planned to provide maximum comfort and convenience to tenants-who are well satisfied to pay fair rent for each furnished unit consisting of living room, dining alcove, kitchen, two bedrooms, a bathroom and lavatory.

One of the outstanding features of the project is the central heating system-which provides hot water heat to the homes through Ric-wiL insulated under-ground conduit. Boilers use fuel oil. So efficient is this system that the heating bill for the entire project averages only \$500.00 per year. Hot water for family use is also piped through Ric-wiL conduit from the central heating plant. These economies help the owner, Mr. Roland Giroux, to realize 13% net return on his investment.

EL RENO Owner cites efficiency of Ric-wil Conduit

"Regarding the cost of heating these sixteen units, here are the figures:

"Cost per month per apartment (5 rooms) for the 1937-1938 heating season:

"Total of 8019 gallons fuel at 61/4 cts. per gal.

Sept.	\$.81	Dec.	\$5.12	Mar.	\$4.94
Oct.	2.25	Jan.	5.50	Apr.	2.44
Nov.	3.75	Feb.	5.00	May	1.12

"Thus you will see that the heating costs are less than \$4.50 per month, per suite. One cannot appreciate these heating costs unless they have been in the apartment business, where tenants will open their windows rather than lower the room thermostat, when too warm.

"There is no question in my mind that a central heating plant is more economical than separate units.

"The high efficiency of the Ric-wiL conduit is positive, from the above figures. The average 5 room house in Reno will use one ton of coal per month, at a cost of thirteen dollars per ton, during the heating season."

AS OF FEB. 28, 1944, MR. GIROUX HAS THIS TO SAY:

"This data is as true to-"This data is as true to-day as when the buildings were built. About the only thing I could add is that bas not varied 100 gal. per the encount of fuel oil used bas not varied 100 gal. per bas not varied 100 gat. per year since the system was in-stalled seven years ago, which proves to me that the efficiency of the insulated efficiency of the insulated conduit does not lower as time goes on. The upkeep bas

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS THE RIC-WIL COMPANY · CLEVELAND, OHIO



A job can be waiting for him BUT WE MUST PLAN NOW

These days one hears much about plans for postwar and many of us are wondering what we can do about it—how to proceed to be in a favorable competitive position, how to assure plenty of **jobs** for **returning soldiers**, and how to be sure that private enterprise will meet the new conditions.

What the construction industry has done and is doing for the emergency of **war** is a matter of **record**. Its part in the era to come will be none the less brilliant and helpful to the nation, but plans and specifications must be made well in advance of victory. This is the time to plan!—to call in architects and engineers and the general contractor and discuss your building needs for the day that may come sooner than we anticipate. This step taken now not only helps you but it also helps the nation. The **construction industry** has no changeover problem, it **can start immediately** on new construction and modernization whenever plans and specifications are approved, but planning and making specifications take time and much of it can be done now thus saving valuable time when peace is declared. **Th**.'s is blueprint time!



THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC.

NINETY CHAPTERS AND BRANCHES THROUGHOUT THE COUNTRY NATIONAL HEADQUARTERS-MUNSEY BLDG., WASHINGTON, D. C.

SKILL, INTEGRITY AND RESPONSIBILITY IN THE CONSTRUCTION OF BUILDINGS, HIGHWAYS, RAILROADS AND PUBLIC WORKS



Truscon Vertical Lift Canopy Hangar Door HERE'S HOW IT WORKS

THE Truscon Vertical Lift Canopy Hangar Door is divided horizontally into two leaves, each approximately one-half of the opening height. The lower leaf is raised vertically behind the upper leaf without movement of the upper unit, to allow passage of small planes. When higher openings are needed, both leaves are swung outward from this position, as indicated by the accompanying diagram. No braces are used below the bottom chord of the truss.

The Truscon Vertical Lift Canopy Hangar Door can be built to extreme heights and widths, in as many individually-operated sections as desired, without posts of any kind between the sections. Features include: conservation of heat in hangar; perfect clearance lines at all times inside and outside; both leaves lie flat, when raised, to form canopy over opening.

Truscon's experienced engineers can help solve any hangar door problems you may have. They are at your service.

0

TRUSCON STEEL COMPAN Youngstown 1, Ohio

Subsidiary of Republic Steel Corporation

STRAIGHT-SLIDE, ROUND-THE-CORNER, VERTICAL LIFT CANOPY, UNBRACED CANOPY, BRACED CANOPY, BIFOLD CANOPY AND VERTICAL LIFT TYPE STEEL HANGAR DOORS.





For more than a century Eagle White Lead has remained the same *pure* white lead ground in *pure* linseed oil. Since 1843 architects have specified it...master painters have used it...because they know from experience that Eagle *purity* means satisfactory paint jobs.

Eagle is *plenty tough* too. It's time-and-weather-defying...forms a durable, flexible coating that doesn't crack or scale... expands and contracts with atmospheric changes... ages gradually, gracefully, preparing itself for eventual repainting *years* later.

During 1944 all care *must* be taken to preserve existing American homes and institutions. We are glad to be able to say there is enough Eagle *Pure* White Lead for all necessary painting. You can recommend it to your clients with full confidence.

★ Let's all back the attack - buy another War Bond! ★

THE EAGLE-PICHER LEAD COMPANY, CINCINNATI (1), OHIO Member of the Lead Industries Association





PLANNING OBJECTIVES

(Continued from page 180)

as he damn pleases belongs in the folklore of the wild and woolly, along with the shooting and shouting of unrestrained frontiersmen. Until we of twentieth century America are willing to put it there and accept individual restraint in the interest of good order we will not have cities that are livable or that are profitable for any but the quick triggered. It does not much matter whether the devices we use to establish and maintain order are the familiar police power regulations of zoning and building codes, or community acquisition of land, or constructive tax policies or all these plus, so long as they are devised and used vigorously and intelligently in the public interest.

The game of city building can't go on without good teamwork, but it is not clear that the American people are yet ready to quit playing individual tag and adopt the common rules that teamwork requires. It is not yet clear whether the scattered beginnings of interest in sound city building can withstand the seductions of old line land speculation in the postwar jamboree. The best that can be said for the climate in which neighborhood planning will be carried on in the years just ahead is that it will be cloudy and unsettled, and not without some storms.

Yet there are some fundamental truths to tie to. People will continue to be born, to form families, to live in homes. They will continue to aspire to better homes and more spacious surroundings and to find the means to get them. They will continue to live in forms of association that will be known as urban, although the forms may not remain identical with those that are so called today. The planning and building of urban residential sections will go on regardless of progress made in solving the larger problems of planning of whole city areas. If the future of cities looks a bit stormy, there is no more secure enclosure for the city man's home than a well constructed neighborhood in which he and his neighbors can fight through together.



THE ARCHITECTURAL FORUM

HOW TO KILL FIRES ON THE PRODUCTION LINE

To Save Lives On The Firing Line

Failure of a war plant to make ontime delivery. of any part of the fighting tools needed in a critical engagement may cost lives—even lose battles.

It is no coincidence that when hazards are toughest to handle in many of the most vital war industries . . . where fire or damage by water or other extinguishing medium would disrupt carefully planned production schedules . . . protection is provided by Cardox Fire Extinguishing Systems engineered for the specific hazards they cover.

HOW CARDOX SYSTEMS PERFORM

At the first flash of fire a Cardox System—actuated manually or automatically—goes into operation.

An alarm sounds, giving personnel notice to leave the fire zone.

Next, a timed mass discharge of Cardox CO_2 —stored at 0°F. in a mechanically refrigerated storage unit and applied at high rate—in pounds or tons—quickly reduces oxygen content of the atmosphere below combustion requirements. This Cardox discharge, with its characteristic high CO₂ snow yield, swiftly cools out fire and fire zone.

Since Cardox CO_2 is a non-damaging, non-contaminating inert gas, there is no damage or production delay caused by the extinguishing medium.

Why CARDOX Systems Provide Enhanced CO₂ Performance

Extinguishment of this kind is possible with Cardox Systems because: (1) Cardox CO₂ has uniform extinguishing characteristics regardless of plant or atmospheric temperatures. Official U. S. Marine Corps Photo

It can be controlled and given engineered application in accordance with the requirements of each specific hazard covered; (2) High CO₂ snow yield provides increased cooling effect (carbon dioxide released at 0°F. yields 45% CO₂ snow); (3) Effective projection through relatively great distance is achieved—even outdoors.

CARDOX Advantages Applicable To Large or Small Systems

These fire extinguishing advantages can be provided in small or large Cardox Systems, whether engineered for one or a number of hazards.

If your company is engaged in any phase of the war program, or if you want detailed information of fire protection that will prevent dangerous delays in getting your post-war plans in high gear, write on company letterhead for Bulletin 644.

CARDOX CORPORATION BELL BUILDING - CHICAGO 1, ILLINOIS

District Offices in New York • Boston • Washington Detroit • Cleveland • Atlanta • Pittsburgh San Francisco • Los Angeles • Seattle



A MODERN approach to

"OUR TAXPAYERS GOT A LOT OF BUILDING FOR THE MONEY THEY INVESTED"

The recent letter from which the above is quoted was written by the Superintendent of Schools, Harrison, N. Y., District No. 6, Mr. Louis M. Klein, who continued . . . "and 4 years of use of this building have proved it to be a thoroughly well-constructed, practically laid out, and a genuinely usable and functional school building which has been a real asset to our community."

The impressive educational and social results which the School Board of Harrison, N. Y. has attained with this outstandingly-modern functional plant is so immediately apparent that even a layman is deeply impressed.

The precision and efficiency in human relations with which this school entity functions amply justifies the first paragraph of Mr. Klein's letter, which attitude an observer would be certain is shared by the entire school staff...

"I am very proud of our new High School building which was constructed in 1939-40, and which was made possible by the vision of our Board of Education and the authorization of our taxpayers. Mr. Vignola, the Architect, did an excellent job in the design and layout of the building. This has been the fourth year of use of this building which from an educational point of view has been extremely functional. The upkeep of the building has been kept to a real minimum by the type of construction and the type of materials put into the building, which have been very serviceable."





Air view of the Central School, Goshen, New York, a large and exceptionally wellappointed school building of which the impressive wings are shown in a smaller picture below. Robert R. Graham, Architect.



Above, large Central School, Dundee, N. Y. Robert R. Graham, Architect. Below, Elementary School, Montpelier, Vermont, also designed by Robert R. Graham, Architect.

The four views, left to right, Fort Ann School, Fort Ann, N. Y. Corl W. Clark, A.I.A., Architect.

Close-up view of one wing, Central School, Goshen, N. Y. Robert R. Graham, Architect. Night view, Junior-Senior High School, Harrison, N. Y. Robert P. Vignola, Architect.

Library and Reading Room, Central School, Goshen, N. Y. Robert R. Graham, Architect.





SCHOOL Construction



For today's requirements and for the days to come when the need for Schools and other public buildings can be exactingly met, the importance of a background of many fine schools successfully constructed is of vital importance.

The John A. Johnson Contracting Corp. has such a background, not only for Schools, and other public buildings, but also for the construction of complete cities and towns, waterworks, sewerage systems and the related utilities and facilities.

Literature will be mailed upon request

ROBERT P. VIGNOLA, Architect Harrison, N. Y. (Junior-Senior High School)

I wish to take this opportunity, now that the Junior-Senior High School (Harrison, N. Y.) has been com-pleted, of expressing my appreciation of the busi-ness-like way in which your firm carried thru this half million dollar project. I can assure you that should I have another similar project, I sincerely hope that you may be the successful bidder and that I may have the oppor-tunity of renewing the pleasant relations that have existed throughout the entire construction of this school.

(Signed) Robert P. Vignola

CARL W. CLARK, A.I.A., Architect Cortland, N. Y. (Fort Ann School, Fort Ann, N. Y.)

... Thruout the progress of the work, (at Fort Ann) your corporation was all that one could ask and the completed product is one of which the School authorities, the State authorities and this office are justly proud. Our administration work was made easy due to the efficient office practices of your company.

(Signed) Carl W. Clark, A.I.A.

ROBERT R. GRAHAM, Architect Middletown, N.Y.

(Goshen, N. Y., Dundee, N.Y., and Montpelier, Vt.)

The issuance of your final payment on the Goshen project brings to a conclusion 3 years of close asso-ciation with you on the construction of 3 of my largest school buildings. It seems appropriate now to thank you for your careful work and to congratulate you on your organization, your superintendence and ability to expedite your work. It has been a pleasure to work with you, and I trust that we will soon have work which will be of interest to you. (Signed) Robert E. Graham

(Signed) Robert R. Graham



Washington · Brooklyn · Pemberton, N. J. · Atlanta

Headquarters: 270 Forty-first St., Brooklyn, N. Y.



NE FUTURE



While Metal Is "GONE TO WAR"... WOOD MIAMI Bathroom Cabinets **Meet Current Needs**

Throughout the war, Miami Wood Cabinets have been performing an essential service, substituting for the famous Miami Metal Cabinets on which production has been suspended due to metal restrictions.

Miami Wood Cabinets are smart and trim in design, with attractive mirrors framed in STEEL (by permission of WPB). They are complete with standard Miami convenience features.

Prompt shipments. New illustrated folder, giving complete information, sent on request. Write Dept AF.



3 Attractive CABINET MODELS

The MIAMI Line consists of three designed, completely smartly equipped wood cabinet models; also wood-framed wall mirrors in six sizes . . . Cabinet bodies are made of kiln-dried hardwood, with joints double-locked, glued, and tenoned; door back of moistureproof composition board; mirrors framed in STEEL, finished to match cabinets.





Wood Framed Mirrors

Production of MIAMI STEEL CABINETS will be resumed when wartime metal restrictions are lifted. Meanwhile, some models may still be secured from distributors' stocks.

BUY MORE WAR BONDS . . .



PLANNING NEEDS

(Continued from page 88)

nessman will have to submit to more controls than in the past; the relatively small number of jerry-building speculators will probably be regulated out of existence; but there is no reason to believe that the small businessman will disappear for the building industry. It would be very wise of these businessmen to organize themselves into trade associations to avoid as much public regulation as possible by selfregulation, to adopt co-operative plans of finance and technical assistance, and thus to distribute some of the benefits of large-scale enterprise.

