

## LESSONS FROM HOUSING DEVELOPMENTS OF THE UNITED STATES HOUSING CORPORATION.

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While the Bureau of Industrial Housing and Transportation of the Department of Labor was created to meet a war-time emergency, it should be understood that that emergency developed from acute local situations which even in peace times were becoming widespread and were steadily growing worse. These local conditions and the resulting general situation as to housing demand serious consideration and must hereafter be faced and treated by methods more widely applicable to the nature of American institutions than the arbitrary measures of local relief adopted under the pressure of war.

Inability of many war industries to obtain sufficient workers because of lack of housing facilities within easy access of the factory, and the consequent failure to achieve the maximum of production constituted the emergency to which reference has been made. This housing shortage was at bottom an absolute shortage in the quantity of housing accommodation, although the quality of the housing was soon found to be intimately involved in the quantity shortage

Under the pressure of appeals to patriotism and of high pay, a given amount of housing was early in the war made to shelter a much larger number of workers than usual. It seemed a simple matter, for example, to double and quadruple the number of beds in a room. By having three men use the same bed in successive eight-hour shifts some workingmen's lodging houses provided an extraordinary quantity of housing. Boarders and roomers were crowded into private houses, families doubled up, and rooms and houses too miserable and insanitary to find tenants in ordinary, times were forced into use. Thus, irrespective of any new house construction, there was provided, almost parallel with the sudden increase in manufacturing capacity which came from enlargement of plant facilities and from running two or three shifts, an increase in housing facilities, but at a heavy social price.

This implied a considerable reduction in the average quality of housing, already very bad in many places, and immediately resulted in a marked lowering of the average of efficiency of the increased labor supply and a consequent failure of the production, vitally necessary.

Increased pay and fervid appeals to patriotism brought many highly skilled and self-respecting workers to the jobs. These men--usually married men, with families--found conditions so intolerable that they would soon throw up their jobs and shift, hoping to find other jobs under less outrageous living conditions.

The labor turnover rose to startling proportions. Examples of excessive labor turnover were supplied by the war industries of practically every city in which the Housing Corporation investigated conditions in housing of labor. Though unsuitable or inadequate housing was not the sole cause of this excessive labor turnover, it is mentioned by employment managers of corporations in many instances as the chief cause and in others as a contributing cause.

The constant training of new employees produced a great reduction in the average of efficiency. Despite unprecedented wages, with a corresponding rapidly increasing unit cost of production, a point was soon reached beyond which there could not occur any further effective increase of the labor force. No urge of patriotism or high wages could compensate for the overloaded accommodations for individual and family life. Inadequate access not only to sleeping places but to food, merchandise, recreation, and everything relating to family and social life outside of working hours, put a limit on production far below the maximum capacity of the increased plants.

### HOUSING AND PLANT INVESTMENT.

These conditions forced attention to the fundamental fact that the necessary industrial plant investment, including the housing of machinery and of the workers during working hours, is relatively small as compared with the investment required properly to house and keep in working efficiency the workers and their families outside of working hours.

Stimulated by war prices, or by direct capital advancement by the Government as a war necessity, plant investment was readily and rapidly increased. The far greater investment necessary for a corresponding expansion of living quarters for the workers failed to materialize, for many reasons. Even under normal conditions this greater investment tends to lag behind industrial expansion. As a business proposition it depends on the prospect of financial returns, the law of supply and demand. In the supply of houses, which tends to fix the scale of rents and of house prices, the amount of existing housing bulks very much larger in relation to the possible annual production of new houses than does, for example, the stock on hand of any ordinary merchandise in relation to the annual production of such merchandise. New investments in houses built on a rising market must, consequently, compete with existing houses, disadvantageously dividing with them any increase in prevailing rental and purchase rates. Seldom is the investment in new houses returned to the investor save after a long period of years. The enormous war increase in demand offered no proportionate inducement to the investor because it was obviously not a permanent demand.

Since 1914 the rapidly increasing cost of house construction and the diversion of capital into channels of more profitable return have resulted, even in the face of an increasing need for houses, in a steady decline in the number of houses actually built. The American Contractor gives the total investment in residential building in the eastern, central, and northern sections of this country (representing 69 per cent of the total population) as \$432,337,000 for the year 1916, and only \$252,000,000 for 1918.

It became clearly apparent in the summer of 1917 that this part of the failure to produce needed war supplies had become a matter of Government concern. Only such methods of arbitrary stimulation as were already producing notable results in expanding manufacturing capacity could make that capacity effective by supplying the requisite housing facilities.

In one set of cases the problem was so clearly unescapable that there was but little hesitation in meeting it. These were the cases of new industrial establishments created at the order of the Government for the sole purpose of producing munitions. They included powder plants, loading plants, and the like, established for reasons of public safety in isolated locations where nothing before existed. Here, quite obviously, the entire facilities for housing employees and for providing some approximation to community life had to be created along with the plant itself. It is interesting to note that even with the temporary class of structures appropriate for these shortlived communities, and even with the use of a large proportion of dormitories for single men and women willing to live apart from family life while temporarily engaged in war work, the investment in housing facilities rose to large proportions in comparison with the cost of the industrial plant itself.

Much more usually, the war-stimulated industries formed a part of permanent communities. In these the prewar housing shortage became unendurably aggravated. The problem, was complicated with the gradually failing normal process of building and marketing houses and their accessories in accordance with the law of supply and demand. Very few people recognized either the gravity or the enormous size of the housing problem as compared with the more obvious problem of expanding manufacturing facilities. When the need was recognized, the difficulty of balancing ultimate economic gains and losses against the necessary speed of construction, the greatly enhanced cost, and the reservation to war needs of every productive power of the country, brought about a long and very costly period of hesitation.

