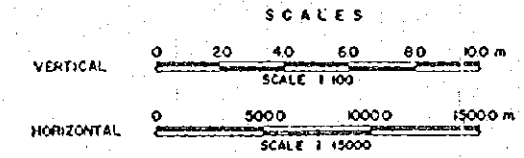


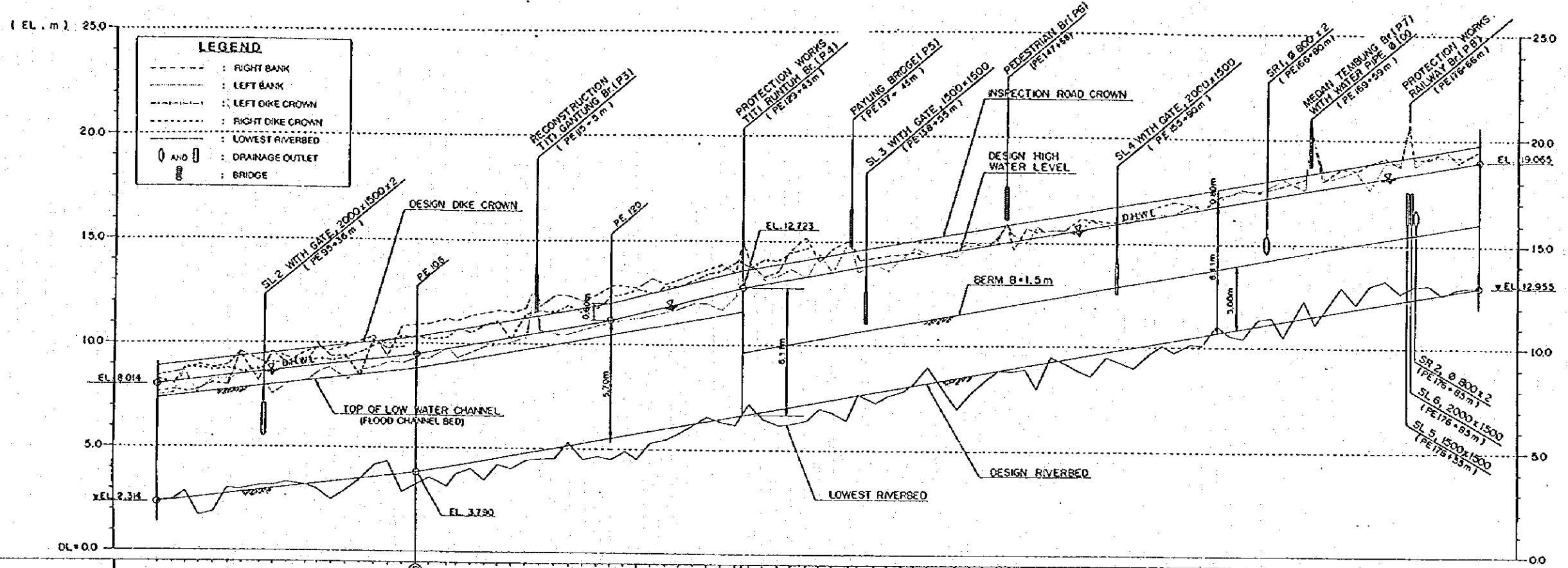
GRADIENT OF DESIGN RIVERBED		1:1.800		1:1.800		1:1.200	
DESIGN ELEVATION	DIKE CROWN						
	HIGH WATER LEVEL						
EXISTING ELEVATION	RIVERBED						
	RIGHT GROUND						
DISTANCE	LEFT GROUND						
	LOWEST RIVERBED						
STATION NO.	ACCUMULATED (m)						
	PARTIAL (m)						
PE 0	0.0	0.0	-1.97	0.04	0.30	-1.800	2.800
PE 1	120.00	120.00	-1.34	0.22	0.45	-1.785	2.947
PE 2	92.00	212.00	-1.17	1.40	0.64	-1.774	2.882
PE 3	115.50	327.50	-1.33	1.32	0.56	-1.759	2.128
PE 4	108.00	435.50	-1.26	1.35	0.57	-1.745	2.171
PE 5	121.00	557.50	-1.39	1.43	0.89	-1.730	2.218
PE 6	82.00	639.50	-1.75	1.20	1.82	-1.720	2.249
PE 7	115.00	754.50	-2.18	0.46	1.80	-1.701	2.310
PE 8	96.00	850.50	-1.19	0.36	0.67	-1.689	2.347
PE 9	98.50	949.00	-1.66	0.43	0.73	-1.676	2.386
PE 10	118.50	1107.50	-1.18	0.87	0.74	-1.662	2.431
PE 11	108.00	1215.50	-2.15	0.98	0.74	-1.648	2.474
PE 12	148.00	1363.50	-1.34	0.91	0.93	-1.630	2.531
PE 13	105.00	1468.50	-1.42	0.94	0.80	-1.616	2.573
PE 14	95.00	1563.50	-1.27	1.30	1.32	-1.605	2.609
PE 15	108.00	1671.50	-1.33	1.64	1.20	-1.591	2.652
PE 16	94.00	1765.50	-2.43	1.36	0.74	-1.579	2.689
PE 17	106.00	1871.50	-1.63	1.28	0.37	-1.566	2.730
PE 18	93.50	1965.00	-2.91	1.37	1.08	-1.554	2.767
PE 19	90.00	2055.00	-1.62	1.62	1.17	-1.543	2.802
PE 20	97.50	2152.50	-1.79	1.59	1.12	-1.531	2.839
PE 21	123.00	2275.50	-1.54	1.43	1.10	-1.516	2.887
PE 22	97.00	2372.50	-1.73	1.43	1.50	-1.503	2.926
PE 23	106.50	2479.00	-1.81	1.48	1.39	-1.490	2.967
PE 24	102.00	2581.00	-1.80	1.59	1.34	-1.477	3.007
PE 25	123.50	2704.50	-2.16	1.61	1.47	-1.462	3.055
PE 26	91.00	2795.50	-2.40	1.61	1.75	-1.451	3.090
PE 27	107.00	2902.50	-1.67	1.56	1.69	-1.437	3.132
PE 28	104.00	3006.50	-1.35	1.59	1.72	-1.427	3.173
PE 29	101.00	3107.50	-1.82	1.59	1.91	-1.414	3.209
PE 30	110.50	3218.00	-1.89	1.35	1.87	-1.398	3.255
PE 31	96.00	3314.00	-1.36	1.34	2.12	-1.386	3.329
PE 32	94.50	3408.50	-1.20	1.28	2.37	-1.374	3.402
PE 33	108.00	3516.50	-1.82	1.22	1.78	-1.360	3.466
PE 34	106.00	3622.50	-1.36	2.02	2.09	-1.347	3.567
PE 35	115.00	3735.50	-1.32	2.26	2.63	-1.333	3.656
PE 36	95.00	3833.50	-1.28	2.32	2.37	-1.321	3.750
PE 37	94.00	3927.50	-0.91	2.48	2.55	-1.309	3.802
PE 38	109.50	4037.00	-1.58	2.46	2.37	-1.299	3.887
PE 39	93.00	4130.00	-2.19	2.46	2.69	-1.284	3.956
PE 40	93.00	4223.00	-1.40	2.55	2.81	-1.272	4.030
PE 41	110.50	4333.50	-1.41	2.46	2.98	-1.268	4.116
PE 42	108.00	4441.50	-1.44	2.73	2.83	-1.245	4.198
PE 43	91.00	4532.50	-1.19	2.90	2.85	-1.233	4.269
PE 44	98.50	4631.00	-2.12	3.15	3.05	-1.221	4.345
PE 45	134.50	4765.50	-1.31	2.94	3.16	-1.204	4.448
PE 46	73.00	4838.50	-1.56	3.16	3.20	-1.195	4.503
PE 47	101.00	4939.50	-1.30	3.15	3.45	-1.111	4.589
PE 48	98.00	5037.50	-1.11	3.20	3.62	-1.029	4.671
PE 49	102.00	5139.50	-1.20	3.72	3.55	-0.944	4.756
PE 50	120.00	5259.50	-1.22	3.69	3.50	-0.844	4.856
PE 51	76.50	5336.00	-1.18	3.89	3.88	-0.780	4.920
PE 52	130.00	5466.00	-1.21	4.09	4.09	-0.672	5.028
PE 53	86.00	5552.00	-1.20	3.98	4.50	-0.600	5.100
PE 54	94.50	5646.50	-1.27	4.36	4.36	-0.522	5.178
PE 55	99.50	5746.00	-1.37	4.18	4.31	-0.439	5.261
PE 56	103.50	5849.50	-1.63	4.13	4.21	-0.353	5.347
PE 57	106.00	5955.50	-1.54	3.12	4.99	-0.624	5.436
PE 58	123.00	6078.50	-0.90	3.69	4.45	-0.162	5.538
PE 59	98.50	6177.00	-1.42	4.31	4.26	-0.080	5.620
PE 60	93.00	6270.00	-1.38	4.66	4.69	-0.002	5.698
PE 61	101.50	6371.50	-1.18	3.72	4.86	0.083	5.783
PE 62	99.50	6467.00	-1.16	4.80	4.71	0.162	5.862
PE 63	99.50	6566.50	-1.18	5.17	5.02	0.245	5.945
PE 64	103.00	6669.50	-2.30	4.01	4.99	0.331	6.031
PE 65	108.00	6777.50	-1.20	4.77	4.94	0.421	6.121
PE 66	101.50	6878.50	-1.41	4.22	3.77	0.505	6.205
PE 67	98.00	6976.50	-1.65	5.21	5.02	0.587	6.287
PE 68	98.50	7075.00	-1.18	5.33	5.06	0.669	6.369
PE 69	98.50	7173.50	-0.32	4.51	5.62	0.751	6.451
PE 70	100.50	7274.00	1.68	5.23	5.78	0.835	6.535
PE 71	100.00	7374.00	0.40	5.33	5.72	0.918	6.618
PE 72	50.50	7424.50	-1.39	5.84	5.50	0.980	6.680
PE 73	150.00	7574.50	2.14	5.43	5.87	1.085	6.785
PE 74	110.00	7684.50	1.32	6.06	5.25	1.177	6.877
PE 75	99.50	7784.00	1.48	6.85	6.34	1.260	6.960
PE 76	101.50	7883.50	1.75	6.03	5.93	1.344	7.044
PE 77	99.00	7984.50	1.94	6.13	6.46	1.427	7.127
PE 78	97.00	8081.50	2.41	5.78	6.56	1.508	7.208
PE 79	88.00	8163.50	1.89	6.46	6.51	1.581	7.281
PE 80	88.00	8258.50	2.71	6.45	5.88	1.655	7.365
PE 81	100.50	8359.00	2.56	6.36	6.36	1.739	7.439
PE 82	100.50	8459.50	1.37	7.08	6.70	1.823	7.523
PE 83	95.00	8554.50	1.28	6.92	7.31	1.902	7.602
PE 84	97.00	8651.50	2.87	8.60	8.61	1.983	7.683
PE 85	100.00	8751.50	1.24	7.49	8.61	2.066	7.766
PE 86	94.50	8846.00	3.00	7.24	7.67	2.145	7.845
PE 87	98.50	8944.50	2.48	7.13	7.66	2.227	7.927
PE 88	105.00	9049.50	2.42	7.51	7.63	2.314	8.014

LONGITUDINAL PROFILE OF PERCUT RIVER (1/3)



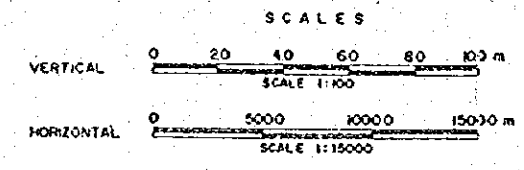
DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 4.3 (1/3)  
LONGITUDINAL PROFILE OF PERCUT RIVER

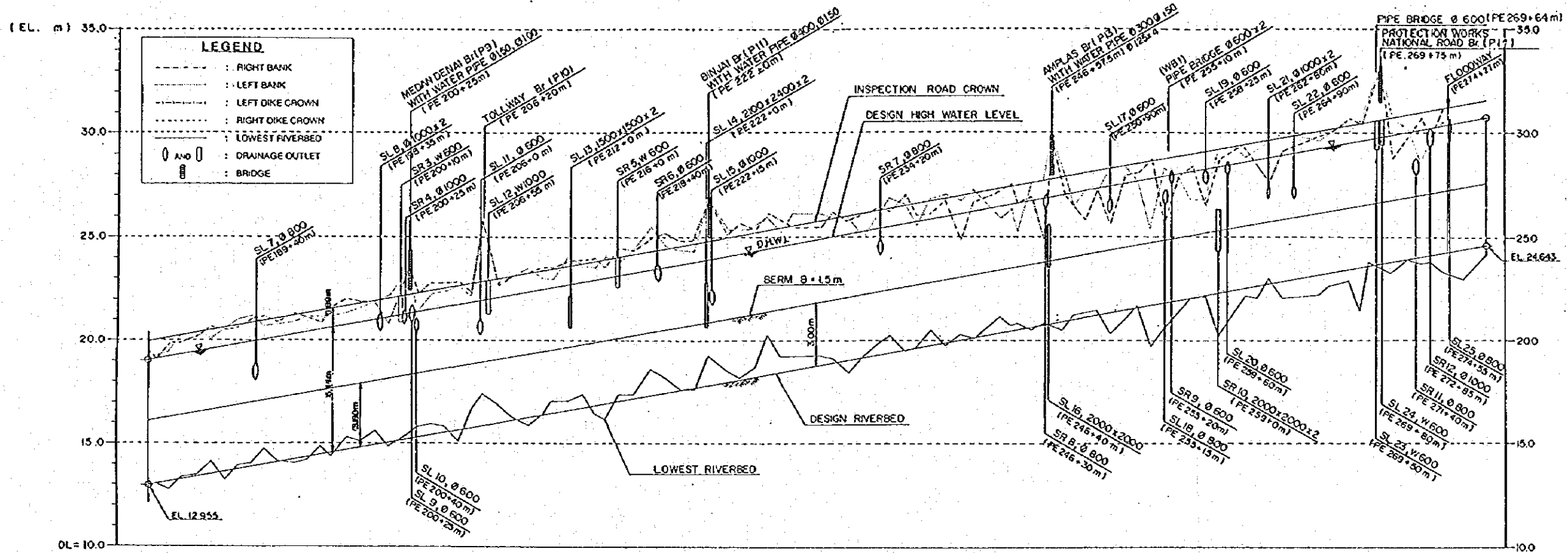


STATION NO.	DISTANCE (m)	LOWEST RIVERBED	EXISTING ELEVATION		DESIGN ELEVATION		
			RIGHT GROUND	LEFT GROUND	DIKE/INSPECTION ROAD CROWN	HIGH WATER	RIVERBED
PE 88	0.00	2.42	7.51	7.63	8.14	8.14	23.14
PE 89	90.50	2.49	7.61	7.76	8.14	8.14	23.14
PE 90	100.00	2.88	7.65	7.76	8.14	8.14	23.14
PE 91	98.00	1.76	7.68	7.75	8.14	8.14	23.14
PE 92	98.00	1.93	8.27	8.07	8.14	8.14	23.14
PE 93	112.00	3.00	8.26	8.00	8.14	8.14	23.14
PE 94	87.00	2.99	8.50	9.51	8.14	8.14	23.14
PE 95	113.00	3.17	8.50	8.22	8.14	8.14	23.14
PE 96	84.50	3.19	7.63	9.59	8.14	8.14	23.14
PE 97	98.00	3.33	8.11	9.07	8.14	8.14	23.14
PE 98	113.50	3.21	8.27	9.60	8.14	8.14	23.14
PE 99	96.00	3.03	8.64	9.74	8.14	8.14	23.14
PE 100	98.50	2.47	8.83	9.68	8.14	8.14	23.14
PE 101	99.00	2.95	8.31	9.89	8.14	8.14	23.14
PE 102	99.00	3.48	8.75	10.13	8.14	8.14	23.14
PE 103	99.50	4.20	8.89	10.39	8.14	8.14	23.14
PE 104	99.50	4.39	9.17	9.42	8.14	8.14	23.14
PE 105	100.50	2.89	9.09	10.68	8.14	8.14	23.14
PE 106	100.50	3.52	9.29	10.82	8.14	8.14	23.14
PE 107	99.50	3.59	9.29	11.01	8.14	8.14	23.14
PE 108	127.00	3.21	9.82	11.26	8.14	8.14	23.14
PE 109	99.50	3.79	9.36	11.16	8.14	8.14	23.14
PE 110	100.00	4.05	9.60	11.43	8.14	8.14	23.14
PE 111	101.00	3.48	9.92	11.53	8.14	8.14	23.14
PE 112	98.50	4.27	9.94	11.67	8.14	8.14	23.14
PE 113	102.50	4.04	10.11	11.59	8.14	8.14	23.14
PE 114	98.00	4.44	10.35	11.82	8.14	8.14	23.14
PE 115	98.00	4.51	10.72	11.87	8.14	8.14	23.14
PE 116	100.00	4.56	10.55	12.43	8.14	8.14	23.14
PE 117	98.50	5.20	10.37	12.41	8.14	8.14	23.14
PE 118	104.00	4.53	10.77	12.17	8.14	8.14	23.14
PE 119	96.00	4.87	10.94	12.49	8.14	8.14	23.14
PE 120	100.00	4.52	11.11	12.87	8.14	8.14	23.14
PE 121	102.50	4.83	11.25	12.89	8.14	8.14	23.14
PE 122	98.00	4.26	11.30	12.79	8.14	8.14	23.14
PE 123	98.00	5.33	11.47	13.19	8.14	8.14	23.14
PE 124	104.00	5.46	11.63	12.97	8.14	8.14	23.14
PE 125	97.50	5.75	11.78	13.22	8.14	8.14	23.14
PE 126	102.00	6.20	12.03	13.43	8.14	8.14	23.14
PE 127	91.00	6.93	12.02	13.67	8.14	8.14	23.14
PE 128	108.00	6.23	11.77	13.89	8.14	8.14	23.14
PE 129	93.50	6.16	12.36	13.47	8.14	8.14	23.14
PE 130	98.50	7.21	13.68	13.94	8.14	8.14	23.14
PE 131	99.00	6.44	13.16	13.26	8.14	8.14	23.14
PE 132	98.00	6.20	13.35	13.61	8.14	8.14	23.14
PE 133	96.50	6.26	13.66	14.62	8.14	8.14	23.14
PE 134	98.50	6.38	13.27	15.19	8.14	8.14	23.14
PE 135	102.00	7.01	14.37	14.04	8.14	8.14	23.14
PE 136	93.00	6.84	13.52	14.65	8.14	8.14	23.14
PE 137	100.50	6.43	14.02	14.02	8.14	8.14	23.14
PE 138	92.50	7.70	13.57	14.10	8.14	8.14	23.14
PE 139	107.00	7.28	13.89	13.98	8.14	8.14	23.14
PE 140	99.00	7.59	13.60	14.31	8.14	8.14	23.14
PE 141	94.00	7.80	14.24	14.37	8.14	8.14	23.14
PE 142	88.00	8.22	14.67	14.35	8.14	8.14	23.14
PE 143	100.00	8.98	14.44	14.36	8.14	8.14	23.14
PE 144	198.00	7.00	14.34	14.66	8.14	8.14	23.14
PE 145	96.00	7.76	14.80	15.00	8.14	8.14	23.14
PE 146	99.50	8.42	14.87	14.80	8.14	8.14	23.14
PE 147	95.50	8.63	15.08	15.18	8.14	8.14	23.14
PE 148	97.00	8.78	15.44	14.62	8.14	8.14	23.14
PE 149	92.50	8.87	14.97	15.72	8.14	8.14	23.14
PE 150	87.50	7.96	15.71	15.51	8.14	8.14	23.14
PE 151	92.50	9.51	15.28	15.31	8.14	8.14	23.14
PE 152	102.50	9.18	15.61	15.62	8.14	8.14	23.14
PE 153	104.00	8.84	15.56	16.07	8.14	8.14	23.14
PE 154	93.00	9.63	16.09	16.09	8.14	8.14	23.14
PE 155	93.50	9.48	15.83	15.97	8.14	8.14	23.14
PE 156	102.50	9.26	15.86	16.03	8.14	8.14	23.14
PE 157	94.50	9.02	16.09	16.38	8.14	8.14	23.14
PE 158	97.00	9.67	16.38	16.55	8.14	8.14	23.14
PE 159	96.00	10.08	16.51	16.85	8.14	8.14	23.14
PE 160	96.50	9.77	16.46	16.98	8.14	8.14	23.14
PE 161	93.00	10.14	16.78	16.88	8.14	8.14	23.14
PE 162	93.00	10.04	16.79	16.69	8.14	8.14	23.14
PE 163	95.00	11.07	17.14	17.23	8.14	8.14	23.14
PE 164	111.00	10.99	17.33	17.37	8.14	8.14	23.14
PE 165	103.00	10.45	17.49	17.58	8.14	8.14	23.14
PE 166	93.00	11.37	17.50	17.50	8.14	8.14	23.14
PE 167	100.00	11.50	17.83	17.59	8.14	8.14	23.14
PE 168	98.00	10.50	18.04	17.82	8.14	8.14	23.14
PE 169	83.00	12.30	17.62	18.10	8.14	8.14	23.14
PE 170	124.50	11.12	17.95	17.79	8.14	8.14	23.14
PE 171	104.00	12.78	18.21	16.78	8.14	8.14	23.14
PE 172	99.00	12.91	18.32	16.61	8.14	8.14	23.14
PE 173	91.50	12.16	18.51	18.49	8.14	8.14	23.14
PE 174	100.50	13.00	17.67	18.94	8.14	8.14	23.14
PE 175	93.00	13.27	18.90	19.13	8.14	8.14	23.14
PE 176	107.00	12.67	19.00	16.82	8.14	8.14	23.14
PE 177	109.00	13.02	18.83	19.12	8.14	8.14	23.14
PE 178	95.00	13.05	19.21	19.14	8.14	8.14	23.14
PE 179	103.00	12.59	19.48	12.634	8.14	8.14	23.14
PE 180	94.00	12.91	19.14	19.01	8.14	8.14	23.14
PE 181	170.50	13.00	19.35	19.47	8.14	8.14	23.14

LONGITUDINAL PROFILE OF PERCUT RIVER (2/3)

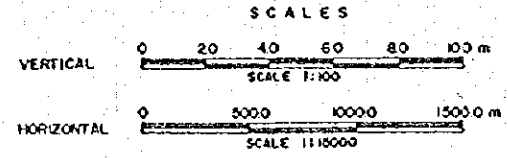


<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>DWG. 4.3 (2/3) LONGITUDINAL PROFILE OF PERCUT RIVER</p>
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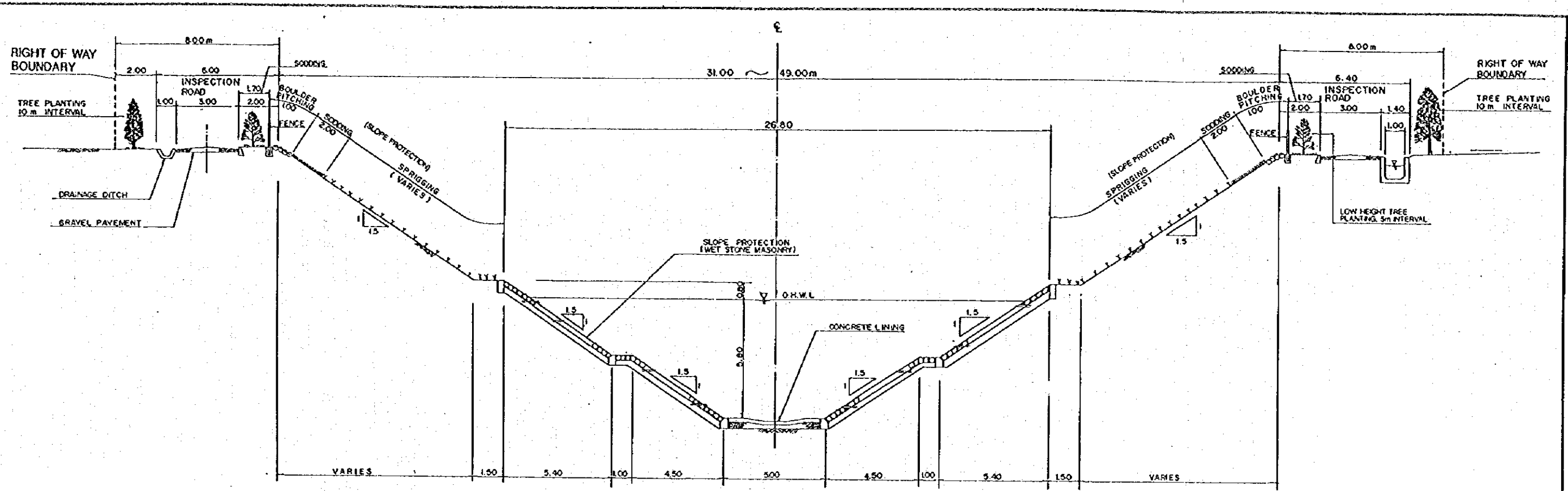


GRADIENT OF DESIGN RIVERBED		1 : 1/825	
DESIGN ELEVATION	INSPECTION ROAD CROWN	19.865	19.865
	HIGH WATER	19.865	19.865
	RIVERBED	12.955	12.955
EXISTING ELEVATION	RIGHT GROUND	19.865	19.865
	LEFT GROUND	13.000	13.000
	LOWEST RIVERBED	13.000	13.000
DISTANCE	ACCUMULATED (m)	18361.0	18361.0
	PARTIAL (m)	70.50	70.50
STATION NO.		PE 181	PE 274

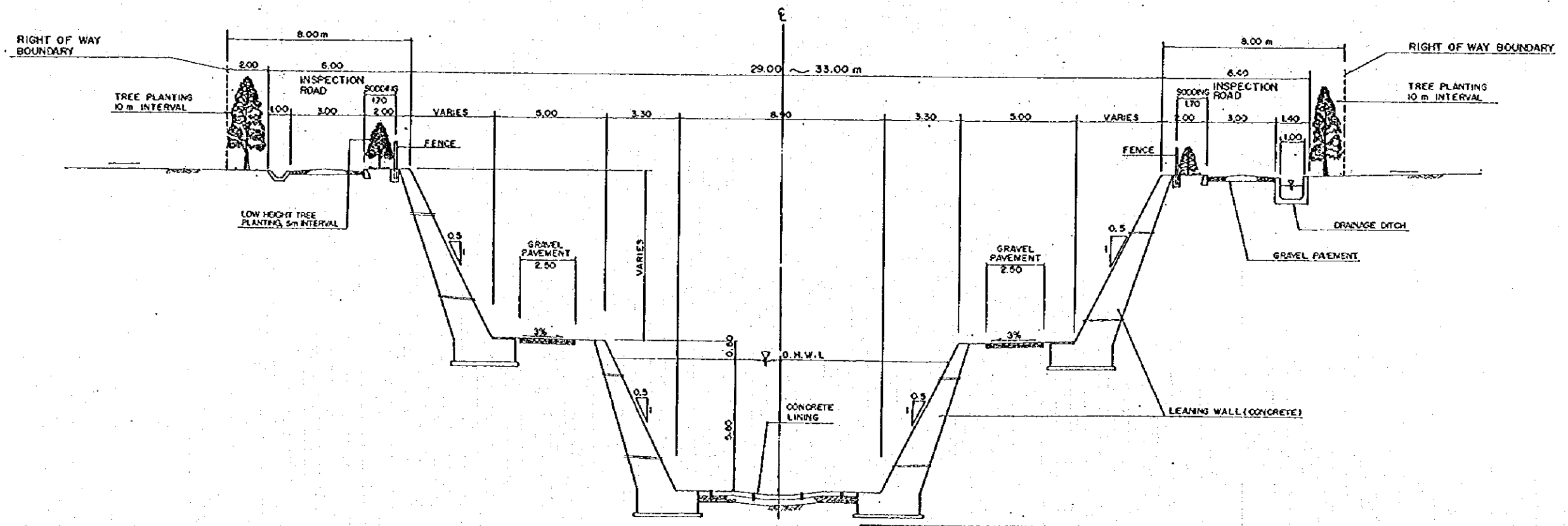
LONGITUDINAL PROFILE OF PERCUT RIVER (3/3)



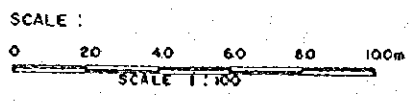
DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT  
 DWG. 4.3 (3/3)  
 LONGITUDINAL PROFILE OF PERCUT RIVER  
 JAPAN INTERNATIONAL COOPERATION AGENCY



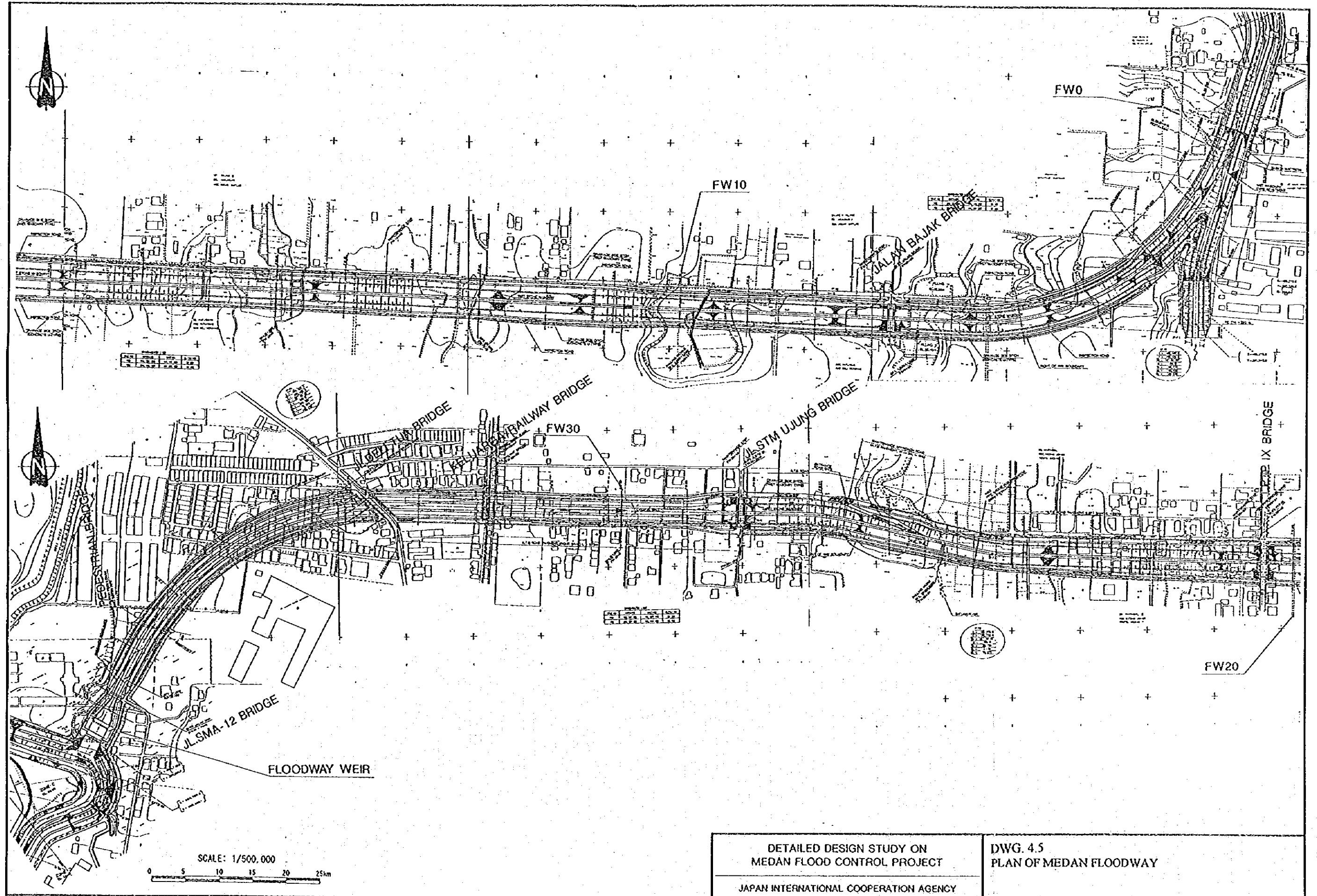
STANDARD CROSS SECTION OF FLOODWAY (CHANNEL TYPE - I) (UNIT: m)



STANDARD CROSS SECTION OF FLOODWAY (CHANNEL TYPE - II) (UNIT: m)

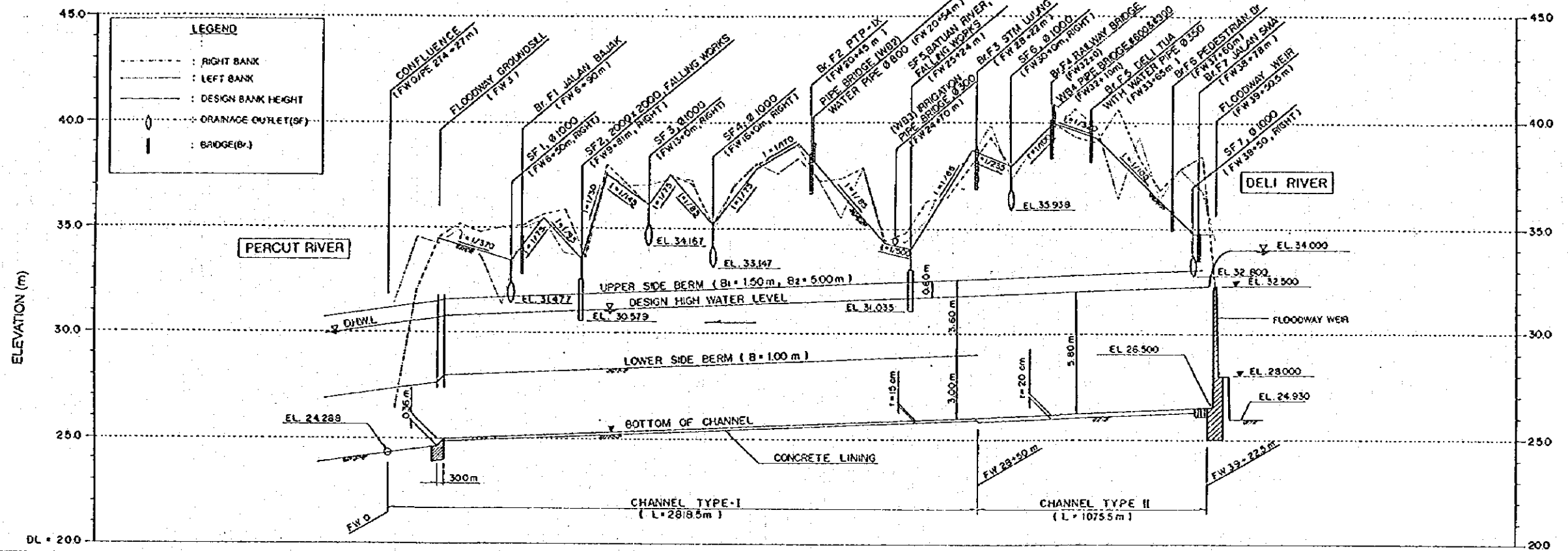


<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.4 STANDARD CROSS SECTION OF MEDAN FLOODWAY</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



