UNISON OPEN COLLEGE

BLOCK PDH.103

THE DEVELOPMENT PROCESS

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Preface

In the previous two Blocks of this unit you have examined development policies and strategies, including the development planning system, and the main constraints and influences on the design and development of dwellings.

In this Block, we move on to look at the process of constructing properties. You will discover the main parties involved in the development process, their roles, and the key stages in the process of getting dwellings built.

This is not a simple process, and by the end of this Block, you will understand why it takes such a long time to provide new houses for customers. You will also understand why there are so many different people involved in the process, and what their roles are.
This will enable you to understand what occurs at each stage in the development process, and to be able to monitor the progress of a construction scheme, from inception to completion.

As you work through the Block, you will be following the progress of a new build scheme, which was constructed for Phoenix Housing Association. This is referred to throughout as “the case study”.

Contents

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Objectives

After this Block you should be able to:

- describe the role in the development process of:
  - the client
  - the consultants
  - the planning supervisor
  - the contractor
  - the clerk of works;
- describe in some detail the main stages in the development process, from identification of a site, to completion;
- understand how local/unitary authority and private sector development differs from that by housing associations and local housing companies;
- attempt an initial site assessment;
- understand how site surveys and site investigations identify problems before site purchase;
- understand the importance of the feasibility study in assessing problems and costs and in particular the use of the financial viability to assess whether all costs can be met from income;
- demonstrate knowledge of the details which should be included in a design brief;
- explain the advantages and disadvantage of types of tendering process;
- identify the main elements of a building contract.
- understand the main areas of risk in development and how they can be reduced;
- understand that time and costs targets are often missed and how they can be controlled;
- understand how development performance can be measured;
- demonstrate an understanding of marketing and management issues;
- outline the advantages and disadvantages of traditional and the various non-traditional approaches;
- understand how self build schemes can be set up and that they can provide additional social benefits.

Time Allowance

Studying this Block should take you approximately 29 hours including time for the Activities.

Structure of the Block

The Block begins by identifying the main parties in the construction process, and examines the role of each. These key players appear throughout the process, and it is important that you understand who they are, and their main functions.

We then go on to look at the main stages in the process of getting properties built. We begin by examining the traditional approach to development, which is the process by which most properties have been constructed in the UK. You will examine each stage in detail, so that you understand what is taking place, and who is responsible. We examine the entire process, from scheme inception through to completion and occupation.

Lastly, you will briefly examine more recent, non-traditional approaches to development. These methods generally simplify the traditional construction process in some way, and are becoming more common. However, the fundamentals of the process remain the same, and this section points out where these alternative approaches differ.

A. Key Bodies in the Development Process

1. Introduction

This block is intended to cover all development by all bodies; but in some details it refers specifically to housing associations. This is because they remain the largest developers of social housing in England and Wales and they have some very specific requirements to meet.

But for all developers the overall process, the roles of consultants, contractors and contracts are largely the same and the concerns continue to be:

- land shortage;
- keeping down costs whilst maintaining quality;
- solving problems;
- meeting targets.

2. Housing Associations

Housing associations in England have to be registered with and regulated by the Housing Corporation to be eligible to receive Social Housing Grant. The Housing Corporation's headquarters are in London and it has several regional offices. Housing associations in Wales have to be registered with and regulated by the National Assembly for Wales (NAW). Prior to the establishment of the NAW this function was undertaken by Tai Cymru. Scottish housing associations are registered with and regulated by Scottish Homes.

Rehabilitation of individual properties in run down areas was typical of housing association development in the 1970s but since the reduction of grant and the introduction of private finance by the Housing Act 1988 very quickly the majority of their development became the lower risk new build, often in small or medium sized estates. However, at the turn of the 20th century, rehabilitation and redevelopment have experienced somewhat of a resurgence, as outlined in the earlier module PDH.102.

3. Local Housing Companies

Local housing companies were set up by Section 3 of the Housing Act 1996 and are registered and regulated in the same way as housing associations. They also have to be registered as companies under the Companies Act 1985 but do not trade for profit. Their purpose is to receive the transfer of local/unitary authority stock and to manage the housing for rent.

Local housing companies are able to repair, improve and renew housing stock by raising capital finance which is not available to local authorities. They are also increasingly involved in urban regeneration initiatives, both on their own and in partnership with others.

3.1 Registered Social Landlords (RSL)

This is a generic term used for housing associations and local housing companies.

4. Local/Unitary Authorities

The main difference between new build development by housing associations and local/unitary authorities is the volume. Very little building has been done for years by authorities as a result of the Conservative Government policy between 1979-1997 which sought to reduce or even remove the role of local authorities in direct provision of (new) social housing. There is a number of housing authorities now who have transferred all their housing stock, and who are therefore even less likely to build again.

The main differences in the way that local/unitary authorities develop is:

- funding;
- cost comparison;
- quality control and audit.

4.1 Funding

In England and Wales authorities submit an annual Housing Investment Programme (HIP) or Housing Strategic and Operational Plan (HSOP) that describes what they see as the need in their area. The Department for the Environment, Transport and the Regions in England and the National Assembly for Wales use criteria of deprivation/house condition and demography to decide how to allocate the BCA (Basic Credit Approval) to the authorities. The authorities can also "bid" for SCA (Supplementary Credit Approval) for specific projects, which may include new building.

Both BCA and SCA are not grants but permission to borrow. They are both time limited and if not used in that year are not available in the following year.

4.2 Land/Sites

Unitary/Local Authorities traditionally have large holdings of land. More recently some of these may have been sold, to housing associations for example. It is unusual for Unitary/Local Authorities to buy land. If they did, they would use the services of their in-house valuation officers. Building would usually be on land they already own and often clearance or partial clearance of existing housing estates is involved.

4.3 Consultants, Architects, Quantity Surveyors, Engineers, Clerk of Works etc.

These would usually be in-house rather than external, unless the scheme was a partnership.

4.4 Cost comparison and value for money

With free land, the largest cost of new build is the building contract. The letting of contracts is strictly regulated. Often the procedure is that tenders are opened in full committee meetings and it is the council members who decide which contract to accept. There is no equivalent of cost structures for housing associations schemes which are known as TCI (Total Cost Indicators) in England and ACG (Acceptable Cost Guidelines in Wales).

4.5 Quality Control and Technical Standards

Authorities have to meet the planning and building control requirements. Beyond that requirement, they choose which specification or quality standards they wish to adopt, and some choose to use standard house types.

The District Auditor will carry out audits on all paperwork including the letting of building contracts.

5. Private Sector Companies

Private sector housing does not receive subsidy and therefore companies have to use their own, or more often borrow, finance during the construction until sales are completed. They assess market needs and try to match sites and designs to them. Profit targets are set and any cost increases will reduce actual profit.

Some contractors also buy and develop sites themselves either for sale for the public or sometimes to housing associations as “off the shelf” packages. Larger companies will have their own in-house consultants. Many private sector developers now specialise in working in partnership with social housing in both new build and regeneration, for example Lovell Partnerships Ltd. This is one way of increasing the mix of tenure as recommended by David Page.

B. Key Roles in the Development Process

1. Introduction

It is important to understand the different roles played by the various parties to the development process. Unless it is clear just *who* is responsible for *what*, confusion and misunderstandings may occur. This is complicated by the fact that the roles may vary slightly in different types of project. In general, however, for traditional projects, the major roles will be those of:

- the client;
- the consultants;
- the contractor or builder;
- the clerk of works.

These key roles are now examined in some detail.

2. The Client

In general, the client is the organisation which commissions the project, pays for its execution, and takes it over on completion. This might be an individual, a private sector development company, a housing association, or a local authority.

2.1 The client's representative

Where the client is an organisation, such as a social housing provider, the client will have to be *represented* by one individual from the organisation, such as the Development Manager. This representative will undertake all of the roles required of the client, such as selecting the consultants, providing their brief and engaging a contractor.

2.2 Selecting the consultants

One of the client's first tasks is to select the consultants who will design the scheme. The consultants are the scheme's designers, and they will supervise the construction process for the client.

Selection should be undertaken with care, because the consultant needs to be reliable, and responsive to the client's requirements.

Where there are *in-house* consultants, the quality of the service provided should, nevertheless, be judged by the same standards as external consultants.

2.3 The briefing

It is the client's responsibility to ensure that the scheme's designers, the consultants, are given clear guidance about exactly what is required. This guidance takes the form of a **briefing**, which is examined in more detail later, as a stage in the development process.

It must be emphasised that *the extent to which the client obtains the sort of scheme wanted depends heavily on the quality of the briefing*. If the consultants are not clear about what is wanted, they are unlikely to be able to provide it!

2.4 Controlling the consultants

Whilst the consultants are appointed to act for the client, it is important that their activities are monitored, to ensure that they offer a good quality service. Total responsibility cannot be passed to them, because, at the end of the day, it is the housing organisation which will bear the cost of any failings of the consultant.

(a) The design should be carefully scrutinised, to ensure that it meets the requirements of the client.

(b) The architect's activities on site should be checked, to ensure that supervision is adequate.

(c) The client's representative may choose to attend site meetings, when the contractor formally meets with the architect to agree progress.

(d) The consultants should, in any case, make regular progress reports.

We shall be examining all of these tasks in detail, later in the Block.

Activity 1

It was suggested, above, that "the design should be carefully scrutinised" by the client. This may seem strange, when it is clearly the consultants who are supposed to have the expertise in design issues.

Try to identify some reasons why the consultant's design may not necessarily be best suited to the client's needs, and identify any additional expertise which the client might be able to bring to the design stage.

Note your ideas here:

Time allocation: 10 minutes

There are a number of reasons why the design produced by the consultant may not be best suited to the client's needs. Here are a few of our ideas about this:

(i) the briefing may not have been sufficiently detailed (which is, of course, the fault of the client);

(ii) the consultant and client may have different perspectives: for example, the consultant may seek primarily to design something which is aesthetically satisfying, whereas the client may have quite different objectives - such as a design which will be convenient for its occupiers, or cheap to maintain;

(iii) consultants are human, and may make mistakes - for example, overlook an obvious need, such as adequate cupboard space;

(iv) the consultant may give insufficient attention to the cost of the design, because of limited knowledge of cost implications;

(v) the consultant may lack the client's detailed knowledge of the precise needs of the customer, such as the requirements of a disabled person and wheelchair access;

(vi) the consultant usually has no direct experience of the management problems which may arise from certain designs.

You may well have identified other factors which may result in a less than ideal design. What is important is that you may now understand why it is necessary for the client to check the design carefully. This is the only way to ensure that, as far as possible, it meets all of the client's requirements.

We will now turn from the client's role, to look at the role of the consultants.

3. The Development Agents

In some situations a registered housing association or local housing company may not be permitted or may not be able to manage the development and construction of their new stock. This may be due to a lack of suitable staff or as a specific requirement of funders.

In this situation, subject to the continued allocation of social housing grant, a development agreement can be made with another registered housing association or local housing company who act as the development agent and agrees for a fee to carry out the process for them. The amount of work and detail involved will vary; but in all cases the agreement should cover the activities, responsibilities and delegated authority of each party.

Development agreements must be used carefully with mutual understanding of the roles of each, so that delays or unauthorised decisions do not occur. There can be difficulties if conflicts of interest arise, for example, where the development agent and client are competing for social housing grant in the same area.

4. The Consultants

The consultants to the project are responsible for its design and overall execution, from the initial feasibility study to completion. Local authorities may well employ in-house consultants, whereas housing associations will invariably need to appoint external consultants. Development companies may or may not employ their own designers.

The term consultant is applied to the person or firm with the overall responsibility for the project, but this role may be taken, in general, by one of two different professionals, depending on the nature of the project: an **architect** or a **building surveyor**.

There will also be a **quantity surveyor**, who is the person with detailed knowledge of the costs of different methods of construction. In addition, large or complex schemes may require the services of additional specialist professionals. We shall now examine the roles of these different types of consultants.

4.1 The architect

The client's consultant will usually be an architect, who should design the scheme in line with the brief, and ensure that it is constructed to quality standards, in accordance with the design specifications. Where a scheme's design causes subsequent tenant dissatisfaction, this may be due to poor quality design by the architect, but it may also partly result from the client's failure to brief the architect adequately. Customer involvement at the design stage may help to reduce the likelihood of unsatisfactory design, as you will see later.

Architects are essential to **new build** projects, because they are professionally trained to design buildings. They should be able to find novel solutions to design problems, such as maximising the numbers of houses which can be satisfactorily fitted onto a site, or coping with a difficult sloping site. However, where the scheme involves **rehabilitation**, the main consultant may be a building surveyor.

The architect will normally:

- Undertake the initial feasibility studies, to see if the project is feasible.

- Lead the project team, and ensure that all aspects are co-ordinated.
- Produce design drawings and design specifications for the scheme, both outline and detailed.
- Obtain the necessary statutory consents from the local authority, under planning and building regulations.
- Arrange the tendering process, and advise on contractors and accepting tenders, (with the assistance of the Quantity Surveyor).
- Supervise and control the progress of the construction contract.
- Approve (certify) payments to the contractor, as work progresses.

Changes may be made to the design as the work progresses. In this event, the architect must issue a **variation order** to the contractor, authorising a change to the original specification. We shall be looking at this in detail later in the block.

4.2 The building surveyor

Building surveyors have detailed, practical knowledge of existing buildings, and so may be better suited as consultants to rehabilitation schemes. However, as the main consultant, their role would be exactly the same as the architect. Very often, a firm of architects will include building surveyors, so even where an architect is apparently appointed as the consultant, it may well be a building surveyor who actually undertakes the design and supervision of the rehab. scheme.

In the subsequent sections, the building surveyor will not, in general, be separately referred to. However, bear in mind that it may well be a building surveyor who is undertaking the role of what is referred to as the architect or consultant. The building surveyor may also undertake the role of quantity surveyor, for rehabilitation.

4.3 The quantity surveyor

For new build projects, a quantity surveyor is essential, because the architect lacks the detailed knowledge of costs available to the quantity surveyor (the Q.S.). He or she is the client's **cost consultant**.

For rehabilitation, as identified earlier, the building surveyor generally fulfils this role, so a separate Q.S. may be unnecessary.

Quantity surveyors may be appointed separately to the architect, though it is, of course, important that the two are able to work together. Since they offer independent *financial* advice to the client, they must be free to be critical of aspects of the proposed design costs.

The quantity surveyor's role is:

- to provide an estimate of the scheme's costs, against which the tender sum should be judged;
- to advise on ways that costs might be reduced, if the design seems too expensive (for example, is it outside the Total Cost Indicators, as determined by the Housing Corporation for housing association schemes eligible for Social Housing Grant?)
- to prepare the contract documents, setting out the quantities for each aspect of the specification;
- to value work done by the contractor, for the purpose of making interim, stage payments as work progresses;
- to price any variation orders (changes to the specification) made by the architect;
- to prepare the final account for the construction work.

These tasks will be examined in detail later in the Block.

4.4 Other consultants

These will only usually be required if the scheme has unusual or difficult features; the main ones which may be necessary are identified below. The scheme's main consultant will advise if these roles are necessary.

(a) Civil/structural engineer

This is a specialist in designing building **structures**, able to undertake detailed calculations of the stresses and loads imposed by different parts of the building. A structural engineer will be required for the design of tall buildings, such as blocks of flats. For schemes with difficult site conditions, where there are questions about the types of foundations necessary.

A civil engineer may be employed to undertake a detailed survey of the site, to advise about foundation design.

(b) Building services engineer

This is a specialist in the provision of **services** within the building, such as heating systems or lifts. This sort of specialist knowledge is only usually necessary when there are complex, communal facilities, such as may be found in sheltered schemes or high rise flats.

(c) Highway engineer

Highway engineers specialise in the design of roads, drainage and car parking. Their skills are only likely to be required for a very large development, such as a large estate, with complex junctions.

However, there may well be involvement, at the planning stage, of highway engineers from the local council's highways department, who will need to be satisfied that arrangements for access onto existing roads from the scheme are safe and well designed.

(d) Landscape architect

Landscape architects design the areas of the scheme which are free of buildings, so would usually be separately employed on large schemes, where there are significant open areas. However, many firms of architects employ their own landscape architects, so their specialist advice may be available via the main consultant, and local authorities will invariably employ such people.

5. The Planning Supervisor

Organisations that employ contractors for building contracts of over 30 days work are responsible for ensuring that the Construction {Design and Management} Regulations 1994 are met.

Construction sites are very dangerous. The purpose of CDM is to ensure that work is planned and carried out in ways to stop or at least reduce risks to health and safety. The regulations require:

- Appointment of a Planning Supervisor: This may be a member of staff of the organisation employing the contractors; or it could be an architect or quantity surveyor already involved; or it could be an independent appointment.
- Appointment of a Principal Contractor. This would be the sole or main contractor.
- An individual Health and Safety Plan for each contract.
- Additional obligations on the designer(s) of the building contract.

The organisation employing the contractor is responsible for assessing the competence of the above and for keeping a complete life-long Health and Safety file on all buildings completed. The Health and Safety Executive (HSE) have a code of practice and guidance on how to meet all the requirements.

6. The Contractor

Along with the consultant, the contractor is a key figure in the development process. It is the contractor who provides the people, materials and equipment to actually build the scheme. If the client is to obtain a wholly satisfactory scheme, it is important that the contractor can:

- provide quality output;
- produce on time;
- maintain good relationships with the people involved.

If good relationships are not maintained with the consultants, the contractor is less likely to be co-operative and progress may be unsatisfactory. Good relationships with others who are involved are also important from the point of view of the client housing organisation - which may have to deal with any ill feeling which remains when the contractor has gone. These others might include the residents (for a rehab scheme), or the neighbouring occupiers (who may be inconvenienced during construction work).

The process of finding and appointing a suitable contractor is examined later, as part of the development process.

7. The Clerk of Works

The role of the clerk of works is to provide close, on site, day-to-day supervision of the work of the contractor, on behalf of the client. This ensures that things cannot go badly wrong, between visits by the supervising architect. A clerk of works may not be needed for small, relatively straightforward schemes. However, for large, more complex new-build schemes, and for most rehabilitation, a clerk of works is essential.

The clerk of works is usually a builder with many years of experience of different aspects of the construction process. He or she has the expertise to judge the quality of all building processes on the site, so can monitor the contractor's work very closely.

Since it is really the role of the architect to supervise construction, the clerk of works normally works under the direction of the architect. For this reason, the architect would usually be consulted about the appointment, but it is the client who directly

employs the clerk of works. The clerk of works represents the client on site, but normally acts also as the architect's link with the site. The primary responsibility for supervision, nevertheless, remains with the architect.

8. The Need for Clearly Defined Roles

The respective roles of the clerk of works and the architect need to be very clearly defined. Indeed, it is important that all of the roles of the parties to the development process are clearly set out, in the letters of appointment. There must be no possibility of confusion about responsibilities. If these are confused, conflicting instructions may be given, or even worse, no one may be taking responsibility for some crucial aspect of the development process.

9. The Role of Customers

9.1 Introduction

One of the key issues for developers is how to establish whether or not the housing produced is actually what the end users want or need. How can developers know what changes in the product are needed? What about after the users have moved in? How can their satisfaction be assessed?

Unfortunately, many developers and users have taken a very simplistic approach to this question and carried out household surveys and used questionnaires without adequate thought. At this point, it is worth spending a little time considering some theoretical issues around social surveys (such as housing satisfaction surveys) and theories of architecture.

9.2 Theoretical issues in housing satisfaction

What are the theoretical issues you need to be aware of in designing a social survey like a housing satisfaction survey? One of the key issues is an understanding of what you might be expecting to conclude from the results of a survey. What kind of approach do you have to your survey? Is there a risk that it suffers from a *'positivist'* approach and/or *'environmental determinism'*, or one of the other problems outlined below?

Positivism

A broad definition of *'positivism'* says that as a philosophy, positivism rests upon the following precepts:

- reality corresponds to what is available to the senses and all valid knowledge must stem from careful observation of an existing world 'out there'; and
- positivists maintain a clear distinction between statements of fact and statements of value.

It can be argued that this approach leads to three assumptions in carrying out surveys:

- people commissioning surveys regard themselves as in the same categories as natural scientists, acting as observers of an external social reality (and not part of the surveying process);
- the supposed continuity between natural and social science is seen as the outcome of social research; and
- a social science survey is seen as value-neutral, essentially a technical enterprise (and not affected by the observer's subjectivity).

Critics of positivism regard human beings as subjects, possessing minds distinct from matter. Our minds enable us to exist not simply as passive recipients of external influences like housing, but as active in consciously creating society and attributing meaning to our own behaviour and that of others. This dimension of meaning, it is argued, indicates the clear distinction which must be maintained between natural and social science.

Another criticism is that the observer is in fact a participant, even in so-called natural science. Scientists developing the atom bomb for example, were only able to proceed when they accepted theoretically that the process of observing atoms, (by bombarding them with other particles), changed what they were observing. Similarly, the attitude and approach of the researcher into housing satisfaction will change the user's response.

Finally, it is worth remembering that humans are complex beings who can simultaneously hold several conflicting and contradictory opinions. Even if it were possible to ask completely objective and rational questions, there is no likelihood that the response will be objective and rational.

Architectural functionalism and determinism

Architectural functionalism and determinism rests upon similar assumptions concerning humanity, being a behaviourist approach to design which takes as its point of departure not what people think or feel about the buildings which they occupy but how they visibly behave in relation to them.

Originating in the 1920s, mainly in France, Germany and the Low Countries as part of the Modern Movement, functionalism s central proposition is that architectural form should seek a design that fits most closely the activities that are undertaken within a

building, avoiding unnecessary external decoration. The French architect Le Corbusier gave vivid expression to this philosophy in his remark:

'The house is a machine for living in."

The first task of functionalist design, therefore, was to identify the 'minimum house; a simple architectural form which would satisfy most fully at minimum cost the basic living requirements of space, air and light. Once identified, this minimum house was to be reproduced until whole residential districts and then entire cities were created.

The new architecture was intended to reflect the spirit of the modern machine age. It was to be revolutionary aesthetically because it would be inspired by cubist sculpture and painting, revolutionary technically because it would utilise the new materials of steel, glass and concrete, and revolutionary in a social sense because it would provide cheap mass housing and banish the squalor of the nineteenth century industrial city.

However, it paralleled positivist and behaviourist approaches to social science by paying scant regard to the possibility that a home might constitute something more than a functional machine for its occupants.

This style of the modern movement has not been given widespread expression by private builders in Britain who generally have followed popular preferences, influenced heavily by the reaction against 19th century urban slums. The majority of people wanted something like a country house. They did not like a terraced house because it reminded them of the dreariness and congestion of towns. In the public sector too the Tudor Walters report of 1918 advanced 'cottages' as the ideal, revealing a similar commitment to the vernacular designs of the past.

With the exception of the high-rise flats of the 1950s and 1960s, the **style** of the modern movement has not been widely adopted in Britain, but the **functionalist** method has been more influential.

The Parker Morris report of 1961 provides an example. The report defined user needs in narrow functionalist terms, stating that:

> *"the problem of design starts with a clear recognition of ... activities and their relative importance in social, family and individual lives and goes on to assess the conditions necessary for their pursuit in terms of space, atmosphere, efficiency, comfort, furniture and equipment, organising together those activities that demand it, separating those which cannot be carried on together or near one another, considering frequency, time and sequence as well as place."*

Environmental determinism

Surveys testing satisfaction with design can also suffer from a form of 'environmental determinism', whereby it is assumed that satisfaction can be related to specific features of a design and the purpose of a survey is to look for those features.

In fact, people's relationship with their dwelling is much more complex. Good housing design can enhance their lives and poor housing design can impoverish it. However, research needs to enter into the tenant's fuller experience of the dwelling and find out about the people being surveyed, e.g. their previous housing experience, their reasons for moving - choice or coercion, their household structure, gender and race, etc.

Generally, a much stronger correlation is seen between satisfaction and the above aspects of tenants' experience, rather than specific dwelling design choices. Where correlation is seen between satisfaction and design, the external environment and location is usually the strongest factor. This is usually an area over which the designer has less control.

'Ecological fallacy'

Ecological fallacy is a further somewhat similar phenomenon in social science research. It is confusing correlation with causation in an area. You can probably think of many examples from your own housing experiences:

> *"Most crime in this area is committed by young men. Most young men in this area are black. Therefore, most young black men are criminals."*

> *"Research shows that in areas where a lot of houses have burglar alarms, there are more burglaries than in other areas. Therefore, if you fit a burglar alarm, you will increase the risk of burglaries to your house."*

"There is a correlation between poorer people and living in slum housing. Therefore, poor people must like living in slum housing."

The examples given above are fairly crude, although similar examples are continually reported or suggested by some politicians and in mass circulation national newspapers. The point for housing workers is to try to establish whether the correlation between two or more events are coincidence, or whether one causes another. It's often easy to be lazy in your thinking and assume a causal relationship when the evidence although showing a link, does not actually establish causality.

Finally in this discussion of theory, you may remember that we mentioned above that a home might mean something more than a functional machine for its occupants, what might that be?

The meaning of home

Academic research tends to shows that the (assumed) links between home, home ownership and feelings of security are not simple. Instead the link between home and the individual is the product of both structural forces and personal experiences which intersect in a variety of ways and are full of conflicts and contradictions. Several issues which one might suspect most British householders know about overlap:

- firstly, home is where the heart is, regardless of tenure;
- secondly, home is an important store of memories, rather than just a physical structure containing a collection of actors known as a household;
- thirdly, home does fulfil a role of providing positive feelings of niche and belonging to some people, but these feelings are the product of the lived experience of home life rather than the effect of a particular set of property relations;
- fourthly, home is much more than a physical place. It is also a concept which evokes strong images of warmth, love and attachment; and
- finally, social relations based on gender, class and ethnicity do have an important part to play in the day to day experience of home, but more important are personal relations.

The home has a hierarchy of meanings. Aspirations, expectations, traditions and adages are produced and reproduced at the cultural level of this hierarchy. Home becomes a commodity that is produced, marketed, sold, purchased, and consumed. But it is also an intensely private and personal sphere, jealously guarded against intrusion at the personal level.

At each level of this hierarchy it is easy to identify contradictions and inconsistencies. It is widely reported that most people, given the choice want a home of their own for example. The reality of owner occupation often fails to live up to popular expectations however. The way people organise their —personal lives and recharge their energies at home has little to
do with how it is produced or consumed as a commodity. Home owners and tenants for example both regard the place where they start and end the day as a special place charged with memories and meanings.

9.3 Tenants' housing design satisfaction surveys

Tenants' housing design satisfaction surveys require some fundamental issues to be addressed if the survey is to be of use to the client in assessing design. The first issue relates to the ownership of the survey - is it the landlord's or the tenants'?

Obviously landlords and tenants may have different agendas, and if the tenants have concerns over a particular issue, (e.g. the rent or the maintenance service), it may sometimes be necessary to deal with that before the landlord's agenda can be addressed. Response rates can vary enormously between tenants on different estates, even within the same local area, as a result of specific tenant concerns.

Another fundamental issue is what is meant by housing *'satisfaction'*. The results of satisfaction surveys consistently show residents having a high level of satisfaction, (e.g. 80 - 90% satisfaction), regardless of the specific circumstances. A typical example was **the Department of the Environment's Housing Appraisal kit**, in use in the 1980s. This showed high levels of resident satisfaction with housing, even in clearance areas where all housing had been classed as statutory unfit. What is the meaning of satisfaction in these circumstances and what is actually being measured?

Housing in British society is very much a badge of success and personal identity. To ask tenants if they are satisfied with their house is akin to asking if they are satisfied with themselves and their life. To admit dissatisfaction could be an acknowledgement of the tenants' deprivation and powerlessness. Satisfaction surveys must deal with this issue by breaking down satisfaction questions into specific sequential elements to separate out different levels of tenants' housing circumstances.

Choices that tenants may make between different aspects of design often show the strongest correlation with previous housing experience. For example, tenants whose former homes had

kitchens at the front, rather than the back, generally prefer their new homes to have kitchens at the front and vice versa. For these reasons also, it is important to investigate tenants' former housing experience.

Reliability and validity

Finally, there is always a balance between reliability, (concerned with sampling and the confidence with which the results would be seen in another sample), and validity, (concerned with whether the survey has tapped what tenants really think, rather than imposed the landlord's agenda).

Reliability is obviously improved with larger surveys. Validity is improved with more in depth questionnaires and focus group surveys. There is already a body of knowledge on housing association tenant satisfaction with design, much of which has been published. (e.g. See National Federation of Housing Associations guide - *'Building Homes People Want'* 1994). It may be more useful in this specific context not to carry out a broader survey which replicates what has been done elsewhere, and may return similar unsatisfactory results but to make a more intensive survey, albeit of a smaller sample, which develops understanding of the influences behind the response to design to a deeper level.

Purpose of developers' questionnaires

The issues above are not just academic, but address the dissatisfaction that clients often feel with the limited results of surveys. If these issues are not resolved there is a danger that the client will draw incorrect inferences from the results. Interpretation of the results is at least as important as the research methods used.

The key issue for a housing association or local authority is probably to identify any serious omissions or errors being made in current design. Several specific issues are usually also addressed:

- security;
- safety;
- house layout;
- room layout;
- nuisance;
- estate and dwelling appearance; and
- services.

A successful survey should be clear which issue the client might not wish to assess, e.g.

- tenants' satisfaction with the management or maintenance service provided;
- certain categories of housing, such as supported (special needs) housing, sheltered housing, Rehab and short life housing; or
- the issue of tenant input into design.

The survey methodology usually involves a variety of techniques, as outlined below.

Household questionnaires

Interviews with tenant households should be conducted by trained interviewers and not by a postal questionnaire. Postal questionnaires offer apparent economies but are an inappropriate method to chart complex issues such as tenant satisfaction and response rates are lower. Given the above, the structure might be:

- questions about the household;
- questions about the tenants' previous housing experiences;
- questions about how the tenant came to the dwelling;
- questions about life in the area/estate;
- questions about specific design elements; and
- questions about 'trade off of different design features, costed if possible.

The detailed questionnaire design and layout would be developed in conjunction with the client and should be piloted with a small group of tenants. The section on costed *'trade off'*, if appropriate, would require the client to provide costing of different options and a conversion of these into rent outcomes.

It should also be possible to incorporate an element of a 'housing in use' audit. In other words, the interviewer would also ask or make observations about how the tenant is actually using the dwelling. Interviews could last up to 45 minutes each and achieve a minimum response rate of 70% (with at least four call backs per non response).

Desk exercise

Details should be available from the client regarding estate layouts and house type plans. It might be possible to make a correlation between the survey results and aspects of the dwelling

design. The first stage could be to make a brief analysis of the house types in respect of certain criteria, such as space standards, estate layout, etc.

Structured/Focus Group interviews

Research is enhanced by triangulating research methods, i.e. cross checking research findings. In this respect the use of structured group interviews allows issues to be examined in greater depth. This method is often used in Focus Groups as part of a *'priority evaluation'*; where it is effective in identifying and prioritising key issues with particular groups, e.g. elderly
people, single parents, young people, people from ethnic __ minorities, etc. It is potentially a valuable addition to the survey if groups are set up to examine particular aspects of design and tenants' priorities. It does mean additional expense.

Focus Groups can also be used before the household survey to help identify tenants' concerns, or after the household survey to examine in depth some of the issues arising from the survey.

Using existing knowledge

An option would be to dispense with the household surveys altogether. Sometimes it is felt by researchers that there is already enough published work on tenant satisfaction with design.

In this case, the whole research would be carried out by project groups which might allow a greater depth and better quality of information, although it would not have the same breadth of coverage of a household survey.

Staff interviews

A rich source of information can be structured interviews with selected staff, especially front line staff dealing directly with tenants. For example, management and maintenance staff. It could be useful as a cross check on other findings for the reasons described above.

10. Partnering

In recent years there have been considerable pressures on the construction industry for improvements in the quality of service provided to clients, but this has related primarily to new build construction, rather than the repair and maintenance or specialist contracting

The construction industry has a tradition of competing keenly on price, which has, unfortunately gone alongside widespread dissatisfaction with the ability of many firms to deliver the quality

of work that customers expected. This dissatisfaction was highlighted by the Egan Report "Rethinking Construction", published by DETR in 1998, which suggested that as much as 40% of construction industry time was being lost because of the need to correct faulty work, with the result that nearly half of all projects ran late.

The Egan Report set an agenda for radical change in the construction industries working practices. It advocated the adoption of modern supply chain management principles, lean production and an integration of the design and production processes, partly with the aim of designing in simplicity. Egan particularly favoured the adoption of prefabrication for new build, which is less widespread in the UK than in other leading European economies. These changes are being made possible by technological developments and by changes in the types of materials used. The report identified leadership, a customer focus, partnership, quality and a commitment to the people who work in the industry as the key drivers of change.

Local authorities spend some £7 billion on construction projects each year, and therefore are well positioned to play a crucial role in taking forward the re-thinking construction initiative. Housing Associations and RSLs are also major clients for the construction industry.

The idea of Partnering is being taken forward in social housing development. Partnering requires social landlords to work in a team with the contractor to ensure the project succeeds in the most appropriate way for all parties concerned, the client (RSL or LA) the contractor and the tenants. Priorities for each scheme are agreed and standards of working practice negotiated in advance, with the aim of avoiding any potential conflict by negotiation and arbitration. Trade-offs between completing on time, not running over cost, agreeing a profit margin for the contractor, having communicative site managers and a clear brief are discussed openly in advance.

As you can imagine, Partnering requires quite a radical leap in faith for both developers and social landlords to move away from the traditional, more adversarial, roles usually adopted. Partnering is currently in its infancy but from 2003/2004, 100% of the Housing Corporation's ADP is to be procured on Egan Principles. The introduction of Best Value provides an ideal opportunity for local authorities to be truly innovative in the way they deliver their repairs, maintenance and refurbishment programmes. The ideas emerging from the Egan Report are likely to have a major impact on social housing development in the future.

Summary

Key Roles in the Development Process

1. **The client is the person or organisation which commissions the development project.**
2. **A client organisation will generally be represented by one individual, such as the Development Manager, in dealings with the other parties.**
3. **In some situations the client may not be able to develop the scheme directly and may appoint a registered housing association to this for them.**
4. **The client appoints the consultants, who are responsible for the design and overall execution of the project.**
5. **The client provides the briefing for the consultants, and this should reflect a broad range of design considerations.**
6. **Consultants should be selected with care, and need to be monitored throughout the development process.**
7. **The consultant may be an architect or a building surveyor, depending on whether the project is new build or rehabilitation.**
8. **The quantity surveyor is appointed by the client as the cost consultant, to advise on costs and cost control.**
9. **Complex or difficult schemes may require the services of additional consultants, such as structural engineers, building services engineers, highway engineers, or landscape architects.**
10. **A planning supervisor must be appointed to meet CDM regulations and to co-ordinate all Health and Safety issues during construction.**
11. **The contractor is the organisation which actually constructs the project.**
12. **The work of the contractor is usually supervised by a clerk of works, who is appointed by the client. However, the consultant retains overall responsibility for supervision.**
13. **It is vital that the roles of these various parties in the development process are clearly defined, so there can be no confusion about responsibilities.**

14. Customers play an important role too and developers need to use various methods to gather their views and feed these into the development of future homes.

15. Sir John Egan's Report, "Rethinking Construction" published in 1988, considered ways to improve the competitiveness of the construction industry. One suggestion, for partnering, has been taken forward by local authorities and housing associations. This has only been made possible by the demise in Compulsive Competitive Tendering and the introduction of Best Value for local authorities and the impetus of the Housing Corporation for RSLs. Partnering requires social landlords to work in a team with the contractor to ensure the project succeeds in the most appropriate way for all parties concerned, the client (RSL or LA) the contractor and the tenants. Priorities for each scheme are agreed and standards of working practice negotiated in advance, with the aim of avoiding any potential conflict by negotiation and arbitration.

C. The Development Process

1. Introduction

The key roles which you have just examined are those found in *traditional* approaches to the development process. However, non-traditional forms of contract are now much more usual. In these, the roles may be slightly different, because the newer approaches usually streamline the process, removing the requirement for one or more of the traditional roles.

In the following sections, we shall first examine the traditional approach to the development process, in which the roles of the main parties are generally as defined in the last section.

2. The Traditional Development Process

We will begin by summarising the main stages in the development process very simply, as a series of tasks which must be completed. This gives you an overview of the process.

We shall then go on to examine the detail of each stage: what is involved, and the roles of the various parties.

Once you have examined and understood the traditional development process, we shall then go on to identify the main ways in which non-traditional approaches change this process.

2.1 The main stages: an overview

The main stages in the traditional development process are identified in the summary which follows. However, as you examine the stages, you should bear four important points in mind:

(a) The stages are set out as though they are quite separate, but this is simply to define a clear structure to the process. Though the stages are, broadly, chronological, not all occur independently. While it is true that some of the stages cannot commence before the previous stage has been completed - for example, construction cannot commence without detailed designs and planning consents - for others, the boundaries are more blurred, and there is some overlap. For example, as you have already discovered, the consultants will usually be involved in the initial feasibility study, through they are often not formally appointed at this stage.

(b) The stages do not involve the same amount of work or time. Some of these tasks are highly complex, whilst others are relatively straightforward.

(c) Each stage may require that different parties take the lead role; so, for example, whereas it is the client's responsibility to prepare the briefing, it is the consultant's responsibility to prepare the design.

(d) The summary relates to a new-build development. Clearly, a rehabilitation scheme may omit some of these stages, such as finding a site if the property is already owned. The main differences between these two types of development will be highlighted and examined as we work through the process.

2.2 The main stages: a summary

(a) Site survey and investigation

↓

(b) Selection and appointment of the consultants

↓

(c) Preparation of the feasibility study and financial viability

↓

(d) Preparation of the briefing for consultants

↓

(e) Preparation of the design

↓

(f) Obtaining planning consents

↓

(g) Availability of finance - public and/or private

↓

(h) Site purchase

↓

(i) Selection of the contractor: tendering process

↓

(j) Appointment of the contractor; building contracts

↓

(k) Construction of the project

↓

(l) Completion and occupation; defects

In the following sections, we will look at each of these stages in detail.

3. Identification of a Suitable Site

3.1 Defining the requirements

The first requirement is that the client is clear about the nature of the site wanted.

For a social housing provider, there will be certain pre-requisites, which will effectively preclude many possible sites. Requirements will also depend, to some extent, on the nature of the housing need which the planned development is intended to meet. Different sorts of needs will demand different attributes from the physical site.

Some factors which may be important are:

(a) Geographical/administrative area of site

In general, local authorities have a defined administrative area within which they must operate, and cannot develop in another's area.

Many housing associations are reluctant to "tread on the toes" of neighbouring associations, and may not wish to take on the problems of managing schemes at some distance from their offices.

Private developers may have identified demand for new housing in particular localities, but not in others.

(b) Location of site

This refers to specific locational features, such as nearness to amenities. Specific locational requirements will depend very much on the housing need to be met by the development.

(c) Size of site

Again, this will depend on the sort of development which is desired. Some requirements may be best met with small sites; others may require larger site areas, for family homes for example.

3.2 Finding a site

(a) Sources

For most private developers, individuals, and housing associations, there are a number of possible sources of information about possible sites:

- landowners;
- consultants;

- other developers (may offer joint development opportunities);
- contractors (usually in return for construction contracts);
- valuers;
- estate agents;
- local knowledge and contacts;
- advertisement of sales and auctions in local newspapers;
- committee members (of housing associations);
- local authorities;
- other public bodies.

(b) Local authority land

For many housing associations, local authorities can be an important source of sites, as they extend the scope of their enabling role. Land may be sold at below the market price, in return for some allocation rights.

As you have already learned, some local authorities have transferred some of their existing housing stock to housing associations, for rehabilitation projects. Yet others have transferred their entire stock to an association. This trend seems likely to continue, in a climate of restraints on local authority capital spending.

Local authorities may also use their planning powers to release land for housing in areas where development would not otherwise be permitted. This is most likely in rural areas.

(i) They may give priority to schemes which include *affordable* housing, so long as this is stated in their Local Plan. The role of Local Plans has already been discussed in PDH.101.

(ii) They may grant *exceptional* planning permission for social housing, on land which would not otherwise be allocated for housing. This also helps to reduce the cost of the site, so making development cheaper.

(iii) They may require a *Section 106 Agreement*, which restricts occupation to local people - those who live and/or work in the area.

3.3 Assessing the site

Assessment of sites has to be very detailed before purchase as it is a very large financial commitment. The assessment includes:

- the physical nature of the site
- the design and planning of the scheme
- the costing of the scheme
- the funding availability
- the viability of the proposed scheme

But before this an initial site assessment is made, although the information may not yet be fully available.

The sorts of questions which might be asked are listed in the example of an **initial site appraisal** sheet which follows. This would normally be completed by someone with experience of site appraisal and development - such as the Development Manager.

Initial site appraisal: checklist

(a) How much is the asking price?

(b) Is it freehold?

(c) Is the size appropriate?
How big is it?

(d) Is there access?

(e) Who else, if anyone, is competing for it?

(f) Is it in the required area?

(g) Is it suitable for the identified need?
Are there amenities nearby?

(h) Is residential planning consent existing or likely?

(i) Are services available?

(j) Are there any physical constraints?

(k) Are there any conditions of sale?

Further comments:

This approach helps to ensure that no potentially important factors are overlooked by the person undertaking the initial appraisal. Mistakes at this stage could result in considerable wasted expense for the organisation.

The sheet also offers the opportunity to compare different sites directly.

Let's examine each of the points on the checklist in turn:

(a) How much is the asking price?

There is an increasing shortage of sites suitable for residential use. This is due to the already highly developed state of our towns and cities since the Industrial Revolution. Planning regulations now in place restrict the use of land for particular purposes and prevent building in some areas, for example, "green belts" around towns.

This has increased the price of land, which in cities can be worth more than £500,000 per acre compared to £1,000 plus per acre in areas where there is no demand, such as run down - ex-industrial regions where there is no work.

