BYE LAW APPLICATION FEES

REF. NO.: 91A/0231 CERTIFICATE NO.: 14064B

PROPOSAL: Dwelling + Sehtic tank

LOCATION: The Slade, Saggart

APPLICANT: Liam Hinch

	1	2	3	4	5	6	7
CLASS	DWELLINGS/AREA LENGTH/STRUCTURE	RATE	AMT. OF FEE REQUIRED	AMT. LODGED	BALANCE DUE	RED. FEE APPL.	AMT. OF RED. FEE
A	Dwelling (Houses/Flats)	@ £55	£55	£55	—		
B	Domestic Ext. (Improvement/ Alts.)	@ £30					
C	Building for office or other comm. purpose	@ £3.30 per M² or £70					
D	Building or other structure for purposes of agriculture	@ £1.00 per M² in excess of 300 M² Min. £70					
E	Petrol Filling Station	@ £200					
F	Dev. of prop. not coming within any of the forgoing classes	£70 or £9 per .1 hect. whichever is the greater					

Column 1 Certified: Signed: _____ Grade: _____ Date: _____

Column 1 Endorsed: Signed: _____ Grade: _____ Date: _____

Columns 2,3,4,5,6 & 7 Certified: Signed: RWR Grade: S.O Date: 27/2/91

Columns 2,3,4,5,6 & 7 Endorsed: Signed: _____ Grade: _____ Date: _____

DUBLIN COUNTY COUNCIL

PLANNING DEPARTMENT

Register Reference : 91A/0231 Date Received : 22nd February 1991

Applicant : Liam Hinch Appl.Type : PERMISSION/BUILDING BYE-L

Development : dormer type bungalow and septic tank

LOCATION : Slade, Saggart

O.S.REFS. 21/14.

AREA REFERENCE WR0204

HISTORY

FEES CERTIFICATE NO. _____

FEE CLASS

MEASUREMENT FOR FEES

SIGNED ..... DATE .....
SENIOR EXECUTIVE DRAUGHTSMAN

FEE PAID	FEE ASSESSED	BALANCE DUE

CERTIFIED _____ GRADE _____ DATE _____

CERTIFICATE NO: 2430

REF.: 91A/0231

PROPOSAL: Dwelling + Septic Tank

LOCATION : Le Lade Saggart

APPLICANT : Liam Finch

SS	1 DWELLINGS/AREA LENGTH/STRUCT	2 RATE	3 AMT. OF FEE REQ.	4 AMOUNT LODGED	5 BALANCE DUE	6 BALANCE DUE	7 DATE/ RECEIPT NO
	Dwellings	£232	£32	£32	—		
		£616					
		£50p per M² in excess of 300M² Min.£40					
	metres²	£1.75 per M² or £40					
	x .1 hect.	£225 per .1 hect. or £250					
	x .1 hect.	£225 per .1 hect or £40					
	x .1 hect	£225 per .1 hect. or £100					
		£6100					
	x metres²	£10 per m² or £40					
	x1,000m²	£225 per 1,000m² or £40					
	x .1 hect.	£25 per .1 hect. or £40					

Column 1 Certified: Signed: Grade: Date:

Column 1 Endorsed: Signed: Grade: Date:

Columns 2,3,4,5,6 & 7 Certified Signed: R Mild Grade: S.O. Date: 27/2/91

Columns 2,3,4,5,6 & 7 Endorsed: Signed: Grade: Date:

LOCATION GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS, 1963 TO 1982

ASSESSMENT OF FINANCIAL CONTRIBUTION

REG. REF.:

CONT. REG.:

SERVICES INVOLVED: WATER/FOUL SEWER/SURFACE WATER

AREA OF SITE:

FLOOR AREA OF PRESENT PROPOSAL:

MEASURED BY:

CHECKED BY:

METHOD OF ASSESSMENT:

TOTAL ASSESSMENT

MANAGER'S ORDERED NO: P/ /
DATED

ENTERED IN CONTRIBUTIONS REGISTER:

No Service Dub reports on file at date of assessment

DEVELOPMENT CONTROL ASSISTANT GRADE

14/9/94

Add £375 in the event of connection to water supply

Mary Darby.

EASTERN HEALTH BOARD

P.C. _____ Reg. Ref. 91A/231

PROPOSED Dormer Bungalow & septic tank

AT: Slade Saggart

FOR: Liam Hunt.

PLANS LODGED: 22/2/91.

ARCHITECT: _____

Observations and recommendations of Env. Health Officers and/or Supervising Env. Health Officer.

Re additional information.

We have no further objection to this proposal.

provided that.

1. Evidence of potable and adequate water supply is submitted
2. Road frontage is increased as indicated

Miley Maher. 11/7/91.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date ... 23.07.91
Time ... 2.15

D/a Devine
for John O'Reilly SEHO
11/7/91

Register Reference : 91A/0231 Date : 9th May 1991

Development : dormer type bungalow and septic tank

LOCATION : Slade, Saggart

Applicant : Liam Hinch

App. Type : Additional Information

Planning Officer : M.DARLEY

Date Recd. : 3rd May 1991

Attached is a copy of the application for the above development .Your report would be appreciated within the next 28 days.

Yours faithfully,

cc ....

PRINCIPAL OFFICER

DUBLIN COUNTY COUNCIL
23 MAY 1991
ENVIRONMENTAL HEALTH
OFFICERS

28/5/91.

See previous Report from this office per a.o Dwyer.

22/4/91.

Additional information requested at this date not included in this file.

Hilary Mallon

for Ita Devine
John O' Reilly
SUPER.ENVIRON. HEALTH OFFICER,
33 GARDINER PLACE,
DUBLIN 1.

28/5/91

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 29.05.91
Time 3.20

Filed

P/2834/91

CONTRIBUTION:
Standard: £375
Roads: In the event
S. Sers: of connection
Open Space: As
Other: Public Water
SECURITY: Supply
Bond / C.I.F.:
Cash:

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Register Reference : 91A/0231 Date Received : 3rd May 1991

Correspondence Name and Address : Liam Hinch, The Slade, Saggart, Co. Dublin.

Development : dormer type bungalow and septic tank

Location : Slade, Saggart

Applicant : Liam Hinch

App. Type : Permission

Zoning : B

NO

(MD/DK)

Report of the Dublin Planning Officer dated 10th April, 1991.

This is an application for permission for dormer type bungalow and septic tank at Slade, Saggart for Liam Hinch.

In support of the application the applicant has stated that he wants to build a house for accommodation for himself and his fiancee. His finacee is from Coolmine, Saggart and the applicant is from Slade, Saggart and is building on the family farm property. The site is located approx. ½ miles from Saggart village and is at the junction of the Slade Road with the Redgap Road. There are two existing houses on the family farm holding; both are there for some time, and both are occupied. The site of the proposed development slopes in a westerly direction away from the county road. The proposed bungalow has part hipped roof and a window at second floor level in the north elevation to command a view of the valley. ~~The~~ Plain plaster finish is proposed and concrete interlocking roof tiles.

The site is located in an area which is zoned with the objective 'B' in the 1983 Dublin County Development Plan. As the applicant is a native of the area and is living of family land, this proposal is acceptable.

The applicant has not provided evidence of the suitability of the soil to dispose of effluent from the septic tank.

ADDITIONAL INFORMATION was requested from the applicant with regard to the following on 18th April, 1991:-

1. The applicant is requested to provide evidence of the suitability of the soil to dispose of effluent from the septic tank.

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/0231

Page No: 0002

Location: Slade, Saggart

Additional information requested was replied to on 24th May, 1991.

In response to the requirements of the Health Officer stated in a report dated 26th April, 1991, the applicant has stated that the site road frontage is increased to 200 feet (Road frontage on the original site map was 140 feet). The additional area is achieved by extending the site into the family landholding.

The Supervising Environmental Health Officer reports on the additional information ~~that~~ not submitted. However his report received after additional information requested stated soil appeared suitable for septic tank drainage

I recommend that a decision to GRANT PERMISSION be made under the Local Government (Planning and Development) Acts, 1963-1990 subject to the following (10) conditions:-

C O N D I T I O N S / R E A S O N S

01 The development to be carried out in its entirety in accordance with the plans, particulars and specifications lodged with the application, as amended by additional information received on 29th May 1991 , save as may be required by the other conditions attached hereto.
REASON: To ensure that the development shall be in accordance with the permission and that effective control be maintained.&&

02 That before development commences, approval under the Building Bye- Laws be obtained and all conditions of that approval be observed in the development.
REASON:In order to comply with the Sanitary Services Acts, 1878-1964.

03 That the proposed house be used as a single dwelling unit.
REASON: To prevent unauthorised development.

04 That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.
REASON: In the interest of health.

04 That septic tank and percolation area shall accord with the standards set out in "Recommendations for Septic Tank Drainage Systems SR 6 1975" available from Govt. Publications Office in the matter of the Sanitary Services Acts 1878-1965.

05 That the requirements of the Roads Department be ascertained and strictly adhered to in this development.

05 REASON: In the interest of the proper planning and development of the area.

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/0231

Page No: 0003

Location: Slade, Saggart

06 That the house, when completed, be first occupied by the applicant and/or members of his immediate family.
REASON: In the interest of the proper planning and development of the area.

07 That all external details shall be agreed in detail with the Planning Department.

07 REASON: In the interest of the proper planning and development of the area.

08 That one house only be built on the land outlined in red and in blue on lodged Drawing No. 02, ~~date stamped~~ received by the Planning Authority on 22.2.91

08 R001

09 In the event of a connection to the public water that a financial contribution in the sum of £375.00 be paid by the proposer to Dublin County Council towards the cost of the provision of public water supply in the area of the proposed development and which facilitates the proposed development. This contribution to be paid prior to any connection being made.

09 REASON: In the interest of the proper planning and development of the area.

~~10 Heating to be provided by the use of either oil, gas, electricity or by smokeless fuels in fireplaces or appliances suitable only for burning solid smokeless fuels.~~
REASON: In the interest of reducing air pollution.

10 That before any development commences a revised site Map showing the site outlined in Red corresponding with the lodged map dated 22nd May 1991 is submitted to the Planning Authority for in the interest of proper planning and development

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/0231

Page No: 0004

Location: Slade, Saggart

Endorsed:-.....
for Principal Officer

Richard Cremins SEP
for Dublin Planning Officer
19.6.91

Order: A decision pursuant to Section 26(1) of the Local Government (Planning and Development) Acts, 1963-1990 to GRANT PERMISSION for the above proposal subject to the (10) conditions set out above is hereby made.

Dated : 21 June 1991 .....
Authorised Officer

to whom the appropriate powers have been delegated by order of the Dublin City and County Manager dated 19th June, 1991.

MD

Register Reference : 91A/0231

Date : 14/3/91

Development : Dormer type bungalow & septic tank

LOCATION : The slade, Saggart.

Applicant : Liam Hirch

App. Type : P/BBL

Planning officer : Mary Darley

Date Recd. : 22/2/91.

Attached is a copy of the application for the above development. Your report would be appreciated within the next 28 days.

Yours faithfully,

cc Paul Dolan........

PRINCIPAL OFFICER

Plan received 22/4/91

Proposal unacceptable for following reasons:

1. Road frontage inadequate
2. Well (proposed) too close to proposed percolation areas
3. Culvert alongside site not indicated on site block plan
4. Evidence of potable and adequate water supply being available not provided.
5. Trial Hole inspected 8/4/91 was 6½ ft deep and dry. Soil appeared suitable for septic tank effluent.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date ......26-4-91......
Time ....2pm..........

Anne O'Donohoe
22.4.91.

Ita Devine
John O'Reilly

SUPER.ENVIRON. HEALTH OFFICER,
33 GARDINER PLACE,
DUBLIN 1.

24/4/91

SS + CMO.

Register Reference : 91A/0231

Date : 28th February 1991

MA

Development : dormer type bungalow and septic tank

LOCATION : Slade, Saggart

Applicant : Liam Hinch

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning officer : M.DARLEY

Date Recd. : 22nd February 1991

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 24/4/91
Time 10.30

Attached is a copy of the application for the above development .Your report would be appreciated within the next 28 days.

Yours faithfully,

DUBLIN Co. COUNCIL
12 MAR 1991
SAN SERVICES

SANITARY SERVICES
19 APR 1991
PRINCIPAL OFFICER
Returned

Date received in Sanitary Services .....

FOUL SEWER

Septic Tank proposed - refer to E.H.B.

SURFACE WATER

Soak pit proposed - refer to B.A.C. Dept.

SENIOR ENGINEER,
SANITARY SERVICES DEPARTMENT,
46/49 UPPER O'CONNELL STREET,
DUBLIN 1

15/4/91

Register Reference : 91A/0231 Date : 28th February 1991

.....

ENDORSED_____ DATE_____

WATER SUPPLY..No. Co. Co. water mains in this area.....
well proposed.

21/3/91

.....

22/3/91

ENDORSED [illegible] DATE 16/4/91

Seol aon fhreagra chun
(Reply to)

AN RÚNAÍ
(The Secretary)

Tagairt uimhir seo:–
(Quoting)

AN ROINN COSANTA
(Department of Defence)

TEACH NA PÁIRCE
(Park House)

BAILE ÁTHA CLIATH, 7
(Dublin, 7)

2/50719

Teileafón 01/306XXX 771881 Ext. 2485

26 MAR 91

22 March, 1991.

91A/0231
MD

Dear Sir,

Re: Planning Applications which might affect the use of Casement Aerodrome, Baldonnel, Co. Dublin.

I am directed by the Minister for Defence to refer to applications:

91A/0182 – Northstar Ltd., Unit 3 Crag Terrace, Clondalkin Industrial Estate, Dublin 22. PB

91A/0187 – Mrs. R. Fetherston, Coolmine, Rathcoole. MD

91A/0189 – Maria Byrne, Peamount Road, Newcastle. MG

91A/0198 – D. O'Sullivan, Newcastle, Co. Dublin. MG

91A/0208 – D. Buggy, 10 Old Bawn Road, Tallaght. MD

91A/0231 – Liam Hinch, Slade, Saggart. MD

91A/0233 – Marks Celtic Y.F.C., Site adjacent to Fortunestown Shopping Centre, Maplewood Road, Springfield, Tallaght. MD

91B/0132 – S. Harding, 40 Kingswood View, Belgard Road, Tallaght SMD

91B/0140 – Mr. & Mrs. J. Ward, 51 Ashwood Road, Bawnogue. MG S

No objection is seen to these developments provided they do not exceed 11M in height above ground level.

Yours sincerely,

JPM

JOHN P. MORAN
EXECUTIVE OFFICER

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 28/3/91
Time 12:30

The Secretary,
Dublin County Council,
Planning Department,
Irish Life Mall,
Lower Abbey Street,
Dublin 1.

Order No. P/1552/91

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Proposed dormer type bungalow and septic tank at Slade, Saggart for Liam Hinch.

Liam Hinch,
The Slade,
Saggart,
Co. Dublin.

Reg. Ref. 91A-0231
Appl. Rec'd: 22.02.1991
Floor Area:
Site Area:
Zoning: B

Report of the Dublin Planning Officer, dated 17 April 1991

This is an application for **PERMISSION** for dormer type bungalow and septic tank at Slade, Saggart for Liam Hinch.

In support of the application the applicant has stated that he wants to build a house for accommodation for himself and his fiancee. His fiancee is from Coolmine, Saggart and the applicant is from Slade, Saggart and is building on the family farm property. The site is located approx. 3 miles from Saggart Village and is at the junction of the Slade Road with the Redgap Road. There are two existing houses on the family farm holding; both are there for some time, and both are occupied. The site of the proposed development slopes in a westerly direction away from the county road. The proposed bungalow has part hipped roof and a window at second floor level in the north elevation to command a view of the valley. The plain plaster finish is proposed and concrete interlocking roof tiles.

The site is located in an area which is zoned with the objective 'B' in the 1983 Dublin County Development Plan. As the applicant is a native of the area and is living on family land, this proposal is acceptable.

The applicant has not provided evidence of the suitability of the soil to dispose of effluent from the septic tank.

I recommend that **ADDITIONAL INFORMATION** be requested from the applicant with regard to the following:-

1. The applicant is requested to provided evidence of the suitability of the soil to dispose of effluent from the septic tank.

For Dublin Planning Officer

Endorsed:- _____
for Principal Officer

Order:- I direct that ADDITIONAL INFORMATION be requested from the applicant for planning permission as set out in the above report and that notice thereof be served on the applicant.

Dated: 17 April, 1991.

K. O'Sullivan
Assistant City and County Manager

to whom the appropriate powers have been delegated by Order of the Dublin City and County Manager, dated 8th April, 1991.

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

Bloc 2, Ionad Bheatha na hEireann,
Block 2, Irish Life Centre,
Sraid na Mainistreach Iacht,
Lower Abbey Street,
Baile Atha Cliath 1.
Dublin 1.
Telephone. (01)724755
Fax. (01)724896

NOTIFICATION OF DECISION TO GRANT PERMISSION
LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT)ACTS 1963-1990.

Decision Order Number : P/ 2834 /91 Date of Decision : 21st June 1991

Register Reference : 91A/0231 Date Received : 3rd May 1991

Applicant : Liam Hinch

Development : dormer type bungalow and septic tank

Location : Slade, Saggart

Time Extension(s) up to and including :

Additional Information Requested/Received :180491//030591

In pursuance of its functions under the above mentioned Acts,the Dublin County Council,being the Planning Authority for the County Health District of Dublin, did by Order dated as above make a decision to GRANT PERMISSION in respect of the above proposal.

Subject to the Conditions on the attached Numbered Pages.

NUMBER OF CONDITIONS:- .10....ATTACHED.

Signed on behalf of the Dublin County Council.....
for Principal officer

Date: 24/6/91.....

Liam Hinch,
The Slade,
Saggart,
Co. Dublin.

NOTES

1. An appeal against the decision may be made to An Bord Pleanala. The applicant may appeal within one month from the date of receipt by him of this notification. ANY OTHER PERSON may appeal within twenty one days beginning on the date of this decision.

2. An appeal shall be in writing and shall state the subject matter and grounds of appeal. It should be addressed to:-

An Bord Pleanala,
Blocks 6 and 7
Irish Life Centre,
Lower Abbey Street,
Dublin 1.

3.An appeal lodged by an applicant or his agent with An Bord Pleanala will be invalid unless accompanied by the prescribed fee.

(a) An appeal against a decision relating to commercial development by the person by whom the application was made must be accompanied by a fee of £100 (one hundred Pounds).

"Commercial Development" means development for the purposes of any professional, commercial or industrial undertaking, development in connection with the provision for reward of services to persons or undertakings, or development consisting of the provision of two or more dwellings, but does not include developmemt for the purposes of agriculture.

(b) An appeal other then an appeal mentioned at (a) above, including third party appeal must be accompanied by a fee of £50 (fifty pounds)

(c) A party to an appeal making a request to An Bord Pleanala for an Oral Hearing of an appeal must, in addition to the prescribed fee, pay to An Bord Pleanala a fee of £50 (fifty pounds).

(d) A person who is not a party to an appeal must pay a fee of £15 (fifteen pounds) to An Bord Pleanala when making submissions or observations to An Bord Pleanala in relation to an appeal.

4.If the Council makes a decision to grant permission/approval and there is no appeal to An Bord Pleanala against this decision, PERMISSION/APPROVAL will be granted by the Council as soon as may be after the expiration of the period for the taking of such an appeal. If every appeal made in accordance with the Acts has been withdrawn, the Council will grant the PERMISSION/APPROVAL after the withdrawal.

5. Approval of the Council under the Building Bye-Laws must be obtained and the terms of the approval must be complied with in the carrying out of the work before any development which may be permitted is commenced.

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

Bloc 2, Ionad Bheatha na hEireann,
Block 2, Irish Life Centre,
Sraid na Mainistreach Iacht,
Lower Abbey Street,
Baile Atha Cliath 1.
Dublin 1.
Telephone. (01)724755
Fax. (01)724896

C O N D I T I O N S / R E A S O N S

01 The development to be carried out in its entirety in accordance with the plans, particulars and specifications lodged with the application, as amended by additional information received on 29th May 1991 , save as may be required by the other conditions attached hereto.
REASON: To ensure that the development shall be in accordance with the permission and that effective control be maintained.&&

02 That before development commences, approval under the Building Bye- Laws be obtained and all conditions of that approval be observed in the development.
REASON:In order to comply with the Sanitary Services Acts, 1878-1964.

