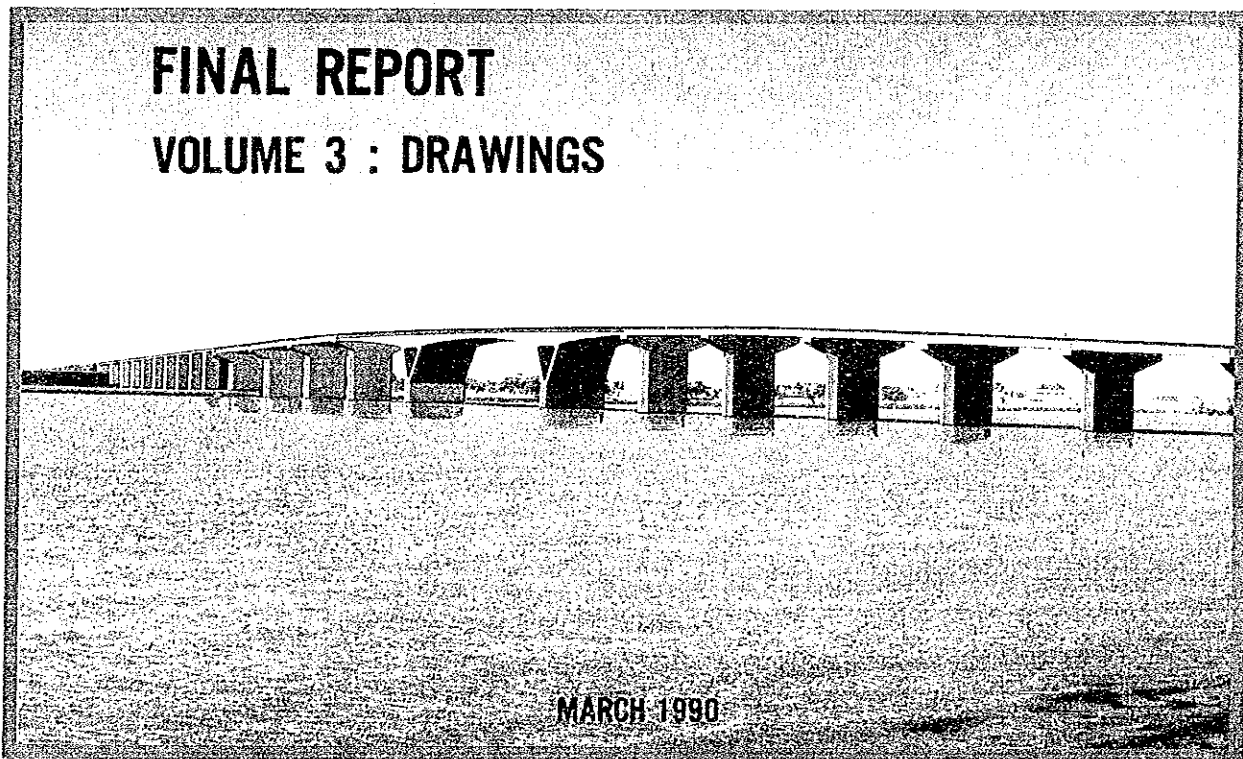


NATIONAL CAPITAL KHARTOUM
THE GOVERNMENT OF THE REPUBLIC OF THE SUDAN

THE FEASIBILITY STUDY
ON
THE CONSTRUCTION OF THE NEW WHITE NILE BRIDGE
IN
THE REPUBLIC OF THE SUDAN

FINAL REPORT
VOLUME 3 : DRAWINGS



MARCH 1990

JAPAN INTERNATIONAL COOPERATION AGENCY

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CONFIDENTIAL		
90-49-4/4		

THE FEASIBILITY STUDY ON THE CONSTRUCTION OF

FINAL REPORT

NATIONAL CAPITAL KHARTOUM
THE GOVERNMENT OF THE REPUBLIC OF THE SUDAN

THE FEASIBILITY STUDY
ON
THE CONSTRUCTION OF THE NEW WHITE NILE BRIDGE
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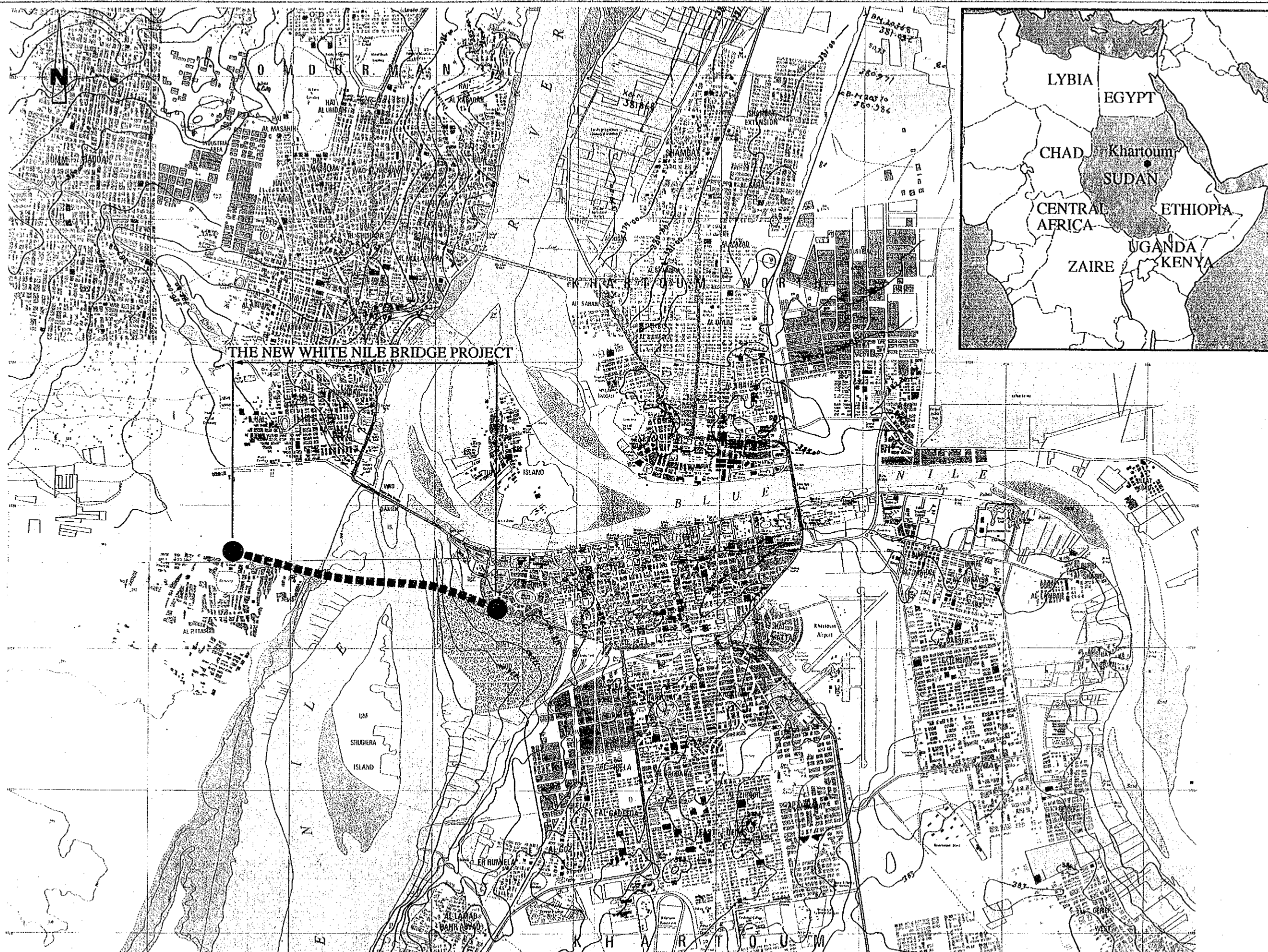
1082828131

