BYE LAW APPLICATION FEES

REF. NO.: 91A/1045 CERTIFICATE NO.: 15474B

PROPOSAL: Prefab classroom unit

LOCATION: St Ronans National School, Deans Rath D22

APPLICANT: P.J. S.O Neill T.P.

	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					
B	Domestic Ext. (Improvement/ Alts.)	@ £30					
C	Building for office or other comm. purpose 154.44 M²	@ £3.50 per M² or £70	EXEMPT				
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: J. Lyons Grade: D/TI Date: 27/6/91.

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

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

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

CERTIFICATE NO: 25747

91A/1045

PROPOSAL: Prefab Classroom Unit

LOCATION: St. Ronans National School Deansgrath D22

APPLICANT: Rev. S. O'Neill P.P.

1	2	3	4	5	6	7
DWELLINGS/AREA LENGTH/STRUCT	RATE	AMT. OF FEE REC.	AMOUNT LODGED	BALANCE DUE	BALANCE DUE	DATE/ RECEIPT NO.
DWELLINGS	£532					
	£516					
	£50 per m² in excess of 300m²					
154.44	£21.75 per m² or part thereof		EXEMPT			
	£532 per dwelling					
	£532					
	£532					

Items 2,3,4,5,6 & 7 Calculated Signed: Grade:

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

Date: 21/6/91

21 | 6 | 91

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

ASSESSMENT OF FINANCIAL CONTRIBUTION

ES. REF.: 91A/1045

DIST. REG.:

SERVICES INVOLVED: WATER/FOUL SEWER/SURFACE WATER

REA OF SITE:

LOCAL AREA OF PRESENT PROPOSAL: 1663 Ft² J.Y. 27/6/91.

ASURED BY:

REDUCED BY:

BASIS OF ASSESSMENT:

TOTAL ASSESSMENT

APPLICANT'S OFFERED NO: P/ /
DATE:

ENTERED IN CONTRIBUTIONS REGISTER:

ENFORCEMENT CONTROL ASSISTANT GRADE

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 ORDER NO: BY / /
DATED

ENTERED IN CONTRIBUTIONS REGISTER:

DEVELOPMENT CONTROL ASSISTANT GRADE

Mary Galvin.

Register Reference : 91A/1045 Date : 1st July 1991

Development : Pre-fabricated classrooms

LOCATION : Deansrath Primary School, Clondalkin

Applicant : Rev. S. O'Neill

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : M.GALVIN

Date Recd. : 24th June 1991

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

Yours faithfully,

Paul Dalbin

for PRINCIPAL OFFICER

No objections. See previous report dated 22/7/91. Jackie Kelly. EHO. 16/8/91.

p/a Deirdre
for John O'Reilly

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

19/8/91

SS + EHO

Register Reference : 91A/1045

Date : 1st July 1991

Development : Pre-fabricated classrooms

LOCATION : Deansrath Primary School, Clondalkin

Applicant : Rev. S. O'Neill

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : M.GALVIN

Date Recd. : 24th June 1991

PLANNING DEPT.
DEVELOPMENT CONTROL SEC.
Date 22.08.91
Time 10.00

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

Yours faithfully,

for PRINCIPAL OFFICER

DUBLIN CO. CO.
SANITARY SERVICES
- 8 AUG 1991
Returned

DUBLIN Co. COUNCIL
- 3 JUL 1991
SAN SERVICES

Date received in Sanitary Services .....

FOUL SEWER

Available.

DUBLIN COUNTY COUNCIL
13 AUG 1991
ENVIRONMENTAL HEALTH
OFFICERS

SURFACE WATER

Available.

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

for Senior Engineer 30/7/91.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 22.08.91
Time 10.00

Register Reference : 91A/1045

Date : 1st July 1991

ENDORSED ______ DATE ______

WATER SUPPLY Available for zoned use 24 hours storage to be [illegible] provided.
Note applicant to consult with C.F.O. re fire fighting requirements
[signature] 3/7/91

ENDORSED [signature] DATE 1/8/91

DUBLIN COUNTY COUNCIL
13 AUG 1991
ENVIRONMENTAL [illegible]

Mary Galvin.

Register Reference : 91A/1045 Date : 1st July 1991

Development : Pre-fabricated classrooms

LOCATION : Deansrath Primary School, Clondalkin

Applicant : Rev. S. O'Neill

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : M.GALVIN

Date Recd. : 24th June 1991

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

Yours faithfully,

Paul Dillon

for PRINCIPAL OFFICER

No objections. See previous report dated 22/7/91. Jackie Kelly. EHO. 16/8/91.

p/a Derine
John O'Reilly

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

19/8/91

SS + EHO

Register Reference : 91A/1045 Date : 1st July 1991

Development : Pre-fabricated classrooms

LOCATION : Deansrath Primary School, Clondalkin

Applicant : Rev. S. O'Neill

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : M.GALVIN

Date Recd. : 24th June 1991

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 13-08-1991
Time

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

Yours faithfully,

for PRINCIPAL OFFICER

DUBLIN Co. COUNCIL
- 3 JUL 1991
SAN SERVICES

DUBLIN CO. C.
SANITARY SE
- 8 AUG 1991
Returned.

Date received in Sanitary Services .....

FOUL SEWER

Available.

SURFACE WATER

Available.

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

30/7/91.

Register Reference : 91A/1045

Date : 1st July 1991

ENDORSED _____ DATE _____

WATER SUPPLY Available for fire use 24 hours
storage to be provided.
Note applicant to consult with C.F.O re
fire fighting requirements

3/7/91

ENDORSED FG Coffey DATE 1/8/91

F/3721/91

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Register Reference : 91A/1045 — Date Received : 24th June 1991

Correspondence Name and Address : Very Rev. S. O'Neill, P.P., St. Ronan's Presbytery, Deansrath, Dublin 22.

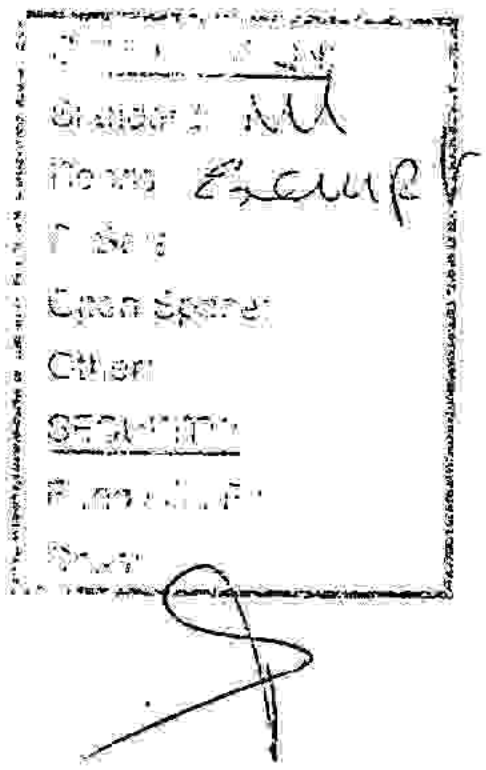
Development : Pre-fabricated classrooms

Location : Deansrath Primary School, Clondalkin

Applicant : Rev. S. O'Neill

App. Type : Permission

Zoning :



(MG/BB)

Report of Dublin Planning Officer dated 7th August, 1991.

This is an application for PLANNING PERMISSION to erect single classrooms (2 no.) at Deansrath Primary School, Clondalkin for Rev. S. O'Neill.

Reg. Ref. No. XA 1993 refers to a grant of permission for a school building at this 5 acre site.

Additional classroom accommodation comprising 2 no. pre fabricated units have been erected on foot of grants of permission under Reg. Ref. No. 89A/1147 and 90A/1391.

The current application provides for the erection of classroom accommodation immediately to the south of the existing building. The proposed building is similar in design to the existing prefabricated units on site.

Environmental Health officer's report states no objection.

Sanitary Services Report.

I recommend that a decision to GRANT PERMISSION be made under the Local Government (Planning and Development) Acts, 1963-1990 subject to the following (6) conditions:-

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

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/1045

Page No: 0002

Location: Deansrath Primary School, Clondalkin

01 The development to be carried out in its entirety in accordance with the plans, particulars and specifications lodged with the application 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 requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.
REASON: In the interest of safety and the avoidance of fire hazard.

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.

05 That off-street car parking arrangements to be in accordance with the requirements of the Planning Authority. In this regard an additional 2 no. off-street car parking spaces to be provided on site prior to the use of the new pre-fabricated classrooms.

06 That the water supply and drainage arrangements, including the disposal of surface water, be in accordance with the requirements of the County Council. ~~In this regard the applicant is requested to submit details of (1) Internal watermain network to serve the proposed development. (2) Existing watermain network on site, prior to the commencement of development.~~

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

COMHAIRLE CHONTAE ÅTHA CLIATH

Record of Executive Business and Manager's Orders

Reg.Ref: 91A/1045

Page No: 0003

Location: Deansrath Primary School, Clondalkin

for Dublin Planning officer

Endorsed:-.....
for Principal officer

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 (6) conditions set out above is hereby made.

Dated : 14 August 1991

~~ASSISTANT CITY AND COUNTY MANAGER~~ Approved Officer

to whom the appropriate powers have been delegated by order of the Dublin City and County Manager dated ~~26th July,~~ 6th August 1991.