The redevelopment of inner-city neighborhoods will probably afford little opportunity to the small businessman in building. The scale of the operations and the amounts of capital needed will almost certainly be far bevond his capacity. Perhaps the aforementioned trade associations may find a place, but even that is unlikely. This would seem to be the natural field of the large contractors and their large materials suppliers.

Taxation upon the capital value of real estate is certainly one of the major obstacles to good neighborhood development. The incentive to physical repair and improvement largely disappears when they are immediately reflected in higher assessments. Furthermore, since city services always tend to become more extensive and expensive, rates and assessments almost never decline but rather increase on property which depreciates year by year. Eventually the real estate tax burden becomes such that those who want to invest money in redevelopment beg for partial tax exemption and those who own property can think of nothing better than vent their rage upon successive city administrations.

There are only two sound solutions for the real estate tax problem, both of them radical to traditional American thought. The least radical is to permit American cities to raise at least a large part of their revenues from taxation of other objects than real estate. The other, and more radical, is to abandon completely the system of taxing the capital value of real estate in favor of a tax on rental revenues and values. A tax on the producing power of real estate is a reasonable and flexible tax, to which no one can logically object. But if the tax burden could be both absolutely reduced for real estate and distributed over real estate in proportion to its earning power, neighborhood development and redevelopment on sound planning principles would be enormously facilitated.



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Unerringly...day and night...in thousands of buildings...Johnson precision equipment maintains proper temperatures. Constant vigilance is the watchword!

CONSTANT VIGILANCE

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Use Johnson temperature control equipment.

No matter what your temperature, air con-

JOHNSON Automatic

ditioning or humidity control problem...get in touch with the Johnson branch nearest you.

Experienced Johnson engineers are available for consultation and to design complete control systems for new and existing buildings.

To keep present installations operating at peak efficiency, Johnson mechanics are ready to make necessary maintenance repairs and adjustments.

Write, wire or phone! No obligation of course.

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Control

Fuel-Saving Starts With CONTROL

IOHNSON SERVICE COMPANY, MILWAUKEE 2, WIS. . BRANCHES IN ALL PRINCIPAL CITIES

TEMPERATURE AND

AIR CONDITIONING

APRIL 1944

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The new floor insulation!

Here's proof that PC FOAMGLAS passes the load test

On a concrete cover floor, 3 inches thick, laid over PC Foamglas blocks 4½ inches thick, 18 inches long and 12 inches wide, this 3000-pound load was piled on a base area of 13 x 13 inches in the center of an 8-foot x 10-foot slab. Subsequent examinations proved that the center of the slab had settled only .0013 inch and was undamaged. The Foamglas showed no evidence of crushing.

This cellular insulating material that is 9 parts air hermetically sealed in 1 part glass, PC Foamglas, should enjoy general acceptance among architects, because of its permanent insulating efficiency. In addition, its carrying capacity far exceeds normal floor loads, as proved by the test illustrated here.

Being glass, it is impervious to moisture, acid atmospheres, vapors and fumes—which cause deterioration in other materials. PC Foamglas does not pack, slip, swell, shrink, warp or rot. It is strong and rigid—vermin- and fire-proof.

In food and chemical plants, textile mills, breweries and bakeries—in core walls and on roofs as well as on floors—PC Foamglas will maintain desired temperature and humidity levels and prevent condensation—throughout the life of the buildings in which it is installed. Our technical staff will be glad to consult with you

Our technical staff will be glad to consult with you about your clients' individual insulating requirements. Write today and you will receive complete information about PC Foamglas without charge or obligation. Pittsburgh Corning Corporation, 2130-4 Grant Building, Pittsburgh 19, Pa.





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e deadly pecause of consistent inporatory control and research. Skill and strict control are the reason why STREAMLINE consistently the per pipe and STREAMLINE fittings are consistently nd strict control are the reason why STREAMLINE cop. Per pipe and STREAMLINE fittings are consistently the STREAMLINE copper pipe is made for use with, and best results are obtained when with, and best results are obtained when STREAMLINE copper pipe is made for use with and best results are obtained when they are used tonether.

MUELLER BRASS CO. RON, MICHIGAN STREAMLINE PRODUCTS

101

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AMERICA'S STRENGTH IN WAR AND PEACE-THE PARTNERSHIP OF MAN AND WOMAN



HE, the builder of houses



Painted for McCall's by John Koch

SHE, the maker of homes

Man is the architect and the builder ... building in terms of woman's needs and ideas. But it is her responsibility to turn *what* he builds into a home... a responsibility that involves the purchase of enormous quantities of "consumer goods." Naturally, contributions so entirely different create different interests ... and, particularly, different *reading* interests. Out of these differences the women's magazines were born — and they now fill a place, and do a job, unapproached by any other magazines published. That McCall's is read by one American Woman out of every five is no accident but the direct result of *this* magazine's abil-



ity to think the way women think. Today, millions of women are dreaming and planning post-war homes. Vast numbers of these women are crystallizing their dreams through McCall's articles on Building and Decorating.

In war as in peace, McCall's is edited directly to the three primary interests of the American Woman-Her Heart, Her Home, Herself.

Malls

THREE MAGAZINES IN ONE



2" SOLID ROCKLATH*AND PLASTER

"Time, tide and tenants" will not wait willingly . . . Tenants like changes made with a "quick twist of the wrist" . . . that's where these new Studless Partitions come in.

They go up fast... require no studs which means a saving of lumber... Being only 2" thick ... these partitions save rentable space and weight.

Light wood or metal runners —a few nails—plus Rocklath* and Red Top* Plaster—that's all there is to it. The pictures tell a story of progress. Get the latest literature and be prepared with all the details. An attractive folder is yours for the asking. *Trademarks Reg. U.S. Pat. Off.



The World's most widely used Mineral for making Fireproof Wall and Ceiling Materials.



First, floor and ceiling runners are nailed securely in place.



Then drive Rocklath bracing clips at third points as shown.



Next, spring Rocklath plaster base into the ceiling runner groove.







Both sides are plastered with scratch coat and allowed to set.



Then brown coat plaster is applied -followed by specified finish coat.



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-3

Acss cgg for future comf facturing peacetime conforts until a just Victory brings us a lasting peace.

11

Today, our interest centers in buying War Bonds and in making the materiels of war to hasten that Victory. And, this must continue to be our first interest until the war ends. But, while we fight for our Free American way of life, let us consider what this Free American way of life can mean in our own homes.

Hundreds of thousands of American housewives can have far greater comfort and convenience than they have ever known by install.

Joungstown Kitchens

ing "trudgery-free" YOUNGSTOWN pressed steel kitchens in their homes. These kitchens

will be available very soon after the war is over . . . and they will be worth waiting for. Plan for your future kitchen NOW. It will be a real service to all of us for on such constructive planning will depend the jobs that maintain the Free American way of life.

TORNESSON PRESSO STELL BIVISION WOLLING MARCASTREINE CORPORTION the new YOUNGSTOWN CREADER. "Get Acquainted Fish Your Kitchen," tells how to plan for new com-nt in your practime kitchen. Send for your copy.

YOUNGSTOWN PRESSED STEEL DIVISION Medines Mig. Corp., Dept. G.444, Wartes, Obio Firster and the value of the state of the st NAME STREET CITY

STATE

A nest egg for **Future Business**

YOUNGSTOWN PRESSED STEEL insures YPS dealers "a nest egg for future business" by continuously keeping Youngstown Kitchens before 16,000,000 National magazine readers. The advertisement shown above will appear in full color in April.

Send for details about YPS dealerships NOW and share this YPS nest egg of prospective Youngstown Kitchen purchasers in your own territory.

YOUNGSTOWN PRESSED STEEL DIVISION . MULLINS MANUFACTURING CORPORATION . Warren, Obio

BONDS AND ST

3 GOOD REASONS WHY SCHOOL BOARDS ARE INSTALLING INSULUX GLASS BLOCK

BETTER LIGHT CONTROL—Insulux Glass Block panels flood the schoolroom with light. When Light-Directional Block are used, natural daylight can be projected deep into the interior of classrooms. There is light for all—without glare!

2 MORE EVEN TEMPERATURE—An Insulux Glass Block, being a hollow unit, is high in insulating value. This insures more even temperature throughout the year. The result? Less fuel consumption in cold weather —greater comfort in hot weather!

3 LESS NOISE—AND CLEANER—The resistance of Insulux to sound transmission makes it ideal for use in schools. Further—the panels require no maintenance other than occasional cleaning. Painting is never needed.

ALLEN TOWNSHIP SCHOOL, CLAY CENTER, OHIO-C. H. SHIVELY, ARCHITECT

Panels of Insulux Cut Operating Costs, Too!

Insulux saves on heating costs by reducing heat loss of large light transmitting areas. A panel of fourinch-thick hollow glass block has the same insulating value as an eightinch brick wall.

Insulux saves on air conditioning costs, too, as it transmits only a fraction of the summer heat that a window does, and it prevents the infiltration of dust, dirt and moisture.

And there are other savings!

411.

Insulux Glass Block are fireproof; are easy to clean, and are highly resistant to damage.



Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do certain things that other building materials can not do. Investigate!

For technical data, specifications and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. 7, Owens-Illinois Glass Company, Toledo, Ohio





The Floor of Tomorrow



MOST BEAUTIFUL FLOORS



Bruce Streamline Flooring with the New Bruce Finish

WHAT IS THE NEW BRUCE FINISH?

Here is a new deep-seal floor finish that brings out the full beauty of the wood by developing its natural grain and figure. Deep penetration, the secret of this floor finish, seals the pores of the wood against dust and dirt and produces a longlasting, lustrous finish that will not scratch, peel or chip.



Half of this panel is surface finished the ordinary way and the other half Bruce deep-seal finished. A coin scraped across both finishes will chip and mar the surface finish but leave the Bruce finish unharmed. The floor in the home of tomorrow will be beautiful-durable -economical-and easy to clean. That prophecy is *sure* to come true because such a floor is Bruce Streamline Flooring with the new Bruce Finish.

Six years of research, development and use before and during the war by the world's largest makers of hardwood flooring have proved this modern floor for modern building.

Owners will be enthusiastic over Bruce Streamline Flooring with its new Bruce Finish because of its many extras—its streamline styling, its damage-resistant qualities, its ease of maintenance, and its rich glowing beauty.

Architects and builders will like it because it permits faster progress—as much as 3 to 5 days saved on a house job because Streamline Flooring is ready for use the moment it's laid—no sanding, no finishing required. And with it they will give their clients a better floor with a better finish at a cost lower than an ordinary hardwood floor finished on the job.

Yes, here is a flooring you can specify with assurance—a flooring proved by years of service, yet as modern as the home of tomorrow itself.

E. L. BRUCE CO. Memphis, Tenn.





ABESTO is a material especially made for built-up construction. Many years of laboratory research as well as practical field experience, are in back of its manufacture.

Our entire effort concentrated in this field, results in the production of Better, Longer Lasting Roofing Materials.

The designer and the contractor can specify ABESTO COLD PROCESS Construction, knowing that he can be sure of all the advantages that ABESTO Specialization offers.

Send For Our FREE Specification Sheets.



PLANNING PROCESS

(Continued from page 96)

the land as resulting from normal methods of financing can be achieved by long-term amortization of the acquisition cost at low rates of interestassuming some form of guarantee for the securities. It would be too blithe an assumption to expect that this guarantee could be found in values resulting from the redevelopment itself. Schemes for earmarking local tax revenues from the redeveloped area for retirement of acquisition bonds, or permitting deduction of funds, invested in redevelopment from income for federal income tax purposes are simply two forms of tax exemption, one hitting the local community (and with insufficient security as a result) and the other hitting the federal treasury. The latter particularly involves subsidy for private gain, in increasing amount the higher the income bracket. There is nothing immoral about this provided it gets the best results-at least the cost. No so-called incentive scheme thus far proposed would either assure the best results in terms of reality nor accomplish redevelopment at anywhere near as low a cost to the public as a straightforward recognition of the need for subsidy when deficiencies are to be made up in the public interest, and the most direct possible application of those subsidies to the accomplishment of the object sought. The more pro-cesses through which subsidy must pass in serving as a supposed catalytic agent for the activation of investment, the less reaches the final object: too much of it must inevitably be siphoned off for profit.

CONTROL OF LAND

Land acquisition for redevelopment purposes would ordinarily have to be accomplished by eminent domain. The exercise of eminent domain for a purpose capable of so profoundly affecting the welfare of the city should be kept strictly within the hands of the public. It would undoubtedly take stronger pressures to force the city itself to exercise eminent domain unwisely than to secure approval of a similar scheme for which eminent domain would be used by a development corporation. It is important that the public, once

it has acquired title by the drastic process of eminent domain, assures that there will not be a repetition of the deterioration. This calls for redevelopment in accordance with the general land use plans of the community and in conformity to appropriate standards expressed in the design of the neigh-(Continued on page 198)



We are fortunate in being able to help win the war with the same plant, policies and personnel that we had before Pearl Harbor.

This activity is giving us a wealth of inspiration for new applications of civilian lighting after the war.

We'll be here, ready to serve better than before and on time as usual.

Allard Hendrickson Co.,

Lighting Fixtures Illuminating Engineers 337 ADAMS STREET BROOKLYN, N. Y.



The grim necessities of war have been a powerful prod to American inventiveness, and many marvelous new things are coming out of the industrial activities of this wartime period . . . but no one has been able to find any method of roofing flat areas that can improve on the old, true-and-tried coal tar pitch.

