Councillor Charles O'Connor,
32 Ashgrove,
Tallaght,
Dublin 24.

Our Ref.: 91A/1168

16 September 1991

RE: Porposed 3 fabrictated classrooms at St. Thomas Senior School, Jobstown, Dublin 24 for M. F. Gates

Dear Councillor O'Connor,

I refer to your recent representations in connection with the above planning application.

I now wish to inform you that by Order Dated 10th September, 1991 it was decided to GRANT PERMISSION for the above proposal.

Yours faithfully,

for Principal Officer.

BYE LAW APPLICATION FEES

REF. NO.: 9/A/1168 CERTIFICATE NO.: 15768R

PROPOSAL: Three classrooms

LOCATION: St. Thomas Senior school, Jobstown, Tallaght, D.24

APPLICANT: Sr. M.F. Cates

	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 203.0 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: [signature] Grade: DHI Date: 17/7/91.

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

Columns 2,3,4,5,6 & 7 Certified: Signed: MO'H Grade: do Date: 16/7

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

PLANNING APPLICATION FEES

Reg. Ref...91A/168 — Cert. No.....26041.....

PROPOSAL....Three..classrooms.....

LOCATION....St..Thomas..Senior..School,..Jobstown,..Tallaght,..D.24.....

APPLICANT....Sr..M..F..Gates.....

CLASS	DWELLINGS/AREA LENGTH/STRUCT.	RATE	AMT. OF FEE REC.	AMOUNT LODGED	BALANCE DUE	BALANCE PAID
1	Dwellings	@£32				
2	Domestic,	@£16				
3	Agriculture	@50p per m2 in excess of 300m2. Min. £40				
4	Metres 203.5m²	@£1.75 per m2 or £40	Exempt			
5	x .1 hect.	@£25 per .1 hect. or £250				
6	x .1 hect.	@£25 per .1 hect. or £40				
7	x .1 hect.	@£25 per .1 hect. or £100				
8		@£100				
9	x metres	@£10 per m2 or £40				
10	x 1,000m	@£25 per £1000m or £40				
11	x .1 hect.	@£5 per .1 hect. or £40				

Column 1 Certified:Signed:.....Grade.....Date..17/7/91...

Column 1 Endorsed:Signed:.....Grade.....Date.....

Columns 2,3,4,5,6 & 7 Certified:Signed:M°H...Grade...CO...Date...16/7...

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

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

ASSESSMENT OF FINANCIAL CONTRIBUTION

EG. REF.: 914/1168

CONT. REG.:

SERVICES INVOLVED: WATER/FOUL SEWER/SURFACE WATER

AREA OF SITE:

FLOOR AREA OF PRESENT PROPOSAL: 2186 FT² J.G. 17/7/91.

ASSESSED BY:

CHECKED BY:

METHOD OF ASSESSMENT:

TOTAL ASSESSMENT

MANAGER'S ORDER NO: F/
DATED

ENTERED IN CONTRIBUTIONS REGISTER:

DEVELOPMENT CONTROL ASSISTANT GRADE

Register Reference : 91A/1168 Date : 17th July 1991

Development : 3 prefabricated classrooms

LOCATION : St. Thomas Senior School, Jobstown, Dublin 24.

Applicant : M.F. Gates

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : G.BOOTHMAN

Date Recd. : 12th July 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 Gallagher

for PRINCIPAL OFFICER

This proposal is acceptable subject to

(1) Adequate means of permanent ventilation to be provided to each classroom.

(2) Compliance with the building bye-laws.

(3) Adequate heating and artificial lighting to be provided to the proposed classrooms.

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 11.09.91
Time 3.00

for John O'Reilly
Orla Devine

Peter Whelan.
10/9/91

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

10/9/91.

SS + CMO.

Geraldine Boothman.

Register Reference : 91A/1168 Date : 17th July 1991

Development : 3 prefabricated classrooms

LOCATION : St. Thomas Senior School, Jobstown, Dublin 24.

Applicant : M.F. Gates

App. Type : PERMISSION/BUILDING BYE-LAW APPROVAL

Planning Officer : G.BOOTHMAN

Date Recd. : 12th July 1991

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

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 06.09.91
Time 9.30

Yours faithfully,

for PRINCIPAL OFFICER

DUBLIN Co. C... -7 AUG 1991 SAN SERVICES

DUBLIN CO. C... SANITARY SERVICES -3 SEP 1991 Returned

Date received in Sanitary Services .....

FOUL SEWER

Available - existing system.

SURFACE WATER

Available - existing system.

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

T. Dublin 29/8/91.

J.Q. 29/8/91

ENCD 25/7.

Register Reference : 91A/1168

Date : 17th July 1991

ENDORSED _____ DATE _____

WATER SUPPLY ..... Refer to CFO

Water available.

It appears as if this building is to be located over a 100mm private fire main. If so, this main will have to be relocated prior to construction (at the applicants expense).

ENDORSED [illegible] DATE 28/8/91

V Cullen 9/8/91

PLANNING DEPT.
DEVELOPMENT CONTROL SECT
Date 04.09.91
Time 9.30

Order No. P/4296/91

CONTRIBUTION
Standards
Roads
S. &.
Open Space
Other
SECURITY:
Bond / C.I.F.:
Cash:

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Proposed 3 prefabricated classrooms at St. Thomas Senior School, Jobstown, Dublin 24 for M. F. Gates.

Sr. M. F. Gates,
17, Kilclare Crescent,
Jobstown,
Tallaght,
Dublin 24.