C. Mary G.

DUBLIN COUNTY COUNCIL

PLANNING AND BUILDING CONTROL DEPARTMAENT

Senior Environmental Health Officer,
33 Gardiner Place.

Register Reference : 91A/1045 Date : 25th June 1991

Development : Pre-fabricated classrooms

LOCATION : Deansrath Primary School, Clondalkin

Applicant : Rev. S. O'Neill

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer :

Date Recd. : 24th June 1991

DUBLIN COUNTY COUNCIL
[illegible]

Attached is a copy of the application for the above development .Please ensure that your report is received within 5 weeks from 24th June 1991.

Yours faithfully,

.....

PRINCIPAL OFFICER

I have no objection to this proposal provided that

a) suitable and sufficient means of heating is provided.

b) drinking water points, direct from rising main, are provided in each classroom.

Jackie Kelly
22/7/91

for John O'Reilly SEHO
22/7/91.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date ....25.07.91.....
Time.....9.30.....

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/ 3721 /91 Date of Decision : 14th August 1991

Register Reference : 91A/1045 Date Received : 24th June 1991

Applicant : Rev. S. O'Neill

Development : Pre-fabricated classrooms

Location : Deansrath Primary School, Clondalkin

Time Extension(s) up to and including :

Additional Information Requested/Received : //

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:- ..6.....ATTACHED.

Signed on behalf of the Dublin County Council.....Rose Kenny.....
for Principal Officer

Date:..15/8/91.....

Very Rev. S. O'Neill, P.P.,
St. Ronan's Presbytery,
Deansrath,
Dublin 22.

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 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 requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.
REASON: In the interest of safety and the avoidance of fire hazard.

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.

05 That off-street car parking arrangements to be in accordance with the requirements of the Planning Authority. In this regard an additional 2 no. off-street car parking spaces to be provided on site prior to the use of the new pre-fabricated classrooms.

06 That the water supply and drainage arrangements, including the disposal of surface water, be in accordance with the requirements of the County Council.

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

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/1045 Date : 25th June 1991

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

Dear Sir/Madam,

DEVELOPMENT : Pre-fabricated classrooms

LOCATION : Deansrath Primary School, Clondalkin

APPLICANT : Rev. S. O'Neill

APP. TYPE : PERMISSION/BUILDING BYE-LAW APPROVAL

With reference to above, I acknowledge receipt of your application received on 24th June 1991.

Yours faithfully,

.....

PRINCIPAL OFFICER

Very Rev. S. O'Neill, P.P.,
St. Ronan's Presbytery,
Deansrath,
Dublin 22.

Dublin County Council
Comhairle Chontae Átha 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 [X] 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 St Ronans N.S. Deansrath BYE Dublin 22 APPLICATION
(If none, give description sufficient to identify)..... P.C. No. NIL

3. Name of applicant (Principal not Agent) Very Rev S. O'Neill P.P.

Address St Ronans Presbytery Deansrath D22 Tel. No. 570380

4. Name and address of Building Section Dept of Education,
person or firm responsible for preparation of drawings Stephens Green, Dub 2. Tel. No 613111

5. Name and address to which Very Rev. S. O Neill P.P.
notifications should be sent St Ronans Presbytery Deansrath Dublin 22

6. Brief description of proposed development Double Prefabricated Classroom unit

7. Method of drainage To existing Sewers + Drains 8. Source of Water Supply Mains

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. School

(b) Proposed use of each floor School

10 Does the proposal involve demolition, partial demolition or change of use of any habitable house or part thereof? NO.

11.(a) Area of Site (5 ACRES.) 20234.5 Sq. m.

(b) Floor area of proposed development 154.44 Sq. m. NIL

(c) Floor area of buildings proposed to be retained within site 2451.32 Sq. m.

J Independent 22/6/91

12.State applicant's legal interest or estate in site (i.e. freehold, leasehold, etc.) Vested in St Laurence Diocesan Trust.

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

14.Please state the extent to which the Draft Building Regulations have been taken in account in your proposal:
Fully.

15.List of documents enclosed with application. 4 Sets of Drawings & Maps. Copy of newspaper containing Statutory Notice

CO DUBLIN — Planning permission sought for pre-fabricated classrooms at Deansrath Primary School, Clondalkin. — Signed Rev. S O'Neill.

16.Gross floor space of proposed development (See back) 142.75 Sq. m.

No of dwellings proposed (if any) / Class(es) of Development School classrooms.

Fee Payable £ nil Basis of Calculation School Building

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

Signature of Applicant (or his Agent) Sean O'Neill Date 24/6/91

Application Type P BBL

Register Reference 91A/1045

Amount Received £

Receipt No 17 - 15

Date

FOR OFFICE USE ONLY No Fee req'd.

24/6 1.16.4

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 accordence 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.

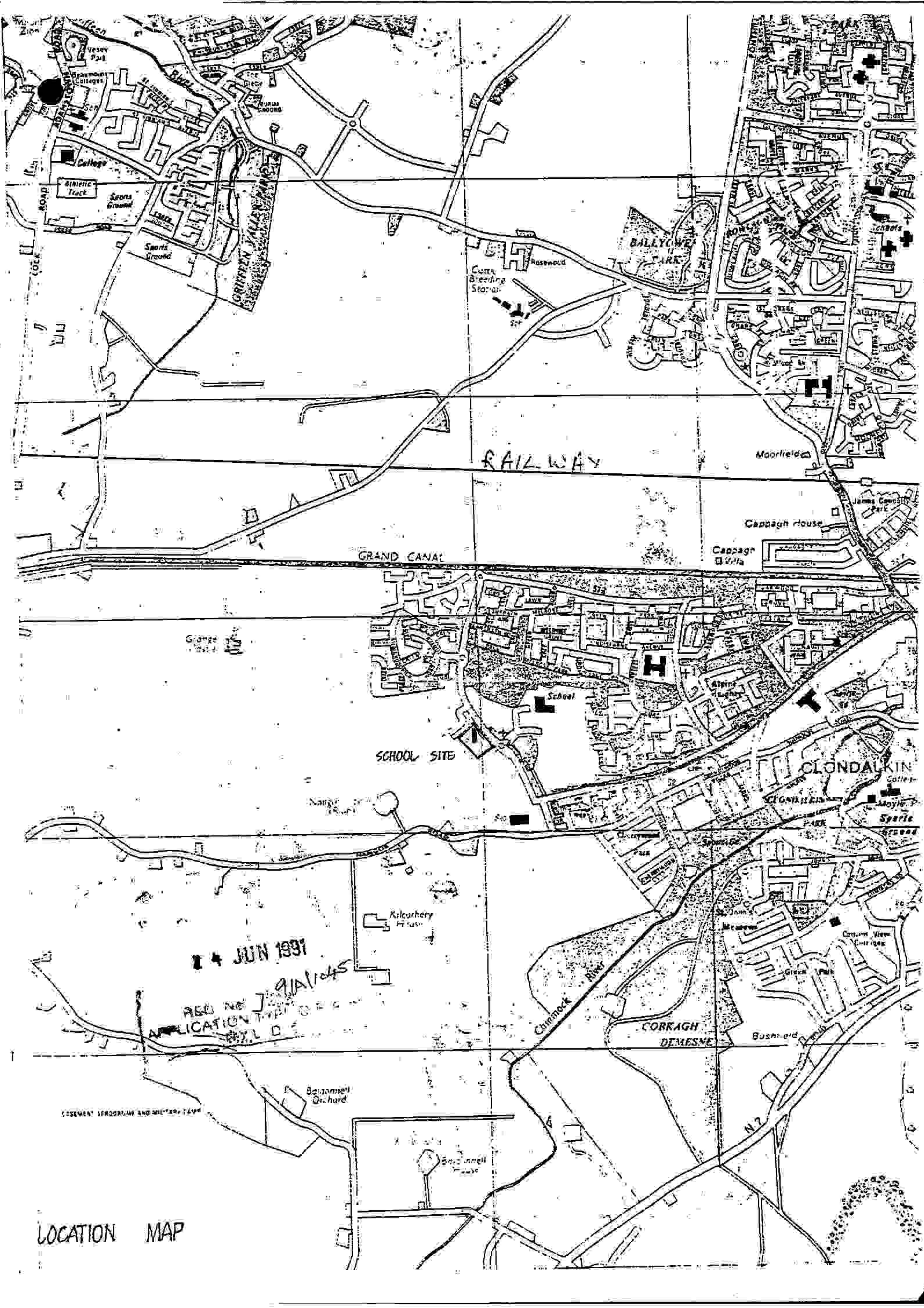
PLANNING APPLICATIONS

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)

