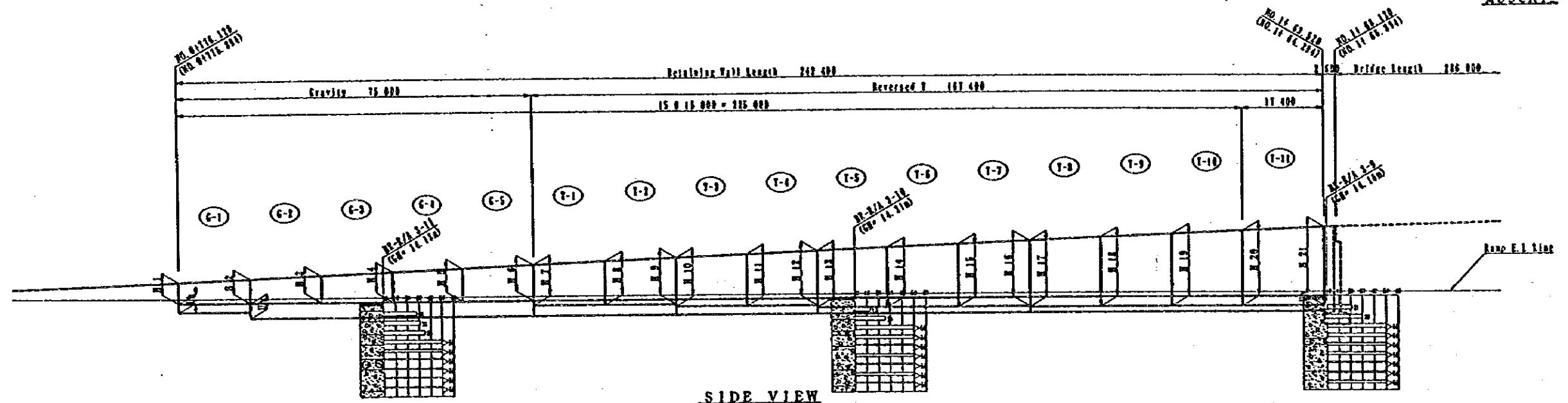


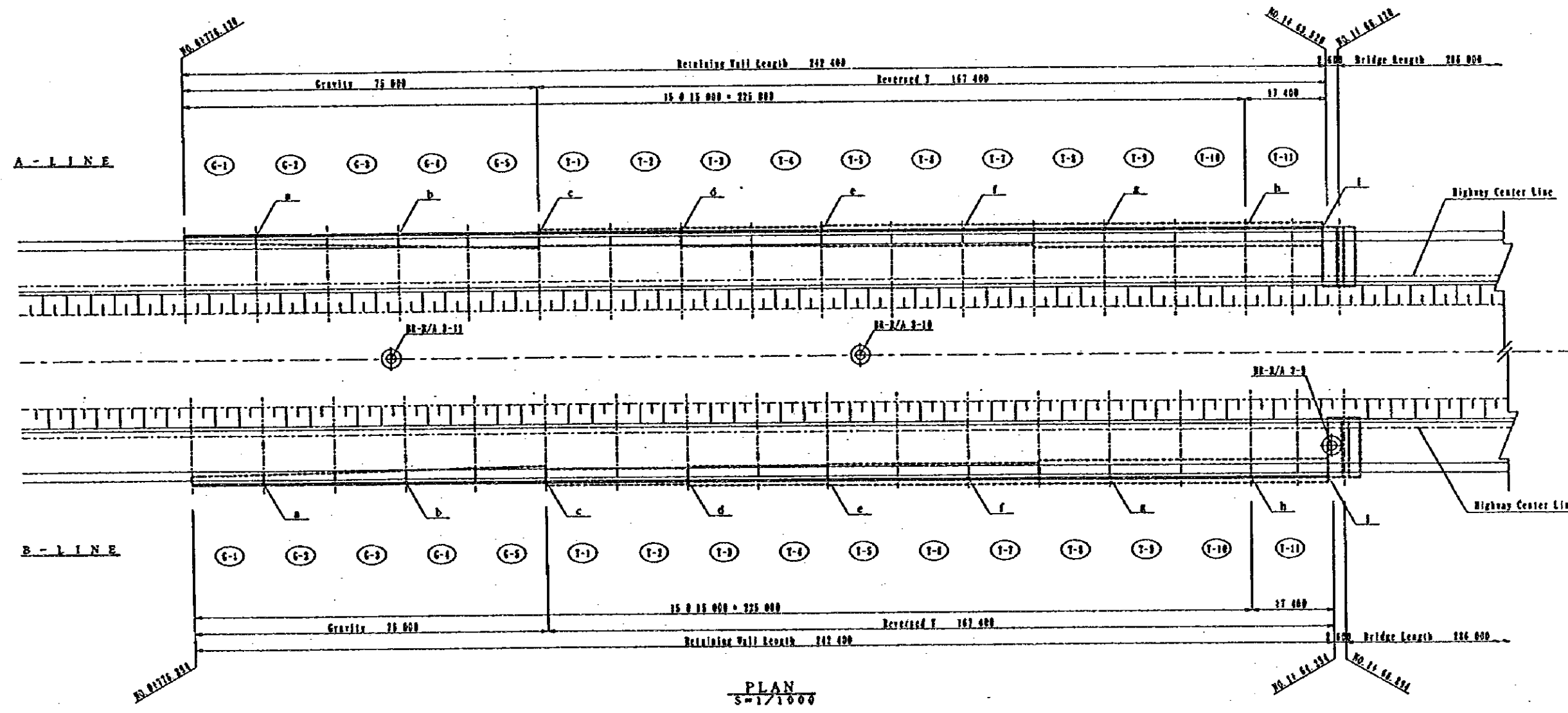
STRUCTURE
-RETAINING WALL

MUSCAT



SIDE VIEW
H=1/1000
V=1/500

DL = 0.00

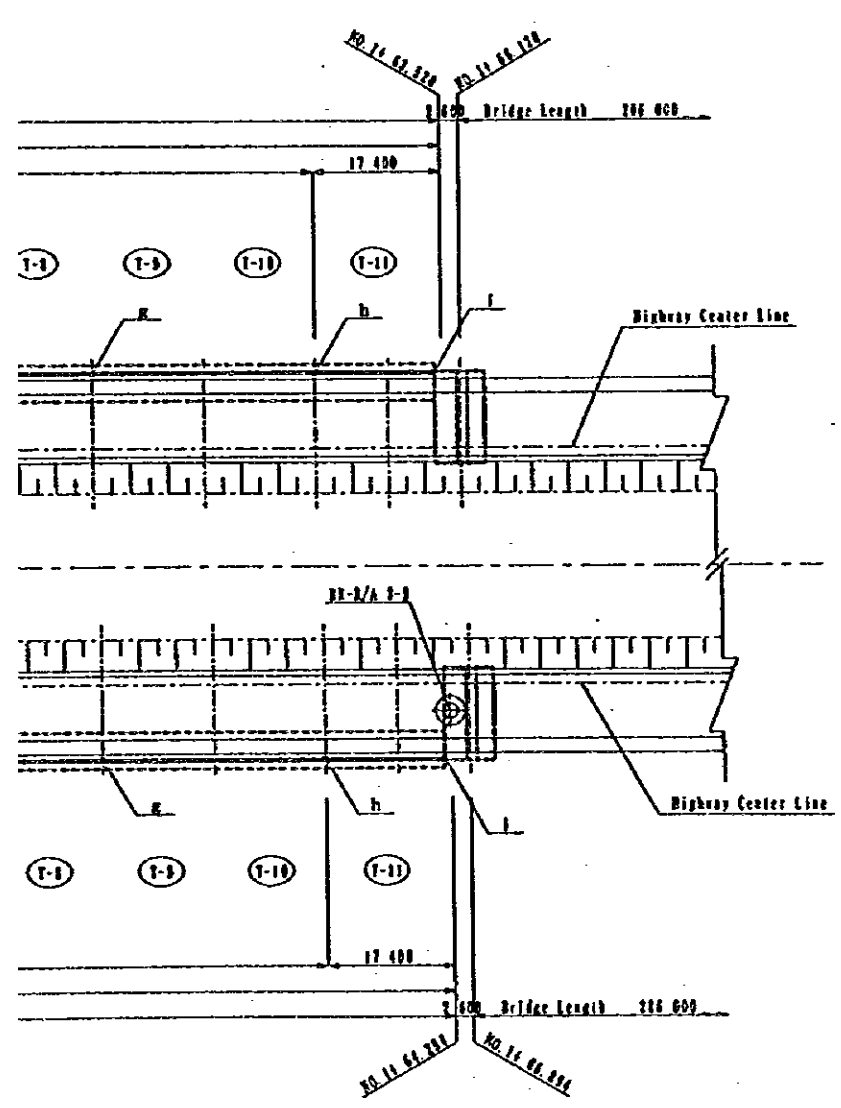
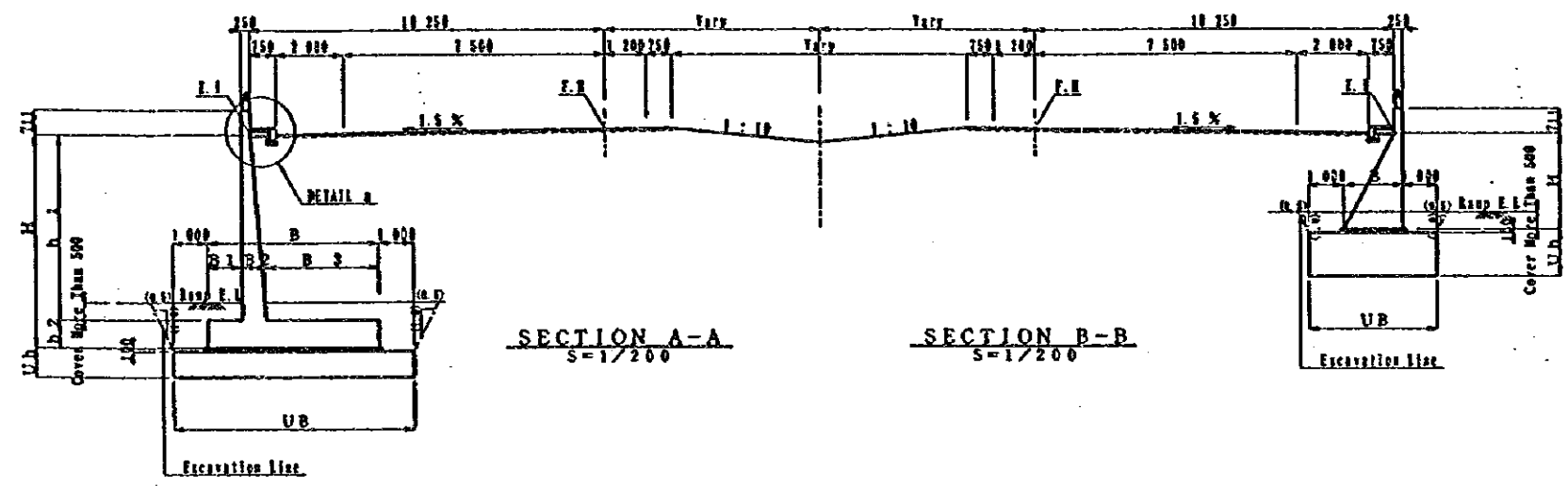
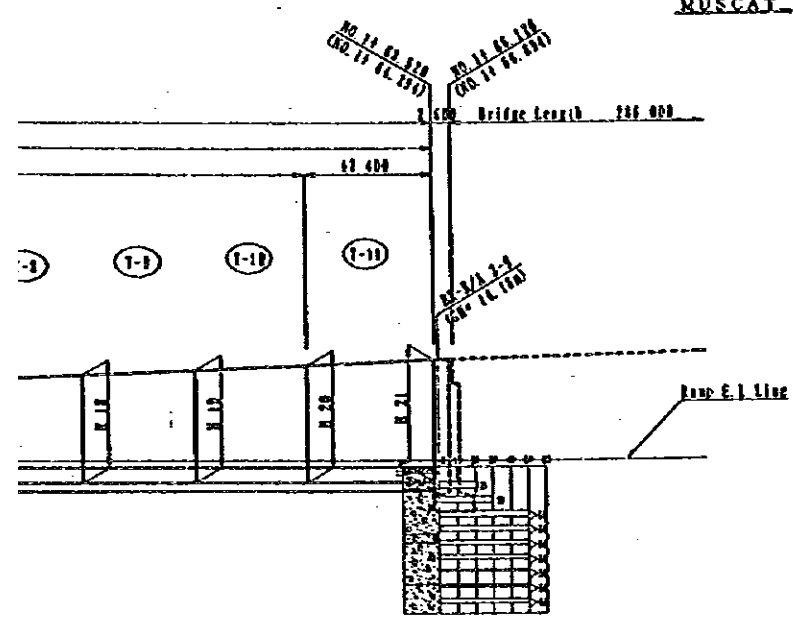


PLAN
S=1/1000

Reverse		MARK	
TYPE			
A L I N E	T-1	8+3	
	T-2	8+4	
	T-3	9+4	
	T-4	10+4	
	T-5	11+5	
	T-6	12+5	
	T-7	13+6	
	T-8	14+6	
	T-9	15+6	
	T-10	16+6	
	T-11	17+7	
B L I N E	T-1	8+4	
	T-2	9+4	
	T-3	10+4	
	T-4	11+5	
	T-5	12+5	
	T-6	13+6	
	T-7	14+6	
	T-8	15+6	
	T-9	16+6	
	T-10	17+7	
	T-11	18+7	

NOTES:

MUSCAT

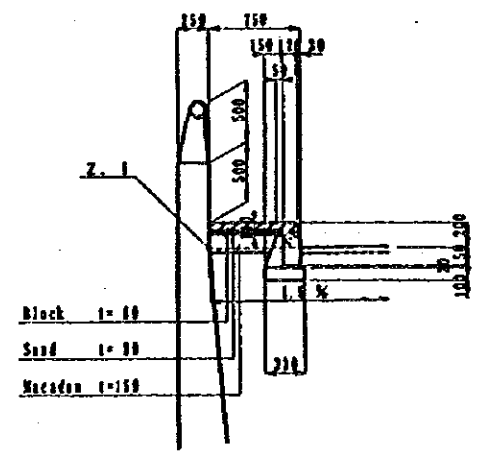


Reversed T

MARK TYPE	H	h 1	h 2	B	B 1	B 2	B 3	U h	U B
A I L I N E	T-1	8-7-3 827	3 327	500	3 500	600	435 2 465	1 100	5 500
	T-1	8-4 265	3 765				459 2 441		
	T-1	3-4 702	4 202				483 2 417		
	T-3	10-4 902	4 202	700	4 000	800	527 2 673	900	6 000
	T-4	11-6 305	4 605				554 2 646		
	T-4	12-6 707	5 007				581 2 619		
	T-5	13-5 907	5 007	900	4 500	1 000	619 2 881	700	6 500
	T-6	14-6 266	5 366				646 2 854		
	T-6	15-6 622	5 722				672 2 828		
	T-7	16-6 934	6 034				695 2 805		
	T-7	17-7 634	6 034	1 000	5 000	1 000	724 3 276	600	7 000
B I L I N E	T-1	8-7-4 059	3 559	500	3 500	600	448 2 462	1 100	5 500
	T-2	8-4 442	3 942				469 2 431		
	T-2	9-4 748	4 248				486 2 414		
	T-3	10-4 948	4 248	700	4 000	800	531 2 669	900	6 000
	T-4	11-6 318	4 618				555 2 645		
	T-4	12-6 709	5 009				581 2 619		
	T-5	13-5 907	5 009	900	4 500	1 000	620 2 880	700	6 500
	T-6	14-6 266	5 366				646 2 854		
	T-6	15-6 622	5 722				672 2 828		
	T-7	16-6 935	6 035				695 2 805		
	T-7	17-7 635	6 035	1 000	5 000	1 000	724 3 276	600	7 000

Gravity

MARK TYPE	H	B	U h	U B	
A I L I N E	C-1	8-1-1 636	1 292	900	3 292
	C-2	2-1 896	1 459		3 459
	C-3	3-2 252	1 686	1 600	3 686
	C-4	4-2 607	1 912		3 912
	C-5	5-2 967	2 141		4 141
B I L I N E	C-1	8-1-1 933	1 482	900	3 482
	C-2	2-2 211	1 660		3 660
	C-3	3-2 519	1 856	1 600	3 856
	C-4	4-2 861	2 074		4 074
	C-5	5-3 235	2 312		4 312



DETAIL a
S=1/60

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
 PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
 JICA STUDY TEAM
 PACIFIC CONSULTANTS INTERNATIONAL
 FUKUYAMA CONSULTANTS INTERNATIONAL
 TITLE : R/A-3, BARKA GENERAL VIEW FOR WALL (1)-1
 DATE :
 DWG NO. W-1

Point	a	b	c	d	e	f	g	h	i	
A L I N E	N	+2617766.35447	+2617759.60107	+2617752.93548	+2617746.35776	+2617739.86797	+2617733.46617	+2617727.15242	+2617720.92676	+2617714.76711
	E	+589724.78103	+589754.01099	+589783.26111	+589812.53111	+589841.82073	+58971.12971	+589900.45778	+589929.80468	+589959.16552
	Z	15.479	16.002	16.713	17.433	18.308	19.113	19.828	20.452	20.987
B L I N E	N	+2617732.86493	+2617726.20028	+2617719.71089	+2617713.39700	+2617707.22707	+2617701.07115	+2617694.91522	+2617688.75930	+2617682.60337
	E	+589717.57138	+589746.82167	+589776.11135	+589805.43936	+589834.79803	+589864.15965	+589893.52126	+589922.88288	+589952.24450
	Z	15.486	16.009	16.659	17.438	18.311	19.115	19.829	20.453	20.987

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

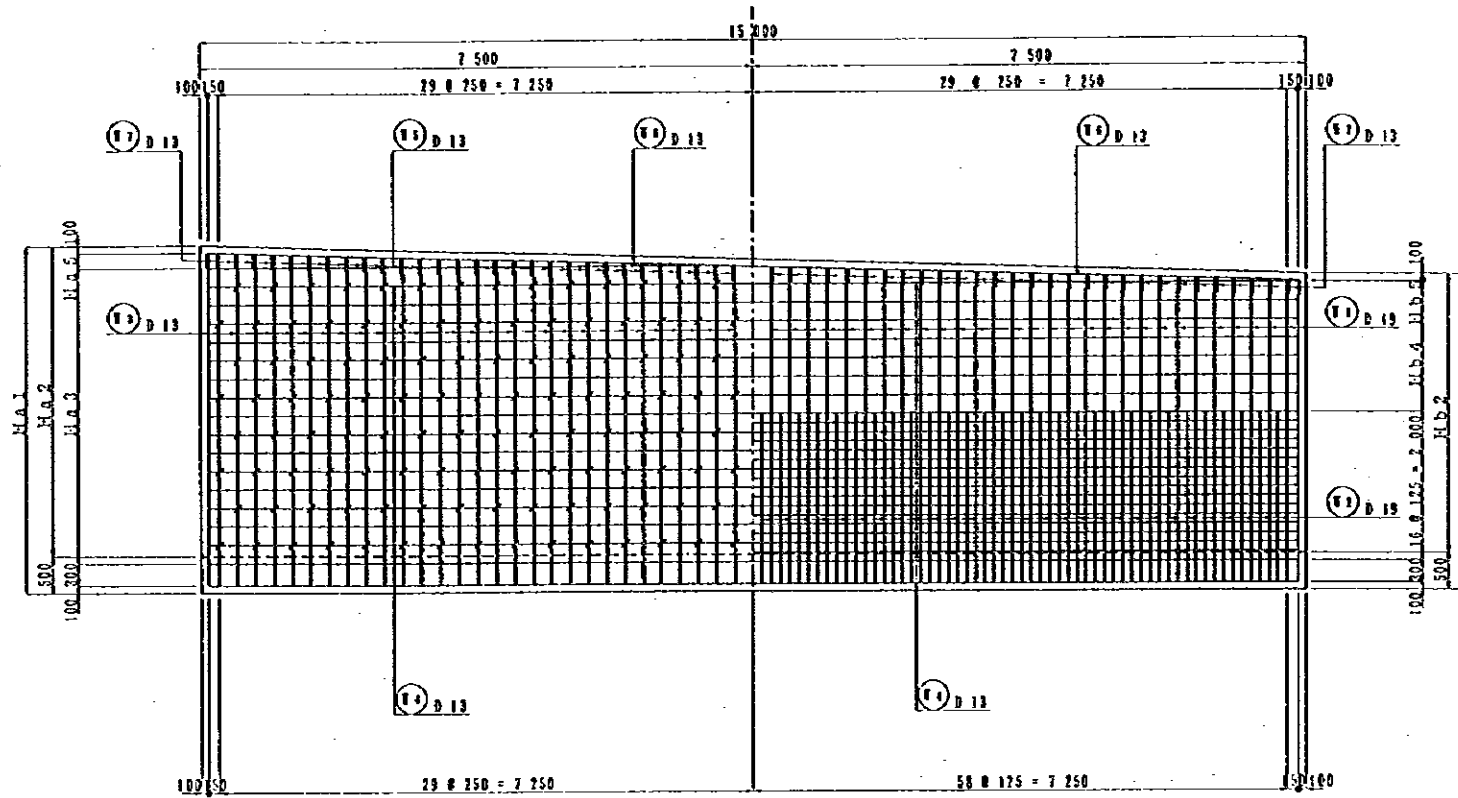
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

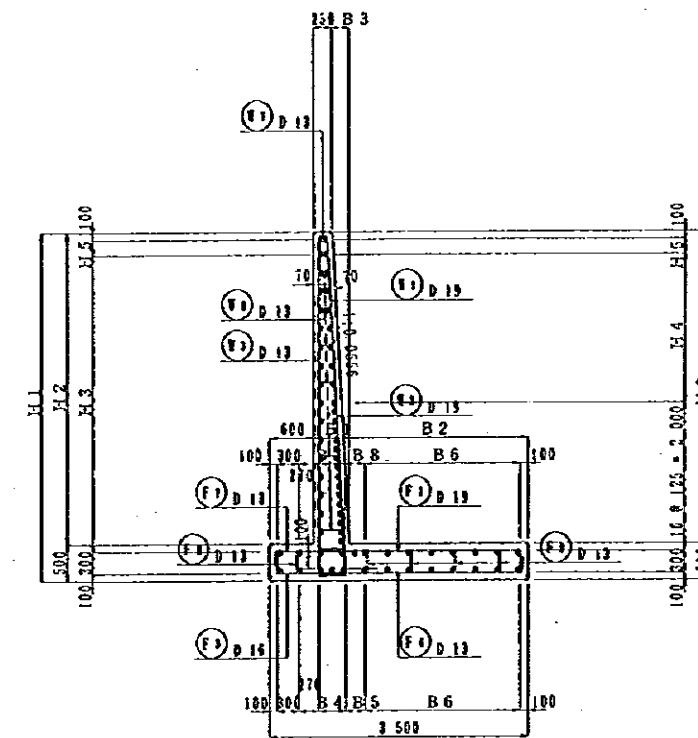
TITLE : R/A-3, BARKA GENERAL VIEW FOR WALL (1)-2

DATE

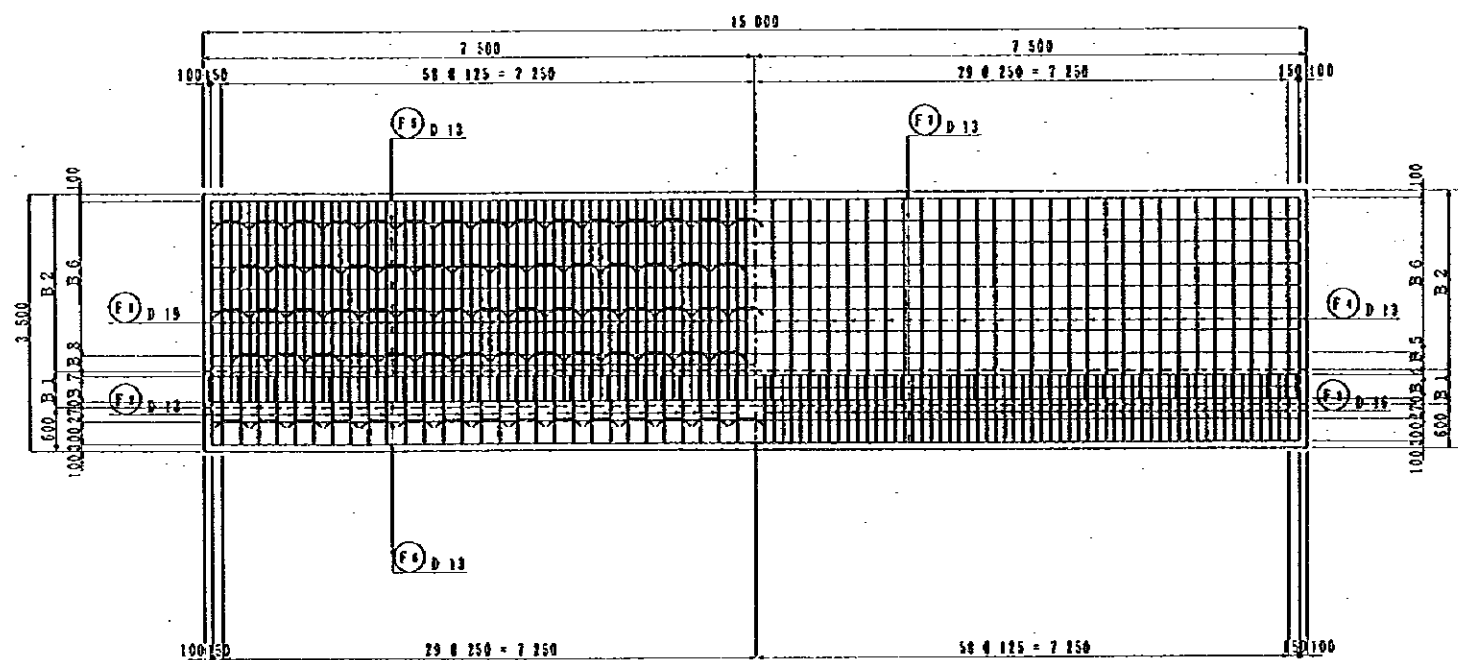
DWG NO. W-2



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

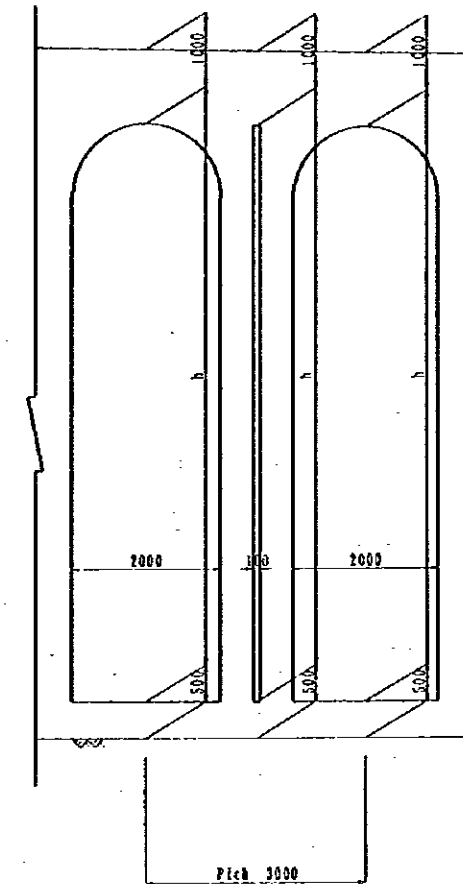
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FLUYANA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (I)
DATE : DWG NO. W-3

A I L I N E	T-2				T-1				
	a - a		b - b		a - a		b - b		
	Ha	Hb	Ha	Hb	Ha	Hb	Ha	Hb	
Ha1	4 702	Hb1	4 265	Ha1	4 265	Hb1	3 827		
Ha2	4 202	Hb2	3 765	Ha2	3 765	Hb2	3 327		
Ha3	16@250 = 4 000	Hb3	15@250 = 3 750	Ha3	14@250 = 3 500	Hb3	13@250 = 3 250		
Ha4	8@250 = 2 000	Hb4	7@250 = 1 750	Ha4	6@250 = 1 500	Hb4	5@250 = 1 250		
Ha5	202	Hb5	15	Ha5	2@132.5 = 265	Hb5	77		
Ba1	483	Bb1	459	Ba1	459	Bb1	435		
Ba2	2 417	Bb2	2 441	Ba2	2 441	Bb2	2 465		
Ba3	233	Bb3	209	Ba3	209	Bb3	185		
Ba4	2@182.5 = 365	Bb4	2@170.5 = 341	Ba4	2@170.5 = 341	Bb4	2@158.5 = 317		
Ba5	265	Bb5	289	Ba5	2@144.5 = 289	Bb5	2@156.5 = 313		
Ba6	7@300 = 2 100	Bb6	7@300 = 2 100	Ba6	7@300 = 2 100	Bb6	7@300 = 2 100		
Ba7	348	Bb7	324	Ba7	324	Bb7	300		
Ba8	2@141 = 282	Bb8	2@153 = 306	Ba8	2@153 = 306	Bb8	2@165 = 330		

B I L I N E	T-2				T-1				
	a - a		b - b		a - a		b - b		
	Ha	Hb	Ha	Hb	Ha	Hb	Ha	Hb	
Ha1	4 705	Hb1	4 269	Ha1	4 269	Hb1	3 832		
Ha2	4 205	Hb2	3 769	Ha2	3 769	Hb2	3 332		
Ha3	16@250 = 4 000	Hb3	15@250 = 3 750	Ha3	14@250 = 3 500	Hb3	13@250 = 3 250		
Ha4	8@250 = 2 000	Hb4	7@250 = 1 750	Ha4	6@250 = 1 500	Hb4	5@250 = 1 250		
Ha5	205	Hb5	19	Ha5	2@134.5 = 269	Hb5	82		
Ba1	484	Bb1	459	Ba1	459	Bb1	435		
Ba2	2 416	Bb2	2 441	Ba2	2 441	Bb2	2 465		
Ba3	234	Bb3	209	Ba3	209	Bb3	185		
Ba4	2@182.5 = 365	Bb4	2@170.5 = 341	Ba4	2@170.5 = 341	Bb4	2@158.5 = 317		
Ba5	265	Bb5	289	Ba5	2@144.5 = 289	Bb5	2@156.5 = 313		
Ba6	7@300 = 2 100	Bb6	7@300 = 2 100	Ba6	7@300 = 2 100	Bb6	7@300 = 2 100		
Ba7	349	Bb7	324	Ba7	324	Bb7	300		
Ba8	2@141 = 282	Bb8	2@153 = 306	Ba8	2@153 = 306	Bb8	2@165 = 330		