Reg. Ref. 91A-1168
Appl. Rec'd: 12.07.1991
Floor Area: 203 sq. m.
Site Area: 30,000 sq. m.
Zoning: A1

Report of the Dublin Planning Officer, dated 6 September 1991

This is an application for **PERMISSION** for a three classroom pre fabricated structure at St. Thomas Senior School, Jobstown.

The area is which the site is located is zoned with the objective 'A1' "to provide for new residential communities in accordance with approved Action Area plans.

There would be no objection to a temporary permission for this development.

I recommend that a decision to **GRANT PERMISSION** be made under the Local Government (Planning and Development) Acts, 1963-1990 subject to the following (5) conditions:-

(GB/DK)

(Conditions attached)

Endorsed:- _____
for Principal Officer

_____
For Dublin Planning 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 (5) conditions set out above is hereby made.

Dated: 10 September, 1991.

_____
Assistant City and County Manager.

to whom the appropriate powers have been delegated by Order of the Dublin City and County Manager, dated 4th September, 1991.

COMHAIRLE CHONTAE ÁTHA CLIATH

Record of Executive Business and Manager's Orders

Proposed 3 prefabricated classrooms at St. Thomas Senior School, Jobstown, Dublin 24 for M. F. Gates.

CONDITIONS	REASONS FOR CONDITIONS
1. 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.	1. To ensure that the development shall be in accordance with the permission and that effective control be maintained.
2. That before development commences, approval under the Building Bye-Laws be obtained, and all conditions of that approval be observed in the development.	2. In order to comply with the Sanitary Services Acts, 1878-1964.
3. That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.	3. In the interest of health.
4. That the requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.	4. In the interest of safety and the avoidance of fire hazard.
5. That the structures be removed on or before 12th September, 1996, unless before that date permission for ~~its~~ their retention is granted by the Planning Authority or by An Bord Pleanala on appeal.	5. To enable the effect of the development on the amenities of the area to be reviewed, having regard to the conditions then obtaining.

DUBLIN COUNTY COUNCIL

[redacted]724755 (ext. 262/264)

PLANNING DEPARTMENT,
BLOCK 2,
IRISH LIFE CENTRE,
LR. ABBEY STREET,
DUBLIN 1.

Notification of Decision to Grant Permission/[redacted]

Local Government (Planning and Development) Acts, 1963-1983

To Sr. M. F. Gates,
17, Kilclare Crescent,
Jobstown,
Tallaght, Dublin 24.

Decision Order Number and Date P/4296/91 - 10.09.1991

Register Reference No. 91A-1168

Planning Control No.

Application Received on 12.07.1991

Applicant M. F. Gates.

Floor Area: 203 sq. m.

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/[redacted] for:-

3 prefabricated classrooms at St. Thomas Senior School, Jobstown, Dublin 24.

SUBJECT TO THE FOLLOWING CONDITIONS

CONDITIONS	REASONS FOR CONDITIONS
1. 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.	1. To ensure that the development shall be in accordance with the permission and that effective control be maintained.
2. That before development commences, approval under the Building Bye-Laws be obtained, and all conditions of that approval be observed in the development.	2. In order to comply with the Sanitary Services Acts, 1878-1964.
3. That the requirements of the Supervising Environmental Health Officer be ascertained and strictly adhered to in the development.	3. In the interest of health.
4. That the requirements of the Chief Fire Officer be ascertained and strictly adhered to in the development.	4. In the interest of safety and the avoidance of fire hazard.

(Continued)

Signed on behalf of the Dublin County Council .....
For Principal Officer

Date. 10.09.1991

IMPORTANT: Turn overleaf for further information

(Continued) CONDITIONS	REASONS FOR CONDITIONS
5. That the structures be removed on or before 12th September, 1996, unless before that date permission for their retention is granted by the Planning Authority or by An Bord Pleanala on appeal.	5. To enable the effect of the development on the amenities of the area to be reviewed, having regard to the conditions then obtaining.

NOTE:

If 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 appeal. If every appeal made in accordance with the Acts has been withdrawn, the Council will grant the PERMISSION/APPROVAL after the withdrawal.

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 the decision.

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

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

(1) An appeal lodged by an applicant or his agent with An Bord Pleanala will be invalid unless accompanied by a fee of £36 (Thirty-six Pounds). (2) A party to an appeal making a request to An Bord Pleanala for an Oral Hearing of an appeal must, *in addition* to (1) above, pay to An Bord Pleanala a fee of £36 (Thirty-six Pounds). (3) A person who is not a party to an appeal must pay a fee of £10 (Ten Pounds) to An Bord Pleanala when making submissions or observations to An Bord Pleanala in relation to an appeal.

Approval of the Council under 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.

FUTURE PRINT LTD.

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/1168

Date : 15th July 1991

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

Dear Sir/Madam,

DEVELOPMENT : 3 prefabricated classrooms

LOCATION : St. Thomas Senior School, Jobstown, Dublin 24.

APPLICANT : M.F. Gates

APP. TYPE : PERMISSION/BUILDING BYE-LAW APPROVAL

With reference to the above, I acknowledge receipt of your application received on 12th July 1991.

Yours faithfully,

.....

for PRINCIPAL OFFICER

M.F. Gates,
17 Kilclare Crescent,
Jobstown,
Tallaght,
Dublin 24.

