

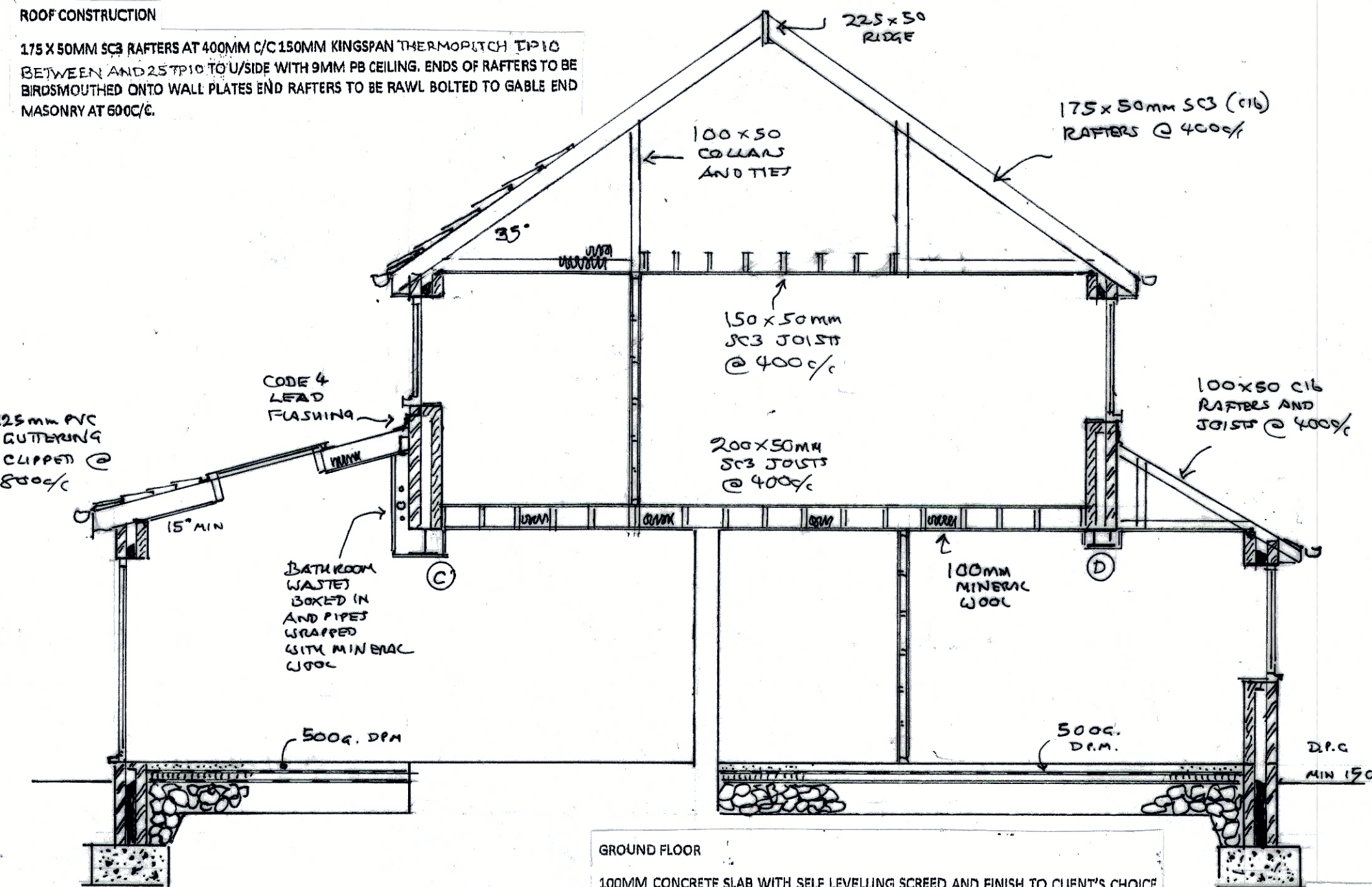
SECTION 1:50

ROOF CONSTRUCTION

175 X 50MM SC3 RAFTERS AT 400MM C/C 150MM KINGSPAN THERMOPITCH TYP10
BETWEEN AND 257P10 TO USIDE WITH 9MM PB CEILING. ENDS OF RAFTERS TO BE
BUSHED INTO ONTO WALL PLATES END RAFTERS TO BE RAWL BOLTED TO GABLE END
MASONRY AT 600C/C.