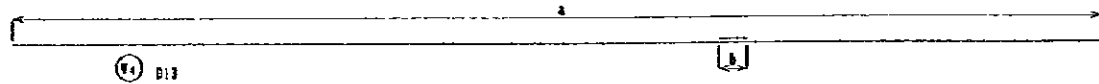
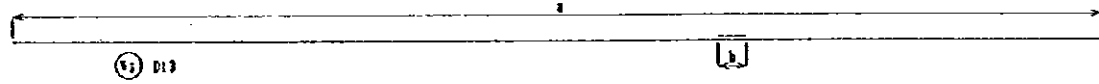
Slit Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

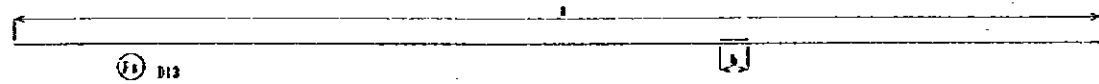
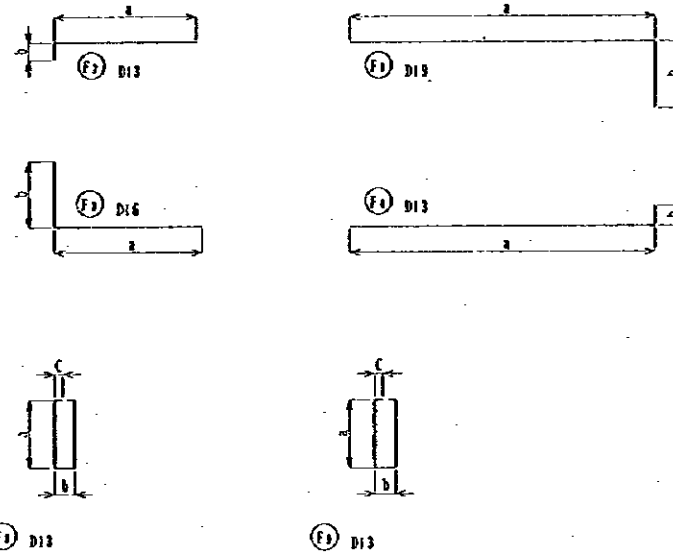
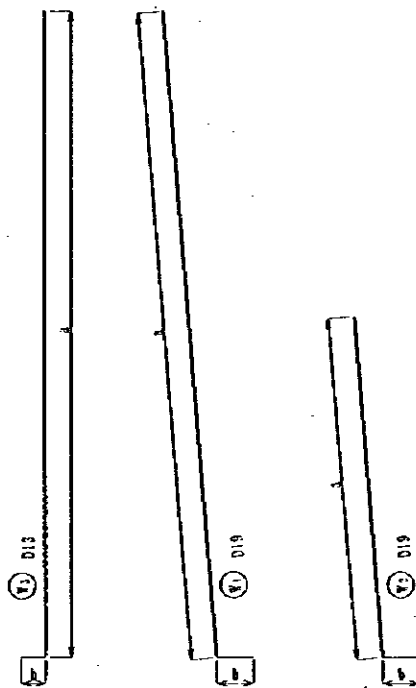
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
ELKRYAMA CONSULTANTS INTERNATIONAL

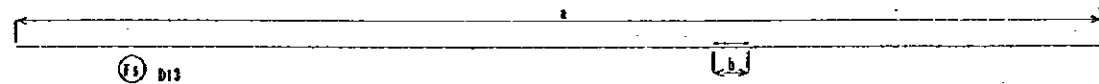
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (2)
DATE : DWG NO. W-4



(E) D13
(F) D13



(E) D13
(F) D13



(E) D13

REIN. NO.	Ø (mm)	LENGTH (mm)	a	b	c
T 1					
W 1	D 19	4 140	4 071~3 633	285	---
2	"	2 590	2 304	285	---
3	D 13	4 050	4 065~3 622	195	---
4	"	15 190	14 800	390	---
5	"	6 810	4 538~8 075	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	500	339~201	111	---
F 1	D 19	3 280	2 976	300	---
2	D 13	1 090	894	195	---
3	D 16	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 160	328	279	111
9	"	1 170	329	282	111
T 2					
W 1	D 19	4 580	4 509~4 071	285	---
2	"	2 590	2 304	285	---
3	D 13	4 480	4 502~4 065	195	---
4	"	15 190	14 800	390	---
5	"	6 940	6 924	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	510	363~197	111	---
F 1	D 19	3 260	2 952	300	---
2	D 13	1 120	918	195	---
3	D 16	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 160	328	279	111
9	"	1 170	329	282	111

REIN. NO.	Ø (mm)	LENGTH (mm)	a	b	c
T 1					
W 1	D 19	4 150	4 075~3 633	285	---
2	"	2 590	2 304	285	---
3	D 13	4 050	4 068~3 632	195	---
4	"	15 190	14 800	390	---
5	"	6 930	4 617~8 233	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	500	339~201	111	---
F 1	D 19	3 280	2 976	300	---
2	D 13	1 090	894	195	---
3	D 16	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 160	328	279	111
9	"	1 170	329	282	111
T 2					
W 1	D 19	4 580	4 512~4 075	285	---
2	"	2 590	2 304	285	---
3	D 13	4 490	4 505~4 068	195	---
4	"	15 190	14 800	390	---
5	"	7 060	7 053	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	510	364~199	111	---
F 1	D 19	3 260	2 952	300	---
2	D 13	1 120	919	195	---
3	D 16	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 160	328	279	111
9	"	1 170	329	282	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FERLYANA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

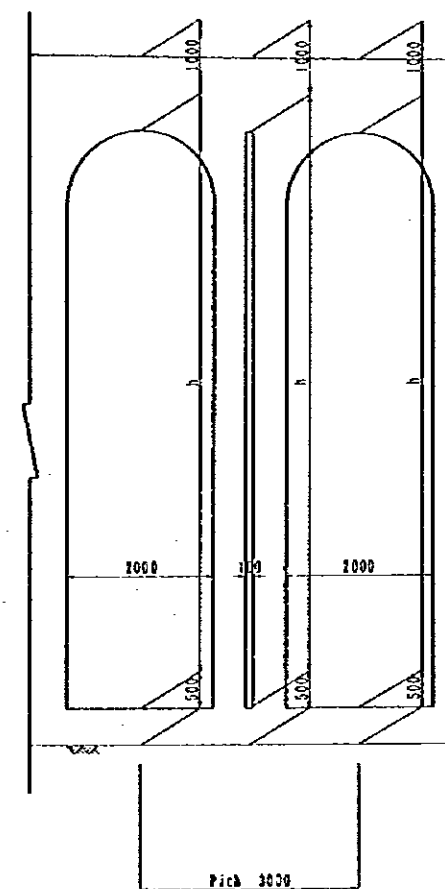
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (3)

DATE

DWG NO. W-5

A L I N E	T-4				T-3			
	a - a		b - b		a - a		b - b	
	Ha1	5 707	Hb1	5 305	Ha1	5 305	Hb1	4 902
Ha2	5 007	Hb2	4 605	Ha2	4 605	Hb2	4 202	
Ha3	19@250 = 4 750	Hb3	18@250 = 4 500	Ha3	18@250 = 4 500	Hb3	16@250 = 4 000	
Ha4	10@250 = 2 500	Hb4	9@250 = 2 250	Ha4	9@250 = 2 250	Hb4	7@250 = 1 750	
Ha5	2@128.5 = 257	Hb5	105	Ha5	105	Hb5	202	
Ba1	581	Bb1	554	Ba1	554	Bb1	527	
Ba2	2 619	Bb2	2 646	Ba2	2 646	Bb2	2 673	
Ba3	331	Bb3	304	Ba3	304	Bb3	277	
Ba4	2@240 = 480	Bb4	2@226.5 = 453	Ba4	2@226.5 = 453	Bb4	2@213.5 = 427	
Ba5	150	Bb5	177	Ba5	177	Bb5	203	
Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	
Ba7	447	Bb7	420	Ba7	420	Bb7	393	
Ba8	183	Bb8	210	Ba8	210	Bb8	237	

B L I N E	T-4				T-3			
	a - a		b - b		a - a		b - b	
	Ha1	5 709	Hb1	5 307	Ha1	5 307	Hb1	4 905
Ha2	5 009	Hb2	4 607	Ha2	4 607	Hb2	4 205	
Ha3	19@250 = 4 750	Hb3	18@250 = 4 500	Ha3	18@250 = 4 500	Hb3	16@250 = 4 000	
Ha4	10@250 = 2 500	Hb4	9@250 = 2 250	Ha4	9@250 = 2 250	Hb4	7@250 = 1 750	
Ha5	2@129.5 = 259	Hb5	107	Ha5	107	Hb5	205	
Ba1	581	Bb1	554	Ba1	554	Bb1	528	
Ba2	2 619	Bb2	2 646	Ba2	2 646	Bb2	2 672	
Ba3	331	Bb3	304	Ba3	304	Bb3	278	
Ba4	2@240 = 480	Bb4	2@226.5 = 453	Ba4	2@226.5 = 453	Bb4	2@213.5 = 427	
Ba5	150	Bb5	177	Ba5	177	Bb5	203	
Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	
Ba7	447	Bb7	420	Ba7	420	Bb7	394	
Ba8	183	Bb8	210	Ba8	210	Bb8	236	



Slit Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

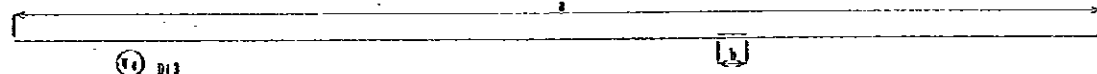
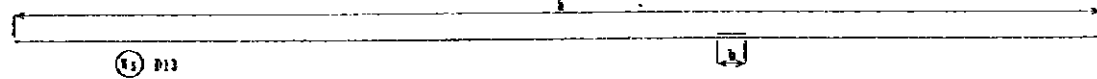
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

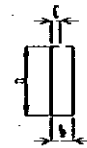
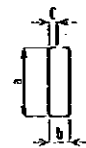
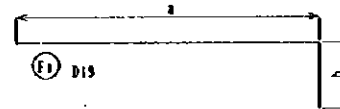
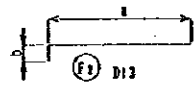
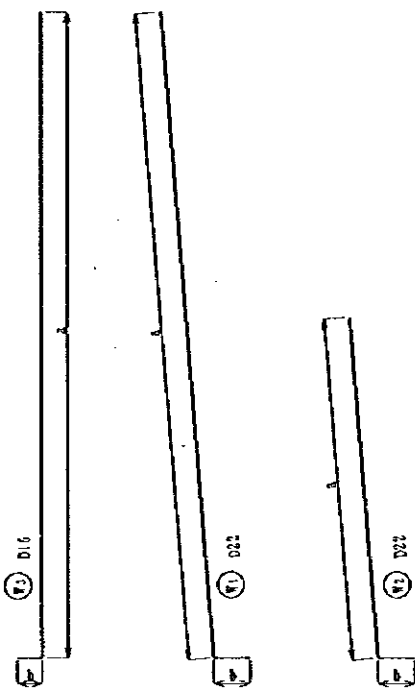
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (S)

DATE

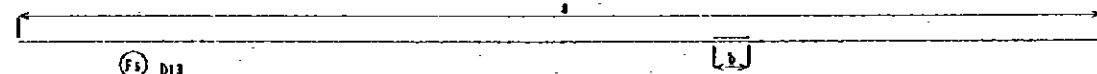
DWG NO. W-7



(T3) D13
(T3) D13



(T3) D13
(T3) D13



(T3) D13

REIN. NO.	φ (mm)	LENGTH (cm)	a	b	c
T 3					
W 1	D 22	5 250	5 116~4 712	330	---
2	"	3 690	2 756	330	---
3	D 16	5 150	5 105~4 702	240	---
4	D 13	15 130	14 800	390	---
5	"	8 760	3 905~13 213	390	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	550	436~205	111	---
F 1	D 13	3 650	3 180	500	---
2	D 13	1 390	1 190	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 130	14 800	390	---
6	"	15 130	14 800	390	---
7	"	15 130	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111
T 4					
W 1	D 22	5 650	5 515~5 116	330	---
2	"	3 690	2 756	330	---
3	D 16	5 550	5 507~5 105	240	---
4	D 13	15 130	14 800	390	---
5	"	7 200	4 295~3 590	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	560	463~199	111	---
F 1	D 13	3 650	3 153	500	---
2	D 13	1 420	1 217	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 130	14 800	390	---
6	"	15 130	14 800	390	---
7	"	15 130	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111

REIN. NO.	φ (mm)	LENGTH (cm)	a	b	c
T 3					
W 1	D 22	5 250	5 116~4 715	330	---
2	"	3 690	2 756	330	---
3	D 16	5 150	5 107~4 705	240	---
4	D 13	15 130	14 800	390	---
5	"	8 660	3 953~13 321	390	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	550	436~205	111	---
F 1	D 13	3 650	3 180	500	---
2	D 13	1 390	1 190	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 130	14 800	390	---
6	"	15 130	14 800	390	---
7	"	15 130	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111
T 4					
W 1	D 22	5 650	5 521~5 118	330	---
2	"	3 690	2 756	330	---
3	D 16	5 550	5 509~5 107	240	---
4	D 13	15 130	14 800	390	---
5	"	7 250	4 232~3 664	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	560	463~199	111	---
F 1	D 13	3 650	3 153	500	---
2	D 13	1 420	1 217	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 130	14 800	390	---
6	"	15 130	14 800	390	---
7	"	15 130	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

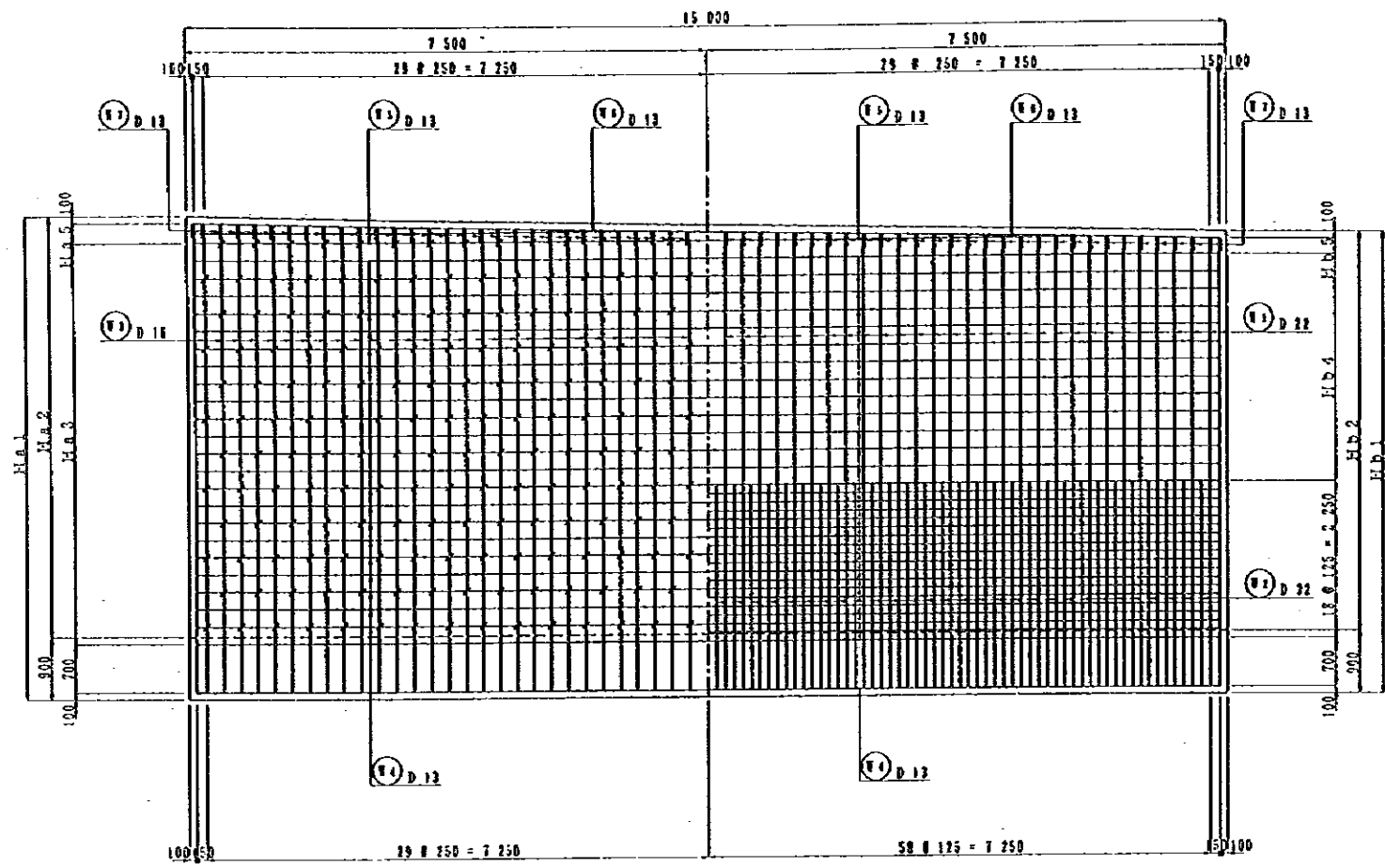
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUJUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

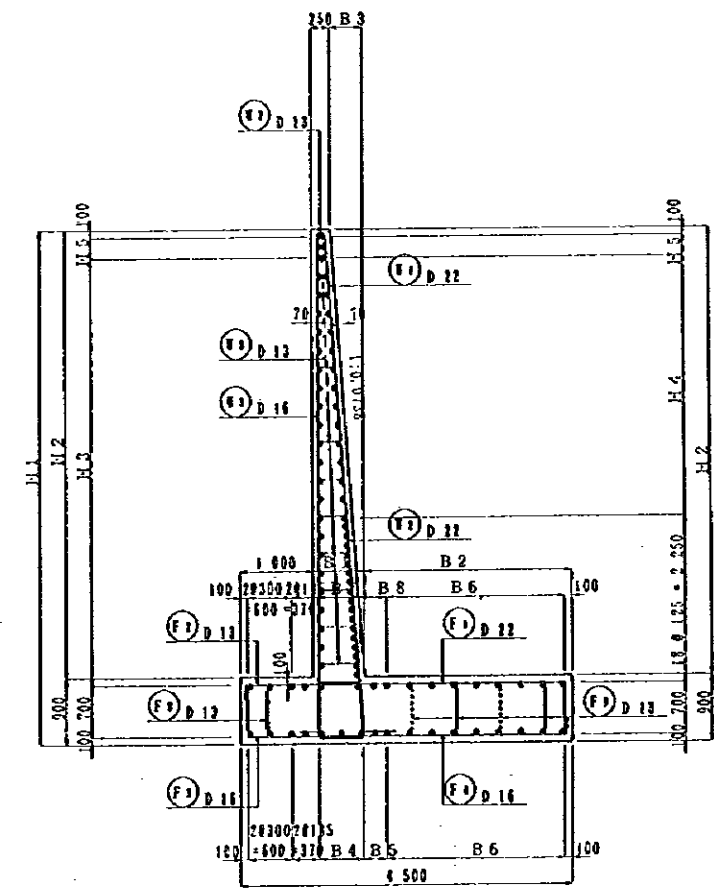
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (6)

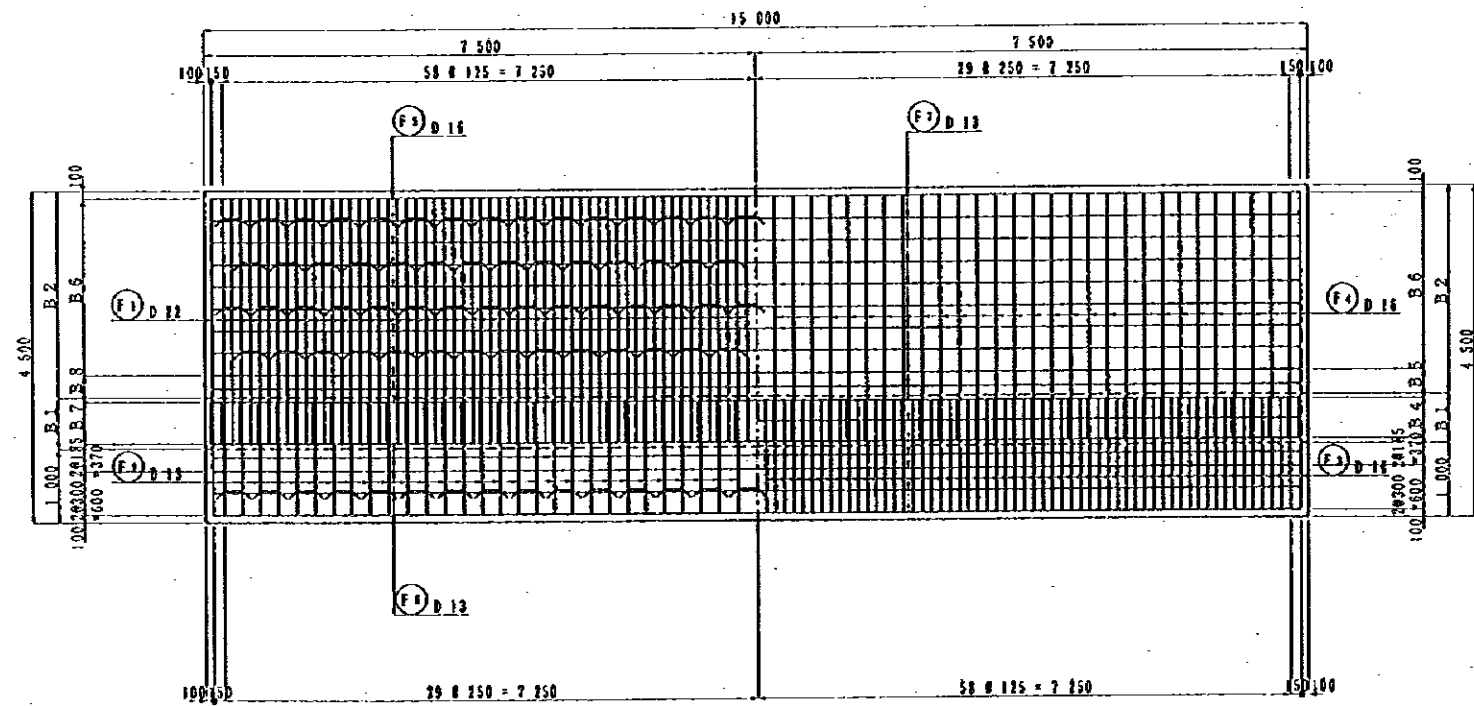
DATE : _____ DFG NO. W-8



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

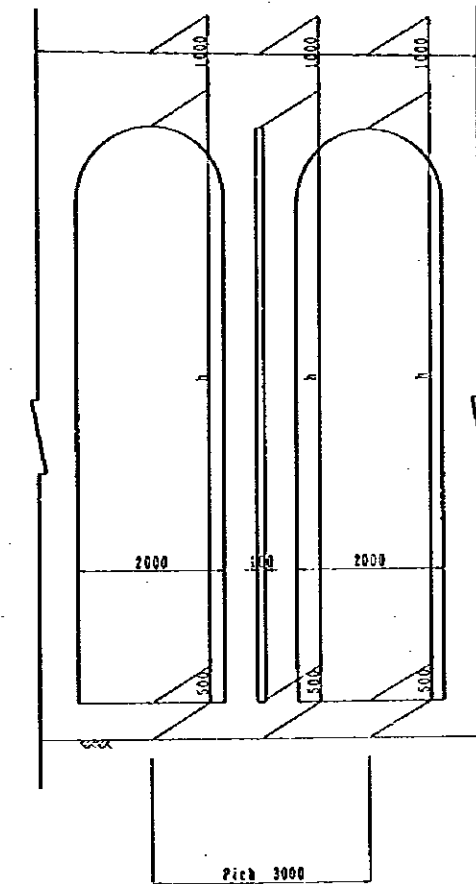
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (7)

DATE : DWG NO. W-9

	T-7		T-6		T-5		T-5					
	a - a	b - b	a - a	b - b	a - a	b - b	a - a	b - b				
A I L I N E	Ha1	6 934	Hb1	6 622	Ha1	6 622	Hb1	6 265	Ha1	6 265	Hb1	5 907
	Ha2	6 034	Hb2	5 722	Ha2	5 722	Hb2	5 365	Ha2	5 365	Hb2	5 007
	Ha3	23@250 = 5 750	Hb3	22@250 = 5 500	Ha3	22@250 = 5 500	Hb3	21@250 = 5 250	Ha3	21@250 = 5 250	Hb3	20@250 = 5 000
	Ha4	14@250 = 3 500	Hb4	13@250 = 3 250	Ha4	13@250 = 3 250	Hb4	12@250 = 3 000	Ha4	12@250 = 3 000	Hb4	11@250 = 2 750
	Ha5	2@142 = 284	Hb5	222	Ha5	222	Hb5	115	Ha5	115	Hb5	7
	Ba1	695	Bb1	672	Ba1	672	Bb1	646	Ba1	646	Bb1	619
	Ba2	2 805	Bb2	2 828	Ba2	2 828	Bb2	2 854	Ba2	2 854	Bb2	2 881
	Ba3	445	Bb3	422	Ba3	422	Bb3	396	Ba3	396	Bb3	369
	Ba4	2@307 = 614	Bb4	2@295.5 = 591	Ba4	2@295.5 = 591	Bb4	2@282 = 564	Ba4	2@282 = 564	Bb4	2@269 = 538
Ba5	2@158 = 316	Bb5	2@169.5 = 339	Ba5	2@169.5 = 339	Bb5	2@183 = 366	Ba5	2@183 = 366	Bb5	2@196 = 392	
Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	
Ba7	562	Bb7	539	Ba7	539	Bb7	513	Ba7	513	Bb7	486	
Ba8	2@184 = 368	Bb8	2@195.5 = 391	Ba8	2@195.5 = 391	Bb8	2@208.5 = 417	Ba8	2@208.5 = 417	Bb8	2@222 = 444	
B I L I N E	Ha1	6 935	Hb1	6 623	Ha1	6 623	Hb1	6 266	Ha1	6 266	Hb1	5 909
	Ha2	6 035	Hb2	5 723	Ha2	5 723	Hb2	5 366	Ha2	5 366	Hb2	5 009
	Ha3	23@250 = 5 750	Hb3	22@250 = 5 500	Ha3	22@250 = 5 500	Hb3	21@250 = 5 250	Ha3	21@250 = 5 250	Hb3	20@250 = 5 000
	Ha4	14@250 = 3 500	Hb4	13@250 = 3 250	Ha4	13@250 = 3 250	Hb4	12@250 = 3 000	Ha4	12@250 = 3 000	Hb4	11@250 = 2 750
	Ha5	2@142.5 = 285	Hb5	223	Ha5	223	Hb5	116	Ha5	116	Hb5	9
	Ba1	695	Bb1	672	Ba1	672	Bb1	646	Ba1	646	Bb1	620
	Ba2	2 805	Bb2	2 828	Ba2	2 828	Bb2	2 854	Ba2	2 854	Bb2	2 880
	Ba3	445	Bb3	422	Ba3	422	Bb3	396	Ba3	396	Bb3	370
	Ba4	2@307 = 614	Bb4	2@295.5 = 591	Ba4	2@295.5 = 591	Bb4	2@282 = 564	Ba4	2@282 = 564	Bb4	2@269 = 538
Ba5	2@158 = 316	Bb5	2@169.5 = 339	Ba5	2@169.5 = 339	Bb5	2@183 = 366	Ba5	2@183 = 366	Bb5	2@196 = 392	
Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	
Ba7	562	Bb7	539	Ba7	539	Bb7	513	Ba7	513	Bb7	487	
Ba8	2@184 = 368	Bb8	2@195.5 = 391	Ba8	2@195.5 = 391	Bb8	2@208.5 = 417	Ba8	2@208.5 = 417	Bb8	2@221.5 = 443	



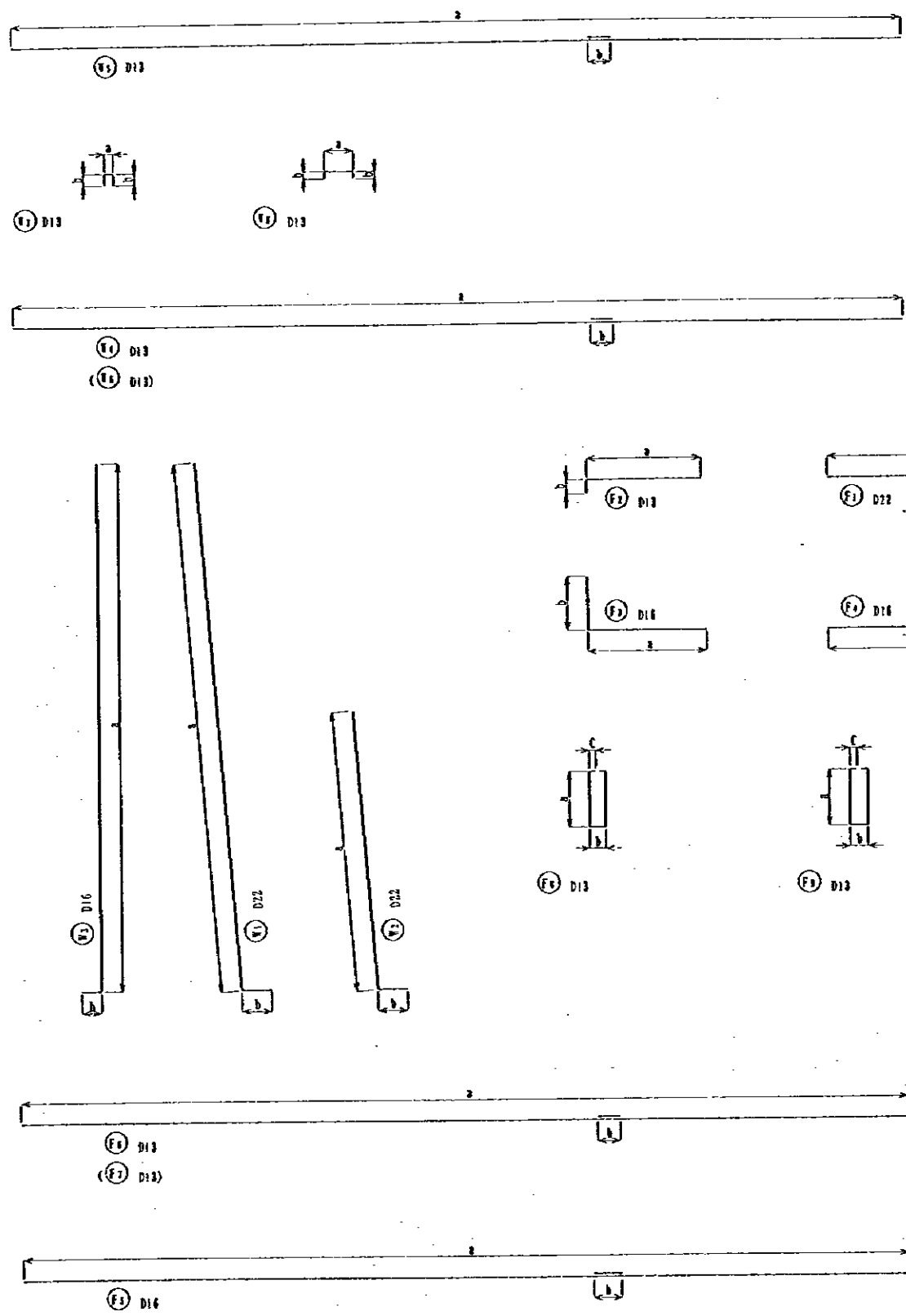
Slit Shape in Front of Wall
(Thickness = 30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/O ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3. BARKA RE-BAR ARRANGEMENT (8)
DATE : DNG NO. W-10



