

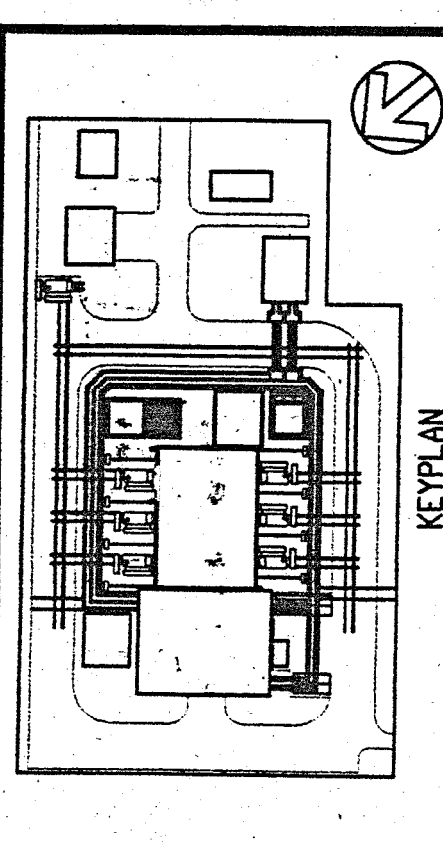
NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CIVIL, STRUCTURAL & ARCHITECTURAL DRAWINGS & SPECIFICATIONS.
- ALL MATERIALS AND WORKMANSHIP TO COMPLY WITH RELEVANT SPECIFICATIONS AND CURRENT INDIAN STANDARDS.
- FOR STRUCTURAL ARRANGEMENT SEE DRG. No. 4979/C/O/C/VC/850.
- ALL LEVELS ARE EXPRESSED IN METRES AND RELATE TO INDIAN DATUM LEVEL.
- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CO-ORDINATES RELATE TO THE ESTABLISHED SITE GRID.
- STRUCTURAL CONCRETE TO BE CLASS M 25 MAXIMUM AGGREGATE SIZE 20 mm.
- ALL REINFORCEMENT TO BE IN ACCORDANCE WITH I.S. 432, I.S. 1566 AND I.S. 1786.
- ALL REINFORCEMENT TO BE CUT AND BENT IN ACCORDANCE WITH I.S. 2502.
- MINIMUM CONCRETE COVER TO BE:- 25mm.
- REINFORCEMENT IS NOTED THUS:-
10 Y 12 05 300

L-BAR SPACING.
L-BAR MARK.
L-BAR DIAMETER.
L-BAR TYPE.
M-MILD STEEL BAR.
Y-COLD TWISTED HIGH YIELD STRENGTH DEFORMED BAR.
NUMBER OF BARS.
- REINFORCEMENT LAPS UNLESS NOTED TO BE:-
Y8 350mm. (MIN).
Y10 425mm. (MIN).
Y12 500mm. (MIN).
Y16 650mm. (MIN).
Y20 825mm. (MIN).
Y25 1025mm. (MIN).
Y32 1300mm. (MIN).
- REINFORCEMENT SHOWN ON THIS DRAWING IS LISTED ON BENDING SCHEDULE NUMBERS C/1/C/VC/857 SHTS. 1 TO 2.
- DO NOT SCALE THIS DRAWING.
- FOR DETAILS OF CAST-IN HOLDING DOWN BOLTS SEE STEELWORK DRAWINGS.

AS BUILT

REV	DATE	BY	DESCRIPTION	CHK	APP
0	DEC '96	GP	INITIAL ISSUE		



DRAWING STATUS
LEVEL 3

WSP Group plc

WSP KENCHINGTON FORD CONSULTING ENGINEERS

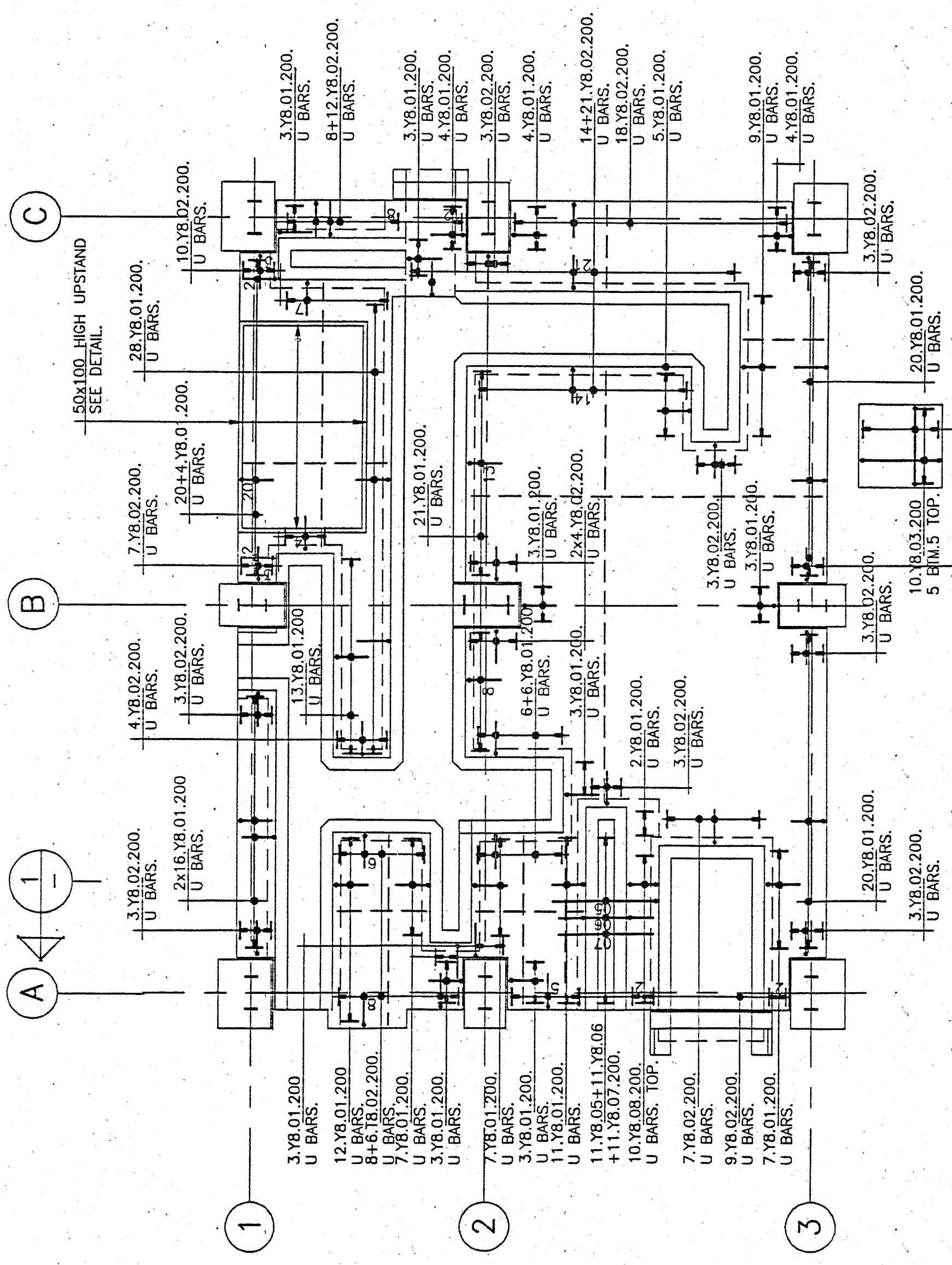
William Conyngre House
92 Redcliff Street
BRISTOL BS1 6LU
TEL: 0272 29511
FAX: 0272 29514
OFFICES:- DUNDEE
GLASGOW
LONDON
MANCHESTER
NEWCASTLE
NOTTINGHAM
PUNJAB
PUNTO
WINCHESTER

CLIENT
G.E.C. ALSTHOM.

ARCHITECT
HUBBARD FORD.

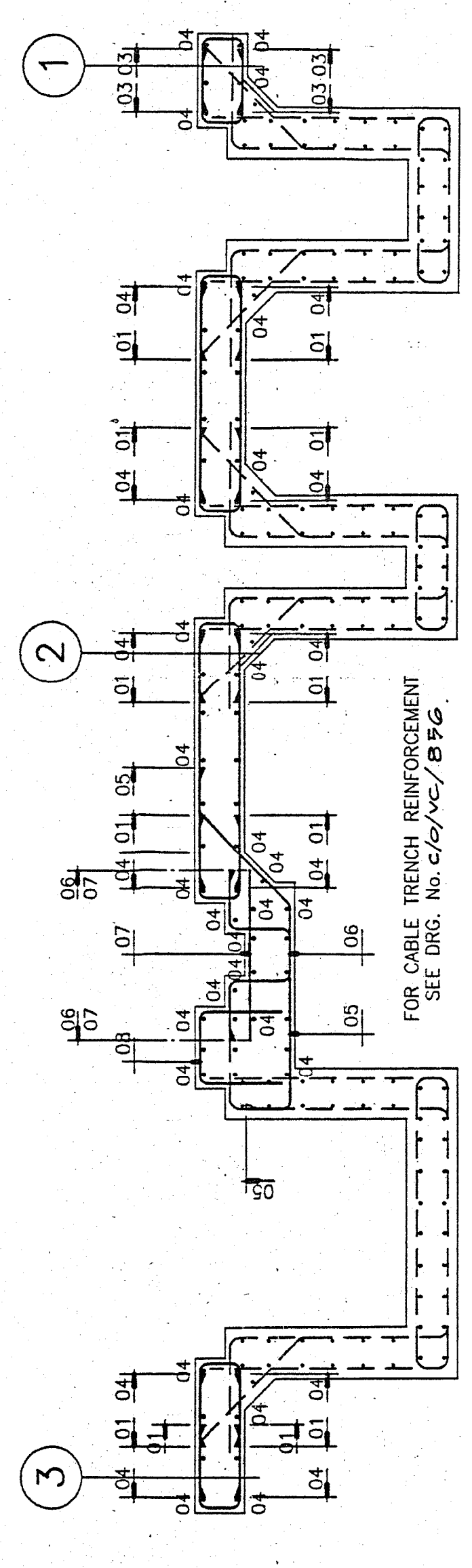
PROJECT VIZAG H.V.D.C. BACK TO BACK PROJECT.			
DRAWING TITLE VALVE COOLING WATER PUMPHOUSE GROUND FLOOR SLAB, R.C. DETAILS.			
SCALE 1:25	DATE DEC '96	DESIGN/DRAWN PAL/	CHECKED u
PROJECT No.	4979	DRAWING No.	C/1/VC/857
REV	0		

member of the WSP Group

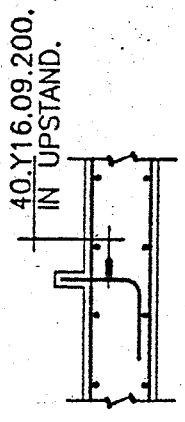


PLAN.
GROUND FLOOR ARRANGEMENT.

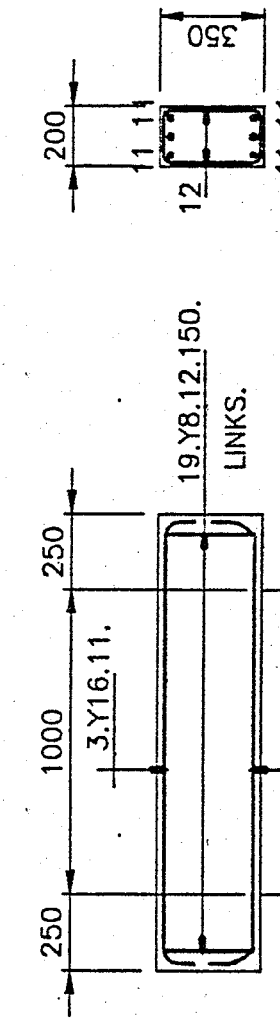
REINFORCEMENT INDICATED THUS TO BE
AS SHOWN FOR EACH BAR, CUT TO THE
WAY, SUPPLIED IN 6m LENGTHS, CUT
AND LAPPED TO SUIT ON SITE.



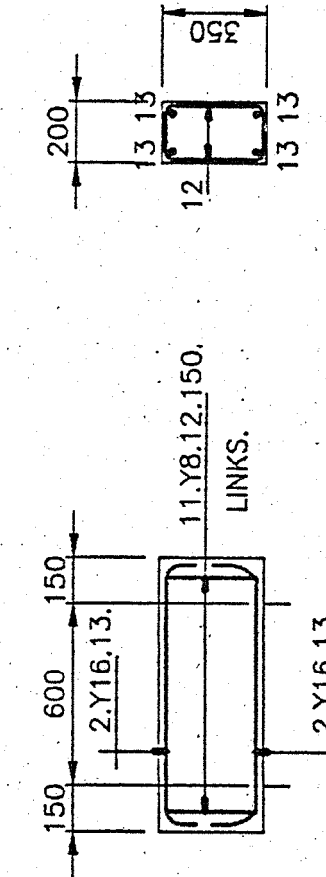
SECTION 2-2.



