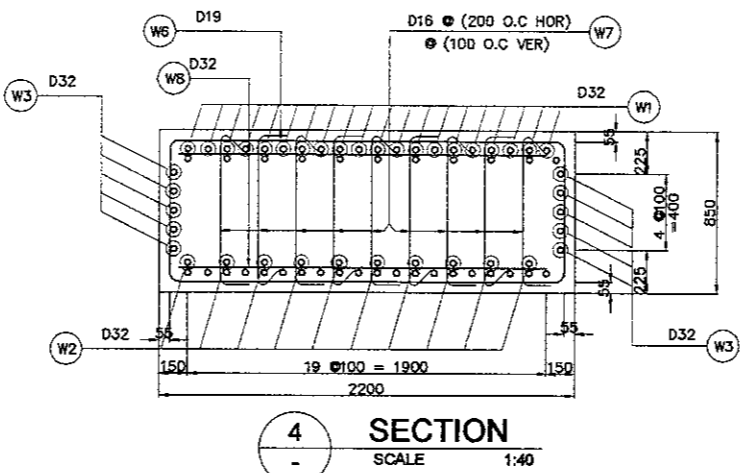
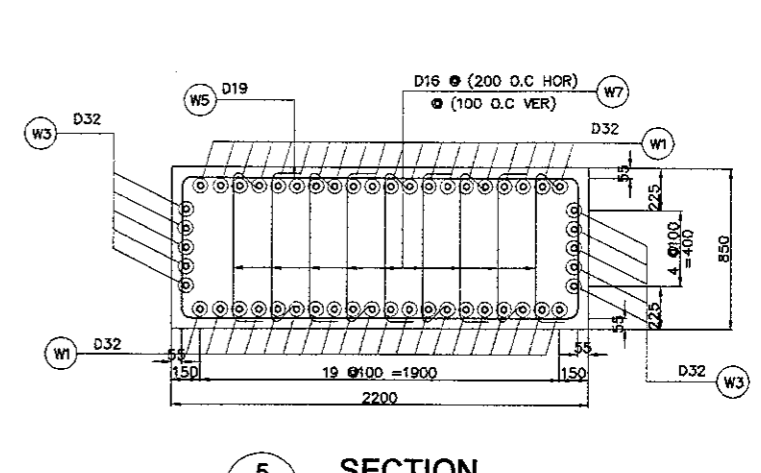


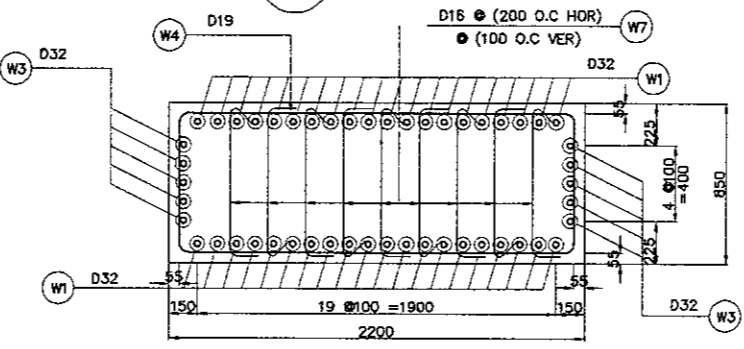
1 PLAN
 SCALE 1:100



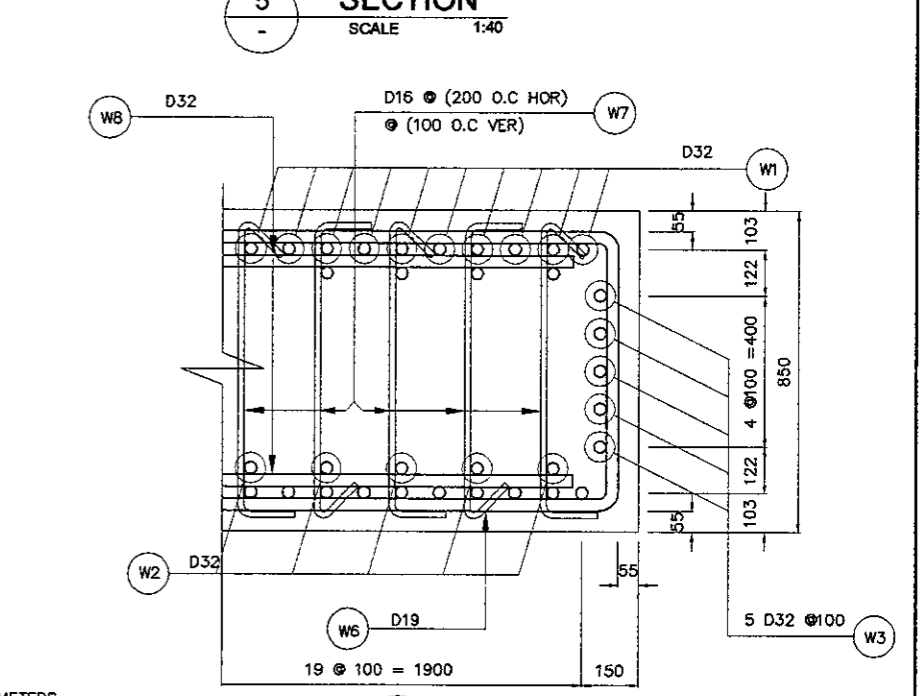
4 SECTION
 SCALE 1:40



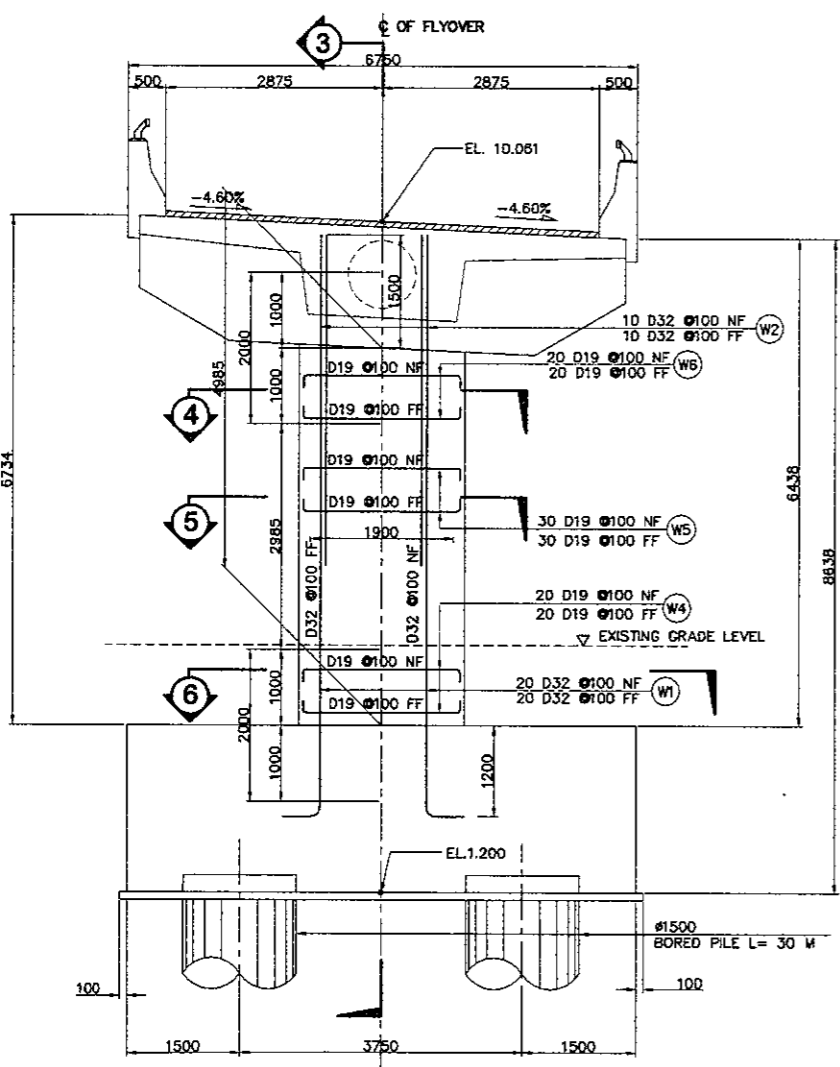
5 SECTION
 SCALE 1:40



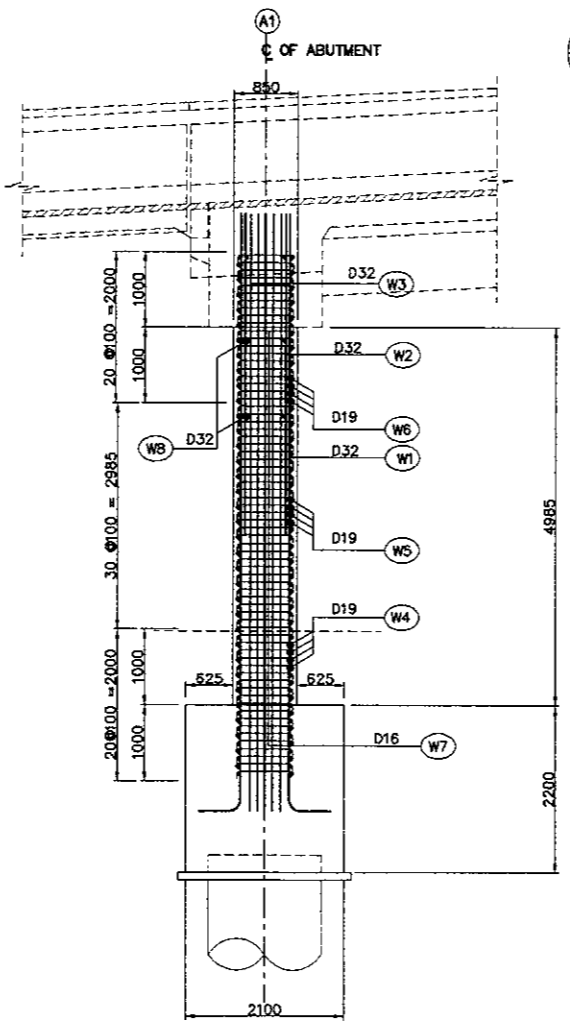
6 SECTION
 SCALE 1:40



A DETAIL
 SCALE 1:20

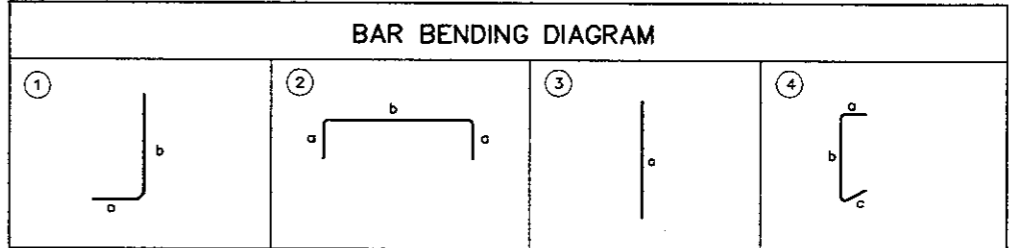


2 ELEVATION
 SCALE 1:100



3 SECTION
 SCALE 1:100

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - ELEVATION ARE IN METERS
 - CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

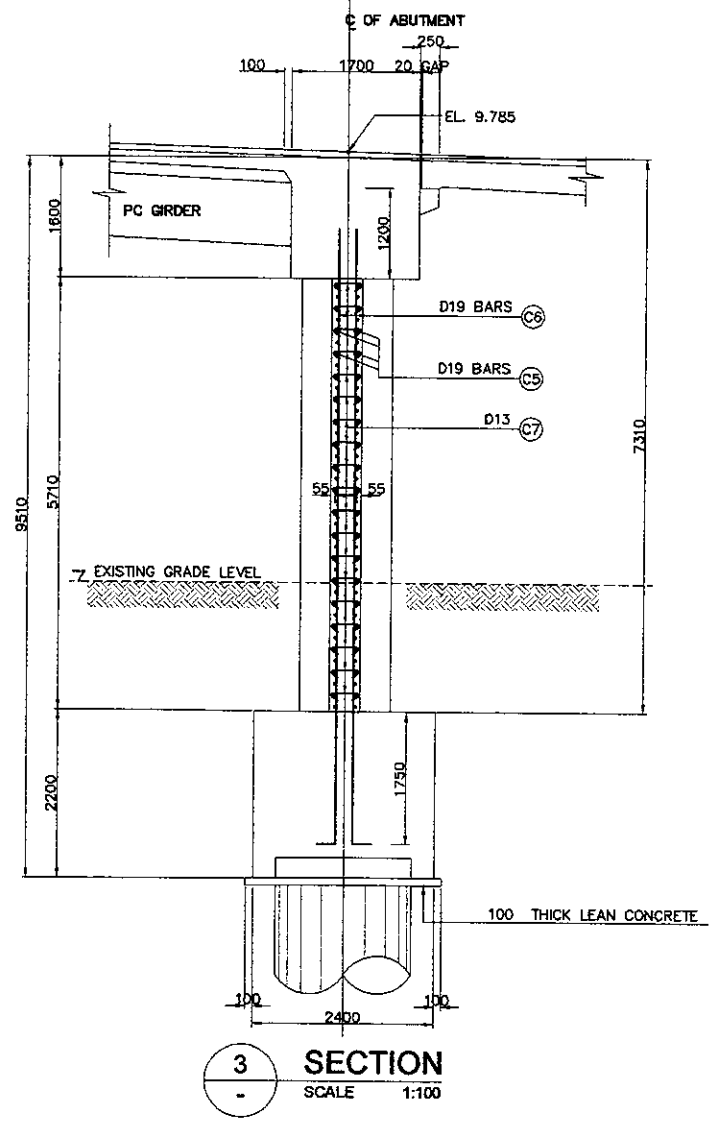
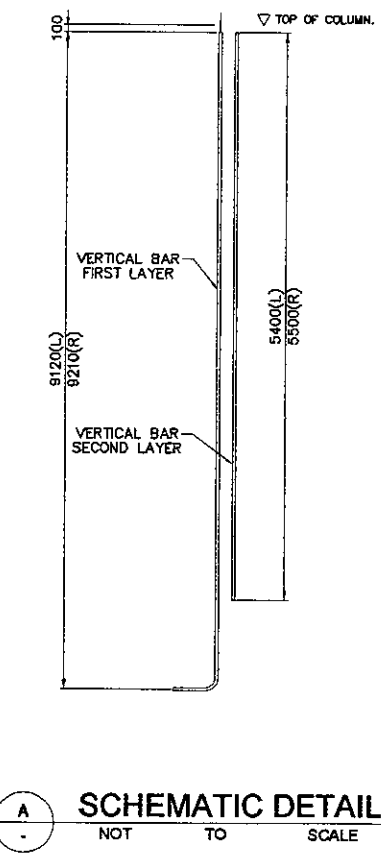
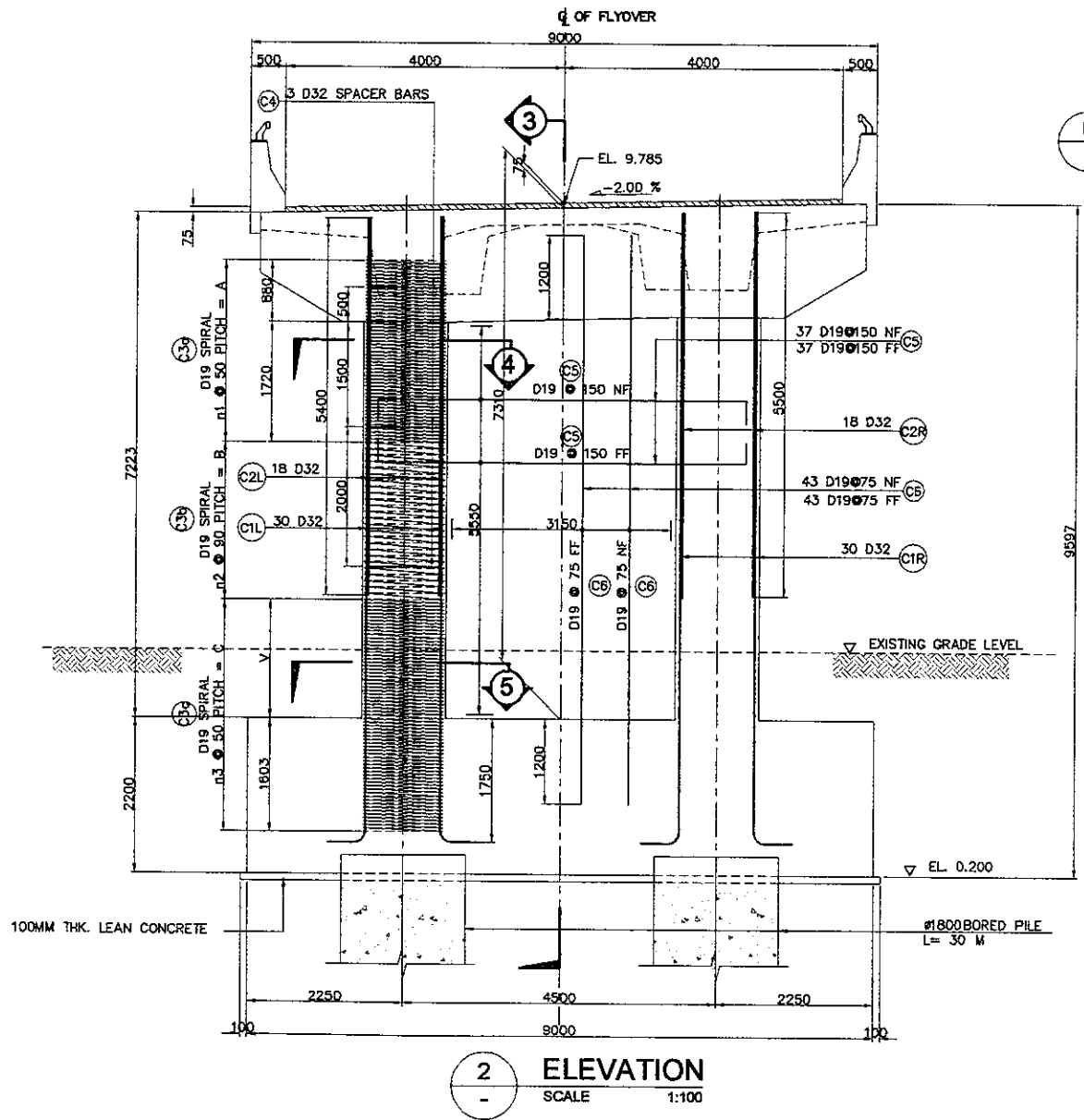
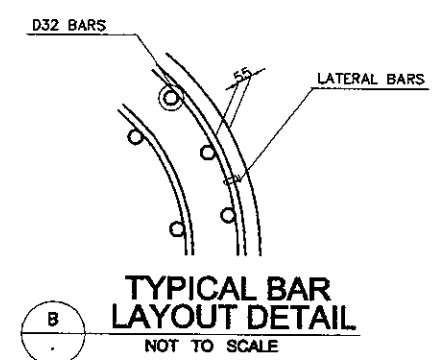
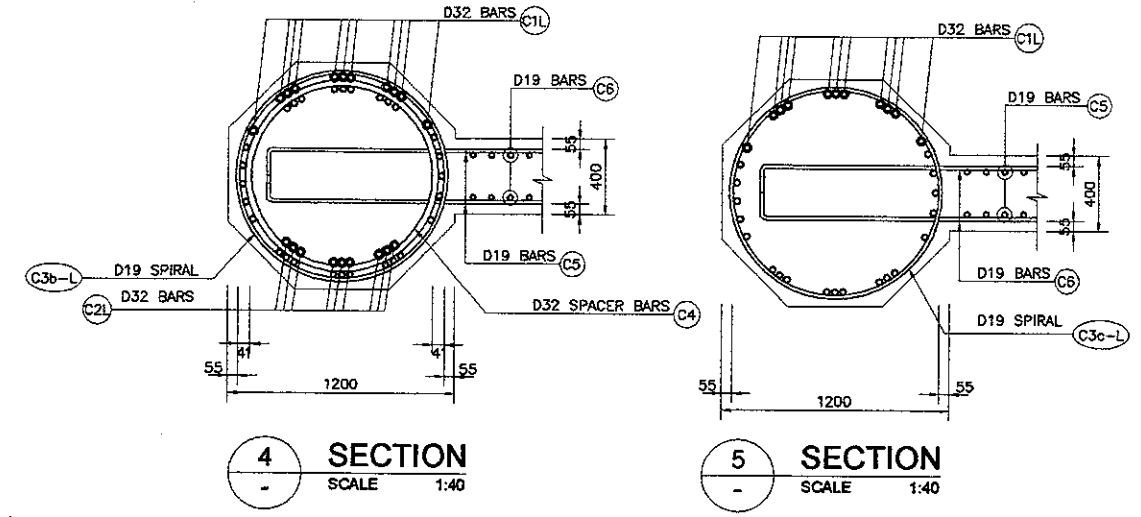
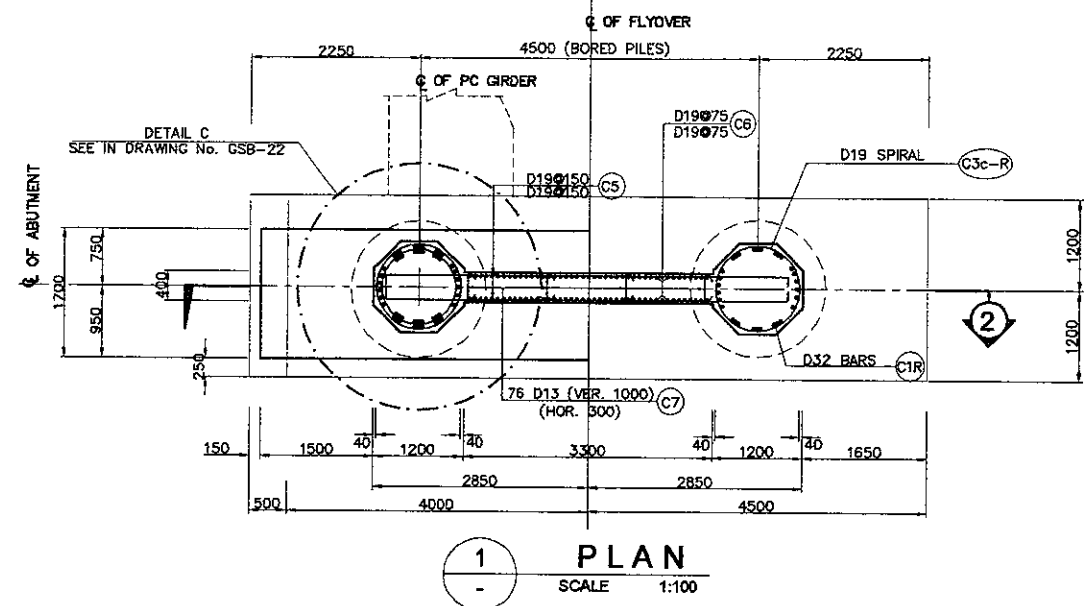


SCHEDULE OF REINFORCEMENT

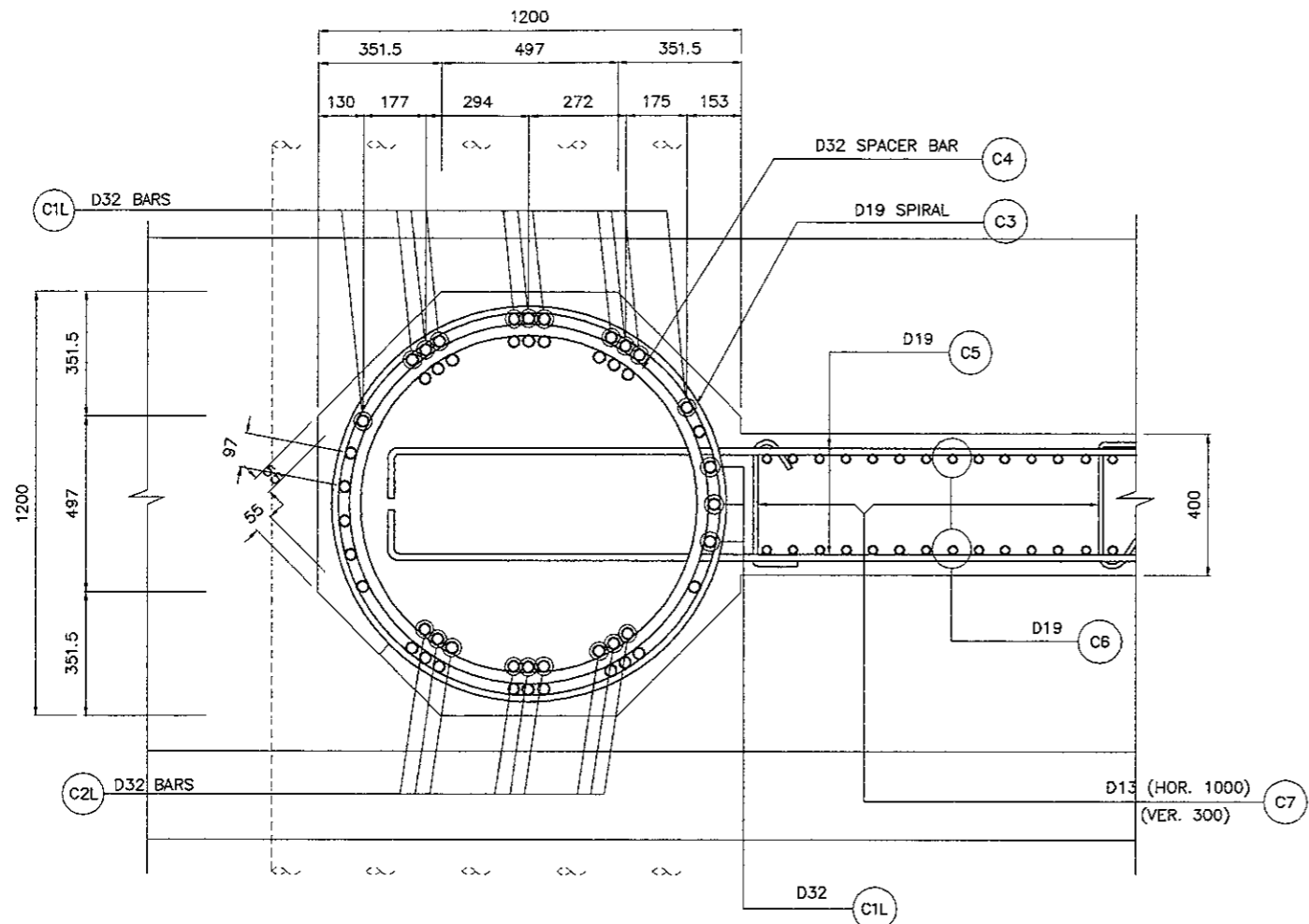
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
ABUTMENT A1	W1	32	1	500	7685					8185	40	6.31	2066	
	W2	32	3	4400						4400	20	6.31	555	
	W3	32	1	500	7685					8185	10	6.31	516	
	W4	19	2	620	2090					3330	40	2.23	297	
	W5	19	2	620	2090					3330	60	2.23	446	
	W6	19	2	620	2090					3330	40	2.23	297	
	W7	16	4	110	770	160				1040	839	1.58	1050	
	W8	32	3	1900						1900	6	6.31	72	
TOTAL =												5,299	Kgs	

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

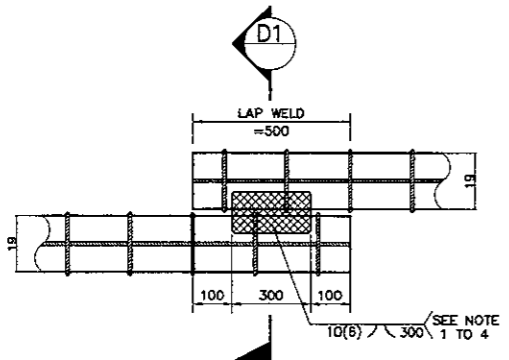
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign: _____	Sign: _____	Sign: _____
Date: _____	Date: _____	Date: _____



- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - ELEVATION ARE IN METERS
 - CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2

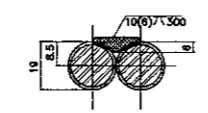


C
 1 10
 SCALE 1:20



DIRECT LAP JOINT WITH BARS IN CONTACT

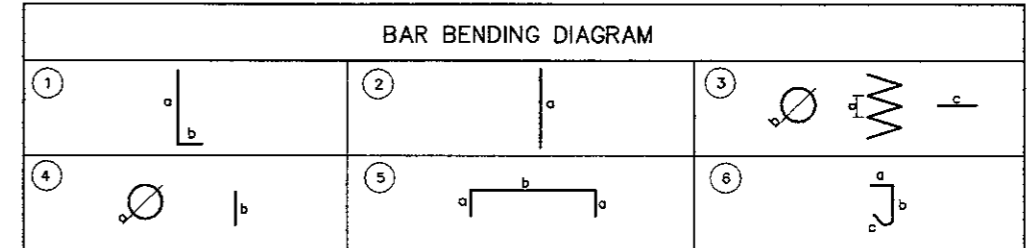
D
 DETAIL OF SPIRAL REINF.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



D1
 DETAIL
 NOT TO SCALE

- NOTES ON LAP-WELD CONNECTION :
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. ELEVATION ARE IN METERS
 3. CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 4. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²



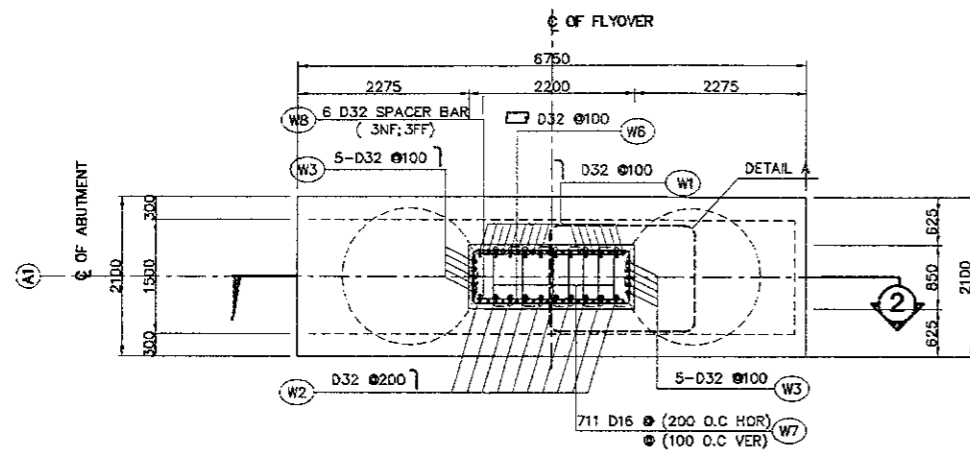
SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m.)	WEIGHT (kg.)	VOLUME OF CONC. (M ³)	
				a	b	c	d	e	f						
ABUTMENT (A2)	COLUMN														
	C1L	32	1	8470	550						9120	30	6.31	1726	6.759
	C2L	32	2	5400						5400	18	6.31	613		
	C3a-L	19	3	50	1090	500				189128	1	2.23	421		
	C3b-L	19	3	90	1090	500				89211	1	2.23	199		
	C3c-L	19	3	50	1090	500				200367	1	2.23	447		
	C4	32	4	500	988					3636	3	6.31	69		
	TOTAL WEIGHT COLUMN (L) = 3,475 kg.														
	C1R	32	1	9210	550						9210	30	6.31	1743	6.867
	C2R	32	2	5500						5500	18	6.31	624		
	C3a-R	19	3	50	1090	500				189128	1	2.23	422		
	C3b-R	19	3	90	1090	500				92770	1	2.23	207		
C3c-R	19	3	50	1090	500				200367	1	2.23	447			
C5	32	4	500	988					3686	3	6.31	67			
TOTAL WEIGHT COLUMN (R) = 3,510 kg.															
TOTAL (A) WEIGHT ABUTMENT A2 (L + R) = 6,985 kg.													13.626		
WALL															
C5	19	5	300	5300						5900	76	2.23	1000	8.800	
C6	19	2	7950	5300						7950	86	2.23	1525		
C7	13	6	110	290	160					590	76	1.04	47		
TOTAL (B) WALL = 2,572 kg.															
TOTAL WEIGHT (A + B) = 9,557 kg.													22.506		

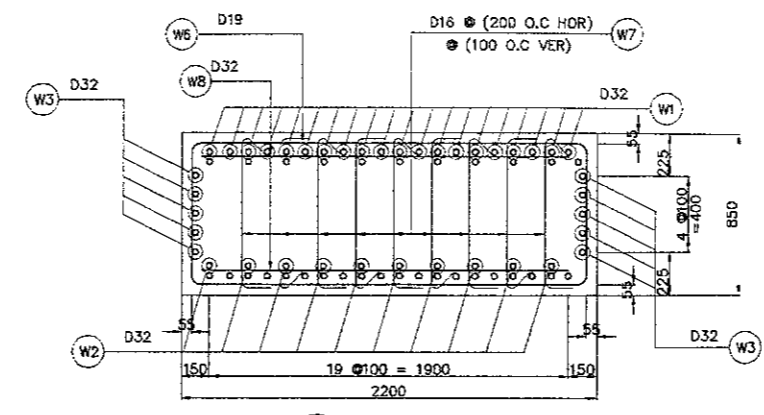
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY, THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

SCHEDULE OF COLUMN

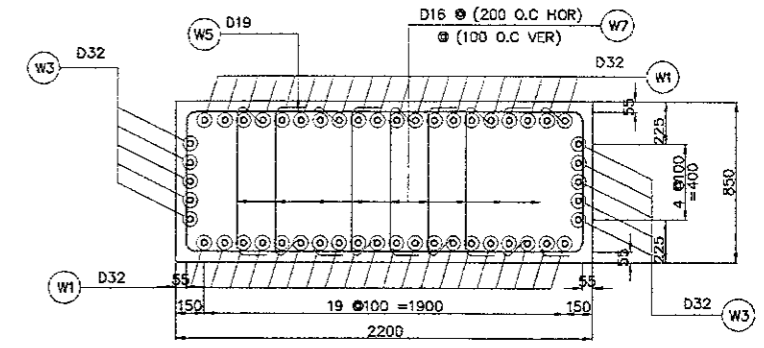
No. OF COLUMN	H (mm)	A (mm)	B (mm)	C (mm)	V (mm)	n1	n2	n3
A2 (L)	5665	2600	2255	2945	1690	53	25	60
A2 (R)	5755	2600	2345	2945	1690	53	26	60



