

① GENERAL NOTES

- 1 ALL STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE APPLIED BUILDING CODE AND THE PROJECT SPECIFICATIONS.
- 2 ALL WORK SHOWN ON STRUCTURAL DRAWINGS SHALL HAVE CONTINUOUS INSPECTION BY THE SUPERVISOR.
- 3 BEFORE COMMENCING THE WORK, CONTRACTOR SHALL CONFIRM THE NECESSARY DIMENSIONS AT SITE AND SHALL REPORT TO THE SUPERVISOR FOR HIS APPROVAL.

② SYMBOLS OF REINFORCING BARS

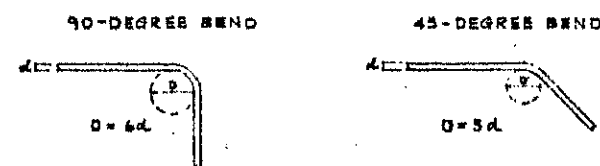
SYMBOL	•	•	•	•
ROUND BAR	9φ	13φ	16φ	19φ
DEFORMED BAR	D10	D13	D16	D19

③ MINIMUM CONCRETE COVER OVER REINFORCEMENT (MM)

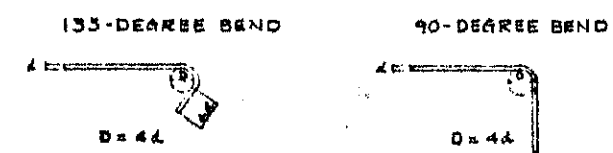
SURFACES NOT EXPOSED TO EARTH	FLOOR SLAB WALL	WITH FINISH	20
		WITHOUT FINISH	30
SURFACES EXPOSED TO EARTH	COLUMN GIRDER OR BEAM		30
	COLUMN GIRDER OR BEAM		40
	FOOTING		60

④ STANDARD BAR BENDS

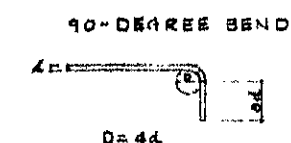
1 MIDDLE PORTION OF MAIN REINFORCING BAR



2 HOOKS OF STIRRUP & HOOP



3 TIE BEND



⑤ MINIMUM BAR SPACING



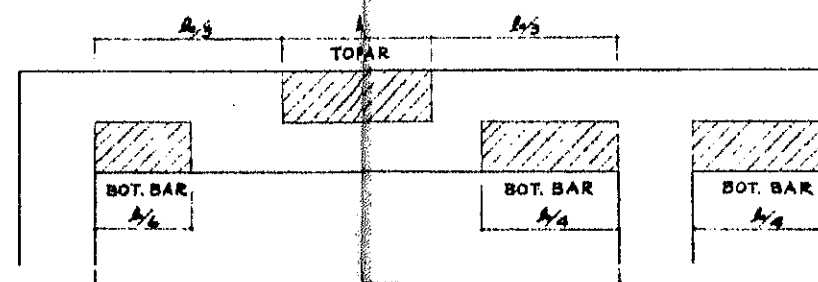
BAR SPACING SHALL BE NOT LESS THAN THE GREATEST OF THE THREE FOLLOWING DISTANCES;
 1 $a = 25$
 2 $a = 1.7d$
 3 $a = 1.25$ TIMES THE MAX. SIZE OF COARSE AGGREGATE.

⑥ BAR LAP & ANCHOR LENGTH

HOOK	LAP LENGTH	ANCHOR LENGTH		
		GENERAL	BOTTOM REINFORCEMENT	
			SUB BEAM	FLOOR SLAB
WHEN PROVIDED	35d	30d	15d	15 CM. BUT NOT LESS THAN 10d
WHEN NOT PROVIDED	45d	40d	25d	

WELDED STEEL MESH SHALL LAPPED NOT LESS THAN 20 CM. FOR END LAPS AND EDGE LAPS.

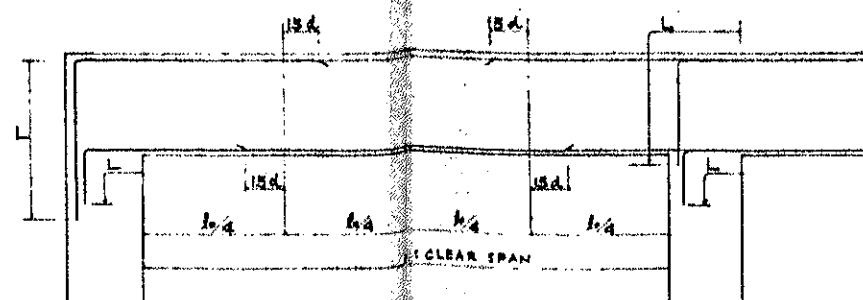
⑦ LAP SPLICES IN BEAM



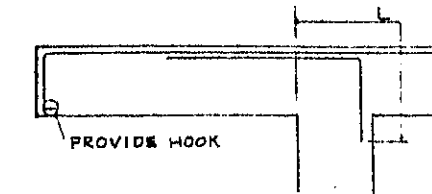
NO LAP SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS SHOWN ABOVE, OR AS AUTHORIZED BY THE SUPERVISOR.

⑧ ANCHORAGE REQUIREMENT

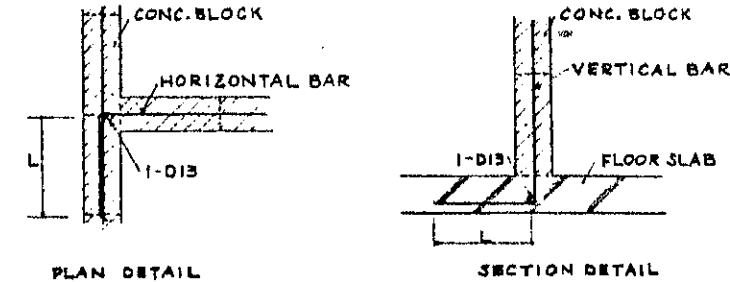
END OF REINFORCING BAR SHALL BE ANCHORED AS SHOWN BELOW.
 1 GROUND BEAM
 L: REQUIRED ANCHOR LENGTH



2 CANTILEVER BEAM



3 WALL

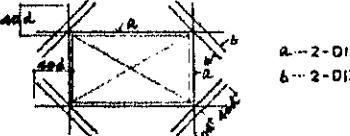


⑨ EXTRA REINFORCEMENT

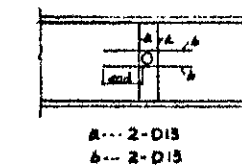
1 AT CONCRETE WALL OPENING



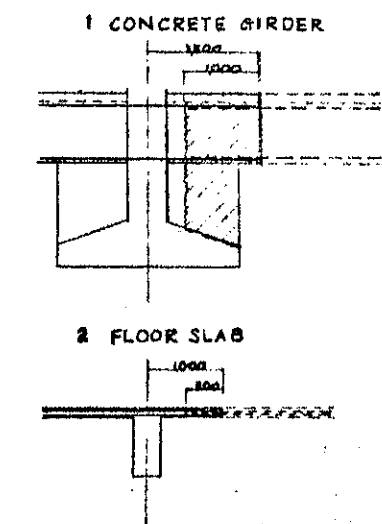
2 AT CONCRETE SLAB OPENING



3 AT SLEEVE HOLE OF BEAM



⑩ CONCRETE GIRDER & FLOOR SLAB FOR FUTURE EXTENSION



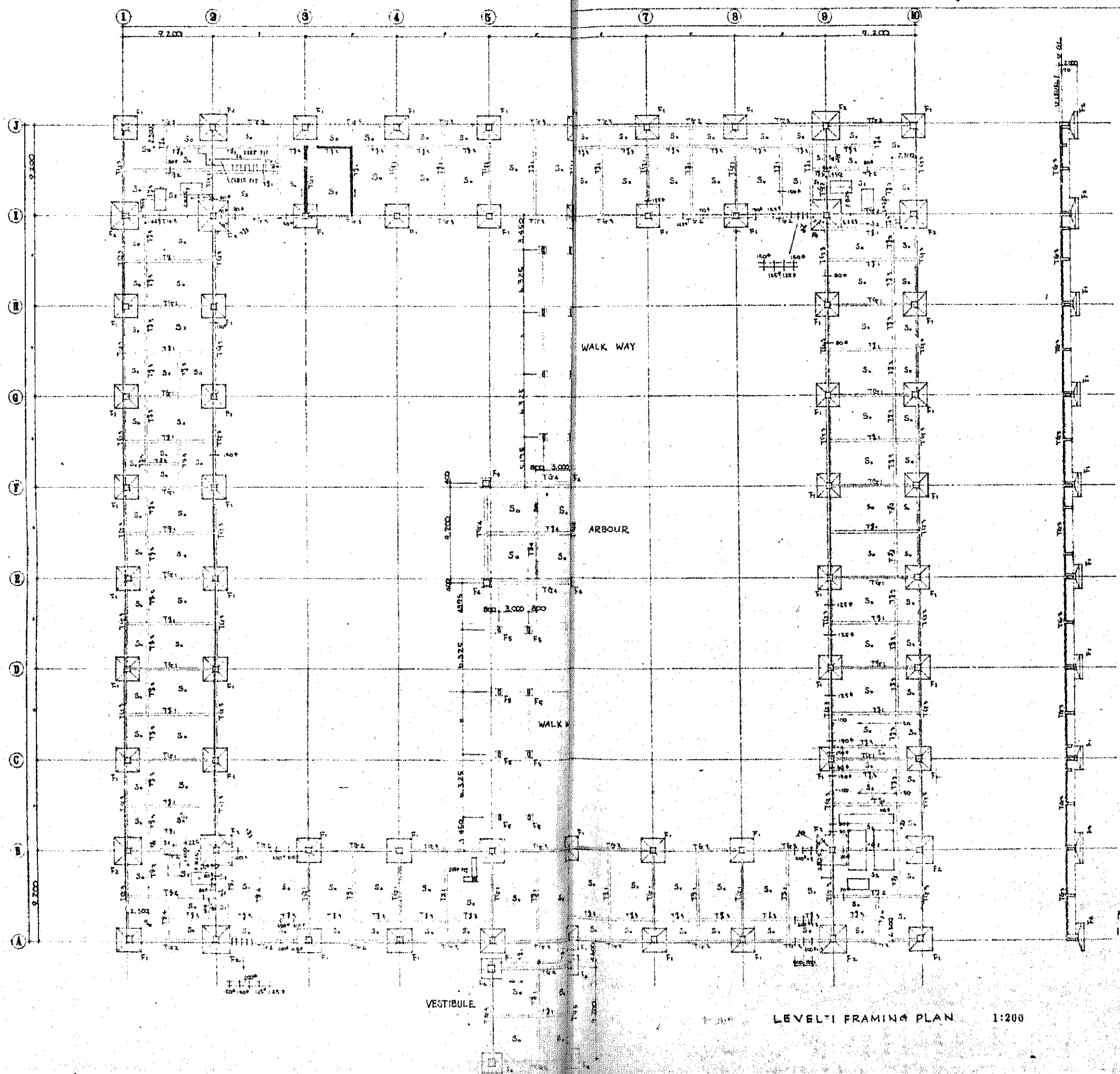
NOTES:
 1 DEMOLISH THE SHADED PORTION
 2 LAP NEW BARS TO THE EXISTING BARS.

⑪ BASIC DESIGN LOADS

LOCATION	LIVE LOAD
ROOF	20 KG PER SQ M.
LABORATORY	300
STAIR	300
CORRIDOR	300
MACHINE ROOM	500
WIND LOAD	100
SEISMIC LOAD	ZONE VI INTENSITY

⑫ SUPPORTING LAYER

- 1 ALL FOUNDATIONS SHALL BE REST ON TOP OF EITHER LATERITIC PAN OR QUARTZ SCHIST.
- 2 REQUIRED PERMANENT BEARING CAPACITY OF THE SUPPORTING LAYER SHALL BE NOT LESS THAN 20 TONS PER SQUARE METERS.
- 3 BOTTOM LEVEL OF FOUNDATION SHALL BE ADJUSTED IN ACCORDANCE WITH THE EXISTING SUPPORTING LAYER.