TYP. SECTION
AT UPSTAND.



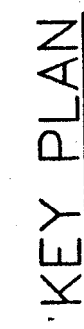
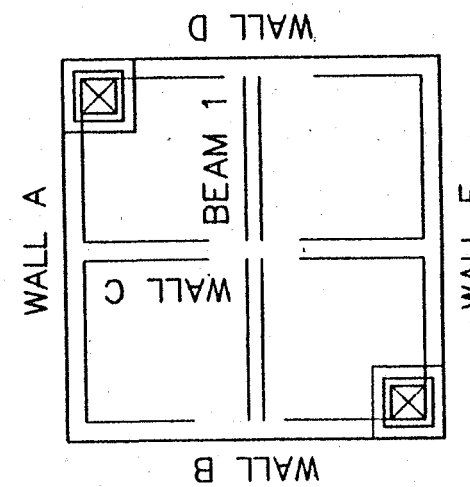
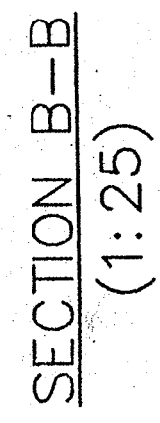
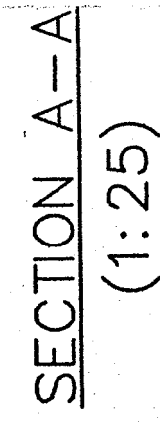
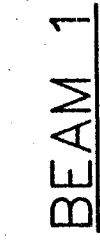
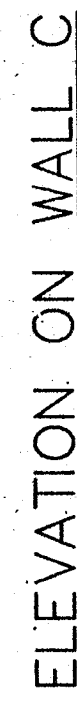
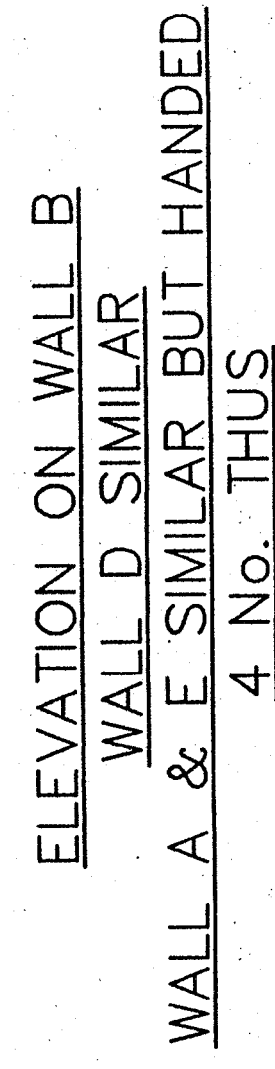
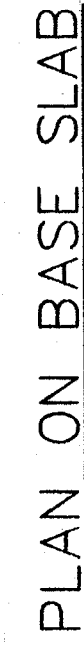
ELEVATION.
LINTEL AT A/3.



ELEVATION.
LINTEL AT C/2.

SECTION.

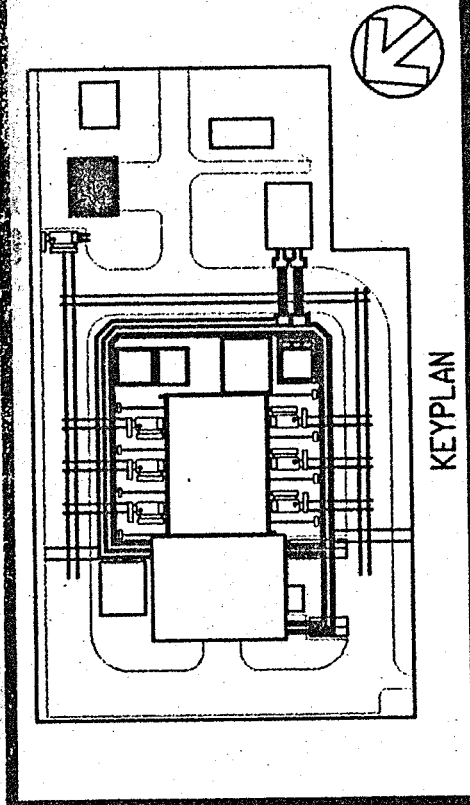
SECTION.



1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CIVIL, STRUCTURAL & ELECTRICAL DRAWINGS & SPECIFICATIONS.
2. ALL MATERIALS AND WORKMANSHIP TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT INDIAN STANDARDS.
3. FOR STRUCTURAL ARRANGEMENT SEE DPG No. 4979/C/VC/252.
4. ALL LEVELS ARE EXPRESSED IN METRES AND RELATE TO INDIAN DATUM LEVEL.
5. ALL DIMENSIONS ARE IN MILLIMETRES.
6. ALL CO-ORDINATES RELATE TO THE ESTABLISHED SITE GRID.
7. STRUCTURAL CONCRETE TO BE CLASS M25 MAXIMUM AGGREGATE SIZE 20MM.
8. ALL REINFORCEMENT TO BE IN ACCORDANCE WITH I.S. 432, I.S. 1586 AND I.S. 1786.
9. ALL REINFORCEMENT TO BE CUT AND BENT IN ACCORDANCE WITH I.S. 2502.
10. MINIMUM CONCRETE COVER TO BE 50mm.
11. REINFORCEMENT IS NOTED THIS:-

10	Y	12	300	BAR SPACING
				BAR MARK
				BAR TYPE
				BAR TYPE
				W-COLD TESTED HIGH YIELD STRENGTH DEFORMED BAR.
12. REINFORCEMENT LAPS UNLESS NOTED TO BE -

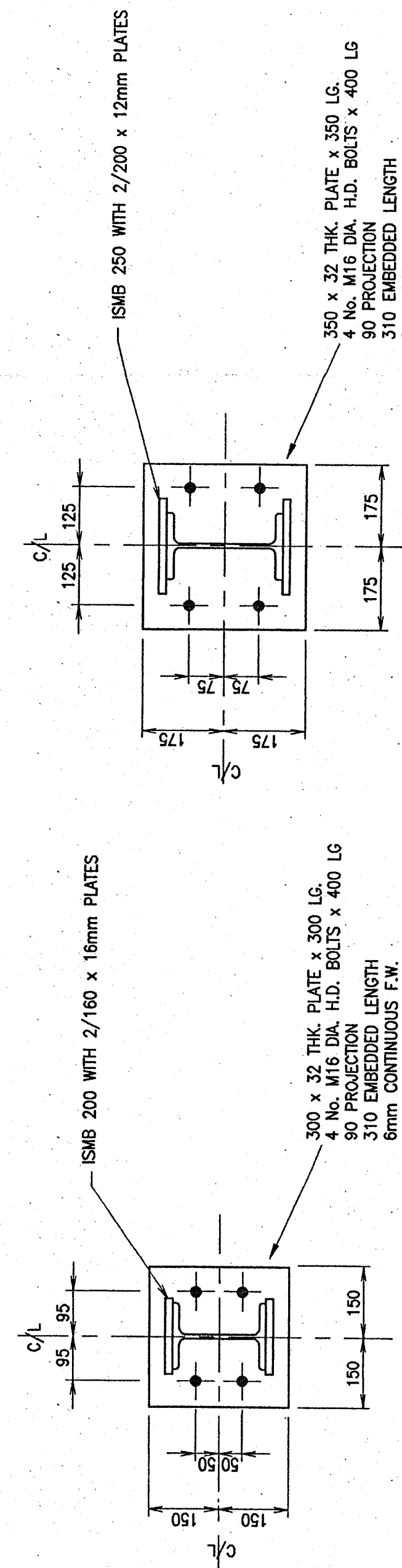
Y10	500	(MIN)
Y12	600	(MIN)
Y16	800	(MIN)
Y20	1000	(MIN)
Y25	1200	(MIN)
Y32	1525	(MIN)
13. REINFORCEMENT SCHEDULE ON THIS DRAWING IS LISTED ON REINFORCING SCHEDULE NUMBERS 4979/C/VC/7855 01 - 05
14. DO NOT SCALE THIS DRAWING.



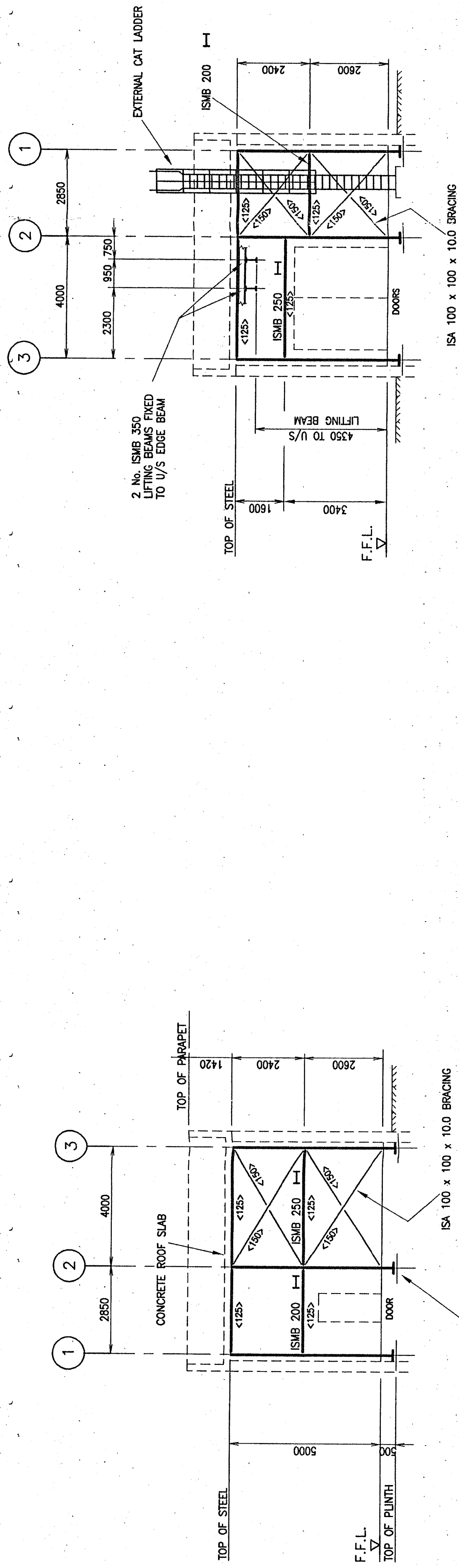
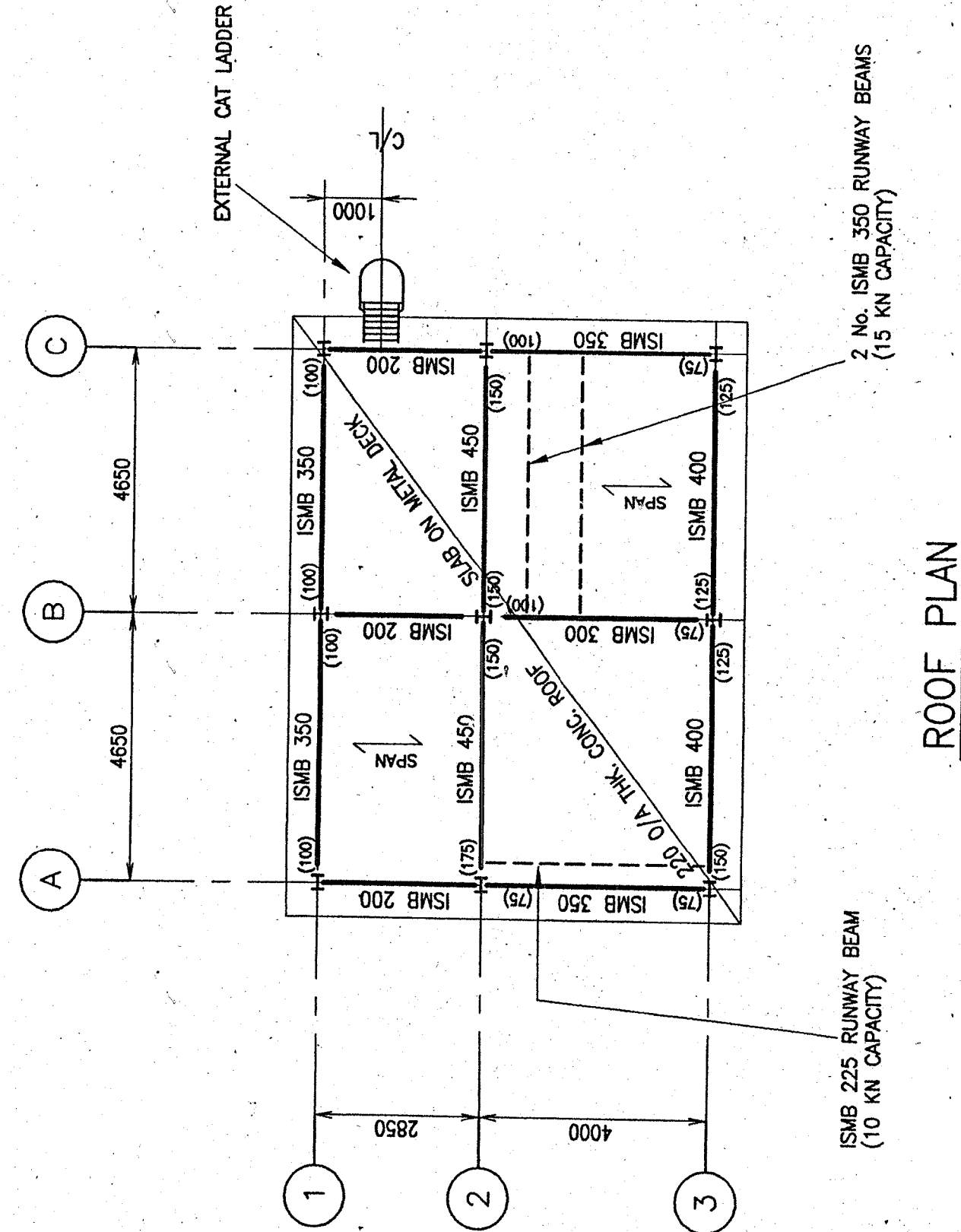
0	REV	DATE	BY	APP'D	DATE	BY	APP'D
DRAWING TITLE				LEVEL 3			
 WSP CONSULTING ENGINEERS				Thomas Waples 131 Upper Richmond Road Putney SW15 2RT TEL 0181 760 6000 FAX 0181 760 6001			
				BRISTOL DUNDEE ENGLISH NOTTINGHAM CARDIFF GLASGOW LONDON SHEFFIELD CARNEGIE MANCHESTER NEWCASTLE WOLVERHAMPTON LIVERPOOL PARIS WINDSOR			
CLIENT	GEC ALSTHOM			PROJECT	HUBBARD FORD		
VIZAG – H.V.D.C. BACK TO BACK PROJECT							
TITLE	VALVE COOLING WATER STORAGE RC DETAILS						
SCALE	1:50	DATE	15/09/86	ISSUED BY	DATE	APPROVED BY	DATE
PROJECT NO.	4979		SHEET NO.		10/06/855		
REV	1	0					