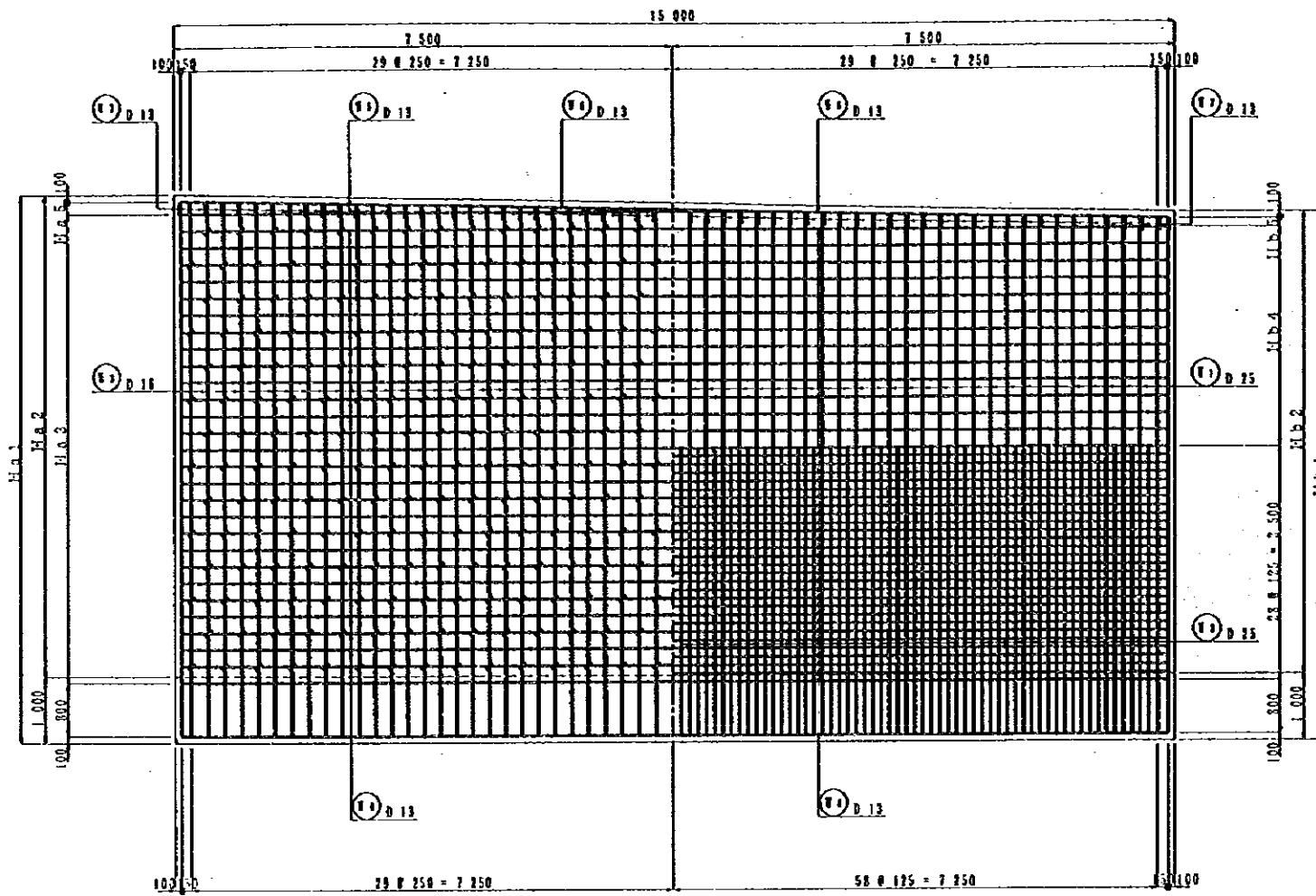
REIN NO	Ø (mm)	LENGTH (mm)	a	b	c
T 5					
W 1	D 22	6 240	6 081~5 723	330	---
2	"	3 290	2 958	330	---
3	D 16	6 130	6 065~5 207	240	---
4	D 13	15 190	14 800	390	---
5	"	4 820	4 818	---	---
6	"	15 200	14 804	390	---
7	"	500	110	195	---
8	"	590	527~195	111	---
F 1	D 22	4 160	3 477	700	---
2	D 13	1 680	1 483	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	490	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 960	728	279	111
9	"	1 980	732	285	111
T 6					
W 1	D 22	6 590	6 439~6 091	330	---
2	"	3 290	2 958	330	---
3	D 16	6 490	6 422~6 065	240	---
4	D 13	15 190	14 800	390	---
5	"	9 320	9 328	---	---
6	"	15 200	14 804	390	---
7	"	500	110	195	---
8	"	600	553~184	111	---
F 1	D 22	4 160	3 451	700	---
2	D 13	1 710	1 509	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	490	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 960	728	279	111
9	"	1 980	732	285	111
T 7					
W 1	D 22	6 930	6 752~6 439	330	---
2	"	3 290	2 958	330	---
3	D 16	6 820	6 734~6 422	240	---
4	D 13	15 190	14 800	390	---
5	"	10 440	8 827~13 654	390	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	620	576~207	111	---
F 1	D 22	4 130	3 428	700	---
2	D 13	1 730	1 532	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	490	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 960	728	279	111
9	"	1 980	732	285	111

REIN NO	Ø (mm)	LENGTH (mm)	a	b	c
T 5					
W 1	D 22	6 240	6 082~5 725	330	---
2	"	3 290	2 958	330	---
3	D 16	6 130	6 066~5 209	240	---
4	D 13	15 190	14 800	390	---
5	"	4 830	4 874	---	---
6	"	15 200	14 804	390	---
7	"	500	110	195	---
8	"	590	527~195	111	---
F 1	D 22	4 160	3 477	700	---
2	D 13	1 680	1 483	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	490	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 960	728	279	111
9	"	1 980	732	285	111
T 6					
W 1	D 22	6 600	6 440~6 092	330	---
2	"	3 290	2 958	330	---
3	D 16	6 490	6 422~6 066	240	---
4	D 13	15 190	14 800	390	---
5	"	9 370	9 370	---	---
6	"	15 200	14 804	390	---
7	"	500	110	195	---
8	"	600	553~184	111	---
F 1	D 22	4 160	3 451	700	---
2	D 13	1 710	1 509	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	490	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 960	728	279	111
9	"	1 980	732	285	111
T 7					
W 1	D 22	6 930	6 753~6 440	330	---
2	"	3 290	2 958	330	---
3	D 16	6 820	6 725~6 423	240	---
4	D 13	15 190	14 800	390	---
5	"	10 480	8 851~13 702	390	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	620	576~207	111	---
F 1	D 22	4 130	3 428	700	---
2	D 13	1 730	1 532	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	490	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 960	728	279	111
9	"	1 980	732	285	111

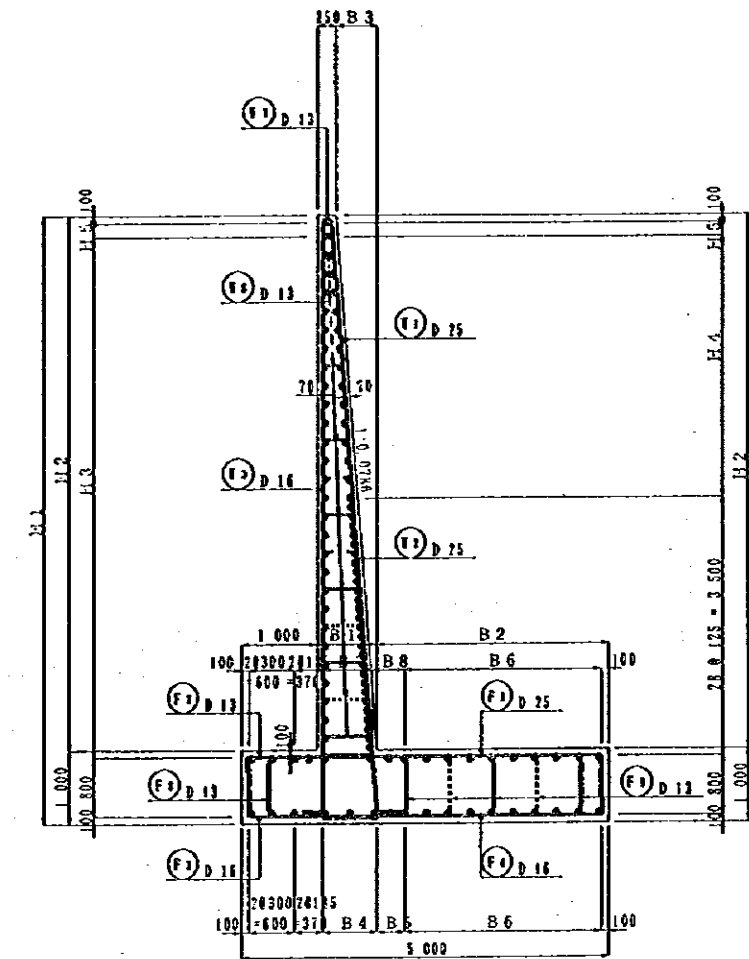
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

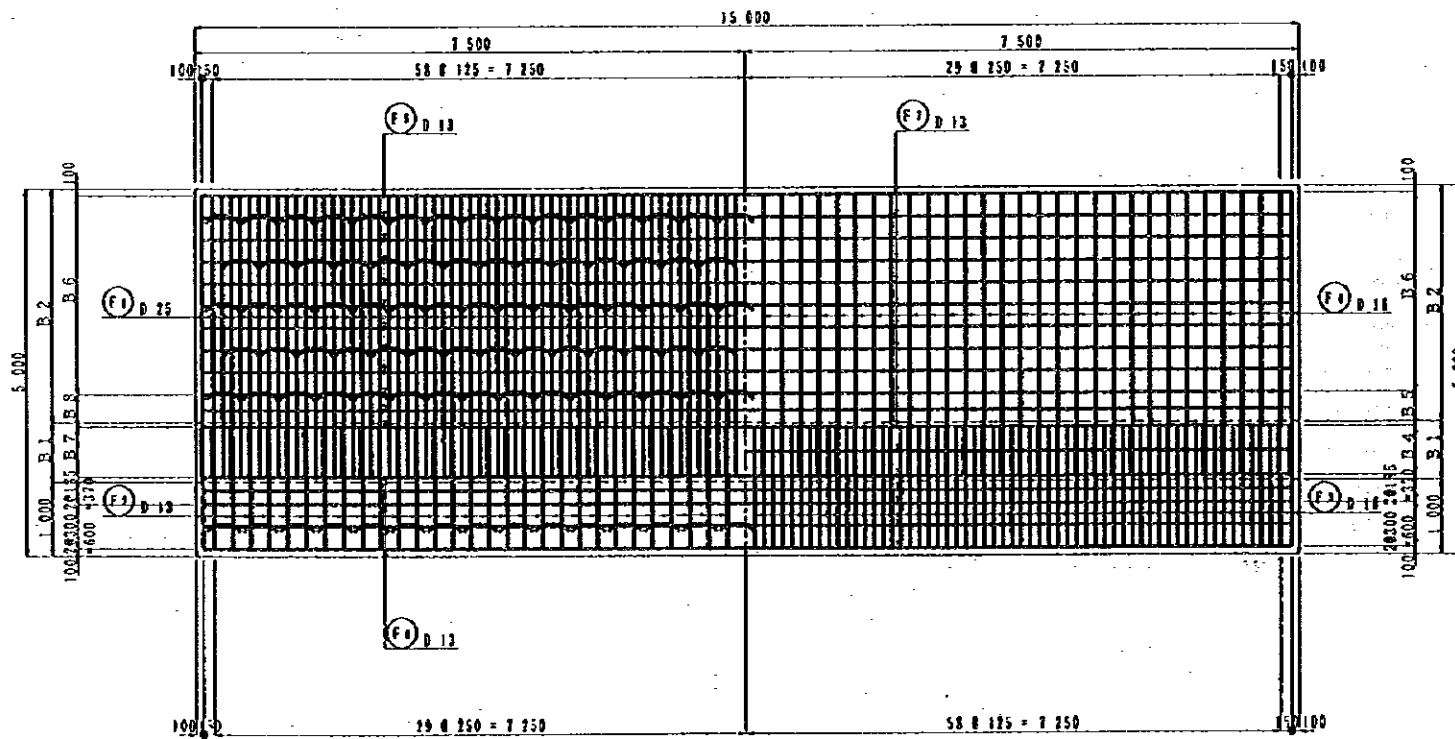
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (9)
DATE : DFC NO. W-11



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

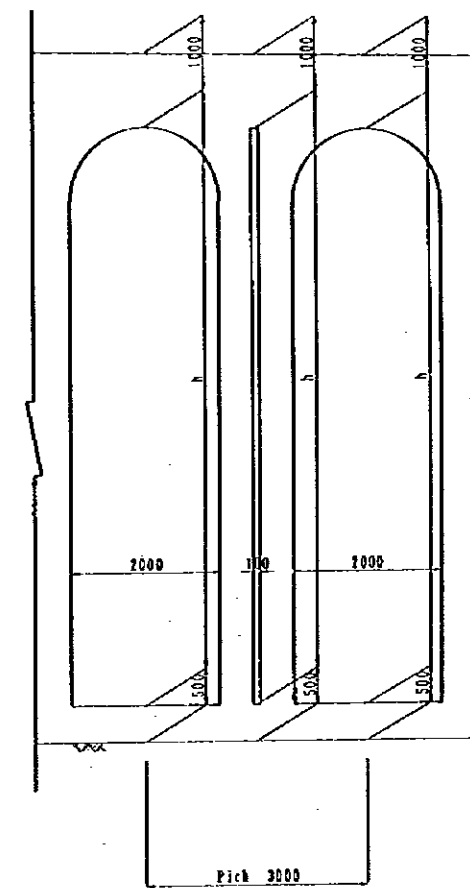
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (10)

DATE

DWG NO. W-12.

A L I N E	T-11		T-10		T-9		T-8	
	a - a	b - b	a - a	b - b	a - a	b - b	a - a	b - b
	Ha1	8 187	Hb1 7 881	Ha1 7 881	Hb1 7 614	Ha1 7 614	Hb1 7 346	Ha1 7 346
Ha2	7 187	Hb2 6 881	Ha2 6 881	Hb2 6 614	Ha2 6 614	Hb2 6 346	Ha2 6 346	Hb2 6 034
Ha3	28@250 = 7 000	Hb3 27@250 = 6 750	Ha3 27@250 = 6 750	Hb3 26@250 = 6 500	Ha3 26@250 = 6 500	Hb3 25@250 = 6 250	Ha3 24@250 = 6 000	Hb3 24@250 = 6 000
Ha4	14@250 = 3 500	Hb4 13@250 = 3 250	Ha4 13@250 = 3 250	Hb4 12@250 = 3 000	Ha4 12@250 = 3 000	Hb4 11@250 = 2 750	Ha4 10@250 = 2 500	Hb4 10@250 = 2 500
Ha5	187	Hb5 131	Ha5 131	Hb5 114	Ha5 114	Hb5 96	Ha5 2@173 = 346	Hb5 34
Ba1	815	Bb1 791	Ba1 791	Bb1 770	Ba1 770	Bb1 749	Ba1 749	Bb1 724
Ba2	3 185	Bb2 3 209	Ba2 3 209	Bb2 3 230	Ba2 3 230	Bb2 3 251	Ba2 3 251	Bb2 3 276
Ba3	565	Bb3 541	Ba3 541	Bb3 520	Ba3 520	Bb3 499	Ba3 499	Bb3 474
Ba4	2@373 = 746	Bb4 2@361 = 722	Ba4 2@361 = 722	Bb4 2@350.5 = 701	Ba4 2@350.5 = 701	Bb4 2@339.5 = 679	Ba4 2@339.5 = 679	Bb4 2@327.5 = 655
Ba5	2@192 = 384	Bb5 2@204 = 408	Ba5 108	Bb5 129	Ba5 129	Bb5 151	Ba5 151	Bb5 175
Ba6	9@300 = 2 700	Bb6 9@300 = 2 700	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000
Ba7	683	Bb7 659	Ba7 659	Bb7 638	Ba7 638	Bb7 617	Ba7 617	Bb7 592
Ba8	2@223.5 = 447	Bb8 2@235.5 = 471	Ba8 171	Bb8 192	Ba8 192	Bb8 213	Ba8 213	Bb8 238

B L I N E	T-11		T-10		T-9		T-8	
	a - a	b - b	a - a	b - b	a - a	b - b	a - a	b - b
	Ha1	8 187	Hb1 7 881	Ha1 7 881	Hb1 7 614	Ha1 7 614	Hb1 7 347	Ha1 7 347
Ha2	7 187	Hb2 6 881	Ha2 6 881	Hb2 6 614	Ha2 6 614	Hb2 6 347	Ha2 6 347	Hb2 6 035
Ha3	28@250 = 7 000	Hb3 27@250 = 6 750	Ha3 27@250 = 6 750	Hb3 26@250 = 6 500	Ha3 26@250 = 6 500	Hb3 25@250 = 6 250	Ha3 24@250 = 6 000	Hb3 24@250 = 6 000
Ha4	14@250 = 3 500	Hb4 13@250 = 3 250	Ha4 13@250 = 3 250	Hb4 12@250 = 3 000	Ha4 12@250 = 3 000	Hb4 11@250 = 2 750	Ha4 10@250 = 2 500	Hb4 10@250 = 2 500
Ha5	187	Hb5 131	Ha5 131	Hb5 114	Ha5 114	Hb5 97	Ha5 2@173.5 = 347	Hb5 35
Ba1	815	Bb1 791	Ba1 791	Bb1 770	Ba1 770	Bb1 749	Ba1 749	Bb1 724
Ba2	3 185	Bb2 3 209	Ba2 3 209	Bb2 3 230	Ba2 3 230	Bb2 3 251	Ba2 3 251	Bb2 3 276
Ba3	565	Bb3 541	Ba3 541	Bb3 520	Ba3 520	Bb3 499	Ba3 499	Bb3 474
Ba4	2@373 = 746	Bb4 2@361 = 722	Ba4 2@361 = 722	Bb4 2@350.5 = 701	Ba4 2@350.5 = 701	Bb4 2@340 = 680	Ba4 2@340 = 680	Bb4 2@327.5 = 655
Ba5	2@192 = 384	Bb5 2@204 = 408	Ba5 108	Bb5 129	Ba5 129	Bb5 150	Ba5 150	Bb5 175
Ba6	9@300 = 2 700	Bb6 9@300 = 2 700	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000
Ba7	683	Bb7 659	Ba7 659	Bb7 638	Ba7 638	Bb7 617	Ba7 617	Bb7 592
Ba8	2@223.5 = 447	Bb8 2@235.5 = 471	Ba8 171	Bb8 192	Ba8 192	Bb8 213	Ba8 213	Bb8 238



Steel Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (11)
DATE : DWG NO. W-13

REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 8					
W 1	D 25	7 290	7 166~8 856	375	---
2	"	4 690	4 313	375	---
3	D 16	7 230	7 146~8 834	240	---
4	D 13	15 190	14 800	390	---
5	"	8 330	8 320	---	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	640	631~198	111	---
F 1	D 25	4 720	3 963	800	---
2	D 13	1 790	1 587	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	25 150	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111
T 9					
W 1	D 25	7 680	7 437~7 168	375	---
2	"	4 690	4 313	375	---
3	D 16	7 520	7 414~7 146	240	---
4	D 13	15 190	14 800	390	---
5	"	8 330	8 321	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	660	652~218	111	---
F 1	D 25	4 750	3 942	800	---
2	D 13	1 810	1 608	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111

REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 10					
W 1	D 25	7 950	7 705~7 437	375	---
2	"	4 690	4 313	375	---
3	D 16	7 290	7 181~7 814	240	---
4	D 13	15 190	14 800	390	---
5	"	7 360	7 360	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	660	673~201	111	---
F 1	D 25	4 730	3 921	800	---
2	D 13	1 830	1 629	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111
T 11					
W 1	D 25	8 240	8 012~7 705	375	---
2	"	4 690	4 313	375	---
3	D 16	8 080	7 987~7 681	240	---
4	D 13	15 190	14 800	390	---
5	"	9 170	9 167	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	610	697~186	111	---
F 1	D 25	4 700	3 897	800	---
2	D 13	1 850	1 653	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111

REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 8					
W 1	D 25	7 390	7 169~8 856	375	---
2	"	4 690	4 313	375	---
3	D 16	7 240	7 147~8 835	240	---
4	D 13	15 190	14 800	390	---
5	"	8 350	8 341	---	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	640	631~198	111	---
F 1	D 25	4 720	3 963	800	---
2	D 13	1 790	1 587	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111
T 9					
W 1	D 25	7 680	7 437~7 168	375	---
2	"	4 690	4 313	375	---
3	D 16	7 530	7 414~7 147	240	---
4	D 13	15 190	14 800	390	---
5	"	8 410	8 404	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	660	652~218	111	---
F 1	D 25	4 750	3 942	800	---
2	D 13	1 810	1 608	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111

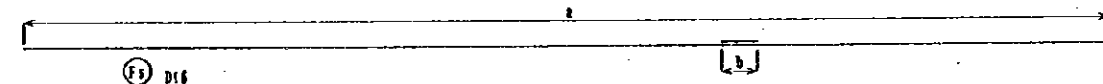
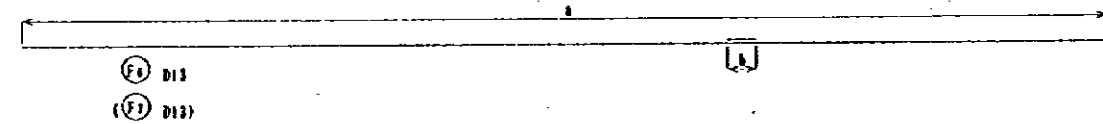
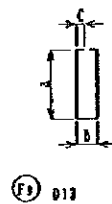
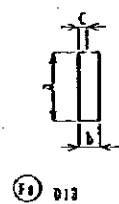
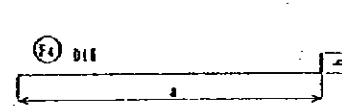
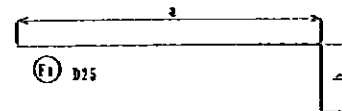
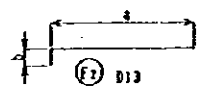
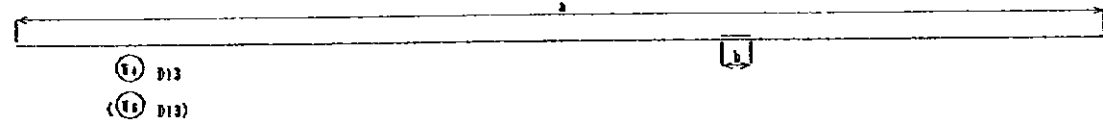
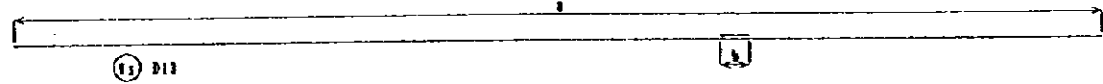
REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 10					
W 1	D 25	7 950	7 705~7 437	375	---
2	"	4 690	4 313	375	---
3	D 16	7 290	7 181~7 814	240	---
4	D 13	15 190	14 800	390	---
5	"	7 360	7 360	---	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	660	673~201	111	---
F 1	D 25	4 730	3 921	800	---
2	D 13	1 830	1 629	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111
T 11					
W 1	D 25	8 240	8 012~7 705	375	---
2	"	4 690	4 313	375	---
3	D 16	8 080	7 987~7 681	240	---
4	D 13	15 190	14 800	390	---
5	"	9 170	9 167	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	610	697~186	111	---
F 1	D 25	4 700	3 897	800	---
2	D 13	1 850	1 653	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 160	828	279	111
9	"	2 180	834	288	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (12)
DATE : _____ DWG NO. W-14



NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (13)

DATE : _____ DWG NO. W-15

A - LINE

REIN. NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	L WEIGHT	WEIGHT	REMARKS
T 1							
1	D 19	4 140	2.235	61	9.253	544.4	U
2	"	2 590	"	58	5.789	335.8	U
3	D 13	4 050	0.994	61	4.026	245.6	J
4	"	15 190	"	34	15.059	513.4	---
5	"	6 810	"	4	6.769	27.1	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	500	"	177	0.497	88.0	"
F 1	D 19	3 260	2.235	119	7.331	872.4	U
2	D 13	1 090	0.994	61	1.083	66.1	U
3	D 16	1 350	1.552	119	2.095	249.3	U
4	D 13	2 930	0.994	61	2.912	177.6	U
5	"	15 190	"	10	15.059	151.0	---
6	"	15 190	"	3	15.059	45.3	---
7	"	15 190	"	13	15.059	196.3	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						2161.1	
T 2							
1	D 19	4 580	2.235	61	10.236	624.4	U
2	"	2 590	"	58	5.789	335.8	U
3	D 13	4 480	0.994	61	4.458	271.6	J
4	"	15 190	"	38	15.059	573.8	---
5	"	6 940	"	2	6.898	13.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	510	"	207	0.507	104.9	"
F 1	D 19	3 260	2.235	119	7.286	867.0	U
2	D 13	1 120	0.994	61	1.113	67.9	U
3	D 16	1 350	1.552	119	2.095	249.3	U
4	D 13	2 930	0.994	61	2.912	177.6	U
5	"	15 190	"	10	15.059	151.0	---
6	"	15 190	"	3	15.059	45.3	---
7	"	15 190	"	13	15.059	196.3	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						3907.5	
						D 19	3599.8
						D 16	498.6
						D 13	3528.2
						TOTAL WEIGHT	7686.6

B - LINE

REIN. NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	L WEIGHT	WEIGHT	REMARKS
T 1							
1	D 19	4 150	2.235	61	9.275	565.8	U
2	"	2 590	"	58	5.789	335.8	U
3	D 13	4 050	0.994	61	4.026	245.6	J
4	"	15 190	"	34	15.059	513.4	---
5	"	6 930	"	4	6.888	27.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	500	"	177	0.497	88.0	"
F 1	D 19	3 260	2.235	119	7.231	872.4	U
2	D 13	1 090	0.994	61	1.033	66.1	U
3	D 16	1 350	1.552	119	2.095	249.3	U
4	D 13	2 930	0.994	61	2.912	177.6	U
5	"	15 190	"	10	15.059	151.0	---
6	"	15 190	"	3	15.059	45.3	---
7	"	15 190	"	14	15.059	211.4	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						3778.1	
T 2							
1	D 19	4 580	2.235	61	10.226	624.4	U
2	"	2 590	"	58	5.789	335.8	U
3	D 13	4 490	0.994	61	4.463	272.2	J
4	"	15 190	"	38	15.059	573.8	---
5	"	7 060	"	2	7.018	14.0	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	510	"	207	0.507	104.9	"
F 1	D 19	3 260	2.235	119	7.286	867.0	U
2	D 13	1 120	0.994	61	1.113	67.9	U
3	D 16	1 350	1.552	119	2.095	249.3	U
4	D 13	2 930	0.994	61	2.912	177.6	U
5	"	15 190	"	10	15.059	151.0	---
6	"	15 190	"	3	15.059	45.3	---
7	"	15 190	"	13	15.059	196.3	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						3908.3	
						D 19	3601.2
						D 16	498.6
						D 13	3588.6
						TOTAL WEIGHT	7686.4

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FURUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (14)
DATE : DWG NO. W-16

A-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
T 3							
W 1	D 22	5 250	3.042	61	15.971	974.2	U
2	"	3 090	"	58	9.400	545.2	U
3	D 16	5 150	1.552	61	7.993	487.6	J
4	D 13	15 190	0.994	41	15.099	619.1	---
5	"	8 760	"	4	8.507	34.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	236	0.547	129.1	"
F 1	D 19	3 660	2.235	119	8.225	978.8	U
2	D 13	1 390	0.994	61	1.382	84.3	U
3	D 16	1 750	1.552	119	2.716	323.2	U
4	D 13	3 230	0.994	61	3.211	195.9	U
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 560	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5096.7	
T 4							
W 1	D 22	5 650	3.042	61	17.187	1 048.4	U
2	"	3 090	"	58	9.400	545.2	U
3	D 16	5 550	1.552	61	8.614	525.5	J
4	D 13	15 190	0.994	45	15.099	679.5	---
5	"	7 200	"	4	7.207	28.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	560	"	266	0.557	148.2	"
F 1	D 19	3 660	2.235	119	8.180	973.4	U
2	D 13	1 420	0.994	61	1.411	86.1	U
3	D 16	1 750	1.552	119	2.716	323.2	U
4	D 13	3 230	0.994	61	3.211	195.9	U
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 560	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5096.7	
						D 22	3113.0
						D 19	1952.2
						D 16	1659.5
						D 13	3659.5
						TOTAL WEIGHT	18375.2

B-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
T 3							
W 1	D 22	5 250	3.042	61	15.971	974.2	U
2	"	3 090	"	58	9.400	545.2	U
3	D 16	5 150	1.552	61	7.993	487.6	J
4	D 13	15 190	0.994	41	15.099	619.1	---
5	"	8 860	"	4	8.607	35.2	---
6	"	15 200	"	2	15.109	30.3	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	236	0.547	129.1	"
F 1	D 19	3 660	2.235	119	8.225	978.8	U
2	D 13	1 390	0.994	61	1.382	84.3	U
3	D 16	1 750	1.552	119	2.716	323.2	U
4	D 13	3 230	0.994	61	3.211	195.9	U
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 560	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5097.1	
T 4							
W 1	D 22	5 650	3.042	61	17.187	1 048.4	U
2	"	3 090	"	58	9.400	545.2	U
3	D 16	5 550	1.552	61	8.614	525.5	J
4	D 13	15 190	0.994	45	15.099	679.5	---
5	"	7 250	"	4	7.207	28.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	560	"	266	0.557	148.2	"
F 1	D 19	3 660	2.235	119	8.180	973.4	U
2	D 13	1 420	0.994	61	1.411	86.1	U
3	D 16	1 750	1.552	119	2.716	323.2	U
4	D 13	3 230	0.994	61	3.211	195.9	U
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 560	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5278.7	
						D 22	3113.0
						D 19	1952.2
						D 16	1659.5
						D 13	3651.1
						TOTAL WEIGHT	18375.8