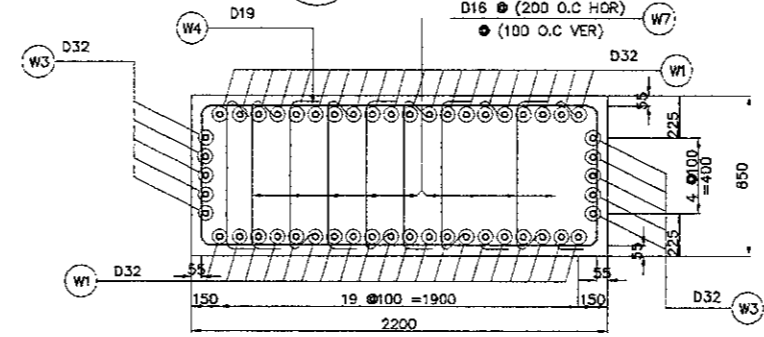
1 PLAN
 SCALE 1:100



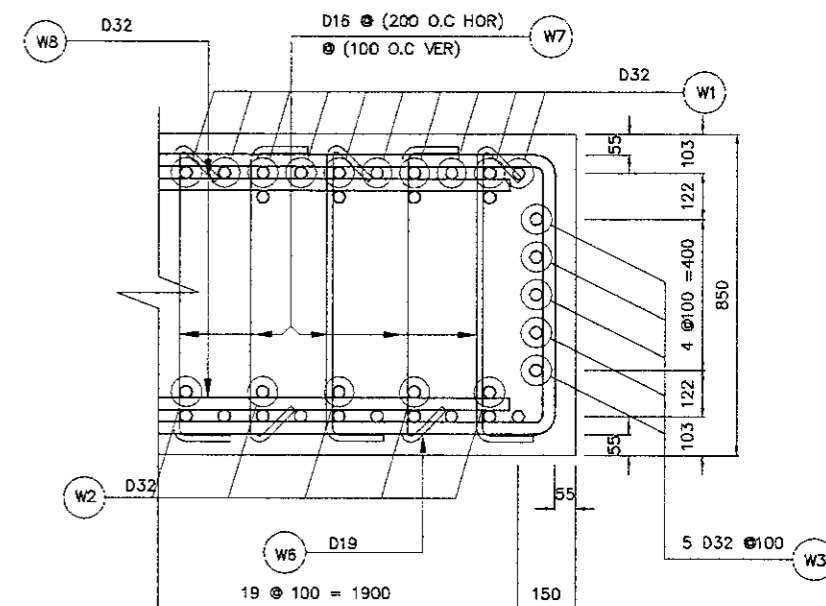
4 SECTION
 SCALE 1:40



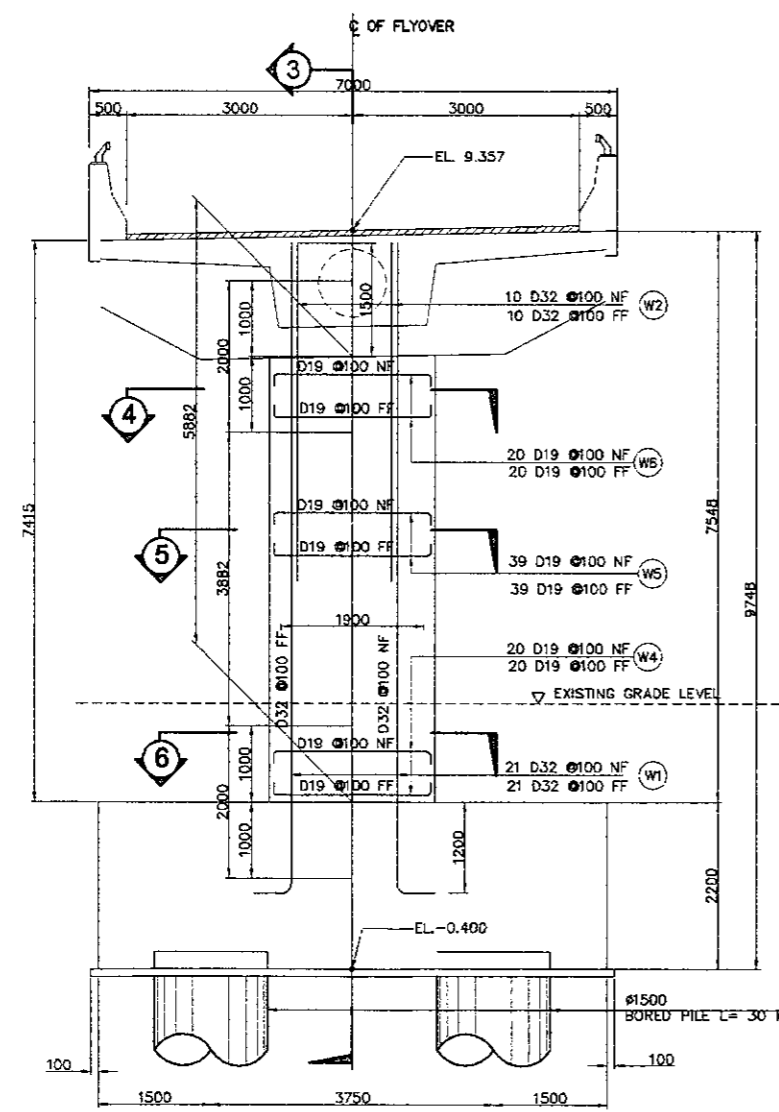
5 SECTION
 SCALE 1:40



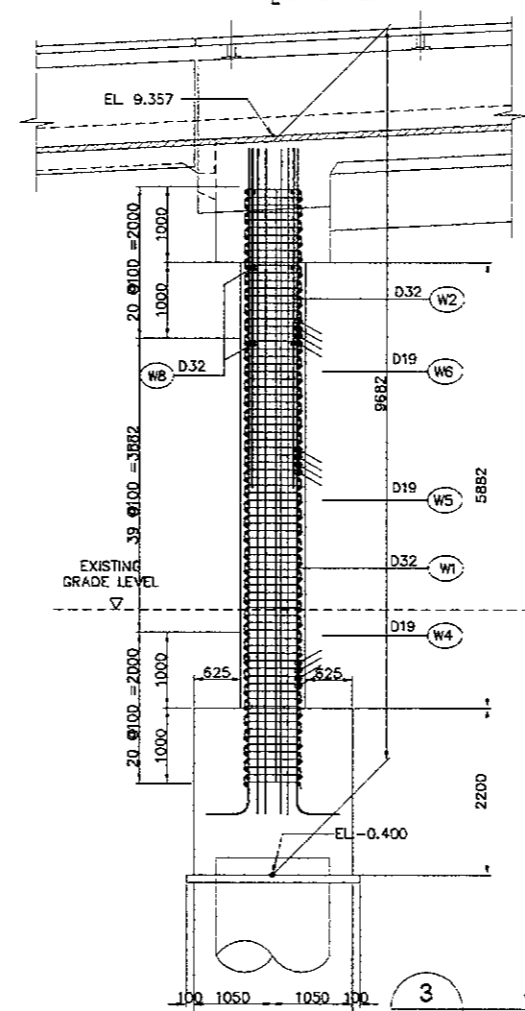
6 SECTION
 SCALE 1:40



A DETAIL
 SCALE 1:20

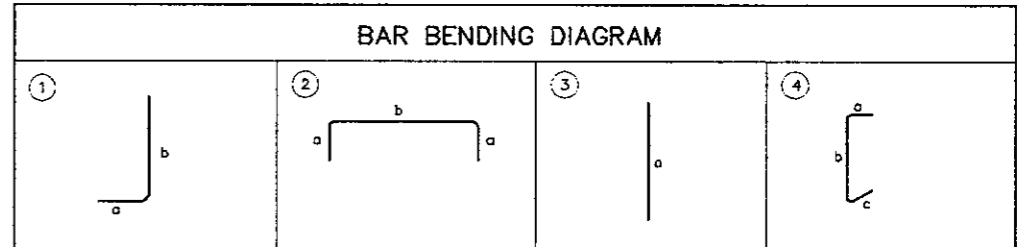


2 ELEVATION
 SCALE 1:100



3 SECTION
 SCALE 1:100

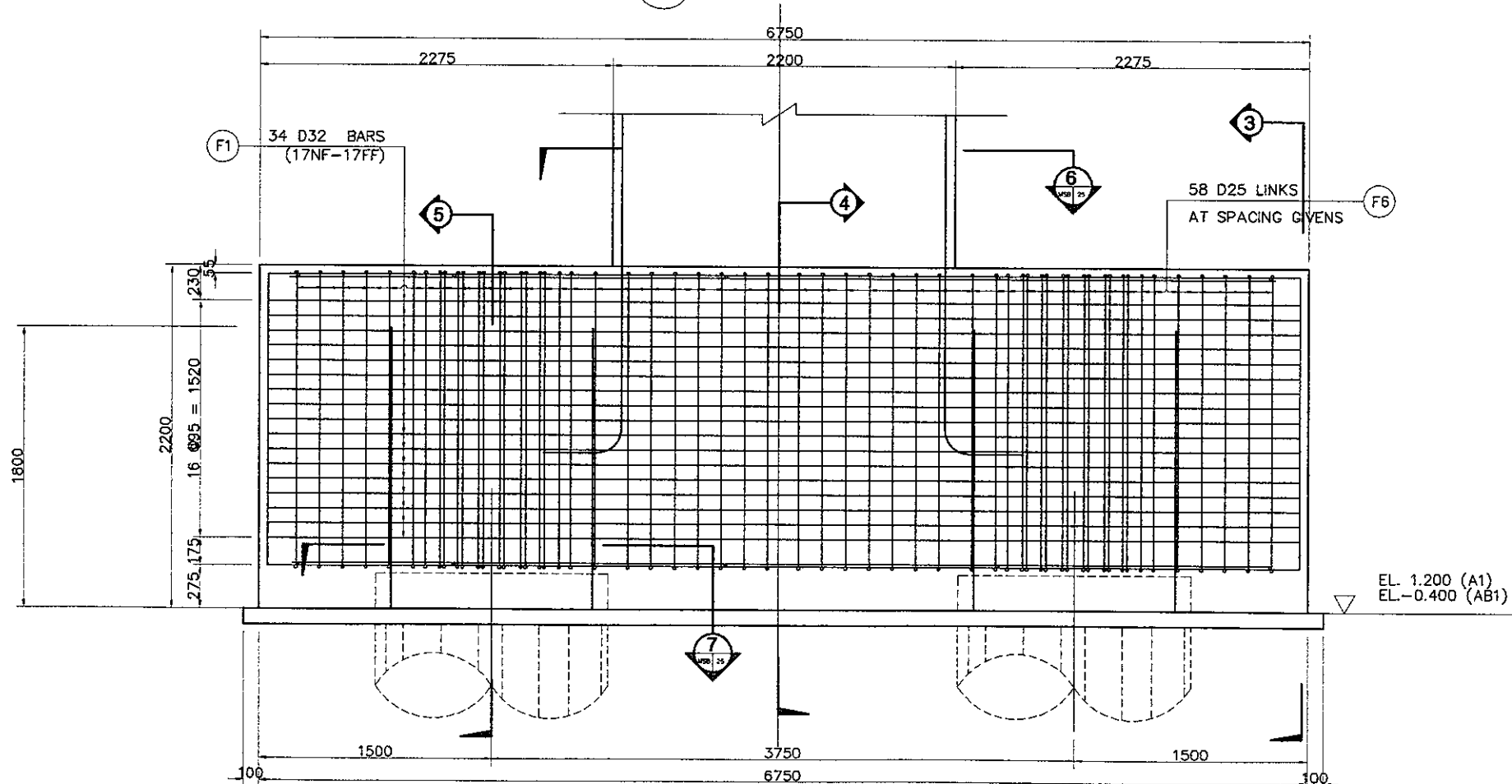
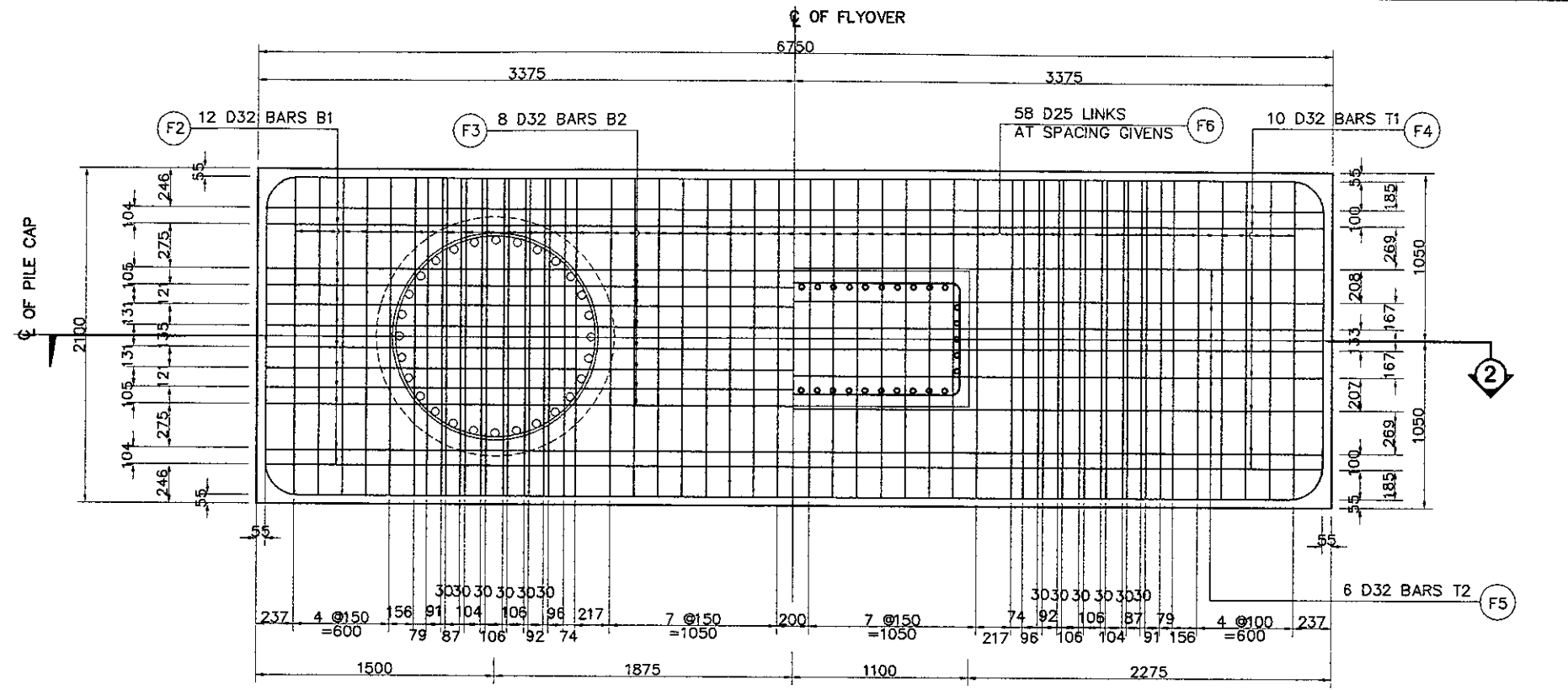
- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - ELEVATION ARE IN METERS
 - CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



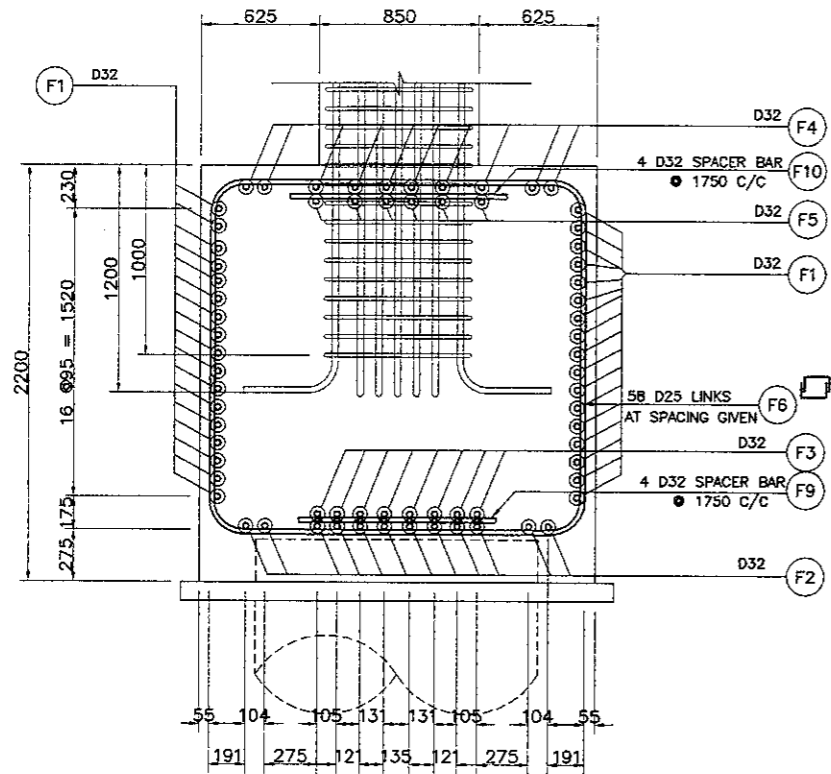
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
ABUTMENT AB1	W1	32	1	500	9582					9082	40	6.31	2292	
	W2	32	3	4400						4400	20	6.31	555	
	W3	32	1	500	8582					9082	0	6.31	573	
	W4	8	2	820	2090					339C	40	2.23	302	
	W5	8	2	820	2090					339C	78	2.23	590	
	W6	8	2	820	2090					339C	40	2.23	302	
	W7	16	4	110	770	60				106C	711	1.58	1191	
	W8	32	3	1900						190C	6	6.31	72	
TOTAL =											5,877	Kgs		

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

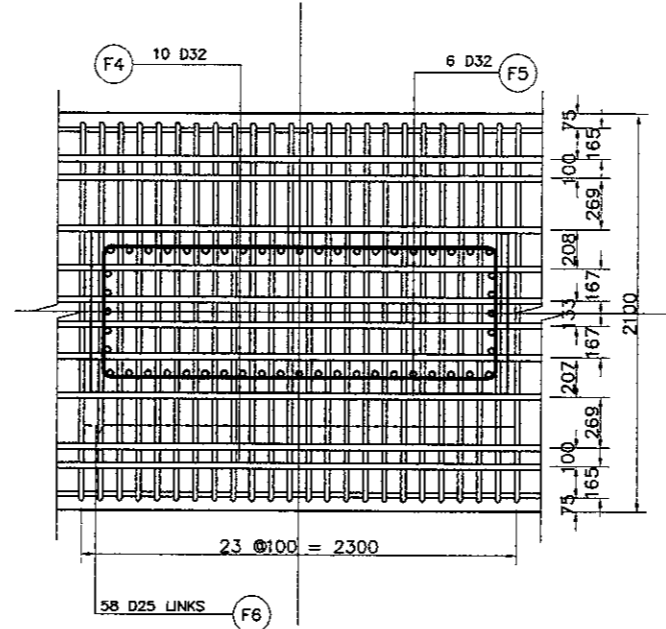
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign: _____	Sign: _____	Sign: _____
Date: _____	Date: _____	Date: _____



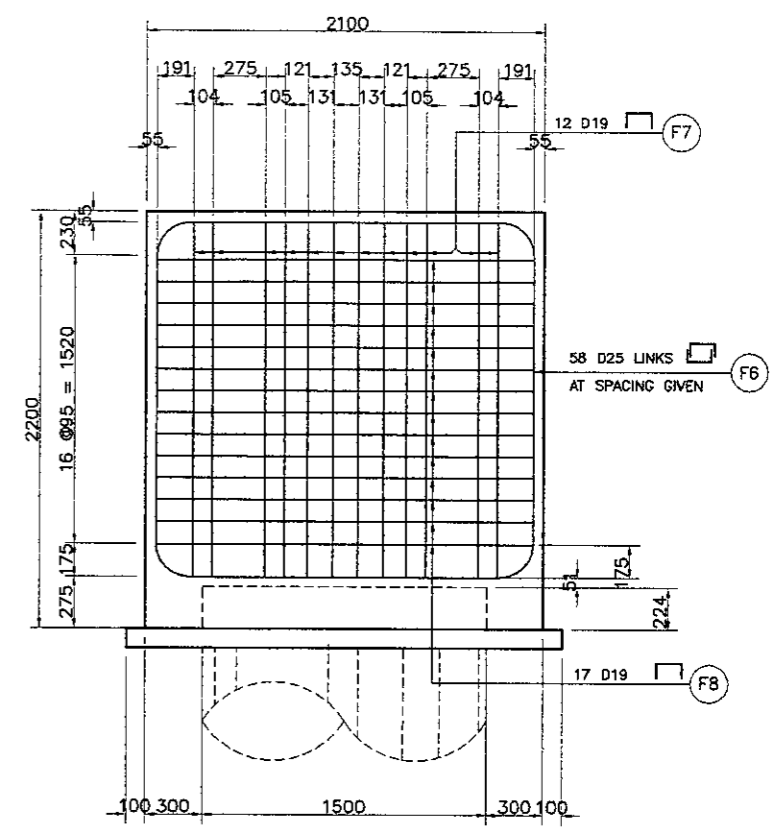
- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. ELEVATION ARE IN METERS
 3. CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 4. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²



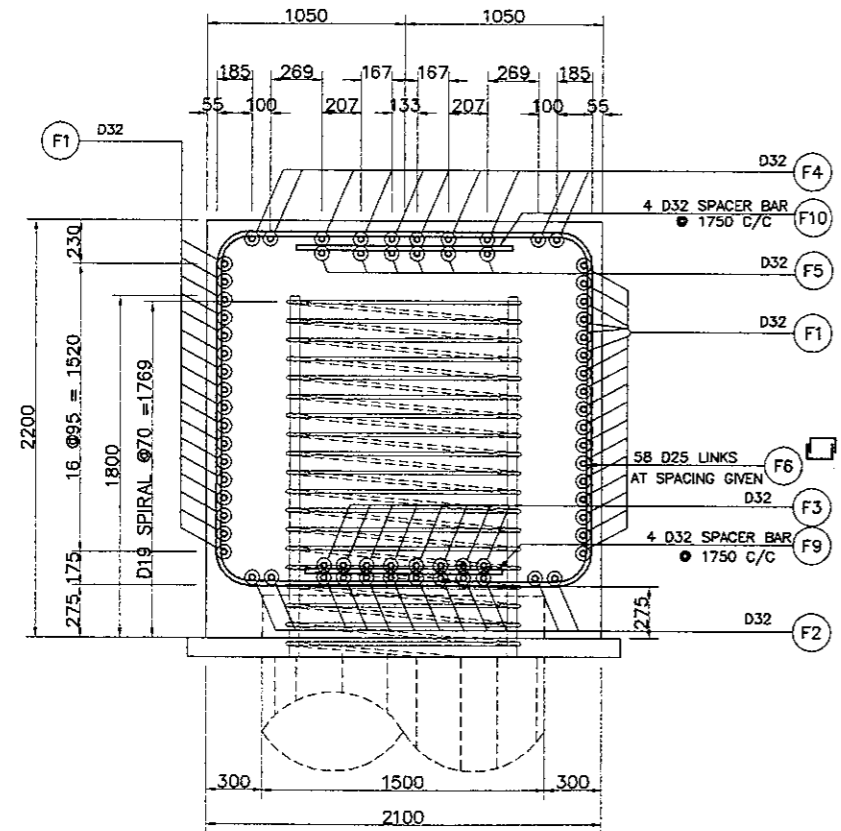
4 SECTION
 SCALE 1:40



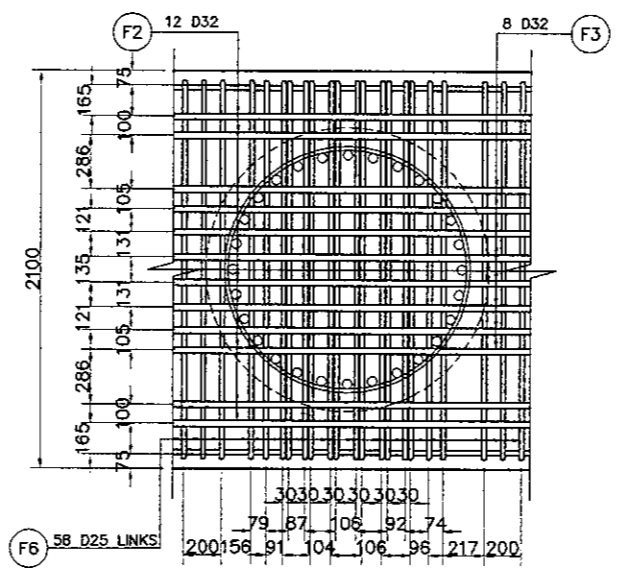
6 SECTION
 SCALE 1:40



3 SECTION
 SCALE 1:40



5 SECTION
 SCALE 1:40

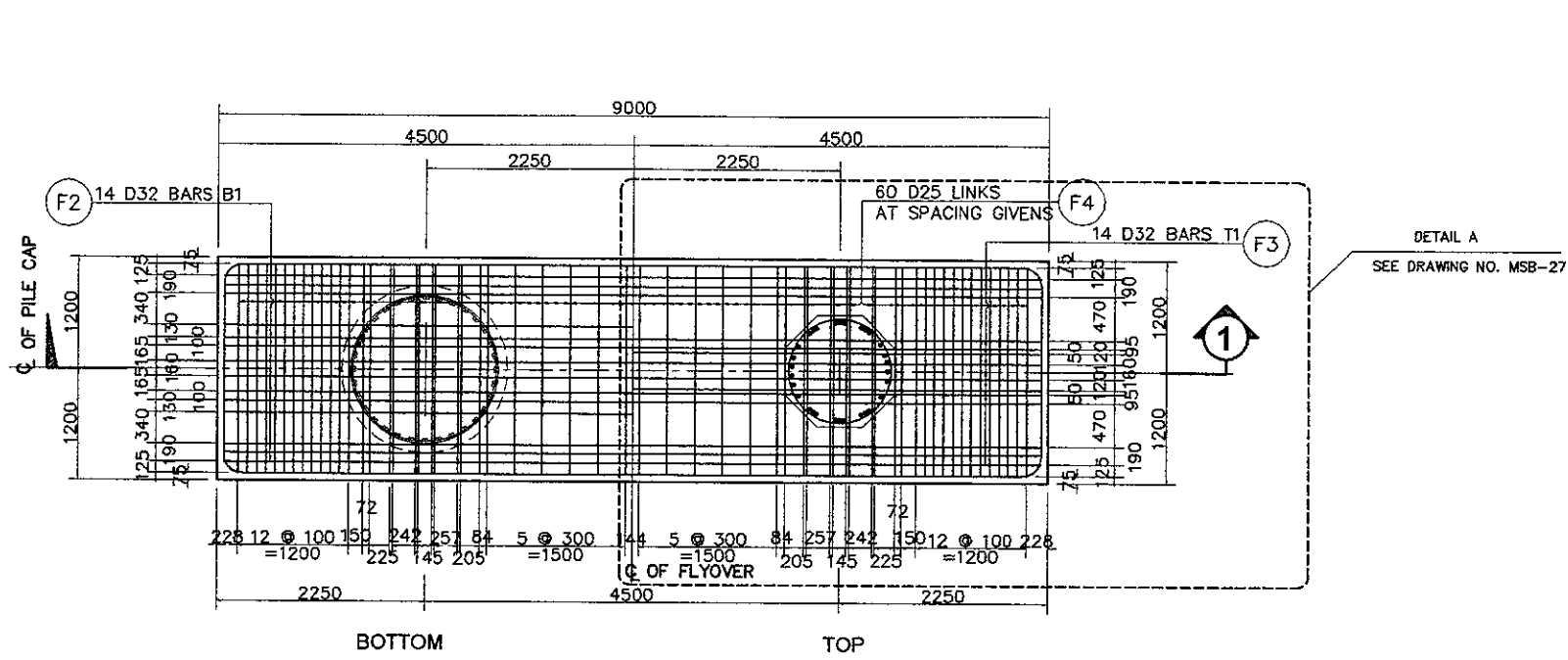


7 SECTION
 SCALE 1:40

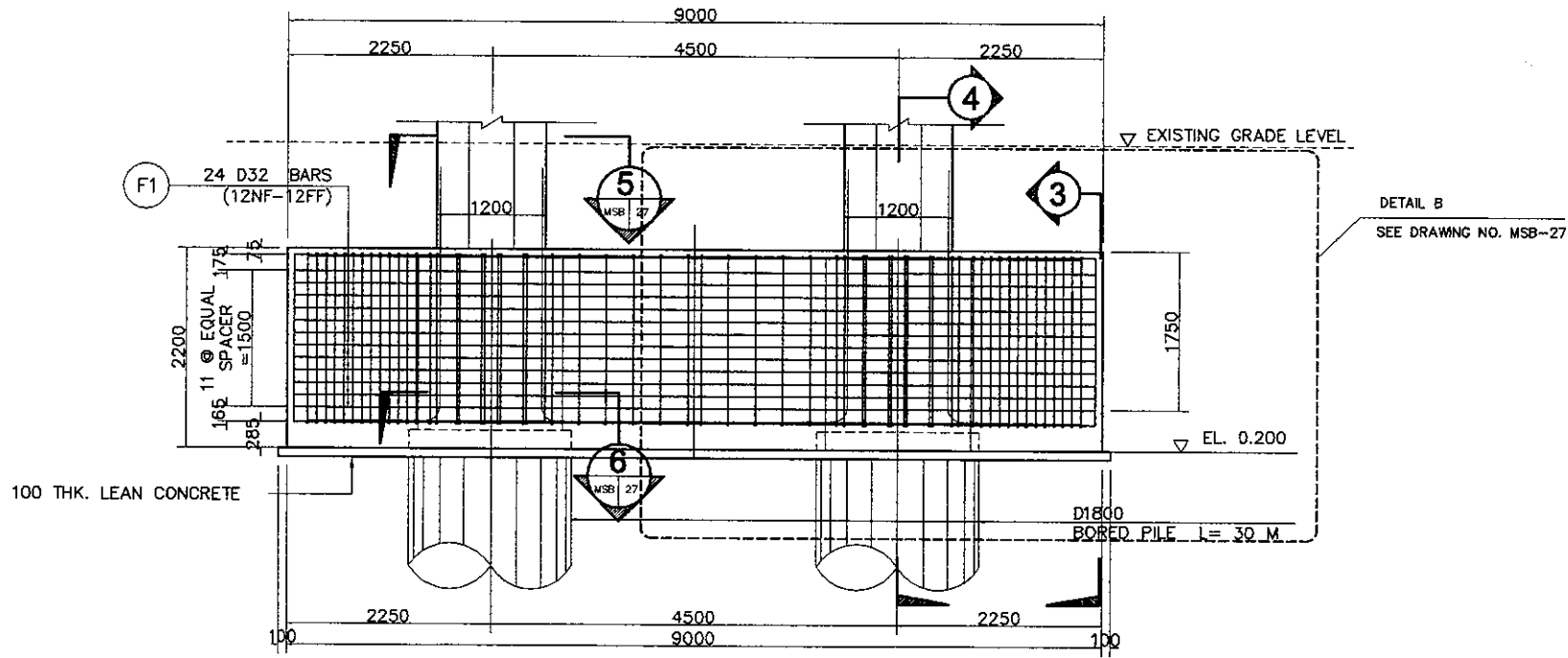
- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - ELEVATION ARE IN METERS
 - CONCRETE ABUTMENT AND FOOTING $f_c' = 30$ MPa
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

BAR BENDING DIAGRAM													
①		②			③								
SCHEDULE OF REINFORCEMENT													
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m.)	WEIGHT (kg.)
				a	b	c	d	e	f				
ABUTMENT (A1)	F1	32	1	6640						6640	34	6.31	1424
	F2	32	1	6640						6640	12	6.31	503
	F3	32	1	6640						6640	8	6.31	335
	F4	32	1	6640						6640	10	6.31	419
	F5	32	1	6640						6640	6	6.31	251
	F6	25	3	1800	1990					5190	116	3.85	2318
	F7	19	2	500	1810					2810	24	2.23	150
	F8	19	2	500	1990					2990	34	2.23	227
	F9	32	1	1150						1150	4	6.31	29
	F10	32	1	1150						1150	4	6.31	29
TOTAL WEIGHT PER 1 FOOTING = 5,886 kg.													
CONCRETE VOLUME PER 1 FOOTING =											31.185 M ³		
LEAN CONCRETE VOLUME PER 1 FOOTING =											1.598 M ³		
THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY, THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.													