ROOF COVERING

SELECTED MATCHING ROOF TILES/SLATES NAILED TO TREATED S.W. BATTENS WITH LAP TO
SUIT ROOF PITCH IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS OVER 'TYVEK'
BREATHABLE SARKING FELT LAID OVER RAFTERS AS SPECIFIED. 300MM FIBREGLASS QUILT
INSULATION OVER AND BETWEEN JOISTS ON 9MM PB AND SKIM CEILING.



STEEL CHECK

LOADS	175 x 102mm R.S.S.	SPAN 2600
175 x 102mm R.S.S.	2.6 x 2.6 x 2.2	14.87
FLOOR 1	1.5 x 2.6 x 2.5	9.75
FLOOR 2	1.5 x 2.6 x 2.5	9.75

BM	W _{1/8}	= 11.17 KNm
Z _{1/8}	M _{1/8}	= 68 cm ³ [153]
σ _p	1/360	= 7.2 mm
σ _a	S _{UL}	= 7.98 = 2.8 mm ✓
	384 EL	EL

LOADS	203 x 128mm 2516/m UB	SPAN 2600
175 x 102mm R.S.S.	2.6 x 2.6 x 2.2	14.87
FLOOR 1	1.5 x 2.6 x 2.5	9.75
FLOOR 2	1.5 x 2.6 x 2.5	9.75

BM	W _{1/8}	= 14.74 KNm
Z _{1/8}	M _{1/8}	= 89 cm ³ [233]
σ _p	1/360	= 10.38 = 2.1 mm ✓
σ _a	S _{UL}	= 10.38 = 2.1 mm ✓
	384 EL	EL

TOTAL LOAD ON BOTH ULS	WT = W ₁₇₅ + Floor	
	= 45.35 + 20.6 + 11.38	
	= 77.33 KN	
	SPAN 8500	

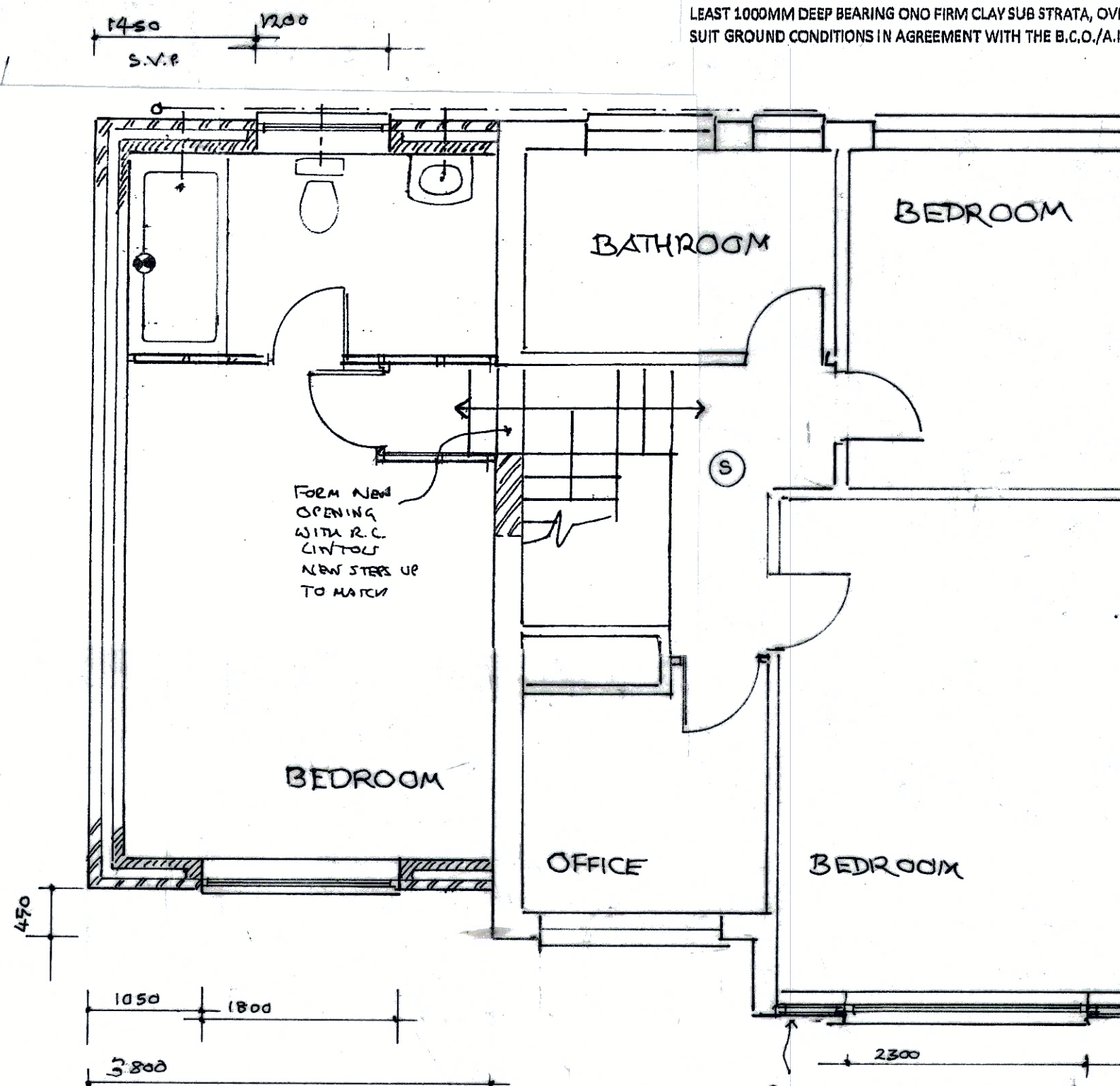
LOADS	356 x 368mm 1296/m UB	SPAN 8500
175 x 102mm R.S.S.	2.6 x 2.6 x 2.2	14.87
FLOOR 1	1.5 x 2.6 x 2.5	9.75
FLOOR 2	1.5 x 2.6 x 2.5	9.75