Ever since the days of the Civil War, coal tar pitch has been widely used in roofing. During this war, some of the biggest roofs in the whole world have been built by America on war industries with Koppers Coal Tar Pitch. In the years ahead, with the flat roof coming more and more into the picture for design reasons, and for utilitarian reasons, coal tar pitch is one material on whose performance you know you can count.—Koppers Company, Tar & Chemical Division, Pittsburgh 19, Pa.

r, coal tar pitch buring this war, tole world have es with Koppers Coal Tar pitch roofing KOPPERS Coal Tar pitch waterproofing





NO secret agent is more destructive than rust and corrosion. Yet those two enemies of irreplaceable, vital metal can be easily checked with SYNITE METAL PAINT, the synthetic enamel that flows on smoothly, dries rapidly, gives lasting protection to all exposed metal surfaces.

SYNITE METAL PAINT is but one of Arco's many maintenance products —mill whites, floor treatments, concrete and masonry coatings, wall paints—products that have played a vital conservation role in three generations of American industry Write for full details.

THE ARCO COMPANY CLEVELAND, OHIO . LOS ANGELES, CALIF.



FLANNING PROCESS

(Continued from page 196)

borhood pattern. It also calls for orderly means for terminating the existence of buildings when they have become no longer socially or economically sound. It requires, further, that means must be provided for redesigning the area when changes in general community development, technological progress, or changes in living habits render obsolete the design of the redevelopment. All these requirements indicate that title to the land should remain in the public, and that its availability for private development should be effected on the basis of long-term lease rather than sale. If actual sale of the land is preferred, title should be subject to substantially the same conditions as would obtain under a lease-conformity to plan and standards of development, control of the life of buildings, and the right of recapture. The latter, as under leasing, would have to be related to the amortization of the investment, but should be available at any time.

Controls less than these offer no reasonable assurance against a repetition of such conditions as necessitated the redevelopment in the first place. Police power controls, such as zoning, offer no secure assurance. They are not related to the life of investment, and they are subject to easy change.

NEIGHBORHOOD COHERENCE

A neighborhood is not an arbitrary designation of space on a map, or merely a part of a residential area which lies within specified streets, nor should its distinguishing characteristic be simply that it is new, as against older surroundings. It cannot be created by erecting walls. It must have entity and coherence resulting from skillful design.

Again, minimum standards may be specified, but there is no simple formula that will produce a satisfactory living environment. There may be no divine character to a master plan, but there must be an intensely human quality to it.

There are city plans of various sorts to be found throughout the country. But there is in the United States today no city plan which is accompanied by planning procedures that are adequate to assure effective guidance of community development and redevelopment. We are moving toward the postwar world with increasing recognition of the need for planning. To date our principal contribution to it continues to be conversation.



For lighting war plant OFFICE or DRAFTING THE ADMIRAL by WAKEFIELD

THE ADMIRAL conserves war materials and meets WPB limitations on weight of metal. At the same time, it provides efficient, high intensity, diffused light to help handle wartime paper work faster, with less eyestrain.

Puts 90% of the light down on desktops or boards and allows the rest to go upward to avoid ceiling contrasts. It is a natural for fluorescent lighting in offices or drafting rooms essential to war production. Especially effective for work that involves critical seeing or relighting older office space which has poor ceilings. Walnut finish. Comes in 2, 3 and 4-lamp units. Wakefield also offers several other fluorescent units for office lighting. See our catalog in Sweet's.


THE Modern METHOD OF JOINING COPPER AND BRASS PIPEL



leakproof and strong

as the pipe itself!

*Reg. Trade Marks





- Even in cramped quarters Walseal stalled



valves and fittings can be easily in-



2 - After fitting pipe into Walseal valve or fitting, the pipe is expanded by heat-ing with the oxyacetylene

3 - Next, both pipe and fit-ting are heated until the alloy flows out to form a fillet at edge of litting. This indicates that Silbraz joint is completed.

APRIL 1944

In public structures like this Government Office building, Walseal valves and fittings provide a dual advantage.

First, they make leakproof, threadless connections on copper and brass pipe, thus greatly reducing maintenance time and cost. No properly made Silbraz* joint has ever leaked.

Secondly, because they prevent leaks, they eliminate the need for repairs - especially important in public buildings where piping repairs would be unusually expensive and would seriously inconvenience the occupants.

Walseal valves and fittings are made with a ring of Sil-Fos silver brazing alloy incorporated in each connection port. This ring, when heated, flows out and makes a Silbraz (silver-brazed) joint which is stronger than the pipe or tubing itself. A Silbraz joint resists shock and vibration, and cannot creep or pull apart under any heat or pressure which the pipe itself can withstand.

For complete details on Walseal products – as well as the complete line of valves and fittings made by the Walworth Company, write for a free copy of Walworth Catalog 42.



If it's BRIGGS - it's

Notice the bowl of the Byron lavatory. Wide in front to accommodate hands and arms naturally, it curves gracefully toward the back to provide shelf space ... ample depth to provide needed capacity.





Hot and cold water enter the lavatory through a conveniently placed single tempering spout. Valve bodies and waste control provide easy access and simplicity of design.

The shelf at the back and the flat area at either side of the bowl are styled to afford ample "laying down" space for shaving materials, toilet articles and soap.



BRIGGS MANUFACTURING COMPANY, DETROIT 11, MICHIGAN



Modern and pleasing in appearance, each Briggs Beautyware fixture is designed to give the fullest utility and convenience. A Briggs Beautyware bathroom is a room to use — but more, it is a room of beauty, an enhancement to the charm of the home.

OTHER FEATURES OF BRIGGS BEAUTYWARE

- Smartly styled functional design.
- Color—in a wide range of pleasing pastels.
- The scientific elimination of unnecessary dead weight easier handling.
- Acid-resisting vitreous porcelain enamel—at no extra cost.
- Surface highly resistant to abrasion—easier to clean.
- Concealed surfaces also porcelain enameled for complete protection.
- Unvarying dimensions—an aid to installation.





NORGE APPLIANCES



BETTER PRODUCTS FOR A BETTER WORLD

Working for today

This girl and her sisters—millions of them—are now veterans of the war plants and factories, their efficiency equal to that of the men they replaced, and their output an increasingly important factor in the drive for victory. Enthusiastically and steadfastly they work at their appointed tasks, winning the plaudits and the gratitude of a nation still at war.



Here at Norge we, too, are working for victory, with our facilities devoted to the production of more than forty items for war. And Norge refrigerators and other appliances in millions of American homes are contributing their bit by conserving and preserving foods, lightening household labors and otherwise adding to the efficiency of war-busy people. But as we work for war today we look ahead and think and plan for peace tomorrow. The Norge postwar products-Rollator refrigerators, gas and electric ranges, washers and home heaters-will be better designed, better engineered and better built because of new lessons learned and new skills developed. They will be, even more so than formerly, products of experience-better products for the better world to come. Norge Division, Borg-Warner Corporation, Detroit 26, Michigan.

A BORG-WARNER INDUSTRY

NORGE is the trade-mark of Norge Division, Borg-Warner Corporation, Detroit, Michigan





THERE are two kinds of fluorescent lighting in common use today—"Hot Cathode," the heater filament type, and "Cold Cathode," the improved shell electrode type.

Zeon Fluorescent Lighting is the outstanding example of the Cold Cathode type ... it produces a light source that unit for unit will deliver as much light *four to five times longer* than other fluorescent lamps. Burning hours in excess of 10,000 are not uncommon ... exceptional life that means minimum tube replacements, fewer production hold-ups and the lowest possible man-hour replacement cost.

Instant starting is an important feature of Zeon, and in operation, light flow is uninterrupted—a great advantage wh flickering light has been the chief cause of strain. The fewer auxiliaries used, the sim fied fixtures, ease of installation and minim maintenance of Zeon, are additional featu which wise buyers value in fluorescent light

When considering a fluorescent installat look to Zeon Cold Cathode Fluorescent Lig ing, a product of Federal Electric Compa Inc., who for over fifteen years have b leaders in the development and use of gase discharge lamps. Capable, experienced H eral lighting engineers are available in m cities to consult with you on your light

problem. Feel free to call on th

LIGHTING DIVISION

FEDERAL ELECTRIC COMPANY, IN

CHICAGO 19, ILLINOIS

Branch Offices: New York, Philadelphia, Louisville, Cincinnati, New Orleans, Dallas, Houston, Indianapolis, Kansas City, Milwaukee, Minneapolis, Duluth; Subsidiary Company, Federal Brilliant Company, St. Louis, Mo.; Associated Company, Claude Neon Federal Company Southwest, Wichita, Kansas.



Auorescent Lighting





Longer Life

• LONGER LAMP LIFE

- LOWER MAINTENANCE COST
- INSTANT STARTING
- CONSTANT LIGHT FLOW
- LESS HEAT
- LESS GLARE
- FEWER AUXILIARIES
- GREATER FLEXIBILITY





New BUILDINGS now being planned will utilize new materials and techniques. And where passenger and freight elevators are required, new problems will arise. For assistance in solving these problems you can depend on Montgomery. For nearly 50 years Montgomery Elevators have been giving dependable service in thousands of buildings throughout the country. Accurate records show that practically no major repairs have ever been required. Too, original cost of Montgomery Elevators is generally lower than that of other comparable makes. If you are planning a specific project, we invite your elevator problems.

MONTGOMERY MANUFACTURES a complete line of passenger and freight elevators, electric dumbwaiters and special equipment for vertical transportation.



CONSERVATION

(Continued from page 118)

fusion in the location and style of buildings and in the planting of trees? Maybe there is a mess of wires, poles, etc.

And finally, the Council should study the relation of the neighborhood to the surrounding neighborhoods and to the city as a whole regarding all these items. It may get its information from reports and studies, such as the "Real Property Inventory of Metropolitan Cleveland." City-wide agencies have a lot of information in their files and can offer advice on field work—methods which they have developed through experience.

THIRD STEP: The neighborhood council should help make the plan. Initiative and ideas should be local. The Council may secure technical help from agencies like the Regional Association, City Planning Commission, and others.

Among other things, the plan should include:

People-showing the desirable population densities in the various home areas.

Houses-showing the orderly arrangement of buildings, their capacities, demolition and new construction, etc.

Land use-showing the division of the neighborhood into areas for uses such as homes, stores, factories, and parks; zoning studies and recommendations.

Public services—showing the extension, repair and remodeling of present utilities such as sewers, water supply, gas, and electricity; improvement of police and fire protection, of street maintenance, and of mass transportation; construction and repair of public buildings.

Schools and other institutions—showing the relocation of misplaced schools, expansion and modernization of present school buildings, and provisions for adult education; branch libraries, churches, and welfare agencies.

Recreation—showing the enlargement, grouping, and improvement of play spaces; and the programming and expansion of play activities.

Smoke and dirt—showing methods of stopping smoke and dirt, of garbage disposal, and of junk clean-up.

Appearance—showing regulations for set-backs, house spacing, and types of houses; landscaping and improvement of streets and public space; and control of out-door displays.

The neighborhood plan and all its items should be tied to those of surrounding neighborhoods and of the city and the region. Local and over-all planning must go ahead together, each influencing the other. Details of different plans must harmonize with each other; the neighborhood must fit into the whole picture. Here is where the aid of citywide agencies is of greatest benefit.

FOURTH STEP: The plan should then be carried into effect. The program requires everybody's effort to complete the process of Neighborhood Conservation.

The action could take three forms:

1. Private—as in the modernization of buildings and in the construction of houses or of additions to existing houses; in the painting and cleaning up of buildings; in the landscaping of yards and other private properties; and in the stopping of smoke, dirt, and other nuisances by obeying ordinances and asking neighbors to do likewise.

2. Group—where several residents do together what no one of them could do alone, as in the drawing up of unified contracts and deed restrictions regarding the development of land; in the landscaping of common property and providing for automobile parking; in aiding recreation through financial support and voluntary service; and in the establishment of community facilities together with the stimulation and management of civic activities.

3. Public—as in the revision of present zoning, building, fire, health, and other codes, and their enforcement; in the street changes, which may involve widening, extension, relocation, or closing of streets; in traffic control through police regulations, signs, and signals; in the construction, extension, and improvement of playgrounds and parks; in the relocation, enlargement, and modernization of schools and libraries; and in many other things besides.

All along the different steps, the people of the neighborhood should keep informed so that they may be able to participate intelligently in carrying out the plan which they helped to prepare. The Neighborhood Council should enlist the city agencies in telling the story of Neighborhood Conservation through such devices as articles, maps, posters, models and broadcasts.

The Neighborhood Council should be permanent and progressive so that the interest and activity may be continuous. The job of Neighborhood Conservation cannot be done once and then forgotten, for it is a constant process. Eternal vigilance is the price not only of liberty but also of good living conditions. To live well is our right as human beings ... and our responsibility as citizens of a democracy.

are you doodling



DOODLED IN 1866. After the Civil War, the New York melting pot was overflowing. Build-

ers and artists suggested all sorts of impractical remedies from subterranean rivers to

superterranean roads. People laughed, did nothing; New York continued to overflow.

CULVER

... or planning for that building boom?

TODAY'S NEW PRODUCTS and new ways of processing are making old plants as out of date as the Model T.

And so rosy visions of fat industrial building contracts-tocome beguile architects and builders alike. "Boom ahead!" they assure themselves.

But booms don't grow out of dreams. They don't even grow out of need. Here's what John B. Blandford, Jr., Administrator of the National Housing Agency, says:-

"We must do more than toss off postwar resolutions like cocktails. We can't afford to rely on purely verbal protestations of big objectives, and then sit back, let the tide of discussion and public interest roll on, and expect automatically to reap the rewards of a broad and effective program after the war."

Yes—if you want an industrial building boom, you'll have to help set it off. You'll have to show industrial executives that new plants can be produced so efficiently and economically that they simply can't afford not to build them!

One of the most economical and effective ways to point

this out and drive it home is through the pages of TIME the first-choice magazine of business executives, plant owners and managers—the magazine they turn to for information to help them think ahead and plan ahead and see the shape of things to come—the magazine they believe in and vote their favorite over all others they read.*

What's more, advertising figures show that TIME, the Weekly Newsmagazine, is the medium in which business and industry prefer to tell their *own* product stories!

*Among these people are executives and engineers, Government officials, mayors, bankers, architects, and 22 other groups of leaders—all of whom recently voted "TIME is America's most important magazine."