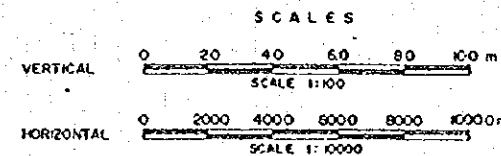
DETAILED DESIGN STUDY ON  
 MEDAN FLOOD CONTROL PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 4.5  
 PLAN OF MEDAN FLOODWAY

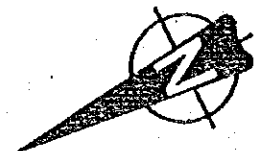


DESIGN ELEVATION	GRADIENT OF DESIGN CHANNEL BED		DESIGN ELEVATION	EXISTING ELEVATION	DISTANCE	STATION NO.
	CHANNEL BANK	CHANNEL				
		1: 1/825				PE 274
		1: 1/2350				FW 0
UPPER SIDE BERM			31.165	24.250	27.0	FW 1
HIGH WATER LEVEL			31.198	24.388	20.0	FW 2
BOTTOM OF CHANNEL			31.222	24.442	127.0	FW 3
			31.302	24.442	107.5	FW 4
			31.480	24.570	104.0	FW 5
			31.530	24.590	110.0	FW 6
			31.577	24.577	107.5	FW 7
			31.623	25.023	450.5	FW 8
			31.667	25.087	594.5	FW 9
			31.710	25.110	650.0	FW 10
			31.752	25.152	795.0	FW 11
			31.795	25.195	895.0	FW 12
			31.837	25.237	950.0	FW 13
			31.880	25.280	1000.0	FW 14
			31.923	25.323	1150.0	FW 15
			32.050	25.450	1450.0	FW 16
			32.093	25.493	1550.0	FW 17
			32.136	25.536	1650.5	FW 18
			32.178	25.578	1755.5	FW 19
			32.221	25.621	1856.5	FW 20
			32.263	25.663	1956.0	FW 21
			32.306	25.706	2005.5	FW 22
			32.349	25.749	2157.0	FW 23
			32.391	25.791	2256.0	FW 24
			32.434	25.834	2356.0	FW 25
			32.478	25.878	2461.0	FW 26
			32.522	25.922	2564.0	FW 27
			32.566	25.966	2667.0	FW 28
			32.610	26.010	2769.5	FW 29
			32.654	26.054	2868.5	FW 30
			32.698	26.098	2968.5	FW 31
			32.742	26.142	3069.0	FW 32
			32.786	26.186	3169.0	FW 33
			32.830	26.230	3269.0	FW 34
			32.874	26.274	3370.0	FW 35
			32.918	26.318	3470.5	FW 36
			32.962	26.362	3570.5	FW 37
			33.006	26.406	3671.5	FW 38
			33.050	26.450	3771.5	FW 39
			33.094	26.494	3871.5	FW 40
			33.138	26.538	3922.0	FW 41

LONGITUDINAL PROFILE OF FLOODWAY



DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT		DWG. 4.6 LONGITUDINAL PROFILE OF MEDAN FLOODWAY
JAPAN INTERNATIONAL COOPERATION AGENCY		



IP-01  
 X = 464,789.0  
 Y = 389,955.1  
 IA = 140°  
 R = 30.0  
 TL = 83.519  
 SL = 58.744  
 CL = 73.557

IP-02  
 X = 464,641.5  
 Y = 389,978.0  
 IA = 37° 55' 33"  
 R = 70.0  
 TL = 24.052  
 SL = 4.017  
 CL = 46.335

IP-04  
 X = 464,602.0  
 Y = 389,709.0  
 IA = 23° 36' 54"  
 R = 130.0  
 TL = 27.176  
 SL = 2.810  
 CL = 53.581

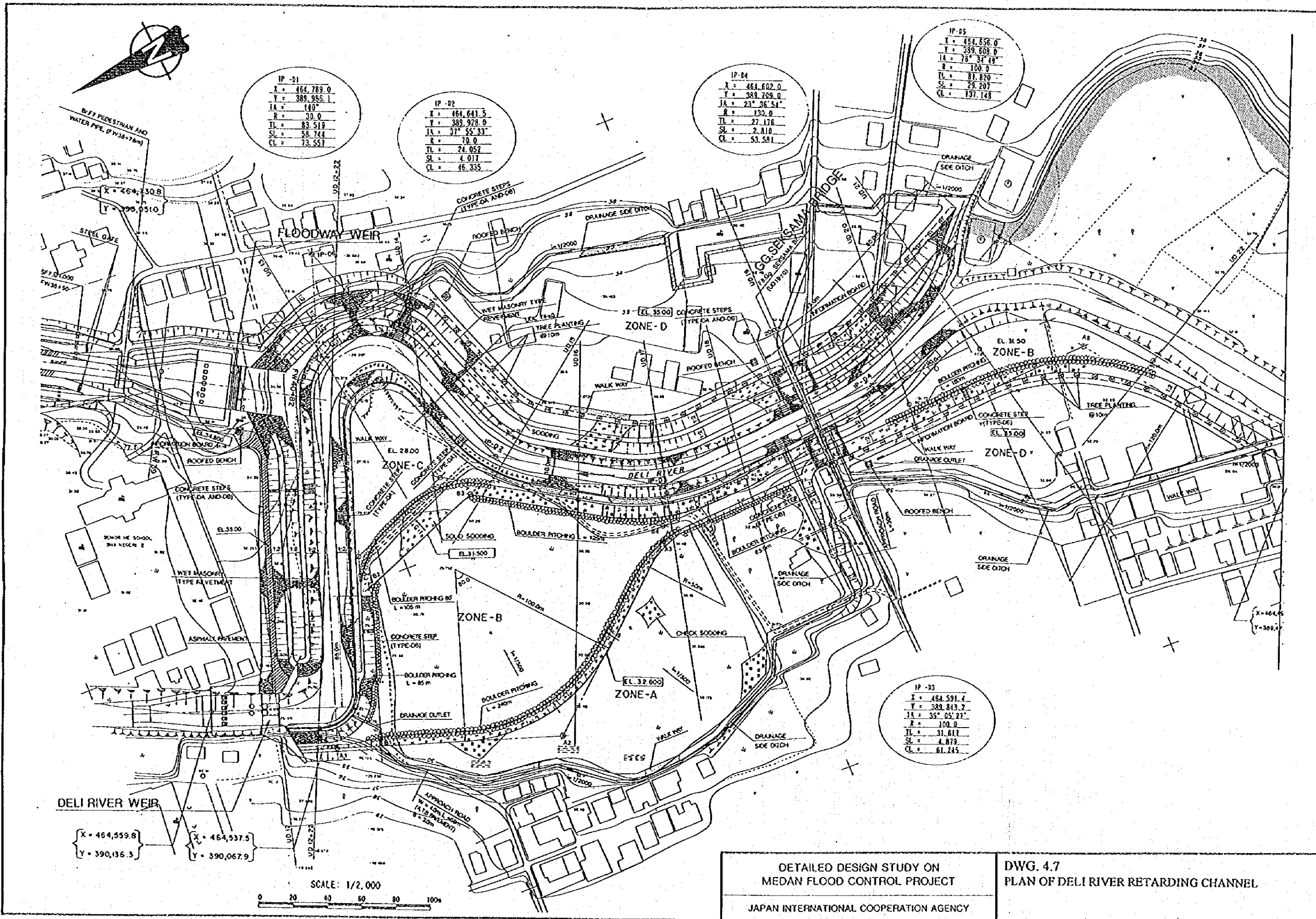
IP-05  
 X = 464,856.0  
 Y = 389,608.0  
 IA = 78° 34' 49"  
 R = 100.0  
 TL = 81.820  
 SL = 29.207  
 CL = 137.148

IP-03  
 X = 464,591.4  
 Y = 389,843.2  
 IA = 35° 05' 27"  
 R = 100.0  
 TL = 31.617  
 SL = 4.879  
 CL = 61.245

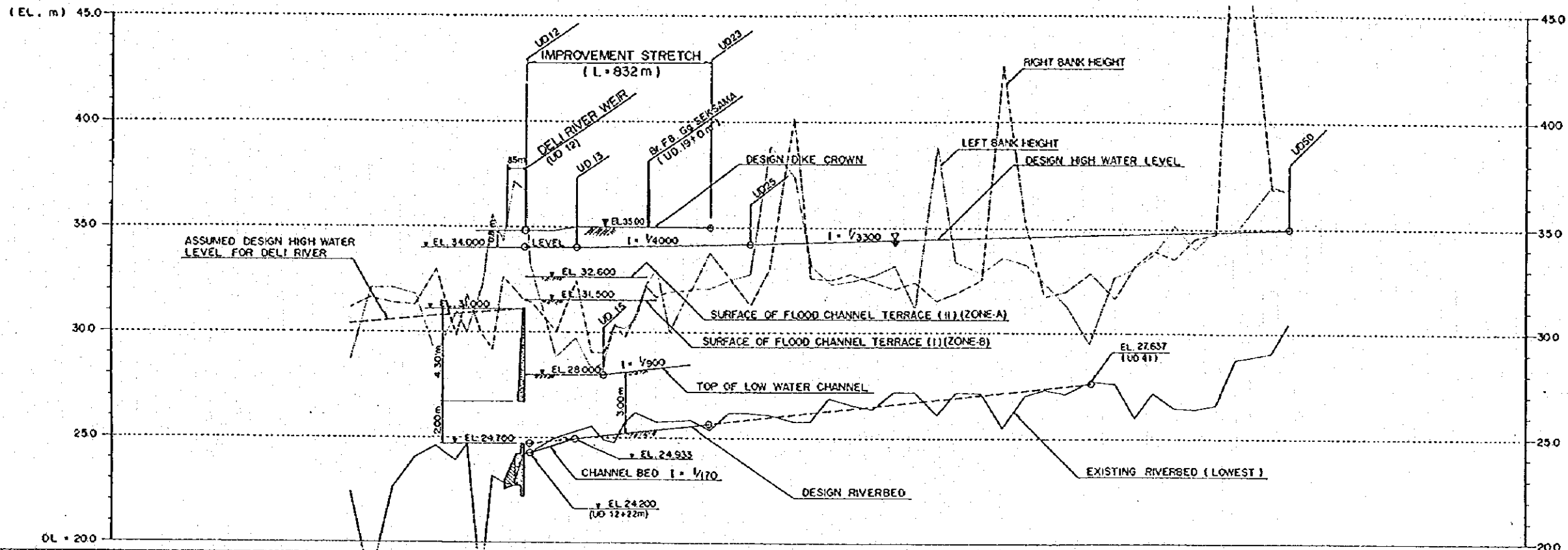
X = 464,559.8  
 Y = 390,136.3

X = 464,537.5  
 Y = 390,067.9

SCALE: 1/2,000  
 0 20 40 60 80 100m

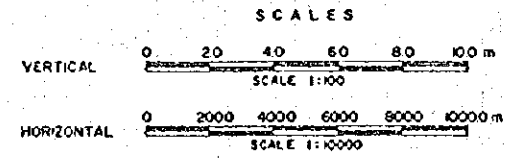


DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	DWG. 4.7 PLAN OF DELI RIVER RETARDING CHANNEL
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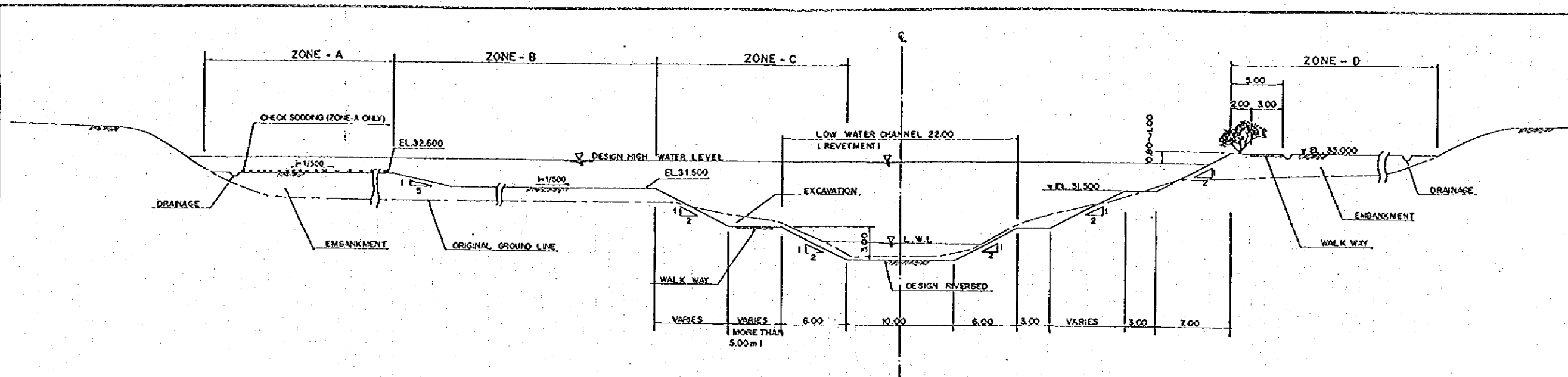
STATION NO.	DISTANCE		EXISTING ELEVATION			DESIGN ELEVATION		
	ACCUMULATED (m)	PARTIAL (m)	RIGHT GROUND	LEFT GROUND	LOWEST RIVERBED	RIVERBED	HIGH WATER LEVEL	DIKE CROWN
UD 1	00.0	00.0	22.375	28.698	31.123	34.800	34.800	34.800
UD 2	97.5	97.5	18.153	32.084	31.599	34.800	34.800	34.800
UD 3	104.0	201.5	22.660	32.114	31.394	34.800	34.800	34.800
UD 4	111.0	312.5	24.075	31.798	31.275	34.800	34.800	34.800
UD 5	103.0	415.0	24.595	28.859	33.022	34.800	34.800	34.800
UD 6	103.0	518.0	23.867	30.997	29.867	34.800	34.800	34.800
UD 7	53.0	571.5	24.664	30.039	31.836	34.800	34.800	34.800
UD 8	70.0	641.5	18.023	32.164	29.943	34.800	34.800	34.800
UD 9	49.5	691.0	23.686	33.342	32.214	34.800	34.800	34.800
UD 10	53.5	744.5	22.790	32.775	32.651	34.800	34.800	34.800
UD 11	49.0	793.0	22.271	33.713	33.131	34.800	34.800	34.800
UD 12	49.0	842.0	24.271	33.713	33.131	34.800	34.800	34.800
UD 13	27.0	869.0	24.282	33.146	31.531	34.800	34.800	34.800
UD 14	110.0	979.0	25.032	28.933	30.044	34.800	34.800	34.800
UD 15	100.0	1079.0	25.288	29.694	32.442	34.800	34.800	34.800
UD 16	56.0	1135.0	25.519	28.253	29.089	34.800	34.800	34.800
UD 17	50.5	1185.5	24.872	28.570	29.052	34.800	34.800	34.800
UD 18	47.5	1233.0	24.790	30.305	30.278	34.800	34.800	34.800
UD 19	49.5	1282.5	26.075	30.208	25.181	34.800	34.800	34.800
UD 20	54.0	1336.5	25.949	32.230	32.509	34.800	34.800	34.800
UD 21	52.5	1389.0	25.658	31.866	30.018	34.800	34.800	34.800
UD 22	101.5	1490.5	25.866	32.034	32.144	34.800	34.800	34.800
UD 23	94.0	1584.5	25.400	33.818	32.122	34.800	34.800	34.800
UD 24	96.5	1681.0	26.216	32.619	32.645	34.800	34.800	34.800
UD 25	89.5	1770.5	26.182	32.806	31.286	34.800	34.800	34.800
UD 26	101.0	1871.5	26.136	30.874	33.039	34.800	34.800	34.800
UD 27	116.0	1987.5	25.844	37.428	40.175	34.268	34.268	34.268
UD 28	79.0	2066.5	25.787	33.168	32.656	34.292	34.292	34.292
UD 29	89.0	2155.5	26.697	32.337	32.462	34.319	34.319	34.319
UD 30	99.0	2254.5	26.645	32.348	32.832	34.349	34.349	34.349
UD 31	106.0	2360.5	26.412	32.743	32.371	34.381	34.381	34.381
UD 32	98.0	2468.5	27.214	33.189	32.102	34.411	34.411	34.411
UD 33	96.0	2564.5	27.205	31.165	32.402	34.440	34.440	34.440
UD 34	98.0	2662.5	26.097	38.894	31.544	34.470	34.470	34.470
UD 35	103.0	2765.5	27.209	33.402	31.930	34.501	34.501	34.501
UD 36	104.0	2869.5	27.161	32.909	32.543	34.533	34.533	34.533
UD 37	100.0	2969.5	26.490	33.602	42.878	34.563	34.563	34.563
UD 38	117.0	3086.5	27.058	33.323	35.207	34.598	34.598	34.598
UD 39	94.0	3180.5	27.303	32.435	31.760	34.627	34.627	34.627
UD 40	96.0	3276.5	27.132	31.402	32.015	34.656	34.656	34.656
UD 41	127.0	3403.5	27.753	29.576	32.927	34.684	34.684	34.684
UD 42	115.0	3518.5	27.616	32.744	31.692	34.719	34.719	34.719
UD 43	95.0	3613.5	26.122	33.161	33.240	34.758	34.758	34.758
UD 44	90.0	3703.5	27.194	33.822	34.011	34.785	34.785	34.785
UD 45	98.0	3791.5	26.486	35.242	33.614	34.815	34.815	34.815
UD 46	99.0	3890.5	26.436	34.088	34.555	34.849	34.849	34.849
UD 47	97.0	3987.5	26.656	35.010	34.759	34.874	34.874	34.874
UD 48	93.0	4080.5	28.768	34.934	31.563	34.903	34.903	34.903
UD 49	171.0	4251.5	29.122	37.144	36.880	34.934	34.934	34.934
UD 50	90.0	4341.5	30.324	36.796	36.894	34.962	34.962	34.962

LONGITUDINAL PROFILE OF DELI RIVER RETARDING CHANNEL

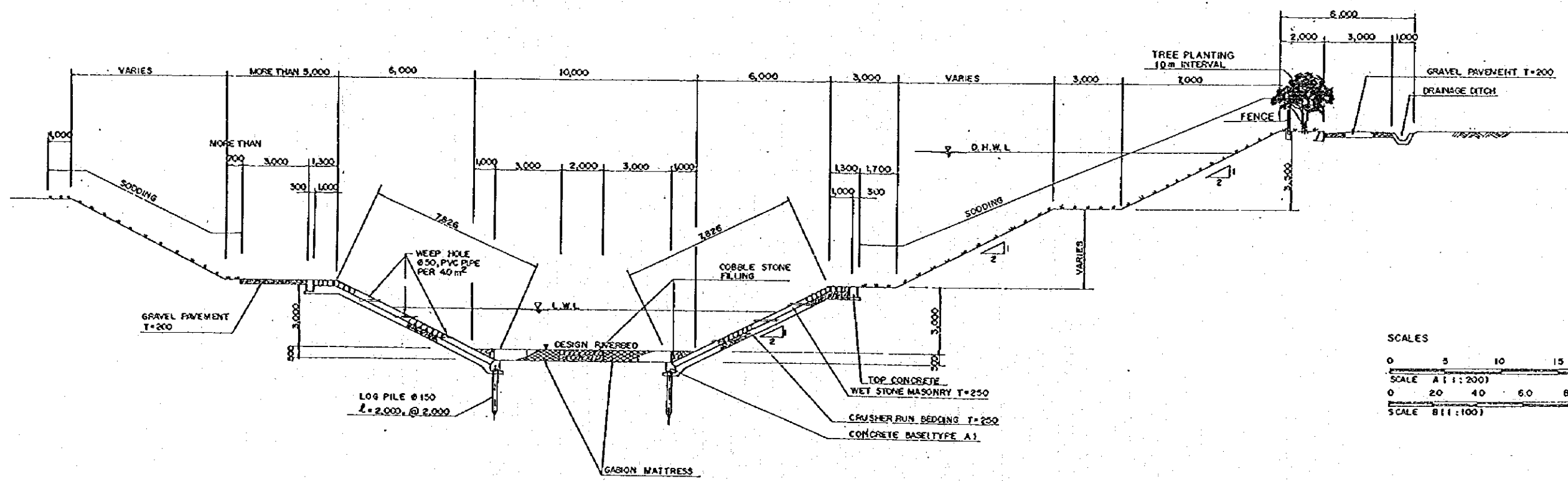


DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY  
 DWG. 4.8  
 LONGITUDINAL PROFILE OF DELI RIVER RETARDING CHANNEL

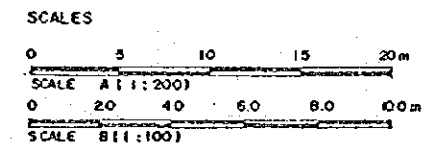




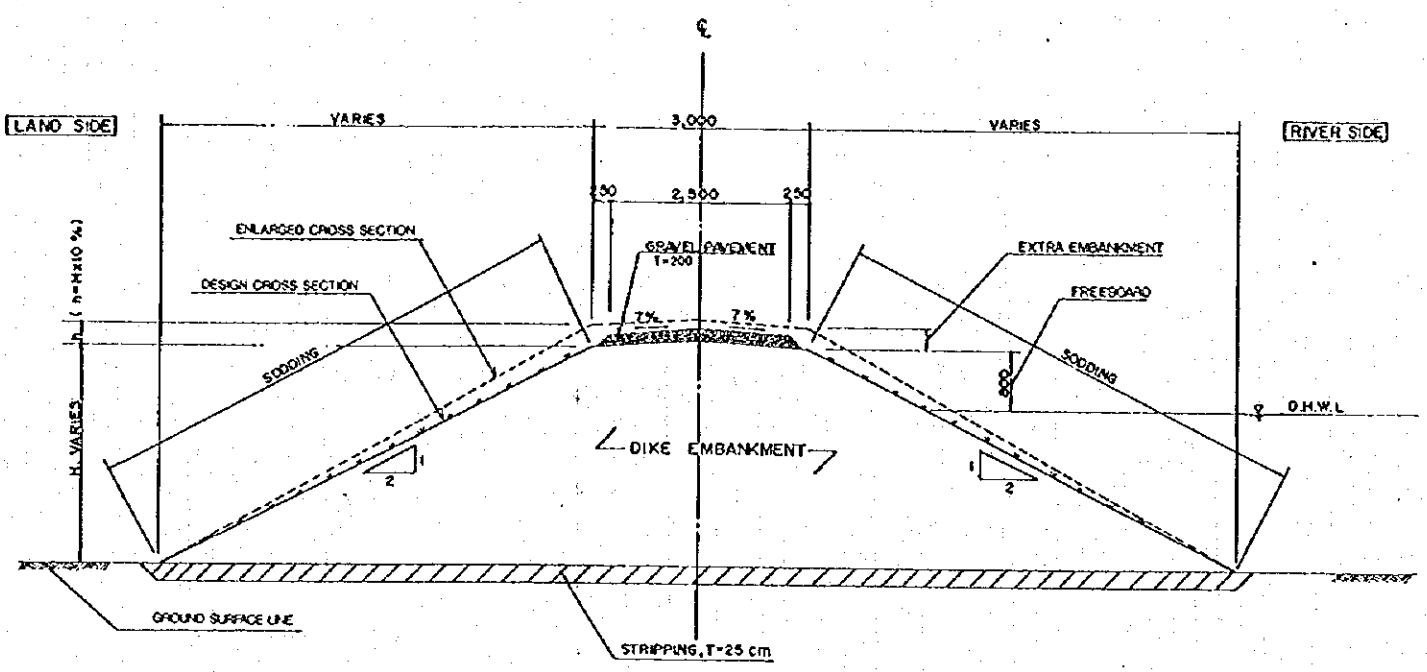
SCHEMATIC CROSS SECTION OF RETARDING CHANNEL IMPROVEMENT AND UTILIZATION (UNIT : m)  
SCALE A



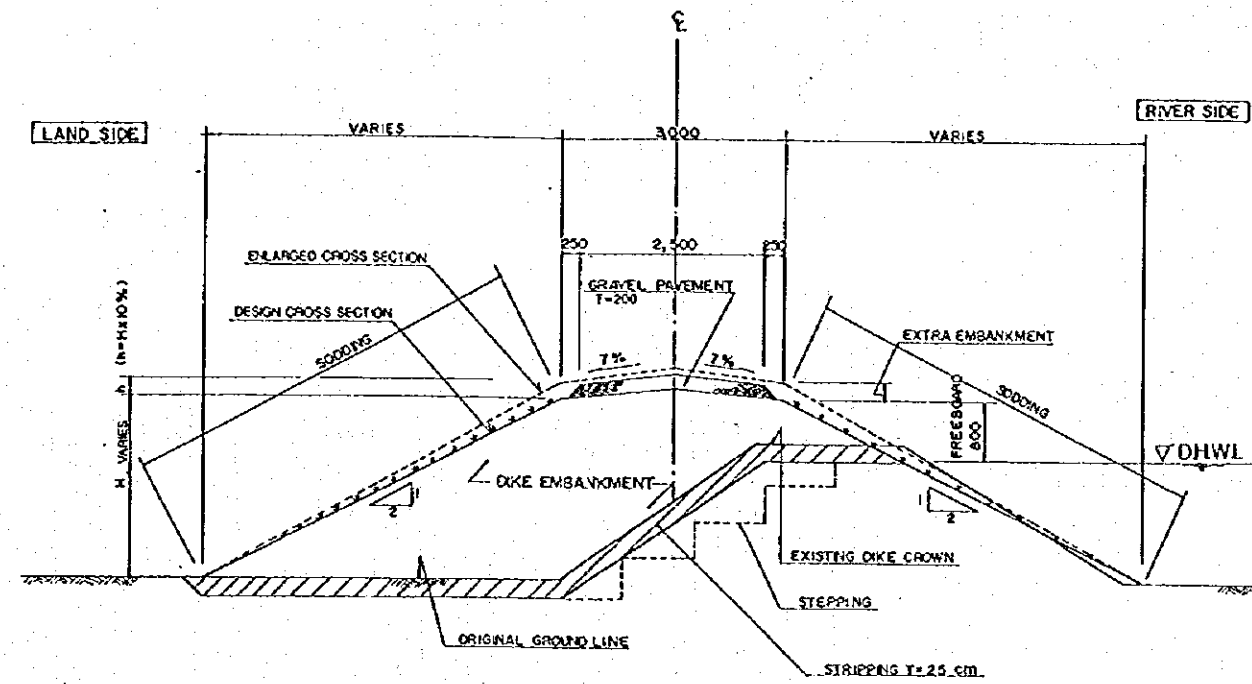
STANDARD CROSS SECTION OF RETARDING CHANNEL AND SLOPE PROTECTION (UNIT : mm)  
SCALE B



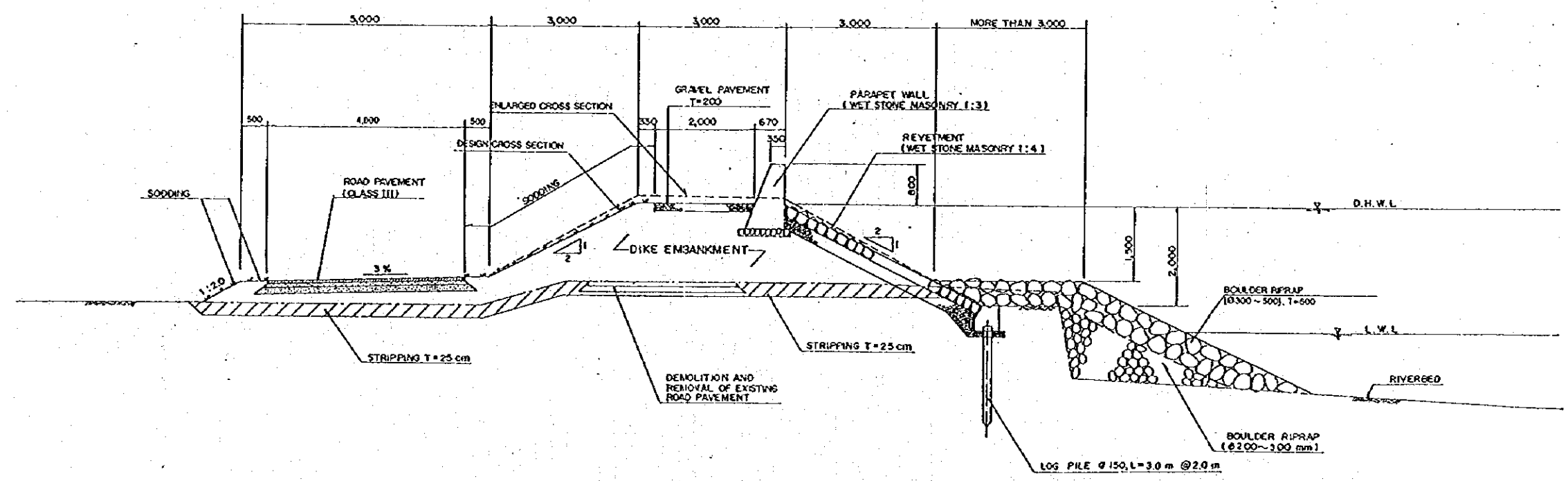
<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.9 STANDARD CROSS SECTION OF DELI RIVER RETARDING CHANNEL</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



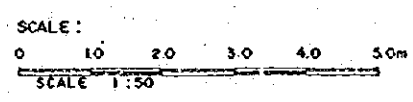
TYPICAL CROSS SECTION OF NEW DIKE  
SCALE 1:50