C1 - INDICATES ISMB 200 WITH 2/160 x 16mm PLATES
C2 - INDICATES ISMB 250 WITH 2/200 x 12mm PLATES

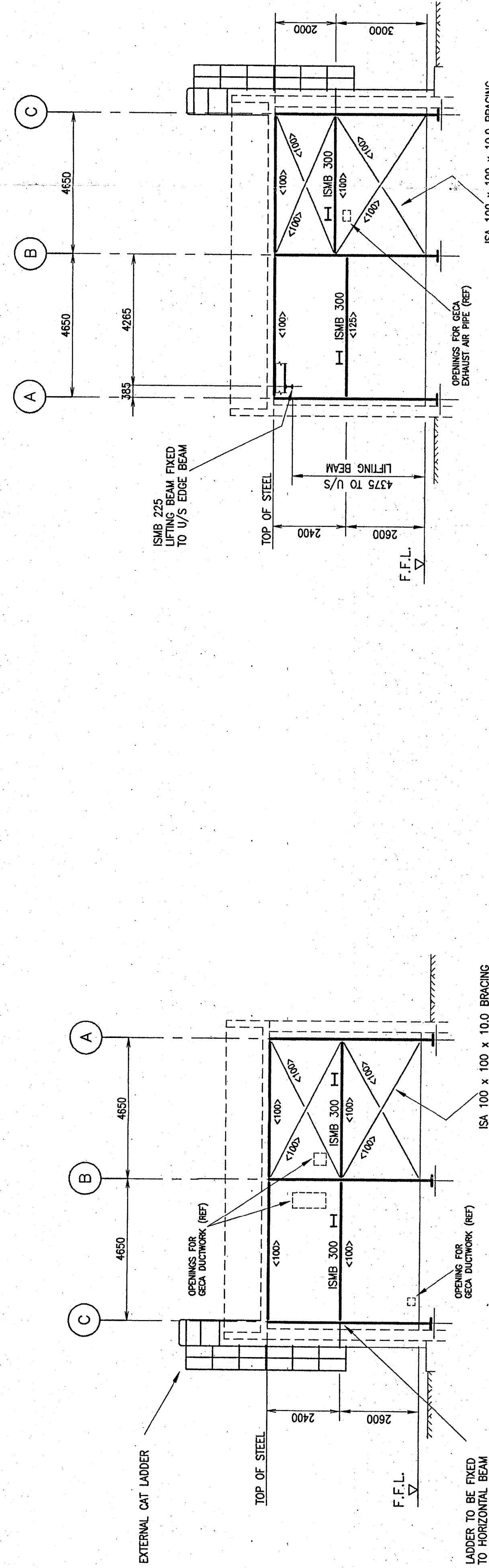
C1 - INDICATES ISMB 200 WITH 2/160 x 16mm PLATES
C2 - INDICATES ISMB 250 WITH 2/200 x 12mm PLATES



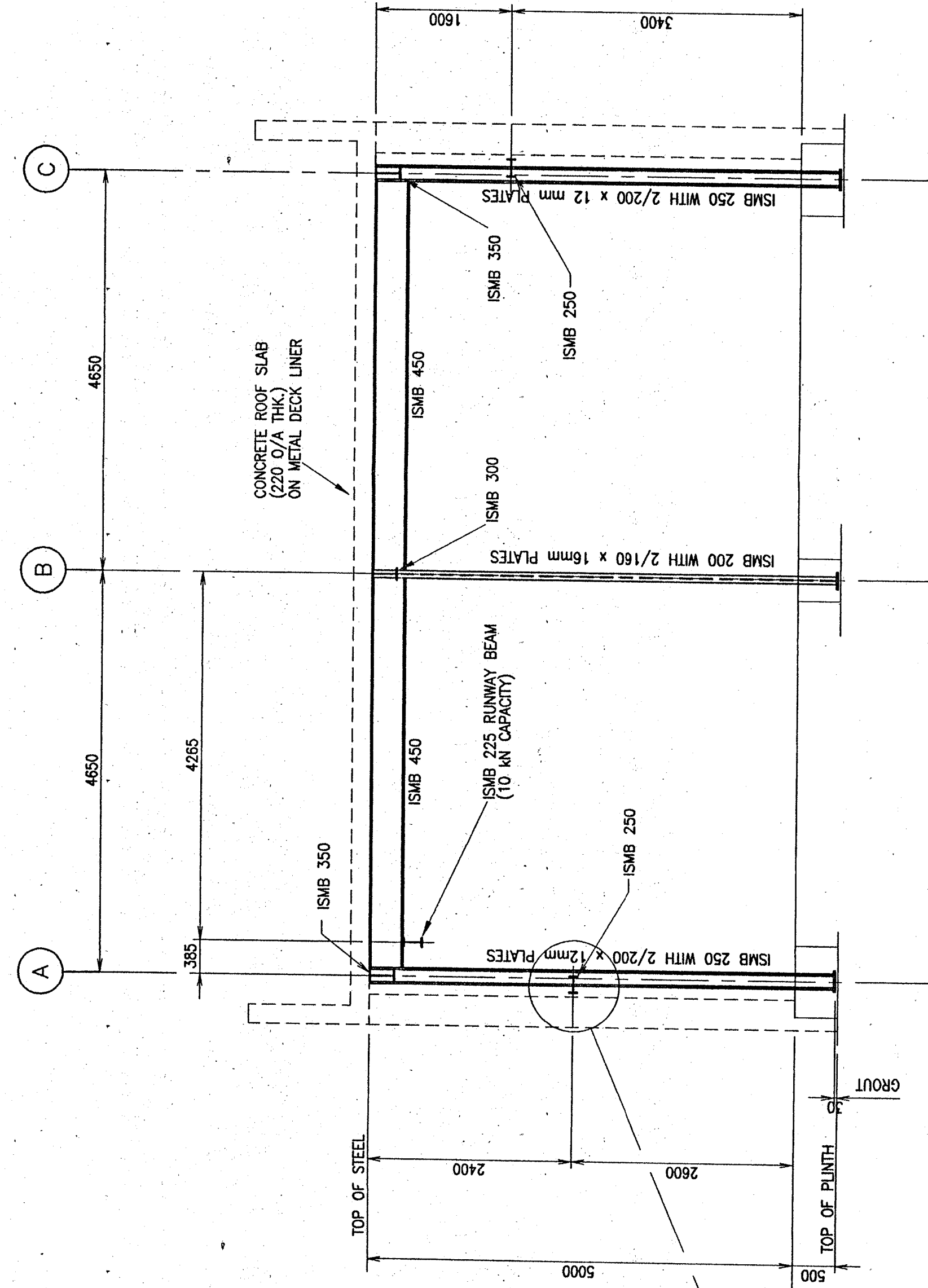
BASEPLATE TYPE C2
NOTE ORIENTATION
(SCALE 1:10)



ELEVATION ON LINE C



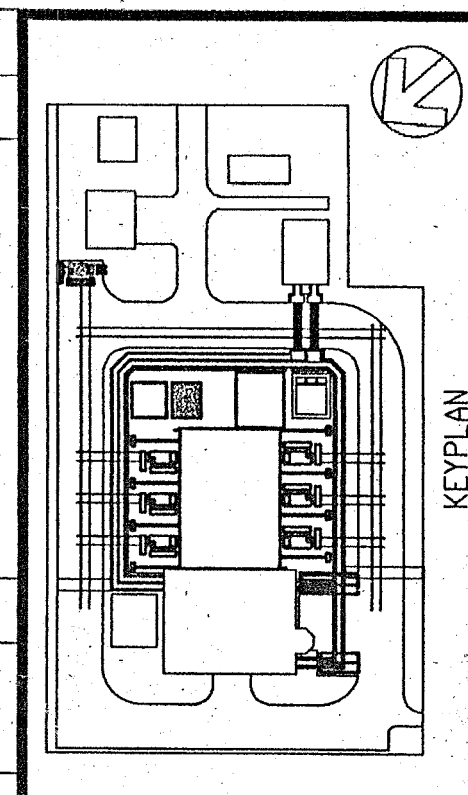
ELEVATION ON LINE 3



SCALE 1:50)

AS BUILT

DATE	BY	DESCRIPTION	CHK	AMT
4.12.96	TMK	DRAWING STATUS CHANGED	CG	572
4.10.96	TMK	FIRST ISSUE	CG	JH



LEVEL 3



Tilman House
131 Upper Richmond Road
Putney
LONDON SW15 2TB
TEL 0181 780 8000
FAX 0181 780 8001

WSP
CONSULTING
ENGINEERS

OFFICES:

BIRMINGHAM	EDINBURGH	MOTtingham
BIRMINGHAM	GLASGOW	PLUMVIRH
BRISTOL	LONDON	PURNEY
CAMBRIDGE	MANCHESTER	TOWNVORTH
DUNDEE	NEWCASTLE	WINCHESTER