TIME

GATEWAY TO THE BUILDING MARKET



here's what happens before and after Waterfoil

Today's buildings can be decorated and restored for tomorrow's competitive challenge. Masonry walls such as concrete, stucco or brick can be coated with Waterfoil, the scientific contribution to masonry protection. Waterfoil is manufactured of irreversible inorganic gels . . . non-critical materials now available. The Waterfoil coating permits the masonry to breathe, allowing the escape of water vapor. Actual water absorption inwards, however, is impeded avoiding reinforcing bar rust or spalling. If you are a property administrator or maintenance executive, send for the Waterfoil literature . . . it is very important information.

A. C. Horn Company established, 1897 Manufacturers of Materials for Building

Construction and Maintenance 43-36 Tenth Street, Long Island City 1, New York



TERFOII

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY





THE MOST COMPREHENSIVE BOOK "Electrical Living in 194X"

Are you planning ahead for the greatly increased electrical loads that household appliances and equipment will bring in 194X?

To help you in your postwar planning, the Westinghouse Better Homes Department has prepared a new and unusual free book . . . that explains to prospective home owners

FIRST FLOOR

the urgent need for better wiring in their future homes.

We are confident that you will find in "Electrical Living in 194X" a valuable tool for selling the idea of better wiring for better living to present and future home owners. Send for your copy now!

> 1777403 HOTING TOUR LIA MULTIPLE CONTROL MULTIPLE CONTROL PILOT DOOR SWITCH BELL RINGING TRANSFORMER A. CIRCUIT BREAKER - YLOOR CIRCUIT WIRIN

OUPLEX CONVENIENCE OUTLET COMBINATION RADIO OUTLET DUPLEN SPLIT OUTLET CEILING FIXTURE BRACKET FINTURE SPECIAL OUTLET O FLOOR CONVENIENCE OUT FLUORESCENT FINTURE CEILING CIRCUIT WIRING

OW LET'S TAKE A NINED HOME

Westinghouse Better Homes Department offers new "Six-Point Advisory Service"

The Better Homes Department welcomes the opportunity of giving authentic technical information on the proper applications of electricity which will contribute so much to better living in 194X.

This Six-Point Advisory Service includes free advice on the following important subjects:

- 1. Selection of correct types of electrical equipment for various classes of postwar homes.
- 2. Location and arrangement of fixed equipment, for conserving space and attaining maximum efficiency in arrangement of kitchen and laundry work cycles.

- 3. Accurate dimensions and clearances of equipment to insure proper installation and efficient operation.
- 4. Access for servicing of equipment-so necessary for periodic inspection and repair.
- 5. Location of lighting outlets and controls, for greater enjoyment, comfort, and safety in the home.
- 6. Utility service connections-including location and size of electric wiring, water supply, and drainage lines.

If you have any problems relating to the selection, installation, and use of home electrical equipment, write: Better Homes Dept., Westinghouse Electric & Mfg. Company, Pittsburgh 30, Pa.

Tune in John Charles Thomas, NBC, Sundays, 2:30 p.m., E.W.T. and "Top of the Evening" Monday-Wednesday-Friday Blue Network, 10:15 p. m., E.W.T.

THE ELECTRICAL HOME OF 194X

BASEMENT

OF ITS KIND EVER PUBLISHED!



ELECTRICAL LIVING



This new book is offered to the building profession, and allied interests, as a contribution of the Westinghouse Better Homes Department to the greater enjoyment, comfort, and convenience of home owners in 194X.



"BETTER WIRING FOR BETTER LIVING"

"Electrical Living in 194X" takes the prospect on a *personally conducted tour* through a completely electrified postwar home!

It pictures and describes the wiring circuits and electrical appliances in the home of the future . . . in kitchen, laundry, utility room, living and dining rooms, and bedrooms and bath.

This colorful, 64-page book tells all about electrical loads in the 194X home, lighting and lighting controls, circuit protecting devices, entrance equipment, and distribution panels.

"Electrical Living in 194X" also contains valuable technical information on the *application and installation* of fixed and portable electric home appliances.

"Electrical Living in 194X" will be ready for distribution soon. The supply is limited. Be sure to get your copy, by returning the coupon today!



Better Homes Department Westinghouse Electric & Ma	anufacturing Co.
306 Fourth Avenue, Pittsbu	rgh 30, Pa.
Please send my free copy of	"Electrical Living in 194X"
	and a second second second second
NAME	and a lot of the of
NAME	
NAME POSITION	
NAME POSITION FIRM	

This modern, well-equipped laboratory, manned by a staff of specially trained technicians, is a permanent part of Mueller's facilities.

For extra heating satisfaction - in your post-war homes...

A MERINA TO SHOP IS

MUEL

MUELLER'S Complete Heating Service

man & That MARK

is backed up by continuous laboratory research and engineering development

The further development and refinement of Mueller heating products is going on at all times-now more than ever, in order that you may have outstanding heating equipment to enhance the attraction of your homes after the war. This is one of many reasons why it pays to deal with Mueller and get, from one dependable source, a line that is complete from every angle . . . sizes, price range, designs for specific fuels. This good-looking, nationally-known, nationally-advertised heating equipment is an asset to any building - from a cottage to a factory. Write for bulletins giving complete information. L. J. Mueller Furnace Company, 2001 West Oklahoma Avenue, Milwaukee 7, Wisconsin.



Gas Mueller offers of gas-fired equipment including winter air conditioners, gravity furnaces, boilers, unit heaters.

Coal The Mueller line includes a wide range of winter air conditioners and gravity furnaces,

MEMO TO ARCHITECTS ON POST-WAR BATHS

After-the-war demand for Weisway Cabinet Showers will be more insistent than ever. One reason is that so many people are learning now to prefer shower bathing. Other big reasons are the practical structural features of Weisway Cabinet Showers... and the way they fit the modern ideas of appearance, convenience and real living comfort.

Weisway quality has been the big factor in winning acceptance for these Cabinet Showers as standard plumbing fixtures. The wide range of models meets the requirements in homes of every size and price.

First in the field, Weisway has always used the best available materials for each specific purpose.* The quality and adaptability of Weisways give you the answer to the marked demand for more bath facilities and the growing preference for the leakproof Cabinet Shower. Henry Weis Mfg. Co., Inc., 000 Oak Street, Elkhart, Indiana. Established 1876.



* As soon as release of materials and manpower makes it possible, Weisway's complete, modern line of cabinet showers one of which is shown in this installation—will be available. In the meantime, Models V and V Deluxe provide satisfactory bath facilities and meet material limitations of the WPB. Both models are available—through established plumbing channels.

PRIVATE INVESTMENT

(Continued from page 110)

competition frequently stirs management to an alertness which might otherwise lie dormant, but competition must prevail on approximately equal terms or it is likely to produce disaster.

When considering neighborhood planning, investors sometimes become alarmed, not at the physical evidences of planning as reflected in projects growing out of recent developments and proposals advanced seemingly under the guise of planning. These difficulties arise not out of planning as discussed up to this point, that is, when it is applied to projects which economically justify themselves, but when the benefits of planning become the social goal regardless of the ability or lack of ability of a project to sustain itself economically. Neighborhood planning then becomes a means either of pump-priming or social reform in the latter's larger sense, and gives rise to a number of the questions frequently associated with each of these processes. Investors naturally wonder whether housing has entered an era in which its otherwise promising future is to be obscured by threats of governmental subsidy and competition. This becomes



Action photo taken from deck of Coast Guard ship. Illustratestremendousforce of depth charge explosion.



An explanation of the Control exercised by Dunham Differen-tial Steam Heating is contained in our Bulletin 614A. May we send it? Address The C. A. Dunham Co., 450 E. Ohio Street, Chicago 11, Ill., Toronto, Canada. London, England.

*

This Advertisement Dedicated By



STEMS OF STEAM HEATING to a better understanding of the urgency of conservation in fuel use

There's no glamour for you in saving fuel, but there's danger if you don't. In the hands of these fighters on the sea-whose sacrifices far exceed yours-the coal you conserve saves lives and hastens victory.

Fuel helped make that depth-charge in some plant in America, and fuel brought the workmen and supplies together to work. Fuel moved that depth-charge to "embarkation." Fuel loaded it aboard ship and fought across thousands of miles of danger-ridden sea to place that fuel-your fuel, in the hands of our fighters.

Fuel feeds and clothes our fighters, moves them to battle, dresses their wounds, carries them toward Victory-and some day-with your whole help, soon-will carry them back to us to live with us in the fields of Peace.

Don't let apathy stop you-do something about fuel saving.

DUNHAM MAKES FUELS GO FURTHER

especially pertinent if resources of the public treasuries, thought by some to be unlimited, stand ready to finance projects, and if managers of these projects are not expected to produce economically successful results. A large volume of subsidized housing also becomes an influential factor in a local housing market and may affect values adversely although an equal number of old units is demolished.

There is little, if any, justification for assuming at this point that private interests cannot care for all of the reasonable needs of housing for America. Perhaps below a certain income level this is not possible at this time, but such cases can be cared for by direct relief. Municipal officials generally possess in health and safety regulations a variety of broad powers adequate to prohibit occupancy of units unfit for habitation. Certainly, American architects, developers and investors can provide improved housing as demand for the latter develops, and this improved housing includes reclaiming of old areas where such areas economically justify reclamation.

The greatest obstacle in the direction of reclamation of old areas has been found in the difficulties of land acquisition, but current trends point toward early legislative developments throughout the country which would make possible the use of eminent domain for this purpose under private ownership.

Heretofore, if private interests endeavored to procure a site suitable for redevelopment, in all likelihood numerous landowners have waited for attractive offers and the only hope of acquiring adequate area without "buying off" at least a few "holdouts" rested in surreptitious acquisition of options. Odds favored failure in every instance. In most jurisdictions, this procedure still must be followed, but New York now has a statute providing for the use of eminent domain by private housing interests. The statute's constitutionality has been upheld by the New York Court of Appeals. In Illinois, a similar statute already declared unconstitutional by the Illinois Circuit Court awaits the judgement of the State Supreme Court. Similar legislation is likely to follow in other states. Without indulging in a discussion of legal theories, only a narrow gap of judicial discernment separates the use of eminent domain by public utility companies or railroads and privately owned housing company which will improve housing conditions possibly eliminate slums, and add to the stability of real estate values.

If eminent domain ultimately is ex (Continued on page 212)

work with a man who knows the neighborhood

TO KEEP ELECTRICAL PLANS

New ways of doing things electrically will be featured in many post-war building developments. Community buildings, commercial buildings and homes may call for new wiring materials, new protective devices and new techniques of installation.

Full utilization of these electrical innovations, however, is not just an architectural problem. It calls for a realistic, fully-informed knowledge of local ordinances, conditions and understandings.

Electrical contractors "know the neighborhood" in every locality where they do business. They know the power-supply conditions, the code con-

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ditions, the weather conditions, the labor conditions.

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down to earth"...

Before you decide on electrical systems or equipment for post-war building plans, call the right kind of an electrical contractor. He'll be glad to work with you on industrial, commercial, or community buildings, even though your project is still tentative. All over the country, you'll find electrical contractors well qualified and well informed - the "John Watts" who do their electrical buying via GRAYBAR. 3518

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In anticipation of postwar building activity, many progressive manufacturers of building specialties are seeking new representatives, domestic and foreign.

THE ARCHITECTURAL FORUM will be pleased to act as intermediary; agents are invited to register their interest.

Address George P. Shutt, Advertising manager THE ARCHITECTURAL FORUM 19 West 44th Street New York 18, N. Y.





SHUTTLE AIRPORT IN 194X

Utilization of vast areas of space now wasted is one of the major developments that will distinguish post-war building

and planning in metropolitan centers, according to Caleb Hornbostel, instructor of architecture at New York University and at Cooper Union.

"The building plan area of most American cities can be practically doubled," he explains, "by efficient utilization of roof areas." As one illustration of the many possibilities of converting waste space to use, he submits this functional roof plan for a section of a riverfront, economically converted for use as a shuttle airport.

With waiting rooms and loading platforms for freight and passenger shuttle service to main air terminals outside the city—with accommodations for handling and maintenance of planes ranging from jet-propelled liners to helicopter taxis and harbor-patrol flying boats, this shuttle station would solve a serious transportation problem of the future.

Barrett Specification Roofs, because of their complete adaptability, now make it possible for architects and city planners to execute many revolutionary improvements in living and housing conditions, after this war is won. For the dependable and versatile performance of these coal-tar pitch and felt roofs has already been proven on most of the famous modern buildings in America.

The design shown here is seventh in the Barrett series of functional roof projects prepared by outstanding American architects. You are invited to write for reprints of the complete series, for your file.



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Birmingham. Alabama



*Reg. U. S. Pat. Off.

PRIVATE INVESTMENT

(Continued from page 208)

ercised by many muncipalities to make old areas available for reclamation by private capital, several methods might be used to effect new and attractive areas even where slums have been at their worst. These possible methods are summarized briefly below:

1. The use of eminent domain after a stipulated portion of the necessary area has been acquired privately for development and operation under regulation, as provided by the New York Statute; 2. Similar procedure, but without regulation, as provided by the Illinois Statute;

3. Acquisition by a municipality or its agency, and sale or lease to the highest bidder who would post a bond to complete development to conform to zoning or other stipulated specifications, within a certain time;

4. Acquisition by a municipality or municipal agency which would develop the tract into plots with adequate streets and sewer and water installations with sale or lease of individual plots to highest bidders who might be individuals or developers.



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Tax exemption, if granted on such projects, is merely another form of subsidy, and while it may be necessary to offer some inducement of this kind at the start, there is no more reason for granting tax exemption to private housing companies than to public utility companies. Generally speaking, if land is to be reclaimed and developed, its cost should not exceed the cost of a comparable tract not requiring reclamation. Processes of reclamation should not become vehicles for sustaining land values no longer existent or for relieving private capital of losses which it should absorb. If land for reclamation is acquired at its present real value, instead of some former but no-longer-existing value, occasion for granting tax-exemption virtually disappears and the project stands or falls on its merits.

