

THE UNITED REPUBLIC OF TANZANIA
THE SELANDER BRIDGE EXPANSION PROJECT
DRAWINGS

JUNE, 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

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THE UNITED REPUBLIC OF TANZANIA

THE SELANDER BRIDGE EXPANSION PROJECT

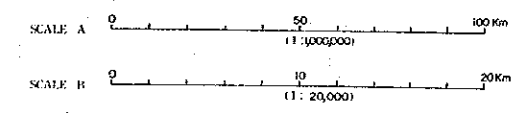
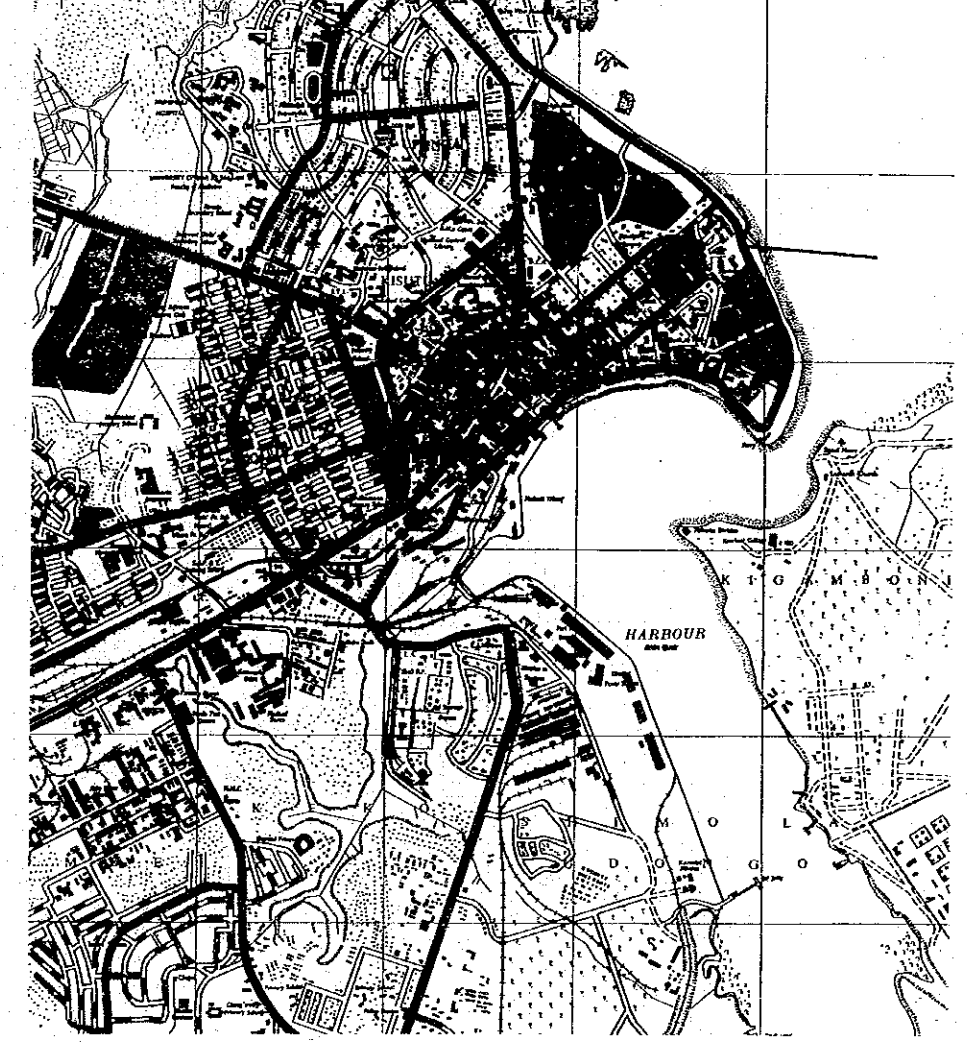
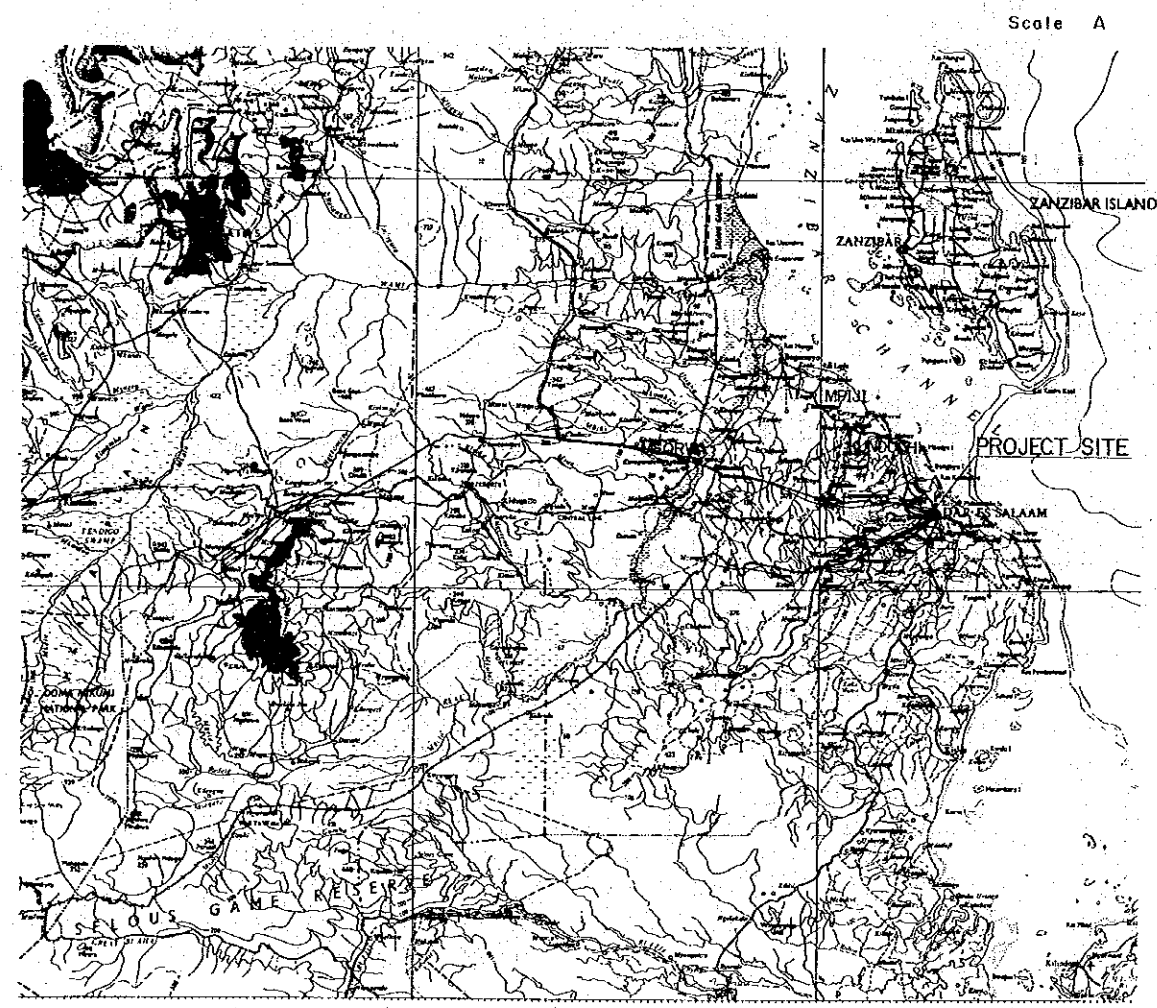
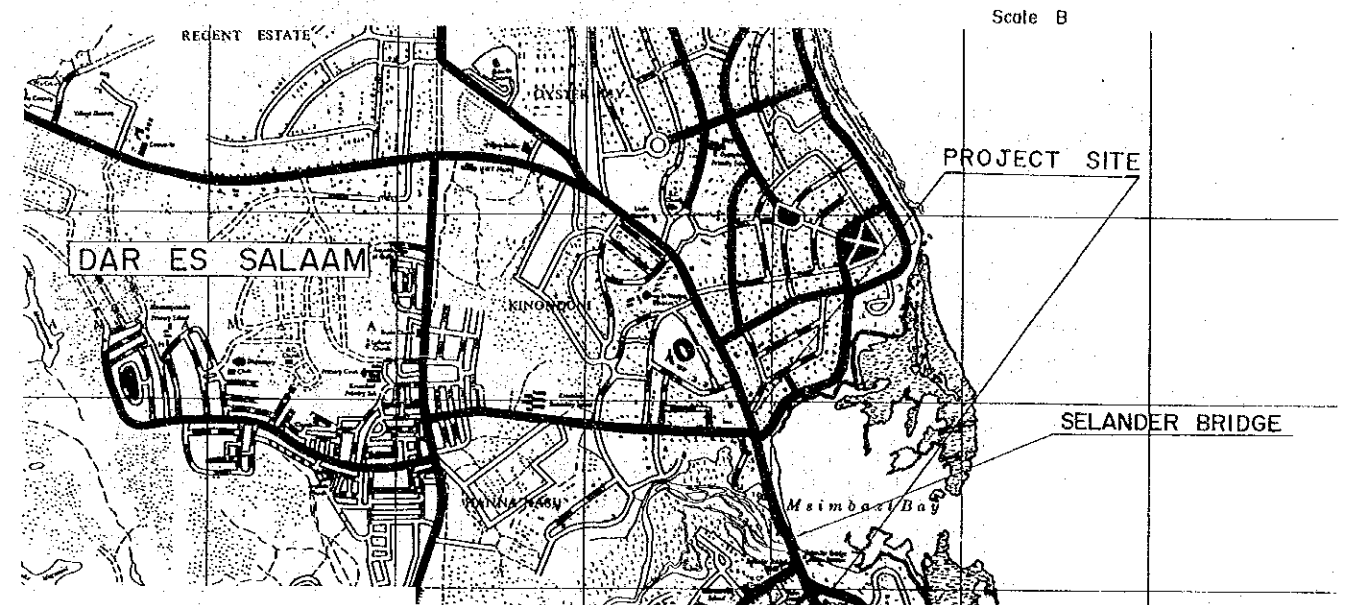
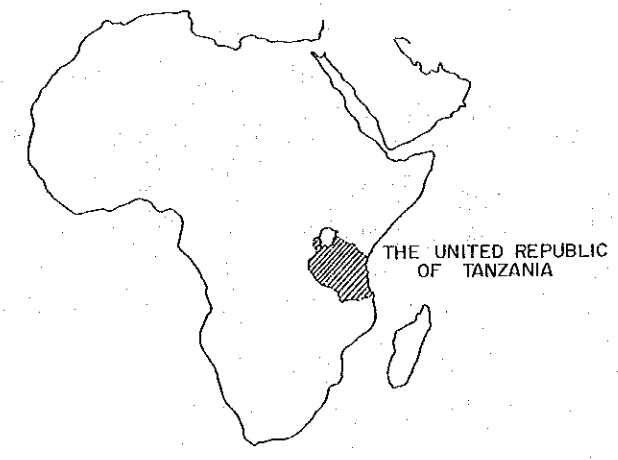
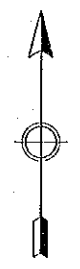
DRAWINGS