GEC ALSTHOM
T&D

PROJECT HUBBARD FORD

VIZAG - H.V.D.C.
BACK TO BACK PROJECT

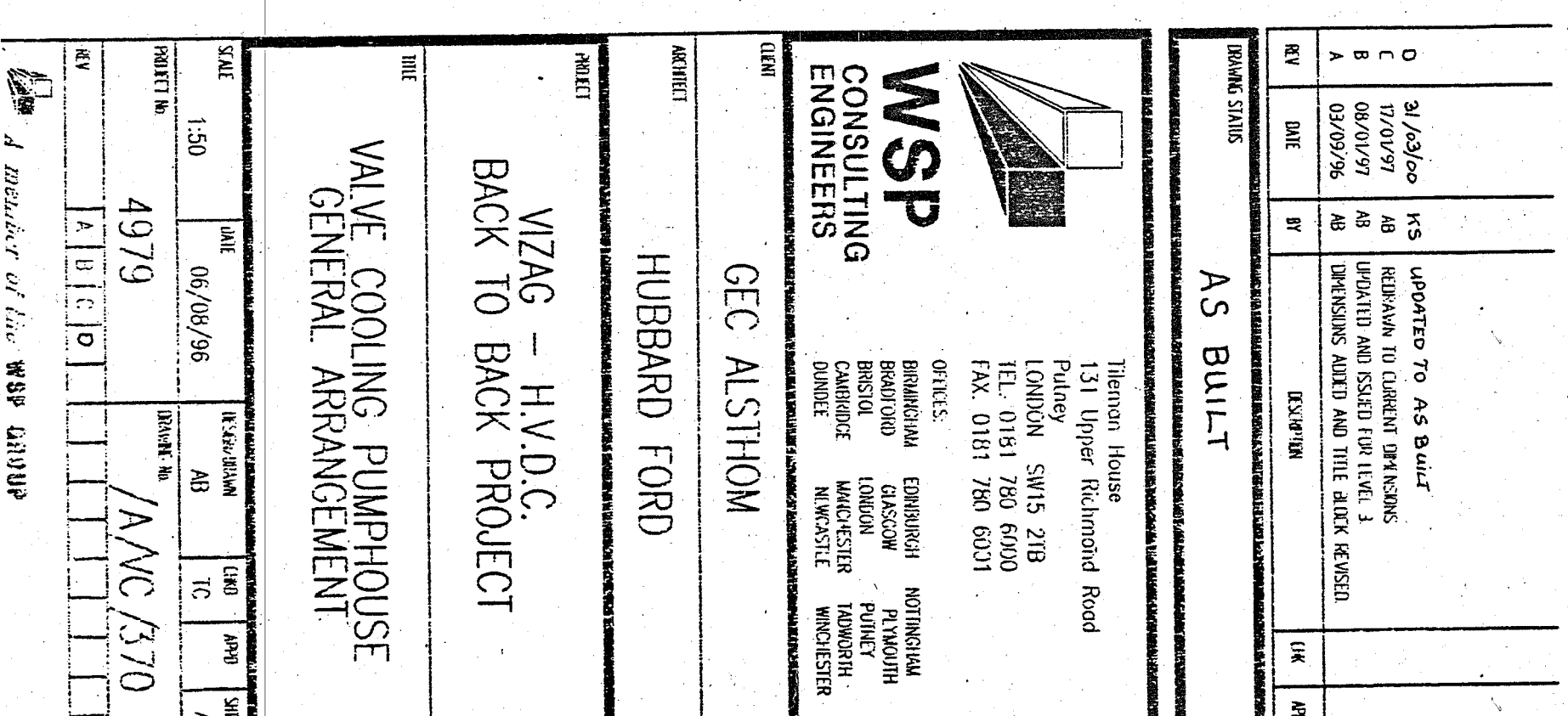
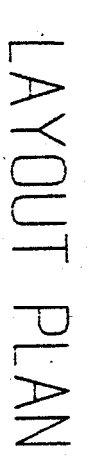
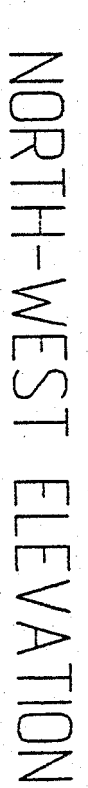
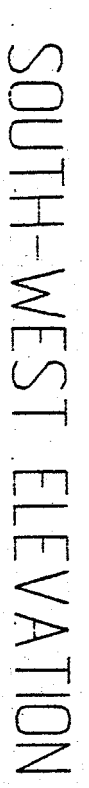
**5 VALVE COOLING PUMPHOUSE
COLUMN LAYOUT/ROOF PLAN
AND SECTIONS**

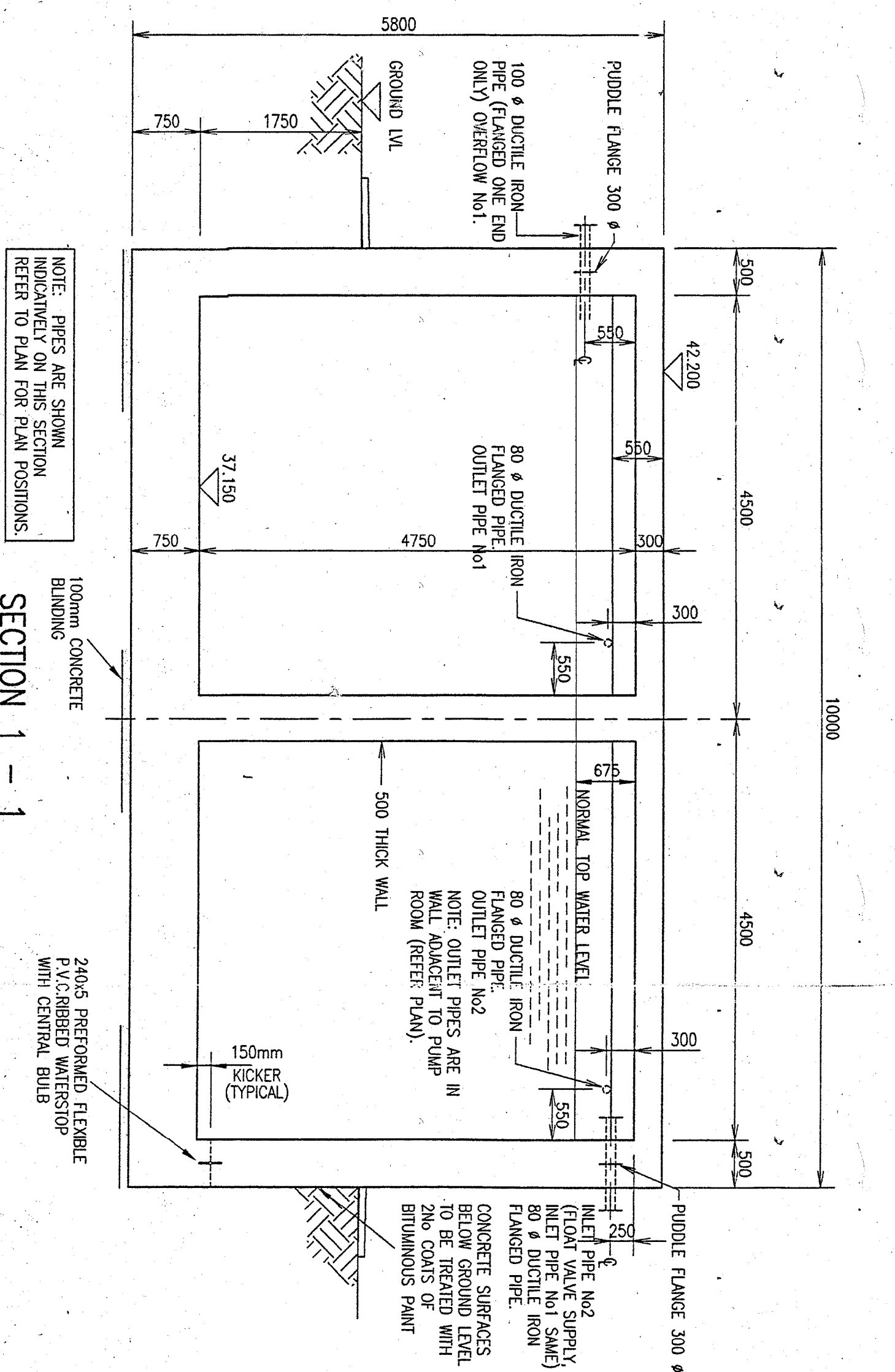
E	DATE	1:100	AUG 96	DECISION/DRAWN	TWK	GG	JH	APPD	SMT
PROJECT No.				DRAWING No.					
4979				C/O NC/851					

A member of the WSP GROUP.

ALL DIMENSIONS IN MILLIMETRES.

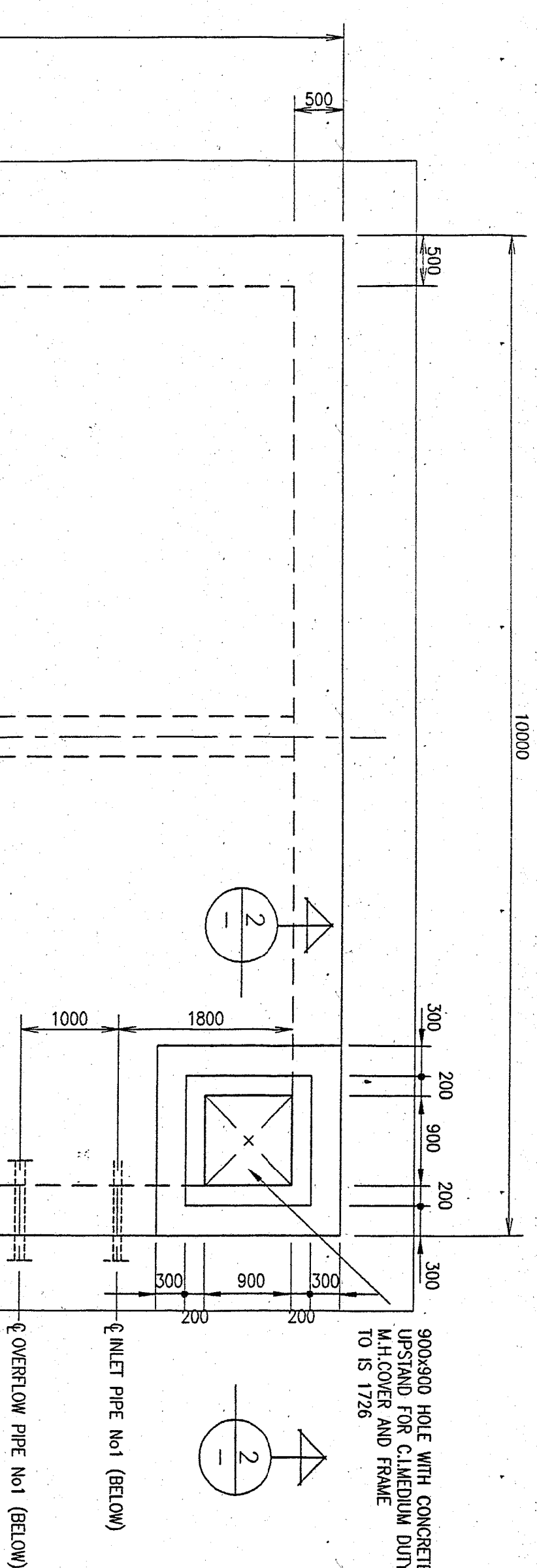
AR/111





1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CIVIL, STRUCTURAL & ARCHITECTURAL DRAWINGS & SPECIFICATIONS.
2. ALL MATERIALS AND WORKMANSHIP TO COMPLY WITH RELEVANT SPECIFICATIONS AND CURRENT INDIAN STANDARDS.
3. ALL LEVELS ARE EXPRESSED IN METRES AND RELATE TO INDIAN DATUM LEVEL.
4. ALL DIMENSIONS ARE IN MILLIMETRES.
5. ALL CO-ORDINATES RELATE TO THE ESTABLISHED SITE GRID.
6. 25mm CHAMFERS TO BE PROVIDED TO ALL VERTICAL EDGES IN THE FINISHED WORK.
7. THIS DRAWING DOES NOT SHOW FINALISED BUILDING DETAILS FOR M & E SERVICES.
8. STRUCTURAL CONCRETE TO BE CLASS M25, MAXIMUM AGGREGATE SIZE 20 mm, MAXIMUM W/C RATIO 0.45, MAXIMUM AGGREGATE SPEC. 40 mm.
9. CONCRETE FINISHES:-
FORMED FACE - FT
TOP SURFACE OF GROUND FLOOR SLAB - W2.
10. ALL CAST IN ITEMS TO BE GALVANISED.
11. DO NOT SCALE THIS DRAWING.
12. PILES THROUGH RAIL WAYS TO BE EXISTING LINED DOUBLE RAIL TO SPECIFICATION AMP C115-83 WITH FLANGES TO ASH 165 (2004B).

EACH PAGE FITTED WITH MODULO FLANGE.

[illegible]

 WSP CONSULTING ENGINEERS	CLIENT ▼ GEC ALSTHOM	PROJECT WZAG - H.V.D.C. BACK TO BACK PROJECT	ARCHITECT HUBBARD FORD
	OFFICES: 131 Upper Richmond Road Putney LONDON SW15 2TB TEL 0181 720 8000 FAX 0181 720 8001	BRANCHES: GLASGOW BRISTOL CARDIFF COVENTRY LONDON MANCHESTER MILWAUKEE NOTTINGHAM PETERBURY WIMBORNE	TITLE VALVE COOLING WATER STORAGE TANKS GENERAL ARRANGEMENT