FRAMING ELEVATION (LINE 9) SCALE 1:200

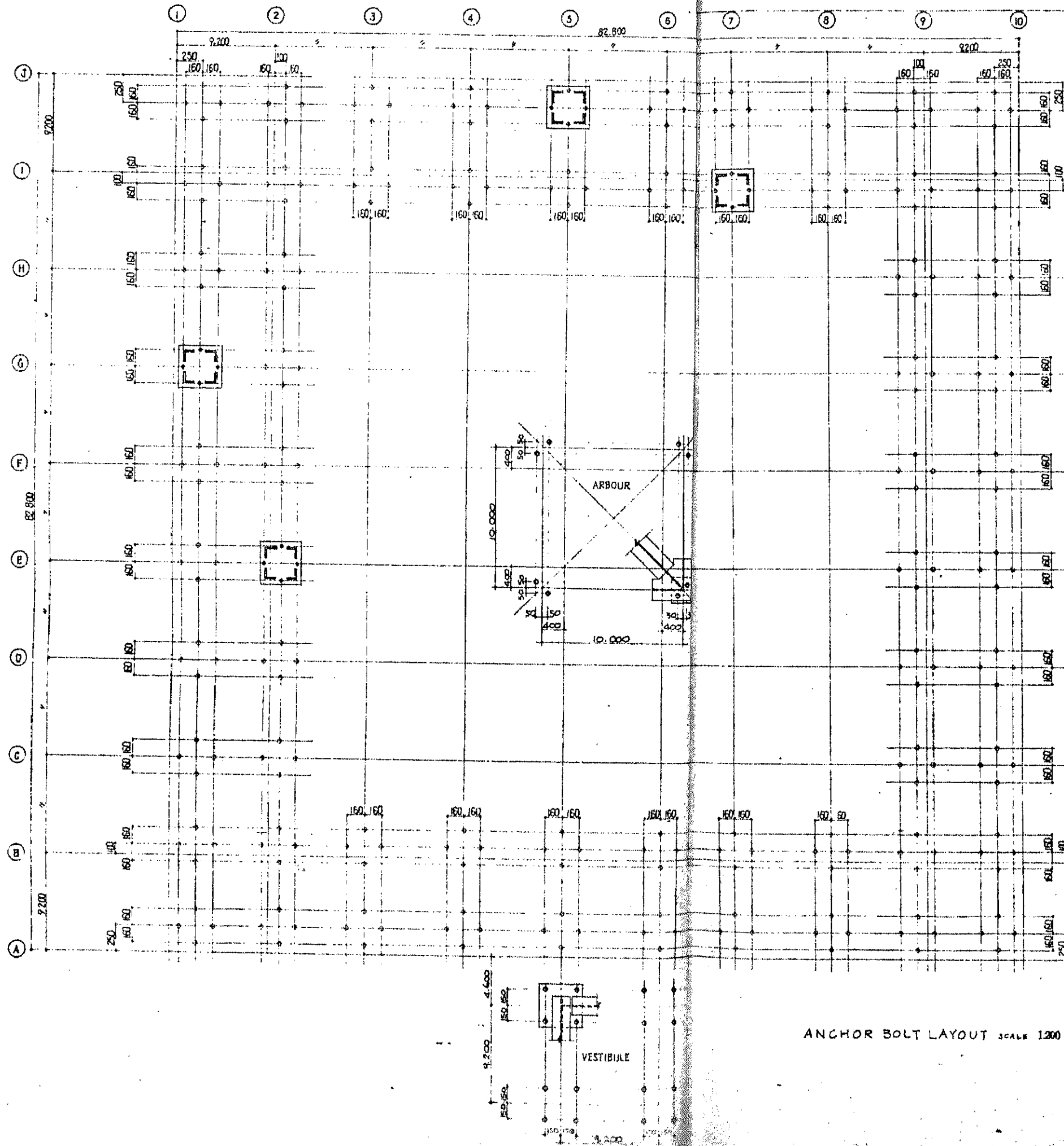
NOTES:

1. SLEEVE HOLES THROUGH GROUND BEAM

DIAMETER	NUMBER
40φ	2
50φ	16
125φ	10
150φ	12
200φ	17

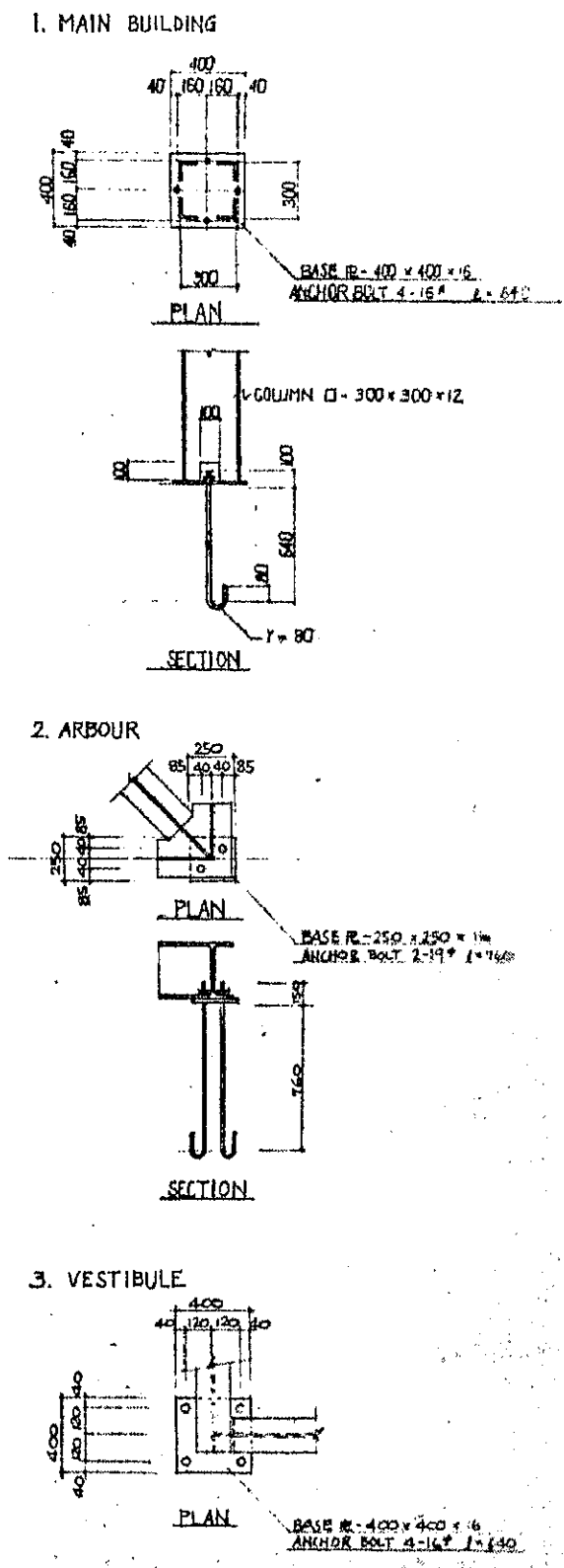
LEVEL - 1 FRAMING PLAN 1:200

2. DATUM G.L. 75.875



ANCHOR BOLT LAYOUT SCALE 1:200

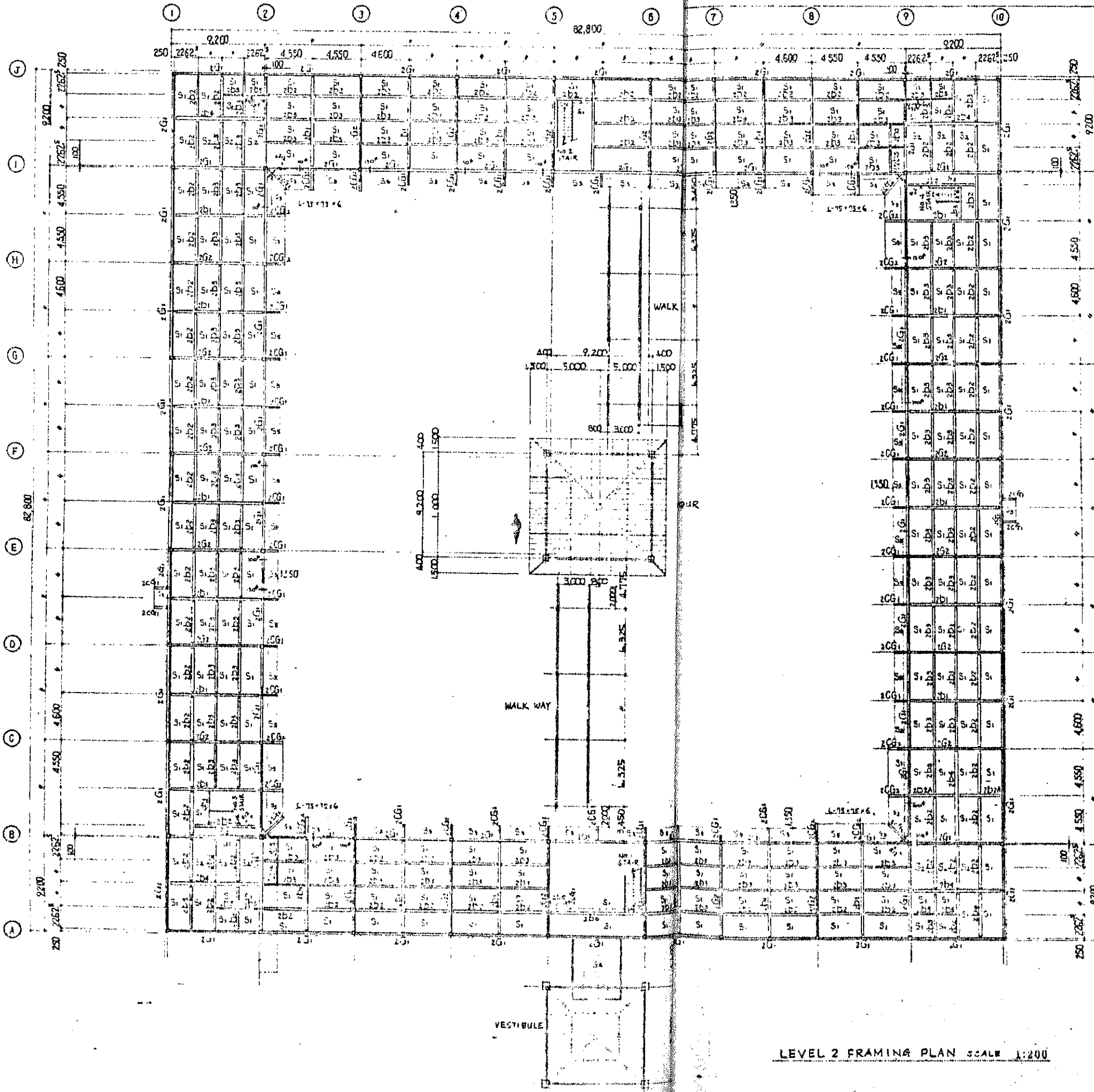
STEEL COL. BASE DETAILS



1. MAIN BUILDING

2. ARBOUR

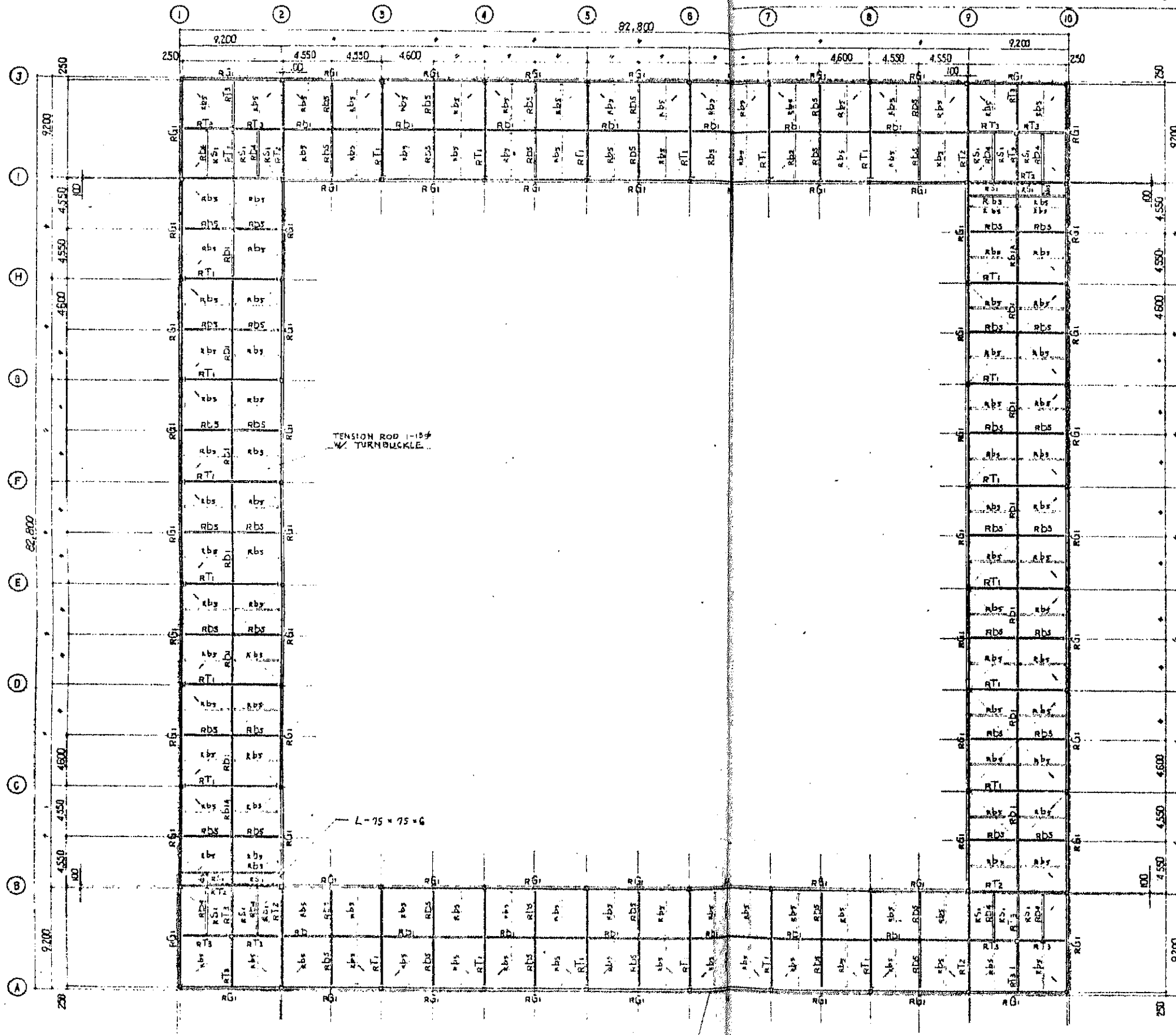
3. VESTIBULE



SLEEVE HOLES THROUGH STEEL GIRDER 24:

