



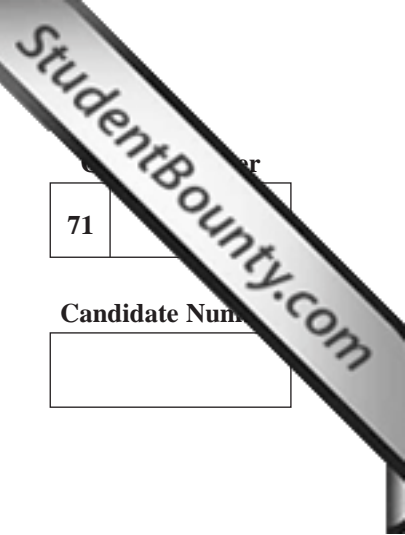
General Certificate of Secondary Education
2009

Construction Single Award

Unit 2: Construction Technology

[GSK21]

FRIDAY 22 MAY, MORNING



71	
Candidate Number	
<input type="text"/>	

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all nine** questions.

Questions **1, 2, 4** and **8** should be answered in relation to the enclosed house plans and specifications previously issued as Pre-release materials.

You should not bring any of the material previously issued into this examination.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
Total Marks	

2 Hardwood stormproof casement windows have been specified for use in the Visitors' Centre shown in the attached pre-release materials.

List **five** functional requirements of a hardwood, stormproof casement window.

- _____ [1]
- _____ [1]
- _____ [1]
- _____ [1]
- _____ [1]

Examiner Only	
Marks	Remark

3 **Fig. 1** shows a photograph of a casement window in a cavity wall and **Fig. 2** shows a drawing of a casement window. Use the labels provided to identify all the elements of the casement window and write the correct label in the space provided.

A list that includes all the labels required for **Fig. 1** and **Fig. 2** has been included, you will not require all these labels.

Top hung opening sash
 Transom
 Softwood
 Fixed light
 Damp proof membrane
 Stile
 Concrete window sill

Mullion
 Insulation
 Hinge positions
 Head
 Side hung opening sash
 Sill (bottom rail)