JUNE, 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

国際協力事業団	
受入 月日 55.8.25	L416
登録No. 9053	61.5
	SDS

LOCATION MAP

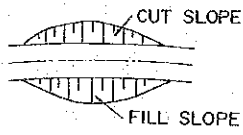
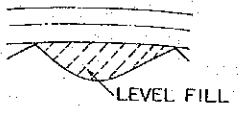
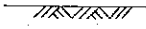

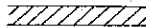



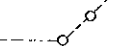
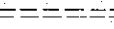
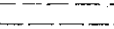


			THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		LOCATION MAP (THE UNITED REPUBLIC OF TANZANIA)		MINISTRY OF WORKS		APPROVED		
							NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		DATE		
									PREPARED		
									CHECKED		
									SUBMITTED		
									DATE		
									JUNE 30, 1980		
REV. NO.	DATE	COORDINATE	REVISION	APPRO. DATE	MINISTRY OF WORKS	DWG. NO.					

ABBREVIATIONS

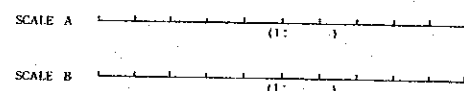
ABBREVIATION	FULL WORDS
PLAN	
I.P.	Intersection Point
S.T.A.	Station
I.A.	Intersection Angle
R	Radius
T.L.	Tangent Length
S.L.	Secant Length
C.L.	Curve Length of Transition
B.C.	Beginning Point of Transition Curve
E.C.	End Point of Transition Curve
Ds - U(R)	U-shape Side Ditch with Reinforce Concrete cover
Ds - L	L-shape Side Ditch
D \bar{C} (G)	Catch Basin with Grating Cover
LONGITUDINAL SECTION	
V.C.L	Vertical Curve Length
L	Length
i	Gradient
CROSS SECTION	
F.H.	Formation Height
G.H.	Ground Height
STRUCTURE	
R.B	Round Steel Bar
R	Steel Plate
t	Thickness
ϕ	Diameter
n	Number

LEGEND

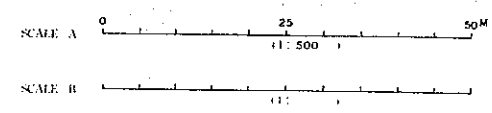
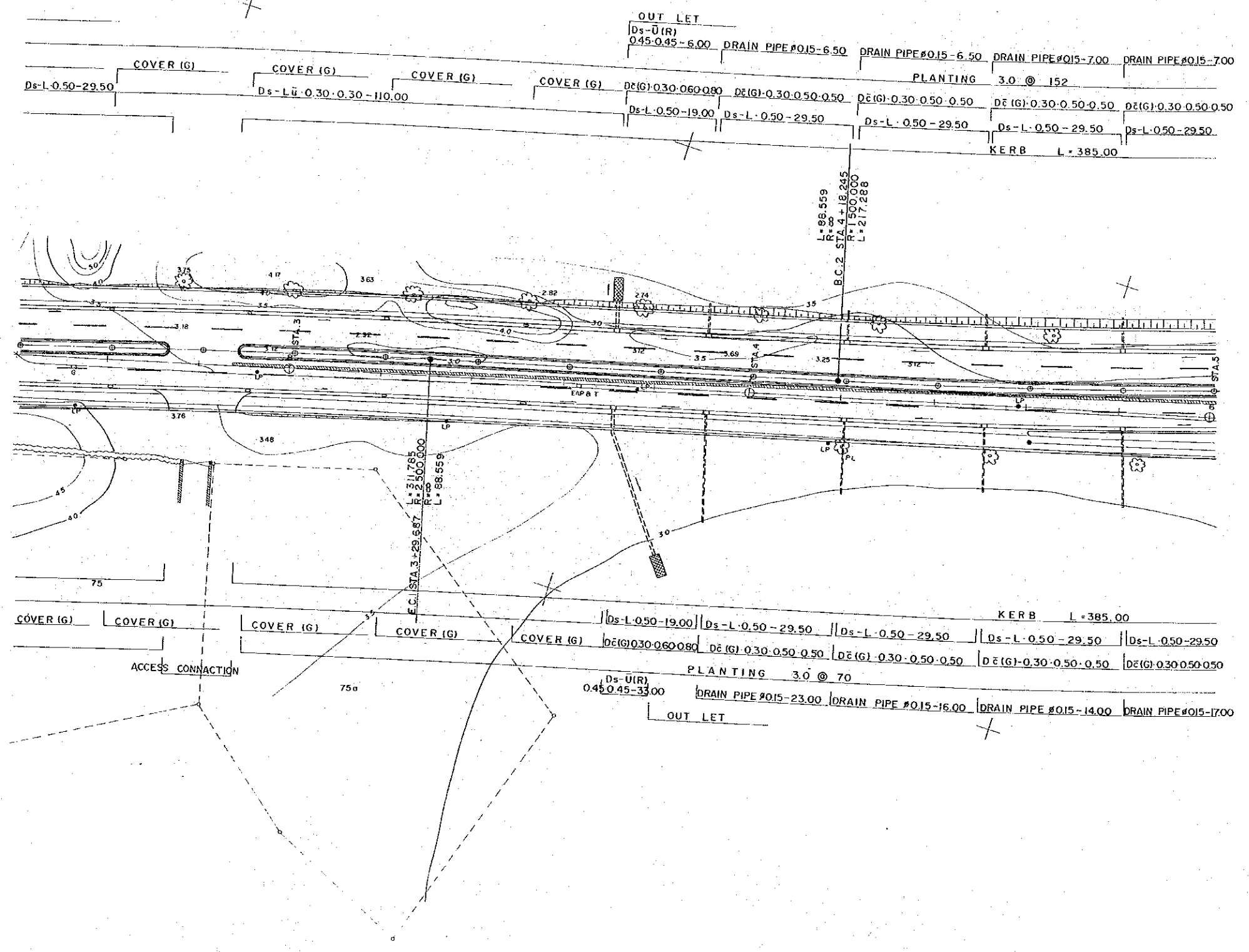
DETAIL	SYMBOLS
PROPOSED ROADWAY WITH CUT SLOPE AND FILL SLOPE	
PROPOSED LEVEL FILL	
GROUND	
CLIF	
CONCRETE WALL	
HEDGE	
TREE	
PROPOSED ROCK RIPRAP	
CONCRETE PEG OR PIPE	
PROPOSED DRAIN PIPE	
PROPOSED BOX CULVERT	

