

The Architects' Journal October 25 1961 Vol 134 No 17 Price 1s

This issue of the AJ should be filed as it contains part of a 50-part technical information library which the AJ is founding. Below are the most important elements from Table 1 of the sfB classification.

These are the key to our library production programme, and each week we shall publish, with the normal AJ, a supplement dealing with one of these elements. Headings in bold type are those dealt with in previous issues. This week's supplement covers the first part of sfs (15). The second part follows next week. The remaining headings will be published in subsequent issues. This is a token preclassified file gover for the Element File technical studies, Element Design Guide and Information Sheets within and for all subsequent articles and digests on these subjects which an architect needs to keep. At the end of a year readers will have a design manual covering all the functional elements listed below. This will form the nucleus of a technical library.

- (11) Ground : General
- (12) Drainage : General
- (13) Retaining structures
- (14) Roads and pavings: General



- (15) Garden: Fences, gates,
- (16)-(19) Foundations (2) Structures: General
- (2) Structures: Concrete:
- General (2) Structures: Sections, metal (2) Structures: Sections, wood (21) Walls: External load-
- bearing: General
- (21) Walls: External nonloadbearing: General
- (22) Partitions: General
- (23) Floors, ground: General (23) Floors, structural:
- General
- (24) Stairs and ramps; General
- (25) Ceilings, suspended:
- General (26) Roofs, structural, flat:
- General
- (27) Roofs, structural, pitched: General
- (30) Accessories, ironmongery: General
- (31) Windows: General
- (31) Windows: Sections, metal
- (31) Windows: Sections, wood (32) Doors: General
- (34) Handrails and balustrades:
- General (37) Roof-lights and traps, etc.:

- (38) Roof eaves, verges, gutters, rails: General (41) Finishes, external:
- General
- (42) Finishes, internal:
- General
- (43) Finishes, floor: General
- (46) Finishes, flat roofs (47) Finishes, pitched roofs:
- General (51) Installations, refuse
- disposal: General (52) Installations, drainage

and sanitation: General

- (53) Installations, water, hot and cold: General
- (54) Installations, gas, compressed air, steam, refrigeration: General
- (56) Installations, heating: General
- (56) Installations, heating: Equipment and fuel
- (57) Installations, ventilation, air conditioning: General (63) Installations, electrical:
- Lighting and power: General
- (63) Installations, electrical: Lighting equipment
- (64) Installations,
- communications: General
- (66) Installations, mechanical: General
- (68) Installations, special: General
- 72) Rooms, fixtures and equipment: General (fixed furniture)
- (72) Rooms, fixtures and equipment: General (loose furniture)
- (73) Kitchens, fixtures and
- equipment: General (74) Cloakrooms, bathrooms and lavatories, fixtures
- and equipment: General (75) Laundries, fixtures and equipment: General

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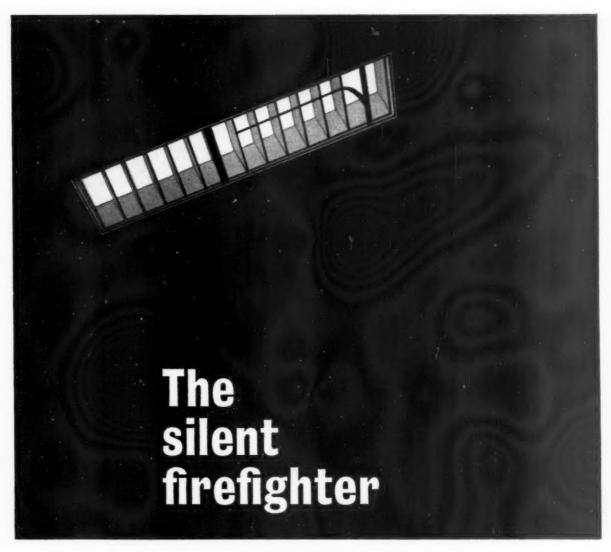
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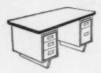
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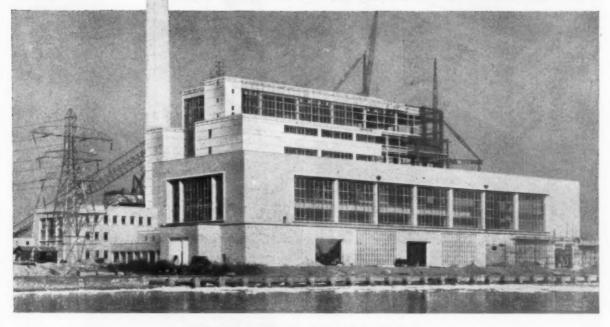
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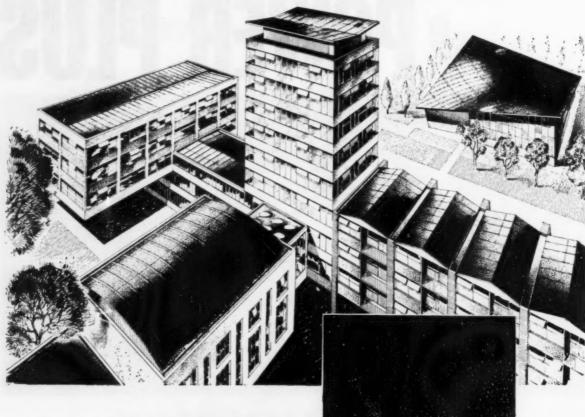


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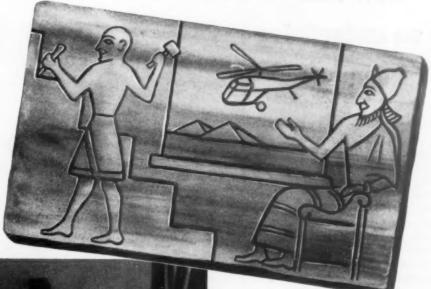


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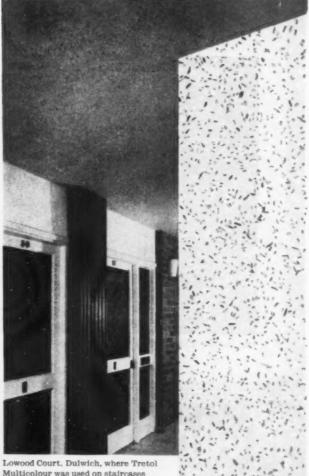
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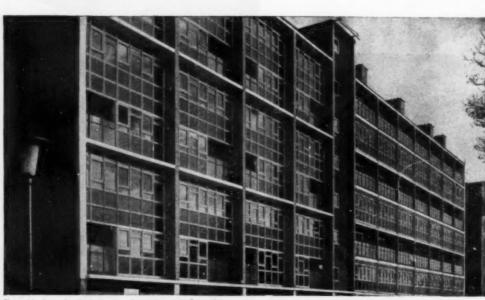
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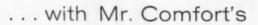
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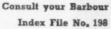


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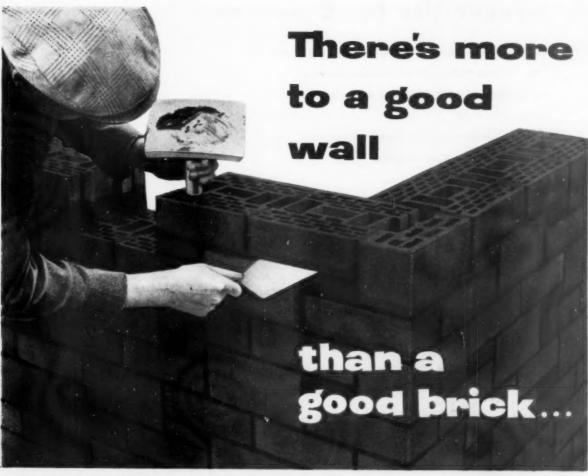
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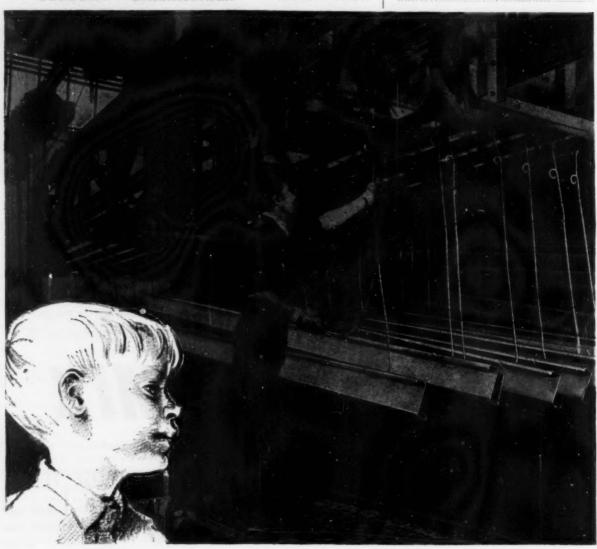
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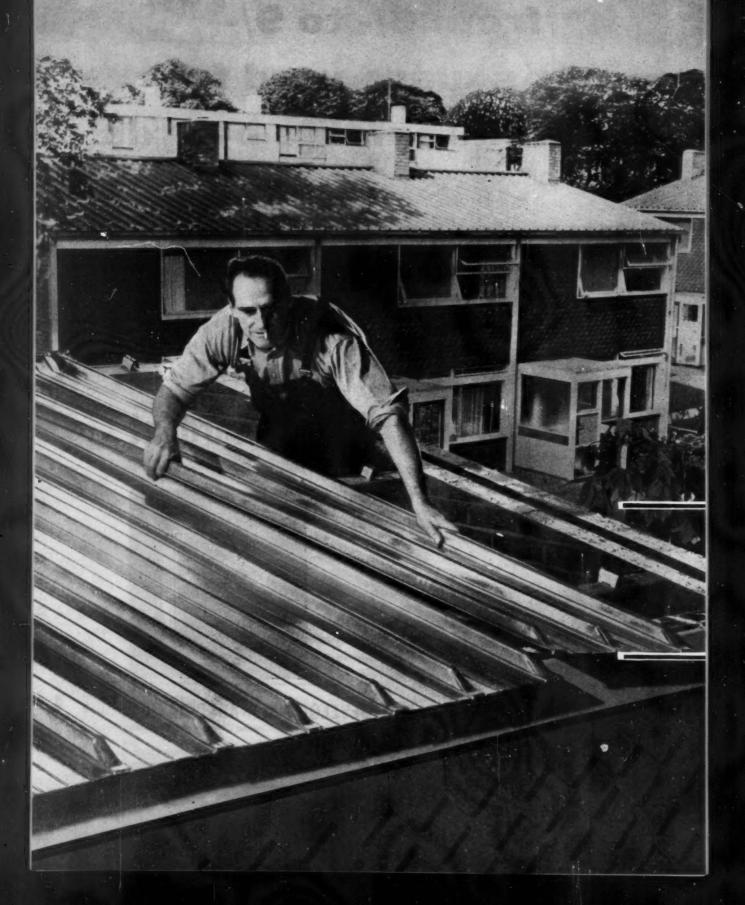
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The Architects' Journal (Supplement) October 25 1961

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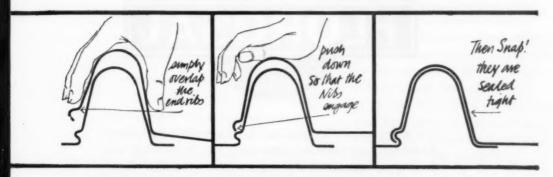
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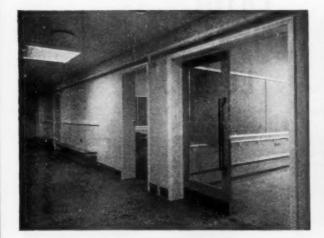
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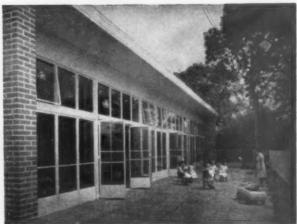
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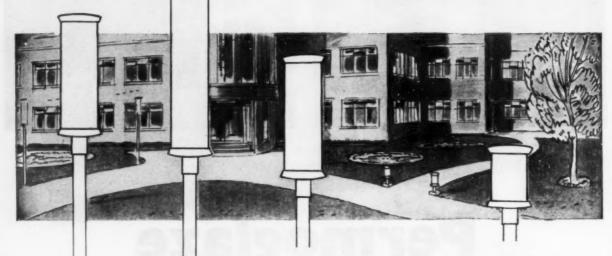
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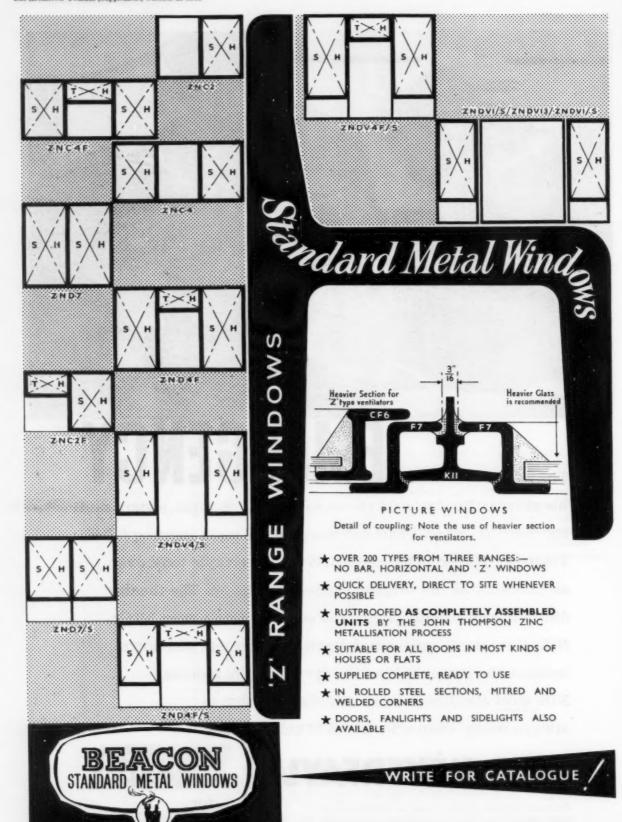
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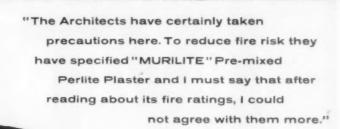
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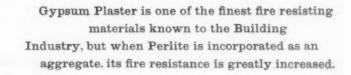
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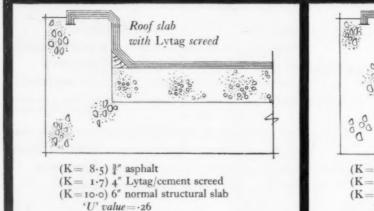
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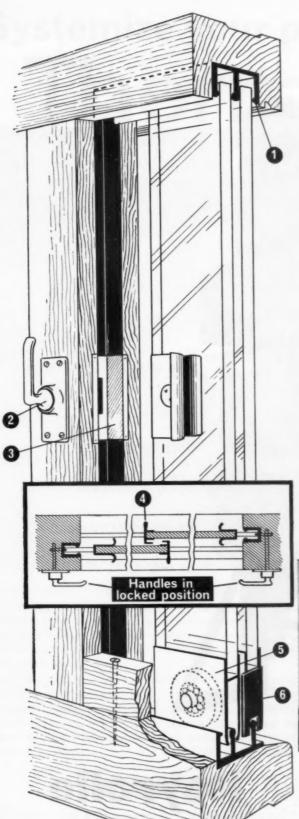
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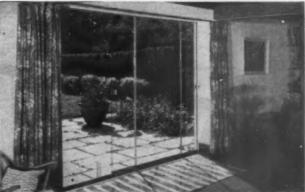
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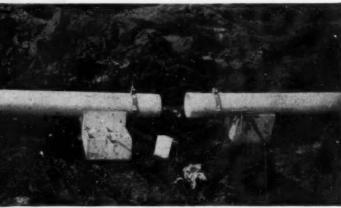
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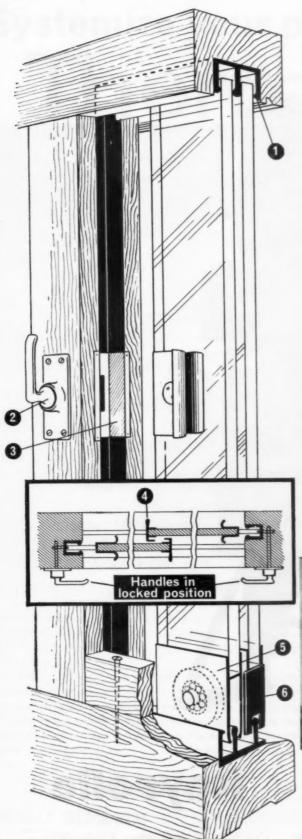
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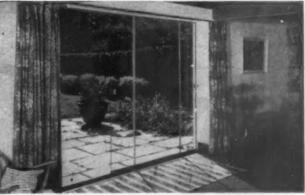
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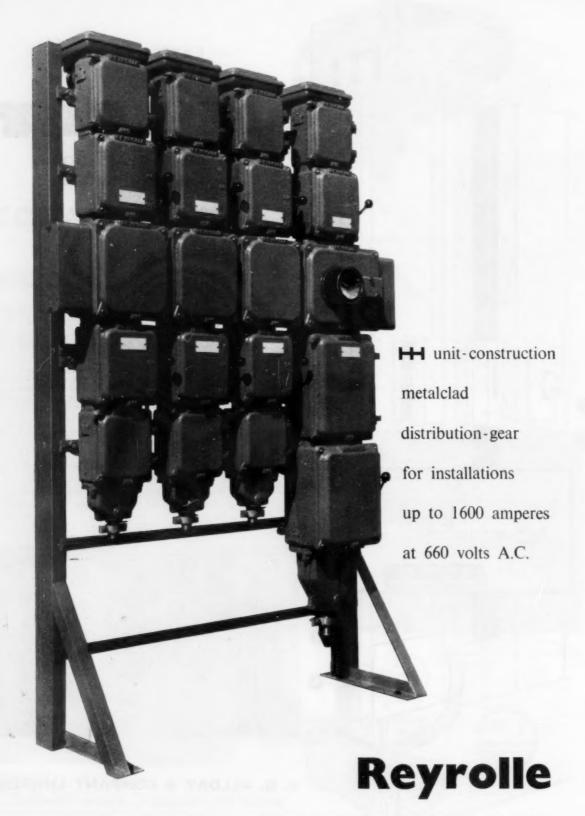


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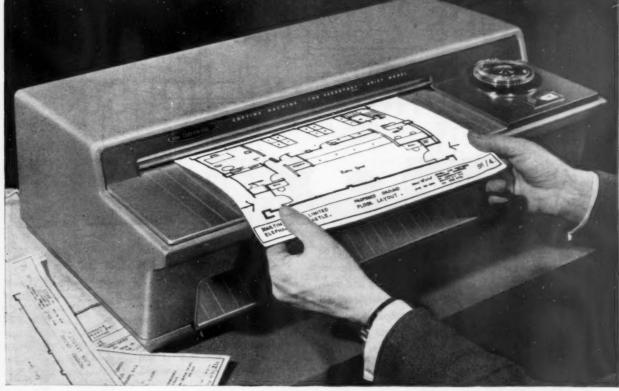
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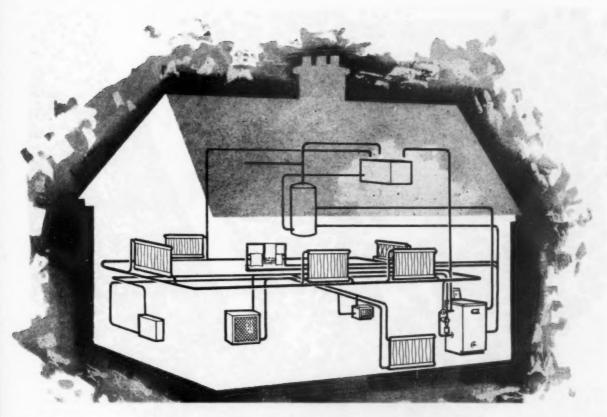


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Reom	Heat losses of conventional house (traditional construction)	Heat losses of house with 'Built-in Warmth'	Appliance rating for house with 'Built-in Warmth'
	Btu/h	Btu/h	Btu/h
Lounge/dining area	16,800	12,300	Convector 10,000
Hall and landing	8,600	5,900	Convector 15,000 *
Study	4,250	3,100	Radiator 3,060
Kitchen	5,500	4,700	Convector 4,000
Bedroom 1	7,700	4,900	Radiator 5,100
Bedroom 2	2,900	1,900	Radiator 2,040
Bedroom 3	3,600	2,200	Radiator 2,200
Bedroom 4	3,050	2,000	Radiator 2,040
Bathroom 1	1,000	1,000	Towel rail 1,000
Bathroom 2	1,000	1,000	Towel rail 1,000
Linen cupboard	-	_	Cylinder —
	54,400	39,000	45,440

*this unit also discharges into the lounge/dining area.

Corrected for an average temperature of 45°F and calculated over a season of 30 weeks at 16 hours a day, the overall saving amounts to 270 therms a year worth over £20.

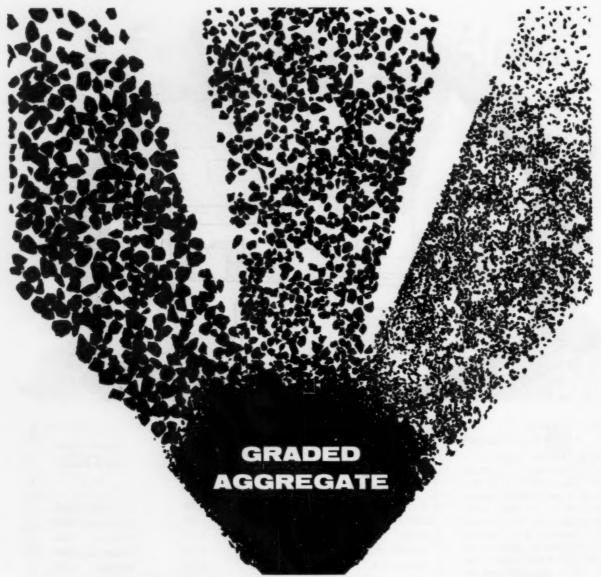
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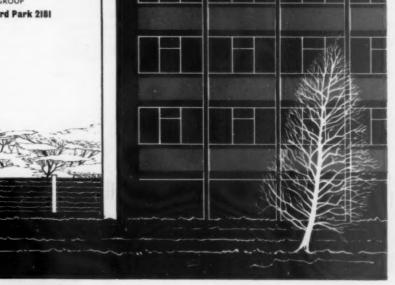
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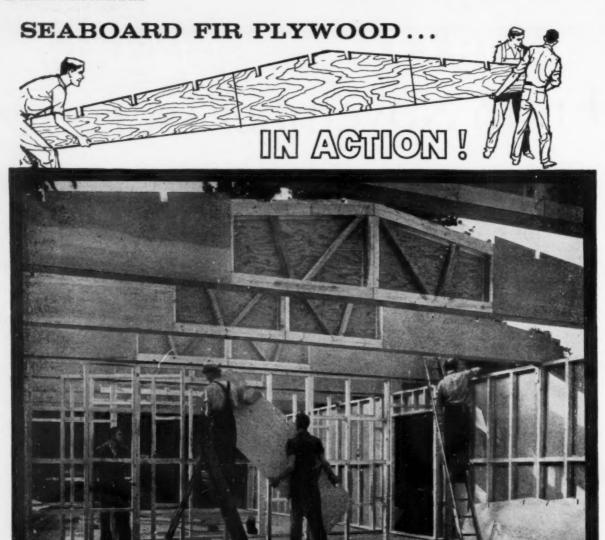
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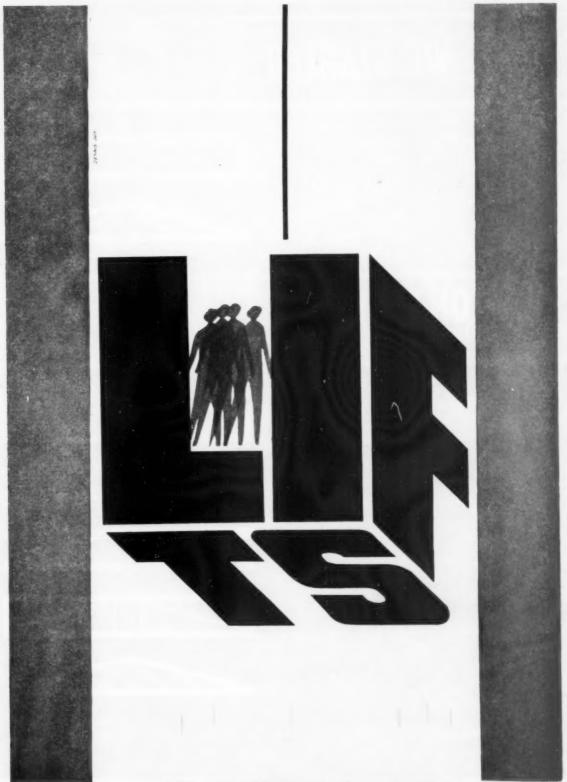
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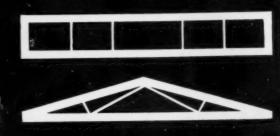
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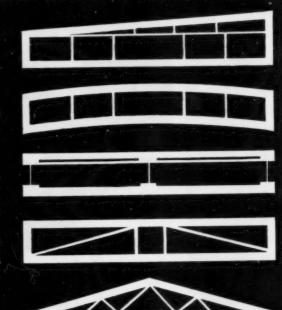
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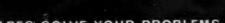
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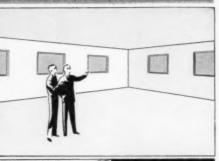
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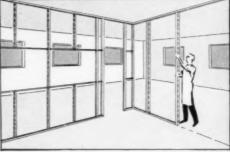
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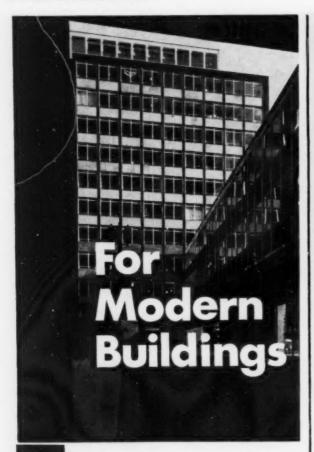
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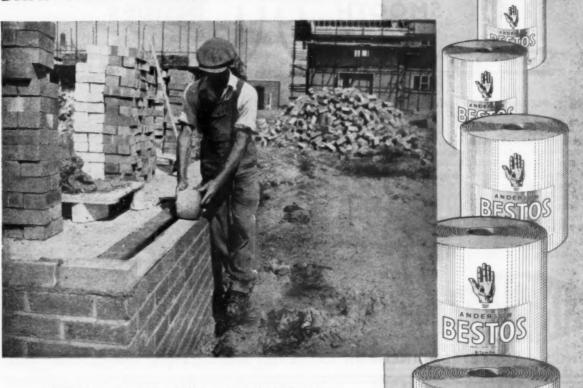
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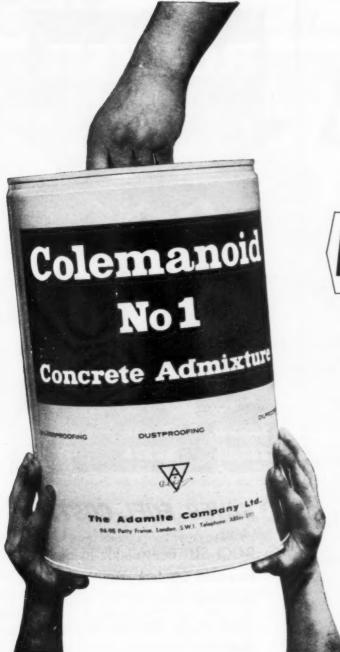
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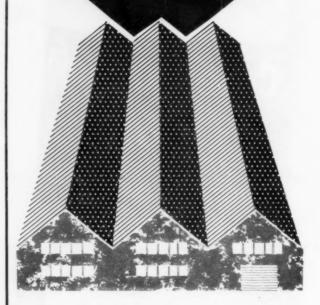
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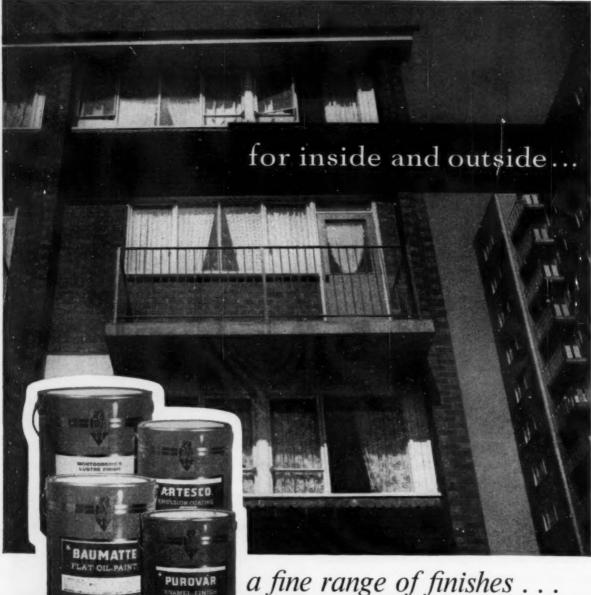
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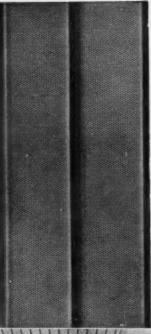
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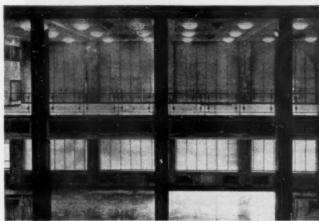


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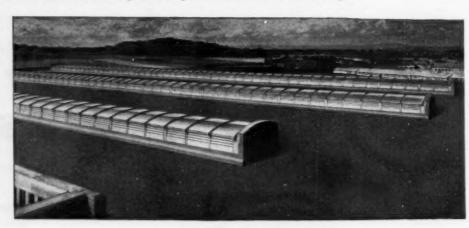
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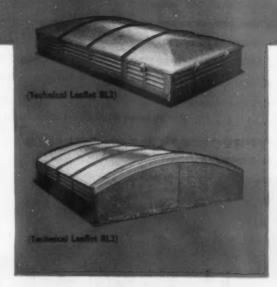
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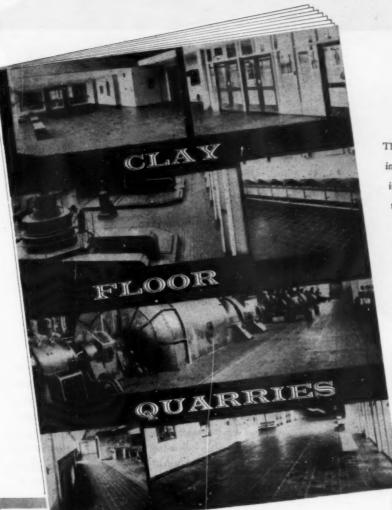
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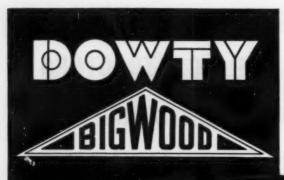
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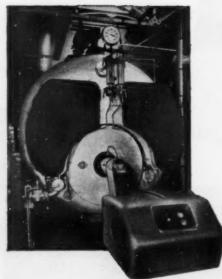
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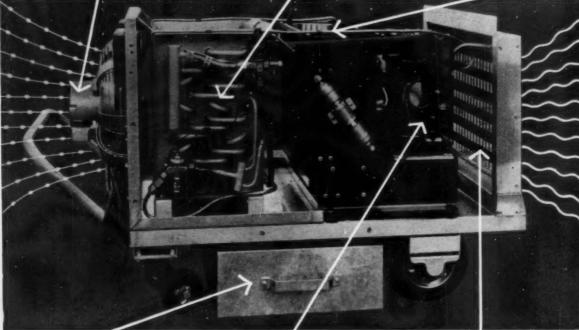
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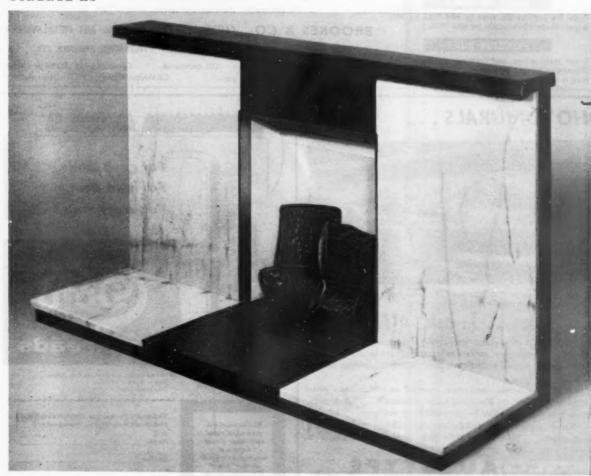
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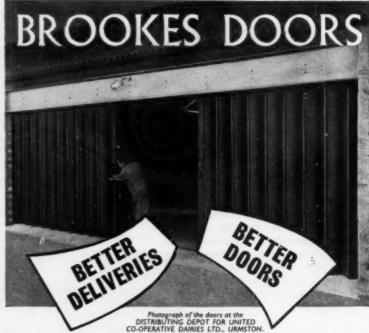
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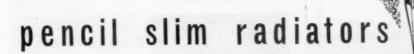
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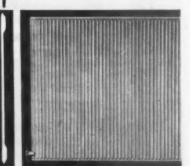


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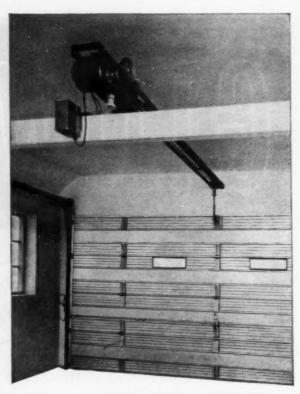
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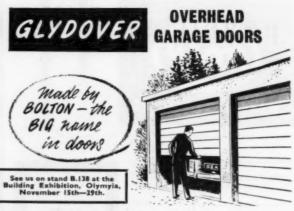
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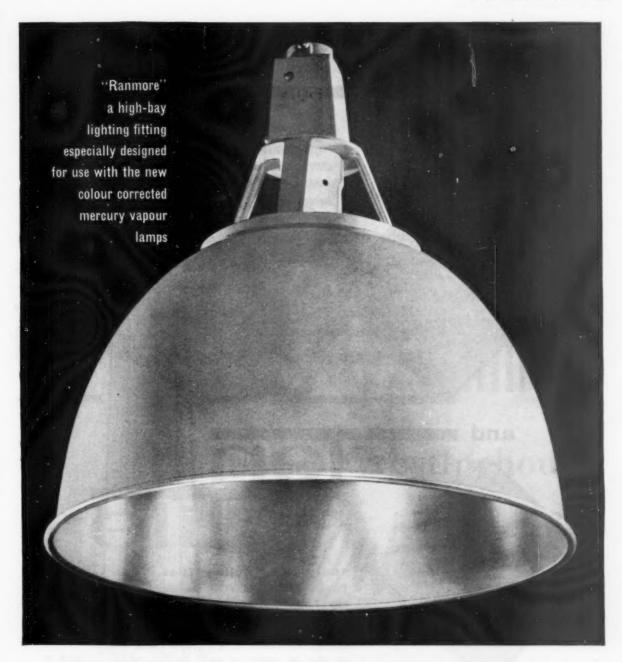


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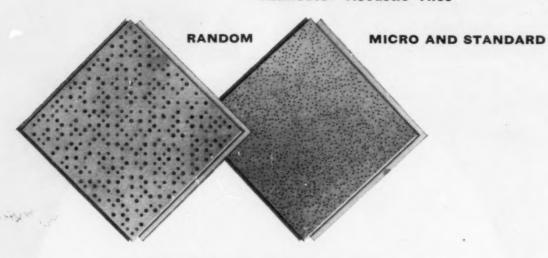
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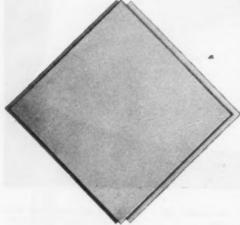
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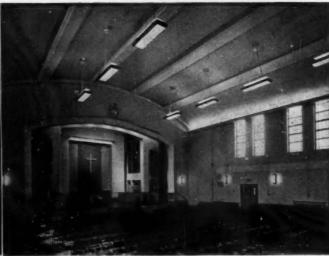
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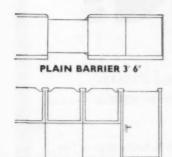
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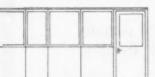
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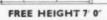


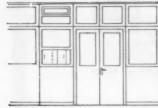






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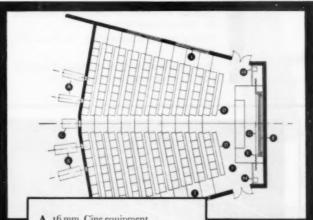
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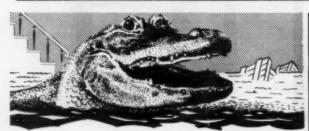
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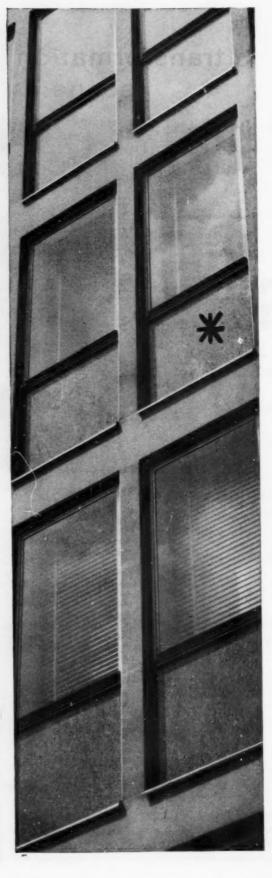
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The Architects' Journal for October 25-196

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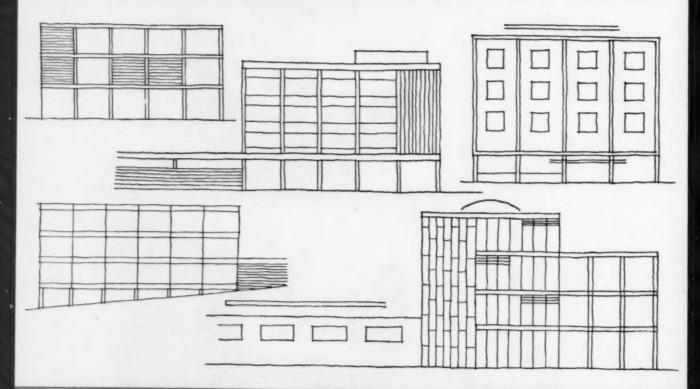


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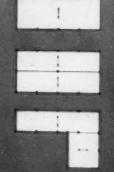


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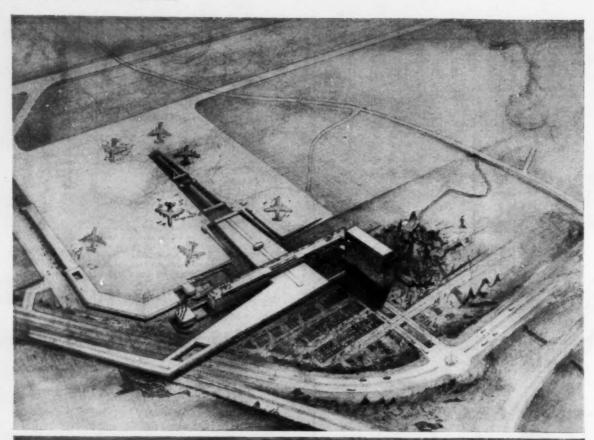
NOT QUITE ARCHITECTURE

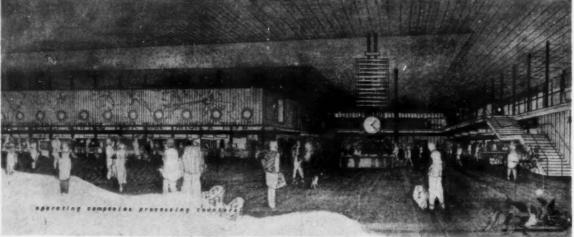
Houses, humans, and other confusions

The dire consequences of careless property surveys and ill-considered reports are gleefully related by elderly architects to their inexperienced colleagues. But, quite frankly, I've always found mundane troubles like dry rot and woodworm pale beside the human complications which seem to bedevil every survey. For example, what would you do if you were happily absorbed in prodding around for a bit of dry rot in some "Picturesque Period Cottage of Character" when your apparently demure lady client, without warning or encouragement, suddenly flings her arms around your neck and kisses you tenderly in the suntrap?

Yes, I know all about that. But what should your professional reaction be? And how would you recover your fees when she resolutely ignores all accounts? Apparently a kiss is not as good as a promise to pay. Again, what does one say to an anxious husband when, returning after a potter around the outhouses, he asks lovingly where his little lady wife has got to, and you have to explain that his little lady wife has in fact just vanished with an almighty crash down a large coal chute which some thoughtful person had covered over with a bit of old sack for safety.