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MARCH 1990

JAPAN INTERNATIONAL COOPERATION AGENCY



THE NEW WHITE NILE BRIDGE PROJECT

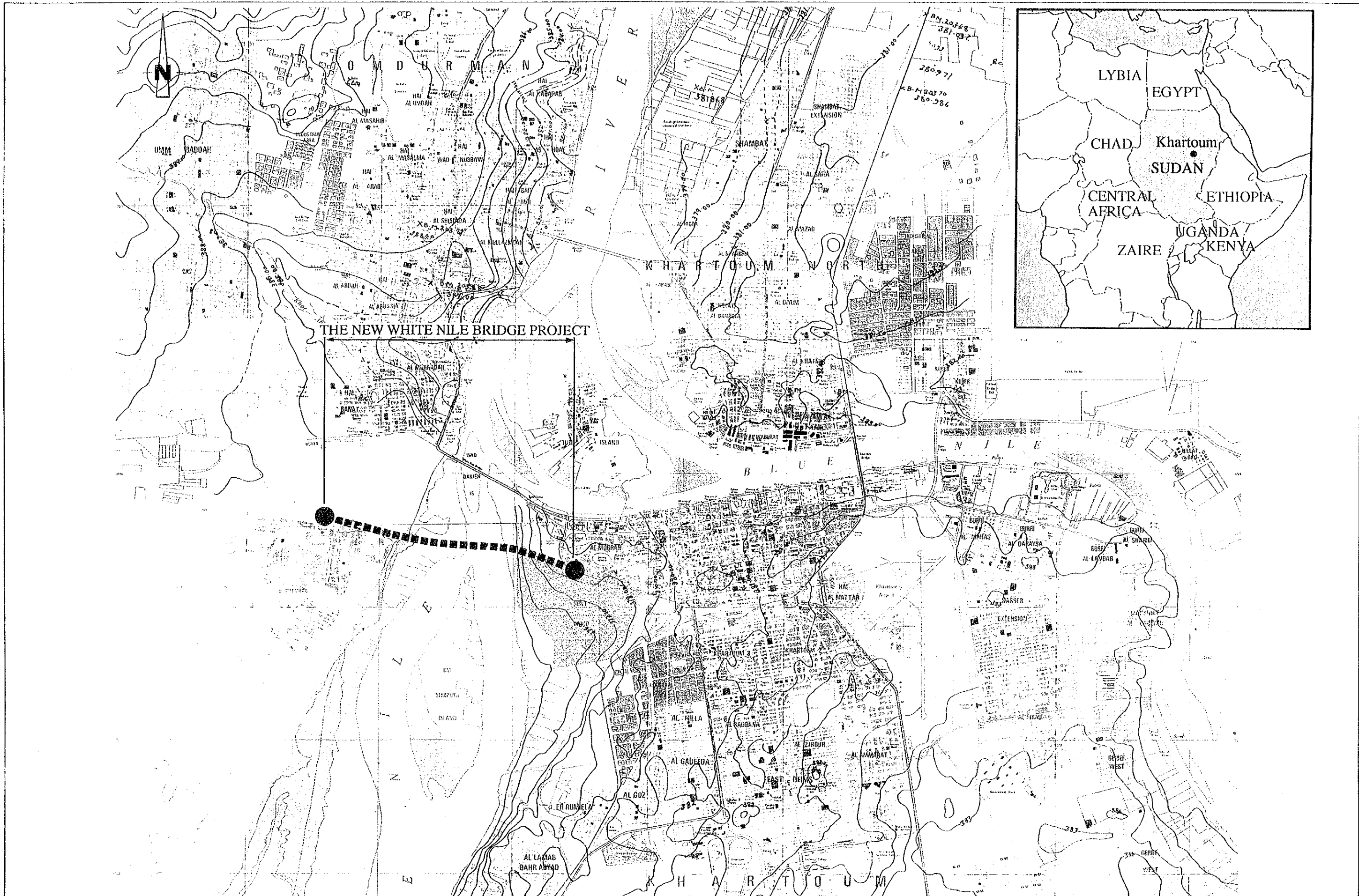
COMMISSIONERATE OF ENGINEERING AFFAIRS
NATIONAL CAPITAL KHARTOUM

THE FEASIBILITY STUDY
 ON
 THE CONSTRUCTION OF THE NEW WHITE NILE BRIDGE
 IN
 THE REPUBLIC OF THE SUDAN

JAPAN INTERNATIONAL COOPERATION AGENCY

LOCATION MAP

DATE	SHEET NO.
JANUARY, 1991	I



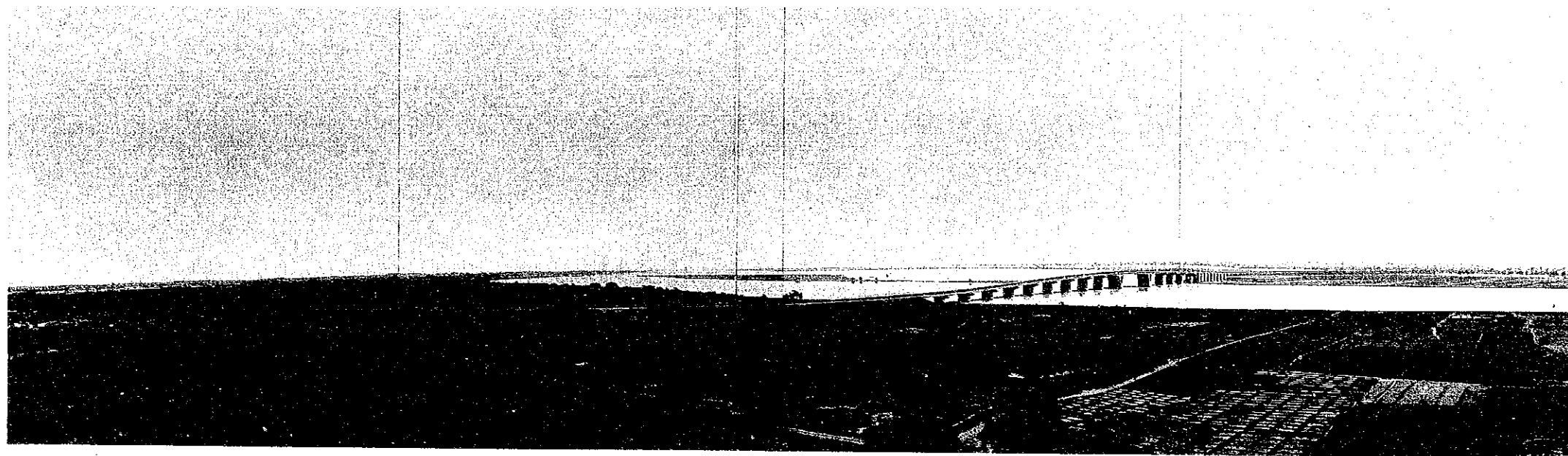
COMMISSIONERATE OF ENGINEERING AFFAIRS
NATIONAL CAPITAL KHARTOUM

THE FEASIBILITY STUDY
 ON
 THE CONSTRUCTION OF THE NEW WHITE NILE BRIDGE
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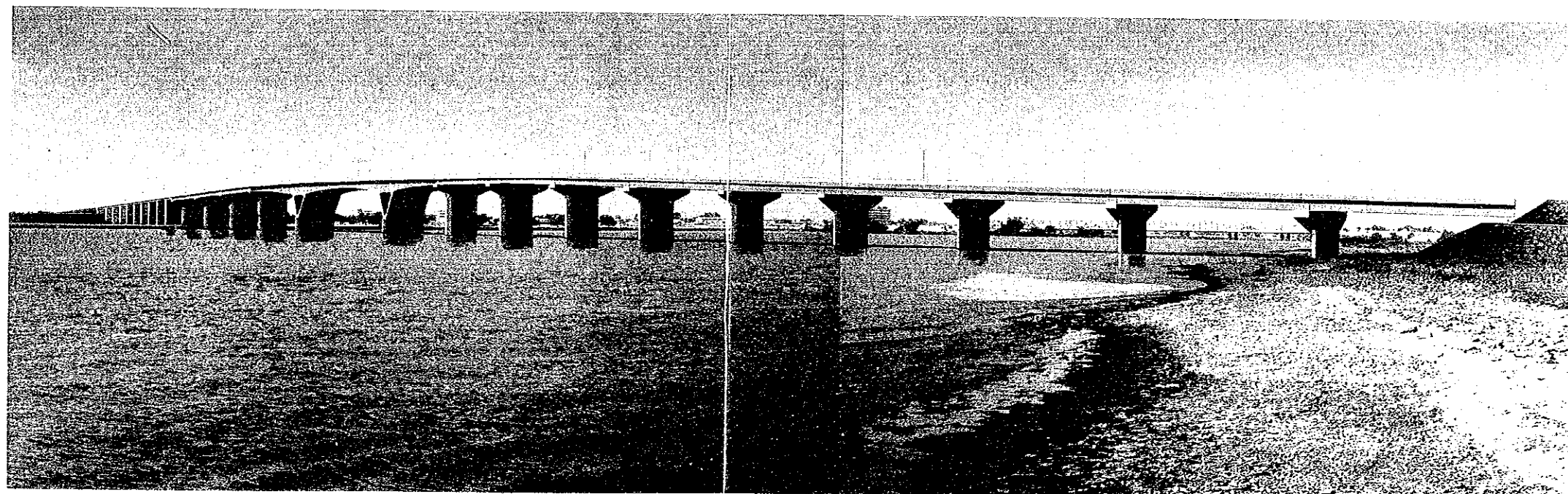
JAPAN INTERNATIONAL COOPERATION AGENCY

LOCATION MAP

DATE	SHEET NO
JANUARY 1971	I



Perspective view of the proposed New White Nile Bridge and approach road viewed from the roof of the Hotel Hilton.

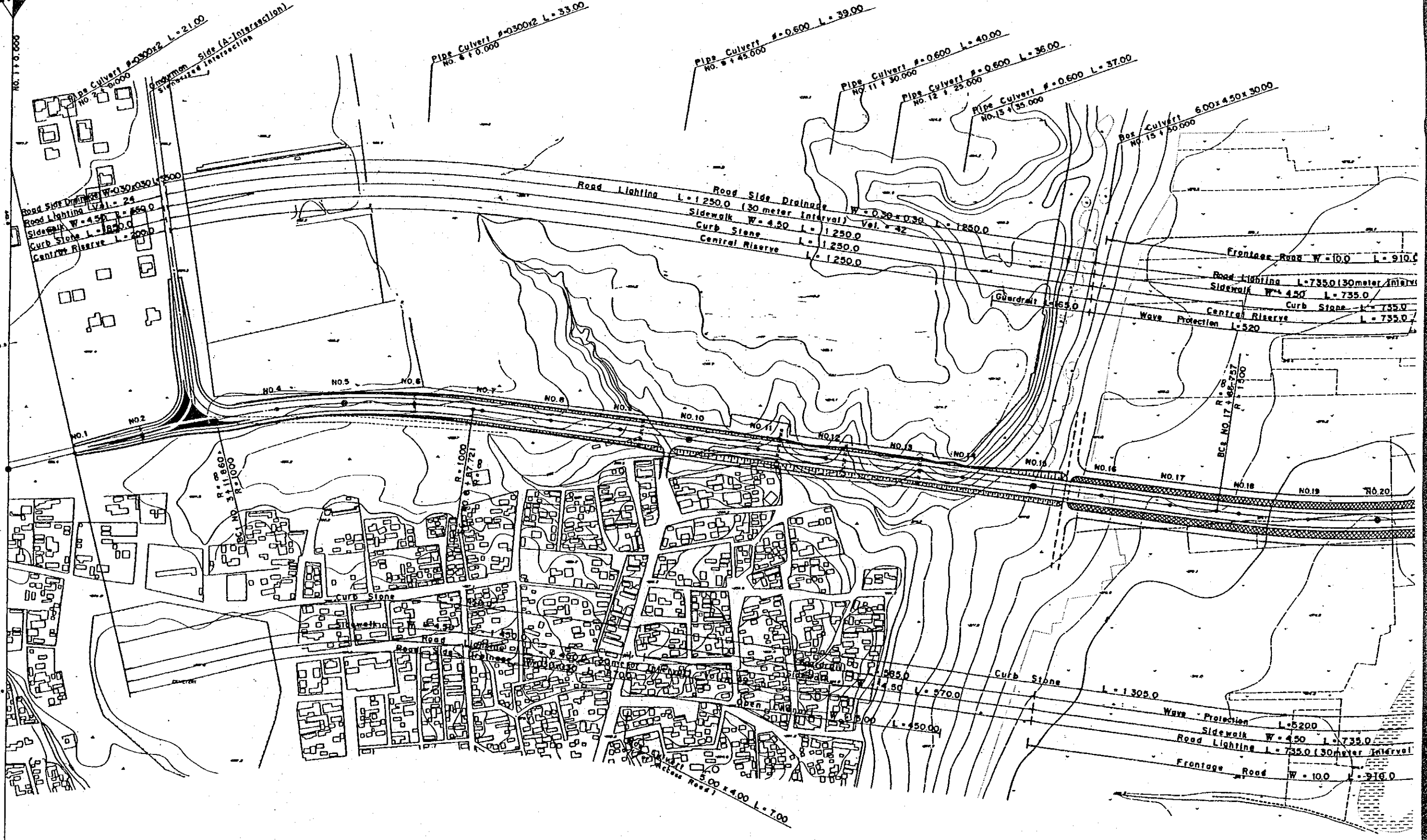


Side view of the proposed New White Nile Bridge viewed from the up-stream. The existing bridge can be seen in the background.

CONTENTS OF DRAWINGS

	TITLE	SHEET NO.		TITLE	SHEET NO.
1	GENERAL PLAN	1/32	18	SUPERSTRUCTURE NO.1 : P.C BOX GIRDER	18/32
2	LONGITUDIAL PLOFILE	2/32	19	TRANSVERSE ARRANGEMENT OF P.C CABLES FOR P.C BOX GIRDER	19/32
3	CROSS-SECTION (1) (NO.1+0.0~NO.15+50.0)	3/32	20	SUPERSTRUCTURE NO.2 : P.C I-GIRDER	20/32
4	CROSS-SECTION (2) (NO.15+50.0~NO.22+85.0)	4/32	21	SUPERSTRUCTURE NO.3 : R.C HOLLOW SLAB	21/32
5	CROSS-SECTION (3) (NO.22+85.0~NO.40+0.0)	5/32	22	SUBSTRUCTURE NO.1 : PIERS OF P.C BOX GIRDER	22/32
6	ASPHALT PAVEMENT STRUCTURE	6/32	23	SUBSTRUCTURE NO.2 : PIERS FOR P.C I-GIRDER AND R.C HOLLOW SLAB	23/32
7	OMDURMAN SIDE INTERSECTION : GENERAL PLAN	7/32	24	ABUTMENT STRUCTURE	24/32
8	OMDURMAN SIDE INTERSECTION : CROSS-SECTION	8/32	25	BEARINGS	25/32
9	KHARTOUM SIDE INTERSECTION : GENERAL PLAN	9/32	26	EXPANSION JOINTS	26/32
10	KHARTOUM SIDE INTERSECTION : CROSS-SECTION	10/32	27	BRIDGE ANCILLARIES : RAILING, LIGHTING AND DRAINPIPE	27/32
11	DETAILES OF ROAD RELATED FACILITIES (1)	11/32	28	BRIDGE ANCILLARIES : NEWEL POST, STEPS AND NAVIGATION AID POST	28/32
12	DETAILES OF ROAD RELATED FACILITIES (2)	12/32	29	COFFERDAMS	29/32
13	TRAVERSE GUIDE	13/32	30	TEMPORARY BRIDGE	30/32
14	FORIZONTAL ALIGNMENT	14/32	31	CONSTRUCTION PLAN	31/32
15	BATHMATIC SURVEY RESULT	15/32	32	CONSTRUCTION TIME SCHEDULE	32/32
16	SOIL PROFILE AND BORING LOGS	16/32			
17	GENERAL VIEW OF THE BRIDGE	17/32			

BEGINNING OF THE PROJECT



NO. 1
NO. 2
NO. 3
NO. 4
NO. 5
NO. 6
NO. 7
NO. 8
NO. 9
NO. 10
NO. 11
NO. 12
NO. 13
NO. 14
NO. 15
NO. 16
NO. 17
NO. 18
NO. 19
NO. 20

Box Culvert # 6.00x4.50x30.00
L=30.00
Road Side Drainage W=0.30x0.30 L=21.00
Road Lighting L=1250.0
Sidewalk W=4.50 L=650.0
Curb Stone L=1850.0
Central Reserve L=2000

Pipe Culvert # 0.300x2 L=33.00
No. # 1 0.000

Pipe Culvert # 0.600 L=39.00
No. # 4 45.000

Pipe Culvert # 0.600 L=40.00
No. 11 # 30.000

Pipe Culvert # 0.600 L=36.00
No. 12 # 25.000

Pipe Culvert # 0.600 L=37.00
No. 13 # 35.000

Box Culvert 6.00x4.50x30.00
No. 15 # 30.000

Road Lighting L=1250.0
Road Side Drainage W=0.30x0.30 L=1850.0
Sidewalk W=4.50 L=1250.0 Vel. # 42
Curb Stone L=1250.0
Central Reserve L=1250.0

Frontage Road W=10.0 L=910.0
Road Lighting L=735.0 (30 meter interval)
Sidewalk W=4.50 L=735.0
Curb Stone L=735.0
Central Reserve L=735.0
Wave Protection L=520

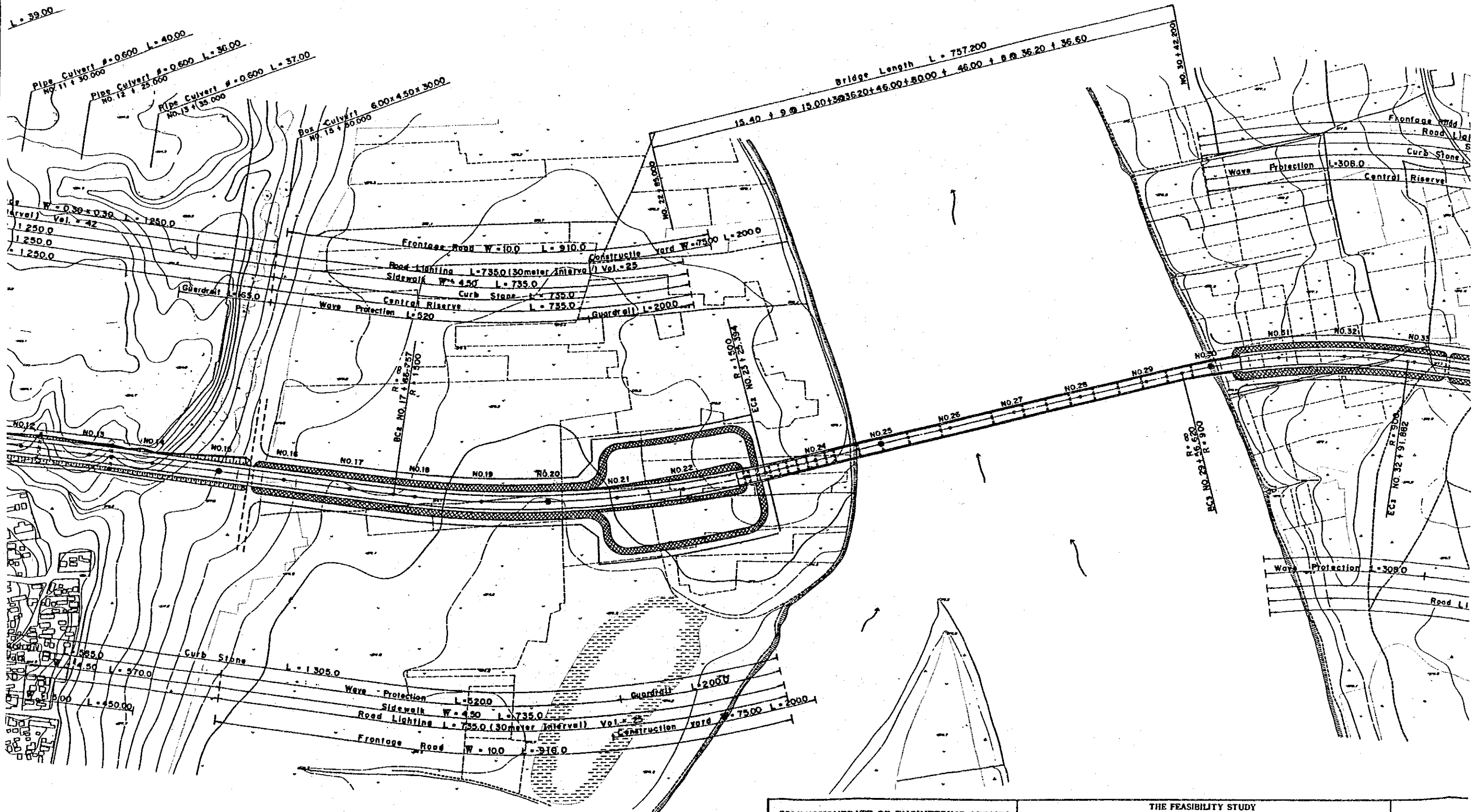
R=1000
R=1180
R=1000

R=1000
R=1180
R=1000

Curb Stone L=1305.0

Wave Protection L=520
Sidewalk W=4.50 L=735.0
Road Lighting L=735.0 (30 meter interval)
Frontage Road W=10.0 L=910.0