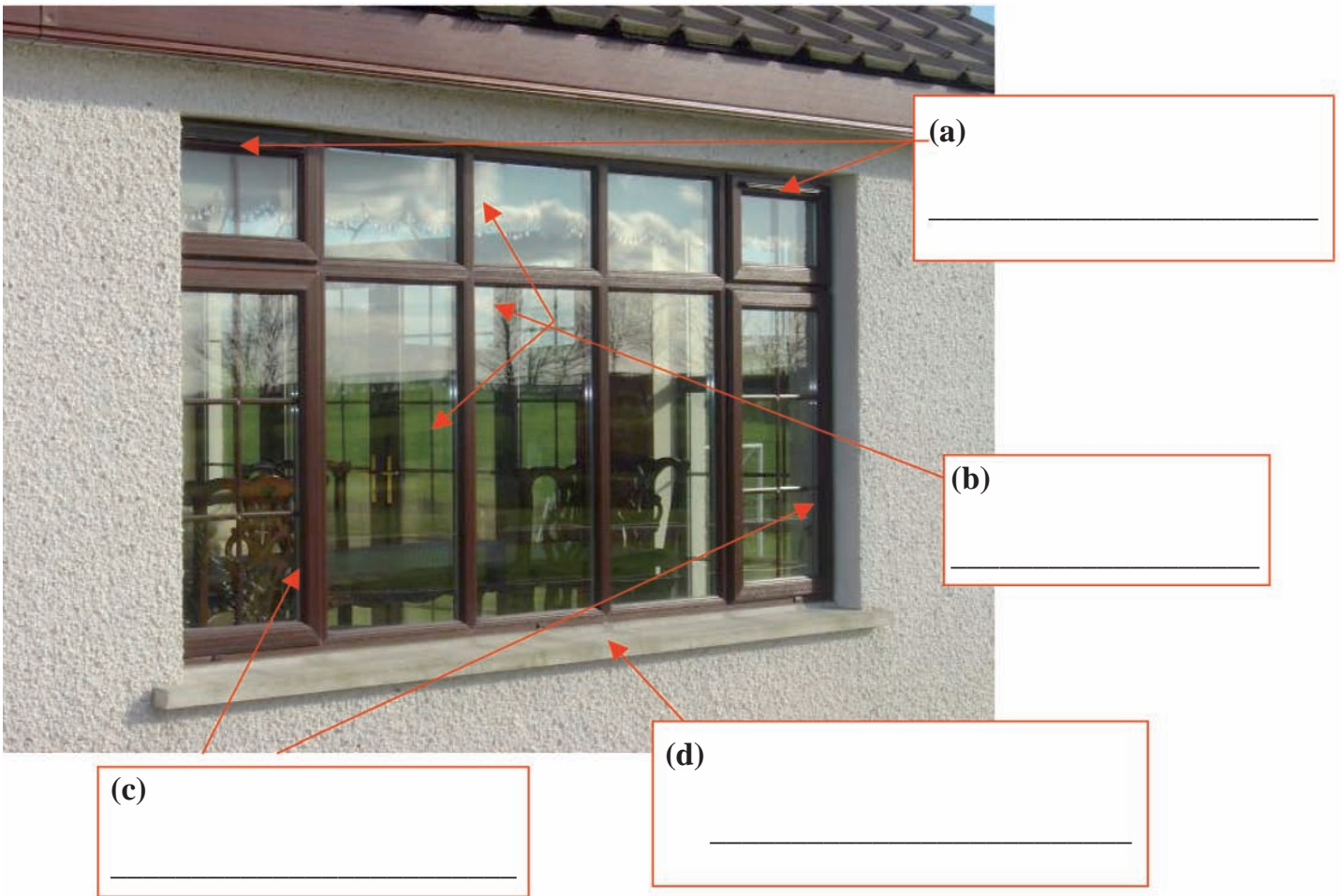


Fig. 1

[4]

Examiner Only	
Marks	Remark

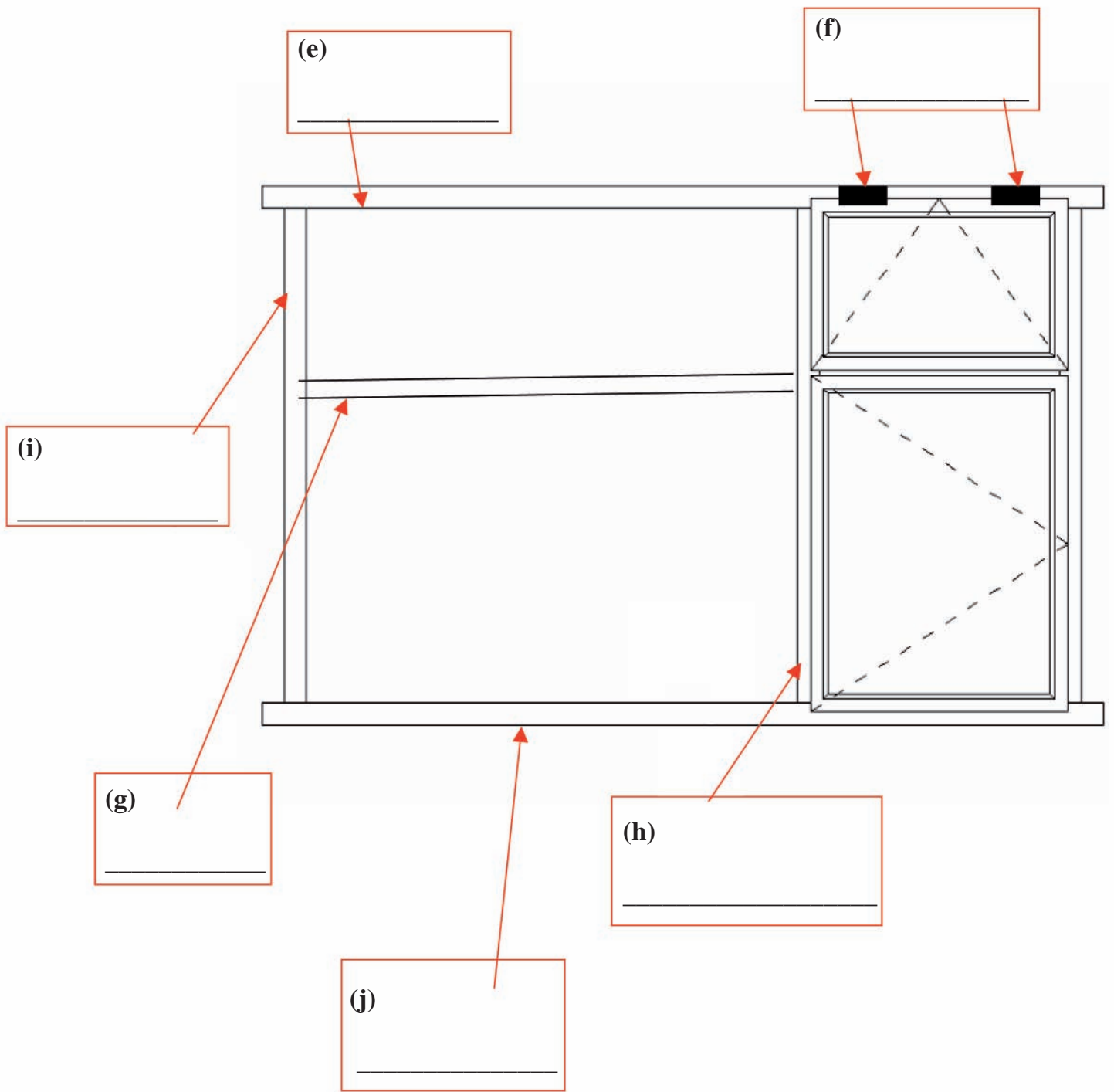


Fig. 2

[6]

Examiner Only	
Marks	Remark

[Turn over

6 (a) State the name of a conservation area in N. Ireland.