TITLE
VIZAG - H.V.D.C. BACK TO BACK PROJECT
VALVE COOLING WATER STORAGE TANKS GENERAL ARRANGEMENT

VALVE COOLING
WATER STORAGE TANKS
GENERAL ARRANGEMENT

PROJECT No. 1070

DRAWING No. 4-1-1

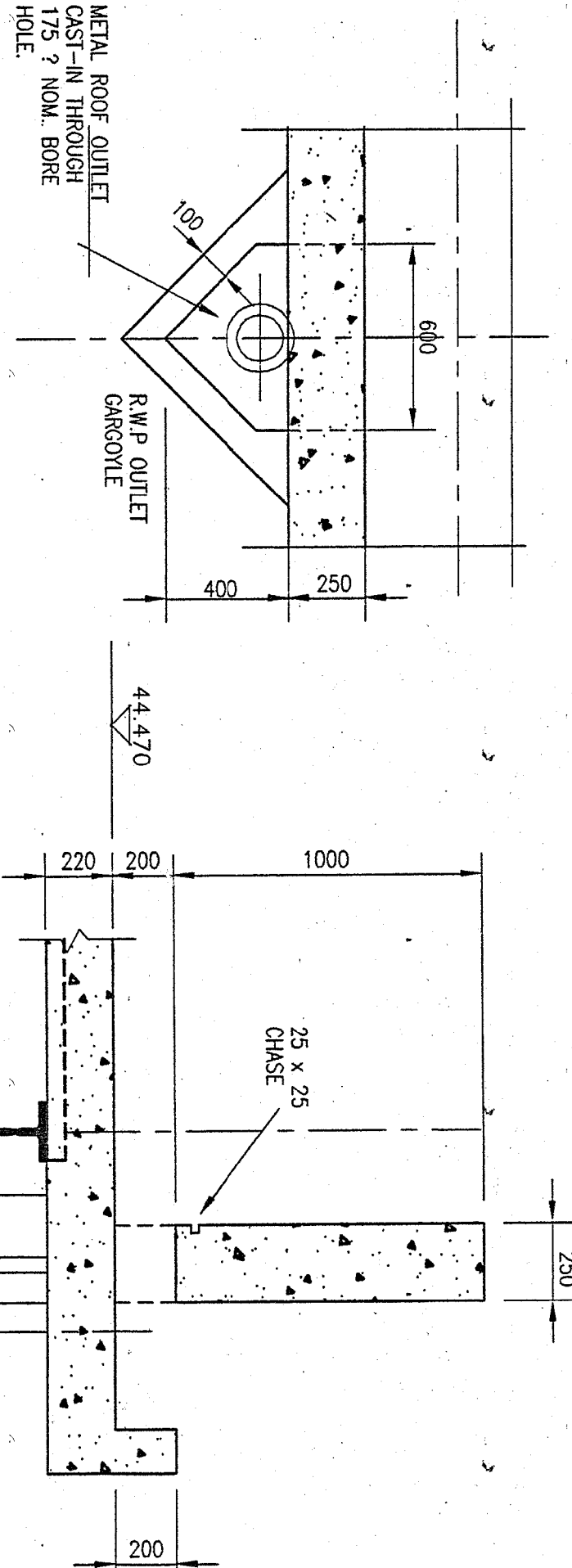
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 A member of the WSP GROUP

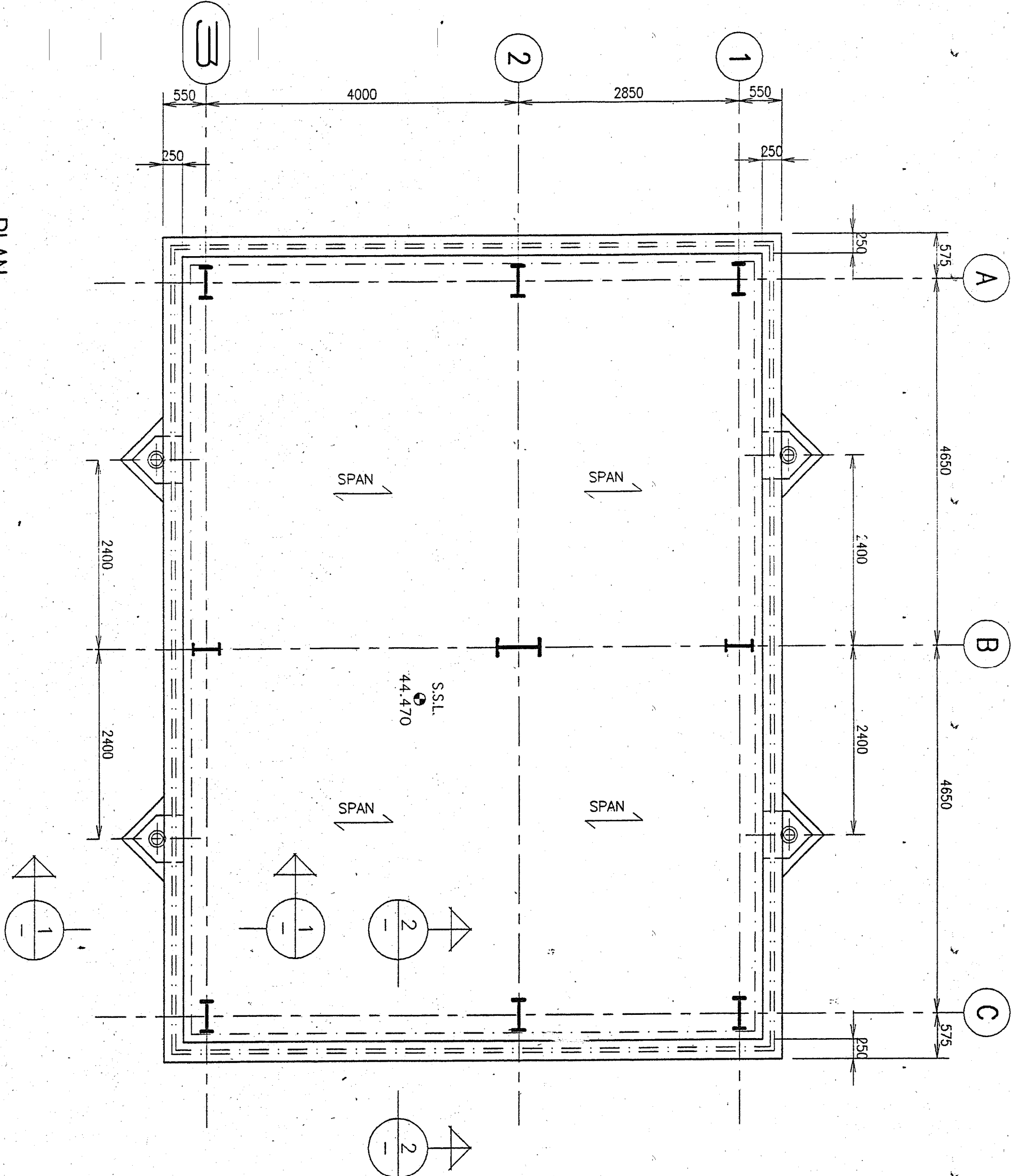
DO NOT SCALE

NOTES.

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CIVIL, STRUCTURAL & ARCHITECTURAL DRAWINGS & SPECIFICATIONS.
2. ALL MATERIALS AND WORKMANSHIP TO COMPLY WITH THE RELEVANT STANDARDS AND CURRENT MAIN STANDARDS.
3. ALL DIMENSIONS ARE EXPRESSED IN METRES AND, RELATE TO INDIAN DATUM LEVEL.
4. ALL CO-ORDINATES RELATE TO THE ESTABLISHED SITE GRID.
5. 25mm CHAMBERS TO BE PROVIDED TO ALL VISIBLE WORK DETAILS FOR M & E SERVICES.
6. STRUCTURAL CONCRETE TO BE CLASS M25, MAXIMUM AGGREGATE SIZE 20 mm.
7. CONCRETE FINISHES:-
 - a) FORMED FACE - F1.
 - b) TOP SURFACE OF ROOF SLAB - W2.
8. DO NOT SCALE THIS DRAWING.
9. SHEET METAL DECKING
10. DECKING SHALL BE DESIGNED BY CONTRACTOR TO MEET THE FOLLOWING DESIGN CONDITIONS :-
 - a) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PROVISION OF TEMPORARY SUPPORTS DURING ROOF SLAB CONSTRUCTION.
 - b) ALL SHEETS SHALL BE SUBMITTALLY LAPPED TO PROVIDE A GROUT TIGHT JOINT. CORROSION RESISTANT BOLTS SHALL BE PROVIDED AT OVERLAP ENDS.
 - c) ALL JOINTS IN SHEETING TO BE MIG TACK WELDED EVERY 30-40mm ENSURING HOLES ARE NOT BURNED THROUGH THE SHEETS.
 - d) ALL STRAIGHTENED GRABBLE, OUTLETS AND ALL OTHER PENETRATIONS SHALL BE REMOVED FROM THE UPPER SURFACES OF THE SHEETING IMMEDIATELY PRIOR TO CONCRETING.
 - e) CONCRETE SHALL BE PLACED ON STEEL DECKING TO PROVIDE THE ROOF WITH A LEVEL AND FLAT SURFACE.



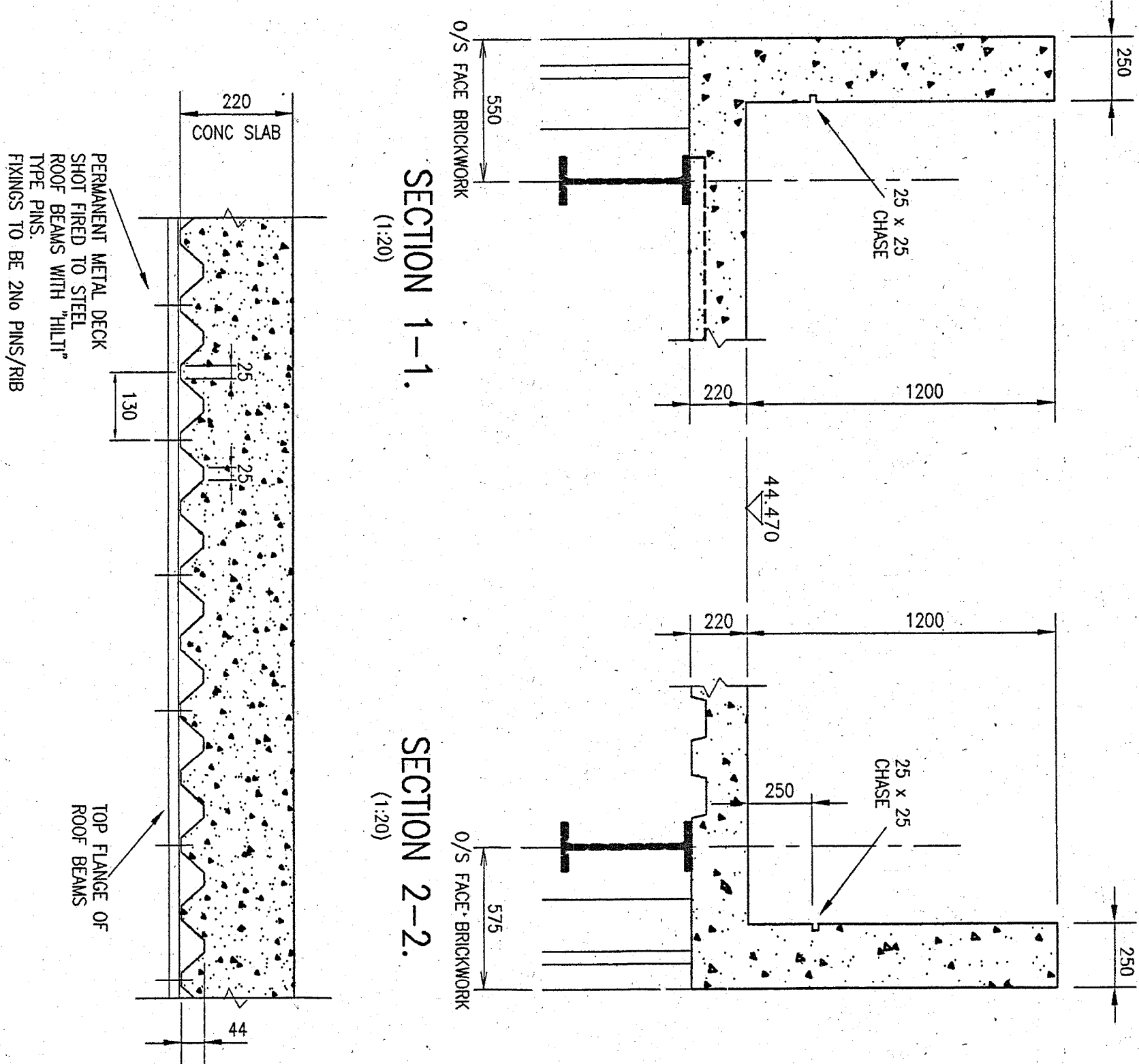
DETAIL OF GARGOYLE / R.W.P.I.P.E OUTLET
(1:20)



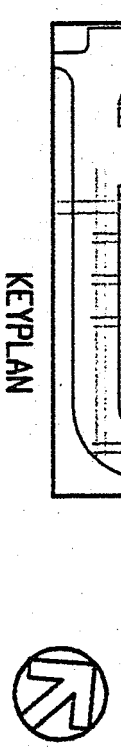
PLAN.
ROOF ARRANGEMENT.