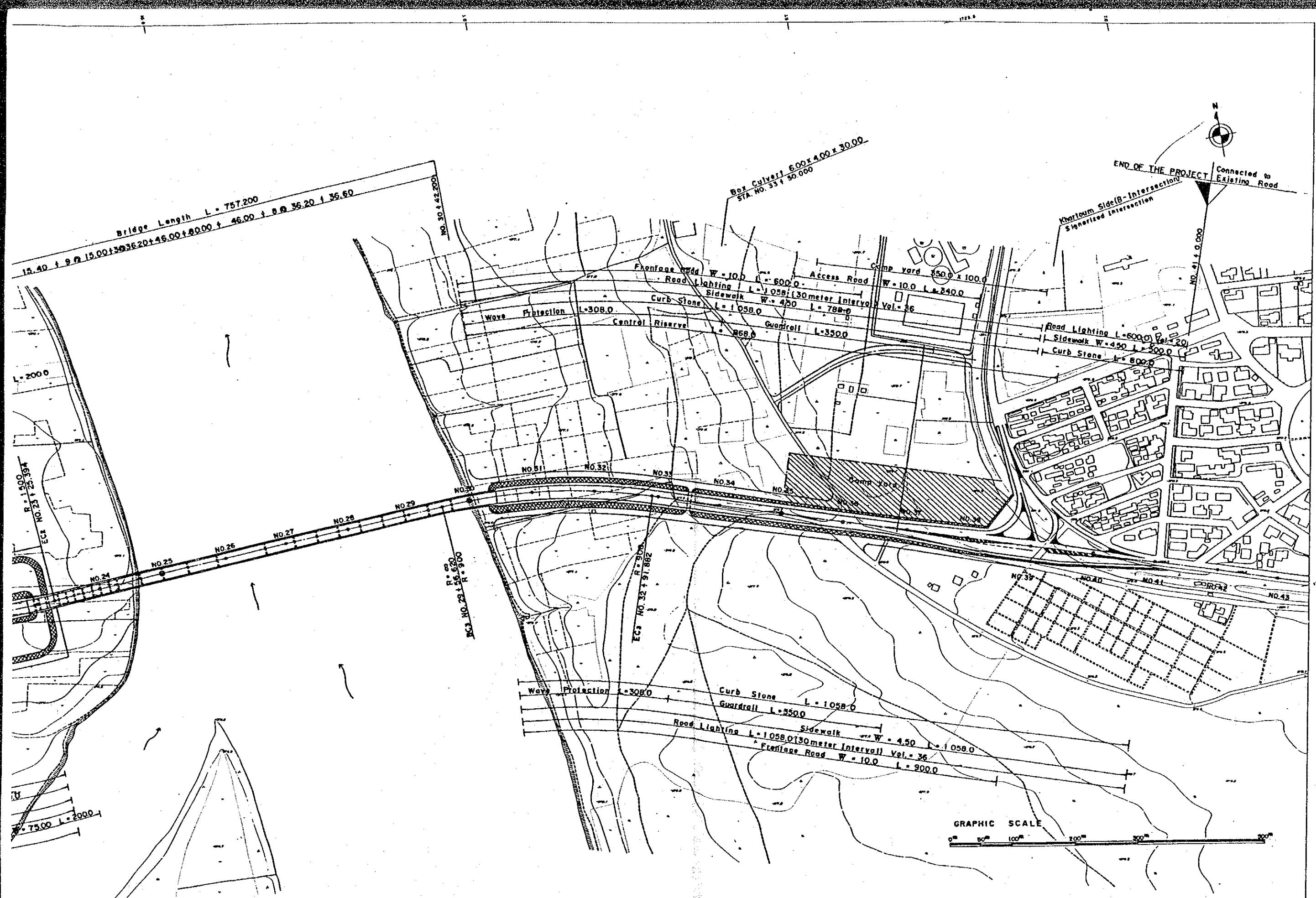
Access Road
W=5.00x4.00 L=700



COMMISSIONERATE OF ENGINEERING AFFAIRS
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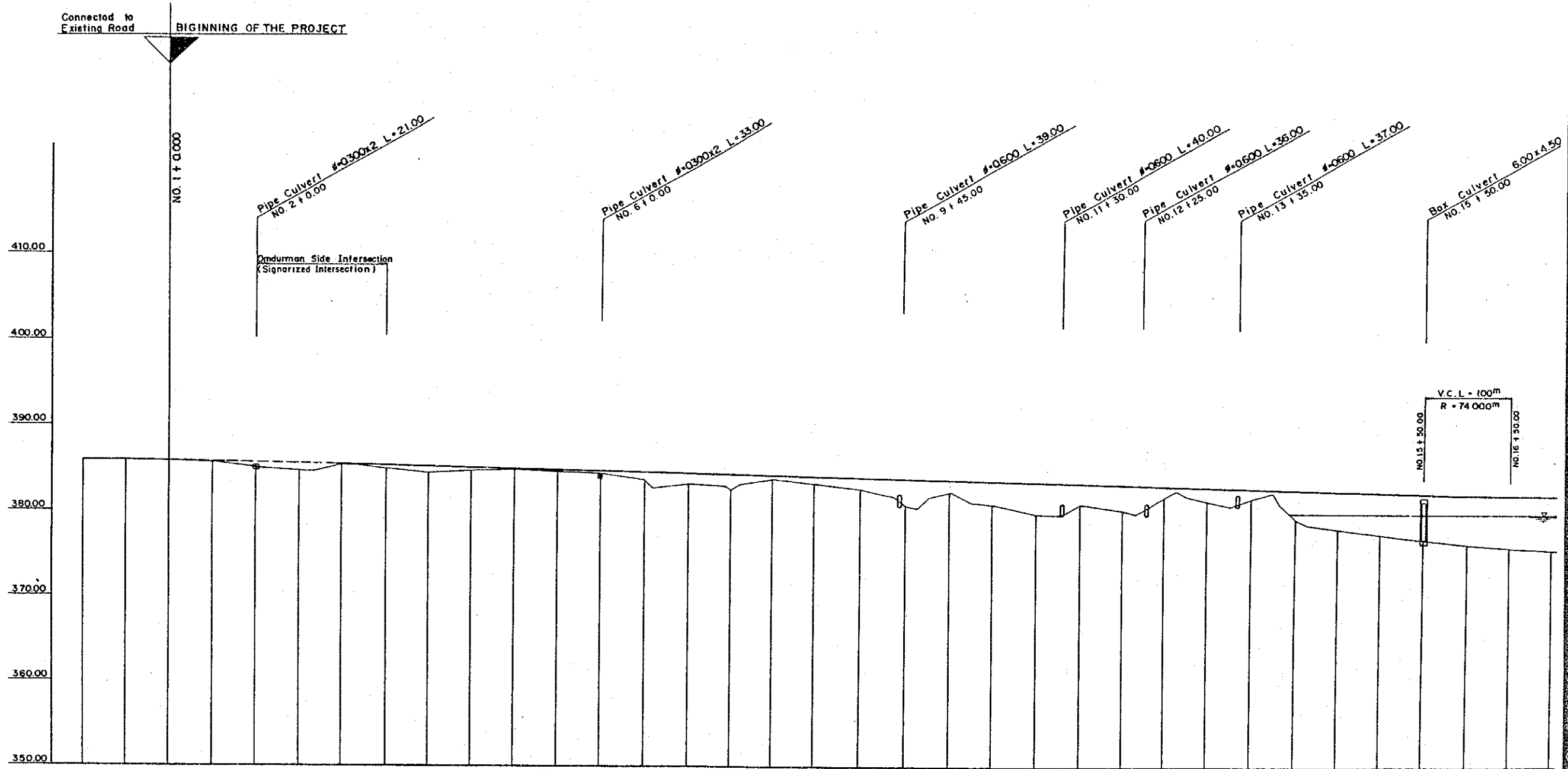
JAPAN INTERNATIONAL COOPERATION AGENCY

GENERAL PLAN

DATE	SHEET NO.
JANUARY, 1990	1/32

Connected to Existing Road

BEGINNING OF THE PROJECT



1:2500
1:250

STATION	DISTANCE	ACCUMULATED DISTANCE	GROUND HEIGHT	PROPOSED HEIGHT	GRADIENT
B.P	00.00	0.00	383.933		Existing Road Level
0+50	50.00	50.00	383.913		
1+00	50.00	100.00	383.770	383.770	
1+50	50.00	150.00	383.574	383.574	
2+00	50.00	200.00	384.987	385.474	
2+50	50.00	250.00	384.639	385.374	
3+00	50.00	300.00	385.212	385.272	
B.C.1	11.860	311.860	385.190		
3+50	38.140	350.00	384.895	385.512	
4+00	50.00	400.00	384.438	385.028	
4+50	50.00	450.00	384.809	384.906	
5+00	50.00	500.00	384.875	384.784	
5+50	50.00	550.00	384.526	384.664	
6+00	50.00	600.00	384.303	384.540	
6+50	50.00	650.00	383.724	384.418	
E.C.1	37.721	687.721	382.978		
7+00	12.279	700.00	383.095	384.296	
7+50	50.00	750.00	382.902	384.174	
8+00	50.00	800.00	383.657	384.052	
8+50	50.00	850.00	383.210	383.930	
9+00	50.00	900.00	382.885	383.808	
9+50	50.00	950.00	381.753		
		950.00	380.816	383.686	
		972.00	380.380		
			381.636		
10+00	50.00	1000.00	382.273	383.534	
10+50	50.00	1025.00	380.928		
		1050.00	380.753	383.442	
11+00	50.00	1100.00	379.684	383.320	
11+50	50.00	1150.00	379.596		
		1150.00	380.783	383.198	
12+00	50.00	1200.00	380.120	383.076	
		1218.00	378.735		
		1230.00	380.482		
		1240.00	381.204		
		1250.00	381.714	382.954	
		1278.00	382.318		
			381.836		
13+00	50.00	1300.00	381.239	382.832	
13+50	50.00	1328.00	380.635		
		1350.00	381.584	382.710	
		1374.00	382.233		
		1388.00	380.758		
14+00	50.00	1400.00	379.273	382.588	
		1413.00	378.590		
14+50	50.00	1450.00	377.975	382.446	
15+00	50.00	1500.00	377.445	382.344	
15+50	50.00	1550.00	376.951	382.222	
16+00	50.00	1600.00	376.288	382.100	
16+50	50.00	1650.00	375.884	382.100	
17+00	50.00	1700.00	375.632	382.100	

Existing Road Level

i = 0.244%
L = 1300m

V.C.L = 100m
R = 74000m

NO.13 + 50.00

NO.16 + 50.00

L = 33.00

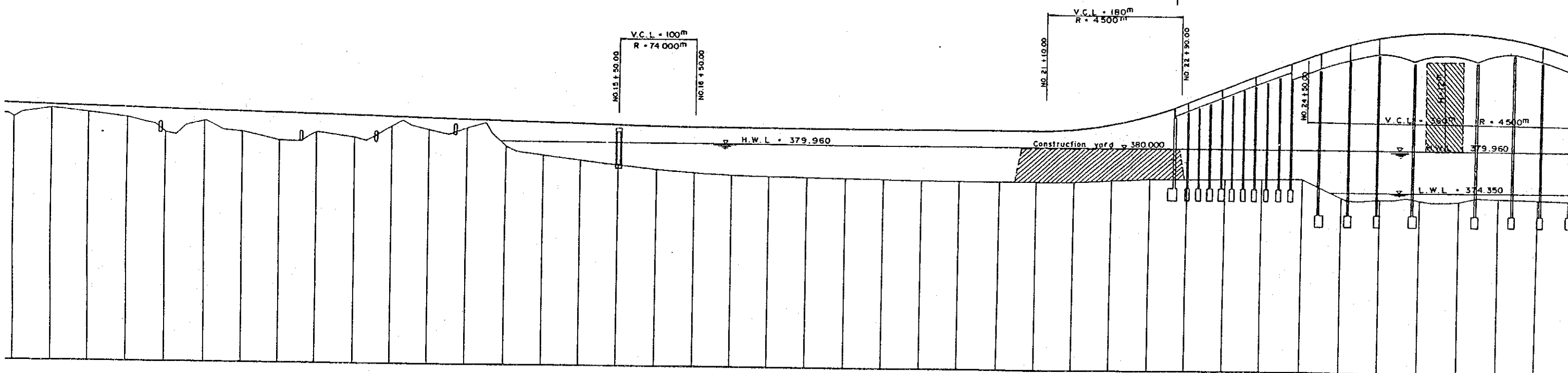
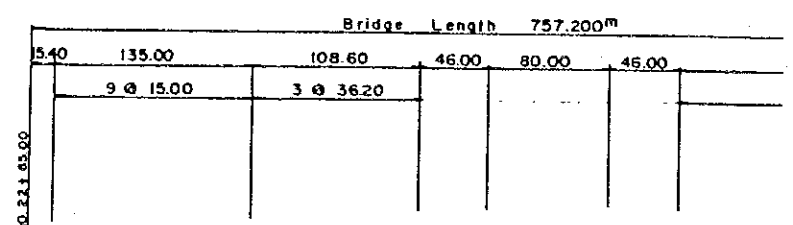
Pipe Culvert #0600 L=39.00
NO. 9 + 45.00