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (15)
DATE : DWG NO. W-17

A-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NMB	C WEIGHT	WEIGHT	REMARKS
T 5							
1	D 22	6 240	3.042	61	18.982	1 157.9	┌
2	"	2 250	"	58	10.008	580.5	└
3	D 16	6 130	1.552	61	9.514	580.4	┌
4	D 13	15 150	0.994	49	15.099	739.9	┌
5	"	4 820	"	2	4.791	9.4	┌
6	"	15 200	"	2	15.109	30.2	┌
7	"	500	"	61	0.497	30.3	○
8	"	590	"	295	0.536	172.9	○
F 1	D 22	4 180	3.042	119	12.716	1 513.2	┌
2	D 13	1 680	0.994	61	1.670	101.9	┌
3	D 16	2 150	1.552	119	3.337	397.1	┌
4	"	3 570	"	61	5.541	338.0	┌
5	"	15 280	"	11	23.715	260.9	┌
6	D 13	15 190	0.994	5	15.099	75.5	┌
7	"	15 190	"	17	15.099	256.7	┌
8	"	1 960	"	29	1.948	56.5	○
9	"	1 980	"	116	1.968	228.3	○
						6579.8	
T 6							
1	D 22	6 550	3.042	61	20.047	1 227.9	┌
2	"	3 290	"	58	10.008	580.5	└
3	D 16	6 490	1.552	61	10.072	614.4	┌
4	D 13	15 190	0.994	50	15.099	800.2	┌
5	"	9 330	"	2	9.274	18.5	┌
6	"	15 200	"	2	15.109	30.2	┌
7	"	500	"	61	0.497	30.3	○
8	"	600	"	325	0.536	193.7	○
F 1	D 22	4 160	3.042	119	12.655	1 505.9	┌
2	D 13	1 710	0.994	61	1.700	103.7	┌
3	D 16	2 150	1.552	119	3.337	397.1	┌
4	"	3 570	"	61	5.541	338.0	┌
5	"	15 280	"	11	23.715	260.9	┌
6	D 13	15 190	0.994	5	15.099	75.5	┌
7	"	15 190	"	17	15.099	256.7	┌
8	"	1 960	"	29	1.948	56.5	○
9	"	1 980	"	116	1.968	228.3	○
						6713.3	
T 7							
1	D 22	6 930	3.042	61	21.081	1 285.9	┌
2	"	3 290	"	58	10.008	580.5	└
3	D 16	6 870	1.552	61	10.585	645.7	┌
4	D 13	15 190	0.994	53	15.099	800.2	┌
5	"	10 410	"	4	10.377	41.5	┌
6	"	15 200	"	2	15.109	30.2	┌
7	"	500	"	61	0.497	30.3	○
8	"	620	"	325	0.616	200.2	○
F 1	D 22	4 130	3.042	119	12.563	1 495.0	┌
2	D 13	1 730	0.994	61	1.720	104.9	┌
3	D 16	2 150	1.552	119	3.337	397.1	┌
4	"	3 570	"	61	5.541	338.0	┌
5	"	15 280	"	11	23.715	260.9	┌
6	D 13	15 190	0.994	5	15.099	75.5	┌
7	"	15 190	"	17	15.099	256.7	┌
8	"	1 960	"	29	1.948	56.5	○
9	"	1 980	"	116	1.968	228.3	○
						6827.4	
						D 22	9922.3
						D 16	4828.5
						D 13	5319.7
TOTAL WEIGHT						10070.5	

B-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NMB	C WEIGHT	WEIGHT	REMARKS
T 5							
1	D 22	6 240	3.042	61	18.982	1 157.9	┌
2	"	2 290	"	58	10.008	580.5	└
3	D 16	6 130	1.552	61	9.514	580.4	┌
4	D 13	15 150	0.994	49	15.099	739.9	┌
5	"	4 880	"	2	4.851	9.7	┌
6	"	15 200	"	2	15.109	30.2	┌
7	"	500	"	61	0.497	30.3	○
8	"	590	"	295	0.536	172.9	○
F 1	D 22	4 180	3.042	119	12.716	1 513.2	┌
2	D 13	1 680	0.994	61	1.670	101.9	┌
3	D 16	2 150	1.552	119	3.337	397.1	┌
4	"	3 570	"	61	5.541	338.0	┌
5	"	15 280	"	11	23.715	260.9	┌
6	D 13	15 190	0.994	5	15.099	75.5	┌
7	"	15 190	"	17	15.099	256.7	┌
8	"	1 960	"	29	1.948	56.5	○
9	"	1 980	"	116	1.968	228.3	○
						6579.8	
T 6							
1	D 22	6 600	3.042	61	20.072	1 224.7	┌
2	"	3 290	"	58	10.008	580.5	└
3	D 16	6 490	1.552	61	10.072	614.4	┌
4	D 13	15 190	0.994	51	15.099	770.0	┌
5	"	9 370	"	2	9.314	18.6	┌
6	"	15 200	"	2	15.109	30.2	┌
7	"	500	"	61	0.497	30.3	○
8	"	600	"	325	0.536	193.7	○
F 1	D 22	4 160	3.042	119	12.655	1 505.9	┌
2	D 13	1 710	0.994	61	1.700	103.7	┌
3	D 16	2 150	1.552	119	3.337	397.1	┌
4	"	3 570	"	61	5.541	338.0	┌
5	"	15 280	"	11	23.715	260.9	┌
6	D 13	15 190	0.994	5	15.099	75.5	┌
7	"	15 190	"	17	15.099	256.7	┌
8	"	1 960	"	29	1.948	56.5	○
9	"	1 980	"	116	1.968	228.3	○
						6685.0	
T 7							
1	D 22	6 930	3.042	61	21.081	1 285.9	┌
2	"	3 290	"	58	10.008	580.5	└
3	D 16	6 870	1.552	61	10.585	645.7	┌
4	D 13	15 190	0.994	53	15.099	800.2	┌
5	"	10 410	"	4	10.417	41.7	┌
6	"	15 200	"	2	15.109	30.2	┌
7	"	500	"	61	0.497	30.3	○
8	"	620	"	325	0.616	200.2	○
F 1	D 22	4 130	3.042	119	12.563	1 495.0	┌
2	D 13	1 730	0.994	61	1.720	104.9	┌
3	D 16	2 150	1.552	119	3.337	397.1	┌
4	"	3 570	"	61	5.541	338.0	┌
5	"	15 280	"	11	23.715	260.9	┌
6	D 13	15 190	0.994	5	15.099	75.5	┌
7	"	15 190	"	17	15.099	256.7	┌
8	"	1 960	"	29	1.948	56.5	○
9	"	1 980	"	116	1.968	228.3	○
						6921.4	
						D 22	9924.1
						D 16	5089.4
						D 13	5122.8
TOTAL WEIGHT						20126.3	

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUJYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (16)
DATE : DWG NO. W-18

A-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	U WEIGHT	WEIGHT	REMARKS
T 8							
W 1	D 25	7 350	3.973	61	29.360	1 791.0	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	7 230	1.552	61	17.271	684.5	J
4	D 13	15 190	0.994	64	15.099	966.3	---
5	"	8 320	"	2	8.210	16.5	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	640	"	354	0.656	225.1	"
F 1	D 25	4 720	3.973	119	18.951	2 255.2	---
2	D 13	1 820	0.994	61	1.729	109.5	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						8997.5	
T 9							
W 1	D 25	7 680	3.973	61	30.513	1 861.3	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	7 520	1.552	61	11.671	719.9	J
4	D 13	15 190	0.994	64	15.099	966.3	---
5	"	8 320	"	2	8.210	16.5	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	640	"	354	0.656	225.1	"
F 1	D 25	4 750	3.973	119	18.872	2 245.8	---
2	D 13	1 810	0.994	61	1.729	109.7	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						5099.3	
D 25 2058.1							
D 16 7249.4							
D 13 8588.7							
						TOTAL WEIGHT	36679.1

A-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	U WEIGHT	WEIGHT	REMARKS
T 10							
W 1	D 25	7 950	3.973	61	31.585	1 926.7	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	7 790	1.552	61	12.090	737.5	J
4	D 13	15 190	0.994	64	15.099	966.5	---
5	"	7 360	"	2	7.316	14.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	640	"	384	0.656	251.9	"
F 1	D 25	4 730	3.973	119	18.792	2 236.2	---
2	D 13	1 830	0.994	61	1.819	111.0	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9224.8	
T 11							
W 1	D 25	8 240	3.973	61	32.238	1 997.6	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	8 080	1.552	61	12.540	764.9	J
4	D 13	15 190	0.994	68	15.099	1 026.7	---
5	"	9 170	"	2	9.115	18.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	670	"	413	0.666	275.1	"
F 1	D 25	4 700	3.973	119	18.673	2 222.1	---
2	D 13	1 850	0.994	61	1.833	112.2	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9366.6	
D 25 2058.1							
D 16 7249.4							
D 13 8588.7							
						TOTAL WEIGHT	36651.0

B-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	U WEIGHT	WEIGHT	REMARKS
T 8							
W 1	D 25	7 390	3.973	61	29.360	1 791.0	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	7 240	1.552	61	17.236	685.4	J
4	D 13	15 190	0.994	62	15.099	926.1	---
5	"	8 350	"	2	8.300	16.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	640	"	354	0.656	225.1	"
F 1	D 25	4 770	3.973	119	18.951	2 255.2	---
2	D 13	1 790	0.994	61	1.729	108.5	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						8968.3	
T 9							
W 1	D 25	7 680	3.973	61	30.513	1 861.3	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	7 520	1.552	61	11.687	719.9	J
4	D 13	15 190	0.994	64	15.099	966.3	---
5	"	8 410	"	2	8.372	16.7	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	660	"	354	0.656	222.2	"
F 1	D 25	4 750	3.973	119	18.872	2 245.8	---
2	D 13	1 810	0.994	61	1.729	109.7	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						5091.3	
D 25 2058.1							
D 16 7249.4							
D 13 8588.7							
						TOTAL WEIGHT	36651.0

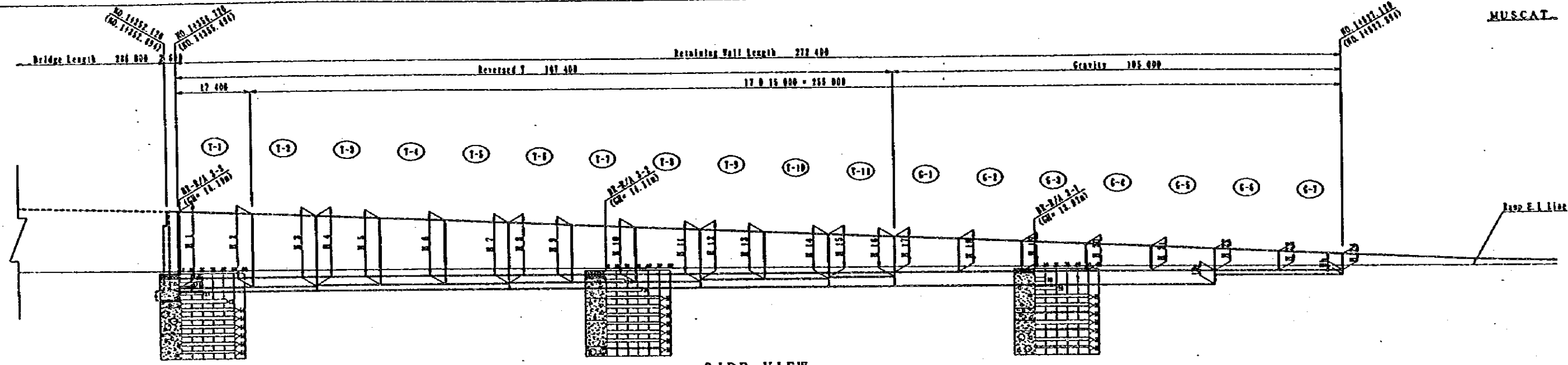
B-LINE

REIN NO.	φ (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	U WEIGHT	WEIGHT	REMARKS
T 10							
W 1	D 25	7 950	3.973	61	31.585	1 926.7	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	7 790	1.552	61	12.090	737.5	J
4	D 13	15 190	0.994	64	15.099	966.5	---
5	"	7 360	"	2	7.316	14.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	640	"	384	0.656	251.9	"
F 1	D 25	4 730	3.973	119	18.792	2 236.2	---
2	D 13	1 830	0.994	61	1.819	111.0	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9224.8	
T 11							
W 1	D 25	8 240	3.973	61	32.238	1 997.6	L
2	"	4 690	"	58	18.633	1 080.7	L
3	D 16	8 080	1.552	61	12.540	764.9	J
4	D 13	15 190	0.994	68	15.099	1 026.7	---
5	"	9 170	"	2	9.115	18.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	670	"	413	0.666	275.1	"
F 1	D 25	4 700	3.973	119	18.673	2 222.1	---
2	D 13	1 850	0.994	61	1.833	112.2	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9366.6	
D 25 2058.1							
D 16 7249.4							
D 13 8588.7							
						TOTAL WEIGHT	36651.0

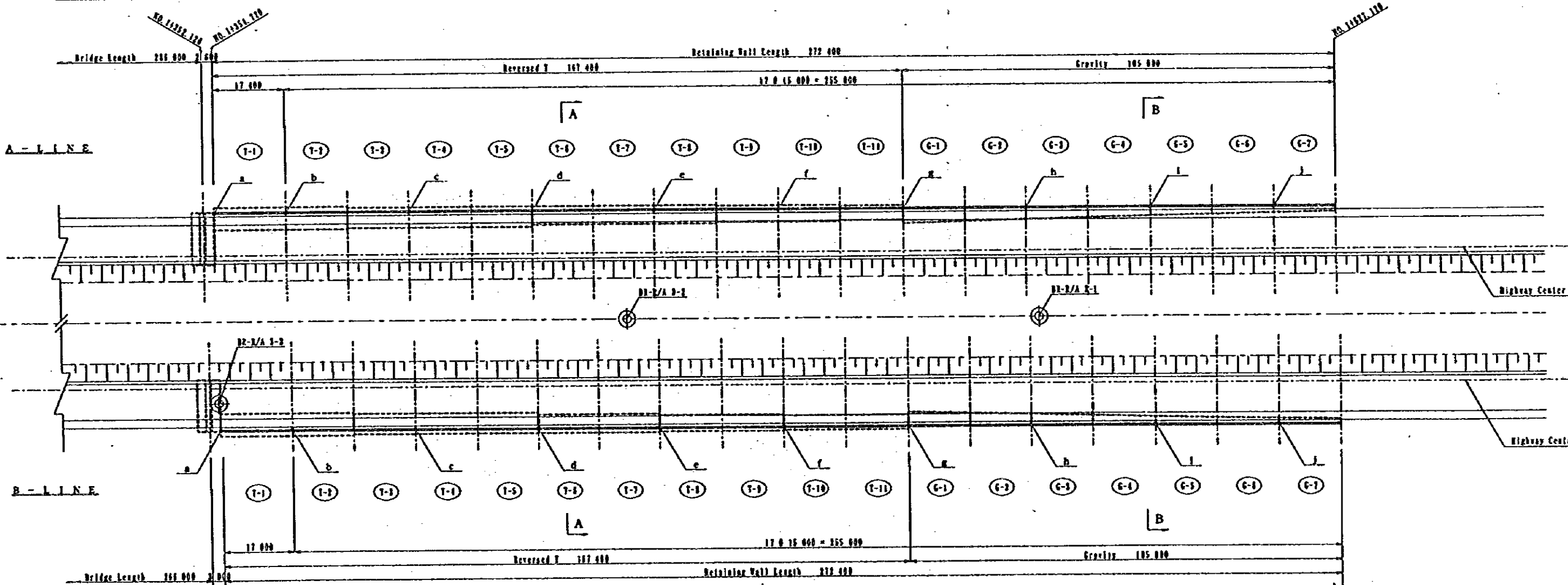
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3; BARKA RE-BAR ARRANGEMENT (17)
DATE : _____ DWG NO. W-19

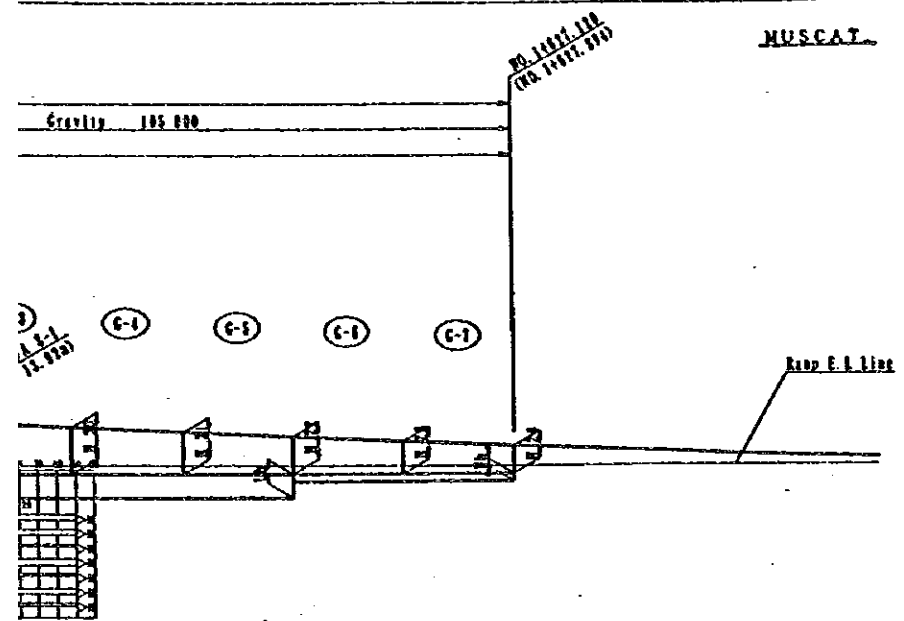


SIDE VIEW
H=1/1000
V=1/500

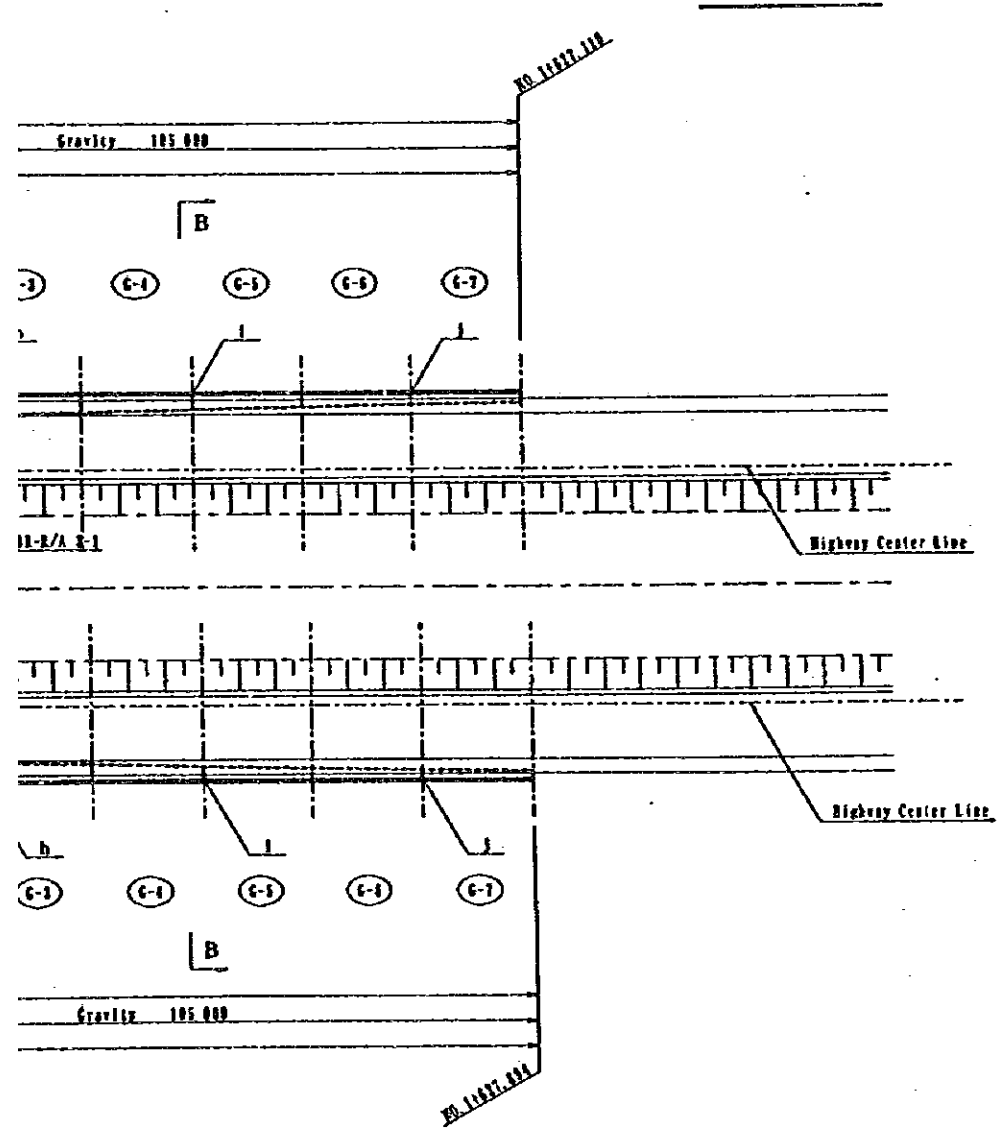
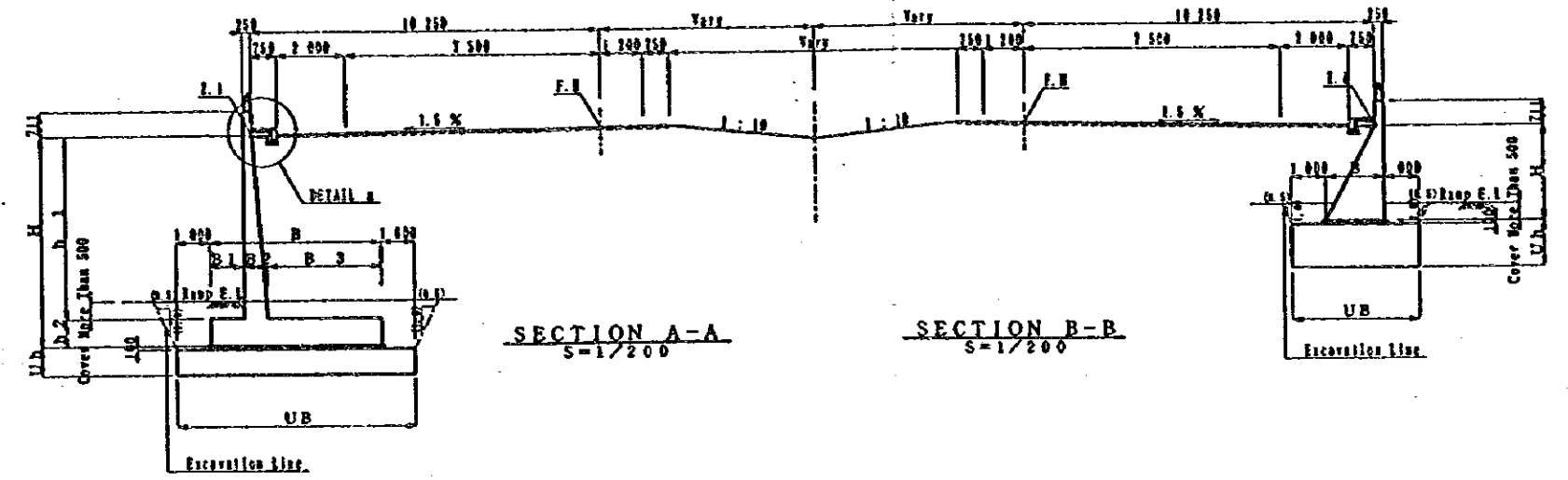


PLAN
S=1/1000

NOTES:



MUSCAT

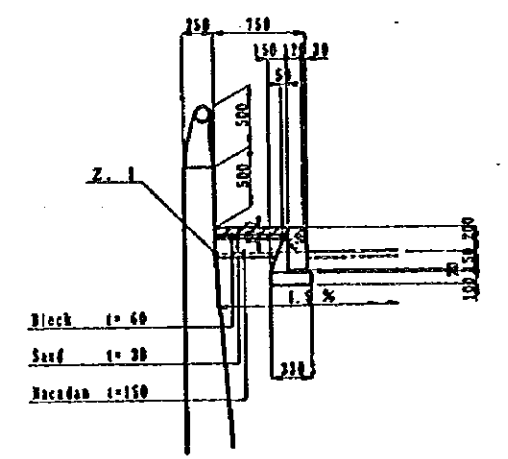


Reversed T

MARK TYPE	H	h 1	h 2	B	B 1	B 2	B 3	U h	U B	
A I L I N E	T-1	11-8 694	7 594	1 100	5 500	1 200	875	3 422	500	7 500
	T-2	1-8 428	7 328				853	3 447		
	T-3	3-8 161	7 061	1 000	5 000	1 000	831	3 469	600	7 000
	T-4	4-8 061	6 794				805	3 195		
	T-5	5-7 794	6 794				784	3 216		
	T-6	6-7 482	6 482				759	3 241		
	T-7	7-7 170	6 170				735	3 265		
	T-8	8-7 070	6 170	900	4 500	1 000	705	2 795	700	6 500
	T-9	9-6 713	5 813				679	2 821		
	T-10	10-6 356	5 456				652	2 648		
	T-11	11-6 954	5 054				623	2 877		
B I L I N E	T-1	11-8 476	7 376	1 100	5 500	1 200	857	3 443	500	7 500
	T-2	2-8 210	7 110				835	3 465		
	T-3	3-7 943	6 843	1 000	5 000	1 000	813	3 487	600	7 000
	T-4	4-7 843	6 576				788	3 212		
	T-5	5-7 576	6 576				767	3 233		
	T-6	6-7 264	6 264				742	3 258		
	T-7	7-6 952	5 952				718	3 282		
	T-8	8-6 852	5 952	900	4 500	1 000	689	2 811	700	6 500
	T-9	9-6 495	5 595				663	2 837		
	T-10	10-6 138	5 238				636	2 864		
	T-11	11-5 938	5 238	700	4 000	800	596	2 604	900	6 000
E	T-1	12-5 536	4 836				569	2 631		
	T-2	13-5 134	4 434				543	2 657		
	T-3	14-4 934	4 434	500	3 500	600	469	2 404	1 100	5 500
	T-4	15-4 497	3 997				472	2 428		
	T-5	16-4 059	3 559				448	2 452		

Gravity

MARK TYPE	H	B	U h	U B	
A I L I N E	G-1	117-3 776	2 657	1 600	4 657
	G-2	18-3 377	2 403		4 463
	G-3	19-2 977	2 148		4 148
	G-4	20-2 632	1 928		3 928
	G-5	21-2 286	1 707		3 707
	G-6	22-1 995	1 522	500	3 522
	G-7	23-1 703	1 336		3 336
B I L I N E	G-1	117-3 559	2 519	1 600	4 519
	G-2	18-3 213	2 297		4 297
	G-3	19-2 863	2 075		4 075
	G-4	20-2 480	1 831		3 831
	G-5	21-2 096	1 586		3 586
	G-6	22-1 818	1 409	500	3 409
	G-7	23-1 540	1 232		3 232
G-8	24-1 321	1 092		3 092	



DETAIL a
S=1/60

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA GENERAL VIEW FOR WALL (2)-1
DATE :
DWG NO. W-20

Point	a	b	c	d	e	f	g	h	i	j	
A L I N E	N	+2617651.97670	+2617647.87275	+2617641.71683	+2617635.56091	+2617629.40499	+2617623.24906	+2617617.09314	+2617610.93722	+2617604.78130	+2617598.62538
	E	+590258.65402	+590278.22843	+590307.59005	+590336.95167	+590366.31329	+590395.67491	+590425.03652	+590454.39814	+590483.75976	+590513.12138
	Z	21.293	20.987	20.453	19.829	19.115	18.311	17.435	16.636	15.945	15.362
B I L I N E	N	+2617619.81294	+2617615.70899	+2617609.55307	+2617603.39714	+2617597.24122	+2617591.08529	+2617584.92937	+2617578.77344	+2617572.61752	+2617566.46159
	E	+590251.73300	+590271.30741	+590300.66903	+590330.03065	+590359.39226	+590388.75388	+590418.11550	+590447.47712	+590476.83874	+590506.20035
	Z	21.293	20.987	20.453	19.829	19.115	18.311	17.436	16.740	15.973	15.417

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

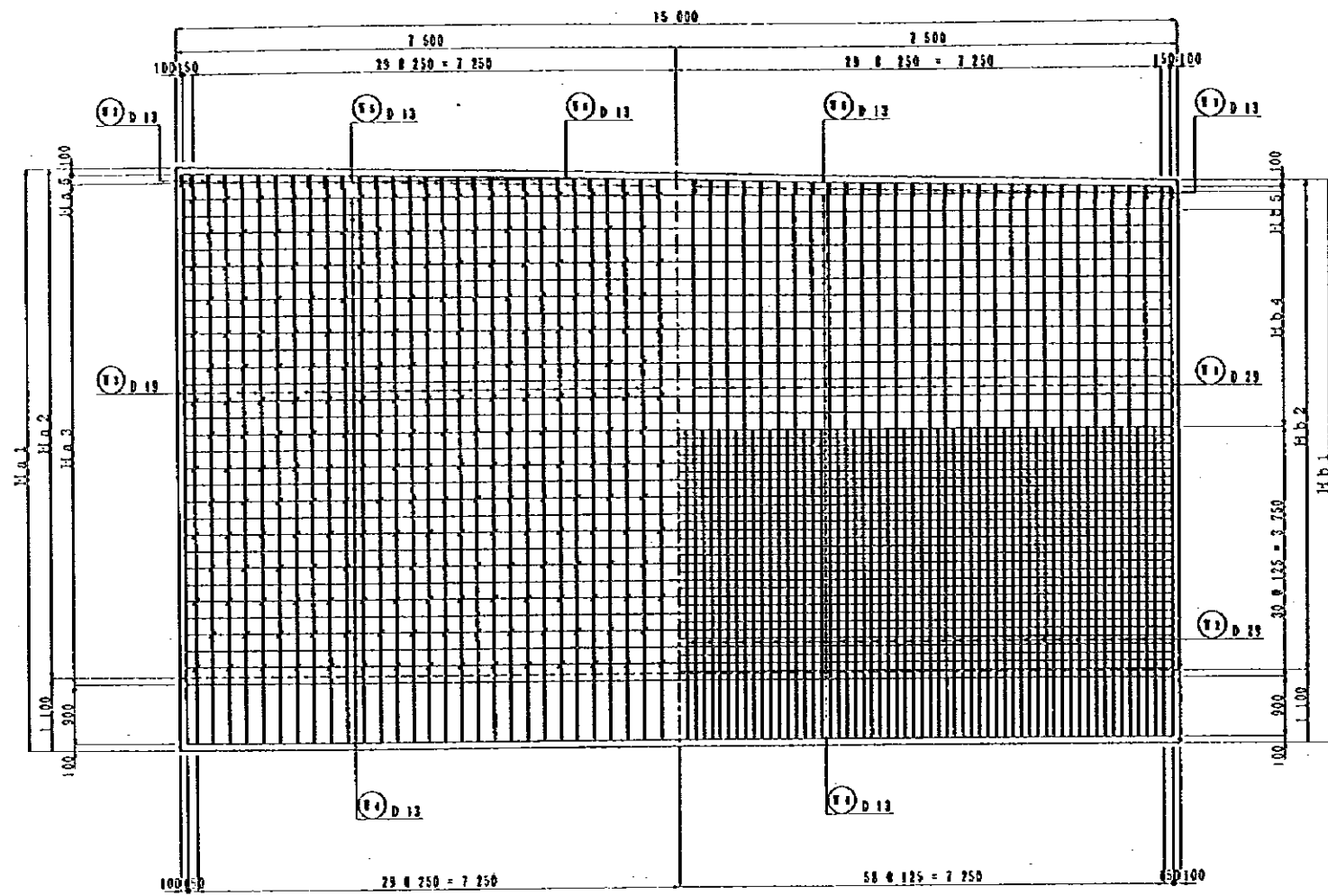
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FLUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