03 That the proposed house be used as a single dwelling unit.
REASON: To prevent unauthorised development.

04 That septic tank and percolation areas shall accord with the standards set out in "Recommendations for Septic Tank Drainage Systems SR6 1975" available from Eolas.

04 REASON: In order to comply with the Sanitary Services Acts, 1878-1964.

05 That the requirements of the Roads Department be ascertained and strictly adhered to in this development.

05 REASON: In the interest of the proper planning and development of the area.

06 That the house, when completed, be first occupied by the applicant and/or members of his immediate family.
REASON: In the interest of the proper planning and development of the area.

07 That all external details shall be agreed in detail with the Planning Department.

07 REASON: In the interest of the proper planning and development of the area.

08 That one house only be built on the land outlined in red and in blue on lodged Drawing No. 02, received by the Planning Authority on 22.02.91.

08 ~~Reason R001~~ In the interest of the proper planning & development of the area.

09 In the event of a connection to the public water that a financial contribution in the sum of £375.00 be paid by the proposer to Dublin County Council towards the cost of the provision of public water supply in the area of the proposed development and which facilitates the

NOTES

1. An appeal against the decision may be made to An Bord Pleanala. The applicant may appeal within one month from the date of receipt by him of this notification. ANY OTHER PERSON may appeal within twenty one days beginning on the date of this decision.

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(b) An appeal other then an appeal mentioned at (a) above, including third party appeal must be accompanied by a fee of £50 (fifty pounds)

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4.If the Council makes a decision to grant permission/approval and there is no appeal to An Bord Pleanala against this decision, PERMISSION/APPROVAL will be granted by the Council as soon as may be after the expiration of the period for the taking of such an appeal. If every appeal made in accordance with the Acts has been withdrawn, the Council will grant the PERMISSION/APPROVAL after the withdrawal.

5. Approval of the Council under the Building Bye-Laws must be obtained and the terms of the approval must be complied with in the carrying out of the work before any development which may be permitted is commenced.

Bloc 2, Ionad Bheatha na hEireann,
Block 2, Irish Life Centre,
Sraid na Mainistreach Iacht,
Lower Abbey Street,
Baile Atha Cliath 1.
Dublin 1.
Telephone. (01)724755
Fax. (01)724896

proposed development. This contribution to be paid prior to any connection being made.

09 REASON: In the interest of the proper planning and development of the area.

10 That before any development commences a revised site map showing the site outlined in red corresponding with the lodged map dated 29.05.91 is to be submitted to the Planning Authority.

10 REASON: In the interest of the proper planning and development of the area.

NOTES

1. An appeal against the decision may be made to An Bord Pleanala. The applicant may appeal within one month from the date of receipt by him of this notification. ANY OTHER PERSON may appeal within twenty one days beginning on the date of this decision.

2. An appeal shall be in writing and shall state the subject matter and grounds of appeal. It should be addressed to:-

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4.If the Council makes a decision to grant permission/approval and there is no appeal to An Bord Pleanala against this decision, PERMISSION/APPROVAL will be granted by the Council as soon as may be after the expiration of the period for the taking of such an appeal. If every appeal made in accordance with the Acts has been withdrawn, the Council will grant the PERMISSION/APPROVAL after the withdrawal.

5. Approval of the Council under the Building Bye-Laws must be obtained and the terms of the approval must be complied with in the carrying out of the work before any development which may be permitted is commenced.

91A/0231

23.0

A.I. for DR

29/5/91

LIAM HINCH,
The Slade,
Saggart,
Co. Dublin.

24th May 1991

In reference to your letter 9/05/91 re Time Extension/Additional Information for B.B.L. REG. REF. 91A/231, I wish to submit the additional information requested and add the following comments.

1. See page 1 of details for site road frontage increased to 200 feet.

2. On page 1 the well is now located 48 metres from the nearest point of percolation area.

3. The culvert is as shown in red on the enclosed revised site plan. It runs the full length of the field as shown on the location map and joins into the river below. The water is piped underground to position shown and then flows in the ditches dyke, which is 500mm deep and 800mm wide. The bed level falls with the field as it is the actual dyke itself. The proposed percolation area will be 35 metres away from this stream, with the stream being located on the neighbouring property.

4. I am unable at the moment to provide a potable water sample, as a well has to be bored for this purpose and will not be completed until I have received confirmation of Planning Permission. To avoid delay I ask if you would leave this as a condition and I will provide this in due time.

5. All foul water drainage pipework shall be not less than 100mm diameter laid to a 1:100 fall in accordance with the Dublin County Council Bye-Laws and I.I.R.S. SR6 1975 recommadations. The drain shall be laid on a bed of concrete at least 100mm in thickness and projecting at least three inches on each side of the drain. Where the drain passes under any pathway it shall be covered also with 100mm concrete. All gullies are connected seperately to the drain as is shown on the drawings.

6. Ventilation to roof and ensuite are as detailed on revised enclosed drawing.

7. Chimney construction shall be as in accordance with B.B.L. No. 34, 35, 36, 37, 38, 39, and 40. Dublin County Council's Bye-Laws.

Cont.....

8. Revised plans now co-relate with section.

9. Window details are now in compliance with Dublin County Council Bye-Laws. i.e. with windows equal to one tenth of the floor area and one twentieth of the floor area with access for ventilation.

10. Please find enclosed certificate of approval in respect of roof and first floor construction.

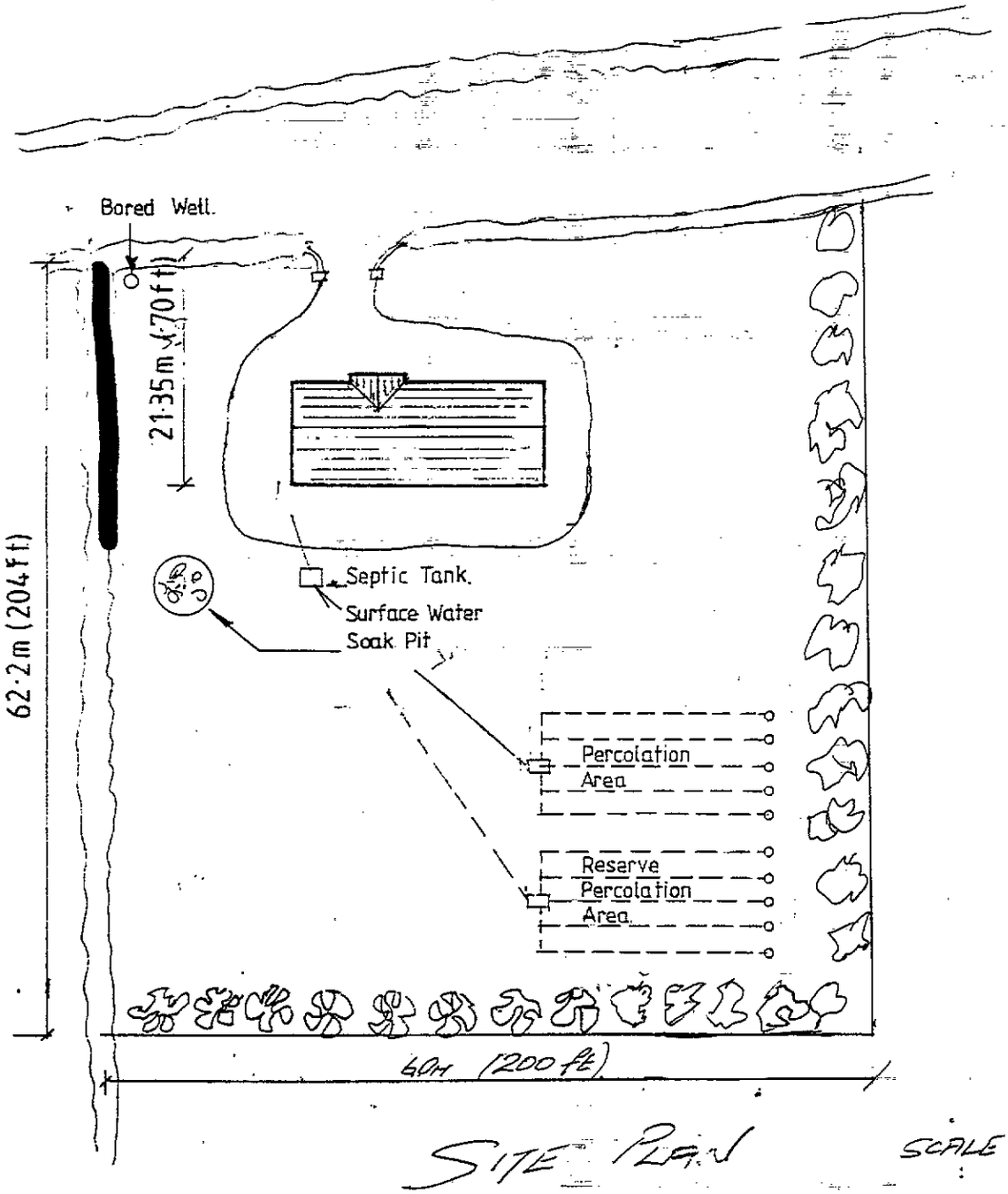
Should you require any further information please do not hesitate to contact me.

With Thanks.

Liam Hinch

Liam Hinch.

SEPTIC TANK & PERCOLATION AREA TO BE
IN ACCORDANCE WITH IIRS S.R.6 1975
AND DEPT. OF ENVIRONMENT REGUALATIONS



SITE PLAN SCALE 1:500

114 BROADFORD AVENUE,
BALLINTEER,
DUBLIN 16,
27-3-1991.

DUBLIN COUNTY COUNCIL,
BUILDING BYE LAWS,
PLANNING DEPARTMENT,
BLOCK 2, IRISH LIFE CENTRE,
LOWER ABBEY STREET, DUBLIN 1.

Re;- Chartered Engineers Certificate
Liam Hinch & Catherine Murphy, Slade, Saggart, Co. Dublin

This is to certify that the revised roof and first floor design details issued by Mr. Liam Hinch, Slade Saggart Co. Dublin, seeking Bye Law approval for Liam Hinch & Catherine Murphy at Slade Saggart Co. Dublin conforms as far as is practically possible to the relevant Bye Laws and the standard recommendation SR 11 : 1988 - "Structural Timber for Domestic Construction", issued by The National Standards Authority of Ireland, Dublin 9.

Seamus Mannion

SEAMUS MANNION.
B.E., C.Eng., M.I.E.I., M.A.I.

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

Building Control Department,
Liffey House,
Tara Street,
Dublin 1.
Telephone:773066

Bloc 2, Ionad Bheatha na hEireann,
Block 2, Irish Life Centre,
Sraid na Mainistreach Iacht,
Lower Abbey Street,
Baile Atha Cliath 1.
Dublin 1.
Telephone. (01)724755
Fax. (01)724896

Register Reference : 91A/0231 Date : 6th May 1991

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS, 1963 TO 1990

Dear Sir/Madam,

DEVELOPMENT : dormer type bungalow and septic tank

LOCATION : Slade, Saggart

APPLICANT : Liam Hinch

APP. TYPE : Additional Information

With reference to above, I acknowledge receipt of your application received on 3rd May 1991.

Yours faithfully,

.....

PRINCIPAL OFFICER

Liam Hinch,
The Slade,
Saggart,
Co. Dublin.

PLANNING DEPARTMENT,
Registration Section,
Block 2,
Irish Life,
Dublin 1.

ATT:- Mr. Vincent Healy.

1st May 1991

Dear Sir,

Re:- 91A-0231

In response to Additional Information requested on the 18th April 1991. I wish to inform you that the Health Officer Inspected Trial Hole in Early April 1991.

91A/0231
1.0.0
A.I.

Yours sincerely,

pp Catherine Murphy
Liam Hinch.

Mr. Liam Hinch,
The Slade,
Saggart,
Co. Dublin.

Reg. Ref. 91A-0231

18 April 1991

Re: Proposed dormer type bungalow and septic tank at Slade, Saggart for Liam Hinch.

Dear Sir,

With reference to your planning application, received here on 22nd February, 1991, in connection with the above, I wish to inform you, that before the application can be considered under the Local Government (Planning and Development) Acts, 1963-1983, the following additional information must be submitted in quadruplicate:-

1. The applicant is requested to provided evidence of the suitability of the soil to dispose of effluent from the septic tank.

Please mark your reply **"ADDITIONAL INFORMATION"** and quote the Reg. Ref. No. given above.

Yours faithfully,

for Principal Officer.

Dublin County Council Comhairle Chontae Atha Cliath **Planning Department**

Building Control Department,
Liffey House,
Tara Street,
Dublin 1.
Telephone:773066

Bloc 2, Ionad Bheatha na hEireann,
Block 2, Irish Life Centre,
Sraid na Mainistreach Iacht,
Lower Abbey Street,
Baile Atha Cliath 1.
Dublin 1.
Telephone. (01)724755
Fax. (01)724896

Register Reference : 91A/0231 Date : 22nd February 1991

LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) ACTS, 1963 TO 1990

Dear Sir/Madam,

DEVELOPMENT : dormer type bungalow and septic tank

LOCATION : Slade, Saggart

APPLICANT : Liam Hinch

APP. TYPE : PERMISSION/BUILDING BYE-LAW APPROVAL

With reference to above, I acknowledge receipt of your application received on 22nd February 1991.

Yours faithfully,

.....

PRINCIPAL OFFICER

Liam Hinch,
The Slade,
Saggart,
Co. Dublin.

Dublin County Council
Comhairle Chontae Atha Cliath

Planning Application Form/
Bye - Law Application Form

PLEASE READ INSTRUCTIONS AT BACK BEFORE COMPLETING FORM. ALL QUESTIONS MUST BE ANSWERED.

1. Application for Permission [✓] Outline Permission [ ] Approval [ ] Place ✓ in appropriate box.
Approval should be sought only where an outline permission was previously granted. Outline permission may not be sought for the retention of structures or continuances of uses.

2. Postal address of site or building ..... THE SLADE, SAGGART, Co. DUBLIN.
(If none, give description sufficient to identify)..... BYE-LAW APPLICATION.

3. Name of applicant (Principal not Agent)..... LIAM HINCH. DEV. NO. 255 N3130

Address..... THE SLADE, SAGGART Co. DUBLIN ..... Tel. No. 589243

4. Name and address of person or firm responsible for preparation of drawings ..... LIAM HINCH, THE SLADE SAGGART Co. DUBLIN. ..... Tel. No 589243

5. Name and address to which notifications should be sent ..... LIAM HINCH, THE SLADE, SAGGART Co. DUBLIN.

6. Brief description of proposed development ..... DOMESTIC DWELLING + SEPTIC TANK

7. Method of drainage ..... SEPTIC TANK 8. Source of Water Supply ..... BORED WELL

9. In the case of any building or buildings to be retained on site, please state:-
(a) Present use of each floor or use when last used. .....
(b) Proposed use of each floor .....

FEE PAID 32 22/2

10 Does the proposal involve demolition, partial demolition or change of use of any habitable house or part thereof? ..... N 31376

11.(a) Area of Site ..... 2674-6 Sq. m.

Irish Pres 19/2/91

(b) Floor area of proposed development ..... 120.23 + 55.17 = 175.4 Sq. m.

(c) Floor area of buildings proposed to be retained within site ..... Sq. m.

12. State applicant's legal interest or estate in site (i.e. freehold, leasehold, etc.) ..... FREEHOLD.

13. Are you now applying also for an approval under the Building Bye Laws?
Yes [✓] No [ ] Place ✓ in appropriate box.

14. Please state the extent to which the Draft Building Regulations have been taken in account in your proposal:
AS PER DEPT. OF THE ENVIRONMENT PROPOSED BUILDING REGULATIONS.

15. List of documents enclosed with application. ..... 4 SETS OF (A) HOUSE SPECIFICATION (B) SEPTIC TANK SPECIFICATIONS (C) 2 N° DRAWINGS (D) NEWSPAPER ADD (E) CHEQUE

DUBLIN CO. COUNCIL Permission sought for dormer type bungalow and septic tank at Slade, Saggart. For Liam Hinch.

16. Gross floor space of proposed development (See back) ..... 175.4 Sq. m.

No of dwellings proposed (if any) ..... 1 N° Class(es) of Development ..... PRIVATE DWELLING-a

Fee Payable £ 87-00 Basis of Calculation £55-00 FOR BYE-LAW, £32.00 FOR PLANNING

If a reduced fee is tendered details of previous relevant payment should be given

Signature of Applicant (or his Agent) ..... Date 22/2/1991

FOR OFFICE USE ONLY

Application Type P/BBL

Register Reference 91A/0231

Amount Received £ 28.4 22/2

Receipt No .....

Date .....

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) REGULATIONS 1977 to 1984.

Outline of requirements for applications for permission or Approval under the Local Government (Planning & Development) Acts 1963 to 1983. The Planning Acts and Regulations made thereunder may be purchased from the Government Publications Sales Office, Sun Alliance House, Molesworth Street, Dublin 2.

1. Name and Address of applicant.

2. Particulars of the interest held in the land or structure, i.e. whether freehold, leasehold, etc.

3. The page of a newspaper, circulating in the area in which the land or structure is situate, containing the required statutory notice. The newspaper advertisement should state after the heading Co. Dublin.

   (a) The address of the structure or the location of the land.
   (b) The nature and extent of the development proposed. If retention of development is involved, the notice should be worded accordingly. Any demolition of habitable accommodation should be indicated.
   (c) The name of the applicant.

   NB. Applications must be received within 2 weeks from date of publication of the notice.

4. Four (4) sets of drawings to a stated scale must be submitted. Each set to include a layout or block plan, proposed and existing services to be shown on this drawing, location map, and drawings of relevant floor plans, elevations, sections, details of type and location of septic tank (if applicable) and such other particulars as are necessary to identify the land and to describe the works or structure to which the application relates (new work to be coloured or otherwise distinguished from any retained structures). Buildings, roads, boundaries and other features bounding the structure or other land to which the application relates shall be shown on site plans or layout plans. The location map should be of scale not less than 1: 2500 and should indicate the north point. The site of the proposed development must be outlined in red. Plans and drawings should indicate the name and address of the person by whom they were prepared. Any adjoining lands in which the applicant has an interest must be outlined in blue.

5. In the case of a proposed change of use of any structure or land, requirements in addition to 1, 2, & 3 are:
   (a) a statement of the existing use and the proposed use, or, where appropriate, the former use and the use proposed.

   (b) (i) Four (4) sets of the drawings to a stated scale must be submitted. Each set to consist of a plan or location map (marked or coloured in red so as to identify the structure or land to which the application relates) to a scale of not less than 1:2500 and to indicate the North point. Any adjoining lands in which the application has an interest must be outlined in blue.

   (ii) A layout and a survey plan of each floor of any structure to which the application relates.

   (c) Plans and drawings should indicate the name and address of the person by whom they were prepared.

6. Applications should be addressed to: Dublin County Council, Planning Department, Irish Life Centre, Lr. Abbey Street, Dublin 1, Tel. 724755.

SEPTIC TANK DRAINAGE: Where drainage by means of a septic tank is proposed, before a planning application is considered, the applicant may be required to arrange for a trial hole to be inspected and declared suitable for the satisfactory percolation of septic tank effluent. The trial hole to be dug seven feet deep at or about the site of the septic tank. Septic tanks are to be in accordance with I.I.R.S. S.R. 6:75.

INDUSTRIAL DEVELOPMENT:
The proposed use of an industrial premises should, where possible, be stated together with the estimated number of employees, (male and female). Details of trade effluents, if any, should be submitted.

Applicants to comply in full with the requirements of the Local Government (Water Pollution) Act.1977 in particular the licencing provisions of Sections 4 and 16.