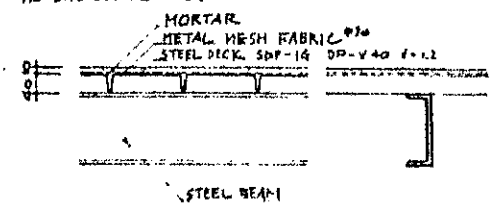
DIAMETER	NUMBER
φ 100	10
φ 150	10

LEVEL 2 FRAMING PLAN SCALE 1:200

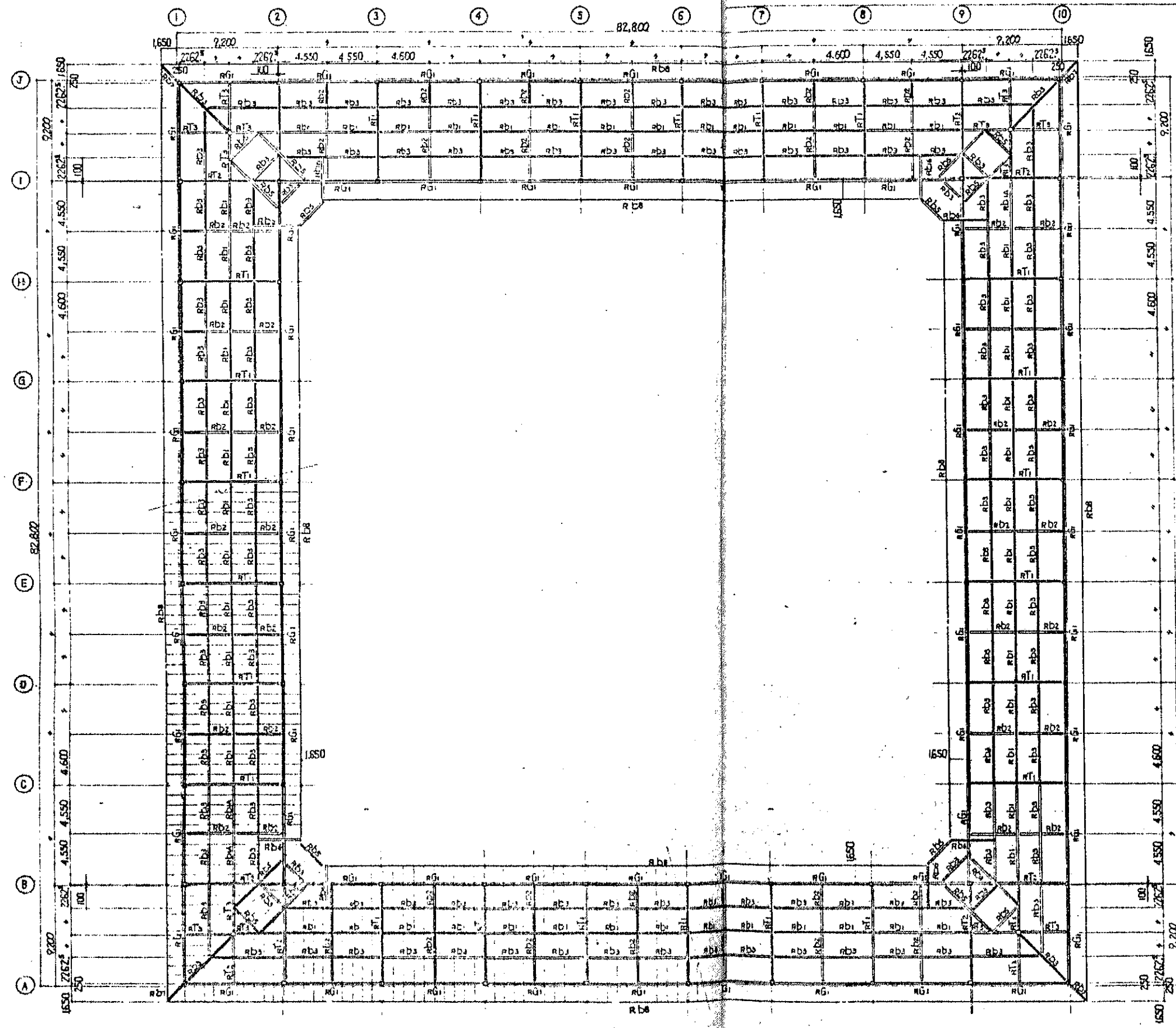


NOTE:

STEEL DECK SHALL BE PLACED ON THE FOLLOWING STEEL BEAMS, RT1, RT2, RT3, RG1, RB1, RB2, RB3, AND RB5 AS SHOWN BELOW.



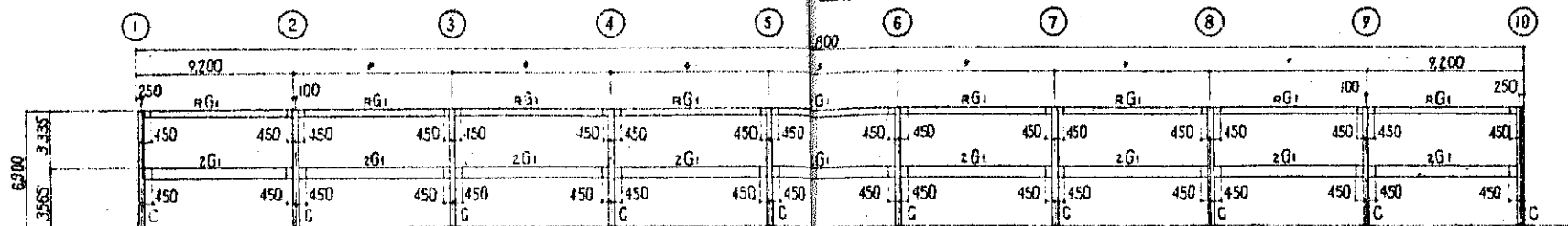
LOWER ROOF LEVEL FRAMING PLAN SCALE 1:200



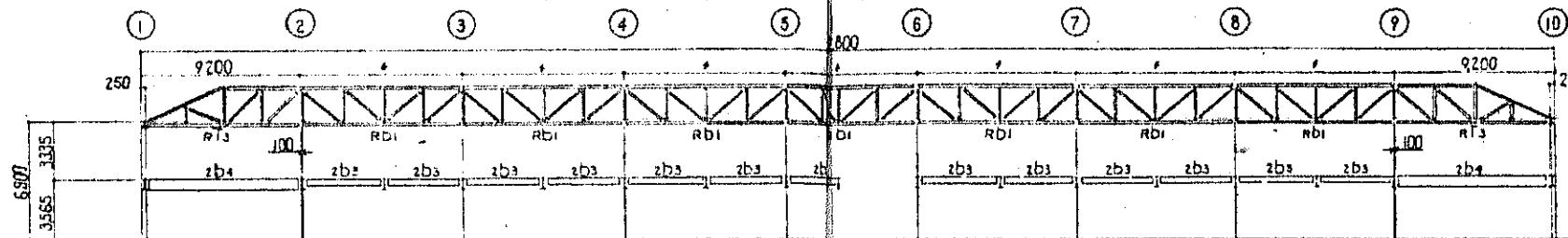
--- PROJ. C-25.30.10.31 910

UPPER ROOF LEVEL FRAMING PLAN SCALE 1:200

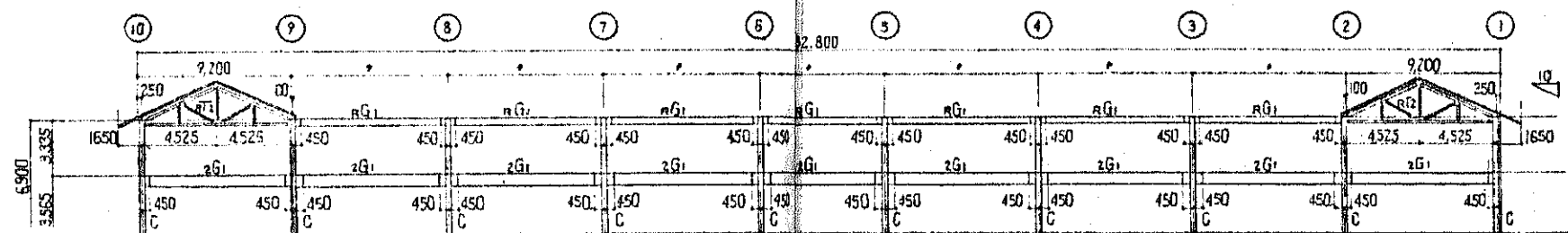
LINE A & J



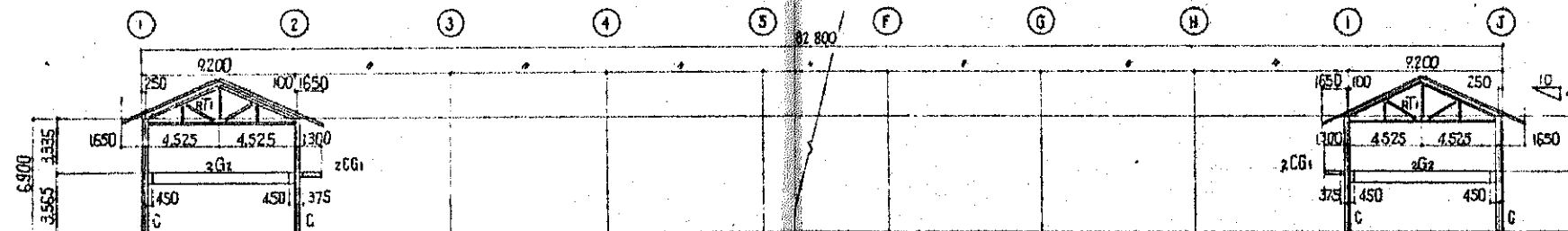
LINE A' & I'



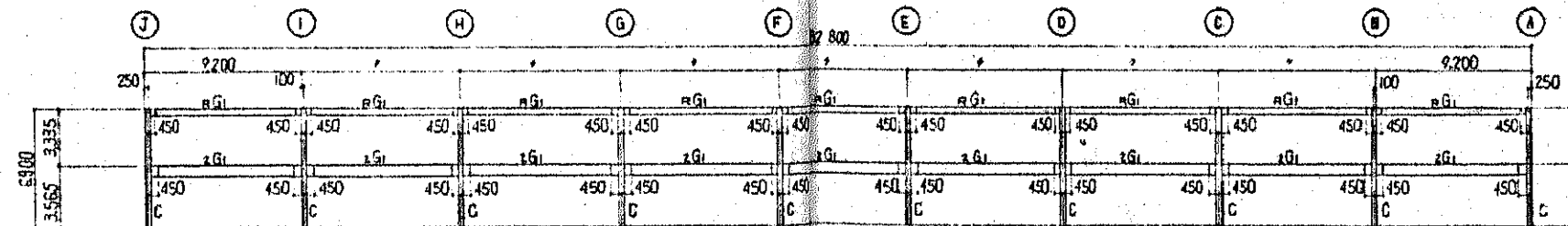
LINE B & I



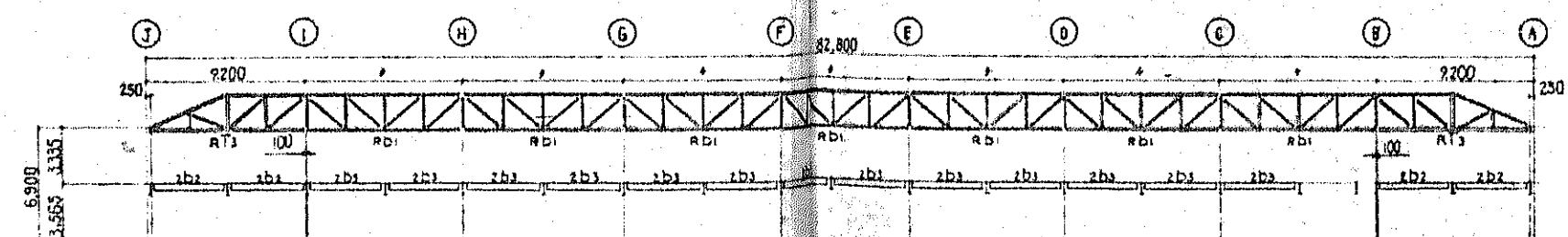
LINE C ~ H



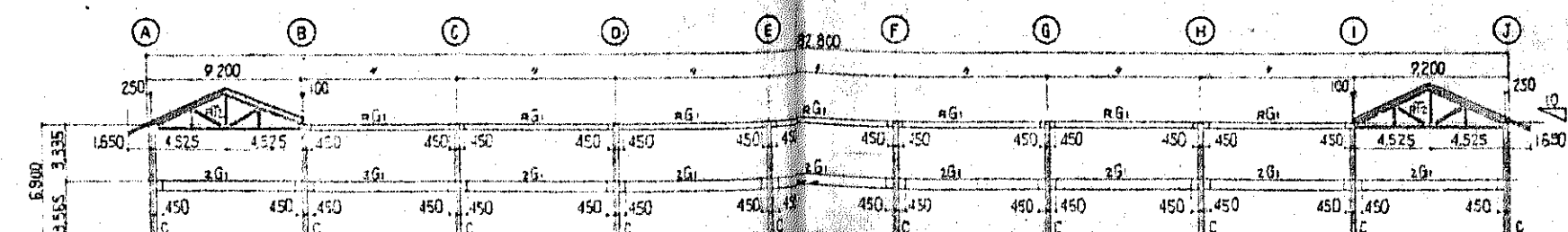
LINE I & I'



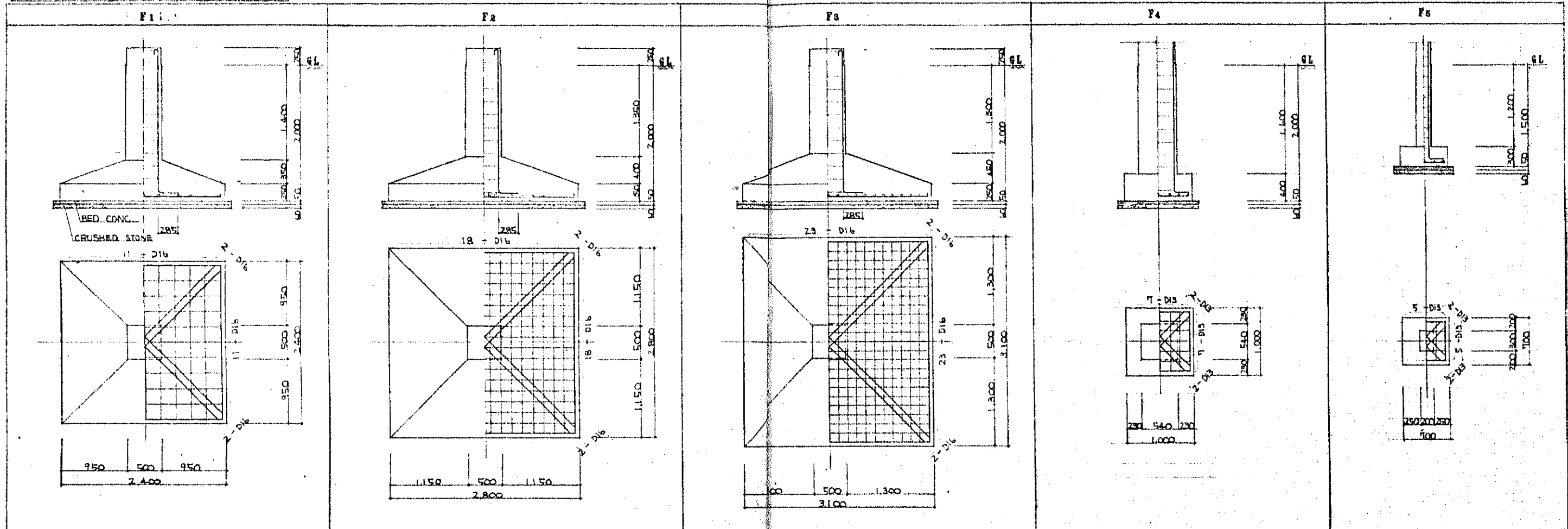
LINE I' ~ J'



