

MINISTRY OF HEALTH

MINISTRY OF WORKS

HOUSING MANUAL 1944

LONDON

HIS MAJESTY'S STATIONERY OFFICE

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DESIGN OF DWELLINGS

Report of the Central Housing Advisory Committee.
1944. 1s. (1s. 2d.)

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*A selection of pre-war publications on house design and layout
is given below. All are now out of print.*

REPORT of the Committee to consider Building Construction in connection
with the provision of Dwellings for the Working Classes. The Tudor
Walters Report. Local Government Board. 1918.

MANUAL on the Preparation of State-aided Housing Schemes. Local
Government Board. 1919.

MANUAL on the Conversion of Houses into Flats for the Working Classes.
1919.

MANUAL on Unfit Houses and Unhealthy Areas. 1919-20.

TYPE PLANS and Elevations of Houses designed by the Ministry of Health.
1920.

HOUSING MANUAL on the Design, Construction and Repair of Dwellings.
1927.

RE-HOUSING OPERATIONS. Typical plans of Tenements and other Dwellings.
1933.

INTERIM AND FINAL REPORTS of the Departmental Committee on the Construc-
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HOUSES WE LIVE IN. 1939.

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HOUSING MANUAL

1944

INTRODUCTION

SCOPE OF THE MANUAL

SHORT-TERM programmes for house building covering the transitional period of two years after the end of the war in Europe have already been drawn up. Authorities have acquired or are acquiring the necessary sites; the construction of roads and sewers, and in some cases the provision of such public services as water, electricity, and gas, is being carried out during this present year. Thus, if the course of the war permits, it will be possible to make a start in 1945 with the actual building of houses. *Housing Manual 1944* is intended for the guidance of local authorities and others concerned. It has been prepared jointly by the Ministry of Health and the Ministry of Works. The Ministry of Fuel and Power has been consulted upon matters in which it has a direct interest, and the *Manual* includes material contributed by that Department. The Ministry of Town and Country Planning has advised on matters of site planning and layout. [1]

Information on the layout and planning of houses has been given in previous manuals issued by the Ministry of Health. Particular reference may be made to the *Housing Manual on the Design, Construction and Repair of Dwellings* (issued in 1927 and reprinted in 1934) and to the *Rural Housing Manual* issued in 1938. In general the guidance in these manuals still holds good; since most of it has now been absorbed into current practice, it is not proposed to go over the same ground again in the following pages. *Housing Manual 1944* also gives some advice on the planning of flats, and a few typical plans are included. The sections on construction, and more especially the illustrations and Appendices relating to them, are intended for the assistance of architects and other technical readers. For reasons which are explained below, the detailed advice on construction and installations is confined to houses and to two-storey blocks of flats, the construction of which is mostly similar to that of houses. [2]

The information given here on construction, installations and equipment is not exhaustive and reference should be made to the various Acts of Parliament, byelaws, and other statutory regulations affecting building as well as to relevant British Standards and British Standard Codes of Practice. Much of the information on materials and construction has been prepared by, or with the assistance of, the Building Research Station of the Department of Scientific and Industrial Research, which also undertook a general scrutiny of the technical Appendices. [3]

SURVEYS AND STUDIES

In order to obtain the fullest and most up-to-date advice before preparing the present *Manual*, the Minister of Health requested his Central Housing Advisory Committee to consider the general question of the design of dwellings. A Sub-Committee, under the Chairmanship of Lord Dudley, was appointed "to make recommendations as to the design, planning, layout, standards of construction, and equipment of dwellings for the people throughout the country." This Sub-Committee carried out a comprehensive investigation and heard evidence from a very large number

of organisations and persons with an interest in housing. Much of the evidence illustrated the housewife's or "consumer" point of view. The report of the Sub-Committee was adopted by the main Committee, and has been published under the title *Design of Dwellings*.¹ The report is a most valuable document which will be of great interest to local authorities and their officers, particularly in the stress which it lays on the housewife's point of view, a consideration which should always be present in the minds of those concerned in the design of dwellings. The recommendations made in the report form the basis of much of the present *Manual*. [4]