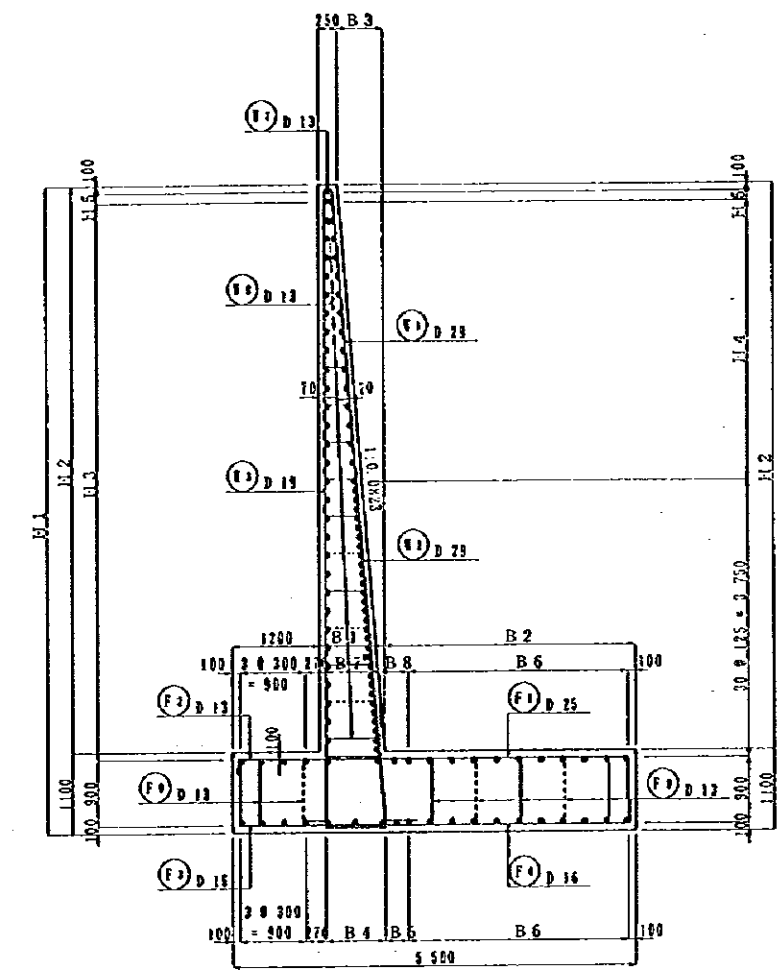
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA GENERAL VIEW FOR WALL (2)-2

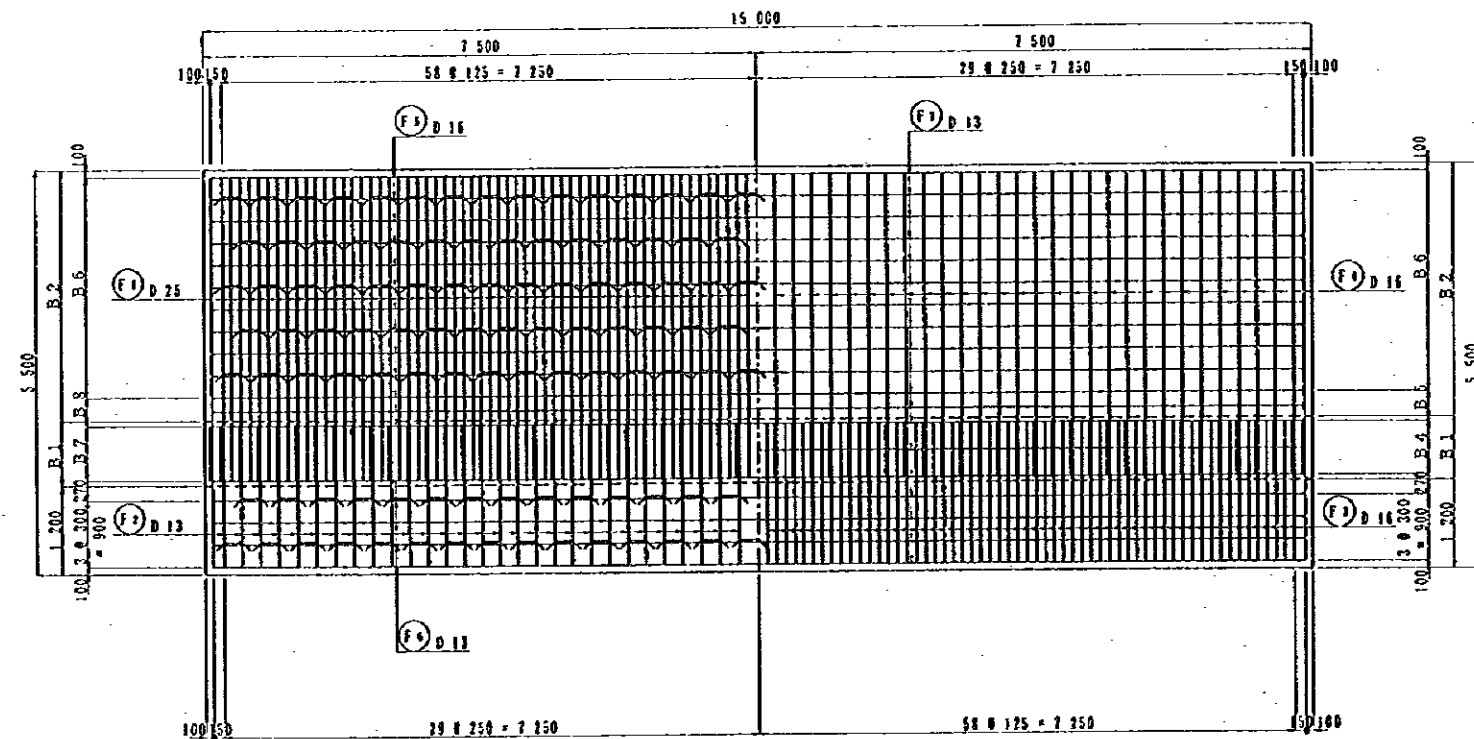
DATE : _____ DWG NO. W-21



SIDE VIEW
S=1/100



SECTION
S=1/100

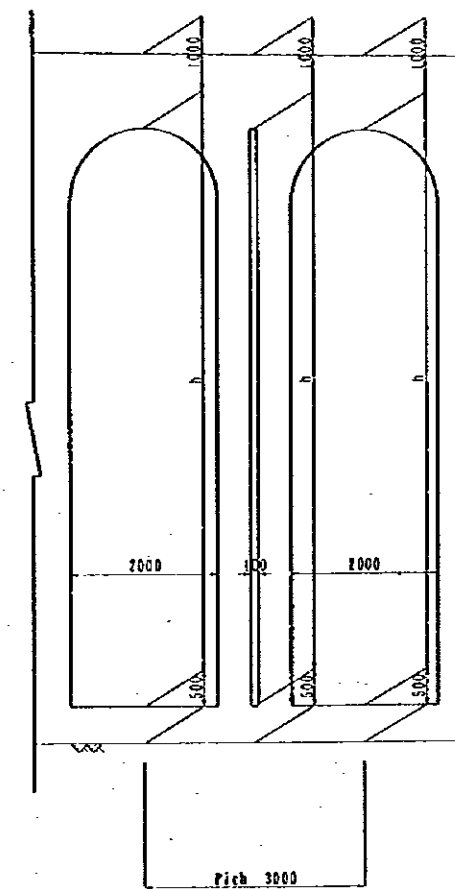


PLAN
S=1/100

NOTES:	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
	JICA STUDY TEAM PACIFIC CONSULTANTS INTERNATIONAL EIKUYAMA CONSULTANTS INTERNATIONAL	PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
		TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (1)
		DATE : DWC NO. W-22

A L I N E	T-2				T-1			
	a - a		b - b		a - a		b - b	
	Ha	Hb	Ha	Hb	Ha	Hb	Ha	Hb
Ha1	8 161	Hb1	8 426	Ha1	8 428	Hb1	8 734	
Ha2	7 061	Hb2	7 328	Ha2	7 328	Hb2	7 634	
Ha3	28@250 = 7 000	Hb3	28@250 = 7 000	Ha3	29@250 = 7 250	Hb3	30@250 = 7 500	
Ha4	13@250 = 3 250	Hb4	13@250 = 3 250	Ha4	14@250 = 3 500	Hb4	15@250 = 3 750	
Ha5	61	Hb5	2@164 = 328	Ha5	78	Hb5	134	
Ba1	831	Bb1	853	Ba1	853	Bb1	878	
Ba2	3 469	Bb2	3 447	Ba2	3 447	Bb2	3 422	
Ba3	581	Bb3	603	Ba3	603	Bb3	628	
Ba4	2@368 = 773	Bb4	2@397.5 = 795	Ba4	2@397.5 = 795	Bb4	2@410 = 820	
Ba5	2@178.5 = 357	Bb5	2@167.5 = 335	Ba5	2@167.5 = 335	Bb5	2@155 = 310	
Ba6	10@300 = 3 000	Bb6	10@300 = 3 000	Ba6	10@300 = 3 000	Bb6	10@300 = 3 000	
Ba7	699	Bb7	721	Ba7	721	Bb7	746	
Ba8	2@215.5 = 431	Bb8	2@204.5 = 409	Ba8	2@204.5 = 409	Bb8	2@192 = 384	

B L I N E	T-2				T-1			
	a - a		b - b		a - a		b - b	
	Ha	Hb	Ha	Hb	Ha	Hb	Ha	Hb
Ha1	7 493	Hb1	8 210	Ha1	8 210	Hb1	8 516	
Ha2	6 843	Hb2	7 110	Ha2	7 110	Hb2	7 416	
Ha3	27@250 = 6 750	Hb3	28@250 = 7 000	Ha3	28@250 = 7 000	Hb3	29@250 = 7 250	
Ha4	12@250 = 3 000	Hb4	13@250 = 3 250	Ha4	13@250 = 3 250	Hb4	14@250 = 3 500	
Ha5	93	Hb5	110	Ha5	110	Hb5	166	
Ba1	813	Bb1	835	Ba1	835	Bb1	860	
Ba2	3 487	Bb2	3 465	Ba2	3 465	Bb2	3 440	
Ba3	563	Bb3	585	Ba3	585	Bb3	610	
Ba4	2@377.5 = 755	Bb4	2@388.5 = 777	Ba4	2@388.5 = 777	Bb4	2@401 = 802	
Ba5	2@187.5 = 375	Bb5	2@176.5 = 353	Ba5	2@176.5 = 353	Bb5	2@164 = 328	
Ba6	10@300 = 3 000	Bb6	10@300 = 3 000	Ba6	10@300 = 3 000	Bb6	10@300 = 3 000	
Ba7	681	Bb7	703	Ba7	703	Bb7	728	
Ba8	2@224.5 = 449	Bb8	2@213.5 = 427	Ba8	2@213.5 = 427	Bb8	2@201 = 402	



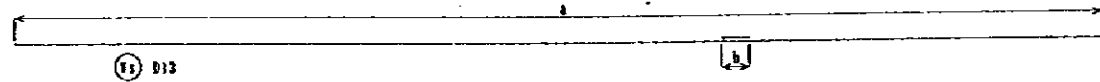
Slit Shape in Front of Wall
(Thickness 1=30 mm)

NOTES:

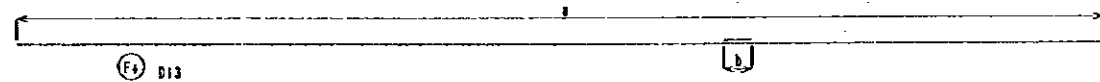
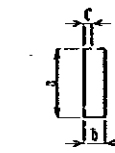
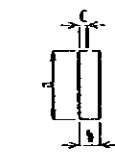
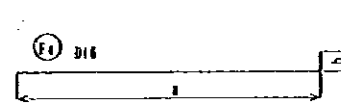
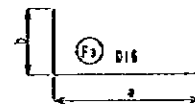
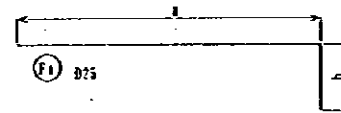
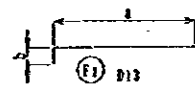
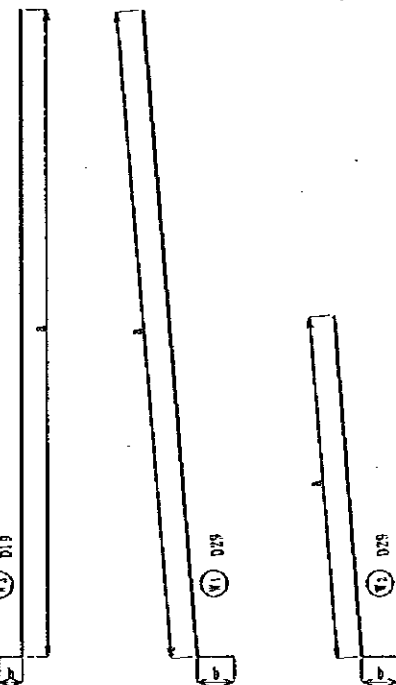
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

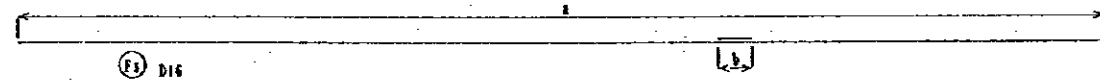
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (2)
DATE :
DWG NO. W-23



(T1) D13
(T2) D13



(T10) D13
(T11) D13



(T12) D16

REIN. NO.	φ (mm)	LENGTH (cm)	a	b	c
T 1					
1	D 23	8 850	8 563~8 256	435	---
2	"	5 110	4 666	435	---
3	D 19	8 670	8 534~8 228	285	---
4	D 13	15 130	14 890	390	---
5	"	6 570	6 569	---	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	700	782~728	111	---
F 1	D 25	5 040	4 134	900	---
2	D 13	2 120	1 916	195	---
3	D 16	2 550	1 650	900	---
4	"	4 370	4 130	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 360	928	279	111
9	"	2 380	934	288	111
T 2					
1	D 23	8 560	8 256~7 988	435	---
2	"	5 110	4 666	435	---
3	D 19	8 280	8 228~7 961	285	---
4	D 13	15 190	14 800	390	---
5	"	9 220	9 213	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	700	732~703	111	---
F 1	D 25	5 060	4 158	900	---
2	D 13	2 090	1 891	195	---
3	D 16	2 550	1 650	900	---
4	"	4 370	4 130	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 360	928	279	111
9	"	2 380	934	288	111

REIN. NO.	φ (mm)	LENGTH (cm)	a	b	c
T 1					
1	D 23	8 630	8 346~8 037	435	---
2	"	5 110	4 666	435	---
3	D 19	8 450	8 316~8 010	285	---
4	D 13	15 190	14 800	390	---
5	"	8 140	8 137	---	---
6	"	15 200	14 803	390	---
7	"	500	110	195	---
8	"	700	784~716	111	---
F 1	D 25	5 060	4 152	900	---
2	D 13	2 100	1 898	195	---
3	D 16	2 550	1 650	900	---
4	"	4 370	4 130	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 360	928	279	111
9	"	2 380	934	288	111
T 2					
1	D 23	8 120	8 037~7 918	435	---
2	"	5 110	4 666	435	---
3	D 19	7 940	8 010~7 293	285	---
4	D 13	15 190	14 800	390	---
5	"	6 180	6 180	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	700	719~726	111	---
F 1	D 25	5 060	4 177	900	---
2	D 13	2 070	1 871	195	---
3	D 16	2 550	1 650	900	---
4	"	4 370	4 130	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 360	928	279	111
9	"	2 380	934	288	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUJYAMA CONSULTANTS INTERNATIONAL

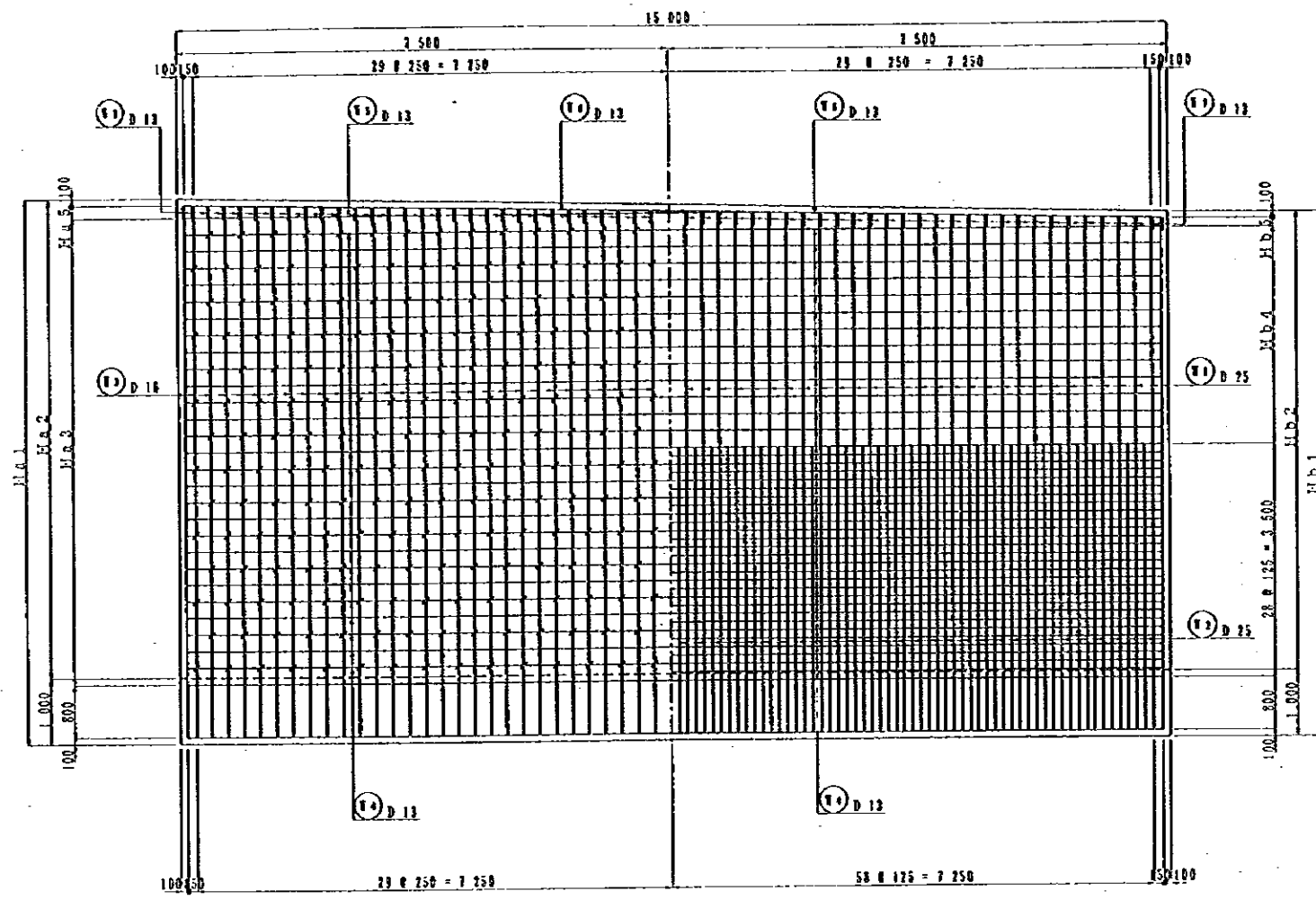
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

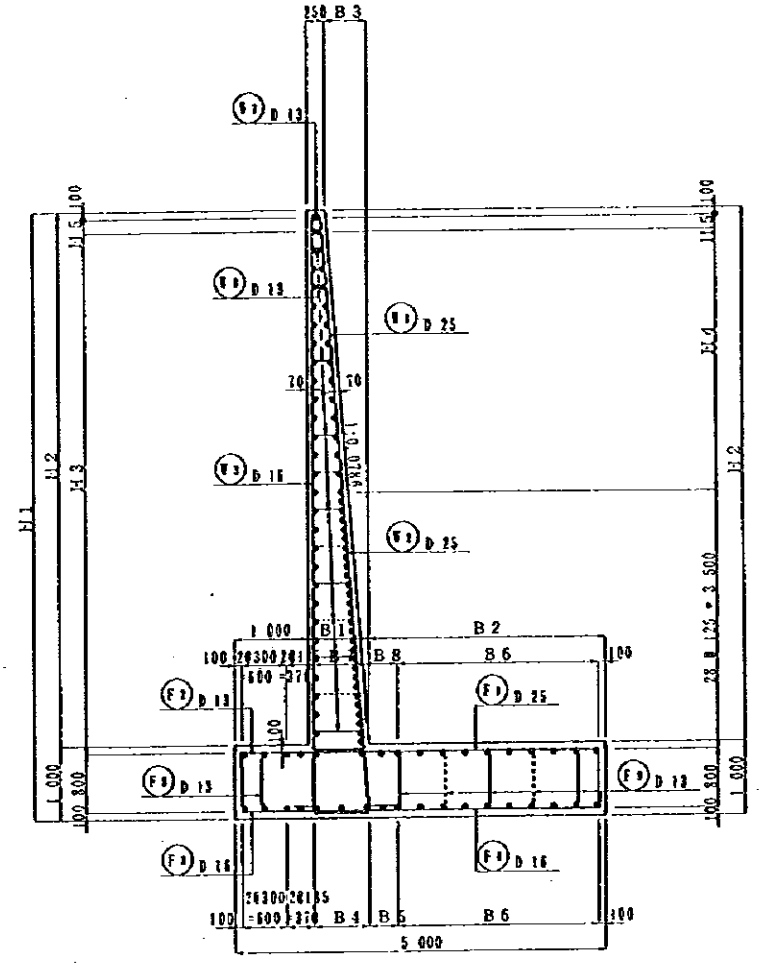
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (3)

DATE

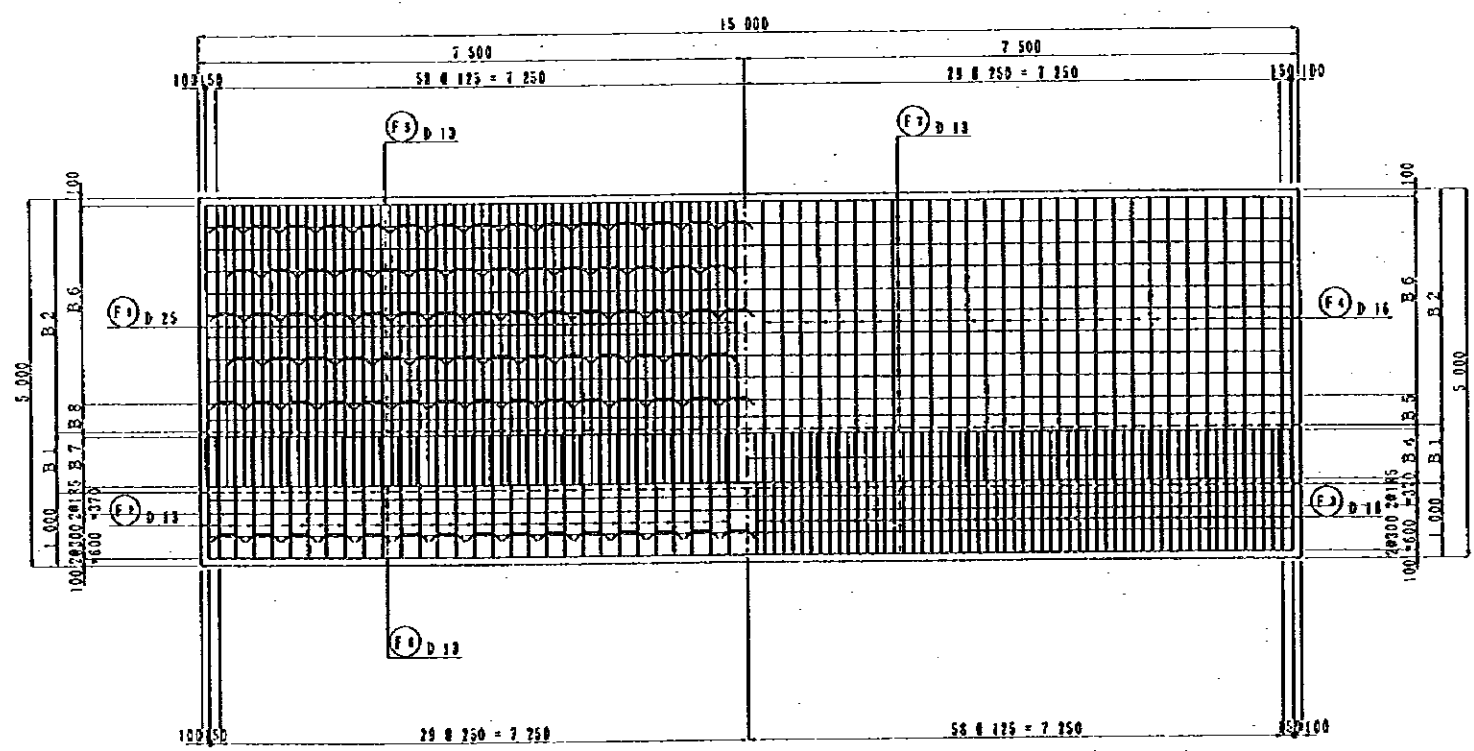
DWG NO. W-24



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

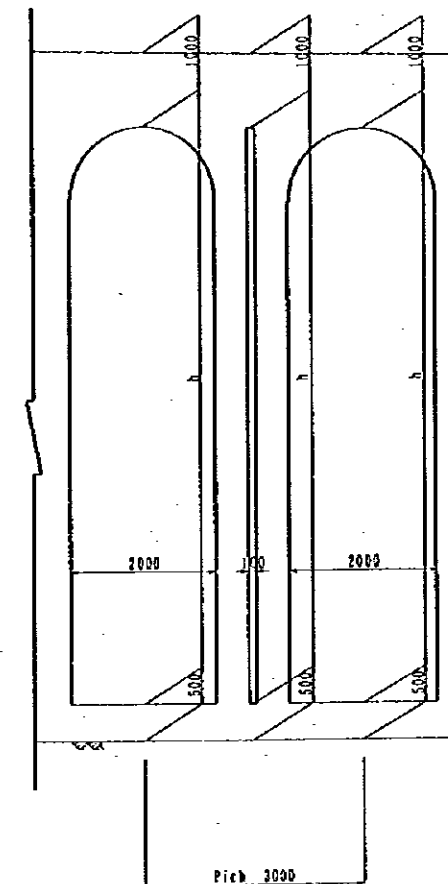
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
PERUMBA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (4)
DATE :
DWG NO. W-25

A I L I N E	T-5		T-4		T-3	
	a - a	b - b	a - a	b - b	a - a	b - b
	Ha1	7 170	Hb1 7 482	Ha1 7 482	Hb1 7 794	Ha1 7 794
Ha2	6 170	Hb2 6 482	Ha2 6 482	Hb2 6 794	Ha2 6 794	Hb2 7 061
Ha3	24@250 = 6 000	Hb3 25@250 = 6 250	Ha3 25@250 = 6 250	Hb3 26@250 = 6 500	Ha3 27@250 = 6 750	Hb3 27@250 = 6 750
Ha4	9@250 = 2 250	Hb4 10@250 = 2 500	Ha4 10@250 = 2 500	Hb4 11@250 = 2 750	Ha4 12@250 = 3 000	Hb4 12@250 = 3 000
Ha5	170	Hb5 232	Ha5 232	Hb5 2@147 = 294	Ha5 44	Hb5 2@155.5 = 311
Ba1	735	Bb1 759	Ba1 759	Bb1 784	Ba1 784	Bb1 805
Ba2	3 265	Bb2 3 241	Ba2 3 241	Bb2 3 216	Ba2 3 216	Bb2 3 195
Ba3	485	Bb3 509	Ba3 509	Bb3 534	Ba3 534	Bb3 555
Ba4	2@333 = 666	Bb4 2@345 = 690	Ba4 2@345 = 690	Bb4 2@357.5 = 715	Ba4 2@357.5 = 715	Bb4 2@368 = 736
Ba5	164	Bb5 140	Ba5 140	Bb5 115	Ba5 2@207.5 = 415	Bb5 2@197 = 394
Ba6	10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 9@300 = 2 700	Bb6 9@300 = 2 700
Ba7	603	Bb7 627	Ba7 627	Bb7 652	Ba7 652	Bb7 673
Ba8	227	Bb8 203	Ba8 203	Bb8 178	Ba8 2@239 = 478	Bb8 2@228.5 = 457