LINE 2 ~ 9



FOUNDATION SCHEDULE SCALE 1:30

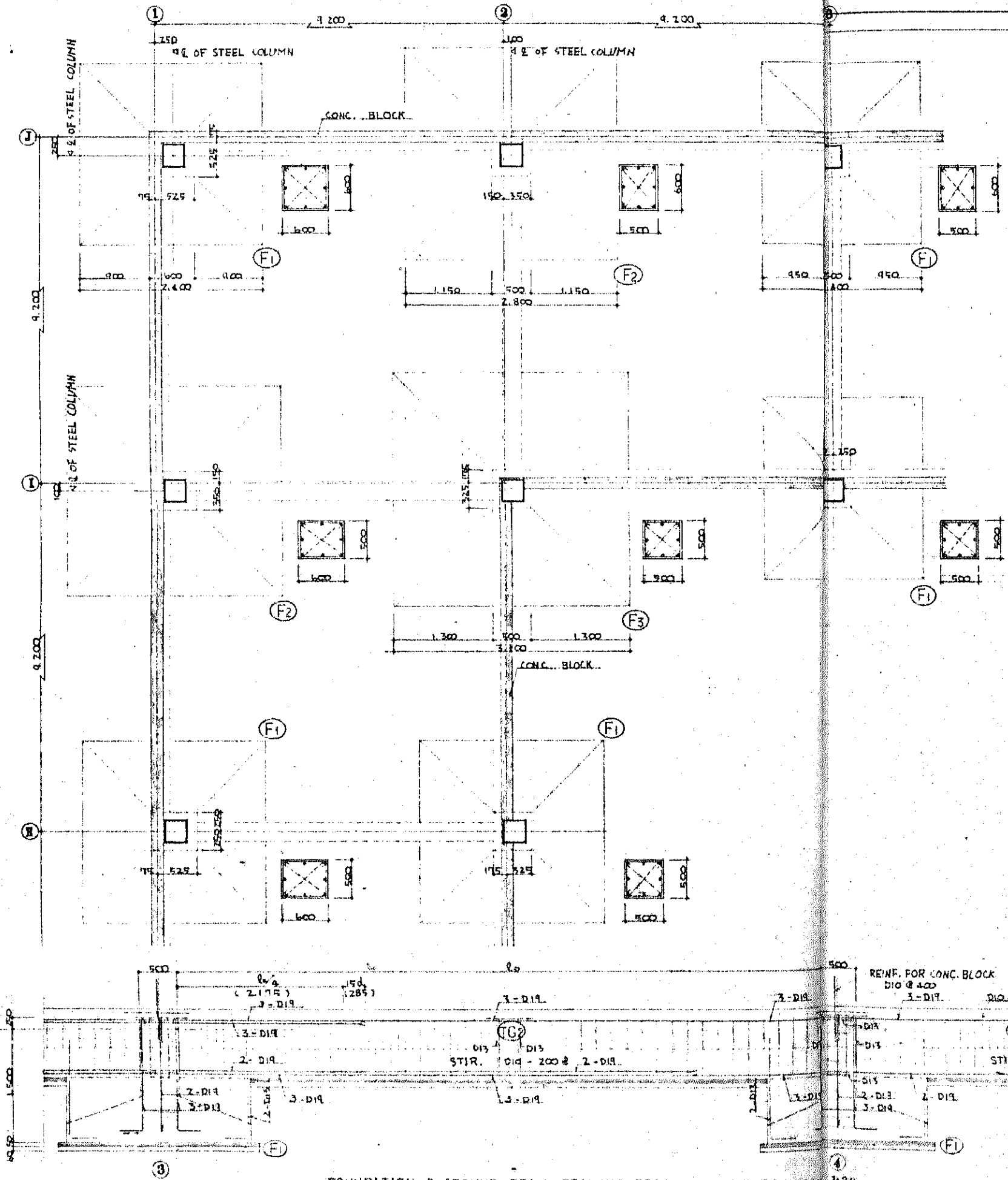


GROUND BEAM SCHEDULE SCALE 1:30

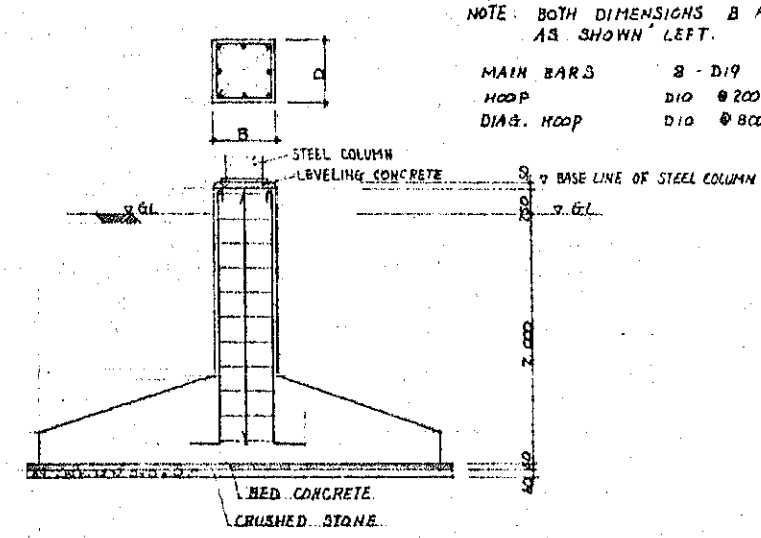
	TG1		TG2			TG3			TG4		TG5	
	END	CENTRE	8, 9, 8, 9 END	CENTRE	1, 4, 7, 10 END	8, 9, 8, 1 END	CENTRE	OTHER END	END	CENTRE	END	CENTRE
SECTION												
TOP BARS	3 - D19	2 - D19	6 - D19	3 - D19	3 - D19	5 - D19	2 - D19	3 - D19	1 - D19	3 - D19	3 - D19	5 - D19
BOT. BARS	2 - D19	4 - D19	5 - D19	5 - D19	3 - D19	3 - D19	3 - D19	3 - D19	1 - D19	3 - D19	5 - D19	5 - D19
STIRRUP	D10 - 200 @		D10 - 200 @			D10 - 200 @			D10 - 200 @		D10 - 200 @	
	TG1		TG2		TG3		TG4		TG5			
	END	CENTRE	END	CENTRE	END & CENTRE	END	CENTRE	END	CENTRE	END & CENTRE		
SECTION												
TOP BARS	3 - D19	2 - D19	3 - D19	2 - D19	3 - D16	4 - D19	2 - D19	5 - D19	3 - D19	5 - D19		
BOT. BARS	2 - D19	4 - D19	3 - D19	5 - D19	3 - D16	3 - D19	5 - D19	3 - D19	3 - D19	3 - D19		
STIRRUP	D10 - 200 @		D10 - 200 @		D10 - 200 @		D10 - 200 @		D10 - 200 @			

CONC. COLUMN SCHEDULE SCALE 1:30

	MAIN BUILDING		ENTRANCE VESTIBULE	
SECTION				
MAIN BARS	8 - D19		16 - D19	
HOOP	D10 - 200 @		D10 - 200 @	
DIAG. HOOP	D10 - 800 @		D10 - 800 @	
	ARBOUR		WALK WAY	
SECTION				
MAIN BARS	16 - D19		6 - D16	
HOOP	D10 - 200 @		D10 - 200 @	
DIAG. HOOP	D10 - 800 @			



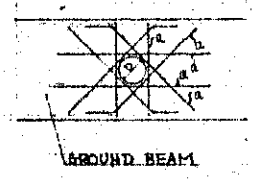
CONCRETE COLUMN DETAIL



NOTE: BOTH DIMENSIONS B AND D ARE AS SHOWN LEFT.

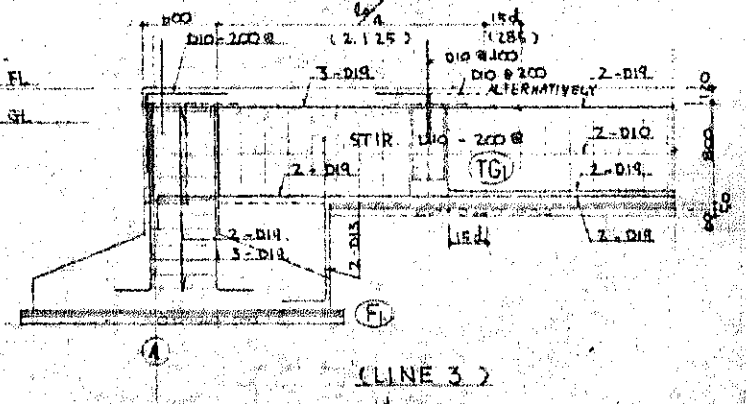
- MAIN BARS 3 - D19
- HOOP D10 @ 200
- DIA. HOOP D10 @ 800

ADDITIONAL REINFORCING BARS AROUND SLEEVE HOLE



- 1. D2100 a. 2-D13 L=2D+1000
- 2. D4100 a. NOT REQUIRED

FOUNDATION & GROUND BEAM FRAMING DETAIL (LINE B) 5000 1:30



(LINE 3)

CONCRETE SLAB SCHEDULE SCALE 1:30

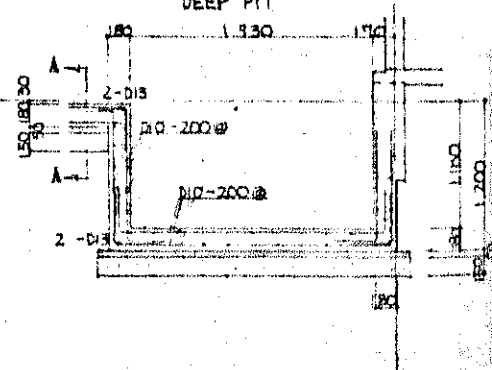
ROOF AND 2 ND FLOOR	S1	STEEL DECK FOR CONCRETE FORM		
2 ND FLOOR				
2 ND FLOOR	S2	S3	S4	
		SHORT SPAN		
1 ST FLOOR	S1	S2	S3	
		LONG SPAN		

WALL SCHEDULE SCALE 1:30

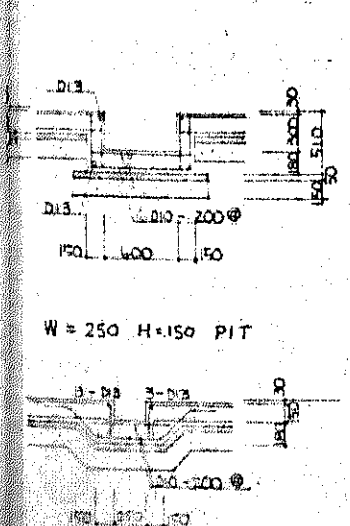
VERTICAL BARS	HORIZONTAL BARS
D10 @ 400	D10 @ 800
D10 @ 300	D10 @ 600
D10 @ 250	D10 @ 500
D10 @ 200	D10 @ 400

VERTICAL BARS: D10 @ 400 SINGLE, D10 @ 300 SINGLE, D10 @ 250 SINGLE, D10 @ 200 DOUBLE, D10 @ 150 DOUBLE
HORIZONTAL BARS: D10 @ 800 SINGLE, D10 @ 600 SINGLE, D10 @ 500 DOUBLE, D10 @ 400 DOUBLE

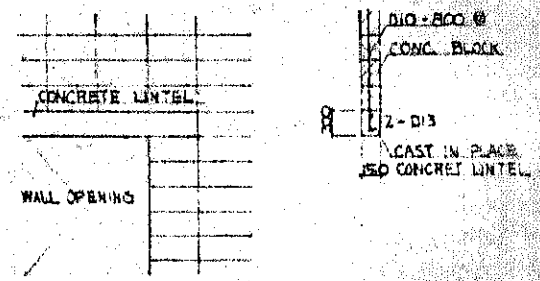
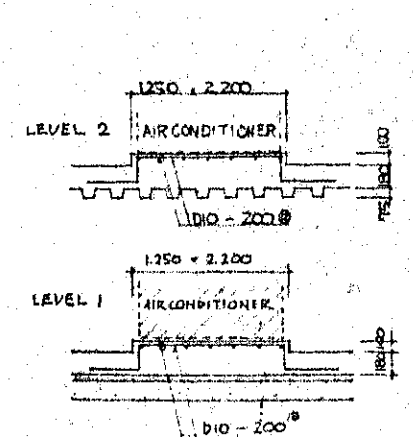
DETAIL OF CABLE PIT DEEP PIT