On the technical side, there was an even greater need for up-to-date information. Especially, it was realised that industries developing new materials and methods were too often proceeding without a properly defined objective in view, and that much of their work would be nugatory unless the practical requirements to be met were clearly and accurately stated. Accordingly the Minister of Works, who had inaugurated a comprehensive scheme for the technical study of post-war building problems, proposed to the Minister of Health and the Secretary of State for Scotland the joint appointment of a Committee on House Construction, which in due course was set up with Sir George Burt as Chairman. The first report of this Committee was published in March 1944 under the title *House Construction*.² The report contains a critical assessment of a number of alternative methods of construction and makes recommendations as to design and workmanship in respect of some of these methods that are regarded as having advanced beyond the experimental stage. [5]

As a result of these recommendations, the Minister of Works has arranged for a group of demonstration houses to be erected on a site on the Northolt Grange Estate, Northolt, Middlesex. Detailed records of costs and man-hours of labour are being kept for these houses. For purposes of comparison, normal brick houses were built at the same time so that similar records might be kept. This and other information gathered during the building of the demonstration houses will be made available in due course. [6]

In 1942 the senior professional institutions of architects and engineers combined, with the encouragement of the Minister of Works and under his sponsorship, to form the Codes of Practice Committee for Civil Engineering, Public Works, Building and Constructional Work. The purpose of the Committee is to formulate a complete series of codes of good practice and workmanship having the support and approval of all interests concerned. Like the Burt Committee, the Codes of Practice Committee has the collaboration of the Building Research Station of the Department of Scientific and Industrial Research whose accumulated knowledge and experience has been placed at its disposal. The first result of these widely co-operative studies was the publication in May, 1944, for purposes of discussion, of some provisional chapters of the Code of Functional Requirements of Buildings; other chapters and codes are to follow. The description of structural standards set forth in Appendix 'B' of this *Manual* is generally based on the recommendations contained in these documents and in the earlier publication *House Construction*. [7]

THE USE OF STANDARDS

The Standards Committee, under the Chairmanship of Mr. Sydney Tatchell, F.R.I.B.A., was appointed by the Minister of Works to study the application of standards

¹ *Design of Dwellings*. The Report to the Central Housing Advisory Committee of the Sub-Committee on the Design of Dwellings. Published for the Ministry of Health by H.M. Stationery Office; price 1s. net, post free 1s. 2d.

² *House Construction*. The Report of the Committee on House Construction (Post-War Building Studies, No. 1). Published for the Ministry of Works by H.M. Stationery Office; price 2s. net, post free 2s. 3d.

in building, with the particular object of ensuring economical use of materials in the post-war period, together with simplified and speedier procedure of construction, and, wherever possible, improved quality and design. The Committee is representative of industry, local government, the professions, and various other interests concerned. A number of standards recommended by the Committee and now being formulated in detail by the British Standards Institution are referred to in this *Manual*. They are set out more fully in the Committee's first progress report recently published under the title *The Use of Standards in Building*.³ The adoption of standards will enable important economies to be made in the purchase of essential supplies for housing, and will generally lead to greater speed and efficiency in construction. In many cases the use of standard products will mean that more and better equipment can be included than would have been possible by the older methods. [8]

Special interest attaches to the standards to be adopted for heat appliances, including appliances for cooking, room heating, and water heating. It is commonly known that the economical and efficient use of fuel in the modern dwelling has been the subject of considerable investigation during recent years. The results of these investigations are now gradually becoming available in the form of appliances capable of producing the same or a greater amount of heat out of a smaller quantity of fuel. As far as solid fuel-burning appliances are concerned, when an appliance consumes fuel more efficiently and more completely, there is less emission of smoke. Some of the solid fuel burning heat appliances discussed in this *Manual* are of this high efficiency type, and in the interest of smoke abatement as well as of efficiency it is of the greatest importance that appliances used in housing shall be selected from this range. Both dimensional and performance standards are required for fuel-burning appliances. Some dimensional standards have already been laid down and specification numbers are listed in this *Manual*. At the invitation of the Government, the British Standards Institution, with the assistance of the industries concerned, are drawing up performance standards which will be published from time to time; the Fuel Research Station are studying the whole question of testing these appliances. [9]