GENERAL NOTE

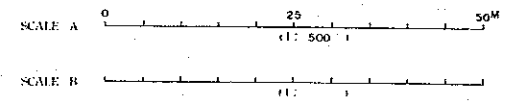
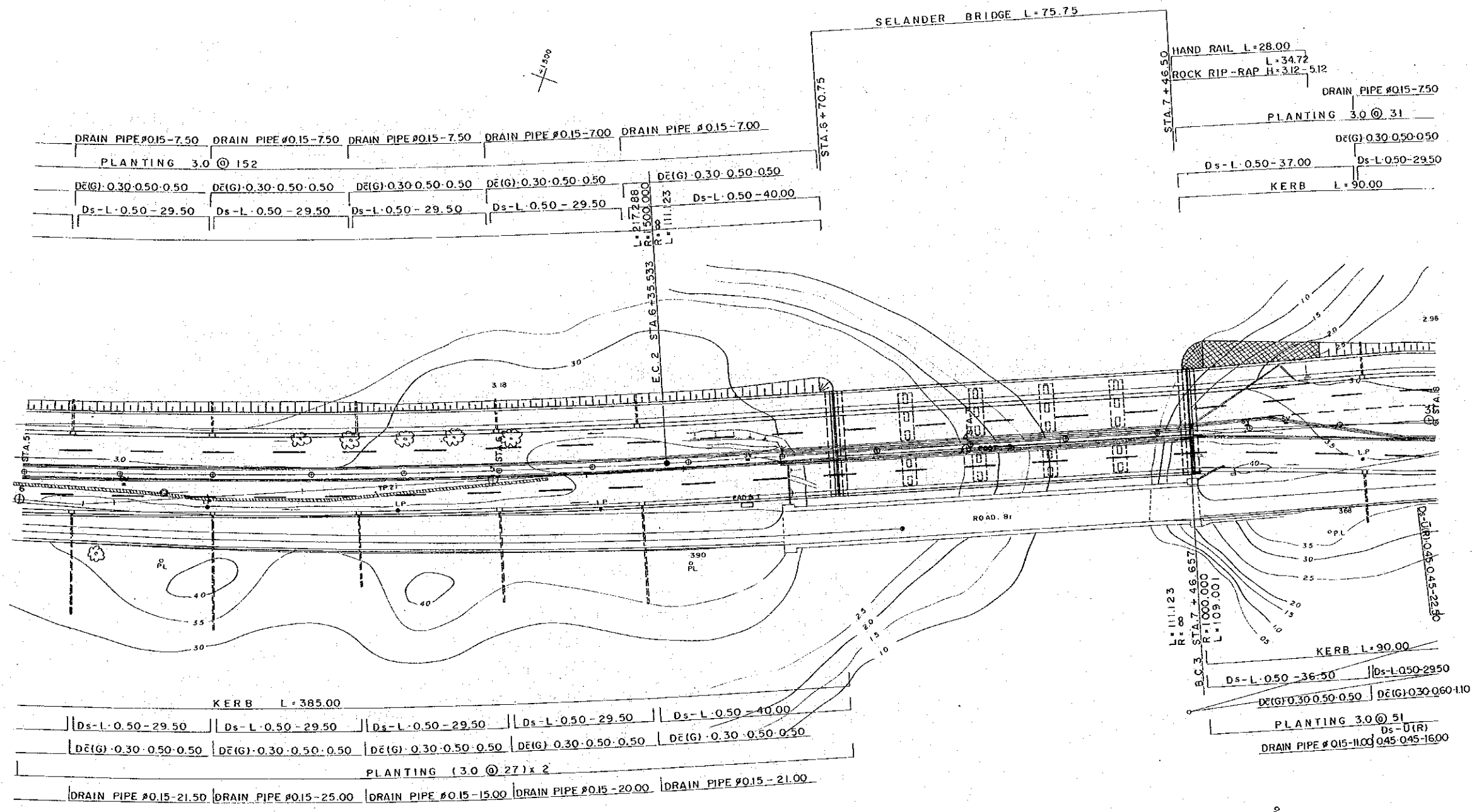
- All linear measurements based on the Metric System and dimensions shown are in meters and in millimeters unless otherwise stated.
- Station number of horizontal alignment is at 100 meters.
- Clothoid - spiral is used for all horizontal transition curves and parabolic curve is used for all vertical curves.



REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	ABBREVIATION, LEGEND & GENERAL NOTE	MINISTRY OF WORKS	APPROVED _____ DATE _____ PREPARED _____ CHECKED _____ SUBMITTED _____ DATE: JUNE 30, 1980
						MINISTRY OF WORKS	DWG. NO. A - 1		



REV. NO.		DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM MINISTRY OF WORKS	PLAN (2) DWG. NO. B - 2	MINISTRY OF WORKS	APPROVED
									SHPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	DATE
										JUNE 30, 1980