Indeed, it was obviously beyond the physical powers of the country, in the stress of the urgent demand for everything directly relating to war necessities, to create, promptly an adequate expansion of housing facilities in proportion to the localized expansion of manufacturing capacity and demand for labor. It may be that if hostilities had not come to an end when they did, the attempt to carry through the increased program of military effort and production adopted in 1918 might have proved that the country had "bitten off more than it could chew." It is not unlikely that it would have been necessary to curtail or postpone the war production program at many points in order first to provide housing for the workers needed for the increased output of war materials, upon which the whole program was based.

#### CONGRESSIONAL ACTION.

A tardy and incomplete recognition of the fundamental nature of the housing problem in its relation to successful war production occurred on March 1, 1918. On this date Congress authorized the expenditure of

\$50,000,000 by the United States Shipping Board for accelerating the production of housing facilities in connection with shipyards. This was a mere drop in the bucket compared with the investment in shipbuilding plants. Another step was taken when Congress authorized the President, on May 16, 1918, to apply \$60,000,000 for the purposes of providing housing, local transportation and other general community utilities for such industrial work as are engaged in arsenals and navy yards of the United States and industries connected with and essential to the national defense, and their families \* \* \* only during the continuation of the existing war," and on June 4 provided the necessary appropriation. On July 31 1918, this amount was increased to \$100,000,000.

#### UNITED STATES HOUSING CORPORATION.

By Executive order, confirmed in the act of June 4, 1918, the Bureau of Industrial Housing and Transportation was created in the Department of Labor to serve these ends, and the funds were expended by it through the United States Housing Corporation, legally created July 9, 1918.

The first effort was, through the establishment of the homes registration service, to discover and use to the utmost capacity the existing housing facilities in every community where the lack of such facilities was retarding the production of war materials. A further effort was for the improvement of transportation facilities, by better service and by extension of trackage, to increase the number of existing houses available for war workers. As a last resort there was undertaken the construction of new living quarters, both in the way of temporary dormitories and of permanent houses with accessories suitable for decent family life.

The available and prospective funds were never enough to justify more house construction than would simply take the peak off the war-time shortage. Nevertheless, the building projects recognized as urgently essential by the production authorities of the Army and Navy and by the United States Housing Corporation at the time of the signing of the armistice involved an estimated expenditure of \$194,000,000, and the projects actually under way had been allotted the full limit of the appropriation of \$100,000,000 then available. As at that time reduced, the total expenditure for construction, including amounts lost on canceled projects, will not exceed \$45,000,000.

#### TEMPORARY AND PERMANENT HOUSING.

The progress of the purely temporary housing developments in connection with isolated munition plants, and the temporary dormitories at certain other points, could and did cease when the urgent necessity terminated. The bulk of new housing undertaken to stimulate production consisted of dwellings forming a part of communities likely to need an even larger amount of new house construction to meet their postwar needs. It seemed economically wise to complete so much of this permanent housing as was far advanced in construction at the signing of the armistice.

Since the new housing which could be undertaken during the stress of war fell so far short of meeting the full war-time needs, it was designed to serve those workers whom it was most essential to keep steadily on the job and whom it had proved most difficult to retain under bad living conditions. These were usually the most skilled and steady, self respecting men, generally married men with families, the strength of American industrial life. It is these men who not only fully deserve but who demand and are normally able and willing to pay for decent and comfortable living conditions, schooling and play opportunities for their children, and all reasonable essentials of civilized life for themselves and their families.

Thus it happens that these Government housing operations, like so many of the private developments which can be studied, have dealt but little with the more difficult problem of satisfactory and economical housing for the families of unskilled and relatively low-paid workers. Within the scale of accommodations which these developments undertook to supply they are, however, very instructive.

#### LESSONS OF GOVERNMENT

Two sorts of lessons are to be derived from the Government emergency operations in the housing field. One sort is concerned with the physical, social, and economic qualities of the several housing projects as object lessons. They are intelligent, even if hurried, experiments on a large scale, directed toward securing the best obtainable results in the way of comfortable, healthful, pleasant living conditions for persons of limited means. These attempts will be valuable to all who may aim at similar ends. They will be helpful to the individual home builder, to the so-called speculative builder, whose business is the manufacture and sale of houses intended for those unable or unwilling to venture on building for themselves. They will also be useful to cooperative building organizations or to manufacturers or other investors who may desire to

build houses on a large scale, in view of the indirect benefits which flow from satisfactory living conditions in any community. Some of the results attained by the United States Housing Corporation are here briefly suggested from this point of view, but a much fuller and more detailed discussion of them may be expected in the forthcoming official report of the corporation.

The other sort of lessons is concerned with the social and economic conditions which have caused the general shortage of good housing so strikingly emphasized and exaggerated for a time by the war. We have here a great national problem, more acute in some places than in others, taking different forms according to local conditions, but critical throughout the length and breadth of the land. It is a problem that needs the most careful study to find the most effective means of relief, for some of its causes are obscure though some are fairly evident. On the economic and financial side it is in the aggregate enormous; while on the social side there is probably no other activity in the nation which does more to fix the conditions that determine the health and mold the character of our people than housing.

On the side of quantity of house construction, which fundamentally governs all questions of quality, it appears to be a fact that capital has for some years been more and more inclined to seek other channels of investment than housing. The individual home builder and the large operator alike have been finding it progressively more difficult to obtain mortgage loans on favorable terms as compared with the terms on which loans can be secured for other classes of investment. Rented dwellings, especially rented individual dwellings, with their many social advantages to the community as compared with tenement houses due to the favorable conditions they offer for sound family life, have been growing less and less profitable as investments.

The characteristically American impulse toward the making of a permanent home for the family in a place of its very own, while still very strong and very general, appears to be losing rather than gaining among people of small means. Especially is this true among working men, who feel the danger of being tied by home ownership to a limited choice as to their place of employment.

All of these causes, and others more obscure, doubtless lie back of the unmistakable tendency toward insufficient construction of new houses to meet the growth of population.