THE LOCAL AUTHORITY AND TECHNICAL ADVICE

Of the technical problems dealt with in this *Manual* there are some, particularly those connected with standards of accommodation, construction, equipment, and fuelling, on which specific advice can be given. There are others, particularly those connected with the layout of sites and the planning of houses, on which central guidance cannot be so specific because success must depend on the skill, knowledge, and judgment shown in the application of general principles to a particular site. This must be left to the person to whom the design of the scheme is entrusted. Successive Ministers of Health have drawn attention to the importance of employing qualified architects on housing work. The point has been further stressed in the two recently published reports of the Central Housing Advisory Committee, *Design of Dwellings* and *Rural Housing*.⁴ It is essential that the housing schemes promoted by local authorities should set a good standard for the country, as many have already done, and that this standard should apply, not only to accommodation and construction which can largely be prescribed, but also to questions of arrangement, taste, and harmony with the surroundings, which largely depend on professional knowledge and its right application.

³ *The Use of Standards in Building*. The First Progress Report of the Standards Committee. Published for the Ministry of Works by H.M. Stationery Office; price 6d. net, post free 7d.

⁴ *Rural Housing*. The Report to the Central Housing Advisory Committee of the Rural Housing Sub-Committee. Published for the Ministry of Health by H.M. Stationery Office; price 1s. net, post free 1s. 2d.

The services of a qualified architect should therefore be secured by local authorities for their housing schemes. [10]

Where an architect has been appointed, it is of special importance that there should be effective co-operation between him and the surveyor to the local authority. The architect will realise that the surveyor knows the local characteristics and difficulties of the site, and the demands which may be imposed on the layout by levels, existing services, the nature of the ground, etc., and that he will often be responsible for the maintenance of the estate. The surveyor will recognise that buildings and their approaches should be thought of together, that the houses are the most important part of the scheme, that the roads and sewers are to serve the houses, and that however efficient the layout may be from an engineering point of view, where an architect is designing the houses, the best result will not be achieved if the site plan is determined without his co-operation. [11]

STUDIES IN PROGRESS

Advice on a number of subjects which for various reasons could not properly be dealt with in the present *Manual* will be given, if necessary, in publications to be issued later. [12]

The Ministry of Town and Country Planning has in preparation a publication on requirements for town and neighbourhood planning, and the selection of sites. [13]

Provisional information on some new materials and methods for house construction will be found in Section VII and in Appendix C. The publication of fuller technical guidance must await the completion of the Ministry of Works' study of the various demonstration houses and of the experimental houses now being constructed by a number of commercial undertakings. These houses will be critically examined and commented upon by the Burt Committee in further reports to be published. [14]

The special problems of flat construction are also being studied by the Burt Committee, which has been asked by the three Ministers concerned "to examine the recommendations concerning the construction of flats made by the Central Housing Advisory Committee and the Scottish Housing Advisory Committee; to review the findings of the Ministry of Health Departmental Committee, in 1935 and 1937; and to advise as to the most efficient and economical methods of construction in relation to the various types of flats, and in particular to investigate whether by any means the cost of flat construction can be brought into closer relationship with the cost of ordinary housing." Advice on the construction of blocks of flats will be published as a supplement to the *Manual* when the Ministers have received and considered the findings of the Committee. [15]

I. HOUSING AND SITE PLANNING

THE NEIGHBOURHOOD

WHERE big authorities must build a very large number of new houses, it may be possible to plan a new self-contained community based on a new centre of employment. In such a community due regard must be paid to industrial, social, educational, and recreational centres and their relations to the new development as well as to accommodation for the different classes of people who make up a well-balanced residential neighbourhood. The scheme must not be planned simply as a dormitory without a recognisable centre; it should include shopping facilities, schools, churches, and the other communal buildings frequented in everyday life, so as to meet practical needs and at the same time lead to a sense of neighbourliness among the families who go to live there. Some of these facilities may be provided by the local authority, others by different organisations or by private enterprise, but whichever the method, every effort should be made to ensure that so far as possible the facilities are ready by the time the bulk of the houses are occupied. The absence of such facilities at the outset inevitably causes discontent among the tenants and gives the new community a bad start. A population of roughly 5,000 to 10,000 affords a convenient basis for a neighbourhood. In such a neighbourhood there should be a variety of family types differing in experience and outlook as well as in size. It is large enough to require and support a fairly complete range of communal facilities and yet small enough to bring every house within easy distance of the main neighbourhood shopping and social centre. It is also a convenient unit on which to base the provision of schools. [16]