I think I finally settled on "She won't





New terminal at Prestwick Airport

Considerable rebuilding has been made necessary at Prestwick because of the arrival of the jet age in passenger aircraft, and the present terminal, a dreary mixture of Scots Baronial and huttery, is to be scrapped. Site works are already in hand for a new £1½ million terminal, designed by Joseph Gleave, due to be completed in mid-1963. The site is at a lower level than the airport proper, and this has been turned to advantage by placing the main circulating level for passengers eight feet below that of the apron, including a low-level jetty between the aircraft stands. This jetty, with its circulation, waiting areas and other accommodation will look out onto sunken garden courts, so that passengers can enjoy daylight and external views without excessive noise, an important factor since the jets will taxi right up to the apron for the quickest possible turn-round. The jetty plan allows a straight-line flow for the handling of arrivals and departures in two separate streams, designed to handle up to two or three plane loads of 170 passengers each. Future extensions to the scheme may include a 200-bed hotel and a station on the adjoining main line. These sketches show (upper) a general view of the layout, and (lower) the interior of the double-storey main public concourse.

731

be a jiff, she's just slipped down to look at the cellar."

Children of parents trying to sell a doubtful house can, under expert direction, be guaranteed to un-nerve the beginner.

"Now let's all play a jolly game children and see how much we can get in the way and distract the nice gentleman's attention, especially where Daddy fell through the bedroom floor. And tell him the peculiar smell in the bathroom is where Roger does his chemistry, and the funny little holes are where the dart board used to hang. If he wants to see the roof you'll just have to let the ladder slip when he's half way up. But you will say you're sorry dear, won't you, and phone for Dr Thorpe."

Dogs I've never had much trouble with but I heard of one surveyor recently who must be having canine nightmares. He had called to inspect a house and was asked by the owner to sit down for a few minutes as she wished to talk to him. When he later heaved himself out of his chair-he was a sturdy well-built fellow-he found to his horror that he had sat on her pekinese. The dog had had no chance to move or squeal and was quite dead. In a torment of indecision he waited until she left the room and quietly put the dog in his overcoat pocket. He carried the dog in his pocket throughout the survey with a conscience lacerated by cries of "Trixie. Trixie," echoing like an accuser through the house. He took it out later and buried it and went home, and she never knew.

Goats, I've found, can be an awful bother in country surveys, but with a bit of determination they can usually be chivied out of the way long enough to examine the septic tank (cesspool with a brick knocked out and no questions asked).

But bringing goats into the world is quite another thing! "Could you possibly come and help with Penelope?" pleads the present owner's wife. "Her time's come, poor lamb." The inconsistency of her last remark does not strike home immediately because the nature of Penelope, apart from her sex, is not specified.

Two hours it took. It felt like two days. She holding on like mad on one side, me grunting on the other, and the vet minding his business somewhere else.

I sweated for that poor old goat. It put years on me. And, I mean, what scale of charges can you work to? On Quantum Meruit I suppose? But you'll get no help from the RIBA who evade the whole issue in a rather lofty way by stating that "in all cases where fees are assessed on Quantum Meruit regard must be had to all relevant factors."

Well, a few years off my life is a relevant factor, at least to me. And who is to assess the value of that?

LESLIE FAIRWEATHER

The Editors

NEW TOWNS MARK II

The designation of Skelmersdale New Town this month marks the beginning of a new series of new towns, and also, we hope, a profound change of Government policy, from unwilling acceptance of a fact too-far accomplished to be undone, to enthusiastic determination that the next lot shall be better than the first.

That they can be better there is no doubt, although considering all the vicissitudes the Mark I New Towns have gone through the wonder is that they are as good as they are. They started, a totally new experiment with a new local authority set-up, at a time of acute shortages; their phased development has repeatedly been interrupted by economic crises; they have been subject to veering Government policies, as well as to old-fashioned planning concepts, which at one time nearly turned them into poor man's garden cities.

The new New Towns have a tremendous lot to learn from the mistakes as well as the successes of the old New Towns, and we hope the Mohlg is already at work to make sure that they do, and that the Minister's appointments to the new development corporations will make full use of the fact that we now have many experts on the subject, whereas before we had only interested amateurs.

One thing is vital to success: the appointment of architectplanners of the calibre to make the best use of all the knowledge we have accumulated, for the planning and design of new communities which fully provide for the needs and happiness of the human individuals who will compose them. This will not happen unless the rewards of being a new town architectplanner measure up to the importance (and the difficulties) of the job.

In the twelve years' moratorium since the first new towns were launched by the Labour Government, the salaries and conditions of employment of architects in the development corporations have fallen seriously behind. Today the top salary for the chief architects of the larger new towns is £2,400 a year, and there is no promise of continuity of employment or advancement: to design a new town is a temporary job of tremendous responsibility.

The Minister must put this right if he is to recruit the right men for the job, just as his colleague at the Ministry of Health had to push up salaries to recruit the architects needed for the hospital building programme.

Here also is a field for the Association of Official Architects, about which we wrote last week, to organise and work for an improvement of scales in the architects' departments of the new towns, the staff of which are also working below the rate for the job because of the very low ceiling.

TOP PHILISTINES

The Prime Minister has sent a letter to the Victorian Society stating that the possibility of numbering and storing the stones of the Euston Arch would be examined. It is typical of this complacent, Philistine age that the lodges should be demolished and work on the portico itself about to start before such an obvious course should even be considered. Here is proof, if it

were necessary, of the limited intelligence of the men who run this country and its railways.

The fight for the preservation of the portico has been a pathetic affair to date. If the fight is lost, official preservationists can partly blame themselves, being unclear in their objectives, disorganised, and lacking initiative.

A measure of the Philistinism of this country's top people can be read in an inaccurate leading article in The Times of October 17 which stated that funds for the preservation of the portico "could be so much better spent elsewhere". Here, without doubt, The Times is writing without even consulting its

architectural correspondent.

In a better world we would spend the money, and billions more, on the multitudes who are hungry and homeless. But The Times editor was not trying to write himself out of a job: presumably he had other buildings in mind which need preserving. It is, however, extremely difficult to decide which buildings are the most deserving. The Euston Arch, being unique, if unfashionable, should rate high on the list. Certainly saving the past could become a burden but, as tourism shows it is also a source of profit. The circumstances when such extravagant gestures as building the giant Euston portico could be made are long past (which is just as well). On the other hand we may never be wealthy enough again to afford such purely visual gestures. But a mere glance at our utilitarian new towns shows our present visual impoverishment. Therefore we should not lightly discard the few great monuments we have.

Of course, the portico has no real function: preserved it will not provide a background of gracious living for impoverished stately-home owners. It is merely a unique monument to the great railway age on which the prosperity of the Victorians was carried. It is merely a symbol of the industry and enterprise of our forefathers. Can we afford to lose it?

ASTRAGAIL NOTES & TOPICS

UP ABOVE THE ARCHES

I hope the Ministry of Transport is keeping a watchful eye on Jack Cotton and Erwin Wolfson's plans for building above the railways in New York and Chicago. We might well not want anything quite like New York City's Pan-Am building above Grand Central station, a 59-storey tower topped by a heliport. But the possibility of building over the railway lines and sidings which take up acres of land in the centres of cities ought to be considered.

Cotton and Wolfson recently gave some details of their latest American tycoonery: the Pan-Am tower, which rests on 55-ft steel piers inserted through three levels of platforms served by 2,000 trains a day, is now up to 16 floors. Apparently

a key construction problem was isolating the columns from vibration set up in the bedrock by moving trains. The experienced gained by Wolfson's Diesel Construction Company in overcoming this will soon be widely available, as a result of a close but inscrutable agreement between Cotton and Wolfson, and its first fruit will be three buildings in Chicago totalling more than 3,500,000 sq ft of floor space, built over railroad tracks.

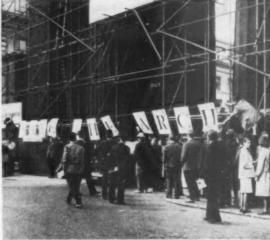
Although Covent Garden failed to get rebuilt over the tracks at King's Cross, one hopes the possibilities are being seriously examined.

VICTORIAN ICING

Although it seemed sinful to sit listening to Charles Handley-Read describing profusions of Victorian decoration while the Euston Propylaeum was threatened, what he said was absorbing. His two talks at the v & a covered the full range of secular Victorian architectural sculpture including classical pediments, the trimmings of "the architecture of display" and Philip Webb's rebellion from them. Highlight of his talk was Webb's lampoon of the Establishment of his day with a design for a terraced and colonnated pyramid in Trafalgar Square commodious enough to house all the loyal sculpture of the age. It was to be surmounted by a "statue of Vic' on a bronze elephant 50 ft. long."

A few days later at the Arts and Crafts Guild Nikolaus Pevsner settled down with customary relish to ascribe reasons for the vagaries of Victorian architecture, some resulting from the poor taste of a new class of patrons and others from the fascination to the age of architecture that told a story. He gave the example of the employment of Moorish forms for synagogues to indicate Jewish associations with Toledo. After the audience had seen slides ranging from the Palais de Justice at Brussels, "Victorian baroque's Tower of Babel," to the first Grand Central Station in New York City, it became apparent that





Sad rather than stirring was last week's emergency demonstration to save the Euston Arch: students from the RCA, architects from the LCC and Robert Matthew's office made up the bulk of attendance, with creditable appearances by Sir John

Summerson, J. M. Richards, Ernö Goldfinger, Gray of Watkins, Gray & Partners, and, of course, representatives of the AL.

the Victorian Society has prompted little appreciation for such things. During one slide an elderly booted gentleman murmured: "That's a real sod, that one."

Pevsner found himself compelled to voice a related opinion when he showed a slide of a New Haven, Connecticut railway station of 1848. The building was in the oriental-baronial style. "I find that very, very terrible," said Pevsner with enthusiasm, "but I realise one could develop tender feelings for it." Subsequently he put in a plea for the complete listing of Victorian architecture to ensure its preservation and blithely volunteered his services to help do it.

ARCHITECT FAN

Architects tend to be a bit haughty over anything so commercial as advertising, but they owe something of a debt to John Gloag, who has just retired after several decades as a director of Pritchard Wood & Partners. In the late twenties and early thirties he was a persistent nagger on the question of good design, whose clients found themselves joining societies like the DIA, working on committees and employing architects to design all manner of products, from boilers to light fittings.

For instance, Venesta was the first to run a competition for a Building Exhibition stand: Gloag was behind that. It may not sound very startling nowadays, but 30 years ago industrial designers, if they existed at all, worked in sordid little attics at sweeper-up's wages, and the same old exhibition stand would be dusted off to pop up again and again at the Building Exhibition, Castle Bromwich, Ideal Homes and all over the place.

Manufacturers have certainly woken up today, but a lot of the early prodding came from Gloag, although he must have been aware that many clients are liable to drift away to a lower voltage consultant if prodded too hard. Add this concern for modern design to his architectural historianship—if that's the word—and you have a man with a remarkable spectrum, which earned him a rare HON ARIBA.

KEEP THE JAM RED

Must London lose its traditional scarlet buses? ASTRAGAL has just been reminded of the threat by seeing three of the new aluminium monsters in the Haymarket. Aluminium has already become familiar underground, where it is sad, but not disastrous. The streets would lose enormously. No doubt alu-

minium is cheaper, but have London Transport no sense of public relations left? The goodwill created and sustained by the thread of scarlet in London streets should not be sacrificed. London Transport should simply transfer the cost of red paint to the publicity account and spend that much less on posters.

WHAT'S IT FOR?

The Tapisseries de Petit Format, now on show at the ICA, are even more petit than you might expect. One is about two inches by three: several are smaller than a 12-inch record sleeve, and none are big enough to make a decent table-cloth. The makers of these weavy pictures insist that they are Tapisseries-objet, not Tapisseries d'Ammeublement (work it out for yourself). But what is the use of tapestries that are not big enough to cover a lot of wall? Once they get out of their frames, they will rapidly be mistaken by the servants, children and visitors for antimacassars, teapot stands and hand-towels, and have to be sent to the laundry. Frames? Oh yes, they are much too small and awkward to be hung on the wall as found, so you will never have the pleasure of looking at their surfaces. Give me oldfashioned paintings and drawings any time.

LETTERS

F. N. Shimmin, BSC, MICE

J. Maden

Alfred J. Rowe, Student, RIBA

M. J. Kirkup

W. H. McAlister, piplarch (L'pool), MRIAI

Paul Ritter, Barch (L'pool),

EDG: Drainage

SIR: In looking through your very interesting Elemental Design Guide on sfb (12) Drainage: General (At 4.9.61), I notice that in Item 6, page 556, there is a note: "Special requirements by local authorities: separate drains on site for future separate sewers no more sw accepted in existing combined sewer."

It is commonly believed that a local authority can refuse to accept surface water drainage into a public foul water sewer, or into a public combined foul and surface water sewer if it is overloaded. This is by no means the case.

In the first place Subsection 34 (1), Public Health Act 1936 entitles the owner or occupier of any premises within the district of a local authority "to have his drains or sewer made to communicate with the public sewers of that authority and thereby to discharge foul water and surface water from those premises or that private sewer. Provided that nothing in this subsection shall entitle any person . . .

(b) where separate public sewers are provided for foul water and for surface water, to discharge directly or indirectly—

(i) foul water into a sewer provided for surface water; or

(ii) except with the approval of the local authority, surface water into a sewer provided for foul water."

Thus if only one public sewer is provided, the owner of the premises is entitled to discharge both foul and surface water into it. Furthermore the proviso states "where separate public sewers are provided...."

It is, therefore, extremely doubtful that a local authority can require the owner of premises to instal separate foul and surface water drains if separate public sewers do not exist when the owner wishes to connect. Secondly, the fact that any public sewer is or may become overloaded does not diminish an owner's right to have his drains made to communicate with it, nor can a local authority refuse to accept any more sur-

face water into an existing public combined sewer unless they have provided a separate public surface water sewer accessible to the owner of the premises. Generally, alleged special requirements of local authorities should be carefully examined, particularly if they are likely to involve an owner in additional expense.

F. N. SHIMMIN

Frodsham, Warrington

Punch holes

sir: We have studied with interest your recent editions dealing with the sfb system and you may be interested to know that we shall be adopting it and have separately ordered a further 20 copies of the AJ in consequence.

We wonder if it is possible for you to arrange one further convenience for your readers who are adopting sfB and prepunch the whole journal so that we may more easily file both editorial and advertisements. We are sure that this additional service would make the system and the AJ substantially more acceptable in the average office.

J. MADEN

London, w1

We would like to hear from other readers that they would like to have the M prepunched. We note that Mr Maden asks to have whole journal drilled so that he can file all the advertisements. However we are not yet convinced that all readers (or advertisers) would be prepared to have four holes drilled through every page, including full-page illustrations—THE EDITORS.

SIR: ASTRAGAL writes in his notes this week that you would be interested to hear from readers who think that prepunching to the continental standard of 20-80-20 mm would be of use. I, for one, would welcome the idea but if it does not prove practicable, perhaps you could persuade your printers to play the game and mark the positions accurately and not in the inaccurate off-centre positions they have chosen so far.

Incidentally, the price you quoted for the Agrippa file is valid only if one buys a dozen. One at a time they cost 39s 6d each.

ALFRED J. ROWE

Greenford, Middlesex

We apologise for the printer's inaccuracy on the punch-hole marking. Stuart Thompson have confirmed that Agrippa files will be sold to ARCHITECTS at 35s each. Architects should ignore the price list in this instance.—THE EDITORS.

SfB

SIR: As the system builds up, what use will the Bibliography (Publications File, p 513, AJ 4.10.61) be, in the form of non-

consecutive headings as published? Surely it would be worth the time, space, etc., to produce quarter-page (A6) reviews to be filed side by side with the new product reviews by Brian Grant? Otherwise there has been no advance from the old bibliography pattern of pasting the reviews on separate cards in the right order.

M. J. KIRKUP

Hither Green

Unlike Information Centre, which was conceived as a permanent reference, Publications File is a news service. Its object is to notify readers of all publications in their field which have come out in the last month or so; and, though we think it would be useful for readers to keep the sheets of Publications File for a year or more, we assume that they will throw them away thereafter. Our reasons for this change in policy are:

1. Since technical publications go out of date fairly quickly, we consider that there is no great value in supplying a consolidated list of the kind amassed by those few heroic souls who actually cut out and pasted up the items in Information Centre, for, as time goes on, a larger and larger percentage of the items in such a list is out of date.

2. We are now providing the architect with his permanent references in the Element Design Guide. When a new reference of real value comes out, it is certain to find its way, sooner or later, into the EDG. The function of the Publications File is, therefore, limited to notifying readers of the existence of such references between the 1-me of their first appearance and the time of their incorporation in the EDG.

The virtue of the present form of Publications File is that it is possible to record virtually all publications in a relatively small space. If we were to adopt the quarter-page format we could only get one-third of the number of publications on to one page. We would be obliged therefore either to give less than a full coverage or to spend more pages than we can afford.—THE EDITORS.

Comprehensive design group

SIR: Mr. Munce's letter in AJ 27.9.61 interests me in that I am aware that small firm associations are being set up and I am inclined to agree with him that the intention of such a move is to increase the "strength" of the separate units technically and in staff potential, thus allowing the amalgam entry into the "larger projects" field. This seems rather a "united we stand, divided we fall" policy.

It is certainly an irritation to larger firms knowing the essentials of large practice efficiency, and the trials of achieving such organisation through time and effort.

I agree it could be indeed detrimental to

the profession if such associations were accepted when indications and reasons referred to by Mr Munce do not indicate true service and results being achieved.

W. H. MCALISTER

Belfast

Educational supplement

SIR: There was a serious omission from the article on the new course in the Theory and Practice of Building at the Nottingham School of Architecture in this month's Educational Supplement; you did not give the name of the head of the school, D. W. Notley, although it was in the manuscript, and ought to be associated with the important innovations described.

The illustrations of the working drawings referred to in the article were also not included, but will, I understand, appear in the next supplement; they are vital to a properly balanced picture of the work of the school.

PAUL RITTER

Nottingham

The working drawings were regretfully omitted owing to difficulties of block making.—THE EDITORS.

DIARY

Thermal insulation of buildings: MOW lecture at Mid-Warwickshire College of Further Education. Warwick New Road, Leamington. Speaker, A. A. Clark, of Structural Insulation Association. 7.15.

NOVEMBER 1

Practical aspects of site investigation:
MOW lecture at Willesden Technical
College, Denzil Road, London, Nw10.
Speaker, S. J. Button, BSC, of Terresearch
Ltd. 7.15.
NOVEMBER 1

Building in New York City: lecture by A. W. Barker, of Sir Robert McAlpine & Sons, tickets from the Secretary, Brixton School of Building, Ferndale Road, London, sw4. 7.0. Admission free, accommodation limited. OCTOBER 25

New strategies for local authority building: lecture by Elizabeth Layton, RIBA at 6.0. NOVEMBER 7

Standards and values in motor age towns: Colin Buchanan gives fifth triennial Rees Jeffreys Lecture for TPI, at Henry Jarvis Hall, 66, Portland Place, at 6.0.

I was a teen-age consumer: Paul Jennings, luncheon meeting by Design and Industries Association, 13 Suffolk Street, London, Sw1. 12.30 to 2.30.

NOVEMBER 2

Stepney and Poplar housing and redevelopment: visit conducted by Walter Bor. Introductory talk at County Hall, 9.30 am. OCTOBER 28

NEWS

The impact of industry on the countryside

The impact of industrial development on the countryside was the theme of the national conference of the Council for the Preservation of Rural England at Southport on October 12 to 14, and Dr H. E. Bracey of Bristol University quickly brought the subject from the general to the particular by describing a systematic inquiry made during the last few months under his supervision, into the impact of the oil and electricity industries on Hampshire and Dorset.

The inquiry, a full report on which will be published in the new year, was sponsored by the Royal Society of Arts, conducted by the Acton Society Trust, and supported by the Nuffield foundation. One of the most hopeful facts it had brought to light was the effect of the "amenity clause," originally put into the Electricity Acts of 1952 and 1957, and since embodied in planning permissions for oil developments.

Dr Bracey said he had been much encouraged when he saws its results in Milford Haven, after seeing the mess produced at Fawley in its absence. On the other hand, he was appalled at the ignorance of ordinary people about what was happening to the countryside and frightened by the inability of the electricity industry to do anything really satisfactory about its transmission lines. "Industry," he concluded, "is prepared to do anything we want if we provide the money." But people in general were not prepared to find the money to preserve rural amenities. It was up to the CPRE to make them realise what was happening and to persuade them that the money was worth finding, instead of preaching to the converted. To this end it must abandon the notion that the country belonged to the countryman. "That," declared Dr Bracey, "is non-

sense: you can't separate town and country today. In this motor age all England belongs to the Englishman." Other speakers seemed anxious to rebut the aspersion, frequently cast on "preservationists," that their attitude is selfish, negative and ostrich-like; but there were dissentient voices. Lt-Col G. G. Haythornthwaite, of the Sheffield and Peak District branch, questioned whether the enormous industrial installations of today could be integrated into our delicate landscape at all, and suggested that they should either be collected into "modified hells" or buried in trenches. L. F. Daniels, of Northleach RDC, complained of "local officials" who wanted to introduce light industries into Cotswold villages to employ young people made redundant by the mechanisation of agriculture, "I think this is a transitory thing," he said, "and I think we should ride it out."

To such protests, David Percival, city architect of Norwich, replied that it was pointless to argue against industrial developments: we had to come to terms with them, even in small towns, villages and remote coastal areas, and the only right answer in most cases was to insist on a high standard of design. Screening by trees and massed shrubs could often help, but was no substitute for commissioning a good architect.

He called for an effective industrial slum-clearance campaign, for an end to the double standard of factory design for "Magdalen Street" face-lifts for existing industrial estates and a clear-up of their rubbish and prison-camp wire-scapes, and put forward a case for legislation to make industrial planning permissions probationary — subject to periodic review and renewable on good behaviour.

This last suggestion was echoed by J. Casson, of the Lancashire County Planning Department, who spoke on the restoration of derelict land. In 1948, he said, when planning authorities had to deal with a spate of applications for permission to continue mineral workings, they had not the know-how they now possessed; moreover, many things were technically feasible now that had been thought impracticable then.

He also thought the Government should restore the specific grant for the reclamation of land, and should take a long, hard look at the General Development Order, which gives carte-blanche for the extension of existing colliery tips and has been largely responsible for the addition of 4,000 acres to Lancashire's derelict acreage in ten years—an addition which his authority had been powerless to prevent.

Mr Casson pointed out that over 14,000 Lancashire acres were in current use for mineral extraction and tipping, and that these activities accounted for two acres in every five taken each year for development of all kinds. He went on to describe some of his authoritiy's successful schemes for growing grass and trees in raw colliery shale, and to outline its policy for integrating the reclamation of derelict land into its overall development plan. But he confessed that in the present administrative and financial circumstances the county council could not hope to keep pace with the spread of dereliction.

Philip Barnes, secretary of the Lancashire branch, wound up the conference with an eye-opening account (for delegates from the rural South) of what the work of the CPRE entails where 4,500,000 people live in a hotch-potch of town and country at an average density of over 3,700 persons a square mile.

He maintained that the guiding principle of planning in a democracy must be "people matter most." We should be selfish fools, he said, to try to resist the demand for needed living space, or to argue that open land should be saved at the cost of depriving people of the type of house they wanted. That was why the Lancashire branch of the CPRE had accepted the necessity for a new town at Skelmersdale (though it hoped no more would be established in the southern half of the county) and regretted that it was to be built at a higher overall density than Wigan, Warrington or Burnley.

The important thing, in his view, was to save what remained of the coast and of the open country near the overcrowded conurbations. Green belts must not only be preserved from development (including what he called "polio-wireitis"): they must also be made and kept visually attractive. The green was needed on the land itself, and not merely on the official map.

COMP & BETT

If Labour wins

The public acquisition of freeholds, considered as a means of tackling the compensation-betterment problem, might take an almost infinite variety of forms. The only forms worth considering, however, are those which have some prospect of finding political favour; and the only reason why public acquisition in any form has become politically thinkable, as my last article (AJ 11.10.61) explained, is its growing appeal as a means of tackling the different problem of high land prices.

Since the Conservatives are far from disposed to use it for this purpose (and have shown no sign that they intend to tackle the compensation-betterment problem in any other way), it would seem that if any attempt is made to give our planning system a secure foundation it will take one or other of the two forms of public acquisition now being canvassed in the Labour party. These are: the official policy, briefly adumbrated in "Signposts for the Sixties," and the unofficial scheme more fully expounded by a group of experts in "The Face of Britain."

The central proposal of the first—to quote the second—is "extraordinarily vague." This vagueness is defensible on the grounds that "Signposts for the Sixties" does not purport to be a blue-print, that the scheme has yet to be thoroughly worked out, and that a future Labour Government must have room for legislative manoeuvre.

It also has the political advantage that it enables the scheme to be represented as a means of achieving either or both of two conflicting purposes—to cheapen building land and to collect the betterment derived from permission to build on it—each of which appeals to a different section of the party and the electorate, but each of which is attainable only to the extent that the other is foregone.

The recent Labour party conference did nothing to clarify this proposal, though it did indicate that the cheapening of land is the purpose uppermost in the mind of the party's rank and file. For the nearest approach to a clarification one must turn to Hansard for July 20, read the contradictory versions of the scheme then given by Labour spokesmen, and guess which is likely to prevail. It was common ground among them that Labour would set up a Land Commission, whose functions would be to buy land as and when planning permission for its development or redevelopment was granted, as well as all land required for public purposes, and then to lease its acquisitions to developers, public and private, at ground rents that would rise as the value of the sites in their new uses increased. It was also agreed that the net profits made from these transactions would be divided between central and local government. Thus the scheme's incidental benefits would include the creation of a new source of municipal revenue, as well as the unification of ownerships in redevelopment areas and the salvation of the planning system.

What this proposal means, of course, depends entirely on what the Land Commission would pay and charge for the sites it acquired and leased. According to one Labour speaker in the debate of July 20, the Commission would pay the current market value plus a "sweetener"—in which case the cost of land for housing and public works would go on rising, and the only betterment collected would be that which gradually accrued to each newly developed site because neighbouring development and the growing pressure of population enhanced its value in its new use.

According to other Labour speakers. however, it is intended that the Land Commission should also collect a proportion of the other kind of betterment—that which is instantaneously created by the granting of permission to develop. This it would do by paying a price made up of the value of the land in its existing use, without planning permission, plus an amount sufficient to compensate the owner for the cost of re-establishing himself in some other position equally favourable for that use, plus a "sweetener" to make him a wining seller.

It is questionable whether landowners in general would prove willing sellers at anything less than the current market value of their land with planning permission so long as developers were called upon to pay for it on that basis. Assuming that they would, however, the betterment derived from planning permission could be collected in this way—but only if the ground rents at which the Land Commission then leased the land for development or redevelopment did

in fact reflect its full market value with planning permission. Whether they would or not is a point on which Labour's spokesmen were discreetly silent, but implicitly at odds with one another. If they did, the scheme would fail in what most of its sponsors regard as its main purpose-to reverse the rise in the cost of land to developers. If they did not, then "change - of - use" betterment would remain uncollected. What is more, the disposal of land at anything less than the highest available bid would entail the adoption of some form of rationing and some form of control over the rents at which developed land was sub-let; otherwise the whole operation would become a mere transfer of wealth from landowners to arbitrarily selected speculative developers. All this would inevitably give rise to endless administrative difficulties and create more ill-feeling than the abuses it was intended to remedy.

It would seem then that the only way to make the "Signposts" scheme work satisfactorily would be: (a) to use the threat of compulsory purchase without "sweetener" to induce sales for private development; (b) to charge all developers full market value; and (c) to use the profits so made for distribution among local authorities in the form of overt housing subsidies and redevelopment grants. The only viable alternative-to charge full market rents to private developers and lower rents to public authorities-was preferred by Labour speakers in the Commons debate, but would inevitably antagonise the growing army of prospective owner-occupiers whose votes Labour must win.

Even in its most workable form, however, the scheme would have serious drawbacks. For example, the Land Commission would collect "existing-use" betterment from its lessees in the form of rising ground rents, but not from the owners of land whose use remained unchanged. This would discourage the putting of land on the market and thus raise its demand price. By the same token, the scheme would encourage owners to go on patching up their property long after it had become obsolete and was needed for more productive uses. In so far as it sought also to collect "change-of-use" betterment it would further diminish the willingness of landowners to sell.

In practice, the Land Commission would find itself obliged to abandon the "willing sale" theory altogether in favour of the wholesale compulsory purchase of land allocated for development by the planning authorities, and the price pa'd would become an arbitrarily fixed percentage of current development value.

The alternative scheme, published by "Socialist Commentary" in "The Face of Britain" and summarised in the AJ of September 13, is free from these defects. It is not, of course, without weaknesses of its own—the more apparent because it has been more fully elaborated—but none of them is inherent and irremediable. The most important, in my view, is that its authors have need-

tessly gone too far in the opposite direction. They have attempted to build into their solution of the compensationbetterment problem a positive bias towards early redevelopment.

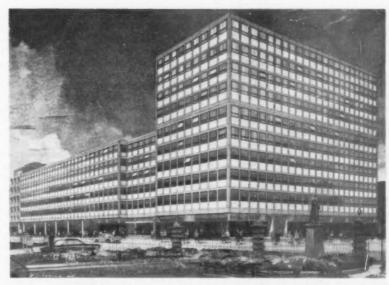
It is, of course, essential to the mechanism of their scheme (a variant of Bryan Anstey's "unification of the reversion") that a statutory "life" should be put on each building, and this procedure demands a general recognition of the fact that no building lasts for ever. But it is not essential, nor is it desirable, that this statutory "life" should purport to represent the length of time for which the building might normally be allowed to stand. Its purpose, after all, is to set a term, not to the existence of the building itself, but to the rights derived from its ownership.

It is important that all statutory "lives" should be assessed on the same basis, that the compensation payments due on their termination should be spread over a period, and that this period should be long enough to make the termination of a recent building's "life" of little or no personal concern to its present owner. But so long as these conditions are satisfied it does not matter how notional is the "life" attributed to each building.

That "life" could as well be related to the building's place in a staged redevelopment plan as to any subjective assessment of the length of time for which it can be exected to remain physically sound, suitable for its purpose and up to contemporary standards of amenity. Better, indeed; for the more "reasonthe assessment purports to be based on such factors, the greater the scope it will offer for dispute, misunderstanding and resentment. Only a cut-anddried, rule-of-thumb formula, making no pretence to relate a building's statutory 'life" to its actual prospects of satisfactory service, could save this device from being discredited in operation by wholesale appeals, by its apparent disparagement of good maintenance and renovation, and by the inevitable survival for decades to come of countless buildings to which no "reasonable life" at all can be assigned.

One other fault must be mentioned. Granted that the freehold-owning authority should also be responsible for the making of development plans, and that this function can be effectively discharged only on a regional basis, I cannot conce've how any economist, geographer or sociologist could put his name to the suggestion that the number of areas in this country which can properly be defined as regions in this sense is eight or 10. Twenty-five or 30 would be nearer the mark.

Otherwise the scheme as it stands fulfils all the requirements, from a planning point of view, of a solution to the problem of compensation and betterment, at least so far as developed land is concerned. From the standpoint of practical politics, however, its prime virtue is that it would also, incidentally, serve the quite different purposes of the official



South of Euston Road, adjoining St Pancras Church, Russell Diplock Associates have designed this block of multi-storey offices topped by externally indistinguishable flats. The five-storey, air conditioned (including cooling) offices will be leased to G, N. Haden & Sons, the flats to the LCC. The block will have a reinforced concrete frame, with Laing's patent cladding system, Laingwall. Storey-height precast concrete wall sections, complete with cladding and internally finished with provision for built-in services will be erected in one rapid operaton. The cost of the building will be around £600.000

Labour scheme much more effectively than the official scheme itself. Simply by substituting leasehold for freehold tenure, it wou'd at the same time enable the cost of land to the developer to be lowered and ensure the collection of both kinds of betterment, without interfering with the operation of a free market or unfairly discriminating between one class of landowner and another.

When these advantages are generally realised, it should stand a fair chance of superseding the official scheme. We may yet see the necessary basis for positive, three-dimensional planning established, like the British Empire, in a fit of absence of mind.

DEREK SENIOR

TCPA discusses the face of Britain

Authors of the Socialist Commentary plan to make planning work stood up to lively questioning and criticism in an alltoo-short discussion of their document, The Face of Britain, at the Planning Forum last Wednesday. Their audience included a Tory MP (F. V. Corfield-Gloucester South), and what Wyndham Thomas in his opening had called the "interested amateurs" of the Bow Group, and a solitary Liberal who promised a Liberal Party plan for planning, and called resonantly for "active participation by the people." ("We're not a Greek City State, you know," commented Lewis Keeble in reply.)

The main criticism of the plan, not surprisingly, was of its central proposal, that public authorities should become the ground landlords of all land, and that all buildings should have a "statutory life" after which rent would cease and renewal could be expected to follow except in the case of outstanding buildings.

These key proposals were succinctly outlined and defended by Malcolm MacEwen after Lewis Keeble had spoken on planning as "the most important issue of domestic policy" if we are "to realise the potential in human happiness," and Graeme Shankland had outlined how transport of all forms must be planned together and integrated in the work of a new Ministry of Town and Country Planning, with power to control employment and transport. People are generally using transport to get somewhere, he sensibly pointed out. The aims of the proposal were acclaimed as generally acceptable by all who spoke in the discussion, but the means by which the generally acceptable end were proposed to be achieved, were described by Geoffrey Block, of the Conservative Research Department, as "a return to feudalism" and by Henry Wells, the expert on land valuation, as "impossible." He thought the Compensation and Betterment charge of the 1947 Act was perfectly workable and had only failed before because it was ahead of public opinion, which today would find it acceptable. (Mr. Keeble expressed his personal agreement here, remarking "That makes two of us!") A lively evening, which could have been still more useful if there had been more time seriously to go into the financial and land ownership proposals on which the scheme is based, and which are difficult to grasp, instead of being devoted to such hoary old debating points as "do Conservatives believe in planning?"

New civil engineering films list

An up-to-date list of films and models available illustrating the various activities of the civil engineering contracting industry has just been prepared by the Federation of Civil Engineering Contractors, and is obtainable, post free, from the Federation, Romney House, Tufton Street, London swl. The films and models can be borrowed, usually without charge, from the federation members concerned.

Swansea builds first OP flatlets in Wales

The new Minister of Housing, Dr Charles Hill, opening the first block of old people's flatlets to be built in Wales, at West Cross, Swansea, last Wednesday, sharply attacked the idea that such flatlets are "sub-standard" (in the matter of shared lavatories).

A report of the reactions of old people living in six such schemes in England is shortly to be published by the Ministry, said Dr Hill.

Appointments to new towns commission

First appointments to the Commission for the New Towns which came into being on October 1 have been announced by the Minister of Housing and Local Government. Sir Duncan Anderson is chairman of the Commission, and the three members so far appointed are General Sir Nevil Brownjohn, Henry Wells, and J. D. Russell, a member of a firm of City accountants.

Building apprenticship may change

The system of "serving his time" may be drastically altered, if the building employers and unions agree to proposals made by the NFBTE's Working Party to consider the length of apprenticeship in the industry.

The president of the NFBTE, Mr. Frank Russon, told a meeting of North-Western members last month that one point made by the Working Party was that success in craft examinations should be taken into account.

"At present the time spent by an apprentice at a craft is accepted as proof of his competence," he said, "so that the craftsman's standard rate is payable to any apprentice who completes his apprenticeship period (normally five years) and is aged 20 or 21. This inevitably means that no account is taken of differences of ability.

"The Working Party has therefore considered whether, in determining the degree of competence marking the transition from apprentice to craftsman, the

time has not come when some weight should be given to success in existing craft examinations."

Any change the Council decided upon would, of course, have to be the subject of "some full and frank discussion on the subject with the representatives of the building unions, who are naturally vitally concerned in this matter, and without whose co-operation no real progress can be made."

LCC approves new museum

A new museum for London, probably in the City, and combining the present Guildhall and London Museums, has been approved by London County Council because it would make a more comprehensive display of the two museums' collections possible. The new building will cost £1,500,000.

State Dept grants for six British architects

Six British architects have been awarded 30-day Foreign Specialist grants under the Educational and Cultural Exchange Programme of the US State Department. They are, Stanley Amis, of Howell, Killick, Partridge & Amis; Peter Bosanquet; David Bristow, of Perner, Herbert Morel & Associates; S. A. G. Cook, Holborn borough architect; H. Cassius Higgins, of Higgins, Ney & Partners; and J. L. Morton, of Morton, Lupton (Townmaker Ltd).

Sunderland's first planning officer

Sunderland has appointed a planning officer and has chosen J. E. Barlow—at present Aberdeen's director of town planning—for the post out of 23 applicants. Mr Barlow is 43, was born in Canada but educated in England. He became director of town planning in Aberdeen after being resident representative of the city's planning consultants for two years.

IES medal for H. C. Weston

The gold medal of the Illuminating Engineering Society, which is presented at intervals of not less than two years for outstanding contributions to the field of lighting, has been awarded this month to H. C. Weston, who spent many years on research into the relationship between levels of illumination and visual efficiency. The results of his work have been of fundamental importance in framing suitable design information for both natural and artificial lighting. His book, Sight, Light and Efficiency, published in 1949, summarises this achievement.

Building Centre postgraduate travelling scholarships

The Council of the Building Centre is offering travelling scholarships to qualified architects, structural engineers, quantity surveyors, builders or others in the industry who have been engaged in architecture and building in the United Kingdom for not less than two years, in order to encourage the study of building materials, equipment and processes in foreign countries.

Two scholarships of £250 each will be awarded annually for two people who undertake to travel together to a foreign country to study a subject or group of subjects and present a joint report.

A jury of assessors to select applicants, approve programmes and generally run the scheme consists of: H. V. Lobb, CBE, FRIBA, AISTRUCTE (Chairman); G. L. Coates, FRICS; R. G. James, OBE, MICE; Norman Longley, CBE, FIOB; F. R. Yerbury, OBE, HONARIBA; and Eric L. Bird, MBE, MC, ARIBA, secretary.

Full details are available from the director, the Building Centre, 26 Store Street, London wc1, and applications must be submitted before January 1 each year.

SCOLA follows CLASP

The inaugural meeting was held on October 5 of the Second Consortium of Local Authorities (SCOLA), in which the county councils of Gloucestershire, Hampshire, Shropshire, and West Sussex, met in London with representatives of the Ministry of Education, and agreed to work together on a pattern already established by CLASP, with the intention of obtaining the advantages of a system of building whereby the normal components are standardised in a rational way, and the full economic savings to be gained from a system of bulk ordering

Subject to the ultimate responsibility of the county council members of the consortium, the work of SCOLA will be directed by the Board of Chief Architects, of which Ralph Crowe, Salop County Architect, was appointed chairman. Sir Offley Wakeman, Bart, chairman of Shropshire CC was appointed chairman of the consortium.

Dorset County Council has not yet joined the consortium, but wishes to be associated with it.

A good deal of preliminary work had already been done before the October 5 meeting, and the member authorities agreed to a building programme for 1962/63 exceeding £1,000,000. This will consist entirely of school building, but the system being developed will be adaptable to most of the county council's building needs. By 1963/64, SCOLA hopes to be running a total programme of some £3,000,000 a year.

DIRECT LABOUR Success story from Salford

by Frank Allaun, MP for Salford, and Terence Bendixon

In her admirable book Building by Local Authorities, Elizabeth Layton remarked that "so much prejudice and emotion surrounds the use of direct labour . . . that simple issues can become clouded . . . during the course of political argument." Since local authorities today are carrying through increasing programmes by direct labour, it is worth looking in detail at one scheme which is an unquestionable success, Salford's growing direct labour programme, where the general manager, Stephen Johnson confidently claims that "our standards are higher than private contractors-we've got to maintain our buildings when we've finished them "

Cruickshank and Seward, architects of Salford's Lower Kersal flats are less rhapsodic, but acknowledge that the standard of work was quite good for that kind of job. Peter Trench of the NFBTE has commented: "Quite obviously there are good and bad direct labour departments.

Salford's plunge into direct labour for new construction happened in 1956 when a £1,618,900 tender, made by the direct labour department for the Lower Kersal housing scheme, turned out to be £72,000 below the nearest private contractor's. Hitherto the largest contract completed by direct labour in Salford had been worth £40,000 with the result that a year elapsed before the competence of Mr. Johnson's department to undertake so big a job was established. The Minister of Housing has stipulated that on no account is the contract figure to be exceeded. Whether or not it will be is not yet known, but the speed with which the contract was completed makes it likely that direct labour will be vindicated.

The speed was the product of competition between three structural sub-contractors nominated by the architects, plus good weather and teamwork. It enabled the first 11-storey point block to be occupied nine months after starting, and the whole scheme, comprising six maisonettes, six shops and 705 flats in 12 blocks, to be finished in two years instead of three. Frank Allaun, MP for Salford.

estimates that on this contract alone the city will eventually save a total of £40,000 through receiving rents earlier than expected and lower interest payments because of reduced capital borrowing.

By Roehampton standards the planning of Lower Kersal suffers from a lack of low buildings to balance the high ones (explained partly by Salford's appalling lack of open land), but by any standard the brickwork, pointing and general workmanship look satisfactory. Only on the metal balcony panels has paint started to flake. Cruickshank and Seward give main credit for the job to the clerk of works, a Salford Municipal officer at that time seconded to them. Harry Weaver, general secretary of the National Federation of Building Trade Operatives, visited the site and added his opinion: "A personal inspection of this job convinced me that the quality of the work and the efficiency of the management are unrivalled by anything that private contractors can produce."

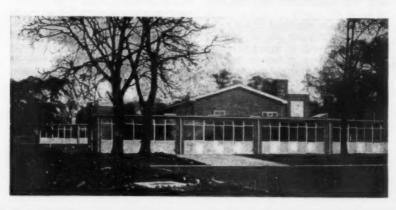
Since then Salford's direct labour building department has gone from strength to strength. Work to the value of £4,000,000 has been done since 1955 when Mr. Johnson arrived at Salford. Today, work in progress amounts to £2,000,000 and work for which contracts are held amounts to at least £4,000,000 more. The department in fact, as Mr. Johnson points out, is "just the same as

any large firm of contractors," It has joinery workshops, considerable stocks of heavy equipment and is considering buying its first tower crane.