Pipe Culvert #0600 L=40.00
NO. 11 + 50.00

Pipe Culvert #0600 L=36.00
NO. 12 + 25.00

Pipe Culvert #0600 L=37.00
NO. 13 + 35.00

Box Culvert 6.00x4.50 L=30.00
NO. 15 + 50.00



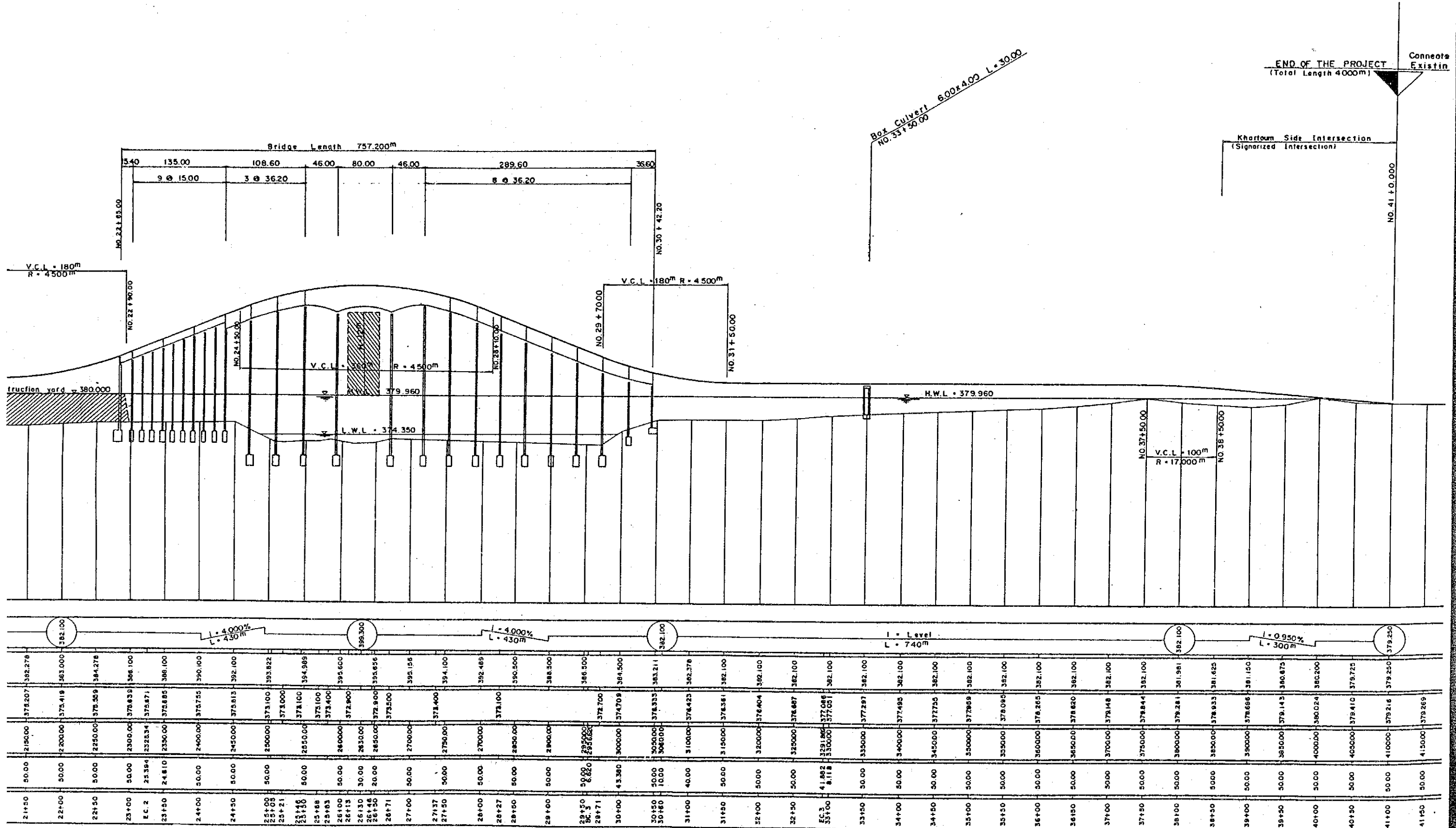
7+50	750.00	382.477	384.174
8+00	800.00	383.657	384.052
8+50	850.00	383.810	383.930
9+00	900.00	382.885	383.808
9+50	950.00	381.723	383.586
10+00	1000.00	382.273	383.564
10+50	1050.00	380.753	383.442
11+00	1100.00	378.884	383.320
11+50	1150.00	380.783	383.198
12+00	1200.00	380.120	383.076
12+50	1250.00	380.462	382.954
13+00	1300.00	381.239	382.832
13+50	1350.00	381.564	382.710
14+00	1400.00	382.233	382.588
14+50	1450.00	377.975	382.466
15+00	1500.00	372.445	382.344
15+50	1550.00	378.895	382.222
16+00	1600.00	378.285	382.100
16+50	1650.00	375.884	382.100
17+00	1700.00	375.632	382.100
17+50	1750.00	375.555	382.100
18+00	1800.00	375.468	382.100
18+50	1850.00	375.389	382.100
19+00	1900.00	375.286	382.100
19+50	1950.00	375.210	382.100
20+00	2000.00	375.184	382.100
20+50	2050.00	375.127	382.100
21+00	2100.00	375.124	382.100
21+50	2150.00	375.207	382.276
22+00	2200.00	375.419	383.000
22+50	2250.00	375.559	384.278
23+00	2300.00	376.839	386.100
23+50	2350.00	375.665	388.100
24+00	2400.00	375.755	390.100
24+50	2450.00	375.813	392.100
25+00	2500.00	373.100	393.822
25+21	2521.00	373.000	393.000
25+45	2545.00	378.100	394.989
25+68	2568.00	373.100	393.100
25+83	2583.00	373.400	395.600
25+100	2600.00	372.900	395.600
26+130	26130.00	372.900	395.656
26+48	2648.00	373.500	395.156
26+71	2671.00	373.400	394.100
27+00	2700.00		
27+37	2737.00		
27+50	2750.00		

i = 0.244%
L = 1300m

i = Level
L = 600m

L = 4.000%
L = 430m

599.300



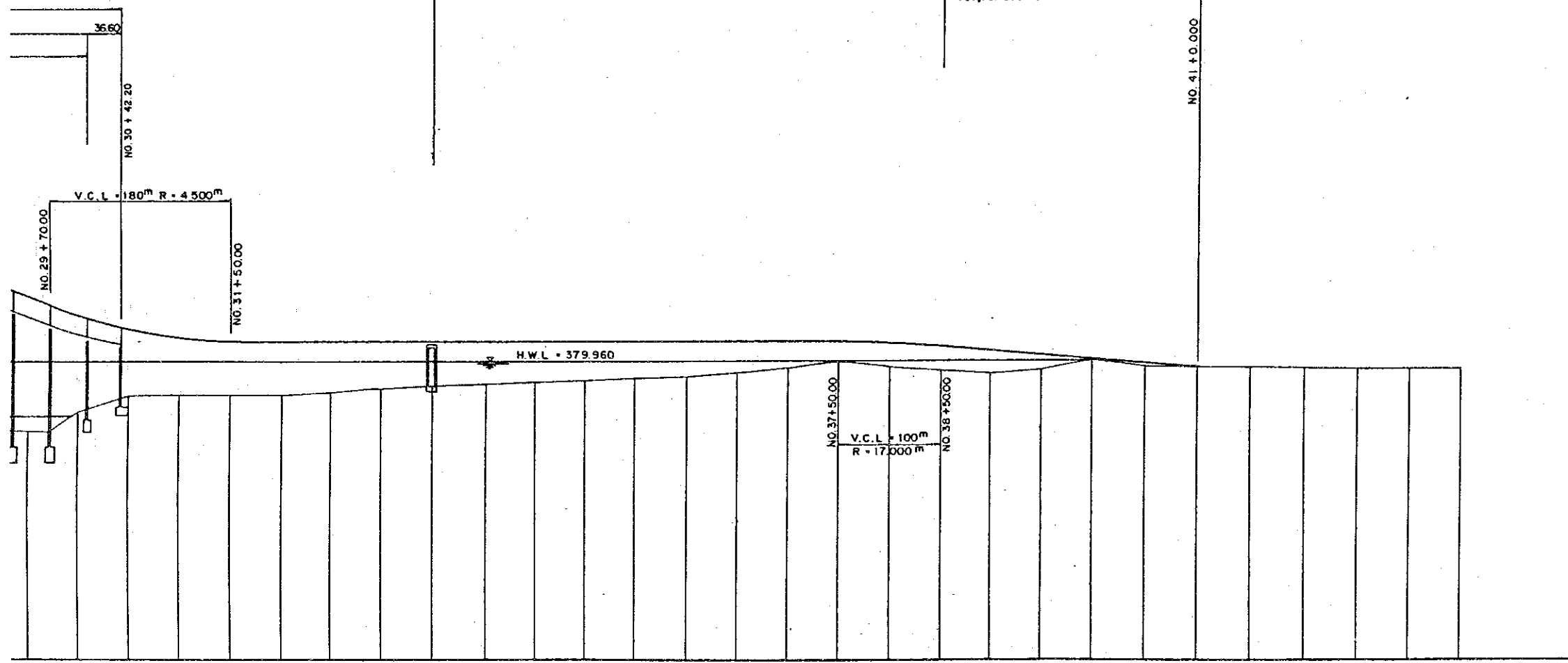
Box Culvert 6.00x4.00 L=30.00
NO. 35 P 50.00

END OF THE PROJECT
(Total Length 4000m)

Connected to
Existing Road

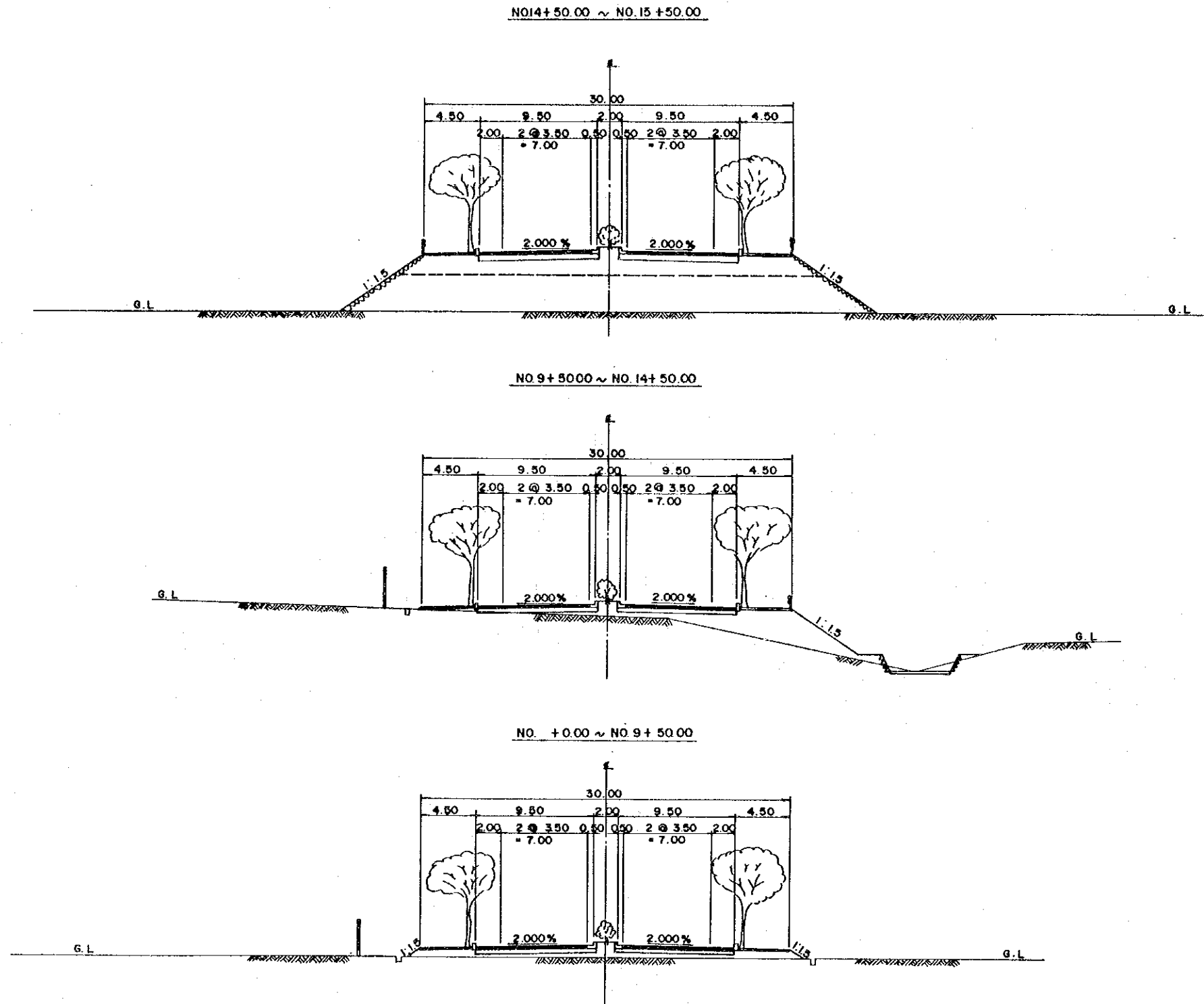
Khartoum Side Intersection
(Signalized Intersection)

NO. 41 P 0.000



28+50	29+00	30+00	31+00	31+50	32+00	32+50	EC 3 55+00	33+00	34+00	34+50	35+00	35+50	36+00	36+50	37+00	37+50	38+00	38+50	39+00	39+50	40+00	40+50	41+00	41+50	42+00	42+50	43+00	43+50	
386.500	384.500	383.211	382.378	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	381.981	381.625	381.150	380.875	380.200	379.725	379.250	379.250	379.185	379.185	379.185	379.089	
382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100	382.100
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NOTE
DATA OF SOUNDING
BETWEEN 24+50 TO 30+00
DELEVERED BY JICA TEAM
PREPARED BY SUDAN SURVEY DEPT.