This growing scarcity of satisfactory housing reflects itself in overcrowding and in the enforced acceptance of unsatisfactory accommodations. There follows a lowering of the average quality of housing, with a drift on the one hand toward tenement living and on the other toward slum conditions of another sort. On the score of quality, the diminution of investment building proper, both by the individual home maker and by the investor in rental property, tends to increase the proportion of houses built to sell and not to endure. Such houses depreciate rapidly, are not in the long run a good economic investment for the country, and tend continually toward slum conditions unfavorable to that self-respecting home life upon which the security of our democracy rests.

The country must face this national problem. It must face it squarely and courageously and must patiently devise such improvements in the methods of financing the home builder, and in the prevailing mechanisms for wholesale construction of dwellings, as will correct these tendencies without dangerously revolutionary change of method. Such success as may have attended the Government's adventures in housing under the stimulus of war should have a far-reaching result in pointing the way for other agencies.

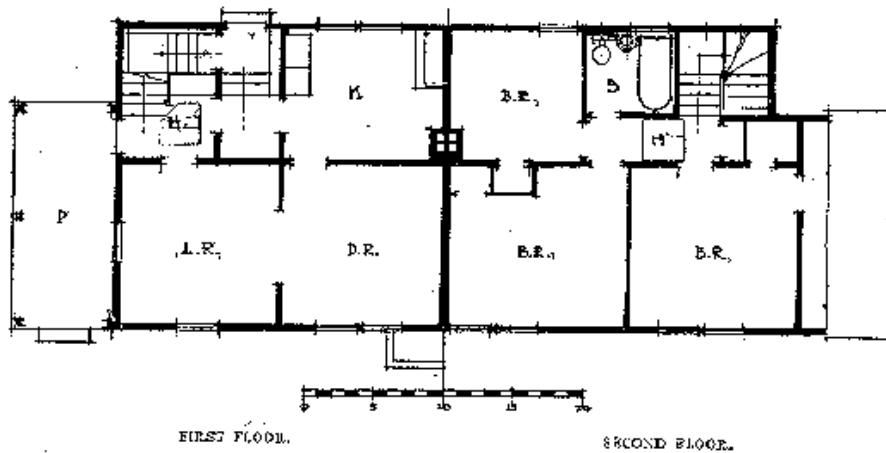
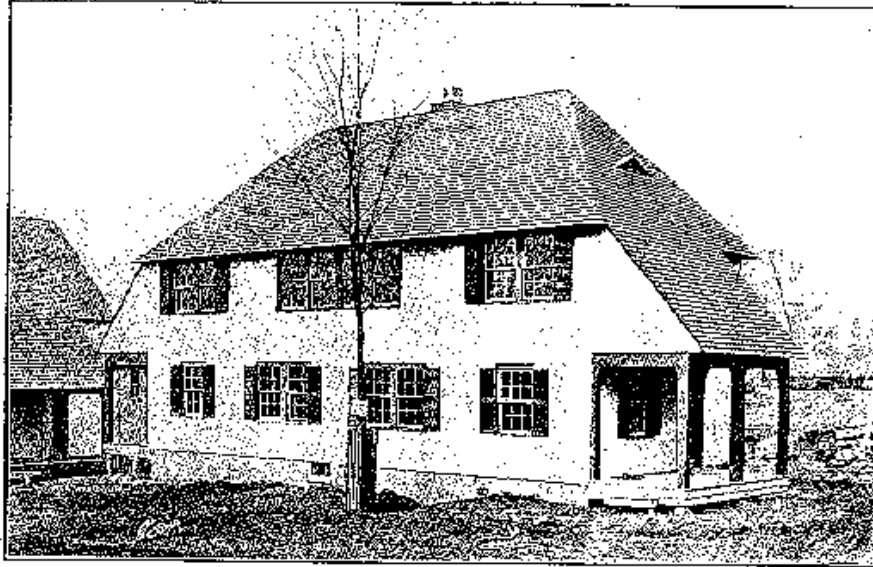
It is to other agencies rather than to a peace-time extension of the building activities of the United States Housing Corporation that the writer looks for relief. A governmental building organization in peace times could hardly be expected to attain the exceptionally high standard of personnel and of devotion to the work in hand which was secured in the war-time organization under the inspiration of war service, and would be subject to many of the administrative difficulties under which the war work suffered. This is all the more a reason, on the one hand, for making the best use of lessons learned, and on the other hand, for recognizing the difficulties in the way of any proposition looking toward direct participation by the Government in the building of houses in peace time.

The country must come to recognize the house problem as a national problem of the most vital importance to the security of our democracy. The country, too, must come to understand that it takes a great deal more money to house the workers outside the factory than to shelter and work them inside the factory. Some satisfactory solution of the problem must be found and will be found as its importance is realized. It is not impossible that in some way parallel to the operation of the Federal Farm Loan Act financial support may be offered which will stimulate individual and collective housing extension, while at the same time utilizing to some extent the expensively acquired information and experience of war time. But the most immediate need, if the results of the war-time housing experience are to be salvaged and made the basis for further advance, is the establishment of a continuing Government agency for research and as a clearing house of information on matters of housing and community planning.

#### TYPES OF HOUSES.

This brief article can give only the most inadequate idea of the sort of houses and of residential neighborhoods which the United States Housing Corporation has been creating, to say nothing of the still larger range of housing the construction of which was stopped on the signing of the armistice, but the plans of which are all available.

Taking a few examples almost at random, the first illustration is that of a pair of semidetached five-room houses in a development at Waterbury, Conn. The development comprises five and six room houses, both detached and semidetached, housing 55 families.



FIRST FLOOR.

SECOND FLOOR.