PLANNING APPLICATIONS

CLASS NO.	DESCRIPTION	FEE
1.	Provision of dwelling — House/Flat.	£32.00 each
2.	Domestic extensions/other improvements.	£16.00
3.	Provision of agricultural buildings (See Regs.)	£40.00 minimum
4.	Other buildings (i.e. offices, commercial, etc.)	£1.75 per sq. metre (Min. £40.00)
5.	Use of land (Mining, deposit or waste)	£25.00 per 0.1 ha (Min £250.00)
6.	Use of land (Camping, parking, storage)	£25.00 per 0.1 ha (Min. £40.00)
7.	Provision of plant/machinery/tank or other structure for storage purposes.	£25.00 per 0.1 ha (Min. £100.00)
8.	Petrol Filling Station.	£100.00
9.	Advertising Structures.	£10.00 per m^2 (min £40.00)
10.	Electricity transmission lines.	£25.00 per 1,000m (Min. £40.00)
11.	Any other development.	£5.00 per 0.1 ha (Min. £40.00)

BUILDING BYE-LAW APP

New Charges Effective 15/2/8[illegible]

CLASS NO.	DESCRIPTION	
A	Dwelling (House/Flat)	A £55 each
B	Domestic Extension (improvement/alteration)	B £30 each
C	Building — Office/ Commercial Purposes	C £3.50 per m^2 (min. £70)
D	Agricultural Buildings/Structures	D £2.00 per m^2 in excess of 300 sq. metres (min. £70) (max. £300)
E	Petrol Filling Station	E £200
F	Development or Proposals not coming within any of the foregoing classes.	F £9.00 per 0.1 ha. (£70 min.)

Cheques etc. should be made payable to: Dublin County Council.

Gross Floor space is to be taken as the total floor space on each floor measured from the inside of the external walls.

For full details of Fees and Exemptions see Local Government (Planning and Development) (Fees) Regulations 1984.

Min. Fee £30.00 M
Max. Fee £20,000 M

RECEIPT CODE

COMHAIRLE CHONTAE ATHA CLIATH

PAID BY

CASH

CHEQUE

M.O.

B.L.

I.T.

DUBLIN COUNTY COUNCIL
46/49 UPPER O'CONNELL STREET
DUBLIN 1.

Issue of this receipt is not an acknowledgement that the fee tendered is the prescribed application fee.

N 31376

£32.00

Received this 22nd day of Feb 1991

from Liam Hinch

The Slade, Saggart

the sum of Thirty two Pounds

Pence, being for Fee 41

application at above

Michael O'Hara Cashier

S. CAREY
Principal Officer

Class 1 House

RECEIPT CODE

COMHAIRLE CHONTAE ATHA CLIATH

PAID BY —

DUBLIN COUNTY COUNCIL

46/49 UPPER O'CONNELL STREET,
DUBLIN 1.

BYE LAW APPLICATION.

CASH
CHEQUE
M.O.
B.L.
I.T.

REC. No. N 31630

£

Received this .... day of .... 19..

from ....

The Slade, Saggart

the sum of .... Pounds

.... Pence, being ....

application at above

.... Cashier

S. CAREY
Principal Officer

Slade,
Saggart,
Co. Dublin.

Ph. 589243 (Home)

Planning Department,
Dublin County Council
Irish Life Centre,
Lr. Abbey Street,
Dublin 1.

I wish to apply to Dublin County Council for Planning Permission and Bye-Law approval for a Dormer Type Bungalow and Septic Tank at Slade, Saggart, Co. Dublin on my own land to provide accommodation for myself and my Fiancee Miss Catherine Murphy.

We are both from the immediate area - Catherine from Coolmine, Saggart myself from Slade, Saggart and therefore want to remain in the area close to family and friends. Especially with Catherine also employed in Saggart. The proposed dwelling is to be as shown on enclosed drawings on a site that I have inherited from property that has been with the family for many generations.

I enclose the following documents to process my application.

(A) Drawings Numbered 01 and 02.
(B) Specification.
(C) Septic Tank and Percolation details.
(D) Newspaper Add (1 no. Copy)
(E) Application Form.

I enclose a Cheque for £87·00. I am ready to open trail holes on my site whenever required. If you require any additional information I would be grateful if you could contact me at the above telephone number or at 728555 during office hours.

Yours faithfully.

Liam Hinch.

SPECIFICATION FOR

DORMER TYPE BUNGALOW

AND SEPTIC TANK

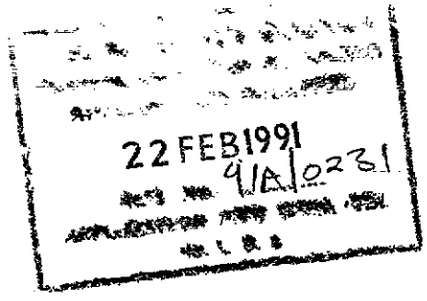
AT

THE SLADE

SAGGART CO. DUBLIN

FOR

LIAM HINCH & CATHERINE MURPHY



CONTENTS

Section 1 EXCAVATIONS AND SUB-STRUCTURES

1.1 Site
The site shall be adequately drained and have no features likely to render the house unstable or uninhabitable.

1.2 Preparing Site
Clear and grade site for new building and remove or divert existing drains as required. The entire site of buildings and paved areas shall be cleared of all vegetable soil to a depth of at least 150 mm. Where the bearing quality of the ground is suspect special care shall be taken in the design of the foundations.

1.3 Excavation

1.3.1 The trenches shall be excavated to the depths and widths required to accommodate foundations or to such further depths or widths as may be necessary to ensure the stability of the structure. Trench bottoms and foundations shall be levelled off in horizontal benches. The bottom of trenches shall be not less than 450 mm below the finished ground level and kept clear of water before concreting.

1.3.2 Where other excavations close to or under the foundations are unavoidable care shall be taken to ensure the stability of the structure.

1.4 Foundations
Shall be concrete mix A, to widths and depths indicated and reinforced as necessary. Where foundations are stepped they shall over lap at least 600 mm.

1.5 Floor Level
The height of the finished floor over the highest point of the finished ground level shall be not less than 350 mm in the case of joisted floors and not less than 175 mm in the case of concrete floors. See also 2.24.

1.6 Rising Walls
Rising walls shall be of solid blockwork bedded in cement mortar, or of mass concrete, mix A to widths and heights indicated. See also 2.4.

1.7 Cement and cement-based products
Normal Portland cement used in concrete and other cement based products shall be certified by the Institute for Industrial Research and Standards under the Irish Standard Mark Licensing Scheme as complying with I.S.I.: 1963 "Portland cement", and shall bear the Irish Standard Mark.

1.8 Lime
Hydrated lime to be to I.S.8.

1.9 Water
Water shall be clean and free from harmful impurities.

1.10 Sand and Aggregates
Fine aggregates shall be clean, sharp pit or river sand free from all impurities and in accordance with I.S. 5. Coarse aggregates shall be suitably graded hard clean pit gravel or crushed stone in accordance with I.S. 5 and to sizes set out below.

1.11 Concrete Mixes

Concretes	Aggregates	Nominal Mix			28 day Strength (Newtons) Per mm²
Mix	Maximum Size	Cement	Fine Aggregate	Graded Coarse Aggregate	
A	40 mm	1	3	6	14
B	20 mm	1	2	4	21
C	14 mm	1	3	6	—

The water-cement ratio shall be kept to the minimum needed to ensure reasonable workability, but should not exceed 35 litres per 50 Kg of cement.

1.12 **Cement Mortar**
Shall be 1 part cement to 3 parts sand.

1.13 **Lime Mortar**
Shall be 1 part hydrated lime to 6 parts sand.

1.14 **Gauged Mortar**
Shall be 10 parts lime mortar mixed with 1 part cement just before use.

1.15 **Strong Gauged Mortar**
Shall be 5 parts lime mortar mixed with 1 part cement immediately before use.

1.16 **Additives**
Plasticisers, waterproofers, sealers and bonding agents if used, shall be used in accordance with manufacturer's instructions.

Section 2 BLOCKLAYING AND CONCRETING

2.1 **Thermal Insulation**
Attention is drawn to the need to insulate walls, floors and roofs to meet the requirements set out in Section 14.

2.2 **Mixes**
See Section 1 for concrete and mortar.

2.3 **Blockwork**
Concrete blocks shall be in accordance with I.S. 20 and bricks, if clay, in accordance with I.S. 91. All blockwork and brickwork shall be properly coursed and bonded and bedded in gauged mortar. All walls shall be carried up regularly not leaving any part 1 m lower than another.

2.4 **Cavity Walls**
Walls shall be formed of two solid 112 mm leaves of blocks or bricks with 50 mm cavity between. Outer and inner leaves to be tied together by accepted wall ties, not less than four per square metre with extra ties at opes. Care to be taken that mortar dropping into the cavity or lying on ties, is cleaned out, through openings left for the purpose, head of cavities to be closed in the solid. All window, door and other opes in cavities to be sealed and so arranged as to prevent the passage of moisture. The cavity is to extend at least 150 mm below the level of the D.P.C. and shall provide for drainage of moisture to the outside, at the base.

2.5 **Hollow Block Walls**
225 mm hollow blocks shall be plastered externally. Bedding mortar shall be confined to abutting surfaces, and shall not enter the cavities of the block.

2.6 **Solid Block Walls**
225 mm solid concrete blocks shall be plastered externally.

2.7 **Solid Brick Walls**
Solid brick walls shall be 337 mm thick, and weather-pointed.

2.8 **Masonry Walls**
Masonry walling, where used, must not be less than 500 mm thick.

2.9.1 **Facings**
Where stone or other decorative external facing is used, care must be taken to ensure adequate structural stability, thermal insulation and absence of damp penetration.

2.9.2 **Opes in External Walls**
Where any duct, pipe, etc., is required to penetrate through an external wall it shall be so arranged as to prevent the passage of moisture inwards.

1.10 **Pointing**
All wall faces finished without plastering shall be pointed in the building mortar as the work proceeds, or the joints may be taken out 20 mm deep and pointed in cement mortar.

1.11 **Party Walls**
All party walls shall be 225 mm solid blockwork of density not less than 1,500 kg/m³, plastered both sides and carried up in the solid to the plane of the upper surface of the rafters. See also 5.7.

2.12 **Solid Partition**
Solid partitions shall be 112 mm thick brick or block work, laid to break joint, in gauged mortar, bonded 112 mm at junctions.

2.13 **D.P.C.**
The damp-proof courses shall be polythene in accordance with B.S. 743 or bitumen sheeting on hessian or canvas base in accordance with I.S. 57 laid to prevent the passage of moisture and lapped adequately at joints, all as described below.

2.13.1 In all ground floor walls and breasts to full width and stepped as necessary, in cavity walls in both outer and inner leaves separately, and shall be laid not less than 150 mm over finished ground level or paved area or highest ground within one metre of house.

2.13.2 At sides of opes in cavity walls and over all opes 250 mm longer than opes and stepped down and outward all to prevent passage of moisture from outer to inner leaf.

2.13.3 Under the turned up at ends and back of all cills and external room ventilation grids and recessed edges of all concrete roof slabs.

2.13.4 In all chimney stacks immediately above the level of the flashing and under all cappings and copings.

2.13.5 Under lowest ground floor timbers and not lower than wall D.P.C.

2.13.6 Where the waterproofing membrane in a concrete floor is not level with the wall D.P.C. care shall be taken to ensure continuity of damp proofing by stepping, turning up and lapping as necessary.

2.14 **Concrete Under Barges**
Concrete barges, if used, shall be under slates or tiles, full width of walls and at least 75 mm thick and projecting 100 mm beyond the face of the wall, throated on the underside, suitably reinforced and tied back as necessary. See also 5.7.

2.15 **Concrete Copings**
Concrete copings in lengths of not more than 1 metre, shall be weathered and throated, bedded in gauged mortar on D.P.C. and pointed in cement mortar.

2.16 **Lintels**
Concrete lintels mix B cast in situ shall be 225 mm deep with 225 mm bearing at each side of the ope, and shall be reinforced for full length with one 10 mm mild steel for every foot of span. Bars are to be placed 25 mm from bottom of lintel. Lintels for opes greater than 2.5 m shall be specially designed. precast concrete lintels to be as above and in addition to have 2 No. 10 mm mild steel bars at the top with 25 mm cover and to be clearly marked for correct placing. Accepted patent or proprietary lintels to B.S. 1239 to be used in accordance with manufacturer's instructions.

2.17 **Window Cills**
Concrete window cills shall be to I.S. 89, 65 mm thick on front face, 120 mm thick at back, and 225 mm wider than ope; reinforced adequately, seated, rebated, weathered and throated and set in gauged mortar on D.P.C. as previously specified. Care to be taken that the throating is clear of the finished wall face.

2.18 **Reinforced Concrete Annexe Roofs**
2.18.1 Concrete roofs, mix B shall be 40 mm thick for each metre of span, with minimum thickness of 100 mm, fine screeded and laid to falls. Where roof is recessed into a wall, form 150 mm upstand on D.P.C. properly flashed over. The roof shall be projected 150 mm and throated at verges, with a raised fillet as necessary to prevent overspill of surface water.

Insulate underside of roof. Waterproofing additives or sealants, if used, shall be applied in accordance with manufacturer's instructions.

2.18.2 Concrete roofs shall be reinforced adequately. For example, an area 5 m x 3 m should have 12 mm mild steel bars at 150 mm centres across the short span and 6 mm bars at 300 mm centres on the 5 m span. Steel to be placed 25 mm above underside of slab and carried over bearing walls to within 25 mm of edge of slab. Reinforcing bars should not normally be lapped, but where unavoidable, the lap shall be not less than 500 mm.

2.18.3 Proprietary steel reinforcing mesh may also be used, in accordance with manufacturer's instructions.

2.19 Chimney Breasts and Stacks

2.19.1 Chimney breasts shall be built of solid concrete blocks or decorative blocks or bricks or stone, all to a thickness of not less than 112 mm bedded in gauged mortar with splayed R.C. lintel over fire ope. Each fireplace recess shall have 200 mm solid incombustible material to sides and back excluding any fireback, carried up to full height of recess. Each fireplace shall have an independent flue, separated by not less than 100 mm of solid incombustible material (excluding the thickness of any flue liner) from any other flue. Each flue shall be lined with fireclay liners to I.S. 51 not less than 200 mm internal diameter, backed with weak mortar and carried 150 mm above capping. Splayed liners shall be used in forming bends to flues. Chimney stacks over roof shall be built of 112 mm solid concrete blocks bedded in gauged mortar and plastered or, where special precautions are taken, of decorative blocks, bricks or natural stone. Due to the exceptional exposure of stacks the use of decorative blocks, bricks or natural stone in stacks may cause dampness. Special care in construction and in the design and placing of the D.P.C. is necessary.

2.19.2 Capping to stack shall be of reinforced concrete, mix C, weathered and throated, not less than 75 mm thick at edge and flaunched up around pots. Top of stack, excluding chimney pots, to be 600 mm over ridge where stack is within 600 mm of the ridge.

2.19.3 Care should be taken that construction and height of stack is such as to ensure adequate structural stability and satisfactory drawing of smoke.

2.20 Fireplaces, Heating Units, Cookers

Fireplaces to have a fireclay back and incombustible surround and to be properly gathered into flue. Enclosed cookers and heating units to be fitted to manufacturer's instructions, with incombustible flue, ventilated as necessary and shall stand on a concrete hearth projecting 150 mm from face of appliance all round.

2.21 Hearths

First floor hearths shall be 125 mm thick reinforced concrete, mix B, finished fine carried on suitable formwork on 44 mm x 22 mm battens spiked to floor joiosts.
Ground floor hearths shall be 125 mm, finished fine, on hardcore as necessary.
All hearths to be 150 mm wider than fire ope on each side and to project 500 mm from face of breast.

2.22 Paved Yard

Provide 10 m^2 of impervious paved area laid to falls on suitably prepared base and adjacent to back door e.g. 100 mm concrete, 50 mm tarmacadam or 50 mm paving slabs.

2.23 Concrete Floors

All concrete ground floors shall be laid on a bed of clean hardcore not less than 150 mm thick and well consolidated. Soft material shall not be used in making up level under floors. Concrete ground floor shall be 150 mm thick mix B finished fine, laid on a continuous damp proof membrane on a layer of fine sand and turned up at edges of slab as necessary to meet and seal with wall D.P.C. Polythene sheeting where use shall be not less than 1000 gauge.

2.24 Sub Floors

Concrete sub-floors to joisted timber floors shall be laid on 100 mm of hardcore as described in 2.23. Concrete shall be mix A, 100 mm thick, and finished to a level not lower than the highest adjoining ground.

2.25 **Dwarf Walls**
Dwarf walls 112 mm thick concrete block or brick, honeycombed for through ventilation shall be built on sub-floors, at centres not greater than 2 metres.

2.26 **Suspended Concrete Floors**
Where concrete suspended floors or stair landings or balconies are used, they should be finished fine and capable of carrying a superimposed load of 1.44 KN/m². Exposed soffits shall be insulated where necessary.

2.27 **Screen and Garden Walls**
Screen or garden walls shall not abut main walls of house.

Section 3 CARPENTRY AND JOINERY

3.1 **Timber**
Timber shall be sound, free from disease and infestation and large loose knots or waney edges, with a moisture content within the limits set out in I.S. 96. Timber for carpentry to be white deal. Timber for joinery to be red deal, hard wood or other timber suitable for the purpose and free from all defects.

3.2 **Preservative**
Soft wood used externally, to be pressure impregnated with coloured preservative. Softwoods in contact with concrete to be treated with coloured preservative. Frames, barge-boards, fascias to be primed before fixing.

3.3 **Roof Timbers**

3.3.1 Wall plates 75 mm x 100 mm fully treated with preservative, halved and spiked at headings and angles, set level and bolted down at 1 m intervals.

3.3.2 Rafters 35 mm x 115 mm minimum at 400 mm centres, treated at feet with preservative, and cut to angles, checked and twice spiked to wall plates, properly aligned to back and spiked to ridge and purlin.

3.3.3 Trimming rafters 44 mm thick around roof light and dormer opes and around chimney shafts and 50 mm clear of shaft.

3.3.4 Hip and valley rafters 44 mm x 225 mm treated at feet with preservative and fixed as for rafters above.

3.3.5 Valley and gutter boards 22 mm x 225 mm wrot, to take gutter, treated with preservative and secured to rafters.

3.3.6 Ridge board 32 mm x 175 mm set level, kept 50 mm clear of chimney shaft.

3.3.7 Purlins 75 mm x 175 mm adequately supported at intervals of approximately 2 m. Joints, where necessary, shall be half lapped over a support.

3.3.8 Struts 75 mm x 100 mm properly supporting purlins from solid bearing, or from spreaders not more than 500 mm from load bearing partitions. Where such bearing support cannot be provided, suitably trussed rafters or purlins shall be used to ensure stability.

3.3.9 Spreaders and thrust pieces 44 mm x 115 mm under struts, spiked to ceiling joists to distribute load.

3.3.10 Collar ties 35 mm x 115 mm to every rafter. Where purlins are provided, fix collars to every fourth rafter. All collars to be twice spiked to rafters.

3.3.11 Hangers and runners 35 mm x 75 mm where necessary to support ceiling joists.

SIZES SHOWN ~~HEREON~~ ON DRAWINGS SUPERCEDE SIZES SHOWN HERE.

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3.3.12 Soffit bearers 35 mm x 75 mm to every rafter, treated with preservative.

3.3.13 Soffit at least 200 mm wide 16 mm wrot softwood, pressure impregnated or other material suitable for external use and secured to bearers.

3.3.14 Fascia 32 mm x 175 mm wrot deal, well secured to roof timbers and pressure treated.

3.3.15 Ceiling joists 35 mm x 115 mm at 400 centres, cut to angles and twice spiked to rafters. Where not in one length, form 500 mm securely spiked lap over partition walls.

3.4 **Roof Trusses**
Roof trusses to I.S. 193 (P), adequately braced diagonally, may be used at centres not greater than 600 mm. See also 5.2.

3.5 **Floor Joists**

3.5.1 First floor joists 35 mm x 175 mm at 350 mm centres for spans up to 3 m, 35 mm x 225 mm at 350 mm centres for spans up to 5 m. All to have one row 35 mm x 44 mm herring-bone bridging or 35 mm x depth of joist solid bridging. Joist to be doubled where carrying partition.

3.5.2 Trimmers and trimming joists 75 mm thick x depth of joist to opes and chimney breasts and kept 50 mm clear of breasts. Trimming and trimmed joists to be supported by approved fittings or to be checked on to battens spiked to supporting joist.