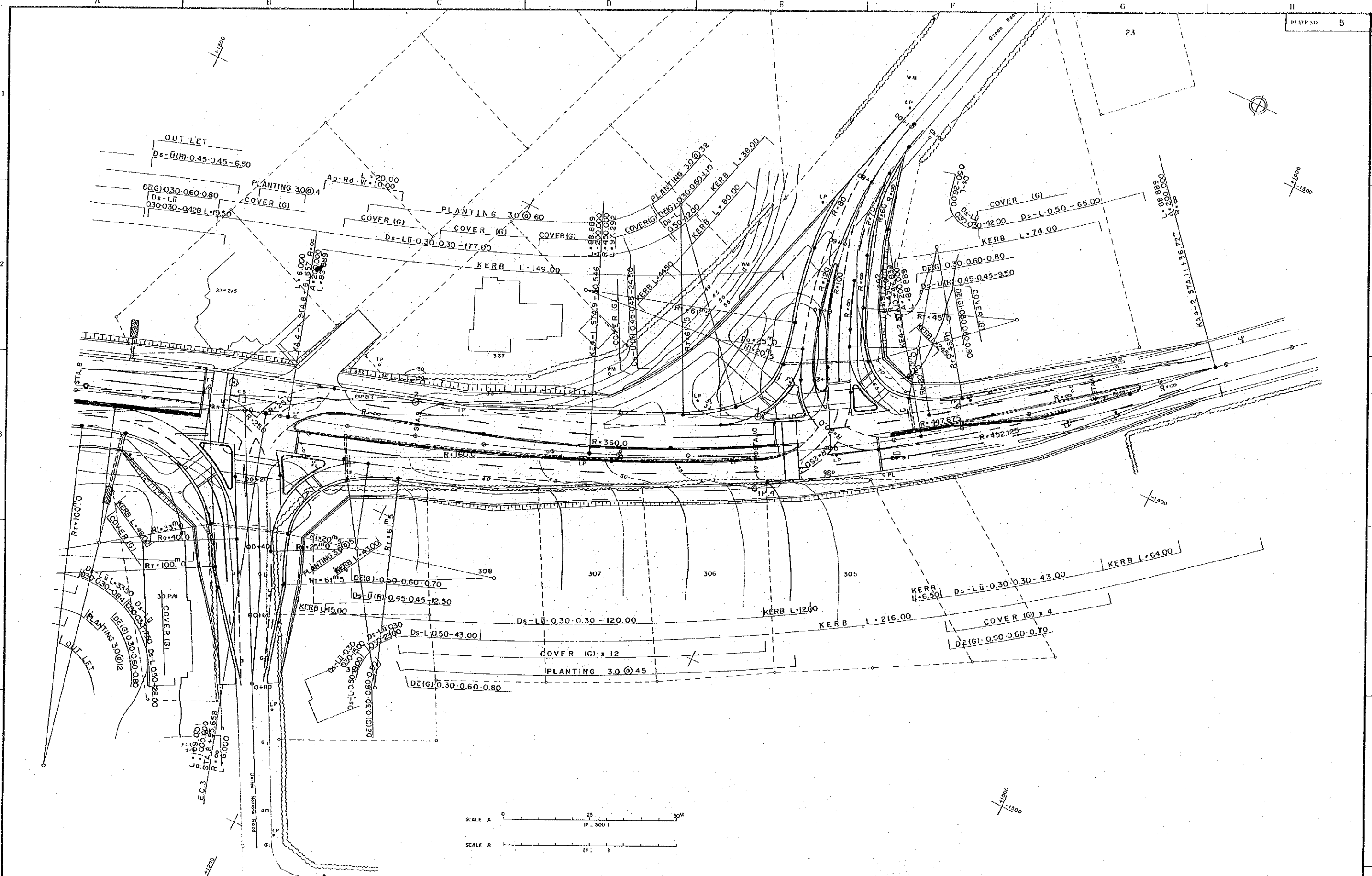
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE

THE SELANDER BRIDGE
EXPANSION PROJECT
DAR ES SALAAM

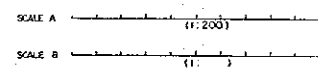
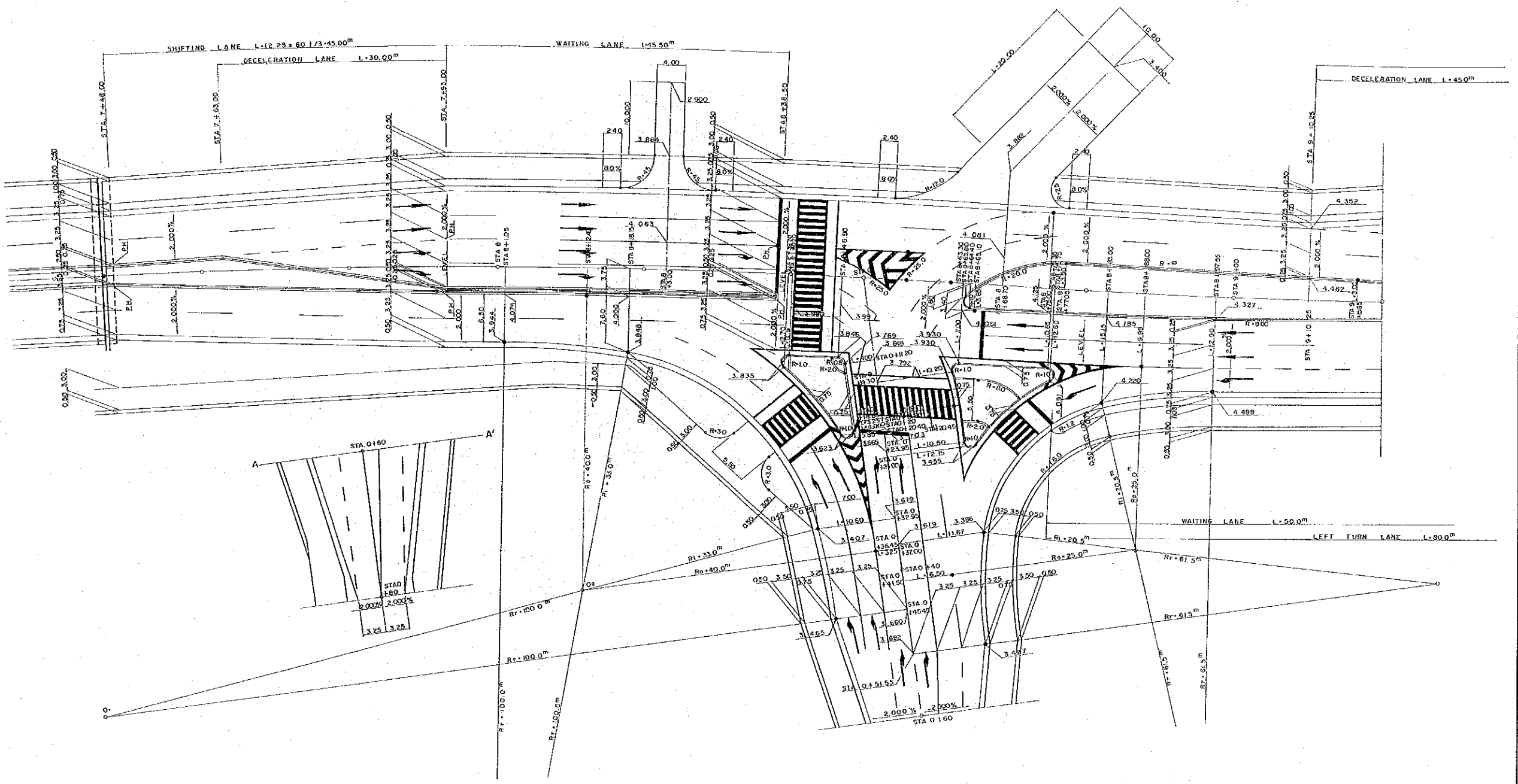
MINISTRY OF WORKS