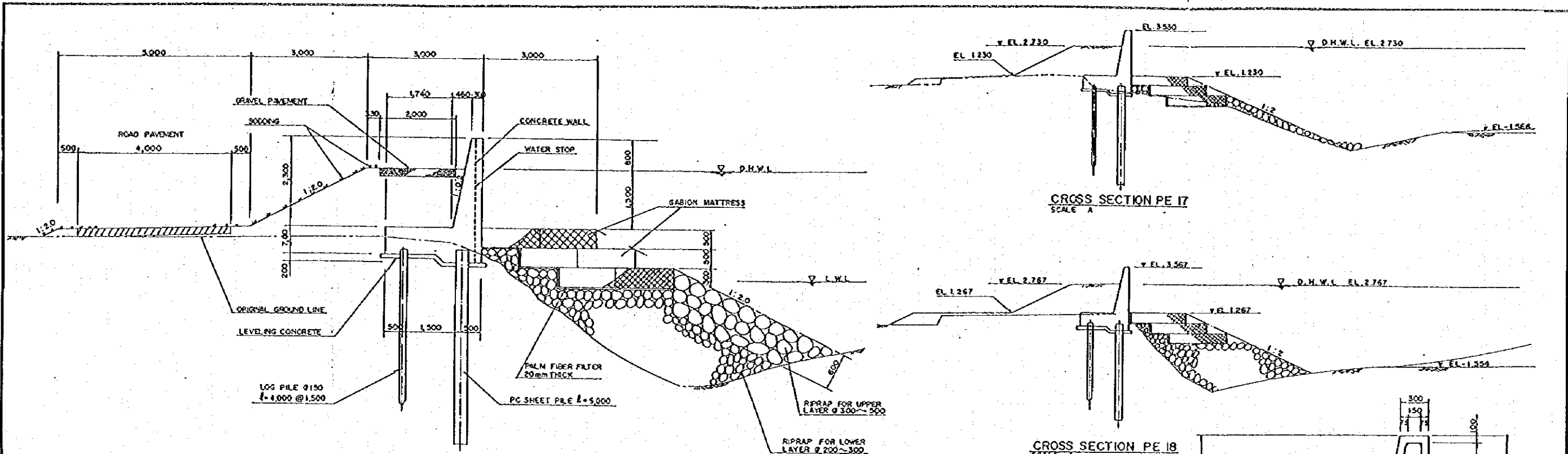
TYPICAL SECTION OF DIKE RAISED ON EXISTING DIKE  
SCALE 1:50



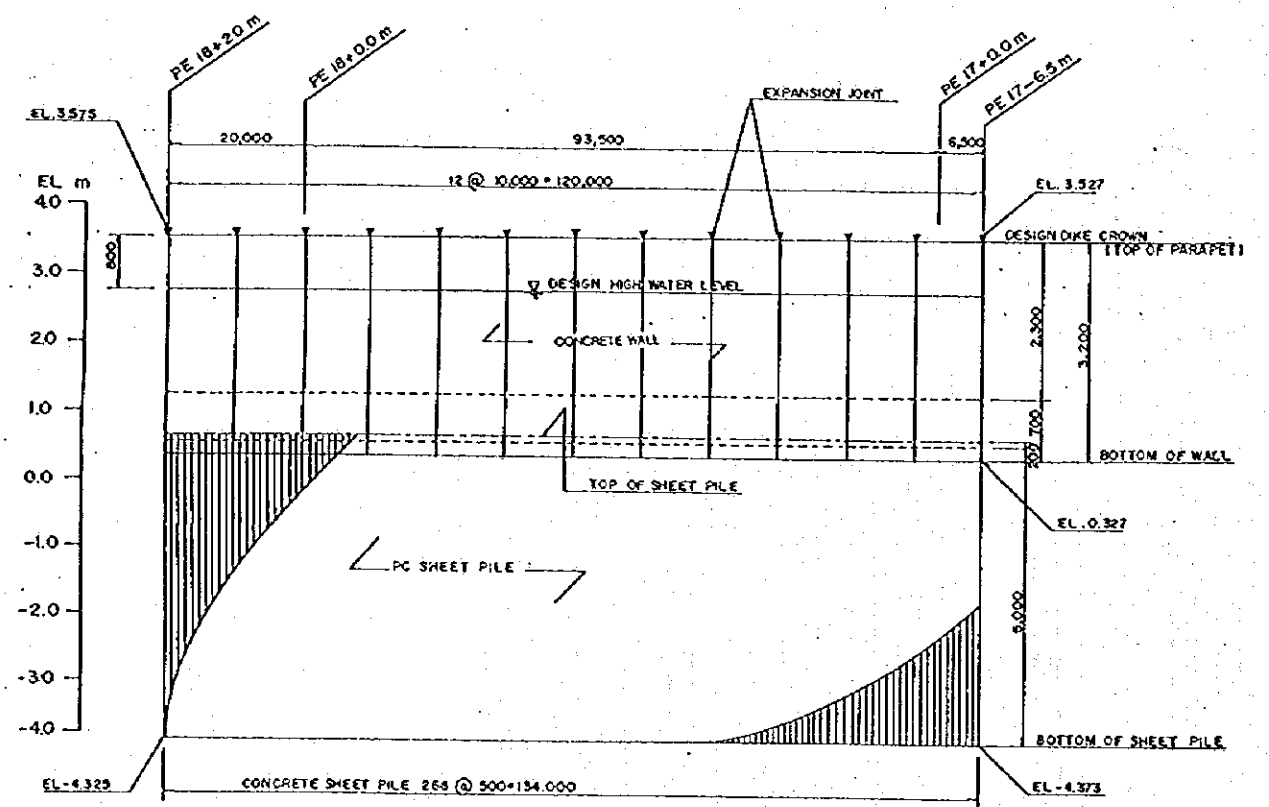
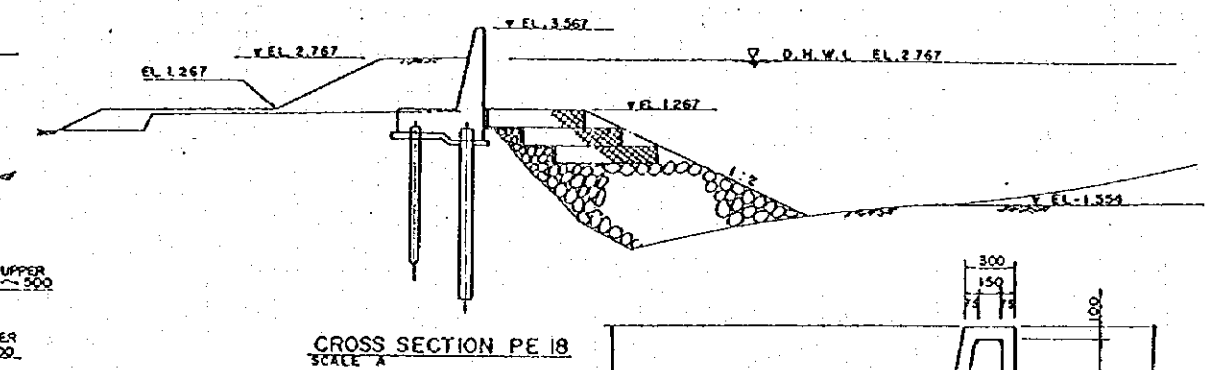
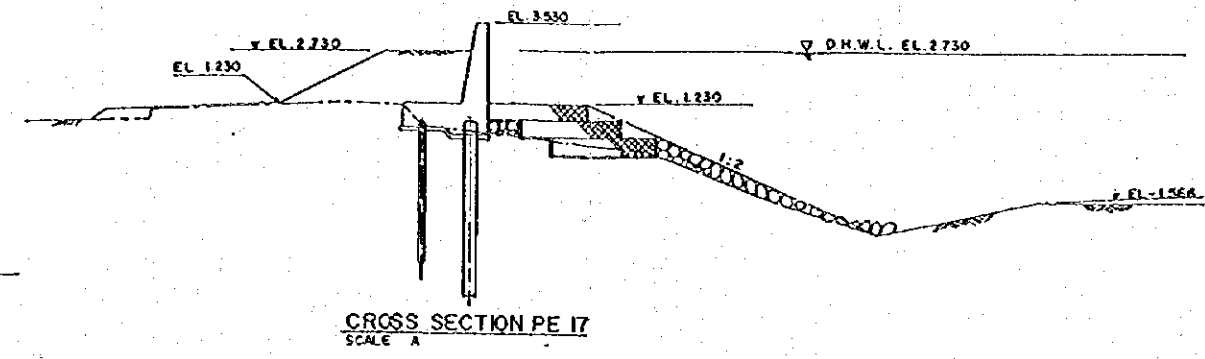
TYPICAL CROSS SECTION OF COMBINATION DIKE OF EMBANKMENT AND PARAPET WALL  
PERCUT RIVER (PE14+70m TO PE33±0m, LEFT BANK)  
SCALE 1:50



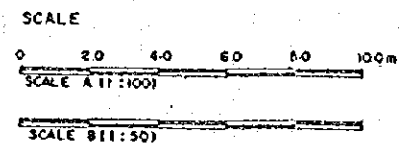
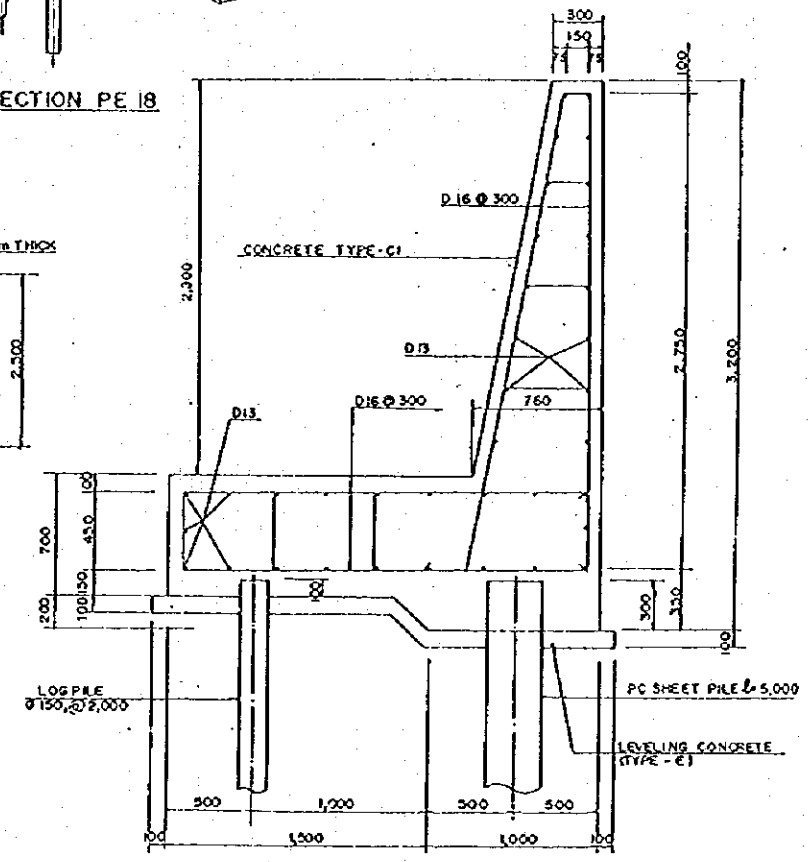
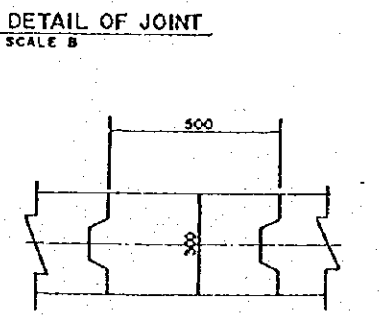
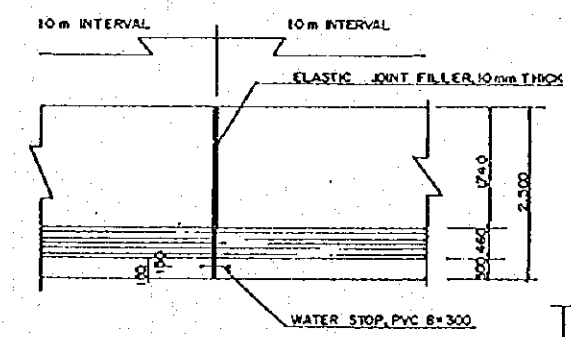
<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.10 TYPICAL CROSS SECTION OF DIKE</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



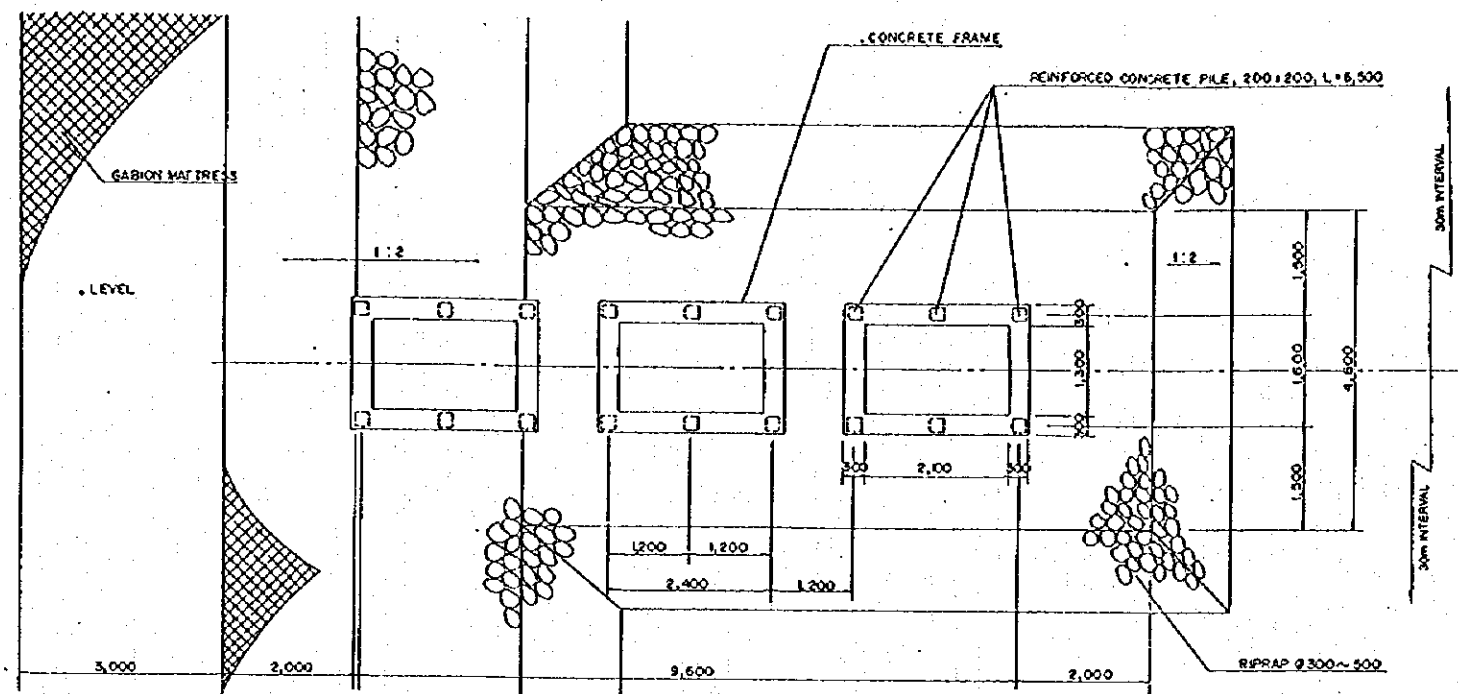
TYPICAL CROSS SECTION OF FLOOD WALL AND BANK PROTECTION  
SCALE B



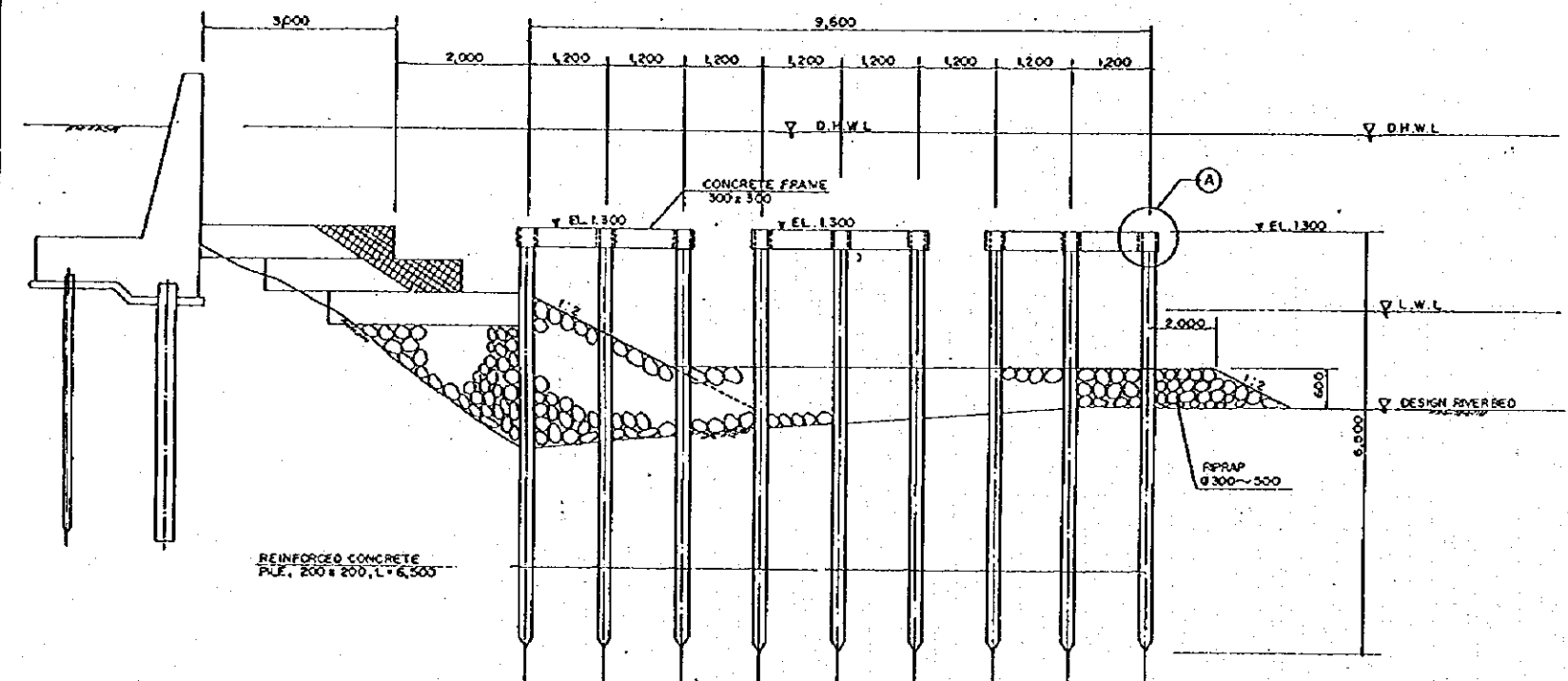
LONGITUDINAL PROFILE OF FLOOD WALL (UNIT m/m)  
SCALE VERTICAL 1:50  
SCALE HORIZONTAL 1:500



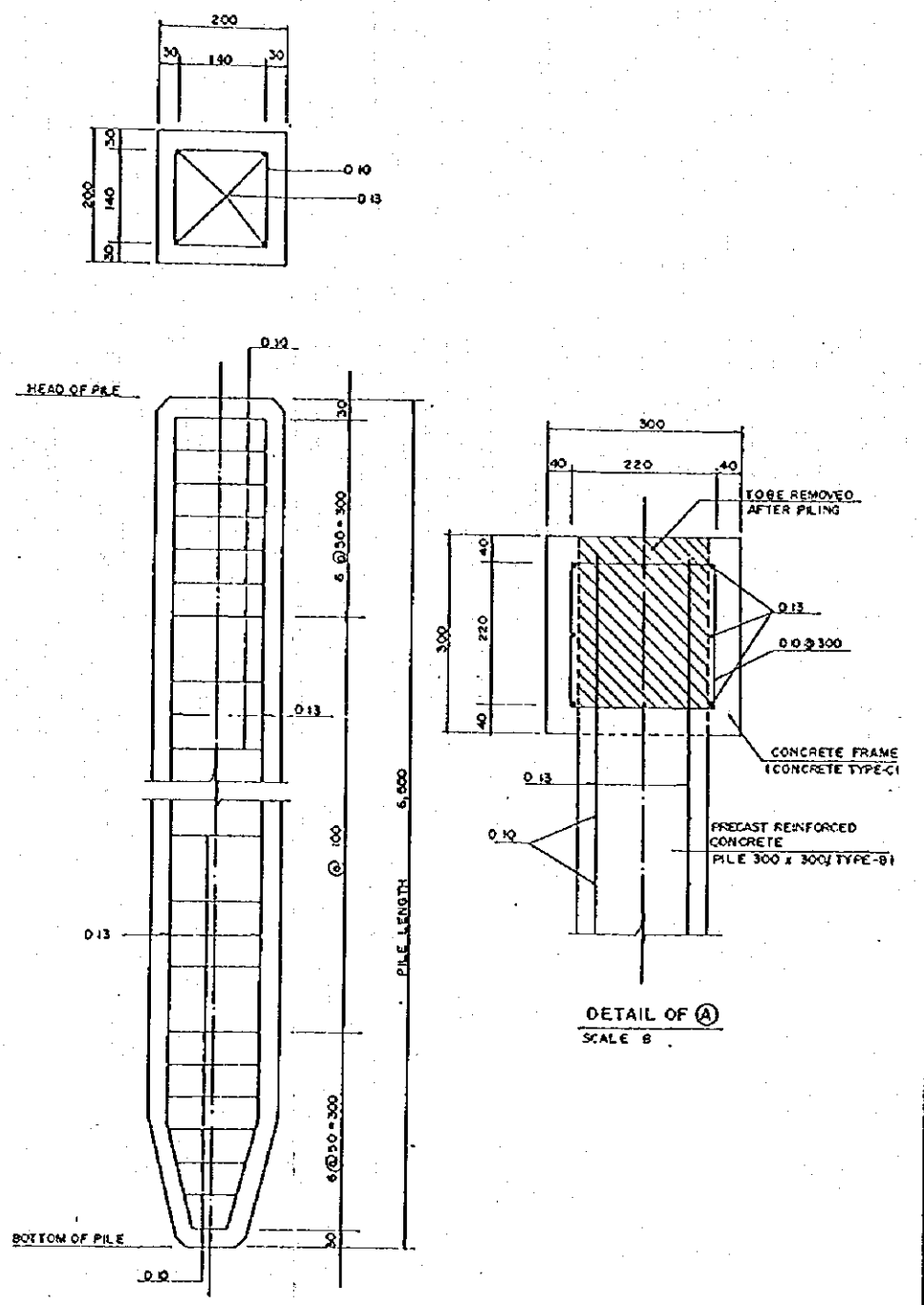
DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	DWG. 4.11 FLOOD RETAINING WALL OF PERCUT RIVER
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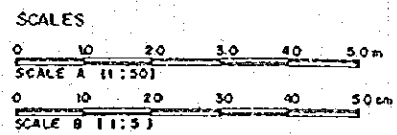
PLAN (UNIT mm)  
SCALE A



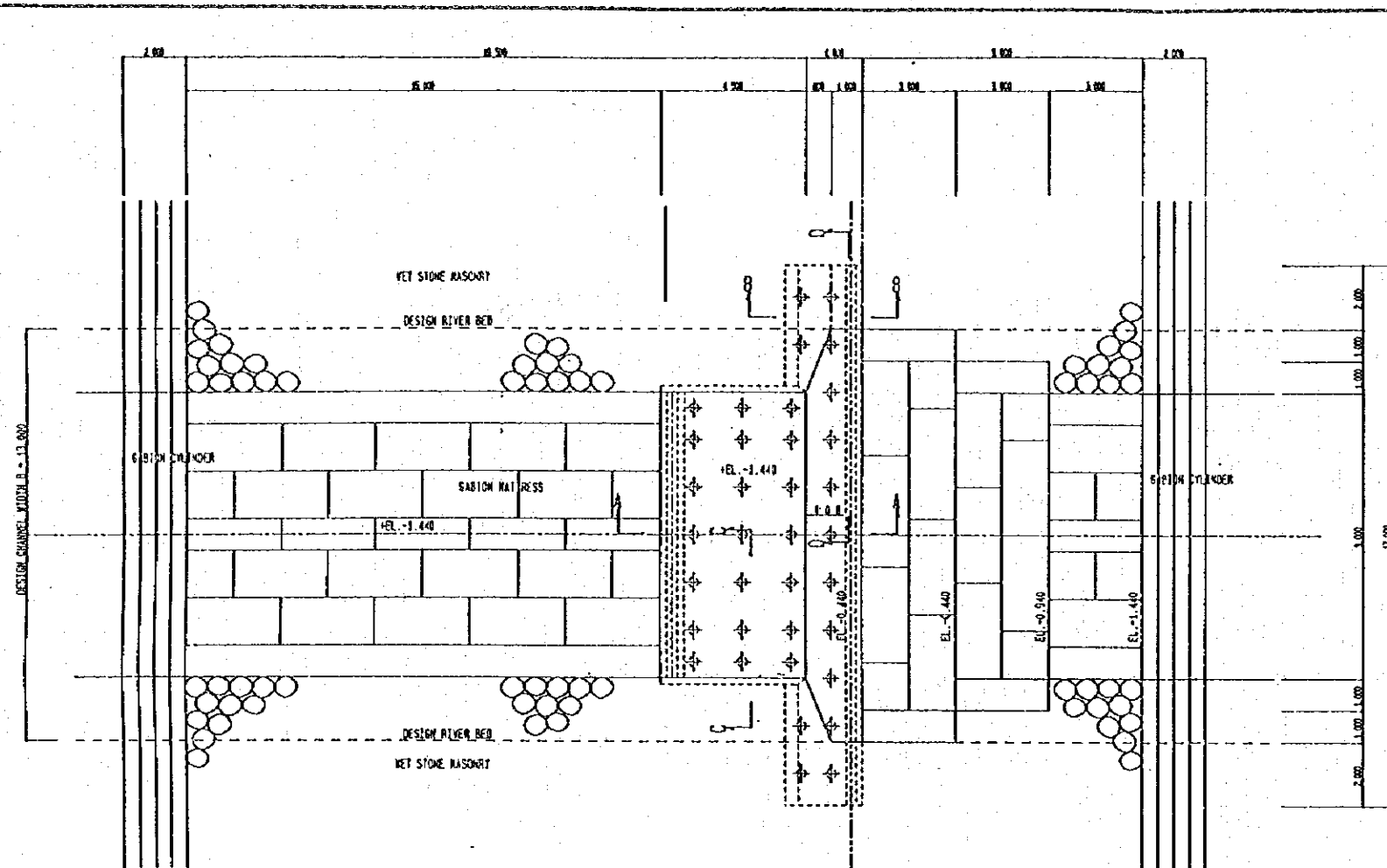
PROFILE OF GROIN AND BANK PROTECTION (UNIT mm)  
SCALE A



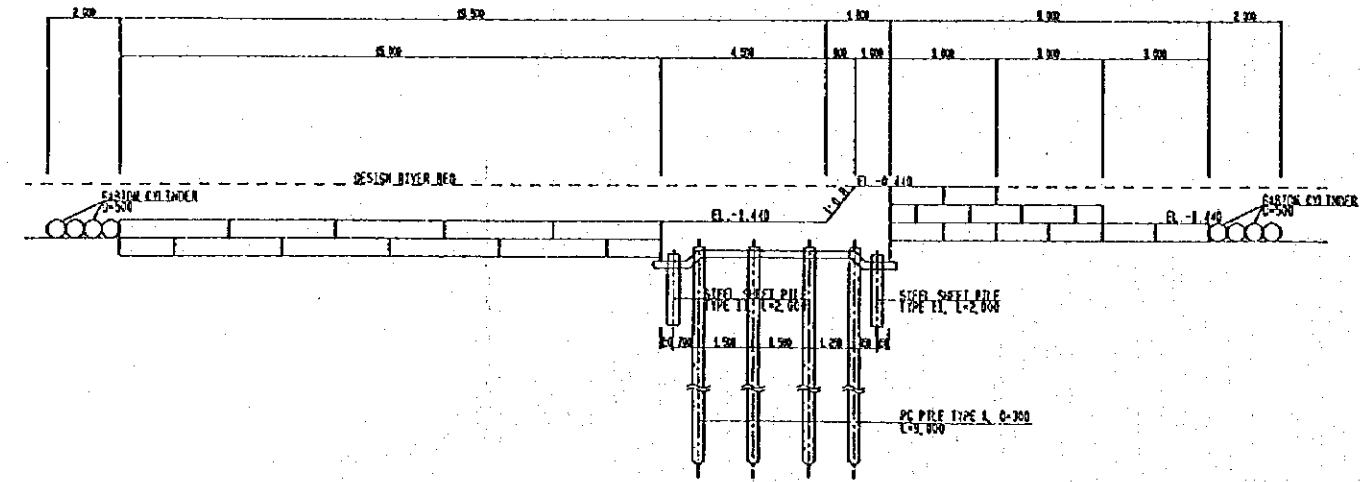
PILE ELEVATION AND CROSS SECTION (UNIT mm)  
SCALE B



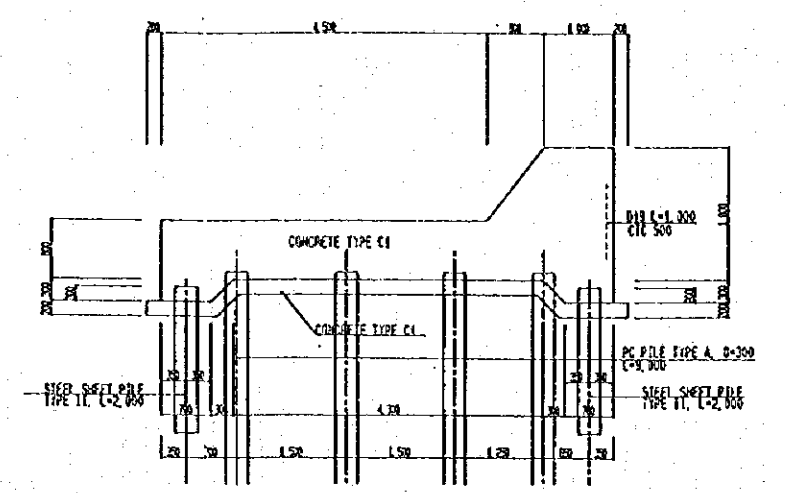
DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	DWG. 4.12 GROIN IN PERCUT RIVER
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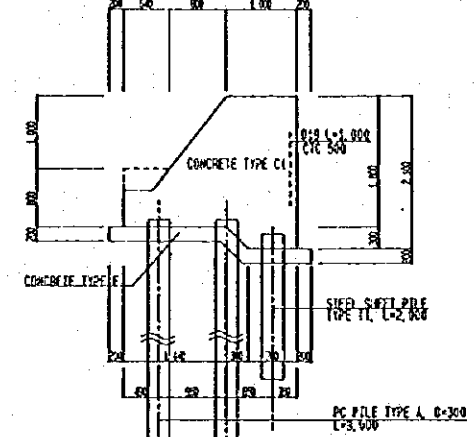
PLAN  
SCALE A