B I L I N E	T-5		T-4		T-3	
	a - a	b - b	a - a	b - b	a - a	b - b
	Ha1	6 952	Hb1 7 264	Ha1 7 264	Hb1 7 576	Ha1 7 576
Ha2	5 952	Hb2 6 264	Ha2 6 264	Hb2 6 576	Ha2 6 576	Hb2 6 843
Ha3	23@250 = 5 750	Hb3 24@250 = 6 000	Ha3 25@250 = 6 250	Hb3 25@250 = 6 250	Ha3 26@250 = 6 500	Hb3 26@250 = 6 500
Ha4	8@250 = 2 000	Hb4 9@250 = 2 250	Ha4 10@250 = 2 500	Hb4 10@250 = 2 500	Ha4 11@250 = 2 750	Hb4 11@250 = 2 750
Ha5	202	Hb5 2@132 = 264	Ha5 14	Hb5 2@163 = 326	Ha5 76	Hb5 2@171.5 = 343
Ba1	718	Bb1 742	Ba1 742	Bb1 767	Ba1 767	Bb1 788
Ba2	3 282	Bb2 3 258	Ba2 3 258	Bb2 3 233	Ba2 3 233	Bb2 3 212
Ba3	468	Bb3 492	Ba3 492	Bb3 517	Ba3 517	Bb3 538
Ba4	2@324.5 = 649	Bb4 2@336.5 = 673	Ba4 2@336.5 = 673	Bb4 2@349 = 698	Ba4 2@349 = 698	Bb4 2@359.5 = 719
Ba5	181	Bb5 157	Ba5 157	Bb5 132	Ba5 132	Bb5 111
Ba6	10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000	Ba6 10@300 = 3 000	Bb6 10@300 = 3 000
Ba7	586	Bb7 610	Ba7 610	Bb7 635	Ba7 635	Bb7 656
Ba8	244	Bb8 220	Ba8 220	Bb8 195	Ba8 195	Bb8 174



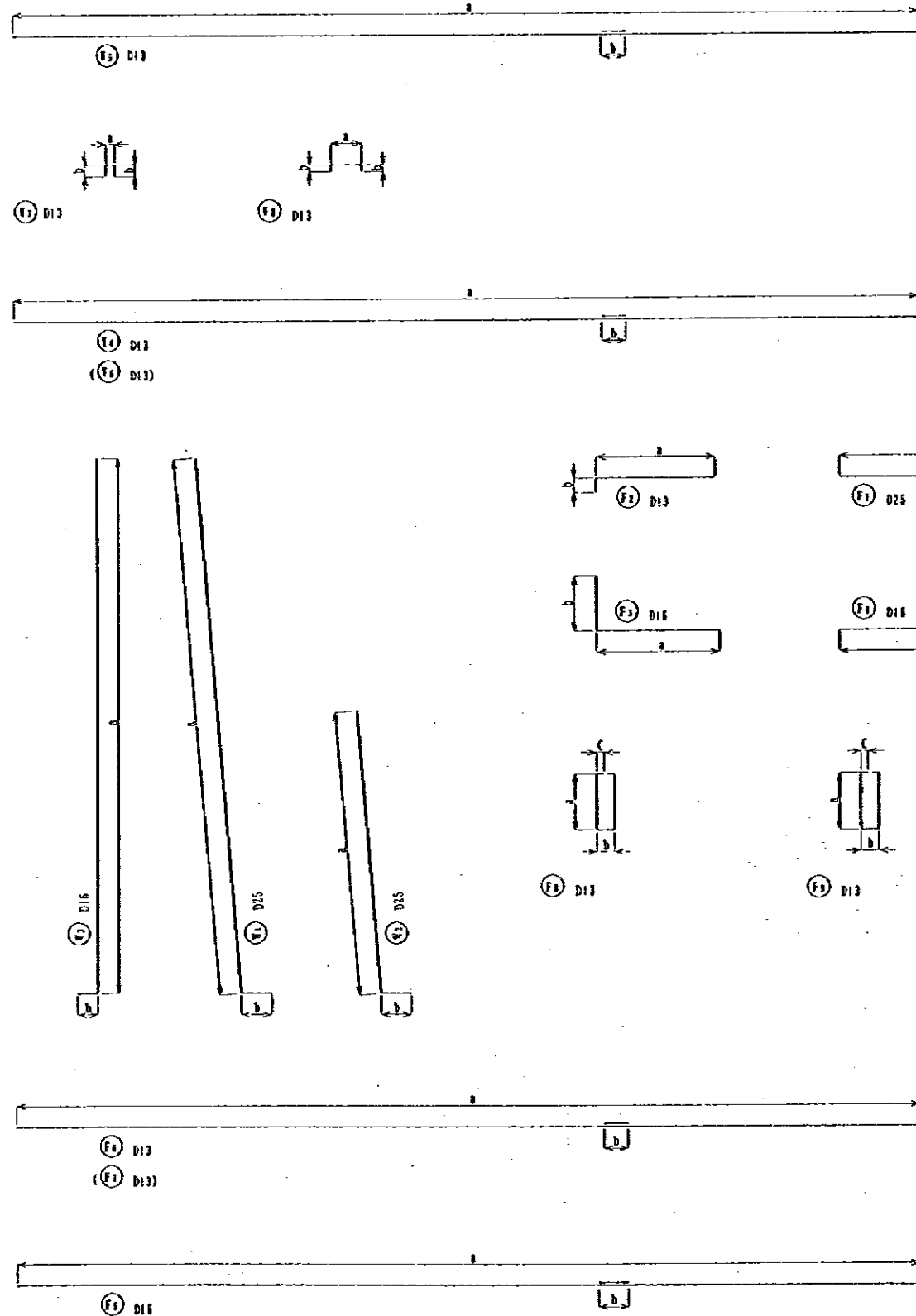
Slit Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATJINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (5)
DATE : DTG NO. W-26



REIN NO	Ø (mm)	LENGTH (mm)	a	b	c
T 3					
F 1	D 25	8 130	7 885~7 611	375	---
2	"	4 630	4 313	375	---
3	D 16	7 970	7 861~7 584	240	---
4	D 13	15 130	14 800	330	---
5	"	8 740	8 736	---	---
6	"	15 200	14 802	350	---
7	"	500	110	195	---
8	"	650	687~215	111	---
F 1	D 25	4 710	3 307	800	---
2	D 13	1 640	1 643	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	450	---
6	D 13	15 190	14 800	350	---
7	"	15 190	14 800	390	---
8	"	2 180	828	279	111
9	"	2 180	834	288	111
T 4					
F 1	D 25	7 840	7 612~7 304	375	---
2	"	4 630	4 313	375	---
3	D 16	7 630	7 554~7 282	240	---
4	D 13	15 190	14 800	390	---
5	"	10 800	7 867~14 135	390	---
6	"	15 200	14 802	350	---
7	"	500	110	195	---
8	"	650	668~194	111	---
F 1	D 25	4 730	3 328	800	---
2	D 13	1 820	1 622	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	450	---
6	D 13	15 190	14 800	350	---
7	"	15 190	14 800	390	---
8	"	2 180	828	279	111
9	"	2 180	834	288	111
T 5					
F 1	D 25	7 530	7 304~6 991	375	---
2	"	4 630	4 313	375	---
3	D 16	7 370	7 282~6 970	240	---
4	D 13	15 190	14 800	390	---
5	"	11 160	11 154	---	---
6	"	15 200	14 803	350	---
7	"	500	110	195	---
8	"	630	641~209	111	---
F 1	D 25	4 760	3 353	800	---
2	D 13	1 800	1 597	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	450	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 180	828	279	111
9	"	2 180	834	288	111

REIN NO	Ø (mm)	LENGTH (mm)	a	b	c
T 3					
F 1	D 25	7 910	7 667~7 359	375	---
2	"	4 630	4 313	375	---
3	D 16	7 750	7 643~7 376	240	---
4	D 13	15 190	14 800	390	---
5	"	9 640	9 635	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	650	670~198	111	---
F 1	D 25	4 730	3 324	800	---
2	D 13	1 830	1 626	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	450	---
6	D 13	15 190	14 800	350	---
7	"	15 190	14 800	350	---
8	"	2 180	828	279	111
9	"	2 180	834	288	111
T 4					
F 1	D 25	7 620	7 399~7 086	375	---
2	"	4 630	4 313	375	---
3	D 16	7 450	7 376~7 064	240	---
4	D 13	15 190	14 800	390	---
5	"	7 840	7 837	---	---
6	"	15 200	14 802	350	---
7	"	500	110	195	---
8	"	660	649~216	111	---
F 1	D 25	4 750	3 345	800	---
2	D 13	1 800	1 605	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	450	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 180	828	279	111
9	"	2 180	834	288	111
T 5					
F 1	D 25	7 310	7 086~6 773	375	---
2	"	4 630	4 313	375	---
3	D 16	7 150	7 064~6 752	240	---
4	D 13	15 190	14 800	390	---
5	"	9 720	6 356~12 692	350	---
6	"	15 200	14 803	350	---
7	"	500	110	195	---
8	"	630	624~192	111	---
F 1	D 25	4 770	3 370	800	---
2	D 13	1 780	1 580	195	---
3	D 16	2 250	1 450	800	---
4	"	4 070	3 830	240	---
5	"	15 280	14 800	450	---
6	D 13	15 190	14 800	350	---
7	"	15 190	14 800	350	---
8	"	2 180	828	279	111
9	"	2 180	834	288	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

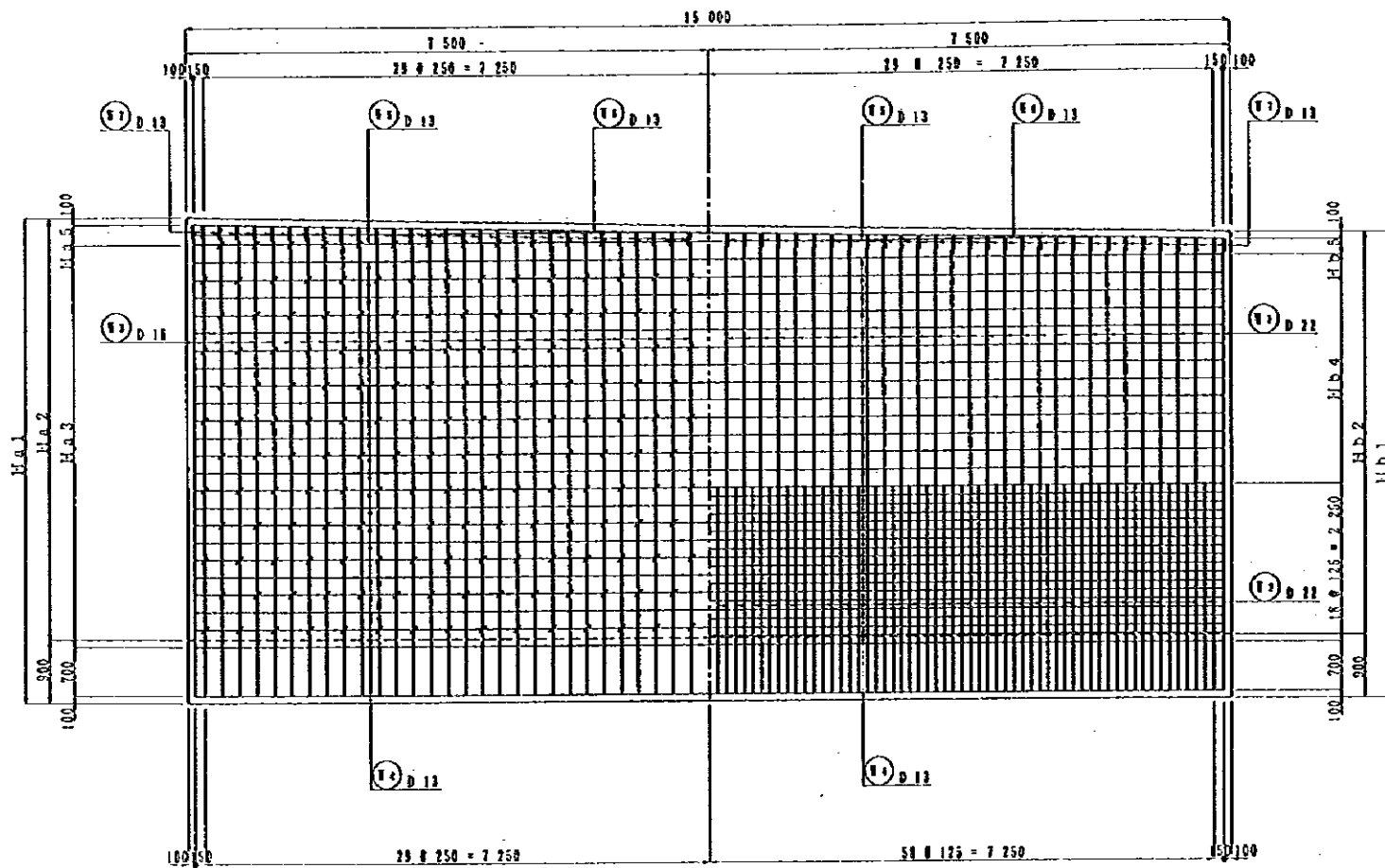
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

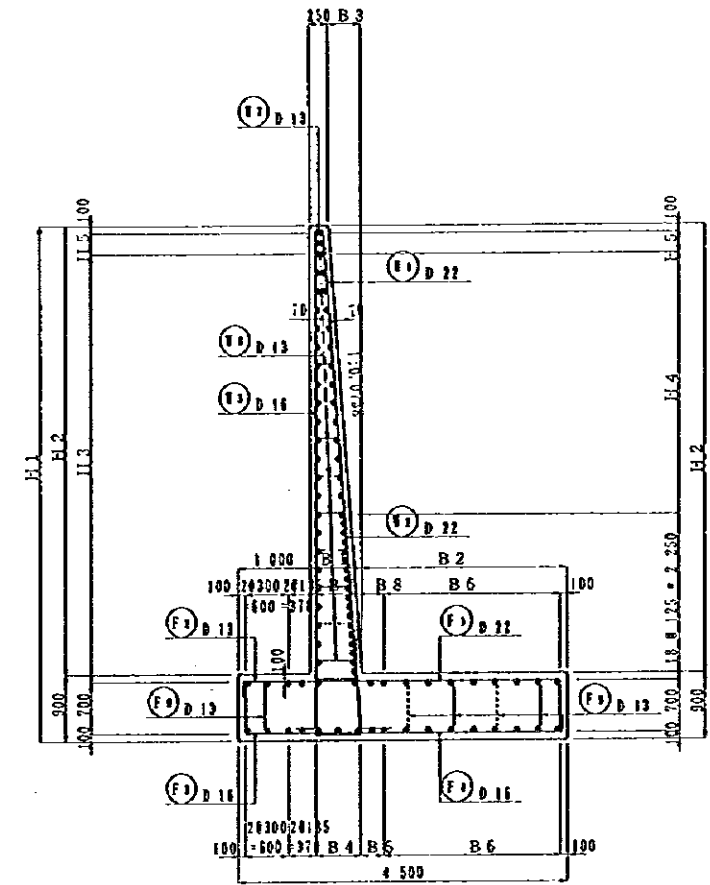
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3. BARKA RE-BAR ARRANGEMENT (6)

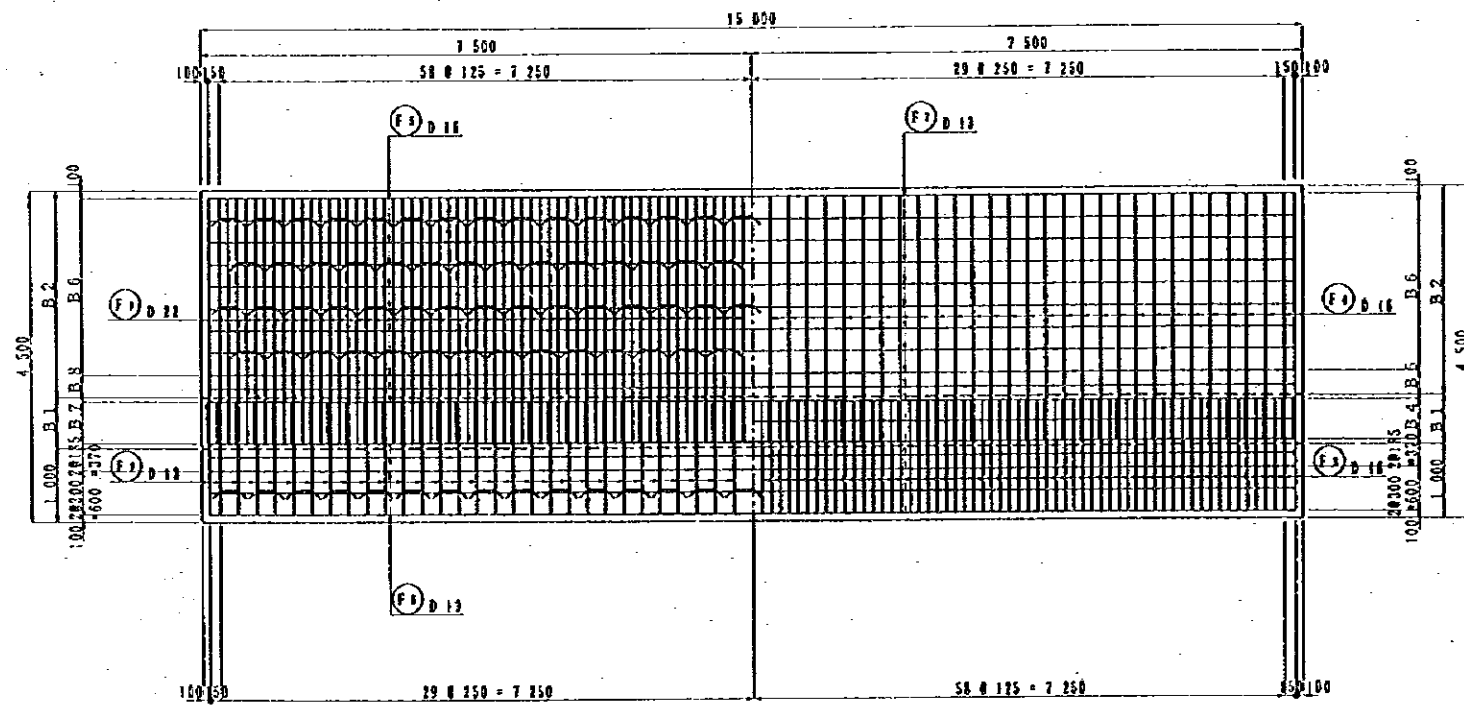
DATE : DWG NO. W-27



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FLUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

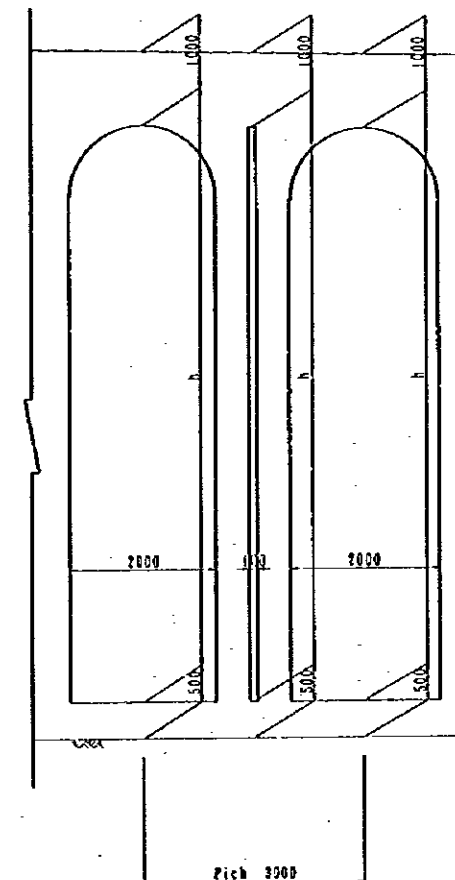
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (?)

DATE

DWG NO. W-28

A I L I N E	T-8		T-7		T-6	
	a - a	b - b	a - a	b - b	a - a	b - b
	Ha1	5 954	Hb1 6 356	Ha1 6 356	Hb1 6 713	Ha1 6 713
Ha2	5 054	Hb2 5 456	Ha2 5 456	Hb2 5 813	Ha2 5 813	Hb2 6 170
Ha3	200250 = 5 000	Hb3 210250 = 5 250	Ha3 210250 = 5 250	Hb3 220250 = 5 500	Ha3 230250 = 5 750	Hb3 240250 = 6 000
Ha4	110250 = 2 750	Hb4 120250 = 3 000	Ha4 120250 = 3 000	Hb4 130250 = 3 250	Ha4 140250 = 3 500	Hb4 150250 = 3 750
Ha5	54	Hb5 206	Ha5 206	Hb5 20156.5 = 313	Ha5 63	Hb5 170
Ba1	623	Bb1 652	Ba1 652	Bb1 679	Ba1 679	Bb1 705
Ba2	2 877	Bb2 2 848	Ba2 2 848	Bb2 2 821	Ba2 2 821	Bb2 2 795
Ba3	373	Bb3 402	Ba3 402	Bb3 429	Ba3 429	Bb3 455
Ba4	20241.5 = 541	Bb4 20285.5 = 571	Ba4 20285.5 = 571	Bb4 20298.5 = 597	Ba4 20298.5 = 597	Bb4 20312 = 624
Ba5	20194.5 = 389	Bb5 20179.5 = 359	Ba5 20179.5 = 359	Bb5 20166.5 = 333	Ba5 20166.5 = 333	Bb5 20153 = 306
Ba6	80300 = 2 400	Bb6 80300 = 2 400	Ba6 80300 = 2 400	Bb6 80300 = 2 400	Ba6 80300 = 2 400	Bb6 80300 = 2 400
Ba7	490	Bb7 519	Ba7 519	Bb7 546	Ba7 546	Bb7 572
Ba8	20220 = 440	Bb8 20205.5 = 411	Ba8 20205.5 = 411	Bb8 20192 = 384	Ba8 20192 = 384	Bb8 20179 = 358

B I L I N E	T-7		T-6		T-6	
	a - a	b - b	a - a	b - b	a - a	b - b
	Ha1	6 138	Hb1 6 495	Ha1 6 495	Hb1 6 852	Ha1
Ha2	5 238	Hb2 5 595	Ha2 5 595	Hb2 5 952	Ha2	Hb2
Ha3	200250 = 5 000	Hb3 210250 = 5 250	Ha3 220250 = 5 500	Hb3 230250 = 5 750	Ha3	Hb3
Ha4	110250 = 2 750	Hb4 120250 = 3 000	Ha4 130250 = 3 250	Hb4 140250 = 3 500	Ha4	Hb4
Ha5	238	Hb5 20172.5 = 345	Ha5 95	Hb5 202	Ha5	Hb5
Ba1	636	Bb1 663	Ba1 663	Bb1 689	Ba1	Bb1
Ba2	2 864	Bb2 2 837	Ba2 2 837	Bb2 2 811	Ba2	Bb2
Ba3	386	Bb3 413	Ba3 413	Bb3 439	Ba3	Bb3
Ba4	20277.5 = 555	Bb4 20290.5 = 581	Ba4 20290.5 = 581	Bb4 20304 = 608	Ba4	Bb4
Ba5	20187.5 = 375	Bb5 20174.5 = 349	Ba5 20174.5 = 349	Bb5 20161 = 322	Ba5	Bb5
Ba6	80300 = 2 400	Bb6 80300 = 2 400	Ba6 80300 = 2 400	Bb6 80300 = 2 400	Ba6	Bb6
Ba7	503	Bb7 530	Ba7 530	Bb7 556	Ba7	Bb7
Ba8	20213.5 = 427	Bb8 20200 = 400	Ba8 20200 = 400	Bb8 20187 = 374	Ba8	Bb8

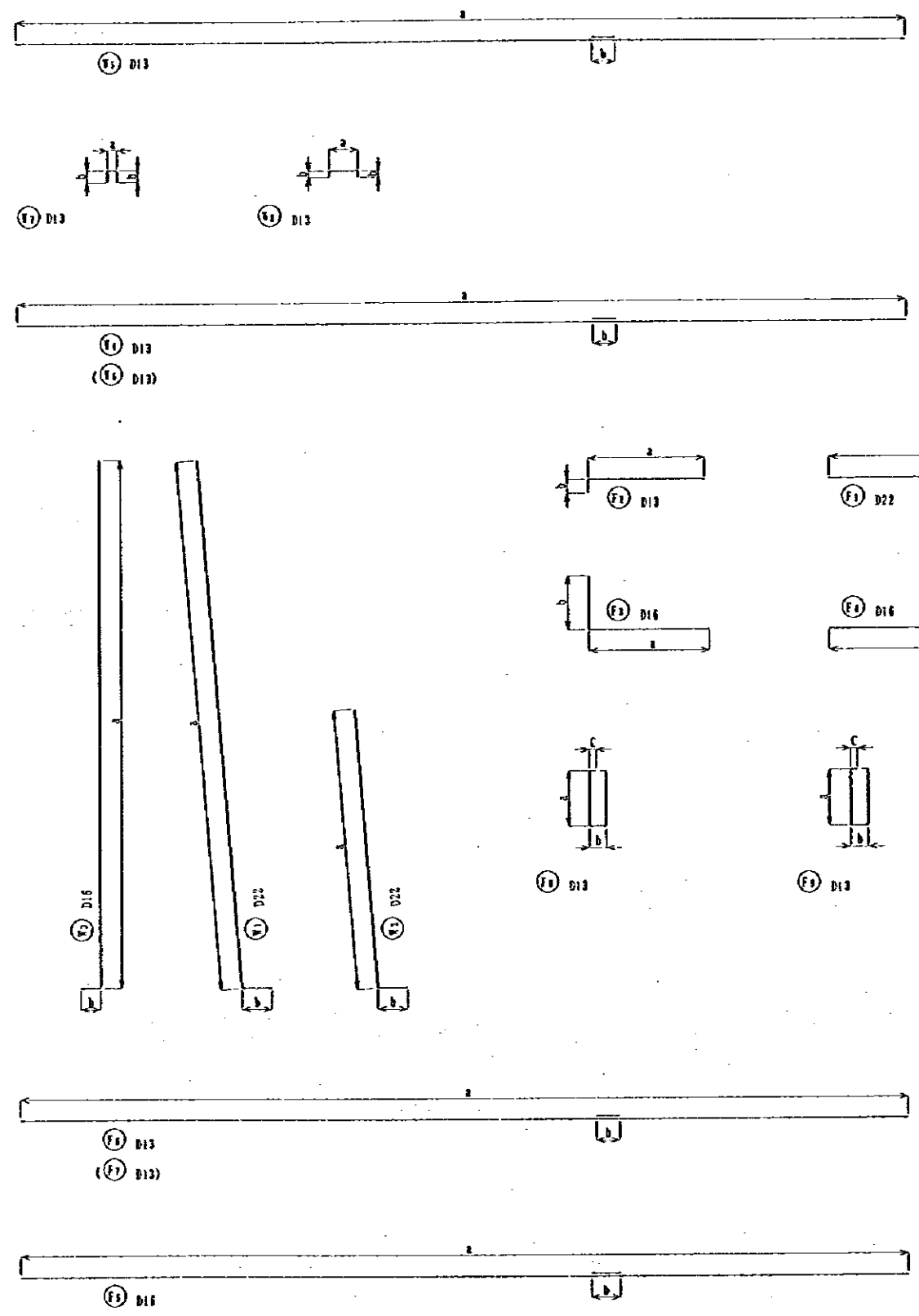


Slit Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

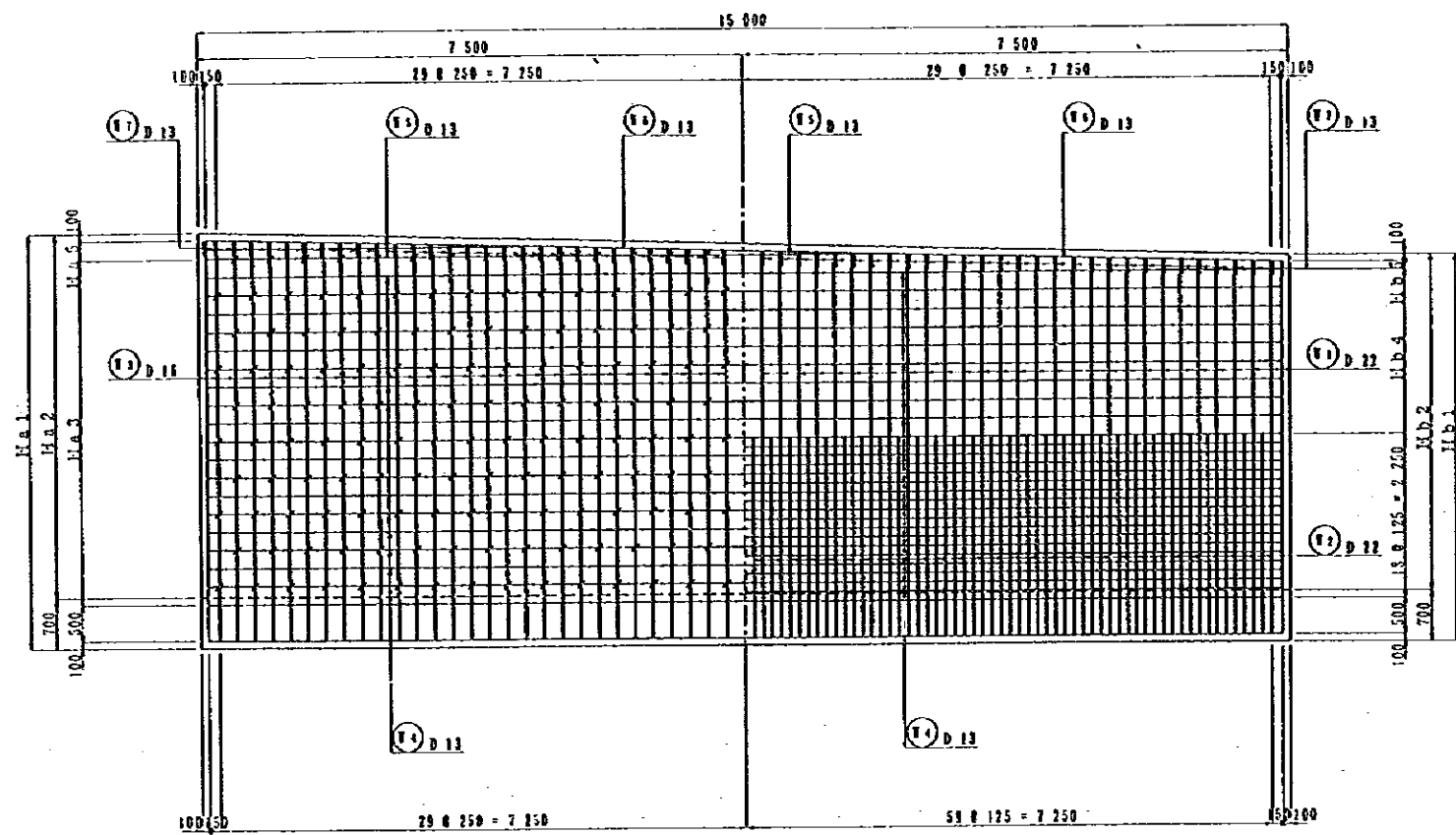
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (8)
DATE :
DWG NO. W-29