POINT LOAD FROM A+B	P = 17.19 + 38.47	
	= 55.86 KN	

BM	W _{1/8} + P _{1/4}	= 152 + 119
Z _{1/8}	M _{1/8}	= 271 KNm
σ _p	1/360	= 23.6 mm
σ _a	S _{UL} + σ _p	= 114.5 + 714.7 = 1859.7 = 2.2 mm ✓
	384 EL	EL

LOADS	152 x 152mm 3716/m	SPAN 3600
175 x 102mm R.S.S.	2.6 x 2.6 x 2.2	14.87
FLOOR 1	1.5 x 2.6 x 2.5	9.75
FLOOR 2	1.5 x 2.6 x 2.5	9.75

BM	W _{1/8}	= 16.4 KNm
Z _{1/8}	M _{1/8}	= 100 cm ³ [274]
σ _p	1/360	= 7.2 mm
σ _a	S _{UL}	= 22.15 = 4.7 mm ✓
	384 EL	EL



FIRST FLOOR PLAN 1:50

3 BED ROOM WINDOWS TO
INCORPORATE SPINNING SARKING
WITH A MINIMUM 450 X 750 MM
CLEAR OPENING FOR M.O.E.

WINDOWS

ALL NEW WINDOWS AND ROOF LIGHTS IN U.P.V.C OR H.W. FRAMES TO HAVE 20MM
SEALED DOUBLE GLAZED UNITS INCORPORATING LOW EMISSIVITY 'K' GLASS TO ACHIEVE A
MAXIMUM 1.4W/M² K VALUE.

VENTILATION

ALL HABITABLE ROOMS TO HAVE AT LEAST 8000MM³ BACKGROUND VENTILATION
PROVIDED THROUGH TRICKLE VENTILATORS BUILT INTO WINDOW FRAMES OR 2 NO 225
X 150MM AIR BRICKS WITH LOUVRED CONTROLLABLE PLASTER VENTS. AT LEAST 4000MM³
BACKGROUND VENTILATION TO BE PROVIDED TO KITCHENS, BATHROOMS AND UTILITY
ROOMS. WINDOW FRAMES TO INCORPORATE OPENING VENTS EQUIVALENT TO AT LEAST
5% OF THE FLOOR AREA OF THE ROOM SERVED.