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 St. Thomas' Senior School
(If none, give description sufficient to identify) Jobstown, Tallaght D 24

3. Name of applicant (Principal not Agent) Sr. M.F. GATES

Address 17 Kilclare Crescent, Jobstown Tallaght D24 Tel. No 526344

4. Name and address of person or firm responsible for preparation of drawings Board n Works Sleiphen's Green D2 Tel. No 613111

5. Name and address to which notifications should be sent 17 Kil M. Frances GATES
17. Kilclare Crescent Jobstown, Tallaght D 24.

6. Brief description of proposed development Three (3) Classrooms - (Prefab material)

7. Method of drainage connected to existing 8. Source of Water Supply Existing supply

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. Educational
(b) Proposed use of each floor Educational

DUBLIN COUNTY COUNCIL
Planning application requested for 3 prefabricated classrooms at St. Thomas' Senior School, Jobstown, Dublin 24. M.F. Gates.

First floor 10/7/91

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 30,000 sq ft Sq. m.

(b) Floor area of proposed development 203 Sq. m.

(c) Floor area of buildings proposed to be retained within site 5576 Sq. m.

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

FEE PAID: Nil DATE 12/7

RECEIPT No.:

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

BYE-LAW APPLICATION REC No. N-1

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

15. List of documents enclosed with application. 4 no. sets of drawings, specifications, design calculations and Planning Application adf.

RECEIVED
203
12 JUL 1991
REG. SEC.

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

No of dwellings proposed (if any) Class(es) of Development

Fee Payable £ Basis of Calculation
If a reduced fee is tendered details of previous relevant payment should be given

Signature of Applicant (or his Agent) M. Frances Gates Date 10.7.91

FOR OFFICE USE ONLY 12/7

Application Type P/B
Register Reference 91A/1168
Amount Received £ 1. 20.4.4
Receipt No 21/11
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 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 m² (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)

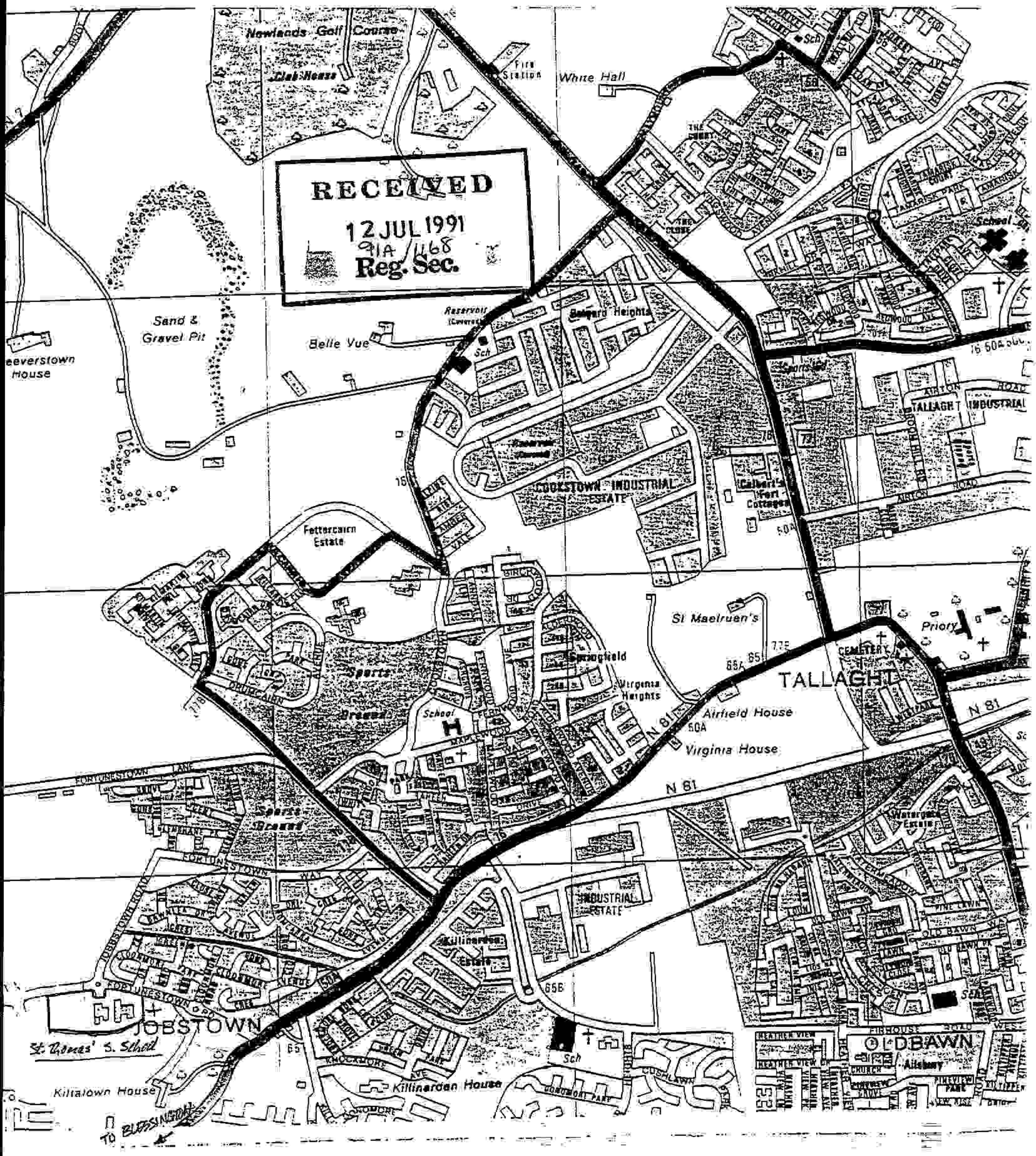
BUILDING BYE-LAW APPLICATIONS

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 m² (min. £70.00)
D	Agricultural Buildings/Structures	£1.00 per m² 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.