DWG. NO. B - 3

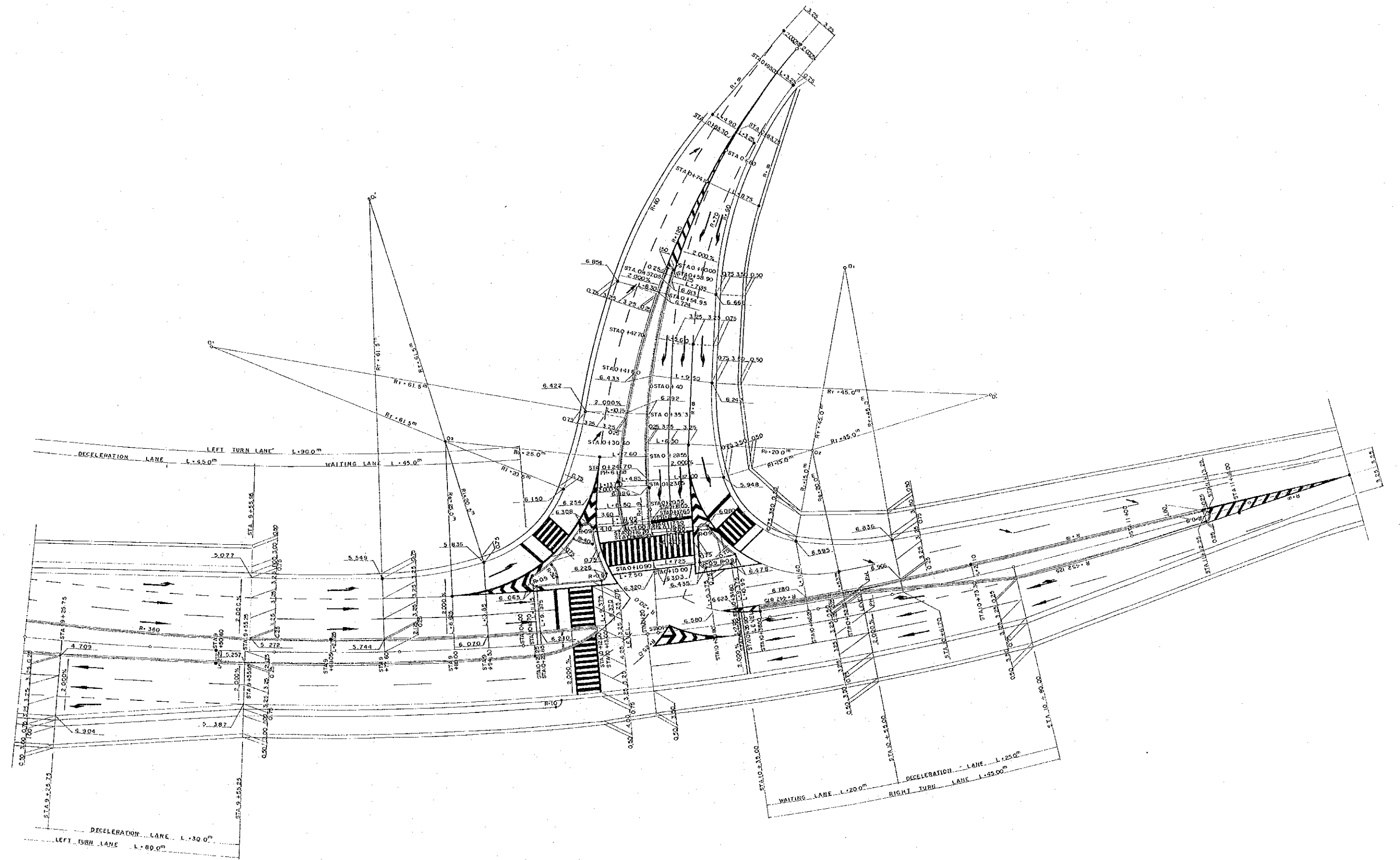
MINISTRY OF WORKS	APPROVED
	DATE
NIPPON KOEI CO. LTD.	PREPARED
CONSULTING ENGINEERS	CHECKED
TOKYO JAPAN	DATE
	JUNE 30, 1980



						THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		PLAN (4)		MINISTRY OF WORKS		APPROVED: _____	
										NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		DATE _____	
										DWG. NO. B - 4		CHECKED _____	
												SUBMITTED _____	
												DATE JUNE 30, 1980	
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	MINISTRY OF WORKS							



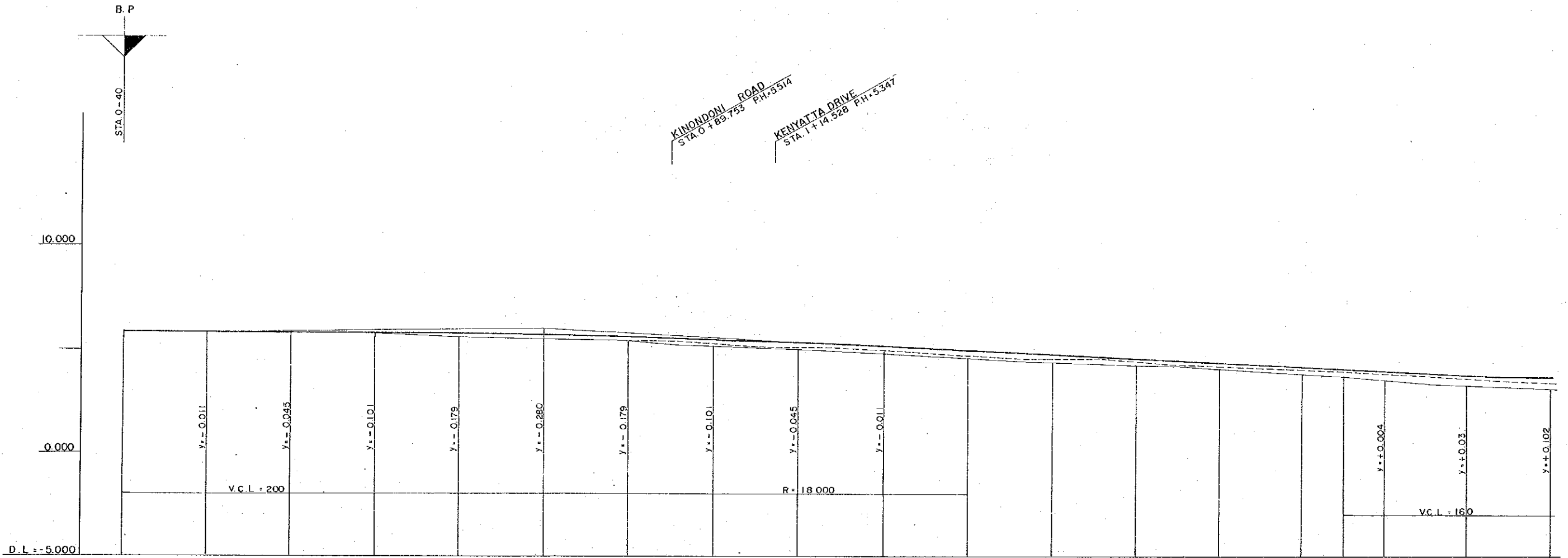
				THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		DETAILED PLAN JUNCTION (2)		MINISTRY OF WORKS		APPROVED	
								DATE		CHECKED	
								MINIFON XOEI CO., LTD		SUBMITTED	
								CONSULTING ENGINEERS		DATE	
								TOKYO JAPAN		JUNE 30, 1980	
REV. NO.	DATE	COORDINATE	REVISION	APPROV.	DATE	MINISTRY OF WORKS	OWG. NO.	C-2			



SCALE A $\frac{1}{1000}$
 SCALE B $\frac{1}{100}$

THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAN		DETAILED PLAN JUNCTION (3)		MINISTRY OF WORKS	APPROVED _____
				MINIYON KOCI CO., LTD	DATE _____
				CONSULTING ENGINEERS	PREPARED _____
				TOKYO JAPAN	DATE _____
		DWG NO C-3		JUNE 30, 1980	

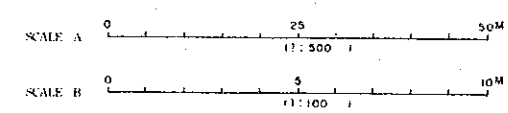
REV	DATE	DESCRIPTION	REVISION	APPD	DATE



GRADIENT	5.830		$i = 0.120\%$ $L = 100000$										5.950		$i = 1.000\%$ $L = 270000$									
EMBANKMENT HEIGHT		0.023	0.043	0.061	0.047	0.140	0.161	0.349	0.305	0.154	0.250	0.290	0.270	0.200	0.300	0.334	0.487	0.462						
CUT HEIGHT																								
PROPOSED HEIGHT	5.830	5.843	5.833	5.801	5.747	5.670	5.571	5.449	5.305	5.139	4.950	4.750	4.550	4.350	4.150	3.954	3.787	3.652						
GROUND HEIGHT	5.83	5.82	5.79	5.74	5.70	5.53	5.41	5.10	5.00	4.985	4.70	4.46	4.23	4.15	3.85	3.62	3.55	3.19						
CUMULATED DISTANCE	-40.00	-20.00	0.00	20.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00	180.00	200.00	220.00	240.00	260.00	280.00	300.00						
DISTANCE	20.00	20.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00						
STATION NO.	-40	-20	0+00	+20	+40	+60	+80	+100	+120	+140	+160	+180	+200	+220	+240	+260	+280	+300						
SUPERELEVATION	-2.000%																							
CURVE BAND	R = ∞																							