A valuer can give initial verbal advice on the asking price, the site and the local market conditions. The final purchase price agreed with the vendor or their estate agent is usually at or lower than the asking price unless competition is intense in which case it can be more. An offer to purchase the site is made and accepted in writing with any conditions stated; but this is only after following many other checks are completed.

(b) Is it freehold?

Freehold means that the purchaser would have the title deeds, the documents to show they were the owner, and be entered in the Land Registry as such.

The alternative is that it is leasehold, which means that a lease with a known expiry date on the land/building is offered for sale. If that date is soon then its value will be lower than if it is for 99 or 999 years. Sometimes leaseholders can negotiate to buy the freehold of the land/building, but it can be legally complex and the freeholders may not wish to sell.

(c) How big is it? Is the size appropriate?

The size of sites is expressed in either hectares or acres. One acre equals 0.4047 hectares. Building density is number of units per hectare. Land price of large sites can be calculated by acre/hectare. The amount will vary according to location, services and amenities.

Developers will match an identified site with current priorities and possible uses. If a site is small but expensive this will encourage smaller units such as flats but this may be unsuitable for other reasons. The identified housing need may be for family houses. If a site is too large it may be possible to buy part only, or to form partnerships between the public and private sector to develop adjacent schemes.

(d) Is there access?

Access to the site must meet statutory requirements and be wide enough to build a road and usually pavements on both sides. If any doubt exists this should be checked at a very early stage. Concessions can sometimes be negotiated with the Highways Department of the Local Authority if the proposed site is small and does not lead to any other sites.

If access is a problem it may be possible to purchase additional adjacent land to widen the access. However, neighbouring owners may well see this as an opportunity to take advantage and ask a high price, hence the term "ransom strip".

(e) Who if anyone is competing for it?

Private sector developers can usually act much more quickly than public sector developers because their organisations have different constraints and requirements. They are often willing and able to build at a higher density which enables them to be able to pay higher purchase prices.

(f) Is it in the required area?

Housing associations are usually 'zoned' to work only in certain areas. In the public sector developers need to build in particular areas or streets to meet the identified housing need. In the private sector particular types of houses are in demand, starter homes for example, which may only be profitable on cheaper inner-city sites. If housing, however good is built in the wrong place, it can be impossible to let or sell.

(g) Is it suitable for the identified need? Is it near to amenities?

It is very important that the site is suitable for the identified housing need. Many developments have long term problems that should have been anticipated at this early stage such as an absence of bus routes, shops, doctors, schools. Other schemes have been built and then left empty because the need had changed or the scheme did not suit the need. Because of specific experience of such problems, some housing associations now use a scoring system to determine whether available sites are appropriate or what additional resources -often revenue as well as capital resources- may need to be added to make the potential scheme successful (e.g. community development work).

(h) Is residential planning consent existing or likely?

If planning consent for residential use is not existing then the price should be lower or normally it would be gained before purchase. Some sites have long and contentious histories where neighbours object to planning applications, particularly if they do not like the intended occupiers.

The likelihood of planing consent depends on knowledge of the local plan, as well as existing uses for the site. Is the local authority likely to consider granting exceptional permission if the site is agricultural land? Is the site in a conservation area? Does it contain a listed building? These might increase the cost of development because they will constrain the type of development permitted.

If planning permission exists for other uses it is normally not possible to get it changed to residential. Negotiations with the Planning Department at a high level, and possibly council members, would be necessary to be successful.

(i) Are services readily available?

The supply of water, electricity, gas and telephone to sites can be problematic. It cannot be assumed that they are available. In rural areas gas may be very expensive to supply, or just not possible.

Problems can also arise in built-up areas where existing infrastructure is at its maximum capacity and no further consumers can be served without new sewers, pipelines and cables. In some cases service suppliers require the developer to pay all or part of these costs.

(j) Are there physical constraints?

The site's aspects and surroundings may constrain the possibilities for development. What does it overlook? Are there high buildings adjacent? The site itself should also be examined.

Is there a steep gradient? Are there physical problems with the soil such as materials which have been tipped? Are there overhead cables or pylons?

There maybe water mains or sewers crossing a site, which are subject to easements which prevent building over these or near them, thereby potentially limiting the numbers of dwellings possible.

(k) Are there conditions of sale?

The type of development may be limited by conditions attached to the sale of the land, such as a local authority landowner requiring that the site be used for affordable social housing. There may be covenants on the site which preclude certain developments.

Summary

Some of the above are so important, access for example, that if they cannot resolved in the foreseeable future then there may be no point continuing. Others, such as purchase price or funding availability, can perhaps be resolved with further negotiation. They would all need to be accepted or resolved or costed before purchase.

Activity 2

Locate a development site in your area, which might be appropriate for some type of social housing provision. This might be a cleared or derelict site for new build, or an existing building for rehabilitation.

Using the form provided in this section for ***Initial Site Appraisal*** *(or a photocopy), try to appraise the site. You will find some sections easier to answer than others at this stage, but try to use your common sense to make some judgements.*

When you have completed the appraisal, keep the form safely. We shall return to this when you have read further, and may be better able to complete some parts.

Time allocation: 30 minutes

4. Site Survey

If the organisation is satisfied that the site may have potential, it may decide to pay a consultant - usually, a civil engineer - to undertake a site survey. This is particularly likely for sites with an unknown history. The organisation will wish to be sure that there are no expensive features, such as mineworkings, or tipped materials.

The site survey is a detailed *physical* examination of the site.

(a) It will involve surveying the site, so that *levels* - ground heights at different parts of the site - can be determined. This means that site *contours* can be put on the plan, which will be important to the subsequent design of the scheme.

(b) The engineer will *dig trial pits*, to determine the nature of the materials on which the foundations will be built. Where the trial pits indicate possible problems, such as unstable ground conditions, then *bore holes* - which go much deeper - may be required.

(c) Full details of the site survey are produced as a report for the organisation.

4.1 Common problems identified in site surveys

The growing shortage of sites and their increasing cost has led to the use of so-called "brown field" sites; that is, those that have previously been used by industry. In the 1980s many cities redeveloped their derelict industrial areas particularly where they are adjacent to the city centre or include docks and harbours. This has brought both public and private housing into these areas. Site surveys and investigation are very important owing to the potential problems of contamination and underground workings.

4.2 Site levels, gradient, flooding

The surveyor will make a plan of the site with a grid of crosses marking heights above sea level. If the gradient is steep, excavation or retaining walls may be required. Frequent or steep changes in gradient will reduce the numbers of homes that can be built.

If the site is subject to flooding, planning permission may be granted on condition that flood prevention works are built or the level of the site is raised.

4.3 Ground condition

The soil and rock below a site will affect the type of construction recommended. If the site is filled or the soil very poor, construction may not be recommended. Further tests by a geo-technical engineer including bore holes or trial pits may be commissioned to clarify problems. See the following example at 4.7.

4.4 Mains water, mains sewer, cesspits, underground containment and diversion of waterways, electricity or telephone cables

Most of these are protected with "easements" or legal documents that "sterilise" land, i.e., prevent building within a stated distance along both sides of their route. Their location is crucial; if they cut across the middle of a site it may mean that only half of it can be built upon. This would halve its value and must therefore be known before purchase.

Information can be requested about all services, but sometimes records are wrong or incomplete and occasionally problems are only discovered by the surveyor or even contractor on site.

4.5 Mines, voids, petrol and other tanks, vehicle inspection pits, asbestos

These may have been left from previous industrial or commercial use, and usually indicate that other problems will be present, such as oil and chemicals deposited in and on the ground. The removal of structures and the filling of voids will increase costs.

Some trades use toxic chemicals such as arsenic, ammonia, lead and cadmium. If the presence of toxic chemicals is suspected then further expensive technical tests are required to identify them. The Environmental Health Department of the Local/Unitary Authority will impose certain requirements and may also be willing to help with local knowledge of the site, and possible solutions. **Part IIA of the Environmental Protection Act 1990 came into force in 1997** and adds to existing regulations and guidance.

Depending upon the nature, volume and distribution of the chemicals they may require excavation and removal to a registered incinerator or disposal site; or it may be acceptable to remove part or to cover or "cap" it with a layer of non-contaminated soil. Disposal must be controlled and meet statutory requirements so specialist companies should be used. There may also be additional planning requirements made, such as paving gardens so they cannot be cultivated. These costs can be very high and a developer may decide not to proceed.

4.6 Refuse tip exposed or covered, filled in ponds, docks, voids

Methane gas can cause explosions. It is made when organic material (garden waste, wood, coal, food, etc.) rots. If it is covered the methane gas becomes trapped in pockets, or large quantities if there are underground voids. It collects and if it escapes or is disturbed it may not cause a problem, but equally it could explode.

Additional planning requirements may be made, for example that all buildings must have a deep stone filled trench around their perimeter to provide a route for methane to escape. Sheds or extensions may not be added after initial construction because they may obstruct the escape of methane.

As you can see from the above, there are many physical problems that can occur and they can be very influential because:

- they are typically time consuming and complex to resolve;
- specialist consultants and contractors can be necessary;
- identifying the problem incurs costs;
- long term solutions incur further costs;
- the value and cost of the site are affected;
- the design and layout of the scheme is affected;
- the number of units may be decreased thus threatening the scheme's viability;

4.7 An example of a site survey

The site survey for Phoenix Housing Association's scheme in Hartlepool, which is the subject of our case study, was undertaken by their civil engineering consultants. A copy of their report on the site is reproduced here. You will notice that it makes detailed recommendations about the method of constructing the foundations, as a result of the ground conditions they discovered.

Site Survey Report

15 January 1992 **13487/NW/RH8036**

Phoenix Housing Association Limited
Phoenix House 27 Yarm Road
STOCKTON-ON-TEES Cleveland TS18 3NJ

Dear Madam

RE: DEVELOPMENT AT TURNBULL STREET, HARTLEPOOL

In accordance with your requirements we have carried out a site investigation at the above site. The investigation was carried out on the 16th December 1991 and involved the machine excavation of 5 No trial pits under the supervision of the writer.

Description of the Site

The site measures approximately 45m x 65m and has a gentle slope to the West. The Northern half of the site has been a children's playground and is paved with tarmac. The Southern half of the site has been a garage/vehicle hardstanding area. The garages have been demolished, but there is evidence of brickwork walls at ground level. The paving consists of concrete in the areas of the garages and tarmac elsewhere. The site is bounded by an approximately 3m high brickwork wall to the East, Turnbull Street and Grainger Street to the West and South respectively and a Child Welfare Centre to the North. East of the 3m high boundary wall the ground slopes down steeply to a school playing field some 3-4m lower than the site level. We believe this was the location of a quarry.

The enclosed part copy of a Northern Electric drawing indicates that the site was previously occupied by two terraces of housing laid out with a back yard running approximately centrally up the centre of the site.

There are bushes along the 3m high brickwork wall and a small tree in the Child Welfare Centre adjacent the North East corner of the site.

Trial Pits

The location of the 5 No trial pits is shown on the enclosed site plan. The excavations reveal, as summarised on the enclosed logs, that the sub-soil conditions consist of surfacing and rubble fill upon glacial till upon limestone bedrock. The glacial till material consists of a brown sandy clay with stones with a variable nature. In all cases the excavations remained stable and free of ground water.

Testing

Samples of the glacial till have been collected from 3 of the trial pits. The results reveal, as shown on their enclosed letter dated 23 December 1991, that the till is a stiff cohesive material with a depleted moisture content.

Recommendations

From the findings of our investigations and testing we recommend that the foundations for the development should consist of conventional mesh reinforced 250mm thick strip footings bearing in the glacial till or on the bedrock. In view of the degree of moisture depletion in the till we recommend that the underside of the footings be a minimum of 1500mm below finished ground level. The footings should be designed to exert a maximum nett ground bearing pressure of 125kn/m2.

Although, with the exception of trial pit 2, the investigations did not reveal the presence of cellars or other deep existing excavations, the site is known, as noted, to have had previous development, hence foundations, drains or wells could have existed at depth which would require the removal of disturbed ground beneath new footings for replacement with a C20 blinding mix concrete.

We recommend that the site should be generally stripped of the surfacing and underlying brick and ash rubble fill down to approximately 300-400mm below existing ground levels. In addition the ground floor construction should consist of a PC suspended system in view of the likely deeper areas of disturbed ground resulting from previous developments.

All buried concrete should be Grade C35 containing a minimum 300kg.m3 of Ordinary Portland cement and with a maximum free water/cement ratio 0.55.

We trust that the above notes are sufficient to satisfy your current needs, and look forward to receiving your further instructions with regard to foundation design etc.

Yours faithfully

Consulting Engineers

If the site survey proves to be satisfactory, the organisation will now proceed to the next stage: selecting a consultant to undertake the feasibility study. If there are problems, the site might still be considered but the cost of solutions and any changes in design layout, planning/environmental health requirements, and implications for housing management would have to be negotiated and costs estimated.

5. Selection and Appointment of the Consultants

The organisation must take care to appoint a reliable consultant, who will be responsive to the client's needs. Clients who employ in-house consultants will, clearly, not have to undertake the process described here. However, they should judge the quality of the service which they receive by the same standards as they would an external consultant.

5.1 Selecting a consultant

When selecting a consultant, the client organisation might examine a range of information, such as:

- the consultant's previous experience of similar housing developments;
- customer satisfaction with previous designs;
- whether previous projects were completed;
    * on time
    * within budget;
- if previous clients were satisfied with the consultant's work.

It is sensible also to visit the practice itself, to form an opinion about the way things are organised, and to check previous work on site, to see whether the designs are liked and are considered appropriate.

At this stage, it is not usual to make a formal appointment, because the organisation will be reluctant to commit itself to costs, for a project which may be abandoned following the feasibility study. For this reason, what is usually issued is a *letter of intent*.

5.2 Letter of intent

This letter confirms the organisation's *intention* to appoint the consultant, should the project go ahead. Hence, it will say something like this NHF model:

Dear (Consultant),

Project

Following our recent inspection of the above property/site* I invite you to prepare sketch proposals and an outline schedule of costs (to Housing Corporation requirements) for rehabilitation/conversion/construction of new buildings* in accordance with our discussions as noted on the attached outline brief. The following are the terms under which this invitation is extended and I must ask you to confirm in writing that you accept these arrangements: This letter does not constitute an appointment under RIBA/RICS* conditions of engagement, however, subject to satisfactory progress, the association does intend to offer an appointment once funding for the project has been secured.

The proposed project is eligible to receive Housing Association Grant under the provisions of the Housing Act 1988. Approval procedures for grant are rarely quick and, therefore, we rely upon you to:

(a) be conversant with the funding authority's requirements as set out in the Housing Corporation's Schemework Procedure Guide and Design and Contract Criteria for Fair Rent Projects.

(b) proceed speedily with all work as requested and give advance warning of any potential delays.

The fee payable upon formal engagement will be negotiated on the basis of basic services at a percentage rate for RIBA Work Stages C - H. We do not pay fees for stages A - B for either successful or aborted projects and, therefore, you are working 'at risk' until we are able to authorise Stage C work upon completion of the property/site purchase.

I look forward to receiving your written confirmation of acceptance to these terms and sketch proposals. It is important that the latter are received before .....

Yours sincerely,

for Housing Association Ltd.

*delete as appropriate

If the consultant is an architect, he/she would usually be a member of the relevant professional body, RIBA (Royal Institute of British Architects). A building surveyor would be a member of RICS (Royal Institute of Chartered Surveyors).

The consultant will then prepare the feasibility study - which is examined next - and, assuming that the site proves to be suitable for development, will receive a formal *letter of appointment*, once the site has been acquired.

5.3 Fees

It is usual practice for architects and quantity surveyors to work "at risk" until the site is purchased. This means that if it is not purchased for whatever reason then they are not paid for the work done.

In the past, consultants were paid according to their professional bodies' scale of fees, but due to increased competitiveness this is no longer usual practice. Fees are either negotiated or consultants are invited to compete by tender for the work.

5.4 Letter of appointment

Once it is clear that the project is feasible and can be funded, a formal *letter of appointment* is normally sent, which:

- defines the consultant's roles and duties;
- defines the client's role;
- states the conditions of appointment;
- specifies fees and payments;
- agrees the role of any other professionals;
- requires professional indemnity insurance, which provides cover for the client in the event of subsequent design failures.

Summary

Finding a site and appointing a consultant

1. **The client must first identify the organisation's requirements for the site.**
2. **Sites may be obtained from a variety of sources, including landowners, developers, local authorities and estate agents.**
3. **The site must be subjected to an initial site appraisal, to determine whether it seems suitable. Asking price, tenure, access, location, planning status, amenities, services, easements, ground condition, gradient, previous use will all have to be identified.**
4. **A shortage of residential sites, their increasing cost and competition for them, has led to an increase in the use of "brownfield sites" that were previously industrial sites.. These should be checked for ground condition; contamination, methane gas etc.**
5. **A surveyor will be appointed to carry out a site survey and if ground conditions are possibly a problem then a geo-technical engineer may also be appointed to carry out a site investigation.**
6. **The organisation will then need to appoint consultants to undertake the feasibility study.**

6. Preparation of the Feasibility Study

This is the stage which will determine whether the development proceeds, so it is vital that it is conducted as accurately as possible. Many projects are abandoned at this stage, because it becomes clear that the project is not feasible - it is too expensive, difficult, or risky.

If the initial site appraisal and site survey are satisfactory or contain problems that can probably be solved then a more detailed assessment of the site and the proposed scheme is carried out. This covers:

- physical nature of the site
- estimated unit mix and numbers
- estimated cost of scheme
- grant availability
- cost comparison
- financial viability of the scheme

All of these processes are time consuming and often incur costs. Contamination tests for example, can be up to £2,000; it is therefore important that the Development Manager/Director is fully informed and coordinates all aspects. There is no point incurring high costs in one area if other problems are now known to be intractable. If it is decided that a site will not be progressed further, the costs incurred are known as abortive.

The areas identified above are therefore pursued simultaneously to maximise speed and to minimise abortive costs. Some details would take months to resolve. The Development Manager will concentrate on those that significantly affect 3 major issues:

(a) purchase price of land

(b) building costs

(c) number of units

These have to be known to assess the financial viability of the scheme. Each scheme must be financially viable; that is, the capital and revenue costs of the scheme must be met from its income.

6.1 Physical nature of site

Those issues covered in the initial appraisal and site survey at 4 and at 3.3, may need further negotiation with the vendor, valuer, planners, highways officers, other regulators, consultants, contractors and service suppliers.

6.2 The estimated unit mix and numbers

You have already seen at HCPM.103 Design Issues and in this block that there are many design and planning issues. At this stage however, you only need a realistic unit mix and numbers (for example, 10 units of 2 bed flats, 20 units of 2 bed houses etc.,) that could be built on this site.

You will now have architects appointed at risk for the scheme. They will be given:

- The organisation's design brief - to include funders' or other requirements.
- Specific requirements for this site - e.g., houses must face main highway.
- Site location map.
- Site survey.
- Draft unit mix and numbers - this is for guidance and will be changed to match what they advise is possible.

They also have to consider the planning requirements that most commonly affect site density:

- distance required between habitable rooms of new dwellings;
- number of parking spaces per dwelling;
- use of terraced or semi-detached form;
- number of storeys - any restrictions;
- overlooking or intrusion upon existing dwellings;
- road widths, dual or single pavements, any turning circles for cars;
- vision splays at junctions for good traffic visibility.

A timetable will be agreed with the architects, and they will provide 2 or more site scheme sketches showing different unit mixes and numbers and approximate road layouts.

Following discussion with the architect one option will be selected. As we have already seen, the unit mix will be affected by physical and cost factors. It is important therefore that at this stage housing management senior staff are consulted and confirm that it is suitable. It is no good building 40 x 1 bed flats for development-driven reasons if the top priority on the waiting list is 3 bed houses.

6.3 The estimated cost of the scheme

The quantity surveyor now appointed at risk will be given:

(a) The organisation's standard specification - a document detailing the quality or type of materials and fittings required, including central heating boilers, roof coverings, double glazed windows etc.

(b) Any special requirements, including those of funders or planners, that are likely to significantly affect cost.

(c) A site survey and details of any problems identified.

(d) Total floor area of the units.

(e) Architects' scheme sketch.

(f) Draft unit mix and numbers.

A timetable will be agreed and the quantity surveyor will use the above along with local knowledge of current building tender costs and will provide a written estimate of the cost of a building contract for the scheme.

6.4 Grant availability

Social Housing Grant (SHG) to build new social housing comes from the Housing Corporation, Local Authorities, or the National Assembly for Wales. Details vary but broadly, in England, the housing association "bids" for SHG and the lowest bidder will gain funding, subject to other requirements including rent levels and housing need. In Wales the percentage of SHG is universal, but the housing associations bid on the basis of the rents they will charge and the lowest will succeed, subject to other requirements. Costs will have to be within limits of TCI or ACG. Usually, therefore, housing associations/local housing companies will know in April each year the amount of grant likely to be made available to them and how much can be spent on new sites.

6.5 Other finance

In the public sector, social housing grant only covers part of the total cost and loans are arranged with banks and building societies to meet the remainder of cost. This private finance may be negotiated and arranged individually for each scheme, or it may be arranged in larger amounts for a longer period and used as required.

In the private sector, finance would also have to be borrowed and arranged to be available when required.

6.6 Financial viabilities

The purpose of a financial viability is to find out if all the estimated costs of a scheme can be met from the estimated income of a scheme; that is, whether it is viable. The purchase of land and the signing of building contracts are legally binding and very big financial commitments and it is therefore important to know in advance if a loss will be made. The following applies only where housing is not sold and is retained for rent.

(i) There are two main costs of a scheme

Capital costs are the initial costs of constructing and completing the homes and getting them ready to live in.

Revenue costs are the long term costs of owning and managing homes when they are occupied and between re-lets.

The capital costs are:

Land purchase price.

Building contract price.

On costs e.g., fees to valuer, solicitor, consultants, etc.

They are paid for with:

- Social Housing Grant paid by the Housing Corporation or Local Authority or the National Assembly for Wales.
- Private Finance borrowed from banks or building societies.

If capital costs can be met the scheme is not necessarily viable. The revenue costs must also be calculated to ensure that the long term management costs and the repayment of the loan to the bank or building society can be met. And even if it is viable it may not be within TCI or ACG.

(ii) What are all revenue costs? How are they paid for?

Housing Management staff time to collect rents, allocate homes etc.

- Day to day repairs when they are reported
- Planned repairs and maintenance such as repainting.
- Major repairs and replacements of large items.
- Unpaid rent lost through voids and bad debt.

And the biggest cost of all:

- Repayment of the private finance loan.

These are all paid from the rents paid by tenants in those houses.

6.7 How is a financial viability done?

A spreadsheet is set up on a computer and all the costs are listed. The spreadsheet can calculate various figures, for example, the total of all the rents from the different types of homes in the scheme over one year.

This sounds simple but is made complex because you need to work out costs over the whole time you are repaying the loan, which is usually 25 years. Predicting costs that far ahead is very difficult because we don't know what will happen.

6.8 Financial viability assumptions

We have to guess or make assumptions. They should be as sensible as possible; so where you know costs you will use actual figures. If you know repairs cost £513 per house this year, you can assume that they'll cost that plus inflation next year.

Inflation is important in predicting costs because it pushes cost up. A percentage increase has to be assumed.

The largest revenue cost is loan repayments so the interest rate of your loan in the first and all the other years, is very importat. If it is underestimated there might not be enough money to pay it, but if it is overestimated the scheme might not go ahead because the predicted losses were much higher than they really would have been.

(a) The most important assumptions are:

- Amount of social housing grant.
- Mortgage interest rate.
- Inflation.
- Current rents and rate of increase.

These are very influential to the outcome of the appraisal, and are all subject to changes in Government policy. It is important that these assumptions are set at sensible percentages and that they are formally approved by the organisation.

(b) These are examples of other assumptions and typical levels they may be set at:

	Annual costs
Inflation	2%
Mortgage interest rate	8%
Mortgage loan period	25 years
Management costs per home	£150
Repairs cost per home	£400
Major repairs cost per home	0.8% of building costs
Voids and bad debts percentage	2%
Development staff costs	4% of land and building cost
Development period interest rate (cost of borrowing during construction of scheme)	9%
Rental annual increase	2%

Rents per house type:

1 bed flat	£35 per week
2 bed house	£40 per week
3 bed house	£45 per week
4 bed house	£55 per week

(c) Using an appraisal spreadsheet to make decisions about whether to go ahead or not

The next question is whether the costs - capital and revenue (as predicted using the assumptions) will be met from the income (as predicted using the assumptions). The final column of the spreadsheet should show an annual balance.

If the spreadsheet shows a surplus or break even in every year of the loan period then it is viable and is usually approved unless there are some other problems. If the appraisal spreadsheet shows a loss in one or more years then it would have to be considered carefully.

6.9 Total Scheme Cost

This has 3 parts:

(i) Land purchase price.

(ii) Building works cost (inc. VAT if rehabilitation).

(iii) On costs - staff time, consultants fees, solicitor and valuers fees, site investigation costs, planning fees, lenders' charges, etc.

The type of building contract will affect the costs. Traditional contracts attract higher levels of consultants' involvement and, therefore, fees than design and build, or off the shelf packages. For details see PDH103 Section D5 for non-traditional contract types.

The types of costs above are added to form the total scheme cost.

(a) Cost comparison

The Housing Corporation & the National Assembly for Wales have devised systems to allow them to compare schemes and their costs, to ensure that they are spending public money as effectively as possible.

In England, this is known as TCI (Total Cost Indicator) and in Wales as ACG (Acceptable Cost Guidance). They differ, but both determine how much housing is expected to cost, according to its location, size and type, and any excess cost may be ineligible for grant. The calculation method is published and updated to take into account changes, for example, in land cost. Both express the cost-effectiveness or value for money as a percentage, 110% over TCI/ACG, for example.

Cost comparison is central to whether grant is ultimately made available but it is also useful as a guide to the organisation in measuring whether the scheme is expensive or not.

If at this stage estimated scheme costs were significantly over 100% then this could be because of known and justifiable extra costs or it could be a warning signal that costs will have to be cut.

(b) On Completion of the Feasibility Study

When the information on:

- physical nature of the site;
- estimated unit mix and numbers;
- estimated scheme cost;
- grant availability;
- cost comparison;
- financial viability of the scheme,

is complete, the Development Manager/Director will have to decide whether it is worth proceeding further. As at initial site appraisal some problems may be so extreme that it would be foolish to waste more time and money. Sometimes the need for the housing and the lack of alternative sites may be so pressing that it is worth carrying on to try and find solutions.

At least outline planning permission for residential use must be granted before purchase. If the scheme is definitely looking positive then authority would be sought to purchase the site on behalf of the organisation. Any problems would continue to be worked on and purchase would only take place once issues listed at initial site appraisal and feasibility study were resolved.

6.10 Outline planning consent

Outline planning consent is approval, in principle, to develop a site for a particular purpose, and is granted by the local planning authorities. Normally, this is the local authority.

Usually, it will be clear from the local Development Plans, whether the site is considered suitable for residential development by the planning authorities. There may also be a development brief for the site, prepared by the local authority, which sets out the type of development which is required.

The likelihood of obtaining planning consent will have been established at the initial site appraisal stage, in informal discussion with the planning officers. However, a formal application for outline consent must now be made (if it has not already been granted). Very often, detailed consent will be applied for immediately. These planning issues are examined shortly.

The site must not be acquired unless it is certain to attract planning permission.

Once this is obtained, the next step is to proceed with the purchase of the site, as well as to produce the briefing for the consultant. This latter is examined in section 8.

6.11 Development feasibility report

These vary in different organisations but usually include a location plan and scheme sketch. A financial viability spreadsheet may also be included with an appendix showing current assumptions. The following is a brief report summarising the main factors and would be used to seek authority for the purchase.

Development Feasibility Report

Scheme: Turnbull Street, Hartlepool

1. Description of scheme

This is a site in the Dyke House area of Hartlepool which was previously occupied by council garages and a play area. The proposed scheme is for general needs flats and Category 1 flats for the elderly. A site location map and scheme sketch is attached.

The total number of units is 25 including:

8 x lb/2p general needs flats
4 x 2b/3p general needs flats
8 x lb/2p flats for elderly people
4 x 2b/3p flats for elderly people
1 x wheelchair 2b/3p bungalow general needs

Housing management confirm that the mix meets the local authority's view of housing need.

Social housing grant is expected to be available. The contract will be let on a competitive tender.

2. Estimated scheme costs

The SHG available for this scheme in the association's allocation is £703,360 and the Total Cost Indicator for the project is £1,158,444. The estimated costs are:

Site acquisition	£75,000 (District Valuers valuation)
Works	£764,925 (QS Estimate)
On costs (legal, development and admin., consultant's fees, planning, Building Regs., interest payments)	£159,586 (HC rates)
Total Estimated Cost	£999,511

3. Purchase price

The vendor is expected to accept £75,000 for the site. A site survey did not identify any problems and abnormal costs are not expected.

4. Financial Viability

Maximum SHG available	£703,360
Estimated SHG required	£606,703
Estimated mortgage loan	£392,808
Current TCI	£1,158,444
Scheme cost index (Estimated cost as a % of TCI)	86.28%
Estimated average outturn rent at completion	**£47.48 p.w.**

The viability spreadsheet has been checked by the Director of Finance and Development and does not show any deficit.

Assumptions

Long term loan interest rate	10.5%
Length of loan	35 years
Management allowance	£275 p.a.
Maintenance allowance	£346 p.a.
Voids and bad debt provision	3%
Year 1 major repairs provision	0.4% (of total cost)

Planning Status

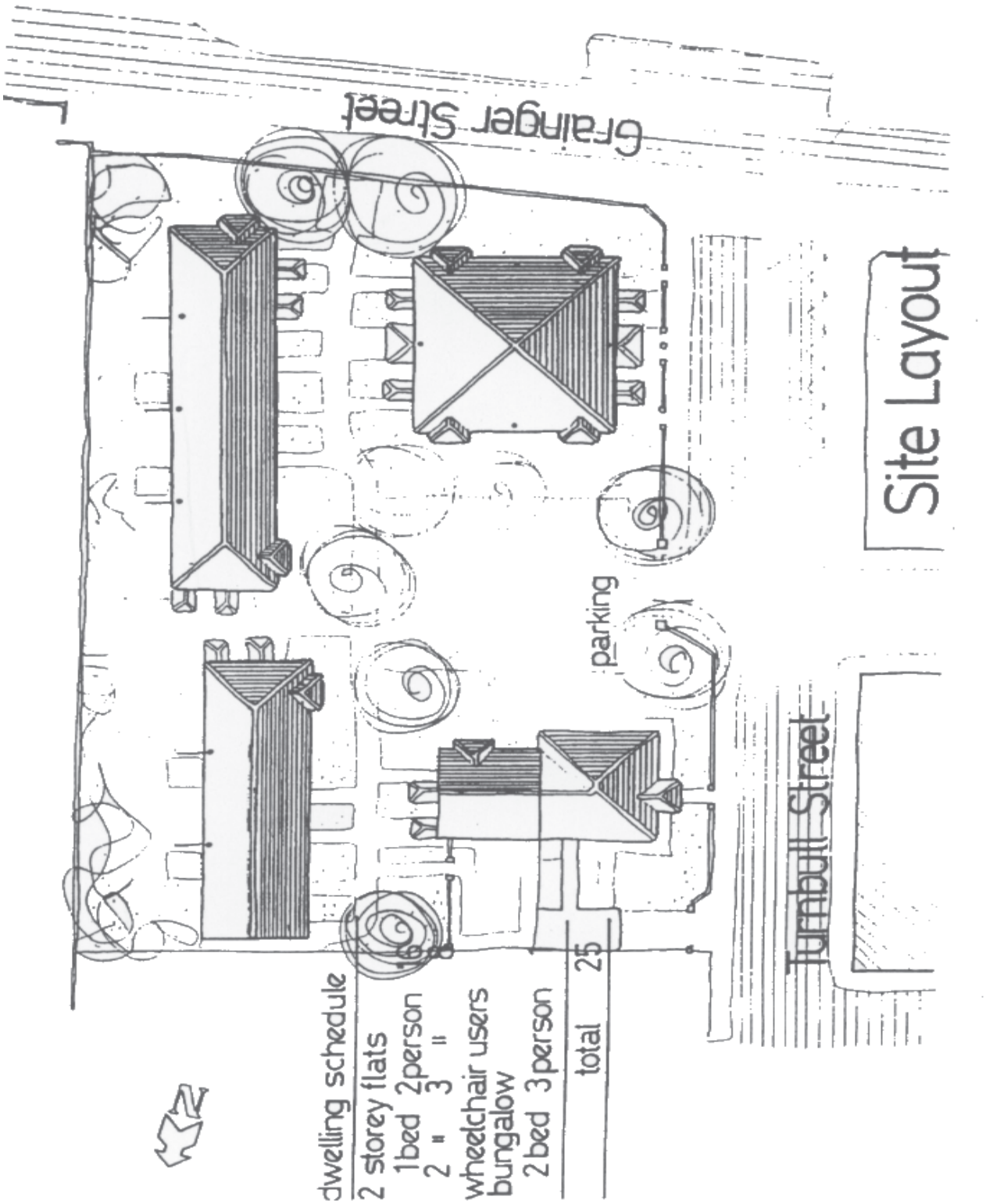
Outline residential planning permission exists.

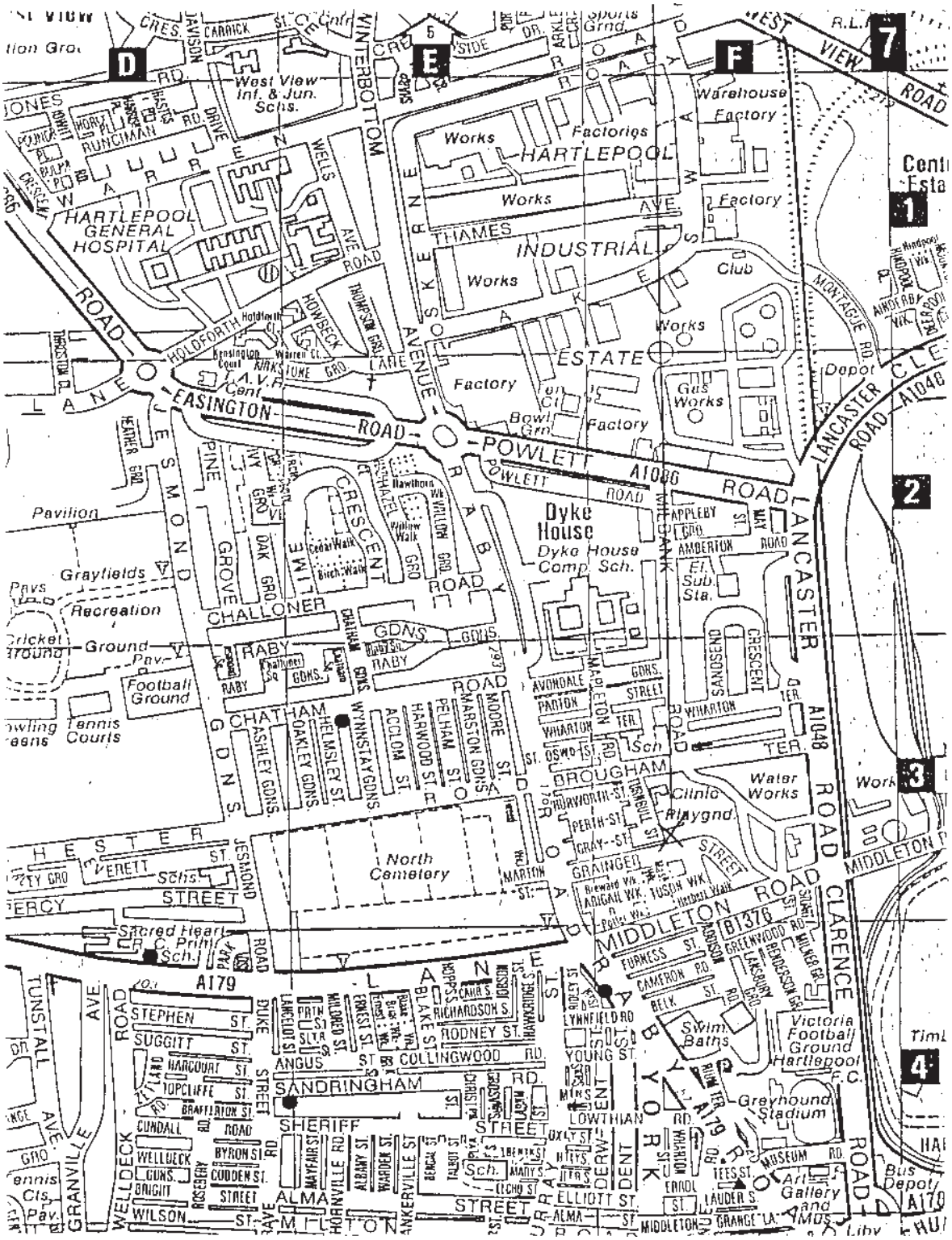
Consultants

Architect:	Edwin Trotter Associates
Quantity Surveyor:	ABC Ltd
Engineers:	XYZ Ltd
Solicitors	123 Ltd

Officer's Recommendation

The scheme is a priority and will meet housing need on the Association's waiting list, it is viable under TCI, and SHG is available, and rents are within the Association's rent policy. It is therefore recommended that the committee authorise purchase of this site.


Grainger Street
Site Layout
parking
Turnbull Street
dwelling schedule
2 storey flats
1bed 2person
2 " 3 "
wheelchair users
bungalow
2bed 3person
total 25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F
West View Inf. & Jun. Schs.
HARTLEPOOL GENERAL HOSPITAL
Works
Factories
HARTLEPOOL
Warehouse
Factory
THAMES
INDUSTRIAL
ESTATE
Gas Works
Club
Depot
Dyke House
Dyke House Comp. Sch.
EASINGTON ROAD
POWLETT ROAD
A1086
LANCASTER ROAD
A1048
Pavilion
Grayfields
Recreation
Ground
Football Ground
Tennis Courts
Bowling Greens
CHALLONER
RABY
CHATHAM
GDNS
CRESCENT
GROVE
OAK GRO
PINE
Water Works
Clinic
Playgnd
North Cemetery
Sacred Heart R.C. Prim. Sch.
PERCY STREET
MIDDLETON ROAD
B1376
CLARENCE ROAD
Swim Baths
Victoria Football Ground
Hartlepool F.C.
Greyhound Stadium
Art Gallery and Museum
Bus Depot
A179
SANDRINGHAM
SHERIFF STREET
COLLINGWOOD RD.
RODNEY ST.
BLAKE ST.
YOUNG ST.
LOWTHIAN RD.
ELLIOTT ST.
ALMA ST.
GRANVILLE AVE
WELLDECK ROAD
STEPHEN ST.
SUGGITT ST.
HARCOURT ST.
TOPCLIFFE ST.
CUNDALL ROAD
WELLDECK GUNS.
BRIGHT ROSEBERY
BYRON ST.
CUDDEN ST.
WILSON ST.
TUNSTALL AVE
Tennis Cts.
Pav.
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7. Site Purchase

7.1 The role of the valuer

The cost of the site is a large part of the costs, so it is important to get value for money. A valuer is used to gain professional advice on land values. The rules differ for housing associations in England and Wales but they are required to get a written valuation report covering certain information from either an independent valuer or the District Valuer.

The District Valuer is a civil servant in the Inland Revenue Service who assesses land and holdings for tax purposes.

The valuer should have good local knowledge of sites, vendors, prices agreed recently and should therefore be able to give a range of approximate cost at an early stage. Valuation is an art not a science. Ultimately a piece of land is worth what someone will pay for it. This means that values fluctuate according to local demand as well as national trends such as interest rates etc.

7.2 Common valuation problems

As has already been seen, there are many problems that can increase costs and/or decrease the number of homes that can be built. This reduces the value of the land.

Vendors often have an inflated idea of what their land/property is worth, often based upon periods of high values even though these may no longer prevail. If there is an estate agent involved they should assist in setting realistic prices.

The above factors, along with competition from other purchasers and the shortage of sites in many areas, can make it difficult to agree a valuation figure that satisfies the purchaser and the vendor/owner of the land. This is why the valuer has an important role and is hopefully willing to bring some flexibility into negotiations to allow agreement to be reached.

A final written valuation report should be issued after negotiations are complete. This is particularly important in Wales where housing associations and local housing companies are not allowed to pay a purchase price higher than the valuation; and in England the Housing Corporation may agree it only in special cases.

An example of a District Valuer's report follows. It would also have a location map attached or a part of an Ordnance Survey map of the area.

What was the site valued at?

The Valuation Office

Report

Your Reference: BCM/LA

Our Reference: OGD 27667 BKH/GK

Date: 24 February 1992

IN CONFIDENCE

LAND AT TURNBULL STREET, HARTLEPOOL
PROPOSED PURCHASE FROM HARTLEPOOL BOROUGH COUNCIL

Referring to your letter and enclosures of the 12 February 1991 I now report as follows:-

PROPOSAL:	Your Association propose to purchase the land described below for the purpose of constructing 24 no. flats in a 2 storey building and 1 no. disabled persons bungalow.
SITUATION & DESCRIPTION:	The land is situated approximately half a mile to the north of the Town Centre on the corner of Turnbull and Grainger Street all in the Borough of Hartlepool and County of Cleveland and shown by red verge on the attached plan. I understand that part of the land was formerly the site of lock-up garages which have been demolished to ground level and the remaining area was the site of former terraced housing which was demolished and the site used as a childrens play area. The site is generally level with a slight fall from east to west and has an existing road frontage to Turnbull Street.
AREA:	The area of the site extends to .32 hectares or thereabouts.
MAP REFERENCE:	The relevant Map Reference is Ordnance Survey National Grid Number NZ 5033 Scale 1/2500.
TENURE:	The land is freehold and will be sold with vacant possession free from any onerous easements, restrictions, covenants, outgoings or other onerous conditions which would adversely affect the value.
SERVICES:	All public utility services are understood to be readily available to the site.