LOCATION MAP

MAP REF. DUBLIN 21.11

ROOF PANELS OF 9·5 MM D.F.F. PLYWOOD
ON 81 X 43 MM JOISTS @ 400 MM C.R.S.

PLY
9·5 M
GRA

DETAIL A

CEILING OF 12·5 MM PLASTERBO
ON 50 X 50 MM FRAMING WITH I
INSULATION OVER.

ALUMINIUM WINDOW.

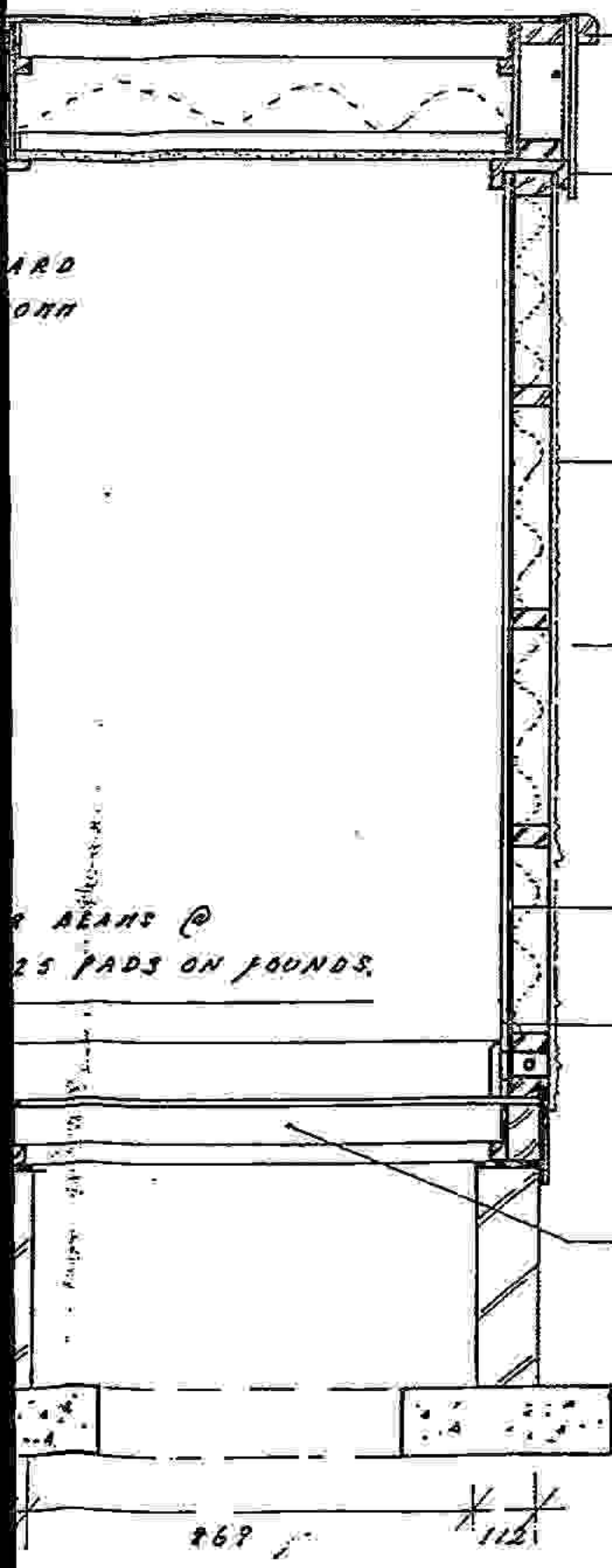
DETAIL B

SKIRTING.

120 X 70 MM TREATED FLOO
1206 MM C.R.S. ON 450 X

112 869 225 869 225

'000 80X BEAMS @ 1206 MM CRS.
T D.F.F. PLY ON 61X42 MM STRESS
ED TIMBERS.



WEATHER DRIP.

WATERPROOF PLY FASCIA WITH
WATERPROOF BELLCOAT TEXTURED FINISH

STENNI S.B 100 CLADDING.