_____ [1]

(b) Give **four** reasons why the area listed above has been designated as a conservation area.

_____ [4]

7 Define the following terms when related to pitched roof construction.

(a) Soffit

_____ [3]

(b) Bargeboard

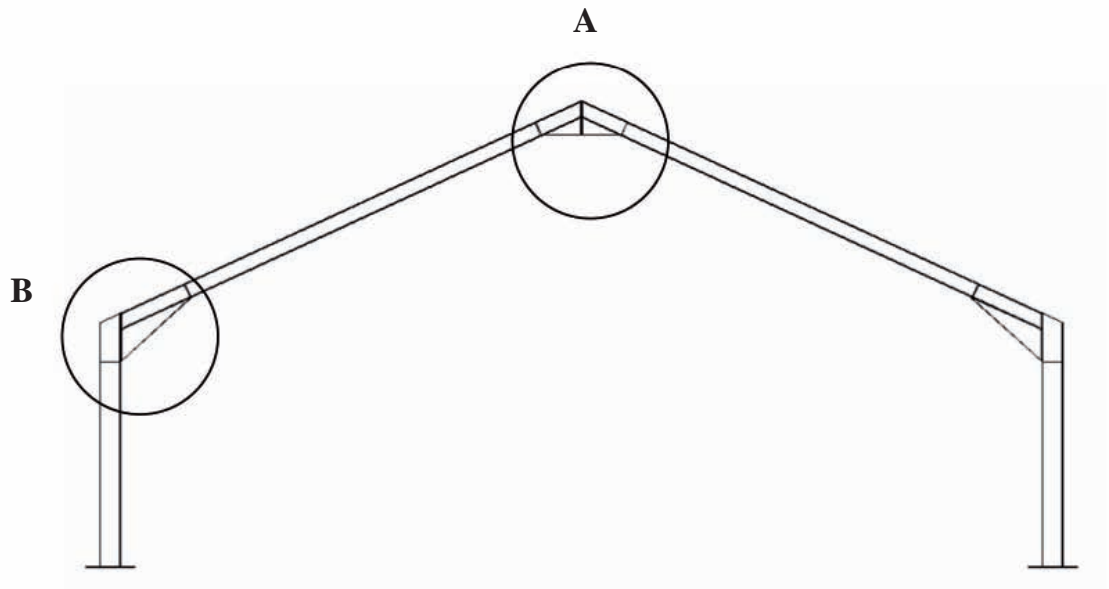
_____ [3]

Examiner Only	
Marks	Remark

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(Questions continue overleaf)

- 8 The central hall of the Visitors' Centre shown in the pre-release materials is constructed from a steel Portal Frame such as the one shown below.



9 List **four** important properties of a roof:

(a) _____

_____ [2]

(b) _____

_____ [2]

(c) _____

_____ [2]

(d) _____

_____ [2]

Examiner Only	
Marks	Remark

Write down the function of the **two** elements named below as they relate to pitched roof construction.

(f) Fascia board

[2]