ABUNDANT FACILITIES

Existing financing facilities are abundantly available in those instances in which projects will justify themselves. Life insurance companies, savings banks and other institutions stand ready to consider uninsured loans where sponsors have resources sufficient to provide the necessary equity. In other cases, applications can be made for loans insured by the Federal Housing Administration under the various sections of the National Housing Act. In fact, numerous outstanding examples of planned communities already have been financed with FHA loans on the entire project, or on individual units in developments.

Some institutions have ventured with apparent success into the entire ownership of housing projects, but successful use of this method presently seems restricted to those organizations capable of undertaking such ventures on a scale which will justify the expenses involved in obtaining expert personnel to select, design, supervise and manage them. Too, prudent investment officers recognize the necessity of limiting the proportion of total assets which will be committed to such individual enterprises.

Forward-looking investment officers recognize that progress results only from experimentation and watch closely all new developments and sug gestions relative to housing. When and if any plan offers a safe and legal in vestment with adequate return, invest ment men will not permit to pass unnoticed the opportunity to employ their funds profitably. In the mean time, they view with reluctance at tempts to provide housing at grea public expense when private capita may be able to provide the necessar housing for the better America ahead



THE BUG THAT FOLLOWED A TREE FROM THE FOREST

Termites were once practically unknown to people who lived in houses. But that was because the termites thrived in forests, where there was an abundance of wood to feed on. As many forests were cut down, termites searched elsewhere for their natural food. Today termites may be found almost inywhere in beams, joists, porches, steps, subflooring—wherever they can build their tubes from the ground to reach wood.

But termites *need not* be dangerous. Any structure can be protected from termites through use of wood treated with Du Pont Chromated Zinc Chloride. "CZC" treatment makes wood unattractive to termites, fending off their destructive invasions.

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Production of "Connecticut" Hospital Systems will be resumed *promptly* after military communication requirements have been fulfilled.

One of the most important advances made during the war has been the development of new and improved communicating methods. Many of these can and will be incorporated in hospital systems as soon as civilian production is resumed.

Architects and hospital authorities with building projects in the planning stage are cordially invited to take advantage of the services of our engineering department—without obligation, of course.



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CONNECTICUT

BOUNDARIES

(Continued from page 126)

Moreover, no two of these other departments have coinciding districts despite the fact that, with the exception of the Fire Department, the population within their several districts cannot be very different in size.

Although the Health Department follows census tract boundaries, the school districts, welfare districts, police precincts and fire department districts all violate them. Thus these departments deprive themselves of a substantial fund of readily available basic population data collected and tabulated at great expense by the Census Bureau and of the vital statistics compiled annually by the Health Department.

While the exigencies of administration obviously require flexibility in the *size* of primary administrative districts, these exigencies do not require such chaotic and needlessly awkward arrangements as now exist. Administrative districts could be arranged in clusters, with common outer boundaries, and census tract boundary lines need not be violated.

In New York City it should be possible to assign to a given population group of 200,000 to 300,000 persons—



a large city in itself—one or more district offices for each of the departments whose work bears a direct relation to the size and characteristics of the population served. Eventually, each of these large districts would need a well-located civic center composed of a group of general municipal office buildings in which space could be assigned to the several departments as their changing needs would dictate. This center would be the headquarters of the local forces attempting to cope with the adverse conditions routinely brought to light.

Not only social agencies but also churches, local civic associations, business groups and district services of public utilities would find it immeasurably easier to serve their respective clienteles if the city had some commonly accepted nucleated sub-divisions. smaller than boroughs, within which to operate. The rough grouping here suggested permits a sweeping view annually of the whole city and comparisons between sizeable portions of it Further subdivision into neighborhoods is essential but such districting in turn presents another and a distinctive se of problems and considerations. These will find easier solution after the large framework has been constructed. In other less overwhelming cities, the neighborhood districting might sufficient without the larger districts.

The proposals made here apply only to the decentralization of administrative departments; there is no advocac of local boards for legislative, regulatory or financial action.

The postwar period affords excellen opportunities for taking several for ward steps in this direction. Whe the war is over, new buildings, centra and district, will unquestionably l provided for many of the municipa services. If unemployment threaten we shall probably want to stimulat the construction industry. Now is th time to apply all of our ingenuit in planning the grouping of the district buildings in such way that I their very location, the municipal d partments and the voluntary organiz tions are led to direct their combine attention to coinciding areas.

Once in effect, this type of gover mental structure—a structure th could be achieved largely through a ministrative action—would probab last a long time in a great city li New York because it would hold its together by sheer utility and fitne to the needs of so gigantic a popu tion. With such arrangements the knowledge and current action, the ture of city planning within local are begins to take shape in the prese the only time in which to act.

MODERN INSULATION MUST DO MORE THAN STOP HEAT

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N^{OW} you can insulate and save weight—that's the modern way with Red Top lightest of all types of mineral insulating wool materials approximately ½ lb. per square foot for the thickest type.

This light weight is all the more important when you consider that mineral insulation depends upon its light, fluffy construction for the millions upon millions of dead air cells that are responsible for its excellent insulating qualities. Red Top is free from foreign material that adds weight but contributes nothing to insulating value. Saving in weight takes an unnecessary dead load off ceiling and structural members. Then, too, this light, "feathery" material has exceptional resistance to packing.

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217





FORUM OF EVENTS

(Continued from page 6)

auditorium where the movie is about to begin. This grouping of spectators according to the time of their entrance would practically eliminate the old nuisance of people climbing in and out of seats during the performance. Seven exit stairways lead from the individual auditoriums to an outer foyer which circles the building on the ground level. Rear screen projection would be controlled from the central projection booth. Not shown in the plan but entirely practical would be 'the inclusion





MODELS OF RIGID FRAME CONSTRUCTION AND MAIN LOUNGE OF THEATER

of shops at street level.

The structural model (see cut) indicates a system of rigid frame concrete members with alternating splayed

DETAILS which count in planning, designing and constructing

IT HAS BEEN SAID that an architect first conceives of a building as a completed structure, and then tears it apart mentally to reconstruct it, detail by detail and item by item. For in the skillful coordinating of details and items lie the beauty, strength, durability and value of the finished building.

Cement is only one of many items in a structure. Actually, it's only part of the concrete, the terrazzo, the stucco, or the mortar. But the cement with which these materials are made can do much to help architects achieve the final results toward which they are working.

Such a cement is Atlas White. It is a true portland cement, with all the qualities of strength, durability and plasticity of normal portland cement; differing only in that it is white—not gray—and is non-staining.

Natural building stones retain their beauty unstained when mortar made with Atlas White is used for setting, backing and pointing.

For white or colored stucco or portland cement paint, use a base of Atlas White cement for true and durable colors.

When you require blended or contrasting joints in masonry, brick or tile work, specify a mortar or grout made with Atlas White.

When using fine Terrazzo or thin precast Architectural Concrete Slabs, specify a matrix of Atlas White cement to achieve the full tone and color values of the exposed aggregates.

For beauty, color, durability and economy, specify

ATLAS WHITE CEMENT UNIVERSAL ATLAS CEMENT COMPANY (United States Steel Corporation Subsidiary) Chrysler Building, New York 17, New York sections of framing to reduce the length of the spans at the rear of the auditoriums.

According to Mr. Grady's excellent model which has a minutely executed interior (see cut), the exterior finish calls for glazed tile on the lower portion and light colored brick above.

The designer does not claim to have solved all the technical problems involved but it seems likely that the general idea could be successfully carried out. As a student project it holds its own among other recent professionally designed theaters based on the same principle (see ARCH. FORUM, Nov. '43), and deserves further study as a practical and imaginative idea.

ADI ELECTIONS

At a meeting of the American Designers' Institute recently held in Chicago, Alfons Bach of New York was reelected president; Kem Weber of Los Angeles and Harper Richards of Chicago, vice presidents. Incorporation will be transferred to Washington, D. C. Correspondence should be addressed to 228 East 61 Street, New York 21.

A committee on education is developing an extensive program of cooperation with schools and universities to assist in the training of young people in industrial design. The Institute hopes to have this machinery ready for our returning veterans.

SCHOLARSHIPS

The College of Fine Arts, Syracuse University announces one \$400 and four \$200 architectural scholarships open to high school graduates which will be granted by competition on July 15, 1944. Judgement will be based on drawing and preparatory school record. Contestants must send a portfolio of not more than 20 examples of their work in freehand and mechanical drawing accompanied by three letters of recommendation. Entrance applications must be filed with the Director of Admissions, Administration Building, by June 25th, and include \$5. matriculation fee. Only those who have been accepted for entrance will be permitted to compete.

THERE IS A NEW TREND IN STORE DESIGN



WILLIAM LESCAZE'S conception of a florist shop

"The Florist Shop makes use of glazing details that are recognizable as those universally used in greenhouses, giving thus in addition to a completely transparent front, an unmistakable garden character. Sun control, window lighting and sign units are integral parts of the design. A trellis surrounds the entrance. We have carried further the garden character into the interior by using a pale green Solex Glass mirror behind the flower garden area, which not only reflects the flowers, but also the natural field stone wall on the opposite side. The focus of the interior of the shop is the Pittsburgh Prefabricated, Double-glazed Foil Unit, circular cut-flower refrigerator, with revolving flower trays. Interior hghting is through a Tapestry Glass translucent ceiling."

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I N this design, as in the store designs of leading architects throughout the country, Pittsburgh Glass plays a prominent part. These glass products are particularly suited to help in the creation of striking, saleswinning store fronts and interiors. They are versatile. Consistently high in quality. And serviced through a nation-wide system of branches and dealers, which assures ready availability anywhere.

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FREE! 21 x 25-inch reproduction of architect's drawings, showing interior perspective, plan, and several details of this design, as well as the exterior shown on this page. It is the first of a series of store designs by some of America's leading architects. Mail the coupon now.

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SURE WE ALL want a raise . . . but raises today are bad medicine. Bad medicine for you. Bad medicine for everybody else. And here's why . . .

Suppose you do get a raise . . . and a lot of others get one, too. What happens? The cost of manufacturing goes up. Naturally your boss has to add this increase in cost to the price he asks the retailer. And the retailer, in turn, raises his price to the consumer . . . that's YOU.

Multiply these hundreds of items that everybody has to *pay more for* by the thousands of other workers who want raises... and by the thousands of business men and farmers who want more money for their products... result... you and all the others need another raise to make ends meet.

And so it goes . . . wages and prices chase each other up and up . . . until prices get so high that your dollar isn't worth a dollar any more.

So what good is a raise if your living

costs go up even faster? And there's so little you can buy today anyway . . . with most factories in war production.

Of course it's hard to give up the luxuries of life . . . and even harder to give up some of the necessities. But this is War! And when you think of the sacrifices our fighting men are making . . . many of them giving up their lives for us . . . no sacrifice we can make should be too great.

So if you want to be able to enjoy the good things of life in the peaceful days to come . . . if you want to speed victory and thus save the lives of thousands of fighting men . . . start doing these seven things now . . .

1. Buy only what you need. Take care of what you have. Avoid waste,

2. Don't try to profit from the war. Don't ask more than you absolutely must for what you have to sell . . . whether it's goods or your own labor you're selling. 3. Pay no more than celling prices. Buy rationed goods only by exchanging stamps. Otherwise, you're helping the black-market criminals, hurting yourself and all other good Americans.

4. Pay taxes willingly. They're the cheapest way of paying for the war.

5. Pay off your old debts-all of them. Don't make new ones.

6. If you haven't a savings account, start one. If you have an account, put money in it—regularly. Put money in life insurance, too.

7. Buy and hold War Bonds. Don't stop at 10%. Remember-Hitler stops at nothing!



A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by the Magazine Publishers of America





automatic heat and power a "must" for post-war construction . . .

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tects will advise KOVEN WATERFILM, the fastest steaming boiler on the market. Apace with modern design, its patented construction incorporates the newest scientific improvements.

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A national engineering firm has openings for several young architectural designers; preferably graduates with at least three years architectural or construction experience in the fields of large industrial or commercial buildings.

These positions will be of interest only to hard working, imaginative men.

Write giving age, draft status, outline of your experience, and availability under WMC regulations.

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If your firm has not already installed the Payroll Savings Plan, now is the time to do so. For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.



Photograph by Richard Garrison

What could be added to the ageless beauty of brick and tile?

Fitting symbol of the gracious charm of Colonial days is the Governor's Palace at Williamsburg, Virginia—restored upon its original foundations.

Down through the centuries, beautiful brick and tile structures have contributed much to the architecture of every period.

In the days to come, architects will continue to turn to clay masonry to recapture the beauty of another day, and to express the newest in modern functional design.

These architects will be aided by a new development — modular-designed brick and tile — which promises important improvements in building practices in the post-war era. The bricks used for the restoration of the Governor's Palace at Williamsburg are $93\% \times 43\% \times 23\%$ inches—as compared to the present day standard of $8 \times 33\% \times 21\%$ inches. This variation from the standard sizes argues well for the proposed modular-sized brick and tile—a change which will in no way disturb the fine appearance of any building.

We will be glad to send you a copy of our booklet, "The ABC of Modular Masonry," describing the basic concepts of dimensional coordination. A request directed to the Structural Clay Products Institute, 1756 K Street, N. W., Washington 6, D. C., will bring this booklet to your desk.

F I L F



After the war.. it will be built of modular designed

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Grandma's complaint will have a familiar ring to Architects and Builders. Central heating cannot satisfy all members of the family. But, after the war, you can specify PAYNE ZONE-CONDITIONING.

Pioneered by PAYNE, improved for tomorrow, Zone-Conditioning is *flexible*. Healthful circulation of filtered fresh air, gas-heated in winter, controlled by zones or individual rooms. * Not available now; we're concentrating on war production. But PAYNE Dealers have the facts for you. Remember Zone-Conditioning.







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For over 60 years leading architects have relied on Cabot's Shingle Stains to give buildings greater beauty and maximum protection. Cabot's Stains are quick and easy to apply — cost less than paint — will not peel or blister even when used on green lumber. Today, they are the answer to hurried wartime construction. Tomorrow, their clear texturerevealing colors will beautify the postwar home.