**WATERBURY, CONN.**

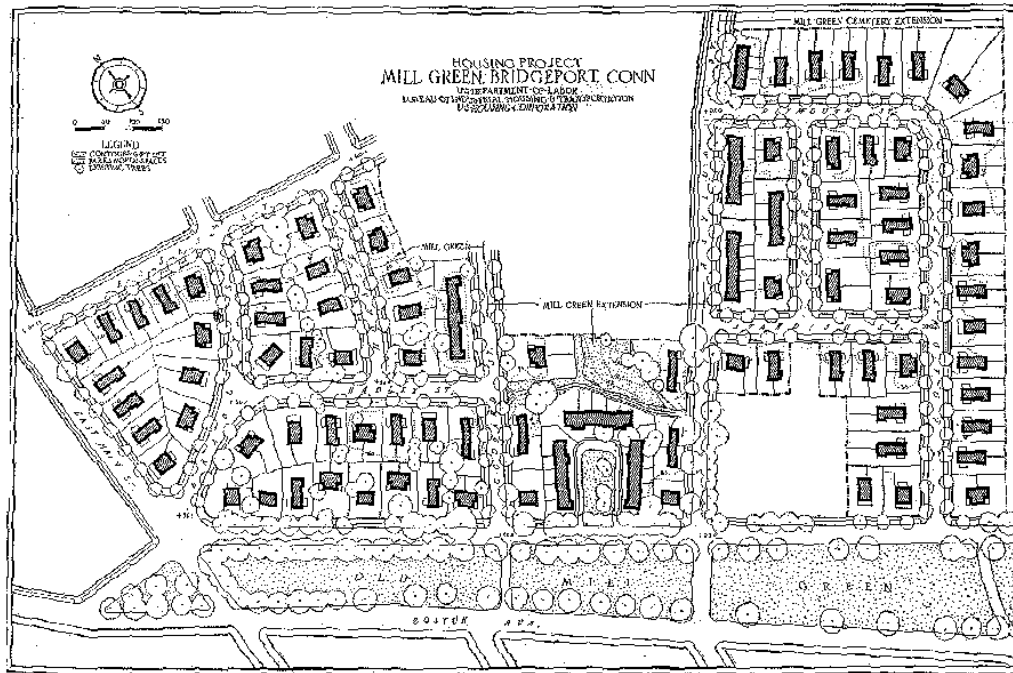
Pair of 6-room semidetached houses.

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The plan is very economical not only in the utilization of space within a simple rectangular outline but also in the method of framing, with its continuous longitudinal partition in both stories, in the central chimney, and in the basement stair arrangement, giving outside access to the cellar without an area. The simple wall and roof treatment and the skillful placing of the windows make a building not only very attractive in itself but also of special value in a series of small houses.

The site covers 18 acres of comparatively rough bouldery land in the southerly outskirts of the city, the most accessible and available area of sufficient size. The portion actually used for the develop as curtailed at the time of the armistice, comprises 81 acres, divided into lots about 110 feet deep and 40 to 50 feet wide, giving a space between houses along the street of 15 to 30 feet, and a density of about 7.5 families per acre, gross (including streets).

All the houses are of frame construction, stuccoed. All the five-room houses are practically on the same plan as illustrated, and all the six-room houses are on one plan. Both are varied by differences in the location of the porches and in the roof treatment, as well as by their use in the detached as well as in the semidetached form, with corresponding variations in window placing. With judicious modifications in the set-back of the houses from the street, with the natural irregularity of slope in the site, and with slight bends in some of the streets, there is such a happy avoidance of monotony and regularity of appearance that it is hard to realize that only two house plans are used in the entire development. And the adherence throughout to one material-stucco-for outside walls, to one material for roofing, and to one good set of simple details gives an architectural harmony to this varied arrangement which is thoroughly pleasing.

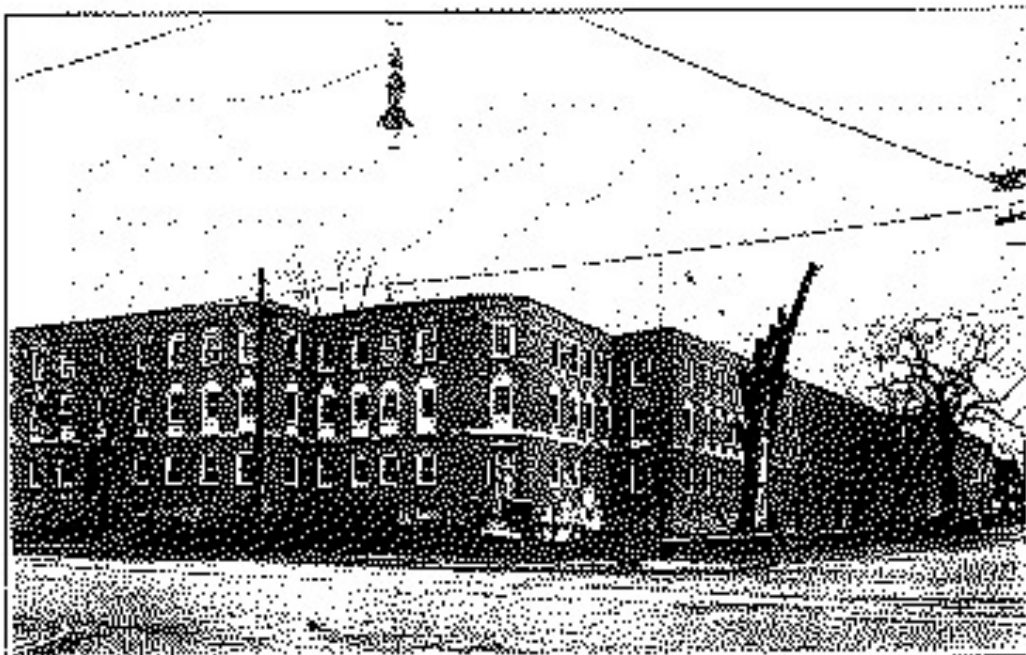


The project at Old Mill Green, Bridgeport, is shown in general plan and by a half tone of three of the types of houses. The land was irregular in outline and in the portion marked "Mill Green Extension" was broken by large ledges. There were numerous existing trees, and the land bordered on an old public common and was crossed by two old streets. The houses are mainly semidetached and two-flat houses with a few short rows of four-room houses, giving an average density of 10.3 families per acre, gross. The resulting general plan is irregular, offering some very interesting compositions. In the middle of the plan is one of the very few cases in which houses were built about three sides of a recessed court. The special economic justification for this court is the existence of the ledges in the rear which made it unprofitable to open a street from Goddard Avenue to Asylum Street, parallel with, Mill Green, and build on the rear portion of the property. This ledgy ground is made into a local park in the interior of the block. The skillfully straightforward architecture of these buildings, all of simple outline, with plain brick walls and uncomplicated slate roofs, produces some of the most attractive results to be found in any of the projects of the Housing Corporation.