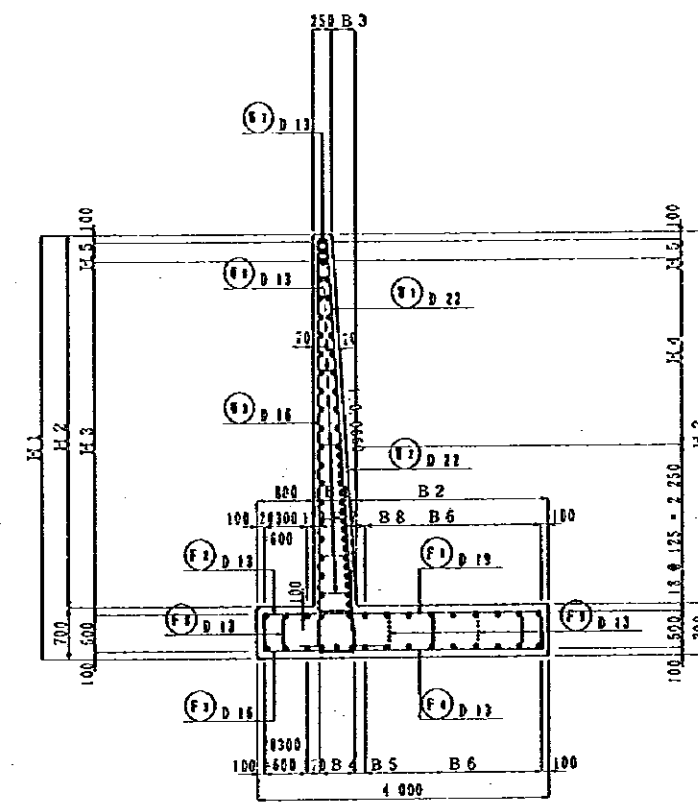
REIN. NO.	φ (mm)	LENGTH (mm)	a	b	c
T 6					
1	D 22	7 840	6 883~6 521	330	---
2	"	4 650	2 958	330	---
3	D 16	6 940	6 878~6 513	240	---
4	D 13	15 150	14 800	350	---
5	"	7 150	7 143	---	---
6	"	15 200	14 804	350	---
7	"	500	110	195	---
8	"	630	586~217	111	---
F 1	D 22	4 120	3 411	700	---
2	D 13	1 740	1 542	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	450	---
6	D 13	15 150	14 800	350	---
7	"	15 150	14 800	350	---
8	"	1 960	728	279	111
9	"	1 930	732	285	111
T 7					
1	D 22	6 690	6 591~6 179	330	---
2	"	4 650	2 958	330	---
3	D 16	6 580	6 518~6 156	240	---
4	D 13	15 150	14 800	350	---
5	"	10 000	6 876~13 151	350	---
6	"	15 200	14 804	350	---
7	"	500	110	195	---
8	"	600	540~191	111	---
F 1	D 22	4 150	3 444	700	---
2	D 13	1 720	1 516	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	450	---
6	D 13	15 150	14 800	350	---
7	"	15 150	14 800	350	---
8	"	1 960	728	279	111
9	"	1 930	732	285	111
T 8					
1	D 22	6 310	6 173~5 770	330	---
2	"	4 650	2 958	330	---
3	D 16	6 200	6 156~5 754	240	---
4	D 13	15 150	14 800	350	---
5	"	7 650	7 687	---	---
6	"	15 200	14 805	350	---
7	"	500	110	195	---
8	"	590	532~201	111	---
F 1	D 22	4 180	3 471	700	---
2	D 13	1 690	1 455	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	450	---
6	D 13	15 150	14 800	350	---
7	"	15 150	14 800	350	---
8	"	1 960	728	279	111
9	"	1 930	732	285	111

REIN. NO.	φ (mm)	LENGTH (mm)	a	b	c
T 6					
1	D 22	6 830	6 670~6 312	330	---
2	"	4 650	2 958	330	---
3	D 16	6 720	6 652~6 295	240	---
4	D 13	15 150	14 800	350	---
5	"	8 450	8 487	---	---
6	"	15 200	14 804	350	---
7	"	500	110	195	---
8	"	610	570~204	111	---
F 1	D 22	4 140	3 434	700	---
2	D 13	1 730	1 526	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	450	---
6	D 13	15 150	14 800	350	---
7	"	15 150	14 800	350	---
8	"	1 950	728	279	111
9	"	1 930	732	285	111
T 7					
1	D 22	6 470	6 312~5 954	330	---
2	"	4 650	2 958	330	---
3	D 16	6 360	6 295~5 938	240	---
4	D 13	15 150	14 800	350	---
5	"	11 070	7 248~14 496	350	---
6	"	15 200	14 804	350	---
7	"	500	110	195	---
8	"	600	540~212	111	---
F 1	D 22	4 160	3 460	700	---
2	D 13	1 700	1 500	195	---
3	D 16	2 150	1 450	700	---
4	"	3 570	3 330	240	---
5	"	15 280	14 800	450	---
6	D 13	15 150	14 800	350	---
7	"	15 150	14 800	350	---
8	"	1 950	728	279	111
9	"	1 930	732	285	111

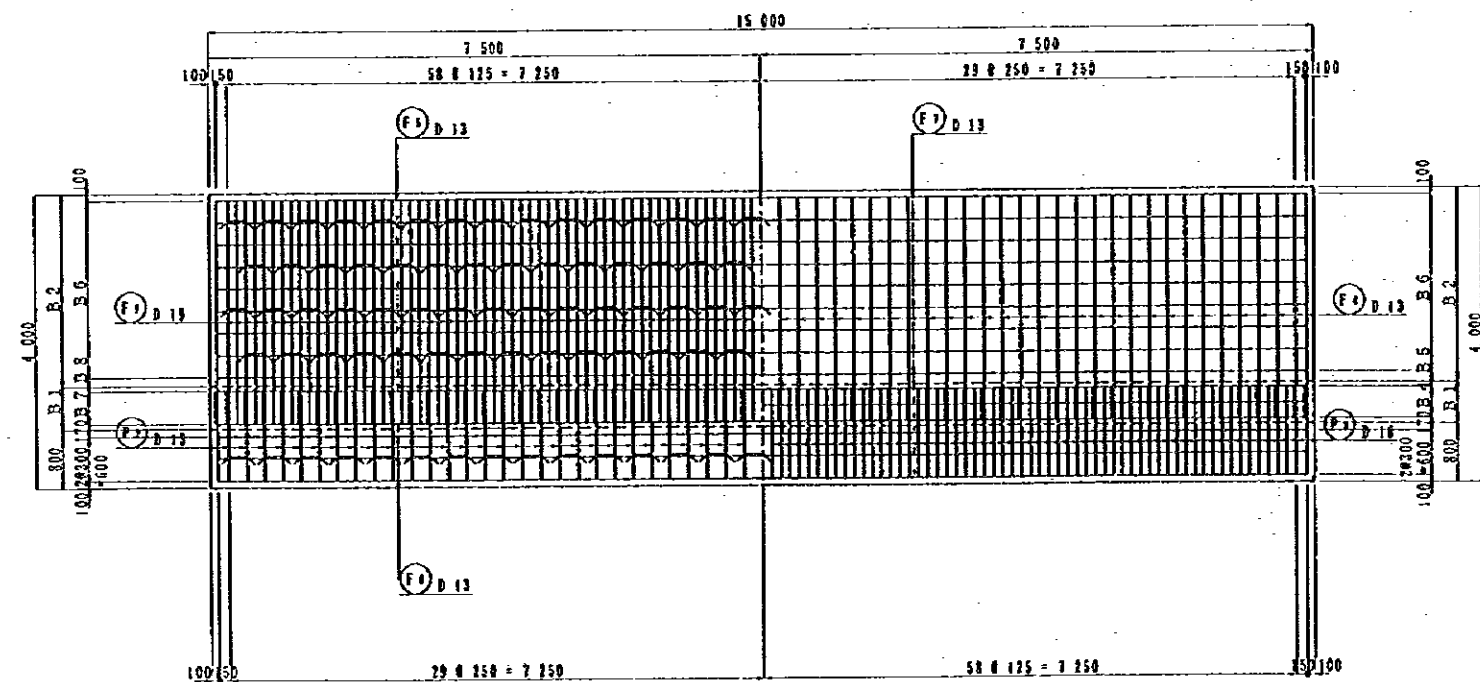
NOTES:



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

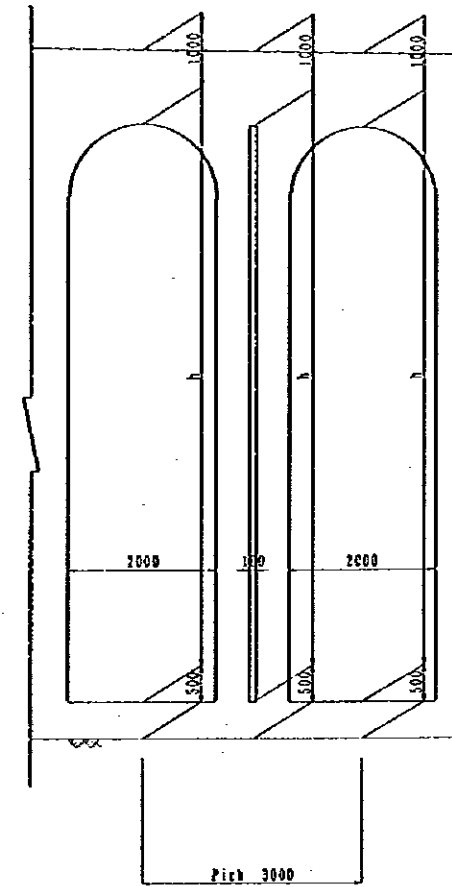
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FLUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (10)
DATE : _____ DWG NO. W-31

A I L I N E	T-10				T-9			
	a - a		b - b		a - a		b - b	
	Ha	Hb	Ha	Hb	Ha	Hb	Ha	Hb
	Ha1	4 914	Hb1	5 352	Ha1	5 352	Hb1	5 754
	Ha2	4 214	Hb2	4 652	Ha2	4 652	Hb2	5 054
	Ha3	16@250 = 4 000	Hb3	18@250 = 4 500	Ha3	16@250 = 4 000	Hb3	19@250 = 4 750
	Ha4	7@250 = 1 750	Hb4	9@250 = 2 250	Ha4	9@250 = 2 250	Hb4	10@250 = 2 500
	Ha5	214	Hb5	152	Ha5	152	Hb5	2@152 = 304
	Ba1	528	Bb1	557	Ba1	557	Bb1	584
	Ba2	2 672	Bb2	2 643	Ba2	2 643	Bb2	2 616
	Ba3	278	Bb3	307	Ba3	307	Bb3	334
	Ba4	2@213.5 = 427	Bb4	2@228 = 456	Ba4	2@228 = 456	Bb4	2@241.5 = 483
	Ba5	203	Bb5	174	Ba5	174	Bb5	147
	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400
	Ba7	394	Bb7	423	Ba7	423	Bb7	450
	Ba8	236	Bb8	207	Ba8	207	Bb8	180
B I L I N E	T-9				T-8			
	a - a		b - b		a - a		b - b	
	Ha	Hb	Ha	Hb	Ha	Hb	Ha	Hb
	Ha1	5 134	Hb1	5 536	Ha1	5 536	Hb1	5 938
	Ha2	4 434	Hb2	4 836	Ha2	4 836	Hb2	5 238
	Ha3	17@250 = 4 250	Hb3	18@250 = 4 500	Ha3	19@250 = 4 750	Hb3	20@250 = 5 000
	Ha4	8@250 = 2 000	Hb4	9@250 = 2 250	Ha4	10@250 = 2 500	Hb4	11@250 = 2 750
	Ha5	184	Hb5	2@168 = 336	Ha5	86	Hb5	238
	Ba1	543	Bb1	569	Ba1	569	Bb1	596
	Ba2	2 657	Bb2	2 631	Ba2	2 631	Bb2	2 604
	Ba3	293	Bb3	319	Ba3	319	Bb3	346
	Ba4	2@221 = 442	Bb4	2@234 = 468	Ba4	2@234 = 468	Bb4	2@247.5 = 495
	Ba5	188	Bb5	162	Ba5	162	Bb5	135
	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400	Ba6	8@300 = 2 400	Bb6	8@300 = 2 400
	Ba7	409	Bb7	435	Ba7	435	Bb7	462
	Ba8	221	Bb8	195	Ba8	195	Bb8	168



Slit Shape in Front of Wall
(Thickness (=30 mm))

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

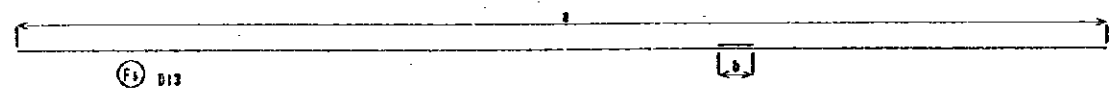
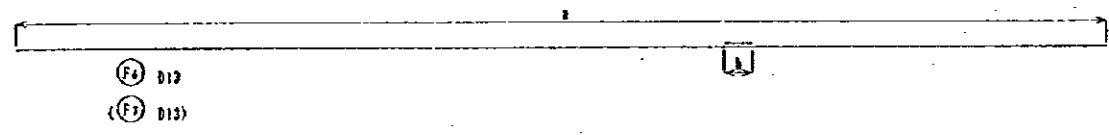
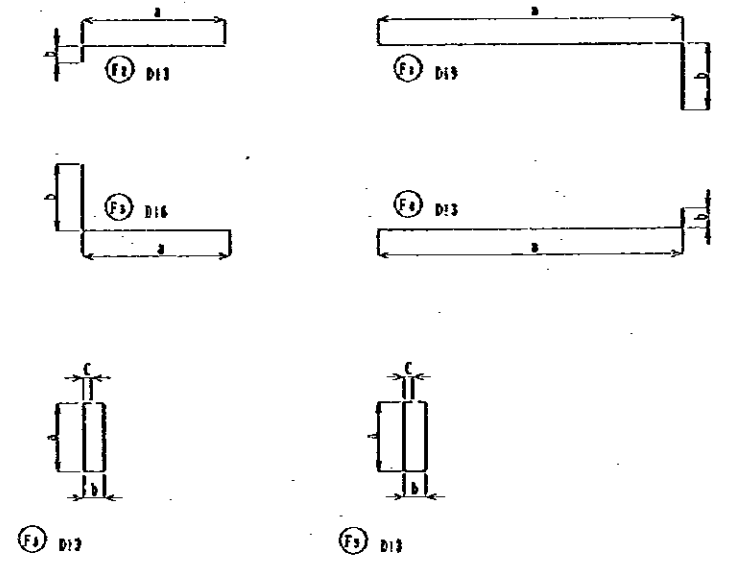
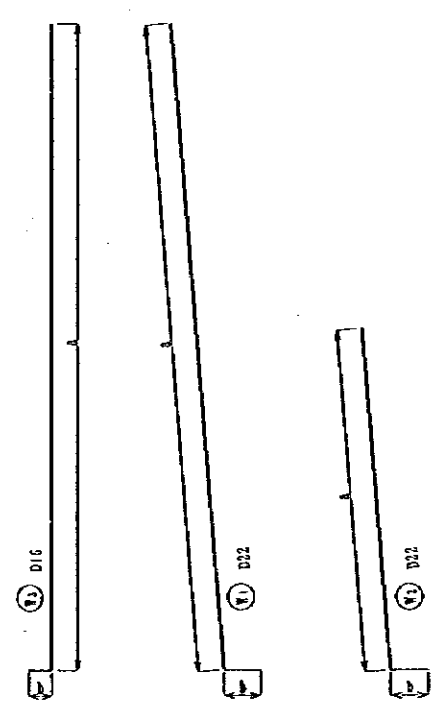
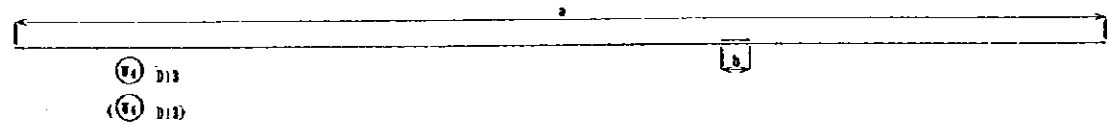
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (II)

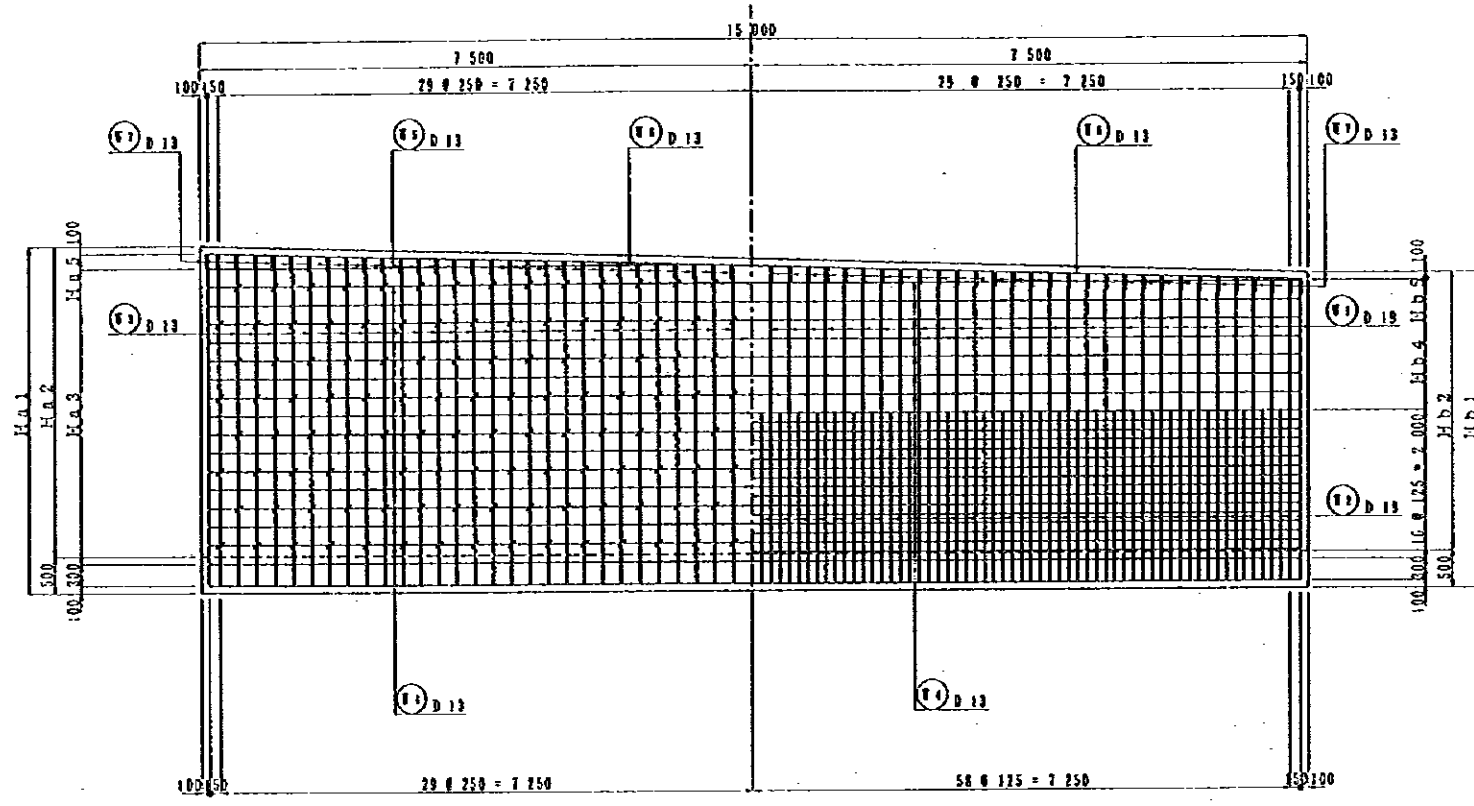
DATE

DTG NO. W-32

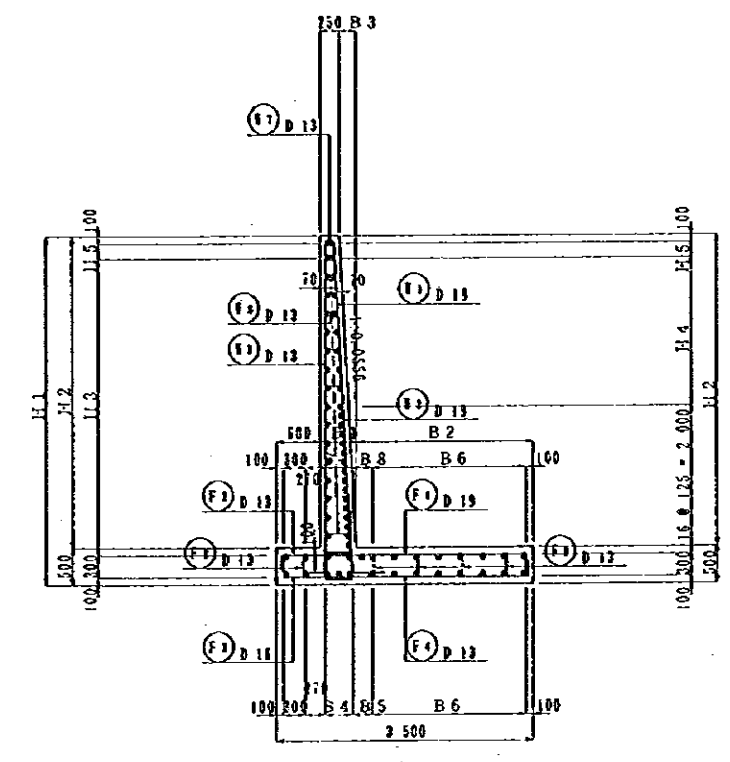


REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 9					
W 1	D 22	5 700	5 568~5 163	330	---
2	"	3 090	2 756	330	---
3	D 16	5 600	5 554~5 152	240	---
4	D 13	15 190	14 800	390	---
5	"	8 510	5 677~11 343	390	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	560	468~202	111	---
F 1	D 19	3 650	3 150	500	---
2	D 13	1 420	1 220	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111
T 10					
W 1	D 22	5 280	5 162~4 724	330	---
2	"	3 090	2 756	330	---
3	D 16	5 180	5 152~4 714	240	---
4	D 13	15 190	14 800	390	---
5	"	9 690	5 205~12 767	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	550	439~208	111	---
F 1	D 19	3 640	3 177	500	---
2	D 13	1 390	1 193	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111

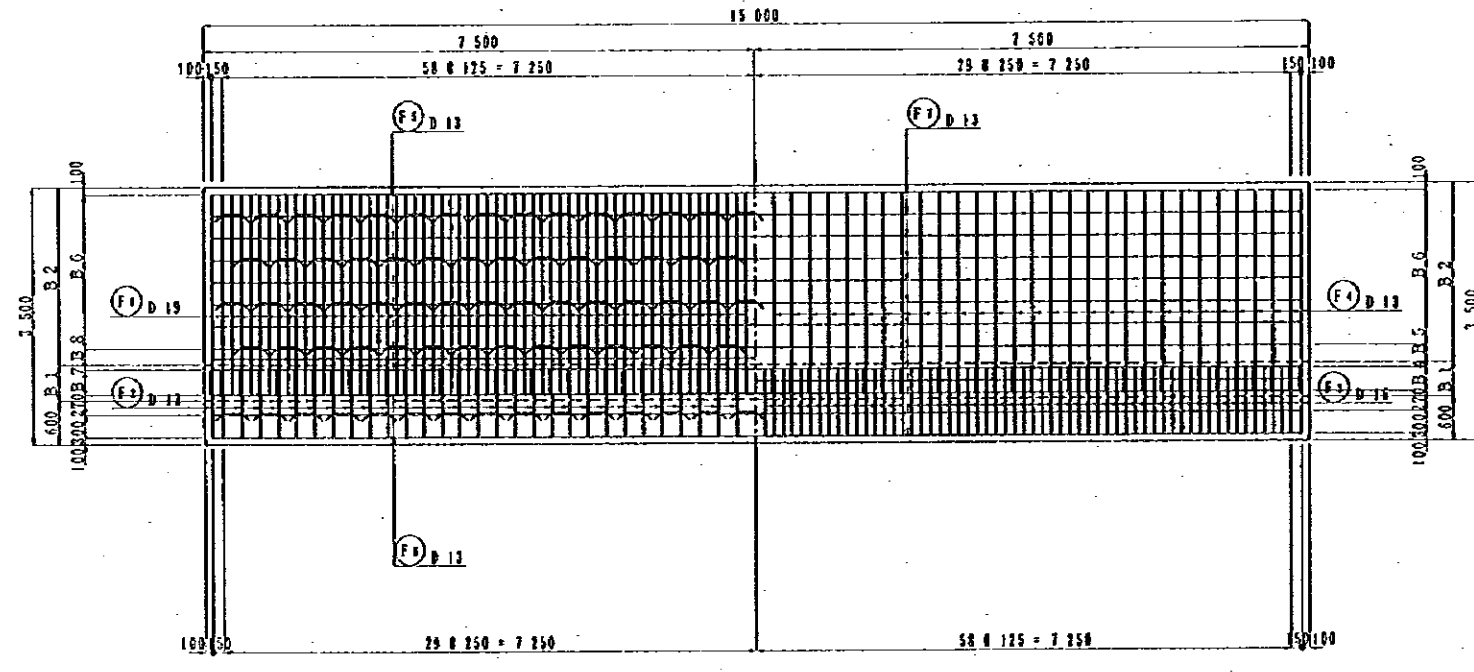
REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 8					
W 1	D 22	5 630	5 750~5 348	330	---
2	"	3 090	2 756	330	---
3	D 16	5 780	5 738~5 336	240	---
4	D 13	15 190	14 800	390	---
5	"	8 890	8 881	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	570	478~214	111	---
F 1	D 19	3 640	3 138	500	---
2	D 13	1 430	1 232	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111
T 9					
W 1	D 22	5 480	5 348~4 945	330	---
2	"	3 090	2 756	330	---
3	D 16	5 390	5 336~4 934	240	---
4	D 13	15 190	14 800	390	---
5	"	3 600	6 269~12 537	390	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	550	431~187	111	---
F 1	D 19	3 670	3 165	500	---
2	D 13	1 400	1 205	195	---
3	D 16	1 750	1 250	500	---
4	D 13	3 230	3 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	1 560	528	279	111
9	"	1 570	529	282	111



SIDE VIEW
S-1/100



SECTION
S-1/100



PLAN
S-1/100

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FURUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

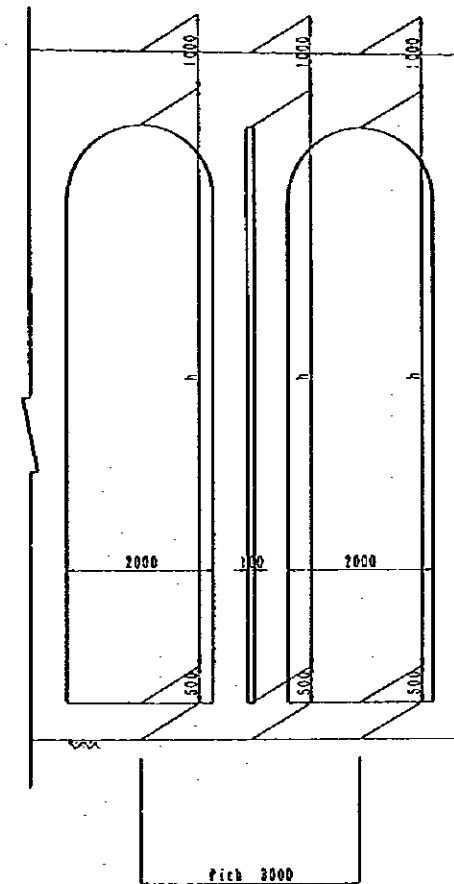
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (13)

DATE

DWG NO. W-34

		(T-11)				(T-10)			
		a - a		b - b		a - a		b - b	
A I L I N E	Ha1	4 276	Hb1	4 714	Ha1		Hb1		
	Ha2	3 776	Hb2	4 214	Ha2		Hb2		
	Ha3	15@250 = 3 750	Hb3	16@250 = 4 000	Ha3		Hb3		
	Ha4	7@250 = 1 750	Hb4	8@250 = 2 000	Ha4		Hb4		
	Ha5	26	Hb5	214	Ha5		Hb5		
	Ba1	499	Bb1	528	Ba1		Bb1		
	Ba2	2 701	Bb2	2 672	Ba2		Bb2		
	Ba3	249	Bb3	278	Ba3		Bb3		
	Ba4	2@199 = 398	Bb4	2@213.5 = 427	Ba4		Bb4		
	Ba5	232	Bb5	203	Ba5		Bb5		
	Ba6	7@300 = 2 100	Bb6	7@300 = 2 100	Ba6		Bb6		
	Ba7	365	Bb7	394	Ba7		Bb7		
	Ba8	265	Bb8	236	Ba8		Bb8		
	B I L I N E	Ha1	4 059	Hb1	4 497	Ha1	4 497	Hb1	4 934
		Ha2	3 559	Hb2	3 997	Ha2	3 997	Hb2	4 434
		Ha3	14@250 = 3 500	Hb3	15@250 = 3 750	Ha3	15@250 = 3 750	Hb3	17@250 = 4 250
Ha4		6@250 = 1 500	Hb4	7@250 = 1 750	Ha4	7@250 = 1 750	Hb4	9@250 = 2 250	
Ha5		59	Hb5	247	Ha5	247	Hb5	184	
Ba1		448	Bb1	472	Ba1	472	Bb1	469	
Ba2		2 452	Bb2	2 428	Ba2	2 428	Bb2	2 404	
Ba3		198	Bb3	222	Ba3	222	Bb3	246	
Ba4		2@164.5 = 329	Bb4	2@177 = 354	Ba4	2@177 = 354	Bb4	2@189 = 378	
Ba5		2@150.5 = 301	Bb5	2@138 = 276	Ba5	276	Bb5	252	
Ba6		7@300 = 2 100	Bb6	7@300 = 2 100	Ba6	7@300 = 2 100	Bb6	7@300 = 2 100	
Ba7		313	Bb7	337	Ba7	337	Bb7	361	
Ba8		2@158.5 = 317	Bb8	2@146.5 = 293	Ba8	293	Bb8	269	



Slot Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

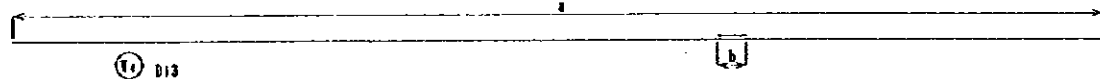
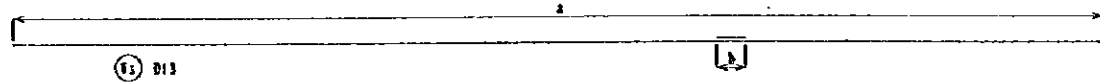
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FERCYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