It is also highly competitive. The loss of a job (from time to time the department is underbid) is clearly regarded as a challenge to do better next time. Presumably the keenness of this challenge does not go unfelt by Manchester's private contractors and may be leading to greater competitiveness all round. A recent visit of the direct labour department's general manager, building superintendent and chief surveyor to the BRS and their decision to order v5 and v6 bricks for a pair of experimental houses shows one way in which the challenge might be launched.

Generally speaking, however, it is lack of incentive to make large profits that accounts for the direct labour department's ability to underbid private contractors. Three other factors help. One is low administrative overheads, obtained by using the services of other departments of the corporation, although such work has to be paid for and is included in building estimates. The others are energetic leadership and efficient works supervision, epitomised by Mr. Johnson's "I think private contractors have two men to do every job we do with one." Estimating for jobs is nevertheless ticklish because of the grim political consequences of exceeding a contract figure, a fact automatically revealed through the department's obligation to account for jobs individually. It is to overcome this handicap that the Institute of Public Building Management recommends that direct labour building departments





Examples of the work of Salford's direct labour department: above, the Lower Kersal housing scheme designed by Cruikshank & Seward; below, Fernhill school, designed by Richard Byrom

should be allowed to prepare annual accounts like the private contractors with which they compete.

Because of the large sums of money now involved in direct labour construction, Salford Corporation has devised its own system of financial safeguards, which apply to all contracts valued at over £500,000. An officer of the City Treasury is seconded to the department to keep a weekly check on costs to see that they tally with the quantity surveyor's figures.

Two unexpected results of the reputation of Salford's direct labour department are that skilled building tradesmen apply to it for work and that architects nominate it as subcontractor for electrical. painting and heating work. On some occasions the department even finds itself nominated subcontractor on jobs for which it subsequently wins the whole contract. Such achievements belie the b'anket condemnation of all direct labour made by Mr W. A. Mackbridge, vicepresident of the Federation of Master Builders at a conference this year. He said: "It is often claimed that building by municipally employed direct labour is an answer to high prices. This is the worst kind of nonsense. Glaring examples of waste and inefficiency in local authorities' direct labour departments have only recently been reported in the national press, and it is apparent the final result of these 'commercial ventures' is just a bigger bill to the authority and higher rates to be paid by the long-suffering

public. The Government should exercise stricter control of these wasteful ventures. . . "

But in fact the Government, represented by the figure of the late Minister of Housing, Mr. Henry Brooke, has given encouragement to d rect labour. For the past year direct labour departments have been entitled, after winning one housing contract in open competition, to negotiate with the MOHLG for two other similar contracts instead of bidding for them. Mr Johnson commented that the Ministry ensures that this concession does not permit laxity.

Despite the success of direct labour building in Salford its full potential is not being used by the corporation. This is because the architects' department is not given overall responsibility for planning and is, therefore, unable to plan a programme of work for the direct labour department. Considering the scope of the city's plans for slum clearance and redevelopment, this is a pity.

At present all architectural work is carried out either under the city engineer, G. A. McWilliam, or, as at Lower Kersal, by architects in private practice. Generally speaking a different architect is responsible for each job and the amount of work in hand fluctuates. At the moment for instance the direct labour force employed on new construction is 300 men: it has, however, been as high as 525 and will have to be expanded again when work starts on the Ellor Street

development designed by Robert Matthew and Johnson-Marshall.

The desirability of planning is nevertheless admitted by Mr Johnson, who said: "The ideal would be to have one job following another but it doesn't work like that. Next year it may work out, but that won't be planning, that's sheer flippin' luck."

This means that Salford's direct labour department has to hire and fire workmen in much the same way as a contractor instead of keeping a constant labour force with a steady volume of work. Men working for the department are guaranteed a 42-hour week and given sick pay and superannuation benefits at local government levels, but this does not relieve them of the insecurity of casual workers.

As Salford embarks on an increasingly large building programme overall architectural planning could result in economies above what have already been achieved. Salford already boasts a city engineer who has designed a fullymechanised, ultra-modern refuse-disposal plant that is a national show piece. It has a works superintendent who can achieve outstanding building workmanship in the traditional crafts and who is at present enthusiastically launched on the direct labour department's first steel-framed, curtain-walled secondary modern school. Such enterprise demands an architect's department co-ordinated by a chief architect.

Cost control and planning

A review of Estimating and Cost Control by James Nisbet and others

The publication of Estimating and Cost Control by James Nisbet, in association with P. E. Bathurst, P. F. Bottle, B. E. Drake, A. J. Haddon, R. C. King, G. H. Mallett, R. S. Mitchell, S. N. Rose (Batsford, 32s 6d), marks an important point in the history of cost planning and calls for a more detailed appreciation than can be given in a short review. It is more than a textbook dealing with a technique, it also gives expression to a philosophy of architect/client relationship in this matter of cost.

Indeed, the book is one which many clients and certainly every administrator concerned with a building programme, large or small, should find of interest. For it not only shows the architect and quantity surveyor how to control costs but it also crystallises the problem for the client and, quite simply, shows him how his professional advisors can, and should, deal with the situation.

After giving an historical background of considerable interest, chapters deal with "The Theory of Cost Control," "Approximate Estimates," "Cost Analysis," "Cost Planning," and finally, "Cost and Design."

The architect's design sequence, against

which cost control is exercised, is discussed and the essential relationship between the two is emphasised. A fresh view is brought to that ill-reputed subject of Approximate Estimating and the reader is made aware not only of the fallacy underlying so many so-called "estimates" but also of the fact that what is required during the early "brief" and "investigation" phases is really an estimate of the client's requirement.

The subject of Cost Analyses is fully dealt with, how to prepare them, and the uses to which they can be put. To those who had thought that they are only of use in the preparation of a cost plan it will come as something of a surprise to find that they can also be used for such diverse things as approximate estimates, examination of tenders, the relative costs of different planning solutions and the appraisal of proprietary systems of construction.

The chapter on Cost Planning (covering two distinct phases in the control p:ocedure—preparation of the cost plan and the subsequent cost checking process) is excellent, and takes us step by step through the preparation of an actual cost plan—the very thing for newcomers to

the technique. It will also help to fill the gaps in the knowledge of many who are already cost planning as best they can. If there is criticism it is that the subject of cost checking, the phase when control is actually exercised, gets barely three pages and three tables out of 75 pages devoted to cost planning! Such an essential feature of the whole control procedure would seem to call for a chapter of its own, so helping to emphasise the difference in purpose of the cost plan and the cost check.

This book can be strongly recommended to any architect, engineer or quantity surveyor whose concern it is to design economically and whose interest is in having a tender that comes close to the figure forecast to the client. Students would also be well advised to acquaint themselves with the contents, for it provides an answer to what is likely to become one of their perennial problems once they begin to practise their profession. The positive contribution towards cost planning made over the years by THE ARCHITECTS' JOURNAL is reflected in the many references throughout the book and the authors have generously acknowledged this contribution.

Timber engineering: The need for a common code

Engineers from 15 countries met at Southampton University on September 18 to discuss timber structures at the first International Conference on Timber Engineering. The theme of the conference was timber roofs, and naturally much of the discussion centred on the simple domestic roof truss. However, the discussion covered a much wider field, and there was much plain speaking. After an opening address by Professor P. B. Morice, the conference settled down to its working session on problems of standardisation and design as it affected all countries.

The general reporter (H. Tottenham) stressed the need for a common basis of design. Working stresses for the same timber varied widely from country to country, and different research institutes used different shaped specimens, with the result that frequently experiments could not be compared one with another. In view of our approaching entry in the European Common Market, it was essential that a common code of practice in the design and construction of timber structures be established.

A paper by J. M. Sutherland commenting on prejudices against structural timber was very provocative, and it became clear that the main failings of the timber industry in this country were common throughout Europe.

The next session was devoted to joints. The reporter (J. Jaap) commented on our lack of understanding of even the simplest joints, and the inadequacy of our design methods. The most important weakness at present was in the design of joints using several mechanical connectors (eg nails and bolts). The discussion at this session was continued later when a paper on trussed rafters in the USA, by George E. Stern and Earl B. Norris described developments in nails and nailing carried out at the Virginia Polytechnic Institute. They had developed many forms of nails, using high carbon steels and twisted shanks to improve the strength of nailed joints. They have also carried forward to commercial application the ideas Professor Granholm published in 1949 of using thin metal strips to enable nails to be closely spaced. Using the improved nails and metal plates it is possible to build truss rafters and truss purlins very cheaply on the site. Unfortunately there seems to be little interest on behalf of the nail manufacturers and the timber engineering industry in this country in developing structures of this type. When improved nails are specified it frequently happens that these are bought from the USA although originally manufactured in this country. Other improved nails, although manufactured here, cannot be bought in the usual way, and timber engineering firms are unwilling to apply pressure to obtain them.

Although each country favours its own particular form of truss, it was very noticeable that the main centre of interest lay in nails and glue-nailing. The technique of glue-nailing, that is in using nails to provide the pressure at glued joints in place of clamps, is little used in this country. The advantage of this technique is that it eliminates the necessity for expensive plant, and enables small firms to produce glued, as distinct from glue laminated, structures. Glued structures can be much more economical than the connectored trusses normally used in this country.

A session on timber shell roof construction showed that at present this country leads the world not only in methods of design, but also in techniques of erection. Papers by Lee, Tottenham, Booth and Pestman (from Holland) described work in this field. It would appear that there are more forms of timber shell roofs in this country than there are concrete ones. However, there is little room for complacency here, as most of the European Research Institutes are now turning to this form of construction, and in view of the close co-operation between industry and research, particularly in Scandinavia, it is certain that many improvements and new forms of construction will be seen in the next few years.

Although engineers are generally unwilling to wash their dirty linen in public, some disagreeable facts about engineering glues were exposed on this occasion. The position in this country at present is that casein adhesives are occasionally used, but very great care has to be taken to protect the members during construction. Urea adhesives are virtually forbidden, and most glue laminated timber is fabricated using resorcinol. The relative costs of these adhesives are roughly 1:3:6. In Europe casein and urea adhesives are universally used. In the USA the majority of constructors use casein, the remainder using resorcinol.

In spite of repeated challenges, even from P. O. Reece in his closing speech, the glue manufacturers could not be persuaded to divulge even a single test result or to make a definite statement on the durability of any particular glue. We were left with the impression that the manufacturers who have associate companies overseas, did not know what their brothers were doing; or, to put it more unkindly, that they prefer to force designers to use the most expensive product.

In view of the need for a common standard in design and production throughout Europe, an ad hoc committee was formed, with representatives from the USA and Canada as well as the majority of European countries. The function of this committee will be to arrange future conferences on timber engineering and to form working panels on particular aspects of timber engineering in order that eventually a common code of practice can be established. Engineers from all countries agreed that at present the main stumbling block was lack of knowledge. This will only be forthcoming in the lifetime of the present generation of engineers if there is full co-operation between the timber industry. the research laboratories, and the architects and engineers actually using timber.

ABINGDON: To preserve or replace?

The Old Mill at Abingdon, a picture of which appears at the top of the next page, may be demolished. It forms part of a famous riverside group with the Abbey buildings on the left. Shocking vandalism . . . preserve at all costs . . . breaking open an old town. Well, perhaps . . . but it isn't simple. It never is. The mill is a grain store, now, and has got into a bad way. The owners would like to demolish as it is inconvenient, but the place where they want to rebuild may itself be involved in recent proposals for a new pedestrian centre for Abingdon. So nothing is decided yet. If they could get planning permission the owners would probably like to put flats on the site.

What sort of flats? Once that question is asked we are in the position which for me sums up a good three-quarters of these demolition—and—redevelopment

cases. Like so many other buildings, the mill is not worth preserving for itself. As part of a group it-or something like it-most certainly is worth preserving. A new building which respected the group but added a twentieth century element would improve, not impair. So there is no clear "yes" or "no," just a delicate balance of "perhaps" and "in that case" and "on the whole"as there is in both politics and religion. As it happens, the choice can be illustrated nicely near at hand. Just along the riverside from the mill is a recent block of flats doubtless put up with the best of intentions, which almost succeeds in killing the whole group with kindness. If the new flats were to be as genteel and false as these, then by all means prop up every shaky old roof timber of the mill. But a block of honest new flats, with no olde worldiness about



them could be more than a fair exchange. I would be delighted, and so I think would Abingdon, once it had got used to them-the famous Town Hall must have seemed rather odd in the 1680's too.

No site is an island. Immediately you go to see the mill, other things pop into view and start queries like ripples in a pond. Next to the mill is a much larger carpet factory of about 1880, quite derelict. The borough own it and intend to pull it down and use the riverside site as an open space. That is fine-as long as the open space does not fill up with structures showing such a sad mixture of brutality and coyness as the footbridge erected this year a little farther east, it is not the feeling that is at fault, but the means that are found to express it. Then what is to happen to the old gaol on







Top, the Old Mill . . . part of a famous group, with the Abbey buildings on the left

Above, left, the old gaol has survived as a corn store; middle, the carpet factory, awaiting demolition; right. St Helen's church spire, from the river.



Above, new footbridge, a sad mixture of brutality and coyness; left, a recent block of flats . . . good intentions killed by kindness



the other side of the bridge? It is also a corn store, and because of this has survived without much alteration. It is formidably solid and very much worth preservation for itself-it must now be almost unique, and forms the most exhilarating kind of counterpoint to the softer riverside views of St. Helen's

And finally, what is happening to Abingdon's riverside as a whole? It is a very fine thing in itself, and it is getting more and more heavily used-Oxford is eight miles away, London only 60. There is no point in giving it a rigid comprehensive plan which will grind out all the life and freedom. All sorts of things go on there, from small boys fishing, via a municipal swimming pool, to yards hiring out motor boats, and quite right too. What this needs is a sympathetic, kindly eye which will synchronise without imposing: a Casson or Shepheard eye. Go down and look at the mill, the AJ said. And here they are, lumbered with seven illustrations and a short disquisition on Abingdon's riverside. Well, that's life: and it is, exactly, how townscape problems interlock. As far as the pond is concerned, stone and ripples are one: the stone comes with ripples as we come with fingers and toes. Put another way, if you have separate offices, make sure you talk things over in the pub.

TAN NATRN



Scheme from the south-west

Housing in Camberwell

The interest of this scheme is that the borough council's architects have aimed at a highly urban environment mainly consisting of courtyards free of vehicle traffic, which has led to the design of unorthodox house and flat types.

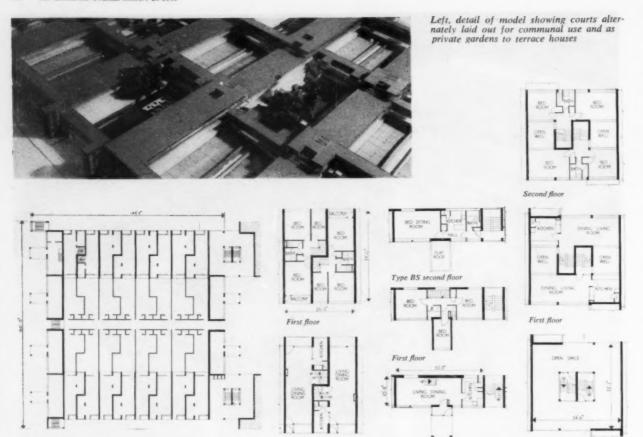
The site of just under 14 acres consists of flat and featureless cleared land except for one public house. It has existing roads round the perimeter and is surrounded by residential property of two and three storeys.

In 1958 a scheme was prepared based on two main housing types; patio houses and tower blocks. This was subsequently dropped in favour of the present scheme working within an overall density of 136 persons per acre. There are two main types of development, seven-storey blocks providing 308 dwellings, mainly consisting of two-bedroom maisonettes, but also 98 one-bedroom and 21 three-bedroom flats. The remainder of the development is in the form of 216 two and three storeys, mainly three-bedroom two-storey houses, but also two- and four-bedroom three-storey houses and 39 flats. The scheme also includes about 100 garages and a small shopping and community centre and a communal boiler house.

A high percentage of the accommodation is houses and many of these are provided with private gardens. These are screened from public view by walls on either side of pedestrian access paths. As far as possible vehicular traffic has been excluded.



Block plan [Scale: 240" = 1' 0"]



Plan of typical court laid out as private gardens to terrace houses, with central access corridor

[Scale: 72" = 1' 0"]

Within the layout there are also residential precincts. In the lower development this consists largely of paved areas with sunken terraces for formal planting and children's play spaces. In the seven-storey developments they are larger, but laid out on the same basis. As far as possible pedestrian access is confined to definite routes.

It was felt essential to provide ample play space for children and in addition to that within the courts there will be a large play area on the roof of the semi-sunken garage on the west side of the site.

Garages and parking spaces have been kept as far as possible to the perimeter. The shopping centre is similarly sited so that it can attract passing trade as well as serving the residents of the scheme.

The nature of the site suggested that piling would be the most economical method of structural foundation and this will generally carry load-bearing brickwork with concrete and timber floors. The dwellings will be heated by forced warmed air with immersion heaters for hot water.

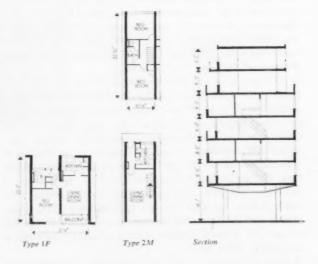
The scheme has been designed by F. O. Hayes, Camberwell borough architect; deputy H. C. Connell; senior architect, H. P. Trenton; architect in charge, R. A. Ashdown assisted by Gillian French, D. R. Dyer and A. M. Michaelides. The consulting engineer is W. V. Zinn and the quantity surveyors Oswald E. Parratt & Partners.

The scheme, which is now under construction, is due to be completed early next year at a total cost of £1,342,780.

Plans of dwelling types used in court layout, left terrace houses on north and south sites, type 3HG. Centre, enclosing two-storey houses with flats over on east and west sites, types 3HC and BS. Right, three-storey houses at corners, type 2HL

Type 2HLs ground floor

[Scale: 1 " = 1' 0"]



Type 3HCs gro

Plans of maisonettes (centre), type 2M, used in seven-storey flat development, with one bedroom flat (left) type 1F on top two floors. Right, section through flat block.

[Scale: 4" = 1' 0"]

File this week

Garden:General, the subject of this week's Element File [sfb (15)], starts on page 769, but from this page onwards the AJ is pre-classified for tearing out and filing in sfb order. The subjects are:

- 1. Current Wage Rates, Market Prices and Measured Rates (pages 745-754) sfs Ba 7; UDC 69,003.121.
- Working Detail (pages 755-756).
 Partitions: General, 8fB (22): UDC 69.02256. Glazed partition: Houses in London, N2.
- 3. **Products File** (pages 757-758) a record of new products and services on the market so arranged that it can be torn into A6 sheets. For further information on the products, fill in the reply paid enquiry service form at the end of this issue.
- Building Study, second series (pages 759-766). House at Padworth. This cost analysis and appraisal should be filed under sfs (98): UDC 728.37.

Then follows:

Element File sfs (15) containing:

- 5. Element Design Guide: (15) Garden: General: UDC 712.4.
- 6. Technical Study: Lack of technical information for the landscape designer. sfB (15): UDC 712.3.
- 7. Technical Study: Grass. sfs (15): UDC 712.4.
- 8. Information Sheets: Definitions in tree growing and mixing of fertilisers; Planting Data. sfs (15): UDC 712.4.

The Element File concludes with some informative advertisements on products relating to this element.

Next week you will receive a second Element File on the subject of Gardens, entitled Garden: Fences, Gates, Walls.

AJ STB Ba7

Drices

UDC 69-003-121 Economics: Surveyors' estimating and analysis

Current wage rates, market prices and measured rates

The prices feature this quarter reflects the considerable adjustment to wage rates and conditions which came into force on October 2 and a general increase in materials prices except for fletton bricks and polythene tubing which have been reduced in price. The prices are prepared by Davis, Belfield & Everest, chartered quantity surveyors

Wage rates

Rates of wages as from October 2 1961 are as follows:

	Craftsmen	Labourer
	s d	s d
London District	5 74	5 0
Liverpool and District	5 74	5 0
Grade classification A	5 6	4 104

Market prices

Prices are given for the major items in each trade, they are intended as average prices and include delivery in the London area. They do not include overhead charges and profit.

Measured rate

Prices which are intended to be average for work carried out in the London area include 10% to cover overhead charges and profit except in the case of work which would be carried out by specialists when 5% has been allowed. The prices given in italics represent the total value of the materials included in the measured rates, including an allowance for waste and 10% for overhead charges and profit. The cost of labour included in the measured rates (including its proportion of overhead charges and profit) can be ascertained by subtracting the prices in Italics from the prices in heavier type.

Abbreviations

Appreviations
Inches: in. Feet: ft. Yards: Y. Yards cube: YC. Yards super
YS. Feet cube: FC. Feet super: FS. Ton: T. Feet run -FR.
Thousand: M. Square: Sq. Number: No. Hundredweight: C.
Pound: Ib. Gallon: Gal.

Preliminaries

To all estimates based on prices for measured rates add, if required, for Preliminaries, water, insurances, etc., depending on the nature of the job.

Price changes

 Shows changes in market prices and measured rates since the last issue (July 12, 1961). 746



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CONCRETOR—continue	ed	\$	d	BRICKLAYER s d	BRICKLAYER—continued s
Formwork				Market prices	Damp-proof courses
Formwork including strutt easing and striking:	ing			Soft sand YC *20 0	Horizontal damp-proof course of two courses of slates and
Vertical faces of foundation				Hydrated lime T*122 0	bedding and pointing FS *4 7
vertical faces or foundation		*20	9 2	Plain flettons M*130 0	Horizontal damp-proof course
Vertical faces of wall	YS	*21	8	Second hard stocks M 352 4	of hessian base bitumen and laying on brick walls FS *10
Battering faces of walls	YC	7 •27	3	Lingfield engineering wire cuts Grade B M 286 0	Horizontal damp-proof course of lead lined hessian base
battering faces of wans	13	9	0	Hessian base damp-course to BS 743 YS *4 4	bitumen and laying on brick walls FS *I
Soffit of floors Not over 12-ft. I	YS	*21	4	Damp course slates, 14-in. × 9-in. 100 *80 6	Facings
12-ft. to 14-ft. I	high		10	Wall ties, galvanised 100 °17 3	Extra over ordinary brick-
Sloping soffit of stairs	YS	*25	10	Partitions	work with bricks P.C. 130s. per 1,000 for facings as described
Sides of columns	EC	*2		Clinker concrete, solid YS 24-in. 5 7	To solid wall in Flemish
sides of columns	1.2	-1	11	2½-in. 5 7 3-in. 7 1 4½-in. 9 4	bond YS Facings P.C. 250s. per M *15
Sides and soffits of lintels and beams	FS	*3	0	Thermalite YS	Facings P.C. 350s. per M *23
and beams	13	1	Ĭ	24-in. 7 0 3-in. 8 5	15 8 Facings P.C. 450s. per M *30
Add to the above for wrote formwork including rubbin				4-in. 11 0 6-in. 16 6	23 (
down concrete	YS	*3	0	Hollow clay YS	To cavity wall in stretcher bond YS
Reinforcement				2½-in. 4 7 (6 cavity) 3-in. 5 9	Facings P.C. 250s. per M *13 6
Mild steel rods to BS 785, hooked, bent, tied and	_			(ditto) 4-in. 7 3	Facings P.C. 350s. per M *18 12
fixing I-in. diame	C	*67	9	Normal quality wood wool slabs YS	Facings P.C. 450s. per M *24 3
₫-in. diame	eter		2	2-in. 8 10 21-in. 10 2 3-in. 11 5	Half brick wall in facings
-in. diame	eter		7		built fair and pointed on one side YS
3-in. diame	eter		8	Measured rates	Facings P.C. 250s. per M *33 (
1-in. diame	eter'	55 100 60	0	Reduced brickwork in cement lime mortar, Lingfields in cement mortar	Facings P.C. 350s. per M *38 21 5 Facings P.C. 450s. per M *44 2
Steel wire mesh fabric to		-		YS Flettons *38 1	27
BS 1221 and fixing	YS	*4	3	19 2 Second stocks *62 0	Partitions
4-32 lb. per yd. sug 6-57 lb. per yd. sug			6	43 / Lingfield Grade B *58 3	Clinker concrete solid partition blocks and setting
9-32 lb. per yd. sur			4	36 6	in cement lime mortar YS 21-in. *13
		7	6	Half brick wall ditto YS Flettons *21 1	3-in. *IS
Precast concrete				9 1	8 9
Precast concrete (1 : 2 : 4)				Second stocks *33 21	4½-in. *20 (
finished fair on exposed fac and hoisting setting and	.es			Lingfield Grade B *31 10	Thermalite ditto YS
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$4\frac{1}{2}$ -in \times 6-in. lintels reinforced with one $\frac{1}{2}$ -in. rod	FR	*3		cavity and wall ties YS Flettons *45 11	3-in. *15 11
		2	6	18 7 Second stocks *69 10	4-in. *20 3
$\frac{4\frac{1}{2}}{1}$ -in. \times 9-in. ditto with tw	FR	*4		42 6	6-in. *28 5
Piling		3	8	One brick wall built fair and pointed both sides YS	Hollow clay ditto
Reinforced pre-cast concre				Flettons *45 10	24-in. *II 10 5 9
piles, approximate prices for supplying, unloading, pitch				Second stocks *ú9 10 43 /	(6 cavity) 3-in. *14 3
and driving 12-in. × 12-in. up to 30 ft.				Lingfield Grade B *64 9 36 6	(ditto) 4-in. *17 7
long 14-in. × 14-in. up to 50 ft.	FR		0	Sundries	Wood wool slabs ditto YS
long	FR	35	0	Extra for internal fair face	2-in. •14 9
Sheet steel piling, ditto	TI	165 to		and flush pointing YS *1 8 Cutting, toothing and	2½-in. *17 1
		230		bonding new work to	3-in.* 19 5



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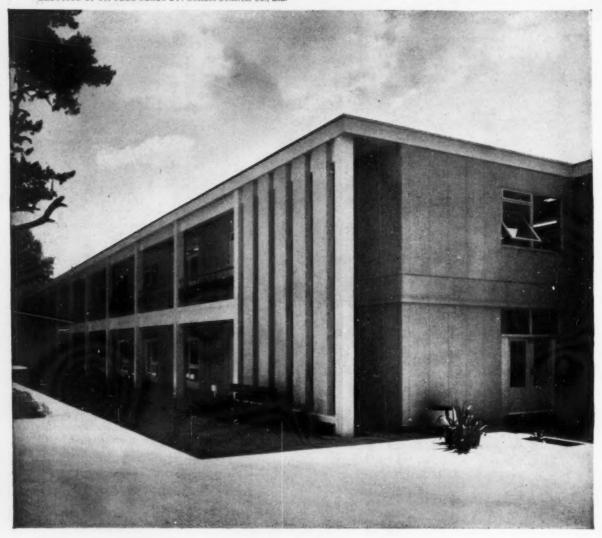
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DRAINLAYER		s	d	DRAINLAYER-con	tinued	s	d	DRAINLAYER—cont	inued s	(
Market prices				" Best " quality salt-gli stoneware drain pipes				Cast iron drains		
Salt glazed stoneware pand fittings, "Best" qu	pipes ality:			laying and jointing in trench	FR 4-in.	*7	10	Cast iron spigot and soci drain pipes and laying a		
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			-4			5			9-in. *40	2
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	6-in.	7	14	quality pipes for:				Spun cast iron spigot an	d	
	9-in.	19	3	De-ed	A1-			socket drain pipes and la	aying	
itch fibre pipe	FR			Bend	No. 4-in.	*3	10	and jointing in trench	FR 4-in. *8	
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pun iron spigot and se						7	4		26	4
pipe to BS 1211, Class	B YR 4-in.	14	5		9-in.	17	7		6-in. * 78	
	6-in.	22	7						9-in.*200	1
	9-in.	37	9	Double junction	No. 4-in.	*11	2		181	-
Measured rates					7-111.	8	1	Branch	No.	
					6-in.				4-in. *52	11
renches and beds					9-in.	*30	3		6-in.*116	
xcavate trenches by h					2-111.	26			103	
neavy soil, including pland strutting, part ret	urning,			Stoneware gullies					9-in.* 2 8 0 262	
illing and ramming and wheeling and spreading				Salt-glazed trapped gu	llv			Cast iron gullies		
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y mechanical trenche					outlet		10		9-in.*266	
	ch 3-ft.	-14	8	Cassas and mud mulliu	0 in				246	,
Average depth of tren		*20		Grease and mud gully diameter with 4-in. ou				Cast iron inspection fitting	gs	
		*36		galvanised bucket and				Branch with one branch		
	9-It.	*60	3	and setting gully on ar surrounding with cond				each side	No.	
in. concrete bed and				and jointing to drain	No.	*92			4-in.*193	
enching for:	YR					79	9		6-in.*305	
4-in. diamete	er pipes	*10	11	Road gully with 6-in.	outlet				286	
		6	7	including setting on ar	nd				9-in.* 625 596	
6-in. diamet	er pipes	7	8	and jointing to drain	No.				370	F
9-in. diamete	er pipes		5	15-in. dia. 30-				Branch with two branch		
		9	3	18-in. dia. 48-	in, deep*	99 250	2	each side	No. 4-in,*311	10
in. concrete bed and				12 1.11 0101 10		206	5		294	
urround for:	YR			Pitch fibre drains					6-in.*483 458	
4-in. diamet	er pipes	*17		rich pare didina					9-in.*980	
6-in. diamete		10	8	Pitch fibre drain pipes laying and jointing in t					941	1
		12	10	and joining in	FR			Manhole covers and frame	es	
9-in. diamete	er pipes		11		3-in.	2	3	Galvanised cast iron to		
		10	2		4-in.	*3		BS 497 Grade C and bed		
toneware drains						2	91	frame in cement and cov		
Seconds " quality sale	t-				6-in.	*5	8	in grease Double seal flat	No.	
lazed stoneware drain	pipes					-		24-in. ×	18-in.*128	
nd laying and jointing rench	in FR			Extra over pitch fibre for 45° sweep bend	pipe No.			24-in ×	24-in.*198	
i CitCii	4-in.	*2	6	101 43 sweep bend	3-in.	*10	1	ATTIN. X	188	
		-	8			9	1	Double seal recessed	No.	
	6-in.	*3	5		4-in.	*14	7	24-in. ×	18-in.*135 128	
	9-in.		10		6-in.		9	24-in. ×	24-in.*198	4
	5-1110	4	5			26	7		188	

ABCHITECT: H. Stanley Smith, A.R.I.B.A.
MAIN CONTRACTORS: Richard Costain (Construction) Ltd.
ERECTION OF SIPOREX SLABS BY: Costain Concrete Co., Ltd.



THE **CEMENT AND CONCRETE ASSOCIATION**

CHOSE SIPOREX

The Cement and Concrete Association's new laboratory at Wexham Springs is constructed throughout in Siporex, Costain's new cellular concrete. Siporex for the roof, Siporex for the walls, Siporex for partitions. Siporex pre-cast, lightweight units offer architect, structural engineer and client outstanding practical advantages. They are light, less than one third the weight of brickwork. They have a thermal insulation six times greater. They combine strength with dimensional stability. They are resistant to fire and frost and can be sawn, cut, nailed, drilled and chased with simple hand tools. They give higher speed of erection and require simple finishes. In short: Siporex, today's outstanding building material.

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Manufactured in Great Britain by **COSTAIN CONCRETE COMPANY LIMITED** DUNCAN HOUSE, DOLPHIN SQ., LONDON, S.W.1 and NEWARTHILL, LANARKSHIRE, SCOTLAND,

ASPHALTER		S	d	PAVIOR s d	MASON
Measured rates				Market prices	Market prices
Damp proof course and	tanking			Granite chippings, ¼ in. to	Stone in blocks in truckloads
-in. vertical damp pro	of			dust T 48 7	at stations in the London area:
course in two thicknes	ses on			Red quarry tiles, 6 in. ×	Beer FC *10 10
brick or concrete	YS BS1097			6 in. × 7 in. YS *14 0	Portland FC *10
	BS1418	*24	8	Noelite paving, 2-in. YS *14 11	Woodkirk Blue building
1-in, horizontal damp course in one thicknes				Measured rates	quality FC 19
brick or concrete	YS	***		Cement and sand floated	Broughton Moor slate in
	BS1097 BS1418			screed to receive pavings YS	blocks at stations in the London area FC 60 (
Mantinal tanking in the				2 5 1-in. * 5 6	Marble in blocks at works:
Vertical tanking in thr thicknesses	YS			3 2	
	BS1097 BS1418			1½-in. *6 2	Dove FC 70 (
		34	-		Roman stone FC 65 (
Horizontal tanking in thicknesses	three			Cement and sand paving trowelled hard and smooth	Measured rates
	BS1097			YS	
	BS1418	-29	5	3-in. * 5 2 2 5	Stone and all labours, fixing and setting in mortar:
Roofing				1-in. *6 1	Pilasters and quoins FC
3-in, flat laid to falls i				14-in. *6 9	Portland *66
thicknesses on and inc felt underlay	luding YS			3 8	Beer *63
. Sie anderray	BS988			Granolithic paving laid on	Jambs FC
	BS1162	*18	11	concrete YS	Portland *68 Beer *65
6-in. skirting with ang				5 5	
fillet at bottom and ro edge at top turned int				I-in. *10 1	Lintels FC Portland *70
groove	FR	42		t in and assessible and a	Beer *67
	BS988 BS1162		4	I-in. red composition paving laid on prepared screed YS 16 6	Arches FC
6-in. fascia with solid v	unter				Portland *86 Beer *82
check roll at top and t				in. terrazzo paving laid on prepared screed YS 38 4	
cut drip at bottom	FR BS988	*4	5	Sheet rubber flooring, plain	Ashlar average 7-in. on bed with plain dressed face FS
	BS1162		3	and marble colours and	Portland *36
Flooring				laying YS 35-in. *50 6	Beer *34
				1-in. 57 9	Extra for each additional I-in.
4-in. asphalt flooring la prepared screed	YS			Sheet linoleum, plain colours	thickness FS Portland *4 II
	BS1076 BS1410			and fixing with mastic YS 3.2 mm. *22 0	Beer *4
	D31410	20	U	4.5 mm. *30 0	41-in. × 4-in. sill sunk,
in. brown asphalt flo				6.7 mm. 41 3	weathered, throated and grooved for water bar, set and
iaid on prepared scree	BS1451	*15	9	in. thermoplastic tile	jointed in cement mortar FR
in. brown pitchmast	ic			flooring and laying-on screed YS *9 3	Portland *13 Beer *12
flooring laid on prepar	ed			to	Artificial *5
screed	BS1375	*14	2	*16 6	4-in. × 12-in. coping,
Cundaina		-		Cork tile flooring, fixing with	weathered and twice throated
Sundries				mastic and sealing YS 4-in. *30 6	set and jointed in cement mortar FR
Labour and material fo				5 in. *33 9	Portland *26 Beer *24
collars around pipes in angle fillet at bottom :	and			P.V.C. tile flooring and	Artificial *12
rounded top edge	No.	*5	3	fixing with mastic YS 2 mm. *40 0	Steps and thresholds FC
	rge pipe			3 mm. *41 9	Portland *64 Artificial *37
Labour warming up an				Vinyl tile flooring and fixing	Marble and slate
jointing new to old fla	r rk			with mastic YS 2 mm. *18 3	1-in. plain polished linings and
				3.2 mm. *25 0	fixing on brick backings FS Broughton Moor slate 27
				Red quarry tiles laid on	Roman stone 35
				prepared screed YS	Dove marble 37 10
				-in *30 0	Faience
				2-in. Noelite paving laid on	11-in. faience slabs and
					fixing on prepared brick
				prepared bed, in random sizes	
				and mixed colours YS *22 0	or concrete backing YS*120

In more ways than one

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SOUND INSULATION

You need Grade 1 impact sound insulation for intermediate concrete floors? Efficient, economical, age and rot proof? An insulator that can take a screed without measurable compression and doesn't kick up when the screed is applied? You need Marleycel!

Marleycel is made from expanded polystyrene. Its cells are tiny, air-filled and non-communicating. This gives it excellent thermal as well as sound insulating qualities. Thermal Conductivity (K)=0.24 B.TH.U./in./ Sq. ft./hr./°F (Hot face at 68°F, Cold face at 32°F).

It is non-absorbent and chemically inert. Where underfloor heating is planned the dual purpose of Marleycel Sound Board makes it a natural choice combining maximum efficiency with greatest economy.

9,000 sq. yds. of Marleycel Sound Board used in the multi-storey block of offices at 133/150 Blackfriars Road, S.E.1. Builder: Bernard Sunley & Sons Ltd., Architect: Kenneth Anns and Partners.



MARLEYcel

POLYSTYRENE SOUND BOARD

- * Weight 1 lb. per cubic ft.
- Resistant to alkalis, dilute acids, oxygen, water and water vapour.
- Supplied in sheets 2 ft. wide and standard lengths of 4, 6, and 8 ft; or to order.

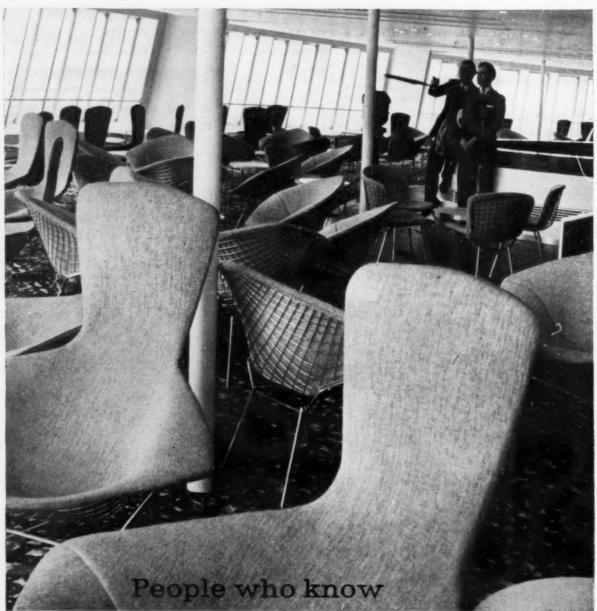
Manufactured by Shell and developed by Marley to serve the building industry.

For fuller details and advice on installation call on the Marley Technical Staff.