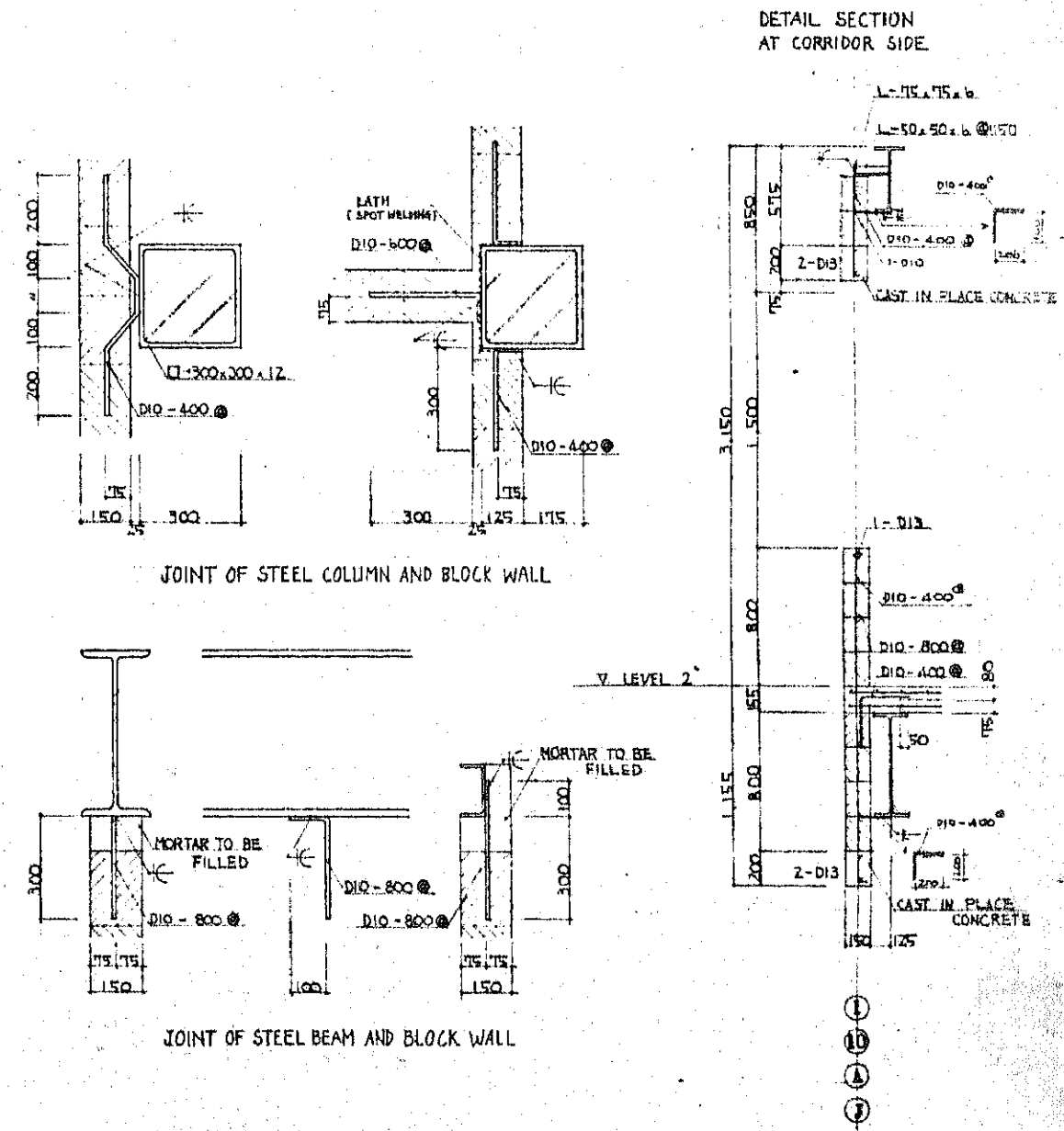
A-A SECTION



BASE OF AIR CONDITIONER



NOTE: PROVIDE CAST IN PLACE CONCRETE LINTEL ON EVERY WALL OPENING.



NOTE:
STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENT OF JIS & S101, S541, UNLESS OTHERWISE NOTED.

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KUMI ARCHITECTS-ENGINEERS

J. Sakai
J. Yamaguchi
176118
MR31917
1:21

STEEL GIRDER & COLUMN
SCHEDULES

COLUMN SCHEDULE scale 1:20

STEEL GIRDER SCHEDULE scale 1:20

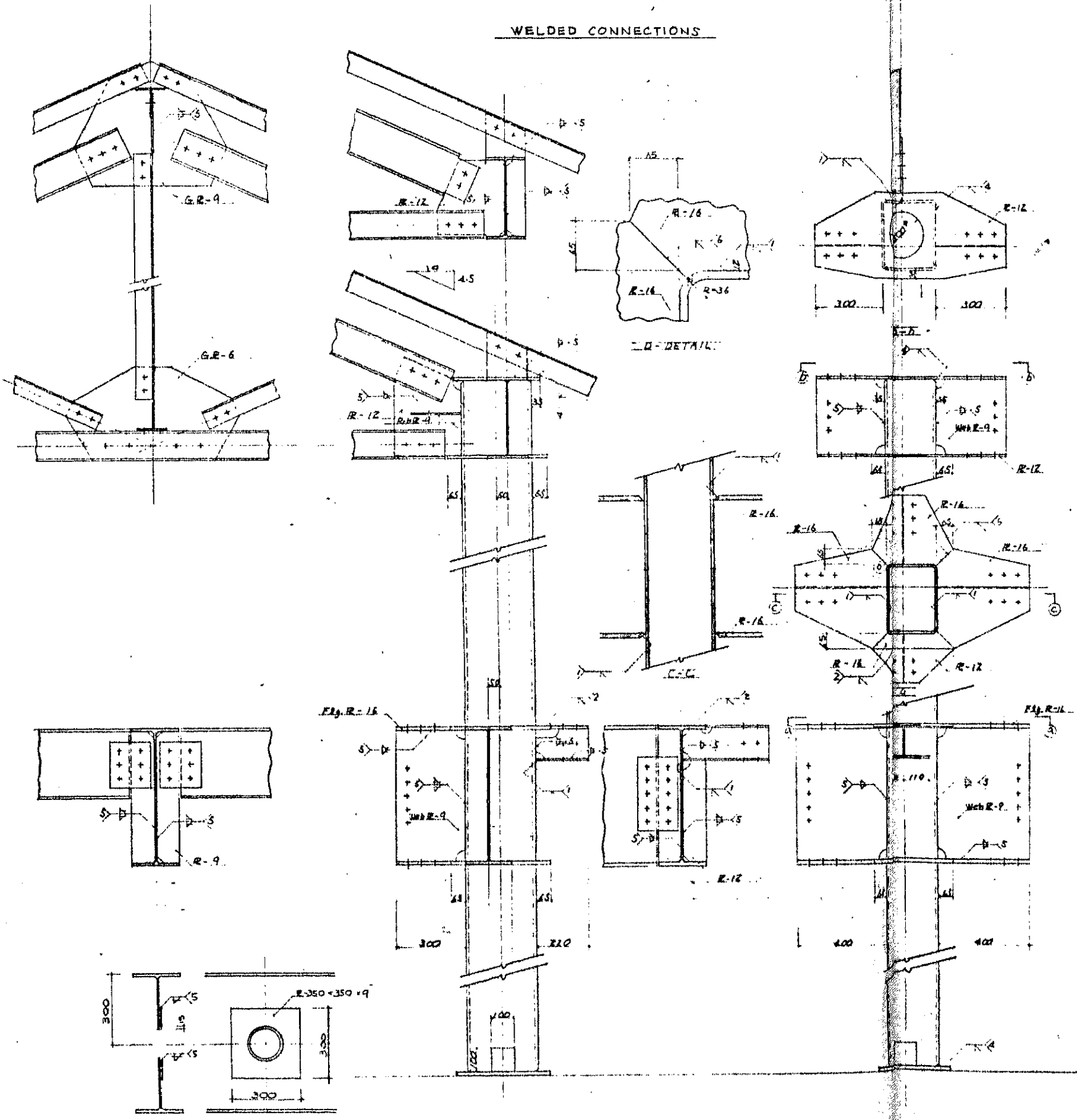
	C	G ₁	G ₂	CG ₁	b ₁	b ₂	b _{2A}	b ₃	b ₄	b ₅
2nd.F					REFER TO LOW DRAWING					
MEMBER	□-300x300x12	MEMBER	H-350x175x7x11	H-125x125x6.5x9		H-194x150x6x9		H-125x125x6.5x9	H-194x150x6x9	L-125x65x6x8
1st.F										
MEMBER	□-300x300x12	MEMBER	H-596x199x10x15	H-596x199x10x15	H-600x101x12x20	H-294x200x8x12	H-294x200x8x12 (SM50A)	H-300x150x6.5x9	H-582x300x12x17	L-150x75x6.5x10

	rb6	rb7	rb8, PURLIN	zbg	rb1 (rb1A)	rt1
MEMBER	H-100x100x6x8	ZL3-90x90x7	C-125x50x20x3.2	H-500x200x10x16	TOP CHORD BOT. CHORD VERT. OBLIQUE	L-150x75x6.5x10 L-125x65x6x8 L-75x75x6
					NOTED MEMBERS SHALL APPLY TO RB1A.	
	rb1	rb2	rb3	rb4	rt2	rt3
ARBOUR						
MEMBER	H-250x250x9x14	H-294x200x8x12	L-150x75x6.5x10	L-125x65x6x8	TOP CHORD BOT. CHORD VERT. OBLIQUE	L-180x75x7x10.5 L-150x75x6.5x10 L-75x75x6
						CT-175x125x6x9 CT-150x150x6.5x9 S.G.P. 165.7°x4.4, L-75x75x6

BOLTED JOINT DETAILS SCALE 1:20

N.O	J-1	J-2	J-3	J-4	J-5	J-6
JOINT						
MEMBER	H-606x201x12x20	H-596x199x10x15	H-350x195x7x11	H-125x125x6x9	H-400x300x10x16	H-400x200x8x13
OUTSIDE PLANGE	R-16x200x570	R-12x200x450	R-12x193x450	R-9x125x330	R-9x320x430	R-9x200x450
IN SIDE PLANGE	ZR-16x73x570 F/A ZR-23x73x280	ZR-12x73x450	ZR-12x73x450	ZR-9x210x220	ZR-9x113x430	ZR-6x73x450
WEB	ZR-12x210x300	ZR-9x210x340	ZR-6x210x220	R-6x330x100	ZR-12x210x280	ZR-9x210x280
H.T. BOLT	M20 Np: 8 Nw: 6	M20 Np: 6 Nw: 5	M20 Np: 6 Nw: 5	M20 Np: 4 Nw: 2	M20 Np: 6 Nw: 4	M20 Np: 6 Nw: 4
N.O	J-7	J-8	J-9	J-10	J-11	J-12
JOINT						
MEMBER	H-606x201x12x20, H-582x300x12x17	H-294x200x8x12	H-300x150x6x9	H-194x150x6x9	H-125x125x6x9	CT-125x125x6x9
GUSSET PLATE	R-12x150x340	R-9x150x220	R-6x150x220	R-6x110x160	BEND. R-6x125x170	R-6
H.T. BOLT	5-M20	3-M20	3-M20	Z-M20	Z-M20	Z-M20
N.O	J-13	J-14	J-15	J-16	J-17	J-18
JOINT						
MEMBER	CT-125x125x6x9	CT-150x150x6x9	C-180x95x7x10.5	E-150x75x6x10	E-150x75x6x10	L-95x95x6
GUSSET PLATE	Z-M20	R-6x230x100	R-12	R-6x150x160	R-12	R-6
H.T. BOLT	Z-M20	3-M20	3-M20	Z-M16	3-M20	Z-M20
N.O	J-19			J-20		
JOINT						
MEMBER	L-90x90x7	C-125x50x20x3.2	H-100x100x6x8	H-500x200x10x16	H-500x200x10x16	H-500x200x10x16
GUSSET PLATE	R-9	BEND R-6	R-6	R-9x150x340	R-9x150x340	R-9x150x340
H.T. BOLT	Z-M20	3-M20	Z-M20	5-M20	5-M20	5-M20