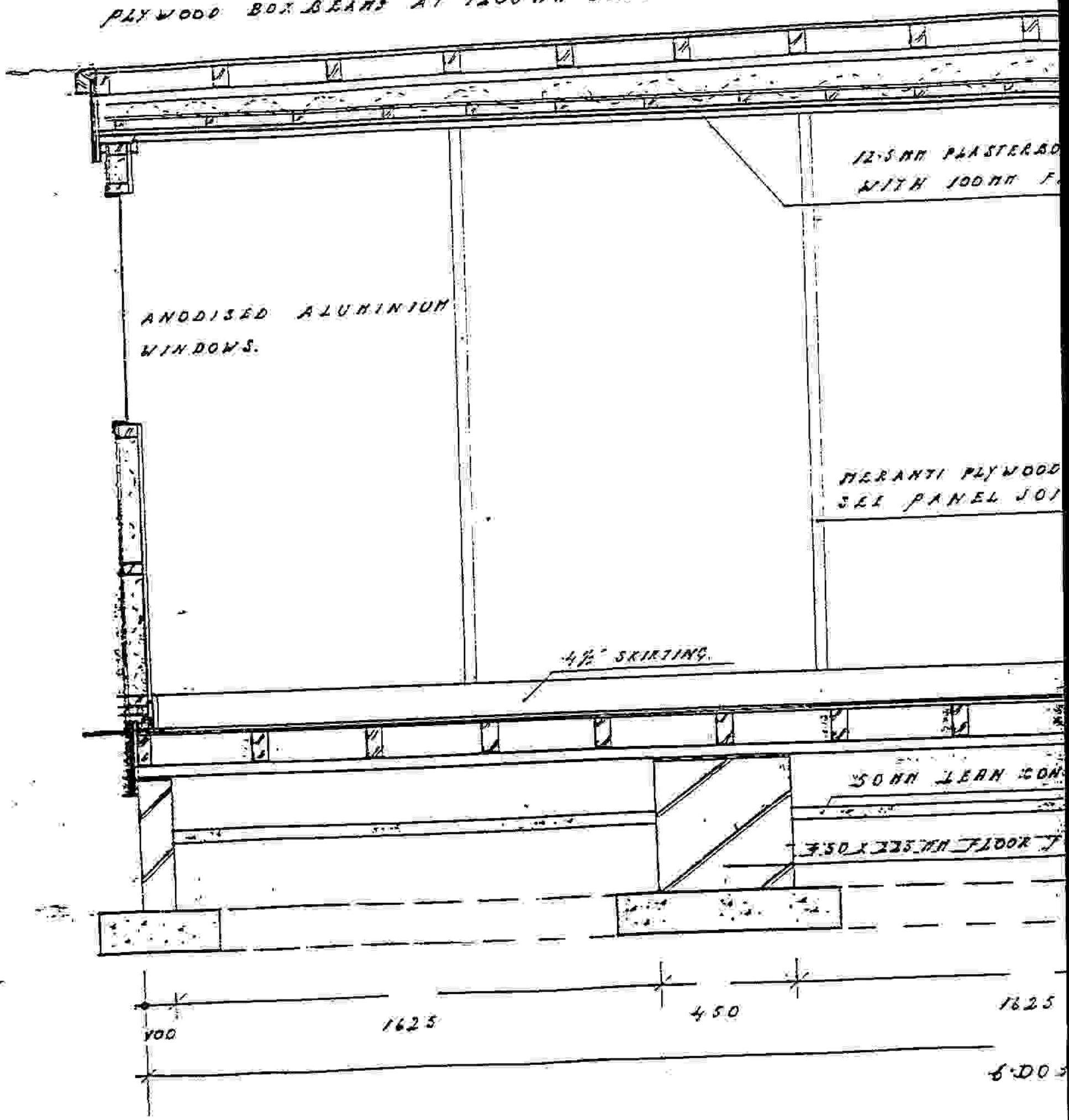
BUILDING BYE-LAW APPLICATIONS

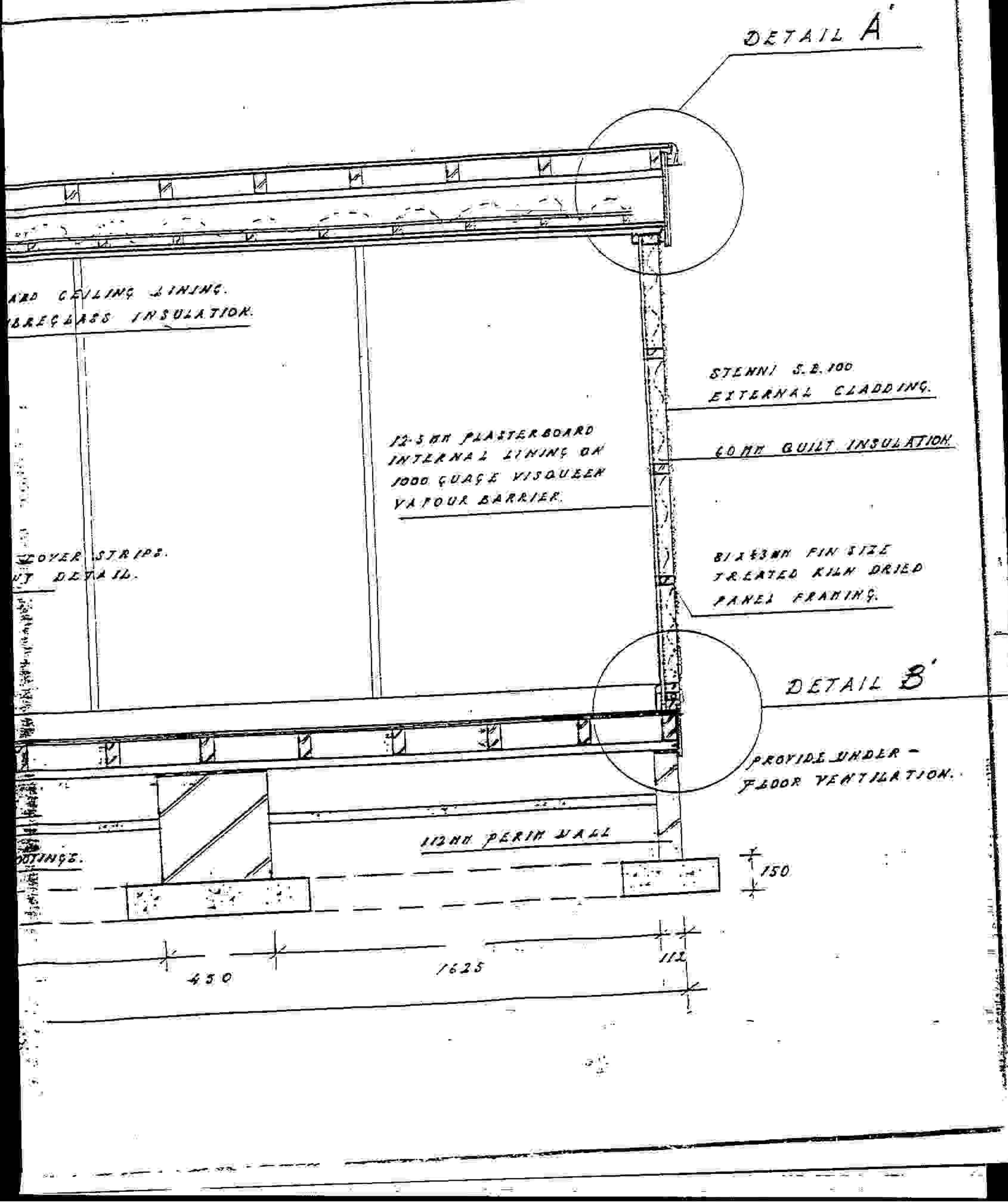
CLASS NO.	DESCRIPTION	FEE
A.	Dwelling (House/Flat)	£55.00 each
B	Domestic Extension (improvement/alteration)	£30.00 each
C	Building — Office/ Commercial Purposes	£3.50 per m^2 (min. £70.00)
D	Agricultural Buildings/Structures	£1.00 per m^2 in excess of 300 sq. metres (min. - £70.00) (Max. - £300.00)
E	Petrol Filling Station	£200.00
F	Development or Proposals not coming within any of the foregoing classes.	£9.00 per 0.1 ha (£70.00 min.) Min. Fee £30.00 Max. Fee £20,000

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.


Mount Zion
Vesey Park
Beaumont Cottages
ADAMSTOWN ROAD
College
Athletic Track
Sports Ground
Sports Ground
LOCK ROAD
GRIFFEEN VALLEY PARK
River
Cattle Breeding Station
Rosewood
BALLYOWEN PARK
Schools
Moorfield
James Connolly Park
Cappagh House
Cappagh Villa
RAILWAY
GRAND CANAL
Grange
School
SCHOOL SITE
CLONDALKIN
Moyle Park
Sports Ground
St. John's
Meadows
Convent View Cottages
Green Park
Kilcarbery House
Camac River
CORKAGH DEMESNE
Bushfield
N7
Bawnoge Orchard
14 JUN 1991
REG No 91A/1045
APPLICATION TYPE
LOCATION MAP

2 LAYERS FLAT FINISHED IN MINERAL ON
7.5 MM PLYWOOD DECKING ON 83 X 43MM FINISHED
SIZE JOISTS AT 400 MM CRS LAID ACROSS
PLYWOOD BOX BEAMS AT 1206 MM CRS.