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MATERIALS ARE IMPORTANT-....BUILD WITH TIMBER STRUCTURES

THE WAR has spotlighted the virtues of wood in heavy construction. Shortages in other structural materials have served to emphasize what many engineers and architects already know—that wood, properly designed and prefabricated, is often a sensible answer to construction requirements.

Fulfilling these requirements for timber trusses and heavy framing has been Timber Structures job for years. The virtues of wood—strength, economy, speed in erection, permanence, ready source of supply—have been brought together through the engineering know-how of this organization.

We welcome inquiries on the use of wood or other structural materials for your construction projects. Write to the nearest Timber Structures office for illustrated book on the work we have done, are doing. **THE MARITIME COMMISSION** found wood a highly satisfactory construction material in its shipyard program. This huge assembly building at a record-breaking Liberty yard is 240°x860' and contains 143 trusses prefabricated and erected by Timber Structures, Inc.



ORIGINALLY DESIGNED FOR STEEL by the U.S. Army Engineers, this ordnance repair shop was redesigned by Timber Structures engineers for wood, For this building (60'x220') 28 trusses, columns and bracing were prefabricated and erected. Approximately 50,000 bd. Its of lumber was used in the building.



BUILDING REPORTER

(Continued from page 18)

through special recirculating jets, scrubs, scalds, and rinses the dishes in a rotating basket. A glass top permits complete visibility of the dishwashing process. Since there is no motor, there is nothing to wear out. An hydraulic lift raises the dishes from the tub to drainboard level. Exposed metal surfaces are finished in heavy chromium plate and the basin is cast iron surfaced with chip-proof porcelain enamel. The dishwasher is built right into the kitchen drainboard and is designed for use with an automatic gas water heater. It will be available as soon as conditions permit.

Manufacturer: Q.E.D. Dishwasher Co., 620 North Cordova St., Alhambra, Cal.

AUTOMATIC VENTILATING STORM SASH operates with regulation of inside window.

Name: Automatic Ventilating Storm Sash.

Features: By raising and lowering the inside window, the automatic storm sash adjuster—(available after the war)—opens and closes the storm sash. Adjusters fastened on the lower outside edges of a double hung window



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and the edges of the storm sash, automatically push the storm sash out as the inside window is raised. By using the adjusters in different positions with a two section storm sash, ventilation is achieved in several ways. A regular sash lock on the inside window locks the storm sash when the windows are elosed, and a locking device on the adjuster holds the storm sash rigid when open.

Manufacturer: Lake Parsippany Lumber Co., R.F.D. #2, Morris Plains, N. J.

PLASTIC RODS for a variety of uses. Name: Tenite Rod Stock.

Features: Rod stock in sizes up to 2 in. in diameter, and in a variety of



colors, is being extruded of Tenite plastic. These durable rods may be used for a variety of purposes: tool handles, gauge handles, hammer heads for use on

metals. Small scale production of these parts is achieved economically by machining them from rods. After the war, Tenite rod stock may be used for display work, furniture, and in other fields where color and durability are required.

Manufacturer: Detroit Macoid Corp. Detroit, Mich.

LETTERING MACHINE saves time for draftsmen and engineers.

Features: The introduction into the drafting room of a modern business machine with a full electric standard keyboard, is relieving engineers and draftsmen of the tedious job of handlettering. This machine letters drawings, plans, charts, etc., at typing speed. It has a flat writing surface like a drafting board and will accommodate any size tracing or sheet. Specifications and descriptions may be typed in any desired spot.

Manufacturer: Underwood Elliott Fisher Co., 1 Park Ave., New York, N. Y.

SLIDE RULES available for drafting, accounting, estimating, engineering and a sales departments.

Features: Produced as an emergency measure to meet war demands, three new slide rules are available—one for professional draftsmen, one for apprentice draftsmen, and a handy, fiveinch, pocket-size model. All three contain scales A, B, C, D, CI, K, S, L, and T. They are well constructed, accurate and come with case and instruction sheet.

Manufacturer: The Frederick Post Co., Box 803, Chicago 90, Ill.

(Technical Literature, page 232)



How a heater makes a troop ship "slippery as an eel"

YOU may know how hard it is to steer your automobile in sub zero weather when the grease in the steering gear stiffens. Imagine then what it must be like to steer a great troop ship in arctic weather when the lubricants in the steering apparatus start stiffening up! Stiff lubricants cause difficult steering . . . make ships clumsy . . . make them better targets for Axis "tin fish."

That's why in many of our vessels, a Trane Unit Heater has been installed in the space housing the steering mechanism. This unit provides sufficient heat to the lubricant for *perfect* steering operation, and sensitive control from the bridge. Gives a vessel a maneuverability, an eel-like elusiveness that may mean the difference between life and death.

These Trane Unit Heaters used on ships are identical with those that are now heating hundreds of war plants and army camps. And this same type of heater will be available for garages, store buildings, and warehouses once the war is won.

They are but one of the many products of The Trane Company, manufacturing engineers of heat exchange equipment for heating, cooling, and air handling purposes. Today Trane products are utilizing the principle

of heat exchange... in many entirely new applications to win the war; tomorrow they will make a better peace-time world.






DIVIDENDS FROM DOORS!

Stanley Magic Doors Open at Approach . . . Close After Passage . . . Completely Automatic ... Save Working Time ... Eliminate Damage and Repair . . . Quickly Repay Their First Cost!

Stanley Magic Doors for stock and shipping rooms, warehouses and industrial plants, have outstanding advantages. Each of these affects such economic items as worker time-saving, accelerated traffic, reduced accidents, heat-saving, and door repair costs.

In time-saving alone, simple figuring shows that seconds saved many times daily at hour rates may well add up to an amount far above cost of the doors. Stanley Magic Doors, actuated by "electric eye", are modern as tomorrow. Yet, their simple, trouble-free streamlined performance has been amply time-tested in industrial and commercial use.

Make Stanley Magic Doors a selling point in your early discussions of building plans. They'll be a credit to your foresight. Stanley will cooperate with you in preparing plans and (E) HANT specifications. Fill out and mail the coupon now.

GC

DOORS

REQUIRE NO HAND TO OPEN

The Stanley Works,

New Britain, Connecticut

Magic Door Div.,

Name Firm Name

Street City

To open door 30 sec...X 100 times daily = 50 min.X 300 days year = 250 hrs.@

TANLE

New Britain, Connecticut Gentlemen: Please send full infor-mation on Stanley Magic Doors for () Commercial () Industrial Use.

The trade-mark that appears on

highest quality Butts, Hinges

and other Hardware Equipment for commercial, indus-

trial and residential buildings.

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STANLE

60\$=

\$150

TECHNICAL LITERATURE

KITCHEN CABINETS. Kitchen Maid War and Postwar Cabinetry, 8 pp., 8½x11. Folder describes line of kitchen cabinets available now for war housing, and later for immediate postwar use. New composite construction is explained. Complete scale drawings of wall, base, sink, and utility units, and their specifications are included. The Kitchen Maid Corp., Andrews, Indiana.

AIR CONDITIONING. Air Conditioning, Refrigeration, Space Heating, Catalogue AC-161, 12 pp., 8½x11. Information is presented in concise hand-book style for quick reference in selecting air conditioning apparatus and related equipment to perform a specific function. Air conditioning, air distributing systems, refrigeration, and industrial heating and ventilating for different sizes and types of buildings are discussed, with typical installations to solve each problem illustrated and described. Carrier Corp., South Geddes St., Syracuse 1, N. Y. SIDING AND ROOFING, Felt-Cote Asbestos-Protected Metal Roofs and Siding, 25 pp., 8½x11. Attractive booklet describes different types of siding and roofing sheets, giving detailed data on 2½ in. corrugated roofing and siding, trough-shaped corrugation sheets, mansard-type sheets, and others. Recommendations for types of siding are made according to structural characteristics, roof pitch, etc. Durability, insulating properties, appearance, design, specifications, method of manufacture and erection are covered. Felt-Cote Div., American Steel Band Co., Pittsburgh, Pa.

FIRE SPRINKLER. "Automatic" Fire-Fog System Employs Water to Fight Oil Fires and Other Flammable Liquid Fires, Bulletin 53, 8 pp., 8½x11. Descriptive bulletin describes the Fire-Fog system and tells how it works. The design principles are explained and detailed descriptions of the equipment employed are given. Typical



MIGHT be a good idea, at that. But wars aren't fought-much less won-in arm-chairs. And you can never tell when a war will be over-until it is!

Certainly the time to put in our best licks is when the tide of battle is running in our direction. One big push—and it might be over. But slackened effort today could prolong the war for many years.

So here at The F. H. Lawson Co. there is no letup in our war output—much as we wish to be again in the market with our normal Lawson line. But we can hope that the longest part of the war is over and that within another year a European peace may come.

And the ink won't be dry on the next Armistice before we've started getting ready to serve you again. With a line of Lawson products combining the fullest measure of Lawson prewar quality with designs and materials in harmony with the postwar world.

> THE F. H. LAWSON COMPANY Cincinnati, Ohio

installations and applications are covered. "Automatic" Sprinkler Corp. of America, Youngstown, Ohio.

Ohio. STEL FLOORING, ROOFING, PARTITIONING. A Robertson's-Eye View of Postwar Buildings, 36 op., 10x12. This handsome booklet describes the many advantages of steel Q-unit construction sections. The uses of Q-floors, Q-insulated walls, Q-partitions and Q-roofs are illustrated in various types of buildings, and their merits are discussed in relation to postwar buildings. Photographs and diagrams explain the distribution of electrical wiring through floor cells to the exact spot where electrical outlets are desired. Prefabricated flooring sections for easy, fireproof construction, adaptability of Q-sections for demountable utility buildings, and many other uses of these sections are illustrated and described. H. Robertson Co., Pittsburgh, Pa.

SHEET METALS. Sheet Metal Specification Guide and Other Essential Data, 42 pp. 9x11%. General specifications for ARMCO special-purpose sheet metals are provided in this handy reference guide. General specifications, cost comparison data, and ... advantages of galvanized iron, galvanized paintgrip, and stainless steels for roof drainage and architectural use are covered. Methods of installing galvanized metals and tainless steel in roof drainage systems are illustrated. The American Rolling Mill Co., Middletown, Ohio.

HOME PLANNING. How to Plan Your New Home, 15 pp., 5x7. Informative booklet designed to explain to the layman in simple terms the advantages of employing an architect, and the services he can render. It covers among other topics, fitting the house to the lot, fitting the house to the family, planning and designing, original cost and upkeep and resale value. Available to architects in quantities for distribution to prospective clients. The American Institute of Architects, Committee on Public Information, 120 Madison Ave., Detroit 26, Mich.

FLOOR MAINTENANCE. Floors Without Flaws, 9 pp., 8½x11. A helpful guide for efficient care of wood, linoleum, rubber, terrazzo, concrete, asphalt and mastic tile, cork, magnesite composition, marble, tile and traverine floors used in schools, institutions, and office buildings. Methods of conditioning, finishing, and polishing all types of floors are recommended for those showing wear, burns, dirt, fade, grease and oil stains, and those already varnished and shellacked. Maintenance methods are described. Information on use, covering capacity, etc. is given for various cleaners, preservatives, penetrants, sealers, wax and other products. A. C. Horn Co., 43-36 Tenth St., Long Island City 1, N. Y.

ARCHITECTURAL COMPETITION. Reports on Two Architectural Competitions, 32 pp., 8½x11. Attractive illustrated booklet presents the prize winning and other designs of the architectural competition for the "Store Front of Tomorrow", sponsored by the Kawneer Co. Descriptions of the contestants' projects, as well as illustrations and plans include details on structure, materials of walls, floors, use of lighting, glass, sign treatment, display, etc. The report of the jury gives information on the postwar trends of design for store fronts, uses of new materials, and many other findings from the contest. The Kawneer Co., Niles, Michigan.

LUMBER. Wedge, Sr., 124 pp., 67/3x9%. This attractive book traces lumber pictorially, from the growing tree through the various milling operations of dipping, sawing, stacking, drying, loading and shipping at the company's plants. Plvwood manufacture is also dealt with. The personnel, history and philosophy of the company are covered. Other sections are devoted to the company's offices, foreign trade, forests, etc. Georgia Hardwood Lumber Co., Augusta, Ga.

COPPER AND COPPER ALLOYS. Revere Copper and Copper Alloys, 54 pp. 8½x11. Helpful booklet offers technical information on copper and copper alloys for product designers and all users of non-ferrous metals. Detailed descriptions of 45 alloys are given, including charts showing complete ranges of physical properties, general and working properties, specifications for the alloys, and typical uses and applications. Other sections are devoted to descriptions of manufactured forms, techniques of welding ferrous and non-ferrous metals, etc. Revere Copper and Brass, Inc., 230 Park Ave., New York, N. Y.

REQUESTS FOR LITERATURE

Richard Stahl, Springfield, Mo., architect. wishes to secure literature for a complete AIA file.

awson

128 YEARS

BATHROOM

CABINETS

THE lamps of our years

We started in business in 1901, as an independent refiller of carbon incandescent lamps.

In those days, gas and oil could still compete with electricity to light America.

But the best light of those distant times would seem dim indeed compared to what your home will have tomorrow.

Fluorescent light has proved itself in war plants, where it aids precision production.

With the dawn of peace it will bring to homes illumination that is not only cool and glarefree, but also the most efficient artificial lighting known. A fluorescent lamp gives you 2½ times the light from the same electrical energy.

Sylvania is a pioneer in fluorescent research and manufacture. Sylvania is a name to remember when you think either of lamps or fixtures for the finest in fluorescent performance.



THE FIXTURE OF THE FUTURE

This Model HF-235R fluorescent fixture rounds out Sylvania's industrial line. Its two 100-watt fluorescent lamps in Sylvania's non-metallic reflector give maximum lighting intensities with a minimum use of critical materials. (Reflector efficiency of 86%.) Streamlined top housing provides for complete hanging flexibility and encloses the ballast for protection.



SYLVANIA ELECTRIC PRODUCTS INC.