3.5.3 Ground floor joists 35 mm x 115 mm at 350 mm centres, to be spiked to wall plates (tassels). Trimming timbers to be 44 mm thick x depth of joist.

3.5.4 Ground floor tassels 44 mm x 75 mm treated with preservative set level and bearing solidly on D.P.C.

3.6 **Ventilation**
Provide through ventilation under timber ground floors by means of 225 mm x 150 mm metal or concrete louvred ventilators in external walls. Sealed ducts to be formed through cavities in external walls. Openings to be left in tassel walls and in rising walls of partitions and piped ducts to be formed under intervening concrete floors to ensure through ventilation. Space from surface of sub-floor to underside of bottom of ground floor joists to be not less than 125 mm.

3.7 **Flooring**

3.7.1 Remove all debris from sub-floors before flooring. Flooring 22 mm T & G well cramped, twice nailed with 60 mm cut brads, in narrow widths to minimise the effects of cupping and shrinkage or 18 mm flooring grade chipboard, density 700 kg/m^3 on joists at 400 mm centres with 44 mm x 44 mm noggins to support cross joints. Long joints shall be made along the centre of a joist. Adjacent sheets shall have an expansion gap of 3 mm between them, with 20 mm gap between edges of sheet and adjoining walls, the edges being treated with fungicide. Sheets should be fixed at 300 mm centres and not nearer than 12 mm to edge of sheet. Exposed chipb oard floor surfaces to be sealed with resinous sealer.

3.7.2 Suspended floors. Where soffit of suspended floor is exposed externally insulate as necessary and sheet with material suitable for external use and having half hour minimum fire rating.

3.8 **Grounds**
Pretreated timber grounds shall be securely built in, to provide means of fixing frames and trimmings.

3.9 **Stud Partitions**
Studs, head and sole pieces, and bridging 35 mm x 75 mm. Studs at 350 mm to 400 mm centres. Sole piece to be well spiked to floor and if parallel to joists, shall be carried on doubled joist. Provide 2 No. rows of nogging. Where a partition is load bearing increase timber sections as required. For finish see 6.6.

3.10 **Proprietary Partitions**
Accepted proprietary partitions, erected to manufacturer's instructions, may be used.

3.11 **Stairs**
Stairs shall have 2 m headroom measured vertically from the pitch line and 1.5 m clearance measured at right angles to the pitch line; width 860 mm, going 220 mm minimum, rise 200 mm maximum.

3.12 **Lighting to Stairs and Landings**

3.12.1 Lighting to stairs, landings, halls and corridors shall be provided by a suitably placed window or roof-light or borrowed lighting from rooms.

Rest of Stairs

3.12.2 Stairs shall have 32 mm red deal round nosed treads and 22 mm risers all glued blocked and bracketed checked and wedged into 44 mm strings. Newel posts, balusters and hand rails to be standard machine prepared sections or suitable steel/timber combination. Open treads shall be not less than 44 mm hardwood, and may be used in accepted special construction with timber, steel or reinforced concrete.

3.12.3 Every flight shall be adequately protected on each side and have at least one handrail, secured at a height not less than 840 mm and not more than 1 m measured vertically from the pitch line. Closed string stairs shall be to I.S. 158.

3.13 **Windows**
Sliding, hung or pivoted timber sashes and frames to be made from standard machine-prepared sections pressure impregnated with preservative.
Wood casement windows shall be to I.S. 63.
Galvanised steel casement windows shall be to I.S. 60.
Aluminium or P.V.C. windows of accepted make may also be used, in accordance with manufacturer's instructions.

NOTE. Glazed area to be not less than 10% of floor area of room.
Opening area to be not less than 5% of floor area of the room.

Window boards shall be 32 mm wrot, moulded on edges and corners and secured to grounds.

3.14 **External Door Frames**
External door frames shall be machine prepared 75 mm x 115 mm in wrot deal, rebated in the solid, secured to grounds and dowelled at foot to heel blocks.

NOTE. Under no circumstances should feet of external door frames rest on, or be set into, concrete paving or step.

3.15 **Internal Door Frames**
Internal door frames shall be 35 mm thick wrot deal with 16 mm planted stops or 44 mm thick wrot deal rebated in the solid, secured to grounds.

3.16 **External Door**
External doors shall be to I.S. 48 or I.S. 52, hung on 1½ pair 100 mm steel butt hinges.

3.17 **Internal Door**
Internal doors to habitable rooms shall be to I.S. 48 or I.S. 52 hung on 1 pair 100 mm steel butt hinges. Sliding doors to be not less than 44 mm thick and hung on acceptable proprietary track.

3.18 **Trap Door**
Form trap door 500 mm square or half hour fire rating suitably located to give access to roof space.

3.19 **Hot Press**
Hot press to have not less than 2m² of spar shelving, 22mm x 44mm wrot, at 75mm centres supported on 22mm x 44mm battens. Where necessary, the cylinder shall be carried on 22mm T and G on 35mm x 75mm framed bearers. Hang suitable door, framed to prevent warping and fitted with suitable catch. Holes for pipes etc. to be neatly made good.

NOTE. Hot press doors are very liable to distort due to temperature difference. Consideration should be given to insulating the inner face of the door.

3.2 **Fitments**
All fitments and built-in units shall be of such design, material and workmanship so as to satisfy completely the demands of normal usage.

3.21 Trimmings

3.21.1 Skirtings 16mm x 100mm wrot deal to all floors well fixed to grounds. Plastic skirting may be used where appropriate.

3.21.2 Architraves may be 16mm x 75mm wrot deal or as necessary to form neat joint, mitred at angles and securely fixed to grounds.

3.21.3 Saddles shall be hardwood, cut of 22mm x 150mm splayed, scribed to door frames and secured to floor. For external doors accepted proprietary thresholds may be used.

Section 4 IRONMONGERY AND GENERAL

4.1 Eave Gutters and Rain Water Pipes
Eave gutters and rain water pipes shall be to relevant I.S.S. and may be:-

GUTTERS	I.S.	PIPES
125 mm	42	75 mm Cast Iron
125 mm	59	75 mm 14 SWG galvanised pressed steel
125 mm	71	75 mm Asbestos cement
125 mm		75 mm Aluminium
115 mm		65 mm P.V.C.

Metal and A.C. gutters to be supported on suitable brackets at not more than 2m centres, joisted with mastic compound (and gaskin washers in the case of asbestos cement) and bolted with galvanised gutter bolts and nuts. P.V.C. gutters to be supported on suitable brackets at not more than 1m centres and jointed in accordance with manufacturers instructions. Gutters to be set to falls. At least two stacks of rain water pipes shall be provided secured by holder brackets and kept clear of wall. Provide and fit all necessary matching stop ends, angles and drop nozzles, swannecks, hopper heads and toes. Rainwater pipes to discharge approximately 50mm above gully grid.

4.2 Windows
See 3.13.

4.3 Sash Fittings
All opening sashes shall be fitted with strong metal fasteners. Centre pivoted, top, side or bottom hung sashes to have suitable stay gear. Up and down sashes shall be hung on brass bushed and faced steel sash pulleys with suitable sash cords and weights or on accepted patent hanging gear.

4.4 Door Fittings
Internal doors shall be hung on one pair 100mm steel butt hinges and fitted with suitable mortice type lock or catch and complete with furniture. Provide bolt or locking device to bathroom and toilet doors.

External doors shall be hung on 1½ pair of 100mm steel butt hinges. Entrance door shall be fitted with cylinder night latch and external pull handle. Provide and fit letter place on or near door. Other external doors shall be fitted with bolt and rim or mortice lock suitable for external use. See 12.1.3.

4.5 Ventilation Grids
External openings to ventilators shall be fitted with galvanised cast iron, aluminium, concrete, or accepted P.V.C. louvred grids. See 2.13.3.

Section 5 ROOFING

5.1 **Sarking Felt**
Untearable sarking felt to I.S. 36 shall be laid under all slates and tiles, lapped horizontally not less than 75 mm for pitches greater than 25° and 150 mm for lesser pitches, carried down into eave gutters. Side lap shall not be less than 150 mm for pitches over 25° and 500 mm for lesser pitches. Felt to be carried fully over ridge board.

5.2 **Laths or Battens**
Laths or battens shall be 44 mm for rafter spacings not greater than 400 mm. For spacing up to 600 mm battens not less than 44 mm x 44 mm shall be used. Tilting fillet to be provided at eaves where necessary.

5.3 **Quarry Slates**
Quarry slates shall be laid to a minimum pitch of 30°, lap 100 mm fixed with 2 No. 10 gauge galvanised slating nails double course at eaves, and slate and a half at verges, with slate slip under.

5.4 **Asbestos Cement Slates**
Asbestos cement slates shall be to I.S.7. The normal pitch for asbestos cement slates shall be 30°, lap 100 mm. Each slate shall be fixed with 2 No. 10 gauge 35 mm galvanised nails and copper crampion at bottom. Provide double course at ridge and treble course at eaves.

Asbestos cement slates may be laid at a pitch lower than 30° in special circumstances.

5.5 **Concrete Roofing Tiles (normal pitch — 30° and over)**
Concrete roofing tiles (normal pitch) shall be to I.S.3 laid to a pitch of not less than 30°. Every tile in every alternative course to be fixed with 1 No. 50 mm 10 gauge galvanised nail. Lap 75 mm clear of nail hole. Pantiles shall be closed at eaves with a course of plain tiles or slate underclock and suitably coloured sand/cement pointing. Alternatively patent eave closer and filler clip may be used.

5.6 **Concrete Tiles (low pitch — under 30°)**
Low pitch concrete tiles shall be laid in accordance with manufacturers instructions and to the minimum pitches accepted by the Department which may not be as low as those recommended by the manufacturers.

5.7 **General**
Slates and tiles to be neatly trimmed where necessary. Part tiles and slates to be adequately secured.

Drip overhang to be provided at eave and valley gutters.

At verges slates or tiles shall oversail wall face or barge, by at least 25 mm in the case of slates and 50 mm in the case of tiles, and shall be neatly pointed in suitably coloured sand/cement mortar.

Ridge and hip tiles shall be bedded in gauged mortar and pointed with cement mortar, suitably coloured; bedding and pointing to be done in one operation.

Provide suitable hip hooks, screwed to end of hip rafters. In industrial atmospheres special nails may be necessary. Over party walls the space between battens shall be filled with mortar to complete fire stop.

5.8 **Flashings**
Valley gutters, cover flashings and flashings to chimneys shall be

(1) No. 5 lead to B.S. 1178
(2) 22/24 gauge medium hard copper
(3) 20 gauge super-purity aluminium. (18 gauge to valleys and parapet gutters).
(4) accepted proprietary systems.

To chimney, flashing shall consist of aprons, soakers and cover flashings. The latter shall be secured in a chase in concrete block chimneys, wedged and pointed in with cement fillet formed over. To brick chimneys cover flashings shall be stepped, wedged and pointed into brick joints. Saddle pieces shall be provided at all ridges and roof intersections. Valley gutters shall be laid on felt on 20mm x 225mm wrot boarding treated with wood preservative, and turned up at edges under roof felt tiles or slates.

5.9 **Felted Flat Roofs**

Wall plates 44mm x 75mm fixed as described. Joist sizes according to span, spaced to suit decking and pitched or firred to fall of 1 to 80. Roof to project 200mm beyond face of wall, or finish with a parapet with 150mm upstand, suitably capped and flashed. Fascias and soffits as previously described. Decking 22mm T & G laid as for floors, plywood, or chipboard not less than 600 kg/m^3 of thickness.

12 mm for joists (rafters)	at 300 mm centres
15 mm for joists (rafters)	at 400 mm centres
18 mm for joists (rafters)	at 500 mm centres

or proprietary decking to manufacturers instructions. Angled wood fillets at upstands and verges out of 75 mm x 75 mm.

Plywood, chipboard or wood wool decking must be kept dry at all times and should be felted immediately after fixing. Any sheets which have been allowed to get wet must be replaced, as their strength has been seriously impaired.

First layer of felt 1 ply, close random nailed all over with galvanised clout nails. Second layer 2 ply stuck down all over with special mastic solution or hot bitumen.

Final layer as for second. Each layer in reverse directions, final layer parallel to eave carried over 22mm x 44mm batten (on fascia) at eaves and down into gutter. Felt at verges to be properly finished with welted apron dressed back over camphered verge fillet. Final layer shall be mineral surfaced, or alternatively covered with light coloured pebbles or chippings stuck on suitably, or as required by local authority. On pitched roof the final layer of felt shall be laid at right angles to eave and lapped away from the prevailing wind. The pitch shall not exceed 20° and the timbers shall be as described in 3.1 and 3.2. Insulate as necessary.

Section 6 PLASTERING

6.1 **External Plastering**

225mm hollow block, 225mm solid block and chimney stacks:-
scud walls in 3:1 sharp sand and cement. Apply 2 coats of plaster (1 cement: 1 lime: 6 sand). The total thickness of plaster shall be 20mm minimum. The second coat to be finished nap or smooth or combed for rough cast or pebbledash; or prepared for proprietary finish.

275mm cavity walling may be scud and one coat 1:1:6 plaster approximately 13mm thick and finished as above.

6.2 **Rough Cast**

Rough cast shall consist of 5-6 parts washed sand and pebbles: 1 part lime: 1 part cement.

6.3 **Reveals**

Plaster reveals to opes shall be 20mm thick and finished smooth with scored drip groove to soffit of head. All arrises shall be neatly finished.

6.4 **Plinths**

Plaster plinths to be finished smooth, and neatly cut off or weathered at top edge.

Plaster finish to extend below finished ground level.

6.5 **Internal Plastering**
Scud walls and plaster one coat 12mm thick, 1 cement: 1 lime: 6 sand. Finish with neat gypsum plaster skim, or a grey coat of gauged mortar applied with wood float. Alternatively proprietary finishes may be used to manufacturers instructions.

6.6 **Stud Partitions and Ceilings**

6.6.1 Stud partitions and ceilings to be covered with 10mm plaster boards or slabs with skimmed plaster finish or alternatively 12mm patent plaster sheets, all erected, jointed and finished to manufacturers instructions.

6.6.2 All wall plastering should be carried behind skirtings and architraves.
All internal wall and ceiling finishes, including decorative finishes, shall comply with the relevant local fire requirements.

6.7 **General**
Precautions shall be taken to protect floors and surrounding work during plastering. Make good neatly to holds for pipework etc.

Plasticisers, water proofers, sealers, and bonding agents shall be used in accordance with manufacturers instructions.

Section 7 PLUMBING

7.1 **Service Pipe**
Incoming service pipe to be 15mm diameter laid in trench 600mm deep, or otherwise suitably protected against frost, and connected to internal stopcock.

7.2 **Cold Water Supply**
From stopcock take 15mm cold supply direct to sink with branch to high pressure ball valve in service tank, capacity 225 litres, for 3 bedroom houses or 360 litres for 4 or more bedrooms or as required by local authority. Tank to be covered and adequately supported over a partition where possible and at such height as to ensure proper working of the system. Provide 22mm overflow from tank to discharge externally. Connect to service tank 50mm over bottom of tank and take 22mm feed to 150 litre hot water cylinder to IS 161 with 22mm branch over top of cylinder to bath and 15mm connections off wash hand basin and W.C.

7.3 **Hot Water Supply**
An adequate water heating apparatus must be provided and fitted in accordance with manufacturers instructions. Flow and return pipes, where appropriate, shall be as recommended by the manufacturer of the heating apparatus. A 22mm copper or stainless steel expansion pipe to be taken from top of cylinder to discharge over service tank, with a 22mm do. branch to bath and 15mm connections off for wash hand basin, sink etc.

7.4 **General**

7.4.1 Fit full way stopcock on cold feeds from service tank and fit draw off cock at lowest convenient point of system. On no account should a stop-cock be fitted on an expansion pipe.

7.4.2 Copper tubes shall be certified as complying with Irish Standard Specification I.S. 238 — 1980 in accordance with the Irish Standard Mark Licensing Scheme of the Institute for Industrial Research and Standards and shall bear the Irish Standard Mark.

7.4.3 Plastic pipes to I.S. 123, 134, or 135 where used shall be fixed at least 75mm clear of hot pipe runs. Pipes shall be fixed in straight lines as far as possible, properly jointed with patent fittings and adequately supported and secured with proper pipe clips.

7.4.4 Storage tanks and pipes to be insulated against frost where necessary.

7.4.5 Where other domestic water heating systems are used they shall be competently designed and installed.

7.4.6 **Compression tube fittings of copper alloy**
Compression tube fittings of copper and copper alloy shall be certified by the Institute for Industrial Research and Standards under the Irish Standard Mark Licensing Scheme as complying with I.S. 239:1980 "Compression tube fittings of copper and copper alloy", and shall bear the Irish Standard Mark.

7.5 **Sink**
Provide and fit in kitchen or scullery stainless steel sink and drainer to I.S. 132 suitably supported, or alternatively white glazed fireclay sink 600mm x 400mm x 250mm supported on 2 No. iron or steel brackets and fitted with suitable drainer. Sink to be provided with adequate overflow. Top of sink to be not less than 850mm over floor level. Form enclosed press, with raised floor and recessed plinth under sink and drainer.

7.6 **Bath and Wash Hand Basin**
Fit where indicated a bath in vitreous enamelled cast iron or other accepted material, minimum length 1700mm nominal and panelled as necessary and vitreous china wash hand basin 550mm x 400mm suitably supported and secured with not less than 150mm clearance to sides. Both to be provided with adequate overflow.

7.7 **Plugs, Traps, Wastes and Taps**
15mm hot and cold chrome plated brass taps to be fitted to sink and wash hand basin, and 22mm do. to bath. Provide 42mm waste fitting to bath and sink and 35mm to wash hand basin. All complete with plug and chain. Fit S or P trap, complete with cleaning eye and copper, lead or acceptable plastic waste pipe adequately secured and fitted with cleaning eyes as necessary and discharging approximately 50mm over gully trap.

7.8 **W.C. Suite**
Provide and fit where indicated W.C. suite, with cistern, to I.S.70, all fully supported and secured. Connect to soil pipe with proprietary flexible coupling or other acceptable joint. Cistern to be provided with adequate overflow.

7.9 Pipes shall not be jointed within the thickness of a wall.

Section 8 DRAINAGE

8.1 **Trenches**
Trenches shall be excavated to the necessary depths, widths ands falls to allow the drains to be properly laid. The water service shall be in a separate trench from the drain. See also 1.3.2.

8.2 **Drain**
The main and branch drains shall be 100mm diameter laid to continuous falls of not less than 1 in 60 or not more than 1 in 30, with bends and junctions, splayed in the direction of flow, where required, and laid in straight lines from manhole to manhole. The drain shall be P.V.C., cast iron, impermeable glazed ware with flexible joints or concrete with flexible joints, all laid, jointed and back filled to manufacturers instructions or shall be socketed impermeable glazed ware or concrete supported on continuous concrete bed mix B 100mm thick x 300mm wide for full length of each pipe and haunched half way up the pipe after testing and shall be jointed in cement mortar, well worked in against 2 rings of tarred gaskin and finished with a neatly worked fillet. Clean pipe internally as necessary after each joint is made.

8.3 **Back Filling**
Immediately over pipes back fill in fine material and fill remainder of trench in selected excavated material, well rammed and remove surplus spoil.

8.4 **Drains under Roads and Buildings**
Where drains pass under roadways or are likely to be subjected to heavy traffic, they should be fully encased in 150mm concrete, mix B. Drains shall not be taken under any buildings unnecessarily, but where this is unavoidable pipes shall be cast iron, or encased in 150mm of concrete mix B or otherwise to local authority requirements and laid in straight lines. Form ducts through rising walls or foundations as necessary to avoid damage to drains.

8.5 **A.J.s, Manholes, Drop-Manholes**
Armstrong junctions or manholes as suitable shall be provided at each change in direction or gradient of drain and at septic tank and of such dimensions and spacing as to permit easy cleaning of the system. Manholes shall be built in 225mm concrete walls on 150mm thick concrete floor mix B, with glazed channels, bends and branches, suitably benched. Benching and internal walls to be finished smooth in cement mortar. Fit cast iron, reinforced concrete, or hot dipped galvanised steel frame and cover. Covers to have provision for lifting. Where required by local authority, outfall manholes shall be formed, with interceptor trap, stoppered cleaning eye and air inlet.