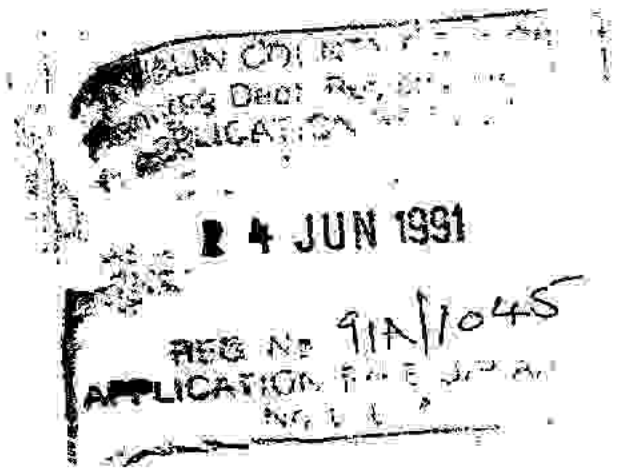



DETAIL A
ARD CEILING LINING.
IBREGLASS INSULATION.
STENNI S.B.100
EXTERNAL CLADDING.
12.5MM PLASTERBOARD
INTERNAL LINING ON
1000 GUAGE VISQUEEN
VAPOUR BARRIER.
60MM QUILT INSULATION
COVER STRIPS.
NT DETAIL.
81 X 43MM FIN SIZE
TREATED KILN DRIED
PANEL FRAMING.
DETAIL B
PROVIDE UNDER -
FLOOR VENTILATION.
OOTINGS.
112MM PERIM WALL
150
450
1625
112

DESIGN CALCULATIONS

FOR : PREFABRICATED CLASSROOMS .

PROJECT: DEANSRATH N.S. CLONDALKIN CO. DUBLIN



SUMMARY :

The substance of this report may be summarised as follows:

S.1. The structural strength and stability of the individual components and the completed unit, subject to satisfactory workmanship and adherence to the dimensions stated in this report, are considered satisfactory with reference to the indicated levels of applied loading. The necessity for adequate anchorage of the unit particularly in exposed locations, is referred to in Paragraph A.5.4.

S.2. The thermal characteristics of the external elements are given in Section B of the report. These are seen to be within the limits required by the Department of Education, subject to the provision of floor insulation (See B.5).

S.3. Fire performance characteristics are dealt with in Section C of the report. These are seen to satisfy the requirements specified by the Department of Education (See Paragraph C.3 relating to roofing felt types).

S.4. Durability and weathertightness are discussed in Section D of the report. Subject to adequate standards of workmanship, these are considered to be appropriate for the intended application. (See Paragraph D.1.3, D.4.2 relating to built-up felt roofing and under-floor ventilation).

STRUCTURAL STRENGTH AND STABILITY:

For the purposes of this assessment, the design loadings used were as follows;

Roof superimposed load	:	0.67 kN/m^2
Floor superimposed load	:	2.87 kN/m^2
Wind Loads	:	as per CP 3 : Chapter V, Part 2, 1972.

Timber members are designed generally in accordance with B.S. CP 112 : Part 2 : 1971, "The Structural Use of Timber".

.1. Roof Members:

A.1.1. The roof structure consists of panels fabricated from 9.5 mm plywood on 70 x 44 joists spaced at 400 crs, spanning between plywood box beams at 1200 crs. spacing.

A.1.2. The plywood box beams vary in depth from 250 mm at one end to 350 mm at the other, spanning 6.15 metres from wall to wall. They consist of 70 x 44 flanges (top and bottom) with 9.5 mm plywood webs glued to the flanges.

A.1.3. The ceiling structure consists of 50 x 50 timber framing at 300 crs underdrawn with 12.5 mm gypsum plasterboard. The framing spans between the plybox beams.

2. Floor Members:

A.2.1. The floor construction consists of 12.7 mm plywood floor decking on 81 x 43 floor joists spaced at 400 crs spanning between main floor beams at 1200 crs.

A.2.2. The main floor beams, which are 120 x 70 in cross section, are supported on masonry piers at approx. 2 metre centres.

3. Structural calculations in respect of roof and floor members have been submitted showing that the critical stresses under design loadings are within CP 112 limits for the grade of material specified. These are summarised in Table 1 below.

4. The flexural rigidity of these components has been checked and is found to be adequate to ensure that calculated deflections under design loading are within CP 112 limits.

Confidential Report

TABLE 1.

Component	Calculated Stress (N/mm^2)	Allowable Stress (N/mm^2)	Specified Material
Roof Sheeting	0.85	9.89	Douglas Fir Plywood
Roof Joists	1.48	4.8	S-P-F GS
Ceiling Joists	0.30	4.8	S-P-F GS
Plybox Beam:			
(a) Flange Stress	6.2	6.9	Group S2. SS
(b) Panel Shear Stress	0.95	1.31	Douglas Fir Plywood
(c) Rolling Shear Stress.	0.15	0.35	
Floor Sheeting	1.91	8.68	Douglas Fir Plywood
Floor Joists	3.93	4.8	S-P-F GS
Floor Beams	5.76	6.9	Group S2 SS

4. External Wall Members:

A.4.1. The external wall posts are adequately proportioned with respect to axial loading for the roof beams, the maximum compressive stress being 0.55 N/mm^2. The behaviour of the wall panels under lateral loading is dealt with in Section A.5. below.

5. Lateral Stability under Wind Action:

A.5.1. A design wind speed of 50 metres/second, exposure category 2 (B) (Open country, scattered windbreaks) was used as a basis for investigation under CP 3, Chapter V, Part 2 : 1972.

A.5.2. The resistance of the panels to wind loading normal to the face of the panel is sufficient to restrict bending stresses and deflections to CP 112 limits.

A.5.3. Wind forces are transmitted via the wall panels spanning vertically to floor and roof level. At roof level, the diaphragm action of the roof construction serves to transfer the wind forces to the walls parallel to the wind direction under consideration; where they are resisted by the external wall panels acting as shear walls. The maximum intensity of racking load under the design wind loading selected is found to be approximately 1.1 kN per metre run of imperforate wall panel. An estimated racking resistance at working load of 2.08 kN per metre run for timber frame panels clad with "Stenni" facing board fixed with

30 mm nails at 150 crs on perimeter and 300 crs internally has been established.

A.5.4. Adequate holding down of the shear panels is required to mobilise their racking resistance and to maintain structural stability. Positive mechanical anchorage should be provided between the superstructure and the masonry supports at the corners of the building. This requirement is of particular importance in more exposed locations.

6. Fixings:

A.6.1. The roof sandwich panels are supported on 50 x 22 timber bearers fixed to the sides of the box beams. The panels are nailed to the supporting box beams at 200 mm crs through the decking.

A.6.2. The roof beams are fixed to the supporting posts using proprietary pressed metal plates. The roof structure is also connected to the external wall panels by nailing through the plywood fascia to both elements.

A.6.3. The edge studs of adjoining wall panels are bolted together using 9 mm diameter bolts at the top and bottom of the panels.

A.6.4. The sole plate of the wall panels is nailed to the floor structure using 100 mm nails at 400 crs.

A.6.5. The "Stenni" wall cladding is fixed to the supporting timber frame by gluing and nailing at 150 crs on perimeter and 300 crs internally.

These fixings are considered adequate to resist design wind forces on the structure and to transfer forces between the various structural components.

ENVIRONMENTAL PERFORMANCE:

The thermal characteristics of the various elements which constitute the unit have been calculated in accordance with the methods set out in Section A3 of the CIBS Guide Book A; 1980, and are as follows:

B.1. Roof Construction:

2 layers roofing felt
9.5 mm plywoqd decking
70 x 44 timber joists at 400 crs.
12.5 mm gypsum plasterboard ceiling under
50 x 50 timber framing at 300 crs,
overlaid with 100 mm glass fibre thermal insulation.

The U-value of this form of construction is 0.34 $W/m^2\ ^oC$

B.2. External Wall Construction:

4 mm "Stenni" proprietary cladding
81 x 43 timber framing
60 mm glass fibre thermal insulation
1000 gauge PVC vapour checking layer
12.5 mm gypsum plasterboard internal lining.

The U-value of this form of construction, allowing for bridging effects at the framing is 0.54 $W/m^2\ ^oC$.

B.3. Floor Construction:

12.7 mm plywood floor sheeting on
81 x 43 floor joists at 400 crs.

The U-value of this construction, which is a function of the floor plan dimensions, is estimated to be 0.76 W/m^2 ^{o}C for the dimensions shown. (6.0 m x 7.2 m).

The addition of a 60 mm layer of glass fibre insulation to the floor construction would reduce the U-value to 0.35 W/m^2 ^{o}C.

Whole-Building U-value:

The whole-building U-value of the unit described on the drawings submitted is found to be 0.67 W/m^2 ^{o}C.

Comparison to Department of Education Design Standards:

The design standards specified by the Dept. of Education are as follows:

Roof :	not exceeding 0.40 W/m^2 ^{o}C.
External Walls:	not exceeding 0.55 W/m^2 ^{o}C.
Ground Floor:	not exceeding 0.40 W/m^2 ^{o}C.
Whole-building:	not exceeding 0.70 W/m^2 ^{o}C.

The calculated U-values are seen to satisfy these requirements, subject to the provision of insulation in the floor construction.

Condensation:

Vapour checking layers in the form of 1000 gauge polythene sheeting are incorporated into external wall and roof components. Provided that these are undamaged and are properly lapped and sealed at joints, the risk of interstitial condensation within these elements will be obviated.

Given adequate heating and ventilation practice in use, the level of thermal insulation provided in the unit components renders the incidence of internal surface condensation unlikely.

FIRE PERFORMANCE:

The design standards of the Dept. of Education have been referred to in assessing the required degree of fire performance of the unit components.