FIRST FLOOR CONSTRUCTION

MOISTURE RESISTANT 21MM T&G BOARDING NAILED TO FLOOR JOISTS AS SPECIFIED WITH
STRUTTING AT 1/2 SPAN 30 X 5 MM GALV. M.S. RESTRAINT STRAPS TO BE PROVIDED AT
1.8M CENTRES TO JOISTS PARALLEL TO WALLS FIXED TO AT LEAST 3 NO. JOISTS DOUBLE
JOISTS TO BE BOLTED TOGETHER AT 600 C/C PLACED UNDER PARTITIONS FOR SUPPORT.
12MM PLASTERBOARD AND SKIM CEILING.

WALL CONSTRUCTION

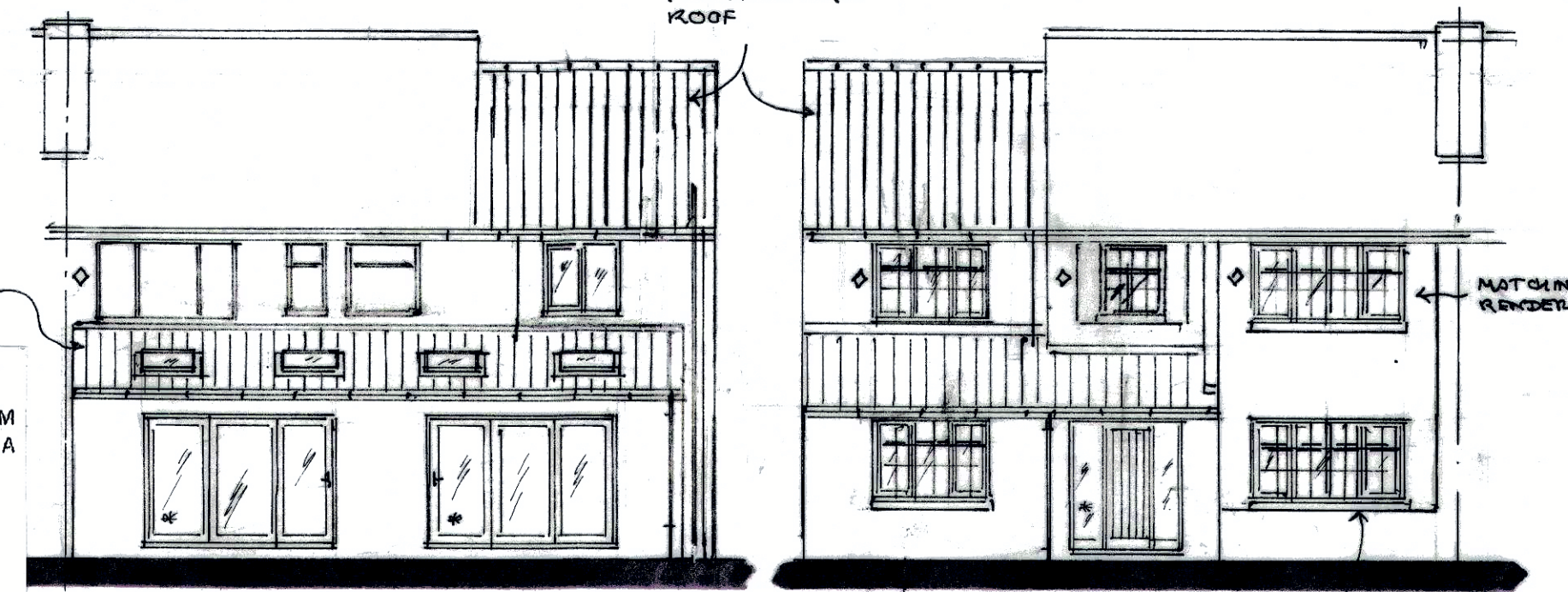
TWO COAT SAND CEMENT RENDER TO MATCH EXISTING ON 100MM CONCRETE
BLOCKWORK OR SELECTED FACING BRICK OUTER LEAF 100MM CAVITY WITH EXISTING
32 ULTIMATE FULL FILL 100MM CELL CON SOLAR BAK INNER LEAF WITH 32.5mm
45 PROTECT THERMAL BOARD FOR 0.10 U VALUE. STAINLESS STEEL CAVITY TIES TO BE
PROVIDED AT 450 X 750MM CENTRES AND AT 300MM CENTRES AROUND ALL OPENINGS.
INSULATED 'THERMABATE' OR SIMILAR CAVITY CLOSERS WITH INSULATED CATNIO OR I.G.
PROPRIETARY GALV. STEEL LINTOLS TO BE PROVIDED OVER ALL CAVITY WALL OPENINGS
WITH A MINIMUM 150MM END BEARING. TIMBER STUD PARTITIONS 75 X 50MM
STUDDING WITH MINERAL WOOL INFILL AND 12MM PB AND SKIM BOTH SIDES.