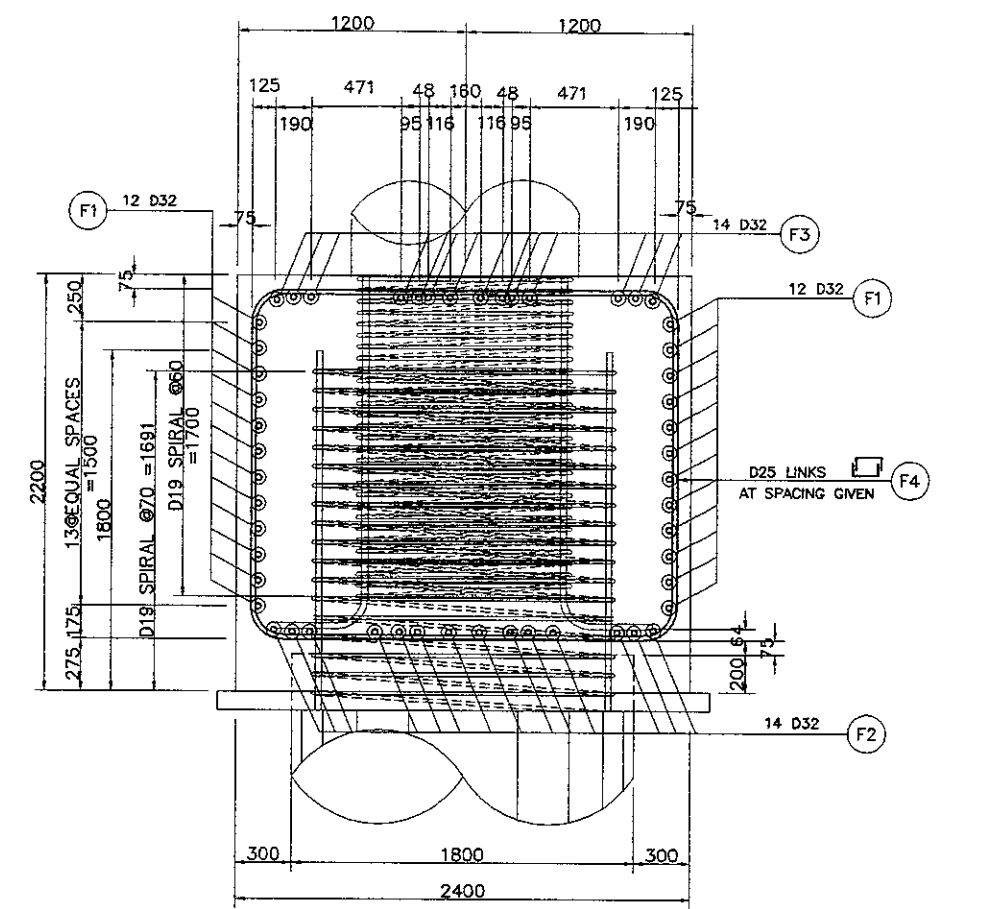
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



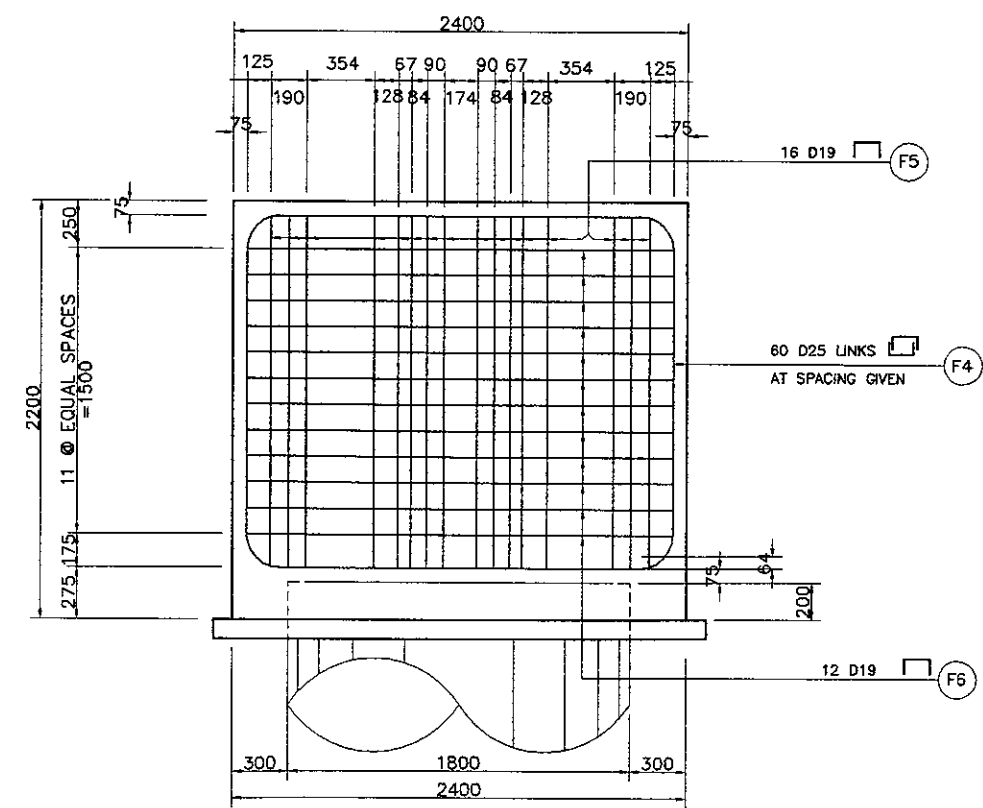
2 PLAN
 SCALE 1:80



1 ELEVATION
 SCALE 1:80

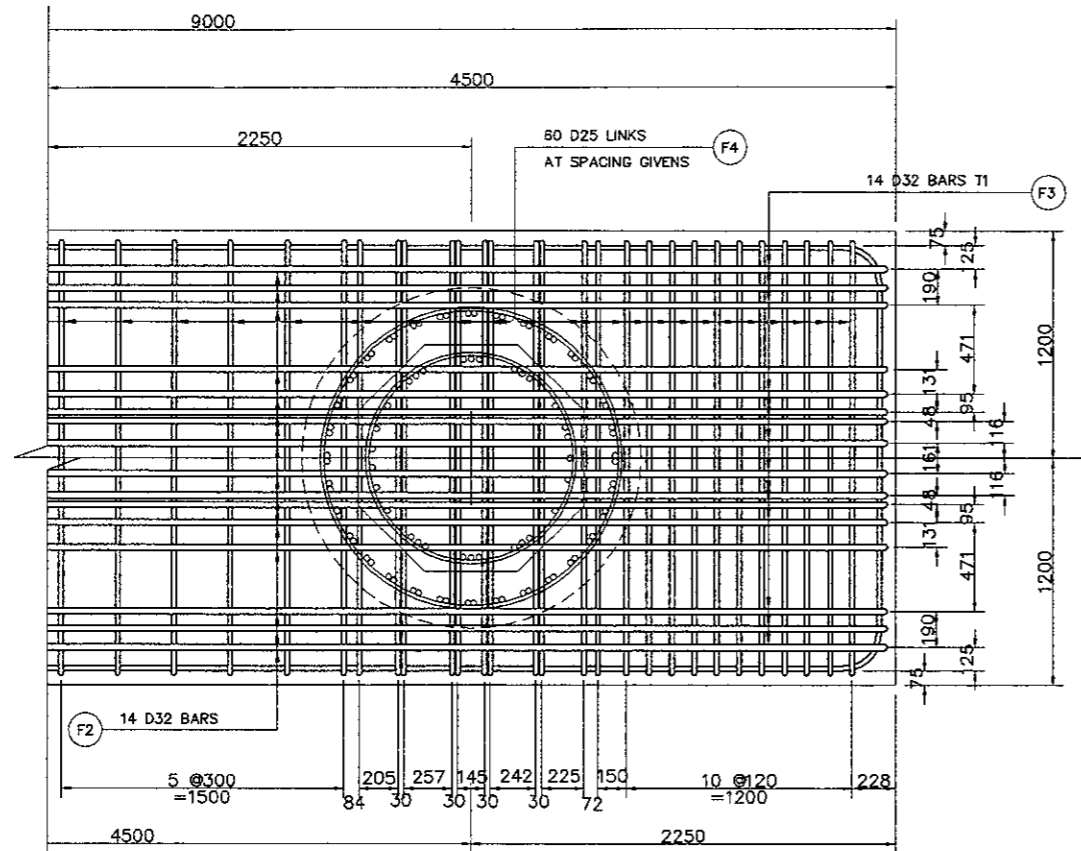


4 SECTION
 SCALE 1:40

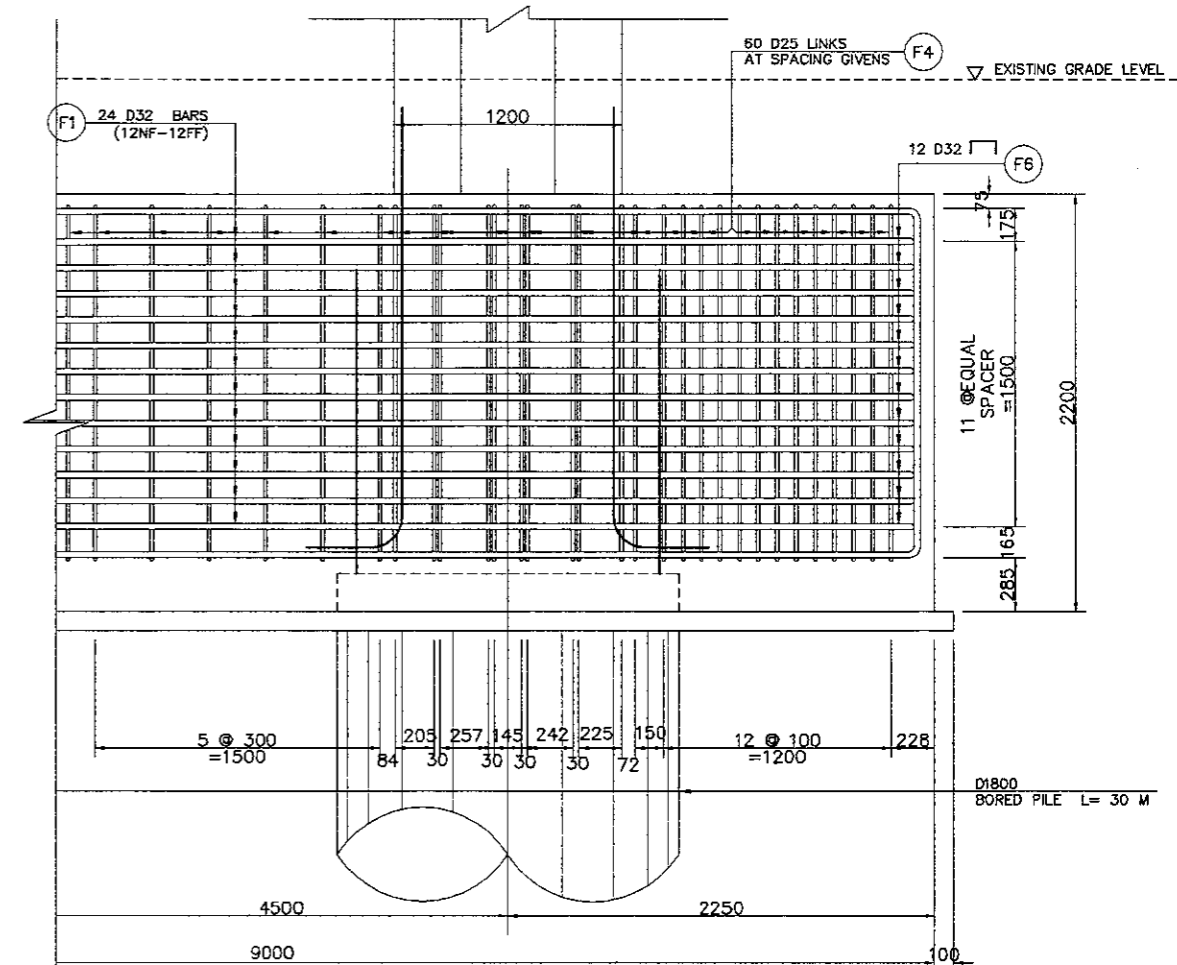


3 SECTION
 SCALE 1:40

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - ELEVATION ARE IN METERS
 - CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2

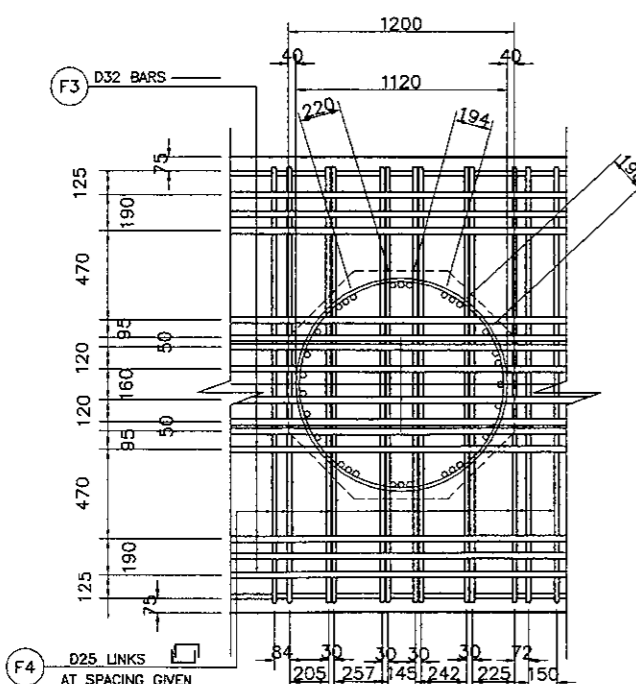


A **DETAIL**
 2 | 26 SCALE 1:40

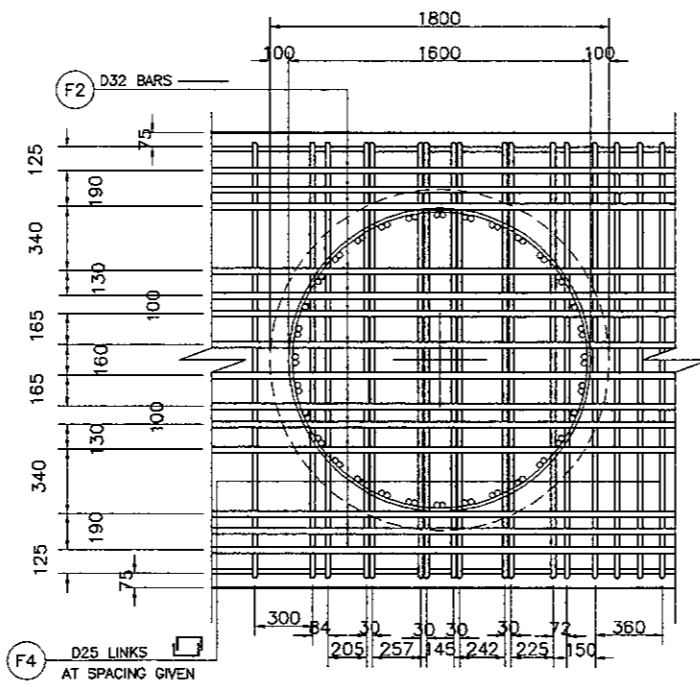


B **DETAIL**
 1 | 26 SCALE 1:40

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. ELEVATION ARE IN METERS
 3. CONCRETE ABUTMENT AND FOOTING $f_c' = 30 \text{ MPa}$
 4. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



5 **SECTION**
 1 | 26 SCALE 1:40

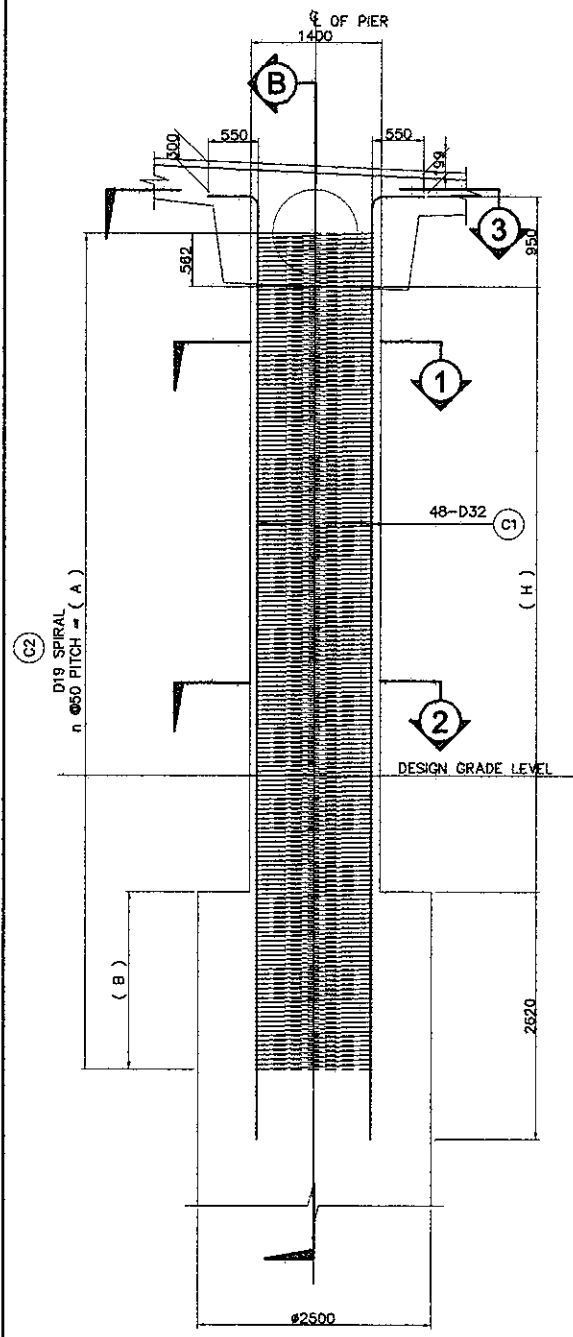


6 **SECTION**
 1 | 26 SCALE 1:40

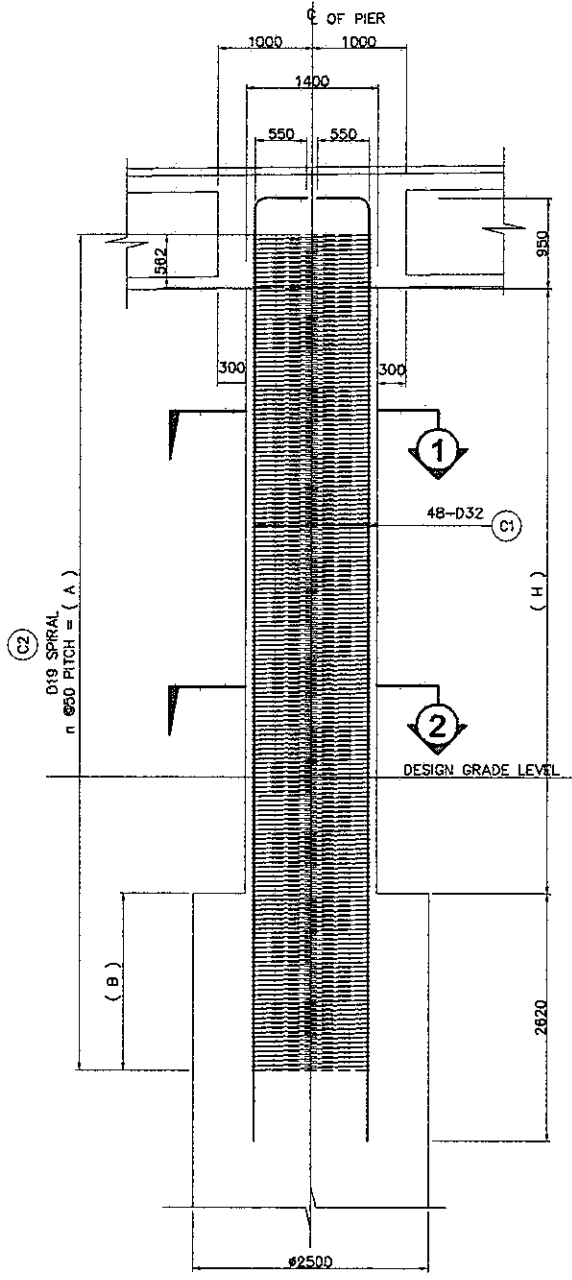
BAR BENDING DIAGRAM													
1		2		3									
SCHEDULE OF REINFORCEMENT													
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m.)	WEIGHT (kg.)
				a	b	c	d	e	f				
ABUTMENT (A2)	F1	32	1	8850						8850	24	6.31	1340
	F2	32	1	8850						8850	14	6.31	782
	F3	32	1	8850						8850	14	6.31	782
	F4	25	3	2250	1800					5450	120	3.85	2518
	F5	19	2	500	1800					2800	32	2.23	200
	F6	19	2	500	2250					3250	24	2.23	174
TOTAL WEIGHT PER 1 FOOTING = 5,796 kg.													
CONCRETE VOLUME PER 1 FOOTING = 47.520 M3													
LEAN CONCRETE VOLUME PER 1 FOOTING = 2.208 M3													

THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY, THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

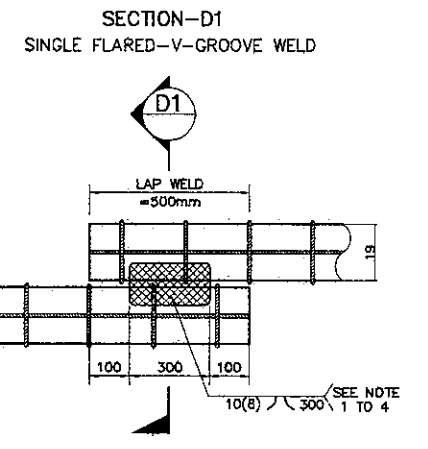
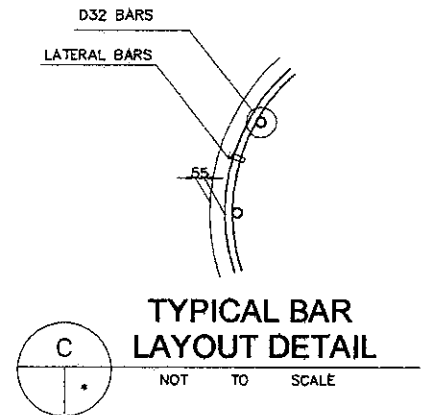
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



A ELEVATION
 SCALE 1 : 80



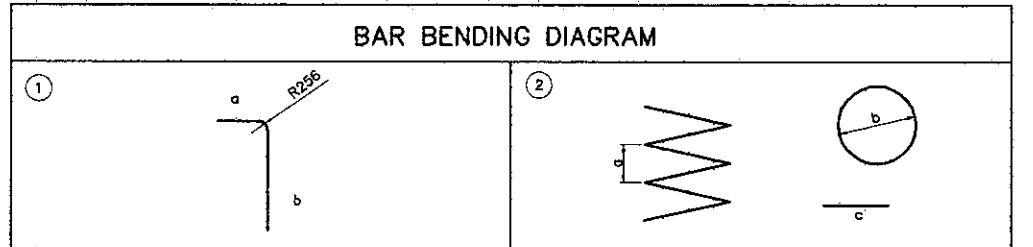
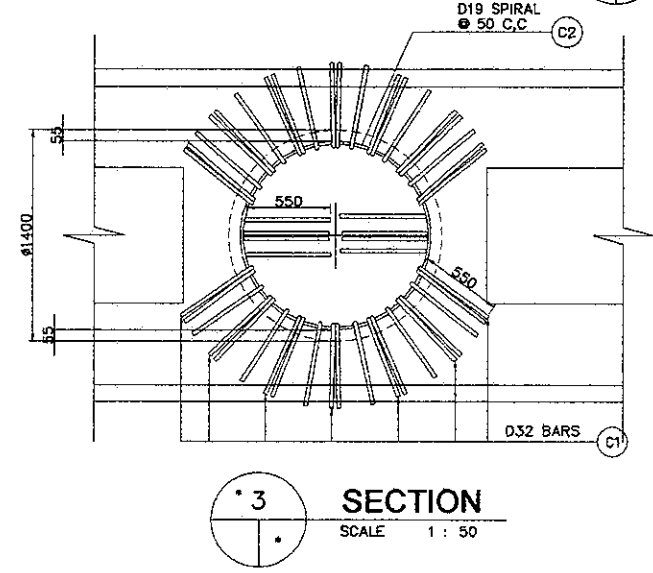
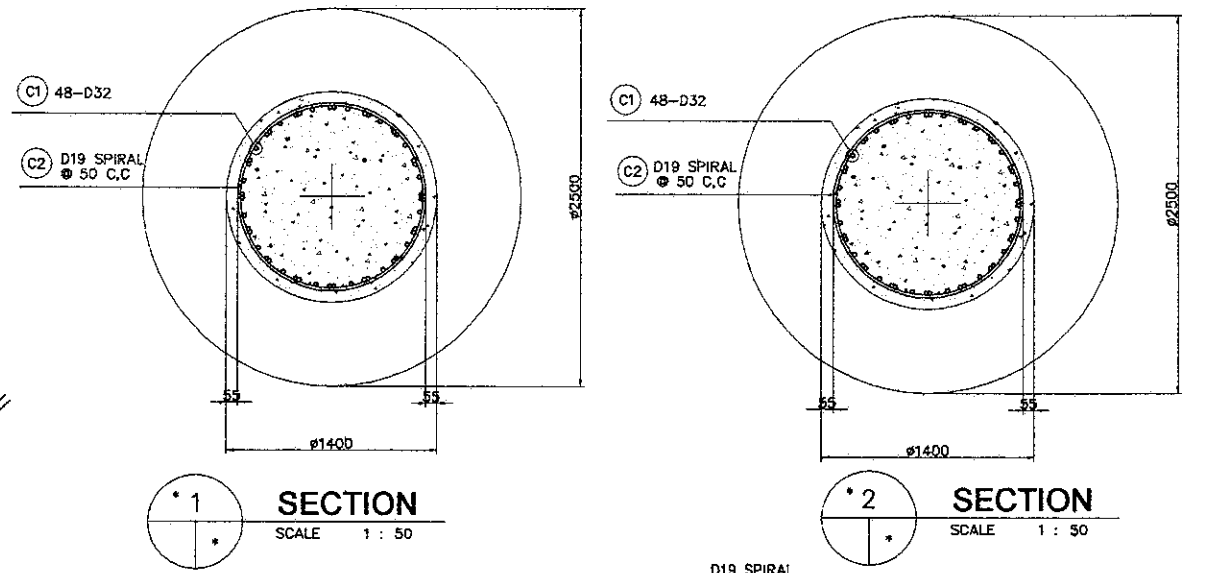
B ELEVATION
 SCALE 1 : 80



D
**DETAIL OF SPIRAL REINF.
 FULL LAP-WELD CONNECTION**
 NOT TO SCALE

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M3)
				a	b	c	d	e	f					
P1	C1	32	1	550	9980					10530	48	6.31	3189	9.869
	C2	19	2	50	1290	500				742987	1	2.23	1857	
TOTAL =												4,846	Kgs	
P2	C1	32	1	550	9980					10530	48	6.31	3189	9.864
	C2	19	2	50	1290	500				742987	1	2.23	1857	
TOTAL =												4,846	Kgs	

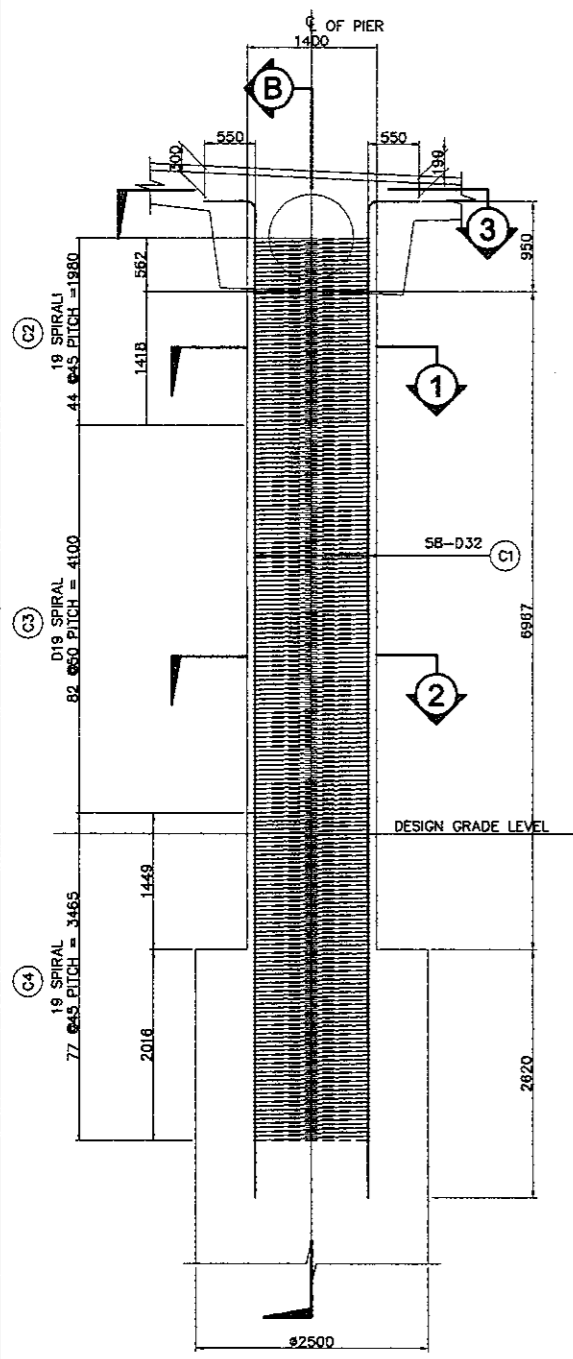
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

COLUMN TYPE

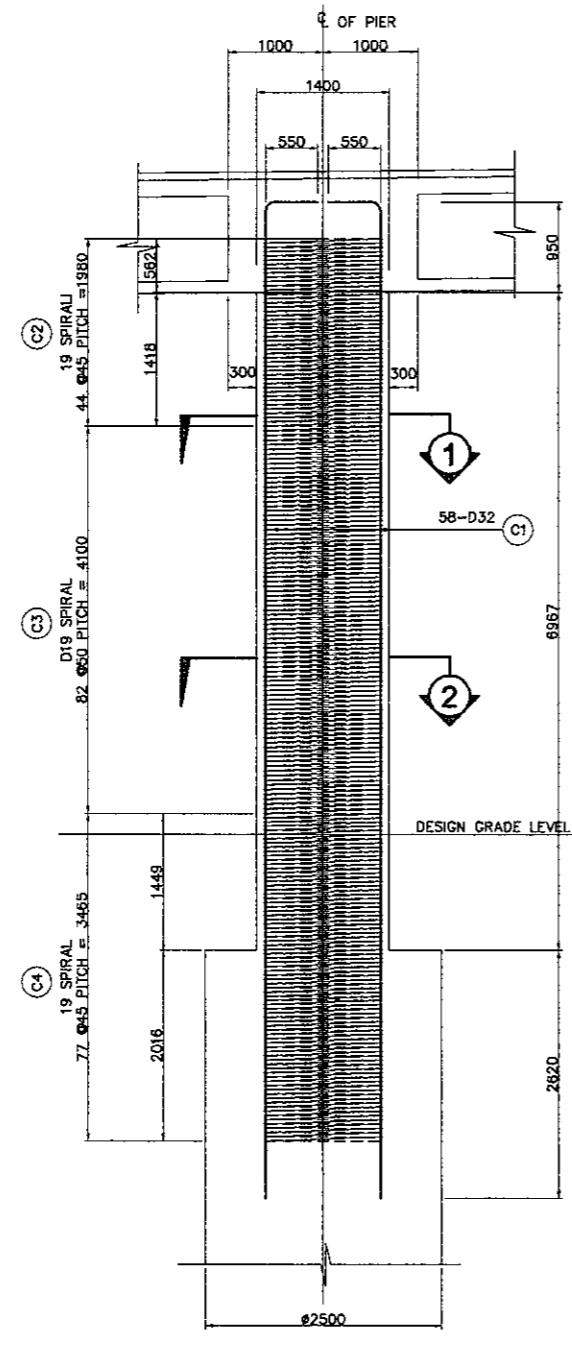
SIZE (mm)	1400
SIZE (mm)	32
NO. LAYERS	1
NO. OF PCS	48
SIZE (mm)	19

SCHEDULE OF PIER

PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	n
P1	6411	8800	1827	176
P2	6408	8800	1830	176



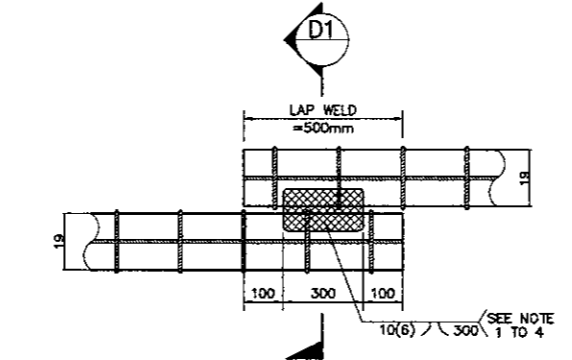
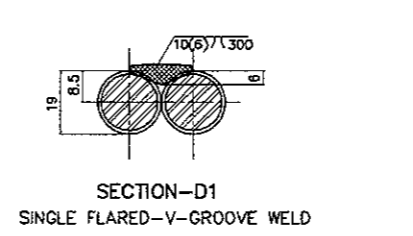
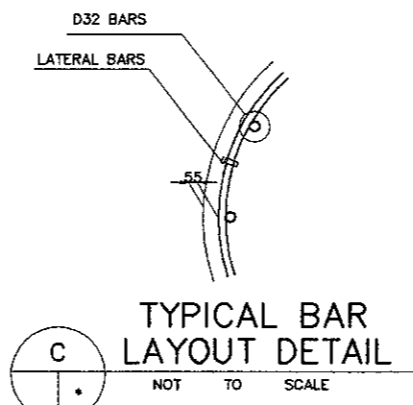
A ELEVATION
 SCALE 1 : 80



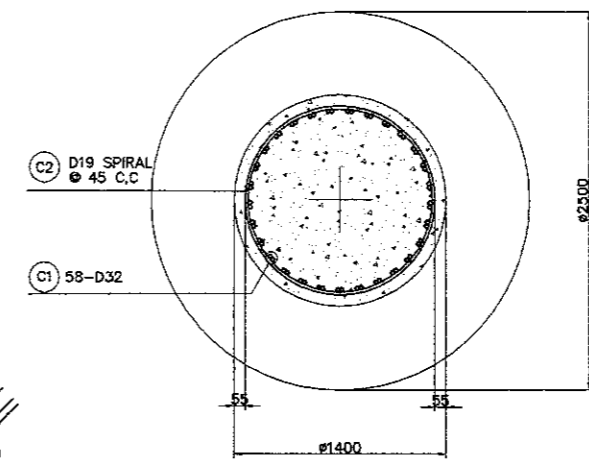
B ELEVATION
 SCALE 1 : 80

SCHEDULE OF PIER							
PIER NO.	HEIGHT H. (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
P3	6967	1980	4100	3465	44	82	77

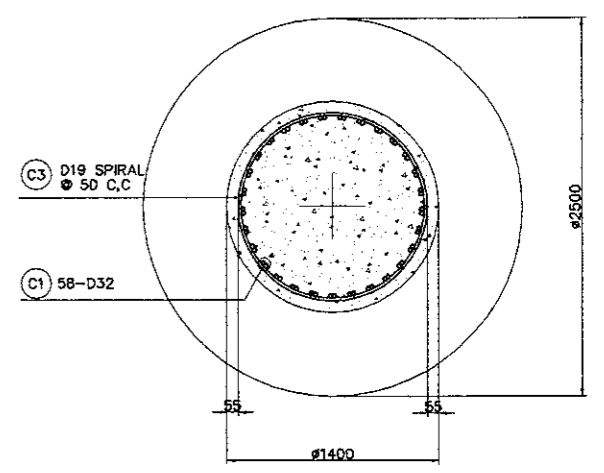
NOTES :
 1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²



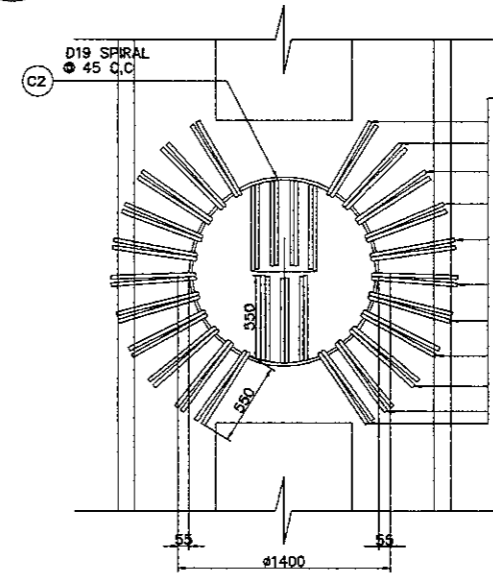
D
 DIRECT LAP JOINT WITH BARS IN CONTACT
 DETAIL OF SPIRAL REINF.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