Where the scale of projected building operations is likely to result in the establishment of a new neighbourhood, the broad outlines of the neighbourhood, the location of houses, schools, and other social centres, shops and other commercial buildings, and of industry where provision for industry is to be made, should be planned from the outset, even if only a portion is to be built at once and some of the buildings are to be erected by persons other than the authority. The authority must consult beforehand those responsible for the public utility services and for the provision of educational, health, and social services, and ascertain the need for and practicability of providing them. It will usually be most convenient for the whole of the land required to be purchased by the housing authority, arrangements being made as necessary for appropriation for other purposes. [17]

With most local authorities the scale of housing operations is not likely to be so large as to result in the creation of a new neighbourhood with a population of anything approaching 5,000. The new housing site may well, however, be of such a size as to render the existing social and educational facilities in the vicinity inadequate for the increased population. In selecting the site in consultation with the planning authority, careful study should be given to its relation to existing centres of population. It is undesirable that there should be developed a new estate of a size which is insufficient to justify the provision of separate social and educational facilities of its own, and so sited as to be isolated from and unable to participate in existing facilities. The authority should aim at acquiring a site which when developed would be an addition to, and could be incorporated in an existing centre of population in such a way that the necessary services and amenities can readily be made available. Sometimes the addition to the population in a particular area may involve extension of existing services, sometimes it may be just enough to warrant the establishment of a new service. [18]

It is important that the same early consultation with other interests should take place as is suggested when the establishment of a new neighbourhood is in question,



FIG. 12. Houses by Cookham Rural District Council, Berks.

SOME RECENT BUILDING

The general advice given in Section II and elsewhere in this *Manual* is here illustrated by reference to executed work. The 48 photographs reproduced on this and following pages were chosen because in each photograph there is exemplified some principle of siting, grouping or design to which it is desired to call attention. With the exception of Fig. 17, a photograph of a model, the subjects are all existing buildings.

Most of the illustrations are of local authority housing carried out in various parts of England and Wales before the war. Figs. 38 and 39 are of wartime industrial housing, and Figs. 46 to 53 show a number of houses for agricultural workers built under the 1943 wartime emergency programme. In a number of these wartime illustrations the lack of trees and hedges is particularly noticeable. It may be assumed that the importance of careful planting, to which reference is made in paragraph 42 of this *Manual*, has not been overlooked by the authorities responsible, and that in due time the setting of the houses in, for example, Figs. 38 and 39, will come to resemble that shown in Figs. 27 and 31 and in others among the older examples.

NEIGHBOURHOOD PLANNING



FIG. 13. Aerial view of Hampstead Garden Suburb. An early example of neighbourhood planning in the London area, showing development round a neighbourhood centre. In this particular case only some of the facilities suggested in paragraph 16 were provided.

SHOPPING CENTRES



FIG. 14. Speke Estate (Liverpool Corporation).



FIG. 15. Watling Estate (London County Council).



FIG. 16. Layout in cul-de-sac form. Welwyn Garden City.

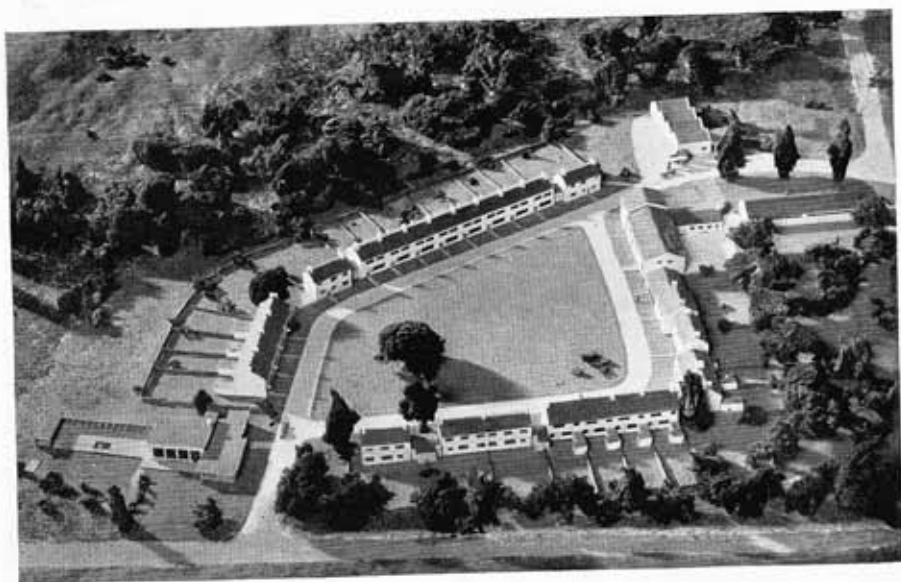


FIG. 17. Houses round a Green. Model by Students of Liverpool University School of Architecture.