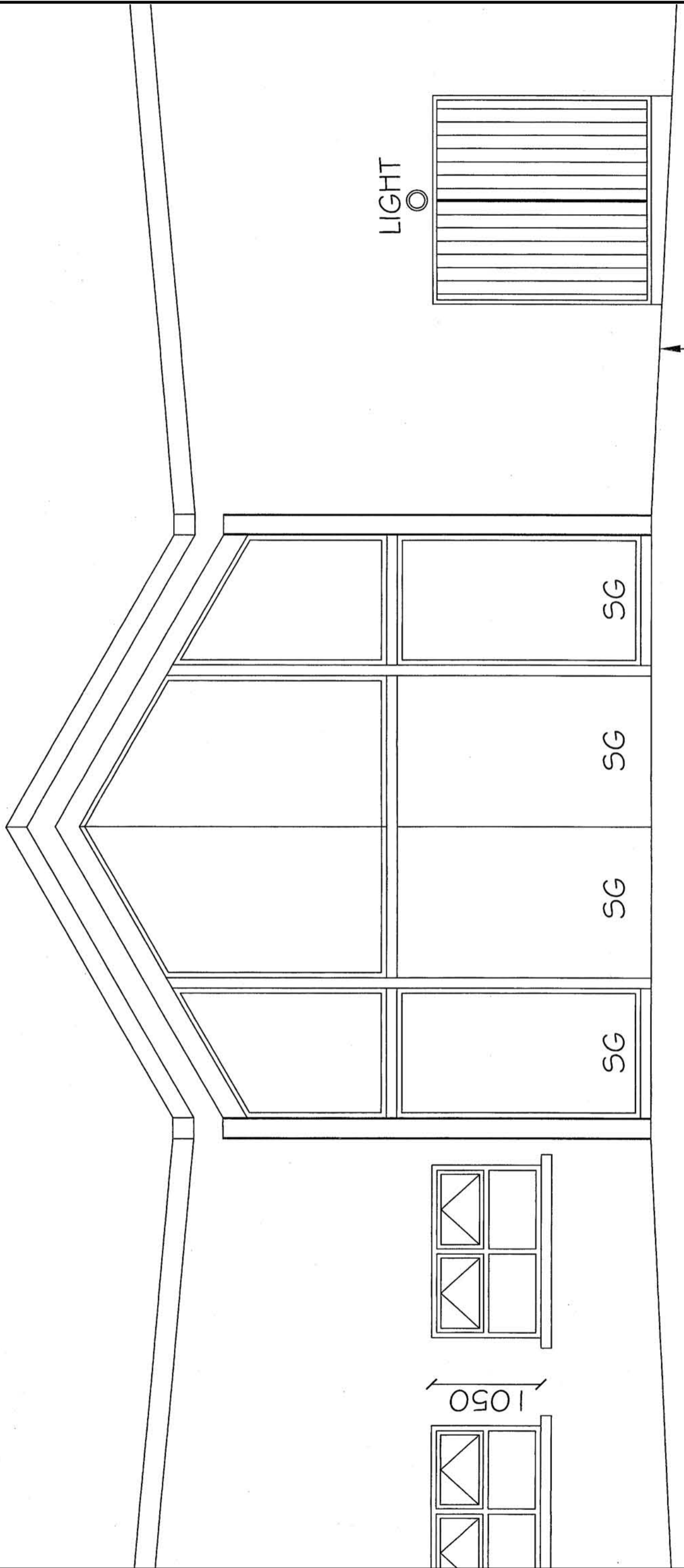
(g) Ridge board

[2]