TOWN PLANNING	The land is designated in the current development plan for use as a primary school, however the Hartlepool Local Plan draft proposals ear mark this site for residential development. The purchase will be subject to your Association obtaining all necessary planning and other consents for the proposed development.
MINERALS:	Minerals owned by the Vendor will be conveyed with the surface together with all rights of support or to compensation in lieu thereof enjoyed by the Vendor in respect of mineral workings. I enclose for your information a copy of this Department's Mineral Valuer's Report.
OTHER MATTERS:	Your Association has had a site investigation carried out which indicates that the cost of clearing the site for development is estimated in the sum of £10,000 (Ten thousand pounds).
COSTS:	Each party will bear their own costs in this transaction.
OPINION OF VALUE:	Having regard to the foregoing I am of opinion that the current open market value of the freehold interest in the site with vacant possession is the sum of £75,000 (Seventy five thousand pounds)
VAT:	It is understood that this transaction is not one to which VAT is application and the stated opinion of value has due regard.
VALIDITY CLAUSE:	This report should not be considered valid for a period of more than six months from the date hereof nor if facts of which I am not aware become apparent.

Yours faithfully

B HUDSON FRICS FAAV
District Valuer

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7.3 Negotiating with the vendor

Some vendors like to haggle direct, but many prefer to remain unknown and employ an estate agent instead. No offer should be made until all the relevant information is available. Verbal agreement should then be sought followed by an offer in writing with any conditions or deadlines.

7.4 The role of the solicitor

Unless an in-house solicitor is used, solicitors are selected and appointed in the same way as consultants (i.e. based on the quality of their work, particularly accuracy and punctuality) and fees are negotiated.

The solicitor must carry out various checks including that the vendor does actually own the land, i.e., has the title deeds to the land.

7.5 Leasehold sites

For leasehold sites, the Housing Corporation (et al) requires minimum lease expiry terms, as a condition of receiving SHG funds. These are:

- 30 years for rehabilitation schemes;
- 60 years for new build.

However, these terms are from the date of occupation of the completed dwellings, so extra time must be allowed for the development period - commonly, up to 5 years more.

The Housing Corporation wants to ensure that housing associations retain ownership of the site for the expected life of the building. Hence, the different minimum lease requirements, which acknowledge that new buildings can normally be expected to last twice as long as rehabilitated buildings.

Private sector lenders are also concerned about the length of lease periods, because the mortgage may extend over a long period of time. A short lease would considerably reduce the value of the property, so the length of lease required by private funders may well be even longer than the terms suggested above .

7.6 Meeting deadlines

The offer letter and its reply are copied to the solicitor and timetables are set for:

- Exchange of contracts from which time it is legally binding, and
- Completion of contracts - when the transfer of ownership takes place.

Sometimes these are simultaneous but usually they are 5-15 working days apart. It is very important that your solicitor is aware of any problems that are still being solved so that s/he does not exchange contracts prematurely.

7.7 Common legal problems

Some issues have been described at initial site appraisal. Others will only become apparent later. They include:

(a) Boundary disputes

The map in the deeds may be inaccurate or it may be of such a small scale that when on site the boundary line is several metres wide and therefore no help.

Adjacent owners may have encroached upon the site by moving fences, planting trees etc. Features identified on the map may no longer exist. Given the frequent animosity to new building these problems may become emotive.

(b) Covenants and rights of way

The title deeds may forbid certain activities on the land. Some of these may be obscure, others include the building of social housing; or there may be rights of way established across the site which may prevent or restrict the building of houses.

(c) Easements

See Mains Water etc., at 4.4.

(d) Illegal occupiers

Buildings offered for sale as vacant may in fact have squatters resident; land may have grazing horses etc., present. A site visit before exchange of contracts is advised.

(e) Payment for land

It is crucial that the money is there on time in your solicitor's business account on the day of the completion of contracts so that s/he can make the payment to the vendor's solicitor. Where grant has to be applied for and approved this should be done as soon as possible; as failure to pay on the agreed date would be breach of contract.

(f) Social Housing Grant Approval (SHG)

Both in England and Wales in-principle agreement for developing the site will have been gained in the bidding process at the start of the financial year. In England a detailed application with costs, rents, etc., is made once before site purchase and, if approved, grant is paid. In Wales, detailed applications must be made before site purchase and again before tender acceptance.

Time must be allowed for the approval process. If there are any problems, e.g., costs over TCI or ACG or rents have increased, then extra information may have to be forwarded or meetings may be necessary. The solicitor must be kept informed and exchange of contracts should not take place before approval is given.

Summary

1. **A feasibility study assesses the viability of the site for development purposes.**
2. **The architects are asked to work at risk and draft scheme sketches, unit numbers and mixes and road layouts.**
3. **The quantity surveyors are asked to estimate the total cost of the proposed unit mix and numbers.**
4. **The availability of grant and private finance must be checked.**
5. **The total expected cost of land, building, oncosts, including fees etc., must be compared with TCI and ACG if social housing grant is required. If total costs exceed 100% cuts may be necessary before approval.**
6. **The financial viability of the scheme must be checked; that is whether the total costs can be met from the total income. This is worked out over the period of repayment of the loan.**
7. **If the feasibility study is satisfactory, the site may be purchased, once outline (or detailed) planning consent is obtained.**
8. **An independent valuer or District Valuer is required to provide a written valuation report and the purchase price paid would not usually be more than the valuation. Any problems with developing the site must be made known to the valuer as they will affect its value.**
9. **If all of the above can be resolved then the decision may be made to purchase the site, and the solicitors would be instructed to do so.**
10. **The Housing Association or local housing company must make a detailed application to the Housing Corporation or the National Assembly for Wales to get approval for the grant to buy the site at the agreed purchase price. Contracts should not be exchanged until approval is given in writing.**
11. **Leasehold sites are required by the Housing Corporation to have minimum lease terms of 30 years (for rehabilitation) or 60 years (for new build).**

8. Preparation of the Briefing for Consultants

8.1 The purpose of the brief

The brief is simply the mechanism by which the client organisation tells the scheme's consultants what is required of the design. As you have already discovered, the quality of the design, from the client's point of view, will often be highly dependent on the quality of the briefing provided for the consultants. Unless the designers are very clear about the client's requirements of the development, they are unlikely to be able to produce a design which meets them.

Briefings are likely to have two elements:

(a) any *general* requirements of the organisation, applicable to all schemes;

(b) the *specific* requirements of this particular site.

Some specific requirements will have emerged at the feasibility stage which you have just examined, but many others will still have to be determined before the briefing is produced.

If the consultants have designed many schemes for the organisation, they will be familiar with their general requirements, but will still need detailed briefing about this particular scheme. This fact is often overlooked when in-house architects are employed to design the scheme. New consultants will, of course, need to be briefed in detail about all aspects.

8.2 Consultation within the client organisation

If the client is a social housing provider, it is desirable that the client's representative, responsible for producing the brief, consults with all parts of the client organisation. This will help to ensure that the planned scheme fulfils all aspects of requirements. It is essential before compiling the briefing for the general requirements of the organisation, but may also be desirable for the specific site requirements.

Ideally, three groups of people should be consulted:

(a) housing managers

The views of the people who will actually have to manage the scheme should always be sought. They will have experience of the sorts of design features which cause problems for tenants, and may be able to offer useful suggestions about requirements.

(b) customers

This may be obvious to a speculative builder, who will wish to ensure that the design incorporates the sorts of design features that are currently desired. Clients such as these are likely to have undertaken some market research about the wants of potential customers.

It is just as important for social housing organisations to try to consider the wants of their customers. Ideally, this should be the views of the people who will actually occupy the scheme, (which should be possible for rehabilitation projects); or as a minimum, feedback from customers' views about other developments should be taken into account.

(c) maintenance managers

The views of the people who will be responsible for maintaining the scheme should also be considered. They know, from past (sometimes, bitter) experience, which items might prove difficult or costly to maintain, so they can offer valuable advice about requirements at the briefing stage.

8.3 Development of the brief

We have already pointed out that some of the specific requirements of the site will have emerged at the feasibility study stage. These will feed into the production of the initial brief for the consultants.

In practice, this initial brief will undergo development over a short period of time, as new information comes to light. This will be added to the brief, until, eventually, the full brief emerges.

Whilst the detailed drawings are being prepared, there may be a need for future modifications to the brief, for example, the organisation might discover that less funds are available for the development than was initially thought. These should always be incorporated into the brief, so that the final brief fully reflects all of the information given to the consultants.

In this way, it should be possible to check whether the design has, in fact, fully met the requirements of the client. If it has, but the design is still felt to be unsatisfactory, then the fault lies with the client. The brief was not adequate. In this event, future briefs should be modified, to take account of the weaknesses identified in this brief.

8.4 Scheme Development Standards

The Housing Corporation produces a set of **Scheme Development Standards** which it requires to be met for all housing projects which receive Social Housing Grant. The National Assembly for Wales runs a similar system known as Development Quality Requirements. In additional to the compulsory standards, there are further recommended standards which are not essential but which are considered desirable. The Scheme Development Standards taken as a whole are meant to provide guidance to Registered Social Landlords and consultants and the Housing Corporation assesses the quality of publicly funded developments against the standards.

The most recent version of the Scheme Development Standards was produced in 1998 and it covers the following areas:

External environment

- location and layout
- vehicular access
- parking

Internal environment

- communal areas and landings
- housing for the elderly
- supported housing and shared housing

Accessibility

- in general and for wheelchair users

Safety and security

8.5 Contents of the brief

A good brief, once it has been developed to **full brief** stage, should deal with **all** aspects of the project's design. Some of these will be the general building requirements of the organisation, and so will appear in all briefs, whereas others will be specific to the particular site in question. The brief will also need to include all compulsory elements required by the Scheme Development Standards (or Scottish/ Welsh equivalent) if Social Housing Grant is to be received for the scheme.

There are a number of possible approaches to developing design briefs, and they may be set out in quite different ways. What follows below is not intended to indicate an "ideal" approach to writing a brief, rather, it indicates the sorts of issues which a good, full brief will deal with, for a new build project. Rehabilitation schemes will, obviously, impose many more constraints on the possible design, so the brief should identify these constraints fully, as well as indicating the changes desired. Briefs for projects receiving SHG will need to comply with Scheme Development Standards as set out above.

(a) Accommodation

This provides an overview of what is required on the site.

(i) The buildings

There may be a general requirement by the organisation concerning type of provision, such as bungalows for the elderly. If not, the constraints on the form of the buildings should be specified - e.g. only two storey dwellings.

A high land cost would tend to indicate the need for higher density housing, so that there are more housing units per hectare, which will help to reduce rent levels. Usually, a significantly higher density implies more storeys.

(ii) Dwelling mix and sizes

The organisation will know which housing needs it is seeking to meet, so this will determine the sorts of dwellings which are wanted. If it seeks to meet a variety of needs, then the nature of the site itself may help to determine its use. For example, a steeply sloping site is unlikely to be suited to elderly or disabled people.

As well as the mix of dwelling types, the sizes of each type must be specified.

(iii) Car parking

This should indicate if garaging is required and how many, the numbers of car parking spaces, etc. The organisation will probably know from past experience whether such provision is desirable, and in what proportions.

(iv) Other facilities

This will vary between sites, but could include play areas (for general needs housing), meeting rooms (for sheltered schemes), laundry rooms (for hostels), etc.

(v) Land use distribution

This should indicate the total land area, and the balance between the different uses for the land, i.e. the proportions for the dwellings, car parking, roads and other facilities.

(b) Dwelling design

This gives more detail about the dwellings themselves.

In Wales, housing associations are expected to use 'pattern book' designs which specify the internal layout of the properties, although not their external appearances. In England, sometimes organisations will have a number of standard house types; that is, designs used previously, which have proved successful, and which can be incorporated into this development. This saves design time, and hence should result in lower consultant's fees. It also reduces the need to change details in the specifications in each brief.

Whether the designs are to be standard or one-off, the same details need to be reproduced in the brief. These include:

(i) General design requirements:

The organisation may set down minimum space requirements, such as net floor area (which excludes garages), storage areas, plot sizes, etc.

(ii) Relationship of rooms:

This includes access to rooms from hallways, from room to room (e.g. kitchen may not open off living room), and external access requirements (to external doors, road etc.).

(iii) Living areas:

There may be requirements for the siting of heaters and fires, radiators, TV sockets, thermostats, etc., as well as general space requirements.

(iv) Kitchen:

This will include details such as minimum provision and height of cupboards, power sockets, sink position (e.g. in natural light), ventilation requirements, space for eating, laundry needs, work surfaces, etc.

(v) Bedrooms:

It should be specified if items such as fitted wardrobes are required, the position of radiators and windows, laundry and lighting.

(vi) Bathrooms and WC:

It is usual to provide separate WC and bathroom in all dwellings designed for more than one person. Larger dwellings may need a second WC. Ventilation requirements (e.g. window, extractor fan) and sound insulation may be specified.

(vii) Storage areas:

These may include requirements for the storage of refuse, fuel, meters, linen, prams, bicycles, garden equipment, etc. These will depend partly on the nature of the scheme, and the types of housing needs it is meeting.

(viii) Doors and windows:

There may be specific requirements, such as UPVC windows to reduce maintenance; windows with external panes which can be cleaned from inside; security fittings, etc. Some may be general requirements of the organisation, whilst others may be specific to the types of dwellings on this site.

(ix) Services

This will specify the type of heating system, requirements for water supply, electricity and gas connections (e.g. in kitchen), etc.

8.6 Housing Quality Indicators

In 1999, the Housing Corporation in England also piloted a new scheme for assessing the quality of new and existing social housing schemes. This new initiative is called the Housing Quality Indicators system and it allows quality to be assessed as well as cost. The Housing Corporation's view is that the HQI system allows RSLs (housing associations and local housing companies), private developers and housing funders to evaluate different schemes against a fixed brief. The aim is to help the developing body and its architects to make design decisions that result in higher quality housing without significantly higher costs. Location, design and performance of the dwellings are all assessed. The assessment is based on 10 quality indicators which are listed below:

- Location
- Site - visual impact. layout and landscaping
- Site - open space
- Site - routes and movement

- Unit - size
- Unit - layout
- Unit - noise, light and services
- Unit - accessibility
- Unit - energy, green and sustainability issues
- Performance in use

The design of the new housing (or the actual existing housing) is then scored against each of the above indicators using a spreadsheet designed by the DETR. Developers can then see if any of the scores fall below a recommended level, and if so they can make choices about changing the design to improve quality.

Activity 3

This activity is intended to make you think more carefully about the sorts of detail needed in a brief, if you are to ensure that the design outcome meets your requirements.

Imagine that you have been asked to provide a brief, which will ensure similar dwelling design features to those of the dwelling in which you are currently living. Try to identify exactly what the brief should contain about the design of your dwelling, to ensure that the design will have similar features to your dwelling.

You will need to go from room to room, and try to note down the main features that would be specified. Note these here, under each of the nine headings identified under Dwelling design at point 2 above:

Time allocation: 30 minutes

Obviously, we cannot tell you what things you should have noted in Activity 3, since every dwelling will be different; but you should quickly check back through the general points made in section (b), to see if you have covered most of them.

Hopefully, this activity will have helped you to understand that the design of a dwelling has very many components, each of which must be specified if particularly wanted. Otherwise you risk getting something quite unlike what you want.

(c) Environmental design

This relates to considerations about the site layout, and how the dwellings will "fit into" their surroundings.

(i) Dwelling distribution

If there are requirements for the distribution of the dwellings over the site (e.g. how they are to be grouped), these should be identified.

(ii) Vehicle and pedestrian circulation

There may be requirements for the segregation of people and cars, specific vehicle access needs to dwellings, and a need to ensure that adequate access is maintained for emergency vehicles (such as fire engines). These requirements must all be identified. Footpaths should, of course, fit in with existing facilities, such as bus stops and shops.

(iii) Aesthetic and social criteria

This might include whether the dwellings should have a particular orientation, perhaps to take advantage of a nice view, and whether there are requirements for privacy and safety.

(iv) Landscape features

This relates to existing trees, hedges, etc., and should identify whether there are any preservation orders or requirements. Preservation orders are made by the local authority, to prevent the felling of (generally old, hardwood) trees.

(d) Information about the site

Most of this information will have been gathered at the feasibility study stage.

Activity 4

Look at the initial site appraisal which you undertook in Activity 2. What information do you think will be required about the site you appraised, at this stage in the process?

Note all of the features of the site which you think are relevant:

Time allocation: 15 minutes

You may have approached this activity in a number of different ways. We have chosen to categorise the main elements as of three types, but a different approach may be equally valid.

Simply check that your list includes most of the site features mentioned in our three categories.

(i) Physical aspects

Site location, boundaries, size, slope, aspect, soil characteristics, existing vegetation, existing buildings and whether these are to be retained, existing services and positions, etc.

(ii) Environmental aspects

Adjacent building and uses, local amenities such as shops, parks, bus routes, etc.

(iii) Legal aspects

Restrictive covenants, rights of way, and ownership of boundaries such as fences.

(e) Planning information

The various statutory bodies concerned with the design of the scheme must be identified, and their key concerns and requirements listed. This will be examined in more detail later.

In general, these requirements will include:

(i) The planning authority

This will usually be the local authority, but may be an Urban Development Corporation. It may have requirements about building lines (nearness of the frontage to the road), building height, density, and car space.

(ii) The highway authority

There are requirements about access to existing roads, the construction of new roads, temporary road closures and access to the site during construction, adoptable roads (i.e. whether the highway authority will assume responsibility for the maintenance of the road after completion), and street lighting.

(iii) Fire service

Access to emergency vehicles, emergency exits and means of escape (especially for sheltered schemes, hostels, etc.).

(iv) Utilities

These include gas, electricity and water. They will make charges for supply connections, and may have special tariff or charging arrangements which could be incorporated.

(f) Specification

The specification document is also known as the "the Employer's Requirements" and is included in contract documents to ensure that it is incorporated into the construction.

It should detail any special requirements for the **methods and materials** to be used. You have examined issues relating to these in the previous Block of this module.

It should specify, for each feature (such as windows), the sort of material to be used, the fittings required (such as sanitary ware), and the requirements for "hidden" features such as electricity supply. This may be particularly important, from the point of view of standardising the equipment etc. used in the organisation's homes. This will permit the holding of spare parts to be minimised, and may allow for reduced maintenance contracts to be negotiated.

If non-traditional construction methods are required, these should be specified, along with the performance standards required of them.

(g) Cost limits

Most client organisations, particularly social housing providers, face severe cost constraints. It is vital that these limits are specified to the consultant.
Whilst these constraints have been useful in forcing housing organisations to become more conscious of value for money, and less likely to engage in unnecessary expenditure, it has resulted, on occasions, in a reduction of standards, with perhaps higher maintenance costs as a result. The organisation must try to ensure that the brief does not permit such reduced standards to occur.

(h) The programme

See Time and Cost Control in Section D16.

This should set out target dates for each stage in the construction process, such as completion of the detailed design, the appointment of the contractor, and completion of the project. Whilst it is likely that there will be some "slippage" on these dates, it is best that they are clearly defined at this stage. It enables some pressure to be exerted by the client in future, in achieving the target dates.

(i) Case study brief

The Brief prepared by Phoenix Housing Association for the Hartlepool scheme is reproduced at the end of the Block in Appendices 1 and 2. You do not need to read this in depth, but you should look through it to identify the main aspects that it covers.

You will note that there are many "general" requirements (called standard requirements), and apparently few specific requirements. This is because the local authority had already prepared a planning brief for the site, containing a number of specific requirements. The Phoenix Housing Brief refers explicitly to this other brief. There is also a brief especially for the "Wheelchair unit".

The Planning brief will be examined in the later section of this block which deals with planning issues.

Summary

1. **The purpose of the briefing for consultants is to set out what is required from the scheme's design.**
2. **The brief should reflect the views of customers, maintenance managers and housing managers, about the different requirements of good design.**
3. **Briefings undergo development over time, starting with an initial brief, which eventually becomes the final brief.**
4. **The contents of a brief should include:**
   - **dwelling design features;**
   - **environmental design;**
   - **information about the site;**
   - **planning information;**
   - **construction standards;**
   - **cost limits;**
   - **target programme for development.**

Self Test 1

1. *What is the role of the clerk of works?*

2. *On initial site appraisal, what factors should be considered?*

3. *What is the purpose of a letter of intent, sent by the client to its consultants?*

4. *What does the feasibility study establish?*

5 *Why must a site for social housing be valued by the District Valuer (or independent valuer)?*

6. *Identify the main elements which should be covered in the briefing for consultants.*

Now turn to the Answers at the end of the Block

9. Preparation of the Design

The brief prepared by the client is the key information on which the architect will base the design. A thorough briefing will help to ensure that the architect is able to meet all of the client's requirements.

However, unless there are very precise requirements, such as the utilisation of **standard house types**, the architect is free to interpret the requirements, and develop his/her own ideas about the most appropriate design.

The initial feasibility study is likely also to provide some indications of the sort of scheme which the client has in mind. In most cases, the same architect will have been involved in the feasibility study, so should be able to draw on this detailed knowledge immediately.

For rehabilitation schemes, the main designer may be a building surveyor rather than an architect. Building surveyors have much deeper knowledge of existing buildings and their problems, so are often more knowledgeable about the possibilities for rehabilitation work.

The design constraints are likely to be much greater in this case, because there is an existing building within which one (generally) must work. The possibilities to alter the basic structure of the building are likely to be severely limited. It may be possible to incorporate extensions, or perhaps undertake some re-shaping of the rooms by demolition of existing partitions.

In subsequent discussion, the designer will generally be referred to as the architect, though you should remember that he/she may well be a building surveyor, especially for major rehabilitation projects.

So, how does the architect begin?

9.1 The outline design stage

The architect will begin with a series of sketches, of various alternatives for the site. From these, a preferred alternative will emerge; perhaps the one that best matches the brief, and has the most aesthetic appeal.

At this very early stage, it is important that the architect also involves a number of other specialists, who can help to ensure that further effort is not futile:

(a) The quantity surveyor needs to be involved, because this is the specialist able to cost the possible alternatives. This will ensure that the architect is not wasting time, working on an alternative which is not affordable.

(b) The architect should have informal contact with the planning department, to ensure that the design is likely to be acceptable to them. This will in no way guarantee approval, since that depends on the planning committee, but it is more likely to be successful with the support of the planning officers.

(c) The involvement of highways authorities is desirable for schemes which involve new accesses or new roads, because their approval is part of planning consent. We shall be examining these issues in more detail later in the Block.

(d) For buildings which have a number of occupiers, such as blocks of flats, some sheltered accommodation, and hostels, the approval of the fire service is also desirable. They can give valuable advice, at this early stage, to ensure that the design protects the occupants in the event of fire.

Once these initial ideas about design have been "firmed up", the architect will normally present these ideas for the outline scheme to the client, in the form of sketches rather than detailed drawings. These must be in sufficient detail to make it clear exactly what will be built (dwelling types and internal layout) and where (site layout).

These will normally be examined first by the client's representative, such as the development manager. However, it is important to remember that, in a housing association, it is the **management committee** which has the strategic decision making role. It will have to approve development projects. This is similar to the role of the housing committee in local authorities, comprising elected members who usually have powers delegated to them by the full council, to take these decisions.

9.2 How is the outline scheme appraised?

There are likely to be some general concerns, which all schemes might be expected to meet:

- Are total costs within budget?
- Does it make the best use of the site?
- How will it impact on the local community?
- Do the properties:

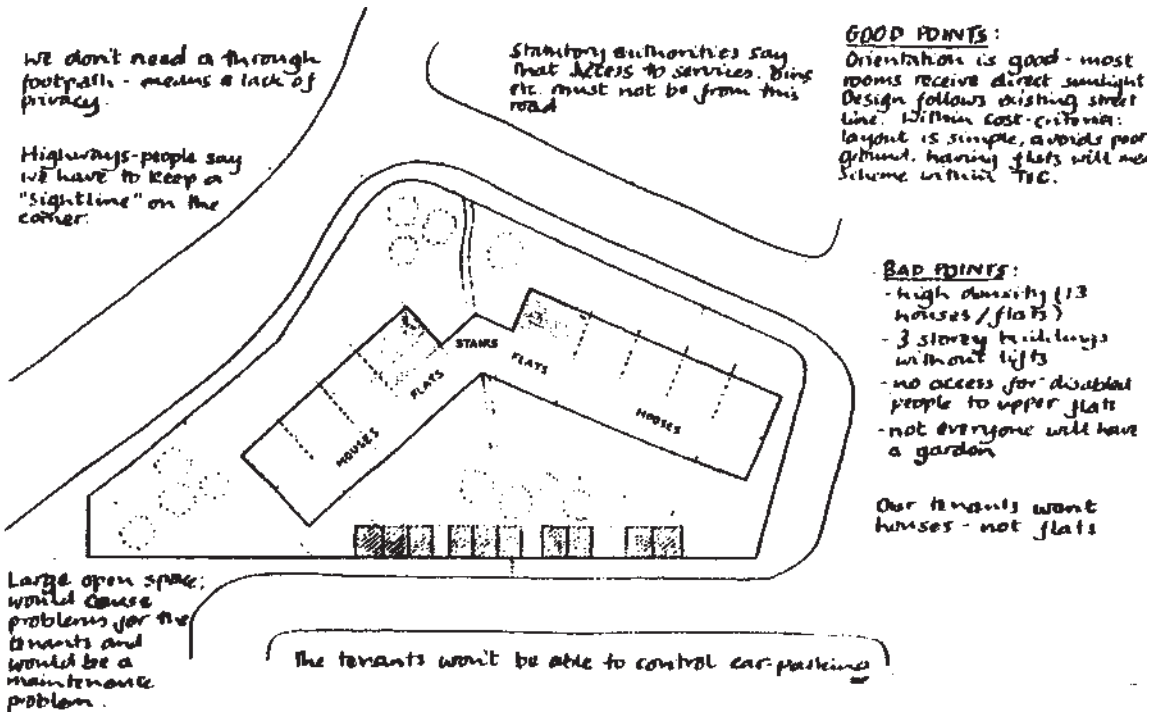
- have enough light?
- have privacy?
- suffer from noise (from roads)?
- is dwelling layout satisfactory?

Let's look now at an example of appraisal in practice. We can do this through a series of three activities, based on two site-layout plans. One contains initial design ideas, the second is the revised plan following comments by a management committee.

(a) The initial design

Examine the site layout below, taken from *Development, A Guide for Housing Associations*, published by the National Federation of Housing Associations.
It contains comments on the initial design ideas, made by the management committee.

Figure 1: Initial sketch of scheme - with committee members comments



Activity 5

Using the matrix below, identify "good" and "bad" design elements identified by the committee, under the general classifications of "accommodation design" or "environmental design". (These classifications were used in the last section, about the contents of the briefing for consultants.)

	Accommodation Design	**Environmental Design**
Good features		
Bad features		

Time allocation: 15 minutes

This activity was intended to check that you can distinguish between *accommodation* features and *environmental* features, as well as to get you to think about desirable features of design.

So that you can check the accuracy of your work, we have listed below the main points under the matrix headings.

(i) Accommodation design:

Good: most rooms get sunlight;
within cost limits.

Bad: high density (too many dwellings);
3 storey flats, with no lifts, rather than houses;
no access for disabled;
not all have garden.

(ii) Environmental design:

Good: follows existing street line;
layout simple;
avoids poor ground (hence cheaper).

Bad: large open space is maintenance problem;
tenants have no control of car parking;
footpath reduces privacy;
access for service vehicles.

Clearly, these initial ideas will require some revision by the architect!

Activity 6

Some of the design features which are not liked should have been covered in the brief. We do not know, of course, whether they were, and have been overlooked by the architect.

From your knowledge of the contents of a "good" brief, identify the aspects listed above, which you feel that the architect should already have received guidance about:

Time allocation: 15 minutes

(b) The shortcomings of the brief

(i) The most obvious weakness is that the brief appears to have failed to specify that "our tenants want houses, not flats". This is a fundamental point, which has caused much wasted effort by the architects.

(ii) The desired density should also have been specified; as should the dislike of large, common open spaces, and the desire for all dwellings to have gardens. Again, these fundamentally affect the design possibilities.

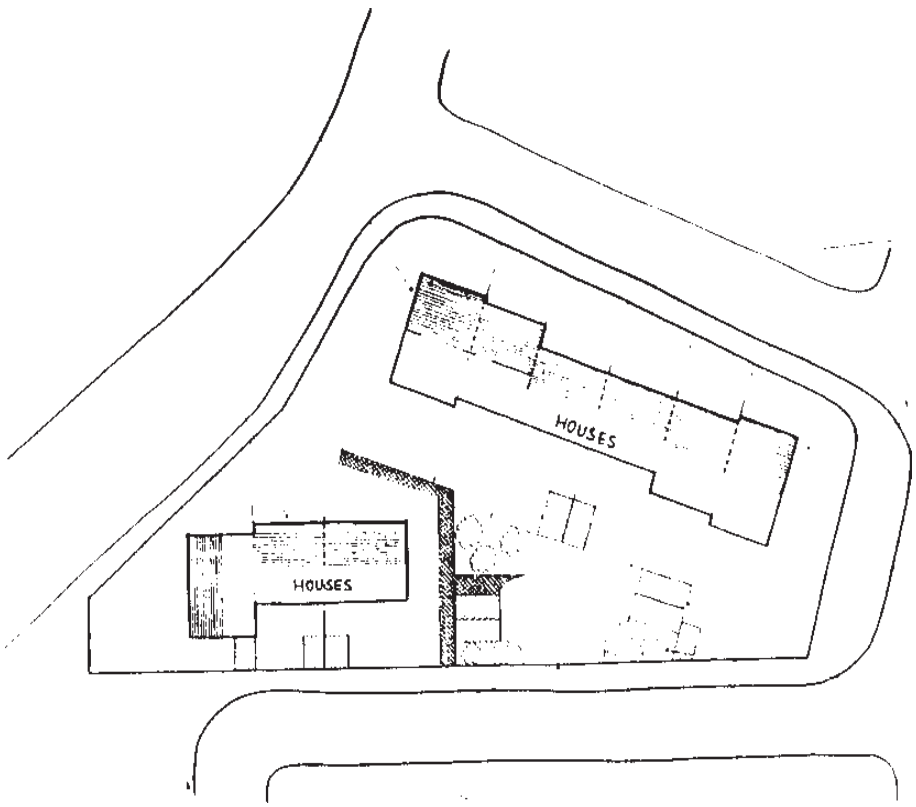
(iii) You may feel that other items should have formed part of the brief, such as tenants' control over parking spaces, access for disabled people, and access for service vehicles.

In short, if this is a failure of the briefing, it is a fairly major failure!

(c) The revised design

Now, let's examine the revised sketch provided by the architects for this site.

Figure 2: Revised sketch of scheme



Activity 7

Bearing in mind the main weaknesses of the initial design sketch, consider whether this revised design addresses all of the problems.

*Draw up a checklist of **key** items to check, and examine the revised sketch to identify whether these issues are resolved.*

Time allocation: 15 minutes

We have drawn up the following checklist of *main items*. Your list should include all of these, though you may have added some others.

Design checklist

(i) density reduced?	yes
(ii) houses not flats?	yes
(iii) reduced common open space?	yes
(iv) tenants' control over car parking?	yes
(v) all homes have gardens?	yes
(vi) access for disabled people?	yes

It seems, then, that this sketch offers a better design, from the association's point of view, than the initial sketch.

If the client is satisfied with this outline design, the consultant can move on to design in detail. If, on the other hand, the client still wants major changes, there will have to be further work before the design of the detailed scheme is possible.

9.3 The detailed design stage

At this stage, the architect will produce more detailed designs for the scheme. A number of examples of drawings from the case study are included in the pages which follow. Identify these, as you read through the general description of the detailed design drawings.

(a) A site plan

This details the existing site. It may show *levels*, which indicate the slope(s) of the site. It should also show all existing features, such as buildings, roads, hedges, fences, trees, etc.

(b) A layout plan

This is a plan of the proposed scheme, indicating the position of the dwellings, garages, outbuildings, walls, etc. It will offer more detail than the outline drawings. You should identify the types of detail provided, on the site layout plan for our case study scheme.

(c) Plans of the different dwelling types

If the scheme uses standard dwelling types, this may not be necessary, except where layouts differ.

Your case study plans show the internal layouts of the different dwellings in our scheme. These have been annotated by the architect, to show how the design conforms to *Lifetime Homes* criteria.

(d) Elevations

This shows what the dwellings will look like, viewed from the front. A front elevation, showing one of the two storey units and part of the bungalow, is shown on page 86.

(e) A schedule

This summarises information about the scheme, such as numbers and types of dwellings, household sizes, density, etc. In our case study materials, the schedule appears on the site layout.

(f) An outline specification

This provides information about the construction of the dwellings - the methods and materials to be employed. The contents will, therefore, be different for new build and renovation.

(i) For new build: the outline will go through all of the features of a new dwelling, including foundations, floors, roofs, windows and doors, walls, sanitary fittings, electrical installations, heating installations, drainage and external works.

(ii) For rehabilitation: the structure of the building already exists, so there is a rather different focus for the specification. Commonly, it will include items such as the external fabric, structural walls and foundations, roofs, chimneys, dampness, timber decay, joinery, plasterwork, decoration and external works. You will notice that this list focuses on the aspects which are most likely to have deteriorated in an older property, as well as on common problems (like dampness and dry/wet rot).

The Housing Corporation calls this **scheme design stage** and housing associations and local housing companies will have to make a **scheme design submission** to them. Scheme design approval must be obtained before the consultants go on to produce the detailed design working drawings.

(g) Computer Aided Designs

In addition to the drawings listed above, your case study contains two 3-D drawings. These are examples of the possibilities offered by modern computer aided design (CAD) programs. We think that you will agree that this "brings the scheme to life" much better than conventional design drawings!

(h) Appraising the detailed design

Once again, it is necessary for the client to evaluate whether the scheme meets the key criteria for the scheme. It is most important, therefore, that the design is checked *against the brief*. Does it achieve what was required in the brief?

Phoenix Housing Association Ltd.

Turnbull Street, Hartlepool.

Edwin Trotter Associates - Architects.

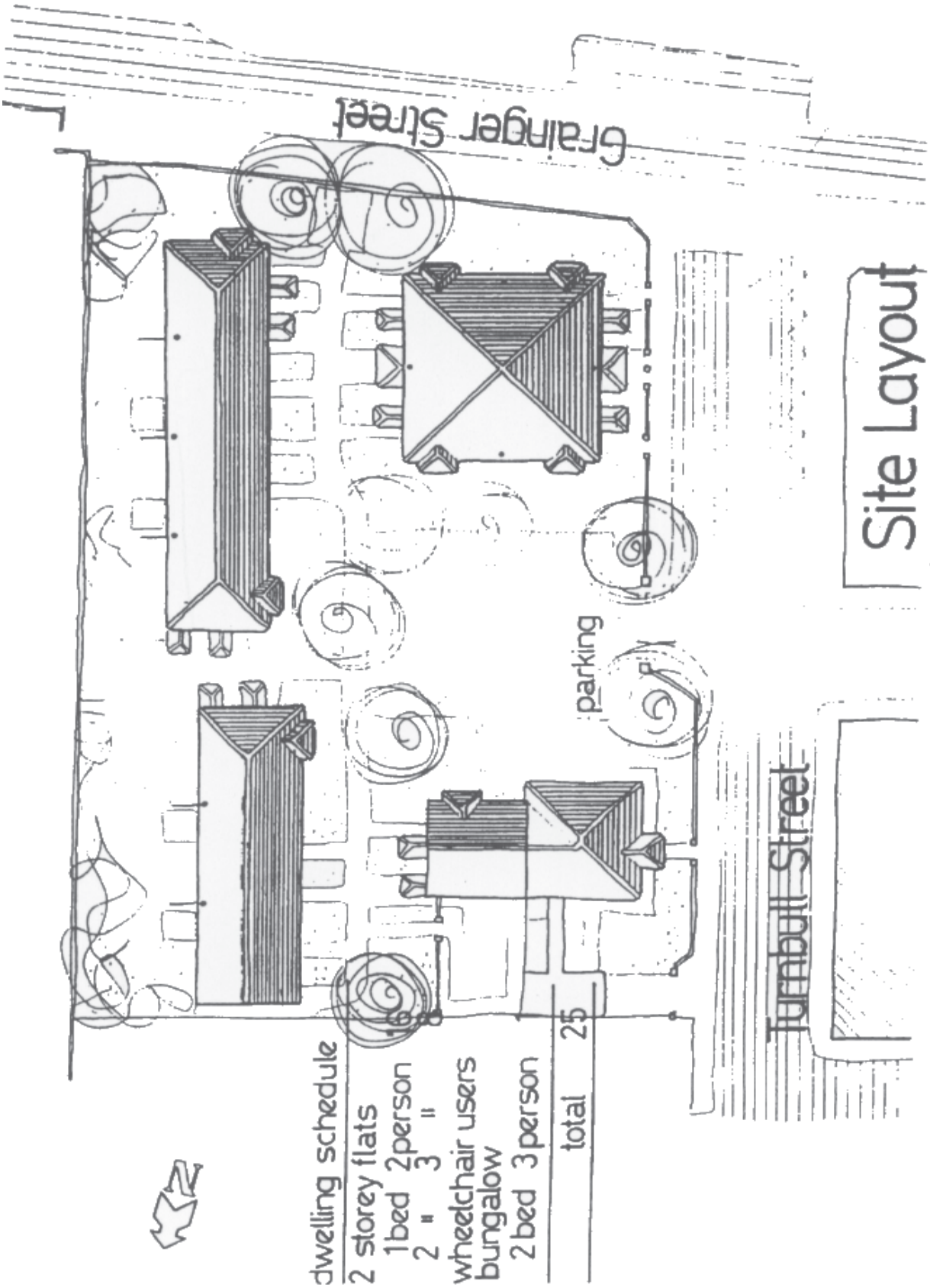
The Phoenix Housing Association has built 25 units for rent in Turnbull Street, Hartlepool.

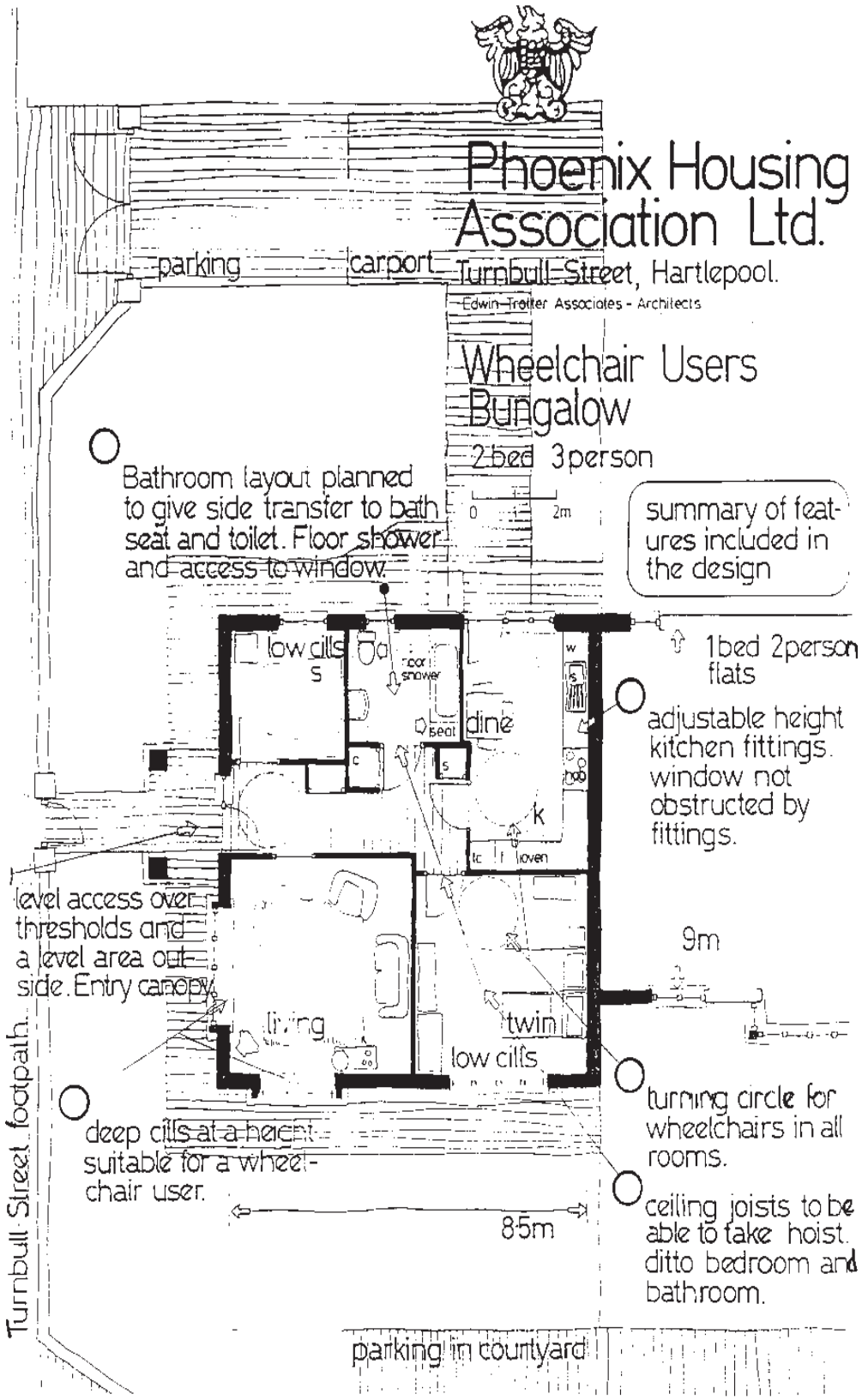
The scheme consists of one specially designed bungalow for those with a wheelchair user in the family, 12 ground floor flats for older persons and 12 first floor flats for more able bodied persons.