BRIDGEPORT, CONN.

Facing Old Mill Grove. Six-room detached house; pair of houses similar to this. Two family houses at Forest Hill.

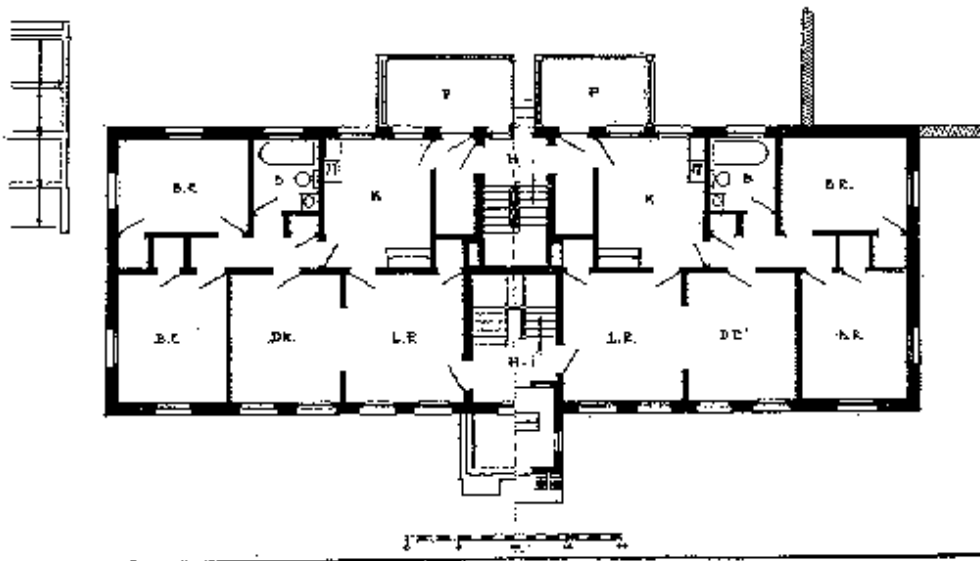
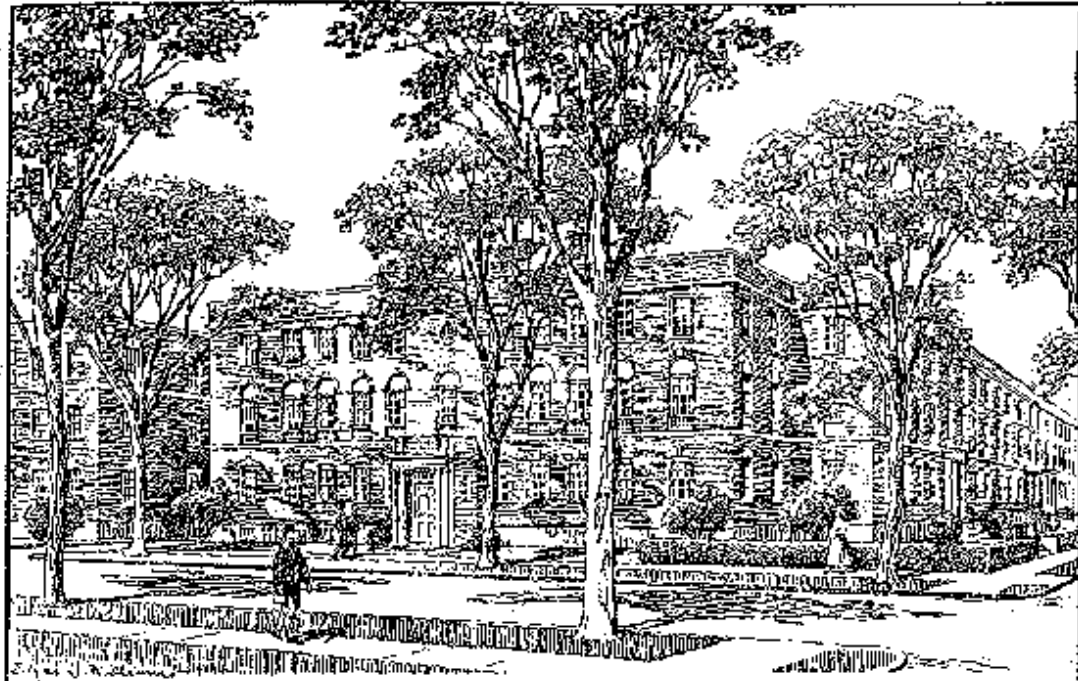


BRIDGEPORT, CONN.

Black Rock Apartment House Group. This group apartment, each, 1216 G.A.



Bridgeport also presents two excellent examples of apartment house groups, among the few instances where high land values forced the use of this type of housing. The normal unit of construction, illustrated in plan, contains six apartments of five rooms each. Another closely similar unit has six 4-room apartments, and a special corner unit has six 3-room apartments. These units are grouped and combined with great ingenuity, forming pleasant interior courts of considerable size overlooked by the rear porches. For service these interior courts are reached by roadways, and in one case a good-sized playground is provided in the court. The Black Rock group here illustrated houses 216 families, with a density of 31.9 families per acre, gross; the other group houses 108 families, with a density of 35.8 per acre, gross. While these are higher densities than are generally produced by the too familiar "three-decker" development of New England cities, they give far better light, air, privacy, and convenience, to say nothing of the vastly better appearance and the freedom from rapid deterioration.



SECOND-FLOOR PLAN.

FIRST-FLOOR PLAN.

**BRIDGEPORT, CONN.**

Black Rock Apartment House Group. Five-room apartment unit, type G3.