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SLATER, TILER AND s d	CARPENTER	s	d	JOINER	s	d
ROOFER	Market prices			Measured rates		
Market prices	Softwood S	td.		Floors and skirtings		
Welsh slates, best quality M	Carcassing qual					
16-in. × 10-in. 1087 9 20-in. × 10-in. 2111 9	Joinery qual	lity 2300	0	flooring and nailing to joists	d	
	1-in. fibre board	Sq. 46	6	Sq.		
Best hand made sand faced plain tiles, 104-in. × 64-in. M*388 9	in. standard hardboard	Sq. *33	0		*170	
main thes, 104-iii. A 04-iii. 11 300	g-in. standard nardboard	3q. 33	0		.195	0
Plain concrete tiles, $0\frac{1}{2}$ -in. \times $6\frac{1}{2}$ -in. M*173 9	a-in. insulating gypsum wallboard	YS 2	11	I-in, nominal double grooved	149	0
nterlocking concrete tiles, 5-in. × 9-in. M*428 0	Measured rates	a.		t. and g. block flooring set in mastic and polished YS		
Grey corrugated asbestos	Softwood and fixing			Swedish softwood	*30	0
ement sheets YS 7 0	In plates, sleeper joists and			Swedish solewood	-	
leasured rates	lintels	FC *15	7	European beech	*33	6
reasured rates	In floor and ceiling joists	FC *18		African Muhuhu	*40	0
Velsh slates laid to a 3-in.		13				
Sq. 16-in. × 10-in.*309 0	In stud partitions, purlins and struts	FC *20	11	Burma teak	*44	0
20-in. × 10-in.*431 0		13	4	Moulded skirtings, 3-in. to		
Vestmorland green steers in	In hip and valley rafters	FC *24		6-in. sectional area planted		
Vestmorland green slates in andom sizes laid 3-in. lap Sq.*713 0	Battening and boarding	13	4	on (per inch in sectional area) FR		
				Softwood		*3
Vestmorland green slates ung vertically Sq.*728 0	Slate or tile battens 14 in.			Oak		11
ung vertically Sq.*728 0	in. and nailing to fixing f	Sq.		Oak		10
est hand made sand faced	16-in. × 10-in. slating to)		Extra for grounds plugged to		
lain tiles, 10½ in × 6½ in. laid o a 4-in. gauge Sq.*260 0	64-in. gauge	*39	9	brickwork FR Softwood		•11
94. 200	20-in. × 10-in. slating to			001111000		2
est hand made sand faced	8½-in. gauge	*29	9	Windows		
lain tiles, 10½ in. × 6½ in. ung vertically to 4½-in.	101-in. × 61-in. plain til	ing		Windows		
auge Sq.*286 0	to 4-in. gauge	*58	0	2-in. rebated and moulded		
lain concrete tiles, 10½-in. × ½-in. laid to a 4-in. gauge Sq.*127 6	141-in. × 10-in. pantiles 12-in. gauge	to *21	0	sashes divided into squares FS Softwood Oak		
1 faire to a 1 8aa80 od. 12.	12.111 8.080					
erkshire hand made sand	S.E. boarding in batten wie	dths		Extra for side hanging Each	*3	4
aced red pantiles, 14½ in. × 0 in. laid 2½-in. head and	close jointed and fixing to flat or sloping roofs	Sq.		Softwood		
-in. side lap Sq. *232 0		-in.*124				
nterlocking concrete tiles,		85 1-in.* 151		Doors		
5-in. × 9-in. laid to a 3-in.		112		2-in. framed, ledged and		
sq. *89 6	T a - b			braced doors, filled in with		
Grey corrugated asbestos	T. & g. boarding in batten widths close jointed and fit			I-in. t. and g. and V jointed boarding and hanging FS		
ement sheets fixed to wood	to flat or sloping roofs	Sq.		Softwood	*7	0
oofs Sq.*125 0		}-in.* !45	0		6	2
rey corrugated asbestos		I-in.*176		Four panelled door square		
ement sheets fixed vertically		127	0	both sides and hanging FS	***	
Sq.*136 0	}-in. wrot and cross tongu	ed		Softwood	*7	8
Cedarwood shingles laid 5-in.	eaves soffit	FS *2	5	Oak	*23	8
auge Sq.*251 0		1	0	13 in Seandard floor days	22	5
1etal roof decking and fixing	₹-in. × 6-in. wrot and			13-in. Standard flush door, hardboard faced size 2 ft. 6 in.		
vith hook bolts, finished	grooved eaves fascia p.o.	FS	11	× 6 ft. 6 in. and hanging No.		6
vith ½-in. insulation board nd three layers self finish			6	13-in. honeycomb core flush	35	2
elt roofing YS	Wall and ceiling boards fixe			door lipped four edges,		
18 gauge for	to softwood	YS		veneered faced with West		
spans up to 10 ft. *62 0 20 gauge for	4-in, fibre board	*7	0	African Cedar, size 2 ft. 6 in. × 6 ft. 6 in. and hanging No.	*85	6
spans up to 8 ft. 6 in. *53 6		5	0		72	
wo layer one ply bitumen	in. hardboard	*5	4	Linings and frames		
elt and fixing with bitumen concrete or boarding YS *10 2	2-in. insulating gypsum	3	8	Window and door linings,		
	wallboard	*5	8	6-in. to 12-in. sectional area		
hree layer bitumen felt YS *13 8	a-in. asbestos cement flat	3	8	(per inch sectional area) FR Softwood		4
luraphalte thermoplastic	sheeting	+9	4	30114/000		3
pofing laid on prepared		-	11	Oak	01	0
urface, for areas of 300 to 00 yd. super YS *28 0	d-in. asbestos cement flat sheeting	*11	1			10
00 yo. super 13 20 0	successig	6	8	Frames wrot all round and		
	2-in. Stramit, standard			framed (per inch sectional		
Patent ribbed aluminium roofing and fixing to purlins Sq. 325 0	quality fixed to joists with butt joints	*16	7	area) FR Softwood		3



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technical section

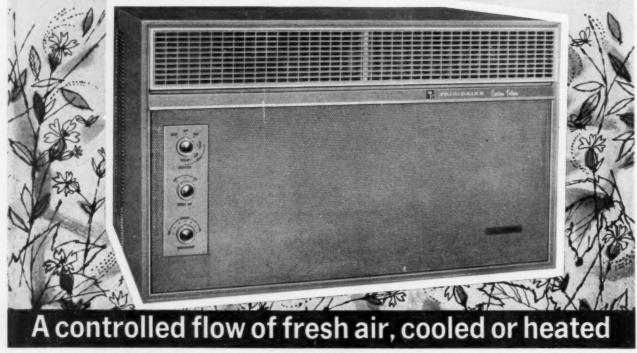
JOINER—continued	s d	IRONMONGER s d	PLASTERER s d
Mullions, transomes and sills		Market prices	Market prices
(per inch sectional area) FR Softwood Oak	*11	As prices for ironmongery	Plastering sand YC *23 0
Mouldings, architraves, etc., 4-in. to 6-in. sectional area	ı.	vary so greatly depending upon the type and quality required, no prices are quoted here	Plaster to BS 1191 Class B in loads of 2 tons to 3 tons 19 cwt.
(per inch sectional area) FR Softwood	4 3	Measured rates	Browning 171 0
Oak	*1 1	The rates which follow are for fixing only and are	Fibred browning 174 0 Board finish 171 0
6-in. window boards, 1-in. thick with rounded nosing		inclusive of profit To softwood	Carlite plaster in loads of 2 tons to 3 tons 19 cwt. T
tongued at back and including bearers FR		3-in. steel butts Pr. *5 4	Undercoat 280 0 Finishing 235 0
Softwood	*3 6	6-in, barrel bolts No. *2 5	in. plaster lath, over
Oak	*6 4		600 yds. YS 2 2½
Children and Culture	7 0		6-in. × 6-in. × 1-in. white
Shelving and fittings		Cylinder night latch No. *8 4	glazed wall tiles YS 19 0
4-in. shelving of 2-in. slats spaced 1-in. apart on bearers		Mortice latch No. *6 8	Measured rates
(measured separately) FS Softwood	*2 9	Mortice lock No. *8 4	Metal lathing
2-in. solid shelving on	2 1	Casement fastener No. *2 0	No. 24 gauge expanded metal lathing and fixing YS To softwood soffits *7 4
bearers FS	*2 7	To hardwood	4 4
Softwood	2 1	Add 33½% to above	To metal *8 2 4 4
Oak	4 10	STEEL & IRON WORKER	28 BG steel angle bead to BS 1246, Figure 7, Profile C3, plugged to brickwork or
2-in. shelf bearers plugged			partitions FR *1 3
to wall FR Softwood	8	Market prices	5
Oak	*1 6	Structural steel joist sections, basis sizes, ex mills, 50 ton lots T 785 3	Render float and set on brick
Staircases		Extras for other than	walls and partitions YS *8 3
I-in. treads and 3-in. risers		basis sizes vary between 10s. and 70s. per ton	Render, float and set on
tongued together on and including framed carriages FS Softwood		Measured rates	concrete including hacking YS *10 3
Oak	*16 3 14 5	Rolled steel joists in steel framed structures hoisted and fixed complete T°1700 0	Render, float and set on expanded metal lathing YS *8 4 2 7
14-in. × 11-in. wall string		Rolled steel stanchions	Gypsum plaster
plugged to brickwork FR Softwood	*5 2	including caps, bases, cleats, etc. T*1970 0	Render in cement-lime-sand (1:1:6) and set in gypsum
Oak	12 2	Riveted compound girders including plates and rivets T*2000 0	plaster on brick walls and partitions YS *6 6 2 0
14-in. × 9-in. outer string FR Softwood	*4 0	Metal windows including cutting and pinning lugs to	Render in gypsum fibred
Oak	*8 10	brickwork and bedding frames in cement mortar No.	browning-sand (1 : 1½) and set in gypsum on concrete
	7 11	Domestic type 4 ft. high	soffits including bonding coat YS *10 5
Ends of treads and risers housed to strings No.		to BS 990 Type ND2F 3 ft. 3½ in. wide *97 10	3 8
Softwood	1 *1 6	78 10 Type HD2F 3 ft. 3¼ in. wide*108 10 89 10	Render and set on expanded metal lathing including
2½-in. × 3-in. moulded	2	Type NDIIF 6 ft. 6½ in. wide *167 5	pricking up coat YS *9 10
Softwood		133 10	Lightweight plaster
Oal		" Z " range, 4 ft. high Type ZNDI 2 ft. 04 in. wide *65 10 53 2	Render and set in lightweight plaster on brick walls and
14-in. × 14-in. square		Type ZND4F 6 ft. 04 in. wide *170 0	partitions YS *8 C
balusters Ff Softwood		136 5	Sundries
Qai	74	Curtain walling grid with proportion of opening	Labour arris FR *(
	1 4	lights, supplied and fixed excluding glazing and infill	Make good plaster up to
Framed ends to balusters No Softwoo		panels, approximate prices FS Galvanised steel *25 6 Aluminium *40 6	metal bead FR

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technical section

technical section							
PLASTERER—continued		s	d	PLUMBER—continued s d PLUMBER—continue	d	S	d
Plaster board				Cast iron rainwater and Rainwater gutters and pipe	es		
in. gypsum plaster lath fixed to softwood soffits finished to receive plaster	YS	*5	0	Medium weight pipe to BS 416 and BS 460 in Half round eaves gutter and fixed to fascia with brackets:	jointed		
Gypsum board finish setting		2	9	6 ft. lengths No. 3-in. *22 9 Cast-iron, 1-in. 4-in. *29 0	FR 4-in.	*3	
Lin. evosum wall board	YS	*4	2	Half round gutter in 6 ft. lengths	6-in.	*5	8
in. gypsum wall board fixed to vertical studding and scrimming joints	YS	*6	1 2	4-in. *11 2 6-in. *18 4 Pressed steel, 18g. The above are Standard-List	FR 4-in.	*3 2	6
Wall screeds				prices plus 32½% Lead pipe in quantities of	6-in.	*4	8
½-in. cement and sand screed on brick walls to receive tiling	YS	-4	7 6	S cwt. to 1 ton C BS 602 109 0 Asbestos cement BS 1085 116 0	FR 4-in.	*3	1 7
Plain face				Polythene tubing, heavy gauge 100 FR	6-in.		
1-in. Portland cement and sand (1:3) plain face trowelled smooth on brick				‡-in. *96 6 ‡-in. *131 6 1-in. *167 6	FR 4-in.		5
walls	YS	1	11	Steel tubes to BS 1387 medium weight galvanised FR 1 in. 0 74 2 in. 0 94 Rainwater pipes jointed fixed to walls with pipe			
Tyrolean rendering Render in cement, lime, sar (1:1:6) and finishing with				$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	FR 3-in.	6 4 *8	
three coats patent coloured preparations applied with hand operated machine			5 6	prices less 34½% Galvanised malleable fittings. Bend Pressed steel, 24g.	FR 3-in.	6	
Sprayed " Limpet " asbestos		-		I-in. 3 0 I -in. 4 7	4-in.	*7	3
Approximate prices for spr "Limpet" asbestos on the following surfaces to the thickness shown for quantities of 1,000 yds. sup Normal pressed finish. New concrete soffits and		ı		Tee No. 1-in. 1 1-in. 1 1-in. 2 1-in. 3 1-in. 4	FR 3-in.	*4 2 *5 3	0 3 1
4	-in. -in.	14 19 21	8	The above are Standard List prices less 17½%, less 6½% plus 40% Aluminium	FR 3-in.	*5	
1		16 21 23		Copper tubes to BS 659 FR \[\frac{1}{2} - in. & 1 & 0 \\ \frac{1}{2} - in. & 1 & 4\\ \frac{1}{2} - in. & 1 & 4\\ \frac{1}{2} - in. & 2 & 1\\ \frac{1}{2} - in. & 2 & 6\\	ntilat- with	*7	8
Wall tiling				Milled sheet lead C yd. run)	FR	*10	
6-in. × 6-in. × 1-in. glazed wall tiles set and jointed on prepared screed Standard quality, w	YS	*47	6	Gutters and flashings*200 0		*2	3 1
Eggshell matt or glo	ossy	*58	0	Flat roofs *6 0 Cast iron soil, waste an Gutters and flashings *6 0 ventilating pipes with c joints fixed to walls will	aulked		
PLUMBER Market prices				23 SWG copper sheet FS nails Flat roofs *6 8 3-in	FR heavy	*	7 10
Market prices Sheet lead, 3½ lb. and				Gutters and flashings *6 8 14 gauge zinc FS	. heavy	0.1	5 7 9 7 7 0
upwards, in quantities of 5 cwt. to 1 ton Copper sheeting, 23 gauge		106		Flat roofs *3 8 Gutters and flashings *3 8 Asbestos cement soil, v and ventilating pipes w socketed joints made in	rith n		
in 1-ton lots Zinc sheeting, 14 gauge, in	C	*326	0	aluminium FS caulked neat cement fix Flat roofs *5 6 Gutters and flashings *5 6	xed		4 1
Aluminium sheeting 20 SV Super pu Commercial qu	VG C		. 8	20 SWG commercial quality aluminium FS Flat roofs *4 4 Gutters and flashings *4 4	4-in		2 4 5 3 3 2

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plasters
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PLUMBER-cont	inued	s d	PLUMBER—continued		S	d	PLUMBER—conti	nued	5	d
Lead pipe to BS 602			Polythene tubing to BS 1972				Copper tube			
Lead pipe at the follo sizes and weights (Ib			Heavy gauge polythene tubing				Copper tube at the fo	llowing		
yd. run). Supply pipe laid in to (measured separa.el			Supply pipe laid in trench (measured separately)	FR			Supply pipe, BS 1386, trench (measured sep			
(1-in. 7 *	3 9	, , , , ,	<u>‡</u> −in.	1	7		FR 1-in. 18	*1	7
	3-in. *			₫-in.	2	0		}-in. 17	*2	4 5
	I-in. 16 *	7 9		I-in.		5			2	2
	14-in. 28 *1:				9	11		1-in. 16	*3	6 2
	1 ½-in. 35 *1	6 10	Supply or distributing pip fixed to walls	FR				14-in. 16	*4	7
	1.	3 1		½-in.	*2	2		1½-in. 15	*6	7
Supply pipe fixed to and ceilings	walls FR			<u>3</u> -in.	2	7	Supply or distributing	pine.		
and comings	4-in. 7 *	4 4 2 9		1-in.	3 2		BS 659, fixed to walls		*2	3
	3-in. 11 *	6 3			2				1	2
	1-in. 16 *	8 6	Galvanised steel tubing to B	35 138	7			⅓-in. 19	1	8
	1½-in. 28 *1		Galvanised steel tubing w	ith				I-in. 18	*3	8
		0 7	screwed red lead joints.					14-in. 18	*4	4
Distributing pine for	1	3 2	Supply pipe, heavy weight laid in trench (measured separately)	FR.				1½-in. 18	*5	8
Distributing pipe fix walls and ceilings	FR		separatery)	⅓-in.		6	Extra for brass compr			
		3 4		₫-in.	*2	9	fittings, copper to co	pper		
		2 /		f-in.	*3	2	Coupling	No.	*5	6
		2 11		14-in.	*4	6		}-in.	*6	
		5 9		l-in.		11			4	2
		7 5		-111.	2	3		1-in.	6	2
Flushing and warnin fixed to softwood	FR	2 7	Supply or distributing pip medium weight, fixed to	walls				l <u>i</u> -in.	7	6
		1 6		FR ½-in.	*2	9	Bend	No.		
	1-in. 5 *	1 10		<u>2</u> -in.	3	3		₹-in.	*6	
	14-in. 6 *	2 4		I-in.	*3	8		-in.	*8	
	$1\frac{1}{2}$ -in. 7 *	3 10 2 8		l≟-in.	*4	4		1-in.		3
					*5	9		14-in.	*15	4
Waste pipe fixed to softwood	FR			l∱-in.	2	7		I‡-in.		10
		4 3 2 6	Extra for malleable iron				-		19	11
	1½-in. 7 *	2 11	fittings				Tee	No. ‡-in.	*10	2
Joints to fittings	No.		Elbow	No. I-in.	*8	4		₹-in.	6	4
		9 7		1 ½- in.	2	0		I-in.	7	4
	3-in. *1				3	1			11	
	1-in. *1	4 1		l∳-in.	4	2		14-in.	17	3
	1½-in. *I		Bend	No.				l₁-in.		5
	14-in. *I	8 7	-	I-in.	*9	8	Heat insulation			
Extra for:		5 11		l‡-in.	*13		Asbestos plastic insul- wired, trowelled hard			
Bend	No.			l∳-in.	*17	11	smooth and painted	FR	**	
		2 3 2			7	2		⅓-in. in.	*4	6
Branch joints	No.		Tee	No.	*5	0		f-in.	*5	
,	1-in. *I	1 6		1-in.	*6	2		I ½-in.	*5	
	}-in. *I	4 0			1	8	Sectional insulation w			
	1-in. *1			I-in.	*8 2	5	sheeting and metal be painted	FR		
	11-in. *1	3 11		l¼-in.	3	8		-in.	*4	0
	14-in. *2	4 11		l 1 −in.		7 9		I-in.	*5	4
	1 J-111. 2	5 11			7	,		14-in.	*6	

GLAZIER	5	d	PAINTER	\$	d	PAINTER—continued	5	đ
Market prices			Market prices			On wood		
O.Q. sheet glass cut to size			Ceiling distemper C	30	0	Knot, prime, stop and apply		
FS 24 oz.	1	04	Washable distemper C	130	0	one coat oil colour		
32 oz.	i	0± 7±				General surfaces YS		
in. polished plate and float			General purpose priming Gal.	36	6	Basis price	*4	8
glass, glazing quality in plates not exceeding: FS			Emulsion paint Gal.	45	0	Add for each additional coat	*1	10
2 ft. super 5 ft. super	5	01	Hard gloss paint: Gal.			Margins of treads and risers		
45 fc. super 100 fc. super	6	9	Undercoat Finishing		0	YS Basis price	*5	1
in. white figured rolled and cathedral glass			Measured rates			Add for each additional coat	*2	0
and cathedral glass FS Group one Group two	1	31 91	On walls and ceilings					10
Group three	i	81	Twice whiten plastered	**	_	Work not exceeding 3-in.		
4-in. Georgian polished wired glass FS	6	10	ceilings YS	*1	3	girth YR Basis price		7
Attention is drawn to			Two coats distemper on	*3	4	Add for each additional coat		21
reduction in certain glass prices offered by manufac-			plastered walls or ceilings YS	*2	1	Month 2 in an 4 in which		,
turers for acceptance of specified minimum quantities			Two coats distemper on			Work 3-in. to 6-in. girth		
of one size and substance delivered to one address at			fair-faced brick or concrete walls YS	*3	0	Basis price	4	24
one time and this has been taken into account in the			***************************************	1	4	Add for each additional coat		4
following rates			Two coats emulsion paint on walls or ceilings YS	*3	1	Stain and varnish		
Measured rates				1	8	Prepare, size, stain and twice		
Glazing to wood			Prepare, prime and apply one coat oil colour on plastered			varnish on woodwork		
Glazing with putty in squares FS			walls YS Basis price		11	General surfaces YS	1	8
24 oz. O.Q. sheet glass 32 oz. O.Q. sheet glass	*1	9	Add for each additional coat		10	Work not exceeding 3-in.		*8
1-in. rolled glass, group one	*1	7			10	girtii		11/2
16 -in. rough cast glass	*2	1	On metal			Work 3-in. to 6-in. girth YR	*1	0 24
4-in, wired cast glass	*2	5	Prepare, prime and apply one coat oil colour					- 2
4-in. Georgian polished wired glass	*8	0	General surfaces YS			Oiling and polishing		
1-in. polished plate glass			Basis price		11	Twice oiling hardwood with		
(glazing quality) in squares 2 to 5 ft. super	*6		Add for each additional coat	*1	9	General surfaces YS		11
5 to 45 ft. super	*7	5	Windows in squares YS				1	2
Glazing to metal			Basis price	*5	8	Work not exceeding 3-in.		*3
Add to above rates !d. per ft. super			Add for each additional coat	*2	5			1
Sundries			Bars, angles, etc., not			Work 3-in. to 6-in. girth YR		*5
Hacking out broken sheet			exceeding 3-in. girth YR Basis price		6			
glass FS	-	3	Add for each additional coat		2	Staining and wax polishing general surfaces of hardwood		
Black ribbon velvet and bedding to edge of glass FR		8			1	FS	*1	2
Double glazing			Small pipes YR Basis price		1	Staining bodying-in and fully		
Insulight units of two skins			Add for each additional coat		*6	French polishing on general surfaces of hardwood FS	*2	10
of glass with lead spacers and glazing with mastic or			Large nines		2	Papering		
beads (supplied). In panels 10 to 25 ft. super FS			Large pipes YR Basis price		2	Papering		
32 oz. sheet ‡-in. polished plate		-	Add for each additional coal	t	*11	Preparing and sizing walls and hanging plain lining		
Patent glazing					3	paper Piece	*12	0 3
			Prepare, prime and apply one			Hanging wall paper oc 10e		
Patent glazing with 4-in. Georgian wired cast glass			coat heat-resisting paint on heating surfaces of radiators			Hanging wall paper, p.c. 10s. per piece Piece		
suitable for 8-ft. spans FS		10	Y	-			12	
Rolled steel lead capped bars Aluminium alloy bars		10	Basis price		6	Hanging border, p.c. Is. per		
			Add for each additional coal	t #2		yd. YR	9.5	10

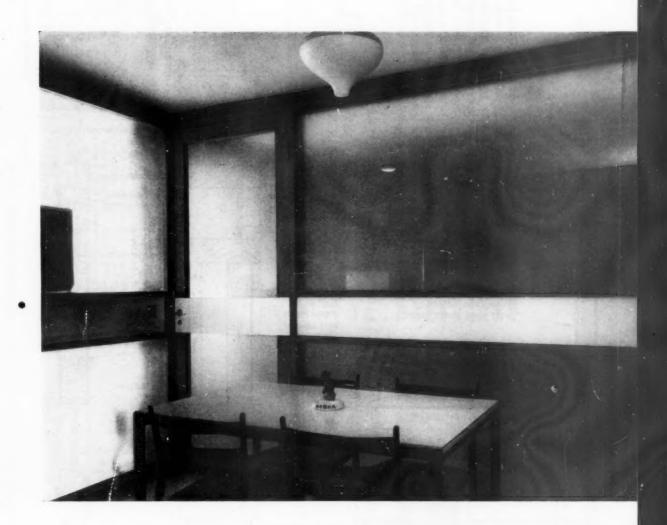
AJ

SFB

(22)

Working Detail No 4

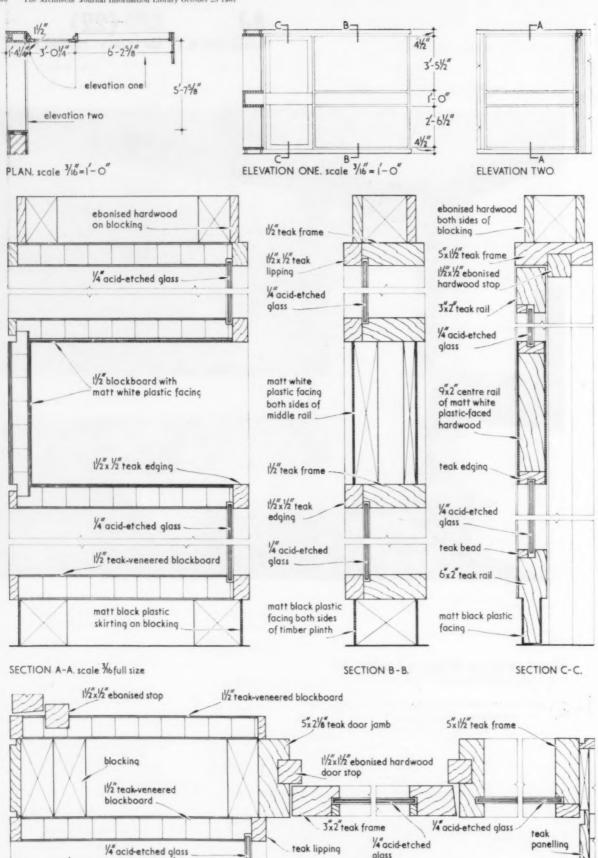
UDC 69-022-5 Partitions: General



Glazed partition: House in London, N2

C. J. Collins, architect

This partition is formed of etched glass and plastic-faced blockboard with teak edgings



glass

PLAN. scale \$6 full size

AJ Products File October 25 1961

Dampcourses

the various types and has a useful page of details recent 4-page leaflet sets out the composition of coursing materials composed of bitumen with a base of asbestos, hessian or fibre, as well as metal cored types using lead or aluminium. Permanite produce a whole range of dampto show the proper use of the materials in foundations, parapet walls and copings.

Permanite Ltd, 455 Old Ford Rd, London, E3

SfB (LS)

UDC

AJ Products File October 25 1861

The illustration on the right shows the new

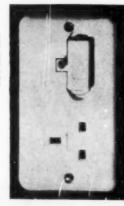
Electrical connector

use with fixed appliances and is provided with a

removable fuse link in a carrier which is easily type box. The spur connector is intended for Nettle combined socket and spur condeniened for mounting on a 2 gang BS1363

SfB (60)

UDC 621 - 315



Nettle socket and spur connecto

detachable from the front plate by unscrewing a finger nut. The unit is suitable for use in ring main circuits and is made in brown or ivory at prices of 124s. and 136s. a dozen.

Nettle Accessories Ltd. Harper Rd.

Wythenshawe, Manchester 22

Products File by Brian Grant

SfB (Md)

AJ Products File October 25 1961

UDC

The Industry has been replaced by Products File. Each item occupies a quarterpage and file each under its number if they wish. Alternatively, they may tear from manufacturers may turn to the back page where they will find Products pages never back on to editorial matter. Readers wanting more information out the whole page and file all Products File pages together. Products File page (ie A6 size) and is given an SfB number so that readers may cut the merely to tick the manufacturer's name, add his own name and address, File items included in the lists of advertisers. The reader, therefore, has detach the page and post it to the Journal, using the reply paid folder.

Boulton Paul pressed panel makes possible the economic production of small great extent the high cost of metal dies and thus

interested to know that Boulton Paul Aircraft are

pressed into various surface patterns, whether

Designers who feel a need for metal sheet

Pressed metal panelling

for curtain walling or other purposes, will be

prepared to produce patterns of all kinds by the rubber press technique, which reduces to a very panels are well within the capabilities of the method, though some of the designs are a bit surprising. to use lighter gauges of metal. A standard range of reeded patterns is produced, but from the

necessary. A patterned panel has the advantage

finished with insulation or a backing plate if

by the pattern itself, so that it is often possible

Illustration it seems that quite complicated

that a certain amount of stiffness is produced

pyc covered in sizes up to 66in by 42in. The panels can have flanged or formed edges and be

any other metal suitable for pressing (including panels can be produced in steel, aluminium, or

quantities to individual requirements. The

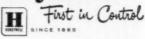
Boulton Paul Aircraft Ltd. Wolverhampton

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Honeywell



211

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Airport equipment

Industrial Service Outlets, of Croydon, produce several different types of service outlet for aircraft maintenance work, including single and three phase electricity, compressed air, water, telephones, or chilled air for use in tropicial conditions. The largest unit, illustrated here, is for a 100 amp three phase supply, though it can be modified to supply high pressure air. Units of this type have been in use at London Ariport since 1958 without any breakdown from water or ice, and they seem robustly enough designed to that the heavy traffic of maintenance area. The cable emerges from the outlet on a areas. The cable emerges from the outlet on a aloping platform and the current is not switched on until the access lid is closed. When not in use the lids of all the units are flush with the erest of the maintenance area paving.

Industrial Service Outlets Ltd, 127 High St,

SfB (83)



100 amp outlet by Industrial Service

AJ Products File October 25 1961

refrigerator, though they will each sell it under different trade names and with a slightly different

finish. Net capacity of the normal refrigerator

cabinet is 5.2 cu ft and there is also a freezer

compartment at the top with a temperature

maintained between -2 deg and -6 deg F, so that it is suitable for long term storage of frozen food or garden produce. This freezer unit

only 2 it square on plan, with a height of 46 in. Both models will be on sale early next year at a

price of about 99 guineas.

Tricity Cookers Ltd. Thorn House, Upper St Martin's Lane, London, WC2, and Simplex Electric Ltd. Creda Works, Blyth Bridge, Staffs

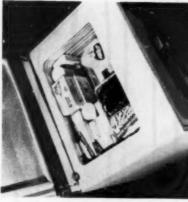
that there is no loss of cold air. Dimensions are

has a pressure sealed lid which lifts to open, so

Creda and Tricity are both producing a standard

Refrigerator and freezer

SfB (73) UDC 643-37



Creda/Tricity refrigerator

7

AJ Products File October 25 1961

Heated road surfaces

At the new Park Royal factory of Vanson Puritive arrangements are made for parking cars on the roof, with access by external ramps with a gradient of 1 in 6. Since winter anow and tie would be fairly haardons it was decided that the ramp surfaces should be heated, and this has been done by embedding 4½ in mesh expanded steel in the concrete sub-surface with flat bars, which can be seen in the photograph, welded across the ends to act as connections for low voltage transformers. The mats are loaded at 13 wasts per square food, and are thermostatically controlled to switch on at 30 des. F. The mats are very robust and are not likely to be damaged during laying, not that it would matter very much if one or two bars of the mesh were to be cut by a pneumatic drill.

Lighting & Heating Group, General Electric Co-Ltd, Magnet House, Kingsway, London, WC2

SfB (14)



SEC ramp heating

AJ Products File October 25 1961

UDC 625.73

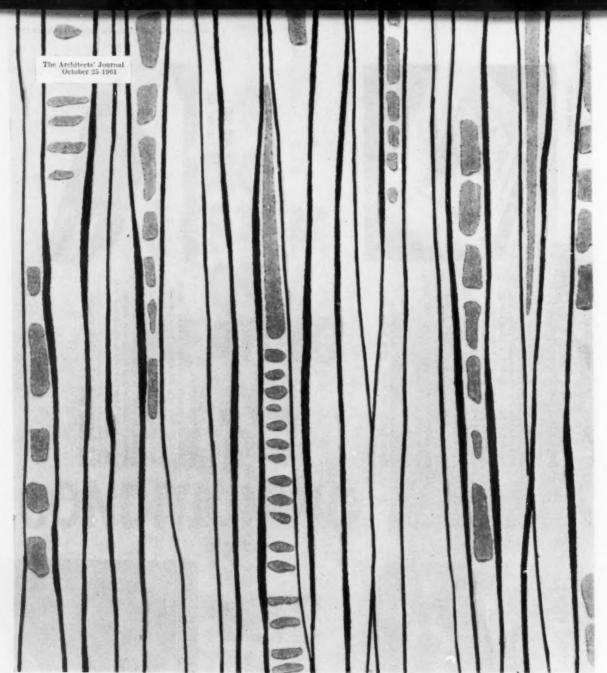


W. G. Cannon and Sons Ltd, 38a St George's Drive, London, SW1

SfB (57)



Cannon roof ventilator



"Seccus" designed by Cliff Holden. M 1011 shown to scale.

A new collection of machine printed wallpapers has just been compiled by the London Office of The Wall Paper Manufacturers Limited 19/21 Mortimer Street, W.1.

and is now available through wallpaper suppliers. Many prominent designers are associated with this collection among them Lucienne Day, Jacqueline Groag, Terence Conran, Joyce Storey and William Gear.

Modus wallpapers, because machine printed, are moderate in price,

and in order to increase their usefulness to Architects and Interior Designers

all these papers have been treated with a special protective coating.

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MODUS

19/21 MORTIMER STREET LONDON WITHE WALL PAPER MANUFACTURERS LIMITED

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SFB

(98)

Building Study UDC 728-37



House at Padworth Common

Entrance elevation with the nursery terrace in the foreground. Bolder modelling and deeper shadows would have added greater interest

designed by RAYMOND LOCKYER
of FREEMAN & LOCKYER
landscape architect SHEILA HAYWOOD

To design a house of reasonable quality these days at under £3 a square foot is something of an achievement. Here, for a very modest sum, the architect-owner has produced an attractive building with generous accommodation

APPRAISAL

The site, flat and unpromising, is a double-width plot between a string of undistinguished "desirable red brick residences." The house has wisely been sited as far away as possible from the road and other houses, both to capture a view across to the south-east and to ensure more privacy. But it does leave an alarming stretch of front garden which may prove very difficult to landscape.

The house is orientated to get as much sun (particularly winter sun) as possible; the car port and screen wall being far enough away to avoid casting a shadow over the living terrace. The garden formed by this screen wall is attractive, but the landscaping proposals generally leave much to be desired. The difficulties seem to arise from the slightly arbitrary siting of the building, and a certain ambivalence about which is the garden elevation. It does not seem a very convincing argument to break the entrance elevation in two and then point an inquisitive gable end towards the view. The site might have been exploited more successfully had the building, with some modification, been turned to embrace both sun and view more boldly, thus allowing small intimate gardens for the master bedroom and nursery, and a more restful sweep of garden in front of the main living rooms.

Internally the house is planned with two main sections divided by a central dining hall and kitchen. One section contains the living room study and master bedroom suite; the other forms a self contained children's department with separate bathroom. This works well as a general arrangement but only if an adult sleeps in one of the bedrooms in the children's section. Only bachelors believe that children can be shut away and forgotten at night. In the living room the central fireplace has some attractions as a room divider but the study area, because of cross circulation, is neither comfortably a study nor yet quite a passage. A study area is usually more satisfactory as a recess off the living room rather than as a passage into the room.

The architect, while expressing himself satisfied with the plan, does occasionally wonder whether one large room with the fireplace attached to the wall would have been spatially and visually more acceptable. Certainly the abrupt vertical emphasis of the fireplace and its relationship to the adjoining window does not help to inspire a feeling of repose and relaxation. The extra wide door between the study and dining hall is excellent and gives a fine sense of space, but a sliding door might have been preferable. Bedroom 1, although possessing an adjoining dressing room, is small for the main double bedroom and feels uncomfortably cramped. The architect thought he should have kept the cupboards down and carried the bedroom ceiling through into the dressing room. This would have helped, but a larger room would be preferable. The use of a full height window to frame the view from the bed is good.

A dining hall in a single storey house is a sensible combination of functions, and increases the apparent spaciousness of a small building. This room is pleasantly proportioned and is enhanced considerably, as in the living room, by a boarded ceiling. Only winter will tell, however, whether a windbreak lobby is also needed on the sw.

The nursery quarters are designed for later changes as the children grow up. The rear entrance hall provided here is not a luxury but a necessity in a country house—where else will muddy boots and wet macks be flung? It also allows a garden access from the children's quarters without destroying the peace and calm of the remainder.

Externally the house is generally neat, well proportioned, and displaying reticent good manners. The exception is the NE elevation which makes no bones about expressing the rooms behind. This is all very well, but more care could have brought it up to the standard of the others.

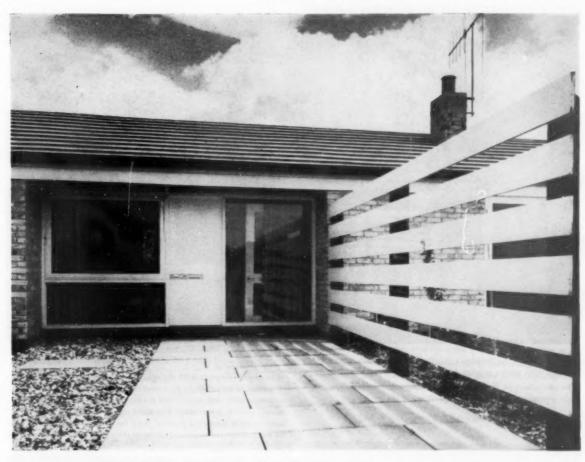
The front of the house is marred by the timber screen and a mean looking stack. The screen is disappointing because it seems foreign to the rest of the design, and is somehow far too slick—although it will eventually be covered by planting. The chimney stack (and the architect says he will never do it again) cannot hold its own in that great expanse of roof; something more substantial than by-law thickness is required.

On criticising the cedar boarded south-east elevation the architect replied that it helps to solve the difficult problem of what to do with the lintels in a gable end when no lintels appear elsewhere. True. But it always seems a pity to split up the outline of a simple gable into so many different shapes and materials; with all the ways of spanning openings now available, surely one of them must suit.

The black painted plinth, recessed $\frac{1}{2}$ in which runs around the building helps to articulate the brick panels and windows and also ensures a consistent scale.

Construction and materials are of the simplest. Timber windows were used as permitting more scope, but some of the larger pivot windows need stronger members for the size of opening lights. Water heating, like the house, is divided into two sections, each independent of the other, with separate immersion heaters and cold water storage. This is slightly more expensive but much more flexible, and has the advantage that when the children are away only one system need be used.

The architect's own verdict on his house is that it is comfortable but not cosy. Cosiness is a very elusive quality sometimes caught by soft carpets and furnishings, and by a blurring of hard edges and surfaces. It is also a form of repose, and might have been partially accomplished here by simplifying the living areas, also by providing deeper window reveals and more rugged detailing to offset the slightly brittle character of the building. The clipped eaves save on cost, but perhaps at the expense of something more valuable—a closer affinity to the ground from which the building springs. Most important of all, the bungalow needs to gather around itself more intimate gardens and soft planting with perhaps a slight change or two in level, even if artificially contrived.



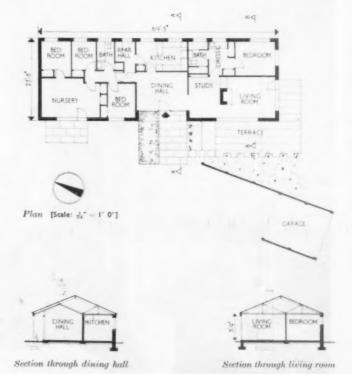
The front door and windows to the dining hall. The extra wide study door can be seen open behin! the curtains and demonstrates that a sliding door would have been preferable. The letter plate is nicely detailed



Block plan [Scale: 12loa" - 1' 0"



Site plan [Scale: skn" - 1' 0



APPRAISAL

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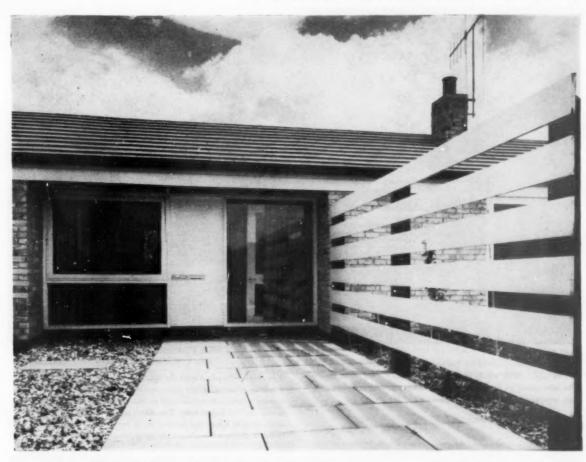
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On criticising the cedar boarded south-east elevation the architect replied that it helps to solve the difficult problem of what to do with the lintels in a gable end when no lintels appear elsewhere. True. But it always seems a pity to split up the outline of a simple gable into so many different shapes and materials; with all the ways of spanning openings now available, surely one of them must suit.

The black painted plinth, recessed $\frac{1}{2}$ in which runs around the building helps to articulate the brick panels and windows and also ensures a consistent scale.

Construction and materials are of the simplest. Timber windows were used as permitting more scope, but some of the larger pivot windows need stronger members for the size of opening lights. Water heating, like the house, is divided into two sections, each independent of the other, with separate immersion heaters and cold water storage. This is slightly more expensive but much more flexible, and has the advantage that when the children are away only one system need be used.

The architect's own verdict on his house is that it is comfortable but not cosy. Cosiness is a very elusive quality sometimes caught by soft carpets and furnishings, and by a blurring of hard edges and surfaces. It is also a form of repose, and might have been partially accomplished here by simplifying the living areas, also by providing deeper window reveals and more rugged detailing to offset the slightly brittle character of the building. The clipped eaves save on cost, but perhaps at the expense of something more valuable—a closer affinity to the ground from which the building springs. Most important of all, the bungalow needs to gather around itself more intimate gardens and soft planting with perhaps a slight change or two in level, even if artificially contrived.



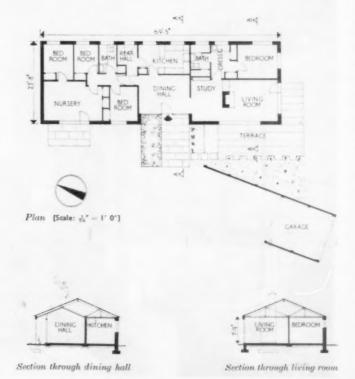
The front door and windows to the dining hall. The extra wide study door can be seen open behin! the curtains and demonstrates that a sliding door would have been preferable. The letter plate is nicely detailed



Block plan [Scale: 15 los" - 1' 0"



Site plan [Scale: alo" - 1' 0







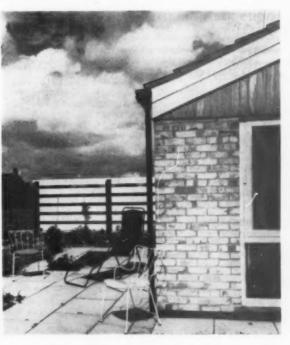
The south-west corner of the house. The timber screen seems incongruous; brick would have given a warmer sense of enclosure. The ubiquitous TV aerial is unfortunately much in evidence and calls attention to the humble proportions of the stack

The central fireplace with the study area beyond. The fireplace detailing is surprisingly poor and the mantelshelf is so uncomfortably not in the right position that the architect must surely move it before long. The black marble hearth seems too sophisticated beside the painted brick surround. It is intended later to put a shelf and cupboard fitting to the right of the fireplace





Dining hall from the study, with a charming dutch effect to this pleasant little room. Shaped boarded ceiling adds variety to a small building



A closer view of the cedar boarded gable showing the detailing of the flush eaves and box gutter. This also illustrates the rather patchy effect of the stock bricks, which vary in colour from light yellow to purple



Looking out from the living room to the terrace and garden. The pivot hung sash seems flimsy for its size



 $View\ past\ the\ study\ to\ the\ dining\ hall\ showing\ the\ spatial\ advantage$ of the very wide door

CLIENT'S REQUIREMENTS

A small four-bedroom single storey house for himself and his family to be built as simply and inexpensively as possible.

Also as much privacy as the site would allow to escape from both sight and sound of neighbours.

SITE

Flat, roughly 2 acres in extent, lying to the east of Rectory Road, Padworth, Berkshire (half way between Reading and Newbury). To the west is a fairly distant view of wooded country; to the east and south-west a slightly more limited range but including some good mature trees. On the other two sides the site is sandwiched between the back gardens of adjoining properties.