8.6 **Gullies and A.J.s**
Gullies and Armstrong junctions to be set level, supported on 150mm concrete bed, mix B, and connected to drain as previously specified. Armstrong junctions shall have frame and cover of cast iron, aluminium or galvanised steel.

8.7 **Gully Traps**
Gully traps shall be set in dished concrete surround, to take wastes from bath, sink and wash hand basin and discharge from rain water pipes, and shall be fitted with cast iron, aluminium, or other suitable grid.

8.8 **Soak Pits**
Where sewage disposal is to be a septic tank, rain water shall be piped to a separate soak pit, not less than 6m from the house or to a suitable watercourse.

8.9 **Septic Tank**
Septic tank, where provided, shall be located so as not to endanger any well or other source of water supply and shall be in accordance with S.R.6 1975.
Septic tanks to accepted prefabricated systems may also be used.

8.10 **Vent Shaft**
At head of drain, carry up 50mm minimum diameter vent pipe over eave level or to 1m over head of highest window within 4m of vent, secured with proper brackets and fitted with cowl or cage.

8.11 **Single Stack Drainage**
Single stack drainage, where provided, must be in accordance with British Standard Code of Practice No. 304 (1968).

8.12 **Testing**
Test plumbing and drainage on completion to ensure watertightness and efficient working of the system, and as may be required by the local authority. See also 8.2.

Section 9 ELECTRICAL INSTALLATION

9.1 **Installation**

Electrical installation shall be in accordance with the "National Rules for Electrical Installations" obtainable from the Electro-Technical Council of Ireland and shall have, in suitable locations, at least:-

Lighting Outlets	Socket Outlets
One in every room, landing/stairway, hall and corridor.	One in every bedroom. Three singles in one living-room. Two singles in kitchen excluding any cooker point. One in each other habitable room, entrance hall or landing.

Conduit shall be used where cable is buried in plaster. Joists shall not be notched: where necessary the cable shall be taken through holes bored in centres of joists.

Section 10 PROTECTIVE PAINTING

10.1 **Preparation**

All surfaces to be painted or otherwise protectively coated shall be cleaned down and prepared by wire brushing, sanding, planing or as necessary to obtain the best possible finish. Timber preservatives should be applied where already specified in 3.2 et seq.

10.2 **Paints**

Thinners, sealers, primers, colour washes, paints, varnishes or other brush, roller or spray applied finishes shall be of suitable manufacture for the surface and material to be covered and shall be applied strictly in accordance with the manufacturer's instructions.

10.3 **Woodwork**

All woodwork usually painted shall be knotted, stopped, primed and painted with two undercoats and one finishing coat. Alternatively, may be stained or dyed and knotted, primed and finished with two coats varnish.

Decorative hardwoods may be treated traditionally internally and shall be oiled or treated with suitable preservatives externally, or may be painted or varnished, as previously specified.

10.4 **Metal Work**

All metalwork, ironmongery, rainwater goods, shall be cleaned down, suitably primed, twice, undercoated and one coat finished.

Section 11 GLAZING

11.1 **Glass**

All window panes up to 0.5m² shall be glazed in 3mm glass
All window panes up to 1.5m² shall be glazed in 4mm glass
All window panes over 1.5m² shall be glazed in 5mm or 6mm glass

All panes less than 600mm over floors shall be 6mm glass.

11.2 **Fixing**
Bathroom W.C. or other closet windows may be glazed in obscured glass to standard as above. Before glazing, timber rebates shall be painted and back puttied. Glass shall be sprigged and puttied with linseed oil putty to I.S.28 or other acceptable non-hardening compound and neatly struck off. 5mm glass and over shall be fixed with a suitable glazing slip, pinned and bedded in mastic. Galvanised steel windows shall be back puttied and finished with metal sash putty or other suitable mastic.

11.3 **General**
House to be thoroughly cleaned and all rubbish removed, on completion.

Section 12 FIRE PRECAUTIONS

12.1 **Garage**

12.1.1 Garage under first floor rooms: — the ceiling in the garage shall be 10mm plaster slab with skim coat finish or 10mm soft asbestos sheets with joints thoroughly sealed.

12.1.2 Garage directly under roof of house: — separating wall to be taken to plane of roof and treated as for party wall to complete fire stop. See 2.11 and 5.7.

12.1.3 Any door between garage and dwelling shall be self closing and door and frame shall have half hour fire rating. Garage floor shall be 100mm under floor level of house.

12.2 **Central Heating**
A central heating unit shall not be located in a garage.

Section 13 VENTILATION

13.1 **Rooms**
Every habitable room, kitchen, and scullery shall have an opening window area of not less than one twentieth of the room area, ventilated directly to open air.

13.2 **Bathrooms**
Bathroom and W.C. apartment shall be ventilated as above subject to a minimum of 0.1m².

13.3 **Lobby**
A ventilated lobby shall be provided between any W.C. apartment and a living room, kitchen or scullery.

13.4 **Presses**
All built in cupboards, presses, closets and wardrobes to be adequately through ventilated.

13.5 **Under Floor**
Under floor ventilation shall be as previously specified under 2.25 and 3.6.

13.6 **Garage**
Garage must have permanent ventilation.

Section 14 THERMAL INSULATION

14.1 Insulation must be in accordance with the maximum U-Value laid down by the Department viz., a general whole building standard not exceeding 0.85 W/m²°C and elemental values as follows:

External Walls	0.60 watts per square metre per degree celsius.
Roofs	0.40 watts per square metre per degree celsius.
Ground Floors	0.60 watts per square metre per degree celsius.
External parts of intermediate floors	0.60 watts per square metre per degree celsius.

U-values will be required to be calculated in accordance with the method for calculating standard U-values set out in Section A 3 of the C.I.B.S. Guide Book A 1980 published by the Chartered Institution of Building Services.

14.2 **Mineral fibre mats for thermal insulation of buildings**
Mineral fibre mats for thermal insulation of buildings shall be certified by the Institute for Industrial Research and Standards under the Irish Standard Mark Licensing Scheme as complying with I.S.260: 1984 "Mineral fibre mats for thermal insulation of buildings", and shall bear the Irish Standard Mark.

METRIC CONVERSION

25mm	=	1 inch(es) approx.
50mm	=	2 inch(es) approx.
100m	=	4 inch(es) approx.
300mm	=	12 inch(es) approx.
600mm	=	24 inch(es) approx.
1.00m	=	39.37 inches approx.
1 litre	=	0.22 gallons
1 Kilogram	=	2.20 lbs.

RECOMMENDATIONS
FOR
SEPTIC TANK DRAINAGE SYSTEMS
SUITABLE FOR SINGLE HOUSES

S.R. 6: 1975

Published by the Institute for Industrial Research and Standards with the consent of the Minister for Industry and Commerce and the Minister for Local Government.

Price Code E

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FOREWORD

These recommendations are published with the object of achieving uniform satisfactory practice in the design, construction and maintenance of a septic tank drainage system for a single dwelling house.

The recommendations were prepared by a committee of technical officers drawn from the Department of Local Government, Dublin County Council, the Eastern Health Board and the Institute for Industrial Research and Standards.

The committee examined the existing practice of septic tank design and operation. It considered that the percolation area is the most important part of the septic tank system. The practice of constructing soakpits should be discontinued.

It is intended that these recommendations should apply to new houses constructed with individual septic tank systems. However, it is recognised that in some parts of Ireland it may not be possible, because of unsuitable ground conditions, to apply these recommendations without causing undue hardship. In this event discretion should be exercised recognising the hazard to health and amenity on the one hand and the housing needs on the other. A similar exercise of discretion may be necessary in the application of these recommendations to existing houses.

These recommendations are not applicable to a group of houses having a communal septic tank system.

The consensus of modern expertise favours the treatment of all domestic waste in a single septic tank. Consequently the tank design given in these recommendations provides for the discharge of domestic sewage as defined in Subclause 1.2.7. Under no circumstances should rainwater or surface water or farmyard washings be discharged into septic tanks.

In considering the methods available for the disposal of septic tank effluent, the committee took the view that the most widely applicable method for good practice was by means of the percolation area. The committee recognised, however, that in some cases disposal into rivers or watercourses could be acceptable, depending on minimum dilutions and other relevant factors.

The Institute wishes to acknowledge the value of the comments received from those to whom the draft of these Recommendations was distributed.

It is hoped that these recommendations will be of assistance to all those interested in the disposal of domestic sewage by the use of septic tank installations.

RECOMMENDATIONS FOR SEPTIC TANK DRAINAGE SYSTEMS SUITABLE FOR SINGLE HOUSES

1. Introduction

1.1 Scope: These recommendations deal with septic tank installations used to treat and dispose of sewage of a domestic character from a single dwelling house.

Only general guidance on what is good practice in designing, constructing and maintaining treatment works of this character can be given as conditions on the site determine the requirements of particular cases. These recommendations and drawings are not intended to obviate the need for expert advice based on a knowledge of sewage treatment practice and of local conditions. Such advice should be sought in every case where the disposal of sewage is likely to prove difficult.

1.2 Definitions: For the purpose of these recommendations the following definitions apply:–

1.2.1 *Distribution box:* A chamber between the septic tank and the percolation area, arranged to distribute the tank effluent, in approximately equal quantities, through all of the distribution pipes leading from it, as shown in Appendix A. The conventional Armstrong Junction is not deemed suitable for this purpose.

1.2.2 *Distribution pipes:* A system of open jointed pipes which allows the tank effluent to percolate into the surrounding soil.

1.2.3 *Percolation area:* That area of the site through which the tank effluent seeps through the surrounding soil into the water-table, utilising a system of distribution pipes, and which has been sited and prepared in accordance with these recommendations.

1.2.4 *Reserve percolation area:* An area similar in extent to the percolation area as defined above. The reserve percolation area need not be piped at the development stage.

1.2.5 *Scum:* A soft crust which forms on the surface on the settled liquid.

1.2.6 *Septic tank:* A watertight tank through which sewage is passed to settle solids which are retained to undergo digestion by anaerobic bacterial action.

1.2.7 *Sewage (domestic wastes):* The discharge from sanitary appliances e.g., bathroom fittings, kitchen sinks, WCs, showers, bidets, garbage grinders, etc.

1.2.8 *Sludge:* The slurry which is formed in the tank by deposition of settleable solids.

1.2.9 *Servicing distance for a septic tank:* The total combined horizontal and vertical length of suction pipe employed by a tank emptying vehicle.

1.2.10 *Settled liquid:* The layer of liquid overlying the settleable solids which have mostly separated from it.

1.2.11 *Suspended solids:* The solids which are suspended in a sewage or effluent.

1.2.12 *Tank effluent:* The liquid discharged from a septic tank.

1.2.13 *Treatment works:* A septic tank and a percolation area considered as a single unit.

1.2.14 *TWL:* The top water level in the septic tank.

1.2.15 *Water table:* The level of the surface of the subsoil water.

1.3 Basic Principles. The basic principles of the operation of a septic tank system are as follows:–

1.3.1 The septic tank is designed to operate as a settlement tank wherein the settled solids form a putrescent sludge on the floor. Anaerobic digestion of the solids results in their breakdown and partial liquefaction with the evolution of gas. A scum will form on the liquid surface as maturing occurs. A properly designed and maintained septic tank will reduce the suspended solids and Biochemical Oxygen Demand (B.O.D.) in the effluent.

1.3.2 The percolation area is designed to receive the effluent from the septic tank and to discharge it uniformly to the water table through the soil. It is desirable that the highest level of the water table should be below the percolation media to ensure that a time delay exists before the effluent reaches the water table. This time delay permits bacterial action to improve the quality of the effluent.

1.4 General information required. The main items of information which should be ascertained before designing an individual treatment works are:–

1. The requirements of the Local Authority and any other statutory body e.g., the local Board of Fishery Conservators, the Department of Agriculture and Fisheries, or Department of Transport and Power—Foreshore Act.

2. The quantity of effluent to be treated derived from the number of persons served.

1.5 Particular information required. The following particulars of an individual site should also be obtained:–

The location of any wells;

The availability of a mains water supply;

The location of neighbouring habitable buildings;

The shape, dimensions and levels of the site;

The nature of the soil and the level and variations of the water table;

The proximity of any river or watercourse which may result in (*a*) the flooding of the percolation area or (*b*) the pollution of a river or watercourse;

The provision of access for a tank emptying vehicle to within servicing distance of the septic tank;

The possible elimination of the treatment works by a public drainage system at a later date.

1.6 Time schedule. The treatment works for a new house should be complete and ready for operation before the house is occupied.

2. Site Suitability Tests

2.1 General. The basic requirements of a site on which it is proposed to install a treatment works are as follows:–

2.1.1 The soil in the percolation area must have an acceptable percolation rate without interference from ground water or impervious strata.

2.1.2 Sufficient space must be available for the percolation area and for a reserve percolation area within the curtilage.

2.2 Test failure. Sites which cannot be made to meet the test requirements are not suitable for treatment works.

2.3 Test for water table. The purpose of this test is to determine the suitability of the site to accept tank effluent, by means of determining the ground water level and the soil structure at the site of the percolation area of the proposed treatment works. Ideally the distribution pipes, plus their surrounding gravel should remain above the water table at all times of the year. It is recommended that records of these test results be kept to assist in the interpretation of individual test results in a particular area.

2.3.1 *Test procedure:* At all times use should be made of local knowledge to ascertain the highest water table and incidence of flooding. The use of this local knowledge is particularly important when the test is carried out between April and December of the same year when the highest level of the water table is unlikely to be recorded.

2.3.1.1 A trial hole shall be dug a minimum of 1 m×1 m×2 m (3 ft×3 ft×6 ft 6 in.) deep. Any temporary shoring which may be necessary shall not extend more than 1·4 m (4 ft 6 in.) from the top of the trial hole.

2.3.1.2 The hole shall then be covered and left for 48 h. Where the test is carried out in January, February or March of the same year, the depth of water should be less than 1 m (3 ft) after the 48 h period. When the test is carried out in the remaining months of the year the depth of water should not exceed 0·6 m (2 ft) after the 48 h period. Where local knowledge of flooding and water table level does not conflict with the test results the site may be deemed suitable subject to the remaining requirements of 2.1 and 2.3.1.3. Fig. 1 shows a trial hole.

2.3.1.3 Two trial holes shall be dug one in the percolation area, and another in the reserve percolation area, both dug as described in 2.3.1.1.

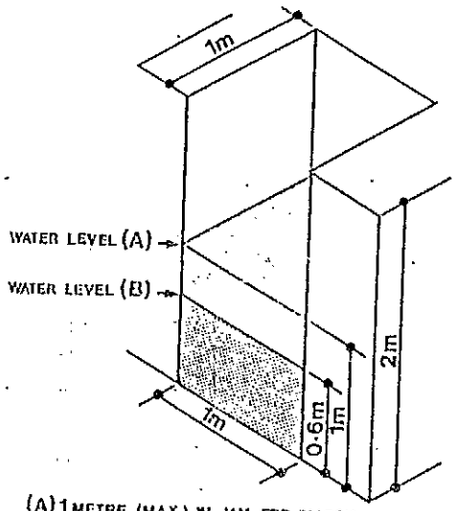
2.3.2 *Test failure:* Where the above criteria are not met it may be possible to render a site suitable by means outlined in Appendix C.

2.4 Percolation test: The purpose of this test is to determine the extent of the percolation area required.

2.4.1 *Test procedure:* The test shall be carried out at the percolation areas of the proposed site as follows.

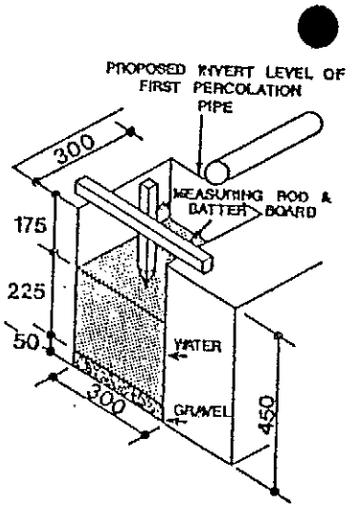
2.4.1.1 A test hole shall be dug 300 mm (12 in.) square to a depth of 450 mm (18 in.) below the invert level of the first percolation pipe, as shown in Figs 2 and 3.

2.4.1.2 The bottom and sides of the holes should be carefully scratched with a knife or similar tool to remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate.



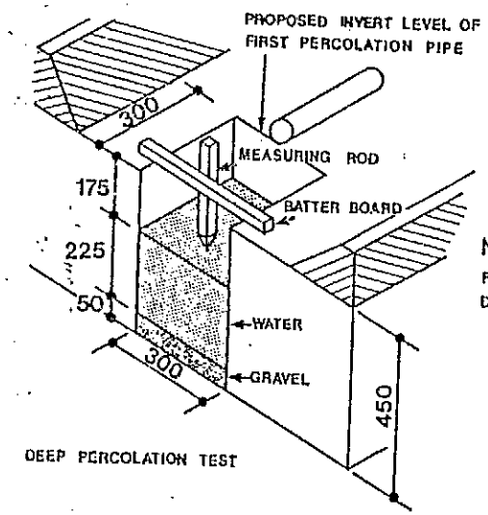
(A) 1 METRE (MAX.) IN JAN. FEB. MARCH
(B) 0·6 METRES (MAX.) IN REMAINDER OF THE YEAR

FIG.1, WATER TABLE TRIAL HOLE



SHALLOW PERCOLATION TEST

FIG.2, PERCOLATION TEST HOLE



DEEP PERCOLATION TEST

Note :
FIGURES 2 & 3
DIMENSIONS IN (mm)

FIG.3, PERCOLATION TEST HOLE

2.4.1.3 All loose materials should be removed from the hole.

2.4.1.4 A 50 mm (2 in.) course of sand or fine gravel should be added to protect the bottom from scouring and sediment.

2.4.1.5 The hole should be carefully filled with clear water to a minimum depth of 300 mm (12 in.) over the gravel. The purpose of filling the hole is to allow the soil to approach the condition that may be expected during the wettest period of the year and therefore the most difficult for the proper operation of the percolation area. The percolation rate should be determined 24 h after the water is first introduced into the hole.

2.4.1.6 Next day the hole should be refilled with water to a depth of 225 mm (9 in.) and the time in minutes for this water to seep completely away observed. Divide this time by 9 to get the average time required for the water to drop 25 mm (1 in.). Care should be taken to exclude rain or surface water from the test hole.

2.4.1.7 Two test holes should be tested for both the percolation area, and the reserve percolation area and the average time for the 25 mm (1 in.) water drop for each of the four test results shall in turn be averaged giving the value 'T'.

2.4.2 *Test results.* The relationship between the value 'T' and the length of distribution piping required for the percolation area is as given in Table 1. The sizes of the percolation area may be calculated from the information in Table 1 and Clause 3 'Design Considerations'.

2.4.3 *Test failure:* A proposed percolation area whose 'T' value is greater than 60 shall have failed this test.

TABLE 1. PERCOLATION AREAS

Value of 'T'	Length of Distribution piping in m
1	17
2	21
3	26
4	30
5	35
10	47
15	56
30	78
60	105

3. DESIGN CONSIDERATIONS

3.1 General.

3.1.1 The first design requirement of a proposed site is that the test results should conform to the requirements of Clause 2.

Peripheral conditions will determine the minimum area of the site required and the areas recommended under the different conditions are given in Appendix B.

Where a mains water supply is available the tank and percolation area should be sited as described in 3.3 below. Where no mains water supply exists the tank and percolation area must be sited so as to minimise the risk of contamination of the water source. Guidance for this condition is given in 3.4 below but it is important that use be made of expert and local knowledge.

3.2 Septic tank design and location.

3.2.1 The capacity of a septic tank should be based on the number of persons served and the following formula may be used:–

$C=(180P+2000)$ litres $[(40P+440)$ gallons.$]$

Where garbage grinders are in use the above formula should be altered to give the following increased capacity:-

$C=(250P+2000)$ litres $[(55P+440)$ gallons.$]$

where C=capacity of the tank.

P=the design population subject to a minimum value of 4.

3.2.2 Regard should be had for the provision of access for a tank emptying vehicle or its equipment and also to the requirements of the Local Authority regarding access.