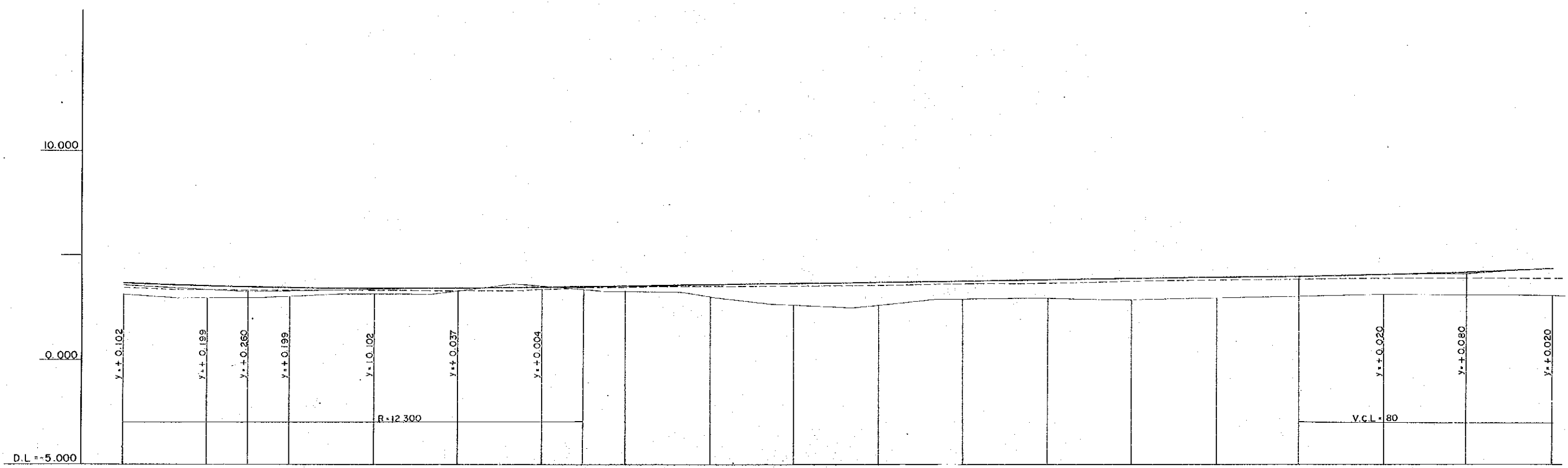
I.P.I. | A=7°-8'-44.1" R=2500.000, TL=156.095, CL=311.785, SL=4.868

Scale Horizontal = A
Vertical = B



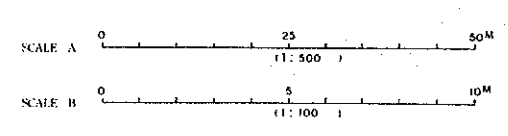
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM MINISTRY OF WORKS	PROFILE MAIN ROAD (I) BAGAMOYO ROAD DWG. NO. D - 1	MINISTRY OF WORKS NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	APPROVED	DATE
									PREPARED	CHECKED

JUNE 30, 1980



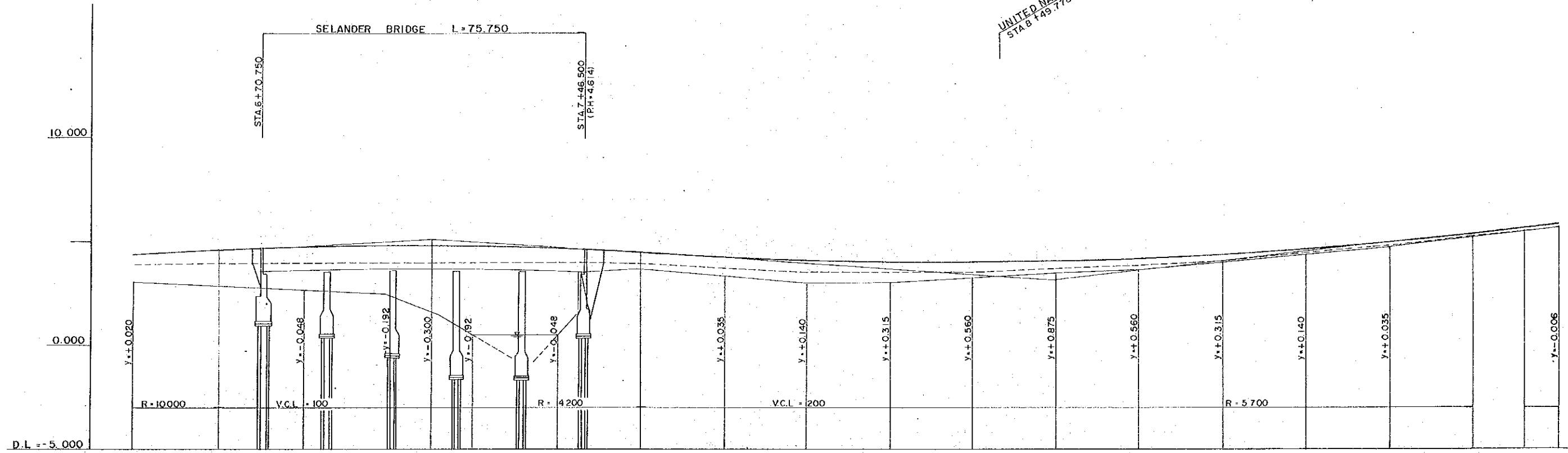
GRADIENT																		
EMBANKMENT HEIGHT	0.462	0.630	0.479	0.302	0.177		0.260	0.500	0.590	0.120	0.260	0.670	0.780	0.860	0.730	0.760	0.800	0.810
CUT HEIGHT						0.076												
PROPOSED HEIGHT	3.652	3.610	3.479	3.442	3.437	3.464	3.520	3.580	3.640	3.700	3.760	3.820	3.880	3.940	4.000	4.080	4.200	4.360
GROUND HEIGHT	3.19	2.98	3.00	3.14	3.26	3.54	3.26	3.08	3.05	3.82	3.50	3.15	3.10	3.08	3.27	3.32	3.40	3.55
CUMULATED DISTANCE	300.00	320.00	340.00	360.00	380.00	400.00	420.00	440.00	460.00	480.00	500.00	520.00	540.00	560.00	580.00	600.00	620.00	640.00
DISTANCE	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
STATION NO.	3+00	+20	+40	+60	+80	4+00	+20	+40	+60	+80	5+00	+20	+40	+60	+80	6+00	+20	+40
SUPERELEVATION	2.00%																	
CURVE BAND	$R = \infty$ $L = 88.559$ I.P. 2 I.A = $8^{\circ} 17' 59.3''$ $R = 1500.000$ T.L = 108.835 C.L = 217.288 S.L = 3.943																	

Scale Horizontal = A
Vertical = B



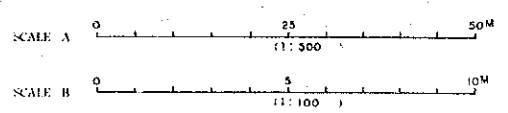
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	PROFILE MAIN ROAD (2) BAGAMOYO ROAD	MINISTRY OF WORKS	APPROVED _____ DATE _____
						MINISTRY OF WORKS	DWG. NO. D - 2	NIPPON KOGI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	PREPARED _____ CHECKED _____ SUBMITTED _____ DATE _____
								JUNE 30, 1980	