PLANNING AIMS

The architect rejected any idea of a two-storey house as being too small and aesthetically unacceptable for an open site of this sort.

The chief decisions affecting planning were threefold:

(1) To capture as much sun as possible throughout the day in the principal rooms.

(2) To take advantage of the view both to the sE and w of the site.

(3) To form a self-contained children's section complete with nanny, separated from the remainder of the bungalow.

SUMMARY

Ground floor area 1,457 sq ft.

Total floor area: 1,680 sq ft including carport.

Type of contract: RIBA without quantities (negotiated).

Work began: October 1959.

Work finishes: April 1960.

Tender price of foundation, superstructure, installation and finishes, including drainage to collecting

manhole: £4,364 0s 0d.

Final contract price: £4,207 14s 0d.

Tender price of external works and ancillary buildings, including drainage beyond collecting manhole:

£368 0s 0d (drive and landscaping outside scope of contract).

contract).

Final contract price: £497 6s 0d.

Total: £4,705 0s 0d.

COST ANALYSIS

Based on final account.	Cost pe
(AJ revised elemental breakdown in use from	sq ft
November 10 1960.)	s d

Preliminaries and insurances

0.29 per cent of remainder of contract

Contingencies

3 3

2

Work below lowest floor finish

3 4

1½-in polystyrene insulation 1 ft 10½ in wide round the perimeter of the building.

10-in cavity brick and 9-in brick under floor to ceiling windows, all on strip foundations.

STRUCTURAL ELEMENTS

Roof

7 2

6 in \times 2 in rafters at 16-in centres $22\frac{1}{2}^{\circ}$ pitch with 4 in \times $1\frac{1}{2}$ \times 3 \times $1\frac{1}{2}$ in struts to wall plate on central spine wall, carrying concrete tiles,

199 sq yd, 52s 6d per sq yd.

3-in concrete block flank walls to dining hall taken 3 ft 6 in above wall plate to allow pitched ceiling in dining hall.

Cedar boarding to south gable end on stud framing.

External walls

6 2

 $10\frac{1}{2}$ in cavity load bearing with inner skin of 4-in aerated concrete blocks; 90 sq yds, 100 s 0d per sq yd.

Windows and external doors

5 41

All windows to west and south elevations purpose made in softwood, remainder standard timber pivot. 4-in plate glass to all floor to ceiling windows with 106 sq ft of double glazing. 4 single doors. 408 sq ft, 15s 10d per sq ft.

Partitions

1 6

4½-in plastered brick spine wall; 50 sq yd 20s 0d per sq yd. Remaining partition walls, 3-in plastered precast concrete block; 87 sq yd, 15s 0d per sq yd.

Internal doors

1 7

Nine 6 ft 6 in \times 2 ft 6 in \times 1 $\frac{3}{4}$ in hardboard, honeycomb core, no lipping, silkstone finish; 162 sq ft. Six 6 ft 6 in \times 2 ft 6 in \times 1 $\frac{3}{4}$ in hardboard honeycomb core, no lipping, silkstone finish; 108 sq ft. Four 6 ft 6 in \times 2 ft 0 in hardboard, honeycomb core, no lipping, silkstone finish; 66 sq ft Three 6 ft 6 in \times 2 ft 6 in \times 1 $\frac{3}{4}$ in solid insulation core; 54 sq ft. One purpose made glazed door 6 ft 6 in \times 4 ft 6 in \times 2 in; 29 sq ft.

Ironmongery

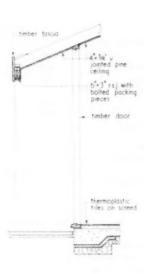
2

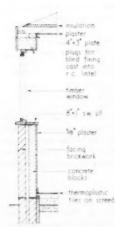
Ironmongery to all pivot windows fixed by joinery manufacturer and included in window costs. Door furniture, all lever sa purpose design letter plate and door handle to front door.

Total cost of structural elements: 23s 102d

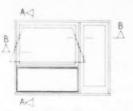




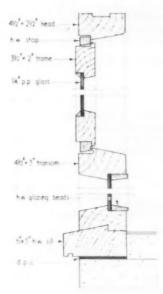




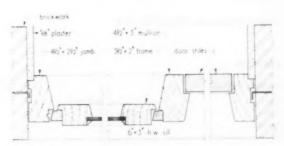
Typical sections through external valling; top, living room windows; centre entrance hall; bottom, bedrooms
[Scale: 4" = 1' 0"]



Key elevation [Scale: 4" - 1' 0"]



Section A



Section B

Details of purpose-made windows
[Scale: 14" = 1' 0"

FINISHES AND FITTINGS

Wall finishes

Generally \(\frac{1}{2}\)-in plaster finish; 363 sq yd, 19s 0d per sq yd.

 $\frac{3}{8}$ in \times 6 in \times 6 in white glazed cushion edge tiling to bathroom and kitchen; 13 sq yd 45s 0d per sq yd.

Floor finishes

Hardwood block Meranti: 32 sq yd, 44s 6d per sq yd. Flexible vinyl tiles; 12 sq yd.

Thermoplastic tiles; 118 sq yd, 11s 6d per sq yd. Cost of hardwood flooring includes for cork expansion strips and special kiln drying to allow for underfloor heating.

Screed thickness generally $2\frac{\pi}{8}$ in to allow for floor heating.

Ceiling finishes

Living room and dining hall: 4 in \times $\frac{\pi}{4}$ in Columbian pine V jointed, tongued and grooved and secret nailed; 50 sq yd, 18s 0d. per sq yd. $\frac{\pi}{4}$ in plaster lath and skimcoat everywhere else; 122 sq yd, 36s 6d per sq yd.

Decorations

Wood ceilings with 2 coats of clear varnish.

All walls and ceilings, 2 coats distemper or emulsion.

Internal woodwork, gloss paint.

External wood, gloss paint.

Cedar untreated.

Fittings

Cupboards in bedrooms and nursery included in other elements.

Kitchen fittings, all standard units.

Purpose designed nursery wall unit, dressing shelf and book shelves.

Total of finishes and fittings: 15s 10 d

SERVICES

Sanitary fittings		1	2
Type	No of each type		
Baths	2		
The state of the s			

Waste, soil and overflow pipes, hot and cold water services

Copper waste pipes throughout, 4-in soil and vent pipe east iron in duct.

All internal services pipes in copper.

Rising main in plastic.

Siphonic action wes

2 galvanised iron cold water storage tanks holding 45 gallons.

No of draw-off points from rising main: 2.

No of draw-off points from cold storage: 4.

Two 27-g. llon copper hot water cylinders, one for bathroom 1 and kitchen and one for bathroom 2 each fitted with immersion heaters for full time use. All pipes in roof space lagged.

No. of hot draw-off points: 6.

Includes builders' work.

Heating services

5 11

2 5

3 2

3 7

Underfloor electric heating to the whole building except under bathrooms which are heated with infra red overhead heating. 2 heated towel rails.

Heat load, 14·5 kW, thermostatic control for each room. Includes builder's work.

Electrical services

Light fittings, outside contract.

2 0³ Cost includes one 2 kW built-in fire and two 2 kW immersion heaters.

Two 750 W infra red heaters.

Type of point	No of each type
Lighting	17
13-amp	15
15-amp	2
45-amp (cooker)	1

Drainage

Surface to soakaways, foul to septic tank.

3 1 Price inclusive of septic tank.

Total of services: 11s 3d

External works

Electricity connection, approximately 100 yds	
overhead:	6d
Water main, approximately 100 yd:	82d
2-in precast concrete paving slabs:	113d
6-ft 6-in high double carport and 60-ft 0-in los	ıg
scree wall 6-ft 6-in high	4s 01d

6-ft 6-in high double carport and 60-ft 0-in long scree wall 6-ft 6-in high 4s 0\frac{1}{2}d Timber screen 6\frac{3}{2}d

(Drive and forecourt not in contract.)

Total cost per sq ft of floor area

£4,207 (net cost excluding external works)

57 9

2 5

1 83

2 4

6 9

1,457 sq ft (measured inside external walls)

COST COMMENT

The architect gives three reasons for the relatively low cost of this house

(a) its simple shape and construction

(b) a low-pitched roof without projecting eaves

(c) use of a small country contractor well known to the architect Points (a) and (c) would influence most of the elements, and therefore be difficult to isolate. There is, however, the occasional indication in the building of cheapness at the expense of first-class workmanship. There is, for instance, something wrong with part of the roof tiling.

On the question of the roof, its cost characteristics can be compared with other recently published houses in this series.

	Date published	Type of finish	Cost per sq ft of floor area	Area in sq yd	Cost per sq yd
Padworth	_	Concrete tiles	7s 2d	199	52s 6d
Helensburgh	6.9.61	Second-hand slates	4s Sld	74	35s 51d
Tunbridge Wells	11.5.61	Felted	13s 10id	136	91s 2d
Dunbar	28.1.60	Felted	9s 41d	170	87s 0d
Lasswade	28.1.60	Felted	9s 71d	136	96s 0d

In general, the architect seems to have made his point, with the exception of a combination of clipped eaves and second-hand slates at Helensburgh. It also would seem to be the case that, as far as these examples are concerned, the flat or very low pitched felted roof is not the very economical form of construction that some architects imagine.

CONTRACTORS

General Contractors: Bushnell Heavens & Wise Ltd. Sub-contractors and suppliers—Electrical installation and floor heating: Wilson, Nichols Ltd. Dauble glazing: James Clark & Eaton Ltd. Internal Doorr: Gliksten Doors Ltd. Hardwood flooring: Hollis Bros. Ltd. Purpose designed windaw frome: Easton & Sons (Joinery) Ltd. Kitchen units: F. Wrighton & Sons Ltd. Terra: shelves: Jaconello (Hampshire) Ltd.

AJ STB (15)
Garden: General



Clifford Tandy, the author of the Element Design Guide and Technical Studies in this week's Element File, is a member of the council of the ULA and leader of the landscape section of the War Office Directorate of Works (Director-General of Works, Donald Gibson, CBE)

(15) Garden: General

It is inevitable that architects will on many occasions have to do all external layouts for smaller works. It is obvious that under present conditions landscape architects will be engaged as consultants only on larger jobs, and that a considerable amount of external space will be planned without their assistance. It is therefore important that architects should be aware of the basic practical and aesthetic requirements of landscaping. As it has to deal with the whole of landscape architecture, this section is very large; and, because it is large, we have been obliged to use a more condensed layout for the Element Design Guide and omit the Appendix B Special Project, to which references will be found in the third column. The appendix will be published at a later date and can then be added to this file. The subject matter has been interpreted as the design and modification of space about and between buildings, but readers are also referred to (14) Roads and pavings: General and to a sub-section of (15) Garden: Fences, gates, walls, which is published as a separate subject. The Element File contains (in addition to the EDG) two Technical Studies and two Information Sheets. The first Technical Study draws attention to some of the gaps in information available to the landscape designer and the second gives practical advice on the use of grass. The Informtion Sheets give data on the planting of trees and shrubs and on methods of forming kerbs and edgings.

EDG directory (numbers refer to paragraphs)

Data required

Check on site 1-4 Topography 5-8 Existing vegetation 9-11 Tree Survey 12-16 Local materials 17-21 Climate 22-25 Regulations 26-29 User requirements 30-41 Appraisal 42-44

Basic Design Decisions

Site appreciation and evaluation 45–46 Siting 47–48 Landscape design 49–68

Detail Design

D1 General Surplus 69-75 Vertical relationships (and levels) 76-82 Enclosure 83-88 Shelter 89-94 Artifacts (sculpture, fountains, etc) 95-98 Ornamental water 99-106 Rock work 107-115 Maintenance areas 116-122 Services in relation to landscape 123-132 D11 Planting Plan 133 Grass 134-137 Tree planting 138-142 Shrub planting 143-146 Non-woody plants 146-150 Factors in selection of plant material 151 Specification 152-162 Contract Stage, 163-168

AJ

SfB (15)

Element Design Guide: UDC 712-4-6 Garden: General

(15) Garden: General

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Data required				
CHECK ON SITE Site inspection	(assumed to be completed and available)	Element Design Guide SfB (11) Ground: General, para 1-7		
2 Soil examination	hand test a handful of moist soil: is it: SHALLOW DEEP (test by trial pit or hand auger) HEAVY LIGHT determine soil type: SAND SANDY LOAM SILTY LOAM CLAY CLAY LOAM MEDIUM LOAM is it: CHALKY STONY MARL	*MINISTRY OF EDUCATION Building Bulletin No. 10. New school playing fields. Appendix 2. London 1955 HMSO [Ac6] is adequate as a quick rule of thumb for "know-how" **BRADE-BIRKS, S. G., Teach yourself good soil. London, 1944, Revised 1958 English Universities Press [Ca4] BRITISH STANDARDS INSTITUTION *CP2001:1957. Site investigations, table 1 [Ca] or **SHEWELL COOPER, W. E., Horticultural Notebooks Section 6, London 1950/60 Technical Press [(15)]		
	PEAT does it contain: GRAVEL FLINTS BOULDERS chemical reaction: ALKALINE NEUTRAL ACID condition: WET DRY	Litmus paper or portable test outfit or laboratory test (see below) vegetation types (see item 9 below) *Moe Building Bulletin No 10 Appendix 5 [Ac6] or *MINISTRY OF AGRICULTURE, FISH ERIES AND FOOD MAFF Agricultura advisory leaflet 270. Soil analysis for advisory purposes, hmso [Ca3] If in doubt send sample for laboratory analysis to local county agricultura advisory service, county education depor horticultural advisory service. Commercial firms: (eg) CARTERS SUTTONS FISONS Independent organisations (eg Sport Turf Research Institute, Bingley Agricultural Colleges Observe winter and summer water table in trial holes. Local information		
3 Consider subsoil or bedrock	by: TRIAL HOLES OBSERVATION OF NEARBY QUARRIES ETC MAP INFORMATION	*BSCP2001 Appendix C for definition of soil and rocks, Appendix D for brie notes on geology suitable for thi subject [Ca] Geological Survey 1-in maps, solid o drift. Only half of CK is covered [Aa2]		



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AJ

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HDC 719-4 -6

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	MARL PEAT does it contain: GRAVEL FLINTS BOULDERS chemical reaction: ALKALINE NEUTRAL ACID	Litmus paper or portable test outfit of laboratory test (see below) vegetation types (see item 9 below) *MOE Building Bulletin No 10 Appendix 5 [Ac6] or *MINISTRY OF AGRICULTURE, FISH ERIES AND FOOD MAFF Agricultura advisory leaflet 270. Soil analysis for advisory purposes, HMSO [Ca3] If in doubt send sample for laboratory analysis to local county agricultura advisory service, county education deport horticultural advisory service. Commercial firms: (eg) CARTERS	
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		trees and shrubs. London 1938 Warne $[(15)]$
4 Estimate condition	HEALTH VIGOUR AGE INJURIES DISEASE PESTS REQUIRING SURGERY OR SUPPORT (a full inspection will require ladders)	**LE SUEUR, A. D. The care and repair of ornamental trees. London 1949 Country Life [(15)] This is the standard textbook on the subject and enables one, with experience to specify at least an outline of the tree surgery needed
5 Estimate comparative worth	as part of a group as a single specimen for: visual importance, rarity, comparative rarity in the locality in view of expected life	
16 Classify by noting on plan	A: keep at all costs B: keep if wanted; remove if obstructing layout (visual value of group may be greater than the sum of individual trees) C: take out (damaged, overcrowded, dangerous)	
LOCAL MATERIALS 17 Study vernacular structures	including: walls, fences, gates, paths, pavings, edgings, hedges, banks, d.tches, culverts, bridges	
18 Note local sources for supply of materials	HARD: surfacing, walling, fencing, aggregates, rock soft: turf, topsoil, plants.	
19 Note materials on site suitable for re- claiming and re-use	eg rock, pavings, tiles, bricks, pipes, fencing, building stone, steps, ornaments, statuary, seats, balusters	
20 Make additional comments on items noted elsewhere which affect landscape works	eg manhole covers surface water drainage sub-soil drainage ditches	
21 Take site photographs	normal site coverage vistas looking out from the site views of the site from important viewpoint nearby	Mark position of viewpoints on survey drawing
GLIMATE 22 Study the regional climate and local climatic conditions	climatic zone of Britain, altitude, average summer and winter temperatures, minimum winter temperature, maximum summer temperature, average rainfall, prevailing wind direction, average and maximum wind velocity, unusual factors such as: excessive humidity, heavy cloud modifying factors such as: coastal proximity, mountain shelter, local wind deflections	General books on climate are too special ised for this study **BRADE-BIRKS, Good soil [Ca4] Chap 4 the last eight pages of which will be found adequate if supplemented with careful site observation. Factual information will be found in: ***AIR MINISTRY Climatological atlau of the British Isles 1952 hmso [Aa9 (but the maps are very small scale)
23 Effect of contours on the local climate	check effect of considerations given in para 7 on the local climate	
24 Assess nature of immediate environment and atmosphere	location: RURAL (clean air) COASTAL (frost-free; possibly salt) URBAN (smoke, dust, petrol, fumes) INDUSTRIAL (chemical fumes, toxic vapours)	8fB (11) Ground: General EDG para?
25 Assess effect of aspect upon local climate	southern slope—warmth, northern slope—cold; facing or shelter from: prevailing wind, east wind; arc of sunlight: summer, winter	
REGULATIONS, ACTS, BY-LAWS 26 Statutory and legal restrictions	rights of way, wayleaves (power and other cables etc), boundary ownership, party/boundary walls, road/access restrictions, water conservancy, drainage rights and way- leaves, road widening lines, fire escape routes, fire engine access	\$1B (11) Ground: General Land Survey gives general requirements *E & O E Planning: the architects handbook. London 1959 Iliffe and Sons [Bb] On certain sites:

		PUBLIC HEALTH ACTS FACTORY ACTS PETROLEUM ACTS etc
27 Local regulations	discover extent to which 'garden' work is subject to or exempt from the local authority by-laws	Local by-laws
28 National legislation	consider requirements of Town and Country Planning Acts on external works: ZONING CHANGE OF USE TREE PRESERVATION ORDERS also other acts, where applicable: FORESTRY ACT COMMONS ACT NATIONAL PARKS, ETC, ACT ROAD IMPROVEMENT ACT	*MORLING, R. J. Trees in towns. London 1954. Estates Gazette. The whole of chap 4 covers this matter concisely [(15)]
29 Consider legal obligations in respect of existing trees on boundaries	OVERHANGING TREES DANGEROUS TREES TRESPASS OF ROOTS	*MORLING, R. J. 5 Chap 5 [(15)] covers this matter concisely
USER REQUIRE- MENTS: practical 30 vehicle circulation	determine: NUMBER SIZE FREQUENCY SPEED POINTS OF INGRESS POINTS REQUIRING ACCESS	StB (14) Roads and Pavings: General EDG. Reassess data provided in relation to effect upon landscape *crowe, s. The landscape of roads. London 1950 Architectural Press [Ac6: Some relevant information in *MINISTRY OF TRANSPORT. Design and layout of roads in built-up areas 1946/47 HMSO [Ac3] (old but still valid; **MOT. Road Research Technical Paper 47. Road junctions in rural areas. 1960 HMSO
31 Pedestrian circulation	determine: INTENSITY OF USE (numbers and frequency) INGRESS AND EGRESS DIRECT MOVEMENT (point to point) CASUAL MOVEMENT (point to point with digression) MEANDERING	No adequate study has yet been made on this important aspect of external user requirement
32 Site population	determine: total number, percentage of men, women, division by age ie old people, children, mothers with perambulators, active teenagers, etc	On any large project (eg housing neighbourhood) this information is bes provided by an experienced social survey investigator
33 Categorise popula- tion by interests	eg use site canteen, visit local pub, eat sandwiches on grass, and many other diverse interests: eg play tennis, cricket, bowls	On any large project (eg housing neighbourhood) this information is best provided by an experienced social survey investigator
34 Decide purposes for which external space will be required	roads, turning space, car parking, paths, hard circulation areas, terraces, sitting areas (seats), grass—eg staff lunch hours playing pitches (organised games), knock-about area (unorganised games), children's playgrounds, spectator space, private garden(s), agricultural uses (fruit, vegetables, etc), landscape areas for visual enjoyment (determine proportion or absolute dimensions of each)	*NATIONAL PLAYING FIELDS ASSOCIATION. Selection and layout of land for playing fields and playgrounds. R. B. Gooch London 1959 The Association [Ac6] This booklet will give a check-list for possible recreation activities which need to be catered for
35 Note areas whose use is fixed by present character	eg pools, lakes, marsh, woodland, forestry plantations, existing playing pitches, hard areas	
36 External shelter	consider the degree of external shelter which will be required: TOTAL (eg pavilions, changing rooms, summer houses) PARTIAL (eg canopies, open shelters) LIGHT (eg pergolas, vines and creepers, trelliage) TEMPORARY (eg marquees, tents, awnings, blinds)	

	Standard of maintenance	strike a balance between factors: amount of maintenance demanded by various treatments labour force available	Information on this is not available in Britain in any comprehensive or analytical form, An excellent book (not
			too American in outlook) is **CONOVER, HERBERT'S. Ground main- tenance handbook. London 1959 Inter Science [Ac6] Commonsense in garden design, by Brenda Colvin Arch J May 23 1957 page 775 [Ac6]
		area to be covered	page 115 [Acc]
		standard of upkeep expected	Low maintenance: grass and trees on large scale, paved areas (homogeneous or slabs), large expanses of water, woodland, natural scrub, established
			ground cover Average maintenance: shrub-planted areas, small lawns, flowering trees, gravel and other loose-fill surfaces, hedges
			High maintenance: flower boxes, bed- ding plants, rock work with alpines, cut beds in grass, small pools, glasshouses, ground-cover (for first 3 years), all pro- ductive crops including fruit trees, herbaceous borders, rose gardens
	USER REQUIREMENTS:	***************************************	
	Determine the atmosphere desired by the client	eg restful, active, contemplative, exalting, introverted, extroverted, stimulating	
39	Determine the degree of privacy	total seclusion, normal personal privacy, open linking with the surroundings, total exposure, also privacy of certain areas, eg swimming pools, protection from noise, smoke, smell	
40	Determine the degree of public participation	none (as para 39 above), invitees only, normal approach on business, public admitted for leisure, public attraction for prestige or advertisement	
41	Ascertain client's	eg horticulture, games, walking, swimming, pets, entertaining	
	PERSONAL PREFERENCES	eg certain views, screening, plant likes and dislikes, enclosure materials	
42	APPRAISAL Assess proportion of cost to be allotted to landscape work	as a percentage of contract sum as a cost per square yard or per acre (Note: costing must clearly define whether it is the whole of external (visual) works or whether only soft planting is included)	There are no published figures but the cost of landscaping on housing layouts was discussed in The Architects' Journa *MCHARG, IAN C., Can we afford oper space? Arch J 1956 123 (3184/5
			(March 8/15) 261-274 [Ac6] Landscaping (of the immediate vicinity only) may cost from ½ per cent to 4 per cent of the contract sum for a building complex Landscaping may cost from £150 an
			acre (grassing on agricultural land) to £5,000 an acre (intensive schemes or soil-less sites) The variation in cost depends very mucl upon the condition and quantity of the existing soil
43	Consider area available	ensure that the area is adequate for user requirements, including: BUILDING COMPLEX: eg roads, pavings, paths RECREATIONAL AND "BREATHING" AREAS VISUAL CONTESTMENT	
		SHELTER BELTS: screening, tree-filters if area is larger than can be properly handled on landscape budget, consider:	

	SUB-LETTING FOR FARMING: grazing, paddocks, orchards FOREST PLANTING FOR FINANCIAL RETURN	
4 Landscape consultant	at this stage consider recommending the appointment of a landscape architect as consultant	*INSTITUTE OF LANDSCAPE ARCHITECTS Conditions of engagement and scales of professional charges. London 1959, The Institute of Landscape Architects, 1 Park Crescent, London w1 [Ba8]
Basic design de	cisions	
5 SITE APPRECIATION AND EVALUATION	study data obtained from site inspection	
66 Consider the design potential of the site	form: extroverted introverted "genus loci" intangible qualities which lend themselves to a certain treatment or which seem to require a particular line of approach	**COLVIN, B. Land and landscape. Chap 3, 4, 5, and 7 [Ac6] The relation of data to design is discussed broadly in chap 7; chap 3, 4 and 5 discuss the factors which must be considered in assessing this
SITING 47 Consider siting of individual buildings	(architectural or organisational reasons are not considered in this section) in relation to: contours, existing trees or other planting, skyline, ridges, views and closing of vistas, enclosure, shelter, screening	**COLVIN, B. Land and landscape. Chap 6 (Ac6] deals with basic principles *JELLICOE, G. A., Buildings in landscape, RIBA Journal 1957 64 (April) 210–218 [Ac5]
48 Consider the siting of more than one building	in relation to each other to define external space in vertical relationship to suit: contours, points of entry, gravity, controlled services to avoid: "wind tunnels," frost pockets, drainage traps	*GIBBERD, F. Town design London 1959 Architectural Press [Ac2] Chap 7 and 8 relate specifically to industrial sites; Chap 10 relates to houses in the landscape; Chap 11 to flats For a brief résumé of these principles as concerning "domestic layouts" see: *MINISTRY OF HOUSING AND LOCAL GOVERNMENT Design in town and village. 1953 hmso [Ac2]
49 Landscape design	In the interest of the client a qualified landscape architect sh consultant. The check-list as continued below is intended for also need to refer to sections: StB (11) Ground: General, (13) Retaining structures, (15) Garden: Fences, gates, walls If no consultant is employed the architect will himself need this knowledge	use by such a consultant, who will (14) Roads and pavings: General, and
50 Plan the creation of external spaces	in related and pleasing proportions in size, form and levels to suit the intended purpose	**crowe, s., Garden design, Chap s [Ac6] evaluates the principles of land scape design, eg unity, scale, space division
51 Link spaces for horizontal circulation	PATHWAYS BOADS OPENINGS GATES	
52 Exploit vertical circulation as a link	RAMPS FLIGHTS OF STEPS ROAD BENDS AND GRADIENTS	
53 Link spaces for visual correlation or separation	VISTAS EXTERNAL VIEWS CONCEALMENT AND SURPRISE PRIVACY	
54 Organise external spaces to follow user requirements	ACTIVITY: walking, playing organised games, gardening, hobby activities REPOSE: sitting, horticultural display, visual contentment UTILITY: maintenance areas, car parking, clothes drying	**COLVIN, B., Land and landscape Chap 14 [Ac6] General principles are discussed but housing layouts have pro- gressed a long way since it was written in 1948 also Appendix B para 215 et seq

63 Consider the use of water in the landscape	static: imposes a strictly level surface, in nature takes the lowest point of contours, acts as a reflecting surface, can lower temperature and increase humidity, raises problems of maintenance (algae, mosquitoes, smell, etc) MOVING: near horizontal (stream, river), near vertical (weir, waterfall), incident (fountain jets, spouts), movement, sound, defying gravity (in the case of fountains)	**COLVIN, B. Land and landscape [Ac6], also **CROWE, s. Garden design [Ac6], Chap 2, for more information
64 Delineate areas of mass tree planting (small transplants)	FORESTRY (for profit) WOODLAND COPSES SHELTER BELTS WIND BREAKS (smaller)	**colvin, b. Land and landscape. Chap 8 [Ac6] **crowe, s. Garden design [Ac6] chap 10
65 Delineate position for tree planting (nursery-grown standards)	CLUMPS OR GROUPS FOR: visual effect, noise baffles, shade, filter action, enclosure ROWS FOR: formal treatment, demarcation, avenues, screening INDIVIDUAL TREES FOR: visual effect, vertical dimension, shade, focal point, foliage or colour specimen	*PARKIN, P. H., and HUMPHREYS, H. R Acoustics, Noise and Buildings London, 1958, Faber and Faber, p 171. p 255 [Ab9] Bs*CP3 1960 Chap 3 p 84 [Ab8] for noise baffles
66 Determine areas of shrub planting	"BARRIER" above eye level for: demarcation of areas, relating building to site, enclosing space, accommodating changes of level, breaking up space, emphasis screening, shelter, windbreak (on small scale) "PATTERN" below eye level for: cover to bare ground, underplanting trees, filling foreground, ground pattern	
67 Determine areas of minor planting	herbaceous, bulbs, alpines and others for: INFILLING COLOUR SEASONAL INTEREST PLANTING BENEATH TREES PARTICULAR SITUATIONS eg waterside rocks, boxes, tubs	
68 Seek tochnical information for	Special problems in landscaping: HOLIDAY CAMPS MOTELS AND CAR CAMPS CARAVAN SITES	*E & O E Planning [Bb] *E & O E Planning [Bb] MARSDEN, A. H. V., and HAYWOOD, S The caravan problem. Arch J, 195- 120 (3114) (Nov) 541-564 [Ac2] Advice (publication expected) from MOHLG
	GARAGES, parking and turning cars and public vehicles FARM LAYOUTS AND BUILDINGS	*E & O E Planning [Bb] ROAD RESEARCH LABORATORY. Technical paper 47 [(14)] *E & O E Planning [Bb] *MAFF Farm buildings pocket book. May 1960 HMSO [(91)] *GUNN, E. Farm buildings new and adapted. London 1952 Crosby Lock wood 4th edition [(91)] *MAFF Fixed equipment of the farm leaflets 38, 39 and 40 [(91)]
	LANDSCAPING TO FACTORIES INDUSTRIAL LANDSCAPES	*LORD VERULAM and YOUNGMAN, G. P. Factory gardens. London 1955. The Industrial Welfare Society [Ac6] *CROWE, s. Tomorrow's landscape London 1956 Architectural Press [Ac5 **CROWE, s. The landscape of power London 1958 Architectural Press [Ac6
	DERELICT LAND RECLAMATION SMALL GARDENS	*GIBBERD, F. Town design [Ac2] **SISAM, J. W. B., and WHYTE, R. O Establishment of vegetation on wastland. London 1949 Commonwealth Agricultural Bureau [Ac6] *LADY ALLEN OF HURTWOOD and JELLICOE, SUSAN. The new small
		garden. London 1956 Architectura Press [Ac6] *SHEPHEARD, P. Modern gardens London 1953. Architectural Press [Ac6]

tarmac (and all bound surfaces)

gravel (and all unsealed loose fillings) grass

paving slabs or similar units of paving in:

tarmac

gravel

grass (ie stepping stones)

bollards in:

paving

tarmac

gravel

grass

posts, poles and vertical components of structures in:

tarmac

gravel

grass

planting beds in:

paving

tarmac

gravel

grass

existing trees in:

paving

tarmac

gravel

oras

new trees planted in:

grass

grass areas in:

paving

tarmac

gravel

drainage channels in: paving

tarmac

gravel

grave

water in:

pavings

tarmac

gravel

grass

Levels, set square to pattern, filled cover to match, under removable slab

Levels, narrow edge, black iron or filled cover

Levels, narrow edge, concrete filling 1½ in below, narrow edge, black iron or filled cover

Flush, hand punning of tarmac

Slightly raised

Set 1½ in below for mowing; extra maintenance for trimming

At joint intersection or multiples of slab sizes, cut slabs or local filling, keep foundations below slab level

Avoid local making good (patching), keep foundations below top course

No problems

Avoid entirely

At joint intersections or at modular distances, cut slabs or local filling, keep foundations below slab level

Avoid local making good (patching), keep foundations below top course No problems

Avoid entirely, or keep grass 9 in clear

Set lower support paving edge against digging edging for formality

Edging—stone, concrete, timber, metal Edging—stone, concrete, timber, metal Direct cut edging and mowing margin as para 73

Soil level on trunk to be unchanged. Open soil pocket, setts with dry joints, sand or gravel loose fill, sectional tree grids in concrete or iron

Soil pocket, timber edge, sand or gravel with timber edge, setts with dry joints, tree grids

Soil pocket with timber edge, gravel (unsealed) up to bole No problems

Leave open soil pocket 2 ft square for first three years

Set 11 in above

Set 1½ in above flush timber edge

Set 1½ in above flush timber edge or set 6 in to 18 in above level of walking surface, with brick edge

Under cover: change to dry fill (gravel etc) with timber or metal edge

Flat channel units, stone or concrete dished units, stone or concrete, setts, cobbles, concealed channels of hollow concrete, concealed channels of hollow cast iron

In-situ tarmac or as in paving As in paving

As in paving set 1\frac{1}{2} in below

Concealed waterproof margin below paving edge, flat surround, metal tank, concrete or stone dish or bowl

Flat surround, or sloping cobble, sett or slab margin

Flat surround, sloping gravel margin Puddled clay right to grass edge, concealed concrete margin, rocks or boulders, planted "bog" margin, formal

		stone, concrete or brick edging, timber edging, or timber piling
6 VERTICAL RELATIONSHIPS		
Consider method by which change	NATURAL SLOPE OF GROUND GROUND RE-FORMED TO A "NATURAL" SLOPE	*CIVIL ENGINEERS JOINT COMMITTEE Code of Practice No 2 Earth retaining
of level will be accomplished	ARTIFICIAL SLOPE	structures. London 1951 Institution Structural Engineers [(13)]
	STEEP SLOPE	*BRITISH STANDARDS INSTITUTION
	VERTICAL (or near vertical face) CHANGE OF HEIGHT WITHIN BUILDINGS	ср2003:1059. Earthworks, нмsо [C]
	EXPOSED BEDROCK (cutting)	
77 Decide surface	GRASS	Slopes not steeper than 20 deg ar
treatment of face	GROUND COVER PLANTING SHRUB PLANTING	desirable with 30 deg as a maximum anything steeper than this is undesirabl
	WEARING SURFACES—eg tarmac, asphalt etc	as it demands a change of equipmen
	PAVINGS	and mowing direction
	SETTS	*MOE Building Bulletin No 10 [Ac6
	ROCK RETAINING WALLS	gives bank angles of up to 45 deg with handmowing
	TIMBER PILING	SfB (13) Retaining Structures: General
	TIMBER REVETMENTS	and booklet mentioned in para 76
78 Consider level thus achieved in relation to:		
SURFACE WATER	NATURAL FLOW: diverted, prevented (flooding, water satura-	SfB (12) Drainage: General
DRAINAGE	tion), increased (erosion, overshooting)	•
BUILDINGS	FLOOR LEVELS	
	DAMP-PROOF COURSES BRICK AND STONE COURSES	
	COPINGS	
	VENTILATORS	
VEHICLE		
CIRCULATION	RAMPS	000 (44) 04
	SWEEPS CAMBER	SfB (14) Roads and Pavings: General
	SUPER-ELEVATION	
79 Consider change	STEPS: stone, concrete, paving slabs and brick riser, timber,	**crowe, s. Garden design. pp 140-
of level in pedestrian	bare soil treads, grass treads, gravel treads, tarmac or asphalt, timber risers, post and log risers, brick risers,	[Ae6] on proportions of steps *BEAZLEY, E. Space between buildings
circulation	concrete or stone edging	p 217 [(14)]
· · · · · · · · · · · · · · · · · · ·	SLOPES: normal path materials	SfB (14) Roads and Pavings: General
	RAMPS: pavings, ruled, gridded or other patterned concrete	8fB (24) Stairs and Ramps: General
80 Consider change of level for wheeled equipment	eg prams, invalid chairs, mowing machines, wheelbarrows	
81 Consider levels	in relation to: absolute level of any water surface, optical	**colvin, B. Land and landscape
	illusions arising from the proximity of near-level surfaces,	chap 6 [Ac5]
	absence in nature of any dead level surface except water, depth of drains and services	
82 Convey final	by means of:	
accepted levels on	SECTIONS	
to drawings	SPOT LEVELS CONTOUR LINES	
	TOP AND BOTTOM LIMITS OF SLOPES	
	SHADING OR HATCHING	
ENCLOSURE		
83 Consider purpose, degree and	NATURE: physical, visual, aural, psychological enclosure, physical but invisible or unobtrusive	**crowe, s. Garden design, chap 1 [Ac6] considers the theory of boundar
quality of	QUALITY: complete, partial, filtering, slight space-division	enclosure
enclosure needed	LIFE: permanent, reasonable life, temporary, ephemeral	
84 Determine need		*DEATEV & Space Lateran Lateran
for enclosure by	PERMANENCY PHYSICAL BARRIER TO TRESPASS	*BEAZLEY, E. Space between building part 3 [(14)]
· · · · · · · · · · · · · · · · · · ·	The state of the s	8

FORM OF CONSTRUCTION	soil retaining (if changes of level involved) field stone, dry stone, water-shot, rubble walling, dressed stone, stone "hedges," bricks, concrete blocks or slabs: solid, patent interlocking (other than normal face of constructional material), exposed aggregate slabs, slate veneer, stone veneer, raised pattern slabs	**BEDDALL, J. L. Hedges for farm and garden, London 1950 Faber and Faber [(15)] **HANNAY RAINSFORD. Dry stone walling. London 1957 Faber and Faber [(15)]. Full of whimsy, tut containing sound practical knowledge **BEAZLEY, E. Space between buildings [(14)] *BEAZLEY, E. Ibid [(14)] **BEAZLEY, E. Ibid [(14)] **CEMENT AND CONCRETE ASSOCIATION **Building Bulletin 15, Concrete facing slabs. J. Gilchrist-Wilson 1959 [(41)Uf2] and **Building Bulletin 3, External rendering [(41)Pq4] cca	
SURFACE PATTERN			
85 Determine need for enclosure by fences FORM OF CONSTRUCTION	REASONABLE LIFE OR TEMPORARY (some forms) SOME DEGREE OF PHYSICAL BARRIER WIND SHELTER (if solid fencing) vertical emphasis, horizontal emphasis, woven patterns, decorative appearance of railings, solid panel fences	*BEAZLEY, E. Space between buildings. [(14)] SfB (15) Garden: Fences, Gates, Walls	
SURFACE PATTERN 86 Determine need for enclosure of particular character	eg physical but not visual: chain link, ha-ha visual and aural but not physical: tree-belts physical but ephemeral: crowd barriers	See Planting Plan: para 133 et seq	
87 Walling and fencing on slopes	consider visual effect: stepped (undesirable for any but short lengths), running level with ground, "adjustable" fencing ie plumb verticals and sloping horizontals, partial enclosure, division of use		
88 Consider method to be used	VISUAL: open screens, solid screens, lattice work and trelliage, light supports only for planting PHYSICAL: dwarf walls, chains, trip rails, solid screens PSYCHOLOGICAL: bollards, columns, poles, masts, flagpoles, changes of surface pattern	Note: use of plant material to form space-enclosure is dealt with later under Planting Plan See para 59 above	
89 SHELTER Consider degree and type of shelter needed	permanent from: rain for: work reasonable life wind circulation temporary sun recreation ephemeral view storage danger selling		
90 Agree with user requirements on exact purpose	summer house, garden pavilion, public shelter with seat, bus shelter, queue shelter, ticket office, kiosk, café, aviary, animal enclosure, covered spectator seating, sports pavilion, club house, golf shelter, children's covered play area, covered sports pitches, allotment hut, sports store, services equipment store or operating box, covered-way, pergola, sun blind, awning	Note: some of these are large enough to be considered as complete building types and information should be sought under the appropriate heading	
91 Decide aspect required	against prevailing wind or north or east winds against driving rain shade from afternoon sun into best views watching sports with "back to light"	See MOE Building Bulletin No 10 New school playing fields Appendix F	
92 Settle site position	for view along circulation route with ease of access (particularly for old people) with vehicle access for stores or supplies avoid undesirable concealment in public places		
93 Select construction	PERMANENT: brick, stone, concrete, metal extension of adjacent building REASONABLE LIFE; timber, rendering, plastic paneis TEMPORARY: light timber, glass, hardboard, plaster, plastic sections, demountable structures EPHEMERAL: canvas (awnings etc) and other fabrics, folding structures (umbrellas, tents), wicker work	See appropriate Element Design Guides	

**PERRY, F. The garden pool. London revised 1960 Collingridge [(15)], similar to details given in *Sunset Books Swim-

puddled clay

			ming Pools, Menlo Park, California 1959, Lane Publishing Co [(15)]
	Consider water supply	natural stream running directly into pool, water pumped from natural source (stream, well etc), main water supply, re-circulated water, introduced stream	
	Consider methods of keeping water sweet and clean	frequent cleaning and changing, chemical treatment of static water, pumped circulation, aeration by bubble jets or foun- tains (formal pools), balance of plant and animal life	Plants, oxygenators, fish, water snails
	Decide on edge treatment	FORMAL POOLS narrow coping; in stone, precast stone, concrete, brick, slate wide paved margin, clean formed edge in in-situ concrete, timber deck NATURAL POOLS OR STREAM grass taken down to water edge, flat natural stone slabs, pebble beach, rock work down to and into water, fully planted margin, timber piling	(Edges of all hard linings should be concealed)
	Prepare pool or stream for planting	concrete to be matured naturally or chemically supply planting composts in pots, baskets, on shallow plant- ing shelf and in bottom of natural pool check chemical quality of water	**PERRY, F. Water gardening [(15)] **PERRY, F. The garden pool. Chap 3 [(15)]
107	ROCK WORK Consider suitability of site for rock work	small sites, formal sites and built-up sites are only suitable for rock used in sophisticated manner as a theatrical setting divorced from natural surroundings large, natural steep or semi-wild sites are suitable for natural rock work scale is important	This subject is difficult to design (except in situ) and to draw or specify It is best carried out to outline requirements by a nominated specialist One book gives practical guidance ***SYMONS-JEUNE, B. H. B. Natural rock gardening. London 1955 Country Life [(15)] There is also a lot of bad amateur advice on 'rockeries'
108	Consider the visual limits of rock work	on sloping sites rock work can be continuous to boundaries on flat sites upper limit of rock must be concealed or only outcrops of rock (away from boundaries) should be made	
109	Decide the amount of rock work to be included	small sophisticated feature as para 60 above single or few isolated boulders as focal points medium piece of rock work complete rock garden	
110	Consider the form of the work	large bluff (or several), series of outcrops, channel for watercourse, single boulders	Take account of the effect upon : drainage on site, circulation, services
111	Decide the amount of earthmoving to accommodate rock work	only the main outline of hollow hill or slope can be formed in advance, Detail work in stone and soil must go together	***SYMONS-JEUNE. Natural rock gardening [(15)]
112	Select type of stone	considerations: suitable for region (or used theatrically); consistent within the site; by cost, ease of obtaining, ease of trans- port; for species of plant to be grown form and origin: bedrock from various regions, exposed bluffs and outcrops taken 'as found', water-worn limestone, stream bed boulders, individual stones for particular purposes eg lip of waterfall, channel, vertical face	Degree of alkalinity or acidity Origins of stone mostly used: West morland water-worn limestone, Fores of Dean limestone, Cheddar limestone Cumberland stone, Derbyshire stone Tufa—from magnesium limestone beds York sandstone, Cotswold stone (warn coloured limestone), Millstone grit—Yorkshire, Devonshire sandstone, Kentish rag
113	Calculate the quantity of stone	half of all bulk to be buried allow for: entry of heavy vehicles to site; entry of crane to site, manipulation, swinging jib, height limits; exit from site on conclusion of work; possible concrete work to support rock, form foundations or to form stream beds	Allow 13 cubic ft to 1 ton 6 ton block =normal lorry load 12 ton block =maximum lorry load