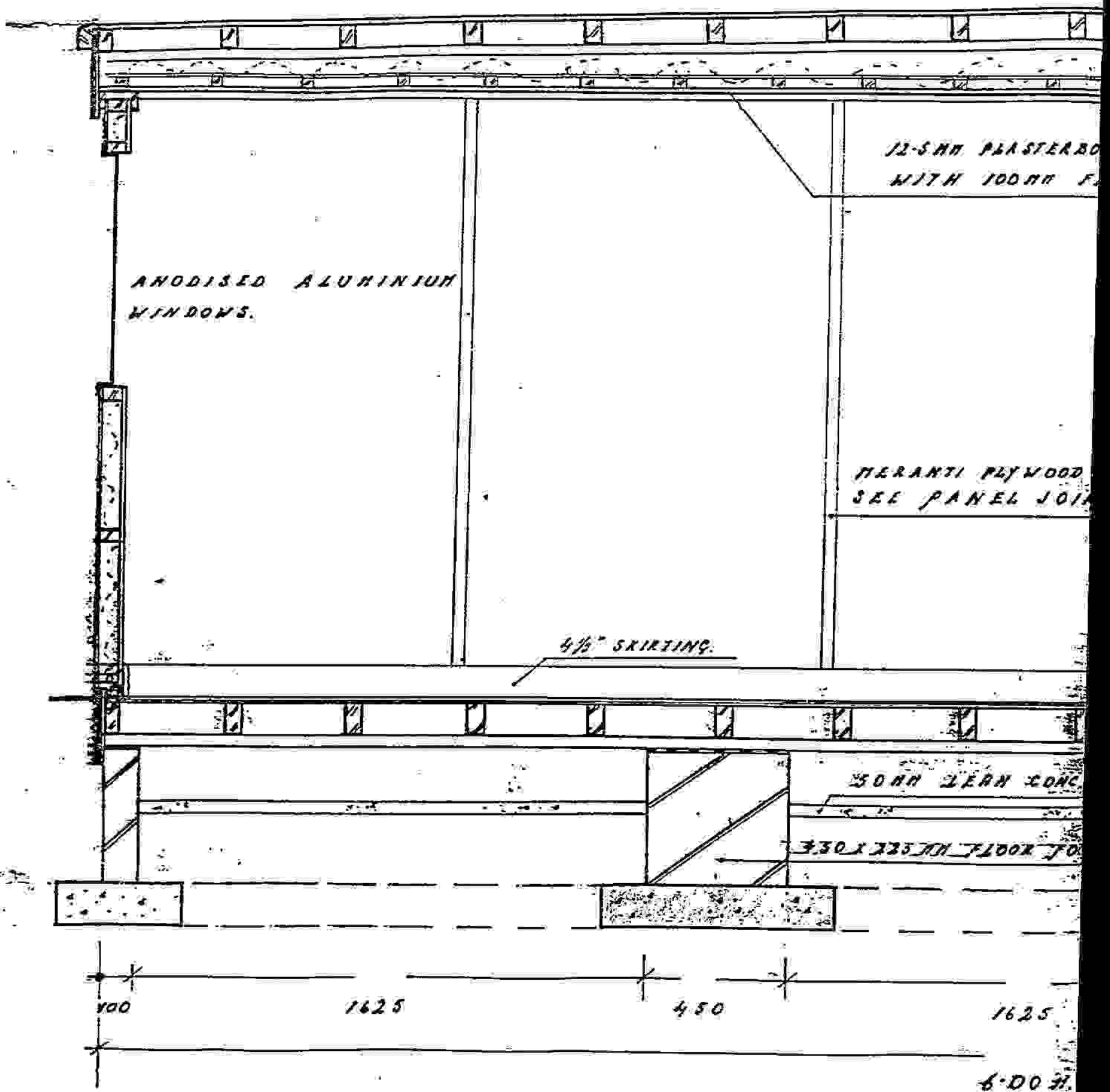
83 X 43 MM TREATED FRAMING.

1000 GUAGE VAPOUR BARRIER.

12.5 MM PLASTERBOARD INTERNAL LINING.

FLOOR PANELS OF 12.5 MM PLY ON 81X43 MM
TREATED JOISTS ON FLOOR BEAMS @ 1206 CRS.

3 LAYERS FELT FINISHED IN MINERAL ON
9·5 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

RECEIVED
12 JUL 1991
91A/1168
Reg. Sec.

ARD CEILING LINING.
BREGLASS INSULATION.

STENNI S.B. 100
EXTERNAL CLADDING.

12.5MM PLASTERBOARD
INTERNAL LINING ON
1000 GUAGE VISQUEEN
VAPOUR BARRIER.

100MM QUILT INSULATION.

COVER STRIPS.
DETAIL.

89 X 43MM FIN SIZE
TREATED KILN DRIED
PANEL FRAMING.

DETAIL B

PROVIDE UNDER -
FLOOR VENTILATION. -

TINGS.

112MM BRICK VENEER WALL

150

450

1625

112

DESIGN CALCULATIONS

FOR : PREFABRICATED CLASSROOMS.

PROJECT: JOBSTOWN, TALLAGHT, 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.

Confidential Report

Report ref. R6/2390BK 28/08.87

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.

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 plywood 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.

8. 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

(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 constructior Responsibility for their resistance to moisture ingress 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.

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.	17 Oct. 28 Jul 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	17.Oct. 28 Feb 87	TOD 872 [2]

Roof Panels.

3/8" DFPly. = 9.5 mm.

$2\frac{3}{4}" \times 1\frac{3}{4}"$ 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

mm.

SPAN = (48" − 3.5") = 44.5" = 1130

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

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

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
$= \frac{53}{36.3} = 1.46$ N/mm²
OK.

Shear Stress
$\frac{1.5(188)}{70 \times 44} = .09$ N/mm²
OK.

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

Floor Panels.

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

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

M_x 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.

M_x Moment $= \frac{1.243 \times 1.13^2}{8} =$ 198·4 N m

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

M_x 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. kN/m²

⇒ 0·175 DL

Joist.

flex Stress. 3·93 N/mm²

Shear Stress = ·287

Allowable Timbers.

Spruce Pine Fir GS.