1. Surface Spread of Flame Characteristics:

C.1.1. Internal linings of walls, partitions and ceilings are required to have a Class 1 surface spread of flame rating, when tested in accordance with B.S. 476, Part 7 : 1971. The material used (gypsum plasterboard) satisfies this requirement.

2. Fire Resistance of external walls:

C.2.1. The external walls are required to have half-hour fire resistance when tested in accordance with B.S. 476 : Part 8. By reference to published data on fire resistance tests, it is possible to assess the likely performance of the wall panels under consideration. The panels are considered to be capable of achieving the specified performance.

3. Roof Construction:

C.3.1. The roof covering is required to have a designation of AB with reference to external exposure to fire when tested to B.S. 476 : Part 3 : 1958. Reference to published data shows that the roof construction used can achieve this designation provided that the upper layer of felt is of type 2E

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Sheet no. 14.

(Mineral surfaced bitumen asbestos felt) and the underlayer is of type 2B or 2C (fine sand surfaced or self-finished bitumen asbestos felt) as designated in I.S. 36 ; 1972.

DURABILITY AND WEATHERTIGHTNESS:

A subjective assessment of the unit components with respect to durability may be made on the basis of existing data concerning the weather-resisting characteristics of the materials used in its exposed elements.

External Walls and Roofs:

D.1.1. The exposed face of the external wall panels is clad in "Stenni" natural stone aggregate faced glass fibre reinforced polyester resin panels. These panels are the subject of BBA Certificate No. 84/1465. On the basis of accelerated ageing tests and site evidence of similar panels up to 8 yrs old, a life of at least 20 yrs can be expected from the material.

D.1.2. The fascias and plinths are formed using 12.5 mm WBP plywood finished in a water-resistant textured external finish. The durability of this material is considered satisfactory, given reasonable standards of maintenance.

D.1.3. The external roof finish is a built-up felt, using materials complying with I.S. 36 : 1972. The durability of the roof finish is greatly dependent on high standards of workmanship in construction. Responsibility for the satisfactory performance of the roof in respect of durability and weathertightness must therefore remain with the system fabricator.

2. Windows and Doors:

D.2.1. These components are of anodised aluminium constructio Responsibility for their resistance to moisture ingres must remain with the manufacturer. Their performance in this respect will depend greatly on good standards of building practice and workmanship where these components adjoin the main structure.

3. Weathertightness:

D.3.1. Joints between wall panels are made weathertight by the application of a silicone sealant to the panel joint, backed with a plywood lining strip. Subject to adequate standards of workmanship, this detail is considered satisfactory.

4. Damp Proofing:

D.4.1. Bitumen felt or similar damp proof course materials are provided beneath the timber floor beams on top of all concrete block piers.

D.4.2. Perforation of the underfloor perimeter walls is necessary to provide adequate under-floor ventilation A minimum of 3000 mm^2 open area per metre run of external walling is recommended in BRE Digest No. 18.

D.5. Timber Preservation:

D.5.1. Timber members used in the fabrication of the external wall panels and the ground floor structure are subjected to a double-vacuum organic solvent preservative treatment.

DESIGN CALCULATIONS

FOR : PREFABRICATED CLASSROOMS .

PROJECT: DRIMNAGH CASTLE NATIONAL SCHOOL DUBLIN

J.F.O'Halloran.BE, MSc, (CEng), MICE.
Chartered Civil Engineer,
Pinewood, Shanakiel, Cork, Ireland. Tel. 021/42307.

3rd.March 1987.

Report on Demountable Prefabricated Classroom,
for
Tony O'Driscoll, Portmarnock, Co. Dublin.

General.

1...The proposals are generally in accordance with the Department of Education design standards as shown on the attached photocopy.

2...The calculations, in Appendix 1, deal in some detail with the structural design and the thermal qualities of the building.

Structural Design.

3...The building is designed for a wind exposure of Class 3, to gusts of 117Km/hr. Minor modifications to the holding down details would render it safe in exposure Class 2: re-design, special attention to detail and close supervision of construction is essential for any building of exposure Class 1.

4...The roof panels, beams and fixings are adequate for the specified loading, 670KN/m^2, alone and in combination with the effects of the wind.

5...The floor panels, floor beams and the base works are adequate for the specified loading, 2873kN/m^2, alone and in combination with the wind.

6...Attention is drawn to the need to use stress graded timbers, in some cases, Select Structural of Group 2 Softwoods, in others, General Structural of Group 2. The calculations give stresses in the members, which should be used as a guide in the selection of other grades of timber in response to market price variations.

J.F.O'Halloran. Tel 021/42307.

Thermal Qualities.

7...The U-values of the construction are in accordance with the latest proposals of the Department of Education, a copy of which is attached for reference. Double glazing in plastic frames is recommended on the grounds of savings in cleaning, maintenance and energy costs.

Other Standards

8...The following items can be stated to be in general accordance with the specifications. Every building must be considered in its own site.

9...The fire standards are satisfied by the proposals.

10...The ventilation and day-lighting requirements can be satisfied, with due consideration at the planning stage, without upsetting the thermal qualities of the building.

11...The building generally is to design and details, well tested by time, and in the opinion of the writer, satisfactory for its stated purpose.

12...This report, unabridged and complete with calculations, may be submitted to any Government Department or Service in support of a claim to certification or compliance with the attached specifications. It does not refer to any individual building. It does not constitute a guarantee of any kind.

J. F. O'Halloran.

J.F.O'Halloran.

Tony O'Driscoll	Prefabricated Classroom.	28/7/87	TOD 872 [1]

Design Criteria.

① "Specification for Demountable Prefabricated Classrooms" Dept of Education. May 1986.

② For Structural Use of Timber. CP112 : Part 2 : 1971.

③ For Calculation Procedures & General Standards.

"Timber Designers Manual"

Ozelton & Baird

Crosby Lockwood 1976

④ For Wind Loading.

CP3 : Cp V : Part 2. 1972.

Loadings.

Roof : 0·67 kN/m²

Floor : 2·873 "

Wind :-	km/hr.
Gust	178·6

Tony O'Driscoll	Prefabricated Classroom	28 Feb 87	TOD 872 [2]

Roof Panels.

$2\frac{3}{4}" \times 1\frac{3}{4}"$ finished. @ 16" crs.
(70 x 44.5) mm. @ 407 mm crs.

Plywood. Ref Table 8.8 (Ref 3)

Felt	=	.045
Self Wt	=	.055 kN/m².
Live Load.	=	.670
		.770 kN/m².

$$\text{Max Moment} = \frac{wL^2}{10} = \frac{.770 \times (.407)^2}{10}$$
$$= .0128 \text{kN m/m}.$$

$$Z \text{ of Plywood} = \tfrac{1}{6}(1000)(9.5)^2 \text{ mm}^3/\text{m}$$
$$= 15.04 \times 10^3 \text{ mm}^3/\text{m}.$$

$$\text{flexural Stress} = \frac{12.8 \times 10^3}{15 \times 10^3} \text{ N/mm}^2.$$
$$= 0.85 \text{N/mm}^2.$$

Joist

			kN/m
Self Wt	= (.07 x .0445) 6	=	.0187
Ply & Felt	= (.407 x .10)	=	.0407
			.0594
D.L.			
L.L.	(.670 x .407)	=	.2727.
			.3321 kN/m.

$$\text{SPAN} = (48" - 3.5") = 44.5" = 1130 \text{ mm}.$$

$$M_x = \frac{.3321 \times 1.13^2}{8} = 53 \times 10^3 \text{ N mm}.$$

$$S_x = (.3321 \times 1.13)\tfrac{1}{2} = 0.188 \text{ kN}.$$

Loading.

	kN/m²
L.L	= .670

Z of Joist

$$\tfrac{1}{6}(44.5)(70^2)$$
$$= 36.34 \times 10^3 \text{ mm}^3.$$

	kN/m²
DL	= 0.15
L.L	= 0.67.
Total	= .82

flexural Stress

$$= \frac{53}{36.3} = 1.46 \text{ N/mm}^2$$

OK.

Shear Stress

$$\frac{1.5(188)}{70 \times 44} = .09 \text{ N/mm}^2$$

OK.

Tony O'Driscoll	Prefabricated Classroom.	28th Feb 87	TOD 872 [3]

Floor Panels.

½" Ply on Joists (3¼" x 1¾") @ 16" crs.

12·5mm Ply on Joists (82·5 x 44·5) mm @ 407 mm

Plywood. kN/m²

Finish = ·045 } ·12.
Self. = ·075 }
L.L. = 2·873 2·88
2·993 3·00

Mx Moment $= \frac{3 \times (1.407)^2}{10} =$ 49·7 Nm/m

Z of Ply. $= \frac{1}{6}(1000)(12.5^2) = 26.04 \times 10^3$ mm³/m

flexural Stress $= \frac{49.7}{26.04}$ N/mm² $= 1.91$ N/mm²

Joist. kN/m. kN/m.

Self. (·045 x ·083 x 6) = ·022 } ·071 DL
Ply & Fin (·12 x ·407) = ·049. }
L.L. (2·88 x ·407) = 1·172.
1·243 kN/m.

Span. 1130 mm.

Mx Moment $= \frac{1.243 \times 1.13^2}{8} =$ 198·4 Nm

flex Stress $= \frac{198.4}{50.48} =$ 3·93 N/mm²

Mx Shear. $= (1.243 \times 1.13)/2 =$ 703 N.