**ARCHITECTURAL AND TOWN PLANNING FEATURES.**

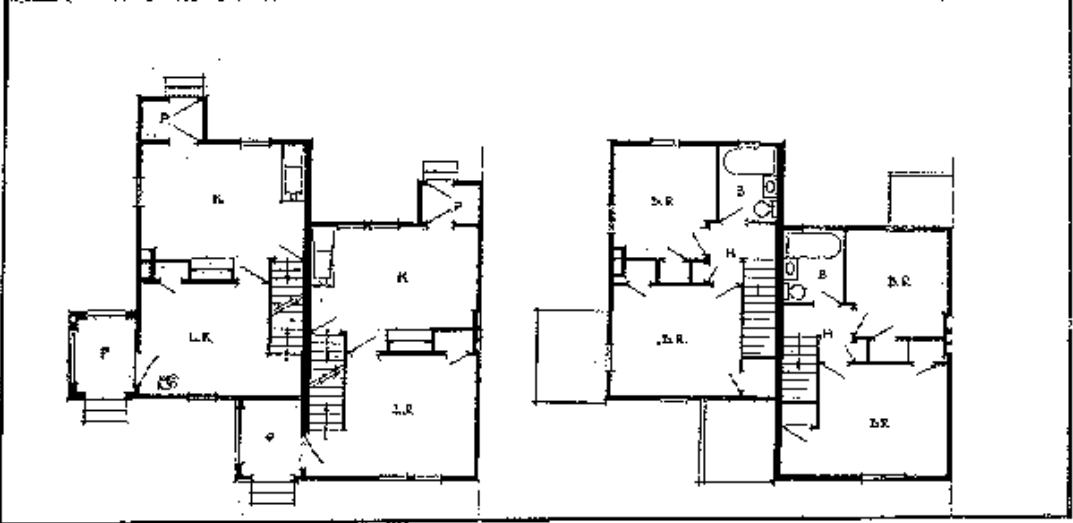
The speed with which the erection of all buildings had to be pushed ruled out experiments in new methods of construction, however promising of economies or even of possible increased speed. It was necessary to use only those materials obtainable quickly and certainly in the necessary quantities and the methods of construction so well tried and familiar as to minimize the chance of unforeseen delays. Thus there is little

new to be learned from the projects on the side of construction, except in choices of detail as between well-known alternatives. Some economies of detail forced by the war-time shortage of materials would be inexpedient for peace-time work; others, such as, notably, the simplifications of plumbing, are permanently desirable.

With regard to the general designs of the houses and of the towns or residential neighborhoods created in building them, there was a somewhat greater latitude for inventive ability; but even here the speed and the large scale of the operations required a conservative attitude, with a strong presumption in favor of types of plan so well tested by experience as to give assurance that all their drawbacks could be known in advance and could be either overcome or deliberately accepted as a fair price to pay for their known advantages.

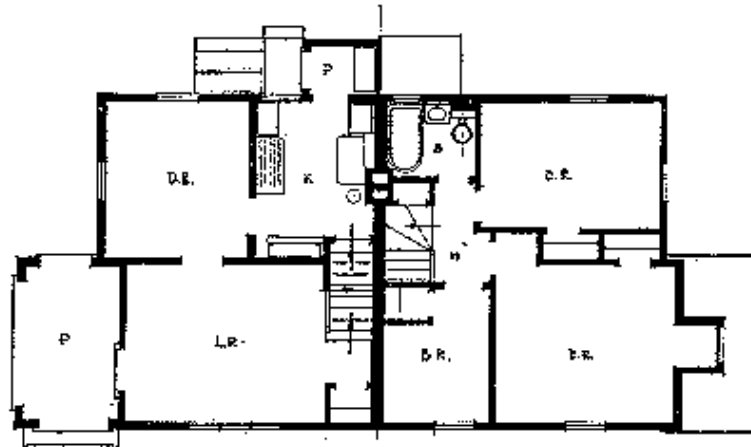
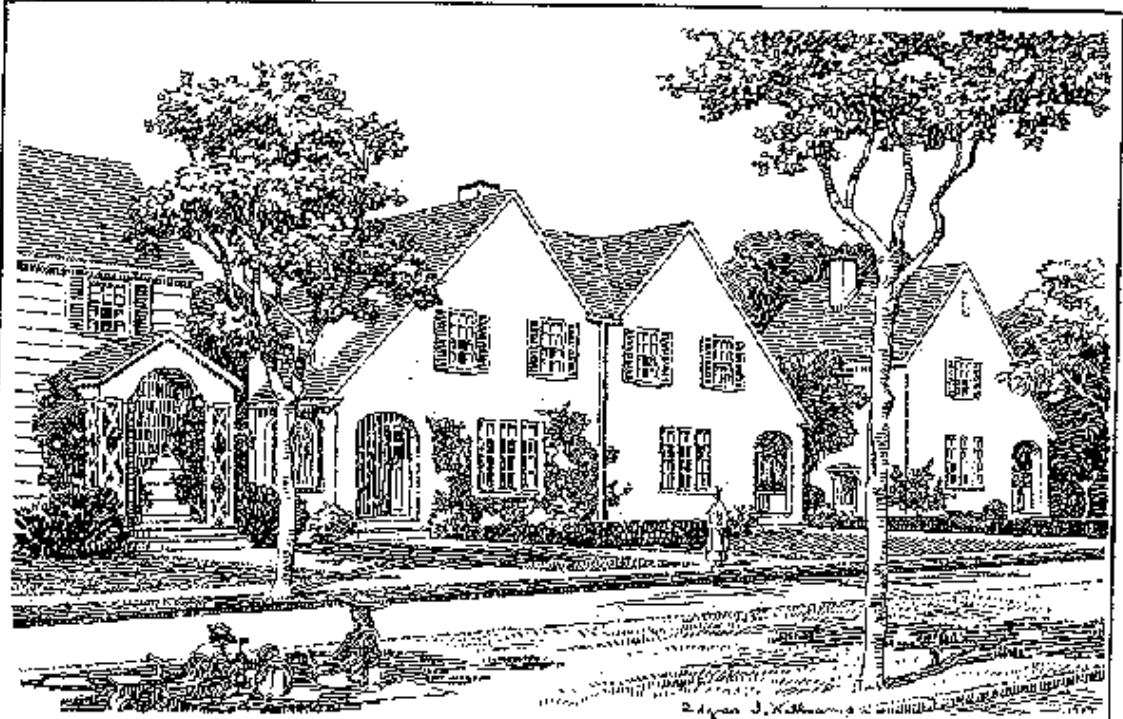
If time had permitted the deliberate study of promising inventions of a more radical sort in respect to plans of arrangement and methods of construction it would have been reasonable to expect notable improvements in the "state of the art," from concentrating upon the scrutiny of such inventions the great range of technical skill and practical experience, that was gathered in the service of the Housing Corporation, which included men of many types of mind in each of the fields of architecture, landscape architecture, engineering, contracting, real-estate operations, finance, management of labor, and social work. And although the staff of the Housing Corporation resolutely limited its work to what would produce reasonably satisfactory results for the relief of the war industries in the quickest, possible time, its members came to feel very strongly that after the war a permanent Government agency ought to be set up which could make such thorough and deliberate studies both of alternative customary types of plan and materials and of promising new types, and make the results of such comparisons available for the whole country.