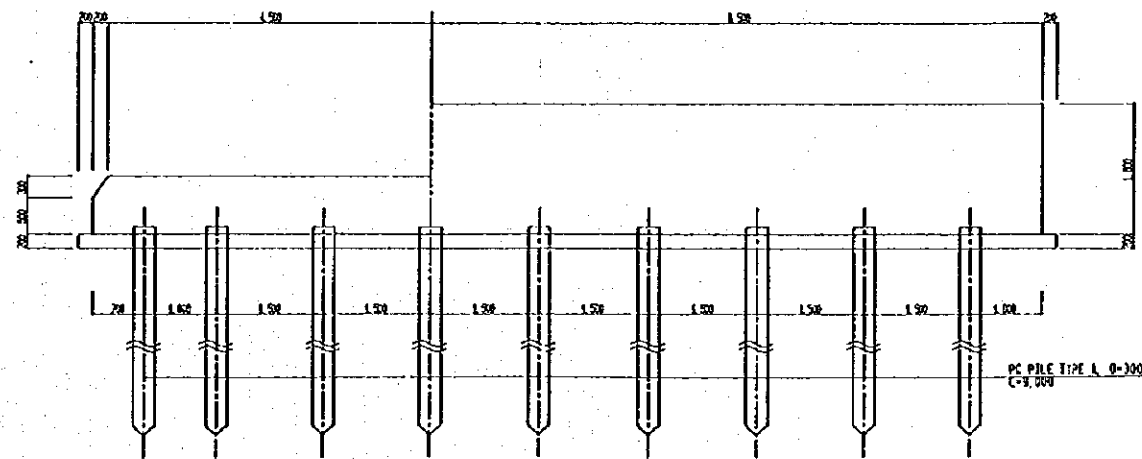
PROFILE  
SCALE A



SECTION A-A  
SCALE B

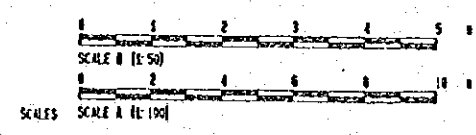


SECTION B-B  
SCALE B

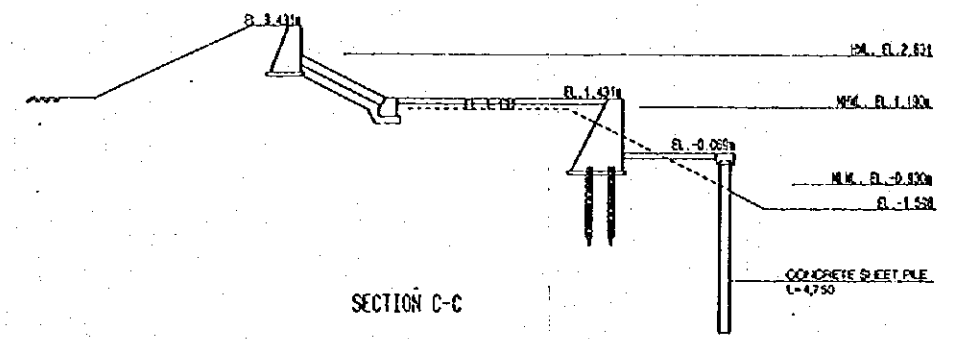
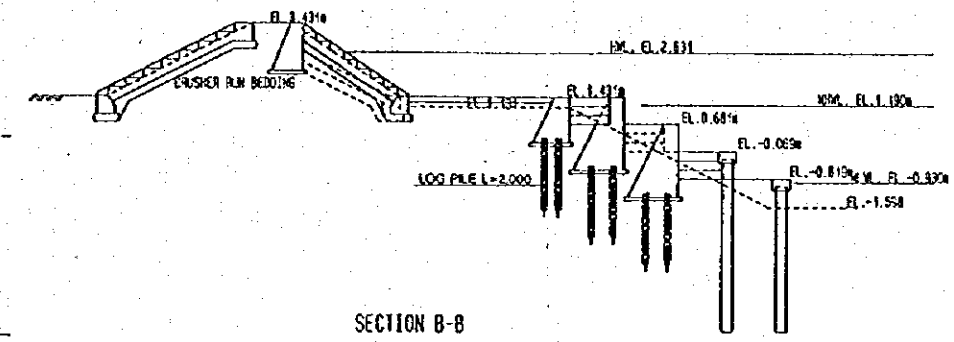
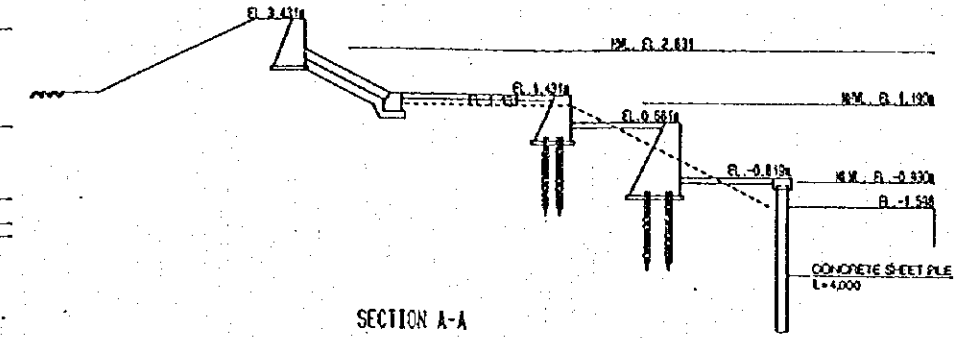
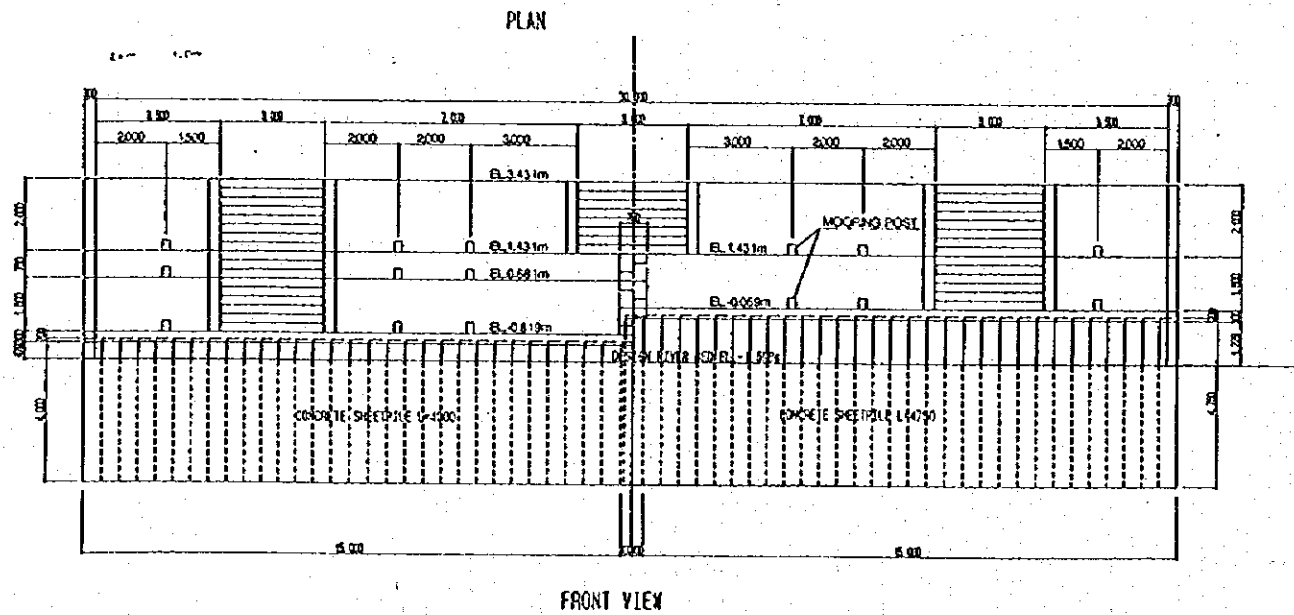
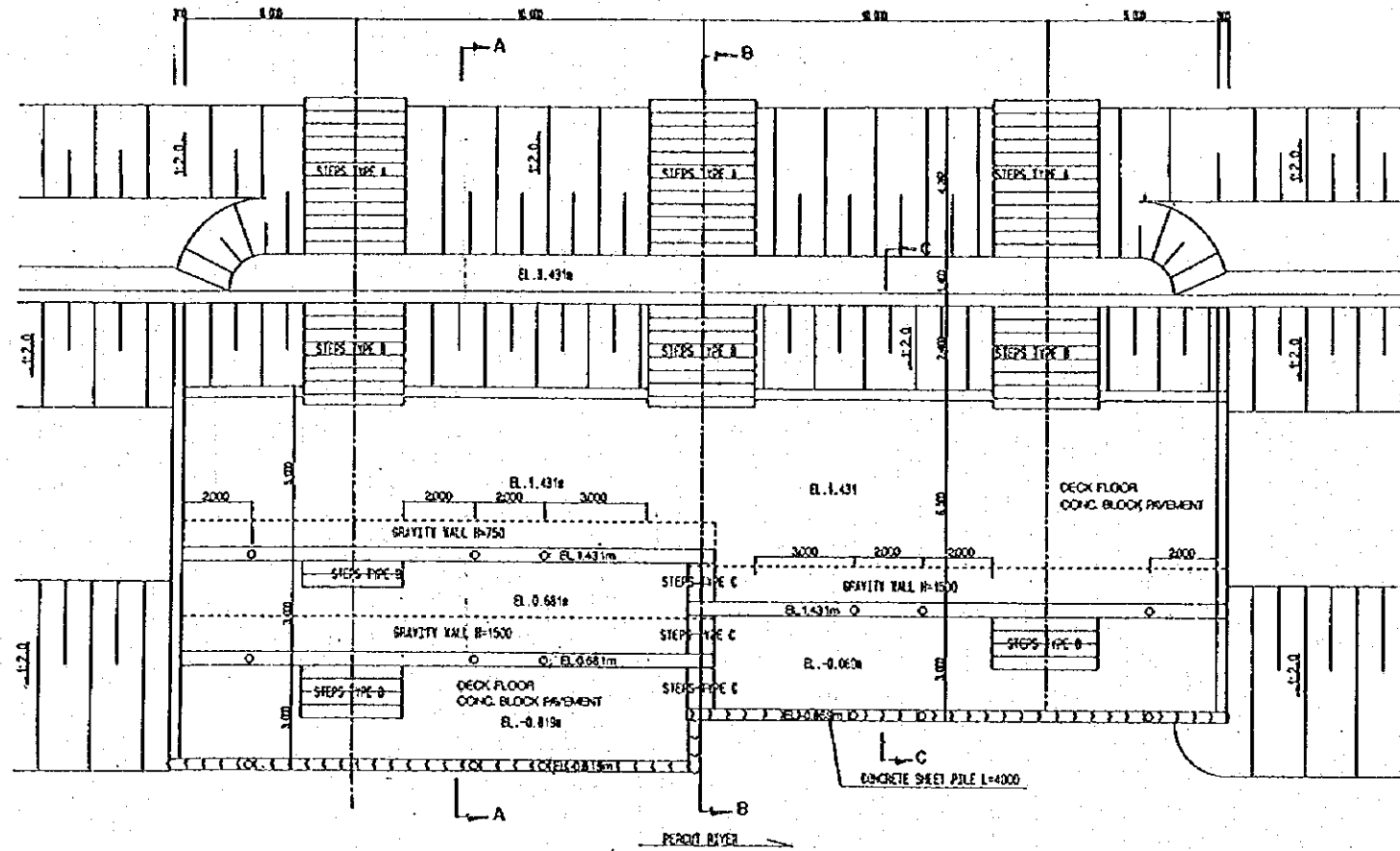


SECTION C-C  
SCALE B

SECTION D-D  
SCALE B



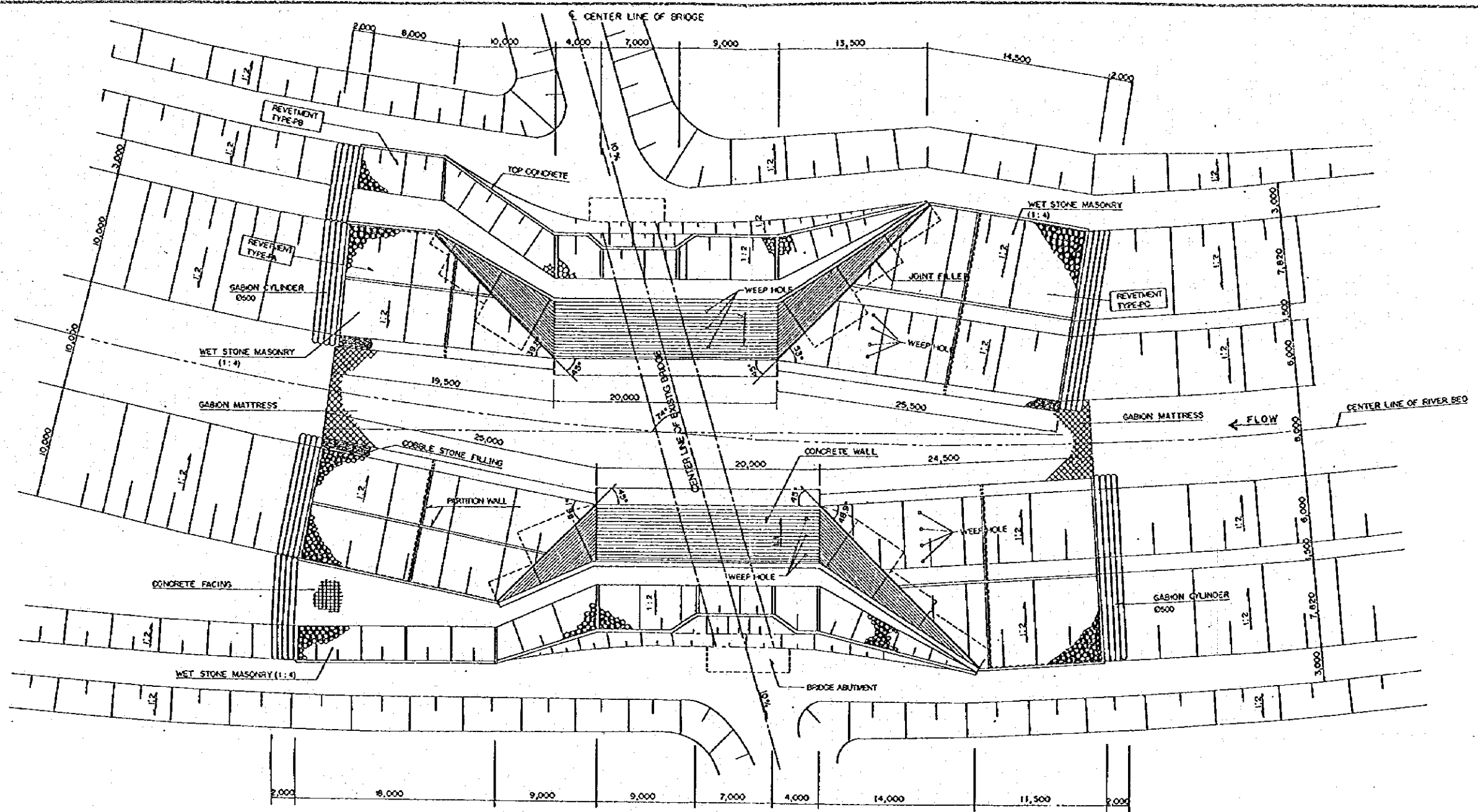
<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>DWG. 4.13 GROUNDSILL IN PERCUT RIVER</p>
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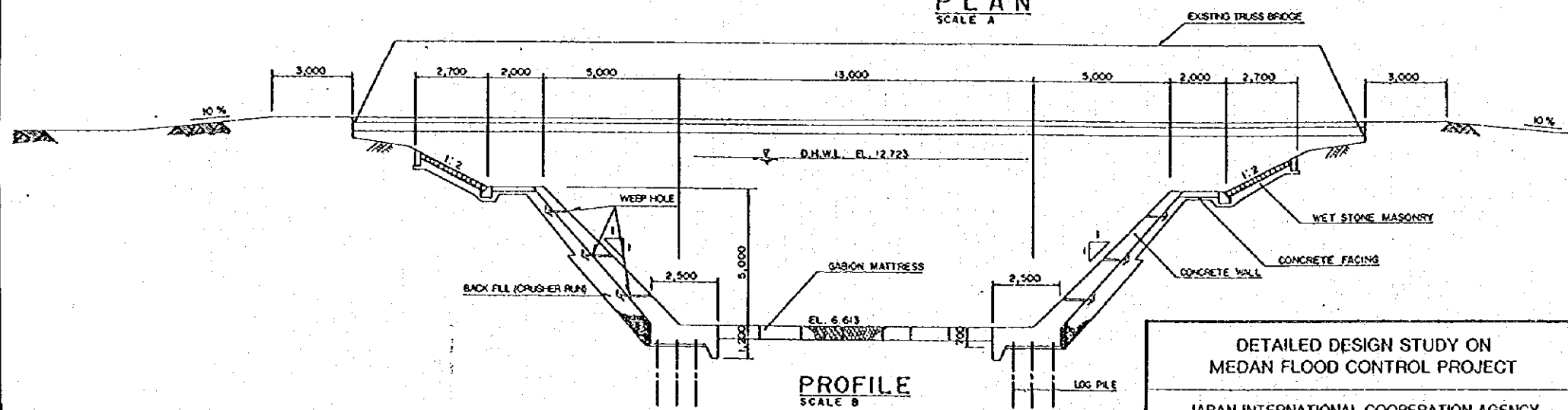
SCALE  
0 20 40 60 80 100m  
SCALE A (1"=100')

DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

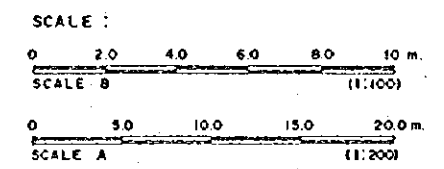
DWG. 4.14  
JETTY-LANDING STAGE



PLAN  
SCALE A

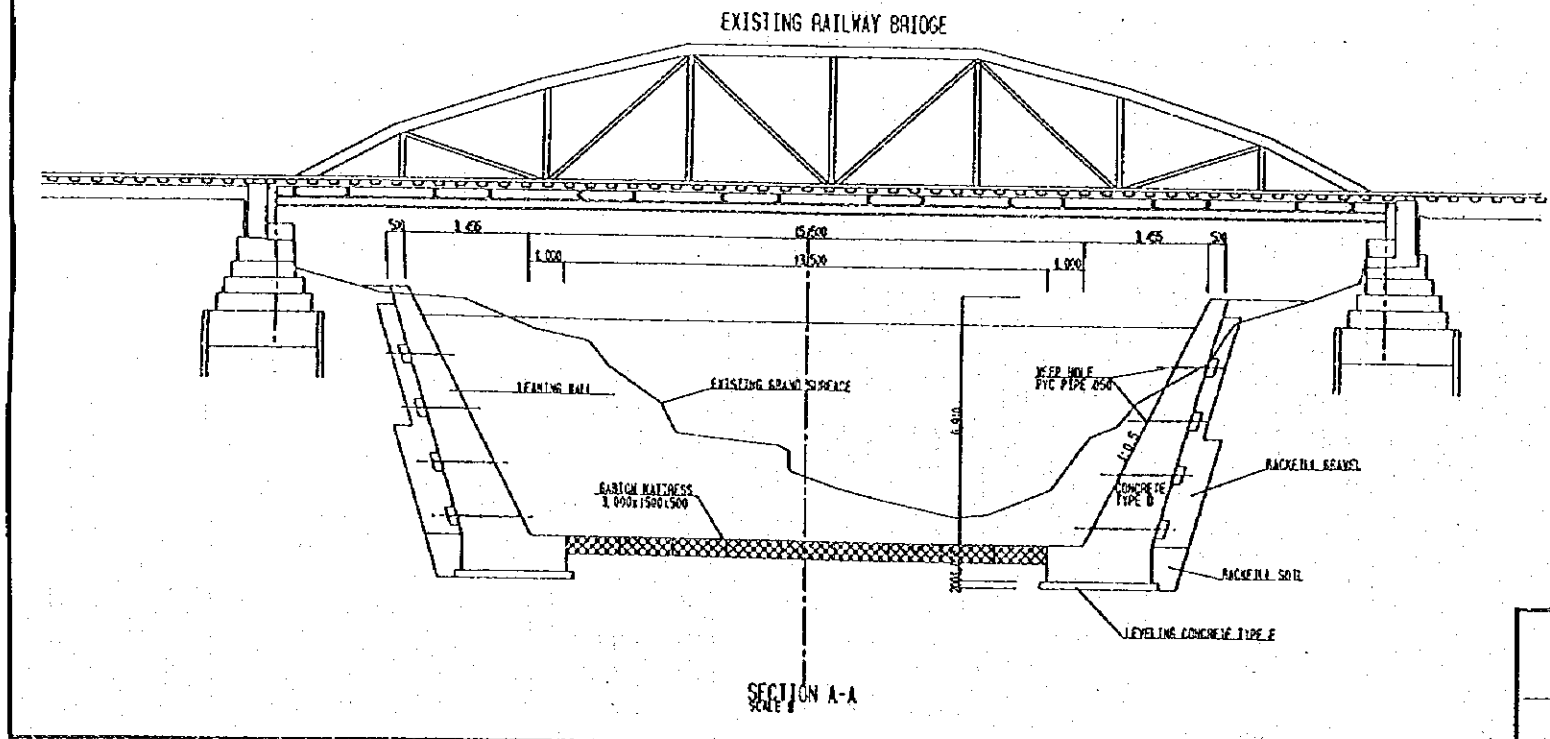
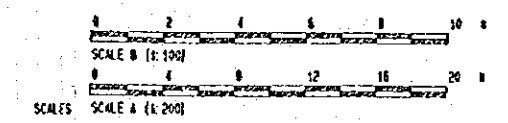
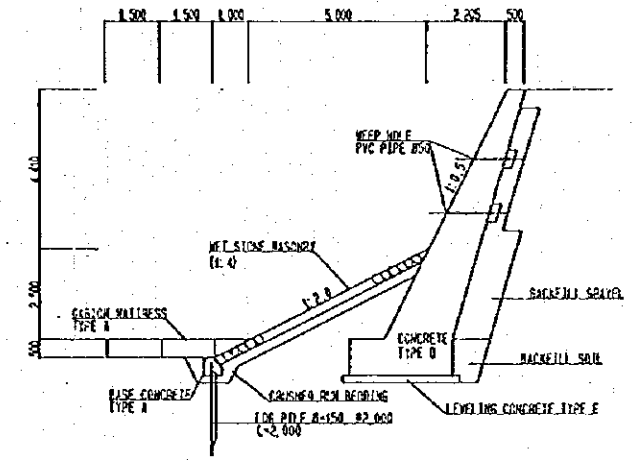
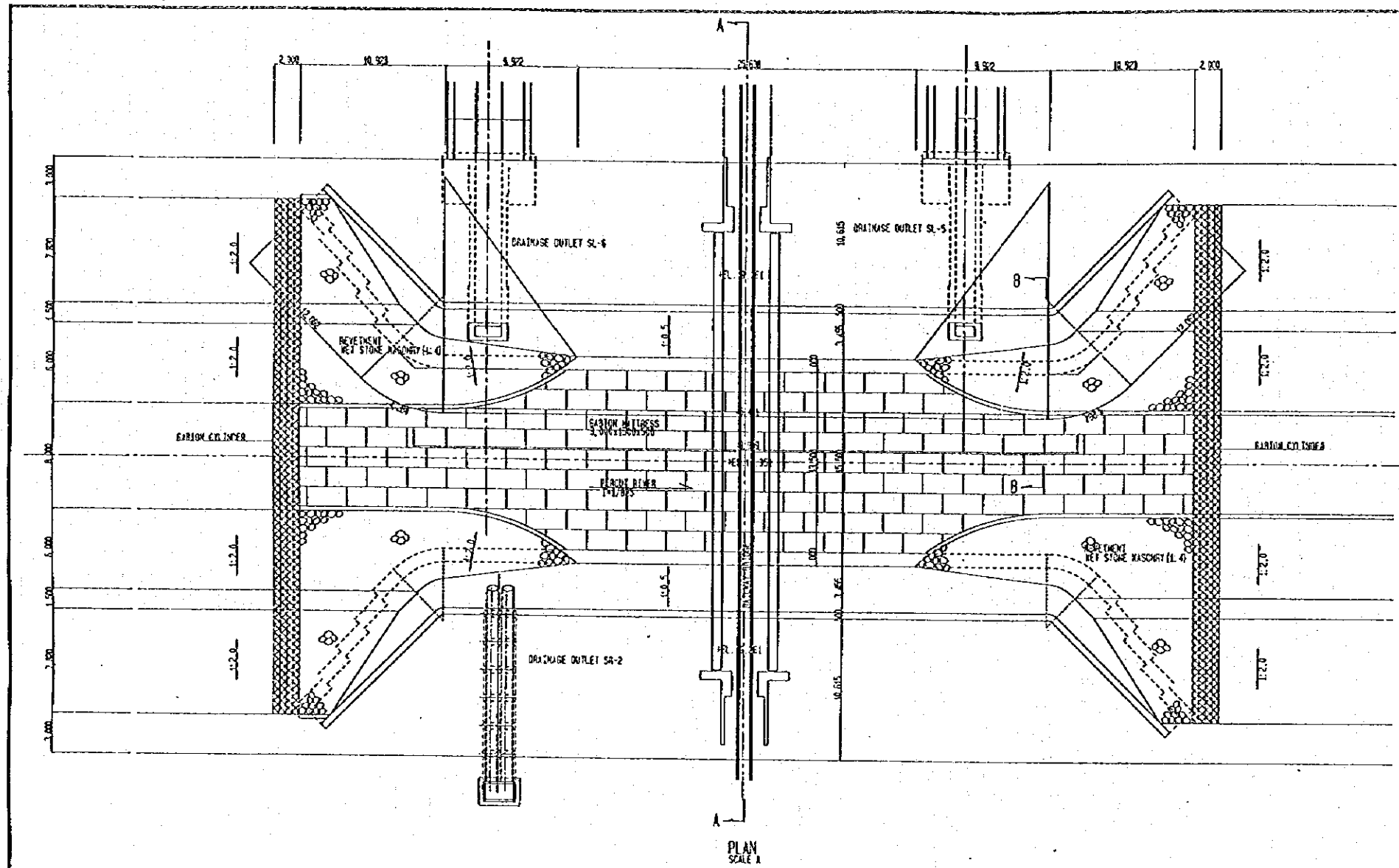


PROFILE  
SCALE B



DETAILED DESIGN STUDY ON  
 MEDAN FLOOD CONTROL PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 4.15  
 BRIDGE PROTECTION WORKS  
 FOR TITI RUNTUH BRIDGE

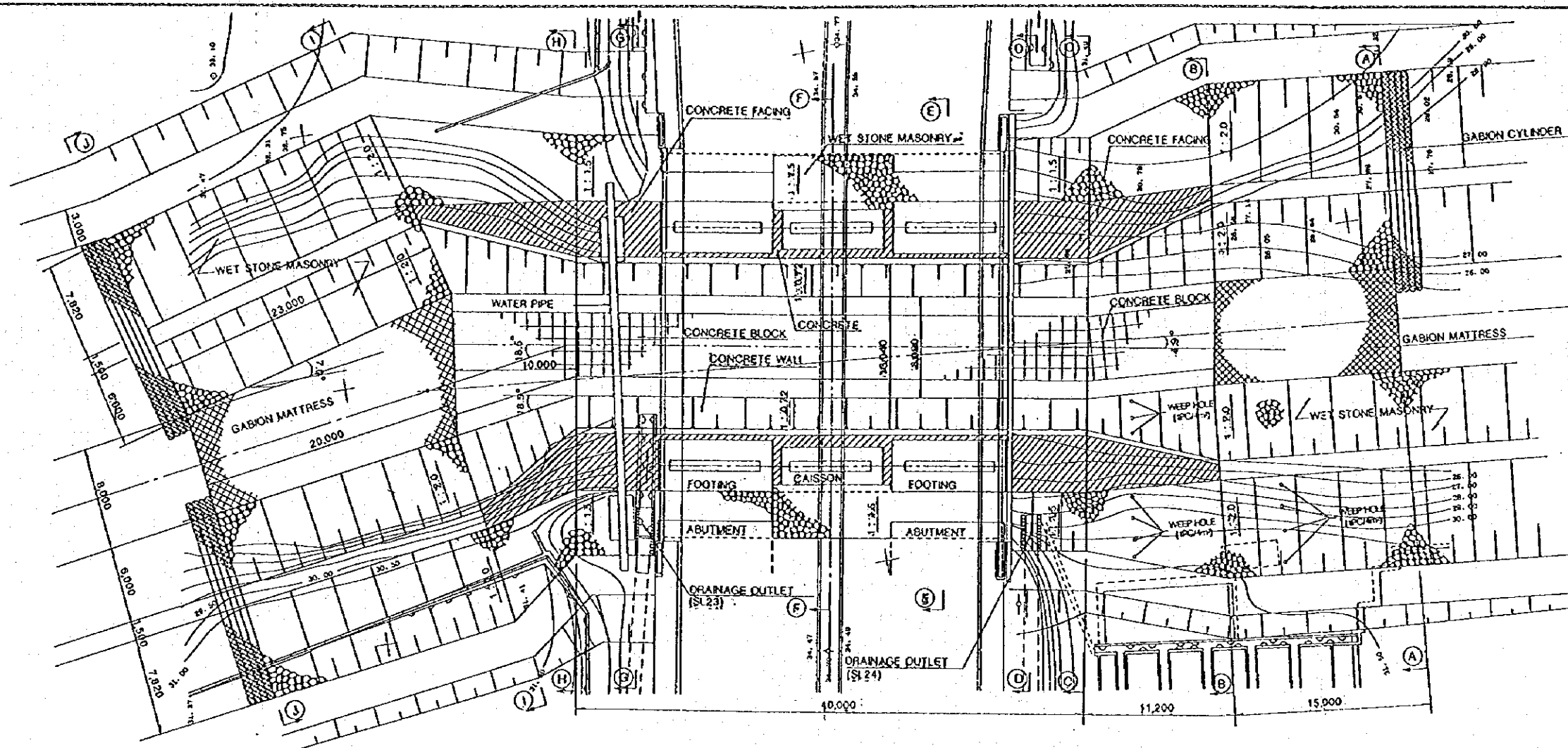


DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT

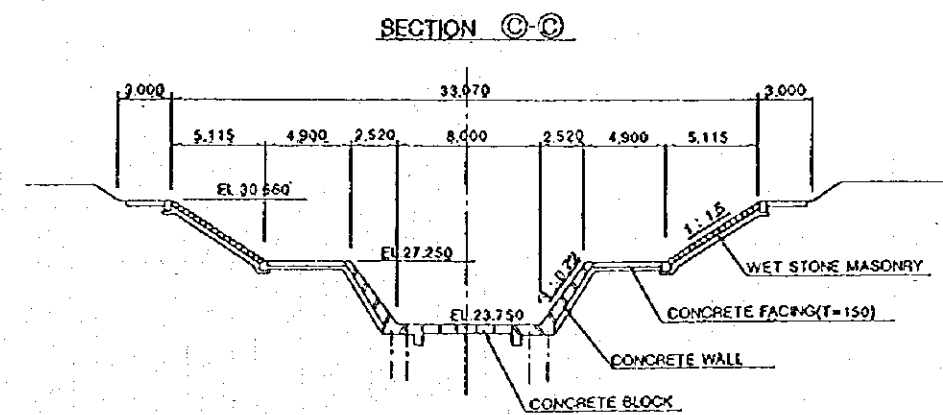
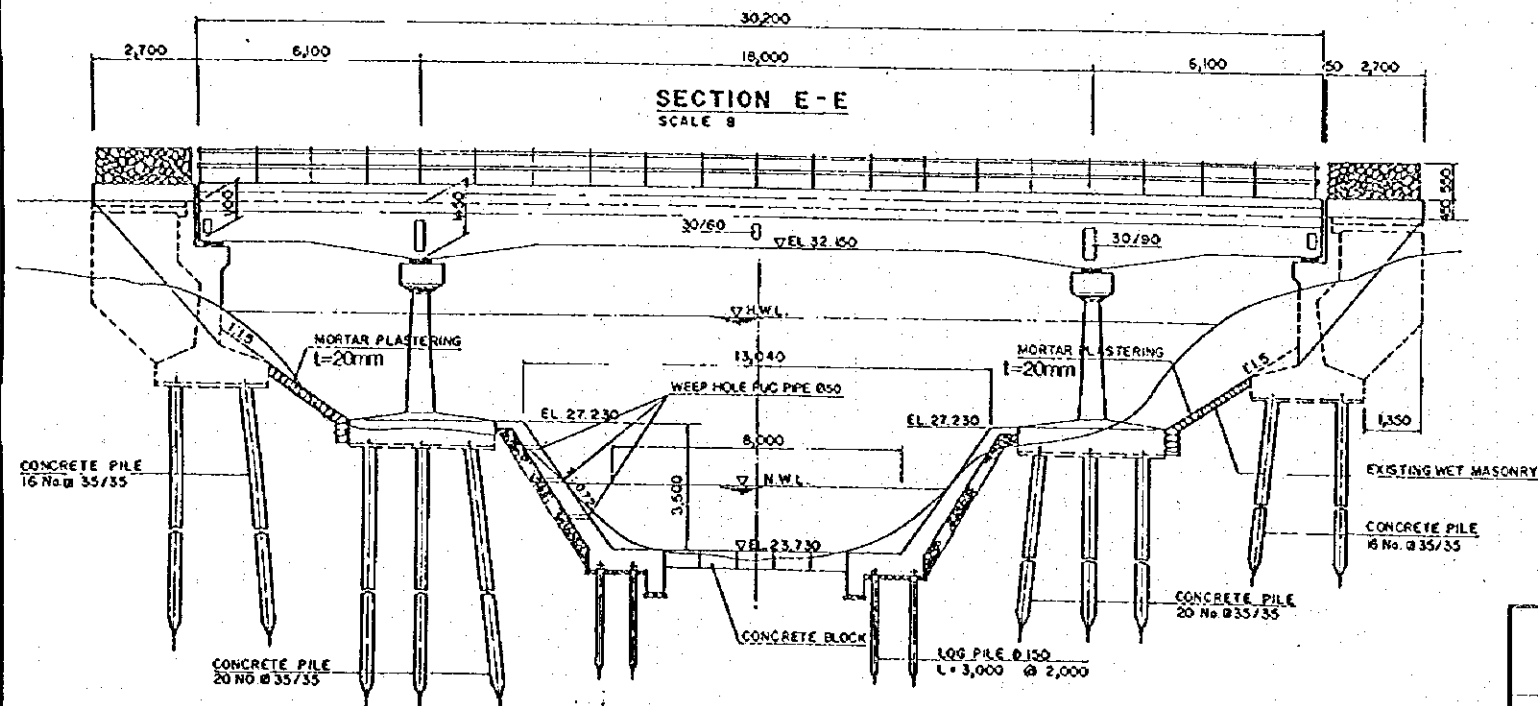
DWG. 4.16  
BRIDGE PROTECTION WORKS  
FOR RAILWAY BRIDGE