FOUNDATIONS

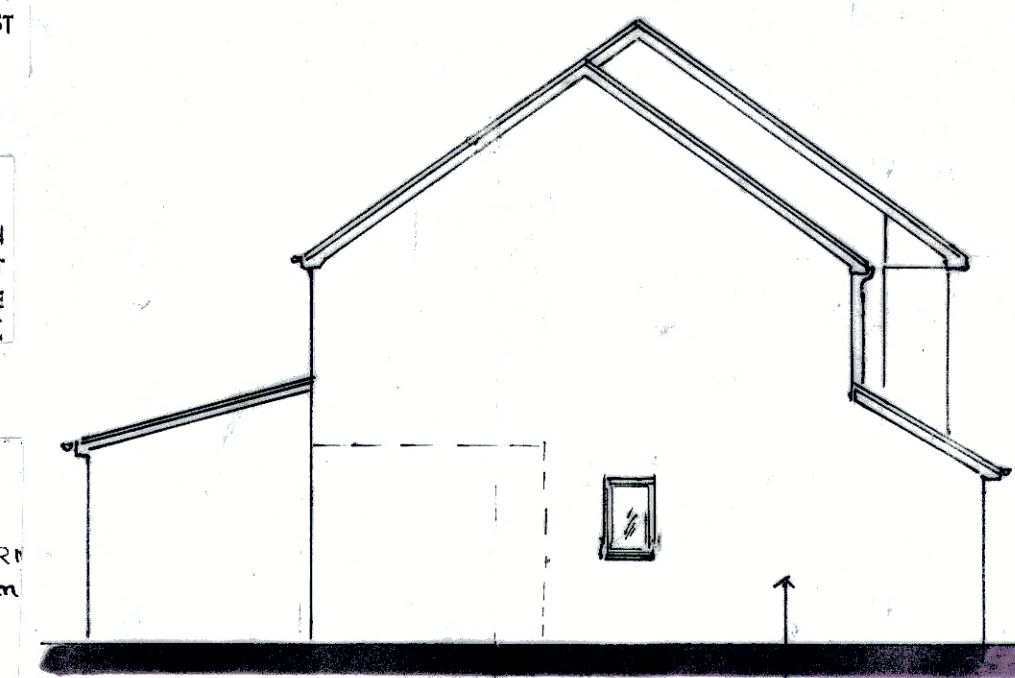
TWO LEAVES BRICKWORK BELOW D.P.C. LEVEL WITH CONCRETE CAVITY FILL UP TO 225MM
BELOW D.P.C. LEVEL STRIP CONCRETE FOOTINGS MINIMUM 600MM X 200MM THICK AT
LEAST 100MM DEEP BEARING ON FIRM CLAY SUB STRATA, OVERALL SIZE AND DEPTH TO
SUIT GROUND CONDITIONS IN AGREEMENT WITH THE B.C.O./A.I.