Even under conditions as they were the Housing Corporation assembled and compared and analyzed many types, of more or less acceptable plans, both of houses and of town layouts, and will be able to make available to the public in its final report many of these comparisons and selections, covering a large variety of plans based on a few widely used types and a few plans which are, if more experimental, at least so promising as to have led to their limited use even under the stress of war-time conditions.



DAYTON, OHIO.

Four-room row houses, type H8.

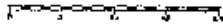
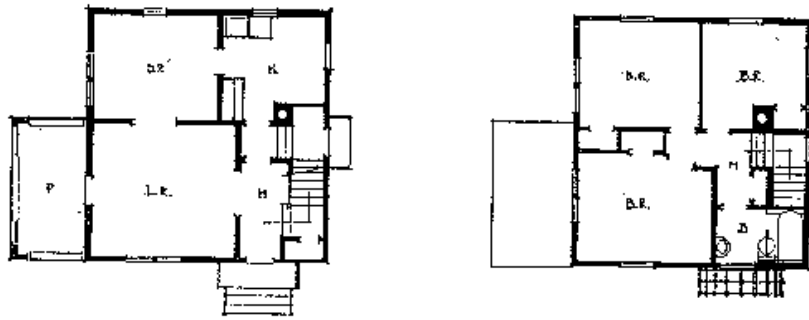
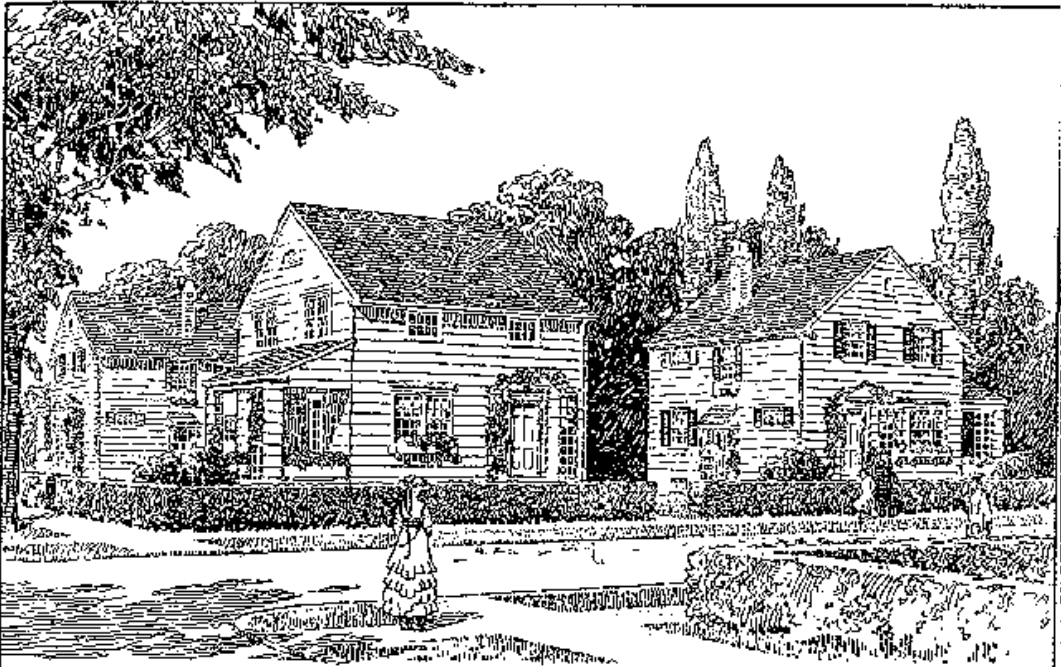