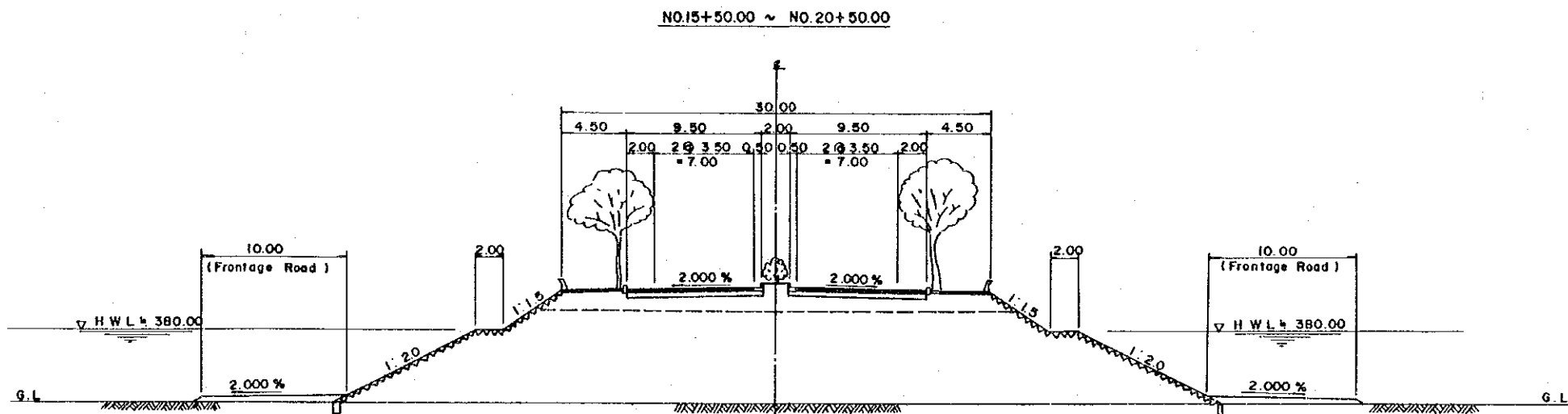
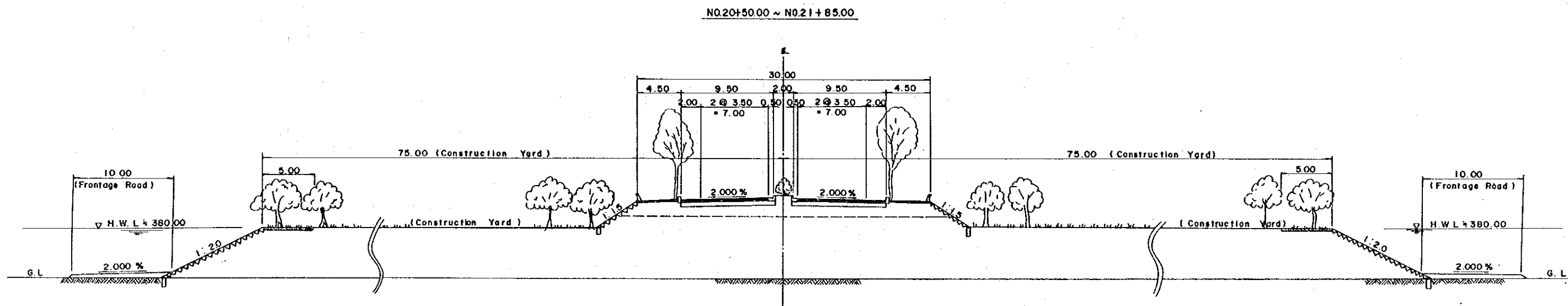
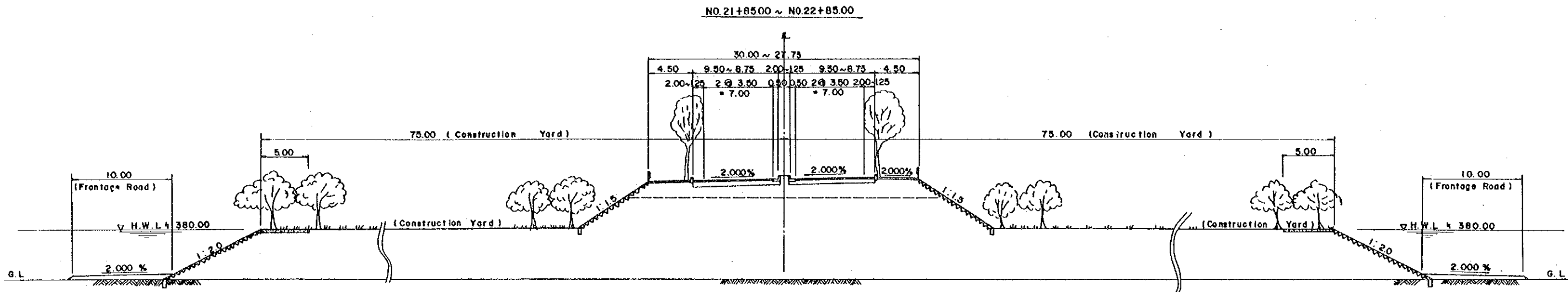
COMMISSIONERATE OF ENGINEERING AFFAIRS
NATIONAL CAPITAL KHARTOUM

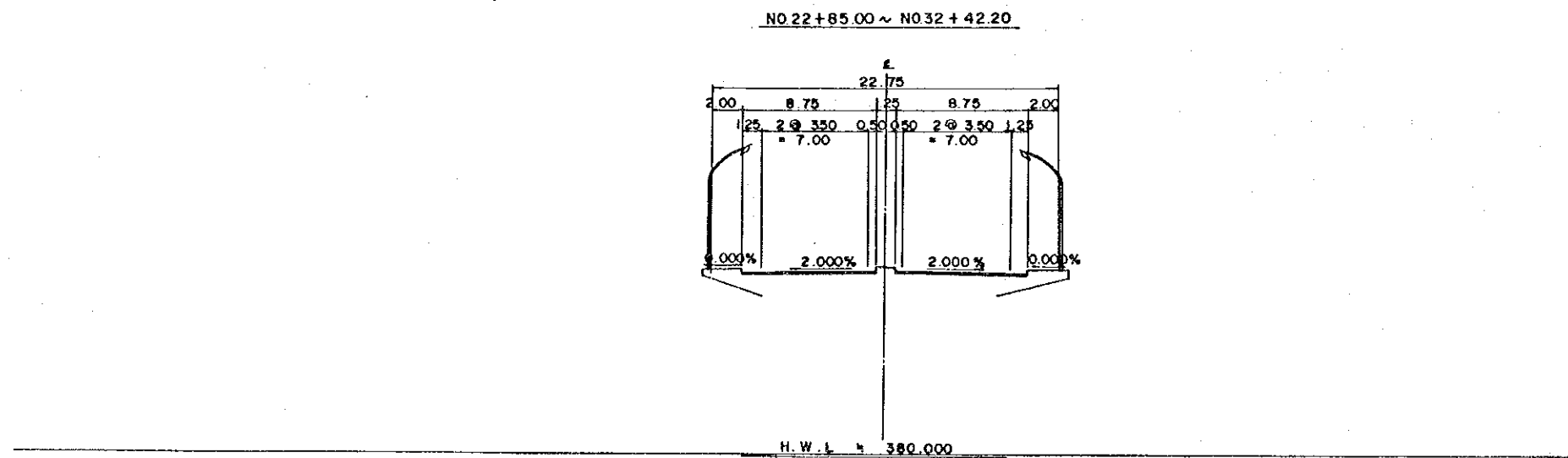
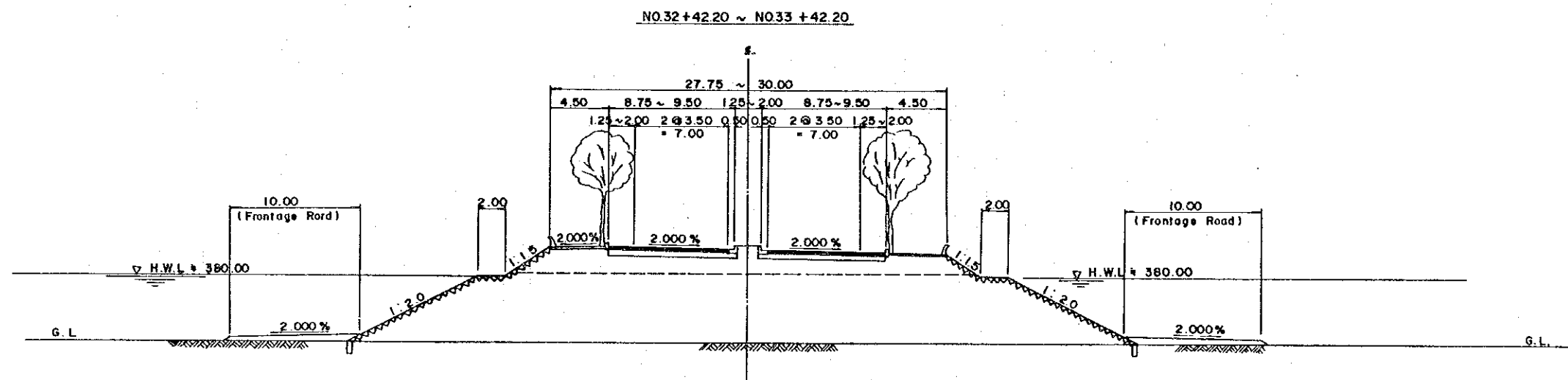
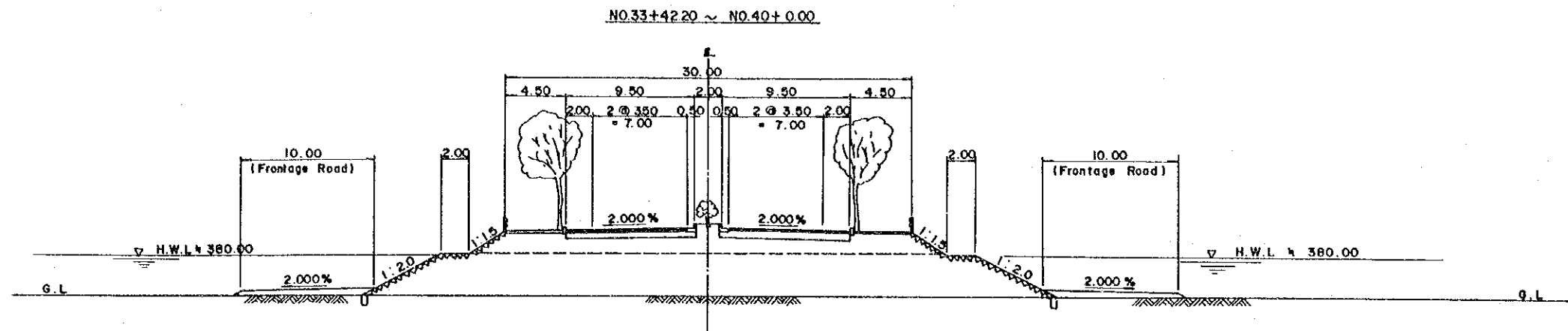
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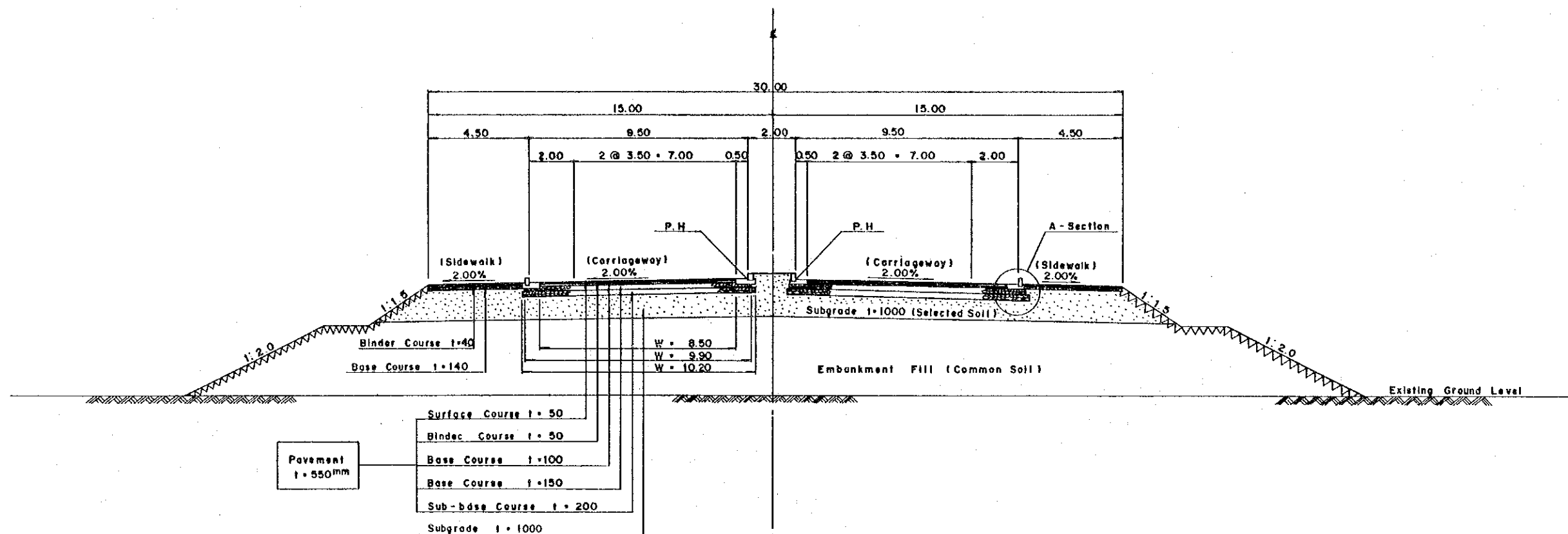
JAPAN INTERNATIONAL COOPERATION AGENCY