FLUORESCENT LAMPS, FIXTURES AND ACCESSORIES, INCANDESCENT LAMPS, RADIO TUBES, CATHODE RAY TUBES, ELECTRONIC DEVICES



PAINE

More Advantages To Work With

U. S. Pat. 1,887,814 The exclusive interlocking g r i d core within the Rezo door provides constant air circulation, adds extra strength and greater rigidity.

When your plans for postwar interiors call for flush doors—write Paine Rezo in your specifications. You and your client will both find advantages in this decision, for the patented Rezo air cell door provides greater strength plus extra rigidity. In terms of use and service these construction features mean no swelling or shrinking, no future alignment troubles, quiet, smooth operation for the lifetime of the building.

In homes, Paine Rezo doors make rooms seem larger, more attractive. In office buildings they contribute a modern appearance, attract tenants. In institutions and public buildings they add a feeling of spaciousness and efficiency. Back of them is America's oldest and largest producer of flush type doors with a record of nearly half a century of successful installations from coast to coast. Write today for illustrated, factual bulletins on Paine Rezo doors.





How will tomorrow's homes be built? Who will build them? Who will sell them? How much more will the homeowner get for his money?

This new book deals with conventional construction, speculative building, prefabrication—and Precision-Building. Tells of the progress made under the impetus of War needs. Explains the aims of mass production when applied to house construction.

The home-owner learns how to plan and buy a home of any size, any type, anywhere—and to be sure of receiving sounder values for his money. The architect learns how he can maintain complete flexibility of design—while employing the advantages of engineering technique and mass production—and how he can handle even small homes at a profit. The builder learns how to eliminate "guess-timating" and make sure of his normal profit on every house—large or small. Real estate developers and brokers, building material dealers, department and furniture stores, chambers of commerce, banks and lending institutions—all find, in this book, suggestions as to how they can play a part in post-war housing—on a larger scale than ever before.

"Not bouses, but Homes" was written largely to the prospective home-owner. Its primary aim is to clarify the differences between Homasote Precision-Built Construction and all other mass production methods of house-building. But its scope and interest are wide. We will welcome the opportunity to send you a copy.

To date, \$8,000,000 of private homes and \$30,000,000 of Government housing have been built by Homasote Precision-Built Construction—always with local labor and the cooperation of local suppliers and contractors.

HOMASOTE COMPANY, Trenton, N. J.

Michigan Architects, too, are Quick to Recognize the Advantages of **ZONOLITE** INSULATING CONCRETE



LEFT: Administration Building, Willow Run Bomber Plant, Ford Motor Company, Ypsilanti, Michigan, insulated with Zonolite Insulating Concrete Roof Fill. Albert Kahn Associated Architects & Engineers, Inc., Detroit, Michigan. Bryant & Detwiler Co., General Contractors, Detroit, Michigan.

BELOW: Steel Mill Foundry and X-Ray Laboratory, Ford Motor Company, Dearborn, Michigan, roof slopes provided by Zonolite Insulating Concrete cants and saddles.

Giffels & Vallet, Inc., L. Rossetti, Associated Engineers & Architects, Detroit, Michigan.

Bryant & Detwiler Co., General Contractors, Detroit, Michigan.

Scores of America's Finest Structures Have ZONOLITE Roofs...Walls...Floors

From coast to coast, leading Architects and Structural Engineers are using Zonolite in their most important jobs—Zonolite Insulating *Concrete* for roofs and floors—Zonolite Insulating *Plaster* for walls. This lightweight, absolutely *permanent* insulation against heat, cold and sound permits truly significant savings in deadweight and provides unique *two-way* protection against fire. Zonolite Concrete is easily poured, easily shaped into cants, saddles, etc. Zonolite Plaster cuts mortar weight in half, speeds the work, cuts labor costs. **ABOVE:** Royal Oak Central Office of the Michigan Bell Telephone Company, insulated with Zomolite Insulating Concrete Roof Fill. Smith, Hinchman & Grylls, Inc., Architects.

UNIVERSAL ZONOLITE INSULATION CO., Dept. AF-4, 135 S. La Salle St., Chicago 3, Illinois





WHEN YOU HAVE TO BE SURE OF RESULTS

You must use methods and material you can trust. You need a finish for floors that will give positive penetration and enhance the natural beauty of the wood. LIGNO-PHOL stands up under the severest use in schools, institutions, offices and factories. In homes, it provides lastingly beautiful floors, trim and paneling. LIGNOPHOL assures substantial economies in time and labor because only a single application is required to obtain its full benefits. Write for LIGNOPHOL specifications. Address Dept. F-12.

BUILDING PRODUCTS DIVISION



At Sampson, N. Y., Naval Training Station, wood floors of Drill Halls are treated with LIGNOPHOL. Shreve, Lamb & Harmon, Architects-Engineers. John A. Johnson Contracting Corp., Contractors.

SPECIFICATION AN

The advertising pages of THE ARCHITECTURAL FORUM are the recognized market place for architects and all others engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

Abosto Alter L'o	106
Alex Freek Electric Co	94
Adam, Frank Electric Co.	40
Adams and Westlake Company, The	49
Aerofin Corporation	41
Air Reduction	50
Alberene Stone Corporation of Virginia	43
Allegheny Ludlum Steel Corp.	3
Aluminum Company of AmericaOpp.	174
American Brass Company, The Opp.	160
American Lumber & Treating Company	170
American Balling Mill Company The	58
American Rolling Mill Company, The	175
Ampro Corporation	1/3
Andersen CorporationBet. 160,	101
Arco Company, The	198
Armstrong Cork Company	154
Associated General Contractors of America, Inc., The	182
Assn. of Gas Appliance and Equipment Mfrs.	155
Barclay Manufacturing Co., Inc.	230
Barrett Division The (Allied Chemical & Dye Corn.)	211
Patha Pita Division, (Milwaukaa Stamping Company)	914
Dathe-Alte Division (Mitwaukee Stamping Company)	10
Bendix Home Appliances, Inc.	19
Bituminous Coal Institute	40
Bohn Aluminum and Brass Corporation	179
Borg-Warner Corporation, Norge Division	201
Briggs Mfg. Company	200
Bruce Co. E. L. 194.	195
B & T Metals Company The	230
Prore A M Company	15
C.L. Company	996
Capot, Samuel, Inc.	105
Cardox Corporation	185
Carey, Philip, Mfg. Company, The	161
Carnegie-Illinois Steel Corporation	168
(United States Steel Corporation Subsidiary)	
Carr, Adams & Collier Company, Inc.	210
Carrier Corp.	55
Case W. A. & Son Mfg. Co.	52
Casein Company of America (Division of The Borden Co.)	42
Calanasa Callulaid Composition	III
Celanese Celuiola Corporation	TT
Celotex Corporation, TheCover	11
Chamberlin Metal Weather Strip Co.	102
Columbia Steel Company	168
Columbia Steel Company	168
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc.	168 32
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division	168 32 215
Columbia Steel Company	168 32 215
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co.	168 32 215 60
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crane Co.	168 32 215 60
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company	168 32 215 60 10
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies	168 32 215 60 10 173
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company	168 32 215 60 10 173 25
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company 	168 32 215 60 10 173 25 17
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Dunham, C. A. Co., The	168 32 215 60 10 173 25 17 208
Columbia Steel Company	168 32 215 60 10 173 25 17 208 184
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) (Crame Co. Crawford Door Company (Curtis Companies Dahlstrom Metallic Door Company 16, Dunham, C. A. Co., The Eagle-Picher Lead Company, The Federal Electric Company, Inc. 202,	168 32 215 60 10 173 25 17 208 184 203
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Eagle-Picher Lead Company, The Federal Electric Company, Inc. 202, Fiat Metal Manufacturing Company	168 32 215 60 10 173 25 17 208 184 203 178
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Dunham, C. A. Co., The Eagle-Picher Lead Company, Inc. Federal Electric Company, Inc. Fit Metal Manufacturing Company Fir Door Institute	168 32 215 60 10 173 25 17 208 184 203 178 189
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company 16, Dunham, C. A. Co., The Eagle-Picher Lead Company, Inc. Federal Electric Company, Inc. 202, Fiat Metal Manufacturing Company Firestone	168 32 215 60 10 173 25 17 208 184 203 178 189 49
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) (Great American Industries, Inc.) Crame Co. (Crane Company Curtis Companies (Data Steel Products Company Dahlstrom Metallic Door Company 16, Dunham, C. A. Co., The 202, Fiat Metal Manufacturing Company 202, Fiat Metal Manufacturing Company Fir Door Institute Firestone Opp. Flintkote Company. The Opp.	168 32 215 60 10 173 25 17 208 184 203 178 180 49
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Federal Electric Company, The Federal Electric Company, Inc. Fiat Metal Manufacturing Company Firestone Opp. Flintkote Company, The	168 32 215 60 10 173 25 17 208 184 203 178 180 49 171 11
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Dunham, C. A. Co., The Eagle-Picher Lead Company, Inc. Fiat Metal Manufacturing Company Fir Door Institute Firestone Opp. Flintkote Company, The Flynn, Michael, Manufacturing Co. Formic Inscience Company, The	168 32 215 60 10 173 25 17 208 184 203 178 189 49 171 17 7
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Great American Industries, Inc.) Crame Co. (Great American Industries, Inc.) Crawford Door Company (Carane Co. Carawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Carabeler Companies (Great Company	168 32 215 60 10 173 25 17 208 184 203 178 189 49 171 11 7 6
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Eagle-Picher Lead Company, The Federal Electric Company, Inc. Fit Metal Manufacturing Company Firestone Opp. Flintkote Company, The Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The	168 32 215 60 10 173 25 17 208 184 203 178 180 49 171 11 7 61
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curis Companies Dahlstrom Metallic Door Company Dahlstrom Metallic Door Company 16, Dunham, C. A. Co., The 202, Fiat Metal Manufacturing Company 17, Firestone Opp. Flintkote Company, The Opp. Flintkote Company, The Freestone Fynn, Michael, Manufacturing Co. Formica Insulation Company, The Frintk Cerporation, The General Bronze Corporation Construction Construction	168 32 215 60 10 173 25 17 208 184 203 178 189 49 171 11 7 61 2199
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division Crane Co. (Great American Industries, Inc.) Crane Co. Crawford Door Company Curits Companies Company Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company, Inc. 202, Fiat Metal Manufacturing Company Firestone Firestone Opp. Flintkote Company, The Firestone Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Corporation, The General Bronze Corporation General Electric Company, The Strike Company, The	168 32 215 60 10 173 25 17 208 184 203 178 180 49 171 11 7 61 219 63
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) (Great American Industries, Inc.) Crame Co. (Crawford Door Company Curtis Companies (Data Steel Products Company Dahlstrom Metallic Door Company 16, Dunham, C. A. Co., The 202, Fiat Metal Manufacturing Company 202, Fiat Metal Manufacturing Company Opp. Flintkote Company, The Opp. Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Blectric Company, The Strink Cerporation Fink Cerporation, The General Blectric Company, The	168 32 215 60 10 173 25 17 208 184 203 178 180 49 171 111 7 61 219 63 213
Columbia Steel Company	168 32 215 60 10 173 25 17 208 184 203 178 189 49 171 11 219 63 213
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crawford Door Company (Creat Companies Inc.) Crawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Cawford Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company (Great American Industries, Inc.) Painter Metal Manufacturing Company (Great American Insulation Company, The Firestone Opp. Flintkote Company, The (Great Insulation Company, The Frink Cerporation, The (Great Insulation Company, The Frink Cerporation, The (Great Insulation Company, The General Bronze Corporation (Great Insulation Company (Great Insulatin Company (Great Insulation Company (Great Insulation	168 32 215 60 10 173 25 17 208 184 203 178 1849 49 171 11 7 61 219 63 213 209
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crame Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Eagle-Picher Lead Company, The Federal Electric Company, Inc. Fir Door Institute Firestone Opp. Flintkote Company, The Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Electric Company General Electric Company Casselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Grashar Electric Company Grash Electric Company	168 32 215 60 100 173 25 17 208 184 203 178 180 49 171 11 11 11 7 61 219 63 213 209 215
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Eagle-Picher Lead Company, The Federal Electric Company, Inc. Pir Door Institute Fir Door Institute Firestone Opp. Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Electric Company General Electric Company Corporation Are Grasselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Graybar Electric Company Graybar Electric Company Graybar Electric Company	168 32 215 60 10 173 32 17 208 184 203 178 189 49 171 11 219 63 213 209 215
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crame Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Federal Electric Company, Inc. Federal Electric Company, Inc. Fir Door Institute Firestone Opp. Flintkote Company, The Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Corporation, The General Bronze Corporation General Bronze Corporation General Bronze Corporation General Bronze Corporation General Bronze Company Carsselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Graybar Electric Company Grea	168 32 215 60 10 173 25 17 208 184 208 184 208 184 178 189 49 171 11 7 61 219 3 213 213 215 161
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Cawford Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company (Great American Industries, Inc.) Paint Metal Manufacturing Company (Great Institute Firestone Opp. Flintkote Company, The (Great Insulation Company, The Frink Cerporation, The (General Bronze Corporation General Electric Company General Bronze Corporation (Zee, 29, 62, Grasselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) (Grasselli Chemicals Department (Connecticut Telephone & Electric Division) (Great Lakes Steel Corp. (Stran-Steel Division) Great Lakes Steel Corp. (Stran-Steel Division) (Opp.	168 32 215 60 173 25 17 208 184 203 178 180 49 171 11 17 219 63 213 209 215 161 174
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crame Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Detroit Steel Products Company Eagle-Picher Lead Company, The Federal Electric Company, Inc. Fir Door Institute Fir Door Institute Firestone Opp. Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Blectric Company Carasselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Graybar Electric Company Great American Industries, Inc. (Connecticut Telephone & Electric Division) Great Lakes Steel Corp. (Stran-Steel Division) Opp. Great Lakes Steel Corp. (Stran-Steel Division)	168 32 215 60 10 173 25 17 208 184 203 178 1849 49 171 11 7 61 219 63 213 209 215 161 174 196
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Dahlstrom Metallic Door Company Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Federal Electric Company, Inc. Federal Electric Company, Inc. Firestone Opp. Flinkote Company, The Firestone Opp. Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Bronze Corporation General Electric Company Grasselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Grasphar Electric Company Great American Industries, Inc. (Connecticut Telephone & Electric Division) Great Lakes Steel Corp. (Stran-Steel Division) Great Lakes Steel Corp. (Stran-Steel Division) <td>168 32 215 60 10 173 25 17 208 184 203 178 189 49 9171 111 7 61 219 63 213 209 215 161 174 196</td>	168 32 215 60 10 173 25 17 208 184 203 178 189 49 9171 111 7 61 219 63 213 209 215 161 174 196
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company Dahlstrom Metallic Door Company Dahlstrom Metallic Door Company (Great American Industries, Inc.) Dahlstrom Metallic Door Company (Great American Industrieg Company	168 32 215 60 10 173 25 17 208 184 203 178 189 49 171 11 17 8 189 49 171 11 7 61 219 63 3 213 209 215 161 174 209 215
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crame Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Eagle-Picher Lead Company, The Federal Electric Company, Inc. Fir Door Institute Firestone Opp. Flintkote Company, The Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Corporation, The General Bronze Corporation General Electric Company Casselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Grasselli Chemicals Department (Connecticut Telephone & Electric Division) Great American Industries, Inc. (Connecticut Telephone & Electric Division) Great Lakes Steel Corp. (Stran-Steel Division) Great Lakes Steel Corp. (Stran-Steel Division) Opp. Guth, Edwin F. Company, The Hendric	168 32 215 60 10 173 25 17 208 184 203 178 180 49 171 111 77 63 213 213 213 215 161 174 129 205 161 174 209 215
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Detroit Steel Products Company Detroit Steel Products Company Detroit Steel Products Company Federal Electric Company, Inc. Federal Electric Company, Inc. Fir Door Institute Firestone Opp. Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Bronze Corporation General Electric Company Caraselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Grasselli Chemicals Department (Connecticut Telephone & Electric Division) Great Lakes Steel Corp. (Stran-Steel Division) Great Lakes Steel Corp. (Stran-Steel Division) Great Lakes Steel Corp. (Stran-Steel Division) Mendrickson, A. Ward and Co. Homasote Company <t< td=""><td>168 32 215 60 10 173 25 17 208 184 203 178 189 49 9 171 11 7 61 219 63 213 209 215 161 174 299 205 161 174 204 205</td></t<>	168 32 215 60 10 173 25 17 208 184 203 178 189 49 9 171 11 7 61 219 63 213 209 215 161 174 299 205 161 174 204 205
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) (Great American Industries, Inc.) Crame Co. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Carae Co. (Great American Industries, Inc.) Carae Co. (Great American Industries, Company	168 32 215 60 10 173 25 17 208 184 208 184 208 184 208 178 189 49 171 11 7 61 219 215 213 209 215 161 174 196 3 215
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Great American Industries, Inc.) Crame Co. (Great American Industries, Inc.) Crawford Door Company (Carane Co. Carawford Door Company (Carane Co. Crawford Door Company (Carane Co. Crawford Door Company (Carane Co. Carawford Door Company (Carane Co. Dahlstrom Metallic Door Company (Data Company Compan	168 32 215 60 10 173 25 17 208 184 203 178 180 49 171 11 219 63 213 213 213 213 213 215 161 174 196 234 59 206 53 175
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. (Great American Industries, Inc.) Crane Co. (Great American Industries, Inc.) Crawford Door Company (Great American Industries, Inc.) Caraw Connecticut Telephone & Electric Company (Great Steel Products Company	$\begin{array}{c} 168\\ 32\\ 215\\ 60\\ 0\\ 10\\ 173\\ 25\\ 17\\ 208\\ 184\\ 203\\ 178\\ 184\\ 203\\ 178\\ 184\\ 196\\ 49\\ 9171\\ 11\\ 7\\ 61\\ 219\\ 215\\ 161\\ 174\\ 196\\ 63\\ 213\\ 209\\ 215\\ 161\\ 174\\ 59\\ 206\\ 53\\ 175\\ 187\\ 187\\ \end{array}$
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries, Inc.) Crane Co. Crawford Door Company Curtis Companies Dahlstrom Metallic Door Company Dahlstrom Metallic Door Company Detroit Steel Products Company 16, Dunham, C. A. Co., The 202, Fiat Metal Manufacturing Company 202, Fiat Metal Manufacturing Company Opp. Firestone Opp. Flynn, Michael, Manufacturing Co. Formica Insulation Company, The Frink Cerporation, The General Bronze Corporation General Bronze Corporation 28, 29, 62, Grasselli Chemicals Department (E. I. Du Pont De Nemours & Co., Inc.) Graybar Electric Company Grast Lakes Steel Corp. (Stran-Steel Division) Great Lakes Steel Corp. (Stran-Steel Division) Opp. Grut, Edwin F. Company, The Hendrickson, A. Ward and Co. Homasote Company Metal and Co. Homasote Company, The Metal Inc. Honson, A. C., Company Bet. 174, Johnson, Sohn A. Contracting Corp. 186,	168 32 215 60 10 173 25 17 208 184 203 178 189 203 178 189 171 11 7 61 219 205 215 61 215 63 215 161 174 299 215 63 275 177 208 189 205 215 208 215 208 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 208 209 215 209 215 208 209 215 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 217 209 209 217 209 200 209 200 209 200 200 200 200 200
Columbia Steel Company (United States Steel Corporation Subsidiary) Congoleum-Nairn, Inc.	168 32 215 60 10 173 25 17 208 184 189 49 171 178 189 49 171 208 189 49 171 215 17 208 189 49 171 215 17 208 189 49 171 215 17 208 189 49 171 215 17 208 189 49 171 215 17 208 189 49 171 215 178 189 49 171 215 178 189 49 171 215 178 189 49 171 215 178 189 49 171 111 7 61 215 215 215 215 215 215 215 21