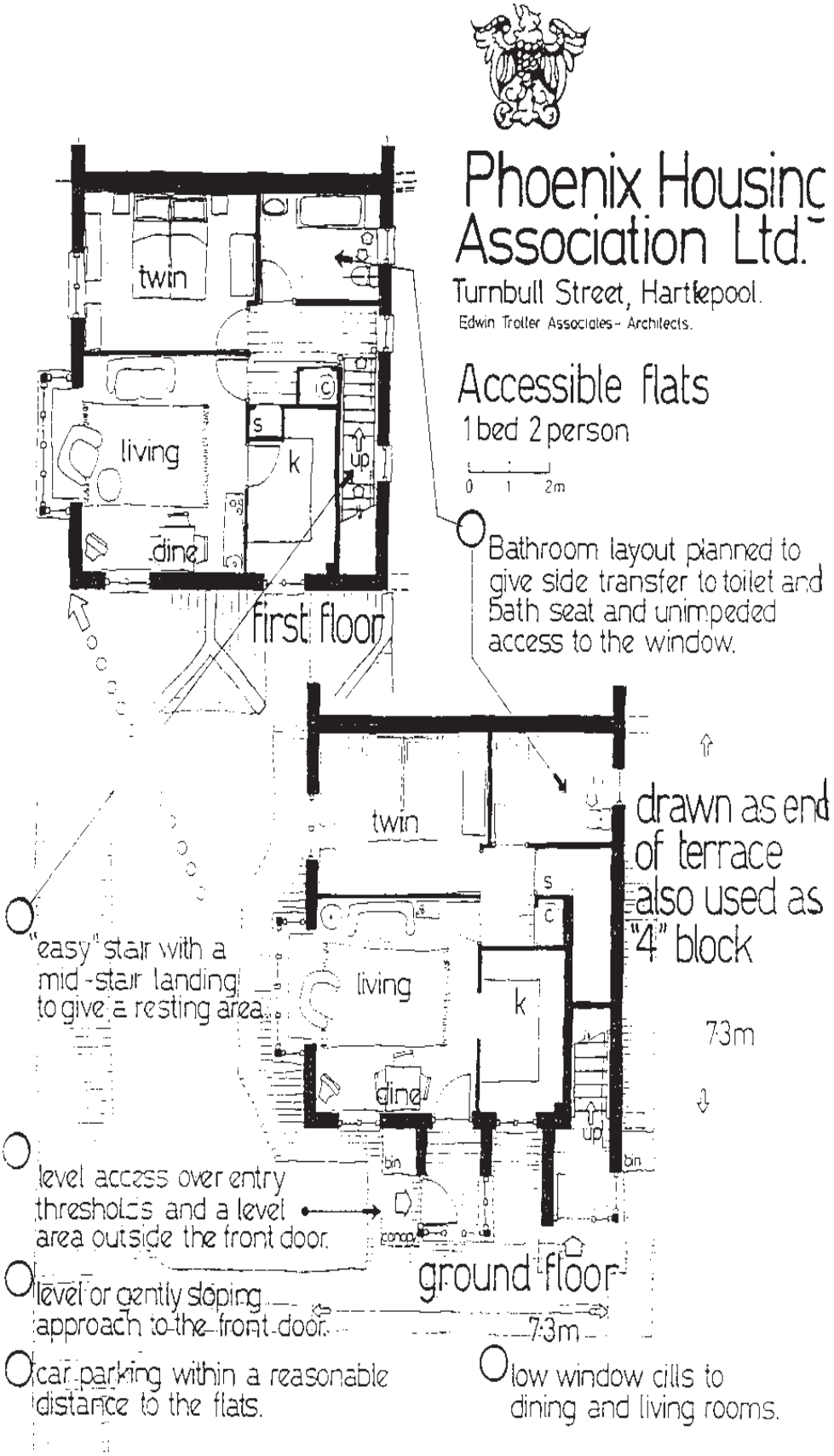
The flats have been designed with the new Lifetime Homes concept and ease of access in mind.

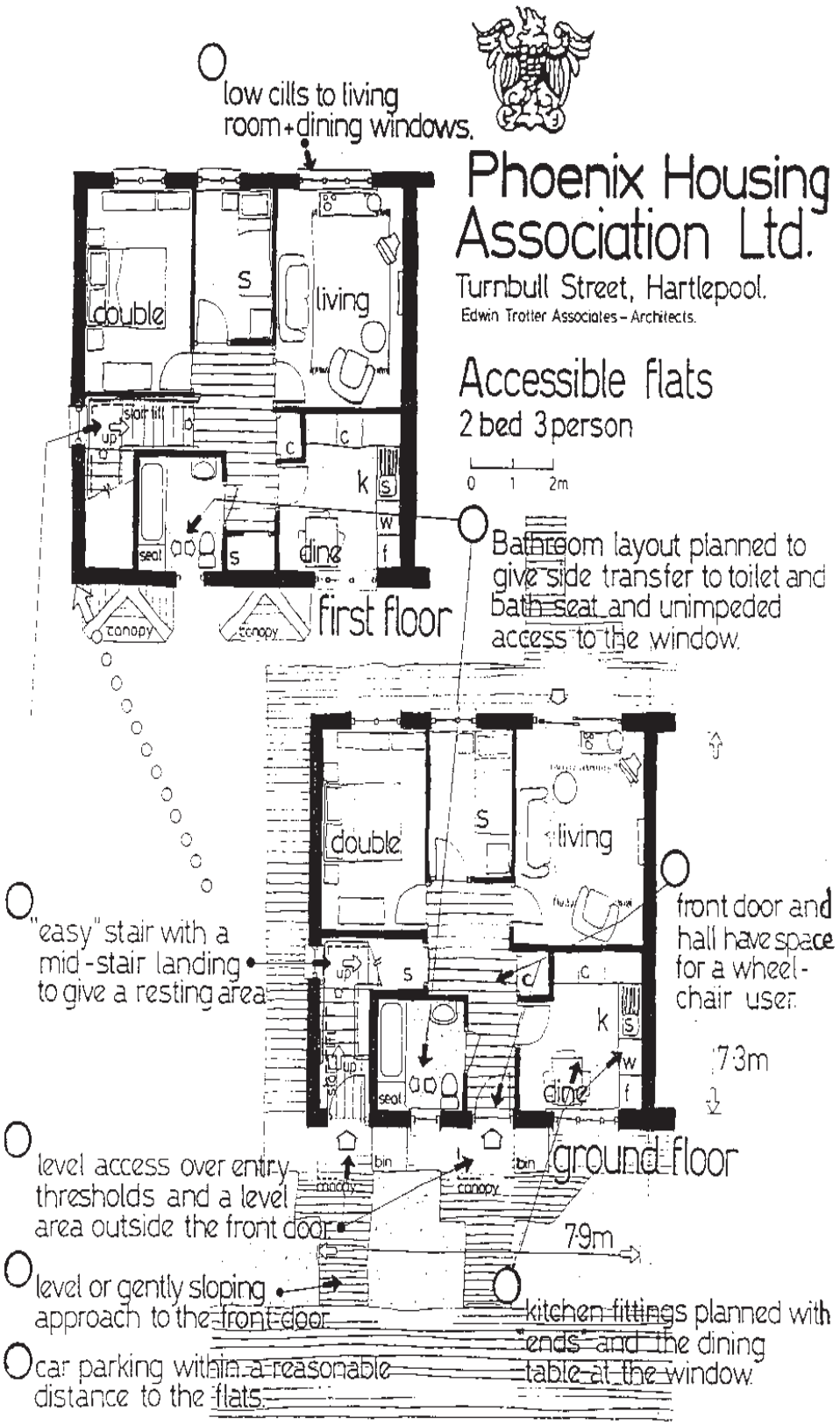
The dwellings have been built to a very high level of thermal insulation and this should result in low heating costs.

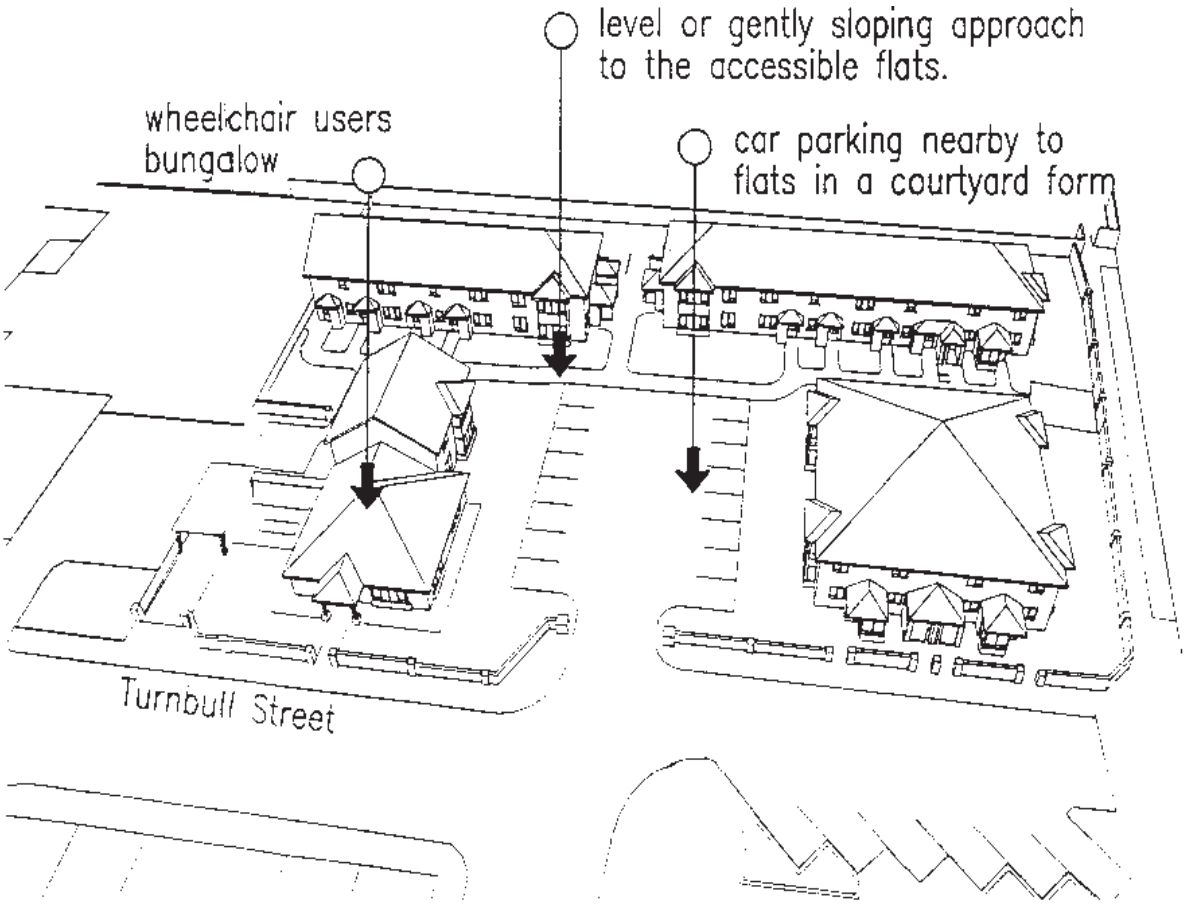

view north along Turnbull Street


Grainger Street
Site Layout
parking
Turnbull Street
dwelling schedule
2 storey flats
1bed 2person
2 " 3 "
wheelchair users
bungalow
2bed 3person
total 25


Phoenix Housing Association Ltd.
Turnbull Street, Hartlepool.
Edwin Trotter Associates - Architects
Wheelchair Users Bungalow
2 bed 3 person
0
2m
summary of features included in the design
parking
carport
Bathroom layout planned to give side transfer to bath seat and toilet. Floor shower and access to window.
low cills
s
car
shower
seat
dine
w
s
c
s
k
tc
oven
1bed 2person flats
adjustable height kitchen fittings. window not obstructed by fittings.
level access over thresholds and a level area outside. Entry canopy.
living
twin
low cills
9m
turning circle for wheelchairs in all rooms.
deep cills at a height suitable for a wheelchair user.
8.5m
ceiling joists to be able to take hoist. ditto bedroom and bathroom.
Turnbull Street footpath.
parking in courtyard


Phoenix Housing Association Ltd.
Turnbull Street, Hartlepool.
Edwin Trotter Associates - Architects.
Accessible flats
1 bed 2 person
0 1 2m
Bathroom layout planned to give side transfer to toilet and bath seat and unimpeded access to the window.
twin
living
dine
k
s
c
up
first floor
drawn as end of terrace also used as "4" block
7.3m
"easy" stair with a mid-stair landing to give a resting area.
level access over entry thresholds and a level area outside the front door.
level or gently sloping approach to the front door.
car parking within a reasonable distance to the flats.
low window cills to dining and living rooms.
bin
ground floor
7.3m


low cills to living room + dining windows.
Phoenix Housing Association Ltd.
Turnbull Street, Hartlepool.
Edwin Trotter Associates – Architects.
Accessible flats
2 bed 3 person
0 1 2m
double
s
living
k
s
w
f
dine
seat
c
up
canopy
first floor
Bathroom layout planned to give side transfer to toilet and bath seat and unimpeded access to the window.
"easy" stair with a mid-stair landing to give a resting area
front door and hall have space for a wheel-chair user.
7.3m
ground floor
level access over entry thresholds and a level area outside the front door
level or gently sloping approach to the front door
car parking within a reasonable distance to the flats
7.9m
kitchen fittings planned with ends and the dining table at the window.
bin


level or gently sloping approach
to the accessible flats.
wheelchair users
bungalow
car parking nearby to
flats in a courtyard form
Turnbull Street

Activity 8

Now that you have examined the plans for the flats and bungalow at Turnbull Street, briefly identify all of the features which meet "Lifetime Homes" criteria.

Time allocation: 15 minutes

In general, the sorts of features which relate to "Lifetime Homes" criteria are:

- level access to properties;
- low cills to windows;
- space for wheelchair users;
- car parking close by;
- stairways with resting area;
- bathroom planned for wheelchair users (and capable of taking hoists);
- kitchen able to take a range of unit heights.

9.4 The working drawings and specifications

(a) The drawings

These are the actual drawings which will determine exactly how the scheme is built. They must, therefore, be highly accurate, and show all aspects of construction.

The drawings needed will depend, to some extent, on the construction methods to be employed. For example, a steel framed building will, naturally, require detailed drawings of the structural steelwork. In general, however, the following drawings will be required:

- heating systems
- electrical wiring
- gas supply
- water supply
- highways and parking facilities
- floor plans
- detailing for roofs
- landscaping.

As an example, the following two drawings, show **typical constructional details** of the roof design and the cavity wall design for our case study scheme. You should examine these now, to see the level of detail provided by the working drawings.

Figure 3: Detail of roof design

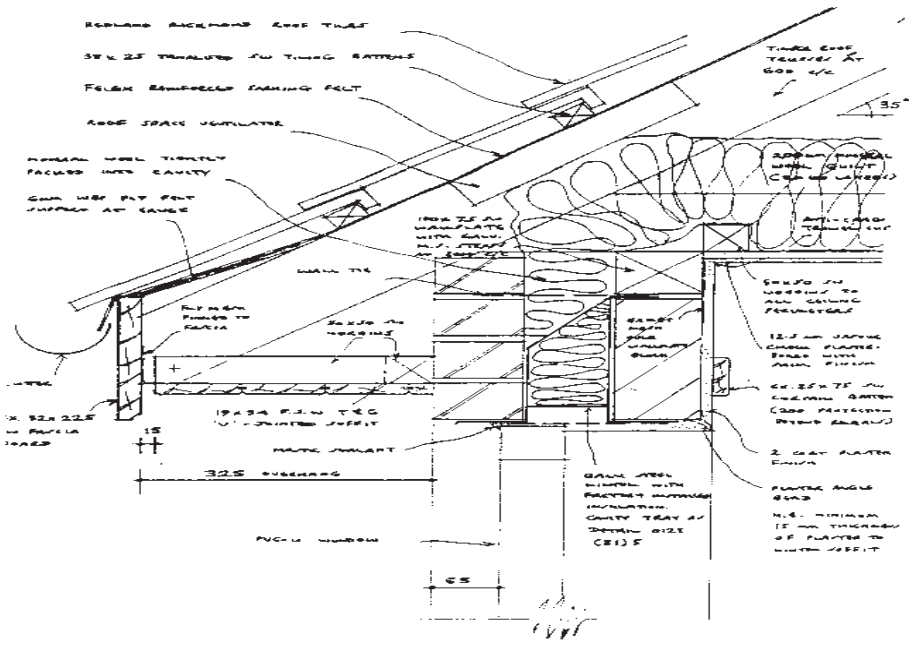
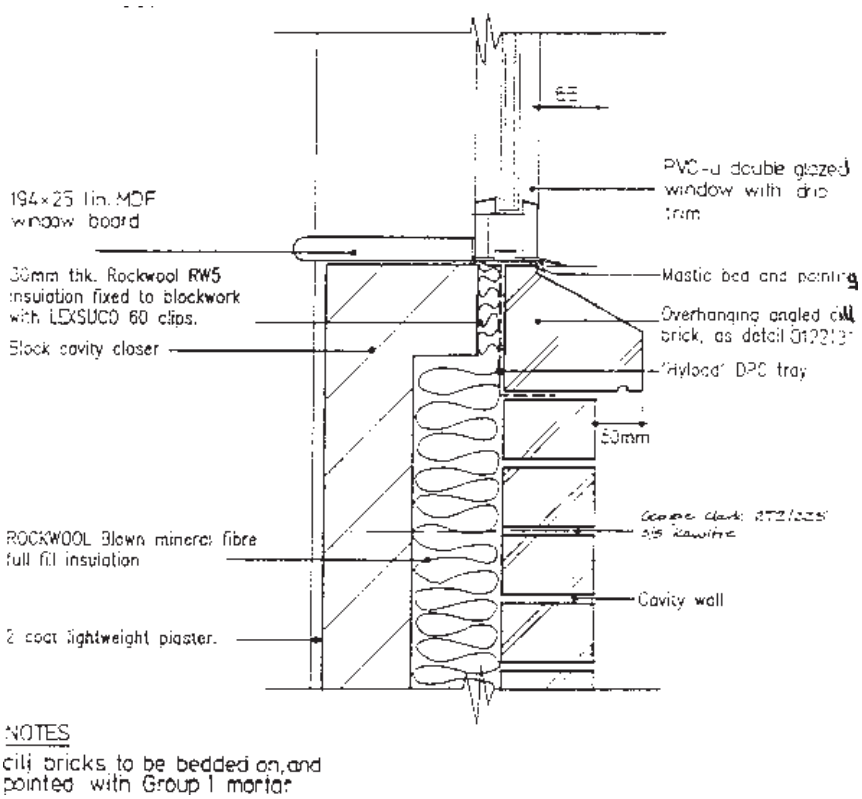


Figure 4: Detail of cavity wall design



(b) Detailed specification

This is produced alongside the working drawings, and specifies the *quality* of the methods and materials to be used. There are quality standards for all types of building materials, as you discovered in the previous Block. In the UK, these are known as British Standards (B.S.), and it is usual to specify the B.S. number for each item. However, since materials produced in other parts of the European Community may not have obtained British Standards' approval, it is usual to accept "an equivalent EC standard" to B.S.

These specifications may be very detailed, and are highly technical. To give you some idea of the sort of detail which they contain, we have reproduced a sample of Phoenix Housing Association's specifications below - the electrical services specification.

PERFORMANCE SPECIFICATION FOR ELECTRICAL SERVICES

1. GENERAL REQUIREMENTS

1.1 The main contractor has the responsibility to ensure that the electrical installation is carried out to fully comply with all current Statutory Instruments and Regulations; in particular the I.E.E. Regulations for the Electricity Supply for Buildings, Regulations under the Electricity Supply Authority and all applicable British Standard Specifications and Codes of Practice.

The Main Contractor is also fully responsible for the co-ordination of the electrical works with the Supply Authority, other Specialist Contractors, for the design of the installation and compliance with the Standards, Codes and Regulations as set out above.

1.2 This specification shall be read in conjunction with the following.

Electrical drawings no 0122(A)6,(B1)6,(B2)6,(C)6.
Site layout drawing 0122-115
Northern Electric Meter Cupboard detail.
Northern Electric Service layout. Drawing No. 7 14 001 2790 A.

1.3 Should the Main Contractor wish to place a sub-contract for any of the work in this Appendix, he shall use a Standard Form of Sub-Contract embodying all the conditions of the Main Contract in do far as they affect the sub-contract.

In particular, the Main Contractor shall note the requirements of the Main Contract, and the Defects Liability Period. The Main Contractor will be directly responsible for the performance of his sub-contractor.

1.4 The appointment of sub-contractors shall be subject to the approval of the Architect, this approval will not unreasonably be withheld.

1.5 The Contractor shall allow for supplying and fixing all necessary noggins to ceilings and plasterboard partitions for fixing cables, accessories and equipment.

The Contractor shall allow for all Builders work in connection with this work section as described in the Bills of Quantities.

1.6 Single line wiring diagrams and a schedule of equipment and fittings shall be prepared by the Contractor for the Architect's approval. On completion of the installation an "as installed" set of drawings shall be supplied to the Architect for record purposes. The Contractor is to include with-in his prices for all his costs in meeting this requirement.

1.7 The Main Contractor is to include for all necessary digging of trenches, planking and strutting, provision and laying of PVC ducts, holes and making good, backfilling and surplus soil removed and all other necessary attendances on the Electrical Supply Authority.

1.8 Earthing and Bonding

The whole of the electrical installation shall be effectively earthed and bonded in accordance with the I.E.E. Regulations and the Electricity Board's recommendations for Protective Multiple Earthing.

The metal work of water and other mechanical services supplying each dwelling shall be bonded to the respective earth terminal in accordance with relevant clauses of the I.E.E. Regulations.

Other exposed metalwork that could come into contact with electrical services to be bonded in compliance with the relevant clauses of the I.E.E. Regulations.

Care must be taken with the routing/fixing of earth bonding cables to ensure a neat and tidy appearance, in particular, the support brackets to the adjustable kitchen units.

1.9 Testing

The Contractor shall allow for all costs in connection with testing the installations in accordance with the I.E.E. Regulations and Electricity Board's requirements for P.M.E. He shall allow for all tests until the installation is agreed by the Architect. The Architect may request the attendance of an Electrical Engineer to supervise the tests.

The Contractor shall allow for commissioning the installation as required by the Architect.

On satisfactory completion of the tests and commissioning the Contractor shall supply the Architect with three copies of the "Completion Certificate".

1.10 The Contractor shall allow for serving all notices on the Electricity Board for testing and paying of all fees in connection therewith, including any charges made for any re-testing.

1.11 Meters will be read at handover of the dwellings.

2.0 MAIN INCOMING SERVICES

2.1 The supply to each individual dwelling will be single phase, 240 volt A.C. 50 HZ installed by the Northern Electric terminating at the Board's meters in external reading meter cabinet on external walls in the position

An electrical supply is also required terminating in the Warden Call Master Control Panel shown on drawing 0122-120 and 0122(B1)6.

The Contractor is to allow for the provision of suitable slow bend pipe duct for the incoming electrical service and for building in the supply cable up to the meter cabinet.

2.2 Meter cabinets shall be supplied free of charge by Northern Electric. The Contractor shall include for the installation of meter cabinets in the positions shown on the drawings and detailed on Northern Electric's installation drawing appended.

The Contractor is to allow for building in cables and for all builders' work in connection with this item.

2.3 The Contractor shall include for the supply and installation of meter tails to the dwellings.

2 x single core minimum 16mm2 green PVC and 1 single core minimum 6mm2 green PVC cables to BS 6004 shall be installed between the Electricity Board's meters/earth terminal and the tenants' consumer units.

The cables shall be contained in high impact heavy gauge PVC conduit to BS 4607 part 1. Cable sizes are minimum and shall be sized by the contractor for each dwelling and increased if necessary.

Note earthing and bonding requirements for PME supply under clause 1.8.

2.4 Mains Isolator to all dwellings

The Contractor shall supply, install and connect a double pole main isolator, sized to suit load but not less than 80 amp and to be housed in consumer unit.

2.5 The Contractor shall supply and connect to all dwellings to the meter one all insulated surface fixed MK SENTRY consumer unit with E.L.C.B. mains switch (item 2.4 above) and including M.C.B.'s as required.

Each dwelling requires one consumer unit for Economy 7 Supply and one consumer unit for General Supply.

Size of consumer unit and rating of M.C.B.'s to be determined by Contractor and requirements of this specification. Two spare ways required to each C.S.U.

All M.C.B.'s shall be clearly labelled as to which circuit they serve and shall be sized to suit that circuit. Mounting heights and positions for consumer units are shown on the drawings.

9.5 Tender documents

The consultants must provide the tender documents.

This is the information which is provided to construction companies, who are interested in bidding - called tendering - for the work.

The tender documents will include the detailed working drawings and the specification, which we have just examined. There must also be instructions to tender, conditions of tender, and information about the form of contract to be entered into.

These issues are examined in detail in the later sections, *Selecting the Contractor and Accepting the Tender*.

9.6 Planning consents

We have not, as yet, examined the need to obtain detailed planning consent. This would have to be obtained at this stage.

Planning permission is generally obtained in two stages; you have already met outline consent, at site acquisition stage. The second planning consent relates to detailed design. This is why we have left the detailed examination of planning issues to this point in the Block.

Once planning issues have been examined, we will return again to the construction process, to see how we go about selecting a construction company to build the development. This contractor will turn the detailed design drawings into a physical reality.

Summary

1. **The outline design will begin as a series of sketches, from which the best is selected.**
2. **It is appraised from the point of view of the dwellings' design - the accommodation - and external features.**
3. **At detailed design stage, many more detailed drawings are produced, including plans, layouts, elevations, and an outline specification.**
4. **The working drawings are produced at the final design stage, together with a detailed specification. These show all aspects of the methods and materials to be used.**
5. **The consultants also draw up the tender documents at this stage, and detailed planning consent must be obtained.**

10. Obtain Planning Consents

The need for planning consents has been mentioned on several occasions so far. Now that you know a little more about the development process, you are in a better position to understand the purpose of planning controls, how they work, and what they involve.

10.1 The purpose of planning controls

Planning is concerned with the *control of development*. It is intended to regulate building and the use of land, so that there is some regard for the environment in which we all live.

Planning Authorities are the main bodies with responsibility for development control. For the most part, these comprise the local authorities, though in a few areas, there are *Urban Development Corporations* and *National Park Authorities* with controls over development in their areas.

They have powers to grant *planning permission* to permit development. But first of all, we shall identify exactly what sorts of development require planning permission.

10.2 What requires planning permission and what does not?

(a) Permitted development

Some types of development are referred to as *permitted development*. These types are defined by *Development Orders* issued by the Secretary of State. They **do not require specific planning permission**.

The General Development Order (England and Wales) lists 28 categories of development which do not require planning consent. For example, planning permission is not required for minor extensions to a property, or for the addition of a porch, or shed. Repairs to services and unadopted streets and roads also do not require planning permission.

(b) Limitations

However, there are some limitations to this permitted development. There are, for example, limits to the size of house extension permitted without planning consent. Listed buildings may be removed from general permitted development. National Parks, Conservation areas and Areas of Outstanding Natural Beauty are also subject to specific restrictions.

(c) Change of use

In addition to the general exemptions provided by development orders, The Use Classes Order (England and Wales) defines "use classes". Changes of use, within "use classes" do not require planning consent. A similar Use Classes Order applies in Scotland.

For housing development, the relevant use classes are likely to be:

C1 - hotels and hostels;

C2 - residential institutions;

C3 - dwelling houses.

A change of use, from, say, class 3 to class 2, will require planning consent.

For the most part, then, the type of development which we are examining in this Block **will** require planning permission.

10.3 What determines whether planning permission is granted?

An important function of the planning system, as we saw in Block PDH.101 is to ensure that there is an adequate supply of land for housing. To recap briefly here, as part of this role, the planning authorities are required to draw up development plans which indicate how such requirements are to be met.

(a) Development plans

In most areas, development plans are in two parts:

(i) Structure plan

This defines requirements in broad terms, having regard to relevant factors such as demographic trends, government policy, and housing demand in the area. It is drawn up by the County Council (Regional Councils in Scotland), and specifies the target number of new dwellings to be permitted. These are distributed amongst the districts.

(ii) Local plans

These are drawn up by the district councils, and identify specific locations for residential development, as well as local policies for development control.

In metropolitan areas of England, where the county council tier of local government has been abolished, structure plans and local plans are replaced by **Unitary Development Plans**. This is the same in Scotland for

the three island councils, the Highlands region, and the borders regions of Dumfries, Galloway and Borders. However, these are in two parts, and conform broadly to the requirements of the two plans identified above.

(b) Supplementary planning advice

In addition to these statutory plans, local authorities are able to draw up *design briefs* or *development briefs* for particular sites. These will offer *guidance* on issues such as;

- density controls;
- car parking;
- open space requirements;
- building regulations.

Local authorities will almost always provide a brief for:

- land which they own;
- sites where development is viewed as difficult;
- sites where the appearance of the scheme is particularly important;
- sites which form part of a larger area, where co-ordination of development is desirable.

The local authority's development brief for our case study site appears below. This provides details about the type of development which the local authority wishes to see. You will recall that the Phoenix Housing Association incorporated this brief into its own development brief.

TURNBULL STREET DEVELOPMENT BRIEF

1. Introduction

1.1 This brief, prepared by the local planning authority, Hartlepool Borough Council, is intended to help in the marketing of vacant land off Turnbull Street, Hartlepool. It sets out guidelines for the redevelopment of the site and should assist prospective purchasers in the preparation of development proposals.

2. Site Description

2.1 The site, of approximately 0.37 acres, is located south of the Dyke House area of Hartlepool, less than a mile by road from Hartlepool Town Centre. Plan TP.3057 identifies the site. The main open frontage is to Grainger Street, measuring approximately 50 metres with a further open frontage to Turnbull Street of approximately 30 metres. The other two sides of this rectangular site face the grounds of Brougham Primary School and a playground lying south of the Child Welfare Centre on Brougham Terrace. The site previously accommodated lock-up garages.

2.2 Subject to the requirements of prospective developers it may be possible for the development site to be extended onto the site of the playground to the north. This should be discussed in more detail with the local planning authority if prospective developers find this necessary.

2.3 Besides the primary school and the welfare centre, the site's surroundings are predominantly residential in character. To the west are the Victorian and early 20th Century terraced properties of Grainger, Gray and Perth Street, and to the south, the Middleton Road housing estate, built in the early 1970's.

2.4 The terraces of Gray and Perth Street are closed to through traffic at Raby Road and accessed from Turnbull Street. The terrace on Grainger Street and the Middleton Road Estate are accessed from Grainger Street and its junction with Raby Road. The junction of Turnbull Street and

Grainger Street is closed to prevent the congestion of vehicular traffic from the terraces between Grainger Street and Brougham Terrace leaving via Grainger Street. No vehicular access is gained to Brougham Primary School from Grainger Street.

2.5 Public utilities do not appear to present any difficulties to prospective developers. Electricity and gas mains border the site to the south and west and a water main runs through the site along the line of Mason Walk to the South. The normal overhead system from British Telecom would be provided without cost to the developer, though for an underground system, British Telecom would expect a contribution towards the additional cost.

2.6 In the wider context, the site is well served by local services. Regular bus services run along Raby Road to the west and Lancaster/Clarence Road to the east. Local shopping facilities are nearby in the Raby Road Commercial Improvement Area and the site is no more than 10 minutes walk from Hartlepool's town centre shopping facilities. Educational facilities can be found at the previously mentioned Brougham Primary School and 10 minutes walk to the north of the site lies the Dyke House Comprehensive School. In addition, the town's main recreational facility, the Mill House Leisure Centre, can be found only 5 minutes walk to the south along Raby Road.

3. Development Considerations

3.1 This site provides an excellent opportunity for a scheme of housing development in this mainly residential area. Residential development is the local planning authority's preferred use for this site, though alternative uses will be considered should interest arise. Whatever development proceeds, prospective developers should seek to achieve certain objectives in the development of this site.

a) Vehicular access: it would be possible to access the site from one of two locations: either from Grainger Street, or from Turnbull Street. No through route would be permitted from one street to the other. All highway geometry (including sight-line requirements) within the site should comply with Cleveland County

Highway Authority's specification "Design Standards for Roads Serving Residential Development", Edition 4, December, 1985.

b) Parking Provision: For residential use, the development should generally seek to meet the specification of 1.5 spaces per dwelling for car parking. A relaxation down to a minimum of 1 space per dwelling will be permitted, providing the developer can supply suitable evidence of the need to relax this specification to the satisfaction of the local planning authority.

For alternative uses the specifications for car parking spaces can be discussed with the local planning authority prior to any submission for planning approval. Initial guidance is provided by County standards ("Specification for Residential and Industrial Estates" Cleveland C.C. (1985)).

c) Orientation: front elevations of the development should face towards the south and west.

d) Scale and density: the future development of this site should take account of the scale of buildings in the surrounding area. The local planning authority would not expect any new buildings to exceed two storeys in height.

The form of any residential development should respect the terraced nature of the houses to the west and south of the site.

e) Materials: the materials used in the construction of any future development should be in sympathy with the predominant brick built, grey slated and tiled houses in the surrounding area.

f) Open Space: some provision for open space should be made in the development, though such areas would preferably lie within the curtilage of each residential unit. Any public open space should be designed to minimise maintenance liabilities.

4. Summary

4.1 The development of this site provides an ideal opportunity to aid the physical improvement of the area. The site also possesses the potential to provide residential accommodation in a pleasant and convenient location, but other uses which meet demonstrable local community needs may also be appropriate.

This brief gives guidelines for the redevelopment of this site and though a range of treatments may be appropriate, the local planning authority will have regard to this brief in considering planning application for the site.

Prospective developers are advised to consult the Technical Services Department during the preparation of their proposals.

SH/MW/HO2/G

Department of Technical Services

June 1989

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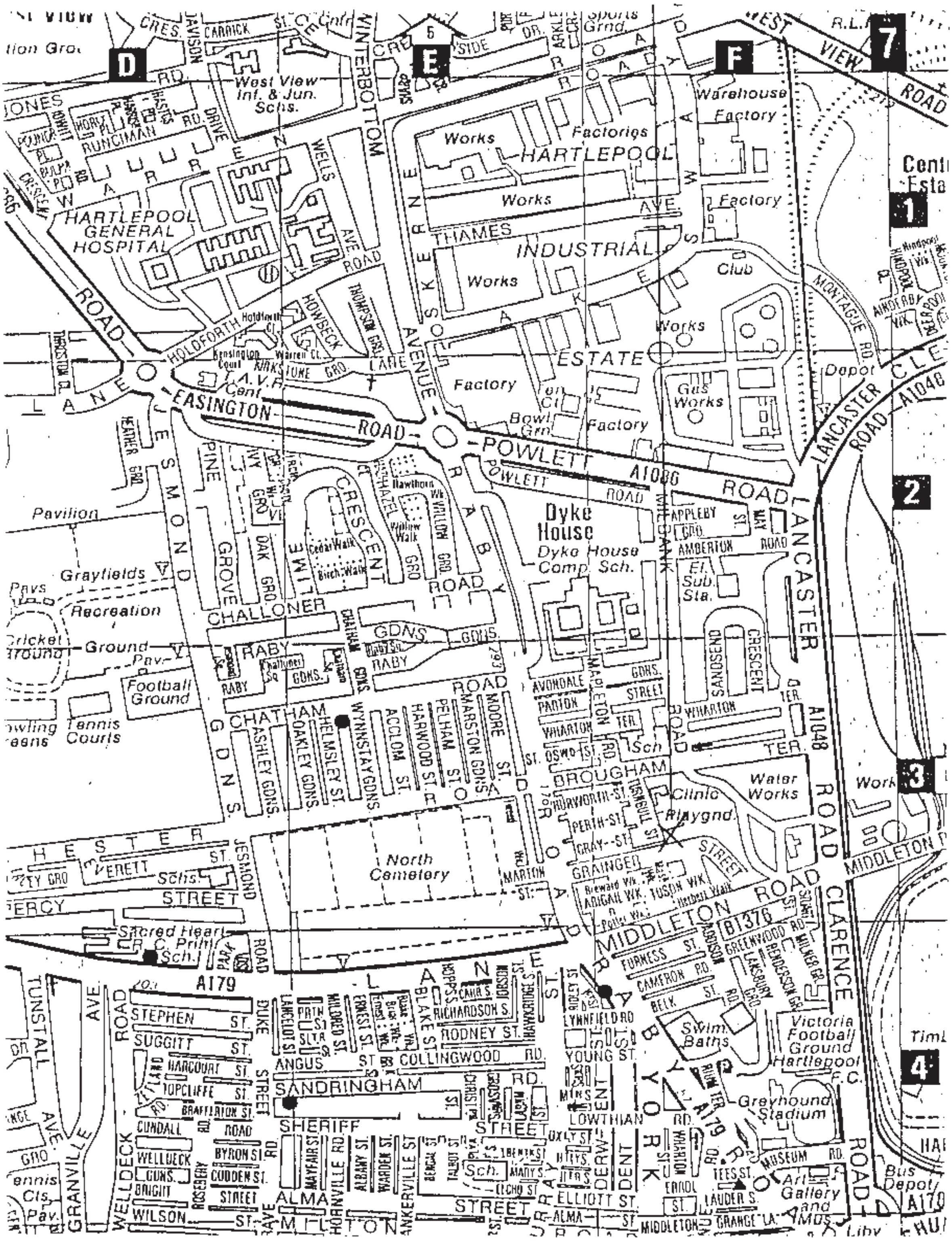
D
E
F
7
1
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3
4
West View Inf. & Jun. Schs.
WINTERBOTTOM
Warehouse
Factory
Works
Factories
HARTLEPOOL
Factory
THAMES
AVE.
INDUSTRIAL
ESTATE
Club
Works
HARTLEPOOL GENERAL HOSPITAL
RUNCIMAN
DRIVE
WELLS
SKERNE
AVENUE
ROAD
HOLDFORTH
EASINGTON
ROAD
POWLETT
A1086
ROAD
LANCASTER
A1048
Gas Works
Factory
Depot
Bowl Grn
Dyke House
Dyke House Comp. Sch.
MILBANK
APPLEBY
AMBERTON
El. Sub. Sta.
JESMOND
GROVE
PINE
OAK
LIME
CRESCENT
CHALLONER
GDNS.
RABY
ROAD
Pavilion
Grayfields
Recreation
Cricket Ground
Football Ground
Tennis Courts
CHATHAM
ASHLEY GDNS.
OAKLEY GDNS.
HELMSLEY ST.
WYNNSTAY GDNS.
ACCLOM ST.
HARWOOD ST.
PELHAM ST.
MARSTON GDNS.
MOORE ST.
AVONDALE
PAXTON
WHARTON
MAPLETON
SANDOSEND
CRESCENT
BROUGHAM
Water Works
Clinic
Playgnd.
North Cemetery
GRAINGER
STREET
MIDDLETON ROAD
B1376
FURNESS ST.
CAMERON RD.
BELK ST.
Swim. Baths
Victoria Football Ground Hartlepool F.C.
Greyhound Stadium
CLARENCE
ROAD
STREET
Sacred Heart R.C. Prim. Sch.
A179
LANE
TUNSTALL AVE.
STEPHEN ST.
SUGGITT ST.
HARCOURT ST.
TOPCLIFFE ST.
ANGUS ST.
SANDRINGHAM RD.
COLLINGWOOD RD.
RICHARDSON S.
RODNEY ST.
SHERIFF STREET
LOWTHIAN
YORK
ROAD
GRANVILLE AVE.
WELLDECK
WILSON
ALMA
MILTON
ELLIOTT ST.
MUSEUM
Art Gallery and Mus.
Bus Depot
MIDDLETON
Sch.

Activity 9

After you have read the local authority's Development Brief for Turnbull Street, identify:

1. *The **type** of development preferred.*

2. *The main advantages offered by the site, from the point of view of a social housing provider.*

3. *The main constraints placed on the design.*

Time allocation: 15 minutes

The Development Brief suggests that the site is particularly suited to housing, since it is in a mainly residential area. However, other uses would be considered.

The main advantages seem to be:

- there is a choice of two access points (though no through route is permitted);
- there is scope to extend the site (to the playground);
- it is served by a range of local services;
- public utilities are readily available.

The main constraints are:

- south or west orientation of the front elevations;
- maximum two storey development;
- materials should be "in sympathy with" brick built grey slated homes;
- there should be some open space.

10.4 What permissions are needed and when?

Planning applications are usually granted, by the local planning authority, in two stages: outline and detailed.

The only exception to this process is in the case of a local authority itself. Local authorities must undertake different procedures, which will be examined in (e) below.

(a) Outline planning permission

(i) Outline applications require:

- a description of the proposed development;
- a site plan, to identify the land.

This permits the planning authority to check that the proposed development conforms to the development plans. Of course, the organisation or its consultant should always check that a site is likely to obtain outline consent, before it proceeds to investigate the site. You will recall that the initial site appraisal checklist includes a question about planning consent.

(ii) Reserved matters

Outline planning consents are generally granted, subject to further approval of specific items. These are called reserved matters. Reserved matters deal with:

- siting;
- design;
- external appearance;
- means of access;
- landscaping.

If the client wishes, information about these reserved matters can be included at the outline stage, but this would not be usual.

Note that site acquisition should not take place, unless outline approval has been granted.

(b) Full (detailed) planning permission

This involves submitting detailed information about the design, layout, etc. to the planning authority. It will occur once the detailed design has been prepared, but before working drawings and specifications are drawn up. For non-cash Programme housing associations, it corresponds to the Scheme Design Approval stage, required by the Housing Corporation.

The application is a public document, which can be inspected by members of the public. They may object to the proposal, and this must be taken into account by the Planning Officer.

The Planning Officer will make a recommendation to the Planning Committee, who will decide whether to grant, or refuse planning permission. If granted, this may be unconditional, or subject to further conditions.

The planning permission for our case study site is reproduced below.