REAR ELEVATION 1:100

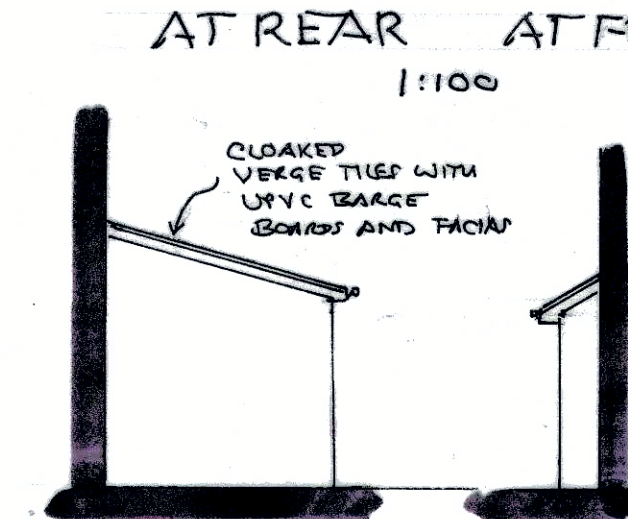
FRONT ELEVATION 1:100



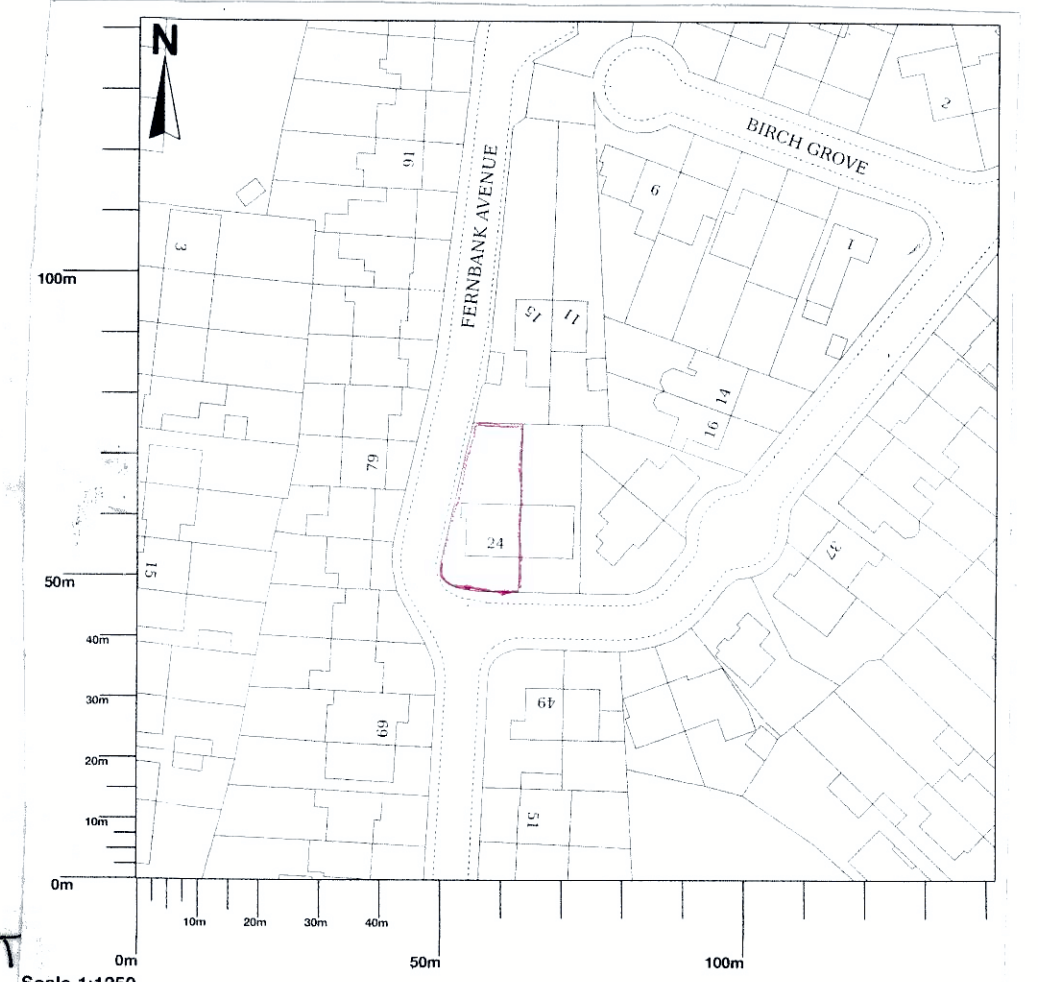
SIDE ELEVATION 1:100



SIDE VIEW AT REAR AT FRONT 1:100



LOCATION PLAN



MECHANICAL VENTILATION

ALL BATHROOMS AND SHOWER ROOMS TO BE FITTED WITH A MECHANICAL EXTRACT FAN
CAPABLE OF AT LEAST 15 LITRES/SECOND EXTRACT RATE. KITCHENS TO HAVE EITHER A
MECHANICAL EXTRACT FAN CAPABLE OF 60 LITRES/SECOND OR A COOKER HOOD CAPABLE
OF 80L/s. MECHANICAL EXTRACT FANS SERVING WINDOWLESS BATHROOM/SHOWER
ROOMS/W.C. CUBICLES TO PROVIDE AT LEAST 3 AIR CHANGES PER HOUR WITH A 15
MINUTE OVER RUN FACULTY.

DRAINAGE

ALL NEW DRAINS TO BE LAID USING 100MM DIAMETER HEPSELEVE OR U.P.V.C. PIPES AT
1:40 MINIMUM SELF-CLEANING GRADIENT. DRAINS UNDER BUILDING AND WITHIN 1M OF
FOUNDATIONS TO BE ENCASED IN CONCRETE SURROUND. DRAINS PASSING THROUGH
FOUNDATIONS TO BE BRIDGED OVER WITH P.C.C. LINTOLS AND ROCKER PIPE USED EITHER
SIDE OF WALL. 100MM DIAMETER S.V.P.'S TO RECEIVE UPPER FLOOR FITTINGS WITH WIRE
BIRD CAGE TERMINAL AT LEAST 900MM ABOVE THE HIGHEST WINDOW VENT OPENING
AND ABOVE ROOF LEVEL. ALL NEW SANITARY FITTINGS TO HAVE ANTI VAC TRAPS WITH
WASTES CONNECTED SEPARATELY INTO SOIL STACKS. ALL WASTES TO BE MADE
ACCESSIBLE.

GENERAL NOTES

ALL DIMENSIONS INCLUDING ROOF PITCHES TO BE CHECKED BY CONTRACTOR BEFORE