JAPAN INTERNATIONAL COOPERATION AGENCY





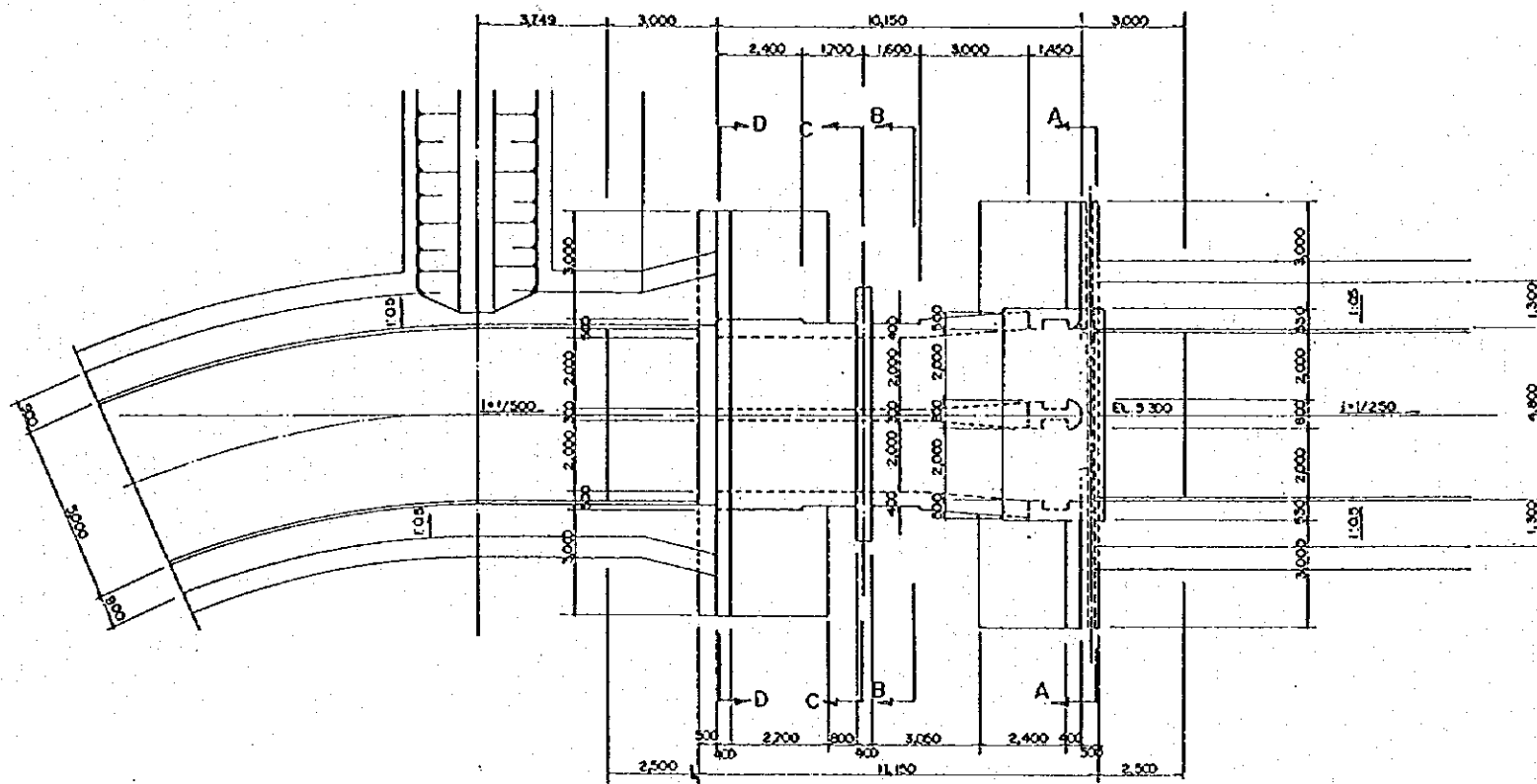
PLAN  
SCALE 1 : 200



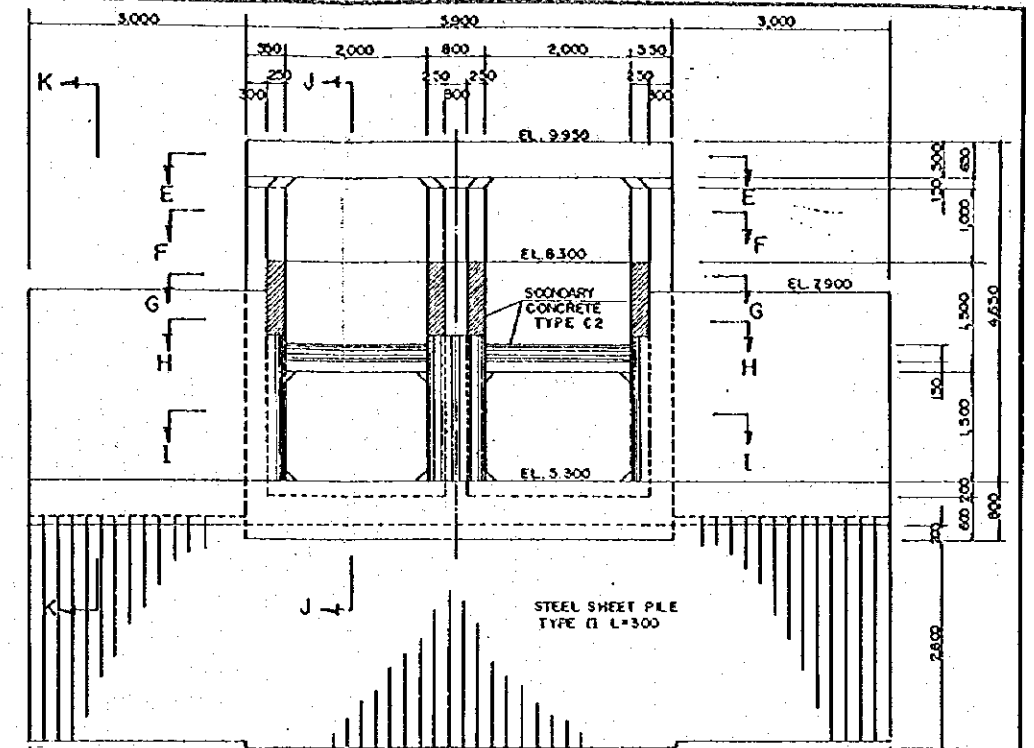
SCALE  
0 5 10 15 20m  
SCALE 1 : 400

DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

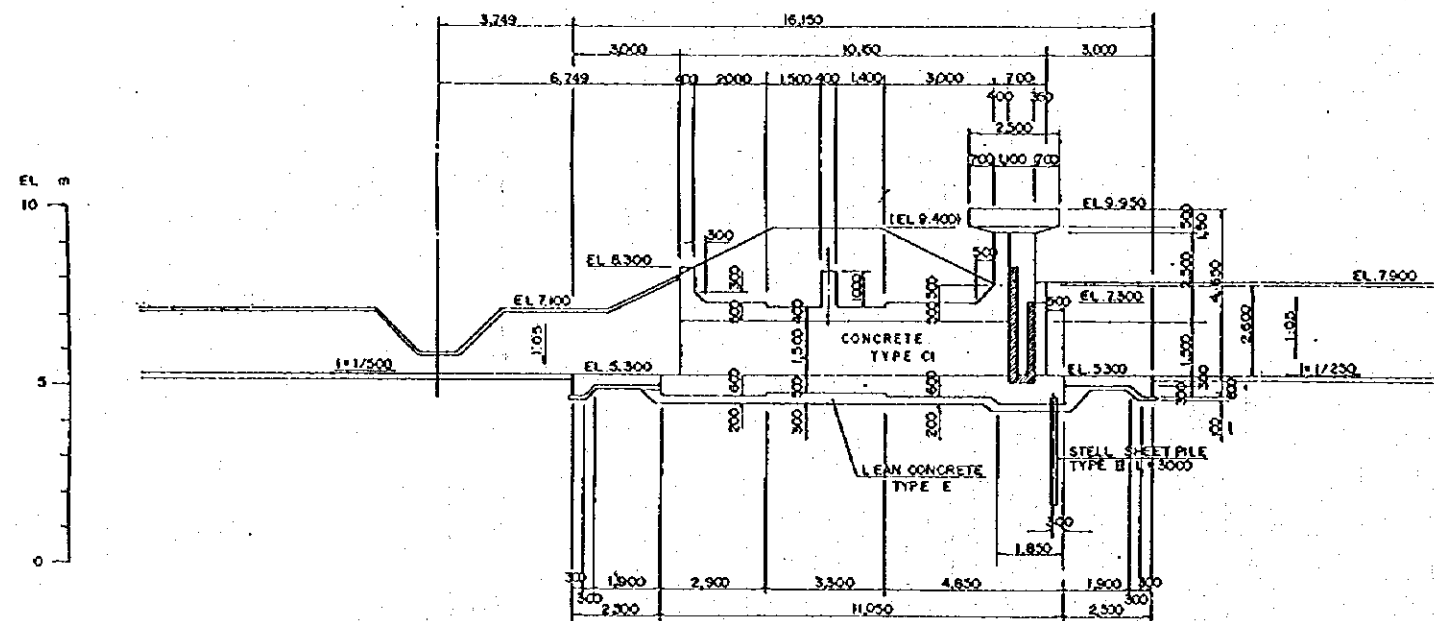
DWG. 4.17  
BRIDGE PROTECTION WORKS  
FOR NATIONAL ROAD BRIDGE



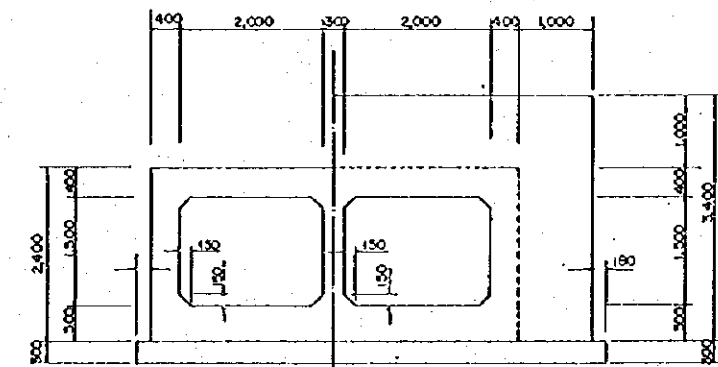
PLAN  
SCALE A



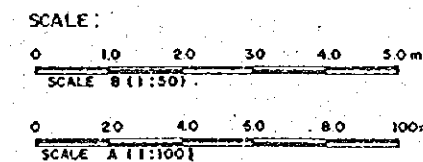
SECTION A-A  
SCALE B



PROFILE  
SCALE A

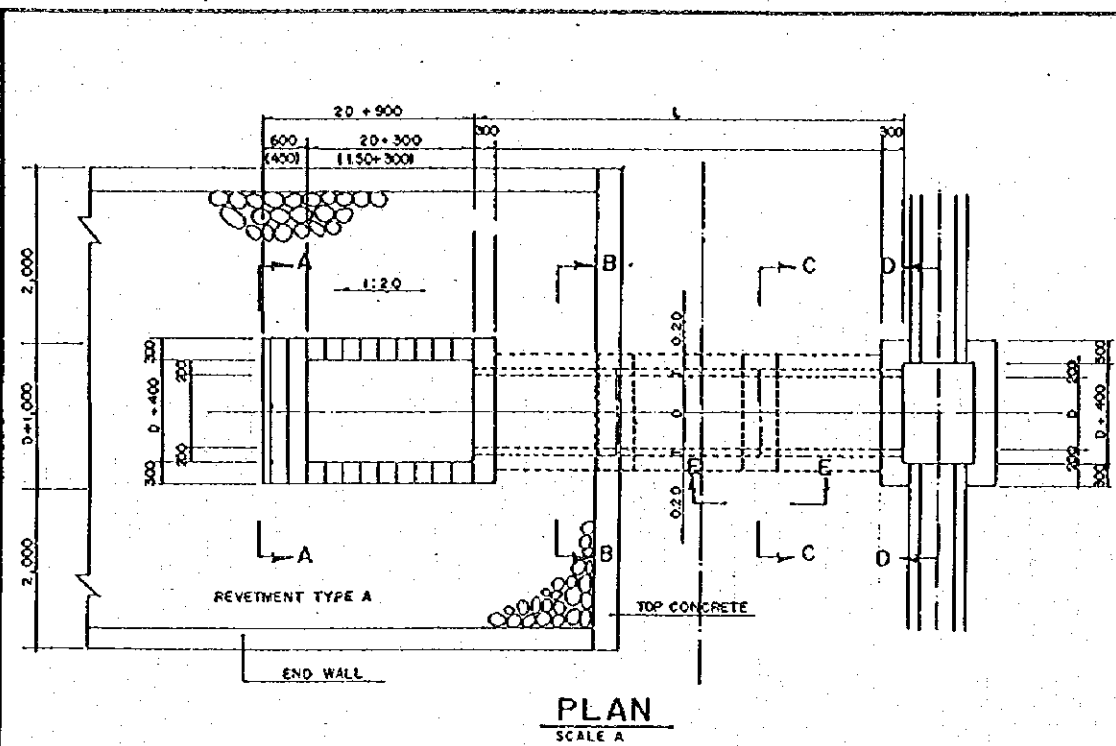


SECTION B-B SECTION C-C  
SCALE B

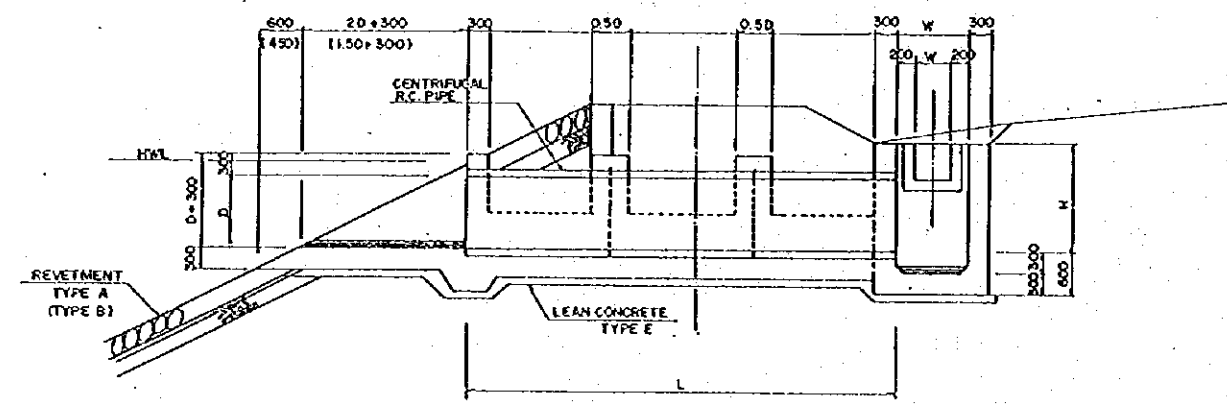


DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 4.18  
BOX CULVERT WITH GATES, (SL-2), PLAN

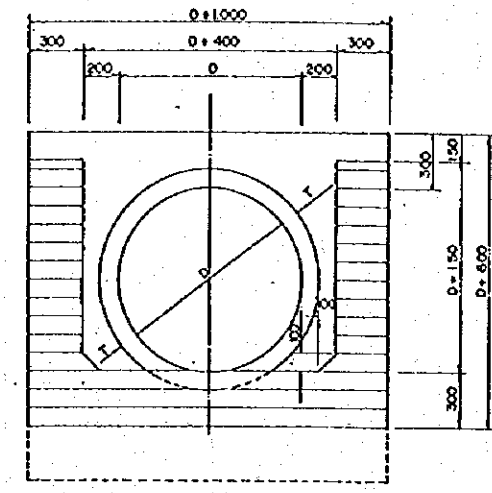


**PLAN**  
SCALE A

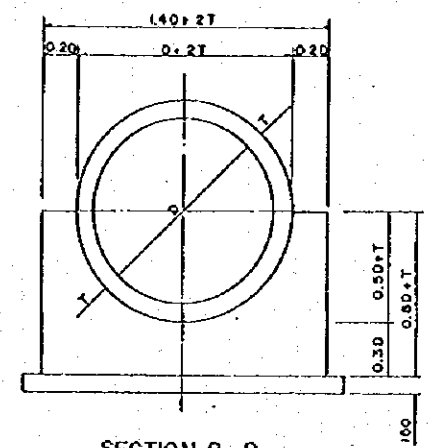


**PROFILE**  
SCALE A

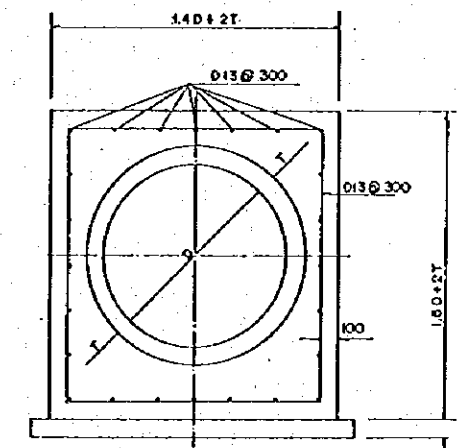
D(mm)	T(mm)
1000	82
800	66
600	50



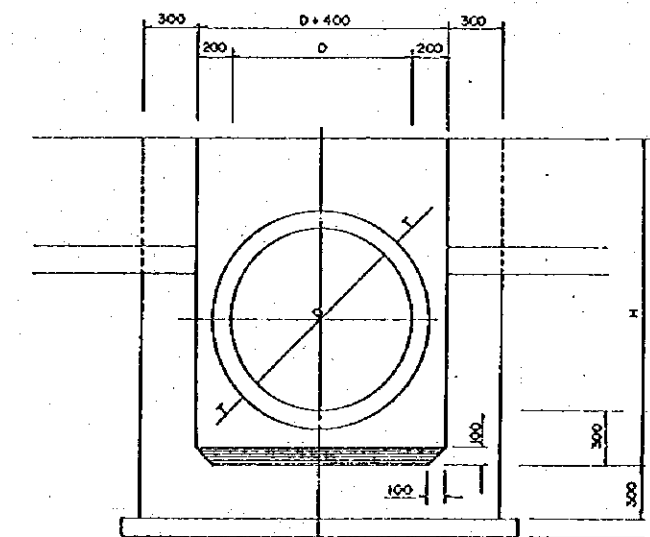
**SECTION A-A**  
SCALE B



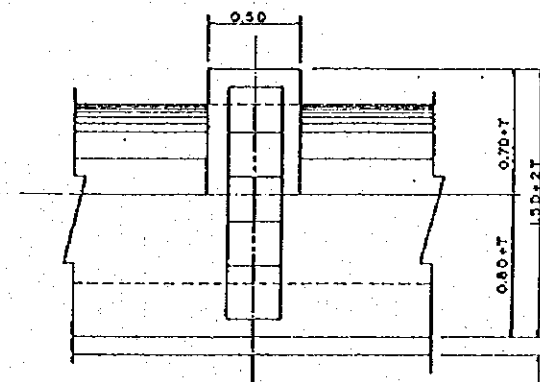
**SECTION B-B**  
SCALE B



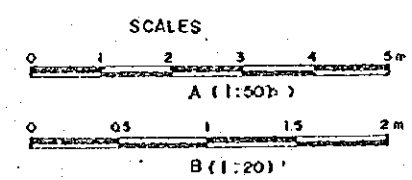
**SECTION C-C**  
SCALE B



**SECTION D-D**  
SCALE B



**SECTION E-E**  
SCALE B

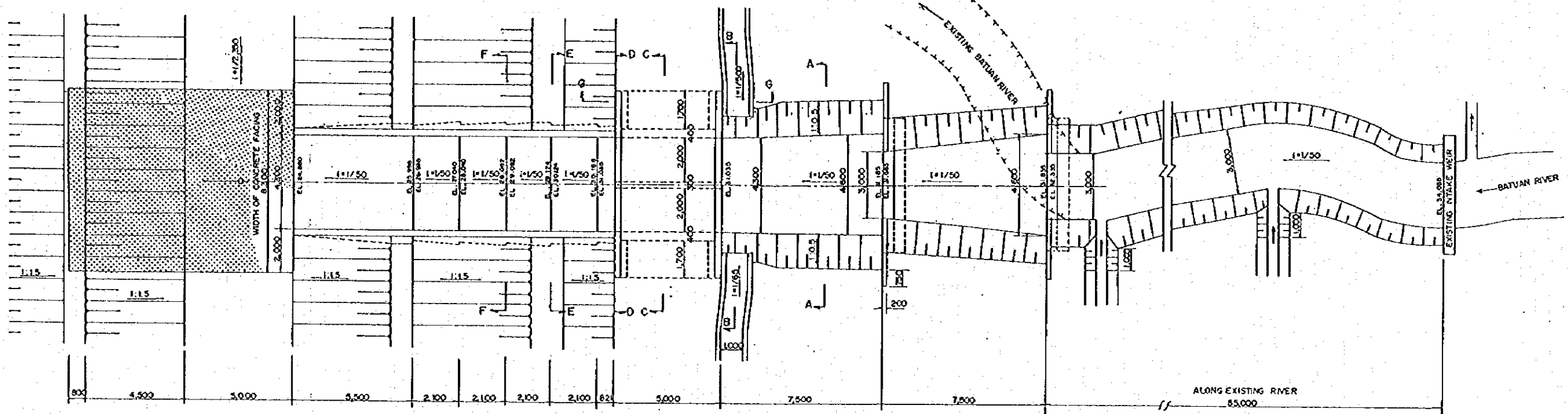


DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT

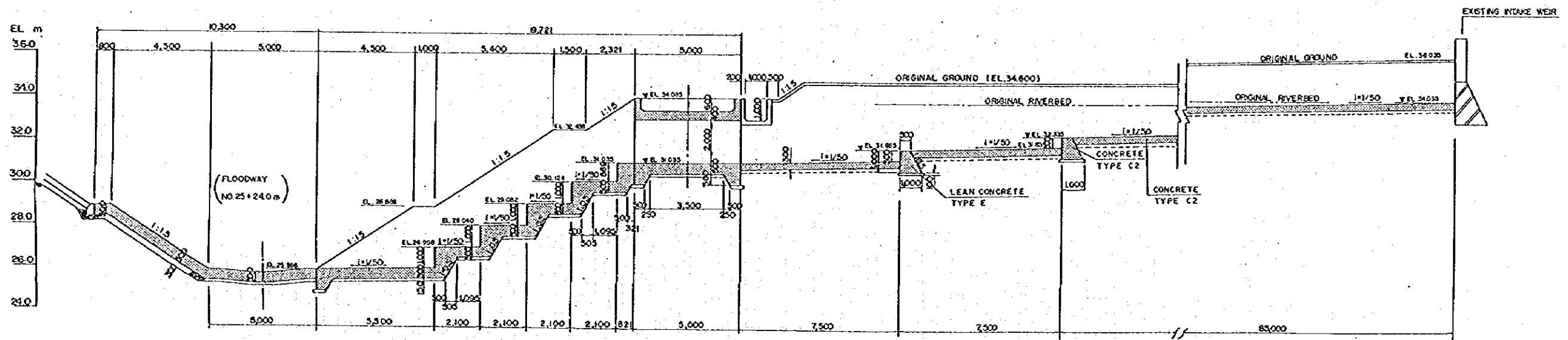
DWG. 4.19  
STANDARD DESIGN OF PIPE CULVERT,  
SINGLE PIPE CULVERT

JAPAN INTERNATIONAL COOPERATION AGENCY

DRAINAGE SF5 (BATUAN RIVER) AT RIGHT BANK OF FLOODWAY(1/2)



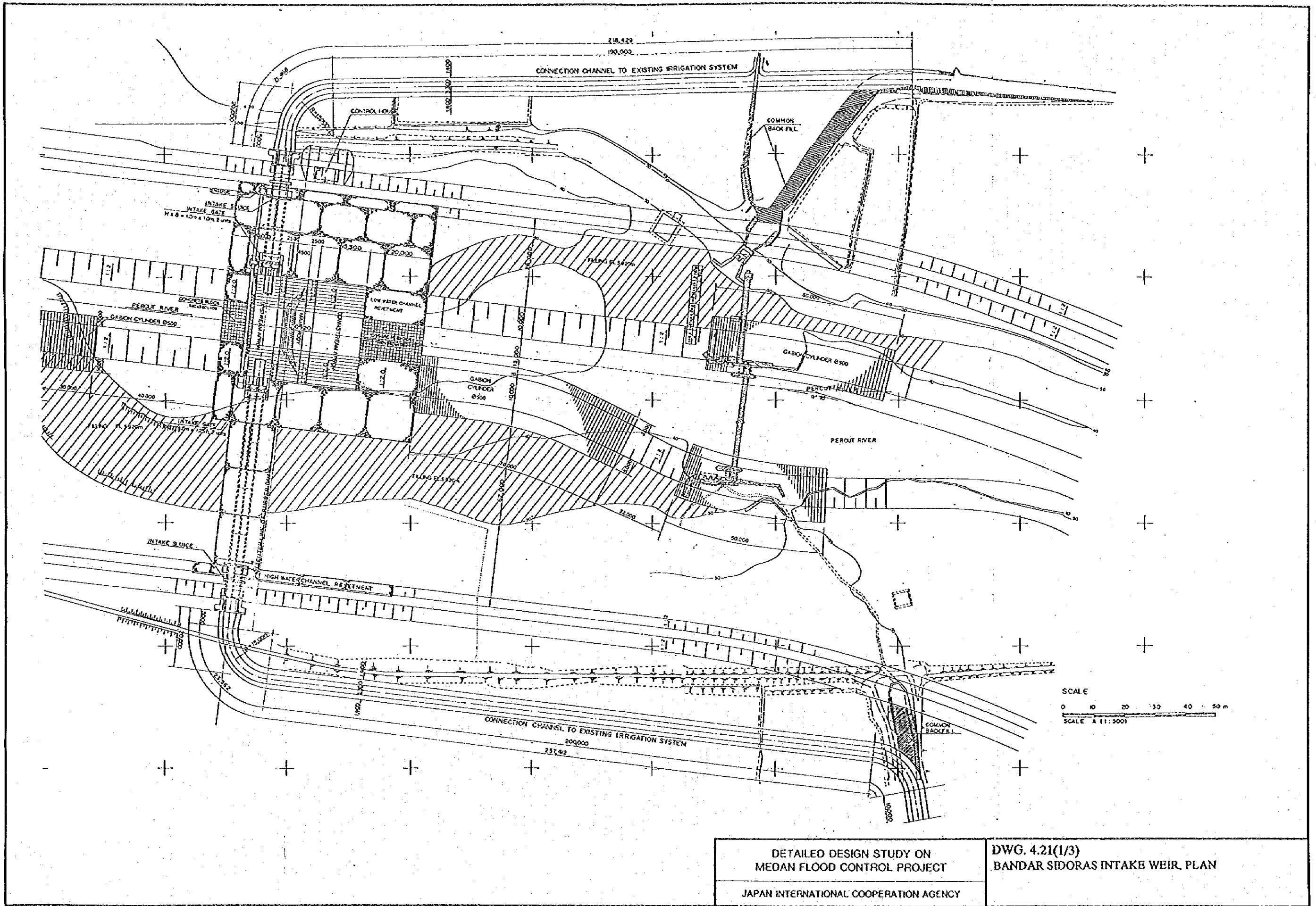
PLAN



PROFILE

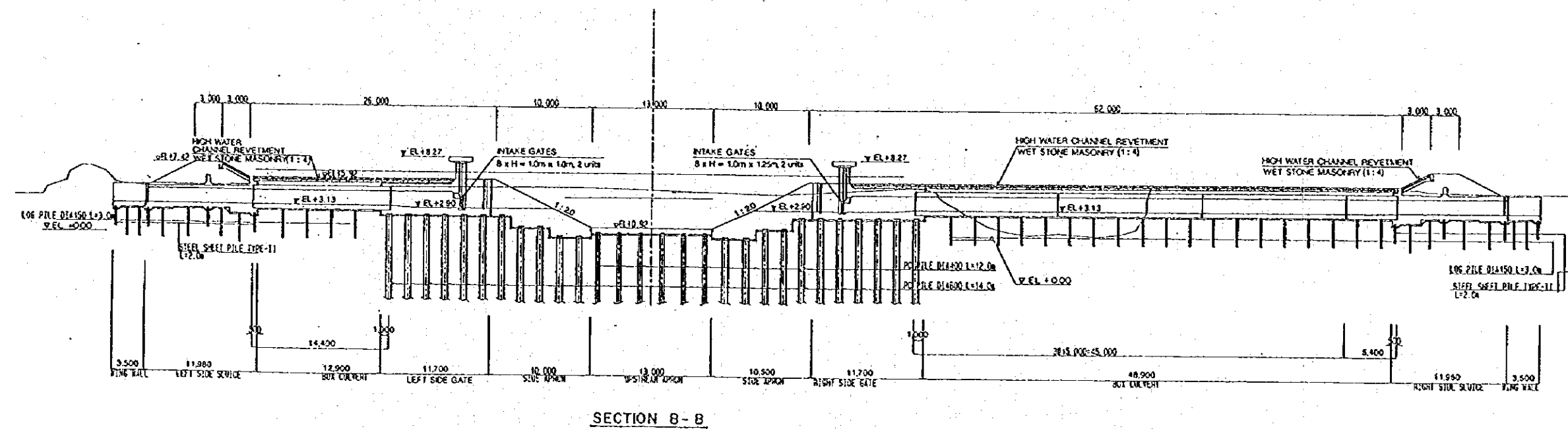
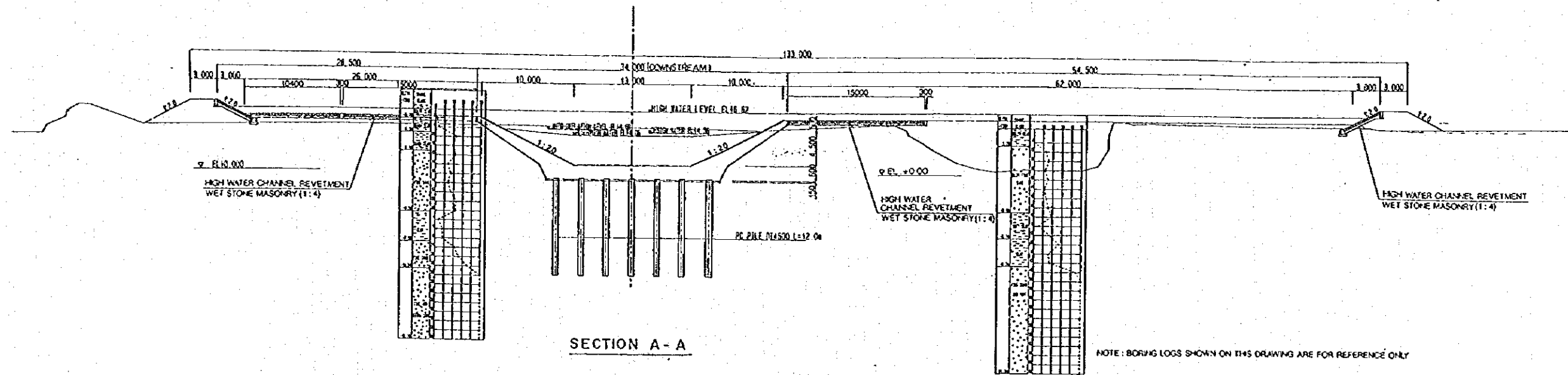
SCALE  
 0 20 40 60 80 100m  
 SCALE 1: 200

DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	DWG. 4.20 CONFLUENCE TREATMENT OF BATUAN RIVER
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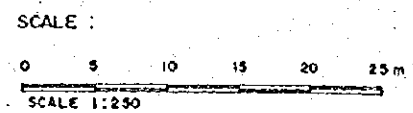


DETAILED DESIGN STUDY ON  
 MEDAN FLOOD CONTROL PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY

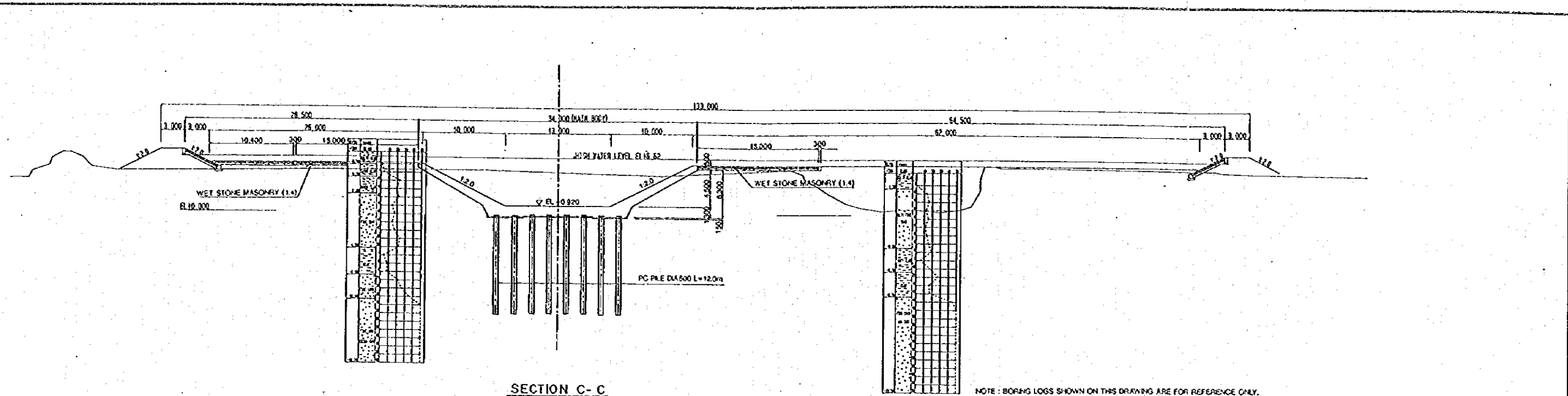
DWG. 4.21(1/3)  
 BANDAR SIDORAS INTAKE WEIR, PLAN



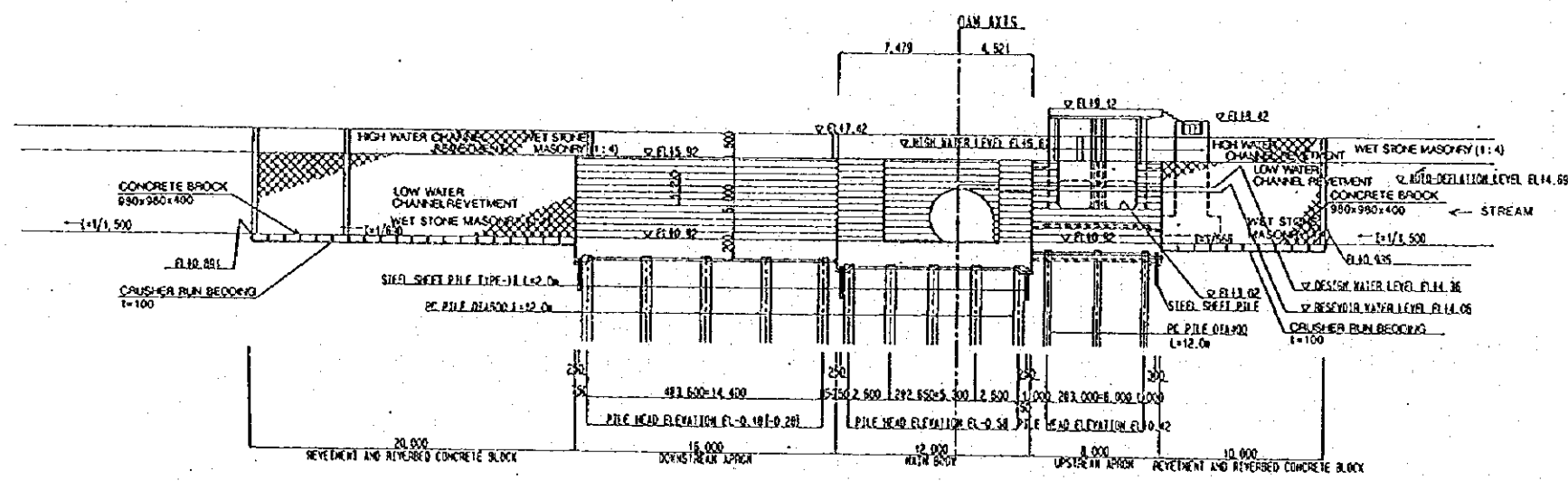
RUBBER DAM PROFILE AND SECTIONS(1/2)



<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.21(2/3) BANDAR SIDORAS INTAKE WEIR, SECTIONS</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	

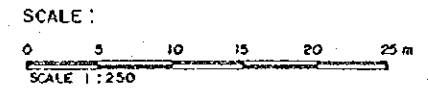


SECTION C-C

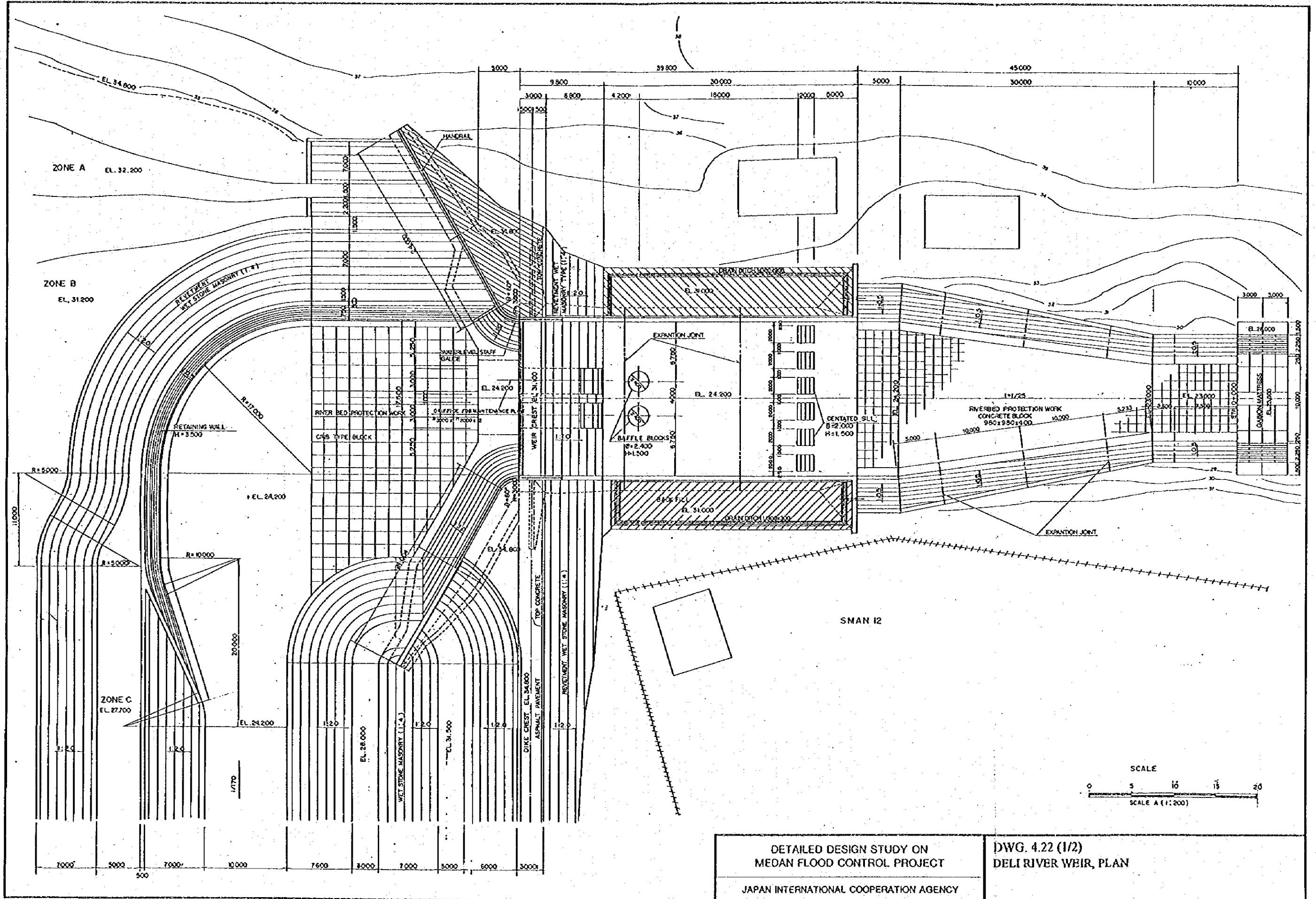


SECTION D-D

RUBBER DAM PROFILE AND SECTIONS(2/2)