Examiner Only	
Marks	Remark

THIS IS THE END OF THE QUESTION PAPER

Candidates will be required to scale drawings at 1:50 and/or 1:200 scale



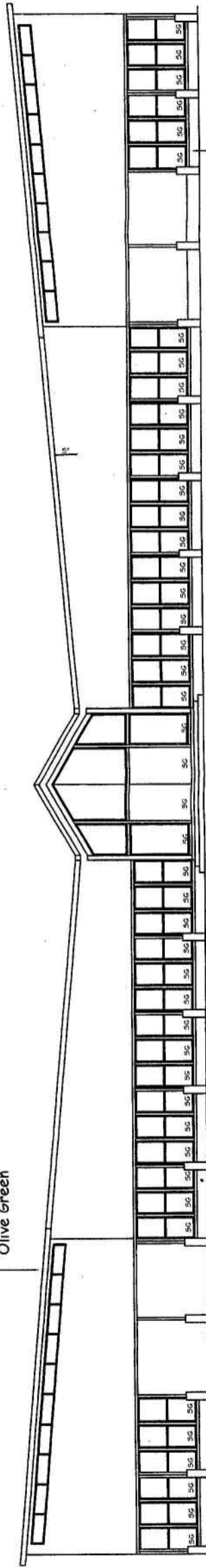
GCSE Construction

Pre-release materials

Date 2009

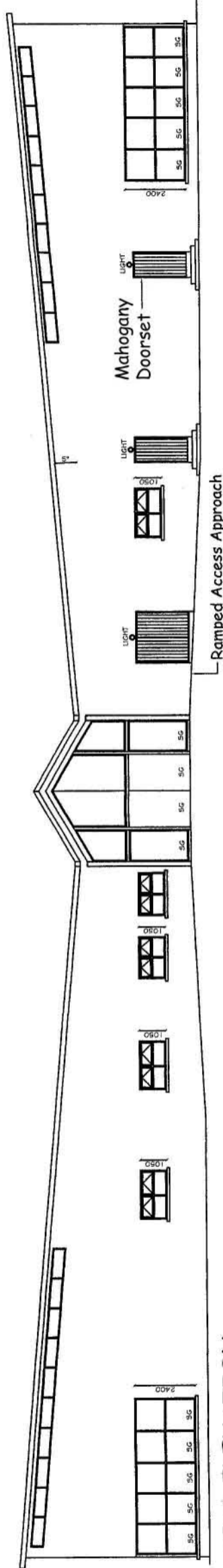


Composite Panel PVF2
Finish Coated, Colour:
Olive Green



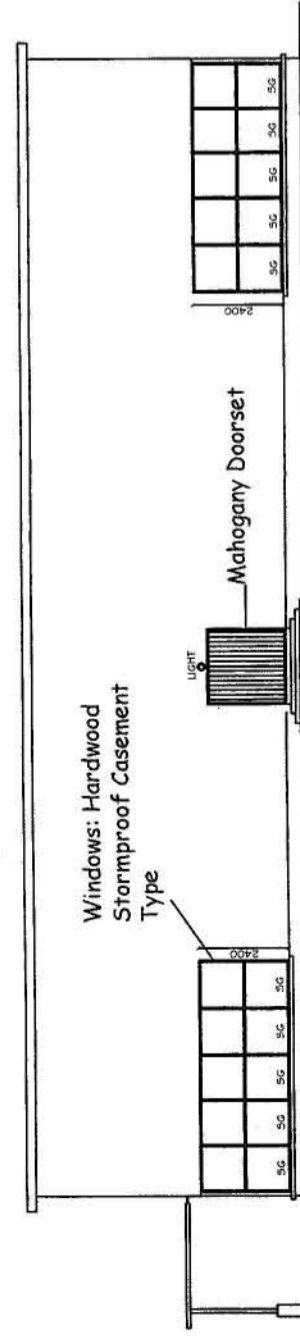
FRONT ELEVATION

Smooth Plaster
Colour: Meadowland

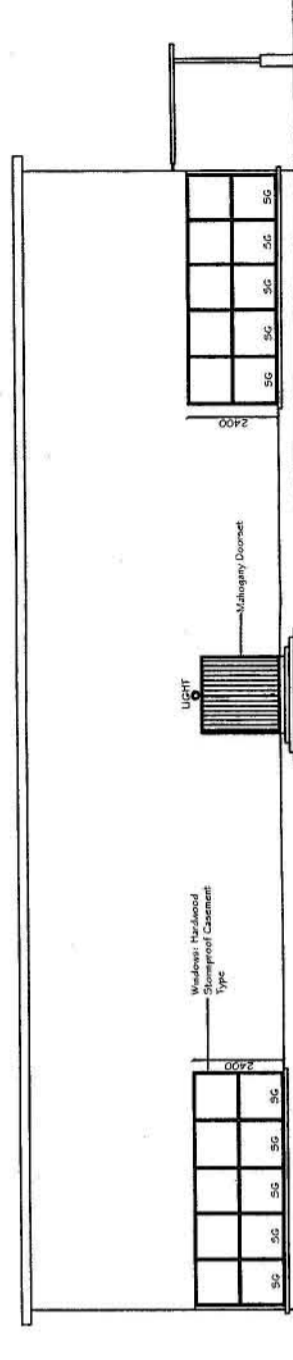


REAR ELEVATION

PROVIDE LEVEL ACCESS TO BUILDING
GROUND TO BE GRADED TO ACCESS
NOT EXCEEDING 1in20 AND A CROSSFALL
OF 1in40 ALLOW FOR LEVEL LANDING OF
1800mm.
PROVIDE ACO DOOR DRAIN WITH WATER
BAR REF DD930W.



LHS ELEVATION



RHS ELEVATION

ROOF CLADDING TO BE COMPOSITE INSULATED PANELS AS MANUFACTURED BY KINGSPAN
BUILDING PRODUCTS LTD OR OTHER EQUAL AND APPROVED
THE OUTER SHEETING SHALL BE FORMED USING AT LEAST 0.50mm THICK HOT DIP GALVANIZED STEEL SHEET
TO BS.2989 WITH A ZINC COATING WEIGHT OF 275g/m². THE PROFILE DEPTH SHALL BE AT LEAST 35mm
AND SHALL GIVE 750-1000mm COVER WIDTH. THE OUTER SURFACE SHOULD BE PLASTISOL COATED AND A
GREY ACRYL BACKING COAT ON THE REVERSE SIDE.
THE INSULATION FOAM CORE SHOULD BE 50mm THICK POLYISOCYANURATE
THE BACKING TRAY SHALL BE FORMED OF AT LEAST 0.50mm THICK HOT DIPPED GALVANIZED STEEL SHEET
TO BS.2989 WITH A ZINC COATING WEIGHT OF 275g/m². THE INTERNAL SURFACE OF THE BACKING TRAY
SHALL BE FINISHED WITH A DENSE WHITE POLYESTER PAINT WITH A DRY FILM THICKNESS OF 20 MICRONS.
THE OUTER SURFACE SHALL BE PVC COATED