UNITED NATIONS ROAD
STA 8 +49.775 P.H. 3.358

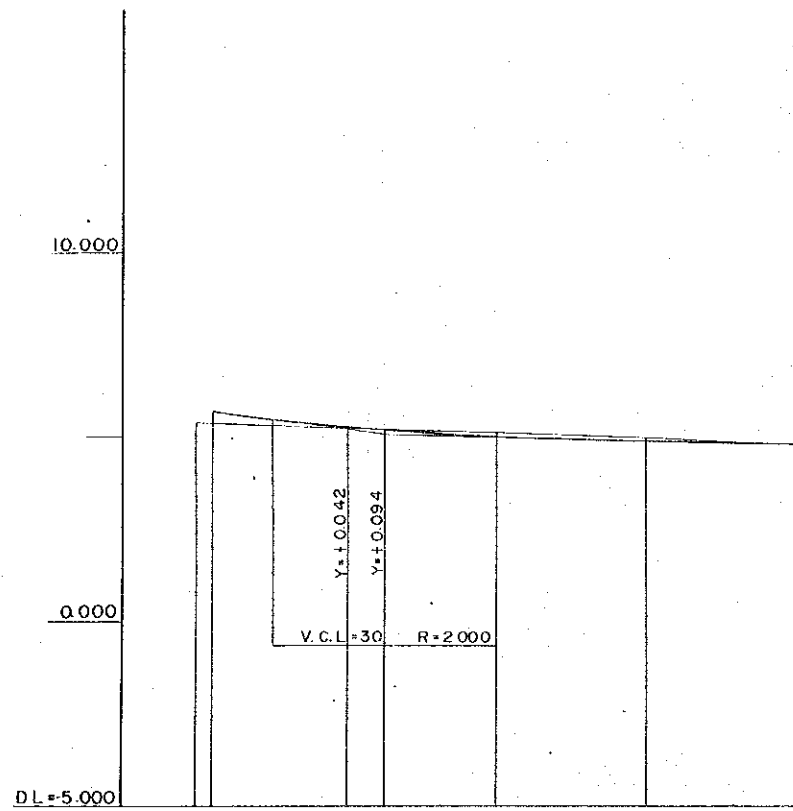


GRADIENT																		
EMBANKMENT HEIGHT	1.810	1.060	2.102	1.948		0.760	0.885	1.010	0.635	0.500	0.485	0.390	0.305	0.270	0.195	0.180	0.254	
CUT HEIGHT																		
PROPOSED HEIGHT	4.360	4.560	4.732	4.808	4.788	4.672	4.460	4.235	4.080	3.995	3.980	4.035	4.160	4.355	4.620	4.955	5.360	5.794
GROUND HEIGHT	3.55	3.50	2.63	2.86		3.70	3.38	3.07	3.36	3.48	3.55	3.77	4.05	4.35	4.76	5.18	5.54	
CUMULATED DISTANCE	640.00	660.00	680.00	700.00	720.00	740.00	760.00	780.00	800.00	820.00	840.00	860.00	880.00	900.00	920.00	960.00	980.00	
DISTANCE	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	13.980	20.00	20.00	
STATION NO.	6+40	6+60	6+80	7+00	7+20	7+40	7+60	7+80	8+00	8+20	8+40	8+60	8+80	9+00	9+20	9+40	9+60	9+80
SUPERELEVATION																		
CURVE BAND	R=∞ L=111.123 I.P.3 IA=6°-14'-43.1" R=1000.000 T.L=54.555 C.L.=109.001 S.L.=1.487 R=∞ L=6.000 A=200.000 L=88.889 R=450.000																	

Scale Horizontal = A
Vertical = B

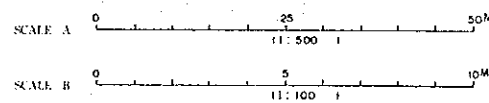


REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	MINISTRY OF WORKS	DWG. NO. D - 3	MINISTRY of WORKS	APPROVED
						THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	PROFILE MAIN ROAD (3) BAGAMOYO - UPANGA ROAD	NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TORYO JAPAN	DATE JUNE 30, 1980

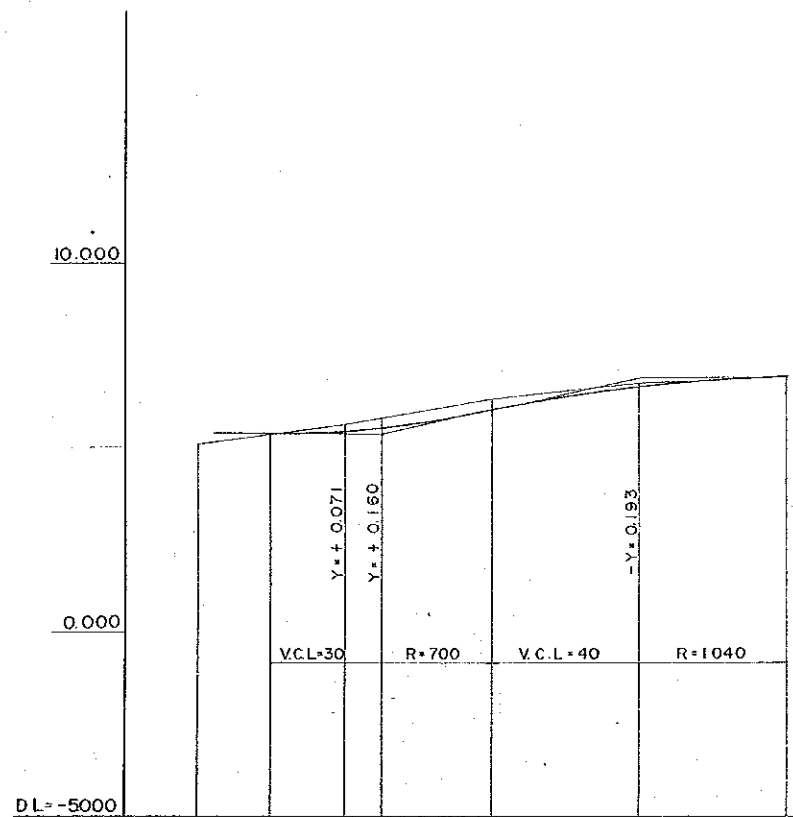


GRADIENT	5.514	$i = 2.000\%$ $L = 22.800$	5.058	$i = 0.505\%$ $L = 55.000$	4.780
EMBANKMENT HEIGHT			0.112		
CUT HEIGHT				0.195	0.105
PROPOSED HEIGHT	5.514	5.158	5.058	4.881	4.780
GROUND HEIGHT	5.40	5.27	5.12	4.99	4.78
CUMULATED DISTANCE	0	2.20	20.00	25.00	40.00
DISTANCE	0	2.20	17.80	5.00	15.00
STATION NO.	ST. 120+00	122+00	+20	+250	140
SUPERELEVATION	-2.00%	0%	0%	0%	-2.00%
CURVE BAND					$R = \infty$

Scale
Horizontal = A
Vertical = B

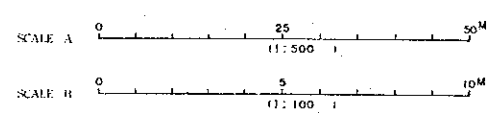


						THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		PROFILE ACCESS ROAD (I) KINONDONI ROAD		MINISTRY of WORKS		APPROVED _____
										NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		DATE _____
												PREPARED _____
												CHECKED _____
												DATE _____
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	MINISTRY OF WORKS	DWG. NO.					DATE JUNE 30, 1980