<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.21(3/3) BANDAR SIDORAS INTAKE WEIR, PROFILE</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	

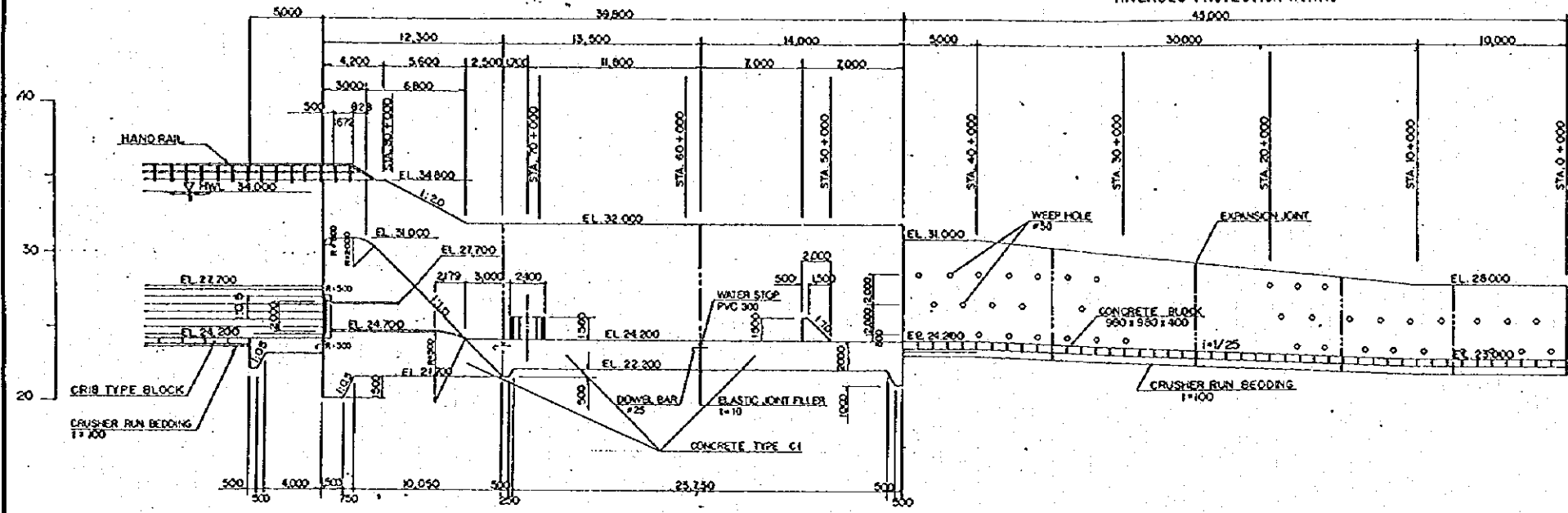


DETAILED DESIGN STUDY ON  
 MEDAN FLOOD CONTROL PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY

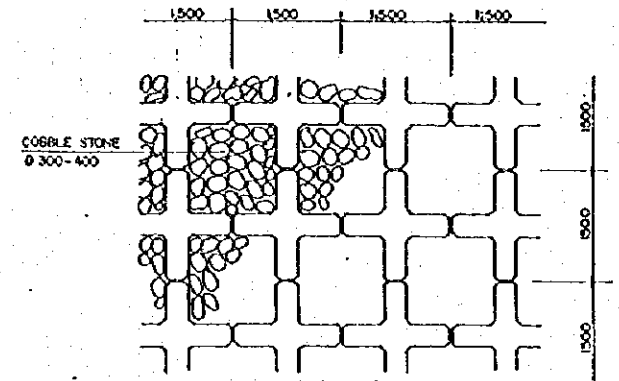
DWG. 4.22 (1/2)  
 DELI RIVER WEIR, PLAN



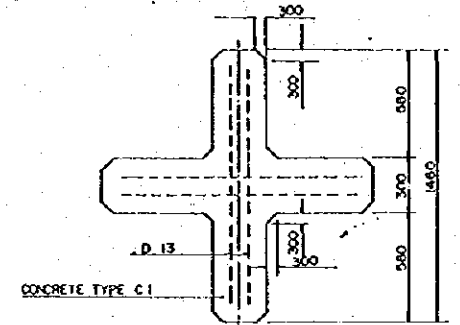
RIVERBED PROTECTION WORKS



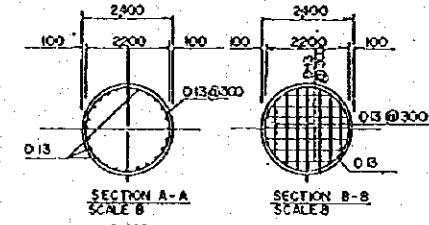
PROFILE  
SCALE A



LAY OUT PLAN  
SCALE 0

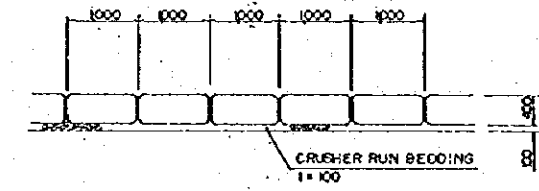


DETAIL OF CRIB TYPE BLOCK  
SCALE E

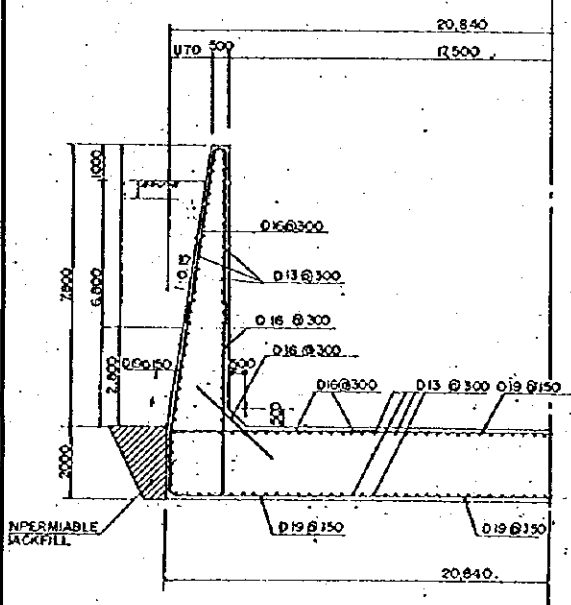


SECTION A-A  
SCALE B

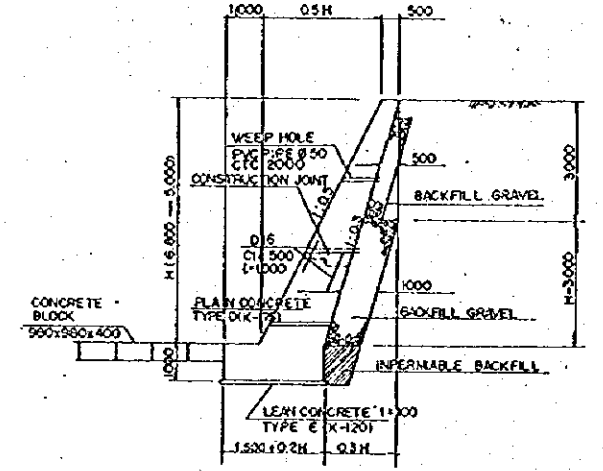
SECTION B-B  
SCALE B



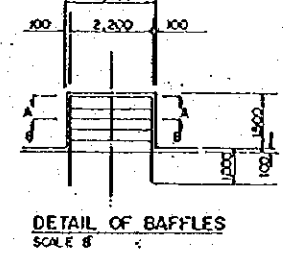
ELEVATION  
SCALE D



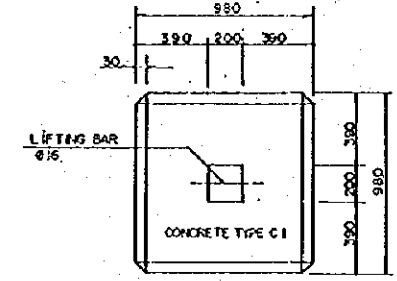
DETAIL OF APRON  
SCALE B



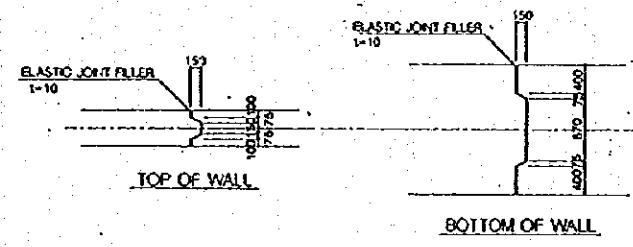
DETAIL OF RETAINING WALL FOR  
DOWNSTREAM CHANNEL WORK  
SCALE B



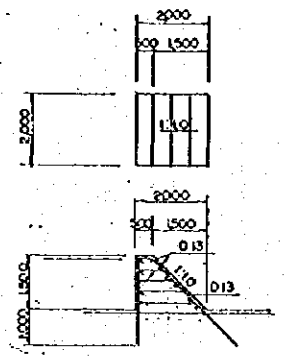
DETAIL OF BAFFLES  
SCALE B



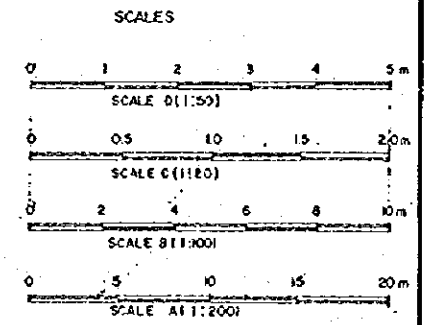
DETAILS OF CONCRETE BLOCK  
980x980x400  
SCALE C



DETAIL OF EXPANSION JOINT  
SCALE D

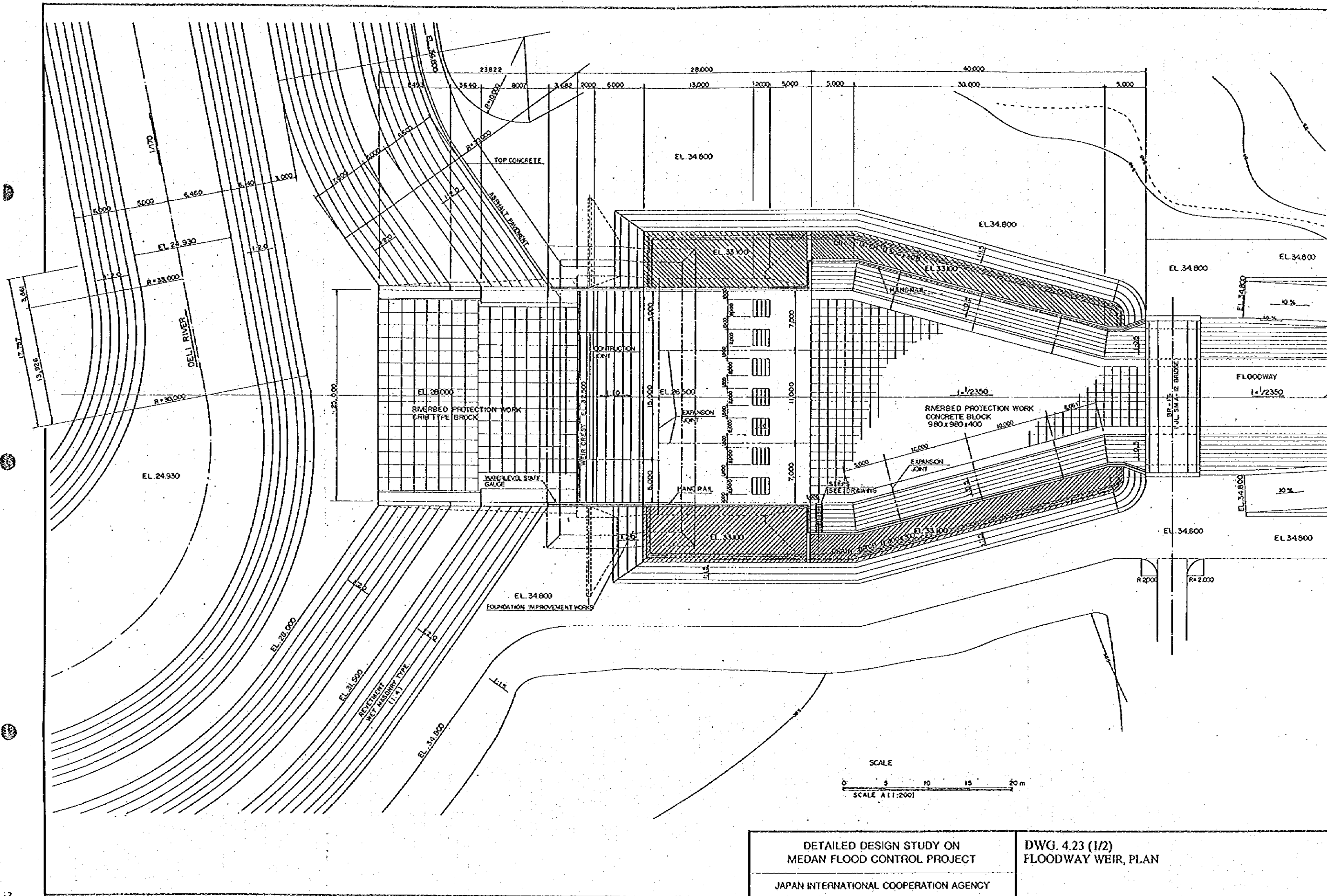


DETAIL OF DENTATED SILL  
SCALE B



DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

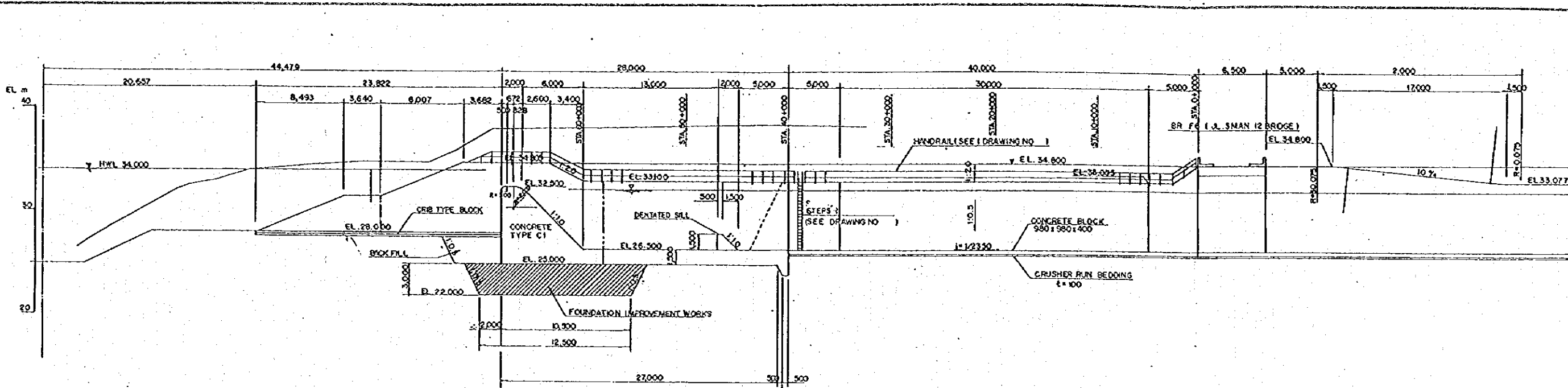
DWG. 4.22 (2/2)  
DELI RIVER WEIR, PROFILE AND SECTION



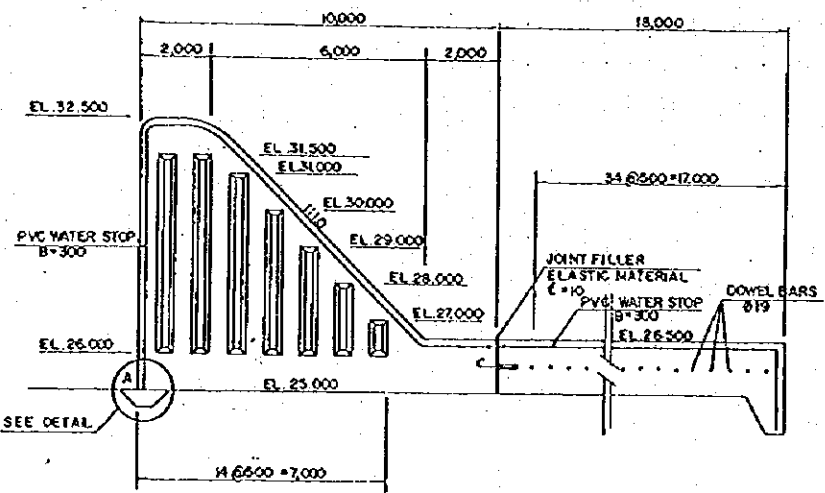
DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

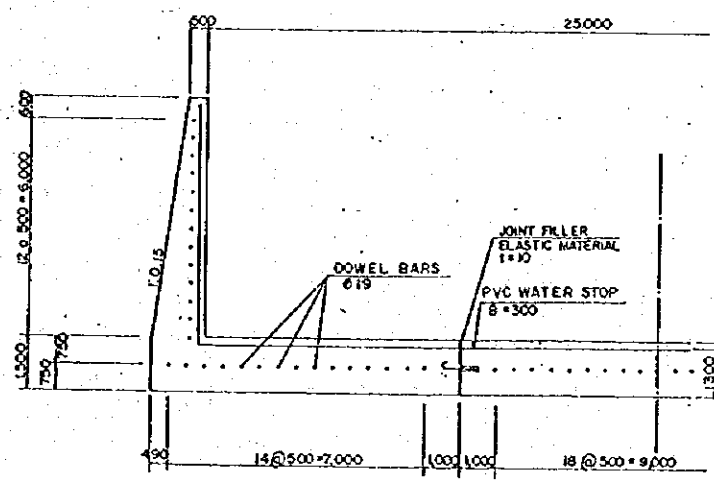
DWG. 4.23 (1/2)  
FLOODWAY WEIR, PLAN



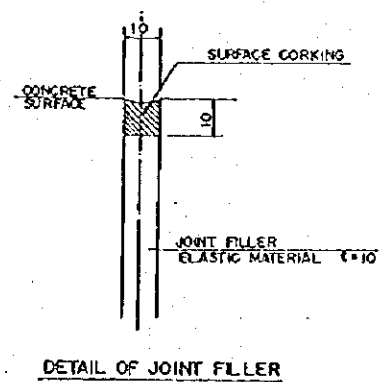
PLAN  
SCALE A



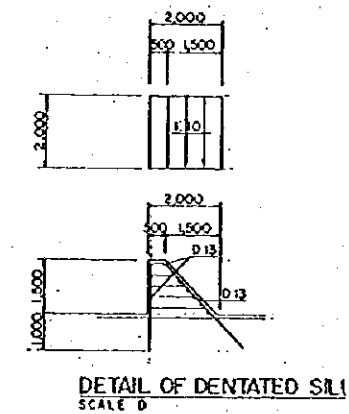
A-A  
KEY CONTRACTION JOINT & EXPANSION JOINT FOR APRON  
SCALE B



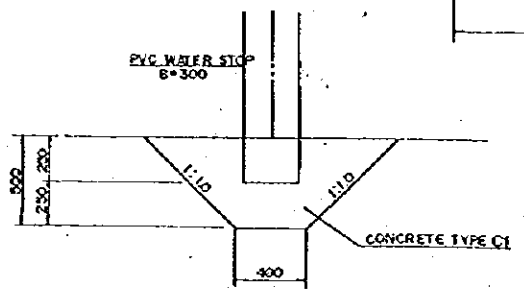
B-B  
EXPANSION JOINT FOR APRON  
SCALE B



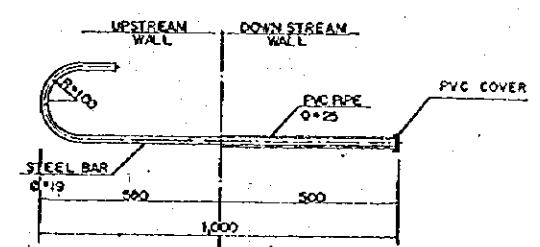
DETAIL OF JOINT FILLER



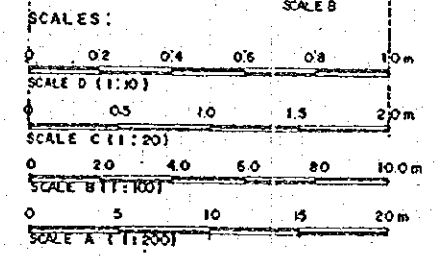
DETAIL OF DENTATED SILL  
SCALE D



DETAIL A  
END OF WATER STOP  
SCALE C

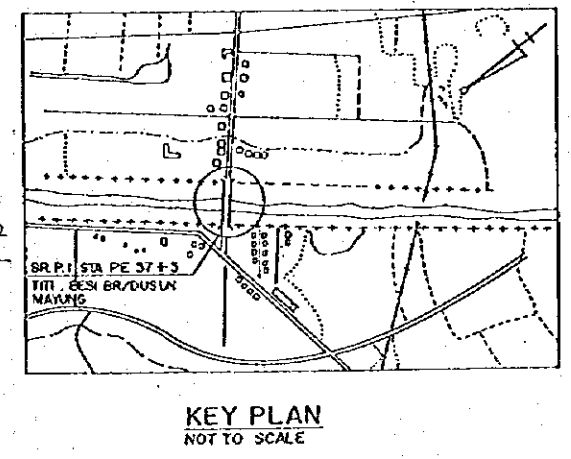
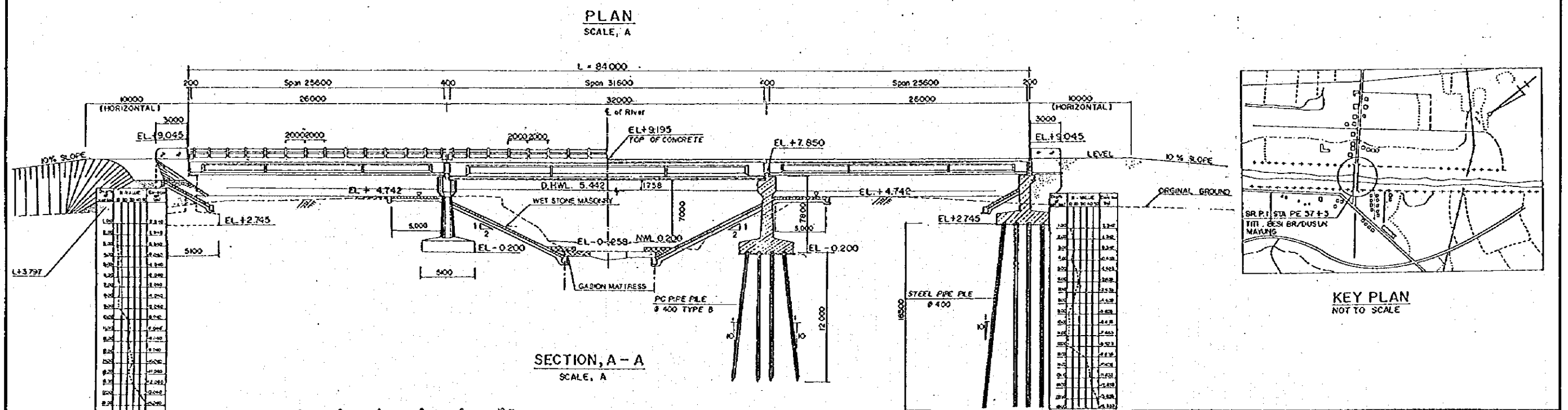
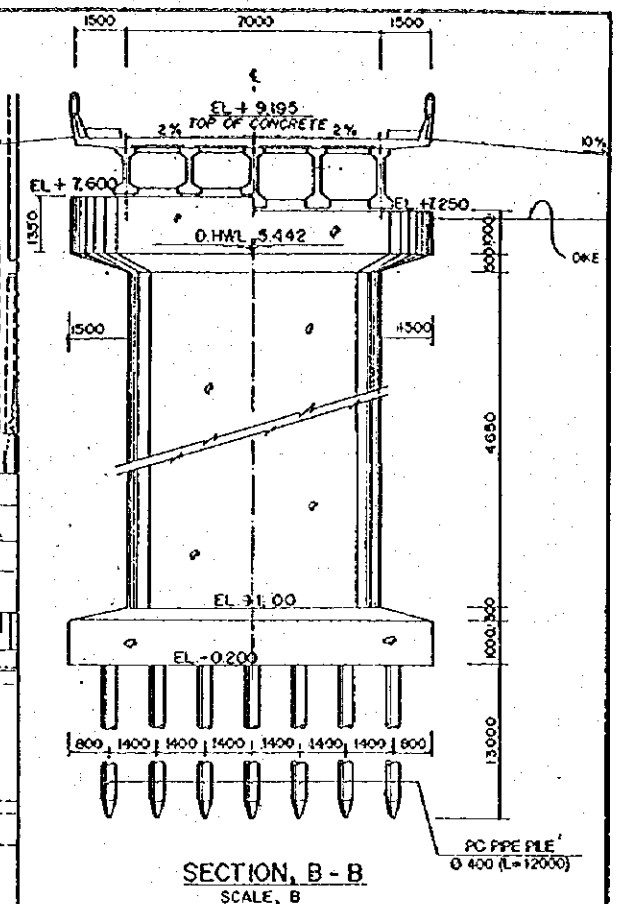
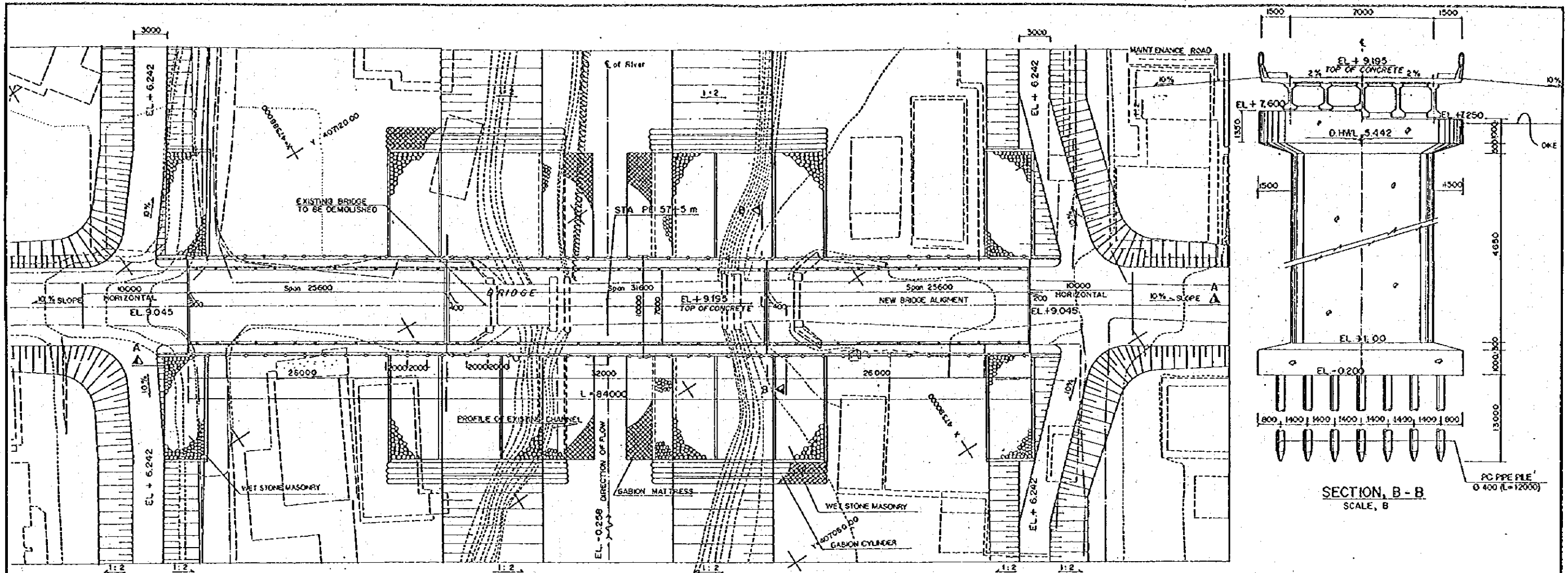


DETAIL OF DOWEL BAR  
SCALE B



DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

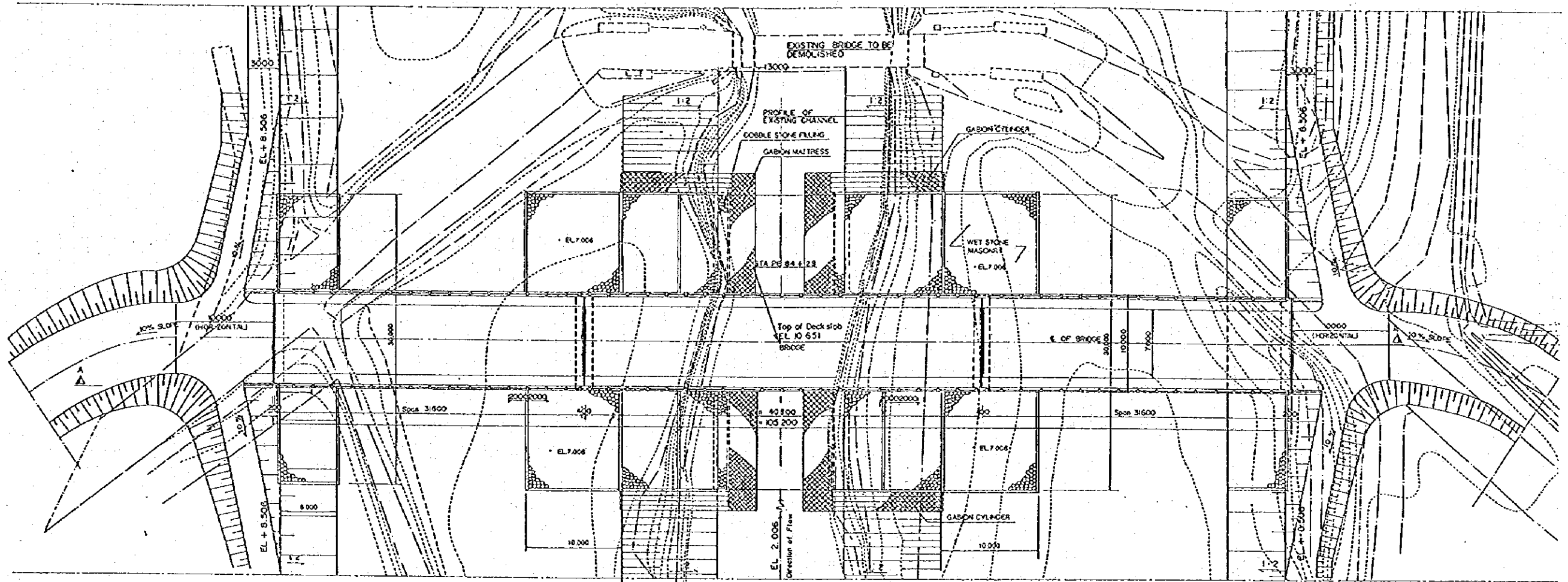
DWG. 4.23 (2/2)  
FLOODWAY WEIR, PROFILE AND SECTION



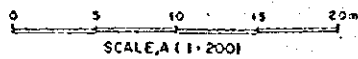
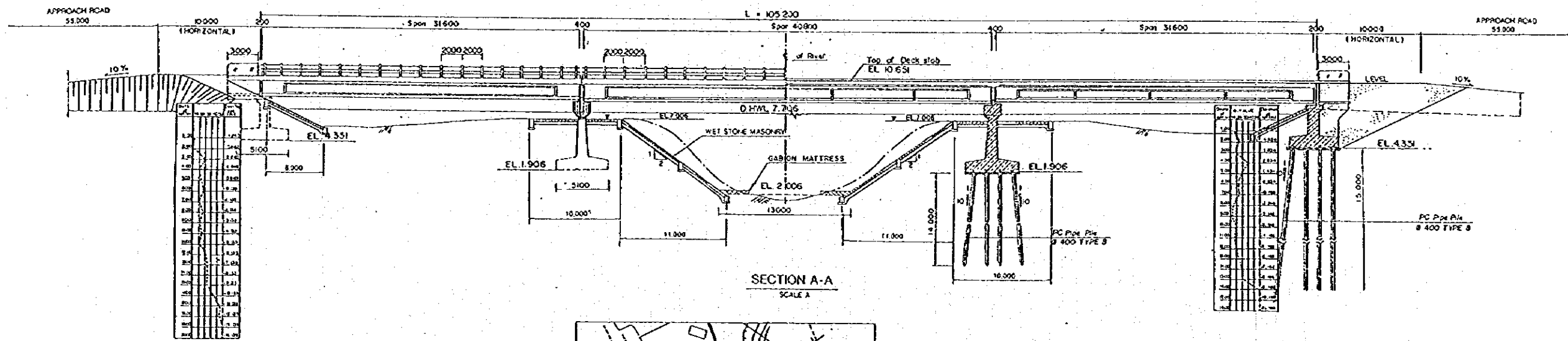
DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT

DWG. 4.24  
GENERAL PLAN OF TITI BESI BRIDGE (P1)

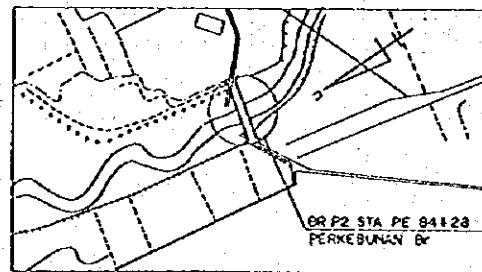
JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN  
SCALE, A

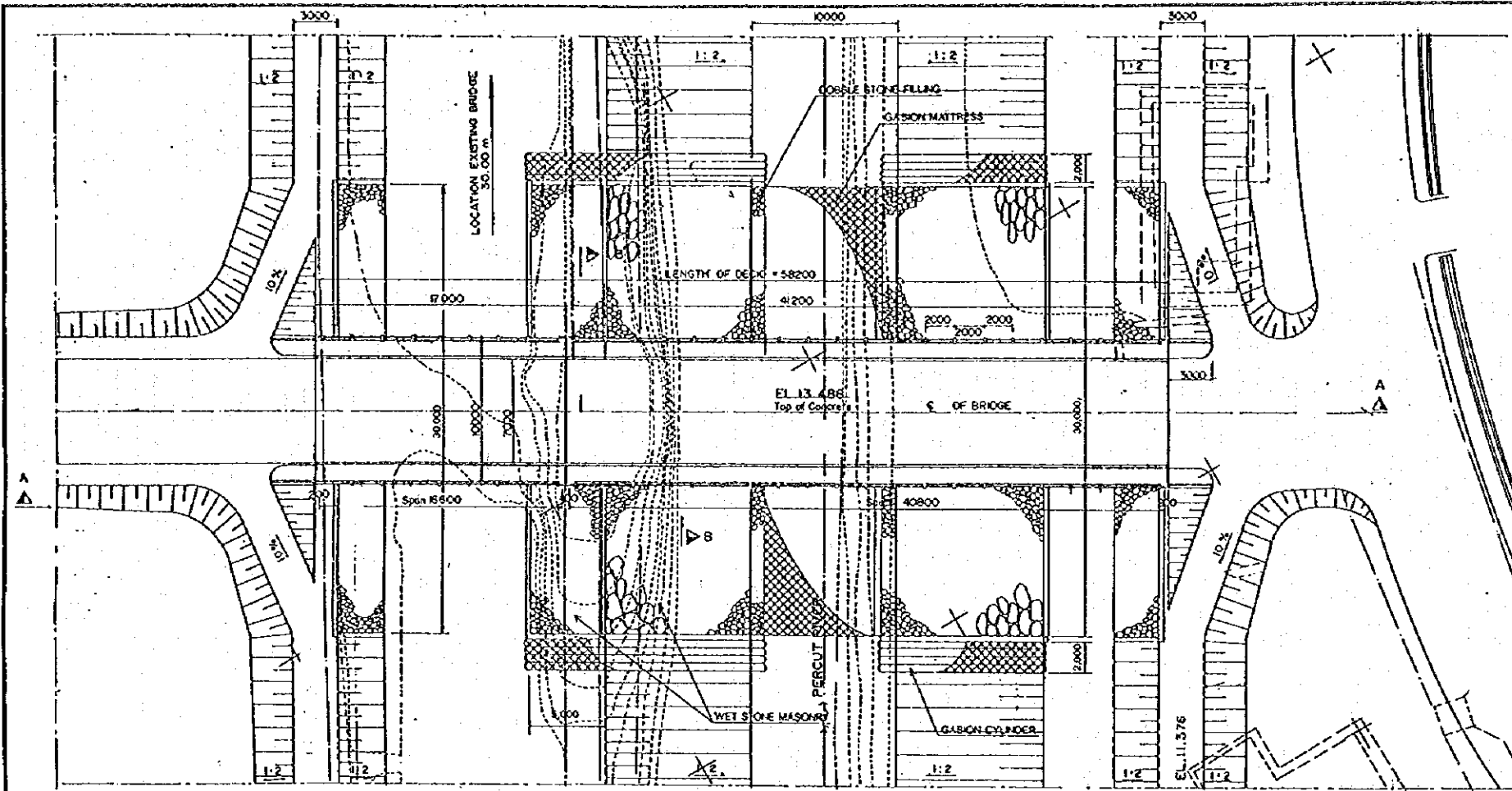


NOTE:  
BORING LOGS SHOWN ON THIS DRAWING ARE FOR REFERENCE ONLY.

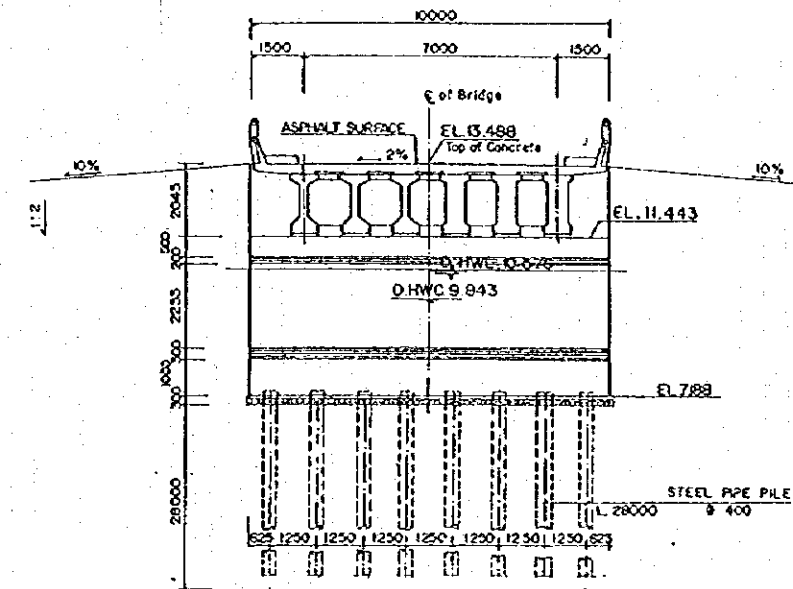


DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

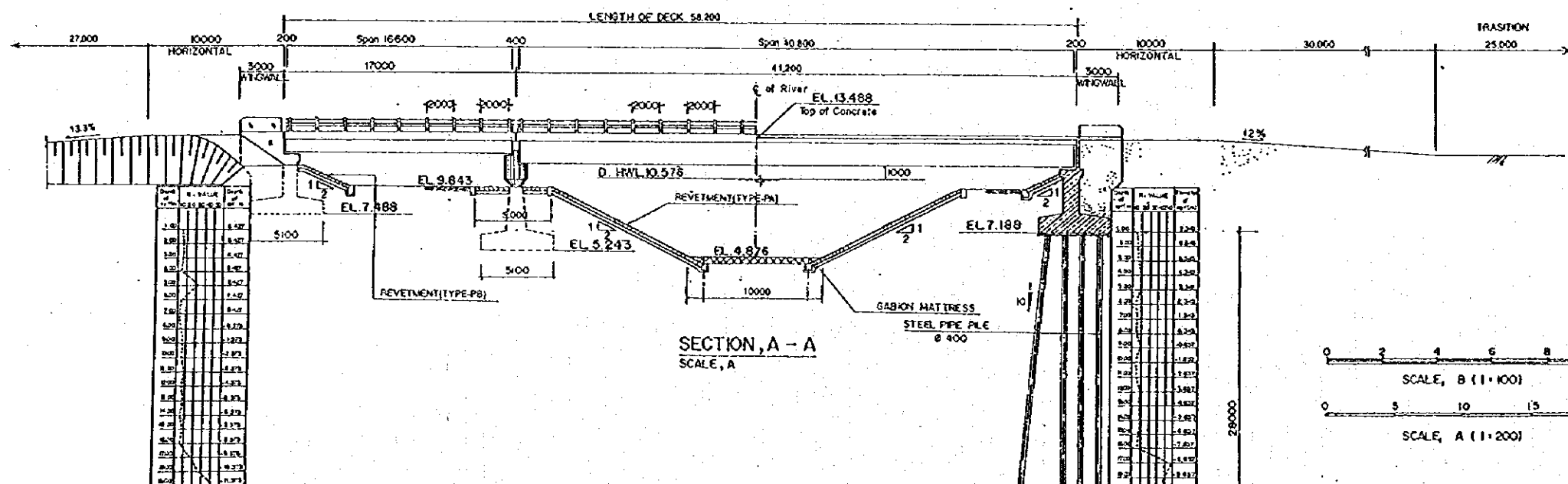
DWG. 4.25  
GENERAL PLAN OF PERKEBUNAN BRIDGE (P2)



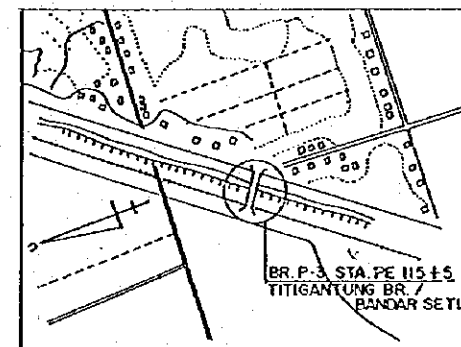
PLAN  
SCALE, A



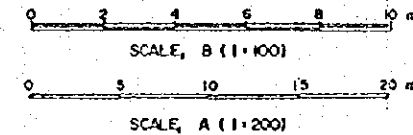
SECTION, B - B  
SCALE, B



SECTION, A - A  
SCALE, A

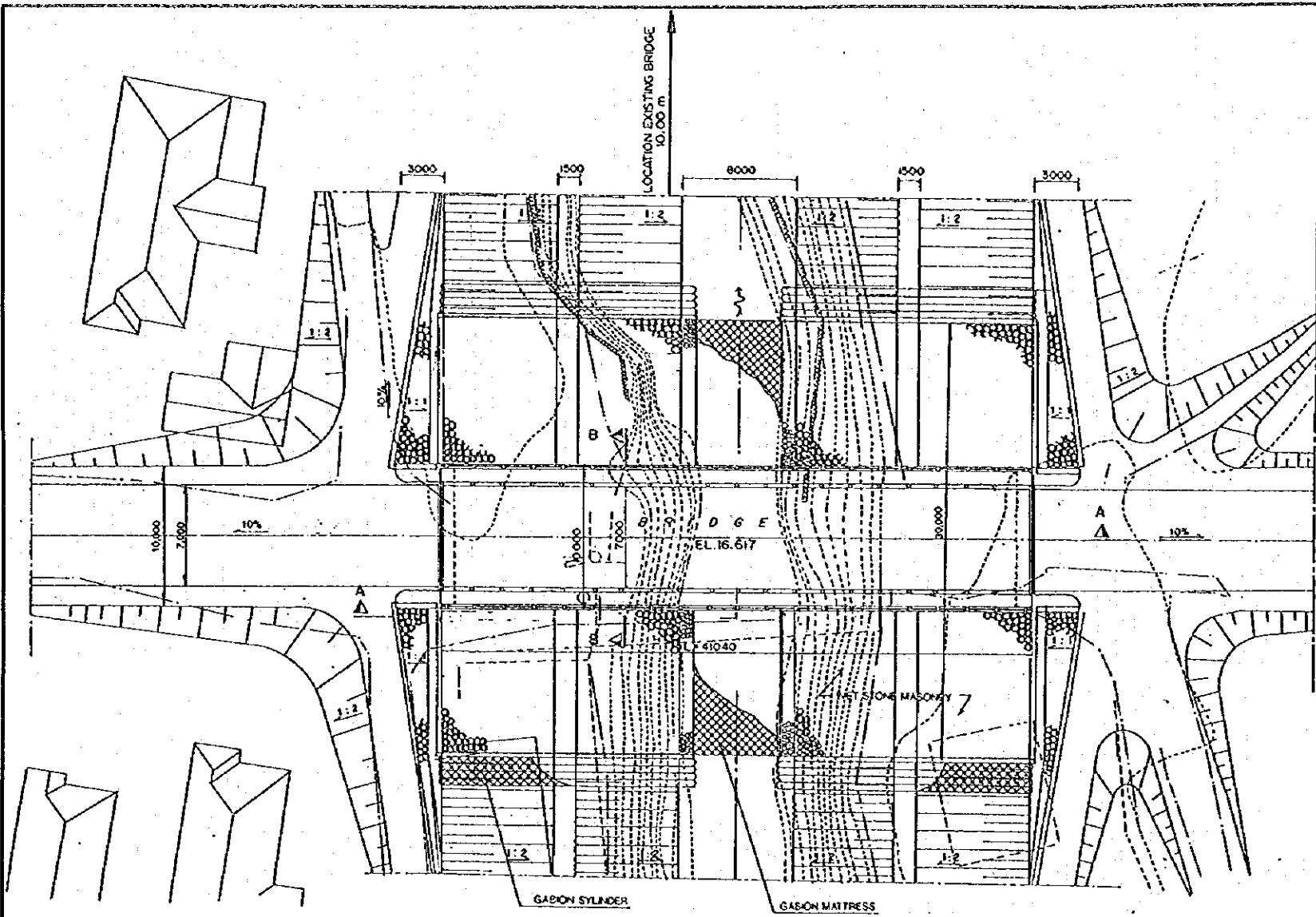


KEY PLAN  
NOT TO SCALE

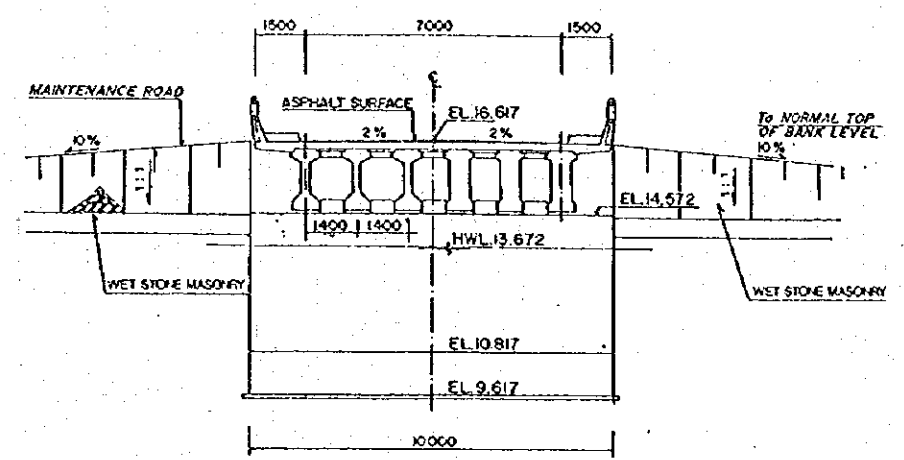


DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY

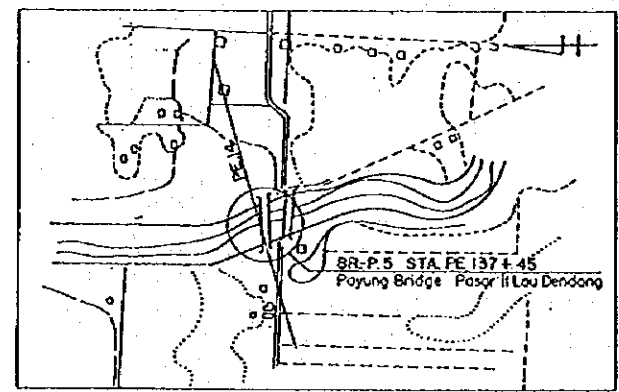
DWG. 4.26  
GENERAL PLAN OF TITI GANTUNG BRIDGE (P3)



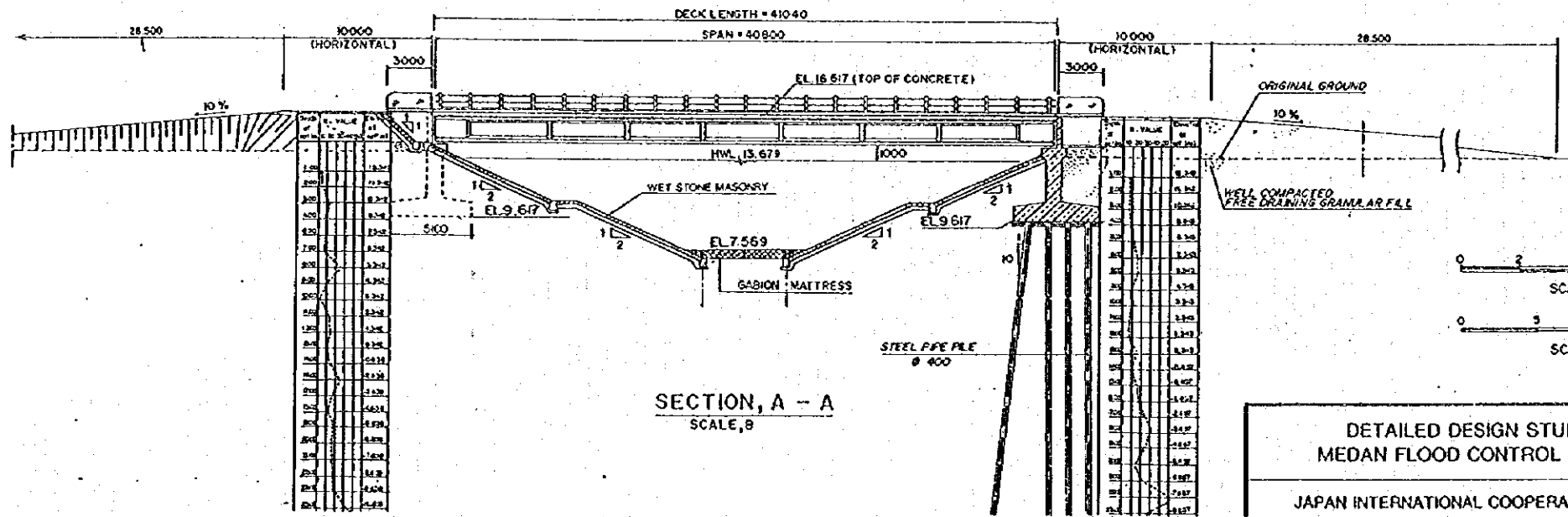
PLAN  
SCALE, B



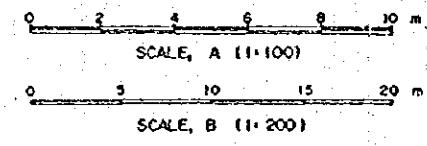
SECTION, B - B  
SCALE, A



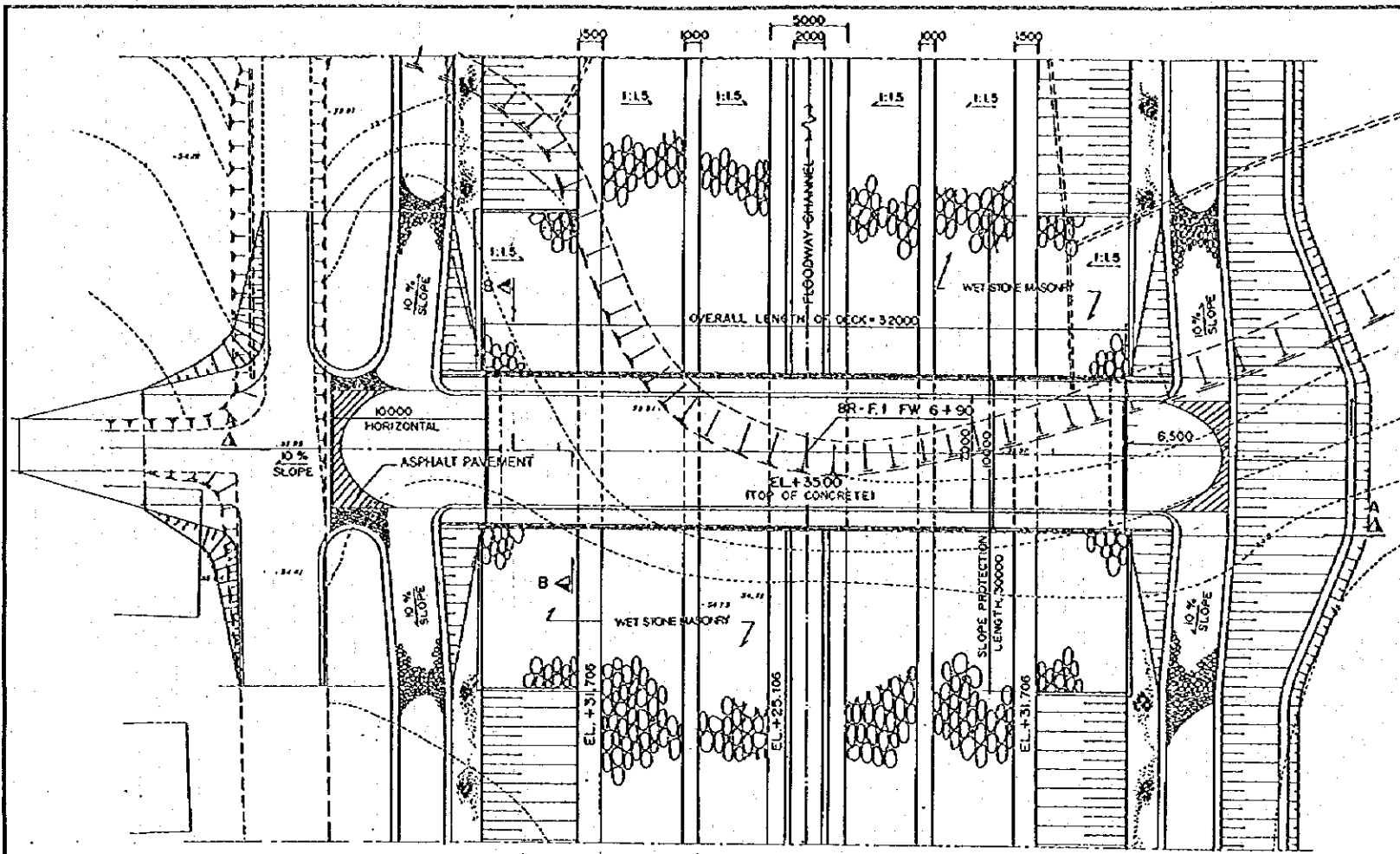
KEY PLAN  
NOT TO SCALE



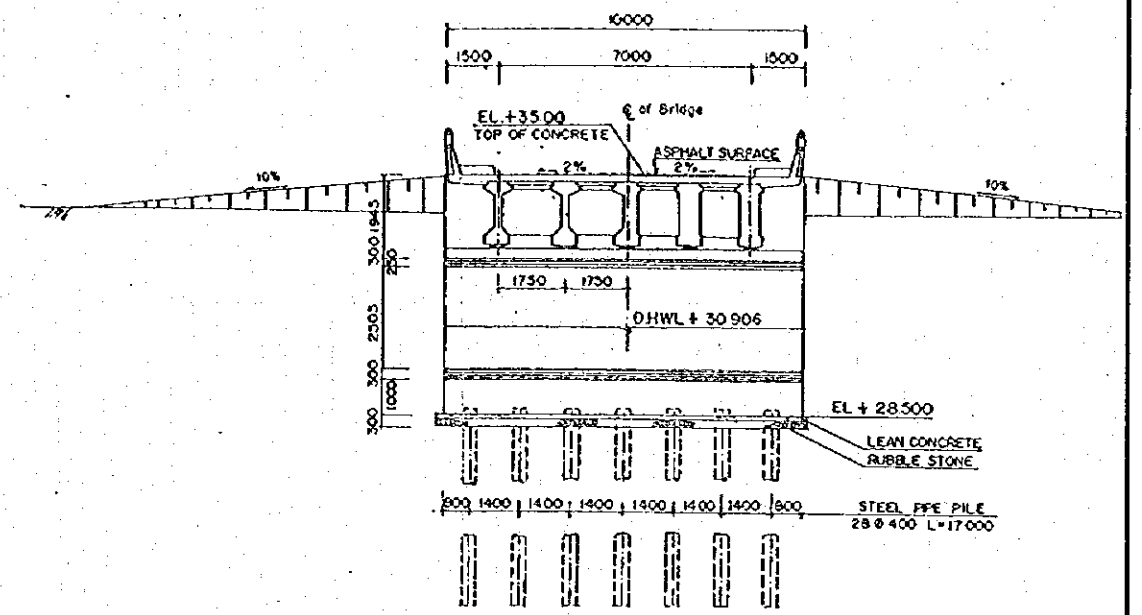
SECTION, A - A  
SCALE, B



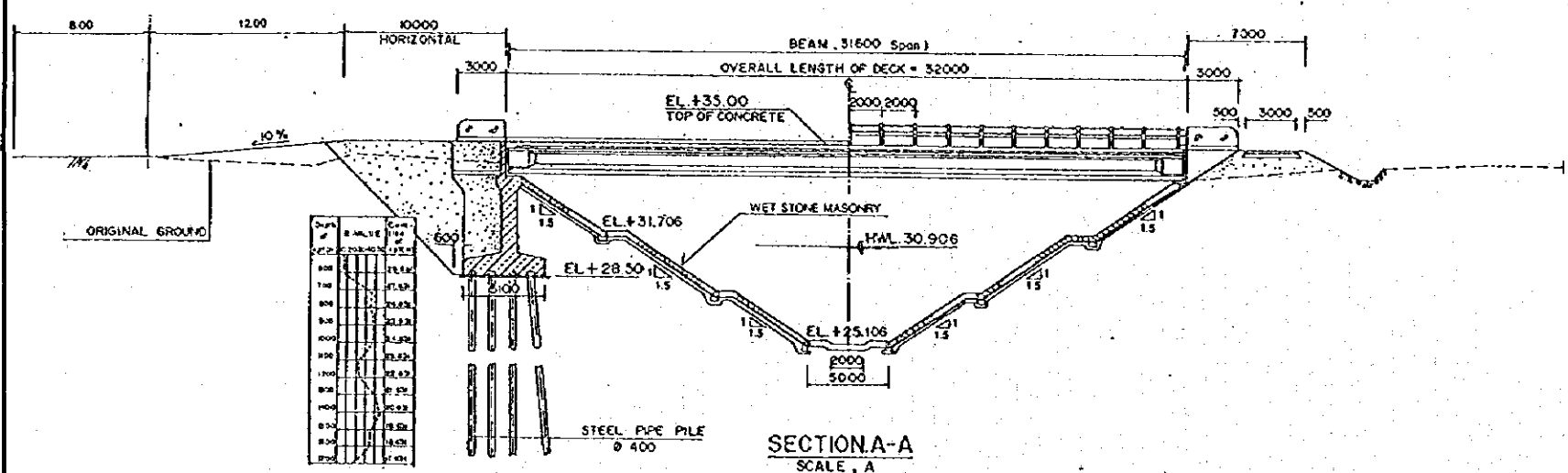
<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>DWG. 4.27 GENERAL PLAN OF PAYUNG BRIDGE (P5)</p>
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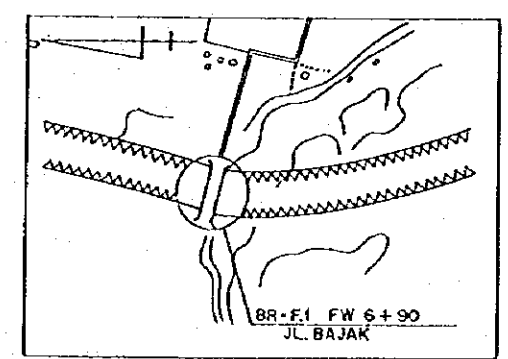
PLAN  
SCALE, A