Shear Stress $= \frac{703 \times 1.5}{82.5 \times 44.5} =$ ·287 N/mm²

bearing Stress $= \frac{703.}{44.5 \times 20} =$ 0·80 N/mm²

Z of Joist

$\frac{1}{6}(44.5 \times 82.5^2)$ mm³
$= 50.48 \times 10^3$

Plywood

Flexural Stress = 1·91 N/mm²

Allowable = 8·68
Ref (3)
OK.

Panel Self wt.
⇒ 0·175 kN/m² DL

Joist.

flex Stress.
3·93 N/mm²

Shear Stress
= ·287

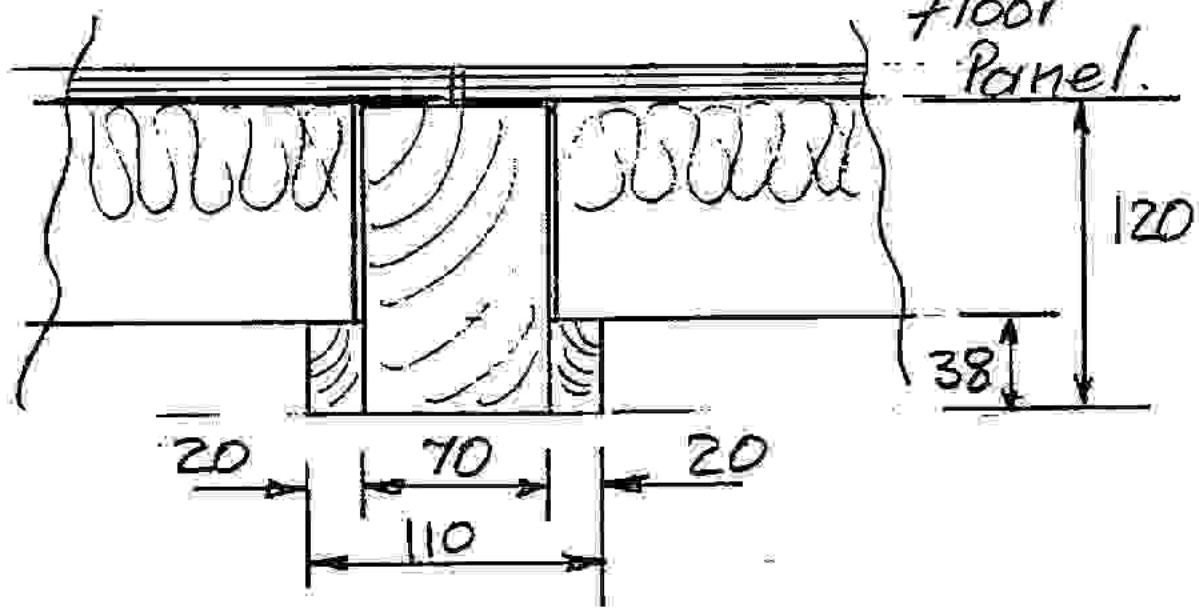
Allowable Timbers.

SPruce Pine Fir
GS.

Table 4 i CP112

Tony O'Driscoll	Prefabricated Classroom	28 Jul 87	TOD 872 [4]

Main Floor Beams.



Loading. KN/m.

Self = $(9920 \times 10^{-6})6$ = .06

Panel. = (1.2×0.175) = .21

LL. = (1.2×2.873) = 3.45

3.72

Span. 4 Spans = 20 ft.

L = 1.524 m.

Ref to Page [5] for Computer Analysis.

Check Bearing on Internal Blkwk Piers.

Loading = 2(Shear) = 5.66 kN.

Bearing Area = $(110 \times 210) = 23.1 \times 10^3$.

Bearing Stress = 0.245 N/mm².

Properties of Floor beam

mm².

Area = 9920

For Computer Analysis see Pg [5].

10 = 3.72 kN/m

L = 1.524 m.

Design Requires

S2/SS Timbers.

Ord Blkwk. CP 111

.28 N/mm²

O.K.

Tony ODriscoll	Prefabricated Classroom.	28 Jul. '87	TOD 872 [5]

Apple IIc -- Prodos--/StrSoft4. .

```
]run

          ELTBMET

This programme calculates the elastic properties of a
T-Beam, and then the stresses in the beam when used
as a simply supported beam, subjected to uniform loading
and a central point load.....all in metric units.


Enter B, the breadth & T2, the thickness of the flange
?110,38
Enter D1, the depth & T1, the thickness of the Stem.
?82,70
Flange = 110x38:  Stem = 82x70  Area = 9920
D = 120   Y1 = 66.28   Y2 = 53.72
Ix = 12426516.4    Z1 = 187478.772   Z2 = 231329.835
As = 5656.98206
 ALL the above are in mm-Units
 Enter w,L
?3.72,1.524
 Enter central point load
?0
Enter E in KN/mm^2
?8

Moment = 1.08 KN m

Shear   = 2.83 KN
f1      = 5.76 N/mm^2
f2      = 4.67 N/mm^2
q(max) = .5 N/mm^2
DELTA   = 2.63 mm

For another load and span type 'y'

?n
```

These Stresses require Timber Group S2/S5 Table 11A. Cp 112.

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Design of Roof Beams. (20'-9") c/l = 6.33 m.

Span. = 6.15 m.

Total Wt of a Roof Beam.

(70 x 44.5) Total Length. = 15.5m

Wt. 15.5 x 0.0187 = 0.29 kN.

Ply = 2 x .055 x .35 x 64 = 0.25 kN

.54 kN

Self Wt .09 kN/m

Loading

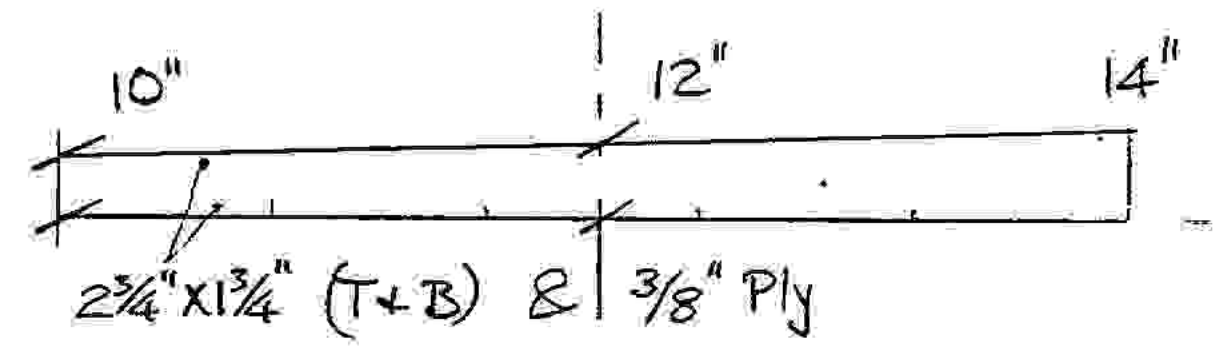
		kN/m.
Roof Panels.	1.2 x 0.15 =	.18
Ceiling "	1.2 x 0.125 =	.15
Self Wt.		.09.
		.42
Live Load.	1.2 x 0.67.	.81
		1.23.

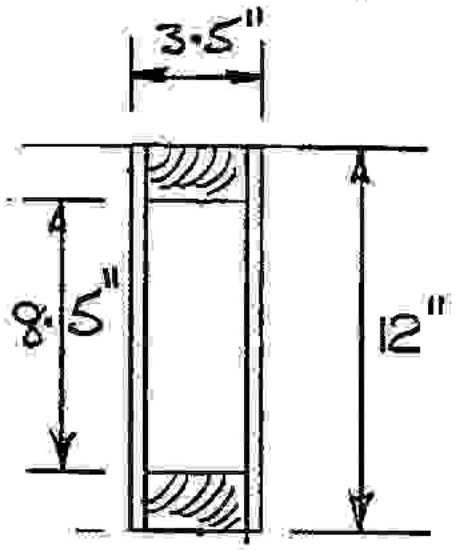
Dead Load 0.35 kN/m²

LL 0.67

1.02

Roof Beam.





Mid Span

	kN/m	lbs/ft.
w =	1.23	= 82.5
L =	6.15m	= 20.2 ft.

"Timbeam" Programme is in Imperial Units.

See Page 7

Tony O'Driscoll	Prefabricated Classroom.	28th Jul '87.	TOD 872 [7]

```
Apple IIc -- Disc No.3 -- ProDev.

]run timbeam
The ply is transformed to CLS by a factor of .75; the B to be
enterred is the actual width
ENTER B,b,D,d
?3.5,2.74,12,8.5
B1 =3.31

 Enter New values of D & d at the Support
?10,6.5
Enter w,L
?82.5,20.2


 Maximum Moment = 4207.91 lbs.ft.

 Maximum Shear  = 833.25 lbs.    =  3.80 kN

I = 336.41;  Z = 56.07;

AS= 6.02; AI = 37.71;

Bending Stress = 900.58 psi.  =  6.2 N/mm²      S2/SS OK.
Panel Shear    = 138.4 psi.   =  0.95 < 1.31 (Table 8.8. Ref ③)
Rolling Shear  = 22.09 psi.   =  0.15 ≤ ½(.35) Do & CP112.
Deflection     = .57ins.      =  14.5 mm.
```

Note:. ① Top & Bottom runners to be S2/SS.