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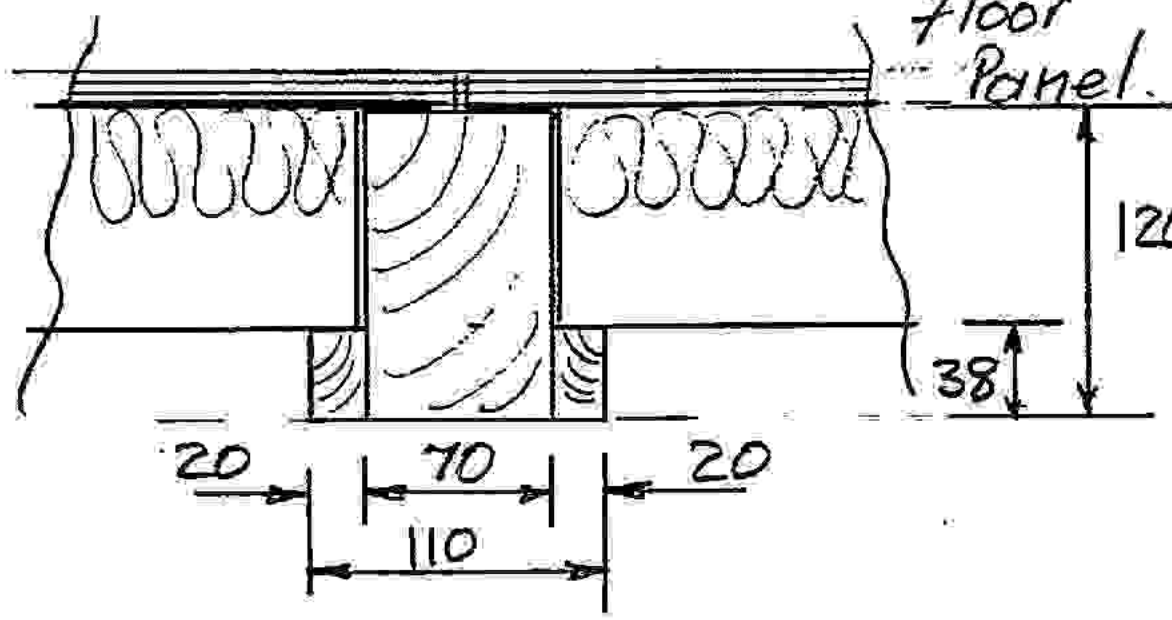
Main Floor Beams.



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.

Ord Blkwk.
CP 111
.28 N/mm²
O.K.

Properties of Floor beam

mm².
Area = 9920

For Computer Analysis see Pg [5].

w = 3.72 kN/m
L = 1.524 m.

Design Requires
S2/S5
Timbers.

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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/A = 6.33 m.

Span. = 6.15 m.

Total Wt of a Roof Beam.

(70 x 44.5) Total Length. = 15.5m

10t. 15.5 X 0.0187 = 0.29 KN.