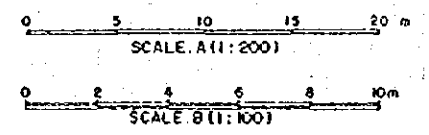
SECTION B-B  
SCALE, B



SECTION A-A  
SCALE, A

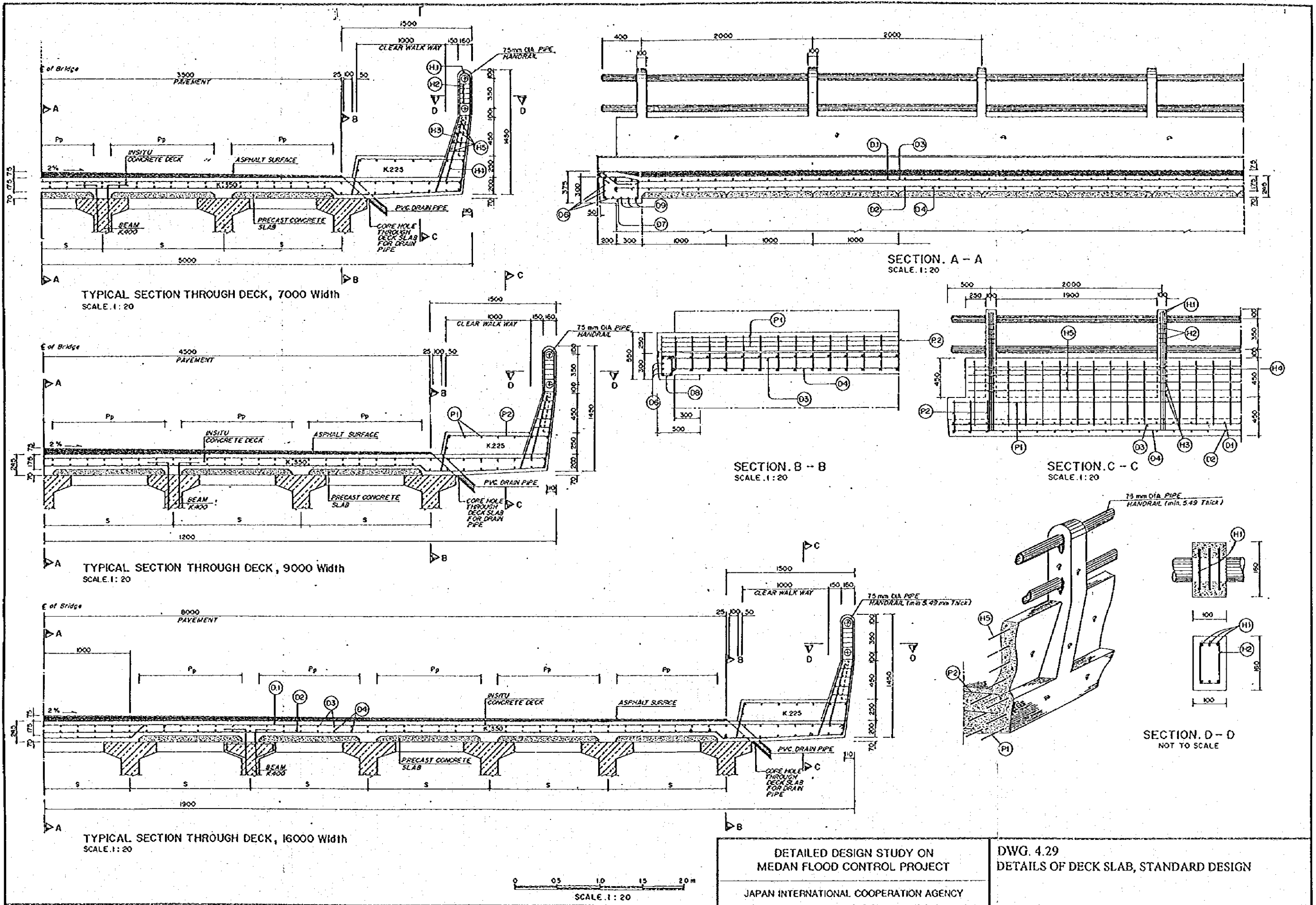


KEY PLAN  
NOT TO SCALE

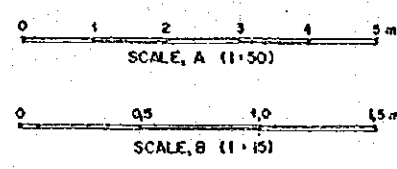
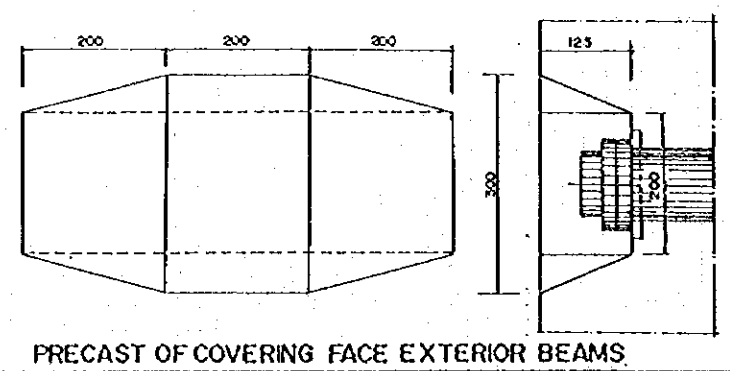
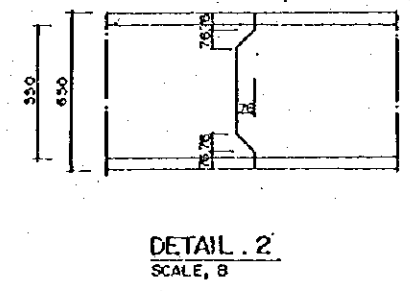
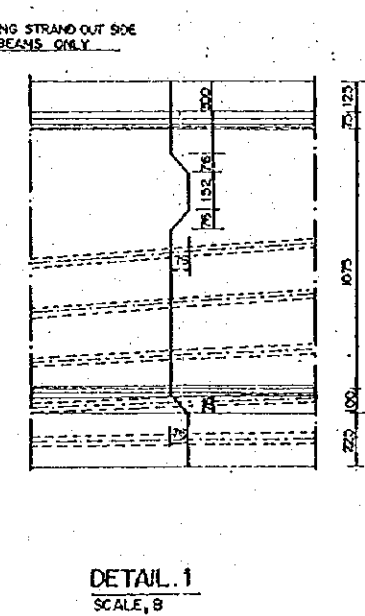
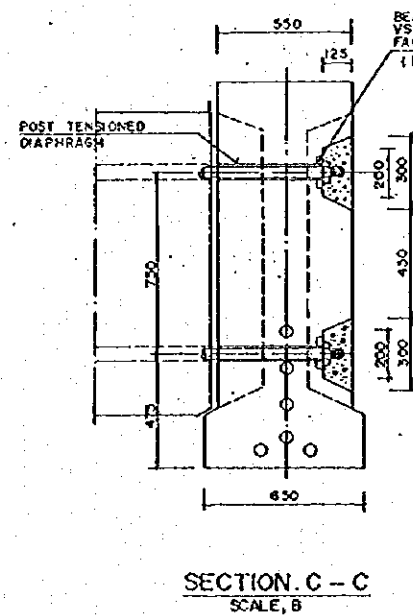
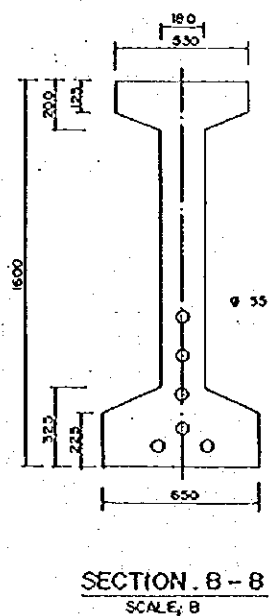
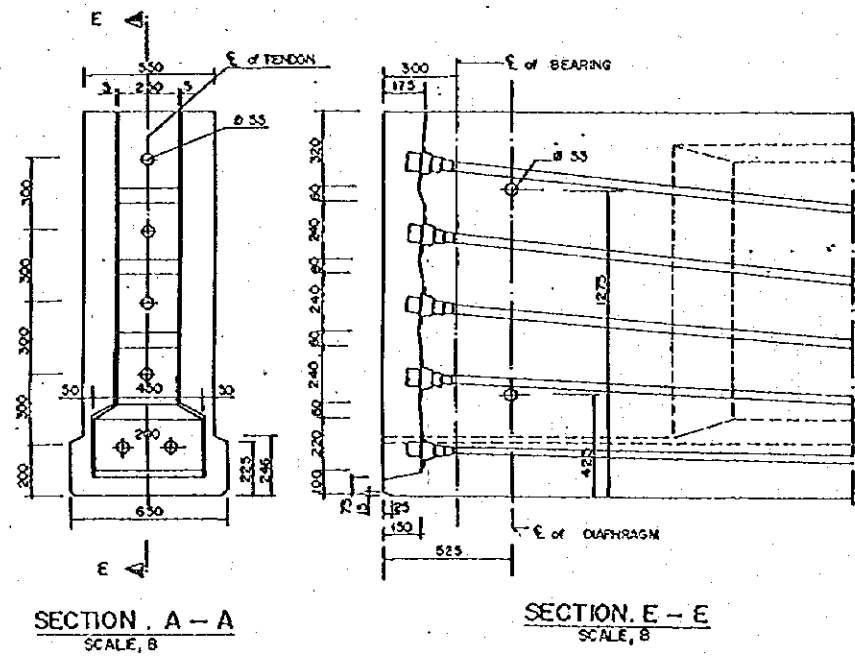
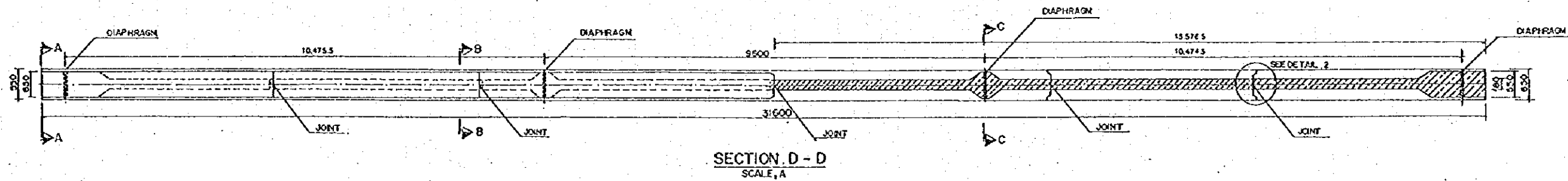
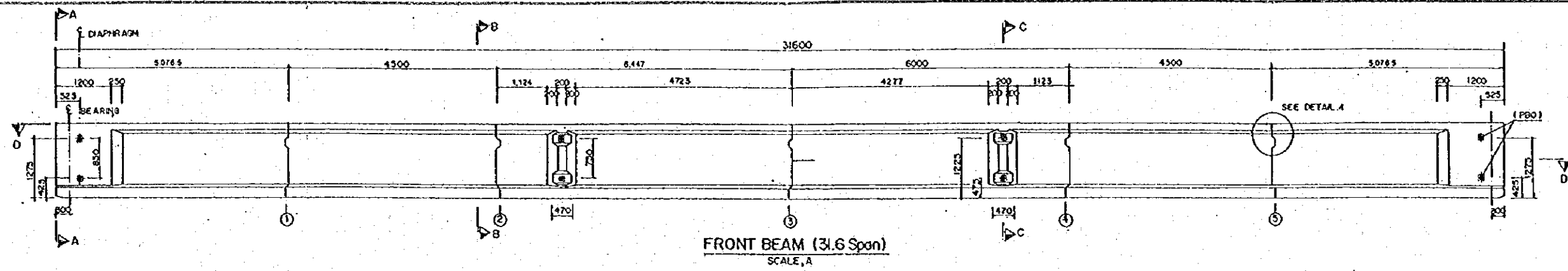


<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.28 GENERAL PLAN OF JL. BAJAK BRIDGE (F1)</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	





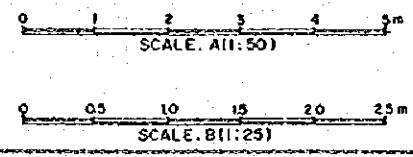
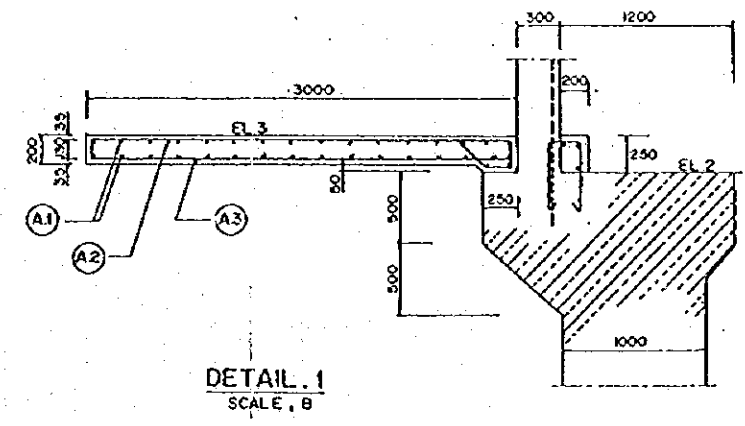
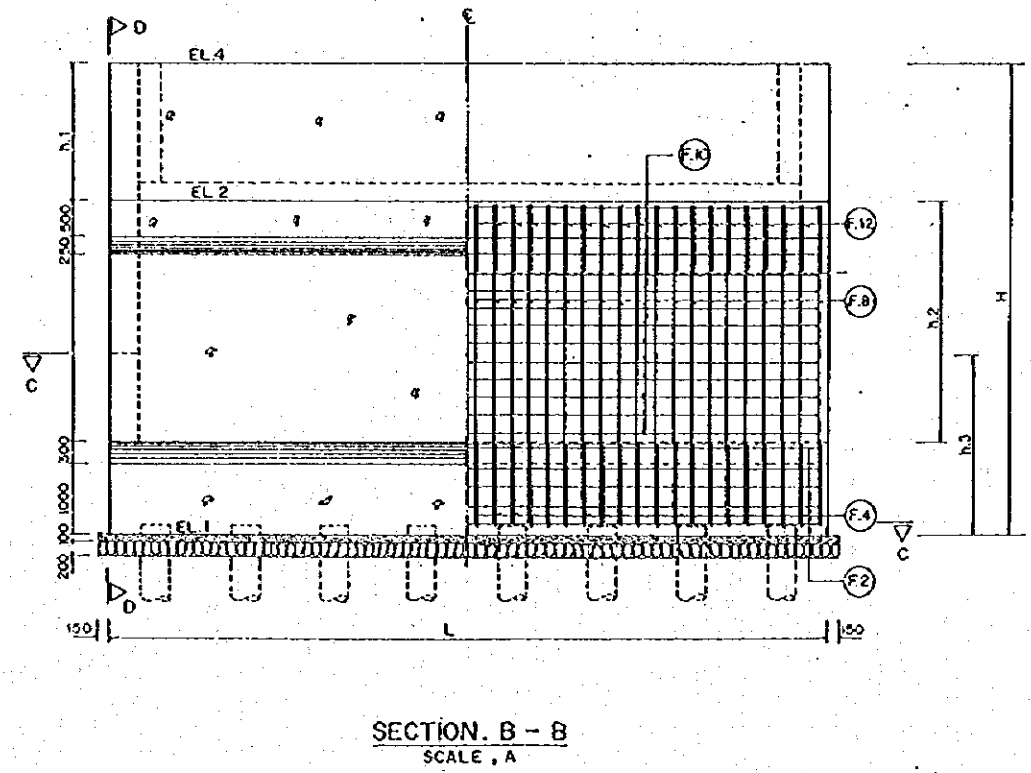
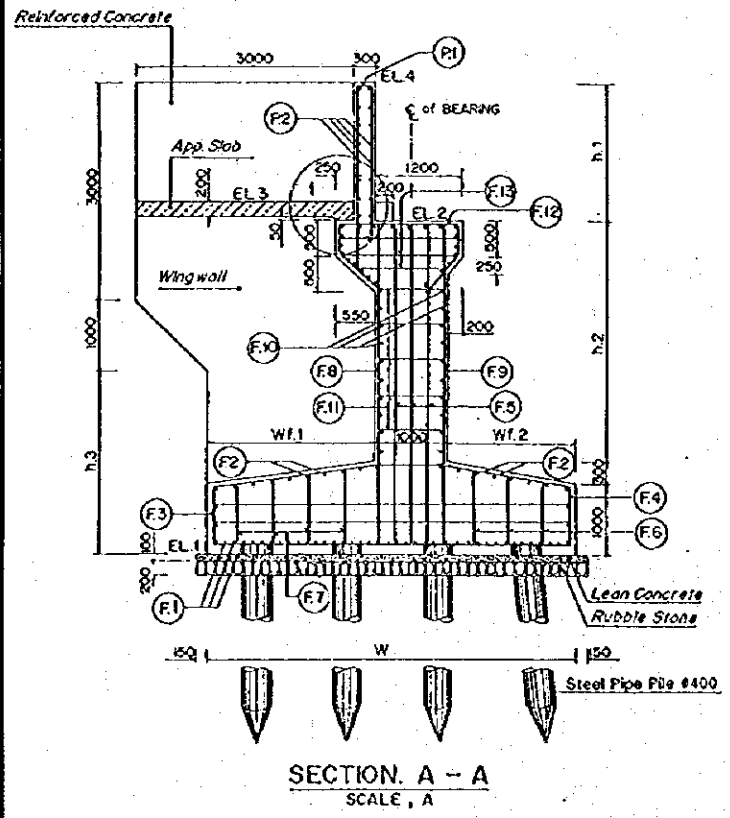
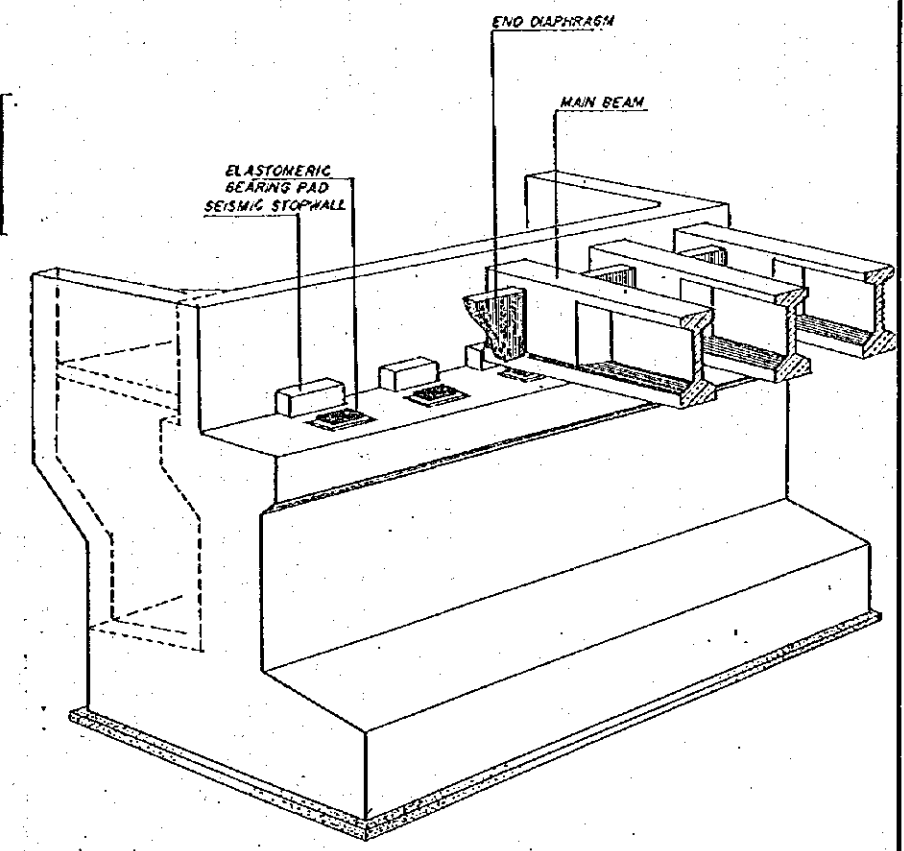
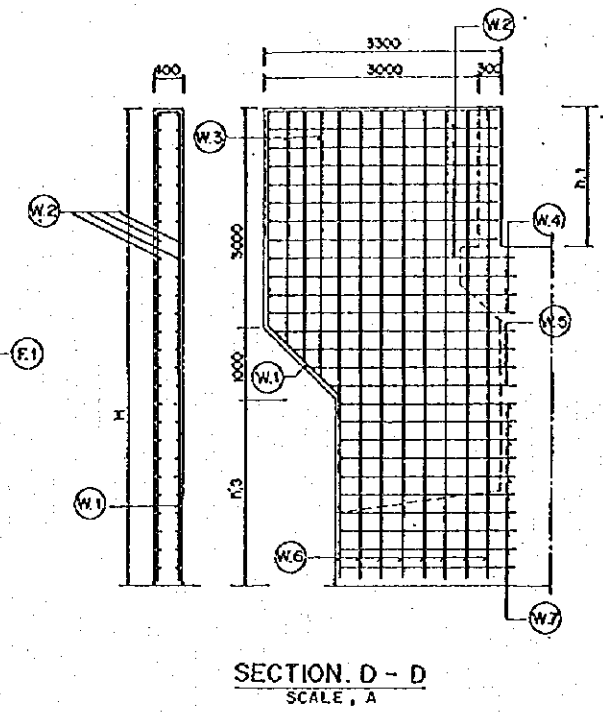
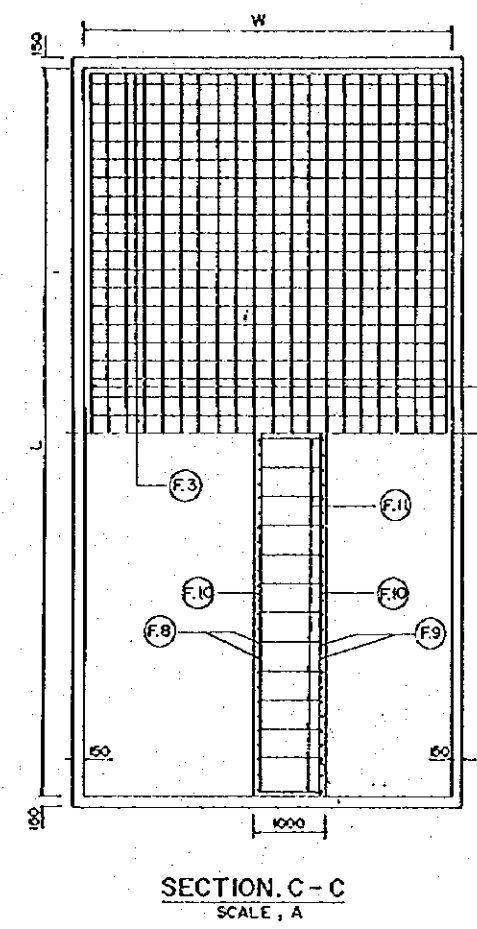
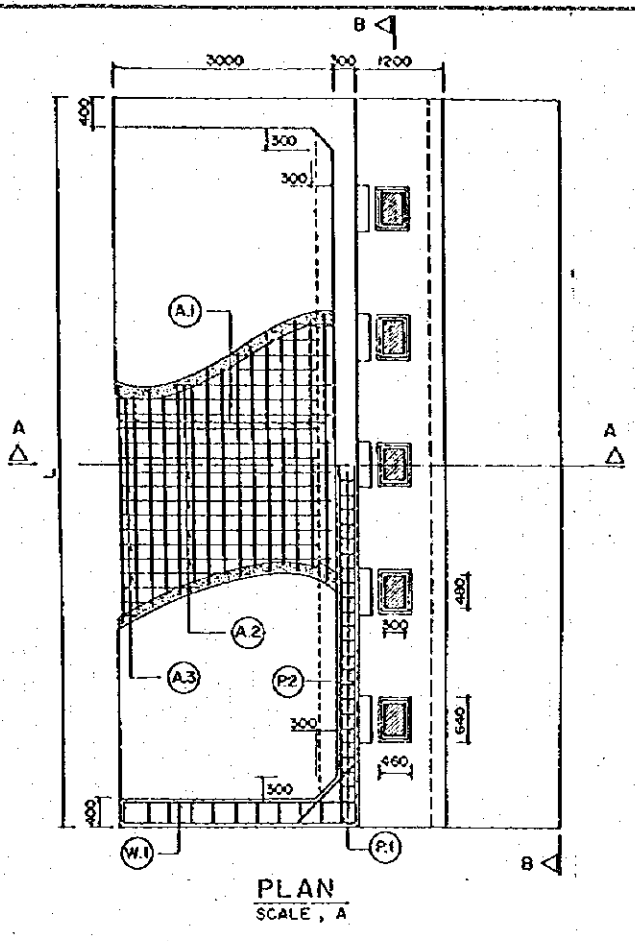
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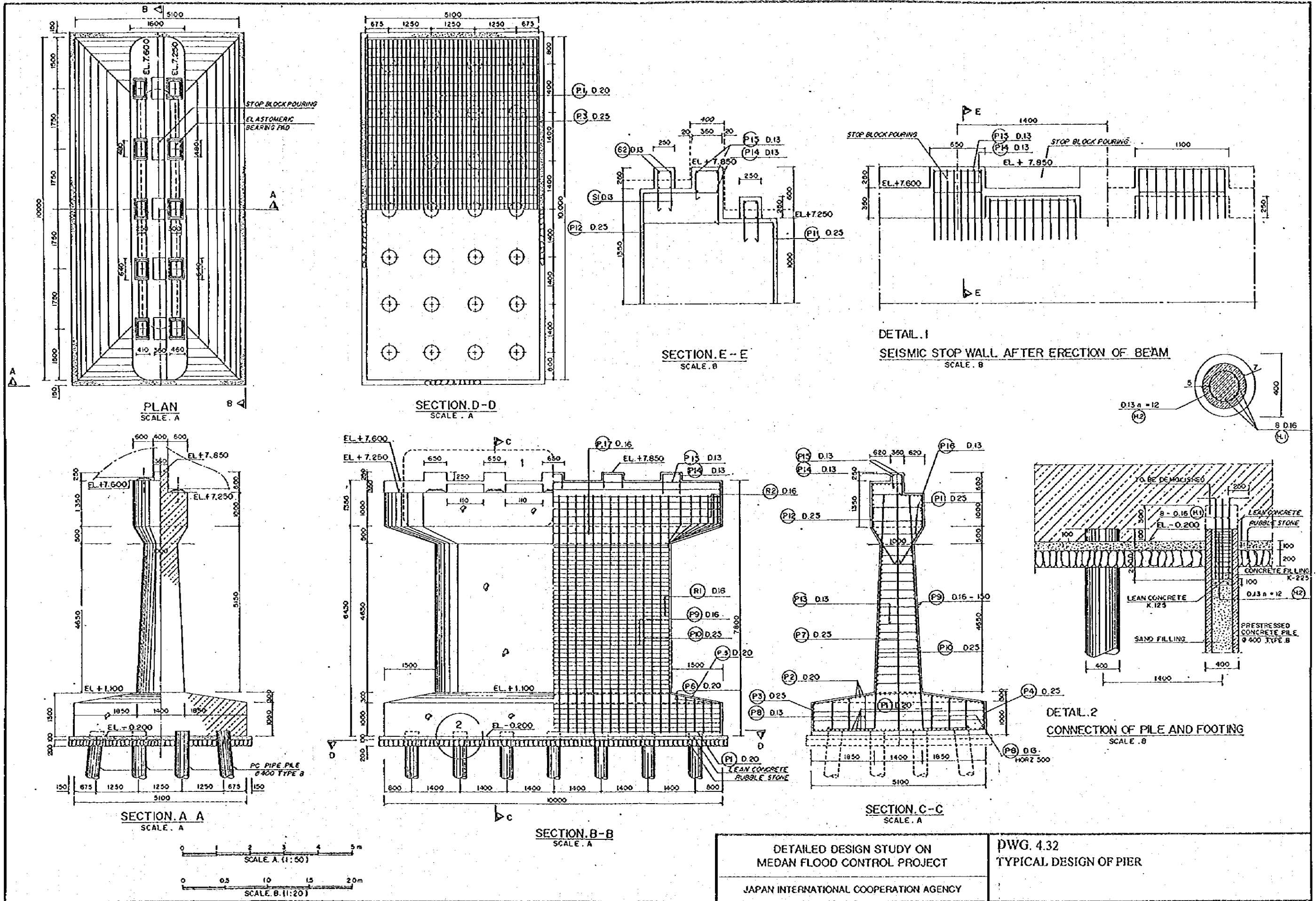
DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT

DWG. 4.30  
DETAILS OF PC-GIRDER, STANDARD DESIGN,  
L = 31.6 M

JAPAN INTERNATIONAL COOPERATION AGENCY



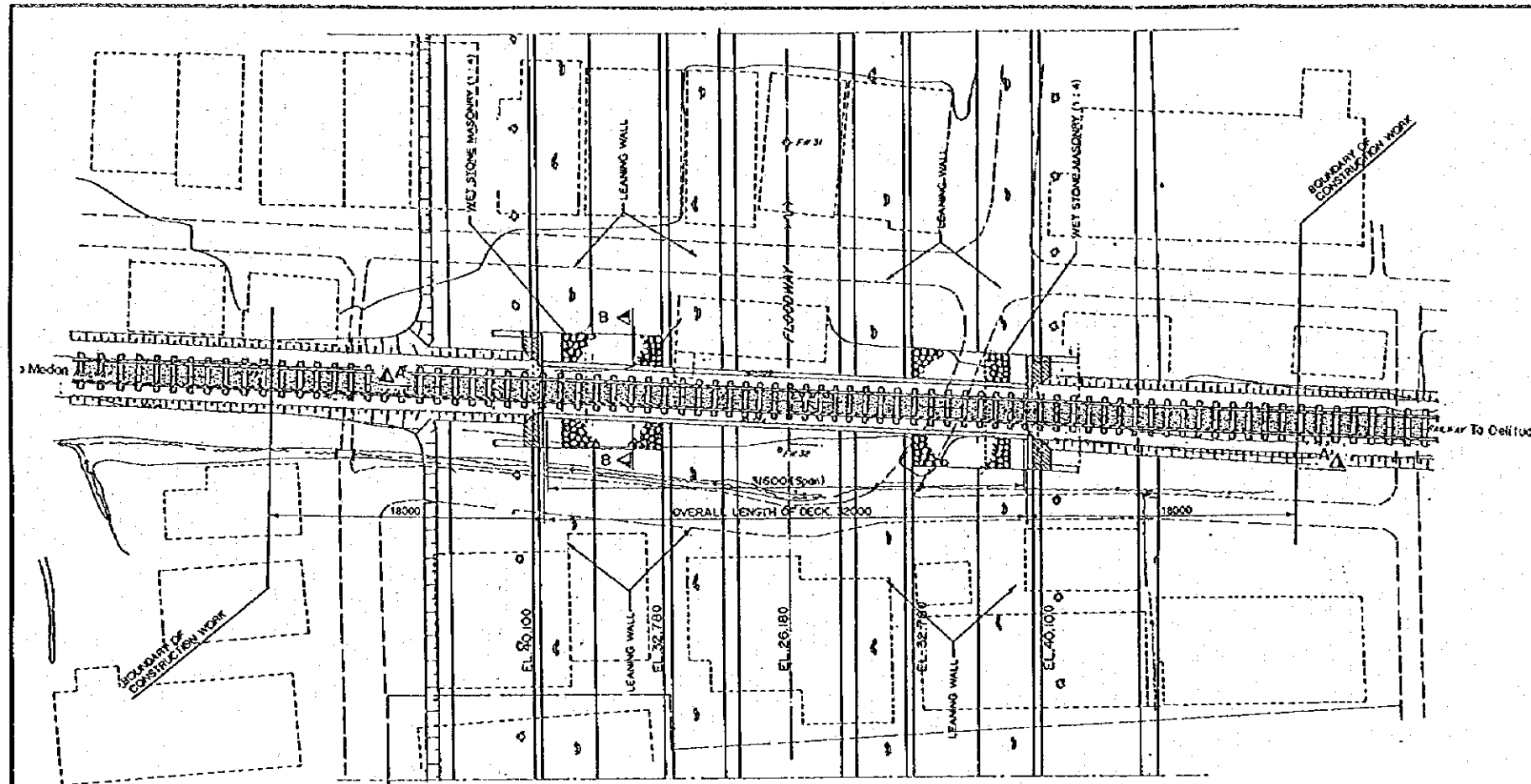
<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.31 TYPICAL DESIGN OF ABUTMENT</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



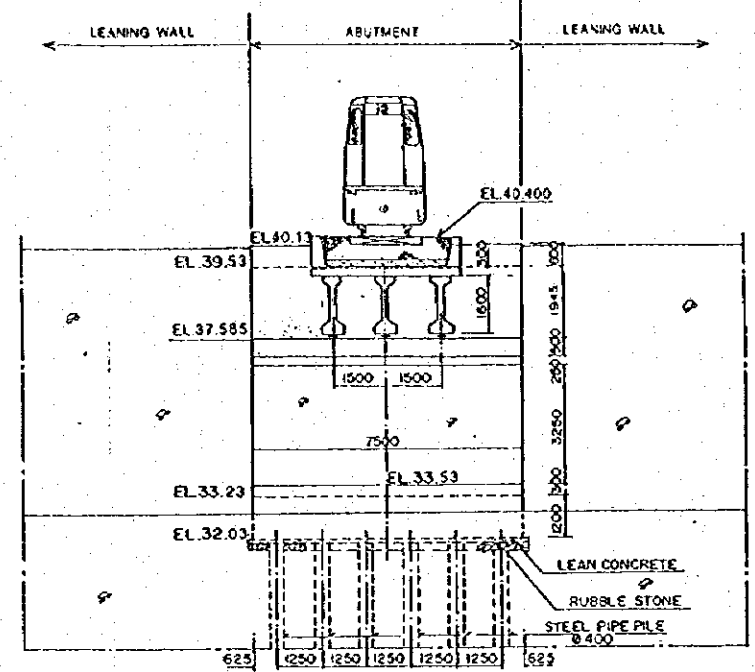
DETAILED DESIGN STUDY ON  
MEDAN FLOOD CONTROL PROJECT

PWG. 4.32  
TYPICAL DESIGN OF PIER

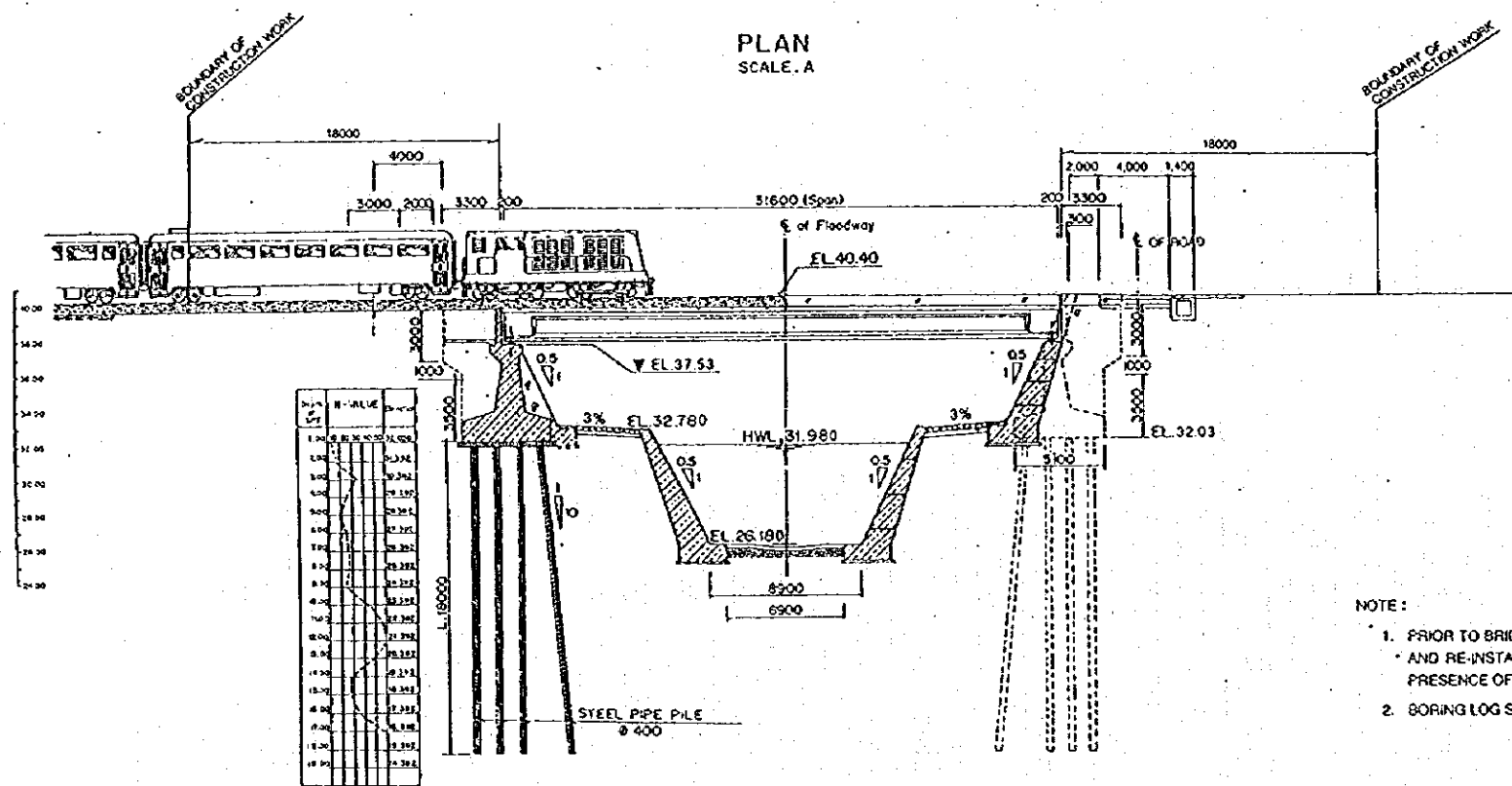
JAPAN INTERNATIONAL COOPERATION AGENCY



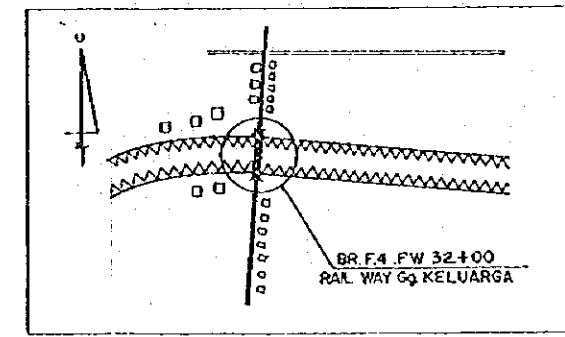
PLAN  
SCALE. A



SECTION. B - B  
SCALE. B



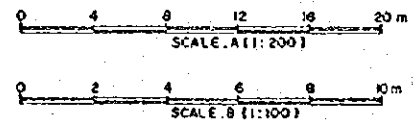
SECTION. A - A  
SCALE. A



KEY PLAN  
NOT TO SCALE

NOTE:

1. PRIOR TO BRIDGE WORK, THE EXISTING RAILS IN THE AREA DESIGNATED AND SHOWN ON THE DRAWING SHALL BE REMOVED, AND RE-INSTALLED ON THE BALLASTED FLOOR OF THE NEWLY BUILT BRIDGE. THE WORK SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER OF P.J.K.A. (PERUSAHAAN JAWATAN KERETA API).
2. BORING LOG SHOWN ON THIS DRAWING IS FOR REFERENCE ONLY.



<p>DETAILED DESIGN STUDY ON MEDAN FLOOD CONTROL PROJECT</p>	<p>DWG. 4.33 GENERAL PLAN OF RAILWAY BRIDGE (F4)</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	