WELDED CONNECTIONS

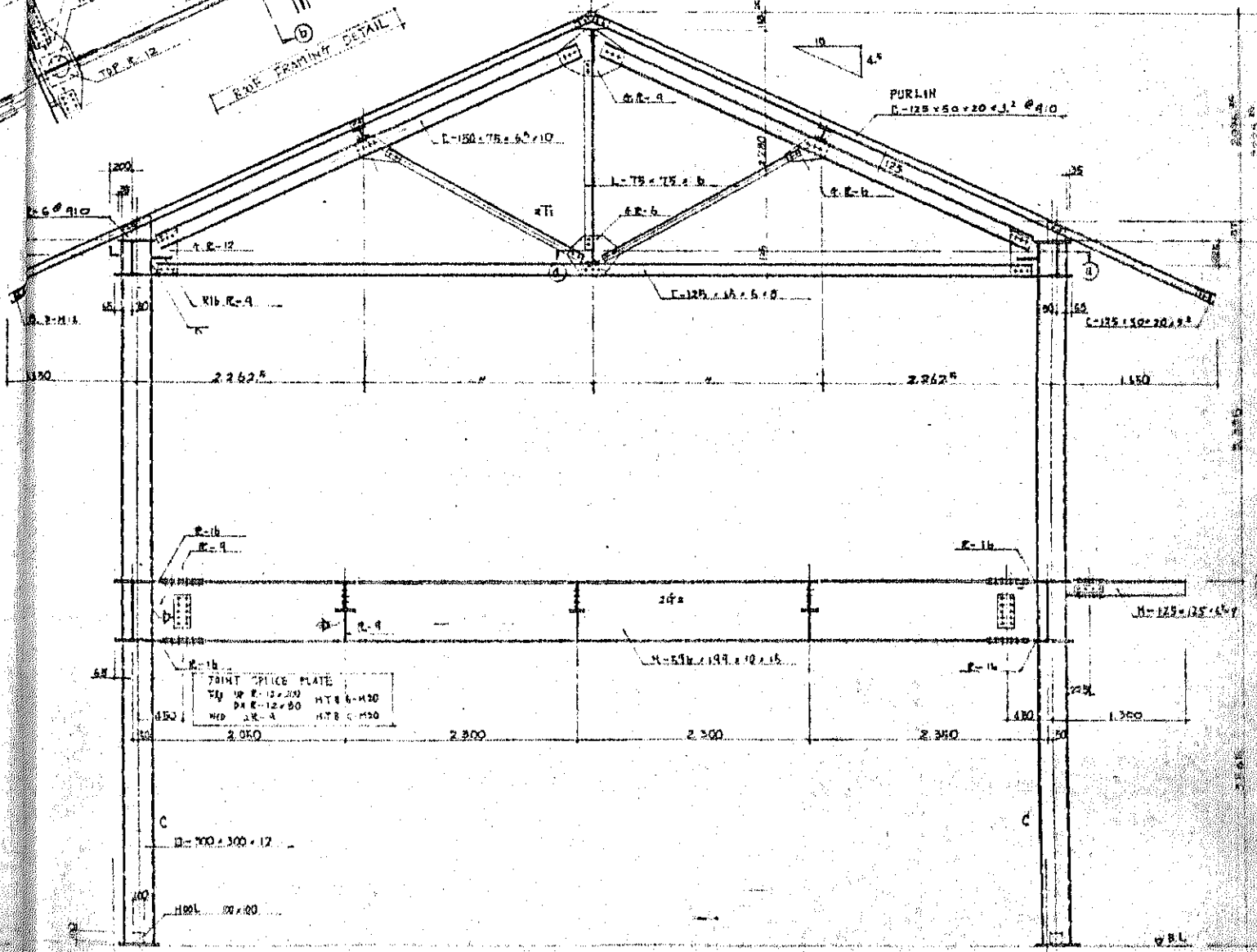
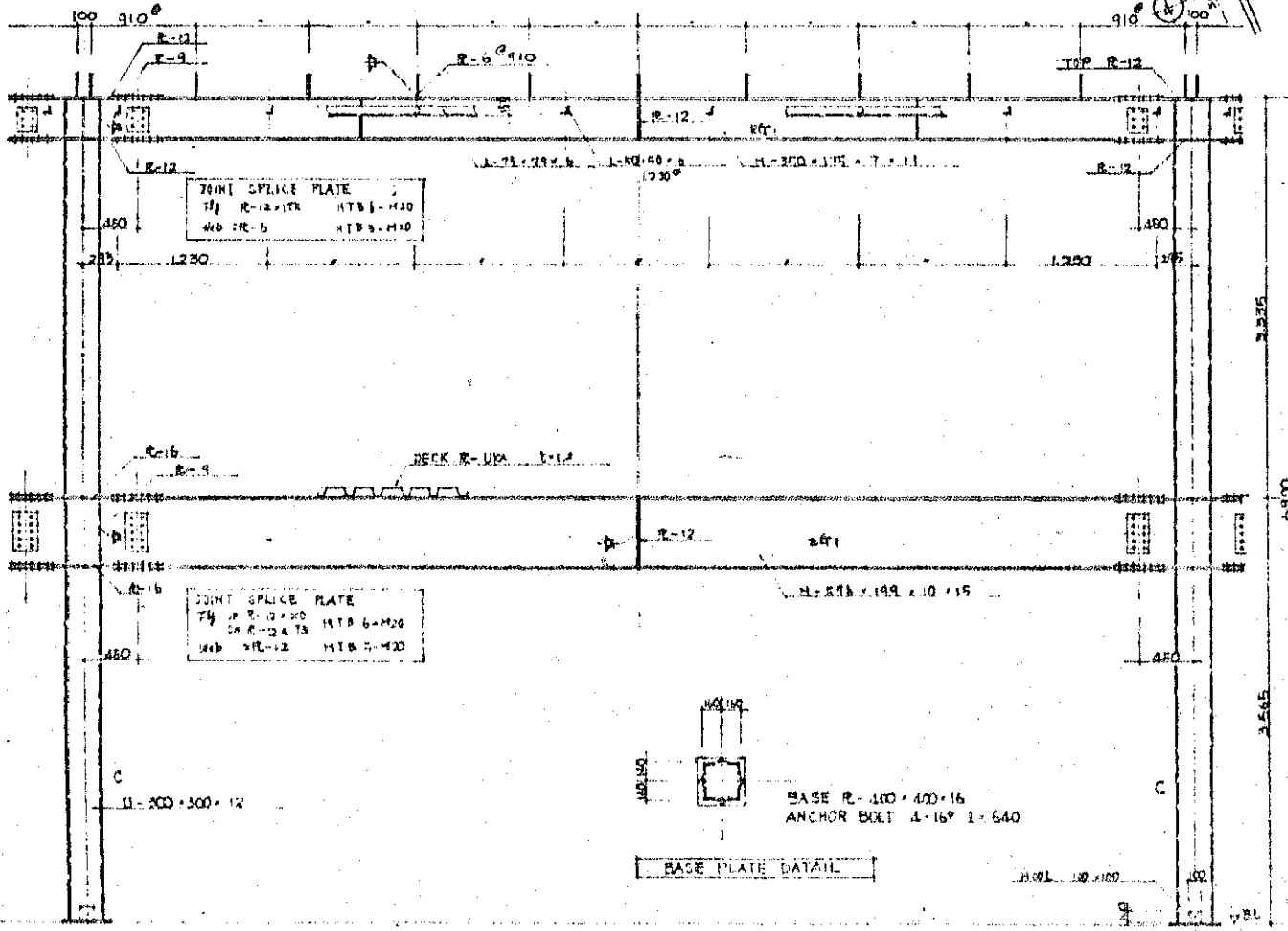
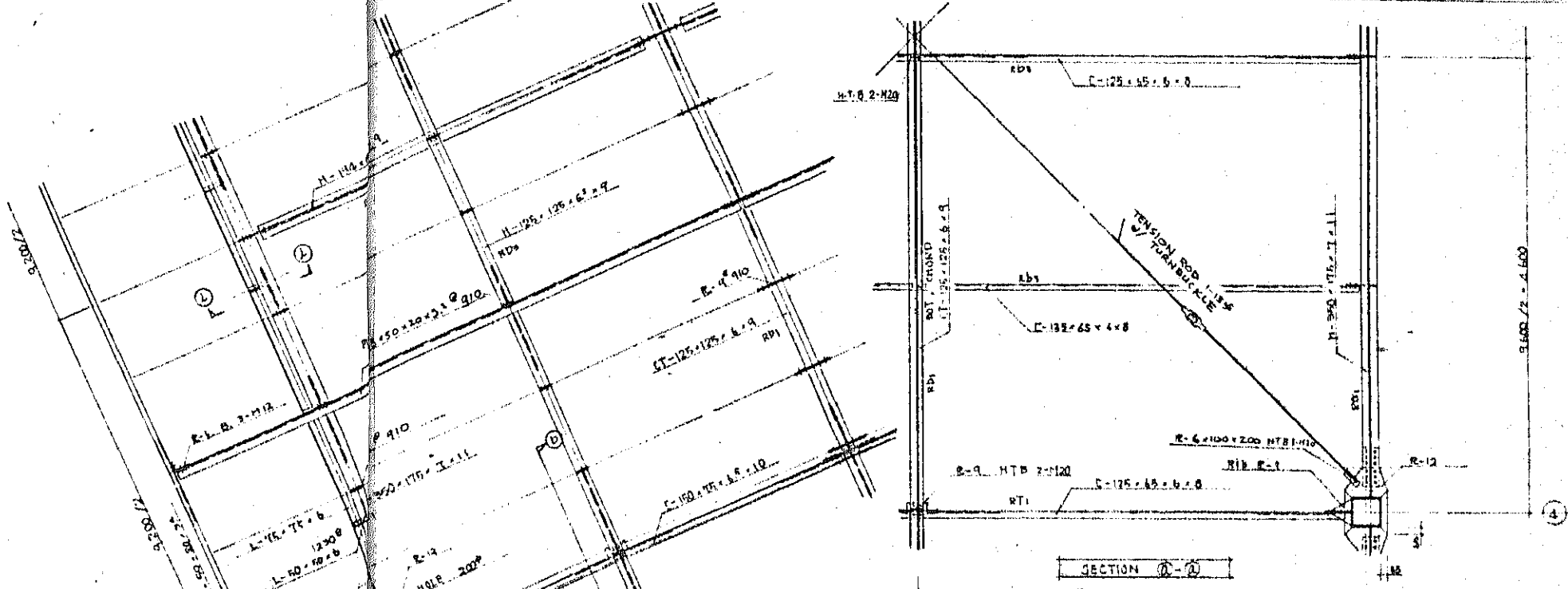
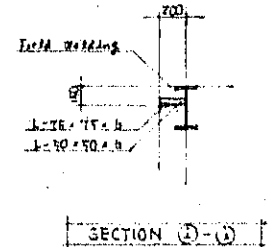
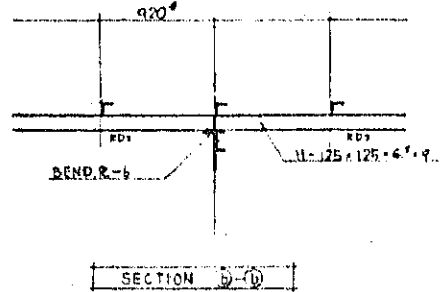