CROSS - SECTION (1)
NO. 1 + 0.00 ~ NO. 15 + 50.0

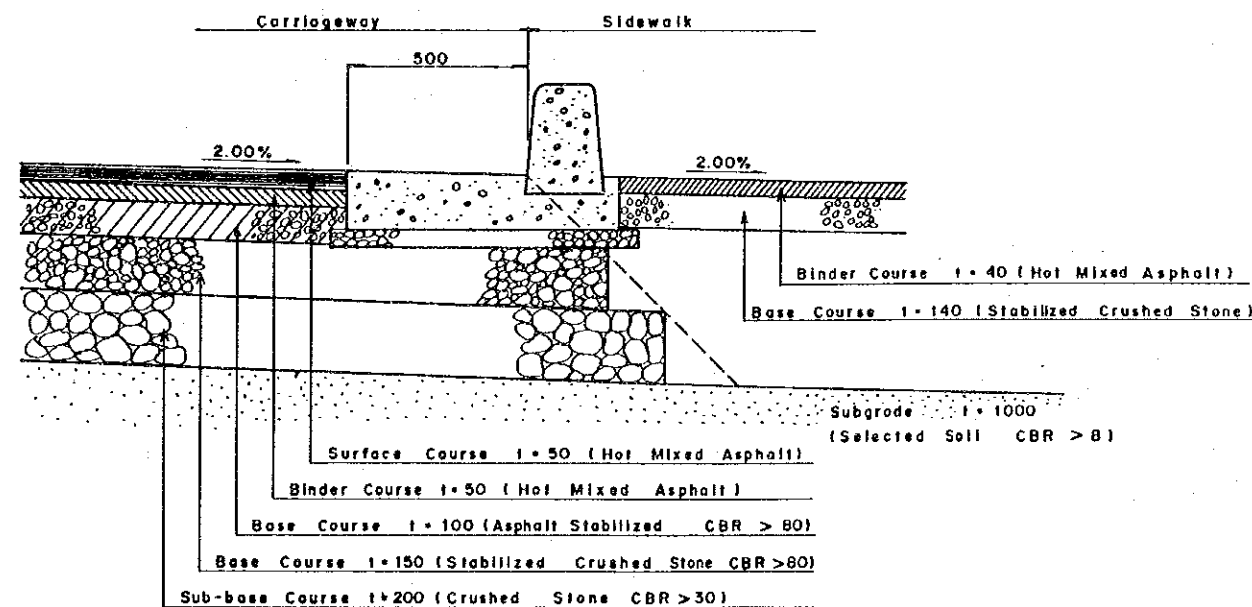
DATE	SHEET NO.
JANUARY, 1990	3/32

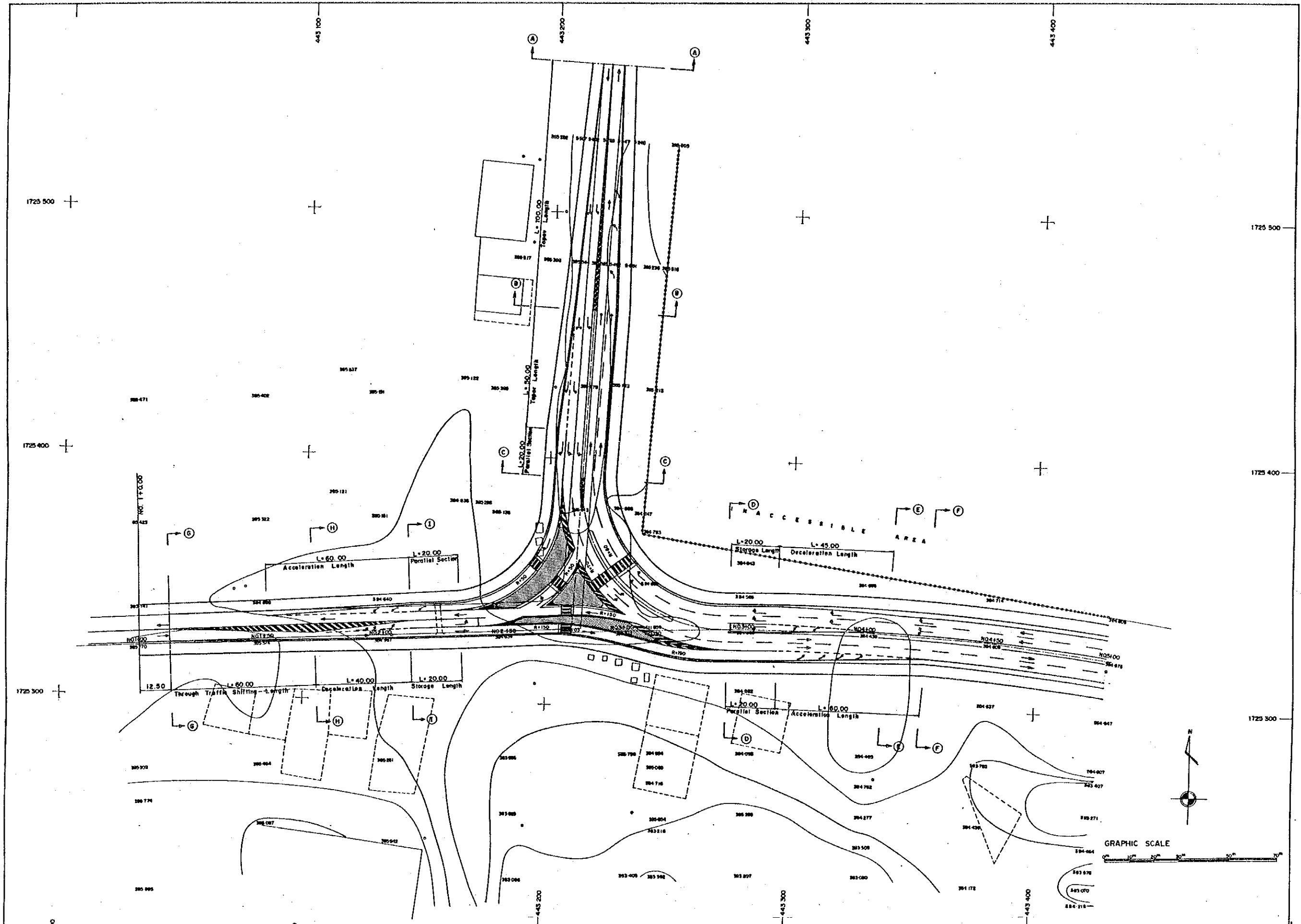




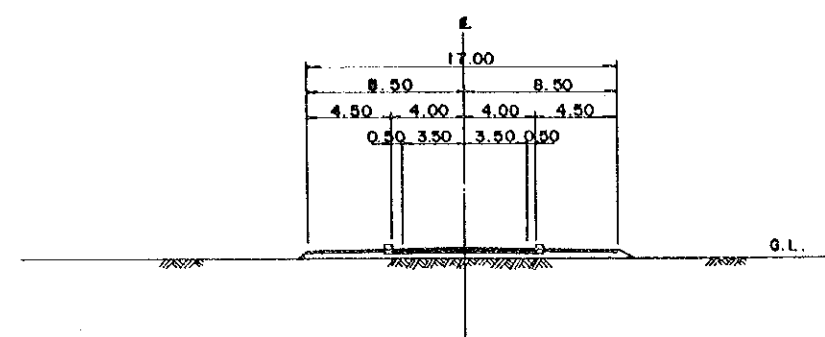


Details of A-Section

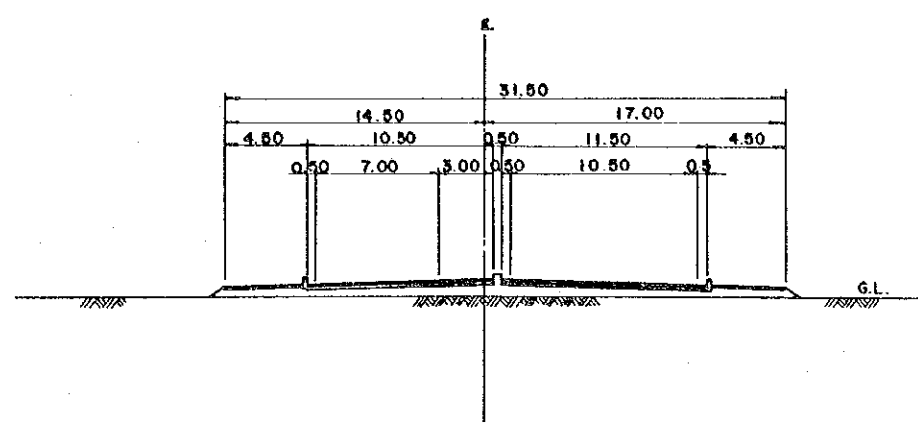




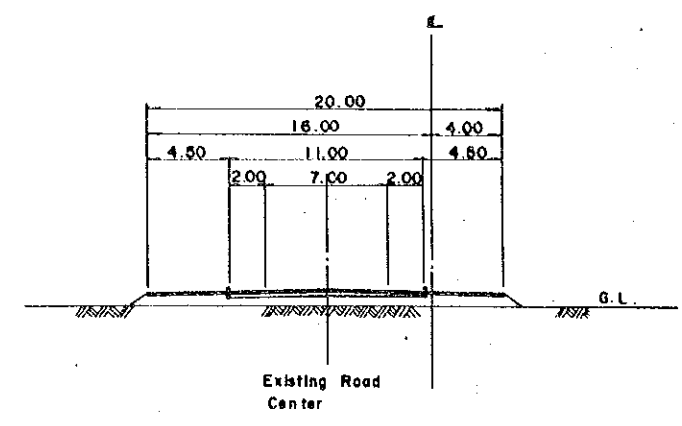
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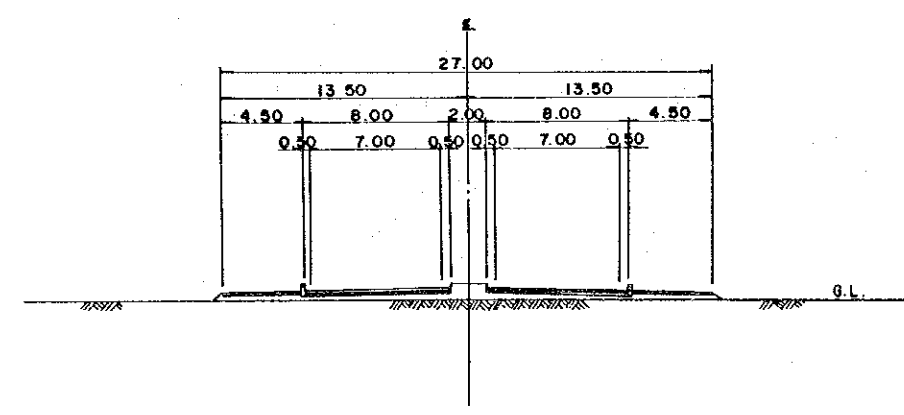
(D)-(D) Section