3.2.3 Septic tanks complying with these recommendations should have a capacity of not less than 2,720 litres (600 gallons) and should not be located nearer than 18 m (60 ft) to the nearest point of any dwelling except in the case of the dwelling served by the tank, when the distance may be reduced to 7 m (23 ft).

3.3 Design and location of a percolation area where a mains water supply is available.

3.3.1 *General.* The shape, slope and area of the site should be such as to prevent nuisance arising from the percolation of sewage effluent outside the boundaries of the site or creating conditions which would give rise to a public health nuisance.

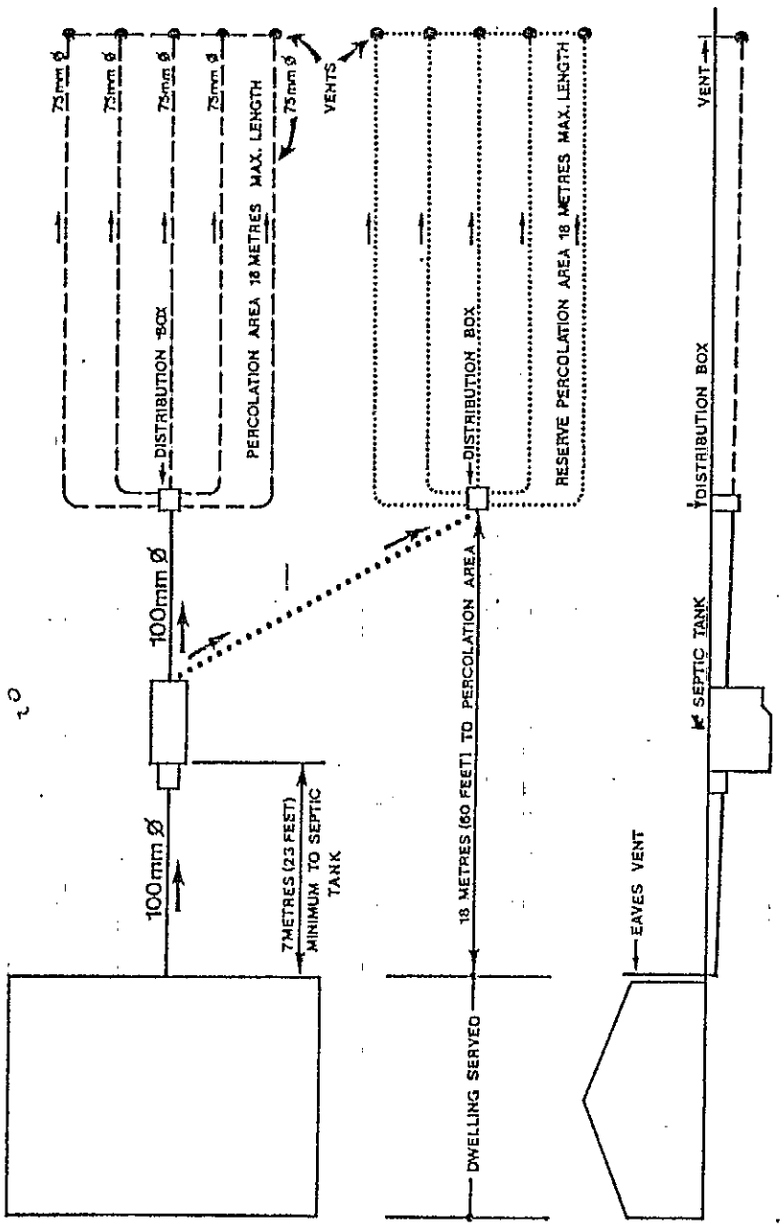


FIG. 4, TYPICAL PLAN & SECTION OF SEPTIC TANK, DISTRIBUTION BOX & PERCOLATION AREAS

3.3.2 *Design.* From the result of the test in Clause 2.4 of these recommendations the length of distribution piping required will be known. This length should then be sub-divided into a number of equal lengths and positioned on plan, subject to the following:–

3.3.2.1 No part of the percolation area should be closer than 18 m (60 ft) to the nearest point of a dwelling, or any other habitable building.

3.3.2.2 The extent of the percolation area is determined by the following criteria:–

1. No distribution pipe should be longer than 18 m (60 ft).
2. There should be a minimum distance of 2 m (6ft 6in.) between distribution pipes.
3. No part of the percolation area should be within 10 m (33 ft) of the nearest road boundary, stream or ditch nor within 3 m (10 ft) of the boundary of the adjoining site.
4. Advantage should be taken of site conditions which may permit improvement on the above dimensions.
5. No water mains or service pipes should be located within the percolation area.

3.3.3 *Location:* The above figures will give the surface area required for the percolation area. Generally this should be located to the rear of the site and in such a position that the same criteria can be applied to the reserve percolation area. Fig. 4 shows a layout which may be suitable.

3.4 Design and location of percolation areas where no mains water supply is available.

3.4.1 *General:* In this situation the water supply will normally be obtained from a local source such as a well, spring, or borehole. The isolation of the water supply source from the percolation area is of primary importance since contamination from the percolation area can be carried for considerable distances particularly in sandy soils, gravels and fissured rock. It is not possible to specify with confidence a safe minimum distance between the water source and the percolation area without a detailed knowledge of the geology and soil characteristics of the area and specialist advice should be sought.

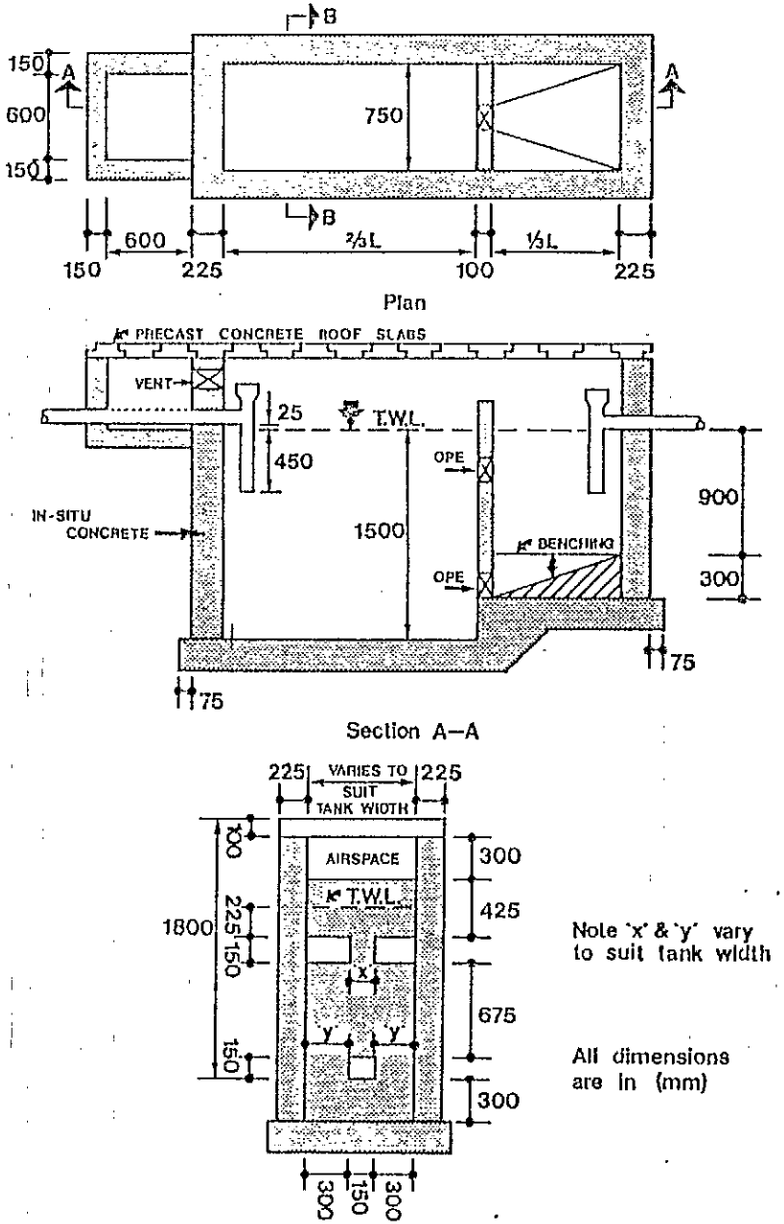


FIG. 5, DETAILS OF CONCRETE SEPTIC TANK CAST IN-SITU

3.4.2 Use should be made of the test for Water Table (Clause 2.3) in order to arrive at an estimation of the direction of flow of the underground water. Where the direction of flow can be established, the percolation area should be located at the lowest level consistent with the recommendations of Clause 3.3.

3.4.3 The chemical and bacteriological quality of the water supply should be checked regularly, to ensure continued fitness for human consumption.

3.4.4 No water supply pipes should be located within the percolation area.

4. Construction of Treatment Works

4.1 General.

4.1.1 All materials used in the construction of the works should comply with the latest editions of relevant Irish Standards or such other specifications in so far as they are applicable.

4.1.2 *Safety.* The work should be protected against accidents and unauthorised interference.

4.2 Drain to Septic Tank.

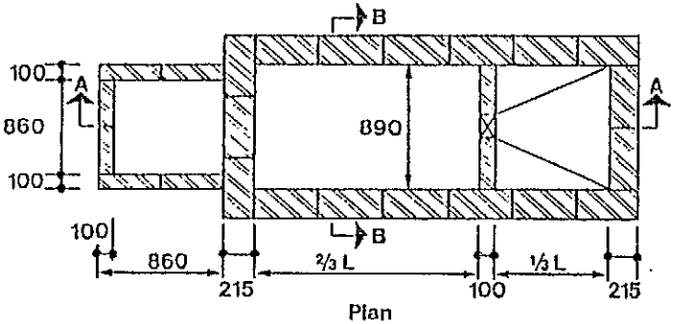
4.2.1 The drain to the septic tank should be at least 100 mm (4 in.) in diameter. This drain may be of earthenware, concrete, asbestos cement or uPVC, laid at a grade to give self cleansing velocity and jointed to give a watertight drain. The layout of this drain should facilitate a future connection to a public drainage system.

This drain should be vented by means of the soil vent pipe at the house, so as to minimise the risk of smell.

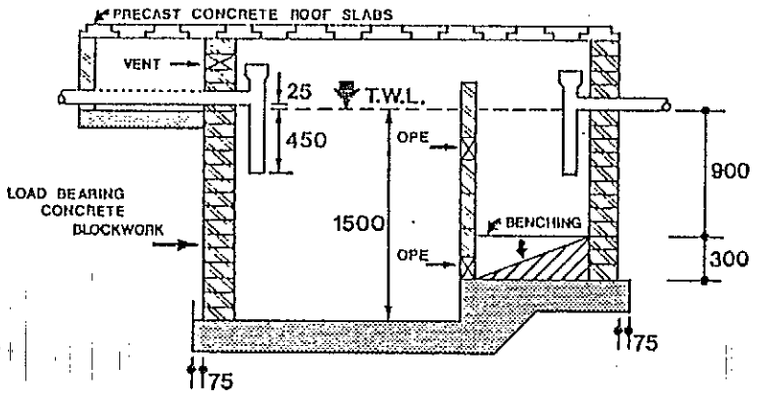
4.3 Septic tank.

4.3.1 Septic tanks may be either prefabricated or built *in-situ*. Prefabricated tanks should be manufactured from suitable materials and the essential requirements of these recommendations for capacity, hydraulics, strength and watertightness should be observed. The design of the tank should be such that flotation will not occur due to ground water level.

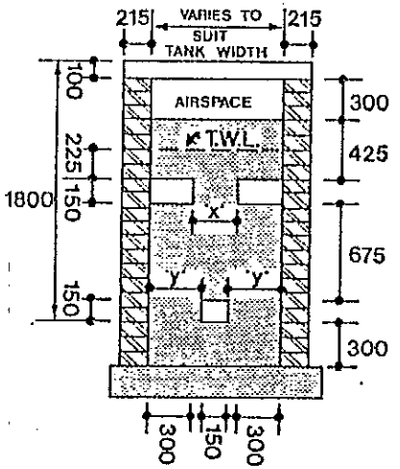
Septic tanks built *in-situ* should have floors constructed of reinforced concrete 225 mm (9 in.) in thickness. Walls should be constructed of either reinforced concrete (see Fig. 5) or concrete blocks (see Fig. 6). Where walls are constructed of blockwork, the blocks should be solid and comply with the requirements of Irish Standard 20 'Concrete Building Blocks'.



Plan



Section A-A

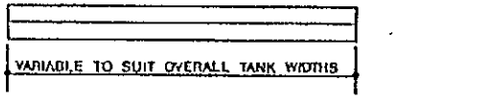


Note : 'x' & 'y' vary to suit tank width

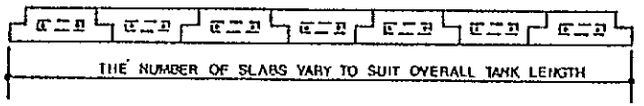
All dimensions are in (mm)

Section B-B

FIG. 6, DETAILS OF CONCRETE BLOCK SEPTIC TANK



Front Elevation



End Elevations

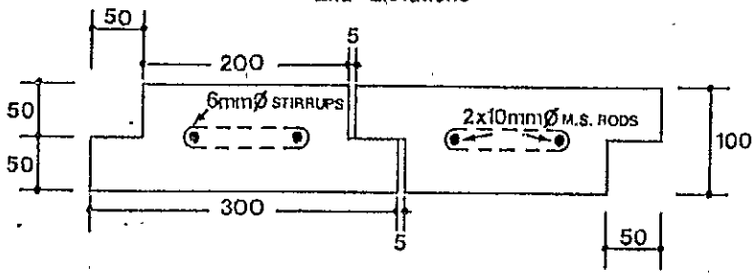


FIG. 7, DETAILS OF REINFORCED CONCRETE ROOF SLABS

Reinforced Concrete Roof Slabs as shown are intended only for Pedestrian Traffic. If heavier Traffic or longer Spans are likely these Units should be redesigned. Dimensions are in (mm).

Block walls should be rendered and plastered inside to give a total thickness of wall of 225 mm (9 in.). Reinforced concrete walls should be built to a total thickness of 225 mm (9 in.). Roofs should be constructed of removable precast concrete slabs as illustrated in Fig. 7. These slabs should be suitably reinforced for the span of the slabs and the load carried. Timber should never be used for roofs.

Generally the tank length should be three times the width. This length should be divided in two by a partition and the inlet compartment should have a length of approximately $\frac{2}{3}$ of the total length of the tank. The finished internal width of the tank should be at least 0·75 m (2 ft 6 in.). The tank should be at least 1·5 m (5 ft) deep below TWL in the inlet compartment. There should be at least 300 mm (12 in.) airspace between the underside of the tank roof and TWL. This airspace should be suitably vented to the atmosphere through the soil vent pipe.

The inlet T-pipe should be manufactured from a material not easily damaged by being rodded. The inlet invert should be 25 mm (1 in) above outlet invert. At the inlet side of the septic tank a manhole should be provided and suitably covered.

The inlet and outlet T-pipes should extend below TWL to a depth of approximately 450 mm (18 in.) into the settled liquid.

The typical sizes of septic tanks are shown in Table 2.

TABLE 2

TYPICAL SIZE OF SEPTIC TANKS

Population Served	CONSTRUCTION			
	In-Situ		Conc. Block	
	Vol. (l)	L (mm)	Vol. (l)	L (mm)
4	2720	2685	2860	2370
6	3080	3030	3120	2600
8	3440	3390	3390	2820
10	3800	3750	3780	3150

4.4 **Percolation area.**

4.4.1 The pipe from the septic tank to the percolation area should be watertight and be at least 100 mm (4 in.) in diameter. The pipe from the septic tank should end at a distribution box from which the distribution pipes of the percolation area will begin. The distribution pipes should be 75 mm (3 in.) in diameter plain ended, in lengths of not more than 300 mm (12 in.), and laid in trenches at least 750 mm (2 ft 6 in.) wide. The pipes should be surrounded by at least 150 mm (6 in.) of coarse gravel which should extend the full width of the trench. The gravel should be 40–28 mm in size. The end of each distribution pipe should be vented to at least 225 mm (9 in.) over the ground level. The gravel should be covered with plastics sheeting and the trenches back filled.

The distribution pipes should be laid open jointed with 6 mm ($\frac{1}{4}$ in.) gaps and to a fall not greater than 1 in 200 to ensure as even a flow as possible.

The layout of the distribution pipes should be such as to make optimum use of the area available, consistent with the recommendations of Clause 3.3.

Examples of the layout of percolation areas are given in Appendix A.

5. Maintenance of Treatment Works

5.1 **General.**

5.1.1 Treatment works built in accordance with these recommendations should give satisfactory performance but the duration of this performance will depend on the regular maintenance of the works. It is not possible to recommend a maintenance schedule for all cases since the intensity of use of the works may vary considerably.

They should however be inspected at least once a month. The following recommendations are based on four person use.

5.2 **Maintenance of septic tank.**

5.2.1 The inlet manhole should be inspected and any solid matter which may clog the inlet tee-pipe should be removed.

The inlet and outlet tee-pipes should be inspected and rodded to ensure that scum does not collect and that the vertical leg is not obstructed.

APPENDIX A

Layout of Percolation Areas

Figures 8, 9, 10, 11 and 12 are given to show the layout and details of the construction of percolation areas in various situations.

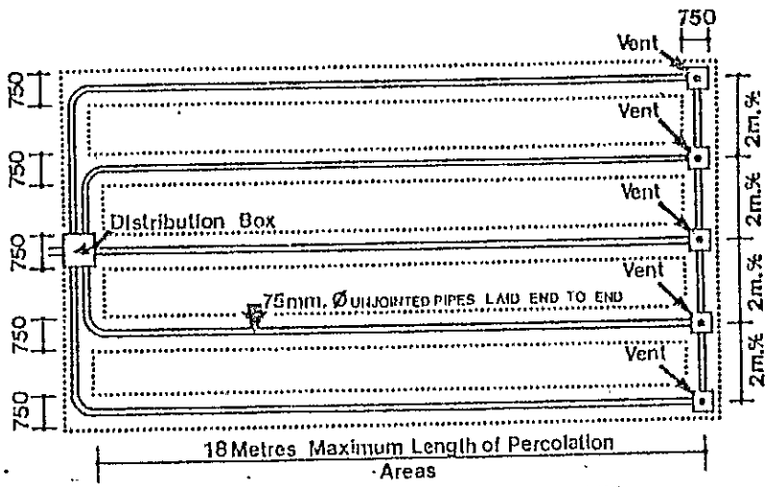
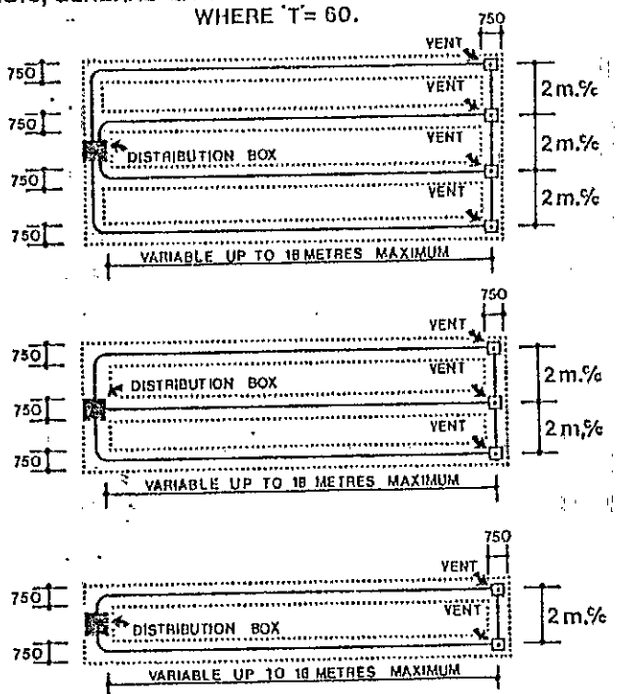
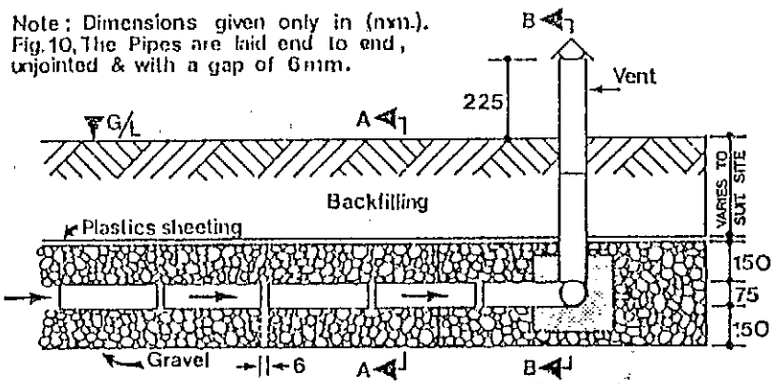


FIG. 8, GENERAL LAYOUT OF PERCOLATION AREA WHERE 'T'= 60.