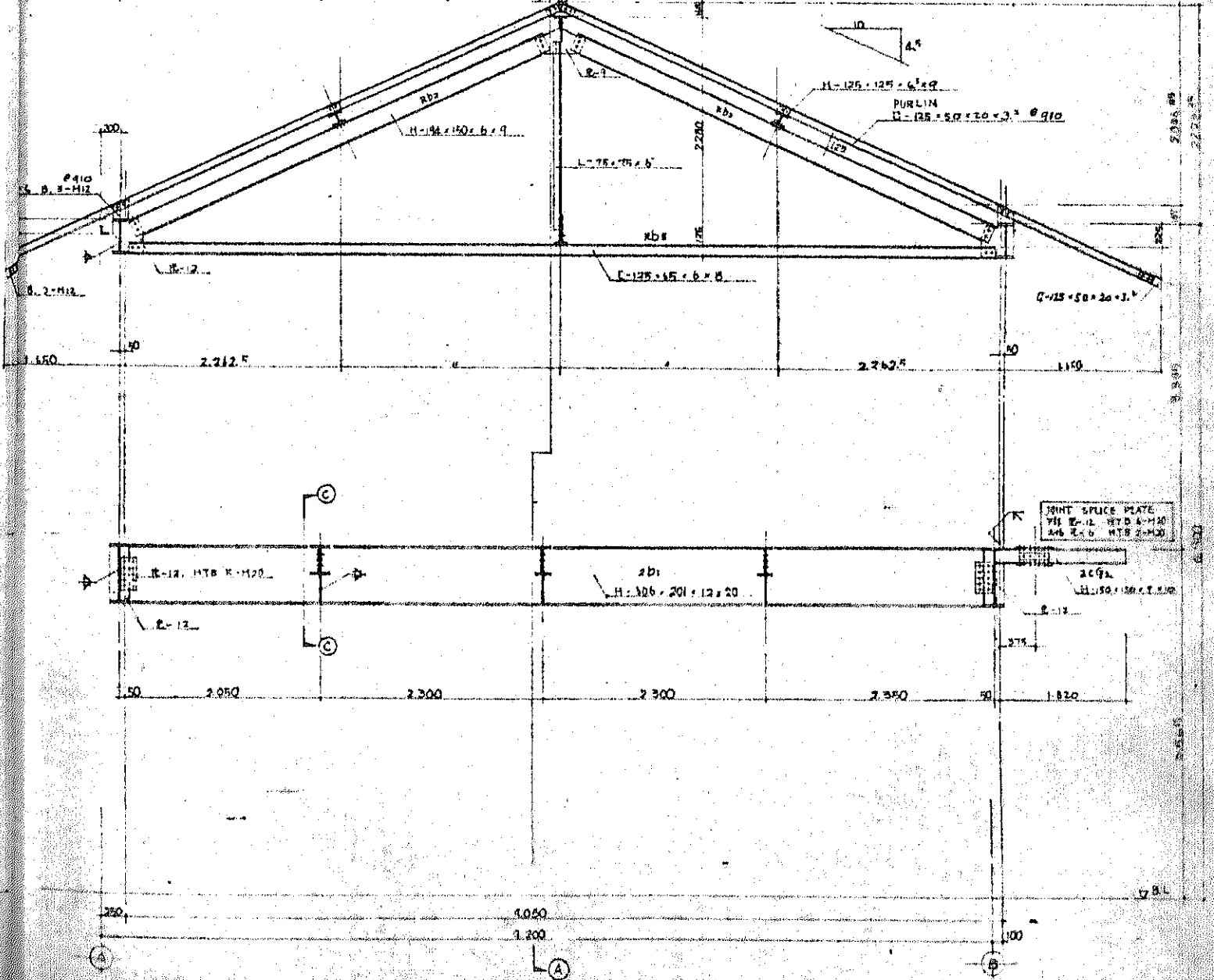
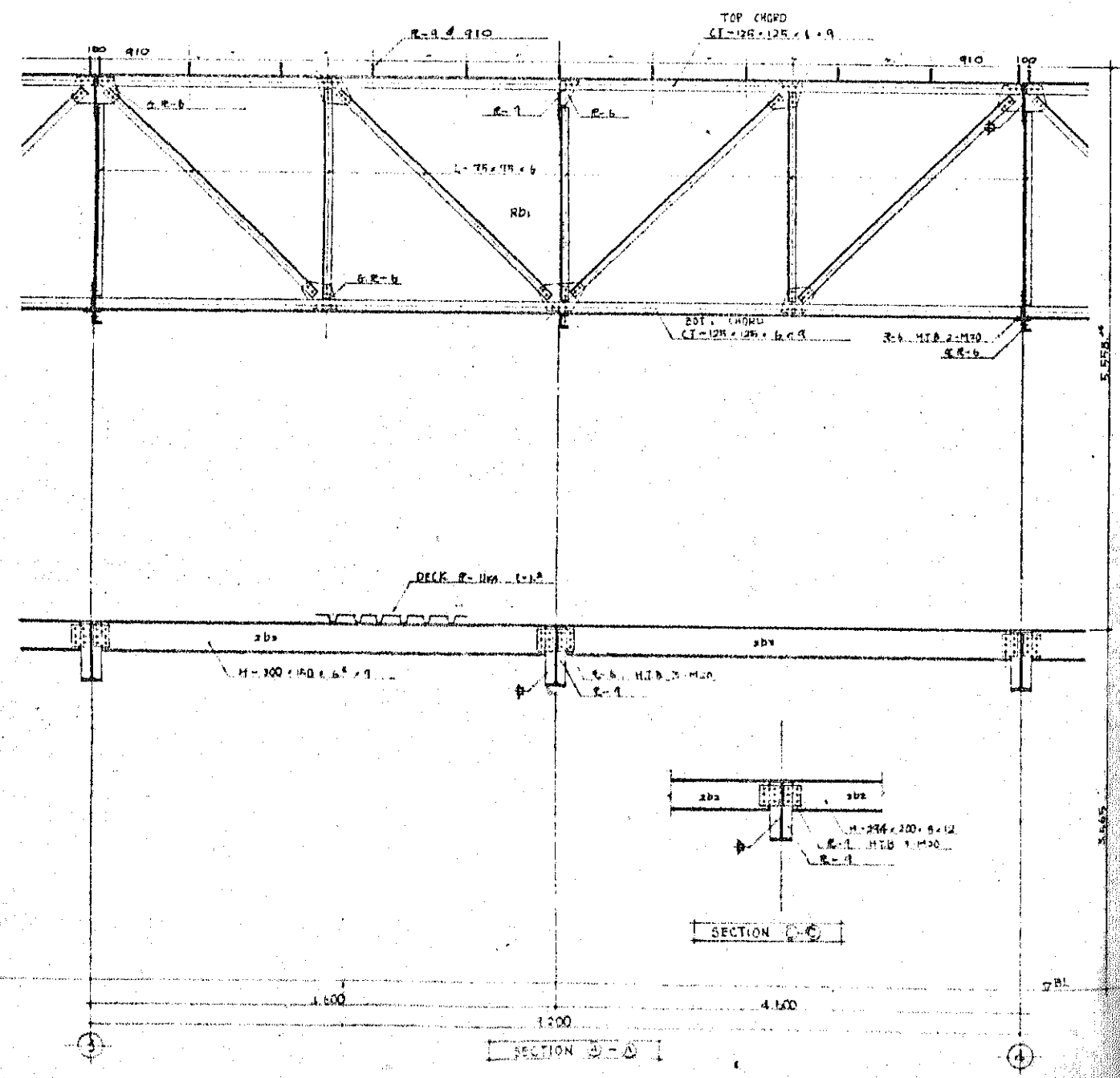
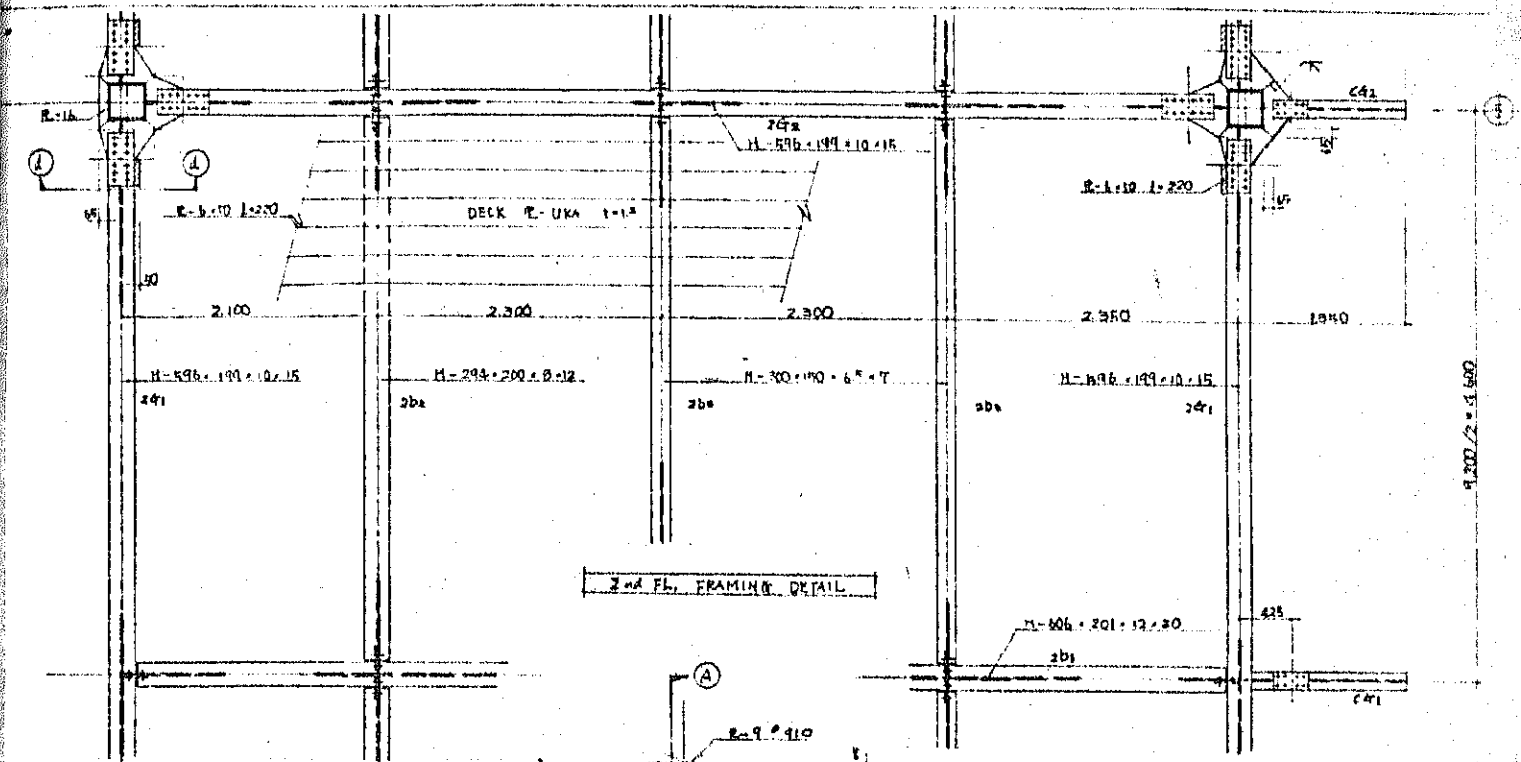
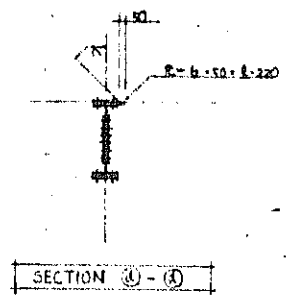
NOTES: 1. WELDING SYMBOLS ARE SHOWN AS FOLLOWS;
SHOP WELDING FIELD WELDING
2. ULTRASONIC INVESTIGATION SHALL BE APPLIED AT THE WELDING DETAILS NO. 1 AND 4.