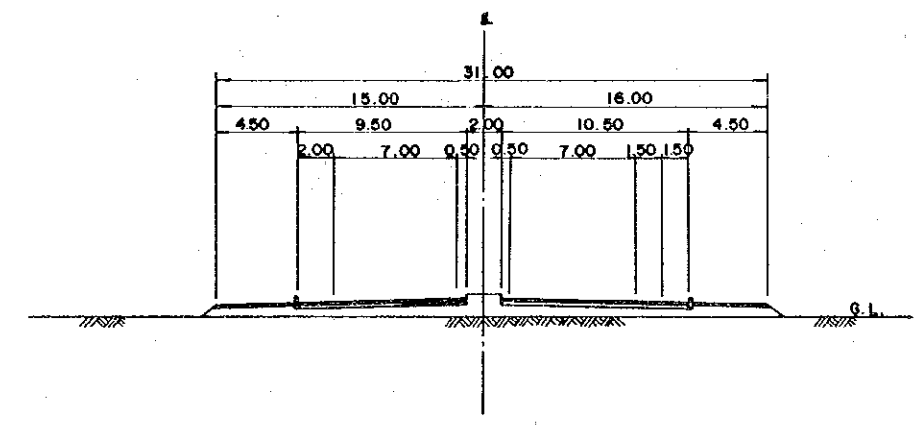
(G)-(G) Section



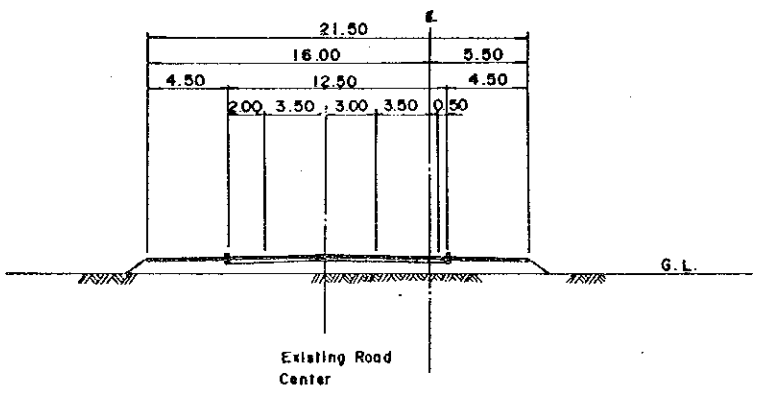
(B)-(B) Section



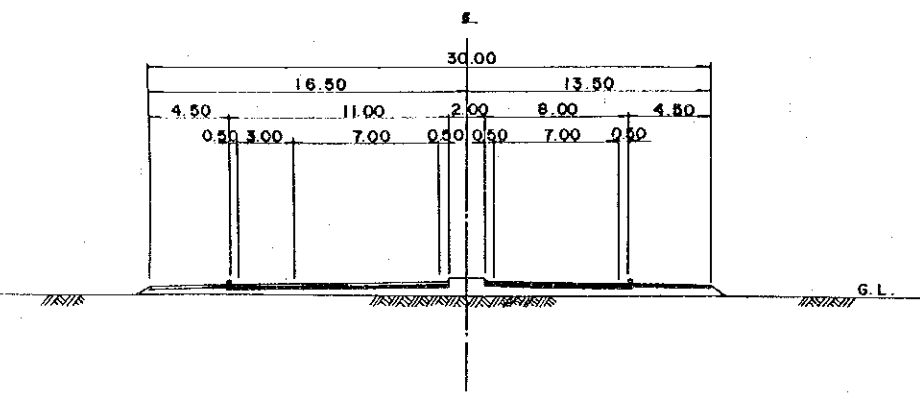
(E)-(E) Section



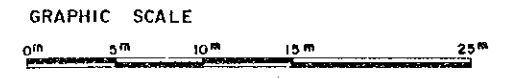
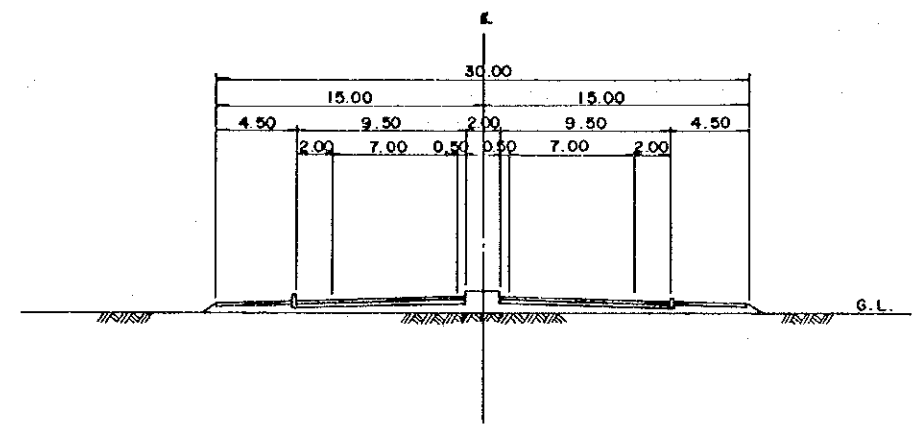
(H)-(H)
(I)-(I) Section

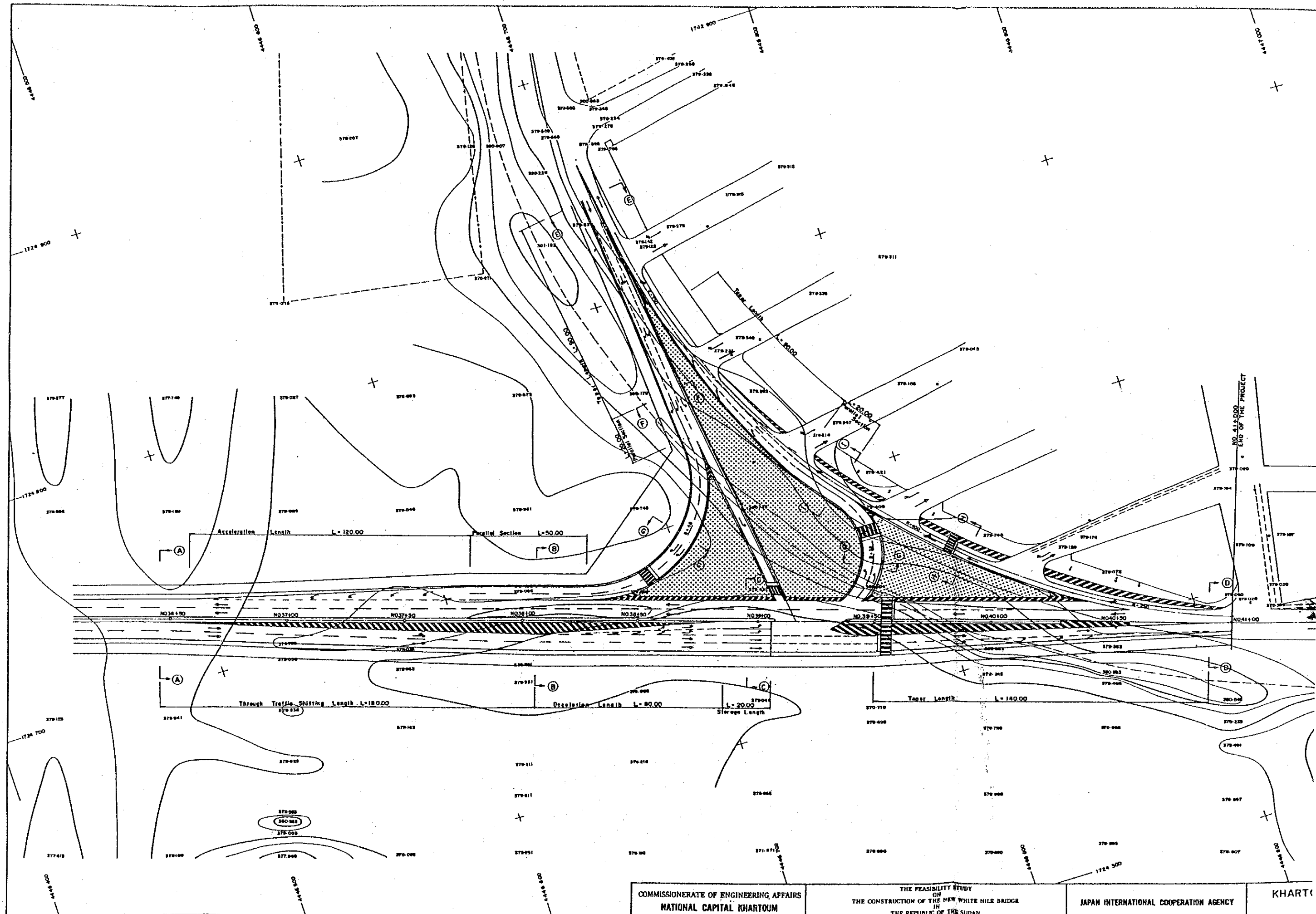


(C)-(C) Section

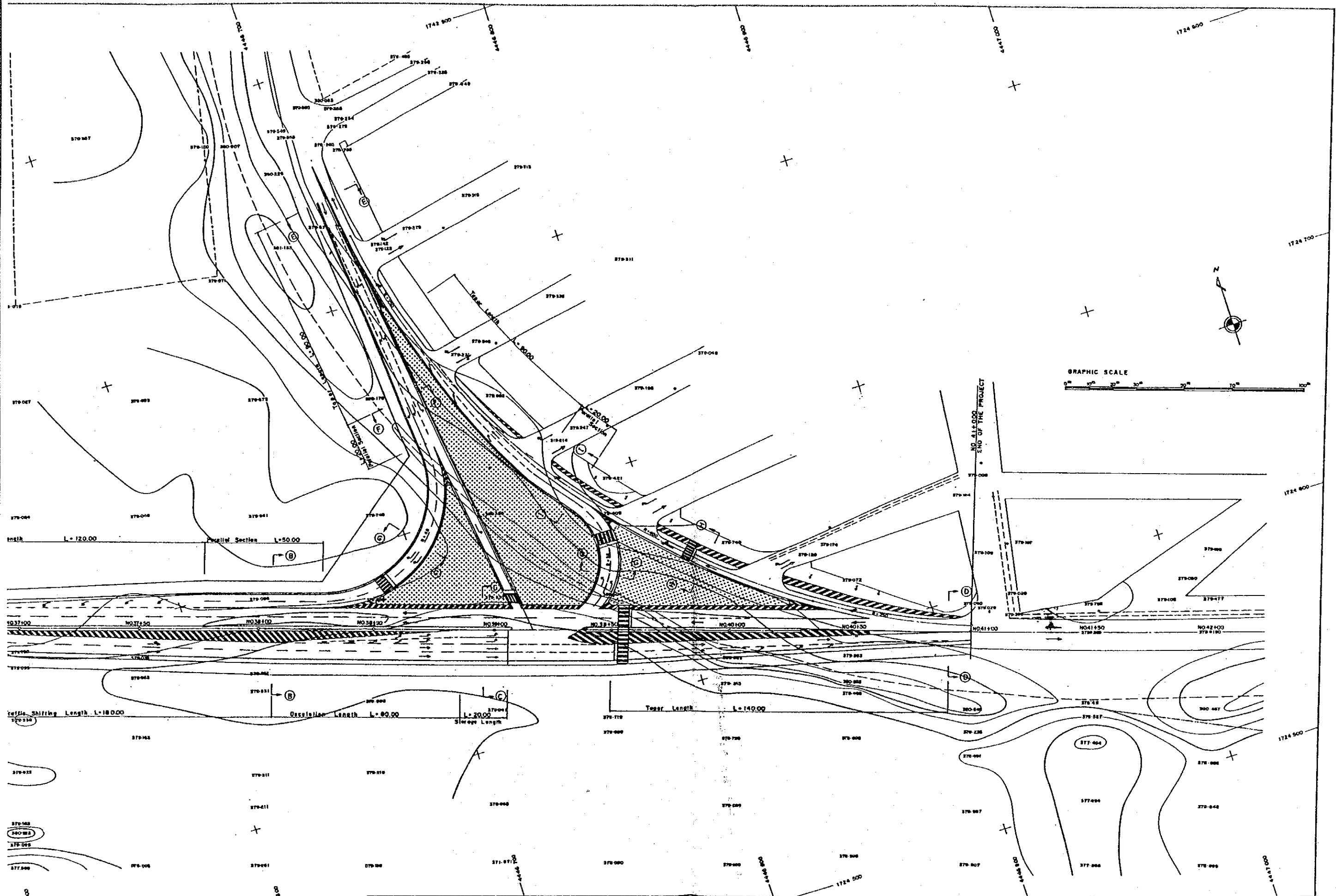


(F)-(F) Section





COMMISSIONERATE OF ENGINEERING AFFAIRS NATIONAL CAPITAL KHARTOUM	THE FEASIBILITY STUDY ON THE CONSTRUCTION OF THE NEW WHITE NILE BRIDGE IN THE REPUBLIC OF THE SUDAN	JAPAN INTERNATIONAL COOPERATION AGENCY	KHARTOUM
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COMMISSIONERATE OF ENGINEERING, AFFAIRS
NATIONAL CAPITAL KHARTOUM

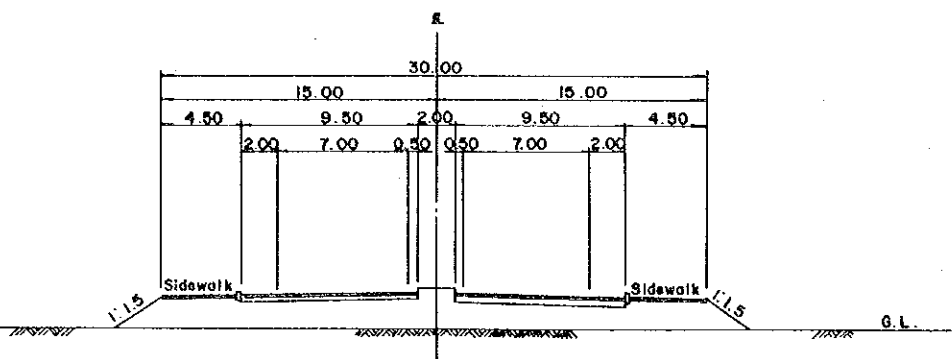
THE FEASIBILITY STUDY
ON
THE CONSTRUCTION OF THE NEW WHITE NILE BRIDGE
IN
THE REPUBLIC OF THE SUDAN