1 SECTION
 SCALE 1 : 50

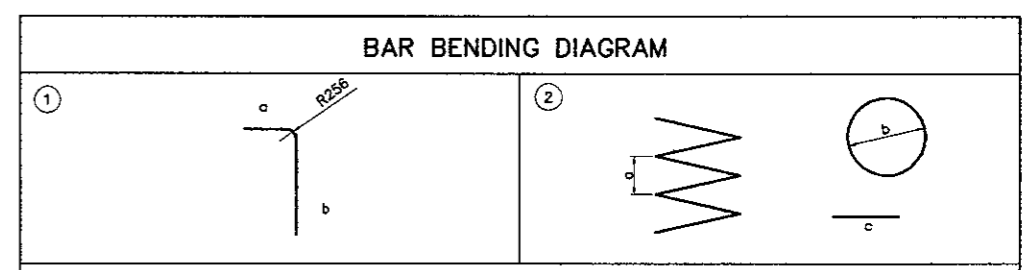


2 SECTION
 SCALE 1 : 50



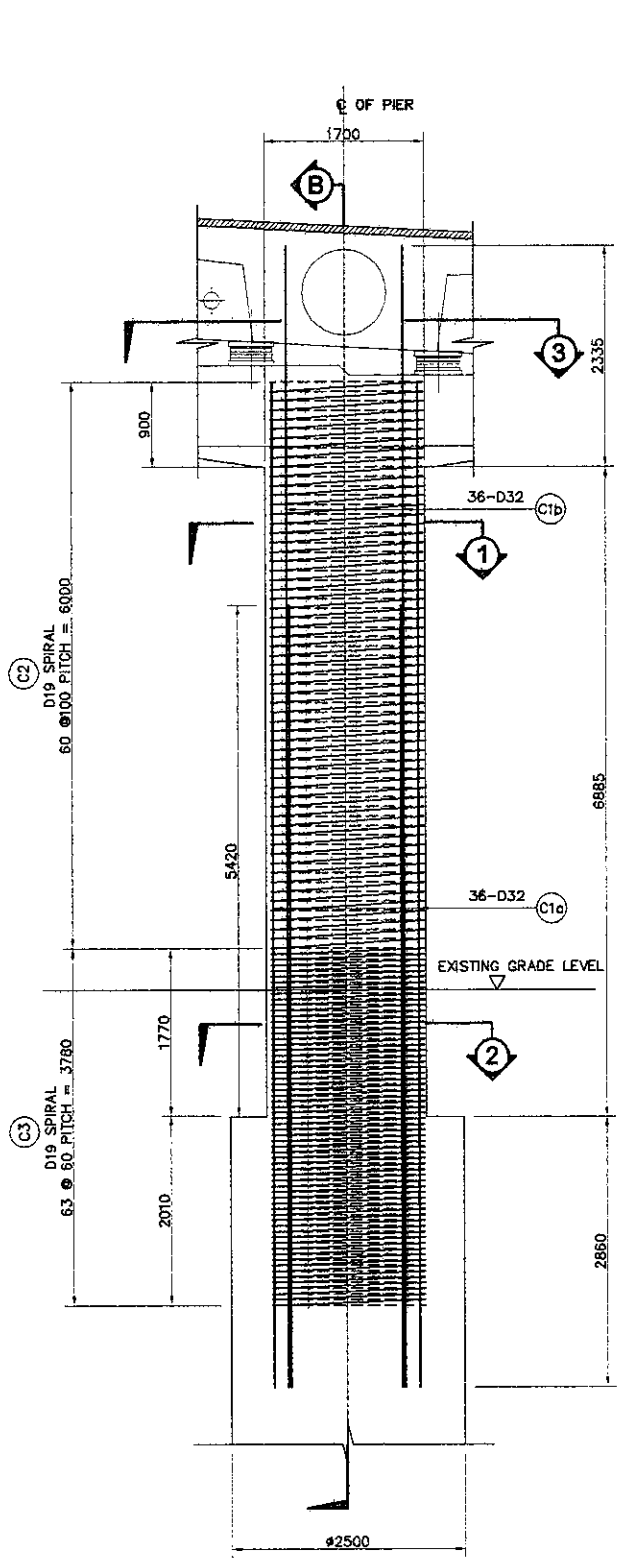
3 SECTION
 SCALE 1 : 50

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

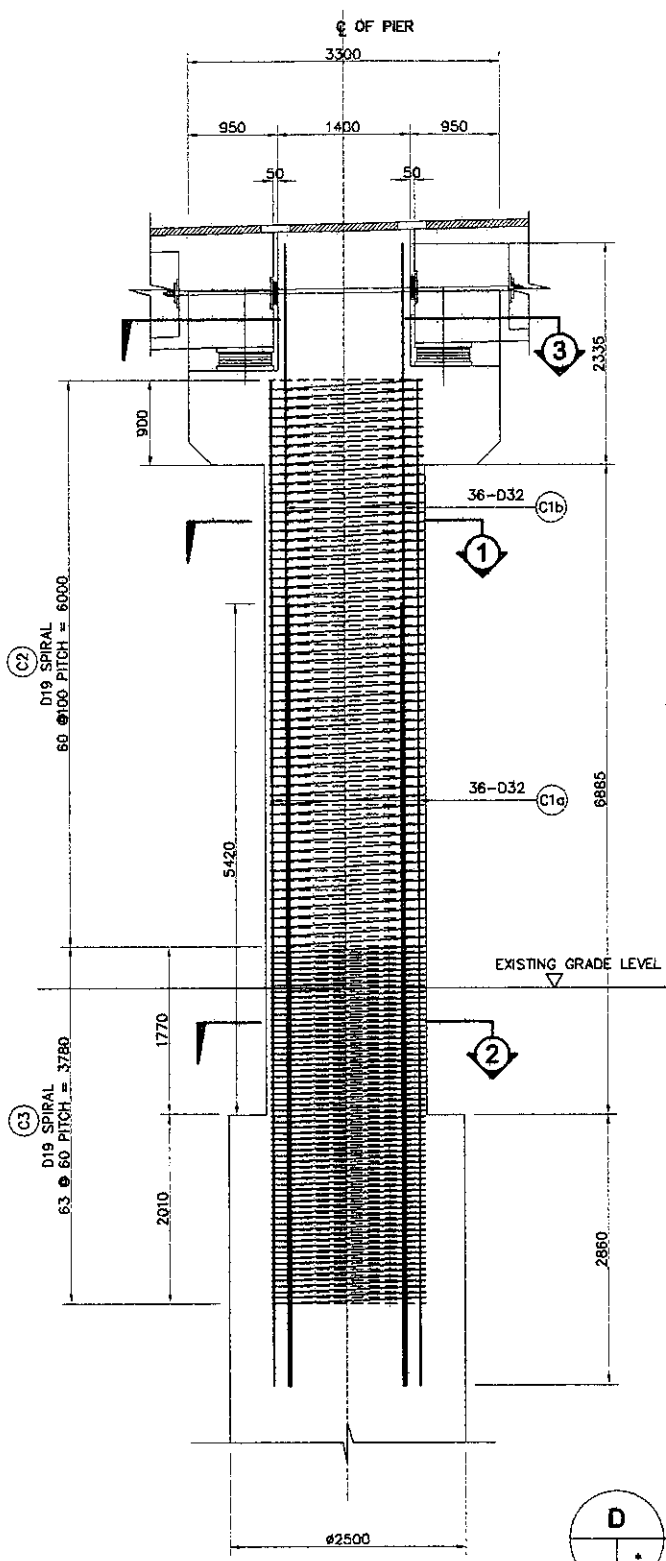


SCHEDULE OF REINFORCEMENT														
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
P3	C1	32	1	550	10540					11090	58	6.31	4059	12.311
	C2	19	2	45	1290	500				185747	1	2.23	414	
	C3	19	2	50	1290	500				346164	1	2.23	772	
	C4	19	2	45	1290	500				325057	1	2.23	725	
TOTAL =											5,970	Kgs		

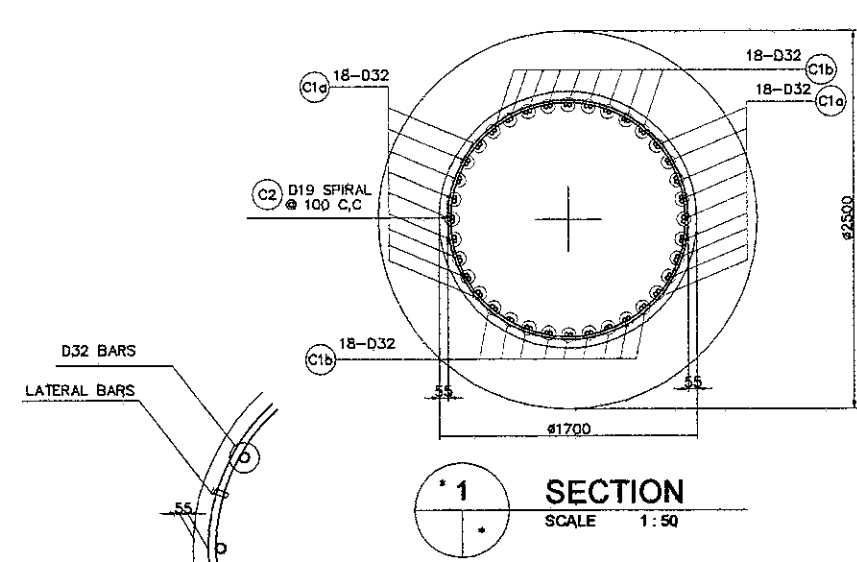
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.



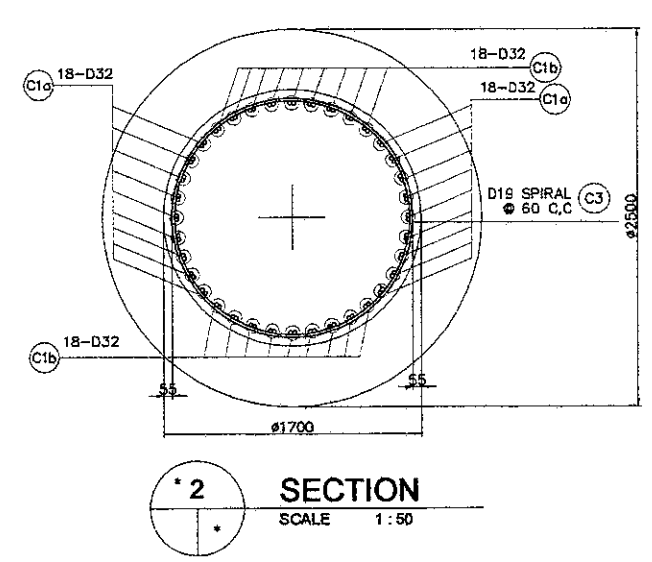
A ELEVATION
 SCALE 1 : 80



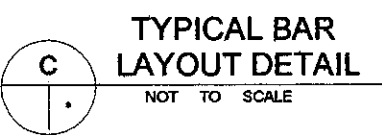
B ELEVATION
 SCALE 1 : 80



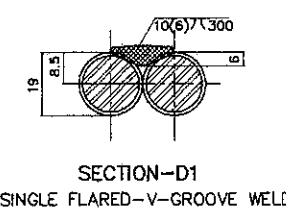
1 SECTION
 SCALE 1 : 50



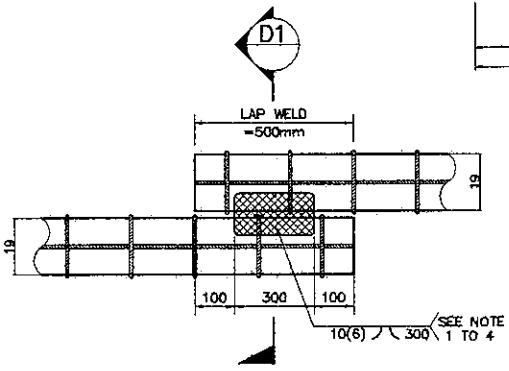
2 SECTION
 SCALE 1 : 50



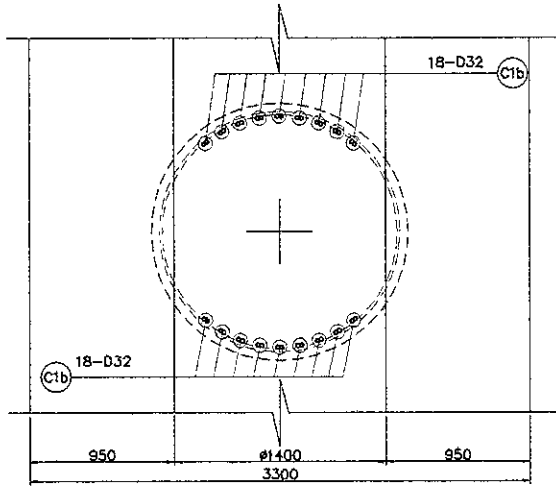
TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



SECTION-D1
 SINGLE FLARED-V-GROOVE WELD

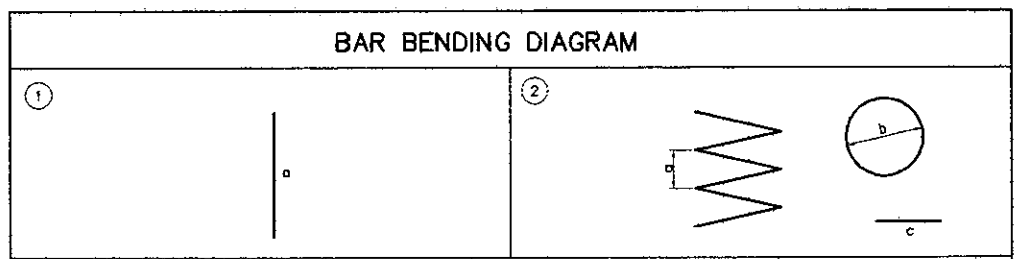


DETAIL OF SPIRAL REINF.
FULL LAP-WELD CONNECTION
 NOT TO SCALE



3 SECTION
 SCALE 1 : 50

- NOTES ON LAP-WELD CONNECTION :**
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



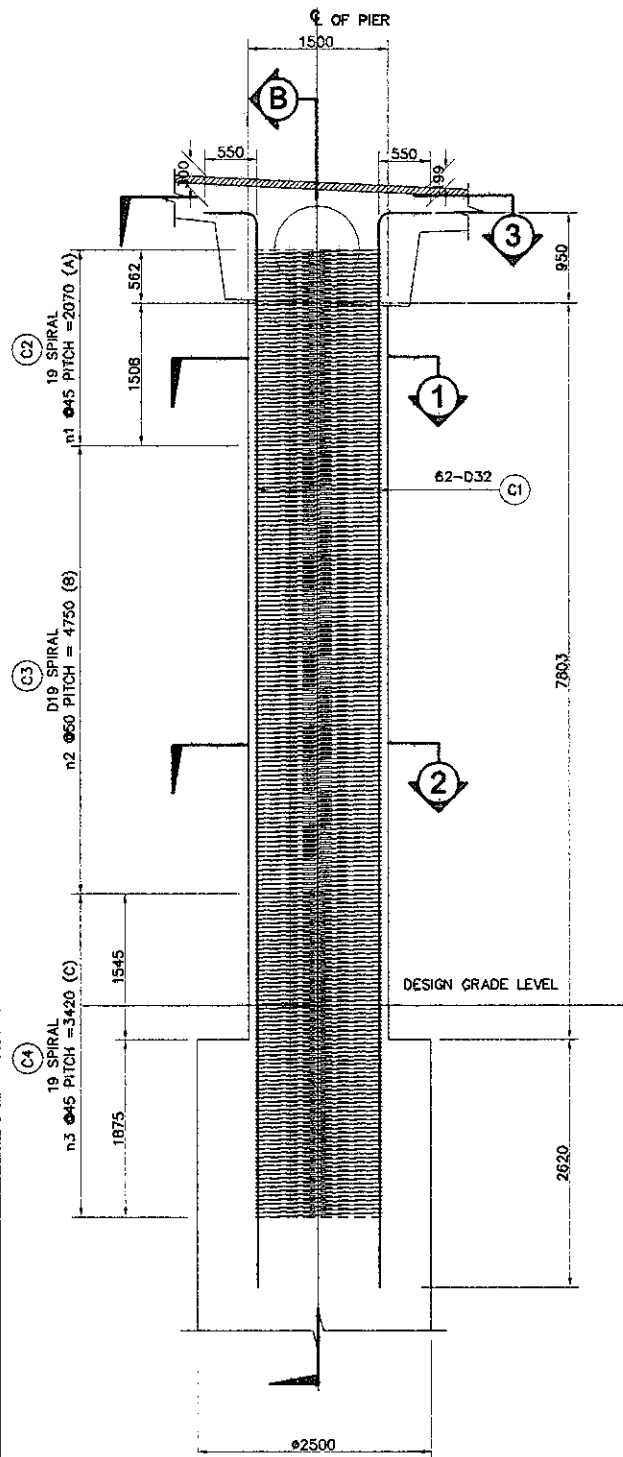
BAR BENDING DIAGRAM

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
P4	C1a	32	1	10650						10650	36	6.31	2419	15.628
	C1b	32	1	12080						12080	36	6.31	2744	
	C2	19	2	100	1590	500				312196	1	2.23	696	
	C3	19	2	60	1590	500				327806	1	2.23	731	
											TOTAL =		6,590 Kgs	

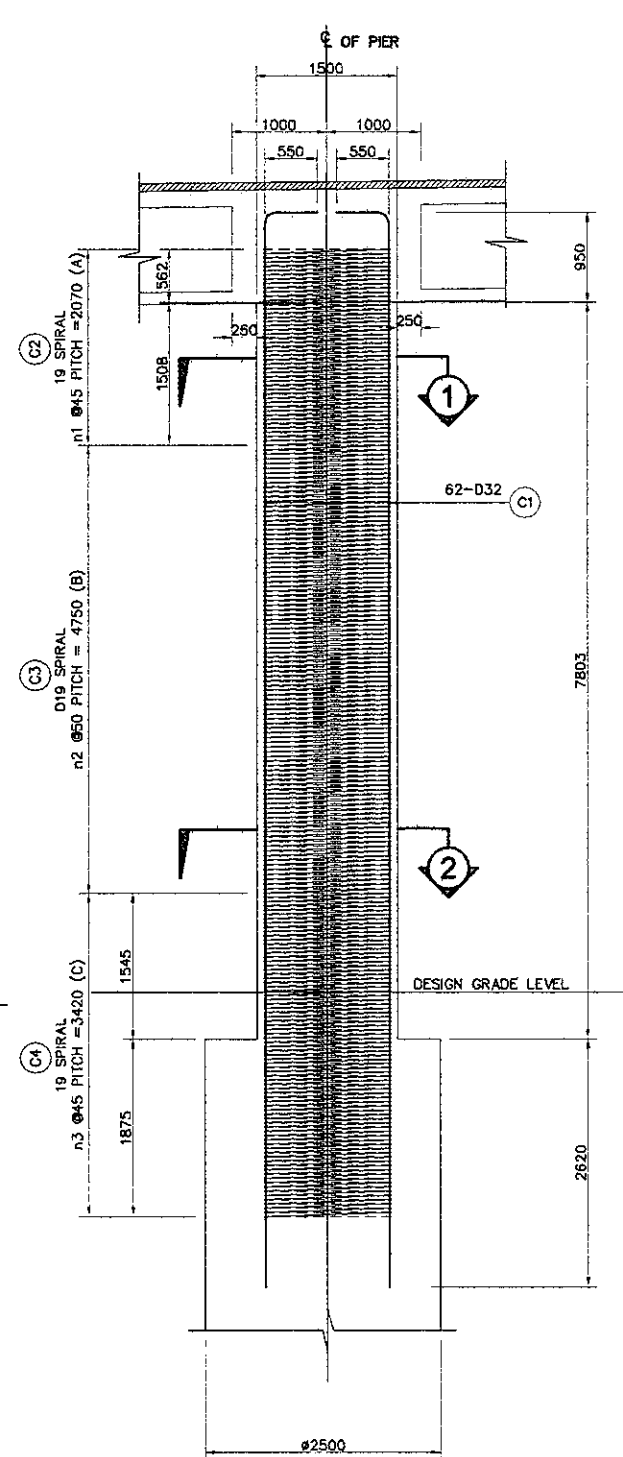
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

- NOTES :**
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

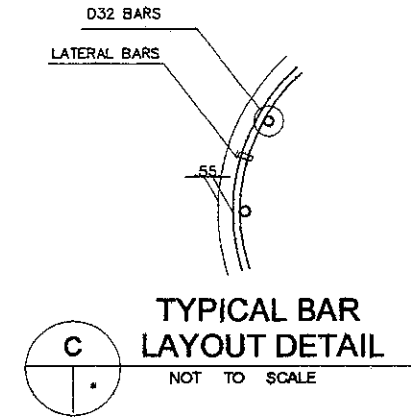
COLUMN TYPE		
SIZE (mm)		1700 ϕ
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS (a)	40
	NO. OF PCS (b)	28
SPIRAL	SIZE (mm)	19



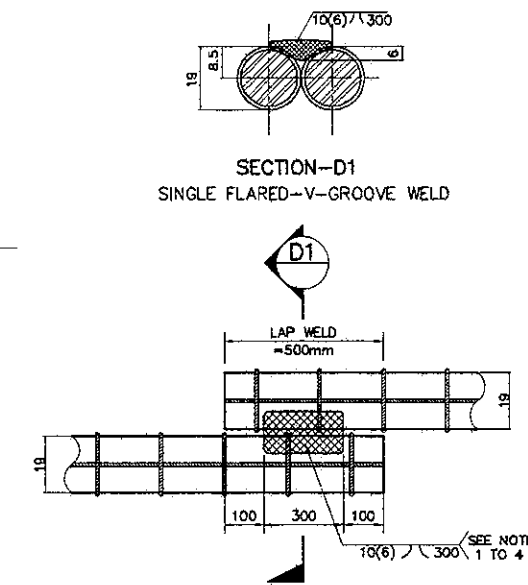
A ELEVATION
 SCALE 1 : 80



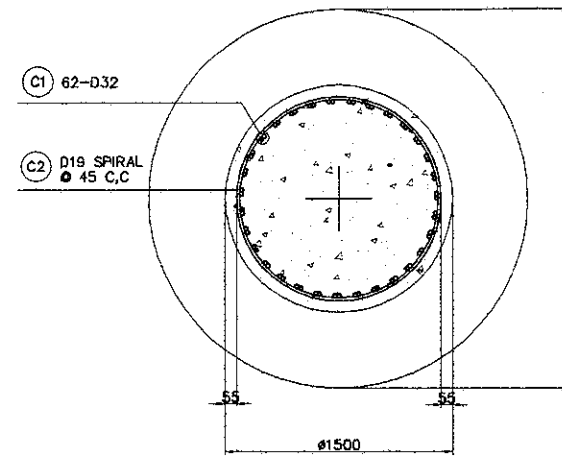
B ELEVATION
 SCALE 1 : 80



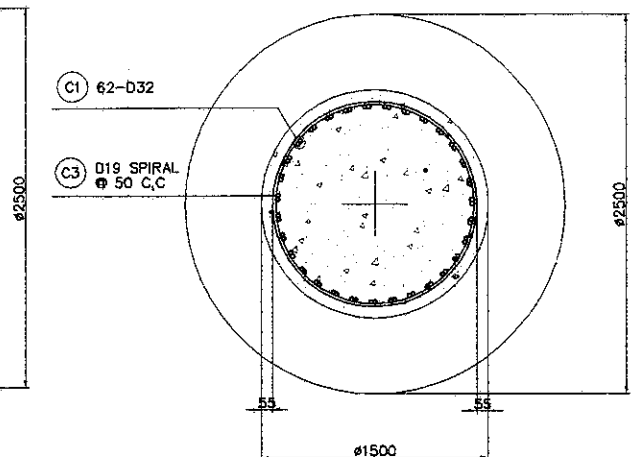
C TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



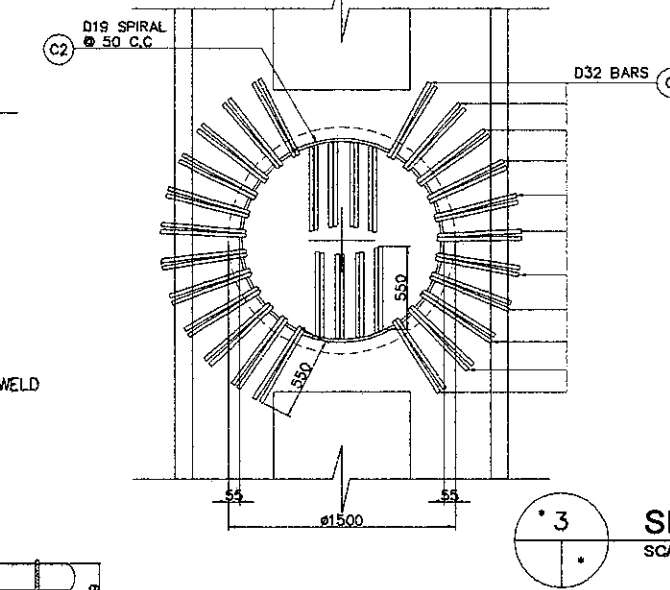
D DIRECT LAP JOINT WITH BARS IN CONTACT
 DETAIL OF SPIRAL REINF.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



1 SECTION
 SCALE 1 : 50



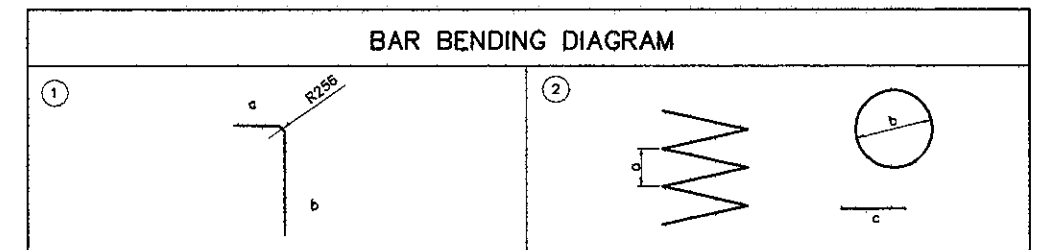
2 SECTION
 SCALE 1 : 50



3 SECTION
 SCALE 1 : 50

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²



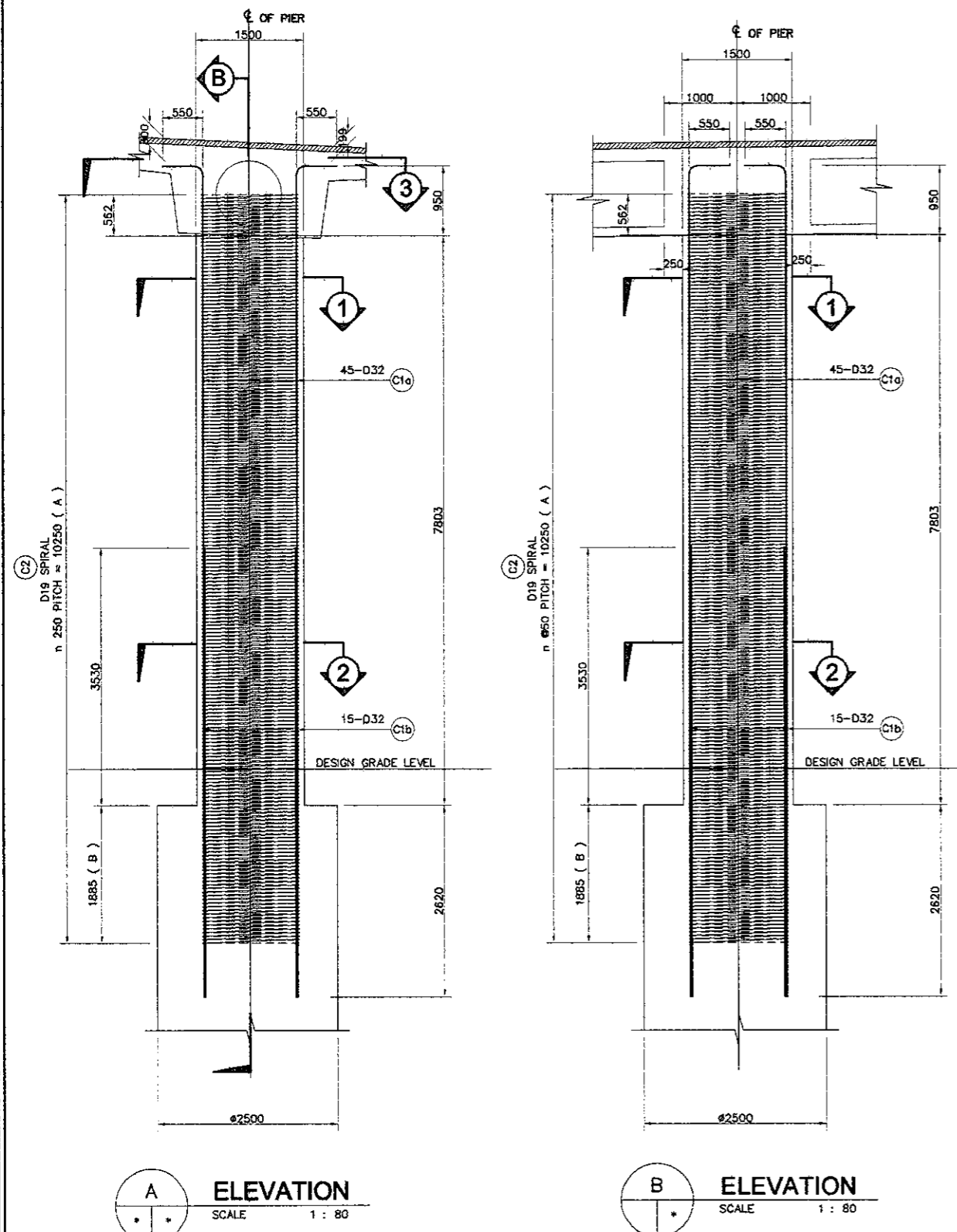
SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONG. (M ³)
				a	b	c	d	e	f					
P5	C1	32	1	550	11370					11920	62	6.31	4663	13.789
	C2	19	2	45	1390	500				209243	1	2.23	467	
	C3	19	2	50	1390	500				432133	1	2.23	964	
	C4	19	2	45	1390	500				345706	1	2.23	771	
TOTAL =												6,865 Kgs		
P7	C1	32	1	550	11370					11920	62	6.31	4663	13.789
	C2	19	2	45	1390	500				209243	1	2.23	467	
	C3	19	2	50	1390	500				432133	1	2.23	964	
	C4	19	2	45	1390	500				345706	1	2.23	771	
TOTAL =												6,865 Kgs		

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

SCHEDULE OF PIER							
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
P5	7803	2070	4750	3420	46	95	76
P7	7803	2070	4750	3420	46	95	76

COLUMN TYPE		
SIZE (mm)	SIZE (mm)	NO. OF PCS
1500	32	62
	NO. LAYERS	1
	NO. OF PCS	62
	SIZE (mm)	19

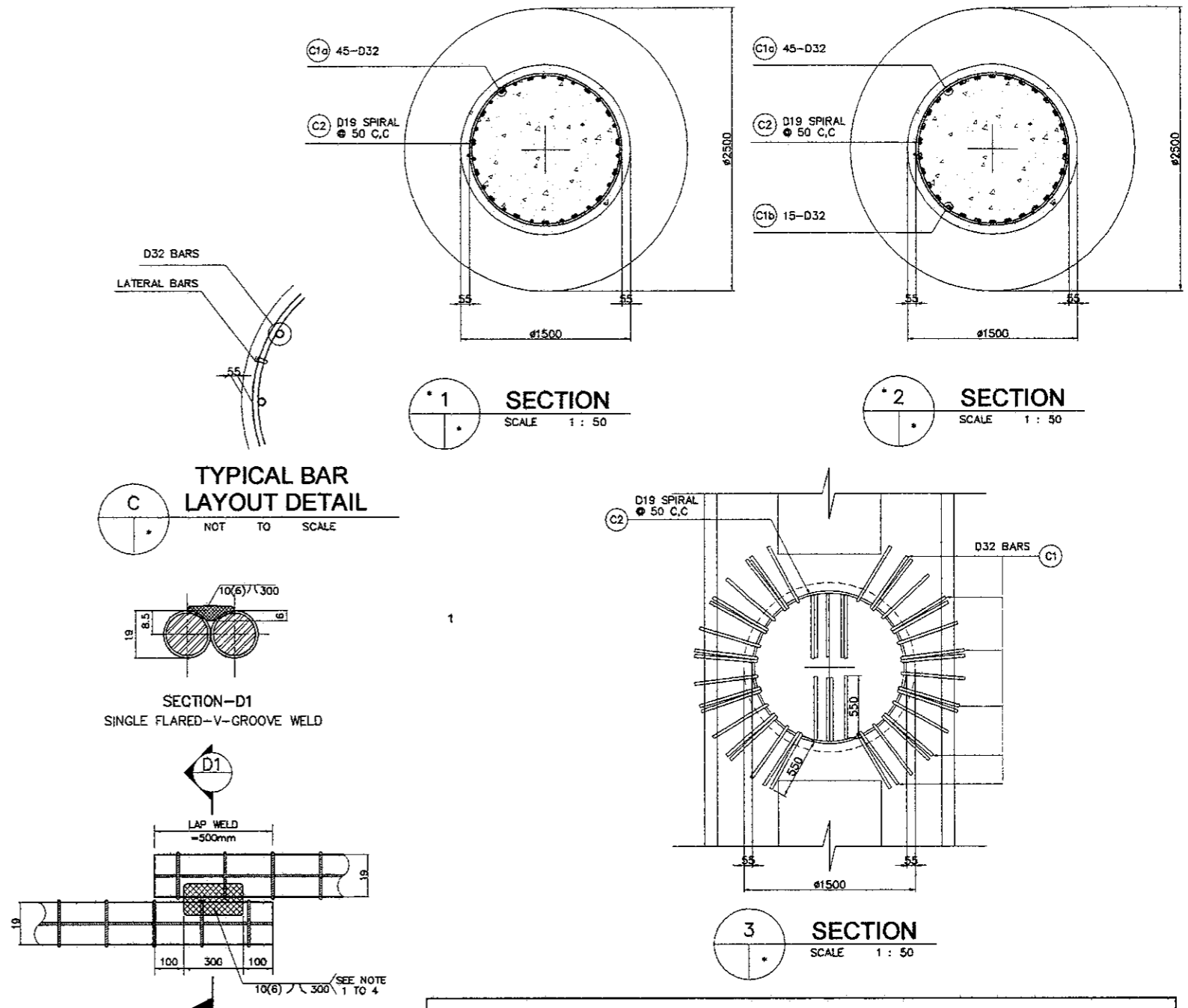


A ELEVATION
 SCALE 1 : 80

B ELEVATION
 SCALE 1 : 80

COLUMN TYPE		
SIZE (mm)		1500
SIZE (mm)		32
NO. LAYERS		1
NO. OF PCS (a)		45
NO. OF PCS (b)		15
SIZE (mm)		19

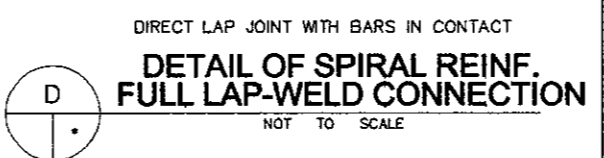
SCHEDULE OF PIER				
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	n
P6	7803	10250	1885	205