HARTLEPOOL BOROUGH COUNCIL

Town and Country Planning Act 1990

GRANT OF PLANNING PERMISSION

PART I – PARTICULARS OF APPLICATION: H/FUL/0184/92

AGENT:
Edwin Trotter Associates
21 High Street
Stokesley
N. Yorkshire

APPLICANT:
Phoenix Housing Assoc. Ltd.
27 Yarm Road
Stockton on Tees
Cleveland

PARTICULARS AND LOCATION OF PROPOSAL:

Erection of 24 two-storey flats and 1 bungalow at Turnbull Street/Grainger Street

PART II – PARTICULARS OF DECISION

The Hartlepool Borough Council hereby give notice in pursuance of the provisions of the above Act that **PLANNING PERMISSION HAS BEEN GRANTED** for the carrying out of the development referred to in Part I hereof in accordance with the application and plans received on 6th April, 1992 subject to the following condition(s):-

See attached.

DATE OF ISSUE: 19th June 1992.

SIGNED: P. M. Mason

Chief Planner

See notes overleaf

NOTES FOR APPLICANTS

1. This permission refers only to that required under the Town and Country Planning Act and does not include any consent or approval under any other enactment, byelaw, order regulation. Any other Statutory consent necessary e.g. Building Regulations approval must be obtained from the appropriate authority.

2. Failure to adhere to the details of approved plans or to comply with conditions attached to this permission is a contravention of the provisions of the Town and Country Planning Act 1990 in respect of which enforcement action may be taken.

3. If you are aggrieved by the decision of the Local Planning Authority to refuse permission or approval of the proposed development, or to grant permission or approval subject to conditions you may appeal to the Secretary of State for the Environment in accordance with Sections 78 and 79 of the Town and Country Planning Act 1990 within six months of the date of the Council's decision (Appeals must be made on a form which is obtainable from the Department of the Environment, Tollgate House, Houlton Street, Bristol. BS2 9DJ). The Secretary of State has power to allow a longer period for the giving of a notice of appeal but he will not normally be prepared to exercise this power unless there are special circumstances which excuse the delay in giving notice of appeal. The Secretary of State is not required to entertain an appeal if it appears to him that permission for the proposed development could not have been granted by the Local Planning Authority, or could not have been so granted otherwise than subject to the conditions imposed by them, having regard to the statutory requirements, to the provisions of the development order and to any directions given under the order. He does not in practice refuse to entertain appeals solely because the decision of the Local Planning Authority was based on a direction given by him.

4. If permission to develop land is refused or granted subject to conditions, whether by the Local Planning Authority or by the Secretary of State for the Environment, and the owner of the land claims that the land has become incapable of reasonably beneficial use in its existing state and cannot be rendered capable of reasonably beneficial use by the carrying out of any development which has been or would be permitted he may serve on the Council of the District in which the land is situated a purchase notice requiring that Council to purchase his interests in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

5. In certain circumstances, a claim may be made against the Local Planning Authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to him. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

6. Under the provisions of Section 76 of the Town and Country Planning Act 1990 the Local Planning Authority is required to draw your attention to the provisions of the Chronically Sick and Disabled Persons Act 1970 which makes provisions for the needs of disabled people. A separate explanatory note is enclosed with this decision notice.

7. Your proposal may also be subject to the Building Regulations and the provisions of section 5 of the County of Cleveland Act 1987. You are advised to check this before progressing the development with the Councils' Building Control Section.

APPLICATION NO. H/FUL/0184/92

APPROVED Subject to the following conditions:

1. The development to which this permission relates shall be begun not later than five years from the date of this permission.
2. Details of all external finishing materials shall be agreed with the local planning authority before development commences, samples of the desired materials being provided for this purpose.
3. All means of enclosure associated with the development hereby approved shall be in accordance with a scheme to be agreed with the local planning authority before the development commences.
4. A detailed scheme for landscaping and tree and shrub planting shall be submitted to, and approved by, the local planning authority before the development hereby approved is commenced. The scheme must specify types and species, indicate the proposed layout and surfacing of all open space areas, include a programme of the works to be undertaken, and be implemented to the satisfaction of the local planning authority upon completion of the development.
5. Any trees or shrubs required to be planted in association with the development hereby approved, and which are removed, die, are severely damaged, or become seriously diseased, within two years of planting shall be replaced by trees or shrubs of a similar size and species to those originally required to be planted.

Reason(s) :

1. Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.
2. In the interests of visual amenity.
3. In the interests of visual amenity.
4. In the interests of visual amenity.
5. In the interests of visual amenity.

DATE OF ISSUE: 19th June 1992.

SIGNED: Paul Magee

Chief Planner

See notes overleaf

(c) Liaison with planning officers

The Planning Officers of local/unitary authorities are available to discuss potential planning applications and they can identify potential problem areas. This should be done with the organisation and their architect at an early stage before detailed permission is sought. Some requirements are specific to particular areas e.g., National Parks, others are universal and others are almost always problematic, for example the number of parking spaces required. Those that most often influence site use and design choices are listed at PDH.103 in Section 6.2 "The estimated unit mix and numbers".

You will notice that the local authority wished to receive further information about the landscaping of the site, "in the interests of visual amenity".

(c) The right to appeal

If consent is refused, the applicant has the right to appeal to the Secretary of State. The appeal may be granted or refused. In recent years, the government has taken a more relaxed approach to planning issues, and appeals have had a greater chance of success.

10.5 Local authority procedures for planning permission

Local authorities have to undertake rather different procedures for planning permission. These depend on whether the development is to be undertaken by themselves, or by someone else.

(a) Development which will be undertaken by the authority

The authority must obtain "deemed consent".
This involves:

- a **first resolution**, to be passed by the housing committee;
- a **second resolution**, to be passed by the planning committee.

The second resolution can be made only after publicity, by the planning department, of the application, and notice being served on the owners of the land (if not the local authority). If there is considerable public disquiet about the proposal, the authority may well decide to withdraw the application (i.e. fail to grant itself deemed consent).

(b) Development to be undertaken by someone else

In this event, there is a first and second resolution as described above, but the second resolution may include any conditions which the authority thinks should apply to the development.

A notice granting the planning permission is then prepared, which sets out the conditions. These are viewed as reserved matters, which remain to be approved.

10.6 Planning objections

The problems of residualisation of some housing estates has led to substantial and frequent problems when housing associations or local housing companies apply for planning permission.

Planning applications are listed publicly and are available for viewing. There are formal procedures to make comments. Each planning application submitted to the Planning committee is accompanied by a report from the relevant Planning Officer giving his/her recommendation on whether to grant planning permission.

Councillors on the Planning Committee would usually be guided by officers, but if neighbours have contacted councillors about their objections then the planning permission may be delayed or refused. Reapplications can be made. Special needs schemes particularly for people with mental health problems, or families from women's aid refuses often provoke aggressive objectors of NIMBYs (not in my back yard).

10.7 Obtaining approval under the building regulations

The building regulations govern the methods and materials which may be used for housing construction. They are intended to ensure that all construction work is safe, and constructed to satisfactory standards.

Normally, the consultant will apply for Building Regulations approval along with full planning permission. If the design is satisfactory - which, if designed by a consultant, it should be - approval is granted.

The Building Regulations Approval for our case study scheme is reproduced here. You will notice that it is conditional. Further calculations are required for some aspects of the design and foundations.

The Building Regulations inspector will inspect the development at regular stages throughout its construction, to ensure that it complies with all regulations. His/her signature, confirming satisfaction with standards, is needed at various stages, before work can progress.

Normally, the consultant and contractor will have a close working relationship with the Inspector, so this should not produce any problems for the progress of development.

HARTLEPOOL BOROUGH COUNCIL

DEPARTMENT OF TECHNICAL SERVICES

CIVIC CENTRE, HARTLEPOOL,
CLEVELAND, TS24 8AY

Telephone: 0429266522
Fax: 0429869625

FULL PLANS APPROVAL NOTICE

The Building Act 1984
The Building Regulations 1985 (as amended)

Building Regulations
Plan Number

H/FP/ 5009

CONDITIONS TO FULL PLANS APPROVAL -

Turnbull Street/Grainger Street for Phoenix Housing Association Ltd

Approved subject to Section 16 of the Building Act 1984 requiring (1) structural design and calculations for (a) Roof structure (b) Ground and first floor P.C. concrete units (C) Precast concrete stairs and (2)additional details for foundations due to close proximity of trees

DMorley

HARTLEPOOL BOROUGH COUNCIL

DEPARTMENT OF TECHNICAL SERVICES

CIVIC CENTRE, HARTLEPOOL, CLEVELAND, TS24 8AY

Telephone : 0429 266522
Fax : 0429 869625

Our Ref: SW/LG/H/FP/5009
Your Ref: H/FUL/0184/93

Please ask for: Mr Wade Ext. 2292

2nd April, 1993

TO: Edwin Trotter Associates
21 High Street
Stokesley
North Yorkshire
TS9 5AD

Proposals: Erection of 24 two storey flats and one wheelchair bungalow

Location: Turnbull Street/Grainger Street

For: Phoenix Housing Association Ltd

The Building Regulations, 1985 (as amended)
Notice of Passing of Plans - Conditional Approval

I refer to your application in connection with the above and wish to inform you that the plans have been passed under Building Regulations subject to Section 16 of the Building Act 1984 (please see Plans Notice for conditions).

Failure to comply with conditions generally or those specified is both an offence and breach of the Building Regulations.

Please note that the Regulations require the payment of a fee following the first inspection. In this connection therefore your attention is particularly drawn to Notice 1A.

The Notice of Passing of Plans is enclosed together with a set of notices to be returned at the appropriate times for inspection purposes.

Where the intended works comprise development for which formal planning permission is required the work should NOT BE COMMENCED UNLESS PLANNING PERMISSION HAS BEEN OBTAINED.

If a planning application is required it will need to be accompanied by the appropriate fee. Certain exemptions to the fee do apply and details of the scale of charges may be obtained from the Department of Technical Services, Development Control Section, Level 4.

J.W. Morley

Chief Building Control Officer

Encl.

Local Authority BUILDING CONTROL

HARTLEPOOL BOROUGH COUNCIL

DEPARTMENT OF TECHNICAL SERVICES

CIVIC CENTRE, HARTLEPOOL,
CLEVELAND, TS24 8AY

Telephone: 0429 266522
Fax: 0429 869625

FULL PLANS APPROVAL NOTICE

The Building Act 1984
The Building Regulations 1985 (as amended)

Building Regulations
Plan Number:
H/FP/ 5009

1 Details of work

Description: Erection of 24 two storey flats and one wheelchair bungalow

2 Location of building to which work relates

Address: Turnbull Street/Grainger Street

Postcode:

3 Approval

*The plans submitted in respect to the above work have been examined and passed by the Authority as complying with the Building Regulations ~~unconditionally~~/subject to the conditions defined in the Conditions to Full Plans Approval.**

This approval is only for the purposes of the requirements of the Building Regulations and sections 18, 19, 21, 23(3), 24 and 25 of the Building Act, 1984. It is not an approval under the Town and Country Planning Acts, an approval for improvement grant purposes or for any other statutory provision.

Under the requirements of the Building Regulations the person carrying out the work to which the building regulations relate is required to notify the Authority at certain stages during the execution of the work.

If work is not commenced within three years of submitting the plans the Authority may declare that the deposit of plans is of no effect under the provisions of the Building Act 1984, Section 32.

4 Authority

This full plans approval notice is authorised by: Chief Building Control Officer

Name (authorised officer): J. W. Morley

Signature: J W Morley Date: 2nd April, 1993

Summary

1. **Planning controls are exercised by planning authorities to control development.**
2. **Development orders define *permitted development*, including use classes for land. A change of use, or any development which is not expressly *permitted*, requires planning permission.**
3. **Planning authorities draw up Development Plans, to define land use requirements. These include Structure Plans and Local Plans, or (in metropolitan districts and some Scottish regions), a Unitary Development Plan.**
4. **Planning authorities may offer supplementary planning advice, in the form of development (or design) briefs.**
5. **Outline planning permission gives consent for a type of development in principle.**
6. **Full planning permission approves the details of the designed scheme.**
7. **It is important that a site is bought only if it has at least outline planning permission for the intended housing.**
8. **Local authorities undertake a different procedure, to obtain *deemed consent*.**
9. **Building Regulations approval is required, to ensure the safety and adequacy of design standards.**
10. **An Inspector will check construction work in progress, to ensure that it conforms to Building Regulations.**

Self Test 2

1. *What is the purpose of the outline design stage?*

2. *Identify the main types of drawings which will be needed at detailed design stage.*

3. *Give examples of the details supplied by working drawings.*

4. *What is meant by permitted development?*

5. *Distinguish between outline and detailed planning consents.*

6. *What is the purpose of Building Regulations' approval?*

Now turn to the Answers at the end of the Block.

11. Selecting the Contractor

Once the scheme has been designed, and detailed planning consent obtained, the next step is to engage a construction company to undertake the work.

11.1 Criteria for selection

A number of key criteria must be met by the firm selected:

(a) Are they **capable** of constructing the design proposed? Have they the previous experience, necessary technology and skills for such work?

(b) Will they offer **value for money**? Is the price required a fair one for the work involved?

(c) Can they build **on time**? Have they demonstrated their ability to manage the contract to achieve the target completion date?

(d) Are they **financially sound**? Have they sufficient funds to finance each stage of the construction, until they receive payments?

Further criteria may include:

(e) What is their record on *health and safety* issues? Do they always ensure that employees and the public are safe?

(f) Other policies valued by the housing organisation, such as *equal opportunities*, may also be considered. Does the firm have an equal opportunities policy?

So, how does the housing organisation find such a firm?

11.2 Approaches to selection

The organisation will approach this task just like any other business or individual seeking to obtain good quality work, which represents value for money. It will adopt one of **two** approaches:

(a) Select a firm which has previously demonstrated its abilities to deliver a satisfactory product on time, provided the price demanded is viewed as reasonable.

(b) "Shop around" for the best value. Approach a number of different firms for quotations.

The process of obtaining quotations from construction companies is called the tendering process. Tenders are offers made by construction companies, to undertake the work, at the price stated, though just how precise this price is will depend on the sort of contract which is made. We shall be examining types of contract later, in section 10 of this Block.

Of course, with either approach, the housing organisation must **first** ensure that the firm meets the criteria described above. It does this by thoroughly vetting the firm, to determine its suitability.

11.3 Determining suitability

Various types of information will help to determine whether a construction company is likely to prove suitable to undertake the work. Of course, this cannot guarantee that there will be no problems; it simply reduces the risk that the firm will prove to be unreliable or unsatisfactory.

The types of information required include:

(a) Financial records, with information about turnover (the value of work undertaken in a year) and financial stability (assets and debts).

(b) Details of past experience of constructing similar projects.

(c) References from past clients, commenting on things such as the quality of their work, their ability to complete on time, and their willingness to cooperate.

Many organisations ask potential contractors to complete an "Organisation and Capacity" questionnaire, which covers all of these aspects.

The client must be satisfied that this information suggests that the firm can meet all of the criteria. In general, only then will the firm be invited to tender (put in a quotation) for the work, There is, however, one exception to this, in the case of an *open competitive tender*. Firms may then be vetted after tender information is supplied. This will be examined in more detail shortly.

If it is decided to adopt the first approach to selection, and approach a known and trusted firm, then there will be prior knowledge and hence reduced need for vetting. In this case, the tender will be *negotiated*.

These different approaches to inviting tenders are now examined.

11.4 Inviting tenders

Having decided which firm or firms to consider, the next step is to invite them to tender for the contract to undertake the work.

However, before any construction company can put in a bid for the work, they will need to know exactly what is involved. They will need a detailed description of the design of the buildings, infrastructure, fittings etc., as well as information about the site's features and location.

This information forms part of the **tender documents** which are compiled by the Quantity Surveyor (in conjunction with the consultant).

(a) The documents

The tender documents will usually comprise:

- information about the site (location, characteristics);
- the detailed design drawings;
- detailed specifications;
- information about the sort of contract which the firm will have to enter into;
- a form on which the tender price is entered.

For a large contract, there may also be a *bill of quantities*, which itemises all activities (the quantities) for individual pricing. As you might expect, it is the quantity surveyor who will normally have the expertise to be able to price a job with accuracy. Most construction firms will, therefore, employ their own quantity surveyor or cost estimator to calculate tender prices.

The closing date and time for receipt of tenders must be clearly specified. An envelope in which to return the tender is also usually supplied, so that the tendering firms cannot be identified until the tenders are opened. This procedure is examined later in this section.

(b) The tender

Having received the tender documents, the contractor will be in a position to calculate the likely costs of the work, and can decide if it is the type of job which it wants. If it decides it wants the work, it will then make an offer to undertake the work for a certain price, and indicate how long the job will take (if the contract duration is not specified). It will tender for the work.

There are a number of different approaches which might be adopted, and each of these different approaches will result in a different type of tender. The housing organisation, in consultation with its advisors, will have to determine the sort of tender it wishes to obtain.

11.5 Types of tender

Generally, tenders can be of two main types. These correspond with the two approaches to selection, identified in section (b) above.

(a) Approach a known contractor: a negotiated tender.

(i) The process

In this case, the client will be attempting to negotiate a suitable price for the project with the firm selected, so this type of tender is called a *negotiated tender*.

The housing organisation will have been advised by its designers about the sort of price it might expect to obtain the work for. In general, it will not be ready to negotiate a price higher than this. If a suitable price cannot be negotiated, then the organisation might decide to negotiate with an alternative firm, or to adopt the alternative approach, of inviting several firms to tender. This is examined in (d) below.

It is now fairly common for housing organisations to negotiate with contractors to provide more than just construction work, with *design and build* or *develop and construct* contracts. However, these are not traditional approaches, and so are examined when we look at non-traditional methods.

You should note that, for traditional construct-only contracts, it is not usual for most public sector organisations to negotiate tenders, unless there are special circumstances. An example where this might be done is where one contract follows directly on from another, on the same site, so it might be cheaper to retain the original contractor to undertake the next phase.

The Housing Corporation used to require all housing associations to seek competitive tenders, but is now more relaxed about negotiated tenders, so long as the consultants can verify that they offer *value for money*. This is in the belief that there may be advantages to negotiated tenders.

(ii) Possible advantages of negotiated tenders

- ***Quality:*** A contractor who is familiar with the organisation's requirements will be in a better position to ensure that the work is of a suitable standard. The client may also feel more secure about the quality of the work, because it has been shown to be good.
- ***Value for Money:*** This may be more likely, if the contractor does not have to engage in costly, and potentially wasteful, tendering procedures. The

consultants must, of course, verify that the sum negotiated offers value for money for a housing association scheme.

- ***Time:*** It is usually much quicker to negotiate a tender than to undertake the process of competitive tendering.

However, negotiated tenders must always remain under severe scrutiny, to ensure that potential problems do not arise.

(b) Shop around for quotations: a competitive tender

As this term suggests, by inviting competitive tenders, we would be "shopping around" for the best quality at the lowest price, asking a number of different firms to bid for the work - just as we, as individuals, would be likely to do, if we needed any expensive work completed.

Since we wish to consider qualitative aspects as well as issues of cost, it is usual for the invitations to tender to emphasise that the lowest price won't necessarily win the contract. For example, the price may be considered to be unrealistically low, suggesting that the firm might have difficulties completing the work; or, there may be alternative techniques, with one preferred by the consultants to the housing organisation. However, in most instances, the lowest price will be accepted.

Under the **1980 Local Government and Planning Act** all local authorities are subject to *compulsory competitive tendering*, commonly referred to as CCT, for all new construction work exceeding £50,000, or for maintenance work over £10,000. This is intended to ensure that their "in house" builders, in the Direct Labour Organisation (DLO), are not automatically awarded the contract for any building work. As this would be, in effect, a negotiated tender, it could raise a number of potential problems. So let's examine some of these possible problems, and then go on to examine the benefits of a competitive tender.

(c) Potential problems of negotiated tenders

In general, the potential problems of negotiated tenders can be of three main types:

- ***Qualitative:*** a firm which automatically obtains work from a housing organisation might become rather complacent. It may, as a result, fail to ensure that it consistently works to high standards, or that it completes on time. Conversely, the client organisation is less likely to recognise poor quality, if it never has the opportunity to compare the work of different contractors. This might lead to customer dissatisfaction, many complaints, and hence, ultimately, extra work for the housing manager.

- ***Value for money:*** in the absence of competition, it is very difficult to know whether the price negotiated is reasonable because we have nothing to compare the price with.
- ***Potential for unfairness:*** this can range from giving work to one's friends - who may, or may not, offer value for money - to downright dishonesty, such as taking payments from the firm with whom one negotiates the contract, as a reward for giving them the work. This is, of course, corruption, and organisations which use other people's money - whether public or private - have an obligation to ensure that this money is used properly and accountably. Negotiated tenders offer much greater possibilities for corruption than competitive situations, when it would be much more difficult to ensure that a "favoured" firm wins.

So how do competitive tenders overcome these problems?

(d) The advantages of competitive tenders

(i) Fairness:

With proper procedures, no firm is able to gain an advantage by knowing, in advance, the value of the bid which another firm has made. This should ensure that the possibilities for corruption are minimised.

The normal procedures for accepting competitive tenders include:

- providing tender envelopes in which to return bids, which give no indication of the firm involved;
- setting a tender date and time, when all tenders are opened. Tenders arriving after this time would not be opened, but would be disqualified;
- ensuring that tenders are kept secure until their opening;
- having adequate witnesses to the opening of the tenders, to avoid any possibility of unfairness, with the witnesses confirming (in writing) details of the bids opened.

(ii) Competition:

The fact that there is competition between firms will help to ensure that the price paid is fair. It is also likely that the winning firm will wish to make a good impression, in order that it will be invited to tender for future contracts. So there is a powerful incentive to offer a high quality finished product, on time, and to cooperate fully with the client organisation.

But just how competitive can we make this process? There are two possible approaches, which are examined next.

(e) Types of competitive tender

The two approaches, open or selective, differ according to which firms are eligible to compete.

(i) Open competitive tendering:

Open invitations to tender are, as the name suggests, open to all. The organisation simply advertises that it seeks a contractor for a particular job, then sends out invitations to tender, along with the tender documents, to all interested firms, and waits for the bids to arrive.

This has the advantage that no suitable firm need be excluded from competing, so they are "shopping around" the widest possible range of firms. As a result, the price obtained should be very competitive - i.e. as low as possible.

Of course, the organisation will have no idea initially which firms will respond, whether they will be suitable to carry out the work, nor how many tenders they will ultimately receive. Once the firms do respond, the process of vetting will have to begin and this may take a considerable period of time if many firms are interested.

What problems do you think might arise under this open method of tendering?

Activity 10

Bearing in mind the way that the tendering process operates, how might an opening tendering system, permitting large numbers of firms to compete, be an expensive method of finding a suitable contractor?

Identify the reasons why it is expensive, for both the organisation and for the building firms who compete, below:

Time allocation: 10 minutes

If you have grasped what is involved in this complex process of tendering, you should certainly have been able to identify at least one or two reasons why the costs of an open system of tendering will be high.

We have identified the following potential reasons, though you may well have gone into these in more detail (e.g. printing, postage, stationery costs etc. for the first point):

The costs of open competitive tendering

For the housing organisation:

- it will be very costly to produce and send out all of the necessary tender documentation, if very many firms express an interest; and not all will subsequently send in a tender;
- the vetting process will be lengthy and expensive, because of the potentially large number of interested firms;
- if firms are aware that there are many potential competitors, they will realise that the chance of any one firm winning are very low. As a result, many suitable firms may actually be deterred from competing at all;
- this is a very lengthy process, which will considerably delay the potential start date.

For the construction companies:

- it will cost the competing firms a great deal of time (and hence money) to make the bid, and for all but the one which is successful, it will be wasted effort;
- they may be deterred from competing at all, and so lose work for which they may be well suited.

So what is the alternative to open competitive tendering? This involves being more selective about who to approach for a quote.

(ii) Selective competitive tendering:

Essentially, this involves selecting a few firms, which the organisation knows are capable of undertaking the work, and inviting only those select few to tender. But how are these firms selected?

Selecting the firms:

- Housing associations, who may infrequently offer contracts, usually depend on the recommendation of their consultants, other associations, or committee members, to draw up a short list of possible firms.

- Local authorities may adopt a more formal approach. They may advertise, to invite firms to go on the select tender list. Applying firms are then vetted, to ensure that they can meet the criteria for selection (identified in section 9.1 above). Only suitable firms will be accepted for inclusion on the list. Usually, the numbers are limited (or it would effectively become an open list), so the criteria for acceptance may be very strict. Firms on the list are then routinely invited to tender, as work arises. Usually, the select list will remain in use for a period of time, when it may be updated with a further invitation to apply for inclusion.

This approach retains most of the advantages of competitive tendering, whilst avoiding the problems of the open method. What are these advantages?

Advantages of selective competitive tendering:

- As a result of the competitive situation, the client is likely to get the work done at a fair price.
- The construction company which wins is more likely to be concerned about quality, and completing on time, to ensure that they will be invited to tender again.
- The organisation will, over time, gain the experience of different companies, and so will be better able to judge quality of work.
- Resources are not wasted checking out very many - probably unsuitable - firms, every time a contract is awarded.
- There are more limited possibilities for corruption of officers of the organisation.

Summary

1. **Construction companies must meet a number of criteria to ensure they are suitable to undertake the work.**
2. **There are two main approaches to selecting a contractor: choose a known firm which is reliable, or "shop around" for quotations. This is the process of tendering.**
3. **The suitability of firms is checked by examining a range of information about their financial stability and previous work.**
4. **When firms are invited to tender, they are sent the tender documents, which give detailed information about the project, as well as the closing date and time for receipt of tenders.**
5. **There are two main types of tender: negotiated or competitive.**
6. **Negotiated tenders offer the opportunity to use contractors who are familiar with the standards required, and may result in an earlier start to the project. However, they can generate problems concerning the quality of work, value for money, and unfairness or favouritism.**
7. **Competitive tenders may be of two types: open or selective. They should ensure value for money and reduce the possibility of corruption.**
8. **Open tenders are likely to prove more expensive for both contractors and clients. Select list tenders offer the advantages of competition, without the disadvantage of high cost.**

12. Appointment of the Contractor

12.1 Accepting the tender

Having received the invited tenders from building firms - whether selective or not - the client will next have to decide which (if any) to accept. Even if the tender has been negotiated, they will still have to decide whether the outcome of the negotiations is acceptable to the organisation.

The consultants acting for the housing organisation - usually the quantity surveyor - will:

(a) examine the tender for accuracy and compare prices;

(b) consider whether there have been any changes to the circumstances of firms who have tendered (perhaps there have been suggestions of bankruptcy in the meantime, or there have been problems with them on another development?);

(c) check that there are no unusual or potentially problematic aspects. For example, where there is a Bill of Quantities, it is not unknown for tenderers to "load" the prices for certain parts of the contract, in the expectation that these items are more likely to be variable, so this could generate considerable extra payments;

(d) see if the time period required to complete the work varies, because early completion dates might well be important to the housing organisation. This is likely to be especially true of rehabilitation schemes, which will cause considerable disruption for tenants;

(e) having carefully weighed all of these different considerations, they will then recommend which tender to accept.

For housing associations, it will then be the decision of the management committee subject to Housing Corporation or the National Assembly for Wales approval, whether or not it accepts the recommendation, though this would usually be the case. A local authority housing department would, likewise, be guided by the views of its architects. So long as the tender price is within the budget of the organisation, there is unlikely to be a problem at this acceptance stage.

12.2 What if the tender prices are higher than expected?

Initially, all organisations are likely to require an explanation from their quantity surveyor, who provided the original estimates - eg, is there much more work available for contractors, causing prices to rise? On the other hand, perhaps it indicates that a change of quantity surveyor is called for!

What happens next will depend on the type of housing organisation involved.

(a) Housing associations

In the event that the tender is above planned cost limits, then the association has three possible choices:

(i) Ask the consultants to seek to make savings, which will not materially affect the standard of the scheme's dwellings - for example, a relatively expensive item, such as tile facings, could be omitted. The architects may be resistant to the idea of "tinkering" with their design, but the client will insist that they seek to find such savings.

(ii) Invite new tenders - but only if the consultants think this will result in lower prices. In this case, the whole tendering procedure will have to begin again.

(iii) Decide to proceed with the project, at this higher cost. The next step will depend on the funding arrangement for the association.

(b) Social Housing Grant

In England, Housing Corporation approval is at site purchase stage only. In Wales, however, when the consultant has checked the accuracy and recommended accepting one of the tenders an application must be made to the National Assembly for Wales for approval to accept the tender. If the tender is over ACG then the increase will have to be justified. If the increase is not accepted then that extra amount will be ineligible for grant. Building contracts should not be signed until written approval is received.

Financial viability

If:

- the amount of the recommended tender is higher than expected, or
- the amount of SHG approved is lower than expected

then the financial viability spreadsheet must be re-calculated with this up to date information. Remember: the financial viability done before site purchase was based on estimated not actual grant and building cost.

If it is still viable and SHG is approved it can go ahead. If it is not viable then the building contract cannot be signed until:

- further cuts in costs are made, or,
- subsidy from the organisation itself or another body is made, or,
- extra SHG is negotiated and approved.

The very last resorts would be that:

- the scheme is completely redesigned, or
- the site is sold.

(c) Local Authority housing departments

Housing departments are normally subject to strict budget controls, and the scheme's cost will have been estimated in the budget, in advance of the tendering process. So where tender prices are above those estimated, there may be financial constraints which prevent acceptance.

Essentially, the choices are much like those facing housing associations. The housing department can:

- seek to save on costs (as above);
- reallocate the department's budget, so that the extra cost is found by making savings elsewhere (e.g. by delaying the start of another planned scheme);
- delay the start of the scheme into the next financial year, when more funds may be available;
- invite new tenders, if appropriate.

Once the tender has been accepted, the consultants will clarify various details with the chosen builder in what is called the pre-contract planning stage. This is examined in the next section.

The parties will then have to make a formal agreement called a building contract.

12.3 Building contracts

The need for a building contract has been mentioned in earlier parts of the block. What exactly is it?

Having decided to accept a tender, it is very important that everyone is very clear about what they have agreed to do. For a complex construction scheme, a written contract is essential, so that everyone can be clear as to what has been agreed. It reduces

the possibilities of misunderstandings, and, importantly, offers the possibility of legal action if either party fails to deliver as agreed.

(a) What it covers

The contract simply sets out what has been agreed, and will cover the:

- **basis for payment**: the value of the contract, which may adopt one of two different approaches, described in more detail below;
- **contract period**: how long the work will take;
- **construction design details**: what, exactly, is to be built, where.

So, in a building contract, the builder agrees to construct according to the drawings and specifications, within an agreed time scale. The client, of course, agrees to pay the sum either accepted in the tender, or negotiated with the contractor. You will be able to identify these elements in the sample contract printed below.

(b) The form of the contract

Usually, the form of the contract will be that specified by the **Joint Contracts Tribunal**, commonly called JCT. This body exists to agree *standard forms of contract*, which are agreeable both to contractors and client organisations.

The form of the contract will vary slightly, depending on whether it is for new build or rehabilitation, and whether there are to be *nominated sub contractors*. These are specialist firms, which the client may require are used for some activities (e.g. for wood treatment in rehab. work). In this event, the requirement to employ these specialists, and the relationships with them, will need to be specified in the contract.

In addition, the organisation itself may have particular requirements for contracts, which require that adjustments are made to the standard JCT form. For example, the Housing Corporation specifies insertions, deletions and amendments to the standard form, so it is important that the consultants are aware of any particular requirements such as these.

Activity 11

The contract for our case study scheme is reproduced on the following pages. You will notice that it is called ***Articles of Agreement****.*

After you have looked through it, try to identify the following:

1. the name of the client organisation

2. the contractors

3. the contract period

Time allocation: 10 minutes

Articles of Agreement

made the THIRD day of JUNE 1993

between PHOENIX HOUSING ASSOCIATION LIMITED

of (or whose registered office is situated at) PHOENIX HOUSE,
27 YARM ROAD, STOCKTON - ON - TEES
CLEVELAND TS18 3NJ
(hereinafter called 'the Employer') of the one part and

IDEAL HOME NORTHERN LIMITED

of (or whose registered office is situated at) IDEAL HOUSE,
ALLENSWAY, THORNABY - ON - TEES
CLEVELAND TS17 9HA
(hereinafter called 'the Contractor') [a] of the other part.

Footnote

[a] Where the Contractor is not a limited liability company incorporated under the Companies Acts, see Footnote [v] to clause 35·13·5·4·4

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Recitals

First the Employer is desirous of [b] THE CONSTRUCTION OF SIXTEEN - ONE BED FLATS, EIGHT - TWO BED FLATS, AND ONE- TWO BEDROOM BUNGALOW WITH ASSOCIATED EXTERNAL WORKS at TURNBULL STREET, HARTLEPOOL, CLEVELAND.

and has caused Drawings and Bills of Quantities showing and describing the work to be done to be prepared by or under the direction of EDWIN TROTTER ASSOCIATES - ARCHITECTS

Second the Contractor has supplied the Employer with a fully priced copy of the said Bills of Quantities (which copy is hereinafter referred to as 'the Contract Bills');

Third the said Drawings numbered SEE ATTACHED LIST BELOW

(hereinafter referred to as 'the Contract Drawings') and the Contract Bills have been signed by or on behalf of the parties hereto;

Fourth the status of the Employer, for the purposes of the statutory tax deduction scheme under the Finance (No. 2) Act, 1975, as at the Base Date is stated in the Appendix;

Drawings numbered :-

Plot 1, Plot 2, 0122-001,1001, 0122-LP.
0122-106,107,108,109,110,111,112,113,114,115,116,121,122,123,124,125,126,127,128,133,135,136,137.
0122(A)1,(A)2,(A)5,(A)6,(A)9,(A)10,
0122(B1)1,(B2)1,(B)2,(B1)5,(B2)5,(B1)6,(B2)6,(B)9,(B)10,(B)11.
0122(C)1,(C)2,(C)5,(C)6,(C)9,(C)10,0122(21)2,(21)3,(21)4,(21)5,(21)6,(21)7,(22)1,(23)1,(23)2,(23)3,(23)4,(23)5,(27)1,(27)2,(27)4,(27)8,(27)9,(31)2,(31)3,(31)5,(31)6,(31)7,(31)8,(31)9,(31)10,(31)11,(31)12,(31)13,(52)1,(52)2,(52)3,(52)4,(52)5,(52)6,(52)7,(53)1,(53)2,(53)3,(53)4,(73)1,(74)1,(74)2,(74)3,(90)1,(90)2,(90)3,(90)4,(90)5,(90)6,(90)7,(90)8,(90)9,(90)10.
Engineer's Drawing no: 13674/1

Footnote [b] State nature of interest ...

Now it is hereby agreed as follows

Contractor's obligations

Article 1
For the consideration hereinafter mentioned the Contractor will upon and subject to the Contract Documents carry out and complete the Works shown upon, described by or referred to in those Documents.

Contract sum

Article 2
The Employer will pay to the Contractor the sum of ___

_____

_____ _____ (£ _____)
(hereinafter referred to as 'the Contract Sum') or such other sum as shall become payable hereunder at the times and in the manner specified in the Conditions.

Architect

Article 3
The term 'the Architect' in the Conditions shall mean the said

EDWIN TROTTER ASSOCIATES

of 21, HIGH STREET, STOKESLEY, NORTH

YORKSHIRE TS9 5AD

or, in the event of his death or ceasing to be the Architect for the purpose of this Contract, such other person as the Employer shall nominate within a reasonable time but in any case no later than 21 days after such death or cessation for that purpose, not being a person to whom the Contractor no later than 7 days after such nomination shall object for reasons considered to be sufficient by an Arbitrator appointed in accordance with article 5. Provided always that no person subsequently appointed to be the Architect under this Contract shall be entitled to disregard or overrule any certificate or opinion or decision or approval or instruction given or expressed by the Architect for the time being.

Footnotes [c] [d] [e] [f] Not used

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Quantity Surveyor

Article 4
The Term "the Quantity Surveyor" in the Conditions shall mean

HALL AND PARTNERS

of 9, PORTLAND TERRACE, NEWCASTLE UPON TYNE

NE2 1QQ

or, in the event of his death or ceasing to be the Quantity Surveyor for the purpose of this Contract, such other person as the Employer shall nominate within a reasonable time but in any case no later than 21 days after such death or cessation for that purpose, not being a person to whom the Contractor no later than 7 days after such nomination shall object for reasons considered to be sufficient by an Arbitrator appointed in accordance with article 5.

Settlement of disputes - Arbitration

Article 5
If any dispute or difference as to the construction of this contract or any matter or thing of whatsoever nature arising thereunder or in connection therewith shall arise between the Employer or the Architect on his behalf and the Contractor either during the progress or after the completion or abandonment of the Works or after the determination of the employment of the Contractor, except under clause 31 *(statutory tax deduction scheme)* to the extent provided on clause 31·9 or under clause 3 of the VAT Agreement, it shall be and is hereby referred to arbitration in accordance with clause 41.

ARTICLE 6

THE CONDITIONS SHALL HAVE EFFECT AS MODIFIED BY THE AMENDMENTS SET OUT IN AMENDMENT 10 ATTACHED THERETO.

ARTICLE 7

THE CONDITIONS SHALL HAVE EFFECT AS MODIFIED BY THE AMENDMENTS SET OUT IN AMENDMENT 11 ATTACHED THERETO.

Footnote

(g) Not used

Notes

[A1] For Agreement executed under hand and NOT as a deed

[A1] AS WITNESS THE HANDS OF THE PARTIES HERETO

[A1] Signed by or on behalf of the Employer .....

in the presence of:

[A1] Signed by or on behalf of the Contractor .....

in the presence of:

[A2] For Agreement executed as a deed under the law of England and Wales by a company or other body corporate: insert the name of the party mentioned and identified on page 1 and then use *either* [A3] and [A4] *or* [A5].
If the party is an *individual* see note [A6].

[A3] For use if the party is using its common seal, which should be affixed under the party's name.

[A4] For use of the party's officers authorised to affix its common seal.

[A5] For use if the party is a company registered under the Companies Acts which is not using a common seal: insert the names of the two officers by whom the company is acting *who MUST be either a director and the company secretary or two directors*, and insert their signatures with 'Director' or 'Secretary' as appropriate. *This method of execution is NOT valid for local authorities or certain other bodies incorporated by Act of Parliament or by charter if exempted under s.718(2) of the Companies Act 1985.*

[A2] EXECUTED AS A DEED BY THE EMPLOYER
hereinbefore mentioned namely . . .

[A3] by affixing hereto its common seal

[A4] in the presence of:

* OR .....

[A5] acting by a director and its secretary* / two directors* whose signatures are here subscribed:
namely .....

[Signature] B. Keane Committee ~~DIRECTOR~~ Member

and .....

[Signature] ..... *SECRETARY* /~~DIRECTOR~~*

[A2] AND AS A DEED BY THE CONTRACTOR
hereinbefore mentioned namely . . .

[A3] by affixing hereto its common seal

[A4] in the presence of:

[A6] If executed as a deed by an *individual*: insert the name at [A2], delete the words at [A3], substitute 'whose signature is here subscribed' and insert the individual's signature. The individual MUST sign in the presence of a witness who attests the signature. Insert at [A4] the signature and name of the witness. Sealing by an individual is not required.

Other attestation clauses are required under the law of Scotland.

* OR .....

[A5] acting by ~~a director and its secretary~~* / two directors* whose signatures are here subscribed:
namely .....

[Signature] ..... *DIRECTOR*

and .....

[Signature] ..... ~~*SECRETARY**~~ /*DIRECTOR**

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* *Delete as appropriate*

	Clause etc.	
Statutory tax deduction scheme – Finance (No. 2) Act 1975	Fourth recital and 31	Employer at Base Date *is a 'contractor'/~~is not a 'contractor'~~ for the purposes of the Act and the Regulations *(Delete as applicable)
Base Date	1·3	20TH MARCH 1993
Date for completion	1·3	2ND MAY 1994
VAT Agreement	15·2	Clause 1A of the VAT Agreement *~~applies~~/does not apply [k·1] *(Delete as applicable)
Defects Liability Period (if none other stated is 6 months from the day named in the Certificate of Practical Completion of the Works)	17·2	MECHANICAL AND ELECTRICAL INSTALLATION – 12 MONTHS SEEDING AND PLANTING – 12 MONTHS WORK FOR ADOPTION OF THE HIGHWAY // BY AUTHORITIES: UNTIL CONFIRMED AS ADOPTED BY LOCAL AUTHORITY. REMAINDER OF WORKS – SIX MONTHS
Assignment by Employer of benefits after Practical Completion	19·1·2	Clause 19·1·2 *~~applies~~/does not apply *(Delete as applicable)
Insurance cover for any one occurrence or series of occurrences arising out of one event	21·1·1	£ 2,000,000 - 00
Insurance – liability of Employer	21·2·1	Insurance *may be required/~~is not required~~ Amount of indemnity for any one occurrence or series of occurrences arising out of one event £ 2,000,000 - 00 [y·1] *(Delete as applicable)
Insurance of the Works – alternative clauses	22·1	*Clause 22A/~~Clause 22B/ Clause 22C applies~~ APPLIES (See Footnote (m) to Clause 22) *(Delete as applicable)
Percentage to cover professional fees	*22A ~~22B·1~~ ~~22C·2~~ *(Delete as applicable)	15%

Footnotes

[k·1] Clause 1A can only apply where the Contractor is satisfied at the date the Contract is entered into that his output tax on all supplies to the Employer under the Contract will be at either a positive or a zero rate of tax

On and from 1 April 1989 the supply in respect of a building designed for a 'relevant residential purpose' or for a 'relevant charitable purpose' (as defined in the legislation which gives statutory effect to the VAT changes operative from 1 April 1989) is only zero rated if the person to whom the supply is made has given to the Contractor a certificate in statutory form, see the VAT leaflet 708 revised 1989. Where a contract supply is zero rated by certificate only the person holding the certificate (usually the Contractor) may zero rate his supply.