SECTION 1-1.
(1:20)

SECTION 2-2.
(1:20)



TYPICAL SECTION THRO' CONCRETE SLAB
(1:10)



DRAWING STATUS
AS BUILT

Theron House
131 Upper Richmond Road
Putney
LONDON SW15 2TB
TEL. 0181 780 6000
FAX. 0181 780 6001

WSP
CONSULTING
ENGINEERS
BIRMINGHAM
BRISTOL
CAMBRIDGE
DUNDEE
EDINBURGH
GLASGOW
LONDON
MANCHESTER
NORWICH
NOTTINGHAM
PLYMOUTH
TAMWORTH
WINCHESTER

CLIENT
GECLALSTHOM

ARCHITECT
HUBBARD FORD

PROJECT
**VIZAG - HYD.C.
BACK TO BACK PROJECT**

TITLE
**VALVE COOLING PUMPHOUSE
ROOF
GENERAL ARRANGEMENT**

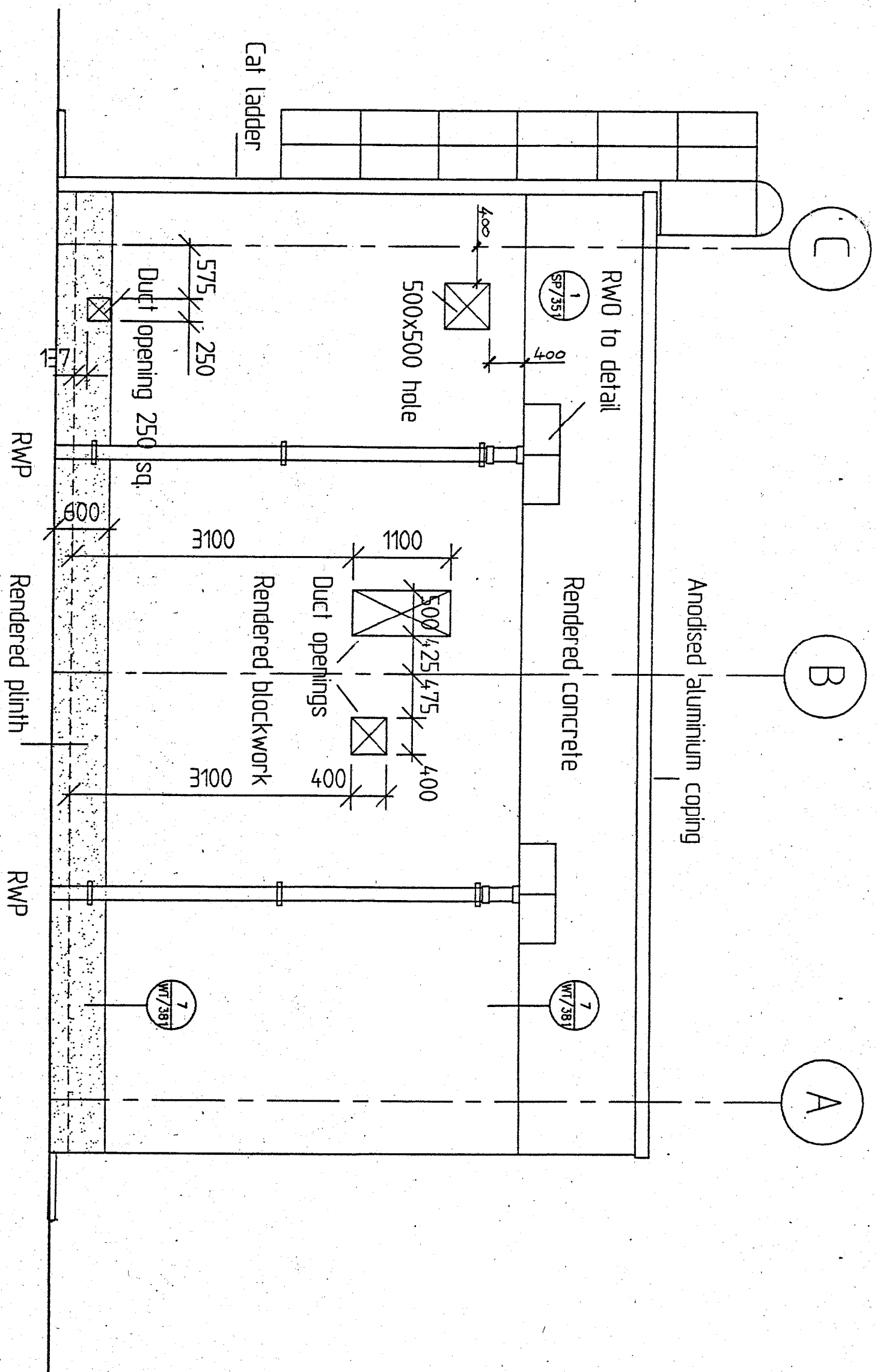
SCALE	DATE	DESIGN/DRAWN	CHECKED	APPROVED
1:50	SEPT 96	TKM	GS	AT
PROJECT No.	4979	DRAWING No.	C/1/NC/853	
REV	01	X	B	

A member of the WSP GROUP

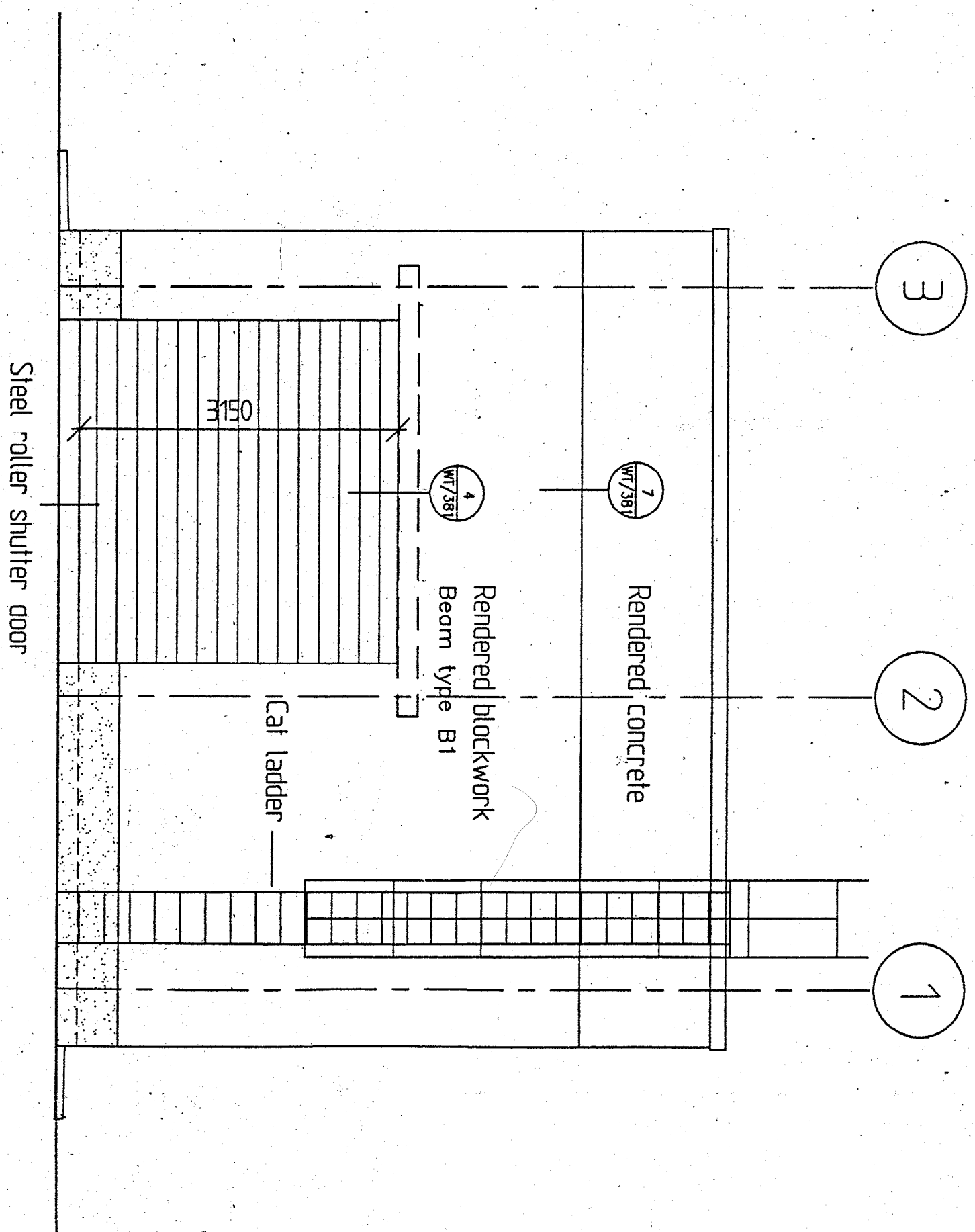
DO NOT SCALE

ALL DIMENSIONS IN MILLIMETRES
THIS DRAWING TO BE READ IN CONJUNCTION WITH THE
DETAIL DRAWINGS REFERENCED THEREIN.

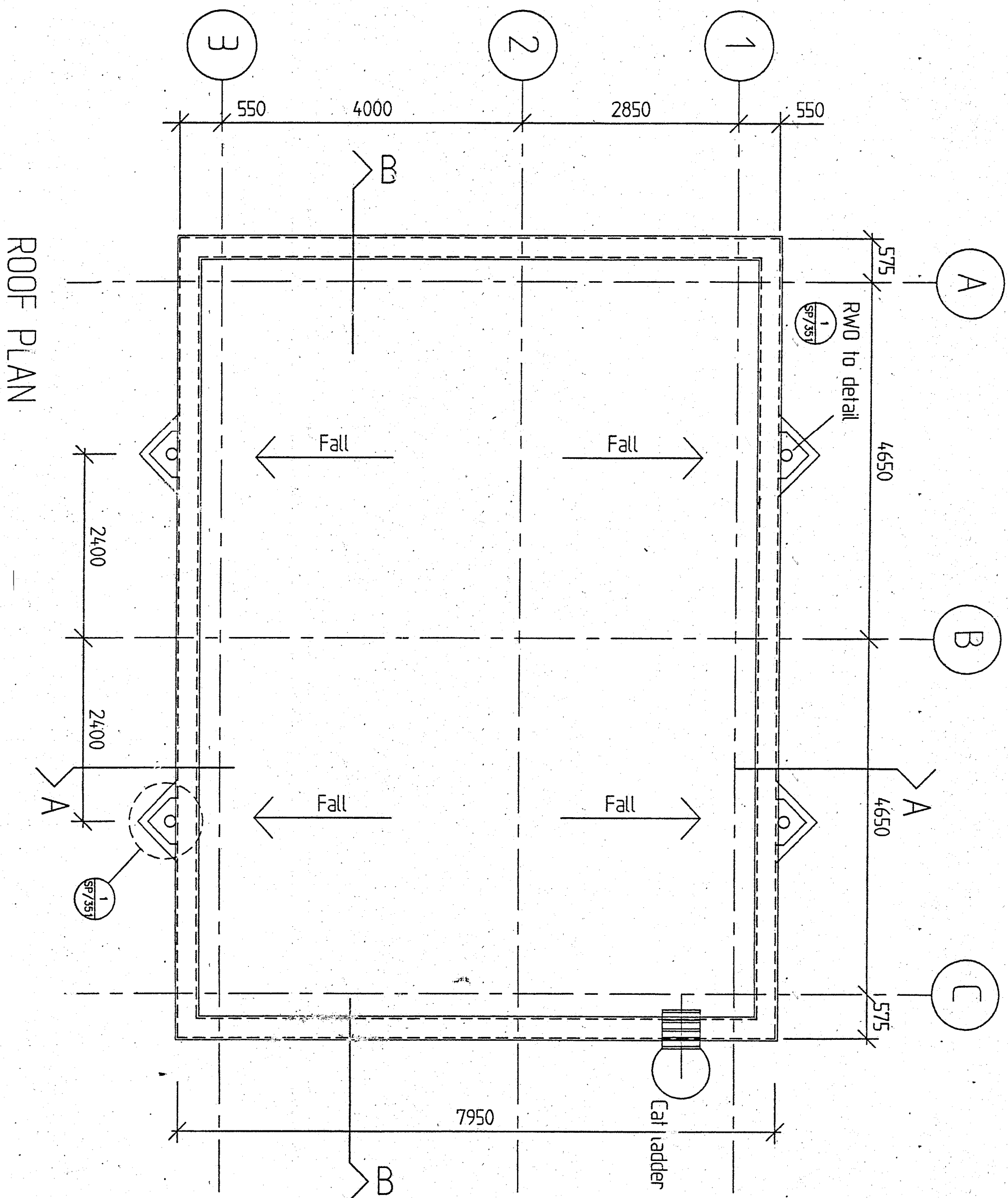
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A2/7/91