114	Method of construction	include for areas of surface in and around rock work turf, rock chippings or scree, water, alpines, shrub plant-	***SYMONS-JEUNE. Natural rock gar	
		ing, mass planting on boundaries	dening [(15)]	
115	Plan for marrying in of rockwork to other site features	path and other 'formal' incidents, flat grass areas, buildings		
116	MAINTENANCE AREAS Decide size	relative to: AREA OF SITE NUMBER OF STAFF STANDARD OF MAINTENANCE	No information specifically on this subject but general guidance in ***BLOOM, BROOKS and others. Modern nursery practice, a comprehensive guide. London 1959. Cable Printing and Publishing Co. 62 Doughty St London wcl [Ac6]	
	SELECT LOCATION	ASPECT (FOR PROPAGATION BEDS AND GLASSHOUSE) SHELTER CONCEALMENT EASY ACCESS from road to parts of layout		
117	Plan working yard	hard surface, turning space for vehicles and access, easy washdown with drainage gullies, enclosure and screening from view		
118	Allow area of open ground	for: plant nursery, beds for lining out and pricking out	base on: annual demand for replacement (trees and shrubs) temporary bedding out rotation period number of plants to the yard **SHEWELL COOPER, W. E. Horticul- tural notebooks [(15)] gives planting and yield tables	
119	Include for: HALF HARDY PLANTS	cold or heated frames, frame lights, span type frame, dutch lights, movable lights for lifting or on tracks, hot bed		
	STORAGE BUNKERS	three solid sides in brickwork concrete or heavy timber vehicle access for tipping at least one each for: soil, peat, sand, manure space for leaves: grass mowings space for burning (incinerator)	**shewell cooper, w. e. Horticul tural notebooks [(15)] gives weigh and measures of materials Check smoke abatement regulations and by-laws	
	COMPOSTING PIT	concrete base, concrete or brick sides (no ends), hard apron both ends, width determined by mechanical handling, vehicle access, drainage channel to tank	Pit need not necessarily be below ground	
	SERVICES	water supply—main supply, well and pump (possibly large storage tank or reservoir) electricity supply: light and power surface water drainage (this and roof drainage may go to the storage tank for second quality water supply) soil drainage	8fB (53) Water, Hot and Cold: General 8fB (63) Electrical, lighting and Powe 8fB (12) Drainage: General	
120	Plan necessary buildings	staff bothy and mess room, lavatory accommodation, potting shed and steriliser, boiler house, tool and equipment storage rooms, storage for supplies (vermin and damp proof for bagged seeds, fertilisers, etc, frost proof storage for fruit, vegetables, bulbs, etc), garages, wheeled vehicles and machine storage, workshop	These are particular building types and cannot be covered in detail here *MAFF Farm buildings pocket bool [(91)] gives sizes of tractors and machines	
121	Consider the area needed in glasshouses SELECT LOCATION SELECT TYPE OF HOUSE AND CONSTRUCTION	base on: capacity of house and annual demand for half hardy and 'stove' plants, soil (though this can be changed to some degree), light, shelter without shade, aspect, fall of ground, hard standing single span or lean-to, three-quarter span, span roof, mansard type, large commercial and multiple types, mobile glasshouses	**This is a specialised subject—deal with fully in MAFF bulletin No 11 Construction and heating of commercial glasshouses April 1960 HMS (3rd edition)[(91)]	

	INCLUDE HARD- SURFACED PROPAGATION	with staging and shelving otherwise as glasshouse	**KEMP, E. E. The design of plant propagation house at the Royal Botanic Gardens, Edinburgh, Journal
	HOUSE		of the Royal Horticultural Society 1958 Vol 83 p 421-427 [(91)]
122	Service installations and equipment	heating, lighting, special ventilation gear, door and ramps for plant carrying trolleys, water supply, internal water tanks	StB (63) Installations, Electrical, Lighting and Power: General StB (56) Installations, Heating: General StB (57) Installations, Ventilation, Air Conditioning: General StB (53) Installations, Water: General
123	SERVICES IN RELATION TO LANDSCAPE TREATMENT Modify surface levels for drains TREATMENT	drainage, porous surfaces laid level, impervious surfaces laid to cross falls, local falls to collection points effect of gully positions on surface pattern, insertion of drainage channels into or across the surface pattern, 'french	898 (12) Drainage: General See drainage channels para 75 above
	DISPOSAL	drains' effect of local falls upon height of edgings and kerbs, effect of local falls upon true horizontal surfaces, local disposal of surface water by open joints (into tree pits, plant beds, etc), returning of some water to the ground beneath by soakaways and radial porous pipes	
124	Consider conditions requiring subsoil drainage	clay or heavy soil, layer of clay below surface, hard pan- below surface, local flooding due to impervious pocket or to running water before deciding, check that existing drains (if any) outlets and ditches are all clean and running freely	SiB (12) Drainage: General EDG Appendix A subsoil drainage Note: existing drainage will be disturbed by major earth moving, allow at least one year for settlement after major earth moving before laying subsoil drain
125	Consider method of subsoil drainage to be used	MOLE DRAINAGE TILE DRAINS with: clay pipes porous concrete pipes	*MAFF Grow more leaflet 44 Mole drainage for heavy land revised 1960 HMSO [(12)] **NICHOLSON, H. H. Field drainage, Cambridge 1953 Cambridge University Press [(12)] for check list on subsoil drainage procedure see \$1B (12) Drainage: General
126	Take into account other items of drainage which may affect landscape work	catch pits, grease and petrol traps, air vent riser pipes, air inlet valves, rodding eyes, intercepting traps, pipe runs (their backfilling and future access), cesspool, sewage disposal plants and their outfalls	
127	Investigate water supply for horticultural purposes	DETERMINE SOURCE: running stream, springs, shallow wells, deep wells or boreholes, hydraulic ram from nearby river, rainwater collection, mains supply direct under pressure, mains supply via storage storage method: high level tank, reservoir above or below ground determine head: by mains pressure, storage at high point of site, storage tank elevated on a structure (to operate sprays, hose supplies, fountains)	StB (53) Installations, Water: General
		PROBABLE CONSUMPTION, MAXIMUM DEMAND, storage capacity for: general watering, lawn sprinklers, glasshouses and propagation purposes, irrigation mist sprays pools, fountains, cleaning purposes, sports pitches, drinking water for kindle drinking fountains.	**MAFF Advisory leaflet 487 Intro- duction to outdoor irrigation. 1961 HMSO Mist propagation leaflet, MacPennys, Bransgore, Hants
128	Prepare circuit layout	main distribution pipes, laterals, hydrant points at max 200 ft apart (for 100 ft hoses), hydrant pits, valves and covers, isolating stop cocks, supply to fountains, pools, yards, etc, calculate pipe sizes	SfB (53) Installations, Water: General EDG for water supply installations See Appendix B to this EDG para 197 and 207

		D. Stewart and Sons Ltd, The Nur- series, Ferndown, Dorset [(15)]
40 Select trees suitable for particular purposes	small gardens	*ROYAL HORTICULTURAL SOCIETY, Booklet. The choice and care of trees for the small garden. F. P. Knight [(15)]
	planting in towns (including street planting)	*MOHLG. Trees in town and city. 1958 IMSO [(15)] (particularly good lists for selection) or
	specific soil or climatic conditions	*MORLING. Trees in towns [(15)]
	avenues	Lists by Rowe in Trees and shrubs, also by *Colvin and Tyrwhitt, Trees for town and country [(15)]
	conifers for various purposes, soils and climatic conditions	**CHAUDUN, v. Ornamental conifers, translated by V. Higgins. London 1956, Crosby Lockwood [(15)]
	fruit trees (non-commercial)	**BUSH, R. Penguin Handbooks: Fruit tree growing. phl Soft fruit growing. London 1942, Penguin Books ph2
	planting derelict land	Apples 1943 o/p [(15)] ***COMMONWEALTH AGRICULTURAL BUREAU, The establishment of vegeta- tion on industrial waste land, R. D.
	planting old gravel working	Whyte and J. W. B. Sisan 1949, The Bureau [(15)] **SAND AND GRAVEL ASSOCIATION.
		Planting trees and shrubs in gravel workings. T. U. Hardwright 1961, The Association [(15)] an excellent small book, but some aesthetic values are questionable
	road planting (in countryside, not street trees)	*crowe, s. The landscape of road
	screening	[Ac6] **LE SUEUR, A. D. C. Hedges, shelter belts and screens. London 1951 Country Life [(15)]
141 Select according to other factors	height, commercial availability, character cost, colour, avoid greedy-rooted trees, near to drains and buildings in clay soils	See lists of selection factors at the end of this section para 151 *MORLING. Trees in towns [(15)]
142 Consider the importation of large trees	for quick visual results in an important focal point to associate with large existing trees Note: expensive due to heavy transport and labour costs, greater risk of loss, requires preparation in advance, in limited supply	*LOGIE. Big trees for buildings Architect and Building News 1960, 21' (9 March), pp 321-328 [(15)] **wood, A. D. B. Transplanting large trees ILA Journal 1960, 51 (August) p 7, 52 (November), p 8 [(15)] AJ Information Sheet No 1016 [(15)] *Catalogue of large specimen trees and shrubs, Hillier and Sons, Wincheste [(15)]
SHRUB PLANTING 143 Consider the purpose for which required	screening, low windbreak, visual barrier, actual barrier (hazard), covering bare ground, underplanting trees, space enclosure, space division, demarcation, relating buildings to the ground, focal point, visual enjoyment	
144 Decide the density of planting needed	covert planting, mass planting	**shepherd, F. w. Trees and shrub for shelter. Rhs Journal, Vol 83 Part 1 (January), p 17-27 [(15)]
	borders, beds and lines single specimens	*ROWE, W. H. Trees and shrubs [(15) RHS booklet Some good garden plant 1950 [(15)] More complete information in **OSBORNE, A. Shrubs and trees fo the garden. London 1933, Ward Loe [(15)] or **HAWORTH-BOOTH, M. The flowerin shrub garden today. London, Jul
		1961, Country Life [(15)] Nurserymen's catalogues, particularl Hillier's Select List [(15)] Jackman's Planters Handbook [(15)]

alpines—grown among rocks, dry walls in scree or in pavements

ornamental grasses—small for ground cover and pattern, large species for specimen effect

ferns—particularly useful for moist shady places

bulbs, corms and tubers—a great range for many purposes and particularly for seasonal interest $\,$

indoor plants—a specialised subject adequate facilities for proper maintenance are essential may be grown in vermiculite with liquid feeding **Anderson, E. B. Rock gardens. London 1959 [(15)], Penguin Books, excellent book for plants but the design of rockwork is disappointing. See para 107-115 in this EDG

Section on grasses in most good catalogues

Catalogues—particularly THOMAS, The modern florilegium [(15)]

Illustrated lists published by reputable bulb growers are the best source of information. There are many

**ROCHFORD and GORER. The Rochford book of houseplants, London 1961, Faber and Faber [(15)], or

**JONES, M. E., and CLARK, H. F. Indoor plants and gardens. London 1952, Architectural Press [(15)]

***SAUNBY, T. Soil-less culture. London 1954, Collingridge [(15)]

Note: books not specifically referred to but generally useful for plant selection **ROBINSON, w. The English flower garden and house grounds (hardy trees and flowers only). Revised by Roy Hay 1950, London, John Murray (16th edition) [(15)]

**HELLYER, A. G. L. Sanders encyclopaedia of gardening. London 1960, Collingridge [(15)]

**HELLYER, A. G. L. The encyclopaedia of plant portraits. London 1956, Collingridge [(15)] and the standard reference work

***BEAN, W. J. Trees and shrubs hardy in the British Isles. London. Vol 1 1958, Vol 2 1951, Vol 3 1951, John Murray (7th edition), index Vol 3 [(15)]

This has select lists in Vol 1

by character Chapter 11, 13, 14, 15 by colour 17, 18, 20 by foliage 19 by season 21 by use 22 by soil and climate 24, 25, 26, 27

151 Factors in the selection of plant material

(simplified categories)

SOIL

CLIMATE

MICRO-CLIMATE

HEIGHT

moist acid peat, dry sandy acid, neutral heavy clay, neutral loam, alkaline clay, thin alkaline soil over chalk or limestone frost hardy, frost tender (south-west districts and coastal regions), wind exposure, coastal climate (windy, mild) and sea spray, town smoke, industrial fumes

shade or half shade, drip and shade of trees, local fumes or chemicals

"forest" trees 50 ft to 100 ft medium trees 30 ft to 50 ft small trees 15 ft to 30 ft

background shrubs 10 ft to 15 ft tall shrubs (above eye) 6 ft to 10 ft medium shrubs (below eye) 3 ft to 6 ft low shrubs 1 ft to 3 ft ground cover (carpet) under 1 ft

herbaceous etc tall over 3 ft

medium 1 ft to 3 ft small under 1 ft

HORTICULTURAL CLASSIFICATION

woody (trees and shrubs), herbaceous (perennial), biennials, annuals, bedding (half-hardy), bulbs, corms and tubers,

	water plants (aquatics), waterside plants, alpines, grasses,	
CHADACTED	ferns, indoor (stove plants)	
CHARACTER	broad and spreading, round, pyramidal, columnar, horizon- tal, picturesque, weeping, open-stemmed, bushy, dwarf,	
	creeping, prostrate, contorted, pendulous, large leaf, coarse	
	texture, fine texture	
COLOUR	leaf, flower, fruit or berry, stem, bark (trunk)	
	seasonal variations (eg autumn colour, winter bark etc)	
	marginal variegation	
MAINTENANCE	pruning, cutting back, watering, staking, dividing and	
REQUIREMENTS	replanting, reeding, removing competing plants	
COMMERCIAL	species or variety, size, quantity	
AVAILABILITY		
RELATIVE COST	comparing: size (or age), species (or varieties), quantity, risk (maintenance and replacement)	
Specification		
	This is a specification check list for a typical groundworks	
	and planting contract and does not cover building or	
	specialised work such as rock work or pools. Include addi-	
52 Conditions of	tional special clauses: confining passage of vehicles and	Agreement and conditions of contract
contract (or	machines to agreed routes, services believed to exist below	Institute of Landscape Architects
sub-contract)	ground level, type of machinery permitted usually only	[Ba7]
	pneumatic tyred), alternative offered (but so marked) if	(2007)
	scheduled plants are not available, protection in frost or	Usually stated in the introduction to
	bad weather (specific for plants heel-in etc), defects period related to growing season	any good nurseryman's catalogue
153 Provisional and	tree felling (difficult to specify—usually priced by tenderers	
PC Sums	on site)	
	tree surgery (difficult to specify—usually priced by tenderers	**LE SUEUR, A.D.C. The care and repai
	on site)	of ornamental trees [(15)]
		*YORKE, F. R. S. Specification, Tree
		surgery p 55 London 1961, Archi
		tectural Press [Ba5] Brief notes only
	supply and/or moving of large trees	
	water supply (when not in main contract)	
	electricity supply (when not in main contract)	
	specialists' work: play equipment, proprietary playing	
	surface, swimming pools, rock work, terrazzo, mosaic and	See paras 107 et seq above
	similar finishes	
	items supplied: garden furniture (domestic), garden furni-	Appendix B to this EDG para 203 for
	ture (public or park), flower tubs and plant containers,	swimming pools
	litter baskets and bins, notice boards, bicycle stands,	
	marquees, tents, awnings, sports equipment (nets, posts,	
	removable seating), staging, platforms	
	grass seed	It is usual to make these subjects of Po
	turf	items as they cannot be easily specified
	top soil	and are approved by samples
154 Preambles	normal (sub-) contract preambles with additional clauses:	*YORKE, F. R. S. Specification 196
	work to be done at correct season and in suitable weather	[Ba5]
	conditions; no existing plants to be removed, damaged or	
	have their roots cut; work to be done by machine or hand	
	as necessary	
		4
155 Ground works	clearance of site	*MAFF. Fixed equipment of the farm
155 Ground works	clearance of site	
155 Ground works	clearance of site grubbing out old foundations etc to 15 in depth	
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all	leaflet 37 Tree bush and stump
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for <i>immediate</i> use elsewhere) and all materials found	leaflet 37 Tree bush and stump
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all	leaflet 37 Tree bush and stump clearance 1959 HMSO [(15)]
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for <i>immediate</i> use elsewhere) and all materials found	leaflet 37 Tree bush and stump clearance 1959 HMSO [(15)] Note: a similar clause in any main
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for <i>immediate</i> use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated	leaflet 37 Tree bush and stump clearance 1959 HMSO [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for <i>immediate</i> use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated	Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spoi
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for <i>immediate</i> use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated	leaflet 37 Tree bush and stump clearance 1959 hmso [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spoi heaps for use by the landscape con
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated hard surfaced, or major graded	leaflet 37 Tree bush and stump clearance 1959 hmso [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spoil
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated hard surfaced, or major graded excavation of planting beds and tree pits (top soil deposited,	leaflet 37 Tree bush and stump clearance 1959 hmso [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spotheaps for use by the landscape con
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated hard surfaced, or major graded excavation of planting beds and tree pits (top soil deposited, subsoil carted away unless required for making up levels)	leaflet 37 Tree bush and stump clearance 1959 HMSO [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spoint heaps for use by the landscape contractor
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated hard surfaced, or major graded excavation of planting beds and tree pits (top soil deposited,	leaflet 37 Tree bush and stump clearance 1959 hmso [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spoil heaps for use by the landscape contractor **THIRKETTLE Ground modelling
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated hard surfaced, or major graded excavation of planting beds and tree pits (top soil deposited, subsoil carted away unless required for making up levels) major grading of subsoil to required formation levels	leaflet 37 Tree bush and stump clearance 1959 hmso [(15)] Note: a similar clause in any main building contract will set aside top soil from areas of buildings, roads and working areas and deposit in low spointeaps for use by the landscape contractor **THIRKETTLE Ground modelling [(11)]
155 Ground works	grubbing out old foundations etc to 15 in depth set aside good turf (if for immediate use elsewhere) and all materials found strip and set aside all top soil from areas to be excavated hard surfaced, or major graded excavation of planting beds and tree pits (top soil deposited, subsoil carted away unless required for making up levels)	leaflet 37 Tree bush and stump clearance 1959 hmso [(15)] Note: a similar clause in any main building contract will set aside to soil from areas of buildings, roads and working areas and deposit in low spoil heaps for use by the landscape contractor **THIRKETTLE Ground modelling

	The Architects' Journal Information Library	
	contours or spot levels should be given to work to, or the levels at extremities of each area quoted by relation to adjoining surfaces	
(provisional)	plough and harrow on virgin soil; fork over or machine cultivate with heavy tines on exposed subsoil after grading; re-use top soil deposited on site in spoil heaps; supply additional top soil (approved by inspection in situ, or by sample loads); spread, level and marry-in; cultivate (by hand or machine according to area) over the site; regulate, lightly consolidate and bring to final surface level; fork and harrow areas unduly compacted by machines cultivate by forking or harrowing at monthly intervals land left fallow through delay or weather	If playing fields or similar sites see *YORKE, F. R. s. Specification, p 42-42 [Ba5]
	specify particular methods of cultivation for other cate- gories of land: eq old woodland, steep sites, land to be "forest" planted	**Some guidance in Forestry Commission Bulletin 14
157 Manures and fertilisers	incorporate: MANURES farmyard manures, leaf mould, peat, sludge, seaweed ORGANIC FERTILISERS hoof and horn, dried blood, bone meal, bone flour, fish meal, guano	AJ Information Sheet No 1015: mixing of fertilisers [(15)] *MAFF publications or a book dealing with all types of fertilisers for horticultural use—such as **FAULKNER, R. P. Garden manure and fertilisers. London 1955 Colling
	ARTIFICIAL FERTILISERS (nitrogenous) sodium nitrate, sulphate of ammonia, nitro chalk, ammonium nitrate (phosphatic) superphosphate of lime basic slag	ridge [(15)] or **BRADE-BIRKS, Good soil, appendix [(15)] or
	(potassic) sulphate of potash, muriate of potash, nitrate of potash, kainit (trace elements) magnesium sulphate, manganese sulphate, sulphate of	**Shewell-Cooper, Horticultura notebook, section 7 [(15)]
	iron, borax LIME quicklime, hydrated lime, carbonate of lime where necessary	*MAFF Grow more leaflet 41, When land needs lime HMSO[(15)] *MAFF Bulletin No 35 Use of lime in agriculture 1956 HMSO [(15)]
158 Turfing and/or seeding	supply of seed and approval of sample supply of turf and approval of sample bring soil to fine tilth (to be inspected before sowing or turfing)	
	apply fertiliser method sow seed (in two directions) quote rates for sowing stone pick apply top dressings roll apply top dressings apply top dressings	**DAWSON, B. B. Lawns [(15)] *YORKE, F. B. S., Specification, p 42-4 [Ba5]
159 Planting	setting out: according to plans average spacing within groups disposition call for: origin of plants	*YORKE, F. R. s. Specification, planting, p 49-51 [Ba5]
	identification labels certification of type, quality, if required delivery damaged plants protection on site after delivery and before planting description of plants: by height, size (general description eg "bushy"), age, quality, how grown (eg pot grown, grafted)	
	method of planting for different sizes and use of plant material stakes and staking: standards	*KNIGHT. The choice and care of trees for the small garden [(15)] *ROWE, W. H. Trees and shrubs [(15)
	bush trees and conifers shrubs herbaceous ties	
	tree and climber guards watering	

species and variety

damage

conformity with specification

stage-by-stage protection of the work

cross-check upon interlocking trades

checking for adequate attendance upon specialists

**Leaflets from Sutton and Sons,

*

Turf weeds identification [(15)] Identification of grasses by foliage

Identification of grass seeds [(15)] Note: if the work is being supervised by a building clerk of works who is not experienced in horticulture, he can be assisted by:

1. Sending samples of soil, turf, seed to an advisory body (eg Sports Turf Research Institute)

2. Obtaining a certificate of purity germination and type of grass seed

	check on correct junctions between: materials surface levels dimensioned items	 Obtaining a certificate of origin, age and trueness to type of plants Sending cuttings of doubtful plants or plant condition for identification to an advisory body (eg Kew, RHS)
167 Completion	supervise: cleaning down, forking over and firming ground around planting stage-by-stage handover to client for routine upkeep make final inspection of stakes, ties, guy ropes, mechanical equipment, services	
168 Defects liability	at end of period inspect for : MAINTENANCE WORK DONE DURING PERIOD DAMAGE BY NEGLECT DISEASE	Usually September following completion if not less than six months
	PLANTS TO BE REPLACED UNDER TERMS OF CONTRACT	Contractor not responsible for wilful damage or for neglect by client
	DEFECTIVE MATERIALS OR WORKMANSHIP FROST HEAVE	
	FINAL ADJUSTMENT OF STAKES, TIES, GUY ROPES MECHANICAL EQUIPMENT, SERVICES	

*1

Appendix A Definitions Those marked * are illustrated in AJ Information Sheet No 1015

COLLECTIVE TERMS			
Family	the largest division of the plant kingdom in botanical classification, comprising several genera		
Genus (GENERA (PL))	a group of species with similar (botanical) character		
species	the unit of botanical classification		
Variety	a kind or sort subordinate to species		
Hybrid	plants resulting from the crossing of two species or varieties		
Sport	an unusual variety, occurring accidentally		
PLANT MATERIAL			
Tree	woody plant with main stem (or stems) and branched head		
Bush	tree with a group of stems from ground level		
Shrub	woody plant branching freely from the base		
Herbaceous	having no permanent woody stem—ie annual stem and perennial root living more than two years, flowering each year		
Perennial Biennial			
Annual	living two years, flowering second year		
	living only one year and flowering once plants growing among rocks with little subsoil		
Alpine Bedding	plants used for display in the warmer months (usually 'half-hardy' or glasshouse plants which are		
Dedunig	'bedded-out' from spring onwards)		
DESCRIPTIVE			
TERMS			
Deciduous	having leaves which die (and mostly fall) at a certain season of year		
Evergreen	carrying always some leaves		
Coniferous	belong to the family 'coniferae' most of which have resinous juice and are cone-bearing. All but few are evergreen		
Glaucous	foliage with a blue or grey-blue tint		
Standard	tree grown with a clear stem (usually 5 ft or more) before the first branch		
Half-standard	tree grown with a short stem (midway between 'standard' and 'bush')		
Bush form	tree grown with several stems from ground level		
Feathered	tree grown with single stem branched from the ground		
Fastigiate	upright narrow growth		
Pendulous	of weeping habit		
Prostrate	lying close to the ground		
Ground cover	low growing plants massed together to conceal all soil and suppress weed growth		
Cordon*			
Espalier*	some of the forms adopted by fruit trees as a result of pruning and training		
Dwarf pyramid*	some of the forms adopted by fight trees as a result of pruning and training		
Fan upright			
NURSERY TERMS			
Ball	root ball—the soil kept around the roots of a pot plant when lifted from the ground, or from a po		
Budded	propagated by insertion of a bud into a common stock		
Calcifuge	lime hating		
Calicole	lime tolerant		
Ericaceous	belong to the heath family (loosely used to indicate plants needing a peaty (acid) soil)		
Grafted	propagated by insertion of a twig (scion) of one plant into a common stock		
TOP GRAFTED	graft made at the top of a long stem		
BOTTOM GRAFTED	graft made just above ground level		
Habit Half bards	form or way of growing		
Half-hardy	requiring winter protection (usually glasshouse plants)		
Hardy	thriving in open through whole year without protection		
Indigenous	native to a particular country or area		
Lateral* Leader*	side shoot growing horizontally the main vertical stem of a plant		
Pruning	removing shoots or branches to improve shape, to increase bearing strength or to reduce size		
Root pruning*	reducing the extent of roots		
Seedling	young plant grown from seed		
Stock*			
Sucker	common plant stem on to which another species m grafted or budded a shoot from the roots of a plant away from its stem		
Tender	needing some protection from frost and wind (seed for plants which are hardy or is the couth a		
Tender	needing some protection from frost and wind (used for plants which are hardy only in the south a west or which need a south-facing wall)		

AJ

SFB

Technical study

UDC 712.3 Landscape design

The lack of technical information for the landscape designer

In the first part of this technical study Clifford Tandy comments on the lack of published information in many fields of landscape design

The designer

The Designer must become vitally conscious of land form and its influence upon the character of the site. Too often the preparation for building work is merely to level out all irregularities and interest which there may be in the site. An irregular site can be so treated that its qualities are enhanced.

The technical and mechanical aspects of earth-moving have been well investigated and documented, but there is nothing yet written on the aesthetic aspects of earth forms, or earth moving and shaping for visual effect.

Among the practical matters upon which it is necessary to be informed are: the types and characteristics of various soils; the recognition and value of existing trees and other vegetation; commercial methods of cultivation and planting; the relative cost of various treatments in terms of:

- (a) Capital cost
- (b) Labour for upkeep

Plant material

The landscape architect must compile his own vocabulary of plant materials, based upon facts gained in training, experience, personal investigation and an exhaustive and critical search into published advice. The architect cannot hope to acquire an equivalent knowledge by casual reference to plant lists and catalogues and he is likely to go badly astray if he acts on incomplete information. An ignorance of soil preferences, frost hardiness or commercial availability, for instance, could make nonsense of any planting specification.

The architect may turn for advice to any available source of information, such as the commercial grower, the forester or the amateur gardener, but it is essential to keep the reins of design in qualified hands—his own or a consultant's. Those untrained in landscape design may be technically sound, but may well have a narrow viewpoint—the commercial grower may, quite reasonably, wish to put forward his newest hybrids—or to dispose of certain over-stocked species—the forester will be influenced by the economic value of trees as a timber crop—the amateur gardener will almost certainly be thinking on a domestic scale and in terms of the "seed catalogue garden" (one of each variety!).

Lack of technical information

The landscape architect and the architect-conscientiously-interested-in-external-space, are not very well served for information. Compared with the matter available to the building industry, the *quantity of published facts on landscaping is insignificant. Standard specifications and trade information are available for the "bread-and-butter" items such as road curbs and manhole covers, but no recognised quality can be demanded for such items as cobble pavings, turf laying, or trip rails.

For landscape work there are no published lists of current rates for labour and materials; no British Standards or Codes of Practice; no advice from trade associations and even very few catalogues devoted to professional work. Agriculture, commercial horticulture and the amateur gardener are all well supplied with practical advice-the amateur to a bewildering degree—but the planting side of landscape design has particular requirements not completely served by any of the information directed to these other interests. For instance, descriptions of plants can be given in many ways; to the amateur gardener by the colour, size and season of the bloom; to the commercial grower by the size of the 1 or 2 year transplants offered; to the forester by the cubic content of timber which can be expected; to the botanist by the determining characteristics of some small cells or organs; to the agriculturalist by the yield per acre expected. None of these describe the form which the plant will take, its relation to its neighbours and the rate and habit of its growth, which are the important visual characteristics and are the concern of the landscaper.

The wide range of tender figures received for landscape work, and the fluctuating rates quoted in different parts of the country and at different seasons indicate that estimating for landscape work is not a very scientific procedure. Rates for routine operations, recognised as a basis for variations or for daywork are virtually unknown, even in the trade, and it would appear that no one has yet applied cost analysis methods to landscape work.

Warnings about the effects of tree roots on buildings have been given, but they are usually over-cautious generalizations. It would be helpful to know the accurate extent, depth, and behaviour of the roots of common species in various soils. Linked with this might be some supporting facts on the danger to the health, life and stability of trees by trenching across their roots.

The Forestry Commission has published excellent statistics about the windbreak qualities of tree belts. However trees also act as a filter to dust and to noise, but no information enabling one to calculate their value in this way is available. Plant lists are nearly always alphabetical which means that before one can look up a plant answering to certain characteristics, one must know its name. Even where classified lists exist in which plants are chosen for various purposes, they are rarely cross-referenced for climatic preferences, soil types, visual qualities etc.

One of the most necessary is user research. An architect working upon the internal planning of a building will almost certainly be given a brief which states the purpose and approximate areas of the internal spaces. If no such brief is given there are many channels of information regarding the components of various building types or analyses of successful examples.

No one yet appears to have made similar studies upon the uses of external spaces, their economical size and treatment. So often external space is merely what is 'left over' from the planning of a building complex; or the minimum legal void demanded by planning regulations. Any such study should be made on the widest possible basis. Parks and recreational areas are not the only form of 'landscape'-in fact they have already received the only attention which has yet been given to this problem. Inhabitants of factories, colleges, prisons, hotels, barracks, schools, hospitals, all spend a proportion of their time, both working and leisure, in the external areas of the site. The use of these external spaces may include circulation, parking, recreation, manufacturing processes, exercise space, agriculture, visual enjoyment and many other uses, but little thought has been given to the ideal size, porportion, use and treatment of such spaces. Too often the building itself is regarded as the only usable asset, the rest of the site being given the minimum of hard surface to provide access roads and parking with all 'left over' space, however large or small, whole

or fragmented, being seeded for grass.

Particular aspects of user research which are urgently in need of study are pedestrian circulation habits and children's play habits. The motor vehicle has not yet been put into its proper place, but at least its needs are being widely studied and its actions are fairly predictable—limited as it is to hard surfaces between concrete curbs. The pedestrian on the other hand is neither properly catered for, nor are his movements well enough understood. Given the facts and the right formulae, the flow of pedestrian traffic across a site should be as accurately predictable as water in a drainage system or the footsteps of a cook across a 'time-and-motion-study' kitchen.

No one pretends that the way in which children play is adequately understood by adults, but at least some attempt to meet their needs in organized playgrounds has been made. It is their play habits at other times which need observation—why they walk along one piece of wall, why kick a certain railing—attack all the plants in one flower bed, but delight in the shade of one favourite tree.

Closely related to user requirements in landscaping is the whole problem of maintenance. The familiar cry that low capital cost only leads to high maintenance costs is equally true of external works. The amateur designer tends to err on the side of expensive upkeep, perhaps not realizing the difference in labour costs between grass cutting and summer bedding. Even the professional is handicapped by lack of published facts on the relative costs of various types of surface material, the man-hours expended in horticultural operations, and the comparative annual upkeep for different site treatments. Operations which might easily be overlooked can distort judgments in the absence of detailed facts. For instance the capital cost of hard paving is often compared with annual expenditure on grass cutting, but a recent work-study exercise revealed that the labour cost of sweeping pavements so nearly approached the labour cost of mechanical grass cutting that only by a life of many years could the paving show any financial advantage.

There is an excellent opportunity for new research into the movement and shaping of ground. It is unfortaunate that the machines which have been developed for earth moving in recent years have been almost exclusively used for levelling and flattening it. The movement of earth into various forms and its retention therein has been studied from the engineering aspect and from the drainage point of view, but there has been as yet no work published which studies the interaction of the factors of stability, drainage, accessibility, and upkeep of ground shapes with their visual and practical aspects, and which presents the bulldozer as a constructive tool!

Microclimate is a word which may be applied at many points on the scale of nature's dimensions. (In the extreme case it is used by the research botanist to refer to the fluctuating conditions determinable around the stem of a seedling in its first 1 in above the surface of the soil.) It is however a useful term in landscape work for the changed climatic conditions which are found or created in the vicinity of buildings, walls, trees, mass shrub planting, earth mounds or excavations, etc. There have been some studies upon this subject in the USA but we are very ignorant in this country of the effects of our constructional work, not only upon the climatic conditions for vegetation, but upon the environment in which human beings live. We are all familiar with the wind-tunnels frost pockets and damphollows which have been discovered with surprise in otherwise well-planned housing estates. Factual informaton on these and many other aspects of microclimate would be very welcome.

AJ

STB

(15)

Technical Study

UDC 712.4 Grass

Grass

As a contribution to the need for practical information on landscaping there follow some notes on the use of that most common of all surfaces—grass. These are prepared by Clifford Tandy and are based upon a handbook of landscape notes prepared for the use of the War Office Directorate of Works which it is hoped will later be published

The climate of Britain is so favourable to the growth of grass that it is taken for granted and used indiscriminately in suitable and under unsuitable conditions.

Grass should not be regarded as the easy answer to all narrow strips and awkward spaces left over when other requirements have been met. It has a positive not negative merit, and should be granted its full worth as a surfacing material in its own right.

Grass is naturally suited to large uninterrupted areas of simple outline and gentle slopes. It should not be cut into intricate patterns nor should it have patterns cut out of it. While grass is probably the cheapest surfacing material and quite reasonable in machine-maintenance, it quickly becomes a source of heavy labour costs if there is an excessive proportion of edges to be trimmed; if it is in narrow widths or if the area is broken up by obstructions.

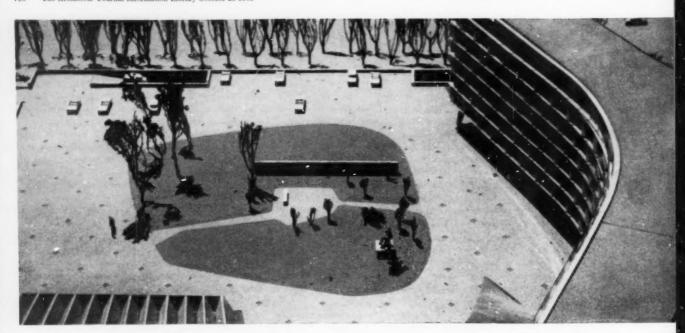
In public works mowing should be by power machine not less than 30 in cut. To turn without de-clutching a machine of this size needs about an 8 ft 0 in diameter circle and therefore a grass area of less than 8 ft 0 in width means more man-hours in cutting. Obviously long runs in the length of the area are also more economical.

For efficient mowing on sites of an acre or more, triple-gang machines should be used. These are generally 8 ft 9 in wide and need a 32 ft 6 in diameter turning circle. To accommodate such machines, grass areas should not be less than 10 ft 0 in wide and there should be 10 ft 0 in clear between any obstructions.

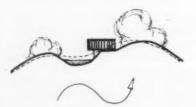
Trees can be planted in grass without restricting gangmowing but they should be 12 to 15 ft apart and planted in groups in such a way that the gang mower can be taken in a clear curving run between them. (Trees should never be planted in *straight* rows just to simplify mowing!)

It should be remembered that heavy mowing machines have to be manoeuvred on to each area of grass, and where there are fencing, trip rails or other surrounds, an opening, gate, or removable bar not less than 9 ft. 3 in wide should be provided.

In rural situations grass looks best with a natural loose edge tailing-off where it meets another surface. This is possible where the grass is rough scythed or grazed by sheep, but is not very practical for mechanical mowing. Edge trim may be of concrete, timber, metal, or stone. In formal layouts the 2 in wide concrete edging may be



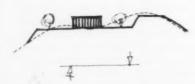
Grass used as a positive element. UNESCO piazza



Site enhanced



 $Earth\ shapes$



Site negated



Cut beds in grass

used to advantage but unless carefully used in smaller scale work it begins to take on a "grave-yard" appearance. Timber edgings creosoted black are far less conspicuous, and thin rustless metal strips are even less visible. Both can be worked to curves.

Turf should be laid to finish not less than I in above any edgings or surrounding surfaces to allow for trimming. This is not so easy to arrange with seeded areas, but it is possible to keep the soil bed above surrounding surfaces by laying one line of turves around the perimeter of the seeded area and bringing the soil level to top of the turves before seeding.

Edge trimming is an operation which is expensive in labour and the proportion of edge to area should be kept as low as possible by avoiding re-entrant angles, cut-out plant beds and narrow verges.

Trimming is usually done by long-handled shears, but a motorised rotary edge trimmer is now commercially available. Half-moon cutters should be used for adjusting the line of edges annually, but excessive use of it will reduce the grass width.

Mowing machines cannot get close up to buildings, fences, or obstacles and a mowing margin should be left of at least 9 in. If left bare soil this will need hand weeding, though an annual spray with non-leaching weedkiller may be sufficient. Better than bare soil is a margin of gravel or ballast (both of which will need treatment with non-leaching weedkiller) or flat slabs of stone or concrete.

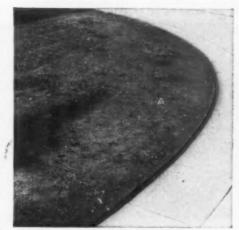
A similar margin adjoining kerbs, paths or road edges will accommodate the clutter of obstacles—sign posts, lampposts, fence-posts, hydrant signs, vent pipes, trip rail supports etc.—which should never be sited in grass where they will obstruct mowing.

It is undesirable for manholes to occur in grass areas, but where this is inevitable they should be placed with the cover $1\frac{1}{2}$ in below the finished turf level and should have a narrow cement mortar bed for the frame, sharply sloped off so that grass may grow closely up to the edge of the frame. Wide concrete sub-frames to M.H. covers only make the intrusion more conspicuous.

Grass lawns are usually thought of as flat level surfaces. Certainly bowling greens, cricket squares and strictly formal lawns of small size should be so, but generally grass should not be laid completely level. For playing pitches a fall of not less than 1 in 150 is necessary for good drainage and falls of up to 1 in 50 are acceptable as playing surfaces. Informal grass areas may easily have falls of up to 1 in 25 but where the ground falls in more than one direction it should be "modelled" to gently rolling contours avoiding all ridges or sharp hollows.

Changes of level on a site should allow grass slopes to be as gentle as possible with an "Ogee" or "Lamb's tongue" profile gently curved top and bottom. If this cannot be achieved then the change of level should be made in some other way by retaining walls, shrub planted banks or other surfacing material. When grass banks cannot be avoided they should not be steeper than 1 in 4, rounded top and bottom for machine mowing and having a maximum slope angle of about 18½°. Such banks are most objectionable when they are straight on plan. If their outline can be curved, and their gradient varied, a much more interesting effect can be obtained. Design experiments have recently been made, using geometric forms comprised of rather steep grass covered slopes, but such special features could only be guaranteed.

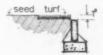
It is usual to mow up and down slopes, and gang mowers are sufficiently flexible in their action to take care of any reasonable curves, but 'cross curvatures' of more than 1 in



Rustless metal edge trim



Obstructions to grass mowing



Turf edge to seeded areas



Mowing margin

rise in 30 in are liable to be skinned by the cutter bar leaving bare patches of soil which will be invaded by grass and weeds. All sharply curved contours should therefore be avoided except where hand moving can be justified.