② Plywood DF Ext Grade 9.5 mm.

③ Depth Varies 10" to 14"

Tony O'Driscoll	Prefabricated Classroom.	J.F.O'H. 28th Jul '87	TOD 872 [8]

Wind Loading.

Basic Wind Speed = 50 M/S.

Ref CP3. Cp II/2 9.

Normal Use "Small Towns" (Table 3.)

			V_D	
for Cladding.	(A)	S_2 = 0.64.	32.	628 N/m².
for Elements.	(B)	S_2 = 0.60	30.	552 N/m².

Cladding. Roof

Local Uplift at Edges & Corners. = 2q.
= 1.256 kN/m²

Dead Load = .15
Nett = 1.1 kN/m².

Span of Cladding. = 1.2m. ⇒ .66 kN/m.

Nail Size 44 mm X 2.64 m in J3 Timber — Table 23 Cp 112.

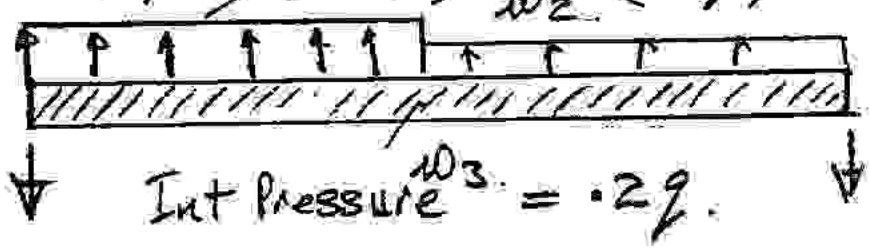
Withdrawal / Nail = 30 X 2.28 N = 68N.

10 No / 44 mm Nails Per Metre = .68kN/m — along Edges
5 No / 44 " " " " — INTERNAL.

Uplift Per Beam. Table 8

q = .552 kN/m²

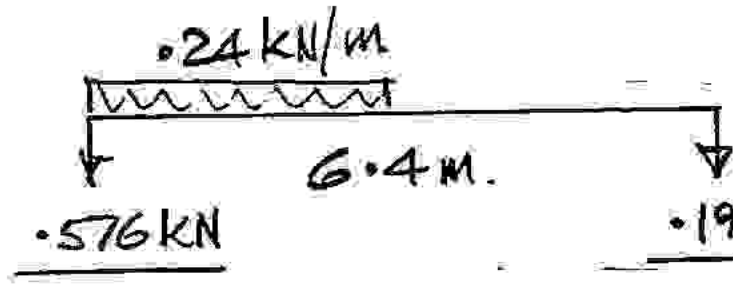
Wind ⇒



kN/m²

1.0 q − DL. = (0.55 − 0.35) = 0.20
0.6 q − DL = (.33 − 0.35) ⇒ .00.

Net Uplift Per Beam = 1.2 (0.2) = .24kN/m



Normal Nailing Sufficient.

Beam D.L Page 6 .35 kN/m²

Nailing.

2" Flat Heads @ 4" crs Edges @ 8" crs Internal

½" Ply Fascia with Normal Nailing will Anchor the Roof.

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Wind Loading (Cont)

Wt of External Wall Panel.

Studs. $(2\frac{3}{4}" \times 1\frac{3}{4}")$ $[4/8', 3/4']$ = 44 ft = 13.4 m.

Studs.	13.4 m X .0187	= 0.25	kN.
Stenni	3.0 X .11	= .33	kN.
12mm Slab.	3.0 X .11	= .33	kN
		0.91	kN.

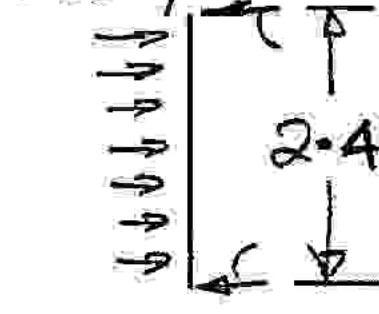
Max Uplift from Beam = 0.58 kN

No Need for Special Anchorages.

Horizontal Wind Loading / Panel.

Ext Pressure = 0.7q. Int Press = −.3q.

Total Pressure = q = .552 kN/m².
Per Panel = 1.2 X .552 = 0.66 kN/m.



$\frac{WL^2}{8}$ = 0.48 $\frac{kNm.}{Per\ Panel.}$

Value of 1/ 70 X 44.5 mm Stud. (GS.)

S2/GS p = 4.8 N/mm². factor K_{12} = 1.5

M = 1.5(4.8)(36.34X10³) N mm. = .261 kNm.

4 Uprights/Panel ⇒ 1.04 kNm >> .48 OK

or

2 Uprights/Panel ⇒ .52 kNm > .48 OK

Panel. 8' x 4' = 3 m².

Total Wt of Wall Panel = .91 kN = 200 lbs

Note:- There is ONE Wall Panel at 0.91 kN to Resist the Uplift, 0.58kN at Every Beam.

Page 2

Z = 36.34 X 10³ mm³

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Wind Loading — Racking forces.

Total Wind Force Factor = 0.9. — Table 10/CP3/2

Total force. L = 24ft = 7.3m.
H = 9.25ft = 2.8m.

Total Force = 0.9(.552)(7.3x2.8) kN.
= 10.2kN

Top Reaction = 5.1 kN.

Racking Force/End = 2.55 kN

Value of 1 No Solid Panel

Value of Stenni — Allowable Shear Stress = 1 N/mm²
Area = 4 x1200 = 4.8 x10³ mm²
Value/Panel = 4.8 kN. > 2.55

Note:-
The Wind Analysis assumes Classification ③ of Table 3. CP3 ChV:2. — "Standard Classroom" Class 3.

"Country with many Wind breaks: Small towns: outskirts of Large Cities" —

Extra Attention to fixing the Building to the Dwarf Walls would suffice for Exposure Class (2) — "Some Special Details" Class 2.

Bolting down to a Concrete Base slab a a Review of other details would be required for the most severe Exposure Class (1). — "Bolting Down & Design Review" Class. 1.

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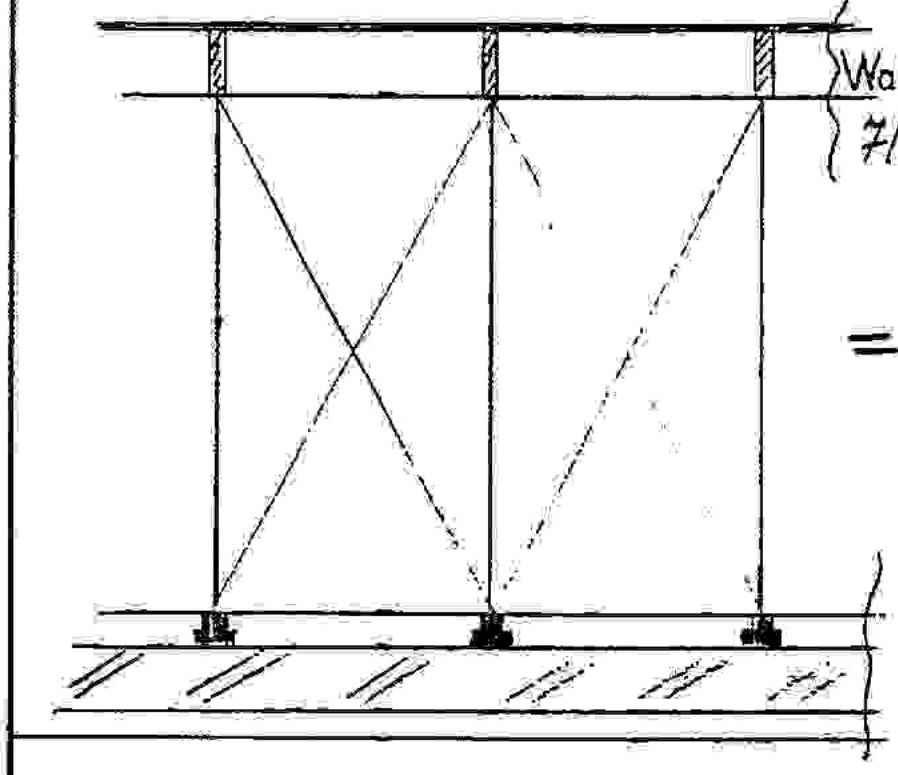
Transfer of Loads from Roof to Grd.



	kN.
Roof Bm	3.80
Wall Panel	.91
Floor Bm	2.83
	7.54 kN/Panel.

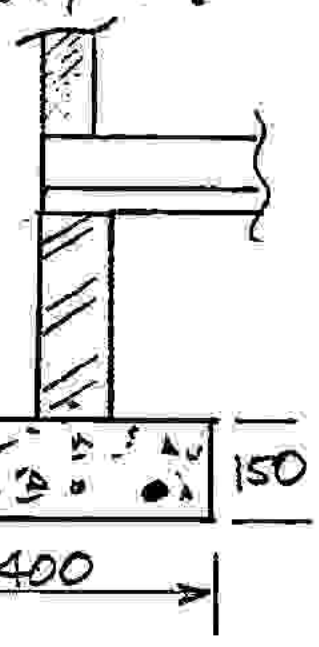
= 6.30 kN/m.