SECTION 1
 SCALE 1 : 50

SECTION 2
 SCALE 1 : 50

SECTION 3
 SCALE 1 : 50



DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE

NOTES ON LAP-WELD CONNECTION :
 1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL.*
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

NOTES :
 1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2

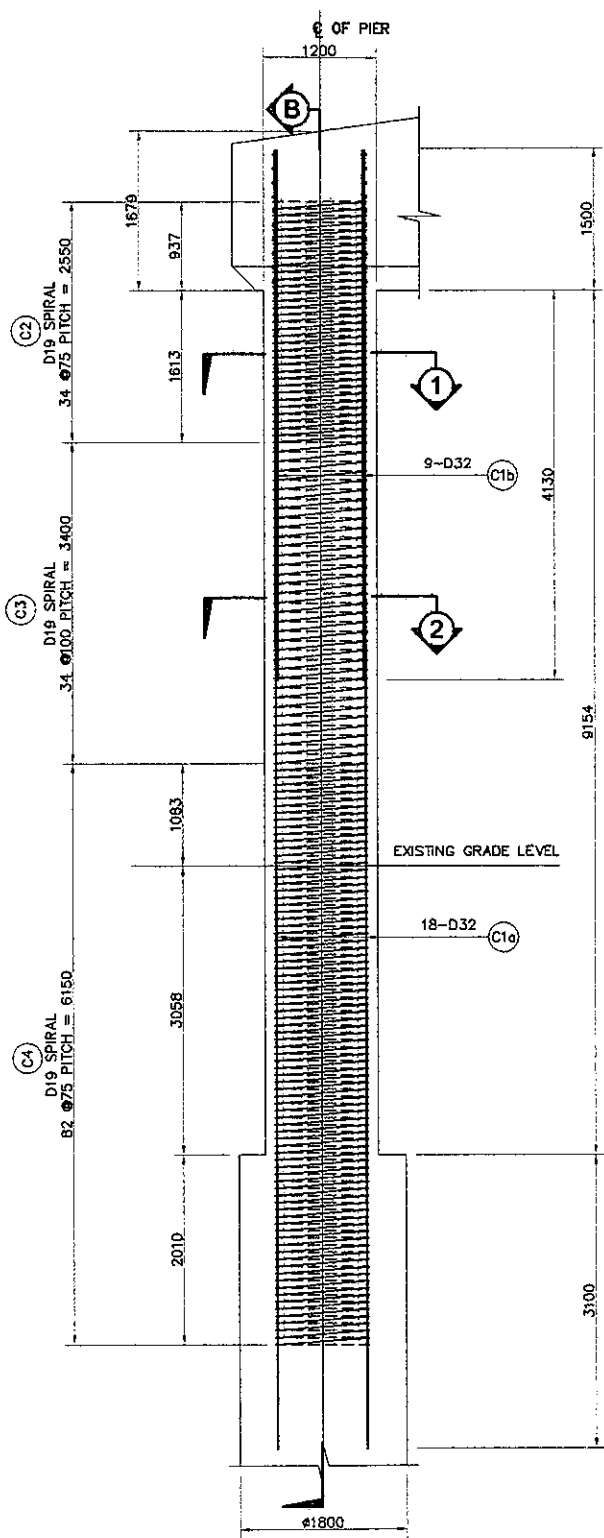
BAR BENDING DIAGRAM

SCHEDULE OF REINFORCEMENT

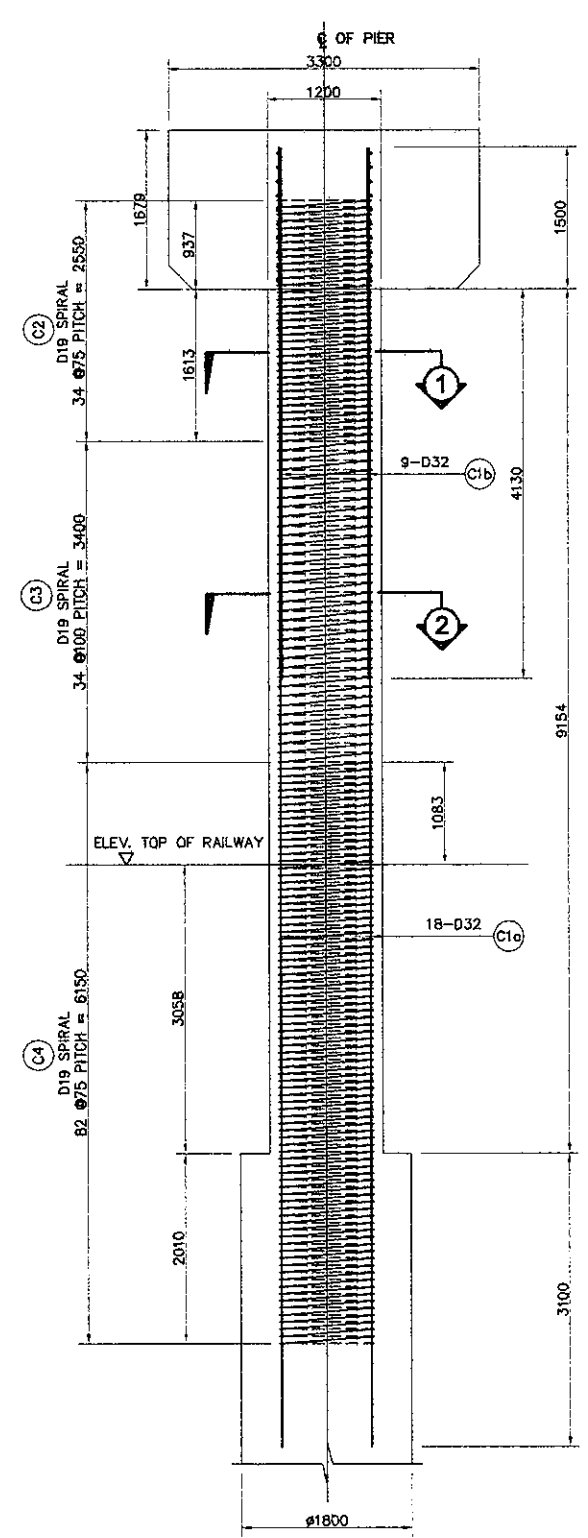
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
P6	C1a	32	1	550	11370					11920	45	6.31	3385	13.789
	C1b	32	2	6150						6150	15	6.31	582	
	C2	19	3	50	1390	500				932497	1	2.23	2079	
TOTAL =												6,046	Kg ^s	

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

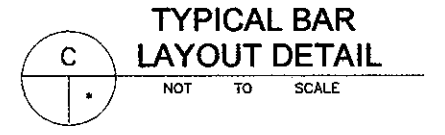
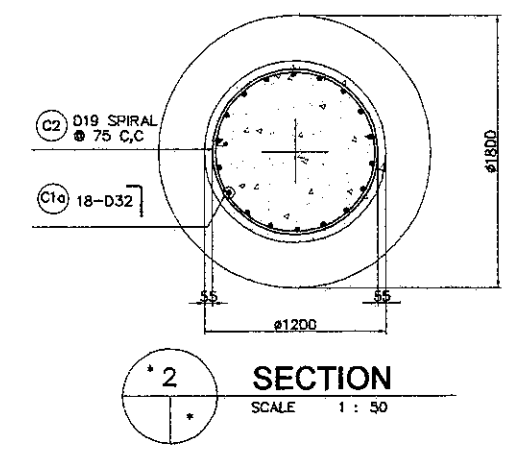
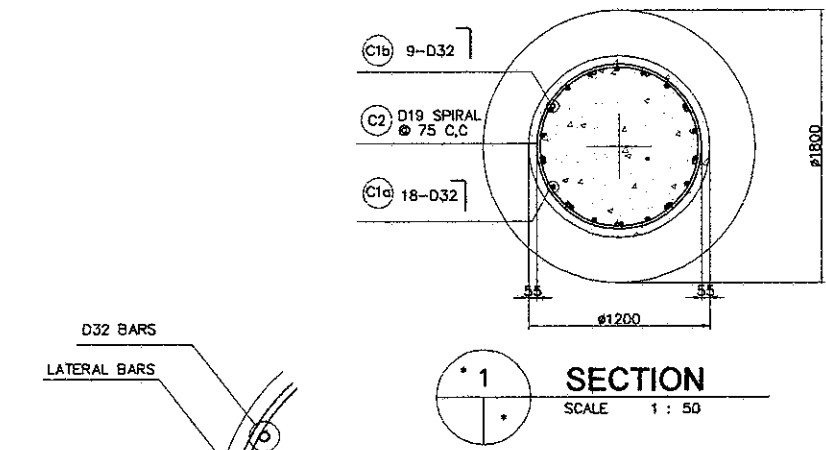
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



A ELEVATION
 SCALE 1 : 80

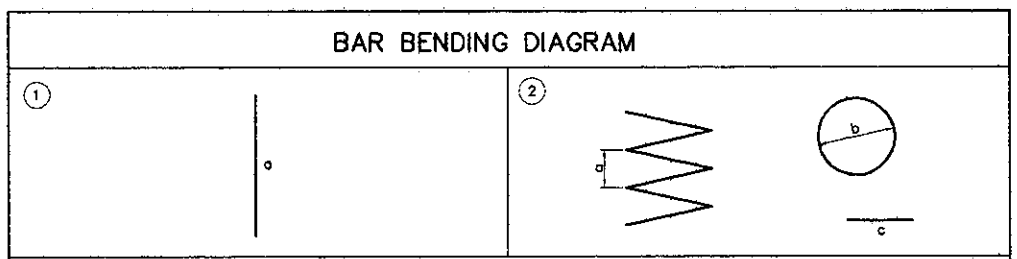
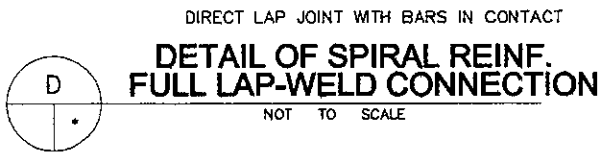
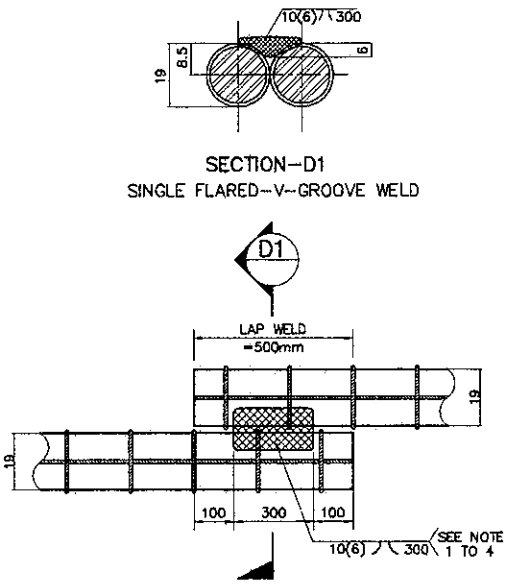


B ELEVATION
 SCALE 1 : 80



COLUMN TYPE		SIZE (mm)	1200 ø
MAIN BARS	SIZE (mm)	32	
	NO. LAYERS	1	
	NO. OF PCS (a)	18	
	NO. OF PCS (b)	9	
SPIRAL	SIZE (mm)	19	

- NOTES ON LAP-WELD CONNECTION :**
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



SCHEDULE OF REINFORCEMENT

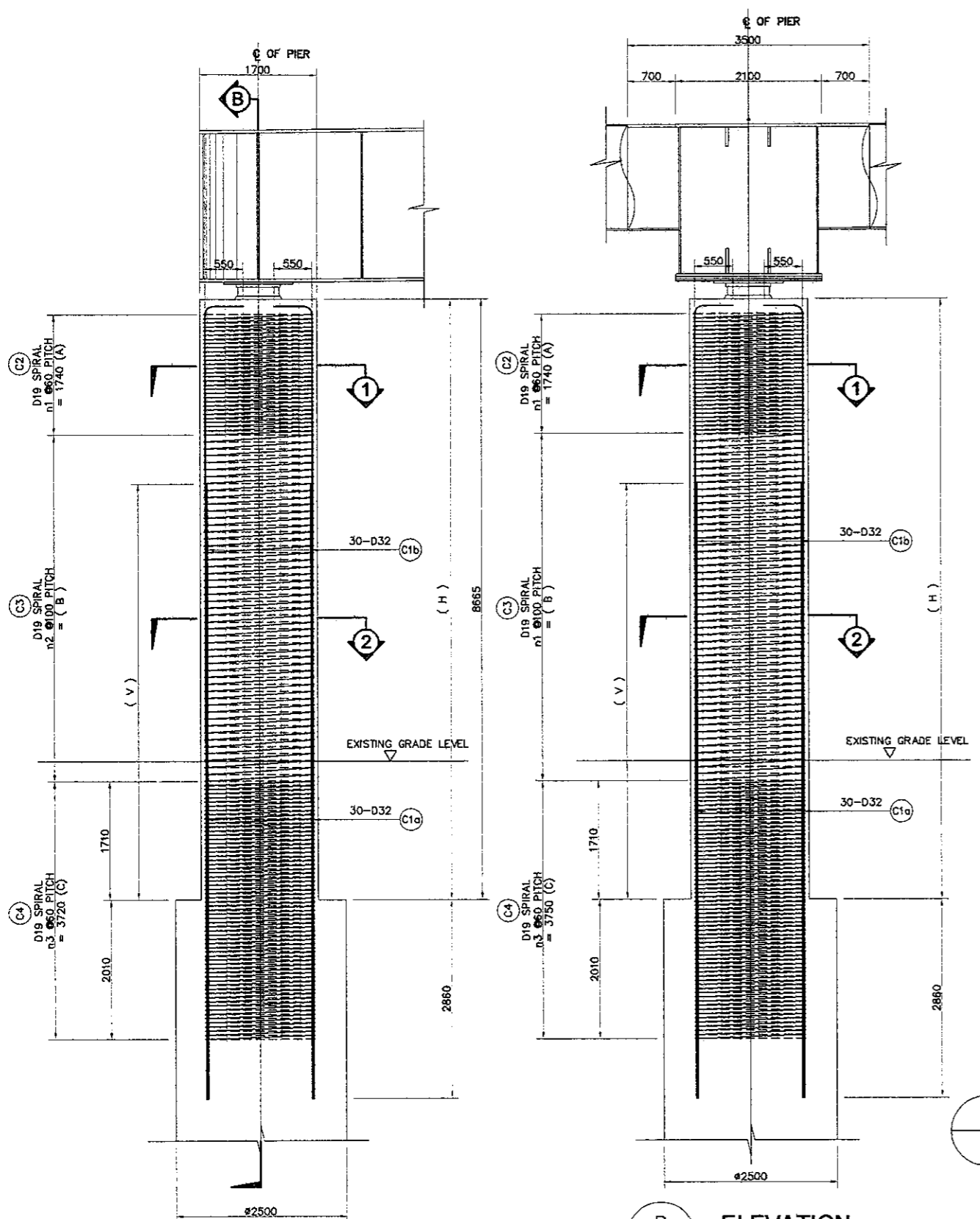
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M³)
				a	b	c	d	e	f					
P8	C1a	32	1	13750						13750	18	6.31	1562	8.699
	C1b	32	1	5630						5630	9	6.31	320	
	C2	19	2	75	1090	500				121278	1	2.23	271	
	C3	19	2	100	1090	500				121279	1	2.23	270	
	C4	19	2	75	1090	500				292495	1	2.23	652	
TOTAL =											3,075	Kgs		
TOTAL 2 PIER =											6,070	Kgs	17,398	

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

SCHEDULE OF PIER

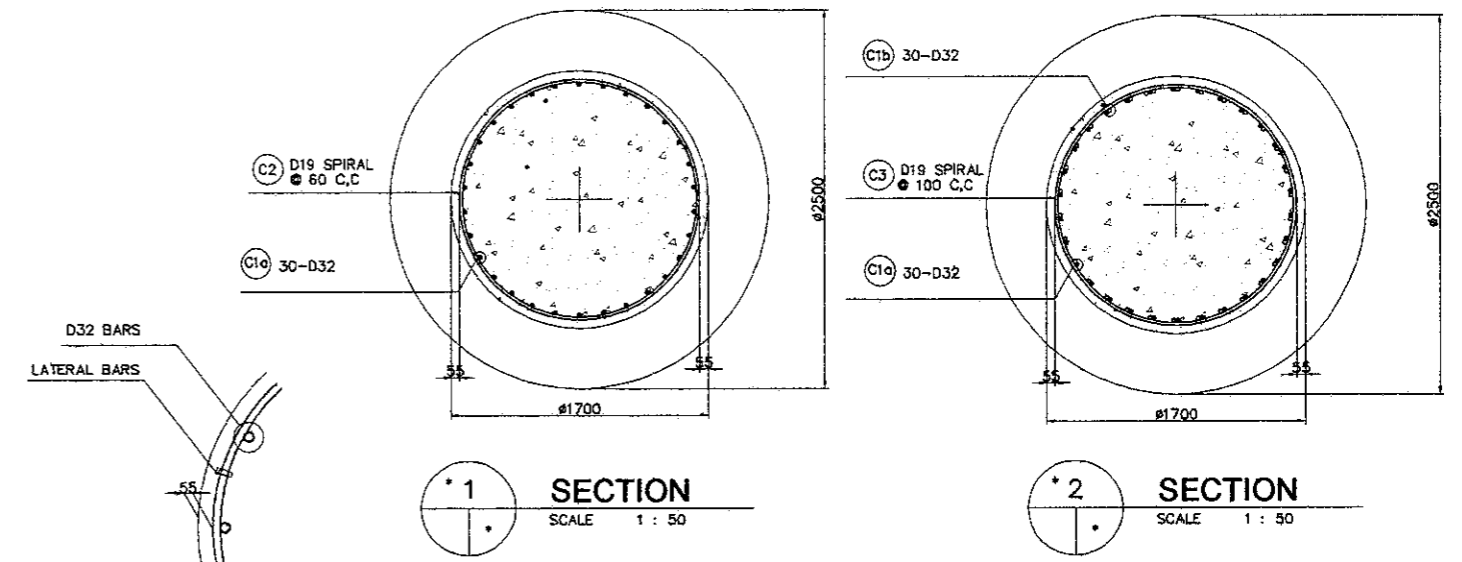
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
P8-L	9154	2175	3400	6150	29	34	82
P8-R	9154	2175	3400	6150	29	34	82

- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30$ MPa
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

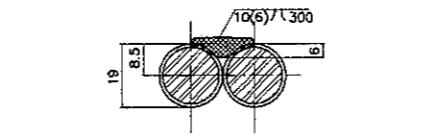


A ELEVATION
 SCALE 1 : 80

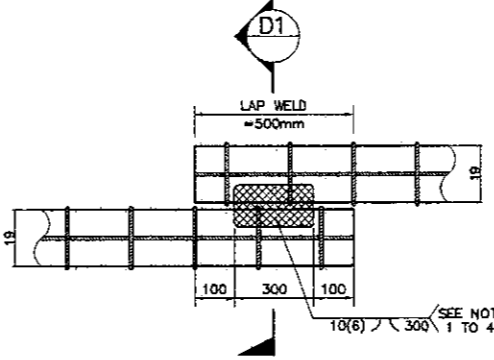
B ELEVATION
 SCALE 1 : 80



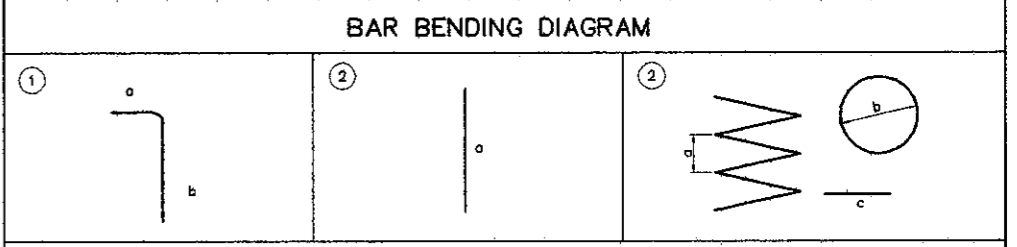
TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



SECTION-D1
 SINGLE FLARED-V-GROOVE WELD



DETAIL OF SPIRAL REIN.
 FULL LAP-WELD CONNECTION
 NOT TO SCALE



BAR BENDING DIAGRAM

SCHEDULE OF REINFORCEMENT															
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)	
				a	b	c	d	e	f						
P9L	C1a	32	1	550	11520					12070	30	6.31	2285	19.668	
	C1b	32	2	8890						8890	30	6.31	1683		
	C2	19	3	60	1590	500				150895	1	2.23	336		
	C3	19	3	100	1590	500				270570	1	2.23	603		
	C4	19	3	60	1590	500				322602	1	2.23	719		
											TOTAL	=	5,627	Kgs	
P9R	C1a	32	1	550	11540					12090	30	6.31	2289	19.713	
	C1b	32	2	8900						8800	30	6.31	1685		
	C2	19	3	60	1590	500				150895	1	2.23	336		
	C3	19	3	100	1590	500				270570	1	2.23	603		
	C4	19	3	60	1590	500				322602	1	2.23	719		
											TOTAL	=	5,633	Kgs	
											TOTAL 2 PIER	=	11,260	Kgs	39.381
P12L	C1a	32	1	550	9680					10230	30	6.31	1937	15.471	
	C1b	32	2	7970						7970	30	6.31	1509		
	C2	19	3	60	1490	500				150895	1	2.23	336		
	C3	19	3	100	1490	500				171708	1	2.23	383		
	C4	19	3	60	1490	500				322602	1	2.23	719		
											TOTAL	=	4,884	Kgs	
P12R	C1a	32	1	550	11000					11550	30	6.31	2186	16.427	
	C1b	32	2	8180						8180	30	6.31	1548		
	C2	19	3	60	1490	500				150895	1	2.23	336		
	C3	19	3	100	1490	500				197724	1	2.23	441		
	C4	19	3	60	1490	500				322802	1	2.23	719		
											TOTAL	=	5,230	Kgs	
											TOTAL	=	10,114	Kgs	31.897

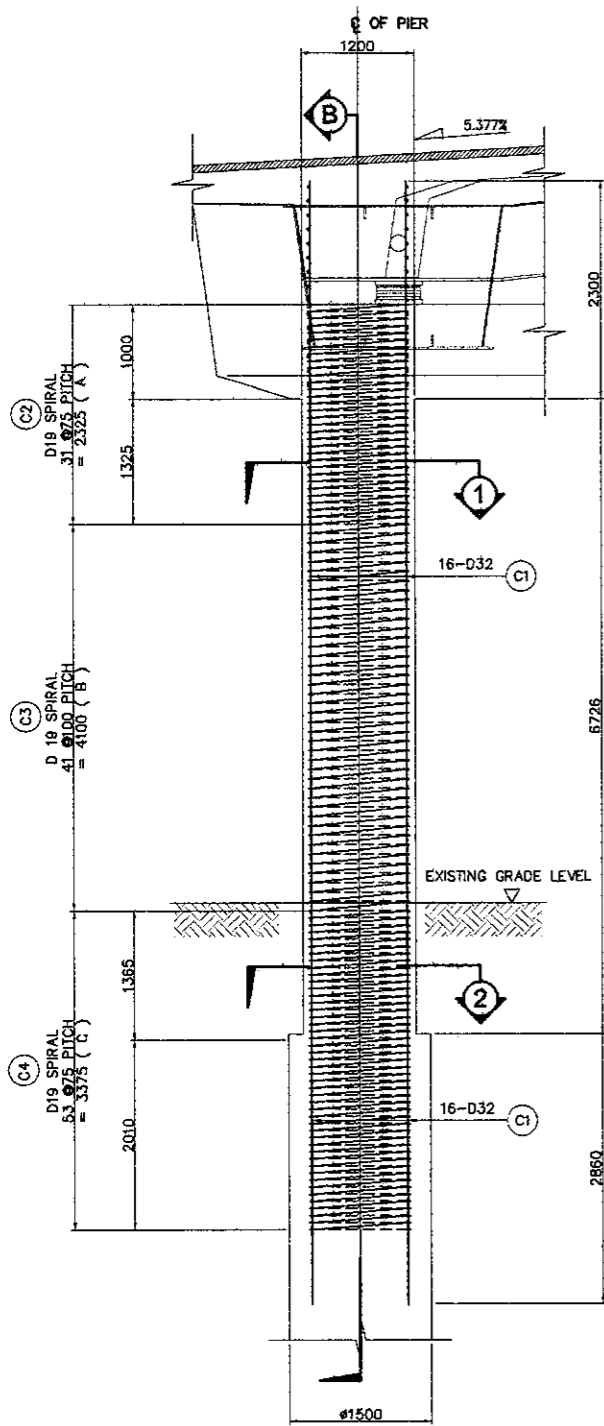
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

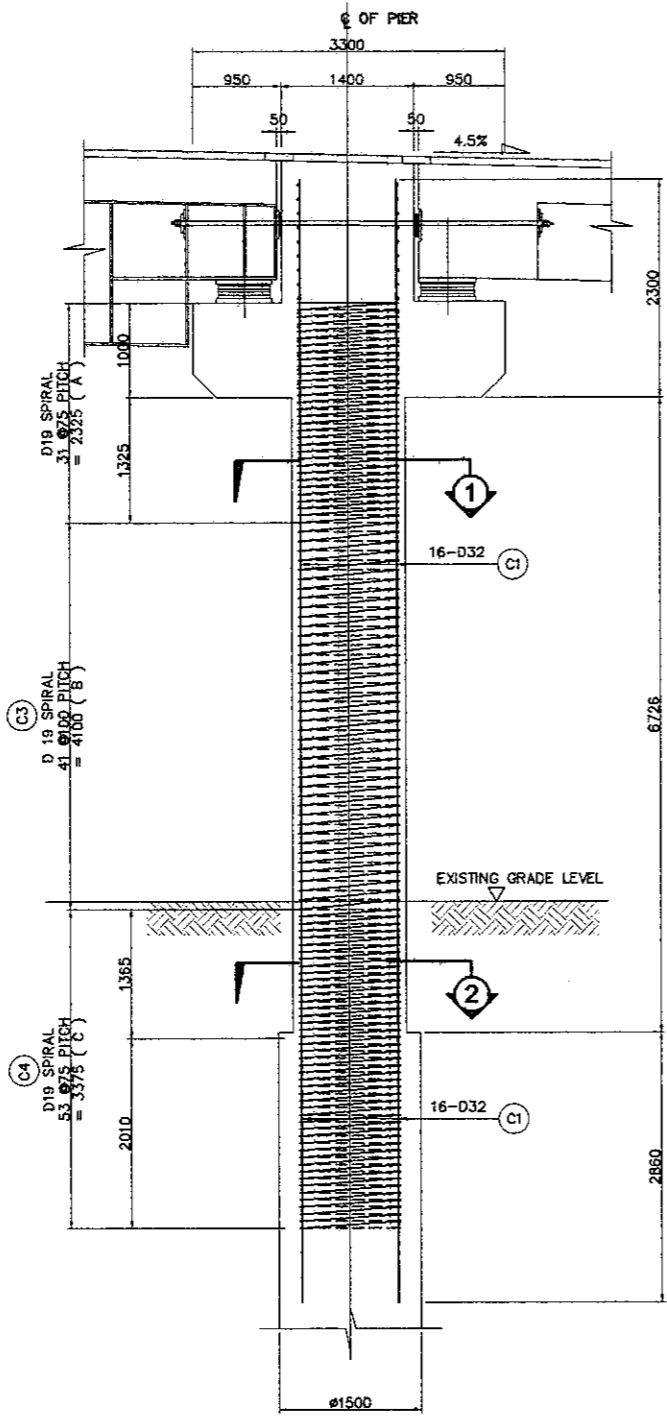
COLUMN TYPE		SIZE (mm)	1700 #
MAIN BARS	SIZE (mm)	32	
	NO. LAYERS	1	
	NO. OF PCS (a)	30	
	NO. OF PCS (b)	30	
SPIRAL	SIZE (mm)	19	

- NOTES ON LAP-WELD CONNECTION :
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

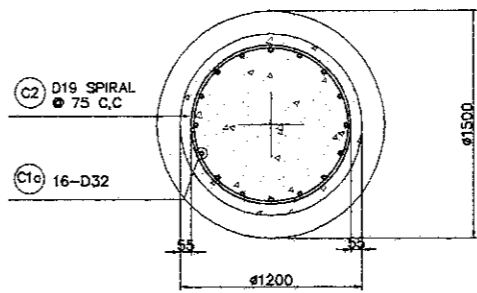
SCHEDULE OF PIER								
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	V (mm)	n1	n2	n3
P9L	8666	1740	5216	3720	6030	29	52	62
P9R	8686	1740	5238	3720	6140	29	52	62
P12L	6818	1740	3368	3720	5100	29	33	62
P12R	7237	1740	3787	3720	5310	29	38	62



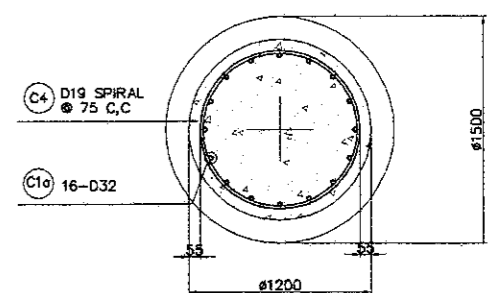
A ELEVATION
 SCALE 1 : 80



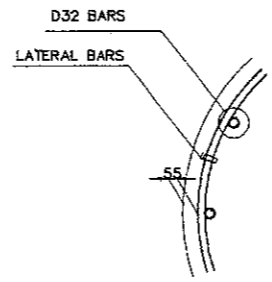
B ELEVATION
 SCALE 1 : 80



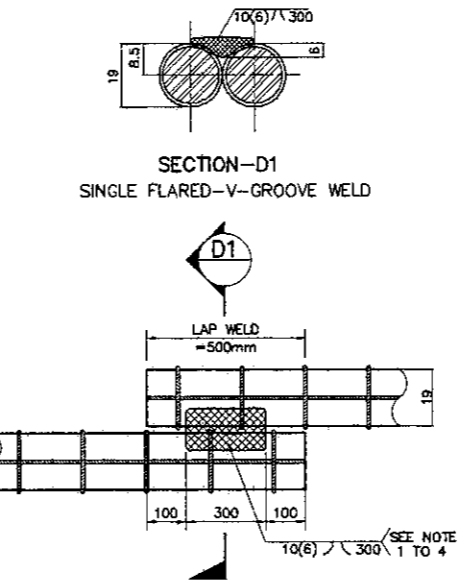
SECTION 1
 SCALE 1 : 50



SECTION 2
 SCALE 1 : 50



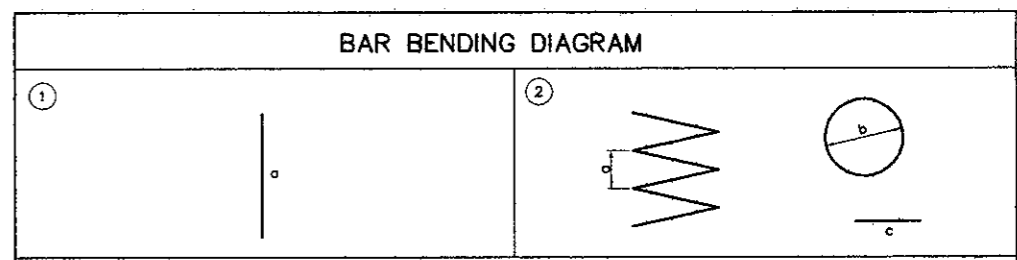
TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE

COLUMN TYPE		CL-MF08
SIZE (mm)		1200 φ
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS (a)	13
	NO. OF PCS (b)	13
SPIRAL		SIZE (mm)
		19

- NOTES ON LAP-WELD CONNECTION :**
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

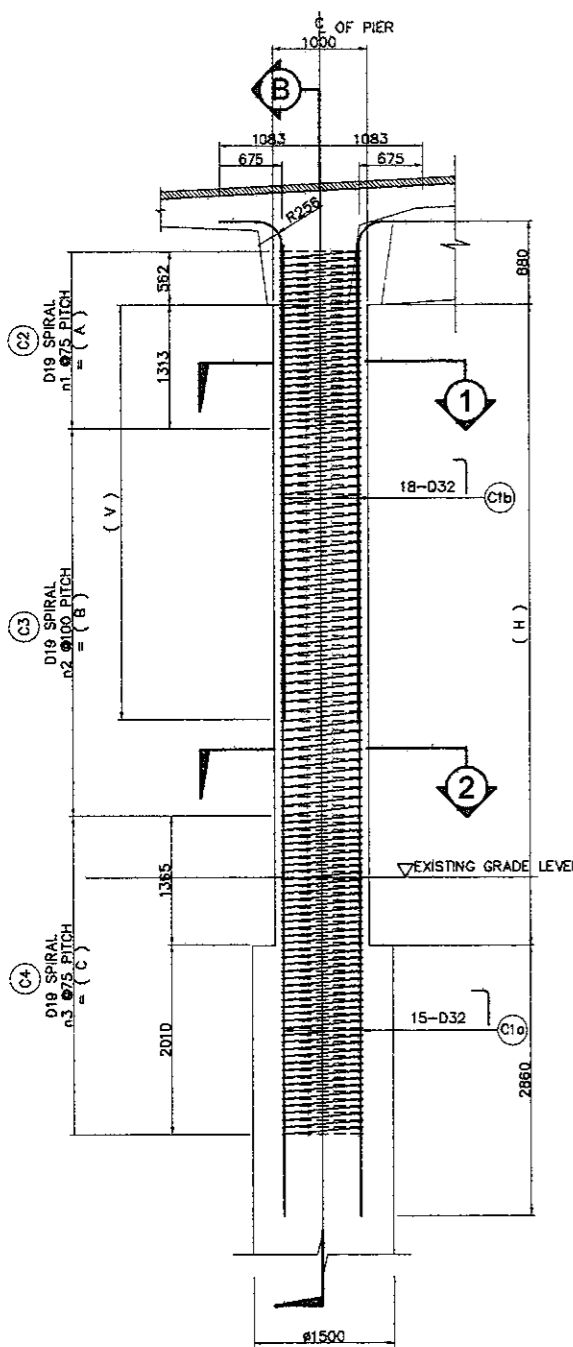


LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
PIER P13L&R	C1a	32	1	11940						11940	16	6.31	1205	5.283
	C2	19	2	75	890	500				110578	1	2.23	247	
	C3	19	2	100	890	500				146248	1	2.23	326	
	C4	19	2	75	890	500				160516	1	2.23	358	
SUB TOTAL =												2,136	Kgs	
TOTAL 2 PIER =												4,272	Kgs	10.565