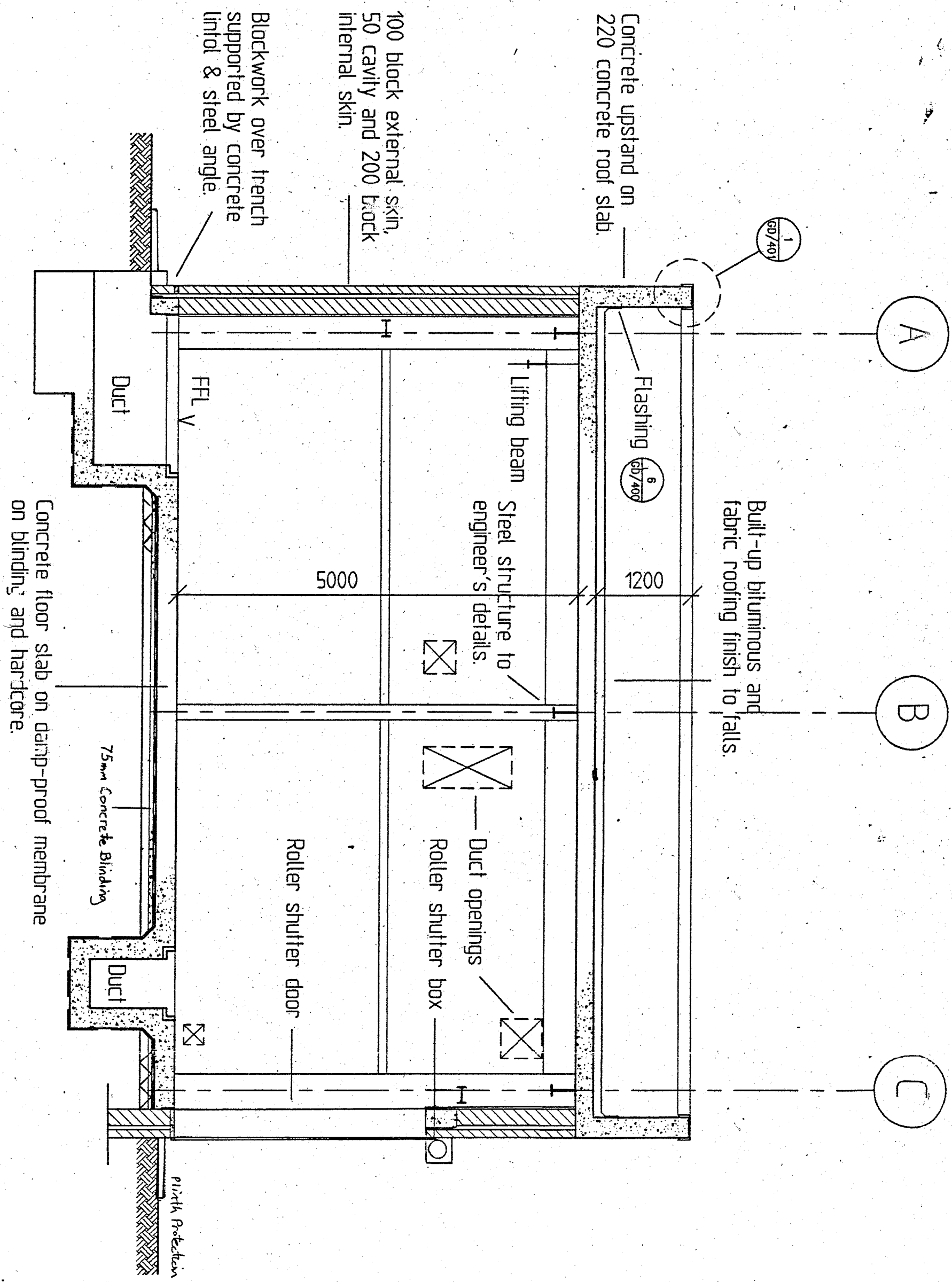
NORTH-EAST ELEVATION



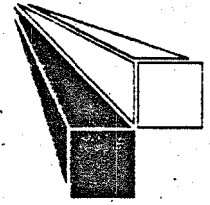
SOUTH-EAST ELEVATION



ROOF PLAN



CROSS SECTION B - B



WSP
CONSULTING
ENGINEERS

Tilmon House
131 Upper Richmond Road
Putney
LONDON SW15 2TB
TEL 0181 780 6000
FAX 0181 780 6001

BRANCHES
BIRMINGHAM
BRIGHTON
CAMBRIDGE
DUNDEE
EDINBURGH
GLoucester
LONDON
MANCHESTER
NEWCASTLE
NOTTINGHAM
Plymouth
Preston
Sheffield
WIMBORNE

CEC ALSTHOM

HUBBARD FORD

VIZAG - H.V.D.C.
BACK TO BACK PROJECT

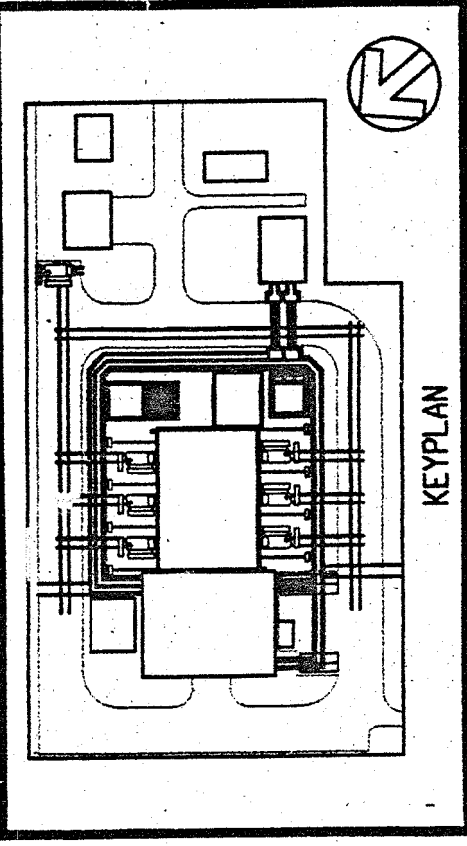
VALVE COOLING PUMPHOUSE
GENERAL ARRANGEMENT - 2

SCALE	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	SHEET
1:50	15/01/97	AB	TC	AK	1
PROJECT No.	4978	DESIGNED BY	AB	TC	AK
REV	1	2	3	4	5
	A	B			

NOTES:

- THIS DRAWING IS TO BE USED IN CONJUNCTION WITH ALL RELEVANT CIVIL, STRUCTURAL & ARCHITECTURAL DRAWINGS & SPECIFICATIONS.
- ALL MATERIALS AND WORKMANSHIP TO COMPLY WITH RELEVANT SPECIFICATIONS AND CURRENT INDIAN STANDARDS.
- FOR STRUCTURAL ARRANGEMENT SEE DRG. No. 497 / 20 / VC / 858.
- ALL LEVELS ARE EXPRESSED IN METRES AND RELATE TO INDIAN DATUM LEVEL.
- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CO-ORDINATES RELATE TO THE ESTABLISHED SITE GRID.
- STRUCTURAL CONCRETE TO BE CLASS M25 MAXIMUM AGGREGATE SIZE 20 mm.
- ALL REINFORCEMENT TO BE IN ACCORDANCE WITH I.S. 432, I.S. 1566 AND I.S. 1786.
- ALL REINFORCEMENT TO BE CUT AND BENT IN ACCORDANCE WITH I.S. 2502.
- MINIMUM CONCRETE COVER TO BE:- 25mm
- REINFORCEMENT IS NOTED THUS:-
10 Y 12 05 300
BAR SPACING.
BAR MARK.
BAR DIAMETER.
Y-COLD TWISTED HIGH YIELD STRENGTH DEFORMED BAR.
NUMBER OF BARS.
- REINFORCEMENT LAPS UNLESS NOTED TO BE:-
Y10 425mm (MIN)
Y12 530mm (MIN)
Y16 650mm (MIN)
Y20 825mm (MIN)
Y25 1025mm (MIN)
Y32 1300mm (MIN).
- REINFORCEMENT SHOWN ON THIS DRAWING IS LISTED ON BENDING SCHEDULE NUMBERS C/11/VC/858 SHTS. 1 TO 3.
- DO NOT SCALE THIS DRAWING.
- FOR DETAILS OF CAST-IN HOLDING DOWN BOLTS SEE STEELWORK DRAWINGS.

REV	DATE	BY	DESCRIPTION	CHK	APP
0	DEC '96	GP	INITIAL ISSUE		



LEVEL 3

WSP Group plc

WSP KENCHINGTON FORD

William Kenning House
92 Redcliff Street
BRISTOL BS1 6LU
TEL 0272 230511
FAX 0272 230514

NEWCASTLE
DUMFRIES NOTTINGHAM
BRISTOL GLASGOW
BIRMINGHAM
MANCHESTER WINCHESTER

CONSULTING ENGINEERS

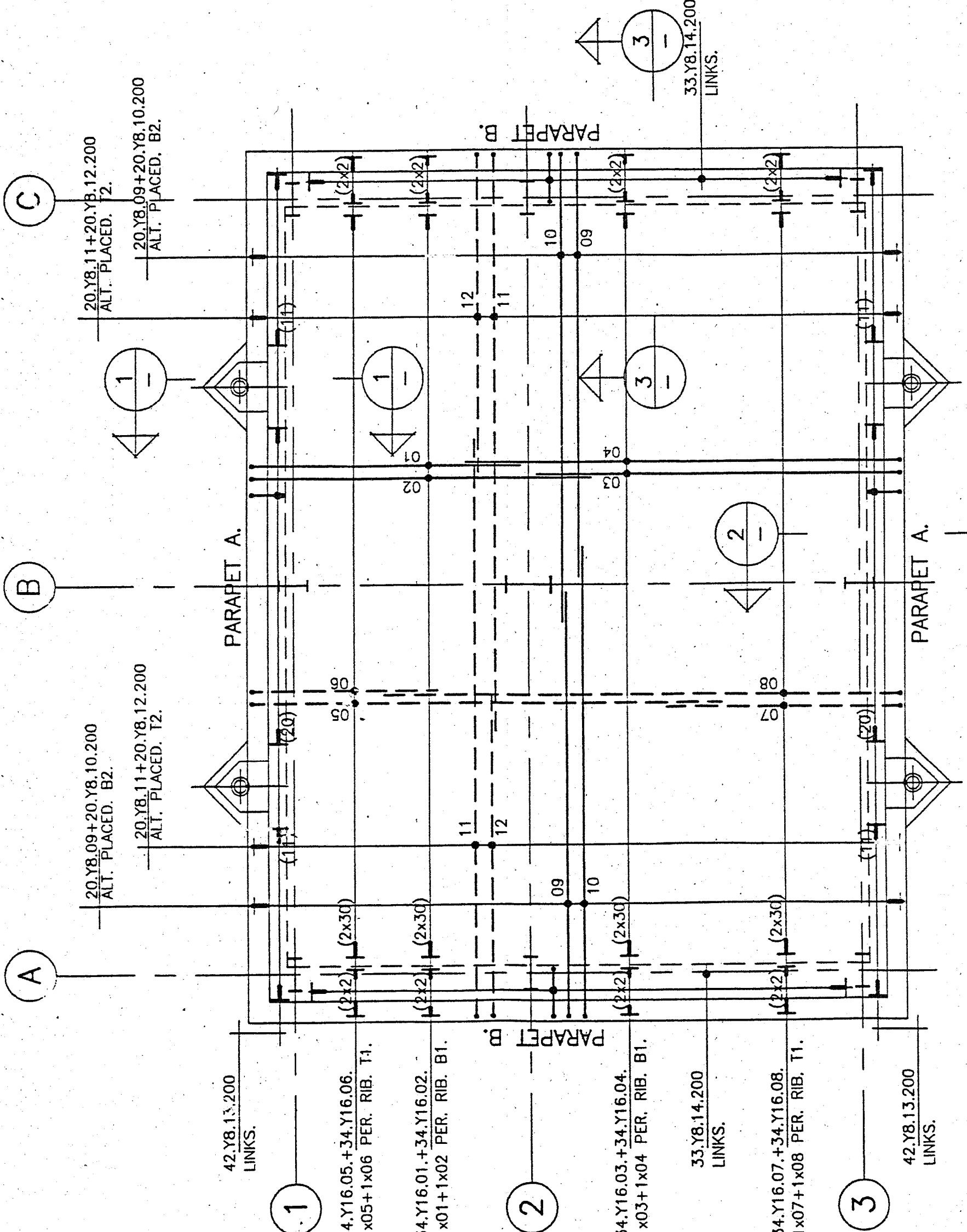
CLIENT
G.E.C. ALSTHOM.

ARCHITECT
HUBBARD FORD.