Top of Blk Wk Wall = 7.54 kN

Contact Area. (110 x 110) = 12.1×10^3 mm^2.

Contact Pressure = 0.62 N/mm^2.

0.62 N/mm^2 OK for S2/S5 Acceptable locally on Blk Wk.



Foundation	kN/m.
Prefab =	6.30
315 x 110 Blk =	.75
400 x 150 =	1.45
	8.50 kN/m.

Contact Pressure

$= \frac{8.5}{.4} =$ 21 kN/m^2 ---- OK.

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Thermal Quality of Construction

Roof	K W/m°C.	R. m^2°C/W.
Ext Surface		.044.
2 layer Felt + Ply		.120
Air Space (Vented)		.114.
100 mm Glass Quilt. (.036)		2.780
12.5 mm gypsum		.078.
INT Surface.		.123.
		3.259

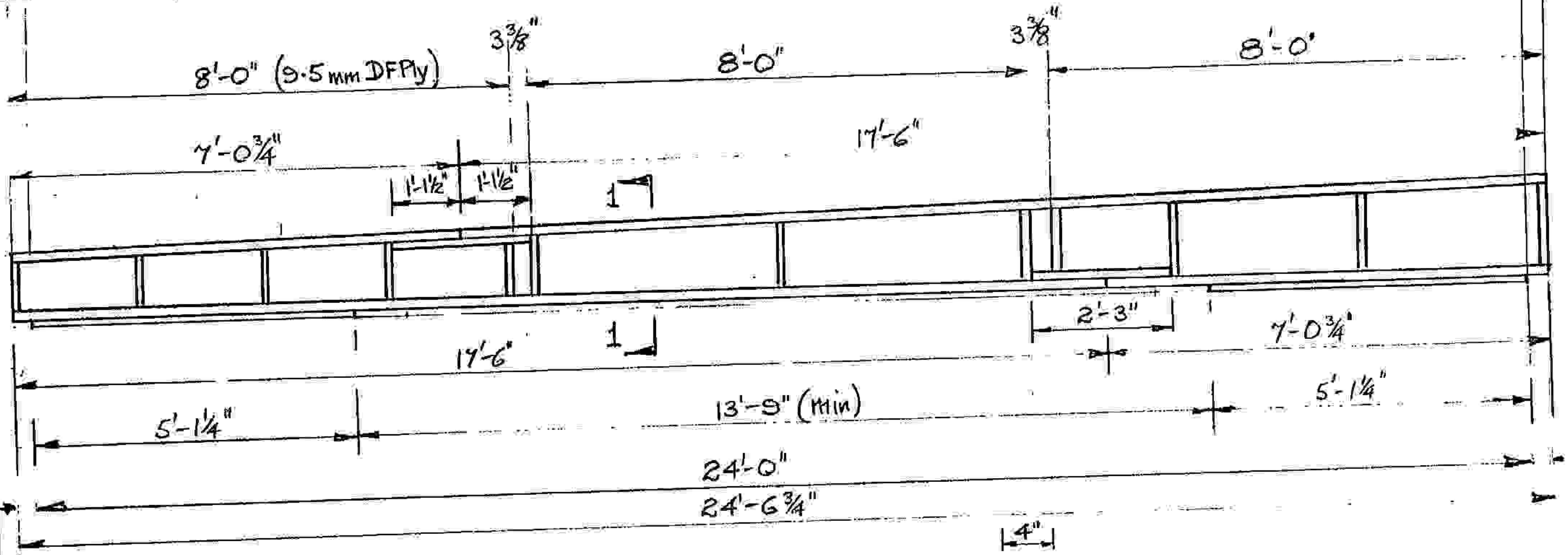
R = 3.26 U. = 0.307 O.K.

Wall	K.	R.
Stenni 4mm.	.161	.025
Air Space (Vented)		.110
60 mm fibre Glass	.036	1.670
Visqueen / Slab Interface		.088
12.7 mm Slab		.078
Ext Resistance		.070
Int "		.123
		2.164

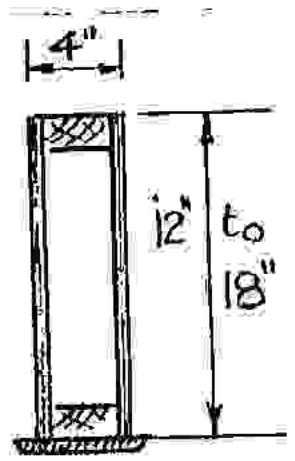
R = 2.164 U = 0.462. O.K.

Floor	R	
12.5 mm Ply	.120.	
100 fibre Glass	2.780.	
Air Space	.100	
Int.	.150	
	3.150	U = .317.

Roof U = 0.307



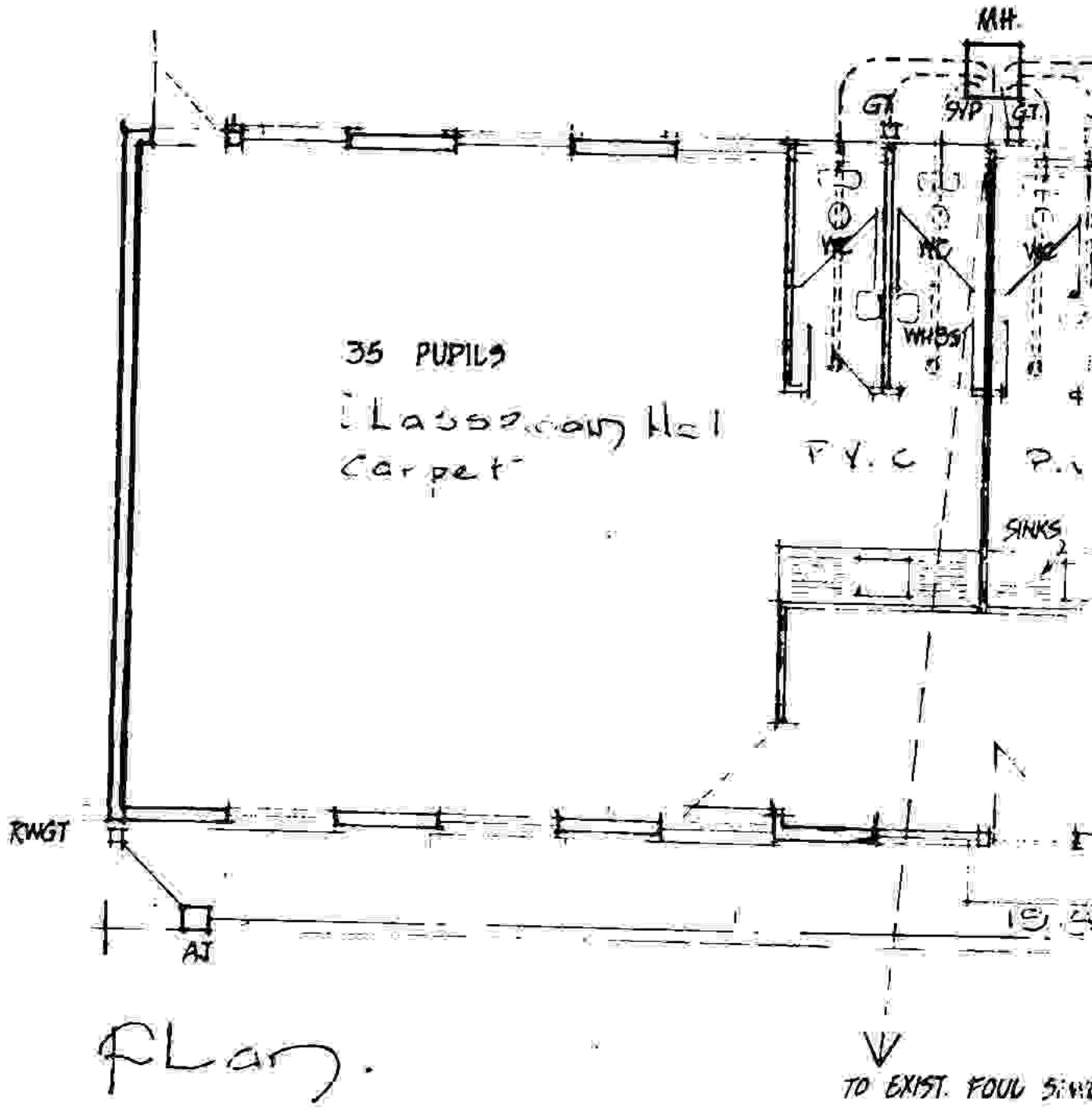
24 ft Roof Beam.
All Framing 3¼" x 1⅝" : S2/SS.
All Contacts fully glued.
Soffit piece to lap bottom Runner Butt Joint by 1'-9" Min.
Plywood to be 9.5 mm. Exterior Grade DFPly.



Section 1-1.

Dwg AR241	24 ft Roof Beam for Arben.

Scale ½" to 1'-0"	Dwg. AR241 Date July '87
24' Roof Beam	
Tony O'Driscoll.	


MH.
GT
SVP
GT
WC
WC
WC
WHBS
35 PUPILS
Classroom No 1
Carpet
P.V.C
SINKS
RWGT
AJ
TO EXIST. FOUL SEWER

Plan.