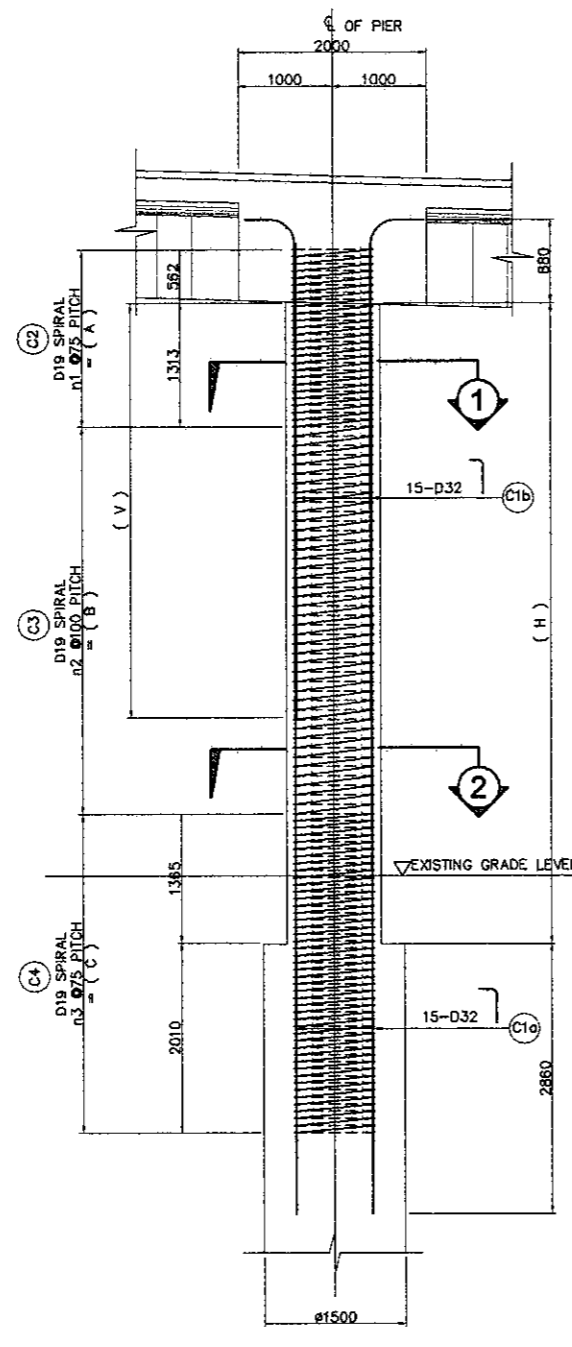
THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

SCHEDULE OF PIER							
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	n1	n2	n3
P13-L	6726	2325	4100	3375	31	41	45
P13-R	6726	2325	4100	3375	31	41	45

- NOTES :**
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

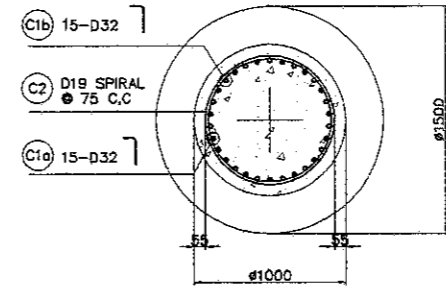


A ELEVATION
 SCALE 1 : 80

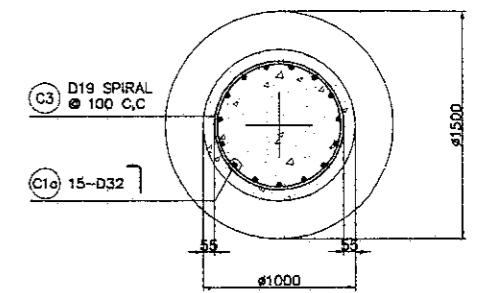


B ELEVATION
 SCALE 1 : 80

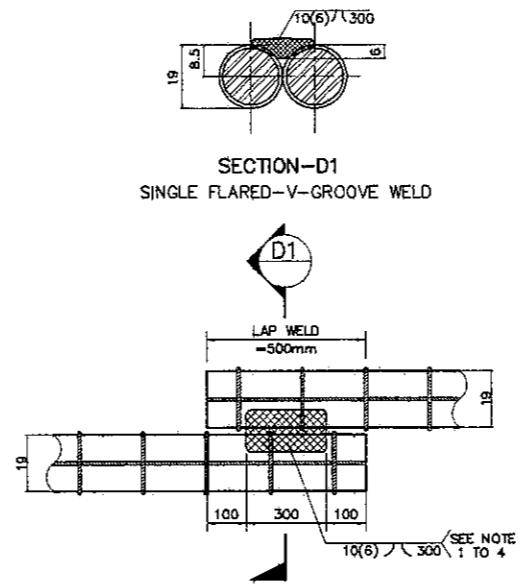
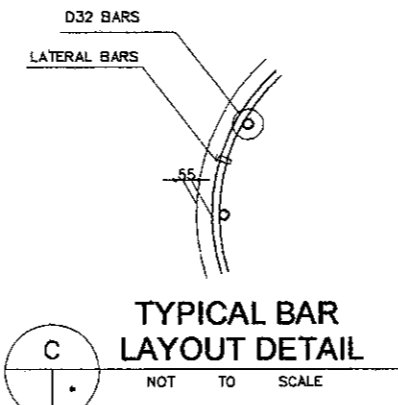
SCHEDULE OF PIER								
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	C (mm)	V (mm)	n1	n2	n3
P14L	6788	1875	4100	3375	4490	25	41	45
P14R	6991	1875	4300	3375	4590	25	43	45
P15L	6861	1875	4200	3375	4530	25	42	45
P15R	6968	1875	4300	3375	4580	25	43	45



SECTION 1
 SCALE 1 : 50

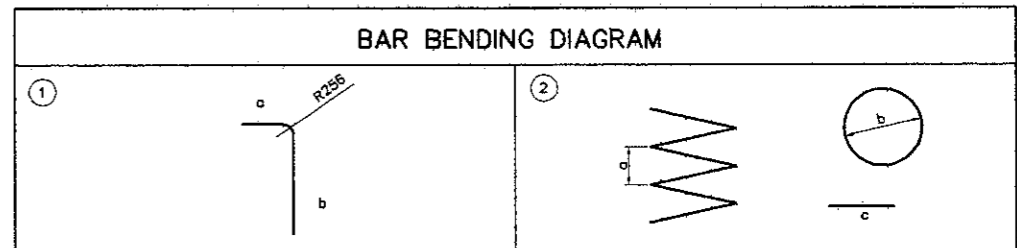


SECTION 2
 SCALE 1 : 50



COLUMN TYPE		
SIZE (mm)		ø 1000
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS (a)	15
	NO. OF PCS (b)	15
SPIRAL	SIZE (mm)	19

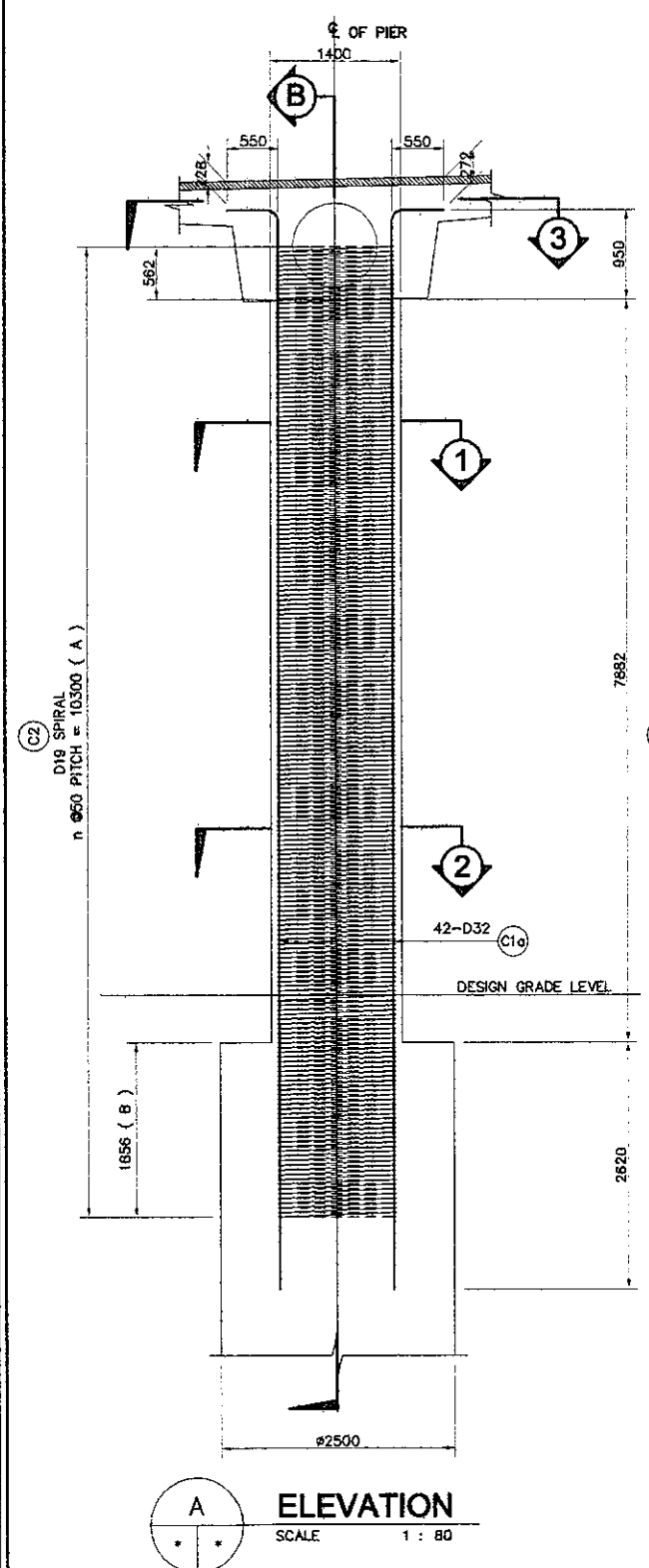
- NOTES ON LAP-WELD CONNECTION :**
- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 - WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL.*
 - USE ELECTRODE E90XX.
 - CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



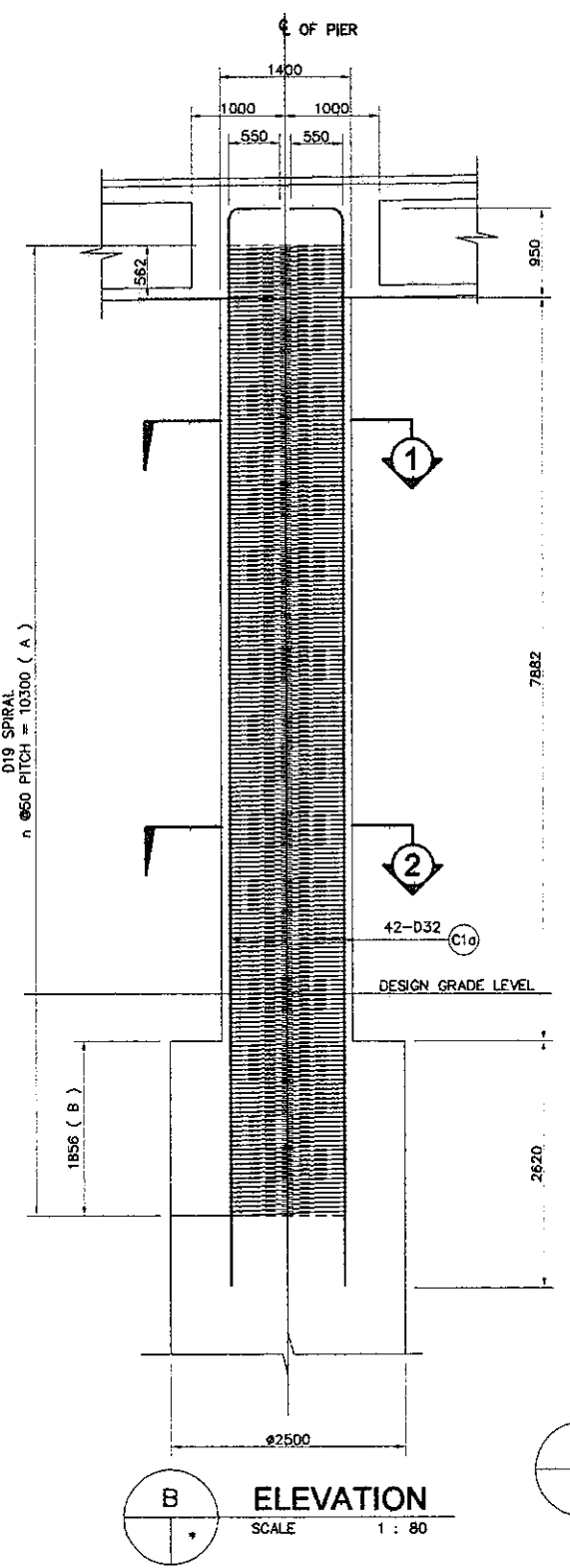
SCHEDULE OF REINFORCEMENT														
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT					LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)	
				a	b	c	d	e						f
P14L	C1a	32	1	675	10530					11205	15	6.31	1061	5.331
	C1b	32	1	675	5370					6045	15	6.31	572	
	C2	19	2	75	890	500				72813	1	2.23	162	
	C3	19	2	100	890	500				144141	1	2.23	321	
	C4	19	2	75	890	500				131063	1	2.23	292	
											SUB TOTAL =		2,409 Kgs	
P14R	C1a	32	1	675	10730					11405	15	6.31	1079	5.491
	C1b	32	1	675	5470					6140	15	6.31	582	
	C2	19	2	75	890	500				72813	1	2.23	162	
	C3	19	2	100	890	500				125238	1	2.23	279	
	C4	19	2	75	890	500				131063	1	2.23	292	
											SUB TOTAL =		2,395 Kgs	
											TOTAL =		4,804 Kgs	10.822
P15L	C1a	32	1	675	10600					11275	15	6.31	1067	5.389
	C1b	32	1	675	5410					6290	15	6.31	576	
	C2	19	2	75	890	500				72813	1	2.23	162	
	C3	19	2	100	890	500				122326	1	2.23	273	
	C4	19	2	75	890	500				131063	1	2.23	292	
											SUB TOTAL =		2,371 Kgs	
P15R	C1a	32	1	675	10710					11385	15	6.31	1078	5.473
	C1b	32	1	675	5460					6340	15	6.31	581	
	C2	19	2	75	890	500				72813	1	2.23	162	
	C3	19	2	100	890	500				125238	1	2.23	279	
	C4	19	2	75	890	500				131063	1	2.23	292	
											SUB TOTAL =		2,392 Kgs	
											TOTAL =		4,763 Kgs	10.861

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

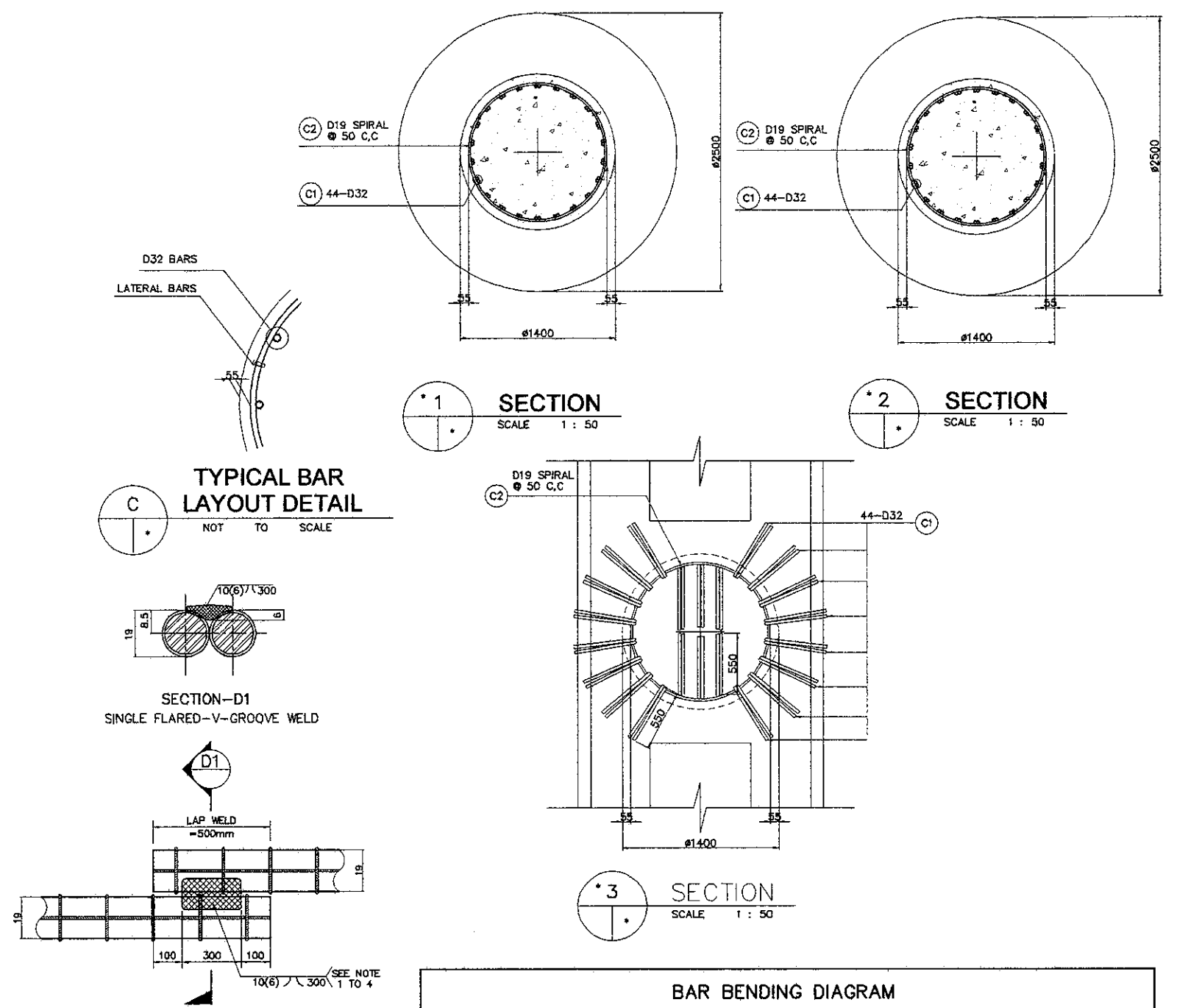
- NOTES :**
- ALL DIMENSIONS ARE IN MILLIMETERS
 - CONCRETE : $f_c' = 30 \text{ MPa}$
 - REINFORCING STEEL : YIELD STRENGTH = 390 N/mm^2



COLUMN TYPE		Ø 1400
SIZE (mm)	SIZE (mm)	32
MAIN BARS	NO. LAYERS	1
	NO. OF PGS	44
SPIRAL	SIZE (mm)	19



SCHEDULE OF PIER				
PIER NO.	HEIGHT H (mm)	A (mm)	B (mm)	n
PB1	7882	10300	1856	206
PB2	7882	10300	1856	206



BAR BENDING DIAGRAM

SCHEDULE OF REINFORCEMENT

LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (m³)
				a	b	c	d	e	f					
PB1 & PB2	C1	32	1	550	11452					12002	44	6.31	3332	11.826
	C2	19	3	50	1280	500				869982	1	2.23	1950	
TOTAL =												5,272 Kgs		

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

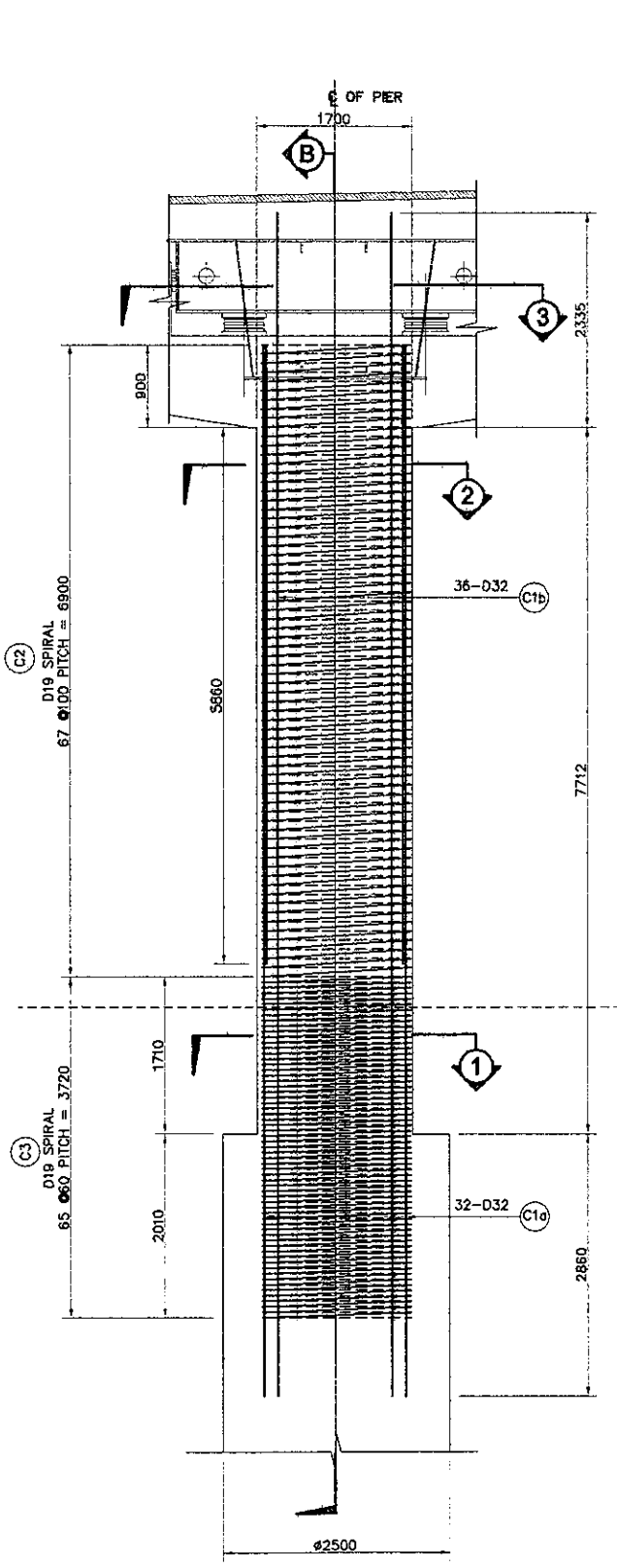
NOTES ON LAP-WELD CONNECTION :

- SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
- WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
- USE ELECTRODE E90XX.
- CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.

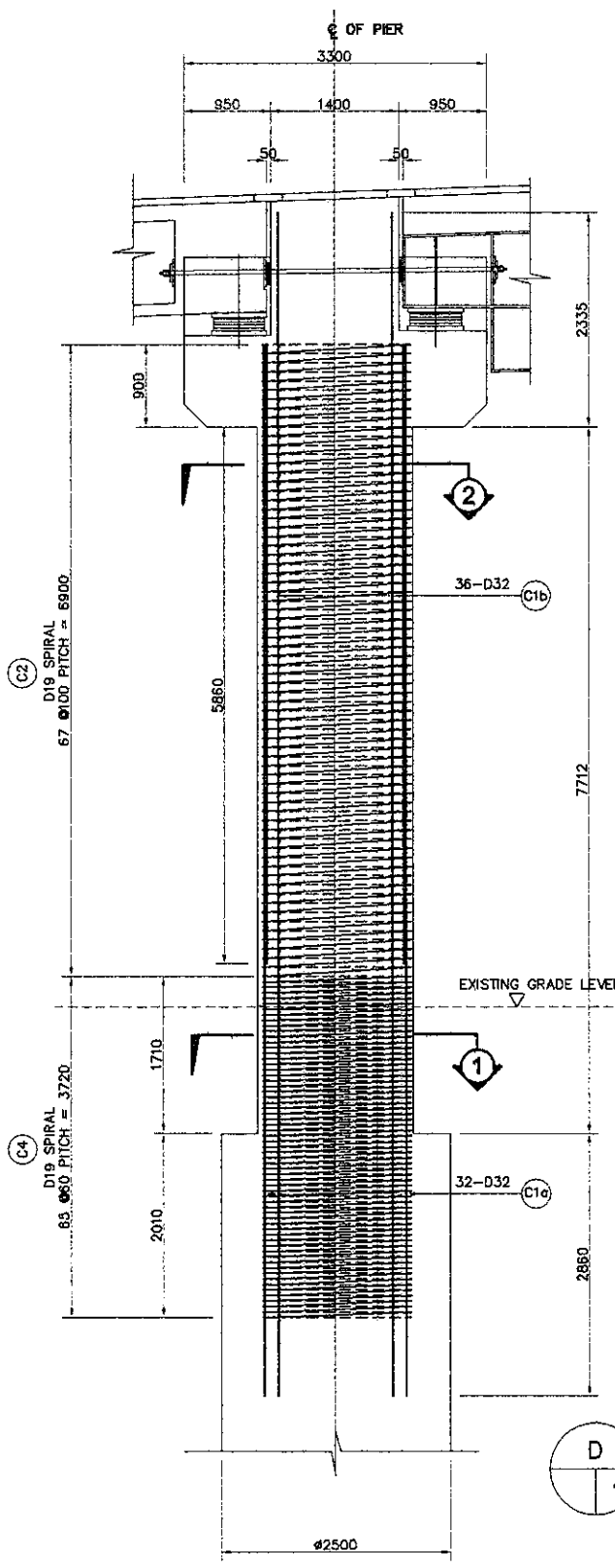
NOTES :

- ALL DIMENSIONS ARE IN MILLIMETERS
- CONCRETE : $f_c' = 30$ MPa
- REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

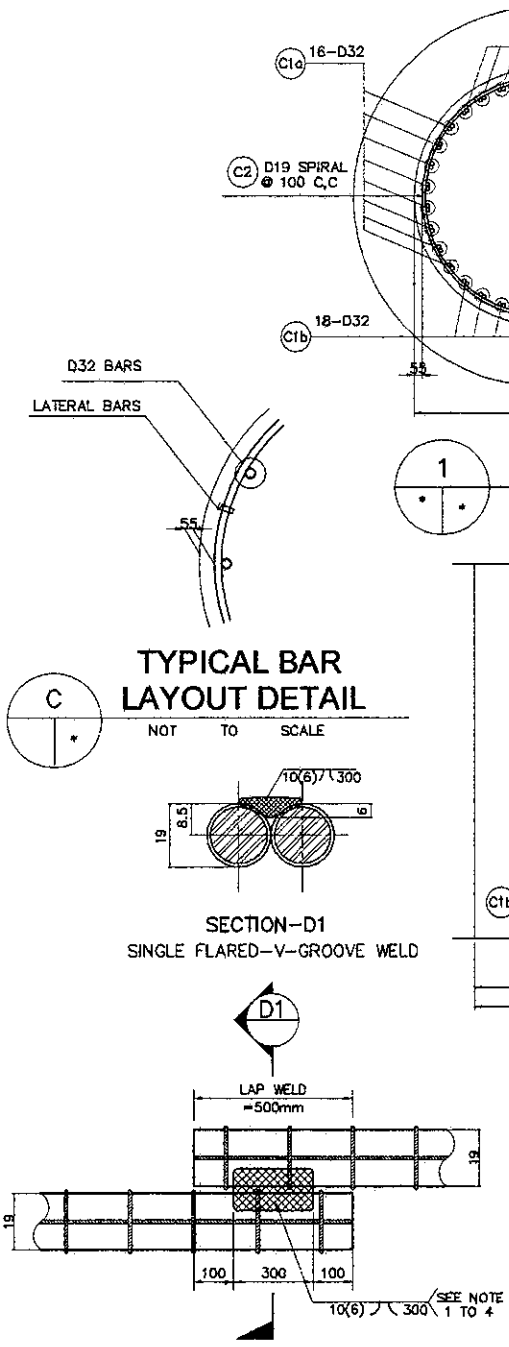
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign:	Sign:	Sign:
Date:	Date:	Date:



A ELEVATION
 SCALE 1 : 80

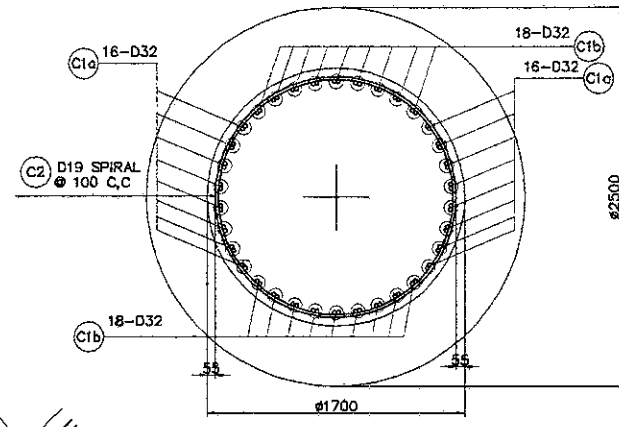


B ELEVATION
 SCALE 1 : 80

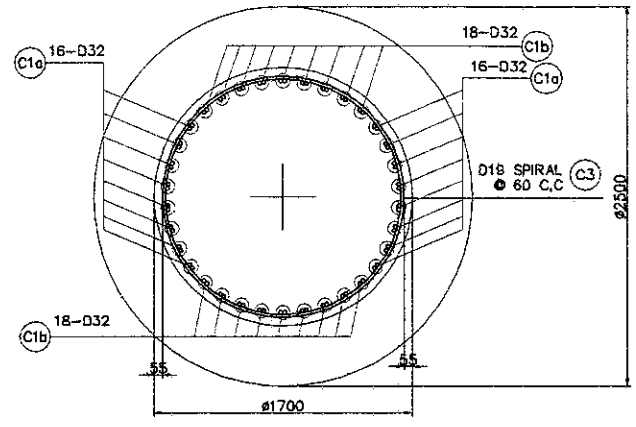


DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE

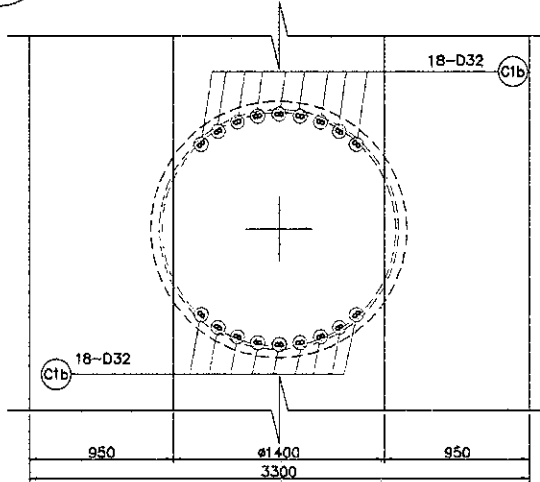
COLUMN TYPE		SIZE (mm)
SIZE (mm)		1700 ø
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS (ø)	68
SPIRAL	SIZE (mm)	19



1 SECTION
 SCALE 1 : 50

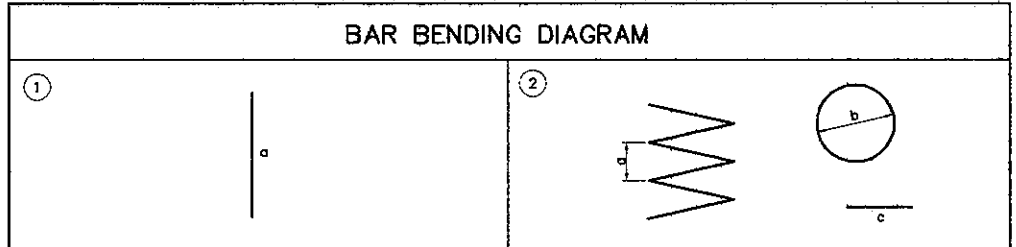


2 SECTION
 SCALE 1 : 50



3 SECTION
 SCALE 1 : 50

- NOTES ON LAP-WELD CONNECTION :**
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4)
 STRUCTURAL WELDING CODE REINFORCED STEEL.
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN BARS DURING WELDING.



LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION(mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m)	WEIGHT (kg)	VOLUME OF CONC. (M ³)
				a	b	c	d	e	f					
PB3	C1a	32	1	11470						11470	32	6.31	2316	17.505
	C1b	32	1	12910						12910	36	6.31	2932	
	C2	19	2	100	1590	500				359025	1	2.23	801	
	C3	19	2	80	1590	500				322802	1	2.23	719	
TOTAL =												6,768 Kgs		

THE SCHEDULE OF REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETERS
 2. CONCRETE : $f_c' = 30 \text{ MPa}$
 3. REINFORCING STEEL : YIELD STRENGTH = 390 N/mm²

SCHEDULE OF COLUMN

CL-MF01

PIER P1 & P2

COLUMN TYPE		CL-MF01
SIZE (mm)		1400
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	48
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.50 %

CL-MF02

PIER P3

COLUMN TYPE		CL-MF02
SIZE (mm)		1400
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	58
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		3.0 %

CL-MF03

PIER P4 & PB3

COLUMN TYPE		CL-MF03A	CL-MF03B
SIZE (mm)		1700	1700
MAIN BARS	SIZE (mm)	32	32
	NO. LAYERS	1	1
	NO. OF PCS.	72	68
SPIRAL	SIZE (mm)	19	19
STEEL RATIO, ρ		2.50 %	2.40 %

CL-MF04

PIER P5 & P7

COLUMN TYPE		CL-MF04
SIZE (mm)		1500
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	62
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.70 %

CL-MF05

PIER P6

COLUMN TYPE		CL-MF05
SIZE (mm)		1500
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	60
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.70 %

CL-MF06

PIER P8

COLUMN TYPE		CL-MF06
SIZE (mm)		1200
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	27
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		1.90 %

CL-MF07

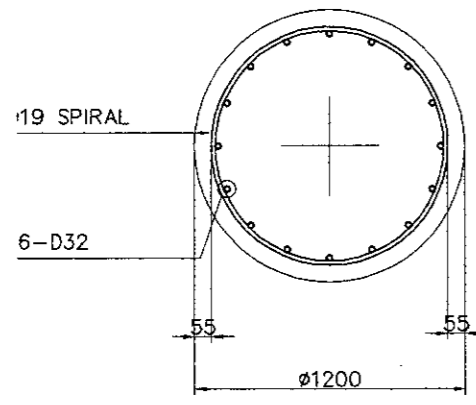
PIER P9 & P12

COLUMN TYPE		CL-MF07
SIZE (mm)		1700
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
	NO. OF PCS.	60
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.0 %

SCHEDULE OF COLUMN

CL-MF08

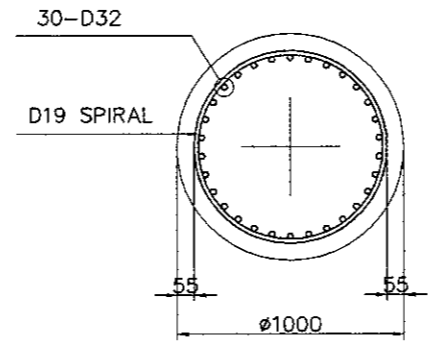
PIER P13



COLUMN TYPE		CL-MF08
SIZE (mm)		1200
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
MAIN BARS	NO. OF PCS.	16
	NO. OF PCS.	16
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		1.90 %

CL-MF09

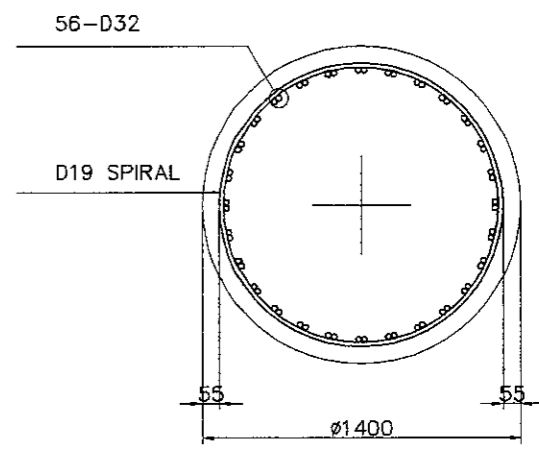
PIER P14 & P15



COLUMN TYPE		CL-MF09
SIZE (mm)		1000
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
MAIN BARS	NO. OF PCS.	30
	NO. OF PCS.	30
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		3.0 %

CL-MF10

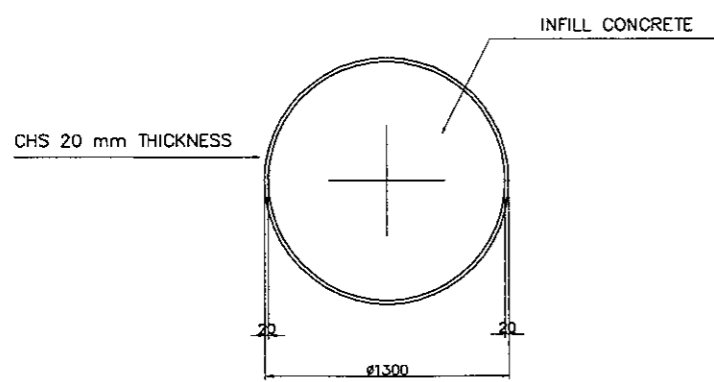
PIER PB1 & PB2



COLUMN TYPE		CL-MF10
SIZE (mm)		1400
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	1
MAIN BARS	NO. OF PCS.	56
	NO. OF PCS.	56
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		2.90 %

CL-MF11

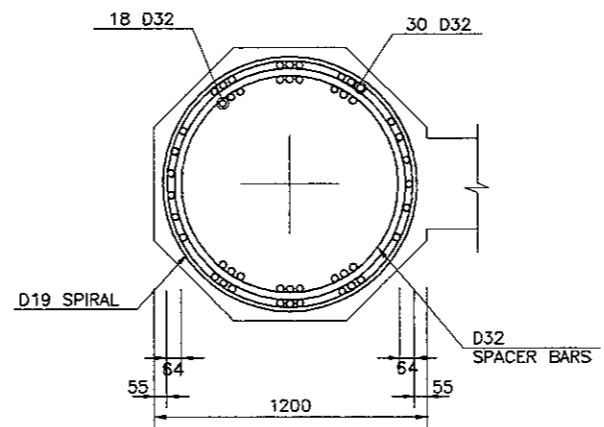
PIER P10, P11, PB5
 PIER PB4L & PB4R



COLUMN TYPE : COMPOSITE COLUMN
 SIZE (mm) : 1300

CL-MF12

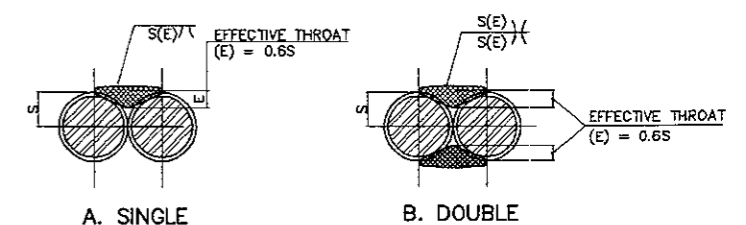
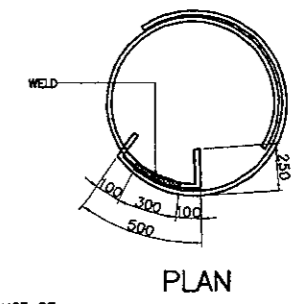
ABUTMENT A2



COLUMN TYPE		CL-MF12
SIZE (mm)		1200
MAIN BARS	SIZE (mm)	32
	NO. LAYERS	2
MAIN BARS	NO. OF PCS (1)	30
	NO. OF PCS (2)	18
SPIRAL	SIZE (mm)	19
STEEL RATIO, ρ		

NOTES :

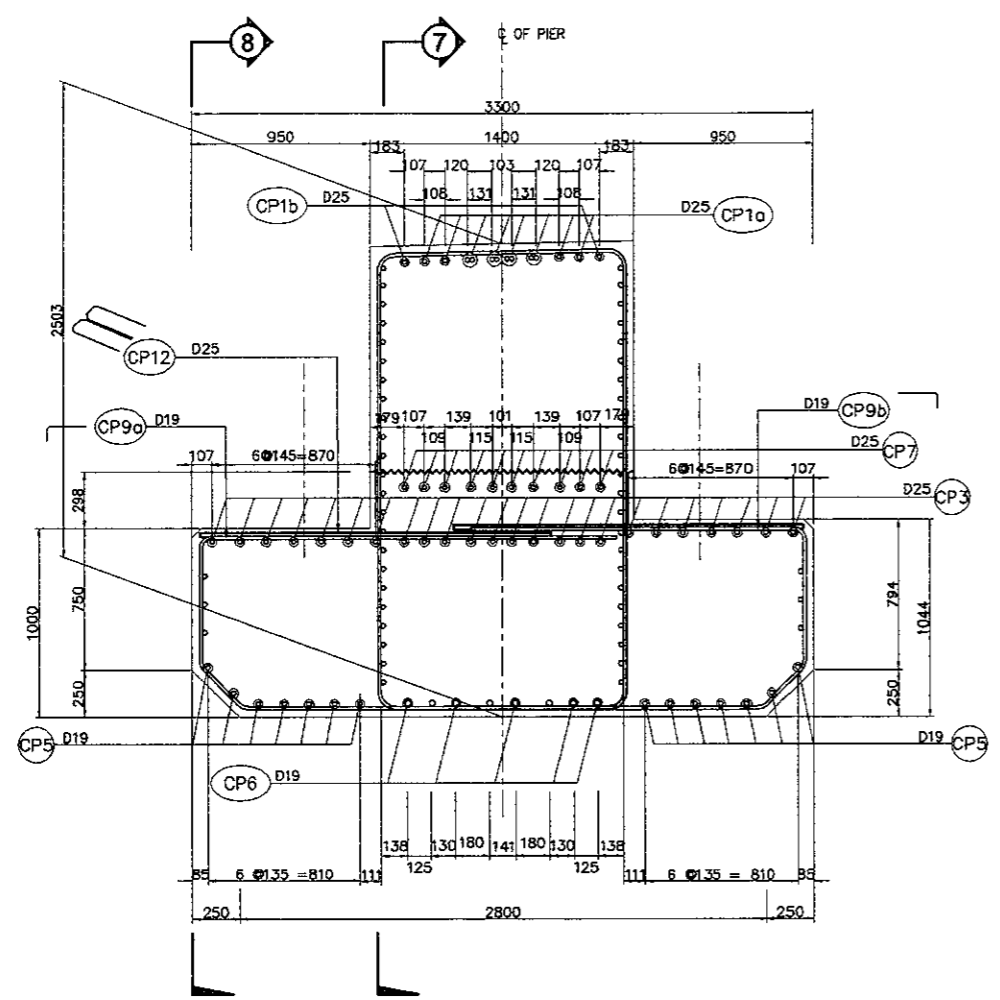
1. LAP SPLICE OF COLUMN MAIN BARS WILL NOT BE ALLOWED IN ANY LOCATION.



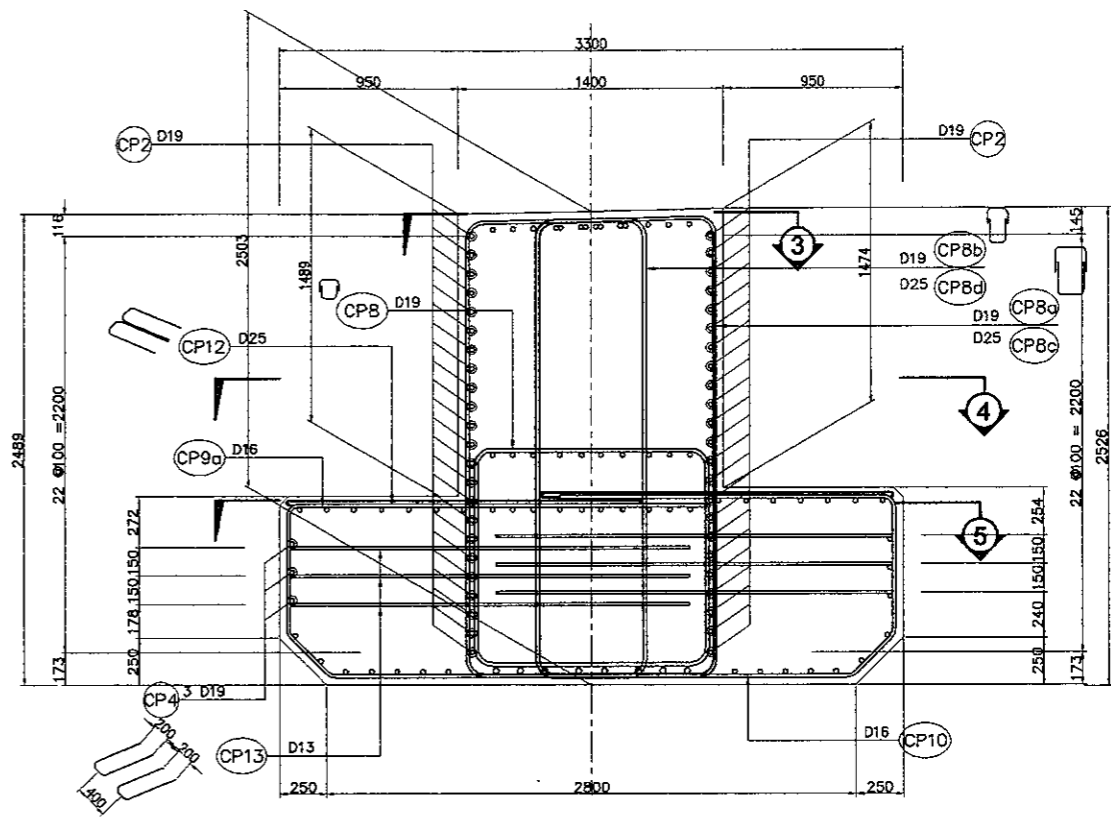
WHERE: S = RADIUS OF REINFORCING BAR
 E = EFFECTIVE THROAT

SECTIONS
 DETAILS OF LAP WELD SPLICE
 FOR SPIRAL

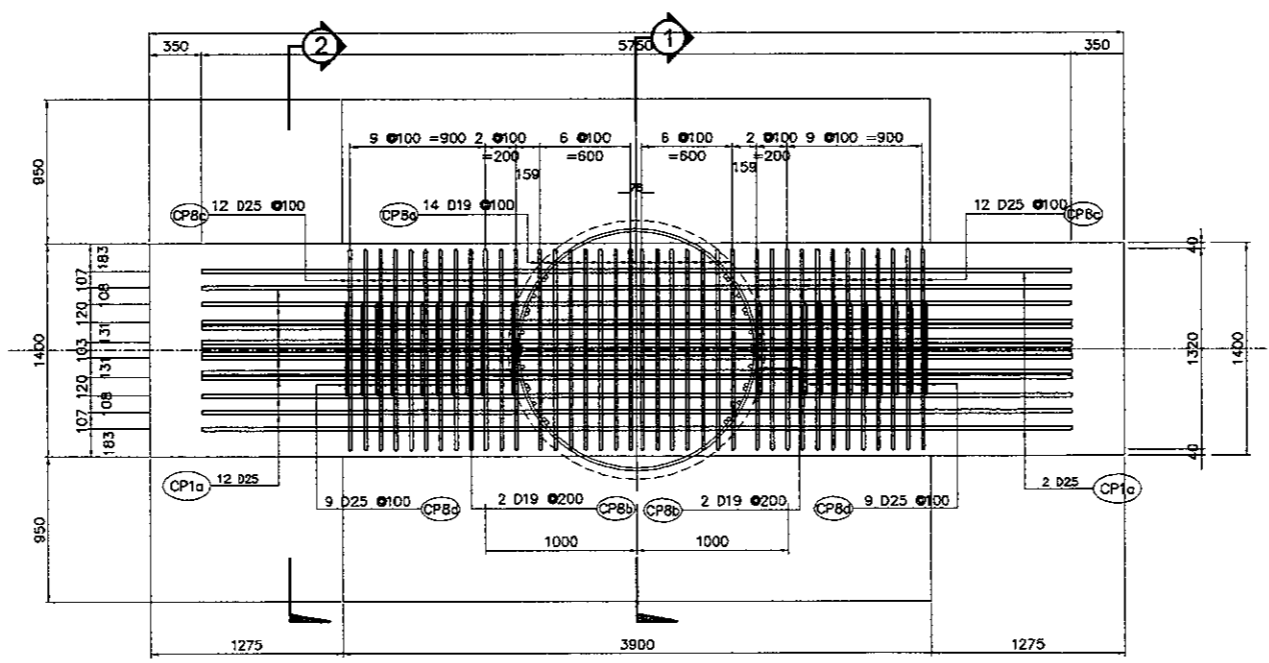
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. COURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign: _____	Sign: _____	Sign: _____
Date: _____	Date: _____	Date: _____



1 SECTION
 SCALE 1:40

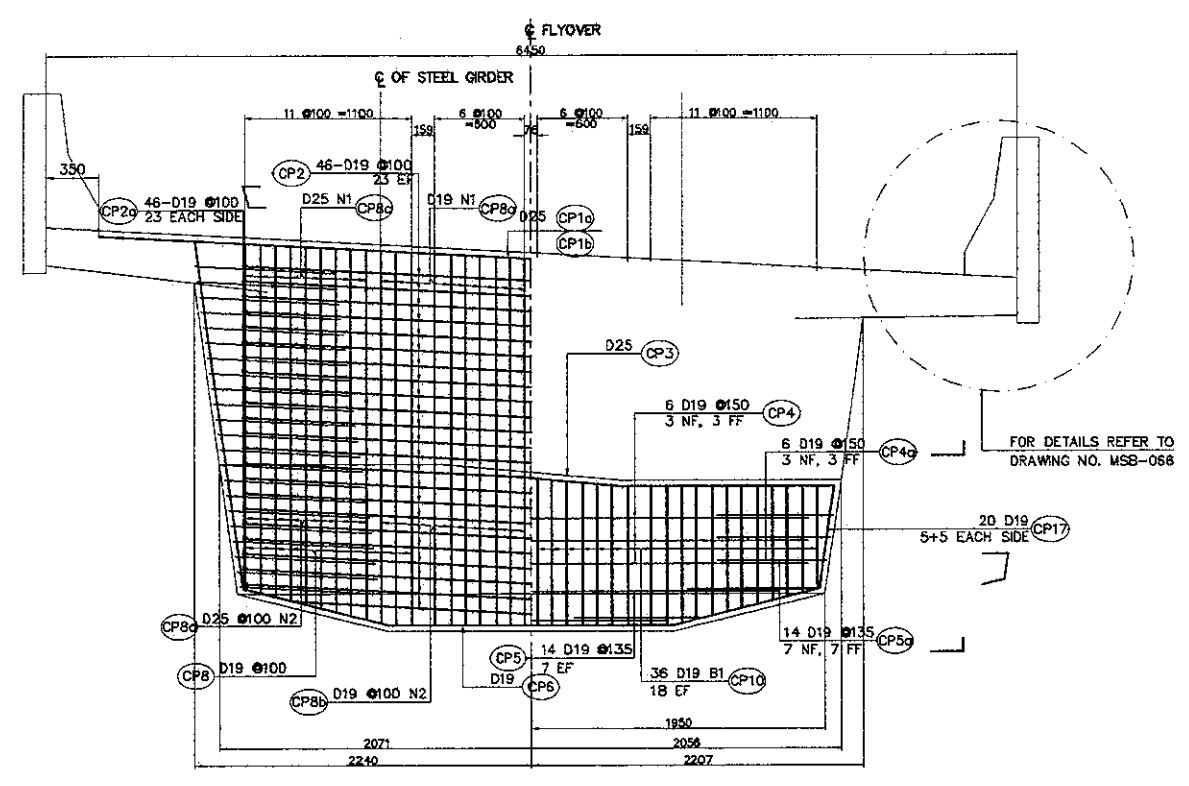


2 SECTION
 SCALE 1:40



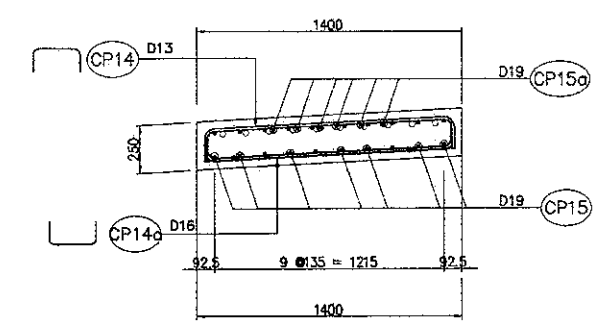
3 PLAN ON COPING TOP
 SCALE 1:50

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name A. GOURLEY	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date

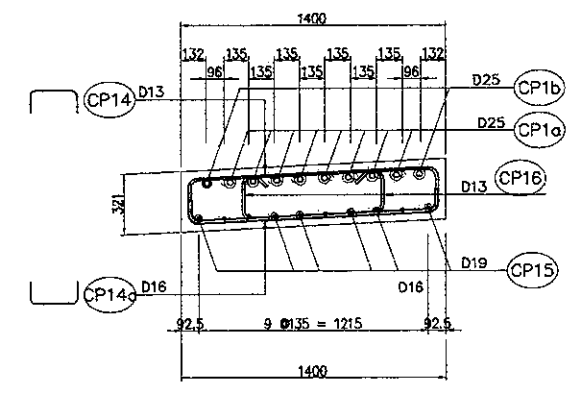


6 ELEVATION ON COPING
 SCALE 1 : 50

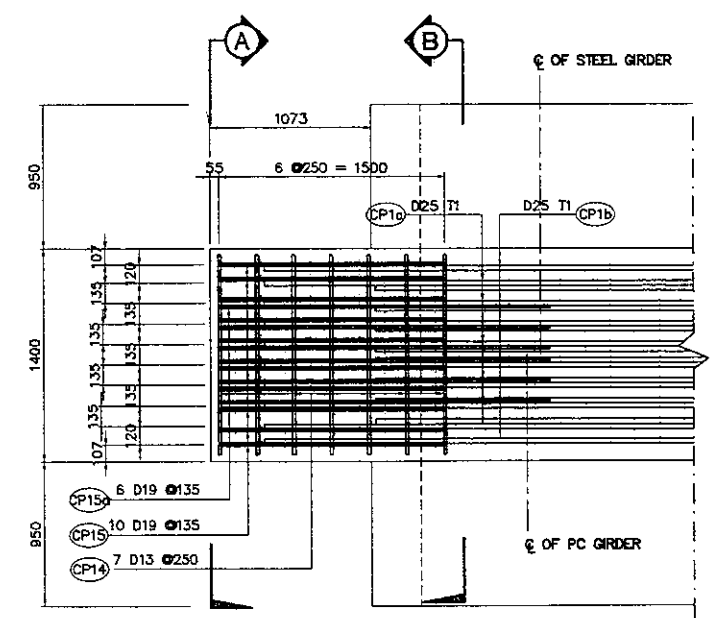
7 ELEVATION ON BEAM LEDGE
 SCALE 1 : 50



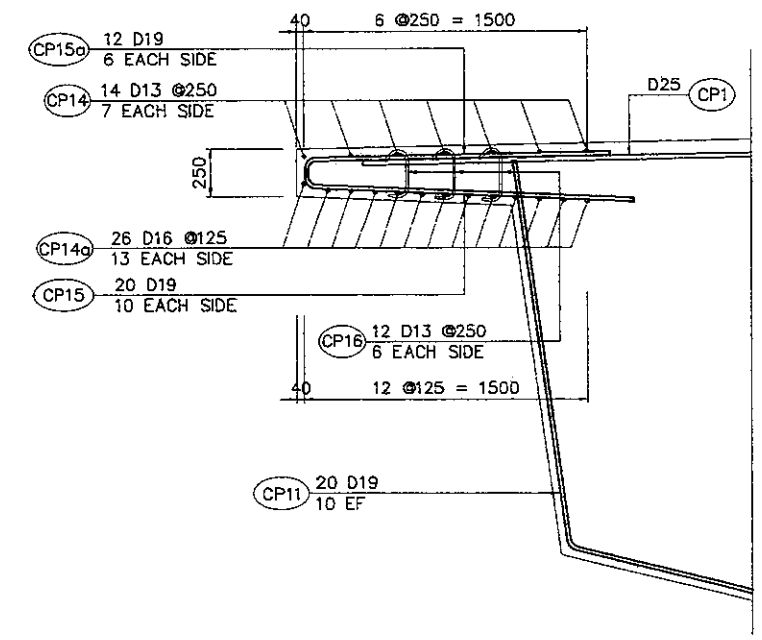
10 SECTION A-A
 SCALE 1:40



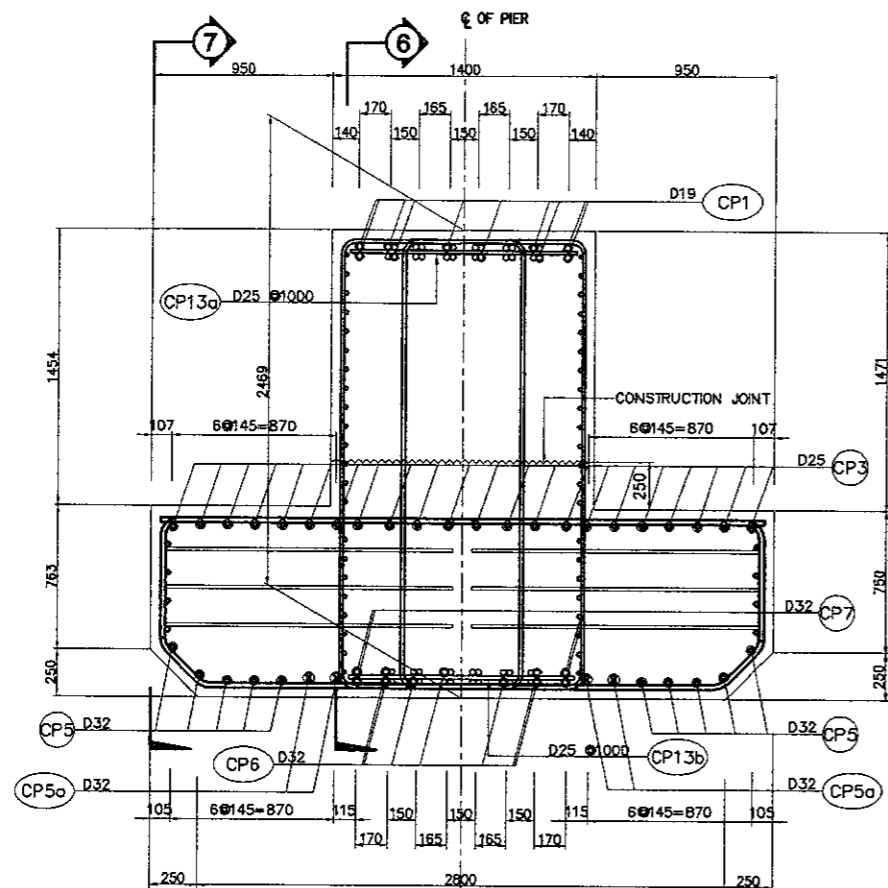
11 SECTION B-B
 SCALE 1:40



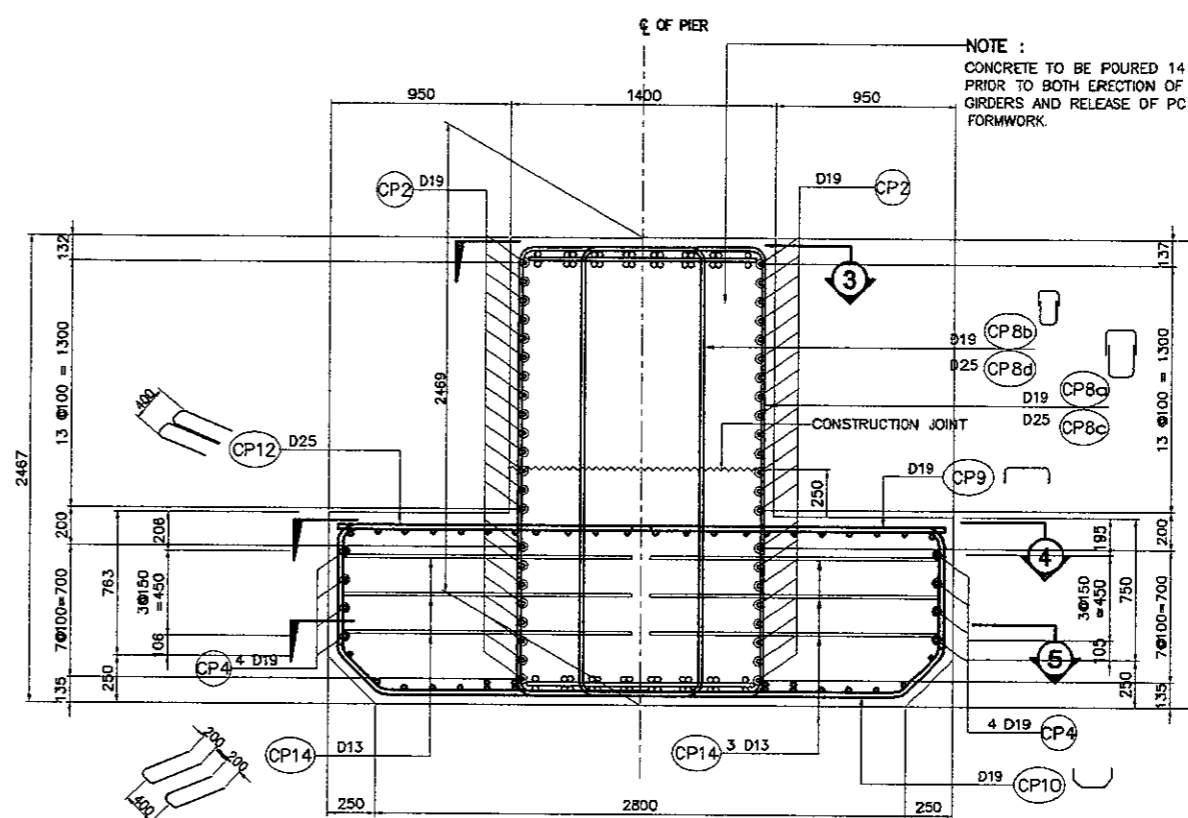
8 PLAN ON COPING CANTILEVER
 SCALE 1 : 40



9 ELEVATION ON COPING CANTILEVER
 SCALE 1 : 40

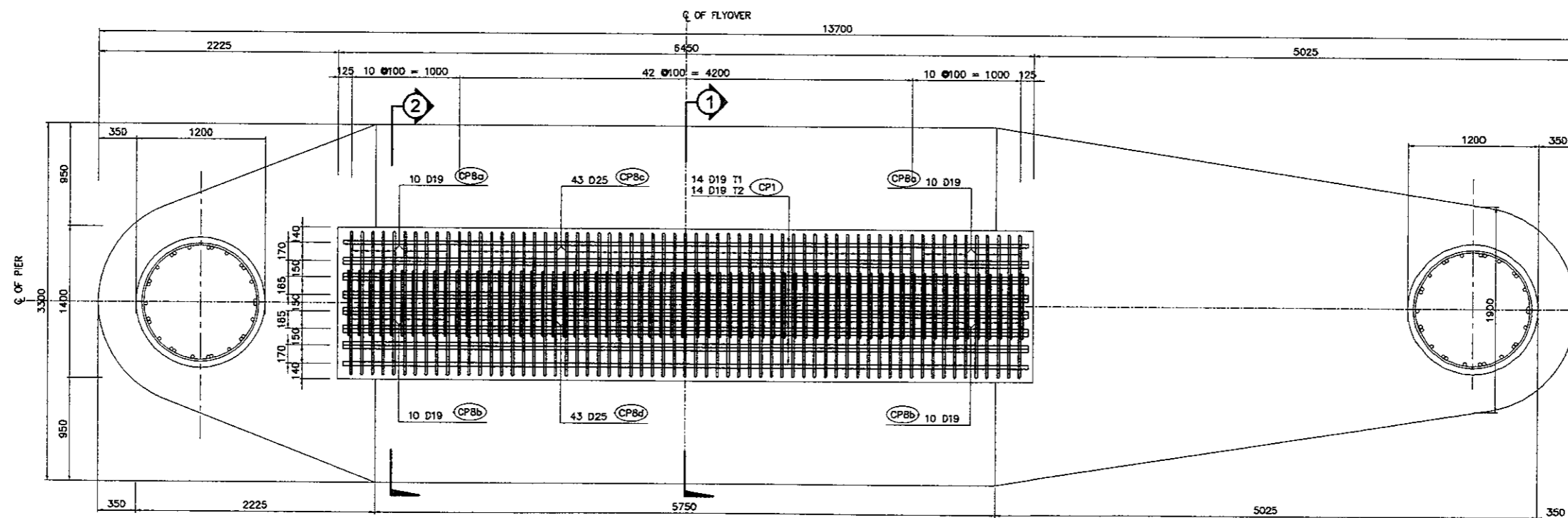


1 SECTION
 SCALE 1:40



2 SECTION
 SCALE 1:40

NOTE :
 CONCRETE TO BE POURED 14 DAYS
 PRIOR TO BOTH ERECTION OF STEEL
 GIRDERS AND RELEASE OF PC DECK
 FORMWORK.