Note: Length of Percolation Areas to suit the 'T' value of the Site. For details of Vents & Distribution Box see Figs 10–11. Dimensions in (mm). or as indicated.

FIG.9, GENERAL LAYOUT OF PERCOLATION AREAS WHERE 'T' < 60.



Longitudinal Section showing Unjointed Percolation Pipes & Vent

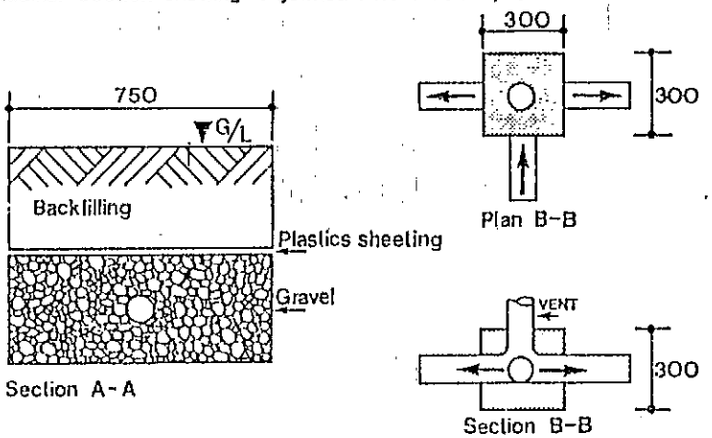


FIG.10, CONSTRUCTION DETAILS OF PERCOLATION AREAS

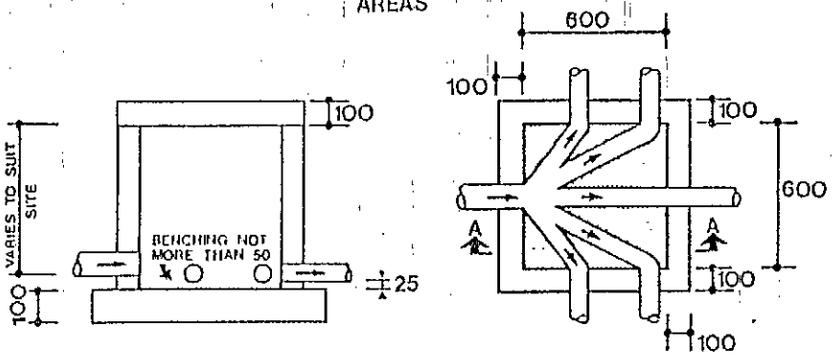
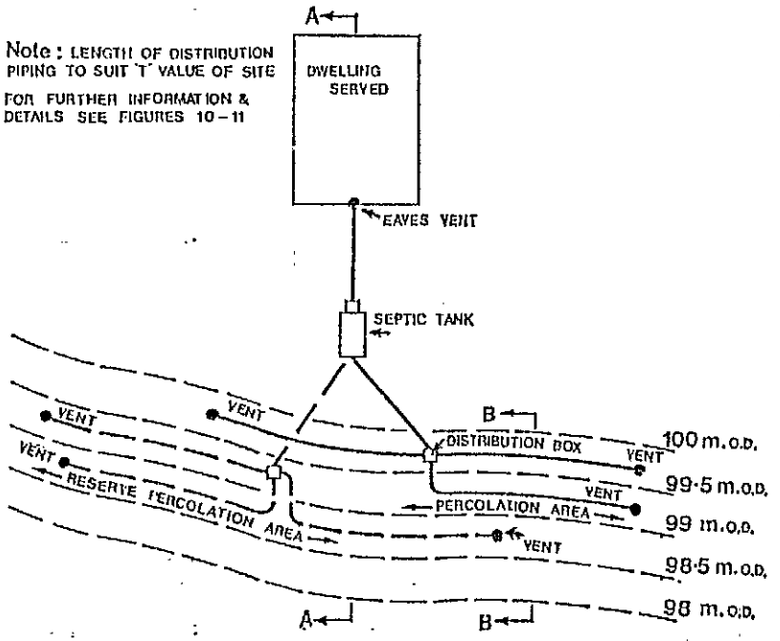
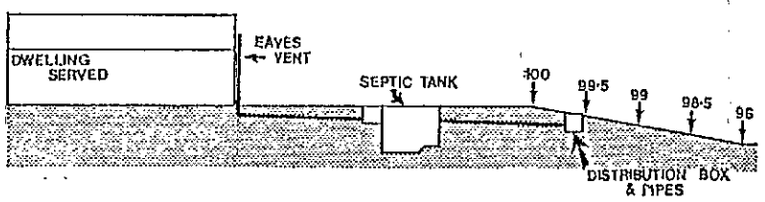


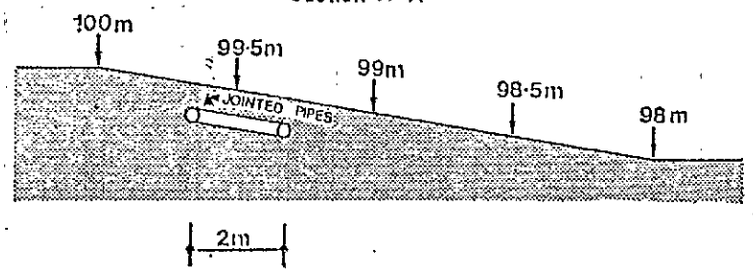
FIG.11, CONSTRUCTION DETAILS OF A TYPICAL DISTRIBUTION BOX



Percolation by Contour Distribution



Section A-A



Section B-B

FIG.12, EXAMPLE OF SEPTIC TANK PERCOLATION AREAS ON SLOPING GROUND

APPENDIX B

Peripheral Conditions and their Effect on Minimum Site Areas

Note 1: 'Peripheral conditions' refer to the boundary conditions of the site excluding the road boundary.

Note 2: A free boundary refers to a boundary (indicated in the sketches below) which adjoins undeveloped land and which could permit the septic tank effluent to be disposed of in this undeveloped land in the event of the failure of both percolation areas.

B.1 The site test results and boundary requirements of these recommendations will determine the minimum size of site required. Where the soil is particularly suitable for the disposal of septic tank effluent the minimum size of site may be quite small.

However, because of the empirical nature of the tests some margin of safety is considered desirable. This margin of safety is available when a free boundary permits the septic tank effluent to be disposed of in an adjoining field in the event of failure of both percolation areas within the site. The fewer the number of free boundaries available to a site, the greater the margin of safety required i.e., the larger the site must be. The following figures of site areas are recommended as minimum sizes having regard to public health and amenity. The areas apply to sites which have no specific difficulties of soil, shape of site or topography.

B.2 In the case of a single site which will have three free boundaries, the minimum size of site required is that determined on the test results and boundary conditions given in the recommendations, except when:

1. The ownership of the adjoining field is not the same ownership as that of the site.
2. There are not adequate guarantees that the adjoining field will not be developed at a later date.

B.3 Where B.2.1 and/or B.2.2 apply to a single site the minimum size of the site should be not less than 1000 m² (¼ acre) (see Fig. 13a).

B.4 Where a site has only one or two free boundaries the minimum size of site should be not less than 2,000 m² (½ acre) (see Fig. 13b and 13c).

B.5 Where a site has no free boundary the minimum size of site should be not less than 4,000 m² (1 acre) (see Fig. 13d).

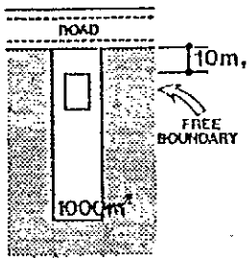


FIG.13a, Site with Three Free Boundaries. Reference B.3.

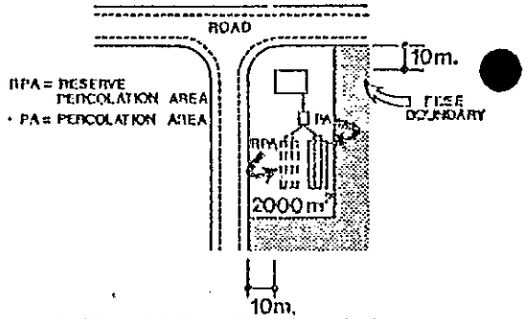


FIG.13b, Site with Two Free Boundaries. Reference B.4.

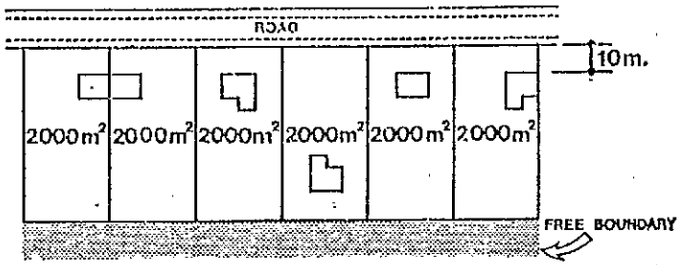


FIG.13c, Reference B.4. Sites with One Free Boundary

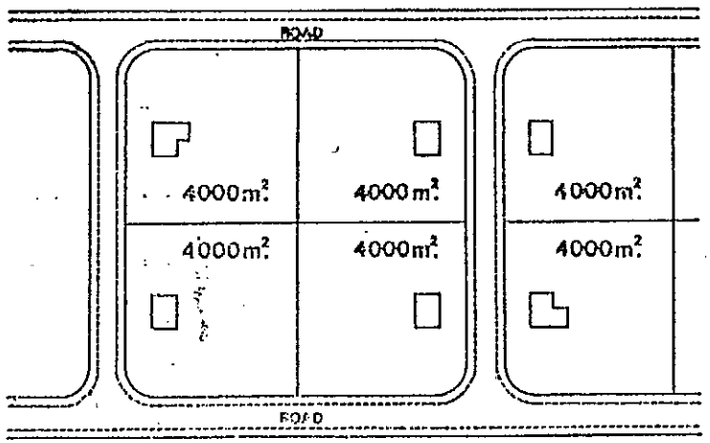


FIG.13d, Sites with No Free Boundaries. Reference B.5.

FIG.13, PERIPHERAL SITE CONDITIONS

APPENDIX C

Site Improvement in the Event of Test Failures

C.1 General. There are particular areas of the country where ground conditions are not suitable for the disposal of septic tank effluent. However, in some of these areas it may be possible to alter the naturally occurring qualities of a site and enable it, by such alteration, to be used for septic tank drainage. Failure may occur because of:–

(1) an area where the general water table is high;

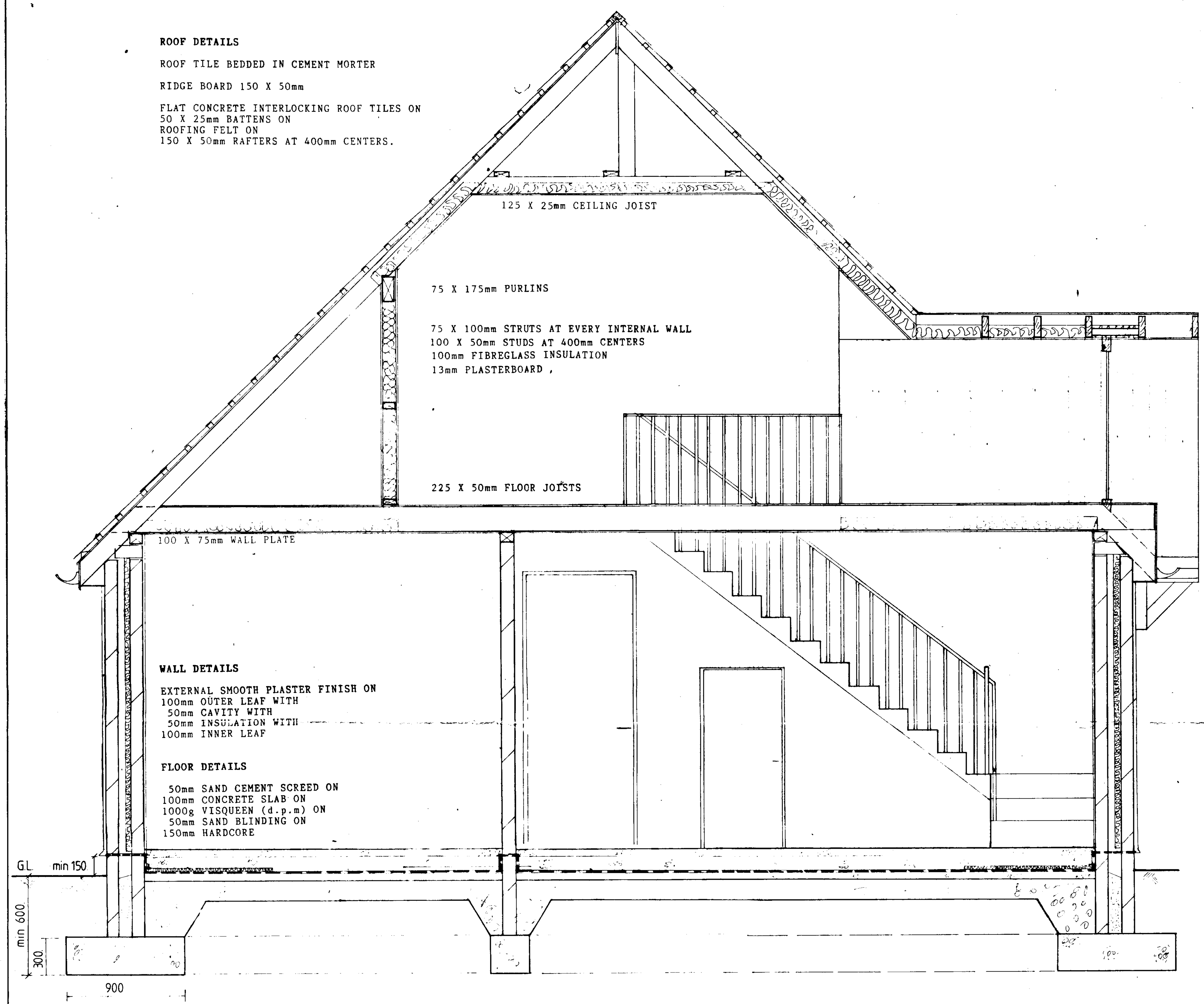
(2) a local pocket with a high water table resulting from a lack of natural drainage;

(3) an impervious soil layer at percolation level.

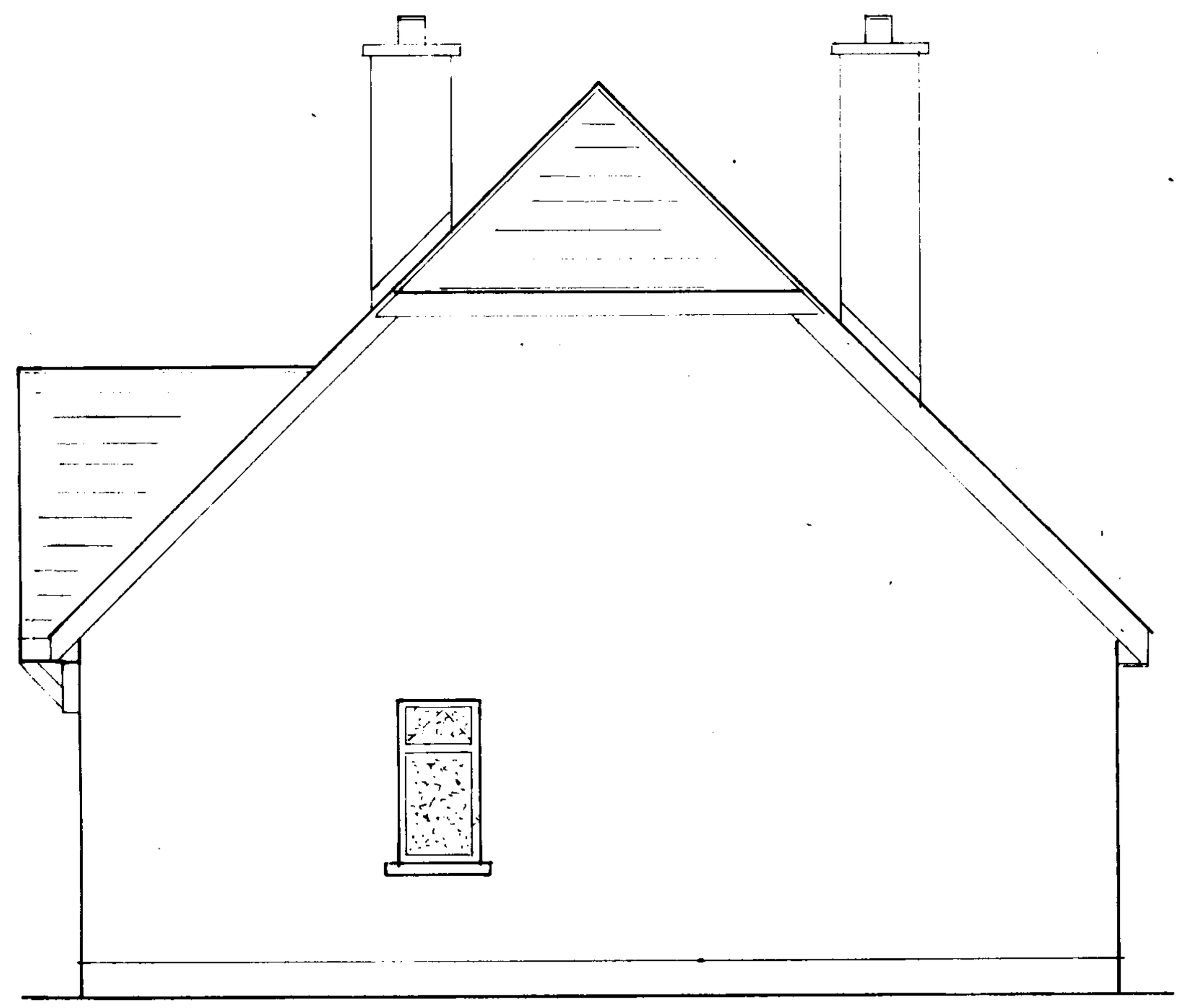
C.2 General high water table. It may be possible to control the rise in the water table by installing land drains. When such work has been completed, the 'Test for Water Table' should be repeated.

C.3 Locally high water table. It may be possible to break through the stratum forming the pocket and provide a suitable gravity drainage outlet from the site.