WORK COMMENCES. ALL WORK TO COMPLY WITH CURRENT BUILDING REGULATIONS AND
CARRIED OUT TO THE COMPLETE SATISFACTION OF THE DISTRICT B.C.O. ALL TIMBER TO BE
TREATED WITH PRESERVATIVE. ALL NEW STEELWORK TO BE ENCASED IN 12M GYPSUM
'FIRELINE' BOARD FOR 30 MINUTES FIRE PROTECTION. ALL GALV. LINTOLS TO BE
INSULATED AND ENCASED WITH 12MM PLASTERBOARD AND SKIMFOR 30 MINUTES FIRE
PROTECTION. ALL ELECTRICAL WORK TO BE UNDERTAKEN BY NICEIC APPROVED
CONTRACTOR WITH AN INSTALLATION CERTIFICATE TO BE PROVIDED ON COMPLETION.
ALL NEW RADIATORS TO BE FITTED WITH THERMOSTATIC VALVES AND C.H. BOILERS TO BE
REPLACED IF NECESSARY WITH CONDENSING TYPE BOILERS AND INSTALLED BY A CORGI
REGISTERED CONTRACTOR. TOUGHENED OR LAMINATED SAFETY GLASS TO BE USED IN ALL
CRITICAL LOCATIONS. *

CLIENT
MR. D. VAUGHAN

SCHEME
TWO STOREY EXTENSION AT SIDE AND SINGLE STOREY EXTENSION AT REAR WITH FRONT PORCH

ADDRESS
24 FERNBANK AVENUE HUYTON KNOWSLEY L36 9UD

DRAWING TITLE	NUMBER	REVISION
PROPOSED	DH 02	13

DATE	SCALES	1:50
JANUARY 2025		1:100

GROUND FLOOR PLAN 1:50

NOTE:
ASSUMED COMBINED
DRAINAGE SYSTEM
AT FRONT

REDUCE OPENING
WIDTH WITH MATCHING
FRAME CONSTRUCTION AND RENDER
FINISH. S.W.F. NEW FRAME TO SUIT

REDUCE
OPENING
WIDTH WITH
MATCHING
CAVITY WALL
CONSTRUCTION
S.W.F. NEW
WINDOW FRAME