3 PLAN ON COPING TOP
 SCALE 1:50

NOTES :
 1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. CONCRETE : $f_c' = 30\text{MPa}$
 3. REINFORCING STEEL=
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	A. GOURLEY	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	

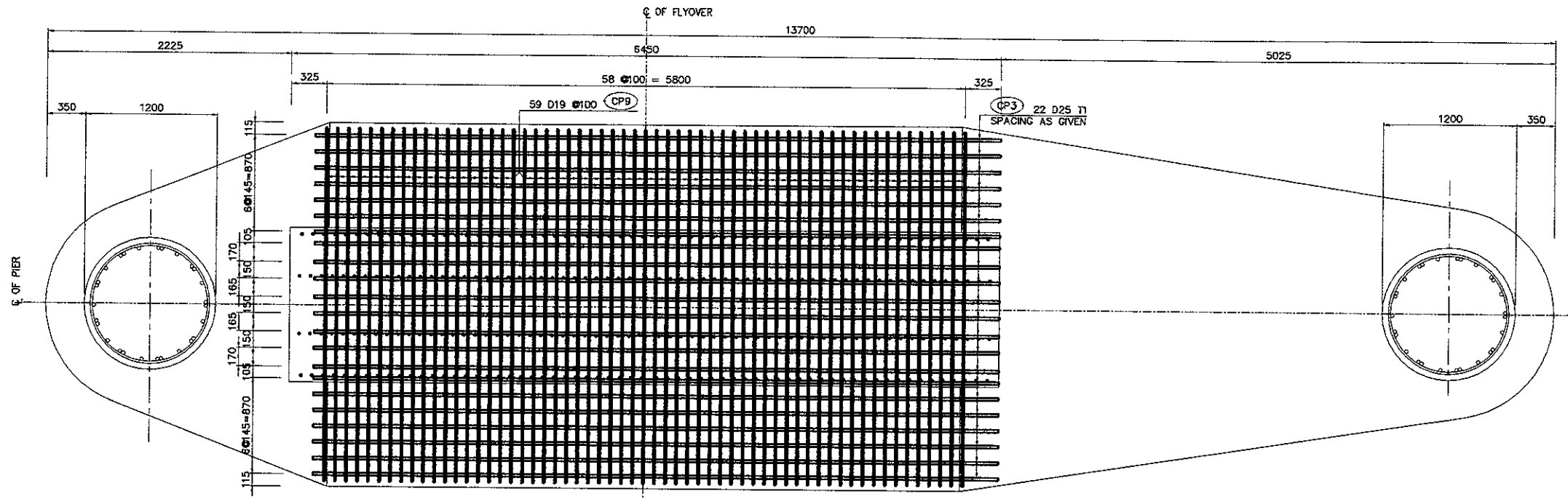
APPROVED BY: Ir. HERRY VAZA M.Eng.Sc
 NIP. : 110038400

PROJECT AND LOCATION :
 DETAILED DESIGN STUDY OF
 NORTH JAVA CORRIDOR FLYOVER PROJECT
 MERAK FLYOVER - CONTRACT PACKAGE 1
 (MERAK - BALARAJA)
 BANTEN PROVINCE

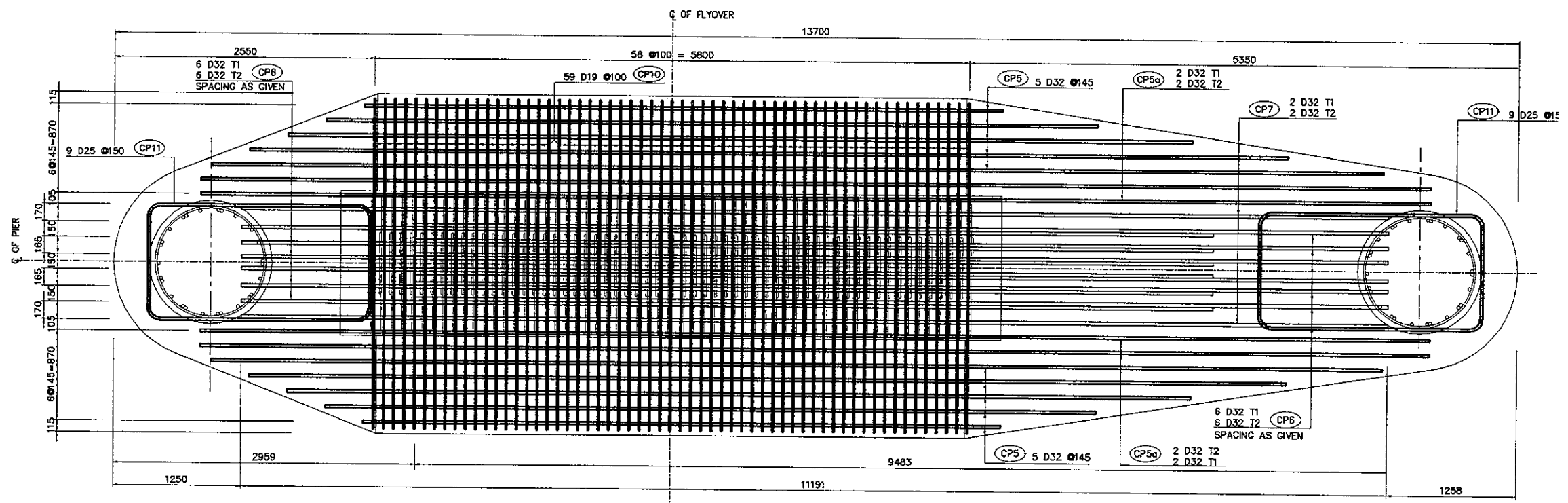
SCALE :
 1 : 50
 FULL SIZE A3

DRAWING TITLE :
 PIER COPING REINFORCEMENT
 P8 (EXP.) (2 OF 5)

DRAWING NO :
 MSB-046
 SHEET NO :
 46 / 94

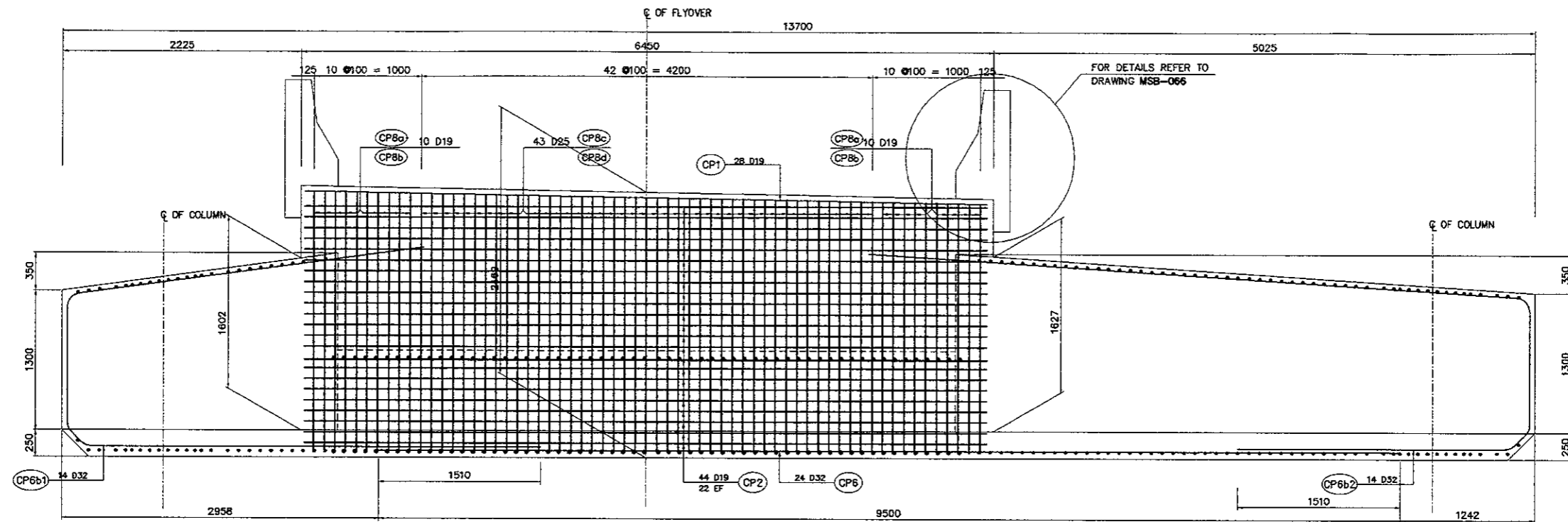


4 PLAN ON BEAM LEDGE (SHOWING TOP)
 SCALE 1:50

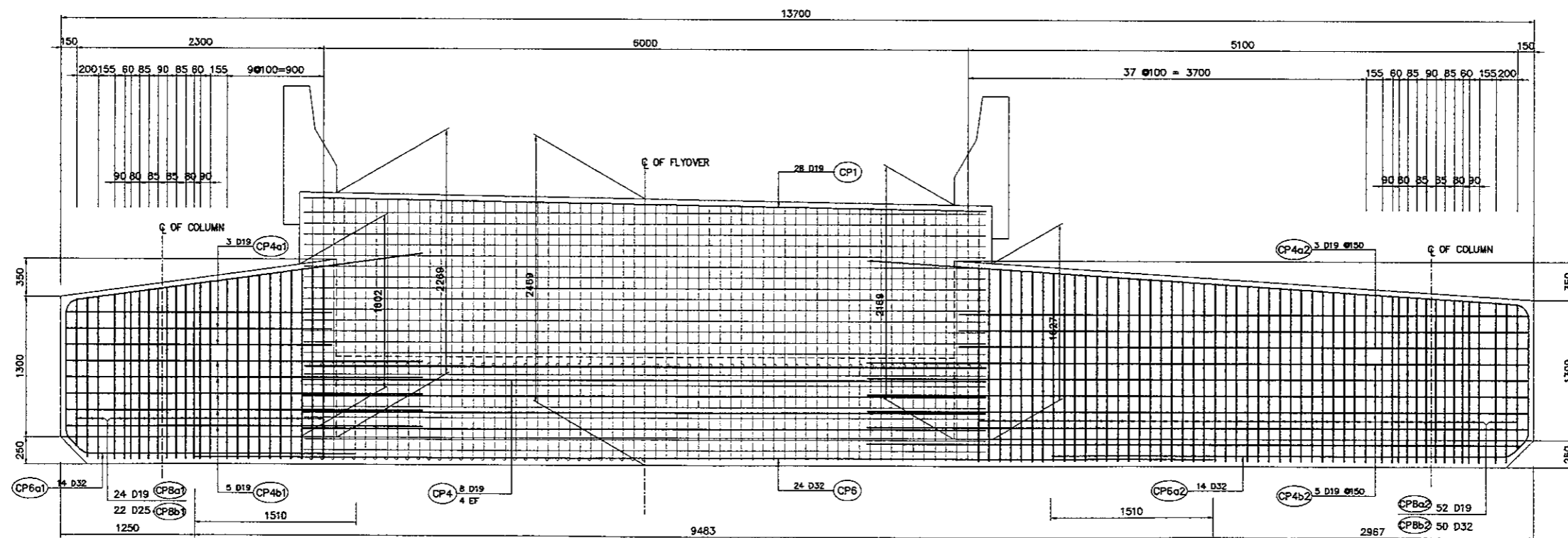


5 PLAN ON BEAM LEDGE (SHOWING BASE)
 SCALE 1:50

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CONCRETE : $f_c' = 30\text{MPa}$
 - REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²

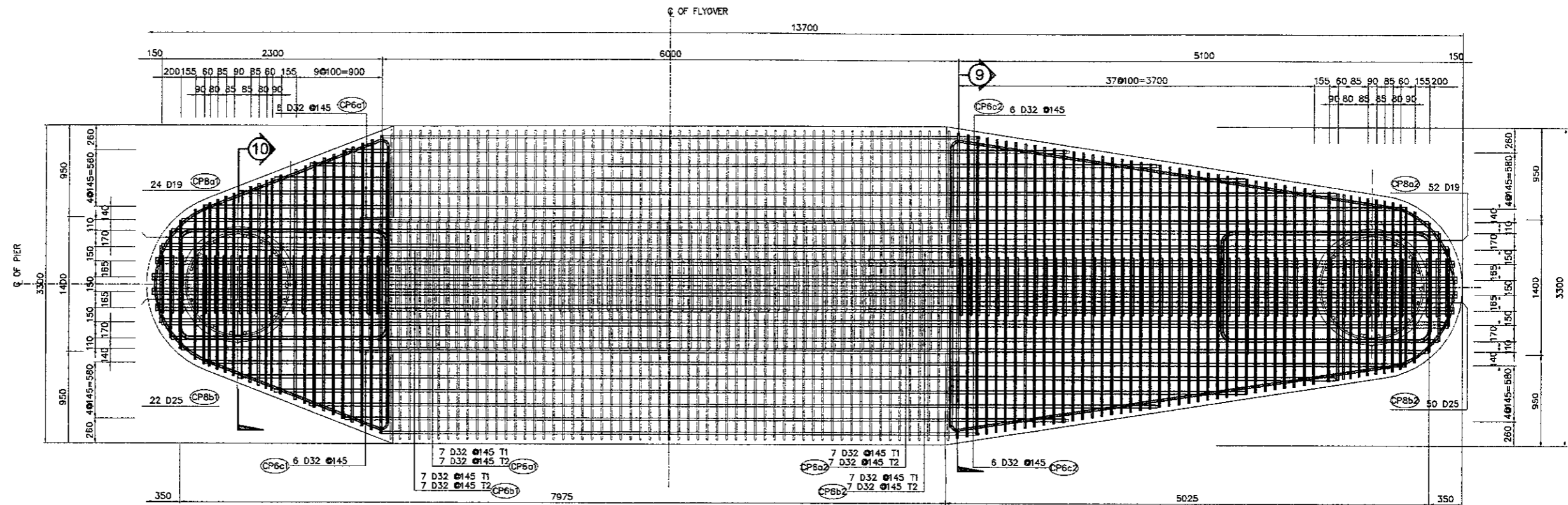


6 ELEVATION ON COPING
 SCALE 1 : 50

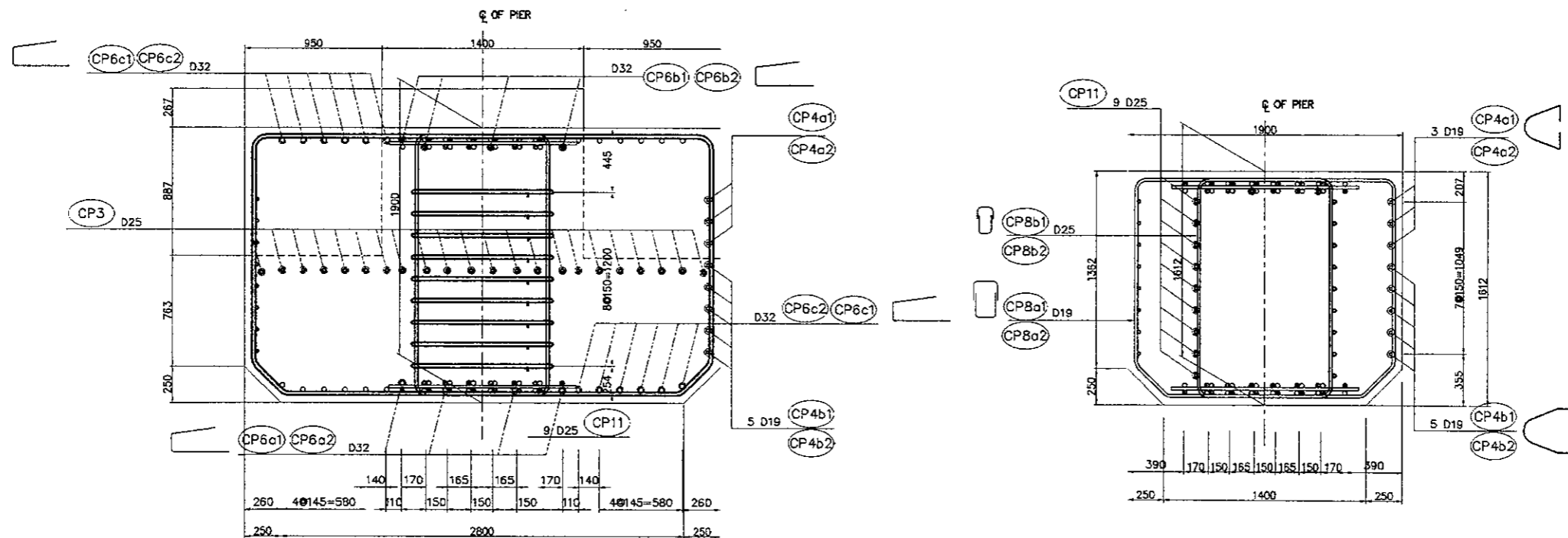


7 ELEVATION ON BEAM LEDGE
 SCALE 1 : 50

- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. CONCRETE : $f_c' = 30\text{MPa}$
 3. REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²



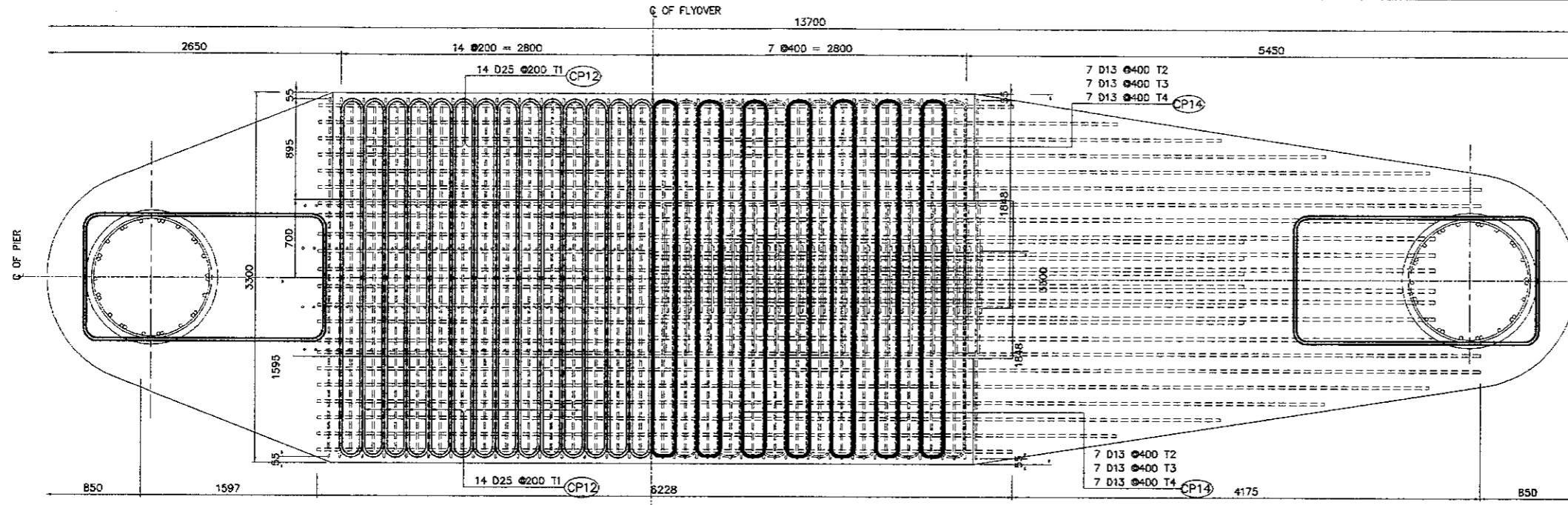
8 PLAN ON COLUMN JOINT
 SCALE 1:50



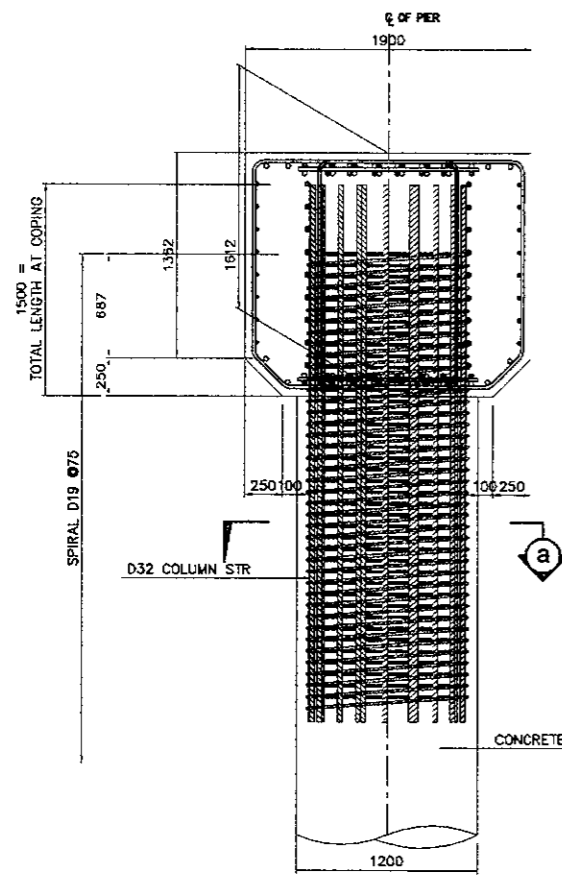
9 SECTION
 SCALE 1:40

10 SECTION
 SCALE 1:40

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CONCRETE : $f_c' = 30\text{MPa}$
 - REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²



B STIRRUP PLACING
 SCALE 1:50

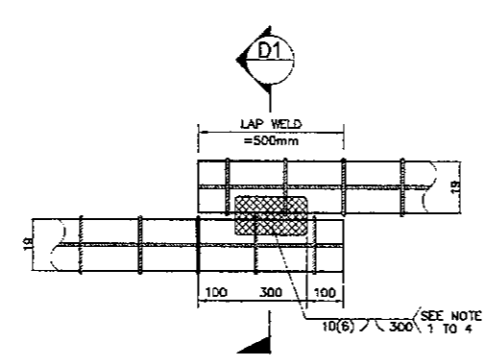


A ELEVATION
 SCALE 1:50

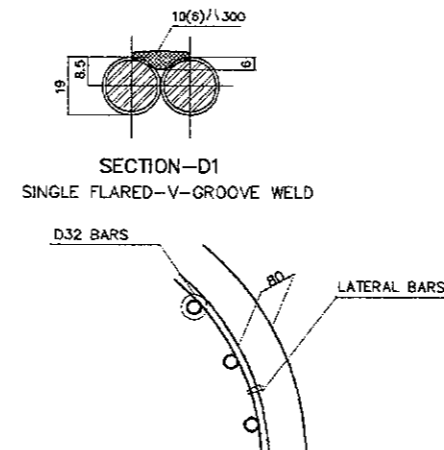
- NOTES ON LAP-WELD CONNECTION :**
1. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. WELDING SHOULD CONFORM TO AWS (D1.4) *STRUCTURAL WELDING CODE REINFORCED STEEL*
 3. USE ELECTRODE E90XX.
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE THE COLUMN MAIN DURING WELDING.

- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. CONCRETE : $f_c' = 30\text{MPa}$
 3. REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²

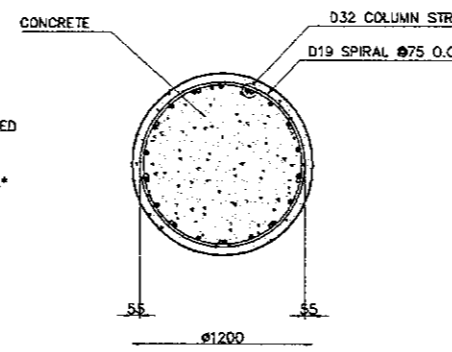
D DETAIL OF SPIRAL REINF. FULL LAP-WELD CONNECTION
 NOT TO SCALE



SECTION-D1 SINGLE FLARED-V-GROOVE WELD

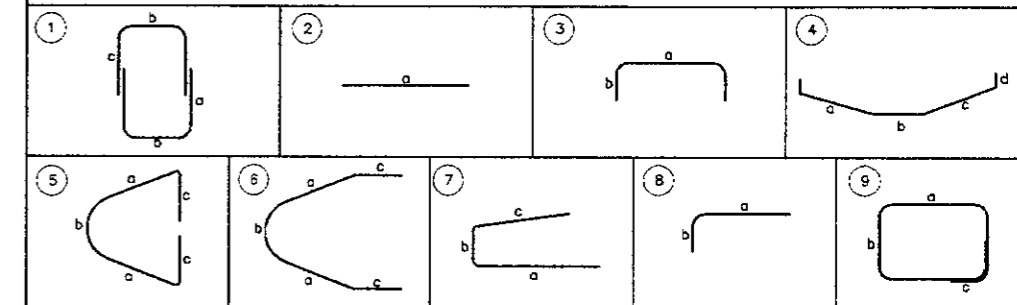


E TYPICAL BAR LAYOUT DETAIL
 NOT TO SCALE



C SECTION DETAIL
 SCALE 1:50

BAR BENDING DIAGRAM

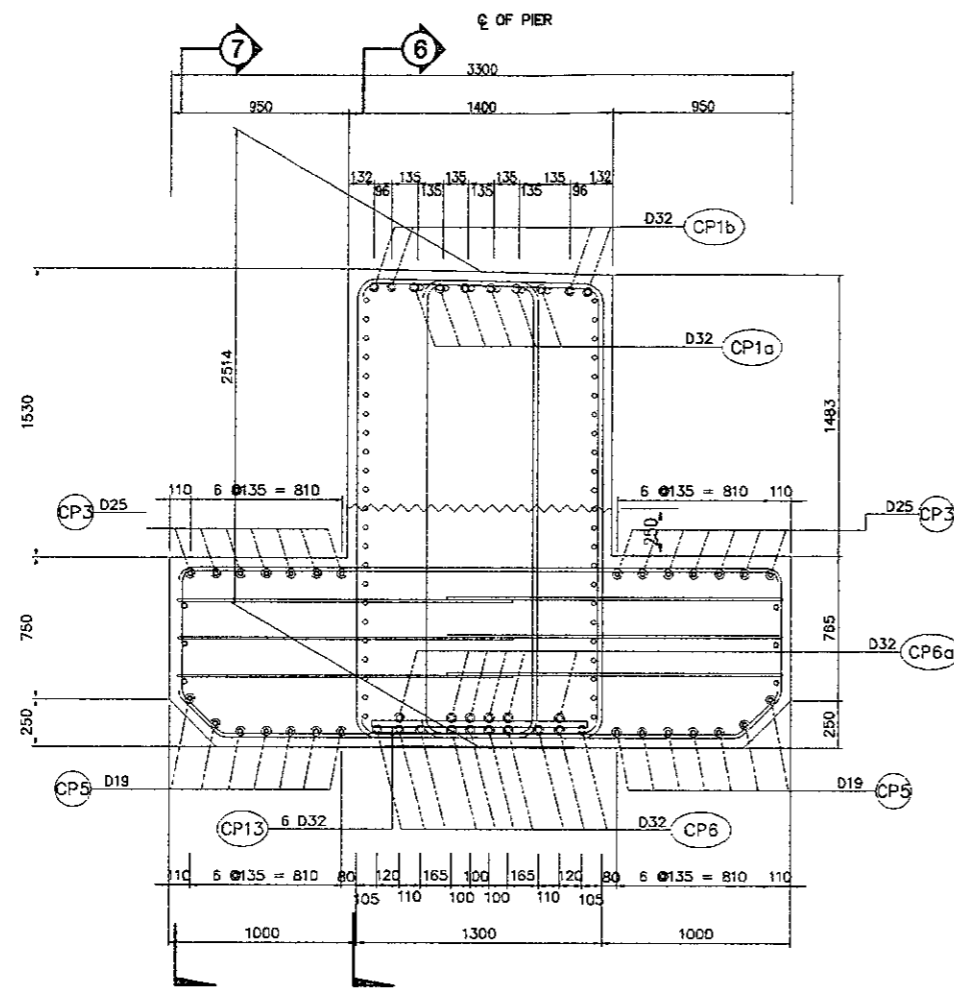


SCHEDULE OF REINFORCEMENT

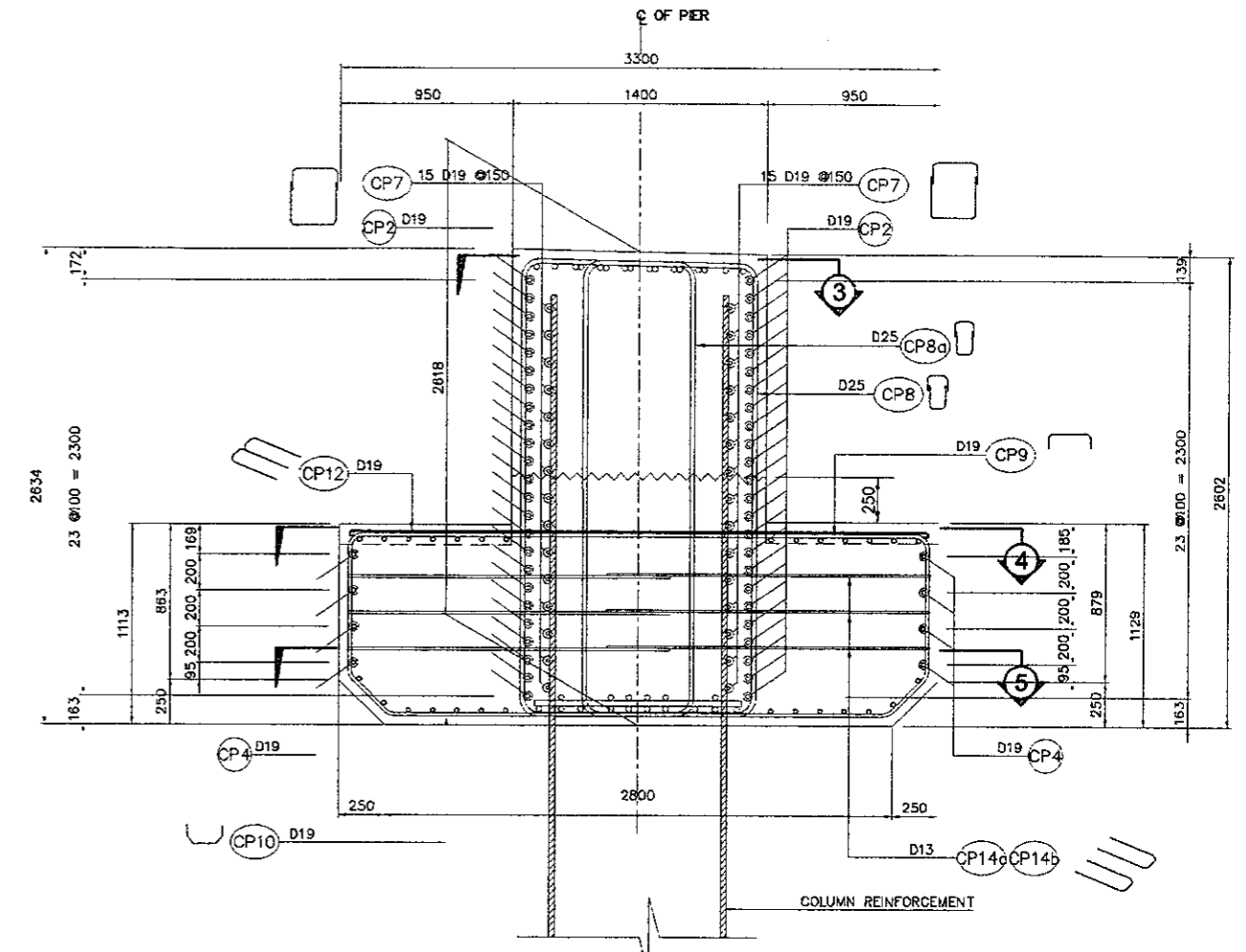
LOCATION	BAR MARK	SIZE (mm)	BEND TYPE	DIMENSION (mm) OUT TO OUT						LENGTH (mm)	NO. REQ'D.	UNIT WEIGHT (kg/m.)	WEIGHT (kg.)	VOLUME OF CONCRETE (m ³)
				a	b	c	d	e	f					
COPING	CP1	19	2	6350						6350	28	2.23	396	56.16
	CP2	19	2	6350						6350	44	2.23	823	
	CP3	25	2	6350						6350	22	3.85	538	
	CP4	19	2	6350						6350	8	2.23	113	
	CP4a1	19	5	1895	2125	1230				8375	3	2.23	56	
	CP4b1	19	6	1895	2200	1200				8390	5	2.23	94	
	CP4a2	19	5	4620	2125	1230				13825	3	2.23	92	
	CP4b2	19	6	4620	2200	1200				13840	5	2.23	154	
	CP5	32	2	8228-11434						8833	10	6.31	557	
	CP5a	32	2	12000						12000	8	6.31	606	
	CP6	32	2	9500						9500	24	6.31	1438	
	CP6a1	32	7	4415	1420	3245				9080	14	6.31	802	
	CP6b1	32	7	2700	1420	3245				7365	14	6.31	851	
	CP6a2	32	7	2700	1420	6015				10135	14	6.31	895	
CP6b2	32	7	4415	1420	6015				11850	14	6.31	1047		
CP6c1	32	7	2700	1420-1700	500-5200				6625	12	6.31	502		
CP6c2	32	7	2700	1420-1700	300-5600				6225	12	6.31	623		
CP7	32	2	11200						11200	4	6.31	283		
CP8a	19	1	1760	1300	1400				8920	20	2.23	398		
CP8b	19	1	1760	650	1400				7620	20	2.23	340		
CP8c	25	1	1760	1300	1400				8920	43	3.85	1477		
CP8d	25	1	1760	650	1400				7620	43	3.85	1261		
CP8a1	19	1	1260	1950	1138				8695	24	2.23	485		
CP8b1	25	1	1260	930	1138				8655	22	3.85	564		
CP8a2	19	1	1260	1950	1138				8695	52	2.23	1008		
CP8b2	25	1	1260	930	1138				8655	50	3.85	1281		
CP9	19	3	3200	635					4470	59	2.23	588		
CP10	19	4	225	2675	225	300			3725	59	2.23	490		
CP11	25	9	2150	1135	200				5970	18	3.85	483		
CP12	25	3	200	1900					4000	56	3.85	862		
CP13a	25	2	1200						1200	6	3.85	28		
CP13b	25	2	1200						1200	6	3.85	28		
CP14	13	3	200	1800					3800	84	1.04	332		

TOTAL WEIGHT FOR / COPING = 19,076 Kgs.
 THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

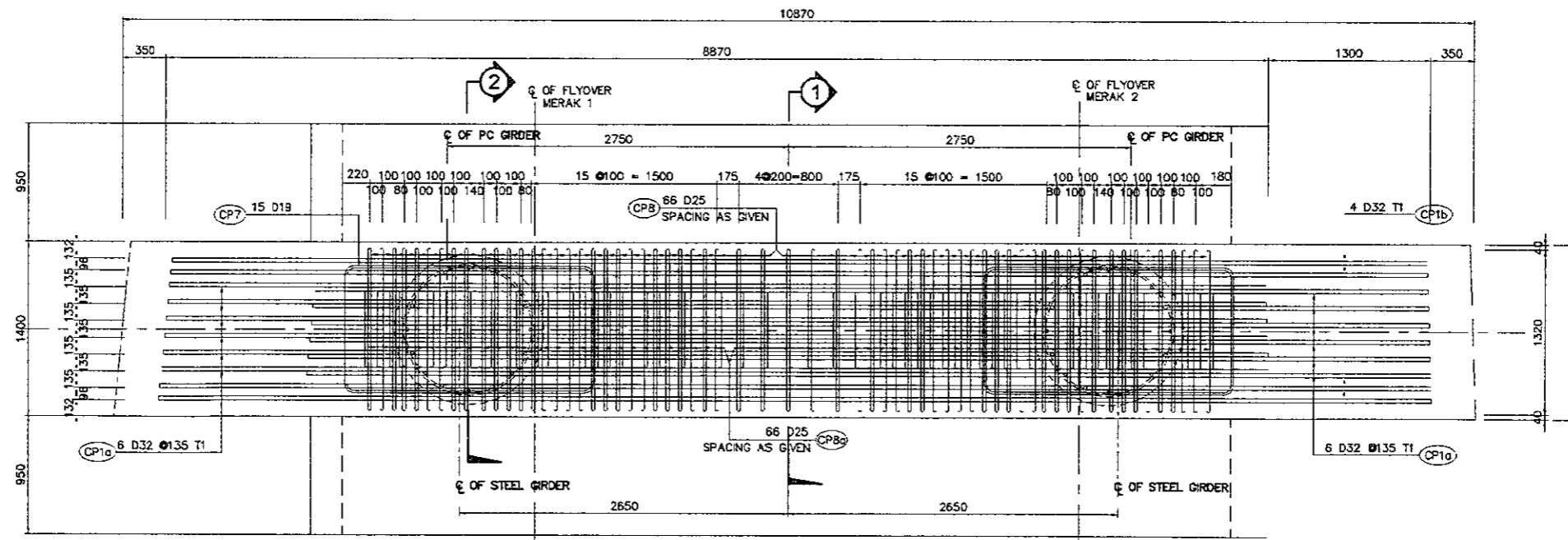
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: A. GOURLEY	Name: T. OKUMURA	Name: M. KIUCHI
Sign: _____	Sign: _____	Sign: _____
Date: _____	Date: _____	Date: _____



1 SECTION
 SCALE : 1:40



2 SECTION
 SCALE : 1:40



3 PLAN ON TOP BARS
 SCALE : 1:50

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS.
 - CONCRETE : $F_c' = 30MPa$
 - REINFORCING STEEL =
 D51 : YIELD STRENGTH = 345 N/mm²
 OTHERS : YIELD STRENGTH = 390 N/mm²