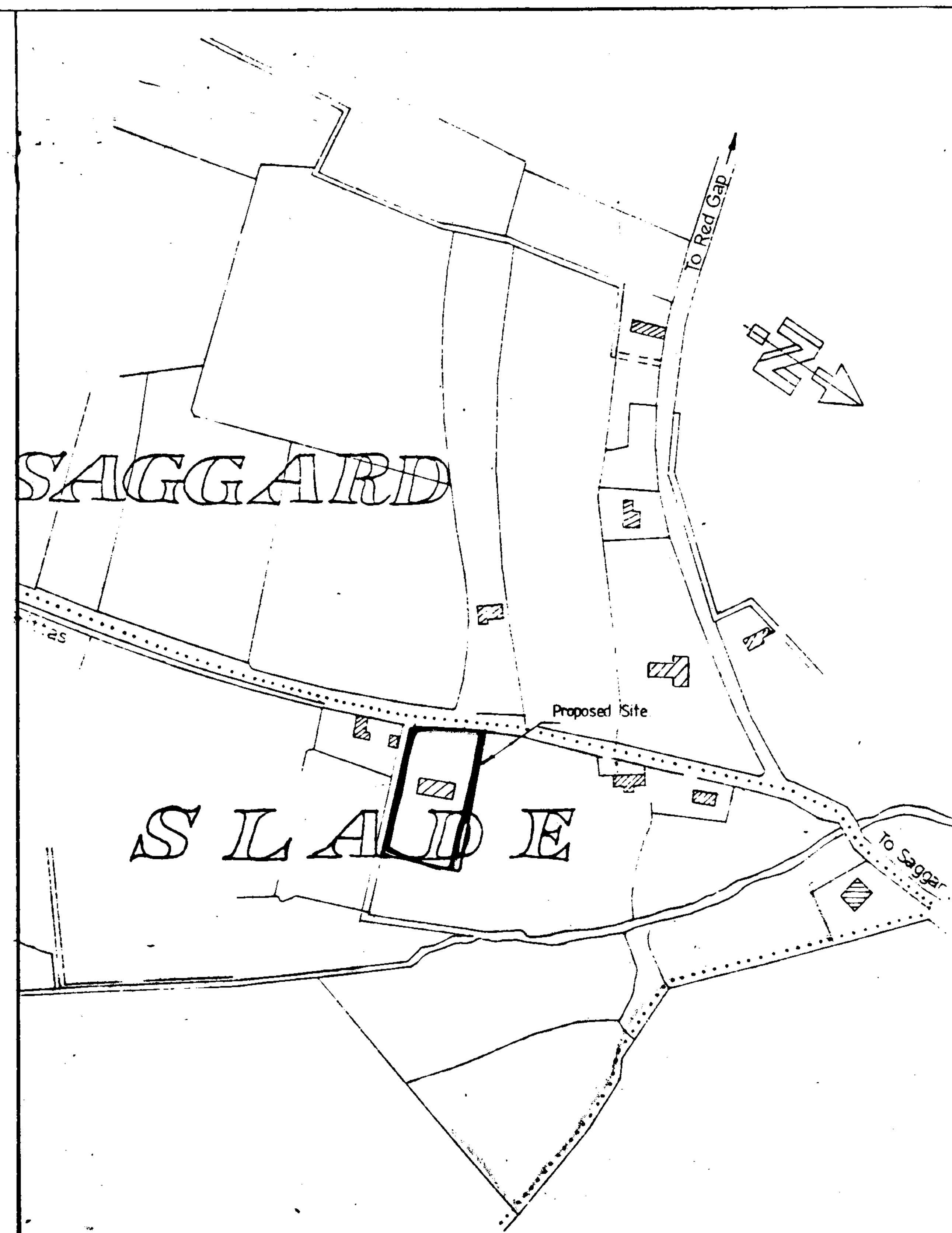
C.4 Impervious soils at percolation level. The effect of an impervious soil at percolation level will show itself by giving a value of T greater than 60 in the 'Percolation Test'. The 'Test for Water Table' may show the extent in depth of the impervious layer. It should then be possible to decide whether the percolation pipes could be installed under this layer or alternatively the unsuitable soil could be replaced by a fine gravel/soil mixture and the percolation pipes laid in this layer. It is essential to ensure that there is a suitable outfall from this made up area. The extent of the area of soil to be replaced should be determined in relation to the nature of the gravity outfall available.



Section A-A. (see drg no. 01)

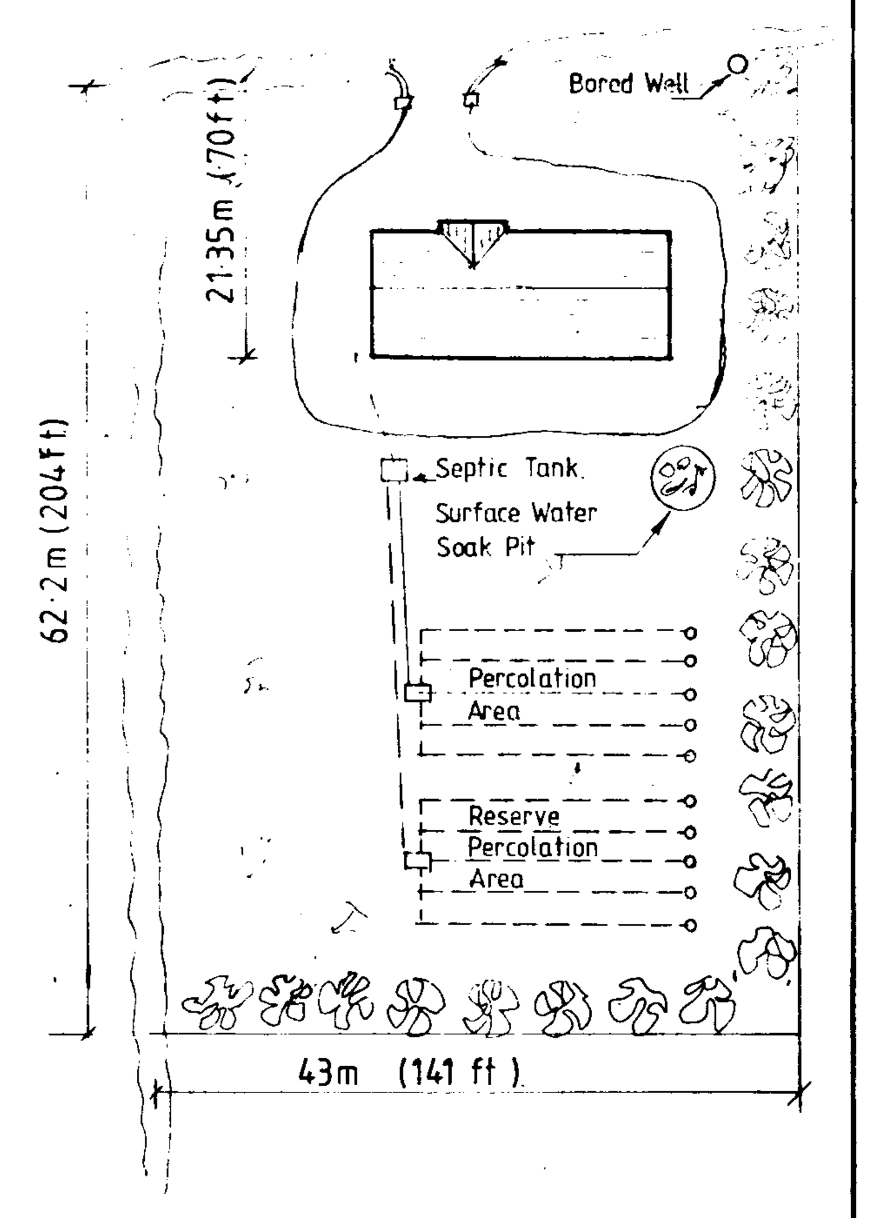


Side Elevation.

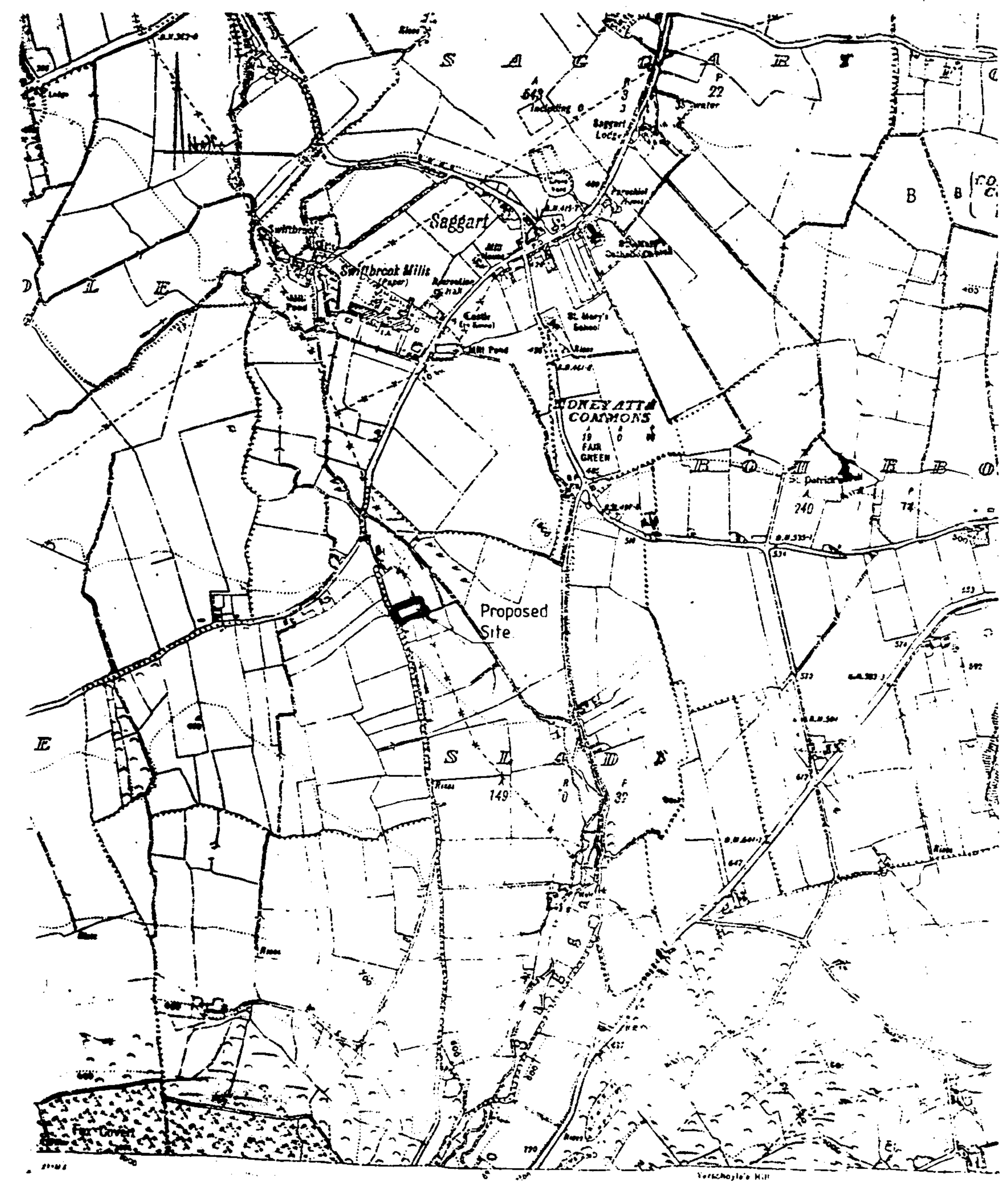


LOCATION MAP SCALE 1:2500

SEPTIC TANK & PERCOLATION AREA TO BE IN ACCORDANCE WITH IIRS S.R.6 1975 AND DEPT. OF ENVIRONMENT REGUALATIONS



SITE PLAN SCALE 1:500.



SITE LOCATION MAP SCALE 6"ins : 1 mile.

22 FEB 1991

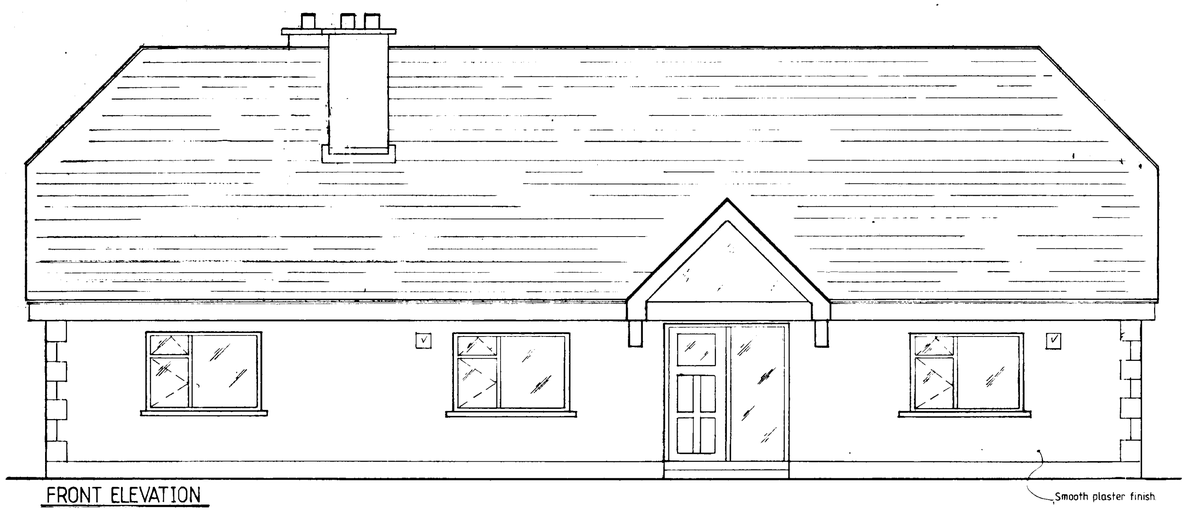
PROJECT:
Proposed Bungalow & Septic Tank at Slade, Saggart, Co. Dublin for Liam Hinch & Catherine Murphy.

DRAWN BY:
Liam Hinch.
Slade, Saggart, Co. Dublin.
Ph 589243.

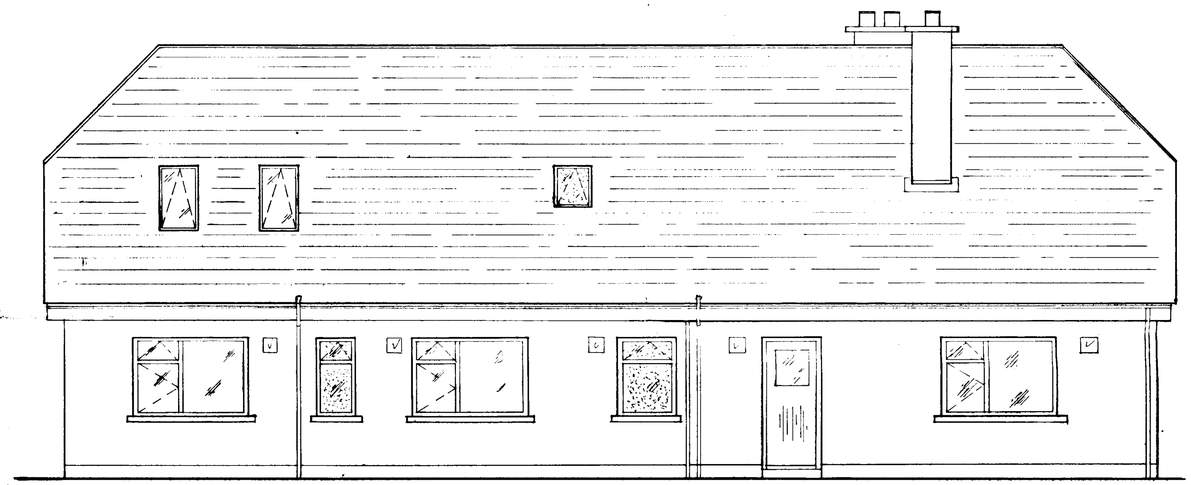
SCALE:
1:20, 1:500, 1:2500, 6"ins : 1 mile.

DATE:	DRG No.
Feb 1991.	02.

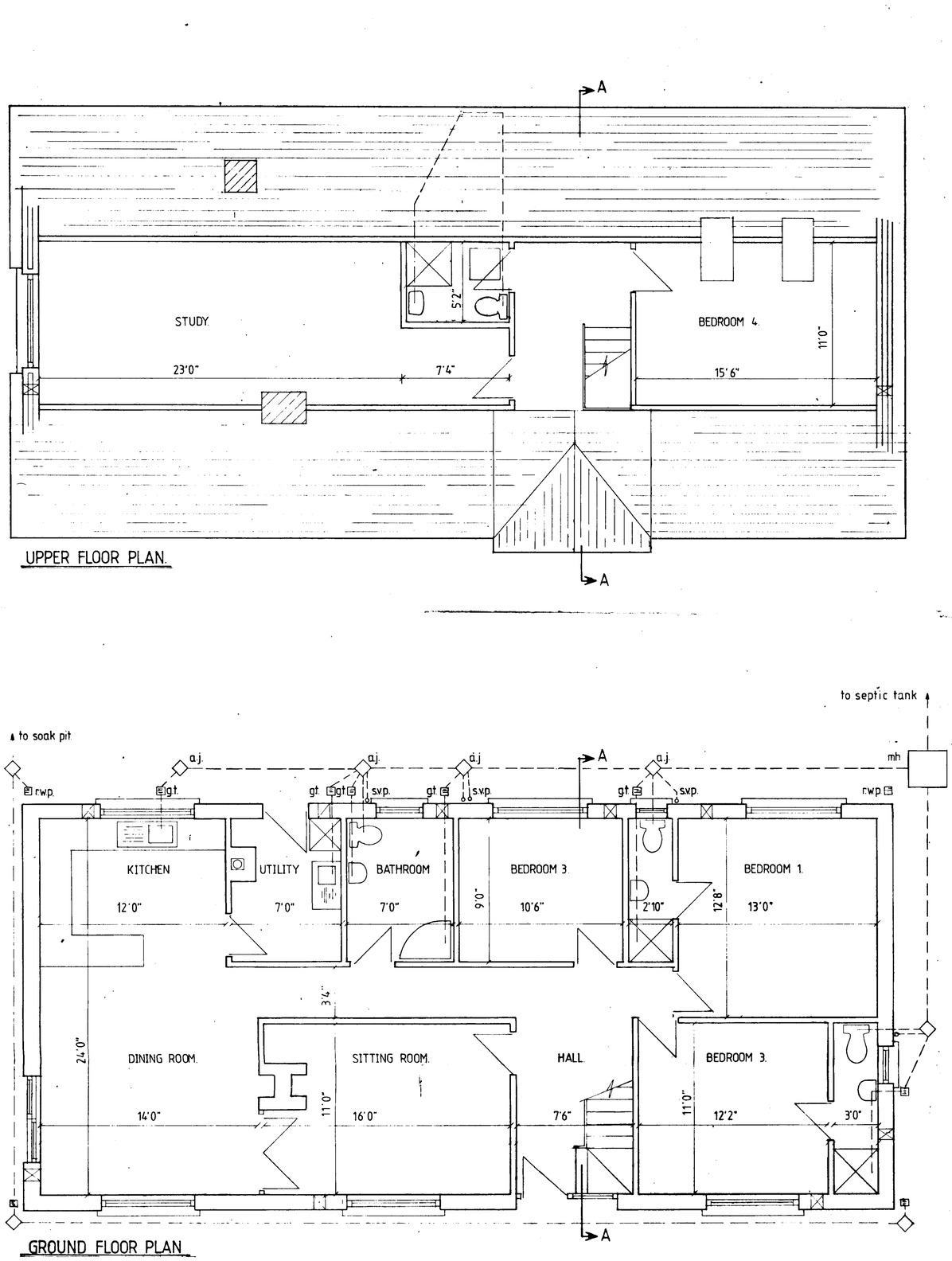
UPPER FLOOR PLAN.



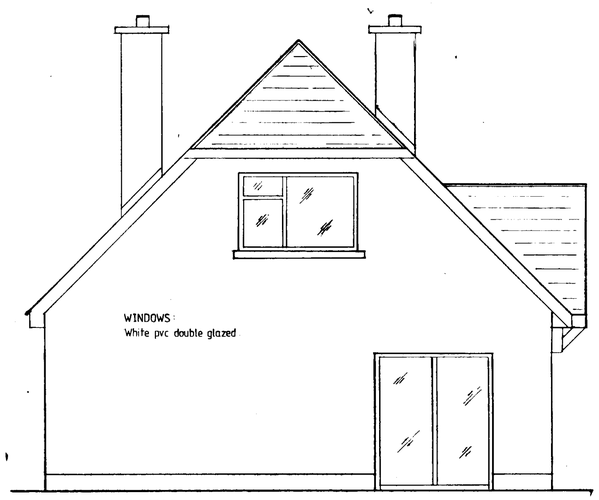
FRONT ELEVATION



REAR ELEVATION



GROUND FLOOR PLAN



SIDE ELEVATION.

PROJECT
Proposed Bungalow & Septic Tank at Slade, Saggart, Co. Dublin for Liam Hinch & Catherine Murphy.

DRAWN BY

Liam Hinch.
Slade, Saggart, Co. Dublin.
Ph. 589243.

SCALE
1/4": 1'0"

DATE
Feb 1991.

DRG No.
01.