FIG. 18. Houses set back from road. St. Helier Estate, Morden (London County Council).



FIG. 19. Road-bend. St. Helier Estate, Morden (London County Council).



FIG. 20. Houses at right angles to road. Hammersmith (London County Council).

OPEN SPACES IN CENTRAL AREAS



FIG. 21. Terrace fronting a paved open space. Kennington
(Duchy of Cornwall).



FIG. 22. Crescent fronting a paved open space. Kennington
(Duchy of Cornwall).



FIG. 23. Diversion of building line to preserve an existing tree.
Welwyn Garden City.



FIG. 24. A Green formed round existing trees. Swaythling, Southampton.

BLOCKS OF FLATS



FIG. 56. Three-storey Blocks (Liverpool Corporation).



FIG. 57. Five-storey Blocks. Clissold Park (London County Council).

BLOCKS OF FLATS



FIG. 54. Three-and-Four-storey Blocks. Kennington.



FIG. 55. Three-storey Blocks. Linkside, Oxford.

PLAN ARRANGEMENTS

Many local and other special conditions govern the planning and design of buildings. There are the needs, traditions, and preferences of the occupier and his family ; there are the wider social and aesthetic relations of the house to its environment ; there are the physical characteristics of the site such as levels, aspect, subsoil, rainfall, exposure, and winter and summer temperatures ; and there are material and economic factors, like the overall area fixed for the dwelling, the limit of cost, the availability and price of labour and materials, and of services and fuel.

An attempt has been made in this *Manual* to set down standards of accommodation and equipment in a form which will allow as much freedom as possible to the designer. The standards given in Sections III and IX and in Appendix A have been drafted accordingly, and the typical plan arrangements reproduced in the following pages have been chosen with a view to illustrating the wide variety of solutions that are possible within such standards.

Though drawn to a uniform scale, the plans are strictly diagrammatic, *i.e.*, the rooms are shown outlined only instead of enclosed by correctly drawn walls, to emphasise the need for giving special consideration to every planning problem. Other structural features such as flues have also been omitted. Window openings are shown by symbols only and are not intended to give any precise indication of size and position. The appliances suggested for cooking, room heating, and water heating are also represented by symbols.

As has been explained in paragraphs 48-51, the plans fall into three basic groups, determined, in the main, by the arrangements for cooking and eating meals. The types of kitchen embodying these arrangements are shown diagrammatically in Fig. 2.

The plans range from a dwelling for two persons having a floor area of 420 sq. ft. to a house for a family of seven having a floor area of 1,080 sq. ft.

The plans for the average size house for 5 persons range from the minimum house of 800 sq. ft. to the full 900 sq. ft. recommended in the Report *Design of Dwellings*.

Attention is drawn in paragraphs 65 and 69 to the importance of the outside store, which in most cases will be provided as a matter of course. Except for Figs. 76-8 the outbuildings have been omitted in all these plans.

The floor areas given for entire houses and flats are the gross areas within the outer walls on all floors. For individual rooms the areas include built-in cupboards. The dimensions for frontages and depths are also internal.

KEY TO ABBREVIATIONS

| | | | | | |
|-----|----------------|-----|----------------|----|-----------------|
| B | Bedroom | F | Fuel Store | R | Refuse |
| b | Broom Cupboard | H | Hall | S | Scullery |
| BAL | Balcony | KL | Kitchen-Living | s | Sink |
| BTH | Bathroom | | Room | SR | Sitting Room |
| c | Cupboard | L | Lift | ST | Store |
| CW | Common Wash | l | Larder | t | Tub |
| | House | lc | Linen Cupboard | W | Wash House |
| d | Dresser | LR | Living Room | w | Wash Boiler |
| DK | Dining Kitchen | p | Pram | WC | Water Closet |
| DS | Dining Space | PAS | Passage | WK | Working Kitchen |