This footnote repeats footnote [k·1] *for clause 15.2*

[y·1] If the indemnity is to be for an aggregate amount and not for any one occurrence or series of occurrences the entry should make this clear

		Clause etc.	
	Annual renewal date of insurance as supplied by Contractor	22A·3·1	1ST JUNE
	Insurance for Employer's loss of liquidated damages – clause 25·4·3	22D	Insurance *may be required/~~is not required~~ *(Delete as applicable)
		22D·2	Period of time 4 WEEKS
	Date of Possession	23·1·1	1ST JUNE 1993
	Deferment of the Date of Possession	23·1·2 25·4·13 26·1	Clause 23·1·2 *~~applies~~/does not apply Period of deferment if it is to be less than 6 weeks is — *(Delete as applicable)
	Liquidated and ascertained damages	24·2	at the rate of £ 1,640·00 per WEEK OR PART THEREOF.
It is essential that periods be inserted since otherwise no period of delay would be prescribed.	Period of delay: [z·1]	28·1·3	ONE MONTH
	Period of delay: [z·2]	28A·1·1 28A·1·3	ONE MONTH
	Period of delay: [z·3]	28A·1·2	THREE MONTHS
	Period of Interim Certificates (if none stated is one month)	30·1·3	ONE MONTH.
	Retention Percentage (if less than 5 per cent) [aa]	30·4·1·1	3 %
	Work reserved for Nominated Sub-Contractors for which the Contractor desires to tender	35·2	—
	Fluctuations: (if alternative required is not shown clause 38 shall apply)	37	clause 38 [cc] ~~clause 39~~ ~~clause 40~~
	Percentage addition	38·7 or 39·8	0 %
	~~Formula Rules~~	40·1·1·1	
		rule 3	Base Month _____ 19____
		rules 10 and 30 (i)	~~Part I/Part II~~ [dd] of Section 2 of the Formula Rules is to apply

Footnotes

[z] It is suggested that the periods should be:
z·1 one month;
z·2 one month;
z·3 three months

[aa] The percentage will be 5 per cent unless a lower rate is specified here

[bb] Not used.

[cc] Delete alternatives not used

[dd] Strike out according to which method of formula adjustment (Part I - Work Category Method or Part II Work Group Method) has been stated in the documents issued to tenderers

The client is, of course, Phoenix Housing Association (*hereinafter called "the Employer*"). The contractors are Ideal Homes Northern Limited. The contract period is, perhaps, less obvious. It appears in the appendix, which identifies the start date (*base date*) as 20th March 1993, and the completion date as 2nd May 1994.

(c) The contract price

There are two main ways that the contract price may be specified. The contract may be for:

- a fixed sum, payable regardless of actual costs;
- a variable amount, based on the actual cost of labour and materials at the time the work was undertaken.

Building contracts are usually described according to which of these different bases for payment are adopted so, there are fixed price (or lump sum) contracts, and variable price contracts.

(i) Fixed price or lump sum contracts

As suggested by the name, the price to be paid is agreed in advance, so the organisation knows fairly accurately what the completed work will cost. However, most lump sum contracts permit some variation to the contract - for example, to allow for a change in a detail of the specification - for which additional sums may be agreed. In this case, the architect would have to issue a Variation Order, identifying the changes required and the cost implications of these.

(ii) Variable price contracts

These contracts are normally only adopted where the work will extend over long time periods (over two years), where the risks to the contractor of a fixed price contract will be too great. These risks could include changes in the rate of inflation - and hence rising costs of materials and labour - and rising interest rates, which increase the firm's borrowing costs.

They may also be necessary when site conditions are not known too clearly, so that precise design is not possible until the contractor actually moves in to clear the site. However, in this event, it is likely that the unknown element will be dealt with under a separate contract, so that the bulk of the work can still be fixed price.

How do variable price contracts operate?

The tender documents for variable price contracts will have included a Bill of Quantities, giving precise details of the sums to be charged for each aspect of each activity. This means that, as each price changes (e.g. wage rates for joiners), the contractor can request higher payments for that element of the Bill.

Summary

1. **The tenders are scrutinised by the consultants, who make a recommendation about which tender the client should accept.**
2. **If tender prices are higher than expected, the client will have to decide whether the project can still go ahead using other resources, if it can obtain more funding, or whether to call for new tenders.**
3. **Housing associations and local housing companies have to apply for approval from the Housing Corporation or the National Assembly for Wales to accept the recommended tender.**
4. **If the tender is higher than estimated or the amount of Social Housing Grant lower than expected then the financial viability of the scheme must be recalculated. If it is no longer viable costs will have to be cut or funds increased or the scheme should not proceed further.**
5. **The client and chosen contractor will need to draw up an agreement, called a building contract.**
6. **Usually, a standard form of contract is used, which has been agreed by the Joint Contracts Tribunal (JCT).**
7. **For most housing developments, the contract price is a fixed (lump) sum, and this is entered in the contract.**
8. **Contracts which extend over a long period of time may have a variable price, so that changes to costs over time can be allowed for.**

13. The Construction of the Project

We are now, finally, at the point where the scheme may enter the construction phase. As soon as the tender has been accepted (or negotiated), it is usual to begin to plan for the work on site. Since this may take place before contracts are actually signed it is generally known as pre-contract planning.

Pre-contract planning ensures that no time is wasted; as soon as the contract is signed, the contractor can get on with the actual construction work.

13.1 Pre-contract planning

This will take place in a meeting (or series of meetings) between the three key parties in the construction process: the consultant, the contractor, and the client.

A number of issues are sorted out at this stage:

(a) Contract commencement date.

This will be negotiated and will depend on:

(i) How soon the organisation can give the contractor access to the site. This may depend on the purchase being completed, or arrangements for the temporary rehousing of residents being finalised.

(ii) How soon the contractor is available to commence work.

(b) Contract completion date.

Usually, the organisation will want the work to be completed as soon as possible. If the scheme is new build, faster completion means quicker letting and hence earlier rent income. If it is rehabilitation of the current stock, then the existing tenants will be able to return more quickly.

On the other hand, the contractor will be reluctant to agree a date which he/she does not feel confident can be met, because building contracts may contain severe penalties for late completion.

(c) The programme of work

Having agreed commencement and completion dates, the contractor will draw up a programme of work, indicating how the work will progress.

The programme is crucial if the consultant is to be able to maintain control over the contract. It must be supplied to the consultant, so that progress can be monitored against the programme, and appropriate steps taken if progress falls behind.

However, it is not binding. There may be a number of reasons why the contractor cannot keep to the programme, such as problems with labour, weather, supplies of materials. Changes to the programme will have to be negotiated with the consultant and client, because this will affect the completion date, and extensions of time have to be agreed.
These are examined later in this section.

(d) Programme of site meetings

All development projects have regular site meetings, and it is usual to agree dates for these at this stage.

The site meetings usually take place (as their name suggests) on the construction site. In attendance will be the architect and contractor, as well as the clerk of works, quantity surveyor and any other specialists involved. These meetings provide a regular forum to monitor the work and to check that it is up to date. The meetings are minuted and circulated to all parties, so that anything agreed is confirmed to everyone.

(e) Site supervision

Issues about site supervision and quality control need also to be agreed before work starts.

The architect is the person who is responsible for supervising the contract. He/she may examine the work at any time, and may vary the instructions, as necessary, with a Variation Order. We will be examining this in more detail shortly.

The architect, as you have discovered, is often represented, on a day to day basis, by a clerk of works, appointed by the client. This role is more clearly that of the client's representative. He/she has a duty to monitor all work, to ensure that it corresponds to the detailed drawings and specification.

The clerk of works cannot alter the construction process. Instructions are always necessary from the architect. However, the clerk of works will be in a position to keep a detailed record of all work done on site, and will frequently liaise with the architect.

(f) Information required by the contractor

It is vital that the contractor is given all necessary information, so any further requirements should be sorted out now, before work starts. If there is something which the contractor is unaware of, this could cause major problems on site.

It is the responsibility of the consultant to ensure that the contractor is supplied with a full set of working drawings. As you discovered in section 5, these result from the detailed design stage. However, these may be amended over time, and the contractor must be informed.

(g) Informing neighbours/adjacent properties

It is important that all parties affected by the construction work are informed about the start date, and advised about the likely dates of works which directly affect them.
This is important not simply because it is good public relations. The works could interfere with a neighbour's business, with perhaps serious legal implications as a result.

(h) Informing other interested parties

The Building Regulations' Inspector will need to be informed about start dates, so that he/she can make regular inspections as work progresses.

In the case of existing premises, the rating/council tax authority should be informed (as the tax may not be payable on vacant property).

Electricity and gas suppliers should also be contacted to take meter readings. This will ensure that the client is not liable for unauthorised use during construction work.

(i) Site security

Building sites are dangerous places, so it is important that the general public are adequately protected during construction work. The site may need to be fenced off, for example, with warning signs erected.

Sadly, it is increasingly common for building sites to be subject to vandalism and theft. Secure storage for materials will, as a minimum, need to be provided. At worst, 24 hour security cover may be necessary in high risk areas.

This must all be sorted out in advance of construction beginning. It is too late, once theft has occurred!

(j) Insurance

Both the client and the contractor should have adequate insurance, so it is important that this is checked before the need to make a claim arises.

13.2 The construction stage

(a) The progress of work

The main stages in constructing a dwelling, by traditional methods, are:

- clear the site;
- dig and lay foundations;
- build walls;
- construct roof;
- external joinery;
- some internal joinery such as floors and stairs, and internal partitions;
- internal supply: electricity cables, gas pipes, water and heating supplies;
- internal finishes: plastering;
- further internal joinery, such as skirtings and door casings, fitted kitchen units;
- painting and final finishes.

(b) Supervision of the construction stage

The process of construction must be monitored constantly. This is to ensure that:

(i) **costs** are controlled;

(ii) the **quality** of work is maintained;

(iii) the **progress** of work is maintained.

We can identify a number of different ways in which work on site is monitored for these purposes:

(i) Site supervision

This is an ongoing activity, which should take place very regularly - preferably daily. You have already learnt that supervision on site is a key task of the consultant. However, the consultant will have other jobs to attend to, and it is for this reason that the client may appoint a clerk of works. This person is usually based ***permanently*** on site, so can monitor work, minute by minute, and report on any problems.

(ii) Site meetings

The role of site meetings has already been discussed. It may be useful for the client to attend, at least occasionally, because it offers an opportunity for a separate assessment of progress. As a minimum, however, the client will receive copies of the ***minutes*** of the site meetings, and can check these for potential problems.

(iii) Progress reports

The consultants should make their own, regular reports to the client, which identify progress to date and any problems.

Progress reports should cover the two key elements for control: costs and time. (Quality issues should be resolved as the dwellings are being built.) Hence, any change to the costs of the scheme should be identified and explained, as well as any change to the planned ***programme for completion***.

(iv) Site inspections

The consultant will, of course, make regular site inspections, as part of the supervisory role. However, it is also useful for the client to make occasional inspections; not to give instructions, which might over-rule the architect, but to check generally on quality and progress. Any problems which are noted on inspection should be taken up with the consultant.

(c) Variations during the construction stage

(i) Reasons for variations

The details of the design and construction may have to be modified as work progresses, for a number of reasons. These may be caused by the client/consultant, or result from external factors.

Variations by client or consultant

These can arise for various reasons. The commonest causes of changes are:

- last minute economies due to unforeseen financial constraints;
- substitutions to materials specified;
- the client decides to change some detail of the design.

External factors

Again, there are many reasons why external factors may force changes. Common causes include:

- materials' supply problems;
- unforeseen site developments, such as the discovery of poor foundation conditions necessitating stronger foundations. The site survey should reduce, but not eliminate, the possibility of this. However, it is more likely in rehabilitation schemes, when many problems can only be found after demolition.

(ii) Variation Orders/Architect's Instructions

All variations to the contract details, such as the changes identified above, must be specified in Variation Orders (V.O.s). These are also called *Architect's Instructions* (A.I.s).

As implied by the name, these are instructions issued by the consultant. They specify the alteration required (or agreed to), and, most importantly, identify the cost of the change. Of course, the instruction may simply be designed to clarify something, in which case there may be no financial implication. *But, where there is an added cost, there should be strict limits to the amounts that can be agreed by the consultant, without the prior approval of the client. This is an important method by which the client can exercise tight control over costs.*

An example of an Architect's Instruction from our case study scheme appears below.

An example of an Architect's Instruction from our case study scheme appears below.

insert here

Issued by: Edwin Trotter Associates
address: 21 High Street, Stokesley

Architect's Instruction

Employer: Phoenix Housing Association Ltd
address: 27 Yarm Road, Stockton on Tees

Job reference: 0122-L

Instruction no: 3

Contractor: Ideal Homes (Northern) Ltd
address: Ideal House, Allensway
Thornaby on Tees

Issue date: 20th Aug 93

Sheet 1 of 1

Works: 25 New Dwellings
situated at: Turnbull Street, Hartlepool

23 08 93

Contract dated: 3rd June 1993

Under the terms of the above-mentioned Contract, I/we issue the following instructions:

	Office use: Approx costs £ omit	£ add
1. Arrange for the construction and erection of the Employer's Site Signboard as detailed on drawing No. 0122-139 and enclosures dated 20th August 1993. Position of Signboard to be agreed on site. Omit the provisional sum of £400.00 in the Bill of Quantities (item D page 7/1) for Housing Association Signboard.		

To be signed by or for the issuer named above — Signed

Amount of Contract Sum £
± Approximate value of previous Instructions £
± Approximate value of this Instruction £
Approximate adjusted total £

Distribution — Original to: ☐ Contractor

Copies to: ☑ Employer ☐ Quantity Surveyor ☐ Clerk of Works ☐ Nominated Sub-Contractors ☐ Consultants ☐ File

F809 for JCT 80/IFC 84/MW 80

If the effect of a Variation Order is to extend the construction period, then an extension of time certificate will need to be issued.

(iii) Extension of time certificates

These must be issued when the consultant has agreed to an extension to the contract period. This may be the fault of the contractor, in which case, no additional costs will be payable. However, extensions due to consultant changes or errors will have to be paid for. Clearly, if the contractor has to spend longer on site, it will increase the firm's costs - for labour, plant hire, insurance, etc.

It should be clear, then, that whoever is responsible for the delay must pay for it. Some common reasons are examined below:

Extensions due to client/consultant changes

Examples of extensions due to this are:

- Errors in the drawings or specifications;
- Unexpected conditions discovered on site;
- Delays by the architect in issuing instructions;
- Delays caused by ***nominated sub-contractors*** - i.e. additional contractors specified by the client, over whom the main contractor has no control.

Extensions due to these reasons must be paid for by the client - who should require very good explanations from the consultant!

Extensions caused by outside factors

Extensions of time may be allowed for factors outside the contractor's control, but for which no extra payment is due. These include:

- bad weather;
- delays caused by the contractor's own sub contractors;
- strikes.

Extensions caused by the contractor

If the time extension is wholly the fault of the contractor, then the client organisation may, under the terms of the contract, be eligible for some payment in compensation from the contractor. These are called ***liquidated and ascertained damages***, and will be deducted from the payments due to the contractor.

(iv) Ending the contract

This will occur only in extreme circumstances, when, for example, the contractor becomes bankrupt, or consistently fails to deliver the work required. This is known as *determining* the contract.

Of course, this situation will leave the client with an unfinished scheme, so another contractor will have to be found, and quickly.

There are complex legal requirements to determining a contract, so the organisation's legal advisers would have to be involved at an early stage.

(d) Payments during the construction stage

Unless the contract is very small, with a short construction period, it is usual for the contractor to be paid as work progresses.

This reflects the fact that the contractor has to pay for all materials and labour as work progresses. Workers will not wait until the end of the contract to be paid! So, the contractor's outgoings will be high throughout the contract period.

Conversely, the client has the benefit of the work already completed. Should the contractor cease work, the client could then engage someone else to finish the work. The work already completed cannot be taken away.

Paying for work in stages is a reflection of the fact that it would not be reasonable to expect the contractor to pay the full cost, before being reimbursed. Expenditure is incurred, and is then, effectively, refunded, at a delayed stage. These are known as interim payments.

(i) Interim payments

The procedure for making interim payments to contractors involves the issue of certificates.

Certificates

Certificates are issued by the consultant. They certify that the work completed, since the last valuation of the work was undertaken, is worth a certain ***value***.

Ordinarily, it is the quantity surveyor who will undertake the valuation. For variable price contracts - which are rare for social housing providers, as you have discovered - each item in the Bill of Quantities will have to be valued, on each occasion. For fixed price contracts,

a more general assessment of the extra work completed is undertaken. This will usually relate to the stage which has been reached in the building's progress; for example, when foundations are completed, when the building has reached first floor level, etc.

The valuation always relates to **all** of the work completed. The value of *previous payments* is then deducted, to calculate the payment now due. In addition, some percentage will be *retained*, which is examined below.

If valuations include payments to *nominated sub-contractors*, the contractor must be informed of this, because he/she will have to pass this payment on to the nominated sub-contractor (unless the contract says otherwise). For the contractor's own sub- contractors, it is the contractor's responsibility to agree their share of any payments.

Housing associations and local housing companies forward copies of these certificates to the Housing Corporation or the National Assembly for Wales; and Social Housing grant is paid in instalments or tranches until the total amount of SHG approved for that scheme has been paid. This is known as 'drawing down' SHG. SHG is no longer 100% of the total costs, so the 'drawing down' of SHG will stop part of the way through the contract. Therefore, the private finance must be agreed and in place to continue to pay the contractor during the building contract, as failure to do so would be breach of contract.

Retention

The contract will normally permit a retention percentage, so that the contractor is never paid fully for the work completed. This is intended to provide an incentive to complete the work. If *full* payments are always made, the contractor could leave the site without losing anything. Of course, the contractor will be keen to receive as high a payment as possible, so may contest the valuation of the work. It is the architect's job to take the final decision about the valuation, and, in effect, to arbitrate between the quantity surveyor and contractor in the event of a disagreement.

Activity 12

Examine the Interim Certificate below, issued recently for our scheme at Hartlepool.

Interim Certificate
and Direction

Issued by: Edwin Trotter Associates
address: 21 High Street, Stokesley
North Yorkshire

Employer: Phoenix Housing Association Ltd
address: 27 Yarm Road, Stockton on Tees

Contractor: Ideal Homes (Northern) Ltd
address: Allensway
Thornaby on Tees

Works situated at: 25 New Dwellings
Turnbull Street, Hartlepool

Contract dated: 3rd June 1993

Serial no: C 825709
Job reference: 0122-0
Certificate no: 2
Issue date: 2nd August 1993
Valuation date: 26th July 1993
Contract sum: £764,925.00

Original to Employer

This Interim Certificate is issued under the terms of the above-mentioned Contract.

Gross valuation inclusive of the value of works by Nominated Sub-Contractors	£ 94,188.00
Less Retention which may be retained by the Employer as detailed on the Statement of Retention	£ 2,825.00
Sub-total	£ 91,363.00
Less total amount stated as due in Interim Certificates previously issued up to and including Interim Certificate no: 1	£ 51,259.00
Net amount for payment	£ 40,104.00

I/We hereby certify that the **amount for payment** by the Employer to the Contractor on this Certificate is (in words)

Forty thousand, one hundred and four pounds

zero pence.

I/We hereby direct the Contractor that this amount includes interim or final payments to Nominated Sub-Contractors as listed in the attached *Statement of Retention and of Nominated Sub-Contractors' Values*, which are to be discharged to those named in accordance with the Sub-Contract.

Date 6.8.93

All amounts are exclusive of VAT

To be signed by or for the issuer named above

Signed

[1] Relevant only if clause 1A of the VAT Agreement applies. Delete if not applicable

[1] The Contractor has given notice that the rate of VAT chargeable on the supply of goods and services to which the Contract relates is %

[1] % of the amount certified above is £

[1] Total of net amount and VAT amount (for information) £

This is not a Tax Invoice

F801 for JCT80

Identify:

(a) the value of previous payments made to the contractor

(b) the amount that is being retained

(c) the total value of the work completed

(d) the amount certified for payment by this certificate

Time allocation: 10 minutes

To complete this activity, you needed simply to carefully read the descriptions beside each sum identified.

The value of previous payments (*total amount stated as due in Interim Certificates previously issued*) is £51,259. *Retention* is £2,825. The work completed to date (*Gross valuation inclusive of the value of works ...*) is £94,188. This certificate certifies a net payment of £40,104. You will notice that this is a large sum of money! Contractors have to be able to fund these sorts of amounts, because payment is always made in *arrears* - i.e. after the work has been completed - under this system of payment.

(ii) Final payments

There are usually defined arrangements for the payment of retention monies and the final account. These are examined in the next section, dealing with completion, handover, and defects.

Summary

1. **At the pre-contract planning stage, important issues are agreed before work begins. These include commencement date, completion date, the programme of work, site meetings, supervision issues, information needs, and site security.**
2. **The progress of work on site is closely monitored to control costs, maintain quality and ensure adequate progress.**
3. **Monitoring methods include site supervision, site meetings, progress reports and site inspections.**
4. **The contract may have to be varied during construction work. This requires the consultant to issue a Variation Order, specifying the change.**
5. **If more time is needed, an extension of time certificate must be issued.**
6. **Generally, the person responsible for the time delay must bear the cost.**
7. **The contractor is usually paid in stages, as work progresses.**
8. **The consultant issues certificates, which value the work completed, permitting interim payments to be made.**
9. **If Social Housing Grant is receivable for the scheme, it will be paid in tranches and then used to pay the contractor.**

   As SHG is less than 100% of costs, it will run out before the contract ends. Thus private finance must be available so that the contractor can still be paid.
10. **Some money is held back, as retention money, as an incentive to complete the work.**
11. **The final payment is not made until well after completion.**

Self Test 3

1. *What are the tender documents?*

2. *Identify the advantages of a negotiated tender.*

3. *What are the advantages of selective competitive tendering?*

4. *What is the purpose of a building contract?*

5. *What is determined at the pre-contract planning stage?*

6. *In what ways is work on site monitored and supervised by the client?*

7. *If changes are required to the original designs and/or specifications, what must be issued by the architect?*

8. *What is the purpose of an interim certificate?*

Now turn to the Answers at the end of the Block.

14. Completion and Occupation

14.1 Completion of the work

There are two, parallel dimensions to the completion of the construction work:

(a) Construction issues:

Inspecting the completed work, identifying outstanding items, agreeing a date for practical completion.

(b) Management/marketing issues:

Ensuring that all arrangements have been made to let the properties or to sell them, and hand them over to their new owners.

These two aspects must progress together. If they do not, then the social housing provider could be left with empty, unlet properties at the end of the contract, earning no income. A speculative builder will have large sums of capital tied up in unsold properties. At the other extreme, there will be frustrated new tenants or owners, unable to gain entry to the unfinished properties.

For clarity, we shall be examining these two dimensions separately; but do always bear in mind that they will be progressing together.

(a) Practical completion

The client will need to ensure that the properties are substantially completed, ready for occupation, before formally accepting the work as complete. This is known as **practical completion**.

As the work nears its end, there will be discussion between the contractor and the consultant, about the date for practical completion. Naturally, the contractor will wish this to occur as soon as possible, since the company can then move on to other work, and, most importantly, receive outstanding money.

The consultant should ensure that the properties are, indeed, satisfactory, before agreeing practical completion. It is important that the client, too, should check personally. Consultants can take a different perspective to the client. They can also make mistakes! For this reason, there are, conventionally, a number of checks before practical completion is agreed.

(i) Snagging Inspection

The "snagging" inspection is simply a preliminary check, intended to identify any outstanding work needing completion. This normally takes place about two weeks before the date for practical completion and is conducted by the client with the consultant and contractor. Other interested parties may also attend, such as the clerk of works, quantity surveyor, sub contractors, and other consultants.

It is vital that the client representatives are fully conversant with the details of the scheme, prior to the snagging inspection. This should cover not just the working drawings, specifications, etc., but also any changes which have occurred during construction. Variation orders, reports, and minutes of site meetings will indicate these changes.

If the client is a social housing provider, the important thing is that the properties are ready for occupation, that they are well built, and everything works properly.

Activity 13

You have been requested to attend a snagging inspection of a traditional new build development. Compile a list of the specific items you will wish to check in each unit, making reasonable assumptions, as necessary, about the methods and materials used. (Think about what you, as a new tenant or owner, would want to check.)

Time allocation: 20 minutes

We recognise that you may have found it difficult to list things to be checked, because the specific design features of each scheme can vary considerably. Nevertheless, it is important that a systematic approach is adopted, if important problems are not to be missed.

The National Housing Federation, in their publication *Development: a guide for housing associations* (1988), explains this very well:

> *"It is important to have a system which can be used in a variety of circumstances rather than to wander around in an aimless fashion just saying that the colours look good: instead, the association needs a critical and systematic review of the building. Start at the top of the building, proceeding downwards, check the internal parts of the building first, then the external parts. Check each room carefully and systematically:*
>
> - *Do the windows fit properly? Are they sticking?*
> - *Do the doors fit properly?*
> - *Have the floorboards been fitted properly and securely?*
> - *Has all the painting and decoration been carried out to a reasonable standard?*
> - *Check all the services to the building as applicable.*
> - *Check bath, basis, toilet, to ensure they are not leaking.*
> - *Make sure the heating system is working.*
> - *Ensure all manholes are lifted to check that the drainage system seems to be working properly.*
> - *Check there is a separate water stopcock for each house.*
> - *Check that all stopcocks are properly labelled.*
> - *Check that the interior and exterior of the building are clean.*
> - *Check that the builders' rubbish, tools, etc. have been cleared away."*

How does this compare to your list? We expect that you may have overlooked one or two items mentioned here, such as the need to examine manholes. Conversely, you may have listed some external features in some detail, which this list does not: for example, is the brickwork well finished? Are the fences completed satisfactorily? Are the driveways and paths level and well constructed? Are the windows adequately sealed (in the brickwork)?

As the National Housing Federation states, the main thing is that the task is approached systematically. It can not be rushed.

(ii) Work to be completed

Following the snagging inspection, the client and consultant will need to confer, to agree a list of work which remains to be completed satisfactorily. This is then given to the contractor, who must ensure that this is undertaken prior to the date for practical completion.

(iii) Practical completion inspection

The official "handover" of the scheme occurs at practical completion. It is, therefore, vital, that the client and the consultant clearly understand what is meant by "practical completion". If the consultant's view is different to the client's, then there will be scope for considerable dissatisfaction afterwards!

Practical completion does not have to mean perfection. It may be that a few minor items remain to be completed by the contractor. Normally, however, a social housing provider would wish to be certain that the property was fit to be occupied at practical completion. Outstanding items would not have to affect tenants, in any significant way.

For this reason, it is usual for there to be a final inspection of the properties, to ensure that outstanding work has been completed, and the client is satisfied that the work is satisfactorily finished.

(iv) Handover of the development

When practical completion has been agreed, the consultant issues a *Certificate of Practical Completion*.

At the same time, the contractor must hand over all items relating to the completed properties. This will include items such as keys, and operating instructions for electrical and heating equipment.

The certificate of practical completion for our case study appears below.

Certificate of

Practical Completion

Issued by: Edwin Trotter Associates
address: 21, High Street, Stokesley.

Employer: Phoenix Housing Association
address: 27, Yarm Road, Stockton on Tees, Cleveland.

Contractor: Ideal Homes (Northern) Limited
address: Allensway, Thornaby on Tees, Cleveland.

Works: 25 New Dwellings
situated at: Turnbull Street, Hartlepool

Job reference: 0122-0

Certificate no: 1

Issue date: 13th June, 1994

Contract dated: 3rd June, 1993

Under the terms of the above-mentioned Contract,

I/we hereby certify that Practical Completion of

*Delete as appropriate

*1. the Works (excluding externals of No. 93, Turnbull Street, associated external works and items listed on attached schedule)

~~*2. Section No. ..... of the Works,~~

was achieved on

10th June, 19 94

To be signed by or for the issuer named above

Signed _____

Distribution

Original to: [x] Employer x 2

Duplicate to: [x] Contractor

Copies to: [x] Quantity Surveyor [x] Clerk of Works [x] Consultants [x] File x 2

F853 for JCT 80/IFC 84/MW 80

This is not the end of the work for the contractor, for there will be a *defects liability period* before all outstanding money is paid. However, we will return to this once we have examined the process which goes hand in hand with completing the construction work: management and marketing issues.

(b) Management and marketing issues

Arrangements for letting or selling the completed properties must begin well in advance of completion.

(i) Development for sale

The price of properties for sale will have been determined well in advance, and publicity literature, showing house types, layouts, etc. prepared. Press advertising is also likely to be necessary.

Depending on the size of the development, there may have to be a *Sales Office* on the site, and a *Show House*, so prospective purchasers can view a completed dwelling.

Activity 14

Try to find a new development for sale in your area. Press advertising is a good way to find out about any schemes.

Ask for information about the dwellings on offer, and their prices. Make a list, below, of the sort of information which is made available to enquirers.

Check whether there is a Sales Office or Show House. What do you think determines whether these are provided?

Time allocation: 30 minutes

Ordinarily, the information offered will include:

- site layout - what house types are where;
- house type layout;
- specifications: type of heating, windows, fittings, etc.;
- choices available for changes to specifications (e.g. colour of bathroom suites, type of kitchen fitments, etc.);
- arrangements for viewing the site/dwellings;
- prices;
- arrangements for reservations and deposits required;
- estimated completion dates;
- whether there are any special arrangements for helping buyers to sell their existing homes.

Generally, sales offices and show houses are more likely when:

- it is a large development, with a number of phases, and properties are being completed over a period of months;
- the property market is "slow"; there are few sales, and so interest in the new development must be actively encouraged and stimulated. In this situation, special "trade in" deals are also more likely to be offered. It is better to recoup some of the capital outlay, than none at all.

Conveyance

The intention must be to have a prospective buyer for each property, well in advance of practical completion. However, the legal conveyance cannot usually be completed until the properties are ready for occupation.

With the sale of new dwellings, the legal process for transferring the ownership of properties is usually as follows:

- Normally, properties are reserved, maybe months in advance, by a deposit - commonly, £100 - £250. This is usually refundable in the event of withdrawal.
- About one month before completion is expected, the buyer and seller will exchange contracts. This means that the buyer is committed to purchasing, and pays a portion of the agreed price in advance. The purchase date, when the property must be handed over with vacant possession, is entered in the contract. For this reason, the builder must be certain that practical completion can take place by this date.

- On completion, the title to the property is conveyed to the new owner, in return for the full purchase price. You will recall these terms from Customers and Services. Remember that ownership is proved by the title deeds, and a record of owners is kept by the Land Registry. Most new owners will have a mortgage - a legal charge on the property - giving the lender prior rights to the amount of the loan, in the event of sale or default.
- The seller, as contractor, will remain liable for defects during the liability period. The obligations are similar to those for any client. This is examined in the next section.

(ii) Development to let

Rents

One of the key concerns of prospective tenants will be the rent to be charged, so this must be settled before any prospective tenants are contacted.

As you know, for housing associations, the annual costs of the scheme must generally be recouped by the rents set. The calculation of the necessary rent levels will have taken place prior to construction - at feasibility study and detailed design stages. However, this calculation needs to be checked, in the light of any Variation Orders issued. A more precise estimate of annual maintenance charges must also be made, so that the rents are as accurate as possible.

Local authorities are not yet required to set rents based on capital costs, although it has been the subject of discussion. Local authority rents are, therefore, likely to resemble the current rent levels for similar types of property owned by the council.

The properties will have to be assessed by the Valuation Officer, and placed in a *Council Tax Band*. This should be undertaken well in advance of completion, so that tenants can be informed of likely tax liabilities.

Tenants

Social housing providers will normally have a waiting list, or a transfer list, from which prospective tenants may be selected. Suitable customers should be informed at an early stage, and offered information about the development.

In this connection, it is helpful if the organisation produces a *scheme brochure*, containing the type of information normally provided by a speculative builder. You have just examined the scope of this information, in the last activity.

If the waiting list is not relevant to the type of development under construction - perhaps because the need being met is not usual for the organisation - then the organisation will need to place advertisements in the local press, to invite applications from eligible persons. Interviews will have to be arranged, and time allowed for offers to be accepted or rejected, and replacement tenants found.

A few innovative housing organisations have attempted to give their prospective tenants some choice over specification for new build properties, rather like the speculative builder. In this event, of course, tenants will need to be selected at a much earlier stage, so that there is the opportunity to alter design details for particular properties.

For rehabilitation schemes, where existing tenants will be returning, they will normally have had some early input to the scheme's design. They should receive regular reports of the progress of the development, and be advised of the date when they will be able to return.

If the local authority has *nomination rights* to a housing association development, there needs to be close liaison to ensure that tenants have been selected and informed.

Other management issues
Depending on the nature of the scheme, there may be other requirements prior to completion. For example:

- the appointment of wardens/scheme managers, project workers, or caretakers - those employed directly by the organisation, on the development;
- the selection and ordering of communal furnishings and equipment;
- the appointment of contractors to undertake grounds maintenance, or regular cleaning.

If all progresses to plan, and the management issues have been properly resolved, the new tenants should be able to move into their dwellings as soon as practical completion has occurred. The development is now occupied!

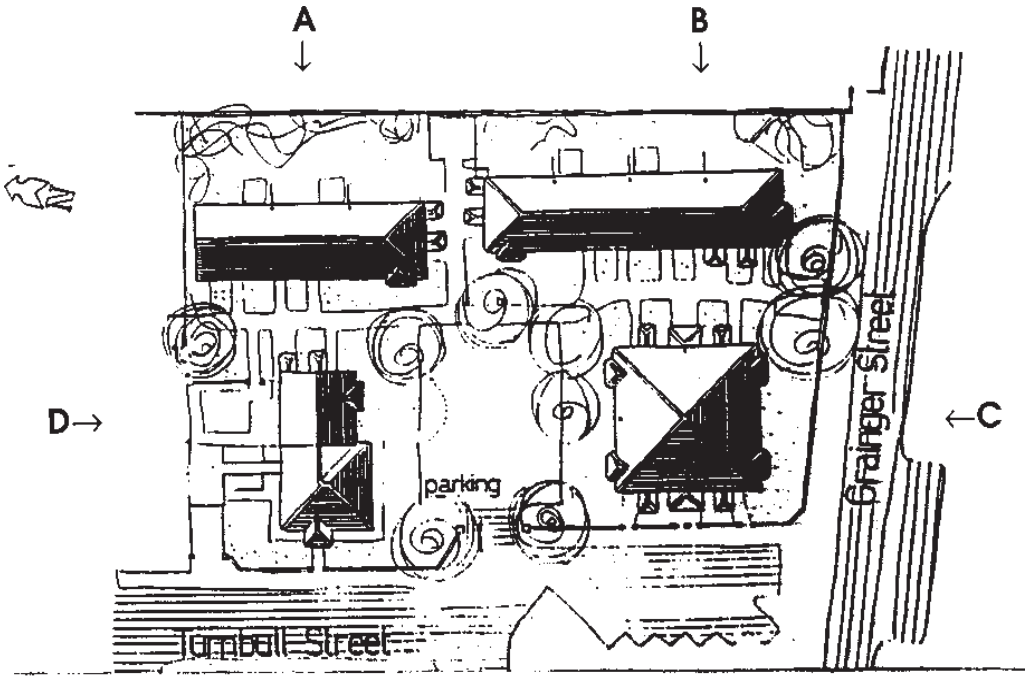
Let's take a look now at our newly completed case study scheme in Turnbull Street.

Does it look as you imagined from the plans?

Activity 15

In order to test your ability to read plans, try to identify the buildings shown in the photographs on the original plans for the development.

To help you do this, the site layout plan is reproduced below,with the buildings marked A,B,C and D. Notice the location of North.



Photograph 1 shows the north side of building C, with the east side to the left. Behind it is Turnbull Street.

Photograph 2 shows

Photograph 3 shows

Photograph 4 shows

Photograph 5 shows

Time allocation: 15 minutes

It can be difficult to "orientate" yourself initially, but hopefully (after maybe a few false starts!) you managed to sort out the locations of the photographs.

Photo 2 show the south side of building C - the opposite side to that shown in photo 1. Again, you can see Turnbull Street behind.

Photo 3 views buildings A (on right), and D (on left) from the north side of building C, so it is looking roughly north.

Photo 4 is a photo of building A, again looking north from the parking area.

Photo 5 is the west side of building B, looking roughly south towards Grainger Street.

Summary

Completion of the work

1. **There are two important elements to completing the work: construction issues and management issues.**
2. **The formal acceptance of the work as complete involves the issue of a *Certificate of Practical Completion*.**
3. **There will first be a snagging inspection, to identify outstanding work; following this, a list of *Work to be completed* is drawn up.**
4. **A final inspection precedes the issue of the Certificate of Practical Completion, when the scheme is handed over to the client.**
5. **Arrangements for the letting or sale of the dwellings must begin well in advance of completion.**
6. **Property for sale will require a brochure and advertising; there may be need for a Sales Office on site, and a Show House.**
7. **The rent for property to let must be determined, as well as the council tax band applicable.**
8. **The new tenants should be selected, either from the waiting list, by nomination, or from advertisements.**
9. **Other management issues may have to be dealt with, such as the appointment of staff for the scheme (wardens, etc.), communal furnishings, and contractors.**

We now move into the final stage in the development process. There may be defects for the contractor to rectify, and the final account will have to be settled. We will examine these issues now.

14.2 After completion and occupation

The construction work may be finished and the tenants (or owners) in occupation, but that is not the end of the involvement of the parties to the development process. For several months, there will remain some issues to be settled.

(a) Information about the scheme

The client organisation must, as soon as possible after completion, ensure that it obtains a full, updated set of information about the scheme from the consultants. This is essential:

(i) To ensure that it can advise tenants about the operation of all equipment, the location of stop cocks, meters, etc.;

(ii) To plan for future maintenance and repair requirements.

The information needed, therefore, will include:

- A full set of "as built" drawings, which incorporate any changes made as the work progressed, and indicating the location of all services.
- A detailed specification, covering all elements of the construction. Ideally, the consultant should advise on specific maintenance requirements.
- Details of suppliers of all equipment, together with information about guarantee periods and routine servicing requirements.

Some of this information should be included in the Tenant's Handbook supplied by the social housing organisation.

(b) Defects Liability Period

(i) Normally, the contractor remains responsible for any defects, which are the result of materials or workmanship being of a poorer quality than specified, for a period of six months after practical completion. It is for the consultant to decide which defects are the builder's responsibility, so all reported defects should be passed on to him/her.

(ii) Serious defects would normally have to be dealt with fairly promptly by the contractor, but most trivial ones can wait until the end of the defects period, so that they can all be attended together. It is expensive for a contractor to keep sending workers to rectify small problems.

(iii) At the end of the liability period, the consultant and client should inspect the properties, to compile a list of defects. Many problems will already have been reported by the tenants. This list is then passed to the contractor for attention.

(iv) The client may find that the contractor does not hurry to rectify the defects. The client should be persistent. There is an incentive, however, in that the final money has not yet been paid to the contractor. Once the defects have been rectified, the consultant issues a Certificate of Completion of Making Good Defects. After this, the Final Account can be settled.

A sample Certificate of Completion of Making Good Defects follows.

Certificate of Completion of

Making Good Defects

Issued by:
address:

Employer:
address:

Job reference:

Certificate no:

Contractor:
address:

Issue date:

Works:
situated at:

Contract dated:

Under the terms of the above-mentioned Contract,

I/we hereby certify that the defects, shrinkages and other faults specified in the schedule of defects delivered to the Contractor as an instruction have in my/our opinion been made good.

This Certificate refers to:

*Delete as appropriate

*1. the Works referred to in the Certificate of Practical Completion

No. _____ dated _____

*2. Section No. _____ of the Works referred to in the Certificate of Practical Completion

No. _____ dated _____

*3. the part of the Works identified in the Statement/Certificate of Partial Possession by the Employer

No. _____ dated _____

To be signed by or for the issuer named above

Signed _____

Distribution

Original to: ☐ Employer

Duplicate to: ☐ Contractor

Copies to: ☐ Quantity Surveyor ☐ Clerk of Works ☐ Consultants ☐ File

(c) Final Account

The contractor will usually have prepared the Final Account shortly after the date of practical completion. This sets out the sums due, the sums paid, and the money outstanding.

It has to be checked by the quantity surveyor (or prepared in conjunction with the quantity surveyor), and then the consultant. This can take many months. Even with a fixed price contract, Variation Orders may have resulted in changes to the total contract sum, so the preparation of the Final Account is not always a simple matter. It will not be necessarily be agreed for payment when the Certificate of Completion of Making Good Defects is issued.

Once the consultant has agreed the Final Account with the contractor, the client should approve it. Only then will the consultant issue the *Final Certificate*, releasing all remaining retention monies to the contractor. This will, of course, have been adjusted for any *liquidated and ascertained damages*, which may be due to the client in the event of late completion.

An example of a Final Certificate is reproduced next.

Issued by:
address:

Final Certificate

Employer:
address:

Serial no: A 090515

Job reference:

Contractor:
address:

Issue date:

Contract sum:

Works:
situated at:

Contract dated:

Original to Employer

This Final Certificate is issued under the terms of the above-mentioned Contract.

The Contract Sum adjusted as necessary is ..... £

The total amount previously certified for payment to the Contractor is .... £

The difference between the above-stated amounts is ..... £

I/We hereby certify the sum of (in words)

as a **balance due**:

*Delete as appropriate

*to the Contractor from the Employer.

*to the Employer from the Contractor.

All amounts are exclusive of VAT

To be signed by or for the issuer named above

Signed

The terms of the Contract provide that, subject to any amounts properly deductible by the Employer, the said balance shall be a debt payable from the one to the other as from the

[1] Delete as appropriate. See cover notes for provision in particular contract

[1] 14th / 21st / 28th day after the date of this Certificate.

[2] Relevant only if clause 4A of JCT 80 VAT Agreement, clause A3·1 of IFC 84 Supplemental Conditions or clause B3·1 of MW 80 Supplementary Memorandum applies. Delete if not applicable.

[2] The Contractor has given notice that the rate of VAT chargeable on the supply of goods and services to which the Contract relates is ____ %

[2] ____ % of the amount certified above is ..... £

[2] Total of balance due and VAT amount (for information) ..... £

This is not a Tax Invoice

F552 For JCT 80 / IFC 84 / MW 80

(d) Latent defects

Some defects may not be apparent at the end of the defects liability period. The contractor, nevertheless, remains responsible for such latent defects, normally for a period of six years from practical completion.