GCSE Construction

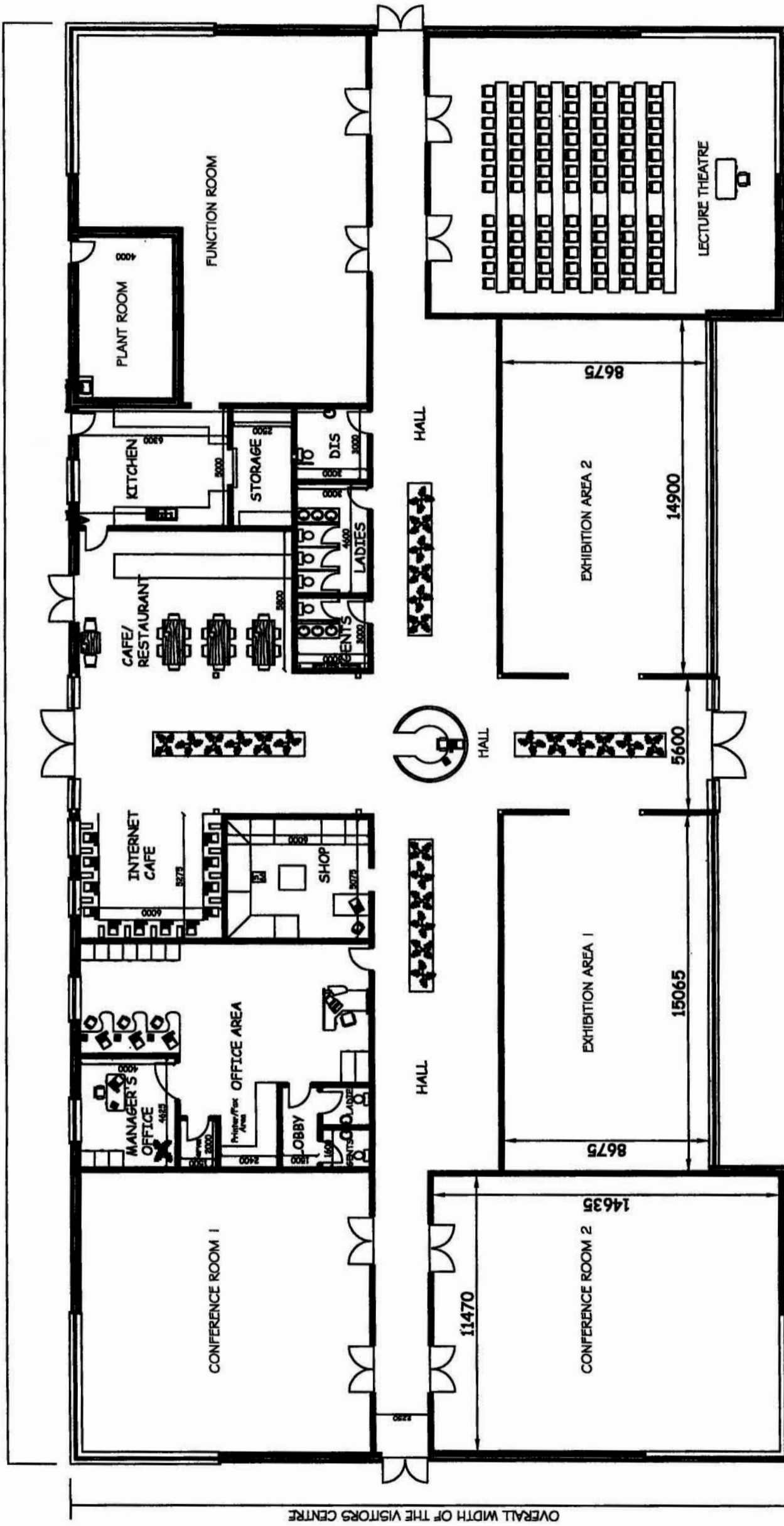
Pre-release materials

SCALE - 1:200

Date 2009

GSK21IN2

OVERALL LENGTH OF THE VISITORS CENTRE



OVERALL WIDTH OF THE VISITORS CENTRE

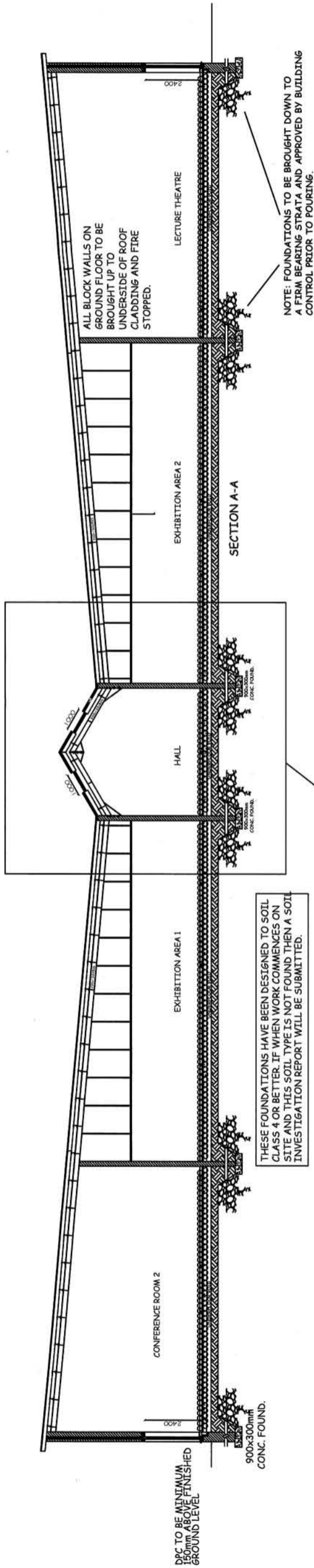
GCSE Construction

Pre-release materials

SCALE - 1:200

Date 2009





Wall construction:

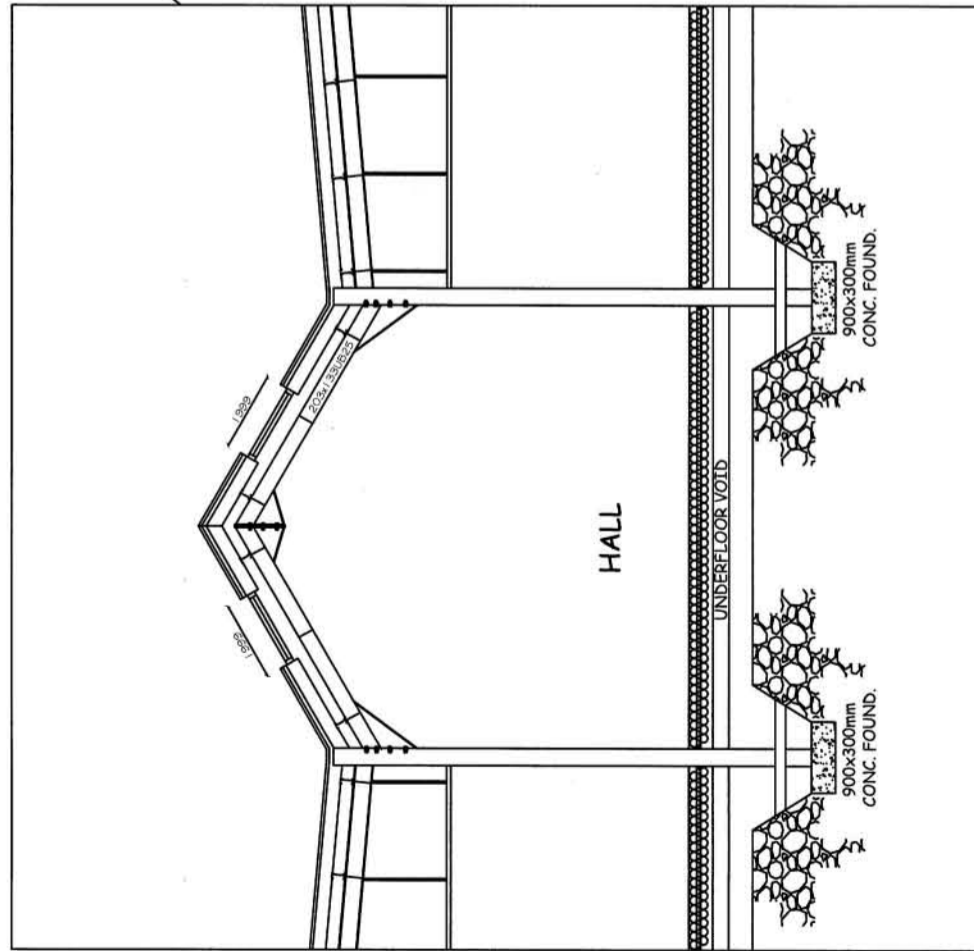
Walls shall not exceed 12m in length, measured from centre to centre of buttressing walls, piers or chimneys providing restraint.

300 mm rendered block wall provide : 15mm external rendering
 Outer leaf- 100mm dense concrete block 2100kg/m³ with 40mm Low Emissivity Air-Space and 60mm Kingspan Kooltherm K8 cavity insulation held in place with insulation retaining wall ties (200mm long) stainless steel and conform to BS 1243 : 1978.

Inner Leaf- 100mm dense concrete block with 15mm plaster finish.

300mm Brick walls provide : 100mm brickwork (outer leaf) : 40mm low emissivity air space cavity : 60mm Kingspan Kooltherm K8 cavity insulation : 100mm dense concrete block 2100kg/m³ (inner leaf) 13mm plaster finish.

Ties to be spaced at 750mm Crs horizontally & 450mm Crs vertically. At unbonded jambs to all openings provide wall ties at 225mm vertical centres within 150mm of the opening.