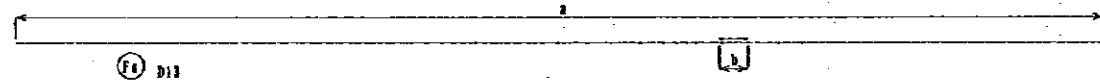
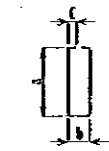
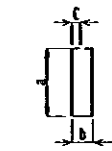
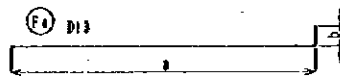
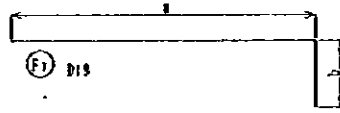
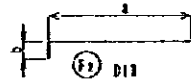
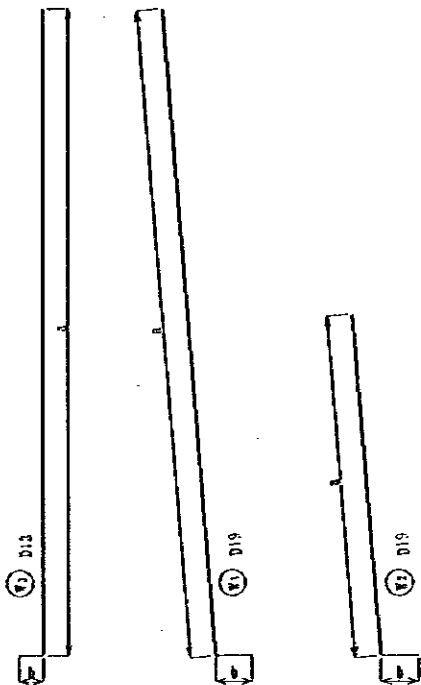
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (14)

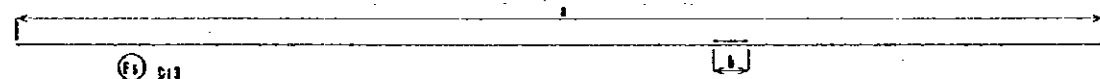
DATE : _____ DWG NO. W-35



F1 D13
F2 D13



F1 D13
F2 D13



F1 D13

REIN NO	φ (mm)	LENGTH (mm)	a	b	c
T 10					
W 1	D 19	4 590	4 521~4 692	285	---
2	"	2 590	2 304	285	---
3	D 13	4 430	4 514~4 674	195	---
4	"	15 190	14 800	330	---
5	"	2 330	7 328	---	---
6	"	15 200	14 806	330	---
7	"	500	110	195	---
8	"	510	376~183	111	---
F 1	D 13	2 218	2 506	300	---
2	D 13	1 160	954	195	---
3	D 13	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	330	---
6	"	15 190	14 800	330	---
7	"	15 190	14 800	330	---
8	"	1 160	328	279	111
9	"	1 170	323	282	111

REIN NO	φ (mm)	LENGTH (mm)	a	b	c
T 10					
W 1	D 19	4 810	4 741~4 304	285	---
2	"	2 590	2 304	285	---
3	D 13	4 720	4 731~4 297	195	---
4	"	15 190	14 800	330	---
5	"	10 750	6 210~14 794	330	---
6	"	15 200	14 806	330	---
7	"	500	110	195	---
8	"	510	376~183	111	---
F 1	D 13	2 240	2 939	300	---
2	D 13	1 130	931	195	---
3	D 13	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	330	---
6	"	15 190	14 800	330	---
7	"	15 190	14 800	330	---
8	"	1 160	328	279	111
9	"	1 170	323	282	111
T 11					
W 1	D 19	4 370	4 304~3 865	285	---
2	"	2 590	2 304	285	---
3	D 13	4 280	4 297~3 859	195	---
4	"	15 190	14 800	330	---
5	"	2 460	8 459	---	---
6	"	15 200	14 806	330	---
7	"	500	110	195	---
8	"	500	352~188	111	---
F 1	D 13	2 270	2 963	300	---
2	D 13	1 110	907	195	---
3	D 13	1 350	1 050	300	---
4	D 13	2 930	2 730	195	---
5	"	15 190	14 800	330	---
6	"	15 190	14 800	330	---
7	"	15 190	14 800	330	---
8	"	1 160	328	279	111
9	"	1 170	323	282	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (15)

DATE

DFG NO. W-36

A-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	L WEIGHT	WEIGHT	REMARKS
T 1							
1	D 25	8 850	5.059	61	44.772	2 731.1	L
2	"	5 110	"	58	25.851	1 499.4	L
3	D 19	8 670	2.235	61	19.372	1 182.0	J
4	D 13	15 190	0.994	73	15.099	1 102.2	---
5	"	6 570	"	2	6.531	13.1	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	700	"	413	0.656	287.4	"
F 1	D 25	5 060	3.973	119	20.024	2 392.9	---
2	D 13	2 120	0.994	61	2.107	126.5	---
3	D 16	2 550	1.552	119	3.958	471.0	L
4	"	4 370	"	61	6.782	413.7	J
5	"	15 280	"	13	23.715	308.3	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	19	15.099	286.9	---
8	"	2 360	"	58	2.346	136.1	U
9	"	2 380	"	145	2.366	343.1	U
						11430.0	
T 2							
1	D 25	8 560	5.059	61	43.305	2 641.6	L
2	"	5 110	"	58	25.851	1 499.4	L
3	D 19	8 380	2.235	61	18.729	1 182.5	J
4	D 13	15 190	0.994	71	15.099	1 072.0	---
5	"	9 220	"	2	9.165	18.3	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	700	"	413	0.656	287.4	"
F 1	D 25	5 060	3.973	119	20.103	2 392.3	---
2	D 13	2 090	0.994	61	2.077	126.7	---
3	D 16	2 550	1.552	119	3.958	471.0	L
4	"	4 370	"	61	6.782	413.7	J
5	"	15 280	"	13	23.715	308.3	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	19	15.099	286.9	---
8	"	2 360	"	58	2.346	136.1	U
9	"	2 380	"	145	2.366	343.1	U
						11375.3	
						D 25	8371.5
						D 19	4775.2
						D 16	2324.5
						D 13	2386.0
						D 13	4849.1
TOTAL WEIGHT						22705.3	

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	L WEIGHT	WEIGHT	REMARKS
T 1							
1	D 25	8 830	5.059	61	43.659	2 603.2	L
2	"	5 110	"	58	25.851	1 499.4	L
3	D 19	8 450	2.235	61	18.856	1 152.0	J
4	D 13	15 190	0.994	71	15.099	1 072.0	---
5	"	6 140	"	2	6.091	16.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	700	"	413	0.656	287.4	"
F 1	D 25	5 060	3.973	119	20.103	2 392.3	---
2	D 13	2 100	0.994	61	2.087	127.3	---
3	D 16	2 550	1.552	119	3.958	471.0	L
4	"	4 370	"	61	6.782	413.7	J
5	"	15 280	"	13	23.715	308.3	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	19	15.099	286.9	---
8	"	2 360	"	58	2.346	136.1	U
9	"	2 380	"	145	2.366	343.1	U
						11304.5	
T 2							
1	D 25	8 120	5.059	61	41.079	2 505.8	L
2	"	5 110	"	58	25.851	1 499.4	L
3	D 19	7 940	2.235	61	17.746	1 052.5	J
4	D 13	15 190	0.994	69	15.099	1 041.8	---
5	"	6 180	"	2	6.143	12.3	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	700	"	413	0.656	287.3	"
F 1	D 25	5 060	3.973	119	20.183	2 401.8	---
2	D 13	2 070	0.994	61	2.058	125.5	---
3	D 16	2 550	1.552	119	3.958	471.0	L
4	"	4 370	"	61	6.782	413.7	J
5	"	15 280	"	13	23.715	308.3	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	19	15.099	286.9	---
8	"	2 360	"	58	2.346	136.1	U
9	"	2 380	"	145	2.366	343.1	U
						11031.5	
						D 25	8167.8
						D 25	4794.1
						D 19	2334.5
						D 16	2386.0
						D 13	4754.0
TOTAL WEIGHT						22236.4	

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (16)
DATE : _____
DWG NO. W-37

A-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	L WEIGHT	WEIGHT	REMARKS
T 3							
W 1	D 25	8 130	3.973	61	31.300	1 970.3	L
2	"	4 650	"	58	18.633	1 050.7	L
3	D 16	7 370	1.552	61	12.369	754.5	J
4	D 13	15 190	0.994	65	15.099	1 076.7	---
5	"	8 740	"	2	8.688	17.4	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	384	0.676	259.0	"
F 1	D 25	4 710	3.973	119	18.719	2 226.8	---
2	D 13	1 840	0.994	61	1.829	111.6	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9317.3	
T 4							
W 1	D 25	7 840	3.973	61	31.148	1 900.0	L
2	"	4 650	"	58	18.633	1 050.7	L
3	D 16	7 680	1.552	61	11.919	727.1	J
4	D 13	15 190	0.994	64	15.099	946.3	---
5	"	10 800	"	4	10.735	42.9	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	660	"	384	0.656	251.9	"
F 1	D 25	4 730	3.973	119	18.792	2 236.2	---
2	D 13	1 820	0.994	61	1.809	110.3	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9182.1	
T 5							
W 1	D 25	7 530	3.973	61	29.917	1 824.9	L
2	"	4 650	"	58	18.633	1 050.7	L
3	D 16	7 370	1.552	61	11.438	697.7	J
4	D 13	15 190	0.994	67	15.099	938.1	---
5	"	11 160	"	2	11.099	22.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	354	0.646	228.7	"
F 1	D 25	4 760	3.973	119	18.911	2 250.4	---
2	D 13	1 800	0.994	61	1.789	109.1	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9019.5	
						D 25	15650.7
						D 16	5435.5
						D 13	6435.7
TOTAL WEIGHT						21571.9	

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMB	L WEIGHT	WEIGHT	REMARKS
T 3							
W 1	D 25	7 910	3.973	61	31.424	1 917.0	L
2	"	4 650	"	58	18.633	1 050.7	L
3	D 16	7 750	1.552	61	12.020	733.7	J
4	D 13	15 190	0.994	66	15.099	994.5	---
5	"	9 640	"	2	9.582	15.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	660	"	384	0.656	251.9	"
F 1	D 25	4 730	3.973	119	18.792	2 236.2	---
2	D 13	1 820	0.994	61	1.819	111.0	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						9215.9	
T 4							
W 1	D 25	7 620	3.973	61	30.324	1 846.7	L
2	"	4 650	"	58	18.633	1 050.7	L
3	D 16	7 460	1.552	61	11.578	708.9	J
4	D 13	15 190	0.994	64	15.099	946.3	---
5	"	7 840	"	2	7.793	15.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	660	"	354	0.656	232.2	"
F 1	D 25	4 750	3.973	119	18.822	2 245.8	---
2	D 13	1 800	0.994	61	1.789	109.1	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						5072.4	
T 5							
W 1	D 25	7 310	3.973	61	29.043	1 771.6	L
2	"	4 650	"	58	18.633	1 050.7	L
3	D 16	7 150	1.552	61	11.097	676.9	J
4	D 13	15 190	0.994	60	15.099	905.9	---
5	"	9 720	"	4	9.663	38.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	630	"	354	0.626	221.6	"
F 1	D 25	4 720	3.973	119	18.951	2 255.2	---
2	D 13	1 780	0.994	61	1.769	107.9	---
3	D 16	2 250	1.552	119	3.492	415.5	---
4	"	4 070	"	61	6.317	385.3	---
5	"	15 280	"	12	23.715	284.6	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 160	"	29	2.147	62.3	U
9	"	2 180	"	145	2.167	314.2	U
						8528.1	
						D 25	15514.6
						D 16	5373.1
						D 13	6328.7
TOTAL WEIGHT						22816.4	

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (17)

DATE : DWG NO. W-38

A-LINE

REIN. NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO. OF BARS	U WEIGHT	WEIGHT	REMARKS
T 6							
1	D 22	7 040	3.042	61	21.416	1 306.4	L
2	"	3 290	"	58	14.267	827.5	L
3	D 16	6 940	1.552	61	10.771	657.0	J
4	D 13	15 190	0.994	55	15.099	830.4	---
5	"	7 150	"	2	2.407	14.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	600	"	295	0.676	203.5	"
F 1							
1	D 22	4 120	3.042	119	12.533	1 431.4	L
2	D 13	1 740	0.994	61	1.720	105.5	L
3	D 16	2 150	1.552	119	3.337	397.1	L
4	"	3 570	"	61	5.541	338.0	L
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	17	15.099	256.7	---
8	"	1 960	"	29	1.948	56.5	U
9	"	1 960	"	116	1.968	228.3	U
						7109.4	
T 7							
1	D 22	6 890	3.042	61	20.351	1 241.4	L
2	"	3 290	"	58	14.267	827.5	L
3	D 16	6 580	1.552	61	10.712	622.9	J
4	D 13	15 190	0.994	51	15.099	770.0	---
5	"	10 060	"	4	10.000	40.0	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	600	"	295	0.596	192.7	"
F 1							
1	D 22	4 150	3.042	119	12.624	1 502.3	L
2	D 13	1 720	0.994	61	1.710	104.3	L
3	D 16	2 150	1.552	119	3.337	397.1	L
4	"	3 570	"	61	5.541	338.0	L
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	17	15.099	256.7	---
8	"	1 960	"	29	1.948	56.5	U
9	"	1 960	"	116	1.968	228.3	U
						6976.6	
T 8							
1	D 22	6 310	3.042	61	19.195	1 170.9	L
2	"	3 290	"	58	14.267	827.5	L
3	D 16	6 200	1.552	61	9.622	586.5	J
4	D 13	15 190	0.994	49	15.099	739.9	---
5	"	7 690	"	2	7.644	15.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	590	"	295	0.596	172.9	"
F 1							
1	D 22	4 180	3.042	119	12.716	1 513.2	L
2	D 13	1 650	0.994	61	1.680	102.5	L
3	D 16	2 150	1.552	119	3.337	397.1	L
4	"	3 570	"	61	5.541	338.0	L
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	17	15.099	256.7	---
8	"	1 960	"	29	1.948	56.5	U
9	"	1 960	"	116	1.968	228.3	U
						6002.6	
						D 22	10700.1
						D 16	4854.8
						D 13	5324.7
						TOTAL WEIGHT	20687.6

B-LINE

REIN. NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO. OF BARS	U WEIGHT	WEIGHT	REMARKS
T 6							
1	D 22	6 830	3.042	61	20.777	1 267.4	L
2	"	3 290	"	58	14.267	827.5	L
3	D 16	6 720	1.552	61	10.429	636.2	J
4	D 13	15 190	0.994	53	15.099	800.2	---
5	"	8 490	"	2	8.439	16.9	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	610	"	295	0.696	197.0	"
F 1							
1	D 22	4 140	3.042	119	12.554	1 498.7	L
2	D 13	1 750	0.994	61	1.720	104.9	L
3	D 16	2 150	1.552	119	3.337	397.1	L
4	"	3 570	"	61	5.541	338.0	L
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	17	15.099	256.7	---
8	"	1 960	"	29	1.948	56.5	U
9	"	1 960	"	116	1.968	228.3	U
						7022.3	
T 7							
1	D 22	6 470	3.042	61	19.662	1 200.6	L
2	"	3 290	"	58	14.267	827.5	L
3	D 16	6 360	1.552	61	9.874	602.1	J
4	D 13	15 190	0.994	49	15.099	739.9	---
5	"	11 020	"	4	11.004	44.0	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	600	"	295	0.596	175.8	"
F 1							
1	D 22	4 160	3.042	119	12.655	1 505.9	L
2	D 13	1 700	0.994	61	1.690	103.1	L
3	D 16	2 150	1.552	119	3.337	397.1	L
4	"	3 570	"	61	5.541	338.0	L
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	5	15.099	75.5	---
7	"	15 190	"	17	15.099	256.7	---
8	"	1 960	"	29	1.948	56.5	U
9	"	1 960	"	116	1.968	228.3	U
						6872.4	
						D 22	7127.6
						D 16	3230.3
						D 13	3536.8
						TOTAL WEIGHT	13894.7

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (18)

DATE : DWG NO. W-39

A - LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMS	L WEIGHT	WEIGHT	REMARKS
T 9							
1	D 22	5 700	3.042	61	17.357	1 057.7	L
2	"	3 090	"	58	9.400	545.2	L
3	D 16	5 600	1.552	61	8.971	547.2	J
4	D 13	15 190	0.994	45	15.099	679.5	---
5	"	8 510	"	4	8.459	33.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	266	0.547	145.5	"
F 1	D 19	3 640	2.235	119	8.135	968.1	---
2	D 13	1 420	0.994	61	1.421	86.7	---
3	D 16	1 750	1.552	119	2.716	323.2	---
4	D 13	3 230	0.994	61	3.211	195.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 540	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5295.1	
T 10							
1	D 22	5 700	3.042	61	16.062	979.8	L
2	"	3 090	"	58	9.400	545.2	L
3	D 16	5 180	1.552	61	8.039	490.4	J
4	D 13	15 190	0.994	41	15.099	619.1	---
5	"	9 690	"	4	9.632	38.5	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	236	0.547	129.1	"
F 1	D 19	3 640	2.235	119	8.225	976.8	---
2	D 13	1 350	0.994	61	1.381	84.3	---
3	D 16	1 750	1.552	119	2.716	323.2	---
4	D 13	3 230	0.994	61	3.211	195.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 540	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5109.8	
						D 22	3127.9
						D 19	1344.1
						D 16	1067.0
						D 13	2459.4
						TOTAL WEIGHT	10403.9

B - LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUMS	L WEIGHT	WEIGHT	REMARKS
T 8							
1	D 22	5 800	3.042	61	17.357	1 091.1	L
2	"	3 090	"	58	9.400	545.2	L
3	D 16	5 760	1.552	61	8.971	547.2	J
4	D 13	15 190	0.994	47	15.099	709.7	---
5	"	8 890	"	2	8.837	17.7	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	570	"	266	0.547	150.8	"
F 1	D 19	3 640	2.235	119	8.135	968.1	---
2	D 13	1 430	0.994	61	1.421	86.7	---
3	D 16	1 750	1.552	119	2.716	323.2	---
4	D 13	3 230	0.994	61	3.211	195.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 540	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5360.1	
T 9							
1	D 22	5 480	3.042	61	16.070	1 011.9	L
2	"	3 090	"	58	9.400	545.2	L
3	D 16	5 380	1.552	61	8.359	509.4	J
4	D 13	15 190	0.994	43	15.099	649.3	---
5	"	9 600	"	4	9.542	38.2	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	266	0.547	145.5	"
F 1	D 19	3 670	2.235	119	8.202	976.0	---
2	D 13	1 400	0.994	61	1.392	84.9	---
3	D 16	1 750	1.552	119	2.716	323.2	---
4	D 13	3 230	0.994	61	3.211	195.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	15	15.099	226.5	---
8	"	1 540	"	29	1.551	45.0	□
9	"	1 570	"	116	1.561	181.1	□
						5209.0	
						D 22	3127.9
						D 19	1344.1
						D 16	1067.0
						D 13	2459.4
						TOTAL WEIGHT	10549.1

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FERRYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (19)
DATE : DVC NO. W-40

A-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	SLWB	L WEIGHT	WEIGHT	REMARKS
T 11							
1	D 19	4 590	2.235	61	10.259	625.8	L
2	"	2 590	"	58	5.789	335.8	L
3	D 13	4 490	0.994	61	4.489	272.2	J
4	"	15 190	"	38	15.099	573.8	---
5	"	7 330	"	2	7.286	14.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	500	"	207	0.527	109.1	"
F 1	D 19	3 210	2.235	119	7.174	453.7	---
1	D 13	1 160	0.994	61	1.153	70.3	---
3	D 16	1 350	1.552	119	2.095	249.3	L
4	D 13	2 930	0.994	61	2.912	177.6	---
5	"	15 190	"	9	15.099	135.9	---
6	"	15 190	"	3	15.099	45.3	---
7	"	15 190	"	13	15.099	196.3	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						3888.5	
						D 19	1815.3
						D 16	249.3
						D 13	1823.9
						TOTAL WEIGHT	3888.5

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	SLWB	L WEIGHT	WEIGHT	REMARKS
T 10							
1	D 19	4 810	2.235	61	10.750	655.8	L
2	"	2 590	"	58	5.789	335.8	L
3	D 13	4 720	0.994	61	4.492	286.2	J
4	"	15 190	"	38	15.099	573.8	---
5	"	10 750	"	4	10.486	42.7	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	510	"	236	0.507	119.7	"
F 1	D 19	3 240	2.235	119	7.241	441.7	---
2	D 13	1 130	0.994	61	1.123	68.5	---
3	D 16	1 350	1.552	119	2.095	249.3	L
4	D 13	2 930	0.994	61	2.912	177.6	---
5	"	15 190	"	9	15.099	135.9	---
6	"	15 190	"	3	15.099	45.3	---
7	"	15 190	"	13	15.099	196.3	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						3917.4	
T 11							
1	D 19	4 370	2.235	61	9.767	595.8	L
2	"	2 590	"	58	5.789	335.8	L
3	D 13	4 280	0.994	61	4.254	259.5	J
4	"	15 190	"	36	15.099	543.6	---
5	"	8 460	"	2	8.409	16.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	500	"	207	0.497	102.9	"
F 1	D 19	3 270	2.235	119	7.388	469.7	---
2	D 13	1 110	0.994	61	1.103	67.3	---
3	D 16	1 350	1.552	119	2.095	249.3	L
4	D 13	2 930	0.994	61	2.912	177.6	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	3	15.099	45.3	---
7	"	15 190	"	14	15.099	211.4	---
8	"	1 160	"	29	1.153	33.4	U
9	"	1 170	"	116	1.163	134.9	U
						3854.8	
						D 19	3654.6
						D 16	498.6
						D 13	3679.6
						TOTAL WEIGHT	7837.2

NOTES:

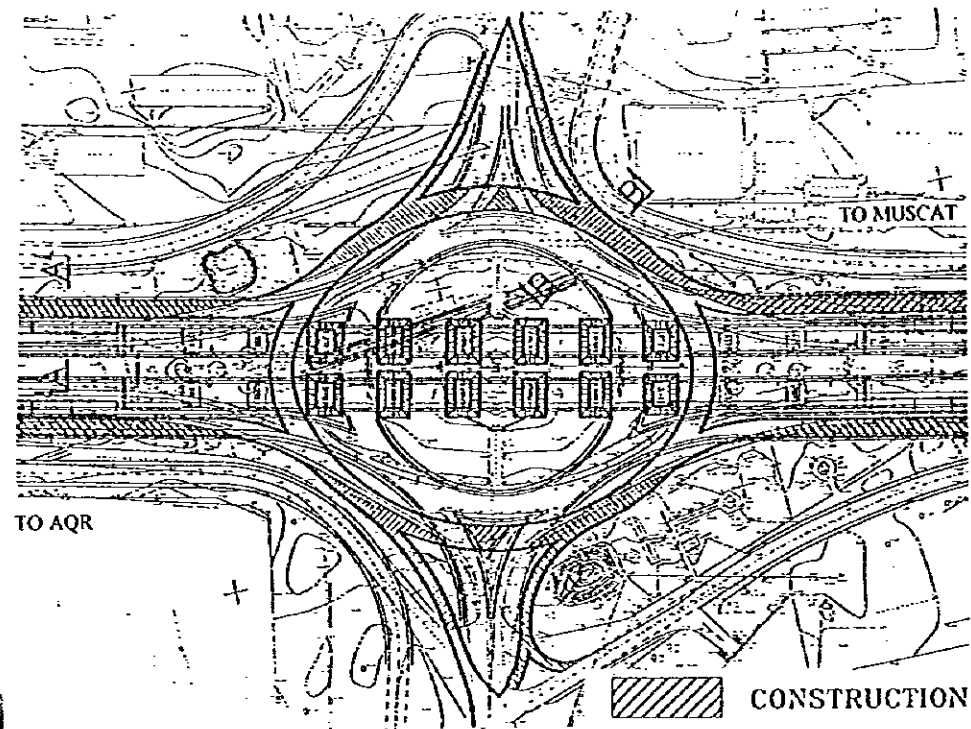
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

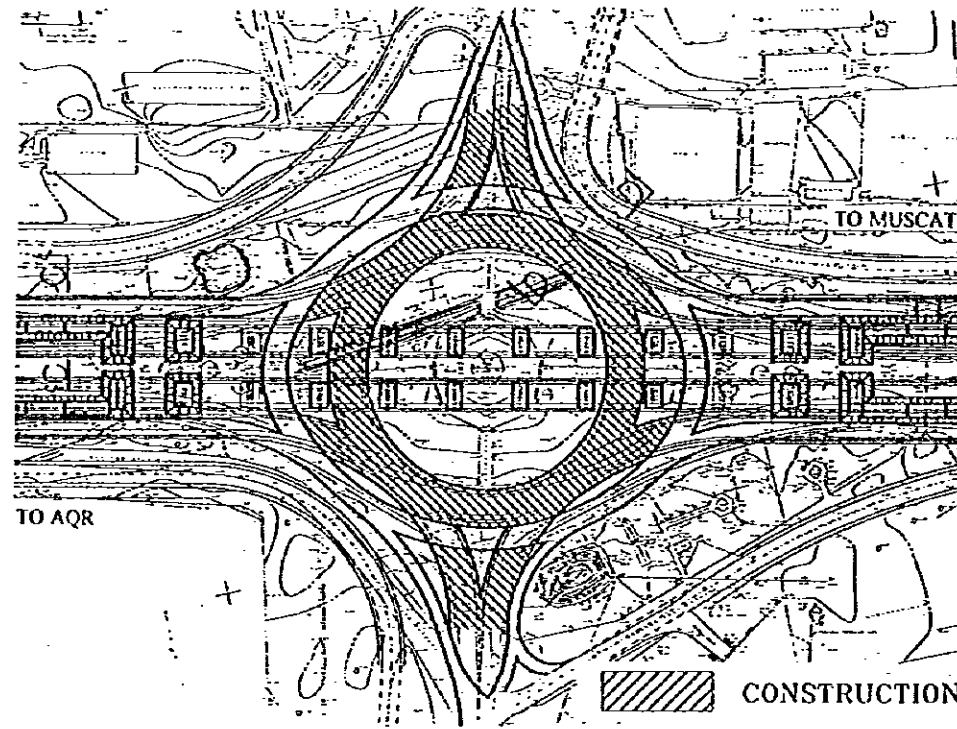
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-3, BARKA RE-BAR ARRANGEMENT (20)
DATE : DWG NO. W-41

TEMPORARY WORKS

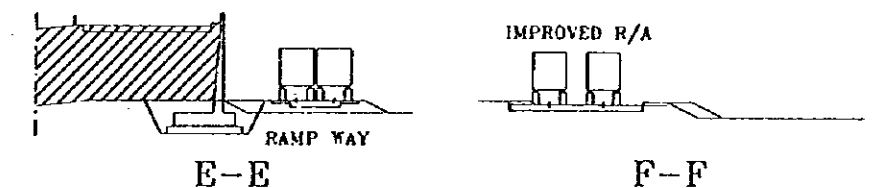
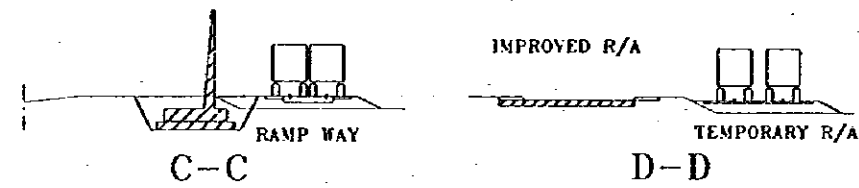
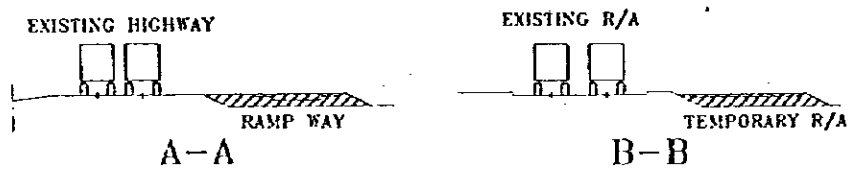
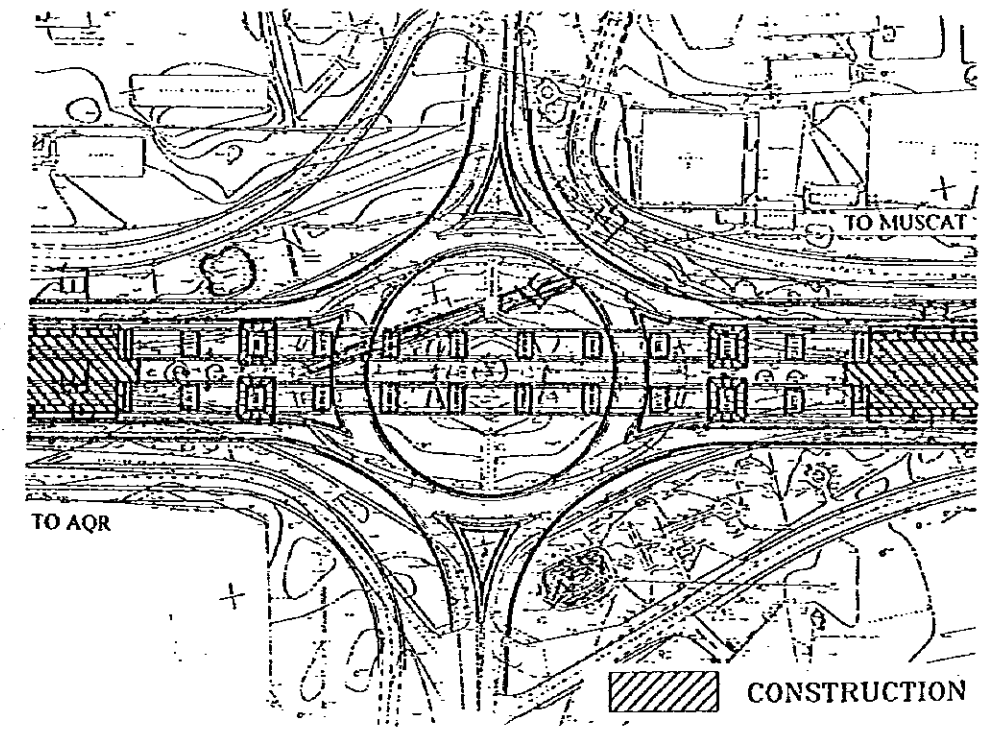
FIRST CONSTRUCTION STAGE



SECOND CONSTRUCTION STAGE



THIRD CONSTRUCTION STAGE



The traffic on the existing highway

- Construction of ramp way (For temporary road)
- Construction of temporary R/A
- Construction of substructure (Internal area of existing R/A)

The traffic detour to ramp way and temporary road

- Construction of substructure (External area of temporary R/A)
- Construction of retaining wall
- Construction for R/A improvement

The traffic detour to improved R/A

- Construction of substructure (External area of improved R/A)
- Embankment for retaining wall section

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JICA STUDY TEAM PACIFIC CONSULTANTS INTERNATIONAL FUKUYAMA CONSULTANTS INTERNATIONAL	CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
	PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: SEQUENCE OF BARKA F/O CONSTRUCTION	DATE: _____
DWGNO. T-1	