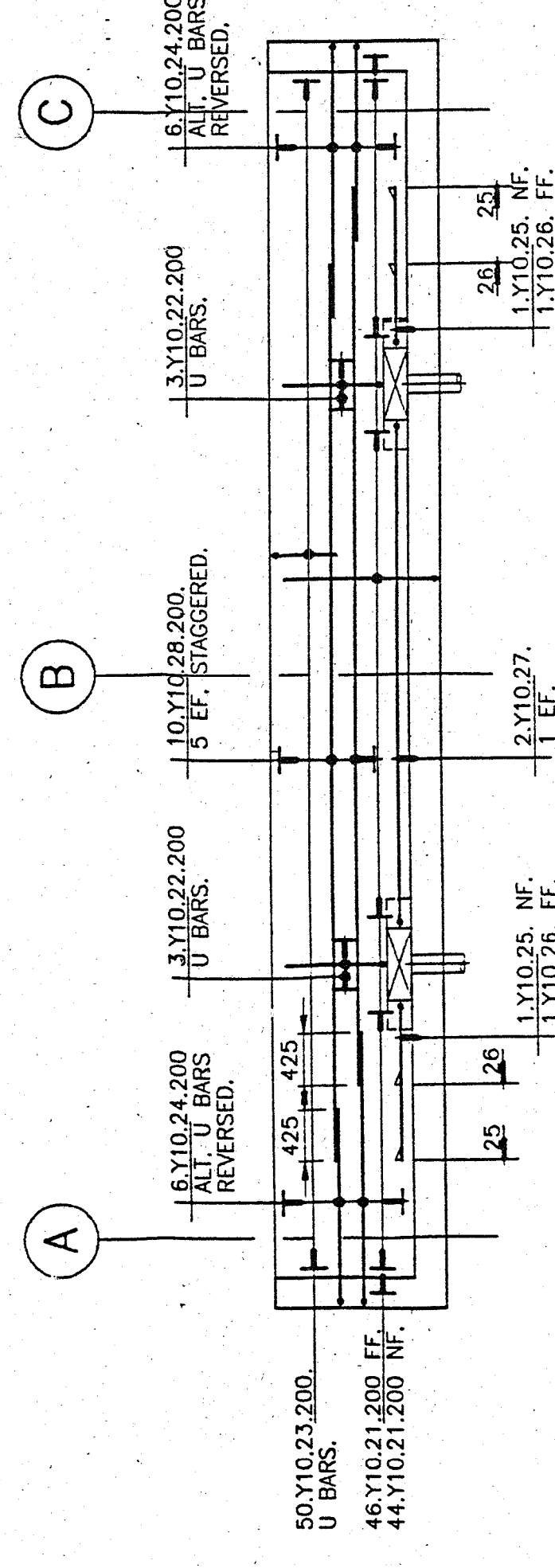
PROJECT
**VIZAG H.V.D.C.
BACK TO BACK PROJECT.**

DRAWING TITLE
**VALVE COOLING PUMPHOUSE
ROOF ARRANGEMENT.
R.C. DETAILS.**

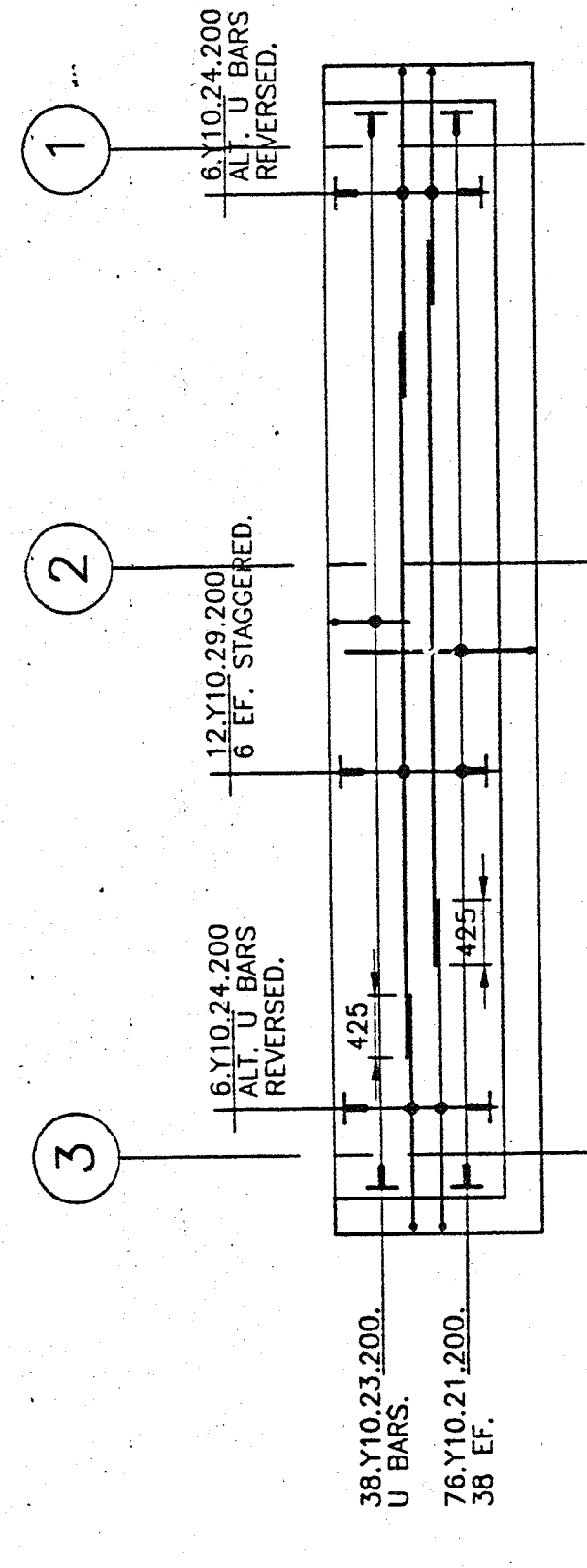
SCALE	DATE	DESIGN/DRAWN	CHECKED	APPROVED	SHT
1:50	DEC '96	P.A.L./pb.			A1
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	4979		C/11/VC/858		



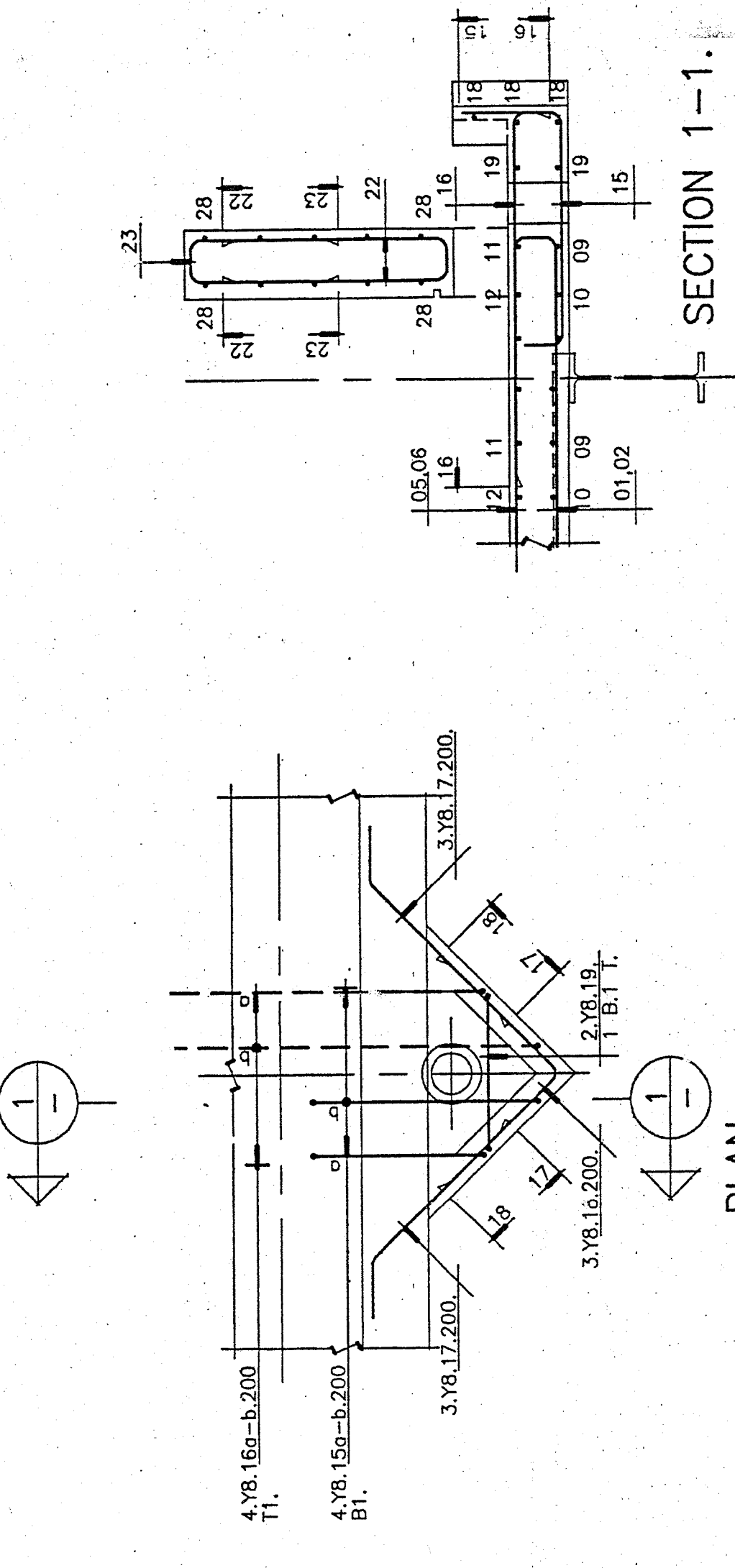
PLAN. ROOF ARRANGEMENT.



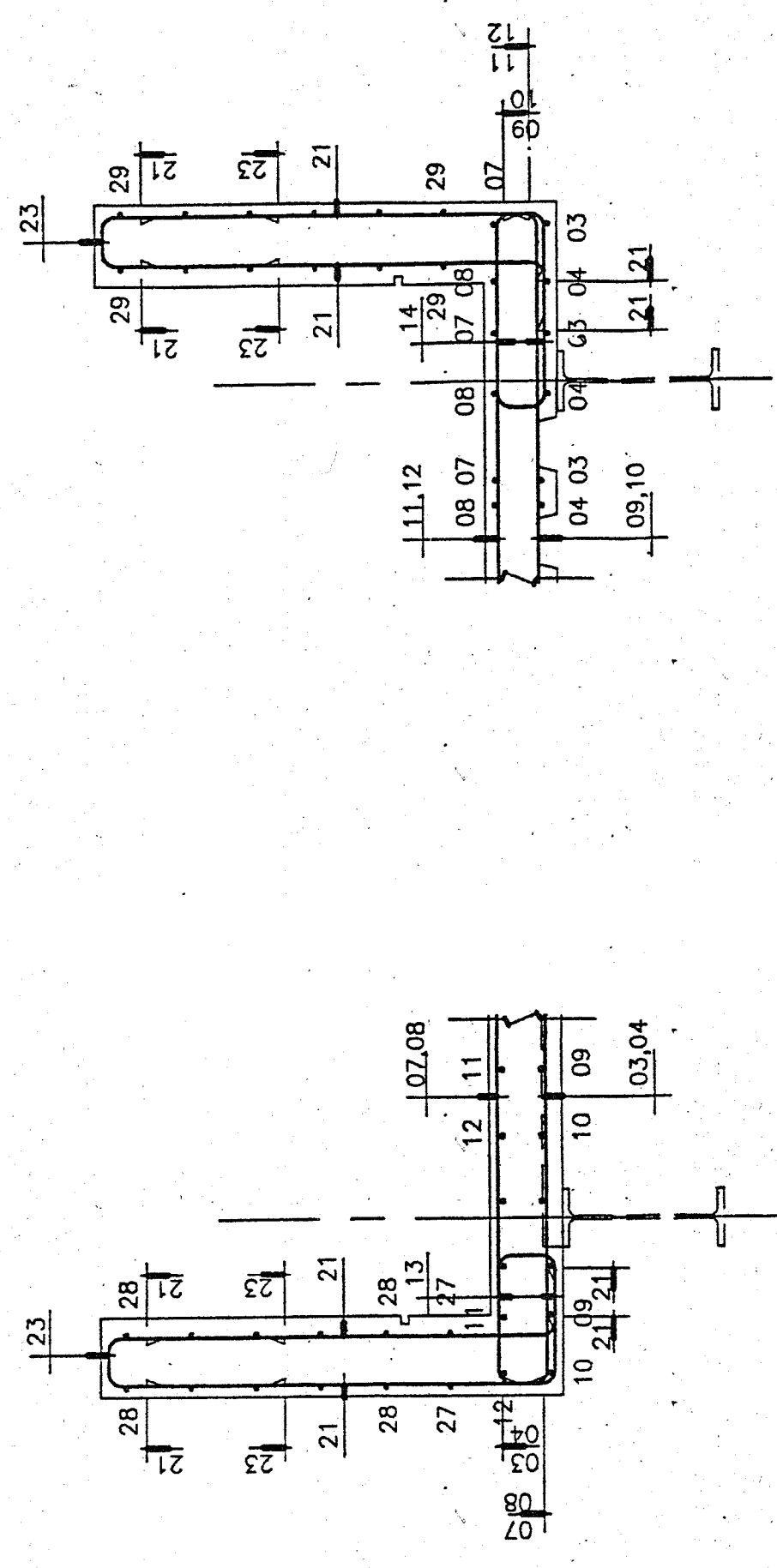
ELEV. PARAPET A.
2 No. THUS.



ELEV. PARAPET B.
2 No. TOTAL.

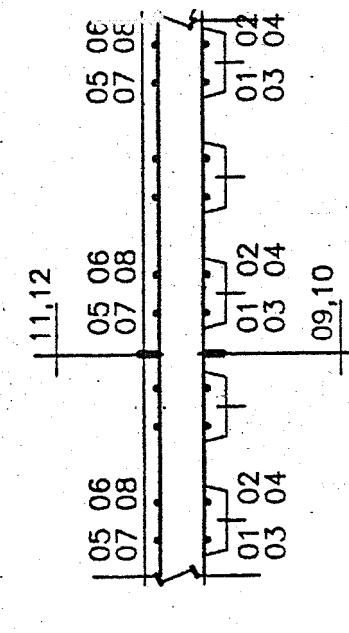


SECTION 1-1.
DETAIL OF GARGOYLE / R.W.Pipe OUTLET



SECTION 2-2.

SECTION 3-3.



TYPICAL SECTION THRU
ROOF SLAB