Ply = 2 X .055 X .35 X64 = 0.25 KN

.54 KN

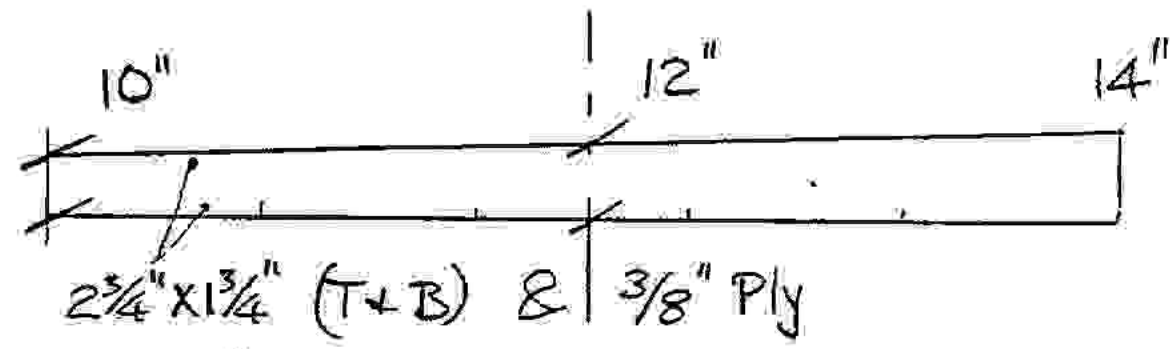
Self Wt.
.09 KN/m

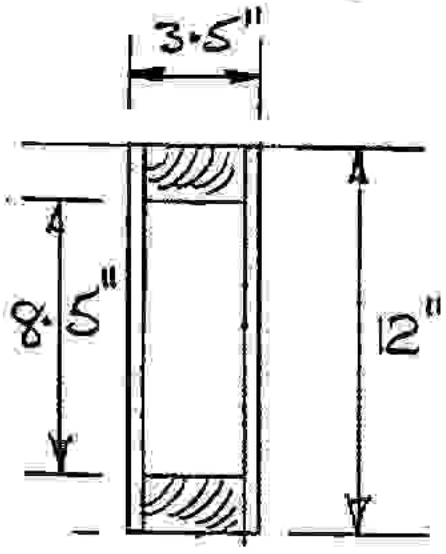
Loading

		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

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

]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.
 I = 336.41;  Z = 56.07;
 AS= 6.02; AI = 37.71;
 Bending Stress = 900.58 psi.
 Panel Shear    = 138.4 psi.
 Rolling Shear  = 22.09 psi.
 Deflection     = .57ins.
```

= 3·80 kN.

Bending Stress = 6·2 N/mm² S2/SS OK.

Panel Shear = 0·95 < 1·31 (Table 8.8. Ref ③)

Rolling Shear = 0·15 ≤ ½(·35) Do & CP112.

Deflection = 14·5 mm.

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

② Plywood DF Ext Grade 9·5 mm.

③ Depth Varies 10" to 14"

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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.

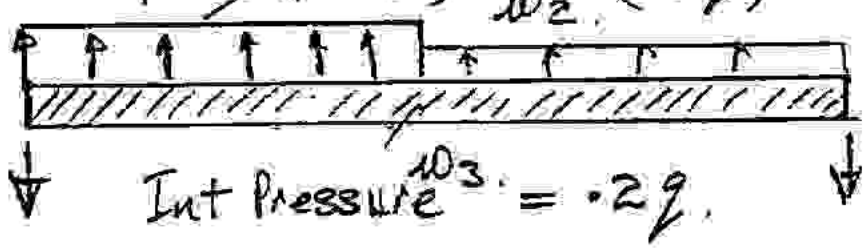
10 No / 44 mm Nails Per Metre = .68kN/m — along Edges

5 No / 44 " " " " — INTERNAL.

Uplift Per Beam. Table 8

q = .552 kN/m²

Wind ⇒

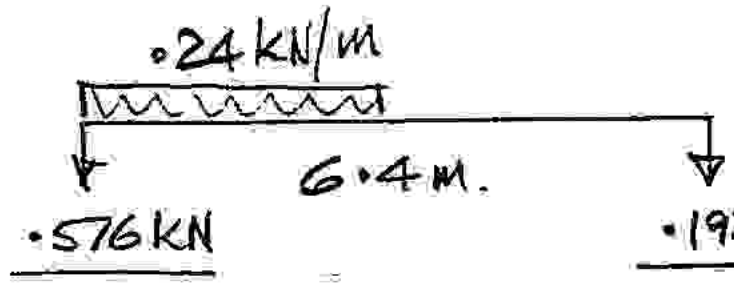


kN/m²

1.0q − DL. = (0.55 − 0.35) = 0.20

0.6q − DL = (.33 − 0.35) ⇒ .00.

Nett 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 Pt = 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.

Panel. 8' x 4' = 3 m².

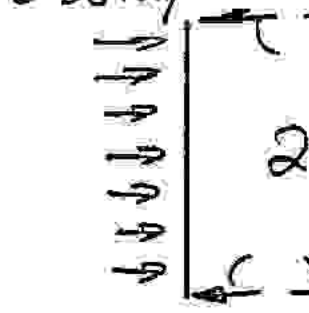
Total Wt of Wall Panel = .91 kN = 200 lbs

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

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.



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

Page 2

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

Sz/GS $p = 4.8\ N/mm^2$. factor $K_{12} = 1.5$

$M = 1.5(4.8)(36.34 \times 10^3)\ N\,mm. = .261\ kNm.$

$Z = 36.34 \times 10^3\ mm^3$

4 Uprights/Panel ⇒ 1.04 kNm >> .48 OK