UYING INDEX

Kewanee Boiler Corporation	159
Kimberly-Clark Corporation	57
Kinetic Chemicals, Inc.	163
Kinnear Mtg. Co., The	158
Kitchen Maid Corp., The	214
Konners Company	107
Lawson F. H. Company The	232
LCN Door Closers	37
Libbey-Owens-Ford Glass Company	157
Liquidometer Corp., The	226
Marsh Wall Products Inc.	169
McCall'sOpp.	191
Mesker Bros.	47
Miami Cabinet Division (The Philip Carey Mfg. Co.)	188
Michaels Art Bronze Co., Inc., The	153
Milwaukee Stamping Company (Bathe-Rite Division)	214
Minneapolis-Honeywell Regulator Co.	30
Minwax Company, Inc.	218
Modine Manufacturing Company	39
Montgomery Elevator Company	204
Musller Brass Co	100
Mueller I I Furnace Company Opp.	207
National Electrical Manufacturers Association 176	177
National Electric Products Corporation	166
National Gypsum Company	64
National Lead Company	167
National Life Insurance Company, The	176
Norge Division, Borg-Warner Corporation	201
Overhead Door CorporationCover	IV
Owens-Corning Fiberglas Corporation	172
Owens-Illinois Glass Company	193
Pacific Steel BoilersOpp.	206
Paine Lumber Company, Ltd.	234
Palace Corporation	35
Payne Furnace & Supply Co., Inc.	226
Pierce Butler Radiator Corp.	218
Pittsburgh Plate Glass Company	221
Pittsburgh Plate Glass Company, Paint Division	2
Ponderosa Pine Woodwork	33
Pratt & Lambert, Inc.	54
Republic Steel Corporation	21
Republic Steel Corporation	21 9
Republic Steel Corporation	21 9 181 216
Republic Steel Corporation	21 9 181 216
Republic Steel Corporation	21 9 181 216 175 230
Republic Steel Corporation	9 181 216 175 230 210
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated 20, Ric-Wil Co., The 8, Rolscreen Company 9, Ruberoid Co., The 0, Samson Cordage Works 0, Sedgwick Machine Works, Inc. 10,	9 181 216 175 230 210 212
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated 20, Ric-Wil Co., The 8, Rolscreen Company 9, Ruberoid Co., The 0, Samson Cordage Works 0, Sedgwick Machine Works, Inc. Servel. Inc.	21 9 181 216 175 230 210 212 51
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated 3, Ric-Wil Co., The 8, Rolscreen Company 0, Ruberoid Co., The 0, Saint Paul Corrugating Co. 0, Samson Cordage Works 0, Sedgwick Machine Works, Inc. 0, Servel, Inc. 0, Sloan Valve Company 0,	21 9 181 216 175 230 210 210 212 51 38
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated 3, Ric-Wil Co., The 8, Rolscreen Company 9, Ruberoid Co., The 0pp. Saint Paul Corrugating Co. 0pp. Samson Cordage Works 0pp. Sedgwick Machine Works, Inc. 0pp. Sloan Valve Company 0pp. Sonneborn Sons Inc., L. 0	21 9 181 216 175 230 210 212 51 38 236
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 230 210 212 51 38 236 23
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 230 210 212 51 38 236 23 231
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated 3, Ric-Wil Co., The 8, Rolscreen Company 0pp. Saint Paul Corrugating Co. 0pp. Samson Cordage Works 9 Sedgwick Machine Works, Inc. 9 Sloan Valve Company 9 Sonneborn Sons Inc., L. 9 Square D Company 9 Stanley Works, The 9 Stran-Steel Division (Great Lakes Steel Corporation)Opp.	21 9 181 216 175 230 210 212 51 38 236 23 231 161
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 230 210 212 51 38 236 23 231 161 225
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 230 210 212 51 38 236 23 231 161 225 48
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 230 210 212 51 38 236 23 231 161 225 48 33
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 230 210 212 51 38 236 23 231 161 225 48 33 237
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 1811 2166 1755 2300 2120 212 511 388 2366 233 2331 1611 2255 488 333 2337 2333 2337
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 1811 2166 1755 2300 2120 2120 212 231 233 231 1611 2255 48 333 2377 2333 5 600
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 1811 2166 1755 2300 2120 2120 212 231 1611 2255 488 333 2377 2333 5 1600 2277
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 1811 2166 1755 2300 2102 2122 511 388 236 233 2311 1611 2255 488 333 2377 2333 5 1600 2277 205
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 1811 2166 1755 2300 2102 2122 51 38 236 233 2311 1611 2255 48 333 2377 2333 5 1600 2277 2055 2223
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 181 2162 1755 2300 2102 212 51 38 236 233 231 161 2255 48 33 237 233 5 1600 2277 205 223 223 229
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 1811 2166 1755 2300 2122 511 388 2366 233 2311 1611 2255 488 333 55 1600 2277 2055 2233 229 2183
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 99 181 216 175 230 210 212 51 38 236 233 231 161 225 48 33 3 237 233 5 160 227 205 223 229 183 229 183 227
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 2102 51 38 236 233 231 161 2255 48 33 237 233 5 160 227 205 223 229 183 227 205 223 229 183 227 205 223 229 229 183 227 205 223 229 229 220 220 227 205 220 220 220 220 220 220 220 220 220
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99181 2166 1755 2300 2102 2102 210 212 211 2255 38 233 233 233 235 560 2227 205 2233 2160 2277 205 2238 2172 205 2238 2172 205 2238 2175 2238 2175 2238 2175 2238 2175 2238 2237 2255 2238 2255 2238 2255 2238 2255 2238 2255 2238 2255 2238 2255 2255
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 210 212 210 212 51 38 236 233 231 161 225 48 333 5 160 227 205 223 229 183 217 205 223 229 183 217 205 223 229 200 223 229 200 200 200 200 200 200 200 200 200
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	21 9 181 216 175 2300 212 51 38 236 233 231 161 225 48 33 237 233 237 205 223 229 183 217 205 223 229 183 217 206 223 229 220 220 220
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 181 216 175 2300 210 233 231 161 2255 48 33 237 2333 160 2277 205 223 229 183 217 205 229 183 217 206 238 220 220
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 2102 212 51 388 233 231 161 2255 233 237 205 223 229 183 227 205 223 229 183 227 206 238 220 220 220 220 225
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 210 212 51 38 236 233 231 161 2255 248 33 237 233 5 160 227 205 223 229 183 227 206 227 206 238 220 220 220 220 225 245 245 26 200 220 220 225 223 229 229 227 206 227 207 207 207 207 207 207 207 207 207
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 210 212 51 38 236 233 231 161 2255 48 33 237 233 5 1600 227 223 229 183 3217 2205 223 229 183 210 227 205 223 229 220 220 220 220 220 225 45 228 228 228 228 220 220 220 220 227 227 227 227 227 227
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 212 51 38 236 233 231 161 225 233 233 160 227 205 223 229 183 217 205 223 229 183 217 206 229 229 229 235 245 228 198 298 299 200 200 200 200 200 200 200 200 200
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 181 216 1755 2300 212 51 386 233 231 161 2255 233 233 160 227 205 223 229 183 217 206 235 229 235 220 235 45 220 220 235 45 228 1988 1999 224
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 99 181 216 175 2300 210 212 51 388 233 231 161 2255 233 233 233 233 233 233 223 233 223 22
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 2102 231 231 161 2255 48 33 237 2333 5 160 227 205 223 229 183 227 205 223 229 183 227 206 227 205 223 229 183 220 220 220 223 229 183 227 206 220 220 220 220 220 220 220 220 220
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 210 212 51 388 2336 233 231 161 2255 488 33 237 2333 5 160 227 205 223 229 183 217 206 238 220 220 235 248 236 210 200 227 205 223 229 205 223 229 206 227 205 223 229 200 200 200 200 200 200 200 200 200
Republic Steel Corporation 20, Revere Copper and Brass, Incorporated	211 9 181 216 175 2300 210 212 51 388 236 233 231 161 2255 48 33 237 233 5 60 227 205 223 229 183 217 206 238 220 220 220 220 220 235 45 228 299 224 206 227 207 207 207 207 207 207 207 207 207

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