The contractor may, of course, be reluctant to accept responsibility for latent defects, and it may be necessary to pursue this through the legal system. This can be expensive, so the client should take advice about whether such a move is likely to prove worthwhile.

(e) Evaluation by the client organisation

This vital step is sometimes overlooked, but it is essential if lessons are to be learned for future projects.

All aspects of the development process should be assessed.

Activity 16

Draw up a checklist of the main elements of the construction process which you think should be evaluated after the scheme is occupied.

Remember that this is intended to pinpoint strengths and weaknesses of the entire process to inform future development projects.

Time allocation: 15 minutes

There are a number of distinct issues which should be examined and evaluated.

You may have chosen to categorise them in a different way to that adopted here. This doesn't really matter, so long as you have covered all of the main issues in some form.

(i) Evaluation of the main roles in the development process

There should, shortly after completion, be an evaluation of the performance of the parties involved. This should include not just the consultants and the contractor, but also the client role. Was the briefing adequate? Was the construction process adequately monitored?

The consultant's role should be examined from the point of view of design **and** supervision. Did the design match the brief? Was it necessary for many Variation Orders to be issued? Was the contractor adequately supervised? Was the scheme's programme maintained?

The contractor should be evaluated for the ***quality*** of the work, whether deadlines were achieved, how co-operative relationships were, etc.

These assessments should enable the organisation to decide whether the same people should be engaged in future, as well as to adapt their own procedures where necessary.

(ii) Evaluation of the design

For the suitability of the design to be properly appraised, two main groups need to be questioned: the tenants and the housing managers. This will have to be undertaken at a later stage than the evaluation of the roles of the main parties because it may take some time for design problems to become apparent.

The tenants have experience of the design "at the sharp end", so their views are essential. It is they who have to live with the scheme's inadequacies on a day to day basis. They will be very aware of any problem aspects, and their views should be systematically collected - not just from complaints to housing managers, but by detailed survey/ questionnaire.

Particular attention should be paid to elements which prove to need a lot of maintenance and repair so that these are not replicated in future schemes.

It may be useful to assess the suitability of the design under two headings, internal and external features.

External features

Issues might include the adequacy and suitability of car parking, the quality of the landscaping and ease of maintenance, garden sizes, etc.

Internal features

This should consider room sizes, room arrangements, security, heating, the quality and arrangement of kitchen and bathroom fittings, storage space, window design, etc.

(iii) Management issues

This concerns the way the letting, or sale, of the development was handled. Was the scheme fully occupied, shortly after completion? If not, why?

Were any issues left unresolved, or undertaken late? Has it remained fully occupied? What aspects make this scheme desirable or undesirable?

Summary

After completion and occupation

1. **The client organisation must ensure that it obtains a full set of information relating to the scheme, including drawings, specifications, instructions, and maintenance requirements.**
2. **There is a defects liability period of six months, during which the contractor is required to rectify defects.**
3. **At the end of this period, when the defects are rectified, the consultant will issue the *Certificate of Completion of Making Good Defects*.**
4. **The Final Account should be agreed between all parties.**
5. **The consultant then issues the *Final Certificate*, releasing the outstanding retention money to the contractor.**
6. **The contractor normally remains responsible for latent defects for a period of six years.**
7. **It is important that the client organisation undertakes a full appraisal of the entire construction process, to identify problems which might be avoided in future.**

15. Risk Management in Development

Risk is integral to development; it involves large costs, complex processes and information, large loans, many organisations and many factors out of the control of the developer, such as inflation and interest rates.

It is important therefore to have agreed procedures and regular progress reports and authority at the appropriate levels and times, as well as full coordination and supervision of all stages. The main development risks are:

(a) Abortive costs

These are incurred often by site investigation or survey work which can be expensive and uncover problems of such a scale that the scheme will not be viable and therefore will not be bought. Consequently a certain level is almost unavoidable and is in fact preferable to the following risk.

(b) Land or sites bought but not viable

If purchase is rapid or full investigations not made, then sites may prove too difficult or expensive to develop and may have to be re-sold at a loss.

(c) Unrealistic feasibility and financial appraisals

If the information or assumptions used is inaccurate or imprudent or unrealistic then decisions may be poor and incur expensive costs or losses. Any scheme can be made to appear viable if rents are assumed to rise quickly and the cost of borrowing is lower than it really is.

(d) Increase in cost of building contract

This is a frequent problem and can be caused by unforeseen problems or careless inaccurate contract documents that have omitted certain items. This is a popular reason for using design and build contracts where the cost is fixed and any increased costs usually have to be met by the contractor. If the organisation wants extra items or changes, whatever the type of contract, then they are responsible for the cost.

(e) Delays in start and completion of contracts

This is another common problem. Late completion will reduce the rental income or delay the sale of completed housing.

If the contractor is a small company, delays can be caused by too many contracts active at one time with not enough labour available. This should be checked. In some circumstances the contractor will have to pay the client an amount stated in the

contract for every week that it is late. "Off the shelf" contracts are popular particularly towards the end of the financial year because they avoid many problems of uncertainty of time and cost and allow full expenditure of the grant allocated.

(f) Liquidation/termination of contract

Contractors are particularly vulnerable to liquidation especially in recessions. This causes extra costs and long delays. The financial strength of contractors must be checked before tender invitation and again before contracts are signed.

(g) Poor design or construction

Good contract documents including collateral warranties and the organisation's own Design Brief and Employers Requirements ("or specification") will set standards. The site supervision should ensure that they are met. Defects insurance is available but it is expensive. Any new or unusual building methods or designs may be problematic to build as well as to maintain.

(h) Planning permission

If planning permission is refused or delayed, particularly if there is local opposition, there can be long delays as decisions have to go back to Planning Committee that may only meet every 1 or 2 months.

(i) Selection of consultants and contractors

It is important to select based on references, seen work and experience. It is very unwise to rely too heavily on one consultant or contractor, however good they may be. They must provide evidence of valid insurance including professional indemnity to an appropriate level.

(j) Private finance

This is a large area of risk, non availability of finance when required, increased interest rates, onerous conditions imposed by lenders etc. Finance staff must assess, check or monitor many areas ,including the ability of the organisation to meet the loan repayments and provide the required security.

Activity 17

From the knowledge you have acquired so far about the development process, and risk assessment, identify some elements which you think might be most at risk of changing after the feasibility study stage. List them here:

Time allocation: 15 minutes

16. Time and Cost Control in Development

The specifics of this relate to social housing grant but the principles will apply to all developers both public and private.

16.1 Time control

We have seen that development decisions must be made carefully and that bad decisions have long term consequences.

However, once it is decided that a site will be bought then it is important to ensure that the scheme progresses quickly and efficiently.

Success in development includes many qualitative aspects but performance is usually measured in short term and financial terms. This is because:

- Social housing grant is often only available to buy or start a building contract in one particular financial year so slowness could jeopardise the scheme.
- Housing Associations and local housing companies compete for social housing grant. If it looks as if you may underspend, then your allocation of grant maybe reallocated to another - this is particularly likely in the last quarter, January-March, of the year. (Reallocation would not occur if the building contract had been signed as it would then be "committed".)

It is important therefore to set and keep to clear timetables with target dates for all stages of the development process. These should not be set in isolation but following discussion with consultants to ensure that their workload permits it and that it is consistent with external deadlines (planning committee meeting dates, for example).

16.2 Pre-contract programme

A programme is set before site purchase and copied to all concerned. Main tasks are listed with who is responsible, target dates and actual dates. Some tasks are in sequence; others should be done simultaneously to maintain momentum.

Any delays can be seen immediately and it is the Development Manager/Director's job to ensure that all parties keep to the programme or make up any delays. This has to be kept under control because development is extremely prone to problems and time can easily be lost.

16.3 Post contract programme

Once the building contract has been signed with a completion date it is the responsibility of the contractor to complete on time. The contractor will have planned a detailed programme usually in the form of a bar chart showing all the building processes and dates for them to start and finish.

The client is only responsible for time where they request changes to the contract documents, e.g., additional fencing etc., and then extra time may be agreed. The building contract covers in detail responsibility and compensation for delays.

16.4 Cost control at pre contract stage

Cost comparison, financial viability measures and cost of schemes are very important and affect decisions on site purchase and building contracts. Once building contracts have been signed then the cost should be at an acceptable level and not change.

16.5 Cost control at post contract stage

Building contracts are long and complex documents that cover many details. It is very easy for something to be forgotten or not made clear. Consequently amendments or additions are sometimes requested after the contract is signed.

With traditional contracts there is a formal process for this and any costs are at the rate already agreed in the contract. But where other contracts are used costs are negotiated with the contractor.

In either case, additions in cost should wherever possible be paid for by making savings elsewhere in the contract by either omitting items or reducing their specification.

16.6 Additional costs

Increases in costs are often ineligible for social housing grant and therefore have to be met from an increased amount of private loan. This increases revenue costs over the period of the loan and if the amount is substantial, could affect rent levels or the viability of the scheme. This is why accurate and careful preparation of contract documents, plans and specifications are important. Organisations will have their own procedures to control and check additional costs on site. Reports should be regular and authorisation given only be named officer(s).

17. Measuring Performance in Development

As already described, in time and cost control above, it is important to ensure that development expenditure or "spend" is on target and carried out in the year allocated.

Underperformance may lead to lower or no allocation of grant in following year(s). The Housing Corporation and the National Assembly for Wales require regular reports on "spend" or expenditure of grant, so they can monitor performance. They may, particularly towards the end of the financial year, reallocate social housing grant if it appears likely it will be underspent. It may not be reallocated in the next year.

(a) Report Type I

A simple overall report is a graph showing two lines - target and actual spend. The amount of social housing grant and private finance is shown as hundreds of thousands of pounds along the vertical axis, and the months of the year April-March are shown across the horizontal axis. The target and actual spend in each month are plotted as two lines across the graph. An example follows.

(b) Report Type 2

Another form of report is commonly used to show which schemes make up the actual and target expenditure. The report will list the sites/schemes down one side and across the page are the months of the year with target and actual spend shown. This is used to identify where delays and underspend have occurred. An example follows:

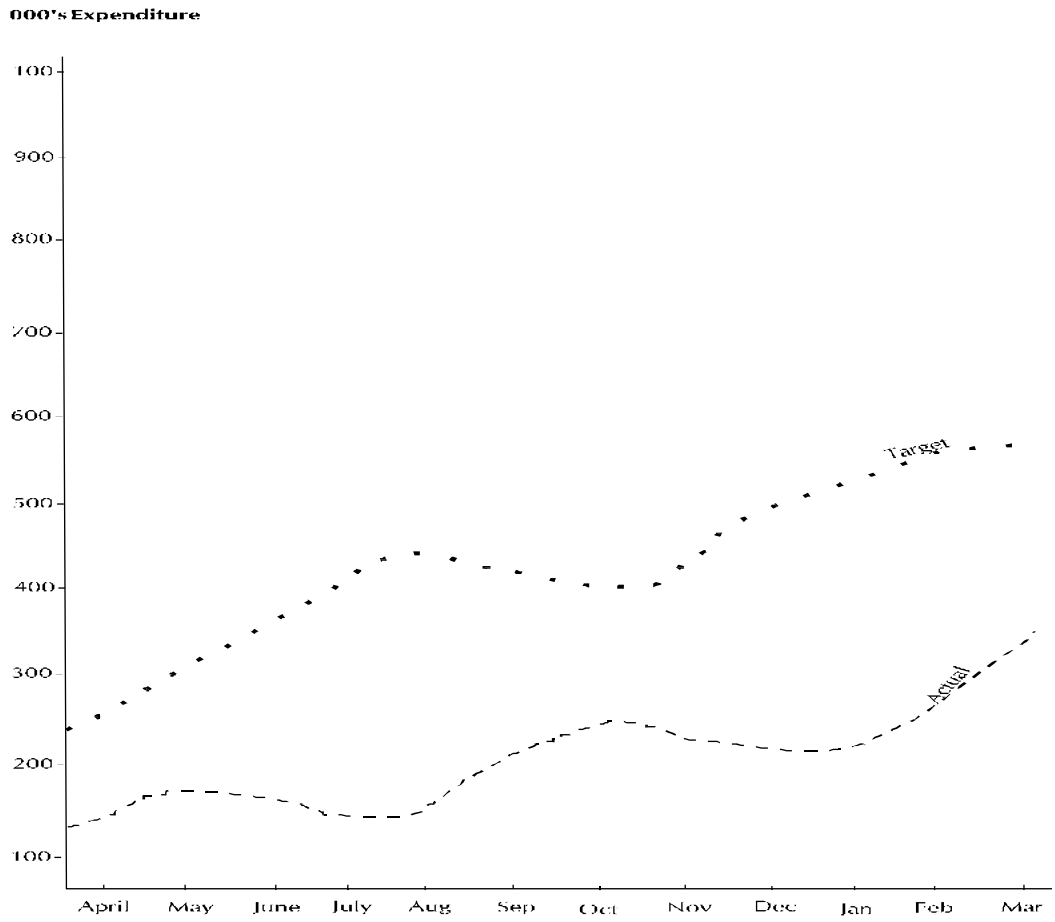
(c) Other reports

Other reports may list sites/schemes with estimated dates of purchase, start on site, completion on site, and text to detail current situation.

Report Type 1

Graph to show: Annual Expenditure as Development April-March.
Target set at year start

Actual updated monthly
Total shown can be SHG only or include private finance.
A block graph could be used as well or instead.
This format gives an immediate picture but little detail.



Report Type 2

Annual expenditure with specific scheme expenditure April-March

This could show actual and/or target expenditure of SHG and/or private finance. This allows causes or source of underspend and timing of private finance requirement to be seen.

Scheme	New Build/ Rehab	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total 000s
Greenwood St	N	20	17	14	10	9	3	0	0	0	0	0	0	73
Park Area	R	0	5	9	11	15	17	14	12	9	7	4	1	104
Queens Ave	N	0	0	0	0	0	0	0	0	25	0	0	0	25
Howard Grove	N	0	0	0	0	0	0	0	10	15	19	23	26	93
Turnbull St	N	0	0	0	0	3	7	10	12	18	24	25	27	126
Total per month		20	22	23	21	27	27	24	34	67	50	52	54	421

Summary

Contract Management

1. **There are many risks in development due to its high cost and complexity. Clear systems to report on progress, coordinate information and make decisions are necessary. Procedures must be established to eliminate or reduce risk to the lowest possible levels.**
2. **Delays in all stages of development are common and can jeopardise the availability of funding. Timetables for all activities have to be set and monitored to maintain progress and meet targets.**
3. **Careful contract documentation is needed to cover all details and eventualities, so that unforeseen costs do not arise. Procedures should exist to monitor costs, query any increases, and only authorise increases if unavoidable.**

18. Conclusion and Overview

You have now examined all aspects of the traditional approach to the development process and have discovered that its is extremely complex and lengthy.

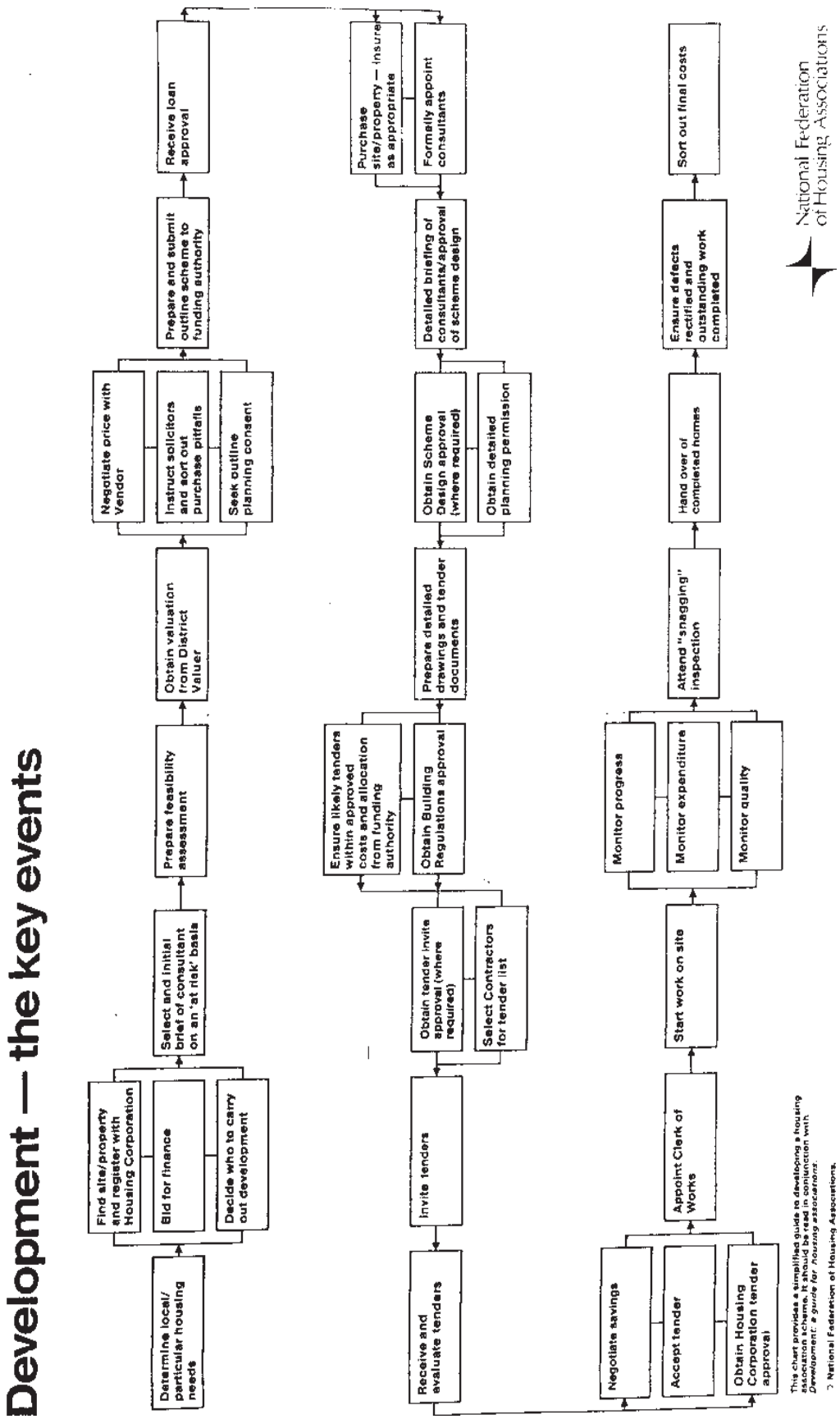
You will understand that our initial definition of the main stages was, as we pointed out, a great simplification. This was necessary, because we needed, at that point, to have a simplified structure within which to begin to examine this complex process.

Now that you have examined the process in some detail, you can appreciate the inter-related nature of many of the stages. This has been clearly summarised by the National Housing Federation, in their publication, *Development: A Guide for Housing Associations.* This summary chart is reproduced on the next page.

Apart from the specific references to the funding requirements from housing associations, it is applicable to development by any organisation. If publicly funded the cost must be within cost limits set. The financial viability of all building projects is very important. All costs, including those of the finance repayments, must be met. You will see that it is rather more complex than the simple list we started off with!

You should carefully follow through all stages in the diagram, and ask yourself whether you now fully understand what is involved at each stage. If not, you should look back to the relevant part of the Block, and revise the section.

The final section, to follow, deals with non-traditional approaches to the development process.


Development — the key events
Determine local/particular housing needs
Find site/property and register with Housing Corporation
Bid for finance
Decide who to carry out development
Select and initial brief of consultant on an 'at risk' basis
Prepare feasibility assessment
Obtain valuation from District Valuer
Negotiate price with Vendor
Instruct solicitors and sort out purchase pitfalls
Seek outline planning consent
Prepare and submit outline scheme to funding authority
Receive loan approval
Purchase site/property — insured as appropriate
Formally appoint consultants
Detailed briefing of consultants/approval of scheme design
Obtain Scheme Design approval (where required)
Obtain detailed planning permission
Prepare detailed drawings and tender documents
Ensure likely tenders within approved costs and allocation from funding authority
Obtain Building Regulations approval
Obtain tender invite approval (where required)
Select Contractors for tender list
Invite tenders
Receive and evaluate tenders
Negotiate savings
Accept tender
Obtain Housing Corporation tender approval
Appoint Clerk of Works
Start work on site
Monitor progress
Monitor expenditure
Monitor quality
Attend "snagging" inspection
Hand over of completed homes
Ensure defects rectified and outstanding work completed
Sort out final costs
This chart provides a simplified guide to developing a housing association scheme. It should be read in conjunction with Development: a guide for housing associations.
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National Federation of Housing Associations

D. Non-Traditional Approaches to the Development Process

1. Introduction

You have just examined the traditional process of development.

However, it is increasingly common for slightly different approaches to be adopted, particularly by housing associations. These newer approaches streamline the process in some way, and so should result in a shorter development period.

A particular attraction of alternative approaches may also be more certainty about the total cost of the development. In the context of pressure on funding for all social housing providers, any reduction in the risk of higher costs is welcome. This is particularly so for housing associations on *cash programmes* as they must bear all of the risk, by being forced to pay for all cost over-runs from their own resources.

We will briefly examine the main forms of these alternative, non-traditional approaches.

2. Package Deals

You have already met this term when we looked at the example of a risk assessment document, produced by the National Housing Federation. You will recall that "achieving works' cost budget" presented no risk. This is because under a package deal arrangement, the price is agreed at the outset and is firmly fixed.

A package deal involves purchasing a *complete scheme* (or dwelling) from a developer. It is bought "off the shelf" and paid for in one lump sum. It will usually have been constructed to the developer's standard specifications and house types, so the client has no part in the design stage.

This approach may represent good value for money, particularly during periods when housing markets are depressed, and developers may be glad simply to recoup their capital outlay.

Activity 18

Imagine that you are the Development Manager for a social housing organisation. You are familiar with the traditional approach to development. Compared to that, there are advantages and disadvantages to a package deal approach.

1. *What do you think are the main advantages of a package deal, from the organisation's point of view?*

2. *What are the main disadvantages?*

Time allocation: 10 minutes

2.1 Advantages of package deals

A package deal has three main advantages over the traditional approach:

(a) It is much quicker. The development may be complete, or very nearly complete, so the organisation has lettable properties in a very short time.

(b) The price is certain. It is agreed with the developer, and paid in one lump sum. Costs cannot rise, and so rents can be calculated with some certainty.

(c) It reduces administrative and management costs, because there is no need to supervise the project to control costs.

However there are also disadvantages:

2.2 Disadvantages of package deals

(a) The client has no say in the design of the dwellings. Their layout and/or specification may not be entirely satisfactory for the customers of the organisation.

(b) There will be no possibility to standardise equipment, fittings, etc., with the rest of the organisation's stock.

(c) This may result in higher maintenance and repair costs in future.

(d) Package deals are not a good idea for rehabilitation schemes, simply because the quality of the rehab can be highly variable. Without the opportunity to monitor the quality of the work in progress, the social housing organisation might find itself with some very expensive problems within a very short time.

An alternative approach, which overcomes some of the limitations of the package deal, is examined next.

3. Design and Build

This approach involves the contractor tendering to provide not only the construction work, but also the design. This can considerably reduce the cost of the consultant's fees, and result in a shorter development period.

It has the advantage also that the design is not separated from the process of building; the contractor will have every incentive to produce a design which has minimal construction problems.

The extent of the client input to the design can range from very little to a great deal. In general, less client design input will reduce costs, because it will be more likely that the contractor can simply adapt standard house designs.

The client input is set out as a type of briefing, called the *Employer's Requirements*. The more detailed the requirements, the more likely it is that a consultant will have to be employed to produce them.

The contractor tenders (or negotiates) on the basis of these requirements.

3.1 Employer's requirements

This sets out the design *standards* required from the scheme. It cannot specify particular designs, because the final design must be the contractor's responsibility. It is likely that the client's design standards will be incorporated into some of the contractor's standard designs, to keep the costs lower.

The kinds of design standards which may be specified in the Employer's Requirements include:

- site features (unless this is owned by the contractor);
- size of development;
- desired mix of dwelling types;
- indicative floor areas for each type;
- preferred general specifications.

Where the contractor owns the land, the tender will, of course, have to be negotiated rather than competitive. However, this has the advantage of removing uncertainties arising from land acquisition.

In response to the Employer's Requirements, the contractor submits the *Contractor's Proposals*

3.2 Contractor's proposals

In order to produce the detailed design for the scheme, the contractor will have to undertake many of the tasks which would otherwise be done by the consultant. These include site investigation and survey, and planning regulations.

The proposals will include:

- a development programme;
- site layout details;
- house type designs - plans and elevations;
- detailed specifications;
- external works details;
- the tender price.

You can see how this approach removes much of the need to employ consultants. The design, and all of the work necessary to produce the design, is undertaken by the contractor.

If the proposals are accepted by the client/employer, the agreed price is fixed. The contractor cannot ask for further payments. On the other hand, of course, the client cannot ask for variations to the contract, unless prepared to negotiate additional payments to the contractor. Variation orders cannot be used without agreement.

3.3 Employer's agent

The client is represented on site by an *employer's agent*. Usually, this is a quantity surveyor, who may also have drawn up the Employer's Requirements.

The Employer's Agent's role is to monitor the construction process on behalf of the client, as well as to authorise payments as work progresses. However, he/she can not issue instructions to the contractor. The agent's role is simply to ensure that work is to the standards specified, and to refuse to accept any work which is not up to those standards. Since the agent is not responsible for the design of the scheme (unlike the traditional consultant), he/she cannot alter the design in any way.

(a) Advantages of design and build

The main advantages are:

(i) The risk of cost increases is eliminated because the price is fixed.

(ii) This means that rents can be set with more certainty.

(iii) Consultant's fees are considerably reduced.

(iv) It is, therefore, likely to be cheaper than the traditional approach.

(v) It is likely to result in faster development.

(b) Disadvantages of design and build

However, there are some disadvantages:

(i) Changes generally cannot be made during construction because the design is fixed.

(ii) This means that the quality of the Employer's Requirements is crucial, since changes cannot easily be made later.

(iii) The client has no direct control over the process of construction.

The next approach which we will examine moves slightly back toward the traditional approach, with a return to client control over design.

4. Develop and Construct

4.1 Outline design

In this approach, the client employs a consultant to prepare *outline* designs and specifications, as well as to produce detailed Employer's Requirements. This means that the client organisation can define, much more clearly, the sorts of designs it requires.

4.2 Detailed design

The contractor develops the *detailed* design and tenders for the work, much as in design and build. You can see then why another term for this approach is *detail and build.* The contractor does not have full responsibility for design, but is responsible for the detail of it.

4.3 Fixed price

Like design and build, the contract price is fixed. The contractor, therefore, bears all of the risk of cost over-runs. However, this also means that the Employer's Agent's role is simply to monitor construction, and design cannot be changed while work progresses.

4.4 Role of architect

It may be possible, as a condition of contract, to have the client's original architect working with the contractor, as a means to try to ensure that the detailed design reflects the client's needs. However, this effectively means a change of role for the architect, to being employed by the contractor, so this can produce further problems.

You can see, then, that the develop and construct approach permits a greater role for the client in design issues than design and build, whilst retaining many of the advantages of design and build. The most important of these is, of course, the certainty of costs.

However, it is likely to be more expensive than design and build, because of the consultant's role.

Activity 19

Now that you have examined the main alternatives to the traditional construction process, and their advantages and disadvantages, try to do this for the traditional approach. What are the main advantages and disadvantages of this?

Time allocation: 15 minutes

4.5 Advantages and disadvantages

(a) The main advantages of the traditional approach to the construction process are:

- complete control over design should result in schemes best suited to customer needs;
- specifications can be standardised, to reduce repair and maintenance costs;
- the contract can be varied as work progresses.

(b) The main disadvantages are:

- costs are variable, even with fixed price contracts;
- the client usually bears all of the risk of cost over-runs;
- the development process takes longer than other approaches;
- costs are likely to be higher, as a result of consultant's fees.

5. Self Build Housing

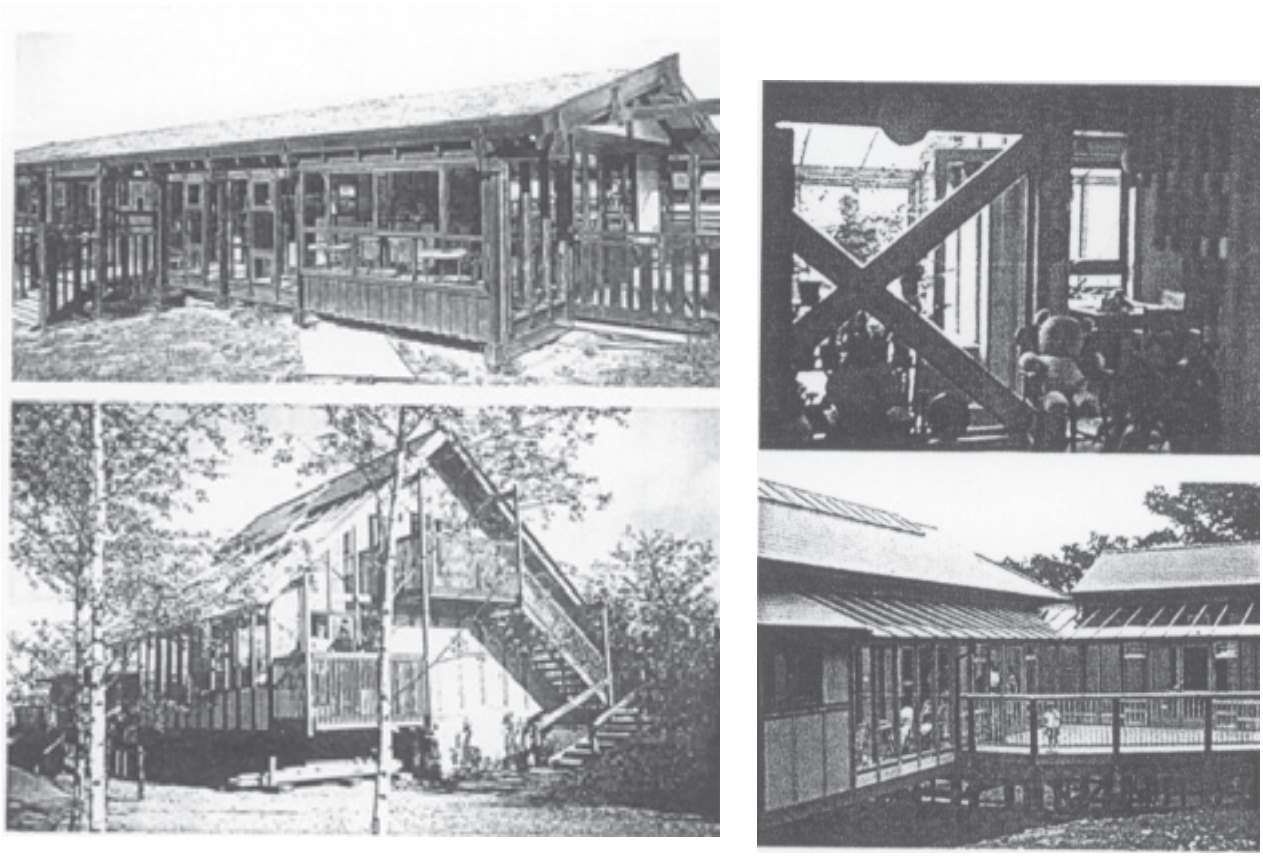
Until recently most people built their own homes, and in many parts of the world people still do. This can be done using any of the range of existing building methods and materials.

This section covers a method, invented by an architect, Walter Segal, in 1963. He designed for self build and designed to make construction as easy as possible. There are other timber frame methods, some available to buy as kits, that are also suitable for self build.

The Walter Segal method is characterised by:

- a design based on medieval post and beam frame;
- speed and economy of its construction;
- no brickwork or plastering skills needed, just a minimum of building skills;
- uses materials in standard sizes and finishes that can be bought and easily assembled on site;
- light enough to construct with a few people;
- internal walls are not load bearing and so can be moved to alter the internal layout;
- foundations and groundworks are kept to a minimum thus reducing heavy labour;
- can be built on slopes;
- walls combine insulation for low running costs.

Each building is designed individually to meet the occupiers' needs. The design is drawn using squared paper using multiples of the chosen panel size, e.g., 600mm. This choice would be based on the expected size of building material panels to be used, e.g., timber. All the normal requirements of planning permission have to be met.



Top left: Conservatory under a turf roof at Surrey Docks Farm, London.

Left: Two-storey conservatory at Glasgow Garden Festival House.

Top right: Integral conservatory at a house at Ffos-y-ffin, Dyfed.

Above: Conservatory linking three buildings at Maldwyn Nursery and Family Centre, Newtown, Powys.

5.1 Application of self build for social housing

Self build projects have been funded since 1991 with social housing grant. The usual requirements of allocation have to be satisfied. Usually a partnership is formed between a registered housing association who is eligible to receive grant and other bodies who can provide training on building skills on-site and/or in college such as a Training & Enterprise Council (TEC) and an organisation who can identify and support the self builders.

Often unemployed young men and women are a target group to maximise the benefit gained. Successful projects have proved to increase occupants' confidence and skills and help them get back into work. Some schemes have been able to get charitable funds in addition to social housing grant.

A contract will be signed by self builders making a commitment to complete the construction. In some schemes some work is subcontracted to companies. In some schemes the "sweat equity", that is the value of their unpaid labour is recognised with a lower rent. The amount of social housing grant available is agreed by negotiation on individual schemes. Schemes are most likely to succeed where they have good support including that from the local authority.

Summary

Non-traditional approaches

1. **Package Deals involve purchasing *off the shelf* developments.**
2. **This will be quicker and may be cheaper, but the client has no role in the design.**
3. **Design and Build requires the contractor to design as well as construct.**
4. **This is fixed price, should be cheaper and quicker. However, changes cannot generally be made during construction.**
5. **Develop and Construct permits some design input from the client's consultant, but the contractor provides the detailed design.**
6. **This is also fixed price and should be faster and cheaper, though less so than Design and Build.**
7. **The briefing for these approaches is called the Employer's Requirements.**
8. **The client has an Employer's Agent on site, but with powers only to monitor, unlike the normal consultant.**
9. **The main advantages of these approaches are time (quicker development), reduced risk because total costs are known in advance, and usually, lower costs.**
10. **The main disadvantage is the reduced control over design, and the inability to vary this during construction.**
11. **Self build housing is eligible for social housing grant. It is difficult and slow to arrange because there is no main contractor. The self builders have to be identified and give their commitment and training will probably have to be provided. Self build helps people design and build their own homes and at the same time boosts self-confidence and the ability to get further paid work.**

Self Test 4

1. *What is the purpose of a snagging inspection?*

2. *What happens at practical completion?*

3. *What management issues need to be resolved before practical completion?*

4. *What certificate is issued, once all defects are rectified by the contractor?*

5. *The Final Certificate releases retention monies to the contractor. What are these, and what is their purpose?*

6. *Why is it important for the client to undertake an evaluation of the development process?*

7. *What is a package deal?*

8. *Identify the advantages of a design and build contract.*

Now turn to the Answers at the end of the Block.

E. Development of Short Term Housing

1. Introduction

All the new build development processes described so far are intended to have a minimum of a 25 year life and if good quality designs and specification are used and properties are maintained properly then they should be serviceable for 50 years or more. Rehabilitation should extend the life of properties, even those that are 100 years old, by at least 25 years.

This section is about short term or temporary housing. The four main types covered here are:

short life housing
leasing schemes
private sector leasing (PSL)
HARP (Housing Agents above Retail Premises)
HAMA (Housing Associations as Managing Agents)

These have come into use since 1980 due to:

- continuing shortage of permanent housing;
- increasing homelessness;
- increasing use and cost of bed and breakfast hotels for homeless families;
- recognition of the cost and unsuitability of hostels and hotels for homeless families;
- continuing restrictions on local authorities ability to build or lease buildings.

The types of temporary housing described can be used in urban or rural areas. They started in inner-city areas because that is where:

- the highest concentrations of homelessness occurs and
- building new homes is particularly expensive and
- suitable sites are particularly scarce

2. Short Life Housing

- is temporary accommodation hence the name;
- uses otherwise empty property;
- historically property was squatted and licences then negotiated with owners in urban areas in 1960-70s;
- it may be carried out by a mutual or non-mutual housing cooperative, a registered or unregistered housing association, or company limited by guarantee;
- leases are now negotiated with the owner by the short life organisation prior to use.

There are large numbers of empty properties. They are identified through:

(a) local knowledge and contacts

(b) Council Tax Department

(c) Planning Dept.,/Environmental Health Dept.,/Housing Dept.

The owners of empty properties have to be contacted. For example through:

- Land Registry who have records to show who owns land/ buildings - a fee is paid for a copy of the relevant entry
- Planning Dept.
- Council Tax Dept.
- Estate agents/local residents etc.

Short life housing is financed in various ways.

2.1 Short Life Housing without Social Housing Grant

Suitable empty properties are owned and identified by a Unitary Authority which are then leased to short life organisations at nil or low cost for a fixed period (these could be properties purchased by the local authority for road, building clearance, etc.)

The shortlife organisation will repair and furnish the property. The occupants who move into the property pay rent to the short life organisation. It may be agreed with the local/unitary authority that certain groups will be housed, for example homeless families awaiting investigation or young single people.

The occupants may be members of the Short Life organisation where it is a self help cooperative. Occupants are either issued with a licence to occupy or a shorthold assured tenancy.

The Short Life organisation negotiates and attempts to secure move-on accommodation for all occupants. The property is returned vacant to the owner at the end of the lease.
Before such a scheme can be carried out, the costs and viability must be checked. For each proposed scheme income and costs would have to be evaluated following the same general principles as new build.

For example:

One house could be leased for 3 years and would suit 4 single people in shared accommodation.

(a) Income

£25 rent x 4 people x 52 weeks x 3 years =	£15,600

(b) Costs

Repairs to property	£3,000
Development staff costs over 3 months	£600
Management staff costs over 2 years 9 months	£4,000
Voids and bad debts at 20%	£2,496
Total	£10,096
Surplus	£5,504

This assumes that furniture and furnishing are donated.

2.2 Short Life housing funded with Social Housing Grant

This is available only via a registered housing association and usually a development agreement is made to formalise this. The SHG rate is calculated according to rental income/costs/loan supportable up to 100%. If the property is purchased freehold it is treated as rehab or, since April 1997, it could be included in regeneration schemes. If the property is leasehold the lease must be for 10 years minimum and it must be approved by the National Assembly for Wales or the Housing Corporation. If any "break" clause exists then a grant recovery clause on a tapering basis will be required. Works funded may include external fabric up to 25% of total and may include access to accommodation to a flat over a shop for example.

Shorthold tenancies must be used and move-on accommodation provided for occupiers when the lease expires.

This could be used for flats over shops and when administered using social housing grant is known as HARP. In recent years local/unitary authorities have recognised the importance of getting empty properties back into use and have set up specific schemes to do this.

In recent years, unitary authorities have used powers to bring empty properties into use in Southampton, Reading, Portsmouth and Cardiff among others. This has been accomplished by commitment and a corporate approach using Environmental/ Health/Housing/Planning/Finance/Estates departments to work together:

- using partnerships with housing associations etc.;
- providing information and publicity and support to owners of empty property;
- a phoneline for the public to report empty properties;
- funds for repair work via the Housing Corporation/the National Assembly for Wales/Unitary Authority grants for HMOs (Houses in Multiple Occupation) upgrading, for example;
- liaison/coordination by dedicated officer(s);
- willingness to threaten CPO (Compulsory Purchase Orders) (stick) and fund repairs (carrot).

3. Leasing Schemes

3.1 Local/Unitary Authority funded leasing schemes

A housing association registered with the Housing Corporation/ the National Assembly for Wales buys property with mortgage from a building society or other provider. The housing association completes repairs and safety checks on the property which is then leased to the local or unitary authority for 3 years less 1 day.

The local/unitary authority pays the actual costs to the housing association - primarily the mortgage repayments at agreed intervals. The tenants are nominated by the local/unitary authority. This process circumvents restrictions on local/unitary authorities and increases number of homes available. At lease expiry the tenants move on and the properties are sold or funded by SHG or other source, or the lease can be renewed.

3.2 Private Sector Leasing (PSL)

This mushroomed in the 1990s in the property boom.

In 1986 400 homes in London were PSL

In 1990 10,000 homes in London were PSL

- PSL is used to replace Bed & Breakfast hotels for homeless families which were notoriously expensive and very poor quality.
- The local/unitary authority leases property directly from a private owner.
- An annual fee is paid by local/unitary authority to the owner. This is usually high.
- The high rents cover costs and are met by Housing Benefit.
- In some cases housing associations are used to manage the property for the local/unitary authority.
- PSL worked best in areas of high property costs and rents, i.e., London in 1980s but also in other cities.
- PSL also exists between housing associations and private owners.

PSL is expensive but cheaper than the use of bed and breakfast hotels. It is suitable where owners cannot sell their property and must move from the area and it is also suitable for avoiding selling at time of negative equity.

3.3 HAMA (Housing Association as Managing Agents)

This is where a lease or management agreement is agreed between a housing association and the owner of property. It allows the owner to have an agreed income from the property without having to find tenants. The housing association is responsible for all management and maintenance and returning the empty property at the expiry of the lease or agreement.

3.4 HAMA Plus

This applies:

(i) if the property is empty for over 6 months;

(ii) basic repairs can be funded by social housing grant.

In 1994/5 £5 million in England was used for HAMA Plus on over 4,000 additional homes.

3.5 Move-on Accommodation

Temporary housing is not ideal and can be very problematic for people, especially those with children of school age.

It has been used because if the intense shortage of permanent housing in many cities and as an alternative to the local authority run homelessness hostels or where they are full, often dilapidated and expensive bed and breakfast hotels.

Given the disadvantages of temporary housing, very sensitive and supportive management is needed, particularly as people are often vulnerable and distressed after the events leading to their homelessness.