JAPAN INTERNATIONAL COOPERATION AGENCY

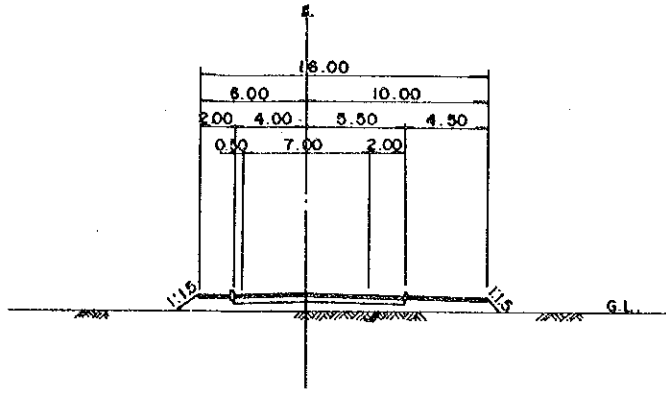
KHARTOUM SIDE INTERSECTION
GENERAL PLAN

DATE	SHEET NO.
JANUARY, 1966	9/32

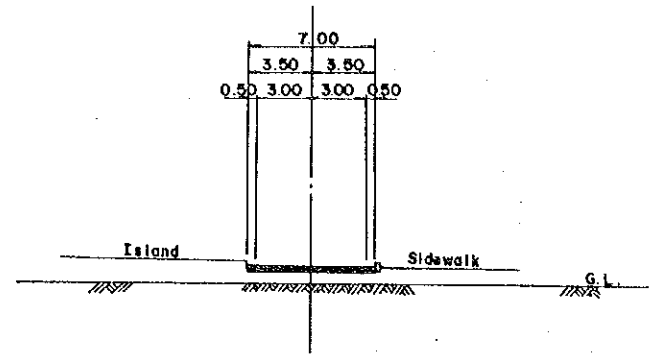
(A)-(A) Section



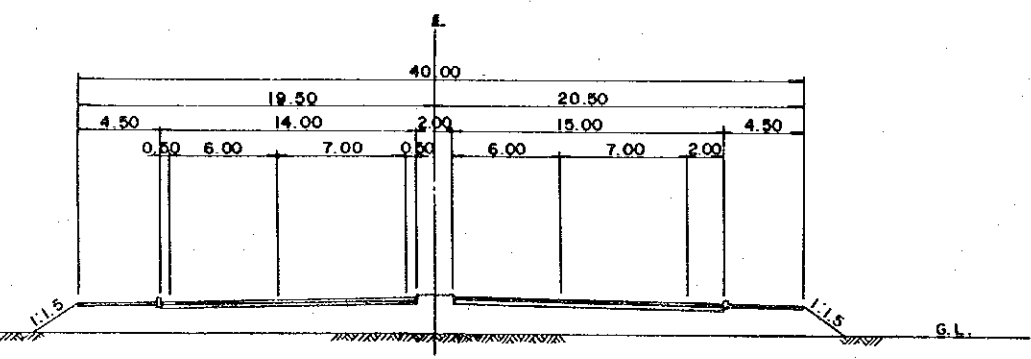
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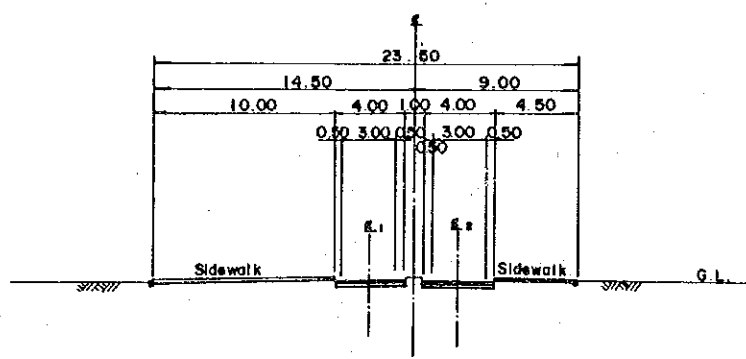
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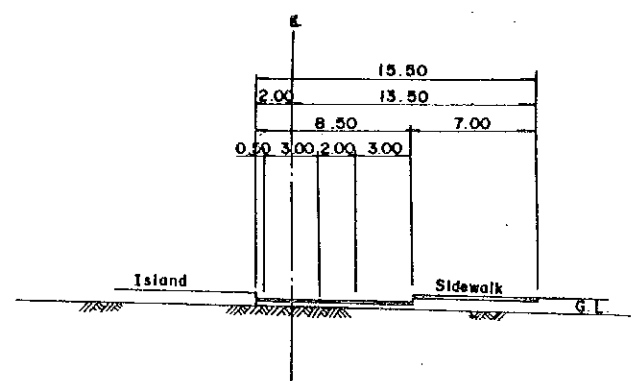
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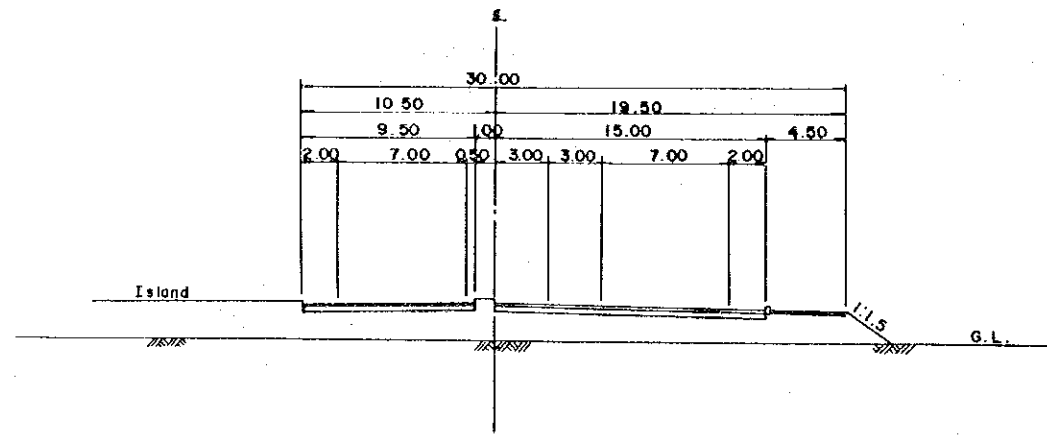
(E)-(E) Section



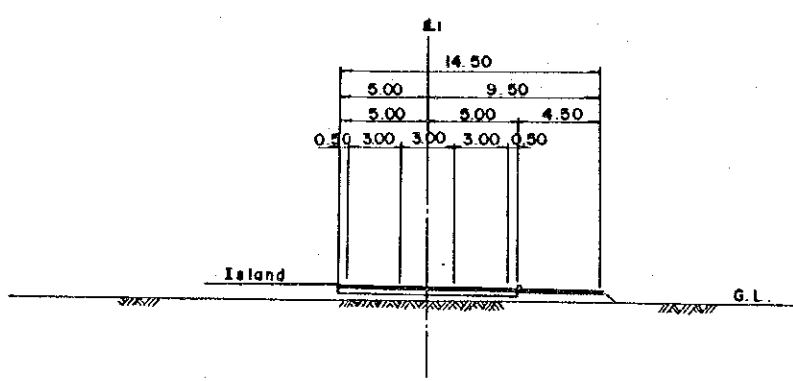
(H)-(H) Section



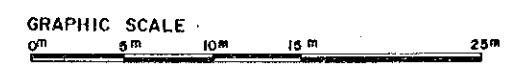
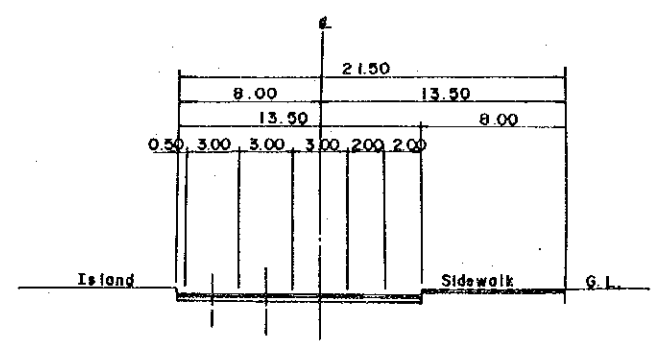
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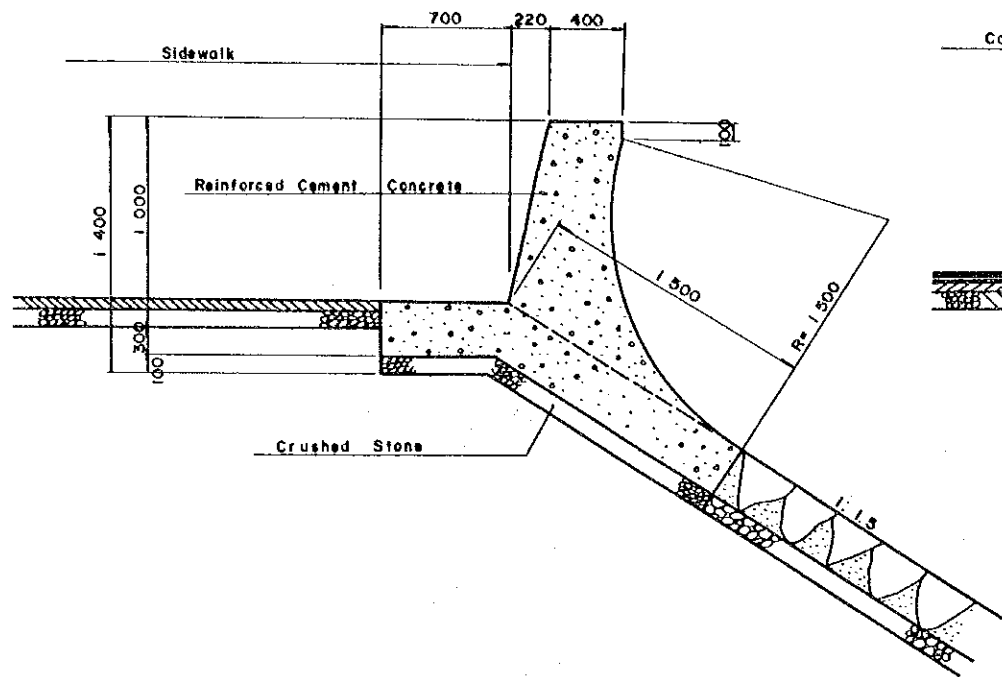
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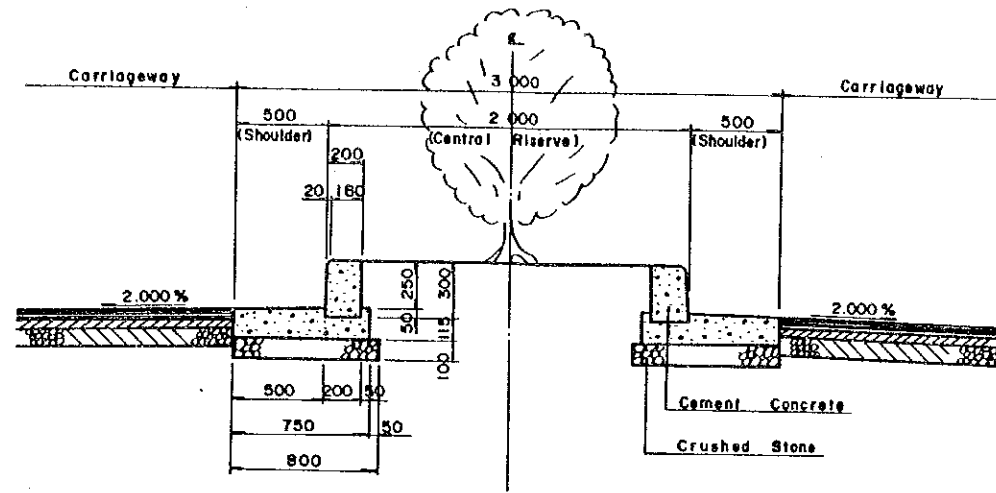
(I)-(I) Section



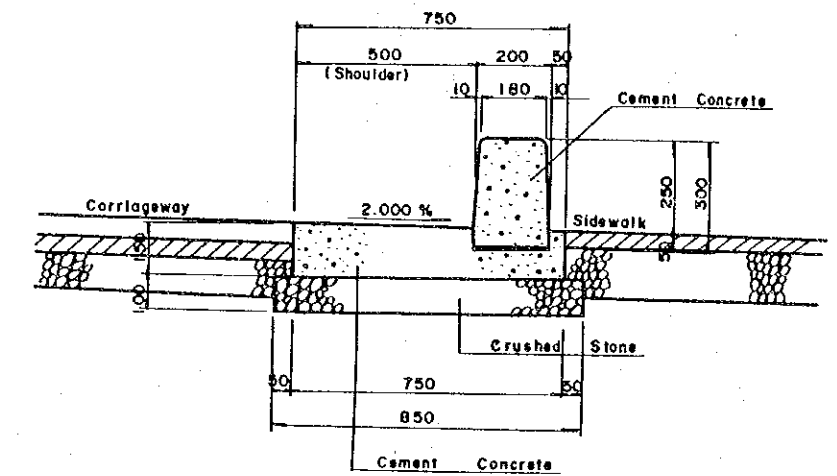
Details of Wave Protection



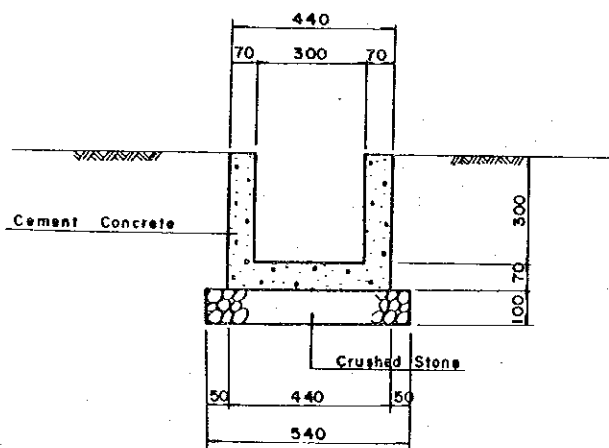
Details of Central Reserve S-1:20



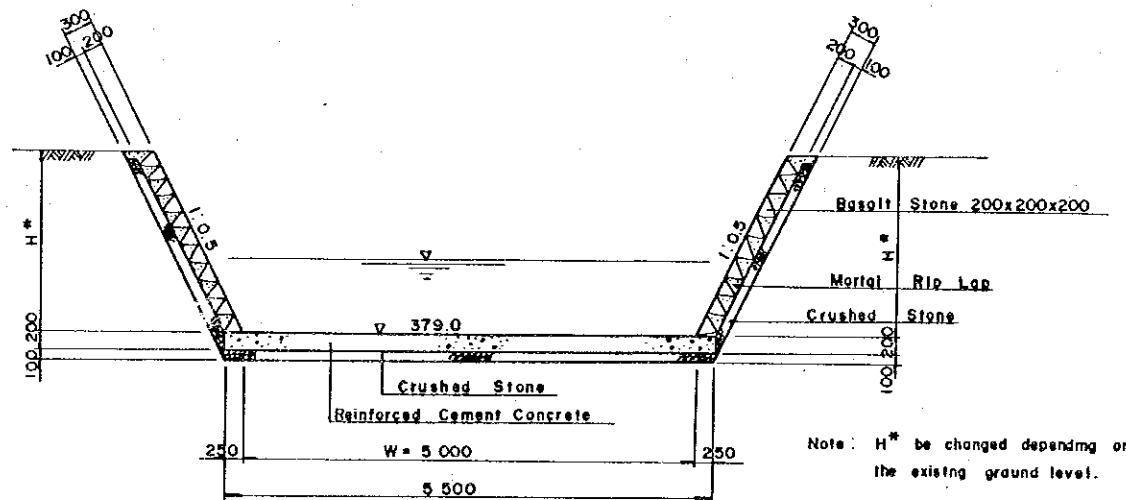
Details of Curb Stone S-1:10



Details of Drainage W=0.30 S-1:10



Details of Open Channel S-1:40



Note: H* be changed depending on the existing ground level.

Details of Guardrail