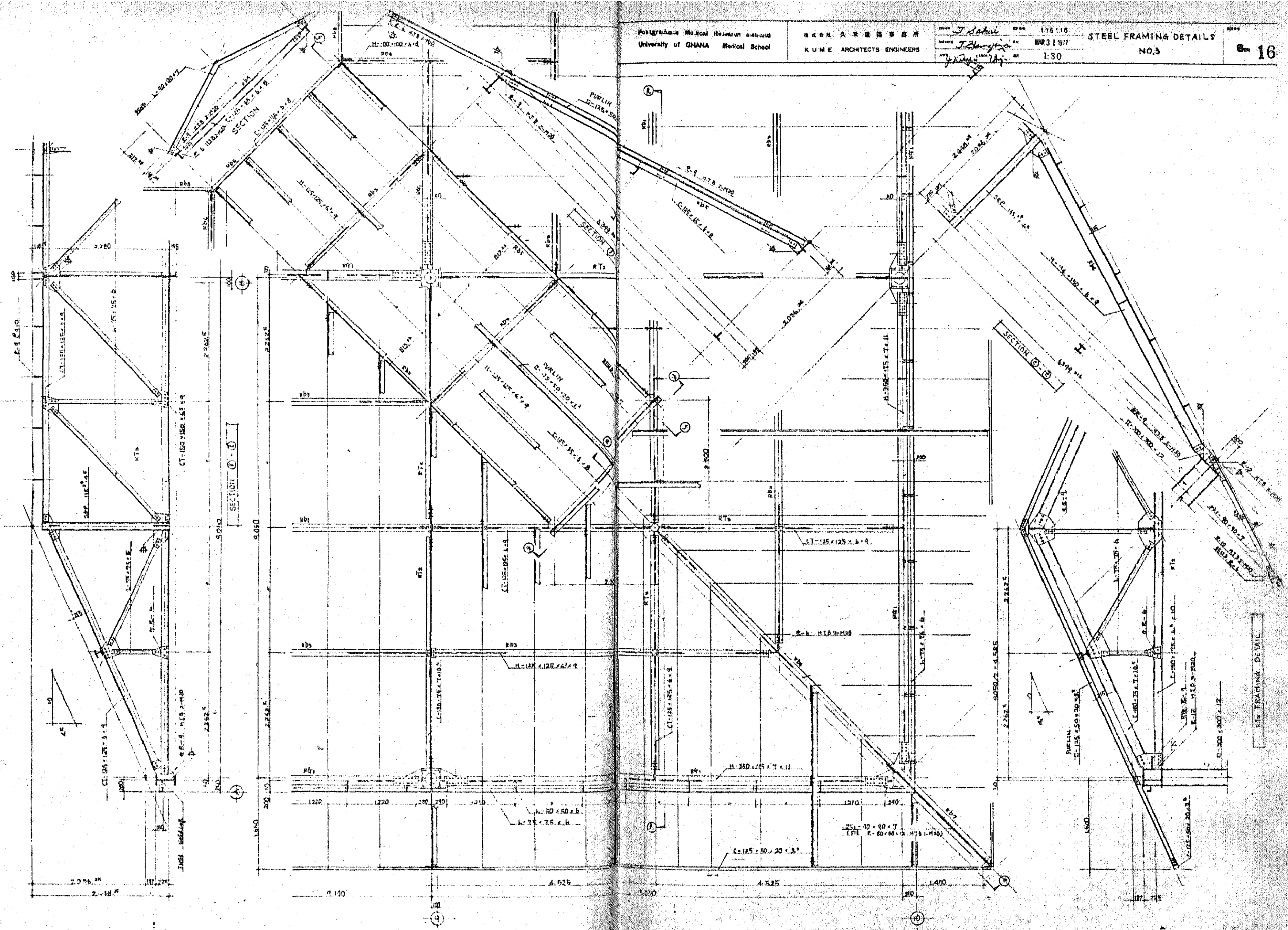
WELDING DETAILS

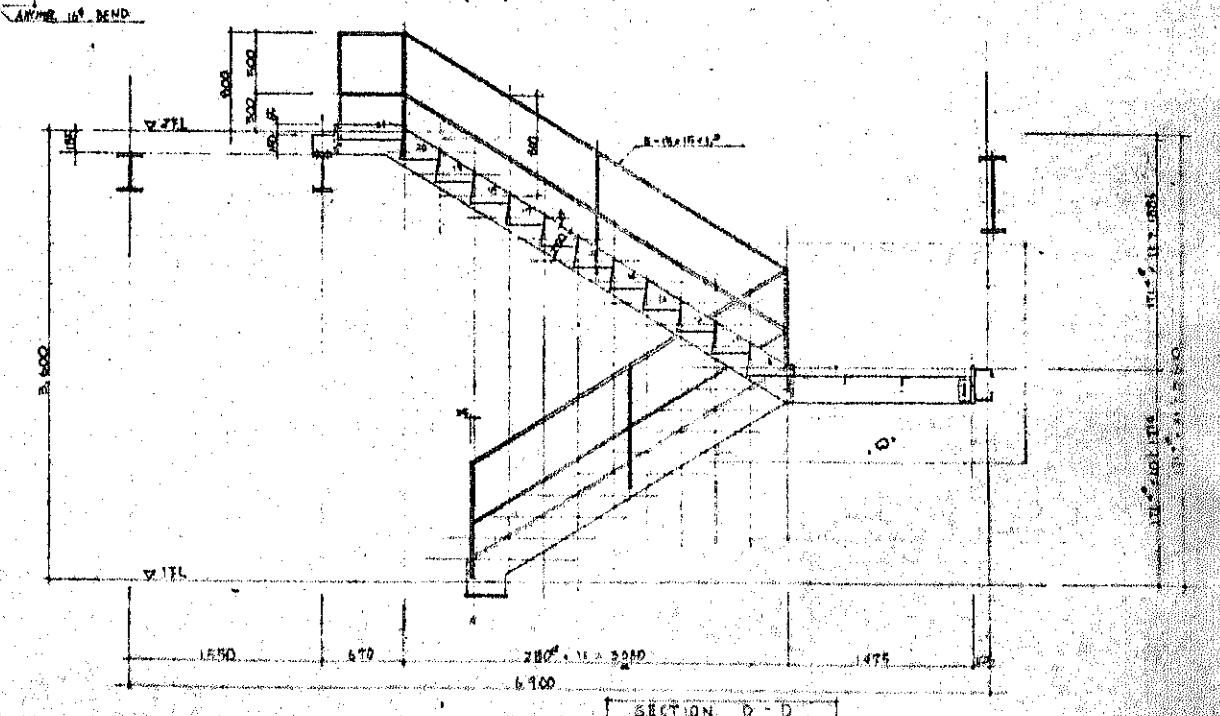
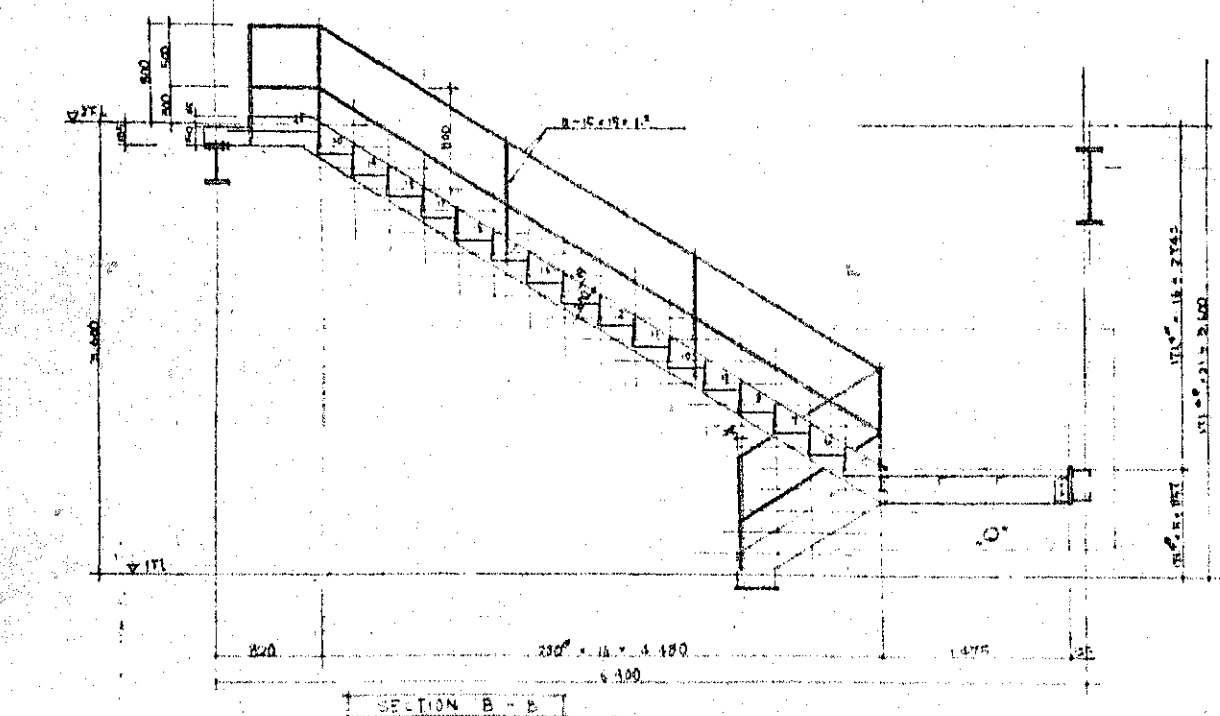
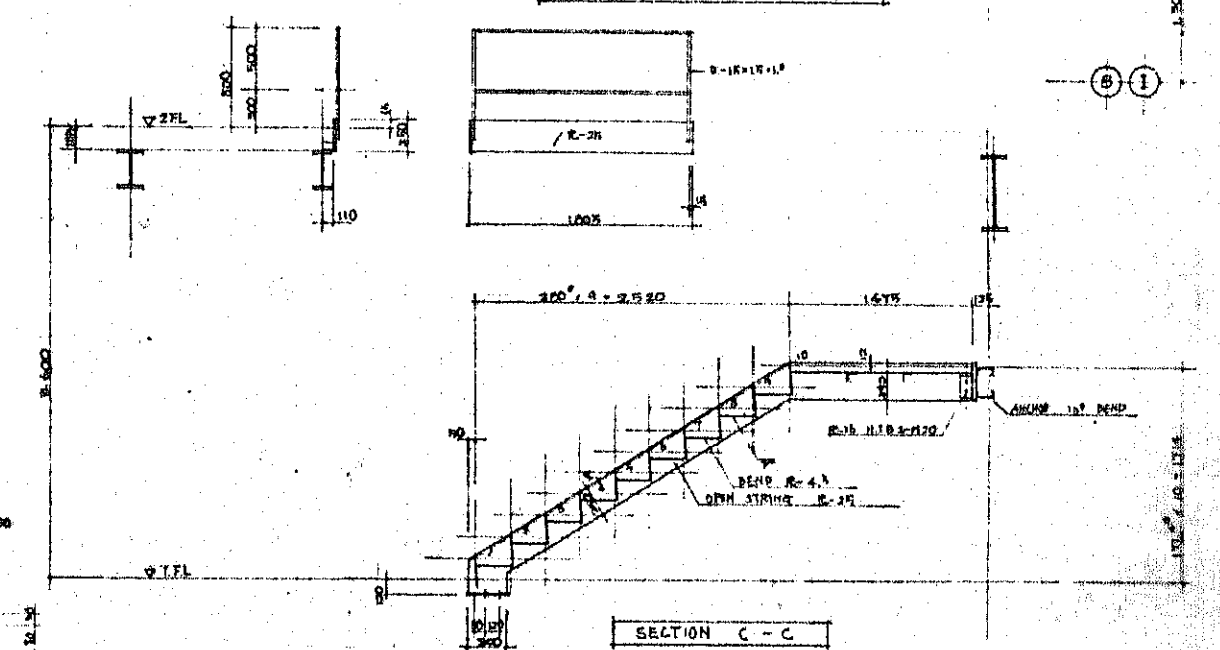
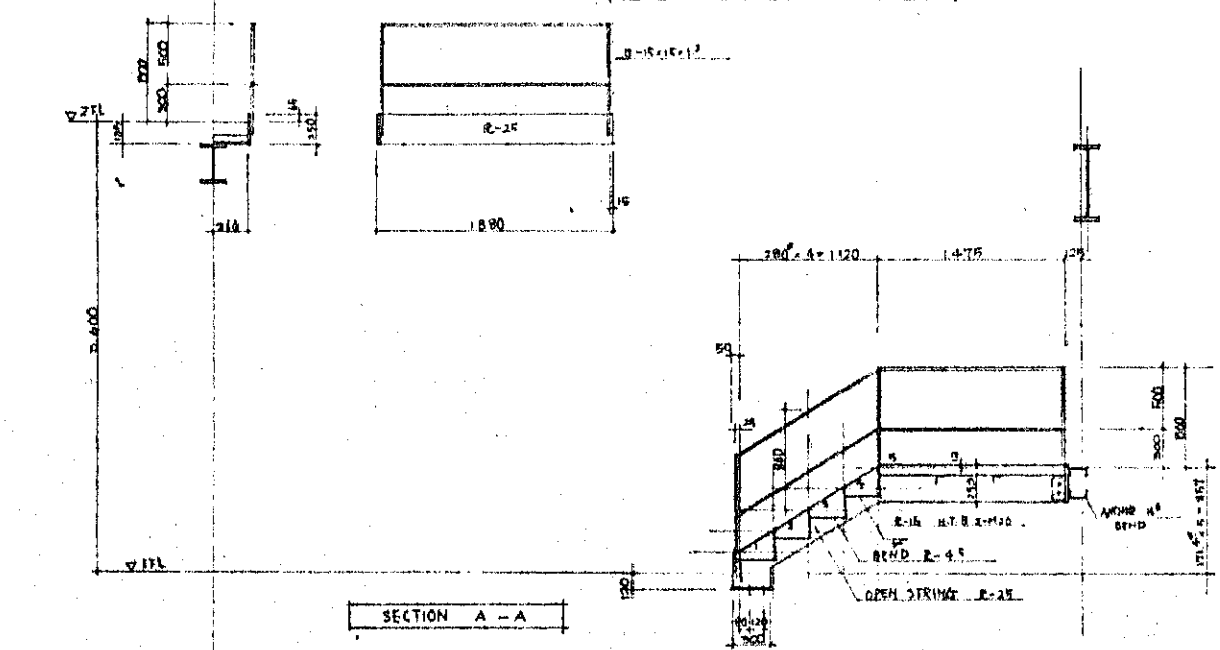
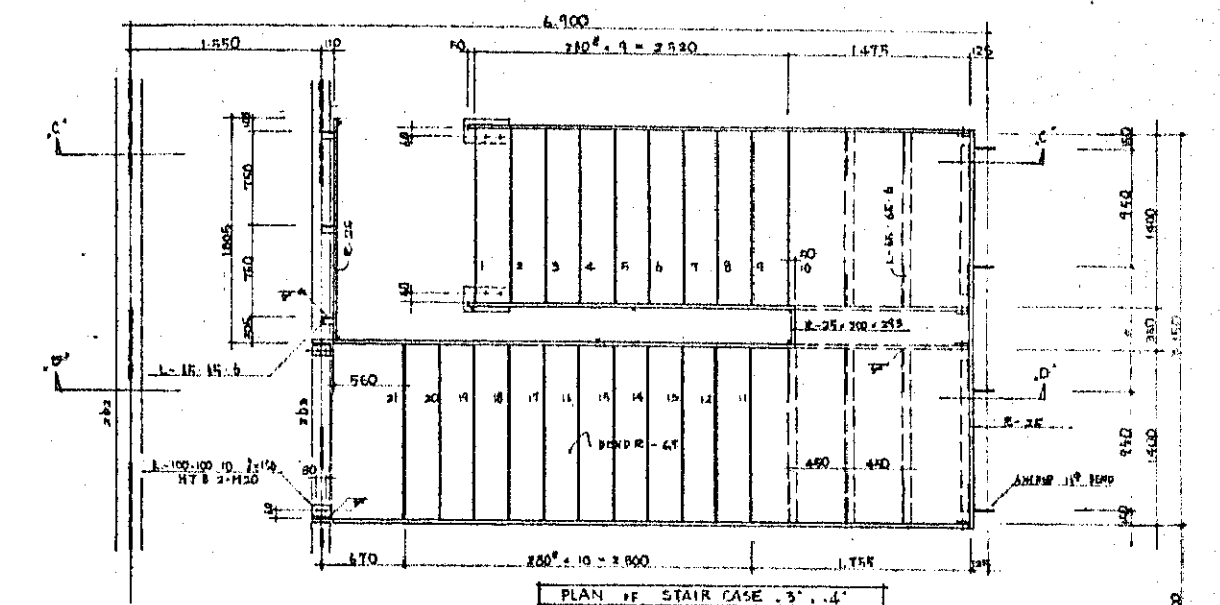
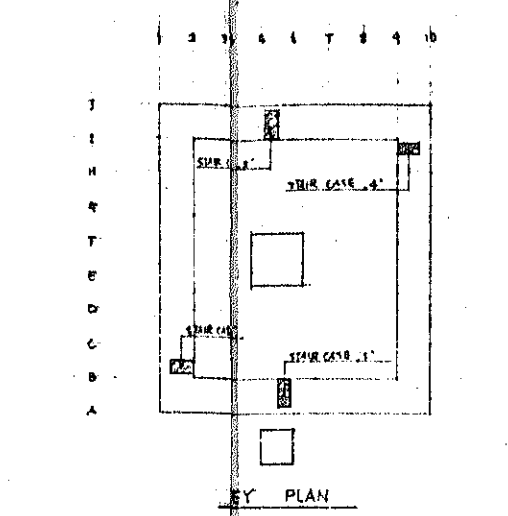
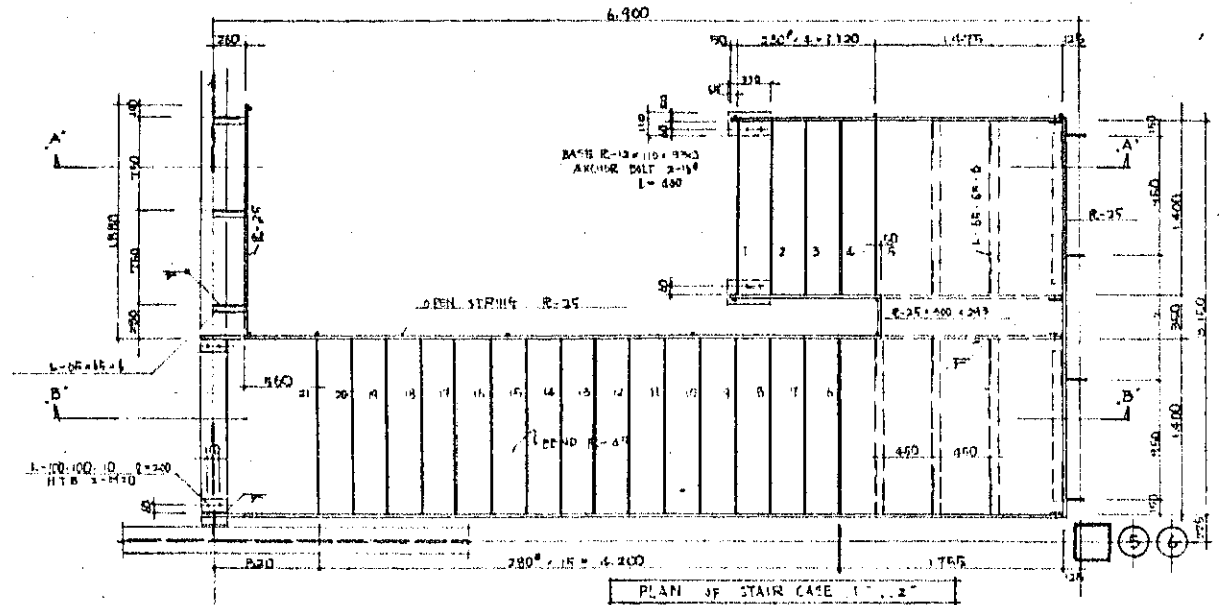
<p>1 BUTT WELD BACKING STRIP</p> <table border="1"> <tr><td>C</td><td>12</td><td>16</td></tr> <tr><td>S</td><td>5</td><td>6</td></tr> </table>	C	12	16	S	5	6	<p>2 BUTT WELD BACK CHIPPING</p> <table border="1"> <tr><td>C</td><td>16</td><td>16</td></tr> <tr><td>Cx</td><td>10</td><td>12</td></tr> </table>	C	16	16	Cx	10	12	<p>3 BUTT WELD BACK CHIPPING</p> <table border="1"> <tr><td>C</td><td>16</td><td>16</td></tr> <tr><td>Cx</td><td>10</td><td>12</td></tr> </table>	C	16	16	Cx	10	12								
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<p>END TAB (I)</p>	<p>END TAB (II)</p>	<p>SCALLOP</p>																										

ADDITIONAL STEEL @ AT WEB OPENING









STAIR CASE FRAMING DETAIL SCALE 1:30