It is not necessary for pedestrians to 'Keep off the Grass' and notices to this effect usually indicate a badly designed layout. Casual walking or sitting will not harm grass unless there is only one point of access to the area or there is a definite and regular 'short cut' leading to heavy wear at certain points. Most of the damage or wear can be avoided by providing hard surfaces for regular paths or by diverting foot traffic by means of fencing, walls, trip rails, shrub planting, water or changes of level.

Grass close to the bole of a tree may seriously reduce the water supply to the tree. Mature trees will not be noticeably affected by this but newly planted trees should have a square of open soil at least 4 sq ft and their boles kept free of grass for 2 or more years.

The shade, drip, and leaf fall from large dense trees such as Beech, Horsechestnut and most conifers will prohibit the growth of any grass beneath them, but grass will grow perfectly well beneath lightly clothed trees such as Birch. When grassing beneath existing trees it is advisable to use a special seed mixture selected for growth in shade and containing a percentage of *Poa nemoralis*.

The question 'whether to seed or to turf' often arises, but there is no easy or consistent answer. In general, seeding is considerably cheaper than turfing, but there is a delay of a year or more before seeded grass can stand hard wear. This may lead to the need for temporary fencing to seeded areas or to considerable patching and re-seeding, so that for small well-used grass areas such as in housing layouts the balance is tipped towards turfing. It is however becoming increasingly difficult to find good meadow turf near metropolitan centres.

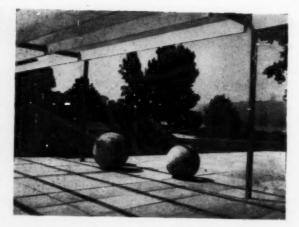
Whichever method is selected, good preparation is needed, with a bed of well-worked top soil 4 in thick brought to a fine tilth, firmed and dressed with a good general fertilizer at least seven days before work commences. Both seeding and turfing need skilful experience and it is unusual for a general building contractor to have labour competent for this work.

It must not be overlooked that grass is a growing plant like any other form of vegetation and that a great deal of goodness is taken out of the ground by the repeated removal of leaves in mowing the grass. Grass therefore needs attention and feeding. The regular maintenance of fine lawns includes not only cutting and watering but fine raking, brushing and annual rolling, dressing with fertilizers (bonemeal, fishmeal, sulphate of ammonia or general mixture), soil or fine compost, and when needed, lawn sand or selective weedkillers. Equally important is aeration of the soil by hand or machine tools which slit the mat of roots, open out the soil below, and aid water, air and plant food to get to the roots.

Turf which is well-maintained needs less major renovation and replacement and suffers less from drought or damage than neglected turf. Grass under trees and on dry banks is more difficult to maintain. It should have more watering and feeding and lighter cutting than that on open areas.

Finally, grass dislikes, or is damaged by, the following:

- -low-lying damp situations.
- heavy shade.
- excess moisture (flooding) or too little (drought).
- the shock of heavy cutting at long and irregular intervals.
- -- over-close mowing.
- compaction by heavy rolling, vehicles or heavy mowers.
- rough wear by children, animals or pedestrian routes.
- pollution from chemicals, oil, petrol, urine.
- polluted rainwater (drip of trees in industrial areas).



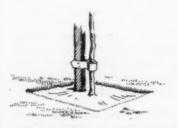
Geometric grassed forms in the Poets Garden at G 59 Exhibition, Zurich



Manhole cover in grass (vertical hatching represents thickness of turf)



Grass banks curved on plan



Tree station in grass

AJ

SfB (15)

Information Shee tNo 1015

UDG 712-4

Garden: General



*trees up to 40-0" high are transplanted as normal practice in U.K. and Europe, larger trees are transplanted only in America

TRANSPLANTING OF TREES

trees growing over chalk or stony subsoil are shallow-rooting and are easier to move than those having deep roots into clay or sand

some species transplant more easily than others but there is no certainty about any

sycamore willow
chestnut false acacia
maple poplar
alder ash
plane lime

TREES TRANSPLANTED

READILY

birch beech hornbean oak thorn"

TREES TRANSPLANTED

PLANTING, DATA

DEFINITIONS IN TREE-GROWING: MIXING OF FERTILISERS

This Sheet comprises (a) definitions of term, used in landscape work and (b) data on the mixing of manures and fertilisers.

Definitions

The following definitions are illustrated in the diagrams on the face of the Sheet:

leader: the main vertical stem of a plant. lateral: side shoots growing horizontally.

sucker: a shoot from the roots of a plant away from its stem.

top grafted: graft made at the top of a long stem.

bottom grafted: graft made just above ground level.

stock: common plant stem on to which another species is grafted or budded.

root ball: the soil kept around the roots of a pot plant when lifted from the ground, or from a pot.

when lifted from the ground, or from a pot. standard: tree with a clear stem (usually 5 ft or more) before the first branch.

half-standard: tree with a short stem (midway between 'standard' and 'bush').

bush: tree with a group of stems from ground level. feathered: tree with single stem branched from the ground.

cordon: double cordon: espalier: fan:

upright:

forms adopted by fruit trees as a result of pruning and training.

The mixing of manures and fertilisers

The diagram on the face (Geehen's chart) is intended to show which manures and fertilisers may be mixed together at any time, which may be mixed only immediately before spreading and which must never be mixed. The chart is reproduced from *Tropical Planting and Gardening* (4th edition) by H. F. Macmillan, by courtesy

of the publishers, Macmillan & Co. Ltd.

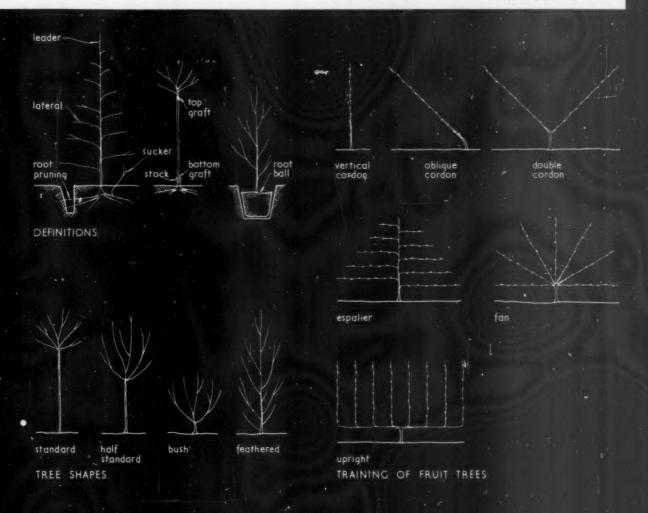
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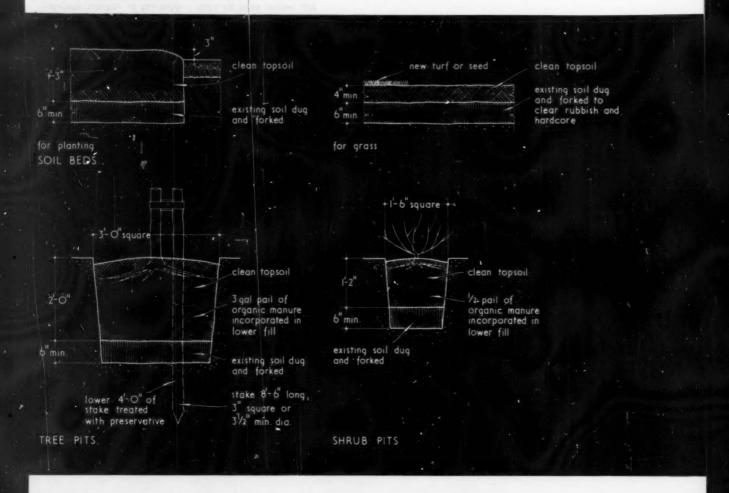
Information Sheet No 1016

UDC 712-4 Garde

Garden: General







PLANTING DATA

This Sheet provides general planting data for use by the architect or the landscape architect. The drawings and notes on the face set out comparative data for the transplanting of trees.

The drawings above illustrate suggested methods of preparing the ground for plants, grass, trees and shrubs.

Soil Beds

Soil beds for plants should be excavated to a depth of 12in. The existing soil should be dug and forked for a further depth of 6in. The excavated bed should then be filled with clean topsoil to a depth of 15in (raising its level, in effect, to 3in above normal ground level).

Tree Pits

Trees should be set at previous soil level. Stout ties should be provided to anchor the tree to its supporting stake at intervals of 1ft 3in and 5ft 0in above ground.

Shrub Pits

Shrubs should be set at previous soil level. If stakes are required these should be at least 5ft long by 14in diameter and should be included in the planting schedule.

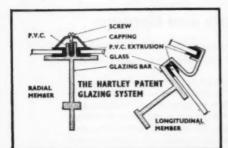


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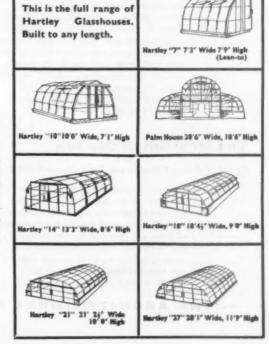
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H Chequered non-slip slab used to define main pathway

Ha 5-sided half slab used for straight edging

Hb 4-sided half slab used for straight edging HcR Quarter slab, right hand

Hck Quarter slab, right hand

T Six tree grill slabs surrounding tree to ventilate

T Tree grill used for small planting

Ta Half hexagon tree grill for small planting horizontal

Tb Half hexagon tree grill for small planting vertical

K Planting kerbs, Single tier

K Planting kerbs, Double tier

K Single planting kerb used against wall

M Manhole Cover and Frame

G Gulley Grating Cover and Frame

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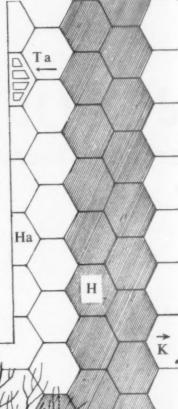
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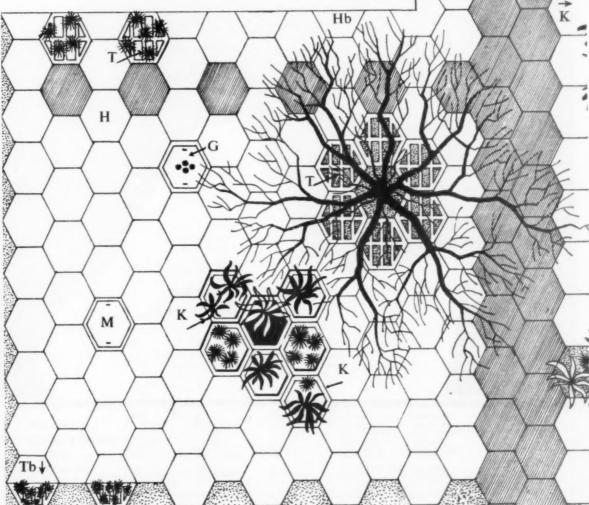
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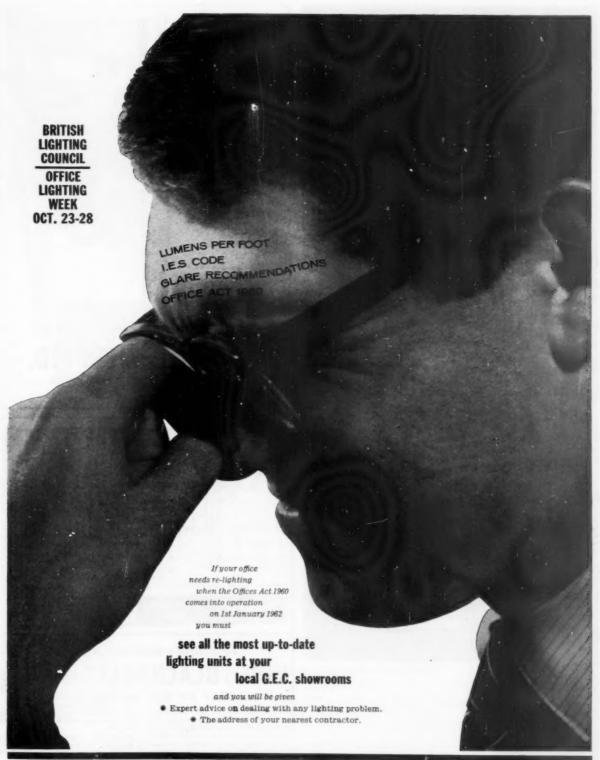
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AJ STB (15) Garden: General

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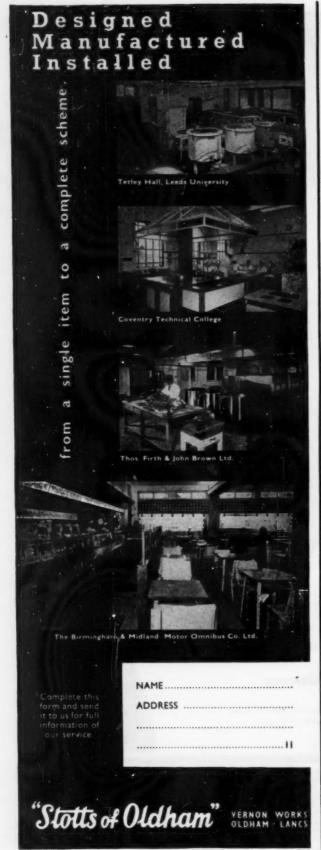
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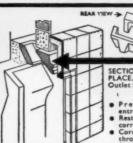
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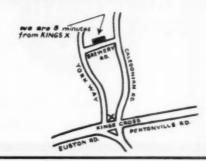






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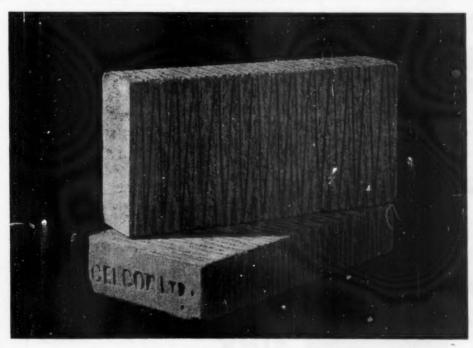
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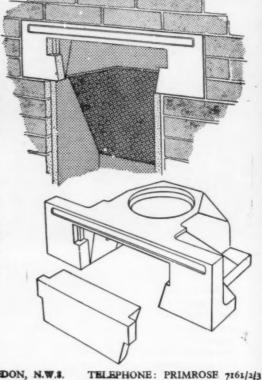
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Call and meet us on STAND No. 901 at the BUILDING EXHIBITION 15th-29th November 1961

SINK TOPS

FOR PILLAR AND MIXER TAPS 63" x 21" No. 706 (without overflow)

No. 707 (with combined overflow and $1\frac{1}{2}$ " C.P. Waste Fitting as standard, or $1\frac{1}{4}$ " if specified).

Bowl size 20" x 15" x 8" deep.

Into the range of 'Luxury' sink tops come two more sizes from which to choose. Foremost in kitchen sink top design, they are priced to suit every

pocket. Made from special quality steel and vitreous enamelled, 'Luxury' sink tops are easy to clean—cannot stain, rust or scratch and will keep their factory fresh look for years. Full choice of non-fading colours—white, cream, pale green or pale blue.

even greater scope for fitting

LUXURY

SINK

THE WELSH TINPLATE & METAL STAMPING CO. LTD., LLANELLY, CARMS.

No. 696 L.H. Drai

No. 698 L.H. Drainer

No. 699 R.H. Drainer

bow1 size 16" x 12" x 7" deep

(without overflow) No. 697 R.H. Drainer

(With combined overflow and 11 °C.P.

Waste Fitting as standard, or 14" if

FOR PILLAR

AND MIXER TAPS

36" x 18

specified)

Members of the Vitreous Enamel Development Council and Metal Sink Manufacturers Association

London Showrooms: F. J. FORDHAM, I4& I5 Billiter Buildings, Billiter Street, LONDON, E.C.3.

OTHER MODELS

IN THE

LUXURY

RANGE



REVERSIBLE MODEL
42" x 18" (Without overflow)

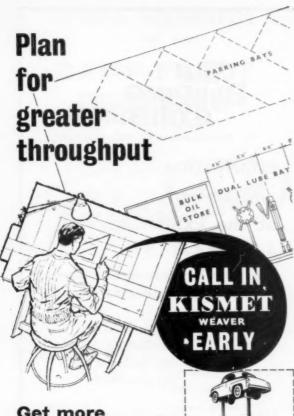
(No. 700)
Can be used with drainer on left or right hand. Bowl size 20" x 15" x 8" deep. Actual overall size 42\frac{1}{2}" x 18\frac{1}{2}".



FOR PILLAR & MIXER TAPS 42" x 21" (Without overflow); No. 702 L. H. Drainer

No. 703 R. H. Drainer No. 704 L. H. Drainer No. 705 R. H. Drainer

(With combined overflow, and 1½° C.P. Waste Fitting as standard, or 1½° if specified).



Get more efficiency from every square yard of operative floor area

If you are considering extensions or alterations to existing buildings or planning new premises, you will find our Layout and Planning Department at Bedford of considerable value. Its unrivalled experience can provide the practical economic solution to cope with almost any situation—to make every square foot pay its way. We will be happy to visit and co-operate with you in an advisory capacity and to prepare drawings and quotations—absolutely without obligation-but please call us in early that is when we can be most useful. Write to our Planning Department NOW.

KISMET-THE WORLD'S MOST TIME-

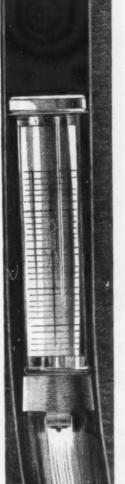
An efficient factory-trained organisation stands ready at strategic points throughout the country, to deal with the installation and servicing of Kismet Garage Equipment.



FENLAKE WORKS BEDFORD Phone BEDFORD 68871 (10 Lines)

SCOTTISH AGENTS: (Garage Equipment and Steam Cleaners) Gerard Wakeham Ltd 1 Clifton Street Glasgow C3 Phone: Douglas 4297

INTERDEPARTMENTAL GUIDED PROJECTILE TRAVELLING UNSEEN AT 30 FT. PER SECOND



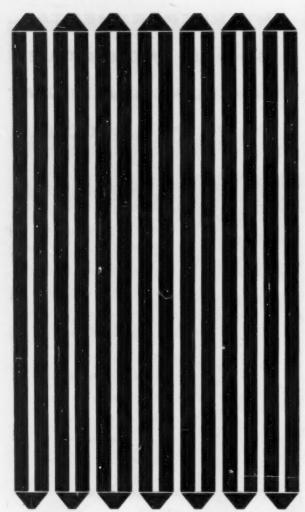
A Lamson tube system gives you front line defence against messenger costs and sluggish document handling. There is a system to suit your needs (six sizes to choose from) and a design to serve any number of points in your offices or works. All types of small articles can be carriedhere are a few which travel in Lamson tubes somewhere, every day.

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Lamson Tubes

Lamson Engineering Company Ltd. Hythe Road, London, N.W.10 Telephone: Ladbroke 2424

A MEMBER OF THE LAMSON INDUSTRIES GROUP



ESWA low-temperature radiant ceiling heating

To be seen on stand A 446 at the Building Exhibition

A new generation of space heating, based on electrical ceiling radiation, developed in Norway and now being installed extensively in the United Kingdom.

The distinctive features of the system are the even distribution of heat at low temperature ($80^{\circ}-90^{\circ}F$.) over wide areas, speed and sensitivity of response by thermostatic control, and semi-storage effects.

There are many advantages: quality of heat, capital costs not exceeding 5/- per square foot, saving on construction and on building schedules, highly competitive consumption costs.

The system is installed together with most types of conventional ceilings, and is particularly relevant for all new buildings; ceiling heights 7' 6" to 30'. Current installations include office buildings, low-cost and luxury flats, housing, restaurants and shops, childrens homes and laboratories.

ESWA Ltd., 26 Newman St. London W1. tel: LAN 6434/5/6

THE BUILDING EXHIBITION

Information and Design at the Exhibition

See what the SfB system of

classification means.

Hear discussion of the problems of technical

information at a full day symposium.

Learn how SfB works. A model library will be

shown with fullytrained librarians to explain the method.

classified under SfB.

Manufacturers exhibiting have been asked to provide information to A4 and

Olympia London 15-29 November 1961

Monday Wednesday Saturday 10—6 Tuesday Thursday Friday 10—8

Further information from:
The Building Exhibition Offices, Room G5.
II, Manchester Square,
London, W.I.
Great Britain.

British Standards

B.S. 1097 1418

DAMP-PROOF COURSING

provide for the inclusion of



A valuable component of good mastic, on account of its remarkable consistency.

Further particulars on request from

PREVITÉ

& CO. LTD.

CAPEL HOUSE, 54 NEW BROAD STREET, LONDON, E.C.2.

Telephone: LONdon Wall 4313

IT'S HARDLY SURPRISING

that more and more Architects and Builders are specifying the



UP & OVER DOOR GEAR

because they know that Suparise is exceptionally robust reliable and easy to it. Available for new installations, with a choice of Aluminium Alloy or selected Timber Doors; or for converting existing hinged doors to 'Up & Over' Doors. PRICE £11.10.0 (gear only).

Alternatively complete Batley Up and Over Doors can be supplied in ribbed Aluminium Alloy (£20) or exterior grade Mahogany Ply (£19), or Roller Shutter doors in selected timber laths.

Generous Trade Terms available

Barbour Index File No. 52



Brochure from: ERNEST BATLEY LTD

63g, Colledge Road, Holbrooks, Coventry

Tel - 87753

"Oh, why won't they lay PHENCO floors?"

One of the chief virtues of Phenco flooring is the special non-skid surface which prevents those disastrous spills. It has many other virtues too—even a few you'd never have thought of. Spill on it! No need to cry over spilt milk, beer, spirits, household chemicals or hot fat. Phenco can't be stained and is both fire and damp resistant.

Drop things on it! It's tough, resilient and hard wearing. It won't crack or dent, it muffles noise and is very easy on the feet. Phenco is easy to lay, and is supplied in tile (12 in. square) or strip (36 in. wide). You've a choice of twenty colours, plain or marbled. If all this sounds good to you and you'd like to know a little more about Phenco just write or telephone.



VINYL-PLASTIC FLOORING



PHOENIX RUBBER CO. LTD., TRADING ESTATE, SLOUGH, BUCKS. SLOUGH 22307/9

architects and assistants

A H Anderson limited

This Company provides a complete Design and Management Service to the Architect and/or the Building Owner in connection with its method of construction known as A.75. Having commenced as an all-timber system up to two storeys, it has now been extended to incorporate a steel frame with precast concrete floors and roof, taking it up to five storeys. The Company—which has on hand an extensive programme of single and multiple storey schools, office blocks, hospitals, and other buildings throughout the country—requires a number of architects who believe that their 'forte' lies as much in their technical and executive competence as in their design ability.

The successful applicants will have real opportunities of applying the professional attitude to and within the building industry.

Commencing salaries £960 to £1,750 according to age and experience.

Applications in writing to Mr. A. H. Anderson,
A. H. Anderson Limited, 58 Victoria Street, London SWl.
If preferred, applications may be telephoned to



CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advertisement Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and must reach there by first post Friday morning for inclusion in the following Wednesday's paper, Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

given above.

AIR-MAIL SERVICE available on request. In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despached by air-mail each week. The cost of this special service is Overseas subscribers will be 5s. for four weeks (L. 3d. for each additional week) and prepayment should be sent by subscribers withing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

Public and Official Announcements

36s. per inch; each additional line 3s.

AYCLIFFE DEVELOPMENT CORPORATION (New Town or Newton Atcliff)
ARCHITECTURAL ASSISTANTS
Applications are invited for the above appointments at salaries within Grades A.P.T. III and IV, i.e. £960-£1,310 p.a.
The principal work for the successful applicants will be in connection with the development of the Town Centre and new forms of housing layout.

cants will be in connection with the development of the Town Centre and new forms of housing layout.

Appointments subject to N.J.C. Conditions, superannuation, medical examination and to one month's notice, in writing, on either side,

A variety of housing accommodation is available.

month's motice, in writing, on either side,
A variety of housing accommodation is available.

Newton Aycliffe has, at present, a population of about 12,000 with schools, shops and some social facilities. It is within easy reach of some of the most dramatic landscape in England and pleasant attractive dales and moors in Durham and North Yorkshire.

Applications, stating age, education, qualifications and experience, together with the names of two referees, to be sent to the undersigned not later than Monday, the 6th November, 1961.

A. V. WILLIAMS,

A. V. WILLIAMS, General Manager,

Churchill House, Newton Aycliffe, Nr. Darlington.

Nr. Darlington.

89750
BOROUGH OF KIDDERMINSTER
BOROUGH ENGINEER & SURVEYOR'S DEPT.
Amended Advertisment
Applications are invited for the position of
ASSISTANT ARCHITECT, Grade III (£960—
£1,140). Applicants should have a good experience
in design and construction and preference will
be given to those who have passed the Intermediate examination of the A.R.I.B.A.
The Council have an interesting programme of
work, including Redevelopment and multi-storey
housing.

housing.

The appointment will be subject to the Local
Government Superannuation Acts and the
National Scheme of Conditions of Service,
The Council will provide housing accommodation if required and also assist in removal

expenses.

Applications, stating qualifications and experience, accompanied by the name of two referees, should be delivered to the Borough Engineer and Surveyor, 110, Mill Street, Kidderminster

L. L. EVANS. Town Clerk.

Town Hall, Kidderminster. October, 1961.

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ASSISTANT ARCHITECTS
A.P.T. IV (£1,140-£1,310)
Aptlications are invited from qualified
Architerts of initiative, keen on design and
modern constructural methods, to work on a
large and varied programme.
If appointed, applicants will be able to claim
a disturbance allowance up to a maximum of
£125, a facility offered by the County Council to
cover the expenses of removal and other associated
costs.

costs.

Application forms and details of appointment.
obtainable from the County Architect, P.O. Box
26, County Hall, Preston, should be returned by
the 10th November.

9710

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
The Town Development Division has vacancies
for ARCHITECTS with design ability and practical experience to work on town centre shopping,
housing and public building projects and on new
factories for industrial estates. Salaries up to
£1.500.

factories for industrial estates. Salaries up to £1.500.
Architects with little experience, but with much enthusiasm also welcomed—salaries according to selection board assessment.
Form and particulars from Hubert Bennett, F.B.I.B.A. Architect to the Council, (EK/A/2804/10)a, County Hall, S.E.1.

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

ARCHITECT'S and BUILDING SURVEYORS
required for surveying existing buildings, preparing sketch schemes, working drawings and specifications and supervising works in progress for the complete internal modernisation of the older type of Council flats designed by the Council and for the rehabilitation of dwellings acquired by the Council. Jobs up to £100,000.

Applicants should have a taste for rehabilitation and should be able to act on their own judgment and take complete responsibility for jobs from survey to completion. Salaries up to £1,250.

Form and particulars from Wahat Salaries and salaries and particulars from Wahat Salaries.

£1,259.

Form and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, (EK/A/2835/10)a, County Hall, S.L..

OXFORDSHIRE COUNTY COUNCIL COUNTY ABCHITECT'S DEPARTMENT Applications are invited from suitably qualified persons for the following appointments:—

(a) SENIOR ARCHITECT, J.N.C. Scale "B" (£1,410-£1,670.)

(b) ASSISTANT ARCHITECT, Grade A.P.T. V (£1,310-£1,480.)

(b) ASSISTANT ARCHITECT, Grade A.P.T. V (£1,310-£1,480).

The Council will pay 50 per cent. of any removal expenses. Five-day working week.

The appointments are permanent, superannuable and subject to a medical examination.

Applications, on forms to be obtained from the undersigned, to be returned by the 6th November, 1961.

ALBERT E. SMITH. County Architect. Park End Street Offices, Oxford.

Oxford.

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ARCHITECTURAL ASSISTANTS
(within the salary range £645-£960 according
to experience and ability)
Applications are invited from Architectural
Assistants for appointments to the permanent
staff of the County Architect's Department, which
is engaged on a large and varied programme of
major projects.
Applicants should have attained at least
Intermediate R.I.B.A. standard and, within this
stage of qualification, have a reasonably varied
experience.

experience.

Application forms and details of appointment obtainable from the County Architect, P.O. Bo. 25, County Hall, Preston, should be returned by the 10th November.

8971

county Hall. Preston, should be returned by the 10th November.

COUNTY BOROUGH OF BARNSLEY BOROUGH ENGINEER AND SURVEYOR AND PLANNING OFFICER'S DEPARTMENT APPOINTMENT OF ASSISTANT ARCHITECT. Applications are invited for the appointment of an ASSISTANT ARCHITECT, GRADE A.P.T. V (£1,310—£1,480). The commencing salary may be fixed above the minimum of this grade. Candidates must hold a recognised Diploma in Architecture and/or be A.R.I.B.A. and should have had considerable experience in the design and supervision of large building works. The appointment is superannuable and subject to N.J.C. Conditions of Service, passing of a medical examination and one month's notice on either side, Housing accommodation can be provided in necessary and 50 per cent. of removal transport expenses will be paid in approved cases. A five-day week is in operation and staff dining facilities are available. Applications, stating age, qualifications, present and previous appointments and experience, together with the names of two referees, should be sent to the Borough Engineer. Town Hall, Barnsley, by Monday, 6th November, 1961.

Canvassing will disqualify.

A. E. GILPILLAN.

Town Clerk.

CITY OF ST. ALBANS
ARCHITECTURAL SECTION
CITY ENGINEER AND SURVEYOR'S
DEPARTMENT
ARCHITECT required for varied and substantial local authority work. Salary up to £1,310 per annum according to ability and experience.
Housing accommodation available.
Appointment subject to the National Conditions of Service, the Local Government Superannuation Act and to medical examination.
Applications, stating age, qualifications and experience together with the names of two referees, to reach me not later than 6th November, 1961.

B. V. ENTWISTLE. St. Peters Street, it. Albans,

St. Alb. Herts. COUNTY ARCHITECT'S DEPARTMENT
A vacancy exists in a newly formed group in
the County Architect's Department for a qualified
and enthusiastic ASSISTANT ARCHITECT with
a dominant interest in organisation and manage-

ment processes.

The appointment will be within the salary scale A.P.T. V (£1,310—£1,480), and application forms may be obtained from the County Architect. P.O. Box 26, County Hall, Preston, to be returned not later than the 10th November.

ROYAL BOROUGH OF
KINGSTON-UPON-THAMES
APPOINTMENT OF PLANNING ASSISTANT
A.P.T. Grade III
(£960-£1,140 per annum plus London weighting)
Applications are invited for the above-mentioned
appointment.
There is considerable decel

Applications are invited for the above.

Applications are invited for the above.

There is considerable development in Kingston and as the Borough Council has widely delegated powers from the Surrey County Council the job offers scope and interesting experience.

The Council will give assistance towards the provision of housing accommodation, if required. Details and application forms from Borough Surveyor, Guildhall, Kingston-upon-Thames, and returnable by 13th November, 1961.

L. V. POWELL, Town Clerk.

Kingston-upon-Thames. 17th October, 1961.

NIRSTON-UPON-THAMES.

17th October, 1961.

METROPOLITAN BOROUGH OF
CAMBERWELL
APPOINTMENT OF ARCHITECTS IN
BOROUGH ARCHITECT'S DEPARTMENT
The Borough Architect, having an interesting
programme of housing and public buildings and a
senior staff producing good contemporary work,
requires ASSISTANTS from good Schools of
Architecture to back them up.
Newly elected Associates may expect a salary
starting at £1,005 per annum and more for those
with several years' experience: those who lack
only the Professional Practice examination would
commence at £40 to £555 per annum.
To arrange an interview write to Town Clerk,
Town Hall, S.E.5.

Town Hall, S.E.5.

TG9424

UNIVERSITY OF AUCKLAND
NEW ZEALAND
SENIOR LECTURESHIP IN TOWN PLANNING
Applications are invited for the above-mentioned
post. The Senior Lecturer will be required to
lecture and conduct seminars in Town Planning
Theory and Techniques and to supervise Drawing
Office and Field Work exercises. The appointment
will carry certain rights of private practice provided such practice does not in any way interfere
with the Senior Lecturer's work at the University.
Preference will be given to a graduate in Town
Planning or in an allied field and to those who
have direct experience in the professional planning
field.

have direct experience in the professional planning field.

The salary scale for the position is £1,750 per annum rising to £2,000 per annum by annual increments, two of £100 and one of £50. Commencing salary within this scale will be determined according to qualifications and experience.

The person appointed will be expected to take up his duties on the 1st February, 1962 or upon such other date as may be arranged with the University Council.

Further particulars and information as to the method of application may be obtained from the Secretary. Association of Universities of the British Commonwealth (Branch Office), Marlborough House, Pall Mall, London, S.W.I.

Abolications close in New Zealand and London 27th November, 1961.

STEVENAGE DEVELOPMENT CORPORATION

on 27th November, 1961.

9779
STEVENAGE DEVELOPMENT CORPORATION
Applications are invited for appointment as
ASSISTANT ARCHITECT in the Chief Architect's
Department on New Towns' Salary Grade A.P.T.
IV/V (£1.140-£1.480)—starting salary according to
qualifications and experience. Applicants should
be Associates of the Royal Institute of British
Architects and have experience in design and
construction of modern buildings.
Living accommodation may be available in duc
course in an appropriate case. Local Government
sunerannuation; five-day week,
Applications giving details of experience and
the names of two referees should be sent to the
Chief Administrative Officer, Daneshill House,
Danestrefe, Stevenage, Herts., not later than Wednesday, 1st November, 1961.
9782
ROBERT GORDON'S TECHNICAL COLLEGE,

Danestrete. Stevenage. Herts., not later than Wednesday, 1st November. 1961.

ROBERT GORDON'S TECHNICAL COLLEGE. ABERDEEN
SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE
Head: E. F. Deviers. Barch. (Lypl.), F.R.I.B.A., F.R.I.A.S.
Owing to development of the work in the School, applications are invited for the following additional new appointments:—
(a) LECTURER AND STUDIO INSTRUCTOR (Grade I) in Architectural Design and Constructional Subjects. Salary £1,025 × £59—£1,575 per annum.
(b) LECTURER AND STUDIO INSTRUCTOR (Grade II) in Architectural Design and Constructional Subjects. Salary £1,025 × £59—£1,000 × £45—£1,270 per annum.
The salary scales are under revision. Initial placings with regard to both appointments will be in accordance with qualifications and experience.
The College is recognised for purposes of exemption from the R.I.B.A. Intermediate and Final Examinations.
Candidates should possess the Degree or Diploma of a recognised School of Architecture and must be Associates of the Royal Institute of British Architects.

Architects.
Further particulars and forms of application
may be obtained from the undersigned to whom
completed applications should be returned on or
before 31st October, 1961.

A. C. WEST. Director. 9787

COUNTY BOROUGH OF BOOTLE
APPLICATIONS ARE INVITED FOR THE
FOLLOWING PERMANENT POSTS IN THE
ARCHITECTURAL SECTIONS OF THE
BOROUGH ENGINEER & SURVEYOR'S
DEN'ARTMENT
(a) PRINCIPAL ASSISTANT ARCHITECT
(Housing Section) within Grade A.P.T. v
(£1,310-£1,480).
(b) PRINCIPAL ASSISTANT ARCHITECT
(Schools Section) within Grade A.P.T. v
(£1,310-£1,480).
(c) ASSISTANT ARCHITECT
(Schools Section) Grade A.P.T. III (£950-£1,440).
In both Sections there is a continuing programme of work comprising major educational buildings, a variety of housing including multistorey dwellings and interesting work for other
Committees of the Council.
Applicants should possess appropriate R.I.B.A.
qualifications and the case of appointments (a)
and (b) which will be next in seniority to the
prefienced in design and administration.
The appointments will be subject to the provisions of the Local Government Superanuation
Acts., N.J.C. Conditions of Service and to one
month's notice.

Applications on forms obtainable from Mr.
The A.B.I.C.S., A.M.T.P.I., Borough Engineer and
Surveyor, Town Hall, Bootle 29, Lancs, must be
returned to him not later than Monday, 13th
November, 1961.

HAROLD PARTINGTON,
Town Clerk.

HAROLD PARTINGTON

COUNTY BOROUGH OF BOOTLE
PRINCIPAL PLANNING ASSISTANT
A.P.T. V. £1,310-£1,480 per annum
Applications are invited for the above appointment in the Planning Section of the Borough Engineer and Surveyor's Department.
Candidates should bave passed the Final examination of the Town Planning or other appropriate Institution and possess experience in the Office of an Urban Planning Authority.
Commencing salary within the range of Grade A.P.T. V. £1,310-£1,480 according to qualifications and experience.
Applications on forms obtainable from Mr. T. W. Crookdake, A.M.I.C.E. M.I.Mun.E., A.R.I.C.S., A.M.T.P.I., Borough Engineer and Surveyor, Town Hall, Bootle, 20, Lancs, should be returned to him not later than Monday, 13th November, 1961.

HAROLD PARTINGTON.

BOROUGH OF WORKSOP APPOINTMENTS IN THE BOROUGH ENGINEER'S DEPARTMENT Applications are invited for the following

Applications are invited for the following appointments:—
ASSISTANT ENGINEER: Salary A.P.T. Grade IV (£1,140-£1,310).
Applicants must hold either an engineering degree, the Testamur of the Institution of Municipal Engineers or be qualified for Associate Membership of the Institution of Civil Engineers and have at least five years' experience, including publiage.

and have at least five years' experience, including pupilage.

ARCHITECTURAL ASSISTANT: Salary A.P.T. Grade IV (£1.140—£1.310).

Applicants must be Chartered or Registered Architects.

The posts are superannuable and the successful applicants will be required to pass satisfactorily a medical examination.

Housing accommodation will be provided and removal expenses will be paid, if required by successful married applicants.

Applications, stating age, qualifications, experience and accompanied by the names of two referees must reach the undersigned not later than noon on Friday, the 3rd November, 1961.

RUSSELL C. PHARAOH.

Town Clerk. Town Hall, Worksop, 12th October, 1961,

Workson.

12th October 1951.

BOROUGH OF SWINDON
SENIOR TOWN PLANNING ASSISTANT,
A.P.T. IV
Applications are invited for the above appointment on the staff of the Borough Engineer and Survevor from candidates who have had suitable experience and have passed the final examination of the Town Planning Institute.

The town is rapidly expanding to provide accommodation and work for about 20,000 people from modation and work for about 20,000 people from the Greater London area under the provisions of the Town Development Act, and the present population of the Borough is approximately 92,000.

There is considerable scope for imaginative and skilful planning work in the layout of large open areas earnarked for expansion; in urban renewal, parlicularly where the central business and shopping area is being remodelled and developed on the pedestrian way principle; and general planning control work.

A five-day week is in operation.

Housing accommodation will be offered to married candidates from other areas, and assistance towards removal expenses may be granted.

Applications on forms to be obtained from the Town Clerk, Civic Offices, Swindon, must be returned not later than Friday, 10th November, 1961.

STAFFORDSHIRE COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT Applications are invited from suitably qualified candidates for the following post(s):—

(a) SENIOR HEATING ENGINEER, Grade A.P.T. V (£1,30-£1,40).

(b) ASSISTANT HEATING ENGINEER, Grade A.P.T. IV (£1,140-£1,30).

Applicants should be Associate Members of The Institution of Heating and Ventilating Engineers. The offices are modern and well equipped and the Department has a large and varied programme of interesting work.

The appointment(s) will be subject to:—

appointment(s) will be subject to:—
The National Scheme of Conditions of Ser-

(a) The National Scheme of Conditions of Service.

(b) The Local Government Superannuation Acts and the passing of a medical examination. The County Council are prepared to grant a lodging allowance of 35s. per week to grant a lodging allowance of 35s. per week to married applicants maintaining a home outside the geographical County for a period of six months, also second-class rail travel home every second month during the initial six months. The Council are also prepared to give consideration to the granting of financial assistance in appropriate cases towards removal expenses.

There is a possibility that housing may be made available in special circumstances.

The Council has a scheme for loans to employees wishing to purchase their own houses.

The successful candidate for (a) will be placed on the Essential Car Users' Scale; the Council has a scheme for loans towards the purchase of motor vehicles.

Forms of application, which must be returned by the Jist October, 1961, may be obtained from the County Architect, Green Hall, Lichfield Road, Stafford.

Clerk of the County Council

Clerk of the County Council

City Architect.

CITY OF BIRMINGHAM

Opportunities exist for enthusiastic and imaginative qualified ARCHITECTS to take a responsible part in the large and interesting programme of work now being undertaken by the City Architect's Department.

Commencing salary within the Senior Officers' Scale "C" (21,560—£1,285) will be according to capabilities and experience.

The Architects appointed will be primarily concerned with comprehensive housing development, involving multi-storey flats, or with educational projects, schools, etc.

Pension scheme. Five-day week. Medical examination.

Applications stating age, present position and salary, qualifications, experience and two referees to reach the under-signed by 3rd November, 1961.

Raskerville House.

Baskerville House. Civic Centre, Birmingham, 1

Baskerville House,
Civic Centre,
Birmingham, 1.

AIR MINISTRY WORKS DEPARTMENT
invites applications for ARCHYTECTURAL
ASSISTANTS, primarily for the architectural
branch of the designs office in London.