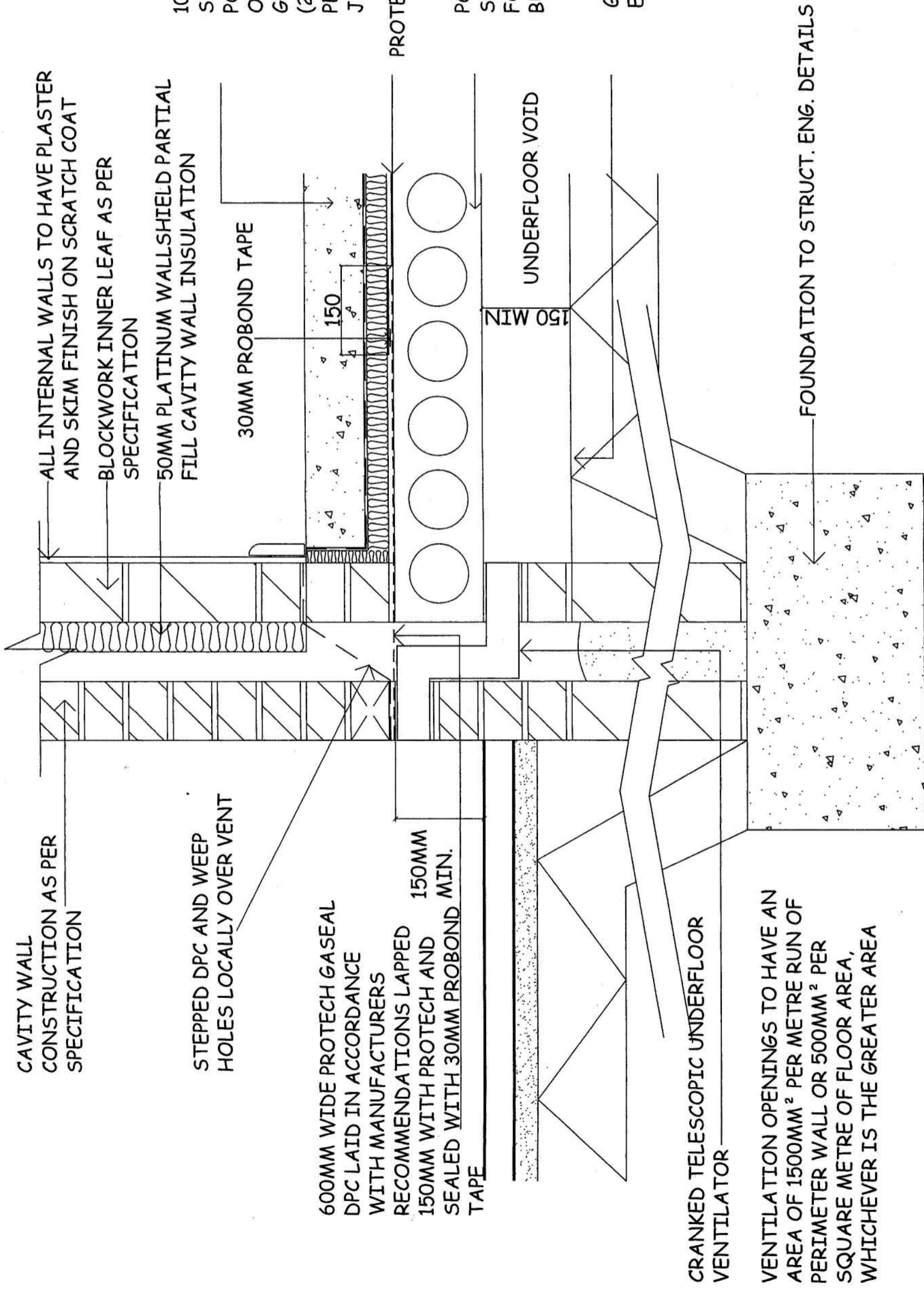
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Pre-release materials

NOT TO SCALE

Date 2009





100MM SCREED AS PER SPECIFICATION ON 500 GAUGE POLYETHYLENE VAPOUR BARRIER ON 50MM WARMFLOOR T&G GROUND FLOOR INSULATION, (25MM INSULATION AT PERIMETER OF FLOOR / JUNCTION WITH WALL)

PROTECH SUPER POLYETHYLENE DPM
 PC CONCRETE FLOOR SLABS (BY SPECIALIST SUB CONTRACTOR TO FORWARD DWGS AND CALCS FOR BUILDING CONTROL APPROVAL.)

GROUND TO BE PREPARED TO AN EVEN SMOOTH SURFACE

GCSE Construction
 Pre-release materials

NOT TO SCALE Date 2009

SUSPENDED PRE-CAST FLOOR SLAB DETAIL