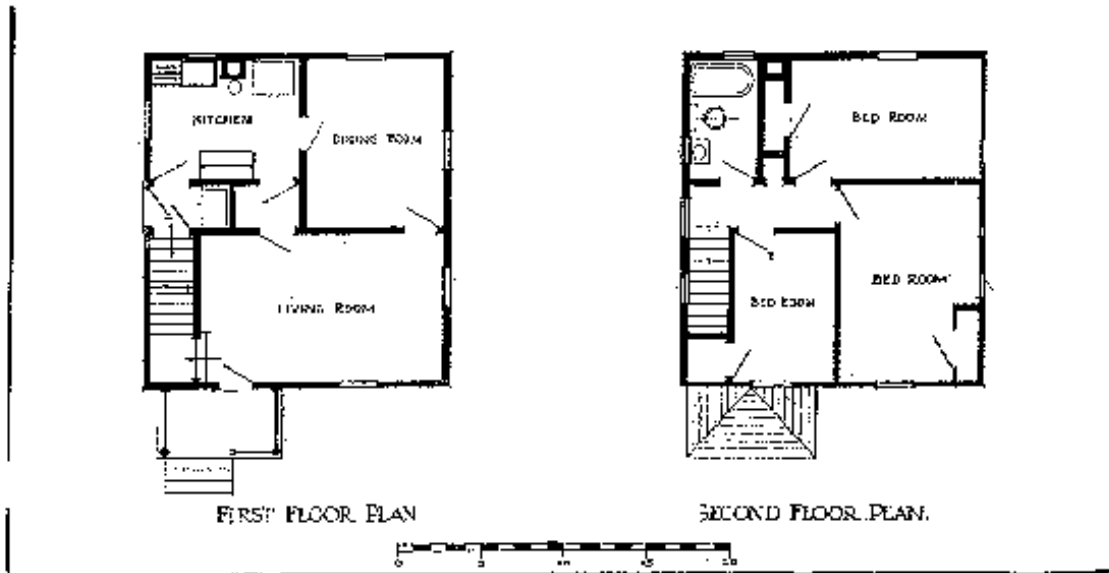
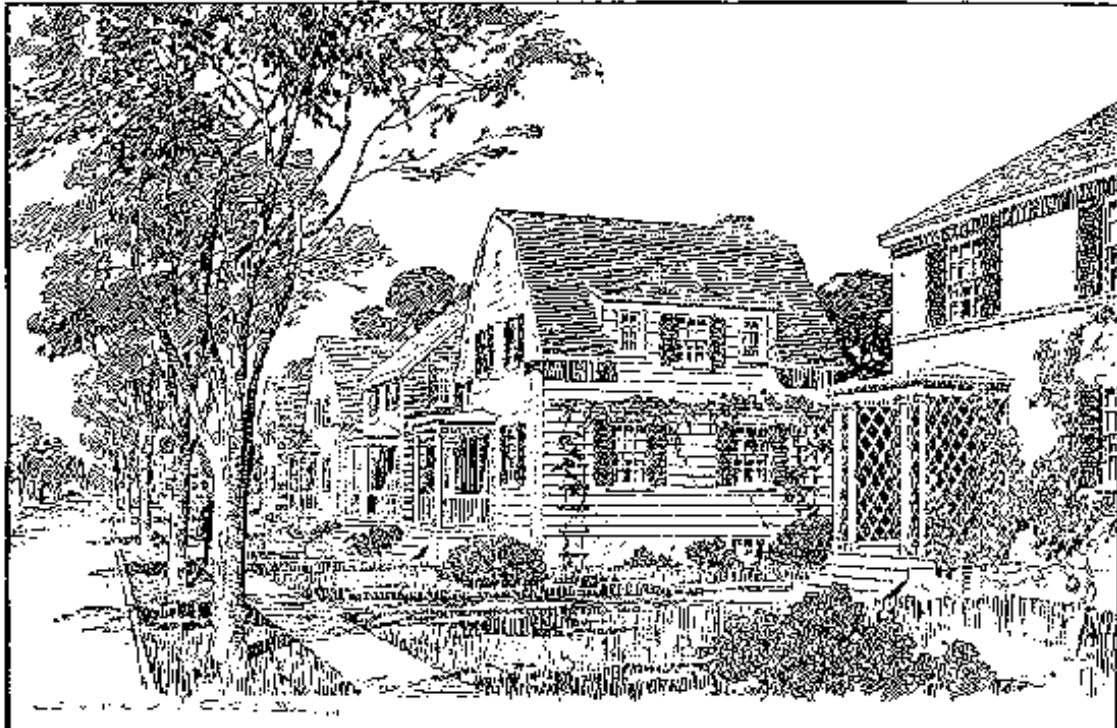
FIRST FLOOR.

SECOND FLOOR.

ILION, N. Y.

Six-room semi-detached house, type C2.





**ABERDEEN, MD.**

Six-room detached house, type E.

On the score of architectural appearance there are lessons to be learned from the work of the Housing Corporation, both positive and negative, concerning the means by which small houses may be made beautiful consistently with economy of construction and convenience of use; but perhaps, the most striking lessons in this respect concern the location of the houses and the general town planning. When long lines of houses on long, straight streets are imposed by an existing rectangular street plan, the houses being small and close together by force of economy, hardly any architectural skill can produce a thoroughly agreeable

result, even by resort to grouping and to such variations in set-back as are normally acceptable to the occupants. The experience of the corporation has merely confirmed in this respect a generally accepted opinion of town planners that in residential developments, especially for small houses, comparatively short street vistas in proper scale with the houses are extremely important whether secured by absolute discontinuity of the minor streets or by moderate curves or angles in them; and that such departures from the theoretical economy of the rectangular plan need not involve, if well designed, an appreciably greater cost per house for streets, utilities, and land.

Another general point as to house arrangement has been borne out by the experience of the Housing Corporation. It is possible to unify and formalize a scheme by making the houses so rigidly related and balanced along the street and across the street that the whole development looks unpleasantly like a charitable or penal institution. It is also possible by too much seeking of variety and picturesque quality in the color and shape and arrangement of the buildings to make the development look like a piece of stage scenery and not like the dwellings of modern American citizens.

It is a fact, however, that if the whole development is treated as a business proposition, considering all the aspects of site and street plan and utilities and houses, taking into account the fair money value of good appearance in detail and in arrangement, and weighing value and cost, in each case, the very reasonableness of the result will go far to make it pleasing to look at as well as inexpensive to build and to operate.

How far the Housing Corporation has succeeded in all these regards in the developments which it now has under way, and how far its canceled projects would have succeeded if they had been constructed, is still a matter of opinion.

The forthcoming report of the Housing Corporation, however, will give anyone interested in the larger aspects of town planning, as well as anyone interested more particularly in houses, an opportunity to study these matters for himself to good advantage, because the corporation sets forth on about 100 projects not only what arrangement and appearance, were intended but what the design entailed in each case in the way of architectural, engineering, and landscape construction and consequent cost. This data, tabulated for ready comparison, should be of great value to anyone undertaking problems, large or small, similar to those which the corporation has faced.