SALARY (inner London Scale):
Grade III: £668-£1,048 (£866 at age 25).
Starting salary depends on age, qualifications
and exnerience.
Qualifications and Experience: The work includes
a wide range of domestic, administrative and
technical buildings in varying forms of construction offering scope for imaginative design for
which adequate training and architectural office
experience is necessary. O.N.C.(Bidg.) some
advantage for Grade III posts but progressive
design ability is sought for Grade II. Financial
assistance and time off may be allowed for recognised courses of study, e.g., R.I.B.A.
Prospects: Anpointments are non-pensionable
(retirement/resignation gratuity payable after 5
years' or longer service) but good opportunities
exist both for establishment to pensionable posts,
when all service counts, and for advancement
to the higher grades in which posts number
some 35. Higher grade salaries vary between
£1,277 and £2,015 (inner London scale) and
vacancies are, as a rule, filled by promotion of
serving staff. Opportunities for tours of duty
overseas, when additional allowances ranging, at
present, up to £1,800 p.a. (depending on circumstances) are payable. Five-day week with 265 days
baid leave per year initially including public
holidays.

Applicants, should write to AIR MINISTRY,
W.G.d. LACON HOUSE, THEOBALDS ROAD,
LONDON, W.C.L., or to any Employment Exchance (quoting Kings Cross, 838) giving age,
details of training, qualifications and full particulars of former posts held. Candidates selected
will normally be interviewed in London and
certain expenses reimbursed.

BOROUGH OF EALING

ARCHITECTURAL ASSISTANT within Scale A.P.T. IV, according to experience (£1,185-£1,355 inclusive). Must have recognised architectural

inclusive). Must lieve recognised qualifications.

JUNIOR ARCHITECTURAL ASSISTANT, A.P.T. I (£645-£815) plus London veighting.
Full particulars and forms of application from: Borough Engineer. Town Hall. Ealing. W.5. Closing date: 6th November, 1961.

E. J. COPE BROWN.

Town Clerk.

S9803

CITY AND COUNTY OF NEWCASTLE UPON TYNE CITY ARCHITECT'S DEPARTMENT

unique opportunity exists in this office to e part in one of the most ambitious pro-mmes of varied building works in the country, vacancies in the establishment occur as

follows:—
ARCHITECTS—who will be considered on their ability in design, experience and architectural outlook.

J.N.C. "B" £1,710—£1,975 per annum. (New Town Hall Section.)

J.N.C. "C" £1,560—£1,825 per annum. (General Section and Re-Housing Sections.)

J.N.C. "B" £1,410—£1,670 per annum. (Housing Section.)

Section.) J.N.C. "A" £1,365-£1,565 per annum. (Housing

Section and Re-Housing Sections.)

J.N.C. "B" £1,410—£1,670 per annum. (Housing Section.)

J.N.C. "A" £1,365—£1,565 per annum. (Housing Section.)

A.P.T. V £1,310—£1,480 per annum. (General, Education, Housing, Re-Housing and New Town Hall Sections.)

A.P.T. IV £1,140—£1,310 per annum. (General, Education and Housing Sections.)

A.P.T. III £865—£1,140 per annum. (General, Housing and Re-Housing Sections.)

A.P.T. III £865—£1,140 per annum. (General, Housing and Re-Housing Sections.)

A.P.T. II £865—£1,140 per annum. (General, A.P.T. II £865—£150 per annum. (Housing and Re-Housing Sections.)

A.P.T. 11 £865—£2815 per annum. (Housing and Re-Housing Sections.)

A.P.T. 11 £865—£2815 per annum. (Housing and Re-Housing Sections.)

The Department is engaged upon a wide and varied programme of major redevelopment schemes, embracing multi-storey flats, shopping precincts and associated community buildings, one of which schemes is the Scotswood Road Redevelopment Area to re-house approximately 5,000 people, and which is expected to cost in the region of £12 million.

Planning work has now commenced on the new Education Precinct in the central area, comprising Colleges of Further Education, Art and Industrial Design, Drama, Commerce, and Multi-storey Hostels, which will be the largest development of its kind in the country.

Further projects include: Airport Terminal; Abattoir and Fatstock Market; Vegelable Markets; Central Library; and Divisional Police Headquarters etc., and a varied programme of normal Housing development of a stimulating character.

Applicants of the highest quality.

QUANTITY SURVEYORS:

A.P.T. IV £1,40—£1,310 per annum.

A.P.T. I. 2645—£15,565 per annum.

A.P.T. I. 2646—£15,565 per annum.

A.P.T. I. 4040—£1,310 per annum.

A.P.T. I.

Town Hall, Newcastle upon Tyne, 1. 2nd October, 1961.

TC9623

COUNTY BOROUGH OF ROCHDALE
Applications are invited for the following appointment in the Borough Engineer and Surveyor's Department.
QUANTITY SURVEYOR Grade A.P.T. IV (£1,140-£1,510 per annum).
Applicants must be appropriately qualified, the commencing salary will be in accordance with experience and qualifications.
Applications stating age, qualifications, present and previous appointments and experience, together with the names of two referees to the Borough Engineer and Surveyor, Town Hall, Rochdale, by 7th November, 1961.
Canvassing will disqualify, relationship to any member or senior official of the Council must be disclosed. Appointment may be subject to medical examination.

K. B. MOORE.

K. B. MOORE, Town Clerk

Town Hall, Rochdale, October, 1961.

AIR MINISTRY WORKS ORGANISATION requires QUANTITY SURVEYING ASSISTANTS Grade III at R.A. and Ministry of Aviation stations throughout the United Kingdom. The work includes abstracting and billing, site measurement and preparation of estimates.

Salary, which is dependent upon age, qualifications and experience, ranges from £749 (age 25) to £988 National Rate (max.) in Grade III. There are pension prospects and also opportunities of advancement to numerous posts in the higher grades, viz.

Technical Grade II: £988 —£1,128 125 posts Technical Grade B: £1,28—£1,388 42 posts Technical Grade B: £1,28—£1,388 42 posts Technical Grade B: £1,28—£1,387 5 posts Vacancies occurring in these higher grades are sule filled by promotion of existing staff.

Overseas tours for which special allowances ranging at present up to £1,800 p.a. are payable in addition to a higher salary. Financial assistance and time off allowed for recognised courses of study leading to higher qualifications. Fiveday week with 18 days paid leave a year initially. Applicants who must be natural born British subjects, must hold O.N.C. Building or Builders Quantities) or equivalent and had good experience under Quantity Surveyor or Building or Builders Quantities) or equivalent and had good experience under Quantity Surveyor or Building contractor. Knowledge of W.D. Schedule an advantage. Forms from Manager (P.E.2), Ministry of Labour. Professional and Executive Register, Atlantic House, Farringdon Street, London, E.C.A. Candidates selected will be interviewed in Air Ministry. London, and certain expenses reimbursed. Only applicants selected for interview will be advised.

CITY OF LIVERPOOL

EDUCATION COMMITTEE
COLLEGE OF BUILDING
Principal: T. E. Hall, Dip. Arch., A.R.I.B.A.
Applications are invited for the post of LECTURER IN ARCHITECTURE in the Department of Building and Professional Studies. Salary
(Burnham Scale)—41,370 × £35 to £1,550 per
annum. Commencing salary will be assessed
according to previous industrial, professional and
teaching experience.
Applicants should hold a University degree in
Architecture and/or Associateship of the R.I.B.A.
Professional experience is essential and teaching
experience desirable.
The successful applicant will be required to
teach selected subjects up to the standard of the
Final R.I.B.A. Examinations in the sandwich
course and in part-time day release courses with
associated evening classes.
Further particulars of appointment and form
of application (returnable by 6th November. 1961)
from the Director of Education, 14 Sir Thomas
Street, Liverpool. 1.

THOMAS ALKER.

Town Clerk.

7007

Town Clerk.

9807

COUNTY BOROUGH OF WOLVERHAMPTON
Applications are invited for the appointment
of SENIOR PLANNING ASSISTANT within
Grade A.P.T. III (4960—£1,140 per annum). Commencing salary according to experience and qualifications. Superannuated. N.J.C. conditions.
Housing accommodation and car allowance in
appropriate cases.
Candidates should be suitably qualified, and
have had experience in Development Control.
Applications, with two names for reference, to
Borough Engineer & Planning Officer, Town Hall.
Wolverhampton, by 31st October.

9835

COUNCIL OF THE COUNTY OF ABERDEEN
COUNTY ARCHITECT'S DEPARTMENT
Applications are invited from qualified Architects (A.R.I.B.A.) with experience for the following appointments in the above Department:—
(a) ASSISTANT ARCHITECT'S (Grade II):
Salary scale £1,420 × £55 (3) to £1,485.
(b) ASSISTANT ARCHITECT'S (Grade II):
Salary scale £1,220 × £55 (3) to £1,385.
The Department is at present engaged on an
extensive and varied programme of architectural
work comprising Housing, Schools, Police and
other buildings. The appointments are superannuable. Application forms, and Conditions of
Appointment may be obtained from the undersigned. Closing date for applications Friday,
10th November, 1961.

JAMES L. CRAIG. County Clerk.

County Buildings. 22, Union Terrace, Aberdeen.

SOUTHAMPTON
BOROUGH ARCHITECT'S DEPARTMENT
tipplications are invited for the following perment appointments:

Applications are invited for the following permanent appointments:
ARCHITECTS SECTION
(a) SENIOR ASSISTANT ARCHITECT, A.P.T. Grade V (£1,30-£1,480).
(b) ASSISTANT ARCHITECT, A.P.T. Grade IIII/IV (£960-£1,310)

COUNTY BOROUGH OF WEST HAM The Borough Architect and Planning Officer invites applications from suitably qualified per-sonnel for the following vacant established posts his Department: GROUP ARCHITECT, £1,485—£1,670 p.a. and

Car Allowance.
(b) SENIOR ASSISTANT ARCHITECTS, £1,400-

(b) SENIOR ASSISTANT ARCHITECTS, £1,400-£1,456.
(c) ARCHITECTURAL ASSISTANT, £1,140-£1,480 and L.A.
(d) ASSISTANT PLANNING OFFICER, £1,140-£1,310 and L.A.
(e) ARCHITECTURAL ASSISTANT, £645-£1,140 and L.A.
(Point of entry in scale according to qualifications and experience.)
An expanded programme of work, including numerous official buildings, Fire Stations, Primary and Secondary Schools, high density housing, and Town Centre Redevelopment, is on hand.
Applications, giving details of qualifications and experience (together with names of two referees) to Thomas E. North, O. B.E., F.R. I.B.A., Dist. T.P., M. T.P.I.. 70. West Ham Lane, Stratford, E.15, bv 13th November, 1961.

METROPOLITAN BOROUGH OF ISLINGTON
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT
Applications are invited from persons not more
than 50 years of age for the following appointments.

ments:
ARCHITECTURAL STAFF (Permanent):
(a) 2 SENIOR ARCHITECTURAL ASSISTANTS,
A.P.T. V (£1,310/£1,480 p.a.)
(b) 3 ARCHITECTURAL ASSISTANTS, A.P.T.
III (£956/£1,140 p.a.)
Applicants for:
(a) should be Associate Members of the R.I.B.A.
with wide experience including multi-storey
housing;

with wide experience including mutu-score, housing;
(b) should have passed the Intermediate examination of the R.I.B.A. and be suitably experienced.

Application forms, returnable by first post on MONDAY, 13th NOVEMBER, 1961, obtainable from the Borough Engineer and Surveyor, Town Hall, Upper Street, N.1.

H. DIXON_CLARK.

H. DIXON CLARK. Town Clerk. S9849

QUANTITY SURVEYORS
OPPORTUNITIES OVERSEAS
AIR MINISTRY WORKS DEPARTMENT
invites applications from chartered ASSISTANT
QUANTITY SURVEYORS
OF oppointments
initially in overseas areas on tours of 2 or 3
years' duration according to location. Completion of tour is followed by duties in U.K. with
every opportunity for further tours overseas.
SALARY overseas includes FOREIGN SERVICE
ALLOWANCE which varies according to location
and whether single or married. For example,
total emoluments in Cyprus at age 25 range at
present, from 41,35 to 42,56 (single) and from
21,576 to 42,501 (married). Annual increments to
age 35 with a special increase of 459 p.a. for
fully qualified men after 2 years' service.
(CONDITIONS. Expatriation and kit allowances
(255 to 4140 approx.). Free passage overseas
for self and later for family when accommodation
arranged. Free medical and child educational
arrangements. 5 day week with paid annual
leave initially 4 weeks and 2 days. Paid sick
leave within certain limits.
PROSPECTS, Appointments are non-pensionable
but retirement/resignation gratuity payable after
5 years' or more service. Excellent opportunities
of obtaining permanent pensionable post (with all
service counting) and of advancement to posts
in the higher grades which number 130 approx.
Higher grade salaries vary between £1,856 and
£3,715 p.a. and vacancies are, as a rule, filled by
promotion of existing staff.
Applicants, who must be natural born British
subjects under 35 years of age should write to
Air Ministry of Works Department (W. Gd.), Lacon
House, Theobalds Road, London. WCI. Selection
will be by interview in London and certain
expenses will be reimbursed.

SCOTTISH SPECIAL HOUSING ASSOCIATION

ARCHITECTURAL DIVISION
ARCHITECTURAL DIVISION
APPOINTMENT OF ARCHITECTS
Applications are invited from qualified Architects
for the following appointments on the permanent

Applications are invited from qualified Architects for the following appointments on the permanent staff;—

ARCHITECTS Grade 1,

**Salary Scale £1,490—£1,770.

ARCHITECTS Grade 11,

**Salary Scale £1,095—£1,560.

The posts are superannuable under the Local Government is not exsential.

Applications are invited to fill two vacancies for ARCHITECTURAL ASSISTANTS within A.P.T. Grade II (£815—£960).

**Previous experience in Local Government is not exsential.

Applications stating age, qualifications, experience, details of past and present employment together with the names of two referees should reach the Schools Architect, 22, Euston Road, Great Yarmouth, Norfolk, by the 8th November, 1961.

D. G. FARROW, Chief Education Officer.

22. Euston Road. Great Yarmouth.

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WALES 8 ROAD NORTH ENAMEL #08 ABERLLEFENI -HALL SLATE TOWN M0M IRRIES

DURHAM COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
APPOINTMENT OF ARCHITECT'S AND
QUANTITY SURVEYORS
Applications are invited for appointments on
the permanent staff on Grades J.N.C. "A"
(£1.300-£1.480), A.P.T. II
(£815-£960), and A.P.T. I (£645-£815).
The vaccancies on Grades J.N.C. "A" and
A.P.T. V are for QUALIFIED ARCHITECT'S
(A.R.I.B.A.), the sentor grade being reserved for
those capable of acting as Group Leaders on an
extensive building programme. The vaccancies on
A.P.T. I and II are for PARTLY QUALIFIED
ARCHITECTS (Inter. R.I.B.A.) who are looking
for posts which will lead on qualification to
opportunities for advancement to more sentor
grades.
There are also vaccancies for QUALIFIED
QUANTITY SURVEYORS (R.I.C.S.) on Grade
A.P.T. V and PARTLY QUALIFIED QUANTITY
SURVEYORS (Inter. R.I.C.S.) on Grades
A.P.T. V and PARTLY QUALIFIED QUANTITY
SURVEYORS (Inter. R.I.C.S.) on Grades
A.P.T. II and I.
A five-day week is in operation; staff canteen
facilities are available and assistance in obtaining
rented housing accommodation will be given.
The department will be transferred to a new
building during 1962. The New County Hall,
which is attractively sited on the fringe of Durham City, will provide first class working conditions and staff welfare facilities.
Application forms and full particulars may be
obtained from the County Architect, South Street,
Durham.
Personsliye canvassing members of the Council
terropolities and the Council near declare and

obtained from the Councy Attack.

Personally canvassing members of the Council is prohibited and the Council may declare any candidate infringing this rule to be disqualified for appointment.

J. T. BROCKBANK.

J. T. BROCKBANK, Cletk of the County Council

BOROUGH OF ACCRINGTON
A vacancy exists in the Borough Surveyor's
Department for an ARCHITECTURAL ASSISTANT with good experience in design and construction. Preference will be given to those who
have passed the Final examination of the R.I.B.A.
Salary within A.P.T. III/IV (2960-21,310), commencing salary according to qualifications and
experience.

mencing salary according to qualificatious and experience.

An interesting programme of work includes new covered market; swimming baths; 'bus terminal; transport garage, housing, etc.

Housing accommodation if required.

Detailed applications, with names of two referees, to Town Clerk, Town Hall, Accrington, not later than the first post on the 6th November, 1961.

BOROUGH OF THORNABY-ON-TEES

(a) CHIEF ASSISTANT ENGINEER
A.P.T. IV/V.
(b) SENIOR ASSISTANT ENGINEER
A.P.T. III/IV.
(c) ASSISTANT ARCHITECT
A.P.T. III/IV.
Applications are invited for the above permanent and superannuable posts from persons who, in respect of posts (a) and (b) have passed the Final Examination of the Institution of Municipal Engineers or Institution of Civil Engineers and in respect of post (c) the intermediate examination of the R.I.B.A. Local authority experience preferred
In respect of posts (a) and (b) casual user car allowance for a car not exceeding 1,199 c.c. will be paid and commencing salaries will be as follows:—

(a) 6,195 p.s. (b) 61.095 p.s. (c) 61.020 p.s.

follows:—

(a) £1,35 p.a. (c) £1,095 p.a. (c) £1,020 p.a. Consideration will be given to the provision of housing accommodation and assistance with removal expenses.

There is a wide variety of works in prospect, including the planning and construction of a new neighbourhood unit of about 500 acres. Applications, stating qualifications and experience and giving names and addresses of two referees to the Borough Engineer, Town Hall, Thornaby-on-Tees, not later than 4th November, 1961.

A. STOCKWELL, Town Clerk. S9836

METROPOLITAN BOROUGH OF ISLINGTON BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited from persons not more an 50 years of age for the following appoint-

than 50 years of age for the following approximents:

ENGINEERING STAFF (Permanent):
2 SURVEYING/TECHNICAL ASSISTANTS,
A.P.T. III (2960—21,140 p.a.) plus London
Weighting.
Applicants should have the Intermediate
examination of the Municipal Engineers or
Chartered Surveyors or other appropriate qualifications, and preference will be given to applicants with a sound knowledge of the Town and
Country Planning Acts and London Building Acts.
Application forms, returnable by first post on
MONDAY, 13th NOVEMBER, 1961, obtainable
from the Borough Engineer and Surveyor, Town
Hall, Upper Street, N.1.

H. DIXON CLARK,
Trann Clerk.

H. DIXON CLARK, Town Clerk. 9837

SOUTHERN ELECTRICITY BOARD
QUANTITY SURVEYOR
Sub-Area Engineering Department (Civil Engineering Section), of No. 1 (Southall) Sub-Area, located at Wa'erloo Road, Uxbridge. Salary N.J.B. Class M. Grade 10 £1,325-£1,460 per annum, inclusive of London Allowance). N.J.B. Conditions of Service

annum, inclusive of London Allowance). N.J.B. Conditions of Service Candidates who should be members of the Chartered Surveyor's Institution, or have equivalent qualifications, must be fully experienced in the writing of Specifications, the working up and preparation of Bills of Quantities, be capable of settling Contractor's Accounts and preparing preliminary estimates for projected schemes. The successful applicant will be required to contribute to the Electricity Supply (Staff) Superannuation Scheme, if eligible Applications on forms obtainable from the SubArea Secretary, 2/6 Windmill Lane, Southall, Middlesex, and returned to him, quoting Z.421, not later than November 6, 1961.

PETERLEE DEVELOPMENT CORPORATION APPOINTMENT OF LANDSCAPE ARCHITECT for varied and creative work on development of the New Town Centre Duties would also include the formulation and implementation of landscape proposals for the whole of the New Town Site.

The Development Corporation already have in hand an extensive programme of windbreak-planting and horticultural work.

Peterlee occupies a site of exceptional amenity with sea views from an undulating rural landscape.

with sea views from an undulating rural landscape.

The wooded gorge of Castle Eden Dene runs
inland from the sea at a depth of 200 feet through
the southern part of the Designated Area up into
the Town Centre forming a superb natural landscape feature.

Excellent housing accommodation is under construction and is available if required at reasonable rentals.

Immediate application to be made to the
General Manager. Peterlee Development Corporation, Shotton Hall, Peterlee, Co. Durham. 9874

METROPOLITAN BOROUGH OF LEWISHAM Applications are invited from suitably qualified persons for the permanent post of ASSISTANT ARCHITECT: A.P.T. III (1960—21,140. A.P.T. III/IV (2960—21,310) or A.P.T. IV (21,140—21,310) according to qualifications and experience. London weighting, according to age and grade, between £15 and £45 p.a., payable in addition. Application form from Town Clerk (Dept. H), Lewisham Town Hall, Catford, S.E.6. Closing date 14th November, 1961.

SHINGLER RISDON ASSOCIATES

Lichfield House

65-6 Frith Street, Soho Square

London, W.I

Have vacancies in all grades for keen young architects if you are interested in:

- Architecture. With freedom in design and responsi-bility from sketch design stage to completed building.
- Projects. Of varying scale ranging from Housing, Flats, Schools, Town Halls, Multi-storey Garages, Auditoria, Factories, Churches to large Central Town Development worked in a Group System.
- 3. Pleasant Working Conditions. In new offices with new equipment in the heart of London
- 4. Good Salaries. Depending on experience and ability.
- 5. Mortgage. Arrangements for Houses and Cars.
- 6. Social Amenities. Golf, Cricket and Football Clubs, Staff and Lunch Room.
- 7. Free Car Park. Within our own office building.
- 8. Security. Pension and Insurance schemes by arrange-
- Opportunities for Travel. Contracts widely dis-persed in the U.K. with branch offices abroad.

Please write or telephone GER 7391 (reverse charges).

New Ideal Homesteads Limited

ARCHITECTS and **ASSISTANTS**

who are interested in the DESIGN, RESEARCH and DEVELOPMENT of Multi-storey projects and Contemporary Housing schemes, are urgently required by this progressive company.

SALARIES UP TO £1,650 according to experience

Apply in confidence to Chief Architect, 61 SOUTH STREET, EPSOM, SURREY.

or ring Epsom 1144

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD
One Senior and a number of other Architectural Appointments are now being made in a recently formed team of young Architects engaged on the new hospital programme.
The Board is working on selected prototype

Appointments are now being made in a recently formed team of young Architects engaged on the new hospital programme.

The Board is working on selected prototype schemes where basic research is necessary and a high standard of design is obligatory.

Registered Architects are invited to apply for posts in the following grades:

SENOR ASSISTANT ARCHITECT: Salary (including London Weightin: £1,350-£1,650 p.a. ASSISTANT ARCHITECTS: £940-£1,360 p.a. In addition, candidates with the Inter. R.I.B.A. may be appointed to the grade of ARCHITECTURAL ASSISTANT: Salary (including London Weighting) within the scale £645-£940 p.a. Qualified but unregistered Architects may be appointed within the ARCHITECTURAL ASSISTANT ARCHITECTURAL ASSISTANT ARCHITECTURAL ASSISTANT ARCHITECT grade.

Hospital experience while advantageous is not essential.

Applications containing age, present salary, experience, and the names of two referees to be made to the undersigned at 40. Eastbourne Terrace, London, W.2, by 4th November.

E. G. BRAITHWAITE, Secretary.

Secretary.

ROYAL BURGH OF DUMFRIES
DEPUTE BURGH ARCHITECT
Applications are invited from Qualified Architects, preferably with experience in Redevelopment Work.
The appointment, within the salary scale £1,280 -£1,430 (by 3 increments of £50), will be subject to the Town Council's Superannuation Scheme and N.J.I.C. Conditions of Service, and the successful applicant will require to pass a medical examination.
If required, the tenancy of a Council house will be given to the successful applicant.
Applications, stating age, qualifications and experience, and the names of two referees, should be lodged with the undersigned not later than 7th November, 1961.

GEORGE D. GRANT.

GEORGE D. GRANT, Town Clerk.

Municipal Chambers, Dumfries. 16th October, 1961.

NORTH THAMES GAS BOARD

An ARCHITECTURAL DESIGNER (male or female) is required for work in connection with the design of new showrooms and the remodelling of existing showrooms and shopfitting, furniture, etc. Candidates should be capable of carrying out sketch designs, working and detail drawings with the minimum of supervision.

Preference will be given to candidates who have completed part or whole of the qualifications for A.R.I.B.A.

The appointment will be

A.R.I.B.A.

The appointment will be permanent and pensionable and the starting salary for a male will be £915 per annum or above according to qualifications and experience.

Applications, stating age and giving full details of experience should be sent to the Staff Controller. North Thames Gas Board. 39, Kensington Church Street, W.8, quoting reference AJ 1082.

BOROUGH OF CHESTERFIELD
Applications are invited for the position of
ASSISTANT QUANTITY SURVEYOR (Grades
A.P.T. I/II, £645-£960 per annum) the grade
and commencing salary depending on the qualifications and experience of the successful applicant.
Housing accommodation will be provided, if

Applications stating age, qualifications and addresses of two referees to be received by the Borough Engineer, Town Hall, Chesterfield, not later than Monday, 6th November, 1961.

RICHARD CLEGG,

RICHARD CLEGG.

17th October, 1961.

CRAWLEY DEVELOPMENT CORPORATION CHIEF ARCHITECT'S DEPARTMENT Applications are invited for the following

CRAWLEY DEVELOPMENT CORPORATION
CHIEF ARCHITECT'S DEPARTMENT
Applications are invited for the following
appointments:—
(a) ASSISTANT ARCHITECT, Grade A.P.T.
III'IV (8969—21,310 p.a.).
(b) JUNIOR ASSISTANT ARCHITECT, Grade
A.P.T. I/II (8645—2966 p.a.).
Candidates for post (a) must be Associates of
the R.I.B.A., and for post (b) to Intermediate
R.I.B.A., standard.
The Architect's Department is at present
engaged upon a varied and interesting programme
of housing, commercial and industrial projects,
and a swimming bath. Five-day week. Housing
may be provided.
Details of appointment and application forms
obtainable from H. S. Howgrave-Graham,
A.R.I.B.A., Chief Architect, Crawley Development
Corporation, Broadfield, Crawley, Sussex. Closing
date 13th November, 1961.

KENT COUNTY COUNCIL
(ARCHITECTURE).
A senior post for an architect-planner in the
Headquarters Design Group has become vacant
and applications are invited from suitably
qualified persons. There is wide scope for imaginative design work on central area schemes
and in safeguarding the visual character of
Kent's towns and villages, in co-operation with
other local authorities and private developers.
Salary Scale A-B (£1,325—21,576).
Candidates should be corporate members of
the Royal Institute of British Architects and of
the Planning Institute.
(b) DRAUGHTSMAN.
Salary in Miscellaneous grades I-VI (maximum
£225). Candidates should preferably have cartographic experience. An appropriately experienced
candidate would be appointed in a senior
capacity.
Commending salary in each case will be according to qualifications and experience. Posts are
superannuable. Five-day week. Applications with
names of two referees to County Planning Officer.
County Hall, Maidstone, by 15th November, 1961.

ARCHITECTURAL ASSISTANT

Required by the PUBLIC WORKS DE-PARTMENT. GOVERNMENT OF ADEN on contract for one tour 18-24 months in first instance Salary according to experi-ence in scal (including inducement pay) £1,248, rising to £1,779, a year. Gratuity at rate of 125 per cent, total salary drawn. Education allowances. Outfit allowance £60, Free passages. Generous terminal payment if contract not renewed. Quarters provided at moderate rental.

Candidates must have sound knowledge of Architectural Drawing, building construc-tion and measurement of existing buildings. Preference will be given to candidates who have passed the R.I.B.A. Intermediate

Apply to CROWN AGENTS, 4 Millbank, London, S.W.1. for application form and further particulars, stating age, name, brief details of qualifications and experi-ence and quoting reference M2B/51469/AG

BOROUGH OF EDMONTON
ASSISTANT ARCHITECT,
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the appointment
of an ASSISTANT ARCHITECT. Salary within
Grade A.P.T. II. £855—£1.000 per annum inclusive
of London Weighting. Training and Financial
Assistance Scheme. Five-day week. Applications
on forms obtainable from the Town Clerk, Town
Hall. Edmonton, must be delivered by the 13th
November, 1961.

THE NORTH WESTERN ELECTRICITY
BOARD
THIRD ASSISTANT ENGINEER
(ARCHITECTURE AND BUILDING)
SUB-AREA ENGINEERING DEPARTMENT,
KENDAL
The successful candidate will be required to carry out Building and Civil Engineering design work and produce sketch and working drawings. Ability to take off Quantities will be an advantage. The duties may also include some site supervision of works let to outside Contractors.
Saiary Scale: £1,115-£1,245 p.a. Grade K. 19, N.J.B. Conditions.

Ability to take off Quantities will be an advantage. The duties may also include some site supervision of works let to outside Contractors.

Salary Scale: £1,115-£1,245 p.a. Grade K. 10, N.J. B. Conditions,

Applications on forms to be obtained from the Manager, No. 6 Sub-Area, The North Western Electricity Board, Castle Green, Kendal, and returned to him by the 6th November, 1961. 9870

TYRONE COUNTY EDUCATION COMMITTEE Applications are invited for the following permanent appointments in the Architectural Depart-

manent appointments in the Architectural Department:—
ARCHITECT. Salary scale £956—£1,430 p.a.
Car mileage allowance. Candidates must be A.R.I.B.A. The successful applicant will be required to work under the direction of the Committee's Chief Architect and will supervise junior staff.

ARCHITECTURAL ASSISTANT. Salary scale £945—£1,940 p.a.
Applicat is must have passed the Intermediate Examination of the R.I.B.A. The successful applicant may be promoted to ARCHITECT grade on election as an Associate, R.I.B.A. Commencing salaries will be determined by qualifications and experience, and assistance may be given in respect of removal expenses. Application forms and further particular from the Chief Education offices, Omagh. Co. Tyroue, to whom completed forms should be returned by 7th November. 1961.

COUNTY BOROUGH OF WALLASEY

COUNTY BOROUGH OF WALLASEY
BOROUGH ARCHITECT'S DEPARTMENT
APPOINTMENT OF
PRINCIPAL ASSISTANT ARCHITECTS,
SENIOR ASSISTANT ARCHITECTS AND
ARCHITECTURAL ASSISTANTS
Applications are invited for the following
pointments in the Borough Architect's Departent.

Applications are invited for the following appointments in the Borough Architect's Department.

(a) PRINCIPAL ASSISTANT ARCHITECTS, grade J.N.C. scale "A" with a temporary plusage making a temporary scale, £1,650.

(b) SENIOR ASSISTANT ARCHITECTS, grade A.P.T. V. £1,310—£1,480.

(c) ASSISTANT ARCHITECTS, grade A.P.T. IV, £1,140—£1,310.

(d) ASSISTANT ARCHITECTS, grade A.P.T. III. £960—£1,140.

(e) ARCHITECTURAL ASSISTANTS, grades A.P.T. I/II. £645—£960.
For appointments (a), (b) and (c), applicants must be Fellows or Associates of the R.I.B.A. The commencing salaries will be according to capabilities and experience and in connection with appointments (a), (b) and (c) favourable consideration will be given to the provision of housing accommodation, if required.

Porms of application may be obtained from the Borough Architect, Town Hall, Wallassey, to whom they should be returned by the 6th November. A. G. HARRISON, Town Clerk.

9651

ARCHITECTURAL ASSISTANT, Surveyor's section Engineer in Chief's department at Area Board Headquarters Hove, Sussex, South Eastern Electricity Board.

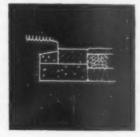
Salary £1,020 × £30—£1,140 under NJC, Grade 5. Applicants should have experience in the preparation of working and detail drawings for offices, stores, workshops, garages and showrooms. Preference will be given to those persons who are at intermediate level of an appropriate professional body. Superannable.

Applications, quoting AJ and naming two referees, to Surveyor, Seeboard, 10 Queen's Gardens, Hove 3, Sussex, by 1st November, 1961. 9804

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Applications are invited from persons experienced in a County Planning Department for
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of service; medical examination; five-day week;
schemes for payment of removal expenses and
housing separation allowances in operation; car
essential.

Applications giving research

housing separation allowances in operation; car essential.

Applications giving personal particulars and experience, and naming two referees, to County Planning Officer, Shire Hall, Bury St. Edmunds, by 3rd November. 1961.

STOKE NEWINGTON BOROUGH COUNCIL require an ARCHITECTURAL ASSISTANT on Grade A.P.T. II (2815 to 2960) plus L.W. Candidates must possess Intermediate R.I.B.A. The post offers opportunities for gaining experience in a varied programme of work. No housing accommodation. Application forms from Town Clerk, Town Hall, London, N.16, returnable by Monday, 6th November.

Competition

36s. per inch; each additional line 3s.

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Architects are invited to submit designs for halls of residence for 1,100 to 1,200 students on the Carnatic site at Mossley Hill. Liverpool. The cost of the works will be approximately £1,500,000.

Assessors:

Sir James Mountford, M.A., D.Litt., D.C.L., LL.D. (Vice-Chancellor).

Donald Gibson, C.B.E., M.A. D.C.L., F.R.I.B.A., M.T.P.I.

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Premiums:

£5,000; £3,000; £1,000. Further premiums, to a total not ex-ceeding £2,000, may be awarded at the discretion of the Assessors for other designs of merit.

Sending in Day:

4 September, 1962

1 January, 1962.

Conditions may be obtained, upon payment of a deposit of £3, from The Registrar, The University of Liverpool, Liverpool, 3. Quoting Reference RVCH/518/AJ. 9547

Architectural Appointments Vacant per line; minimum 12s. Box Number, including forwarding replies, 2s. extra

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E1,000 /£2,000 p.a. will be paid to experienced competent ARCHI-TECTS by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box TC93560.

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TO7443

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WELbeck 0657.

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PROGRESSIVE expanding office in S.W.1 requires ASSISTANTS with ability in creative
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ARCHITECTURAL ASSISTANTS required immediately for interesting general practice: Commercial and Technical College buildings: opportunities of working through projects from sketch plan stage to final accounts. Salaries within the range of £600 to £900 with annual bonus and advancement when qualified; five-day week. Apply in writing to Scott & Barlow, 10 Gray's Inn Square, W.C.1.

OUTHAMPTON. ASSISTANT of at least Intermediate standard required to help with projects in Hampeshire and the Isle of Wight. Apply to E. M. Gelloway & Partners, F./A.R.I.B.A., 10 Portland Street, Southampton.

TO9098

A.R.I.B.A., 10 Fortished Server.

TC9098

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89740

SENIOR ASSISTANT required for small practice in London. Applicants should have real ability for design work, particularly in the residential development field. The work is varied and there is a first class opportunity for someone of the right calibre. Salary range £1,300 to £2,500. Telephone Alan S. Baimes and Associates—CITy 4201.

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Large Office has a limited number of vacancies for Senior Architectural Assistants, salary range 2900—21,500, to undertake work of a varied and interesting character.

Reply with particulars of experience to Box TCSS78.

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P141

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Finals standard. Apply: Barber, Bundy &
Greenfield, 19, Quarry Street, Guildford.

TC9677

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Mill House, Bridge Road, Hampton Court, Surrey.
TC9542

AYELLS, HICKMAN & PARTNERS require

Mill House, Bridge Road, Hampton Court, Surrey. TOSe42

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INTERMEDIATE ASSISTANTS required in busy provincial office. Wide variety of work of an interesting nature. Contemporary outlook welcomed—good rates of pay in accordance with experience. Hare & Pert. A/A.R.I.B.A. 29. Elm Street, Ipswich.

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TANT required (male or female) for interesting and varied work. Salary up to £1,150 per annum for suitable applicant. Pleasant and congenial office conditions. Five-day week. Applications in writing only giving full particulars. Donaldson & Co., Architects, 75 London Road. Kingston-upon-Thames.

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2750-21,500 ARCHITECTURAL ASSISTANTS required (male or female) to work on varied and interesting projects in busy Essex office (within 10 miles of London). Five-day week and prospects of early promotion to Associate Partner.

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A SSISTANT ARCHITECTS with three to five vears' experience required in London office of Peter Dickinson Associates. Wide and interesting variety of projects handled, providing scope for initiative and resunsibility. Salary arranged according to ability and experience Aprily in writing giving full details of education and experience to: J. M. Hunter, Deter Dickinson Associates, 37 Gloucester Place, W.1.

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A RCHITECT at Associate level required pri-marily to build; housing available; career details.

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a SENIOR ASSISTANT AECHITECT;
salary around £1,200. Apply to 21, Suffolk Street,
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OTCH AND PARTNERS, Architecte, require SENIOR and JUNIOR ASSISTANTS in their London, Brighton and Bristol Offices. Five-day week. Luncheon vouchers. Good salary for enthusiastic and capable men. Reply: 8, City Road, E.C.1. S9833

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TC9674

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Counties

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Senior Assistant Architects:
Salary range: £1,200-£1,500 (with prospects of promotion to higher grade) (Qualified and experienced in Shop and Store design).
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C.W.S. Chief Architect,
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Newcastle upon Tyne, 1. S9682

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(1) SENIOR ASSISTANT ARCHITECTS, £1,200—
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nad post graduate experience, or have had ten years' experience.

(2) ARCHITECTURAL ASSISTANTS, 2750—41,200. Applicants should have had several years' experience in an Architect's office and be capable of producing working drawings and details with the minimum of supervision. Salaries progressive on merit; permanent pensionable positions. Applications stating full details of qualifications, experience, age, etc., should be forwarded to the Senior Architect.

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ment. PAR 7042.

A SSISTANT for pleasant country practice,
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Opportunity to visit and supervise work. Salary
£750 to £1,000, according to capability. L. H.
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TC9780

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S7958

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ARCHITECTURAL ASSISTANT

THE Architects Department of a large Retail
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Applicants must be capable of preparing working drawings and details, and must be able to control building work from commencement to completion on site.

The position is permanent, and a Pension Scheme is available. The salary will be in the region of £1,100 per annum.

Written application should be sent, giving details of experience, to the Group Architect, Box 85788.

Box 89788.

Left Cester Architects require Intermediate to Final standard ASSISTANT. Previous office experience essential, ability to drive a car an advantage. Post will be well paid for efficiency and initiative. Box 9793.

INTERMEDIATE-FINAL standard or qualified ASSISTANT required in small office. Salary £600—21,000 according to experience. Apply Michael V. H. Watkins, A.R.I.B.A., 28, Walter Road, Swansea.

Road, Swansea.

\$9797\$

\$9790 - \$1,500 . TURAL ASSISTANTS with imagination and designing ability required to assist with large and important new developments of write: Trehearne & Norman, W.C.2.

Presson & Partners, 85, Kingsway, W.C.2.

TC9798

A RCHITECT and ASSISTANTS required by DENIS A. BIRCHETT. F.R.I.B.A., to participate in a varied and interesting programme of work which includes commercial and industrial projects. Enthusiastic and capable men will be offered a good salary. Five-day week, Applications to be made in writing to 131, High Street. Brentwood, Essex, or by telephone, BRENTWOOD 4098.

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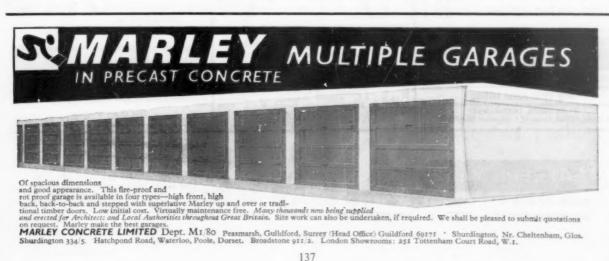
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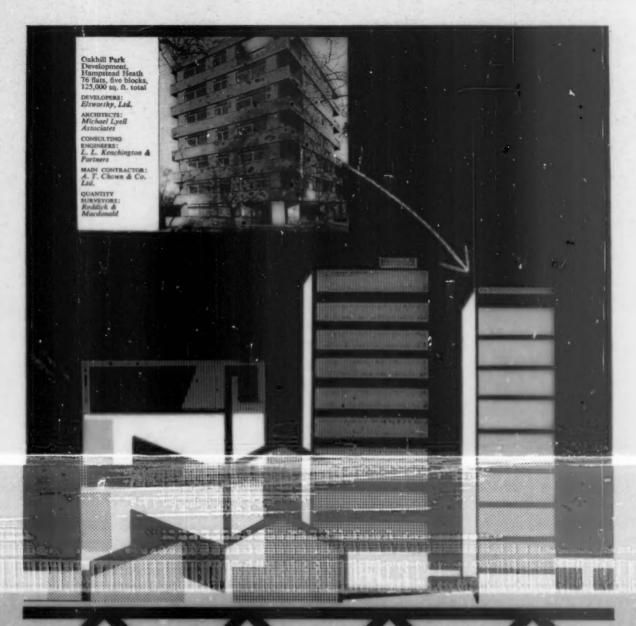
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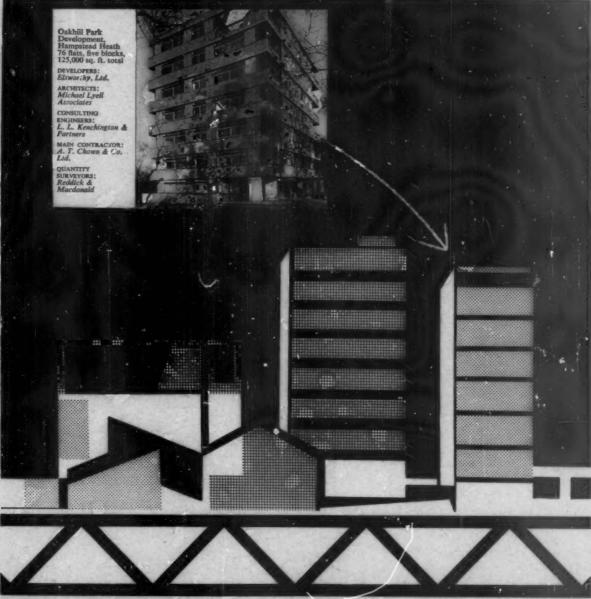
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