or

2 Uprights/Panel ⇒ .52 kNm > .48 OK

Tony O Driscoll	Prefabricated Classroom	d.70N 28th July 1987	TOD872 10

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 X10³mm²
Value/Panel = 4.8 kN. > 2.55

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

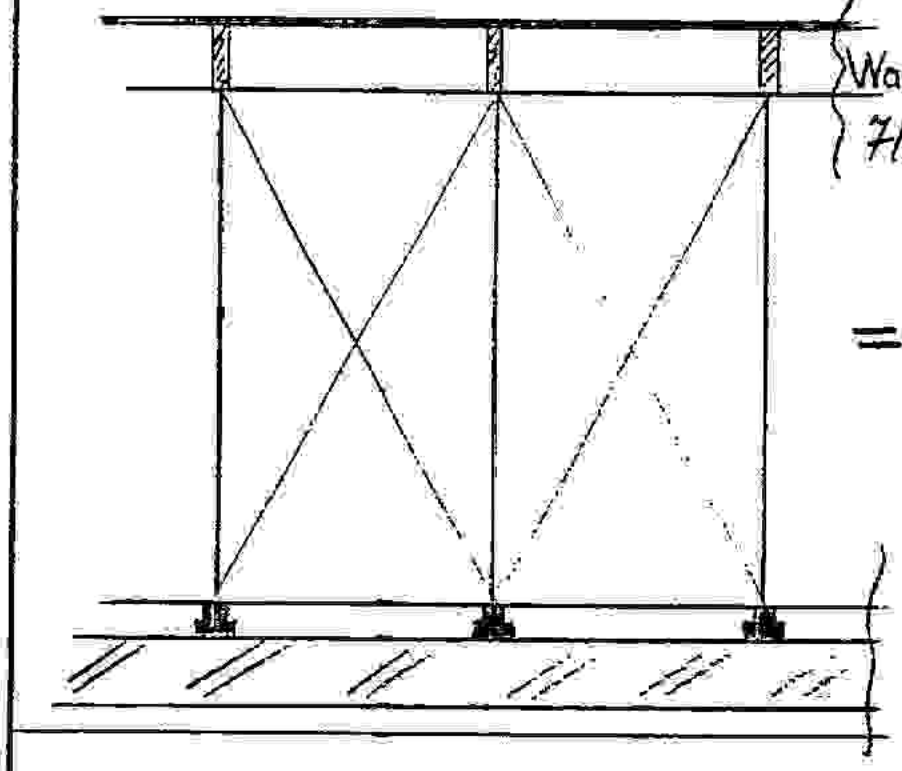
"Country with many Wind breaks: Small towns: outskirts of Large Cities" — "Some Special Details" Class.2.

Extra Attention to fixing the Building to the Dwarf Walls would suffice for Exposure Class (2) — "Bolting Down & Design Review" Class. 1.

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

Tony O'Driscoll	Pre fabricated Classroom.	J.F.O'M 28th Feb '87	TOD 872 11

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

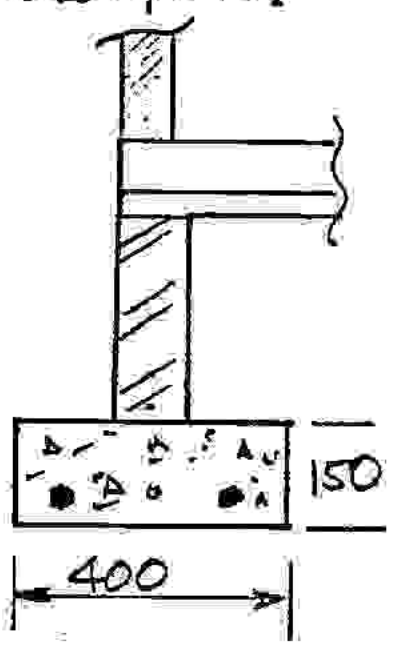
Contact Area. (110 x 110) = 12.1×10^3 mm².

Contact Pressure = 0.62 N/mm².

0.62 N/mm² 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/m² ---- OK.

Tony O'Driscoll	Prefabricated Classroom.	28th Feb. 87.	TOD 872 | 12 |

Thermal Quality of Construction

Roof	K W/m°C.	R. m²°C/W.
Ext Surface		.044.
2layer Felt+Ply		.120
Air Spaee (Vented)		.114.
100mm Glass Quilt. (.036)		2.780
12.5 mm Gypsum		.078.
INT Surfaee.		.123.
		3.259

R = 3.26 U. = 0.307 O.K.

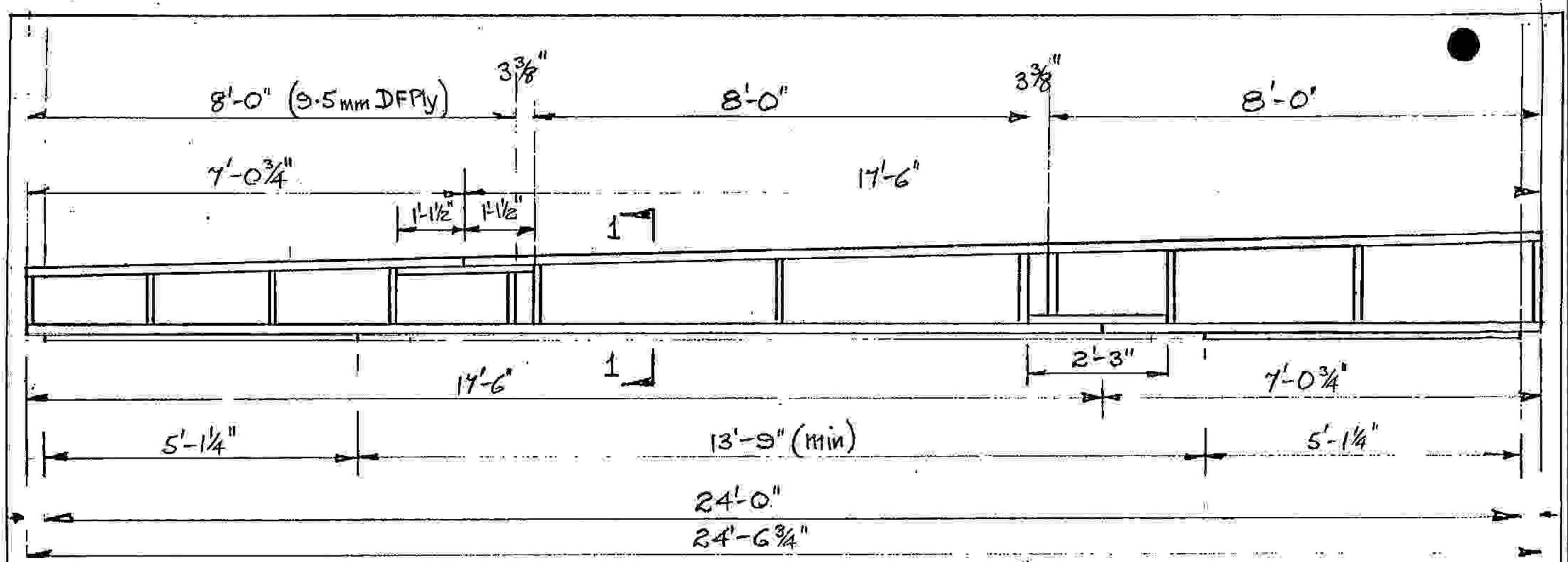
Wall	K.	R.
Stenni 4mm.	.161	.025
Air Space (Vented)		.110
60mm fibre Glass.	.036	1.670
Visqueen/Slab Enterface		.088
12.7mm Slab		.078
Ext Resistanee		.070
Int "		.123
		2.164

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



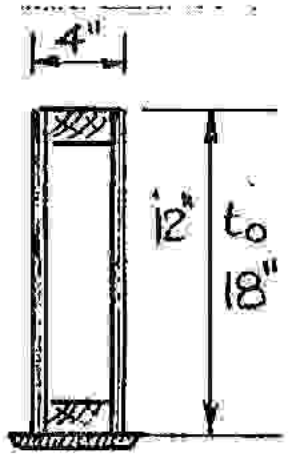
24ft Roof Beam.

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 9.5mm. Exterior Grade DFPly.



Section 1-1.

Drg AR241	24ft Roof Beam for Arben.

Scale ½" to 1'-0"	Drg. AR241 17th July '87
24' Roof Beam	
Tony O'Driscoll.	