Move-on accommodation is very important, and its provision should be central so that all occupants and their families are offered alternative, hopefully permanent, housing when the temporary property has to be vacated. If the organisation cannot provide this, they should set up networks with other organisations who can.

The best use of temporary housing is for short periods, for example during assessment of homelessness. Temporary housing should not be a long term, repeated arrangement for anyone.

Summary

Short term housing

1. **Short life housing started in London and other inner-city areas in 1960-1970's and was run as self-help groups to provide housing for members. Today it is usually carried out by other organisations, including RSLs.**
2. **Short life housing is based on a lease with the owner of the empty property allowing its use for usually 1-5 years on condition that it is vacant on return. Where the owner is a local/unitary authority leases may be agreed at no cost, subject to the nomination of homeless people.**
3. **Short life housing can be funded with Social Housing Grant via a housing association or a local housing company.**
4. **Leasing schemes have been set up where housing associations buy properties and lease them to local authorities for them to house whomever they wish, on condition that mortgage costs etc. are met by the local authority.**
5. **Private Sector Leasing (PSL) is where private owners lease empty property at a commercial rate to a body who then houses homeless people for short periods. The occupants are usually homeless and claim housing benefit which is used to pay the owner.**
6. **HAMA (Housing Associations as Managing Agents) and HAMA Plus are leasing schemes in which repairs to the empty property are eligible for social housing grant.**
7. **With all the above temporary housing, move-on accommodation must be made available through one or more agencies. This helps ensure that at the expiry of leases, no further homelessness is created.**

Self Test 5

1. *Why is temporary housing developed?*

2. *Which short term housing is eligible for social housing grant?*

Now turn to the Answers at the end of the Block.

Answers

Self Test 1

1. The clerk of works represents the client, on site, on a day to day basis. This means that very close supervision of the work is possible.
2. The factors which should be considered on initial site appraisal include:
   - the extent of any competition;
   - whether funding is available;
   - whether the site is a suitable size;
   - the nature of any physical constraints;
   - the availability of services;
   - nearness to amenities;
   - the conditions of sale;
   - the price.
3. A letter of intent confirms the client's intention to appoint the consultants, so long as the development proves to be feasible. This avoids the need to pay for abortive preliminary work.
4. The feasibility study establishes the likely development costs, and identifies whether the rents (or prices) needed are realistic.
5. An independent expert will help to ensure that social housing providers obtain value for money, and avoid the possibility of corruption.
6. The briefing should include information about:
   - what is required on the site - the type of buildings, dwelling mix and sizes, car parking spaces and other facilities, and land use distribution;
   - what is required of the dwelling design - general requirements about sizes etc., the relationship of rooms, requirements for particular rooms (such as the siting of appliances), storage, doors and windows, etc.

Self Test 2

1. The outline design stage establishes which is the best design option for the site. This design should meet all of the client's requirements (defined in the briefing), as well as making best use of the features of the site itself.

2. The main drawings required at detailed design stage are:
   - a site plan (of the existing site);
   - a site layout plan (showing the proposed layout);
   - plans of each dwelling type;
   - elevations of the dwellings.

   There will also be a schedule, which summarises dwelling types, numbers, etc., and an outline specification of the methods and materials to be used.

3. Working drawings give details of the construction methods to be employed. They will include construction details of roofs, floors and/or walls, etc., and the supply of services such as electricity. They will also include landscaping details.

   Specifications for all methods and materials will also be provided with the working drawings.

4. Permitted development is development which is allowed by general Development Orders. Such developments do not, therefore, require planning permission. Examples include minor extensions to houses, garden sheds, and porches. All major housing developments do, however, require planning consent.

5. Outline consent gives permission for the type of development proposed, subject to the details of the design being suitable. Detailed (full) planning permission approves the details of the design - specific dwelling types, site layout, etc.

6. The building regulations govern the way buildings are constructed, and the quality of the materials used. They ensure, therefore, that construction methods and materials are safe. All buildings are constructed to the same defined safety standards.

Self Test 3

1. The tender documents provide information about the nature of the construction work and the type of contract. They enable the contractor to bid (tender) to provide the work.

   Normally, they would include:
   - information about the site;
   - the detailed design drawings;
   - detailed specifications;
   - the type of contract;
   - a form on which to make the tender;
   - bills of quantities (for large contracts).

2. The possible advantages of negotiated tenders are:
   - they offer better value for money, because they reduce tendering costs;
   - the client is more likely to obtain a quality development. because the work of the contractor is known;
   - it is much quicker, so development can progress faster.
3. The likely advantages of selective competitive tendering are:
   - the price obtained should be competitive (fair);
   - it provides an incentive for contractors to offer good quality, so that they will be asked to tender again;
   - the client will gain experience of a number of different contractors, and so will be better able to judge good quality;
   - it reduces the number of firms to be vetted;
   - it reduces the possibility of corruption.
4. A building contract defines the roles of the parties, and sets out exactly what has been agreed. Details will include the basis for payment, the contract period, and the construction design details. This ensures that there can be no misunderstandings between the parties. It also provides a legal basis for redress, should anything go wrong.
5. The pre-contract planning stage will determine issues such as:
   - when the contract will begin;
   - the programme of work;
   - planned site meetings;
   - site supervision;
   - what further information is needed by the contractor;
   - who needs to be kept informed about progress (such as neighbours, the building regulations inspector, public utilities, etc.);
   - site security;
   - insurance responsibilities.
6. Work on site is monitored by:
   - site supervision by the clerk of works (if one is appointed);
   - regular site inspections by the architect;
   - regular site meetings to monitor progress;

- progress reports to the client;
- site inspections by the client.

7. Any changes to the original design and specifications must be confirmed by an architect's instruction or variation order. This will agree any change to the contract price which results from the alteration.

8. An interim certificate approves a stage payment to the contractor. It specifies the value of the work completed to date, then deducts previous payments and an amount for retention.

Self Test 4

1. A snagging inspection identifies all outstanding work, which needs to be completed before the handover date. It will usually involve the client, the consultant, and the contractor, about two weeks before expected completion.

2. At practical completion, the development is officially handed over to the client. It is, therefore, available to let or sell.

3. This depends on whether the development is for sale or to let.

   (a) For properties which are to be sold, the sale price will need to be determined. There must be plans to market the dwellings, to attract prospective purchasers. Usually, there will be brochures, press advertising, and a sales office (and perhaps a show house). Arrangements must also be made with the client's legal advisors, to prepare the necessary conveyances.

   (b) For properties to let, the final rents will have to be determined. Prospective tenants will have to be identified, interviewed, and offered accommodation. It may be appropriate to produce a scheme brochure for interested households. If tenants are selected well in advance, it may be possible to involve them in design details.

   The properties will need to be assessed by the Valuation Officer, to be placed in a Council Tax band. Depending on the nature of the scheme, there may be other issues, such as the appointment of wardens, communal furnishings, contracts for maintenance, etc.

4. This is the certificate of completion of making good defects. The final account can be prepared and settled once this certificate is issued.

5. Retention ensures that the contractor is never fully paid for work completed. This ensures that there is an incentive to remain on site to complete the work. If full payments were made, the contractor could abandon the contract at any time without losing anything.
6. The development process must be fully evaluated, so that lessons may be learned for future contracts. This should include an evaluation of:
   - the roles of the main parties;
   - the design, both external and internal;
   - the management of the lettings or sale.
7. A package deal involves the purchase of a scheme "off the shelf" from the contractor. The client has no role, therefore, in the design stage.
8. The advantages of design and build include:
   - certainty of costs (and hence rents or prices);
   - reduced consultant's fees;
   - possibly lower costs;
   - faster development.

Self Test 5

1. Short term or temporary housing is not as good as permanent housing. But when homelessness is high and there is a shortage of permanent housing it can provide at least a better alternative to living on the street, in a car, or in a homeless hostel or a bed and breakfast hotel where you can't cook and have to be out all day.
2. Short life housing and HAMA Plus are eligible for social housing grant if it can be paid through a registered housing association, and the property will be available for over 10 years for short life works to properties or over 6 months for HAMA Plus.

Appendix 1

PHOENIX HOUSING ASSOCIATION LIMITED

Development Brief

Turnbull Street, Hartlepool

General information

1.1 Aim

The Association's design objectives are to provide homes that are weathertight, thermally and acoustically well insulated, comfortable and secure. Every home must be free from faults and defects at completion and be designed and constructed to reduce future works and repair and maintenance to a minimum.

The homes provided must look attractive both externally and internally.

1.2 Type and unit mix

8 x 1b/2p general needs flats

floor area 50-60m2

4 x 2b/3p general needs flats

" "

8 x 1b/2p Cat. I flats

floor area 50-60m2

4 x 2b/3p Cat. I flats

" "

1 x wheelchair
bungalow
general needs
floor area 70-80m2

All units are to be mobility standard.

1.3 The site

The site as you are aware is located in the Dyke House area of Hartlepool approximately one mile by road from Hartlepool town centre.

Refer to Hartlepool Borough Council's planning brief previously issued to yourselves.

Note the Association is responsible for the maintenance of the existing boundary wall.

1.4 Standard requirements

(a) The works shall be designed and constructed in compliance with all current editions of British Standard Specifications, Codes of Practice, National Housing Building Council (certificate required for design and build contracts), Building Regulations and other local or statutory regulations.

(b) The design stage submission will consist of drawings at 1:100 or 1:50 showing the plan, section and elevation arrangement of the dwellings and the site. Each dwelling type must be drawn to include the floor area of each main room, the required furniture and the gross floor area of the dwelling. The site plan must indicate how the spaces between buildings will be used, the proposed boundary and landscaping treatment.

Kitchen and bathroom layouts are also required for each type of unit.

(c) All aspects of the design and contract criteria shall comply with the Housing Corporation's latest Good Practice Guide and Procedure Guide. Any variation thereto must be notified to the Association in writing for prior approval.

2. Design requirements

2.1 Entrances to individual dwellings

(please also refer to separate brief for wheelchair unit Appendix 2)

(a) Individual entrances are required.

(b) The main entrance to dwellings should be artificially lit, and advantage of natural light should be used where possible. The design should provide callers with some form of protection from the rain and should not provide a hiding place for vandals.

(c) External walk up access should have a level or ramped approach no steeper than 1:12.

(d) All door openings should have a clear opening of at least 775mm and thresholds should not project more than 15mm above the finished floor level.

(e) Hallways and corridors need to be of adequate size and design for large items of furniture to be moved in and around

the house into other rooms. Headroom less than 2m under beams and in bay windows should be avoided. If under 2m it must be marked on a drawing.

(f) Hall and corridor widths should not be less than 900mm nominal.

(g) Where an electric heater or radiator is located in the hall ensure it does not restrict the width.

(h) The dwelling should have an entrance lobby or hall with space for hanging outdoor clothes.

(i) The main entrance must open into an enclosed lobby or hall. It shall not open directly onto a habitable room.

(j) Each dwelling should be supplied with an electric door bell supplied from the mains (at a height of 1200mm from ground floor level).

(k) External doors not to have tongue and grooved timber panels.

(l) Where doors have no canopies over, frames to have grooves to dispel water and a metal weather bar positioned behind groove.

(m) Individual letter boxes with draft proof flaps are required to front doors (not at low level).

2.2 Circulation

(a) Wherever possible access to rooms should be arranged from a circulation area and not from other rooms. However, access to the kitchen off the lounge would be acceptable provided the kitchen is self contained.

(b) Passage through any room to the bedroom and w.c. is not acceptable.

2.3 Kitchens

(a) The kitchen should have direct access to the dining area where this is not integral. Access to living rooms and front doors should be reasonably convenient. The kitchen should provide adequate space for cooking and clothes washing, and casual meals in dwellings for 2 or more people.

(b) Internal kitchens are not acceptable.

(c) For safety there should be a clear space of at least 1.0m in front of all equipment.

(d) The kitchen layout should provide a work sequence of worktop, cooker, worktop, sink worktop, unbroken by a door or other traffic way. The cooker space is not to be located under a window.

(e) Allow for a space of 700mm for an upright combined fridge/ freezer and automatic washing machine space of 700mm.

(f) Ensure that SVP or waste pipes do not obstruct washing machine or other spaces left for equipment.

(g) Ensure that washing machine wastes are positioned to allow correct drop on wastes.

(h) Ensure that the kitchen window can be easily opened from the inside (i.e. when it is located over sink or units).

(i) Provide adequate storage for food and crockery, pans etc. Please also allow some drawer space.

(j) Mixer taps are not required. Short lever handle taps are required to the Cat. I units only.

(k) Glazed tiles are required between the worktop and the bottom of wall cupboards and sealed with dow corning mastic. Also sills located over a sink area to be glazed tiled. Glazed tiles are also required to cooker space.

(l) A stainless steel single drainer unit standard sink or inset sink is acceptable. Chrome waste outlet and sealed overflows are required.

(m) Kitchen base units should be 900mm high and 600mm deep. Wall units should be no higher than 450mm above worktops.

(o) Switched fused spurs with neon light are to be allowed for all appliances.

(p) Floor covering is to be slip-resistant vinyl sheet.

(q) Provide a fluorescent light fitting.

(r) If the stop tap is located in the kitchen it is to be easily accessible.

(s) Adjustable permavents are required in windows.

(t) Extractor fan to be Vent-Axia or Expel Air. To be fitted into wall not window.

(u) Kitchen units shall be by George Moore & Co. Ltd. LHC/ NFHA range specification S.

(v) The Architect must prepare detailed drawings (1:20) of every kitchen layout for the Association's approval, indicating the layout, door swings, tiling layout, tiling behind cooker and electrical outlets etc.

2.4 Living rooms

(a) To avoid noise disturbances between adjoining dwellings the bedrooms of one dwelling should not be located under or adjacent to rooms of a different function in another dwelling.

(b) Similarly wherever possible the bedrooms of a dwelling should not be located under or adjacent to private or communal areas.

(c) Provide space for a dining area if not included elsewhere.

(d) Provide T.V. socket outlet and position thoughtfully to take account of lighting, door and furniture positions.

(e) The layout should conform to DOE Design Bulletin 6 "Space in the Home".

2.5 Bedrooms

(a) Main double bedrooms should be large enough to take a double or twin beds.

(b) The layout should conform to DOE Design Bulletin 6 "Space in the Home".

2.6 Bathrooms and w.c.'s

(a) Bathrooms with natural light are preferred, however where this is not possible internal bathrooms would be acceptable. Mechanical extraction should operate on a humidity stat, to be Vent-Axia or Expel Air.

(b) The w.c. is to be incorporated within the bathroom. In 5 person units 2 w.c.'s are required one in a separate room with a small wash basin.

(c) Bathroom sanitary equipment shall be standard and to the following requirements:-

General Needs only: The bath shall be enamelled pressed steel standard depth incorporating grip handles and slip resistant base.

Cat. I only: the bath shall be enamelled pressed steel shallow type incorporating grip handles and slip resistant base. No longer than 1550mm. A seating area of at least 400mm must be provided at the end of the bath to allow easier entry and exit from the bath.

The wash basin should be vitreous china and to a basic standard shape with pedestal. The w.c. should be vitreous china and cisterns to be close coupled low level.

No mixer taps are required, short lever handle taps are required to Cat. I units only.

(d) Glazed tiles should be fixed to all walls above baths and wash basins (2 courses). Baths and wash basins must be sealed with dow corning at junctions.

(e) Locks openable from the outside are required with easily operated lever.

(f) An electric shaver point is required. Toilet roll holder and towel rail to be provided.

(g) Ensure windows are easily accessible and are not located over a bath. Also they can be easily opened from the inside.

(h) Where an electric fan heater is required ensure the pull cord is easily reached.

(i) If the stop tap is located in the bathroom ensure it is easily accessible.

(j) Floor covering to be slip resistant vinyl floor sheet.

(k) Provide adjustable permavents in bathroom windows.

(l) Partitions and compartments to bathroom and w.c. must be sound insulated and capable of supporting grab rails.

(m) Avoid shared overflows. Overflow positions must be indicated on detailed drawings.

2.7 Storage and refuse

(a) Storage should be considered under the following headings:

- refuse storage;
- kitchen storage, including cleaning materials; and
- brooms etc.;
- clothes storage;
- linen storage;
- external store in houses only.

(b) Storage should be well distributed throughout the dwelling.

(c) Long narrow stores should be avoided where possible, but where unavoidable, should be provided with artificial lighting and an outward opening door. Some form of ventilation is essential.

(d) Adequate enclosed storage space for general storage accessible from a circulation area.

(e) Linen storage with a domestic hot water cylinder or equivalent heat source.

(f) Refuse - individual bin stores adjacent to the entrances of each dwelling are preferred, these should be inconspicuous from the main entrance. A combination of individual bin stores and a communal store, or a totally communal refuse system is acceptable in certain circumstances.

(g) Whichever system is used it must comply with the Authorities refuse collection requirements. All stores should be well ventilated.

(h) A communal refuse store/area should be conveniently accessible from every dwelling and of sufficient capacity to serve every dwelling.

(i) The refuse area is to be screened and adequately lit.

(j) A plastic refuse bin with lid is required, for each dwelling.

2.8 Drying areas

(a) Flats: Outdoor communal or individual drying facilities (or a combination of both) are required. Posts to enable tenants to erect their own lines are preferred or permanently fixed heavy duty rotary dryers are acceptable (or a combination of both).

(b) Access to communal drying areas to be paved.

(c) Ensure that the shrubs etc. are not planted too close as to interfere with washing.

2.9 Pedestrian and vehicular access

(a) The footpath system should be functional safe and follow the shortest routes to their destinations. Bollards should be strategically placed where necessary to discourage cyclists and parking on grassed areas.

(b) All areas to be ramped where possible.

(c) All access roads, footpaths and parking bays shall be constructed in accordance with the County Council's specification to adoptable standards.

(d) Access roads should be as short as possible.

(e) All in situ concrete paths should be finished with a non-slip surface.

(f) Public access through schemes should be limited.

2.10 Car accommodation and dwelling orientation

(a) Unless otherwise determined by the Planning Authority, open hard standing should be provided on the basis of one space per dwelling for general needs accommodation and one space per four dwellings for sheltered accommodation.

(b) Spaces should be either adjacent, or grouped within sight of, and as near as possible to the relevant dwellings.

(c) The site layout or the dwelling plan types and positioning of doors and windows should give reasonable privacy and freedom from noise and disturbance. Living rooms and bedrooms should be orientated away from pedestrian ways, roads, and car parking areas. Infringements of the adjoining property's privacy or rights of light should be avoided. Wherever economically feasible the site layout or the dwelling plan type should allow for direct sunlight penetration into the principal living space.

(d) Garages are not required.

(e) Hard landscaping shall be clearly defined between Association property and Local Authority adopted areas where required.

(f) Demarcation of car parking spaces is required where not in-curtilage.

(g) All car parking should be within the curtilage of each dwelling where possible. Car parks should also be located with a view to minimising vandalism and nuisance from noise and car headlights and be adequately lit.

(h) Hardstanding to be dark colour to prevent showing of oil spills.

2.11 Signs and notices

(a) All dwellings to have clearly defined access for public use which is clearly indicated and numbered.

(b) The name of the development and the numbering of individual properties is to be considered and agreed between the Association, Local Authority and GPO as early as possible and at least four months prior to handover.

(c) Adequate directional and layout signs shall be provided, to be agreed by the Association.

(d) All signs shall be of stay clean, non corrosive metal or plastic.

(e) The site signboard has to meet the Housing Corporation's requirements (see attached). It must be placed in a prominent position.

(f) The Association's logo and full name details and scheme description are outlined on the attached.

(g) Private Car Parking signs are required where appropriate, to be agreed by the Association.

2.12 External lighting

(a) Unadopted footpaths outside the radius of local street lamps will require lighting from the landlord's meter controlled by a light sensor and time clock. The lighting should be wall mounted as far as possible, vandal resistant and positioned and designed for easy and safe access for replacement.

(b) Careful consideration must be given to all external lighting to avoid dark, insecure areas. Detailed drawing to be submitted for approval by the Association.

(c) External light fittings shall be IP Code 53 with S.O.N. or M.B.F. operated by photocell control unit and time clock.

(d) Bollard lighting is not acceptable. Lamp-posts are to be 'drop down' type for ease of maintenance.

(e) All light fittings are to be easily obtainable.

2.13 Boundary fences, walls and hedges

(a) Boundary definition is essential to provide screening, enclosure and identity. Boundary barriers must be of a height and substances appropriate to their function from a range of situations.

(b) Boundary fencing adjacent to a highway or major footpath must be pallisade or similar close boarded impregnated preservative treated timber of vertical construction (designed to discourage climbing) and to be erected on concrete posts with rust proof bolts. A stained timber finish compatible with preservative treatment is required.

(c) Post and wire or larch lapped fencing is unacceptable for main boundaries.

(d) eech or similar hedges should be protected with a temporary post and wire fence to define the boundary. Hedges should be easily maintainable and suitable for the location.

(e) Brick walls should have adequate foundations, robust copings (designed to avoid walking or sitting on) and well detailed damp proof courses.

(f) Due consideration shall be given to additional strengthening for heavy gates (over 10kg) or fence panels.

(g) Low timber knee-rails may be useful in defining front gardens/ open spaces.

(h) Railings - Mild Steel Fence

(i) Blunt vertical bars 22mm dia. Rails shall be of adequate size to prevent sagging, fixed with bolts to cramps set in brick piers.

(ii) Treatment - hot dipped galvanised to BS 729. Galvanised surfaces shall be touch-up upon completion prior to decoration.

2.14 Public and private space, privacy

(a) Every dwelling should have a zone of private space around it.

(b) Internal privacy must be provided wherever possible, especially in relation to footpaths.

(c) It is essential that all open spaces are well defined, their function clearly determined at the outset and designed accordingly.

2.15 Landscaping

(a) Ensure that all proposals meet the Local Authorities planning requirements.

(b) Landscaping should be treated as a priority and not left to the very end of the contract. The style of landscape should sensitively reflect the character and take account of local climate.

It should comprise a mixture of paved and grassed areas and planting simply laid out having regard to easy and low maintenance. The specifications of trees and shrubs should show a balance between coniferous and deciduous varieties and reflect their eventual size. Trees must not be planted too near dwellings and should be properly staked and tied.

(c) Where planting areas are situated under windows, provision should be made for cleaning by the tenant i.e., flags positioned to avoid damaging shrubs etc.

(d) Irregular unusable communal open spaces should be avoided.

(e) Soft hard landscaping should be used to reinforce security and privacy and support foot path links by preventing short cutting and erosion of edges.

(f) Small grassed areas should be avoided.

(g) All communal or general grassed areas shall be easily accessible for mowing machines.

(h) Do not plant trees or deep rooted shrubs over or near to drains, cables etc.

(i) Do not plant tall shrubs in front of windows or where they are likely to cause obstruction.

(j) The standards and adequacy for top soil must be properly established and provided for. All planted areas should be top soiled to a minimum depth of 150mm.

(k) All areas of soft landscaping must be properly cultivated and removal of all rubble, large stones, weed roots and other deleterious material with a dimension over 25mm.

(l) All plant material must be in a strong and healthy condition when planted.

(m) The landscaping layout and specification should be submitted to the Association for agreement by our 'in house' gardening supervisor, prior to orders being placed and at least three months before commencement of landscaping work.

(n) A mowing strip is required constructed on a levelled and compacted bottom on a bed of 100mm thick compacted hardcore, treated with weed killer, blinded with sand and cement finish with a 300mm wide precast concrete paving flag to BS 368 or similar approved.

2.16 Garden maintenance

Communal Garden Areas

(a) On completion of the landscaping works, the Association requires the Contractor to carry out maintenance for the first twelve months. This must allow for watering grassed areas as necessary to keep it in a healthy condition. Allow for keeping grassed areas clear of weeds, stone picking, making up levels, lawn fertiliser, reseeding, rolling and attention to grass during the maintenance period. Allow for keeping shrub beds clear of weeds during the maintenance period. Cut areas of grass at least once a week in the growing season and remove from site all debris. Allow for trimming edges of grassed areas with edging tool and each time grass is cut remove from site all debris.

(b) The Contractor shall give 24 hours notice to the Architect/ Clerk of Works before each landscaping maintenance operation is to be carried out.

(c) At least six weeks before the end of the maintenance period or at a suitable time during the growing period, the Contractor identify with the Architect/Clerk of works all dead and dying material and replace as necessary at the next planting season.

3. General design requirements

3.1 External walls

Avoid:

(a) Recessed pointing under any circumstances. On new build pointing may be flush, bucket handle or weather struck.

(b) Large areas of timber weather-boarding, applied finishes or cladding, in order to minimise maintenance costs.

(c) Tile hanging is not acceptable.

3.2 Windows, doors and external joinery

Provide for:

(a) Glazing compounds to be compatible with the types of windows and any protective or decorative material to be applied.

(b) Safeguards to minimise the risk of forced entry. In specifying doors and windows the following potential security weaknesses should be avoided:

(i) inadequate external door thickness or door panel thickness;

(ii) unnecessary glazing in external doors;

(iii) positioning of letter plates within reach of door locks;

(iv) inadequate door locks not complying with BS 3621;

(v) inadequate fixing of door frames to external walls;

(vi) excessive tolerances in door to frame fit and inadequate rebates;

(vii) inadequate door/window hinges;

(viii) external beading in door/window glazing.

(c) Opening windows on first floor to be of a size large enough to allow escape from any fire hazard.

(d) Windows to be designed so that they are capable of being cleaned from the inside or from the outside where there is easy external access, e.g. ground floor or balcony.

(e) Trickle ventilators to be fitted into the frame of all windows.

3.3 Roofs

Provide for:

(a) Projecting eaves as they afford protection to external walls and minimise the risk of water penetration resulting from leaking gutters and downpipes.

(b) Trap-door access of adequate size to allow tank replacement where the cold water storage tank is located in the roof void.

Avoid:

(a) Flat roofs over dwelling areas (excluding entrance porches, small stores, refuse enclosures, etc.).

(b) Chipboard as decking material.

(c) Inward sloping roof planes giving rise to a need for lined gutters over dwelling areas.

(d) Bituminous felt as a covering over dwelling areas (excluding entrance porches, small stores, refuse enclosures, etc.).

(e) Parapet walls and party walls extended above the roof plane, unless required by the Planning Authority.

3.4 Floors

Provide for:

Adequate protection of chipboard if used as a flooring material in kitchens and bathrooms or other areas where the floor is liable to get very wet due to cleaning and spillage.

3.5 Thermal insulation

Refer to the Housing Corporation's Good Practice Guide. The Association wishes a high level of insulation to be achieved, to limit heat loss and conserve energy.

3.6 Heating

(a) General

The type of heating system should be considered carefully against:-

(i) The likely pattern of use (intermittent or continuous).

(ii) The thermal capacity.

(iii) Ventilation rates, particularly in locations suffering from external noise.

(iv) All units are to be electric heating designed to Northern Electric Super Tariff requirements.

(b) Design

Whole-house heating must be included to every dwelling.

Heating installations must be sized to every dwelling.

Heating installations must be sized to maintain the following temperature when the external ambient temperature is -10C and the boiler flow temperature does not exceed 820C, and due regard to orientation of each room must be taken into account:

Living Rooms	210C	Cat 1
Dining/Kitchen	180C	All areas 210C
Hall/Landing/Circulation	160C	General needs
Bedrooms	180C	
Bathrooms	180C	

The design of any system must provide for independent use of the hot water which must be capable of being thermostatically controlled. Water borne systems must contain one or more heating zones, installed on a 2 pipe system, all controlled by a controller/programmer.

(c) Pipework

LPHW systems shall be 15/22mm copper tube.

Pipework should be concealed wherever possible, but should also be reasonably accessible. Pipes should be run in floors, in ducts, in boxed out skirting or in proprietary trunking. Pipes should not be chased into walls.

All pipework to be copper with either CONEX or YORKSHIRE capillary fittings. Swagged joints are not acceptable. Pipework must be adequately fixed particularly in hidden areas.

Pipe runs in timber floors must be considered carefully in relation to electricity supply runs and the structural integrity of joints. Where runs and are parallel to joists, heating pipes and electricity cables must be in different spaces. Where at right angles, notching should be kept to a minimum. Mechanical protection is necessary above pipe-runs notched into joists to avoid accidental damage by nails.

All pipe runs along external walls, in roof spaces or floor slabs, and below timber ground floors must be insulated with Armaflex or similar. This applies to overflows and vent pipes as well as water supply. To minimise problems of freezing in driving snow conditions, pipes should not run parallel to and close to (i.e. less than 1.0m) ventilated eaves.

All concealed pipework must be insulated using ARMAFLEX pipe insulation.

3.7 Physical security

(a) It is important to maintain satisfactory physical security standards. This entails designing in strong resistance at likely points of entry and ensuring that other features, such as porches, do not represent potential security hazards.

(b) Special attention should be given to the following features:

(i) Front and rear doors

Robust doors are required each with a minimum thickness of 44mm and capable of withstanding being kicked or charged. It is important that the door frames are securely fixed. There should be a minimum 18mm depth of rebate formed either by cutting from the solid frame or by gluing and pinning.

Where glazed panels are fitted adjacent to the doors, they should be located out of reach of locks so that an intruder cannot smash the glass and turn the door lock by hand or by using a stick or length of wire. Additional security may be provided by the use of double nightlatches in such situations.

For front doors an automatic deadlocking rim-latch should be fitted with the facility for the handle to be locked. For rear doors a 5 lever mortise deadlock with the physical strengthen requirements to BS 3621/80 should be fitted.

Door bolts to a length of at least 100mm should be fitted to the top and bottom of the opening side of the doors. Bolts should be secured by 25mm, No.10 screws as a minimum.

Door chains or limiters, and door viewers should be incorporated. Letter boxes should be positioned at least 400mm away from door locks.

Where sliding patio doors are provided, the sliding door should be on the inside and anti-lift devices should be fitted. If there is not a multi-point locking system then a pair of push-to-lock, key operated bolts should be provided at both the top and bottom of the meeting stile of the inner door leaf.

(ii) Window Security

Key operated locks should be fitted to all opening windows on the ground floor and those upper storeys where access could be gained via a balcony, flat roof or drain-pipe. A window lock fitted independently of window furniture should be "push/turn to lock, key *to unlock" type (*not cut key).

(iii) Glazing

If external glazing beads are fitted they should be glued or bonded and pinned. In UPVC and aluminium window units the glass requires bonding into position if external beads are fitted. Laminated glass should also be used for windows which, due to their position, represent a security hazard.

3.8 Smoke detectors

Smoke detectors in accordance with the latest Building Regs are required.

3.9 Services - general

(a) All general services shall be provided in a technically and visually satisfactory manner.

(b) Early consultation with the Post Office, Water Authority, Electricity Board, Gas Board and Local Authorities is essential, and that the services are adequate for the work to be executed.

(c) All plumbing services, solid pipes etc. shall be concealed where possible. Service ducts in flats shall be adequately insulated and have easy access. Distribution pipes must not be buried in floor screeds or behind any linings unless in ducts with access covers.

(d) All control clocks, switches, fuses and stop cock shall be easily located and operable and at a convenient height and position for operation.

(e) All external service access points should be situated as unobtrusively as possible and so to minimise obstruction to the mowing of grassed areas.

(f) All rainwater pipes should have gulleys and under no circumstances should drain across footpaths.

(g) Rainwater gullies in landscaped areas shall have covers designed to prevent the ingress of leaves and soil etc.

3.10 Water

(a) Each unit of accommodation should be provided with an individual water supply for rating purposes.

(b) No landlord's supply is required.

(c) Water Softeners must be fitted where required by the local Water Authority and type agreed by the Association.

3.11 Gas

No gas is required to the development.

3.12 Electricity

(a) Electricity should be individually metered and the meters situated in outside cupboards, and clearly identified to the dwelling it serves.

(b) Communal services should be served by a single secure landlord's meter with the consumer unit (where applicable) in a lockable store.

(c) Electric socket outlets should be provided to the following minimum requirements:

Kitchen	4-6
Lounge and Dining Area	5
Single Bedroom	2
Double Bedroom	3
Hall	1
Landing	1
Walk in Store	1
Bathroom Shaving Point	

(d) All sockets, switches etc. shall be flush fitting and to be the following height above floor level:

- Switches 1200mm to centre
- Sockets 450mm to centre
- Sockets above worktops to be 150mm from worktop to centre.

(e) Appliance spaces shall be served by a fused switch with neon indicator appropriately marked and terminated with a socket below the worktop.

(f) Wiring shall be run in rewirable conduit in solid wall finishes and shall be freely rewirable in wall and ceiling voids.

(g) Consumer units shall be MCBs and RCDs and situated 1.2m from floor level wherever possible.

(h) Individual T.V. aerials are required to all dwellings. The design and installation of the system must be carried out by a firm both qualified and experienced in this type of work.

(i) A sample board shall be made up and handed to the Employer before commencement of electrical work.

(j) External wiring shall be in galvanised conduit with draw boxes provided at changes of direction and not more than 8m intervals.

(k) The contractor shall allow for the assembly, adjustment and/or handing of fixtures and fittings as required.

(l) As installed drawings shall be prepared upon completion and handed to the Architect/Clerk of works two weeks prior to handover.

(m) All dwellings of similar layout shall be wired identically to avoid unnecessary duplication of drawings.

(n) A shaver point to be provided in all bathrooms.

(o) Conduits with outlets for telephones and T.V. aerials shall be provided.

(p) Provide for concealed wiring to be protected in order to avoid damage by nails, etc.

(q) A schedule of installed fittings shall be appended to as-built drawings.

(r) Test certificates shall be handed to the Supervising Officer one week prior to handover. Tests shall be carried out in accordance with IEE regulations.

(s) Ensure that fused flex outlet switch for fires are positioned to allow T.W. viewing, and that sockets situated in lounges are accessible when furnished.

(t) Ensure that all extractor fans with ducts in excess of 1m are fitted with condensation traps.

3.1 Joinery

(a) All external doors shall be suitable weather sealed to prevent the ingress of snow and water.

(b) All external front doors shall be of solid hardwood with door viewer and top fanlight.

(c) All external rear doors shall be solid hardwood.

(d) Internal doors to be flush finish.

(e) Windows shall be best quality softwood vac vac treated and of high performance. All windows to be designed for easy cleaning from inside by the tenant. Draft excluders to all opening lights shall be fitted in grooves. Controllable vents to be fitted to all windows. Ironmongery shall be robust lockable and with ventilation restraint fittings. Double glazed hermetically sealed units shall be fitted in accordance with good practice.

(f) Architraves to be a minimum of 75mm. Skirtings to be a minimum of 125mm.

(g) Curtain battens shall project beyond window reveals a minimum of 200mm.

(h) Chipboard floors shall be 22mm to BS 5669 type II/III tested to V313 standard.

(i) Floors shall be protected and presented in a perfectly clean condition without stains from oil, paint, mortar or other deleterious matter when handed over.

(j) Floating floor construction shall be carried out in accordance with manufacturer's recommendations and all joints adequately glued with suitable adhesive.

(k) Tanks and cylinders shall be supported on sturdy timber frame with blockboard surface to BS 3444.

(l) Satin anodised aluminium lever handles shall be specified generally. Particular attention being made to bathroom door furniture where a large level to the lock would be required.

3.14 Ironmongery

A five lever mortise lock together with a Yale lock are to be fitted to all front doors and supplied with 2 no. keys per lock.

External entrance doors: Shall be mortise locks complying with BS 3621 with pin tumblers, internal snib turn (except on glazed doors which shall be key operated on both sides.

Mortised 60mm security bolt fixed 450mm from finished floor level. Hinges 1.1/2 pr 100mm Bright Zinc Plated or Brass Butts with steel washers and pins.

Door viewers are required where vision is obscured at front entrance doors only. Door numerals shall be a minimum of 50mm high and mechanically fixed.

Internal

Fire doors

1.1/2 pr of 100mm hinges finished to suit finish of door.

Door closers shall be selected by approval and fit to comply with statutory requirements.

Flush doors

1 pr 75mm butt hinges to suit door finish.

Latches

Tubular steel case with solid brass bolt.

Cylinder doors

150mm Door handle and adjustable roller catch.

Lever handles

Selected by approval.

3.15 Painting and decorating

(a) A colour schedule shall be submitted for approval by the Association.

(b) All external joinery to be stained in micro porous material.

(c) Dry lining walls shall have two coats of Gyproc top coat applied to all walls as Gyproc specification.

(d) Artex shall be applied in accordance with Artex Limited Manufacturers' recommendations to an even texture and fully cover all boarding.

(e) Meter cabinets shall be thoroughly cleaned with soapy water and dried. Two coats of gloss paint shall be applied to approved colour.

3.16 Plumbing and drainage

(a) Provisions shall be made for washing machine connections i.e. hot and cold water connections and waste disposals.

(b) Ensure that all overflow runs are shown on design drawing.

3.17 Testing

(a) Certificates of testing and forms of warranty will be required by the Association from the Contractor upon handover of each dwelling in respect of the following installations and materials where applicable:

- Plumbing
- Heating and Gas
- Electricity and Fire Alarms
- T.V. Aerials
- Timber Treatment
- DPC (for rehabs)
- Double Glazing.

Appendix 2

Wheelchair Unit

General

There can be no 'standard' model of provision for wheelchair dwellings. This design brief was prepared for Phoenix Housing Association and incorporates some of the features discussed in Design Guides in HD 101. On this project the unit is to be designed for general family use and assume an adult to be the disabled person.

The location and overall design of the dwelling provides the additional space and general planning provisions which are needed in all wheelchair dwellings.

A bungalow with integral car port is required on this scheme.

Design

(a) The main entrance to the dwelling shall not be directly into the living room or kitchen. An excessive number of doors is to be avoided. Protection of the entrance by porch or draught lobby is desirable in order to reduce draughts. Arrangements of doors through lobbies should allow 'straight through' runs for the wheelchair user.

The internal planning must facilitate use by a person in a wheelchair throughout the dwelling. Circulation areas as a minimum should be 1200mm wide.

Doors must give a clear opening of at least 775mm. Careful consideration should be given both to the positioning and swing of doors to facilitate manoeuvring and recharging of a wheelchair.

(b) Entrances and circulation areas

Space must be provided in the entrance hall for storing and re- charging the wheelchair.

Corridors must not be less than 1.2m wide with 1.5 wide spaces in front of dwelling entrance.

No thresholds to internal doors are to be provided.

Provide the facility for taking deliveries without reaching to the floor.

(c) Kitchen

The kitchen must be capable of being used by the wheelchair user.

Disabled people may be quite unintentionally demanding on the physical strength and durability of the kitchen provided.

All worktops to be 600mm deep and adjustable in height. To be set at a height of 800mm initially.

G. Moore Adjusta range of units are required. ('D' handles to all units).

A stainless steel sink and drainer is required. This may be inset.

Hot and cold water taps must be one quarter turn short lever handle type.

A built-in electric hob and an electric oven must be provided. A built in fridge with small freezer compartment is also required. Specification to be approved by the Association.

A 600mm x 700m (wide) washing machine space is required. A change in height of the worktop will be necessary. A worktop over the washing machine space is required.

Full plumbed-in facilities are required, valved capped hot and cold plumbing connections and capped trapped waste branch.

As much storage space as possible must be provided incorporating some drawer space.

All wall cupboards must be height adjustable and refixable. Wall cupboards must not be fixed over sink or hob.

(d) Living rooms

Windows to be at a height for a wheelchair user to be able to look out of from a sitting position.

(e) Bedrooms

Built in cupboard must be provided in the main bedroom and have no plinth or threshold. Height of rail and shelf to be easily reached by the wheelchair user.

(f) Bathrooms

Special attention must be given to the strength of fixing and fixing surfaces.

A P.C. sum for grab rails and shower seat must be allowed.

Structural elements must be of sufficient strength to allow for the installation of hoists, seats etc. at a later date.

Allow for the potential for installation of a ceiling mounted track between the bath and bedroom. This could be by way of a 'cut out' to allow for a second door to the bathroom.

The removal of a bath and the installation of a shower must be possible. Showers with integral bases are not generally suitable. So the bathroom must be designed for the complete removal of the existing bath and conversion into a waterproof shower room at minimum expense.

The bathroom must include a slip resistant vinyl flooring with welded seams and coved skirtings, or quarry tiles, laid to falls to proprietary open floor gully by HARMER and space for a shower chair.

The threshold at the doorway (resulting from falls) must not exceed 15mm.

If the shower option is not initially used problems may occur from smells from standing water in gully trap. Routing the bath waste via a gully is the preferable solution to the use of a temporary sealing plate.

The W.C. must be designed for wheelchair use with lateral transfer as well as frontal and oblique transfer. The W.C. to be close coupled low level robustly mounted to wall and floor. The cistern must be lever action flush, adaptable for a chain. Baths should be 1700mm long, minimum 700mm wide and must have a flat non-slip bottom, integral grip handles.

The bath seat should be 600mm long at end opposite to taps, finish flush with underside of bath rim and to be finished with a warm surface (e.g. cork tiles). Taps to be quarter turn short lever handle type.

The wash-basin must be selected with care to allow for the special requirements of the wheelchair user. Space under the basin must be kept clear of obstruction and must be deep enough to allow a wheelchair right underneath. Ease of use for soap dishes shelf must be considered.

The preference is for a vanity unit with a reasonable sized off-set in the worktop. The height initially set at 750mm. The rear edge of the worktop must be protected from water spillage. Flexible plumbing connections must be allowed for. Taps to be quarter turn short lever handle type.

The basin should be positioned to allow use from the W.C.

A mirror and a bathroom cabinet must be provided fixed at a height for the wheelchair user.

(g) Storage

Store cupboards should be no deeper than 900mm or narrower than 850mm with 900mm door opening.

A maximum shelf height in kitchen and linen cupboards should be 1500mm

Access to electricity mains power switch must be allowed for together with ease of access to all power and light sockets, and heating controls.

Height of electric sockets and switches as specified in main brief.

(h) Ramps

Where ramps are provided externally to wheelchair unit it should be no steeper than 1:20.

(i) Car port - A covered car port is required with external light.