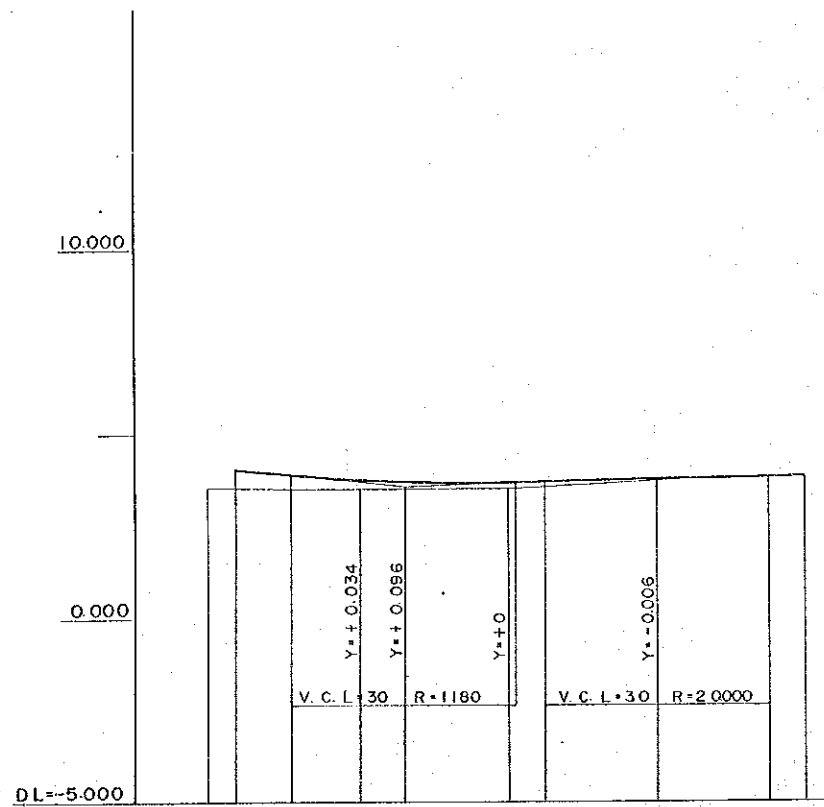


GRADIENT	5.347	LEVEL L=22.800	5.347	1+4.265 L=35000%	6.840	1+0.400% L=200000	6.920
EMBANKMENT HEIGHT							
CUT HEIGHT			0.222		0.343		0.073
PROPOSED HEIGHT	5.347		5.419	5.507	5.987	6.647	6.920
GROUND HEIGHT	5.09	5.64	6.33	6.72	6.92		
CUMULATED DISTANCE	0	2.20	20.00	25.00	40.00	60.00	80.00
DISTANCE	0	2.20	17.80	5.00	15.00	20.00	20.00
STATION NO.	+20	+220	+200	+250	+140	+160	+180
SUPERELEVATION	+2.000%						+2.000%
CURVE BAND					R=250		

Scale Horizontal = A
Vertical = B

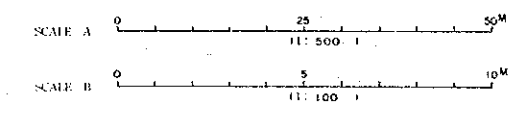


						THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		PROFILE ACCESS ROAD (2) KENYATTA DRIVE		MINISTRY OF WORKS		APPROVED
										NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		DATE
												PREPARED
												CHECKED
												DATE
												DATE
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	MINISTRY OF WORKS	DWG. NO.	D - 6			JUNE 30, 1980	

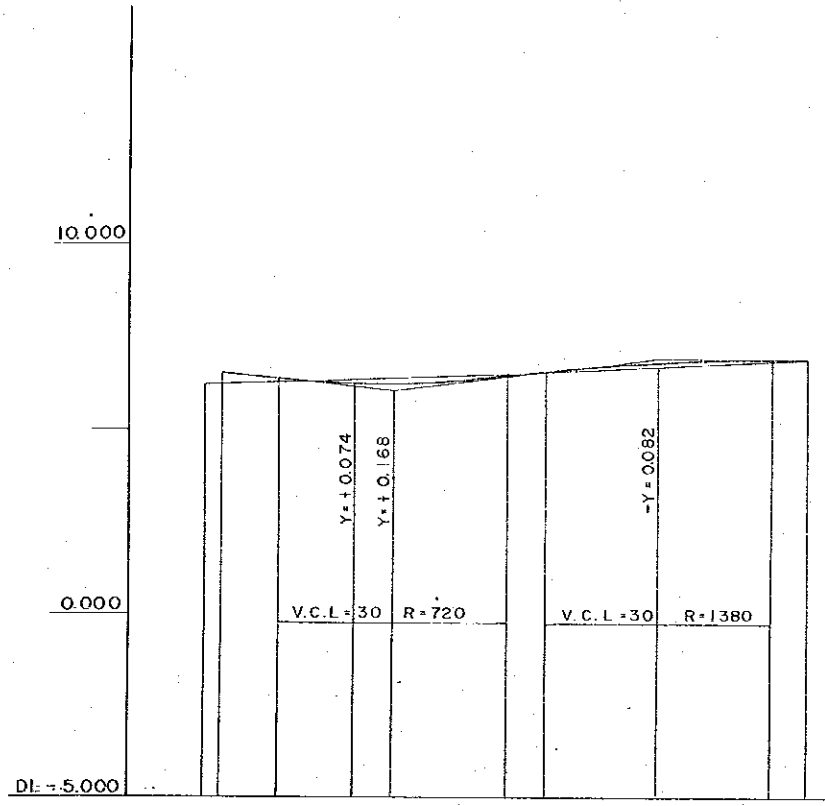


GRADIENT						
EMBANKMENT HEIGHT		0.187	0.090	0.024		
CUT HEIGHT						
PROPOSED HEIGHT	3.998	3.707	3.649	3.630	3.734	3.820
GROUND HEIGHT	3.55	3.52	3.54	3.71	3.82	3.82
CUMULATED DISTANCE	0	3.75	20.00	26.00	40.00	60.00
DISTANCE	0	3.75	16.25	6.00	14.00	20.00
STATION NO.	STA 0+00	+3.75	+20	+26	+40	+60
SUPERELEVATION	-2.00%					2.00%
CURVE BAND	R=∞					

Scale Horizontal = A
Vertical = B

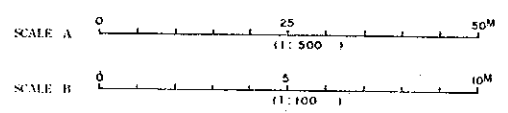


REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM MINISTRY OF WORKS	PROFILE ACCESS ROAD(3) UNITED NATIONS ROAD DWG. NO. D - 7	MINISTRY OF WORKS APPROVED: _____ DATE: _____	NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN PREPARED: _____ CHECKED: _____ DATE: JUNE 30, 1980
								PREPARED: _____ CHECKED: _____	

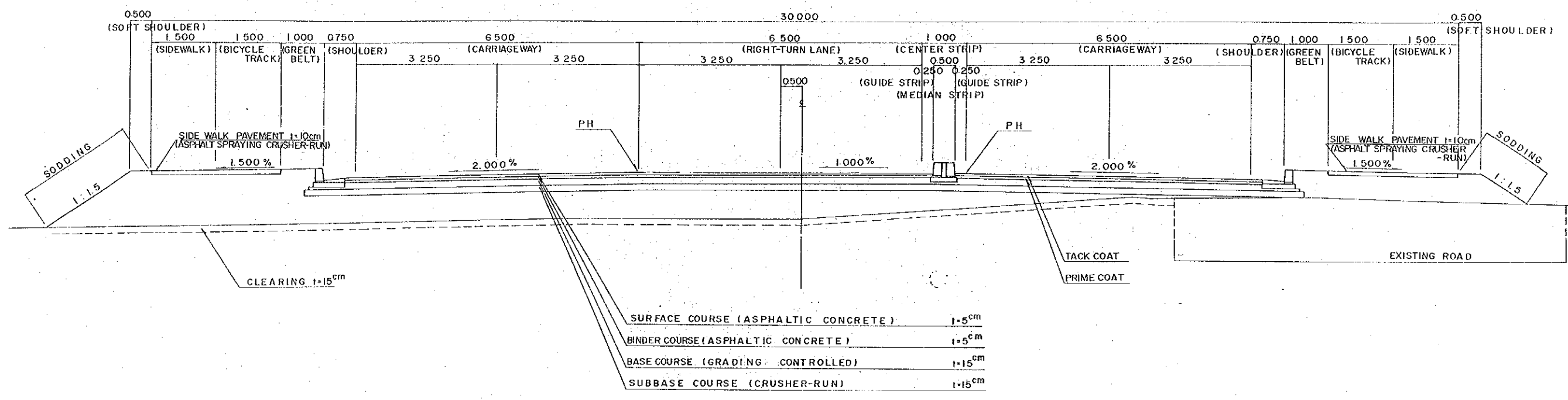


GRADIENT	6.476	2.000% L=22.800	6.020	2.485% L=35.000	6.890	LEVEL L=20.000	6.890
EMBANKMENT HEIGHT					0.098		
CUT HEIGHT			0.136	0.117			
PROPOSED HEIGHT	6.476	6.476	6.194	6.188	6.393	6.808	6.890
GROUND HEIGHT	6.33	6.33	6.33	6.5	6.71	6.89	6.89
CUMULATED DISTANCE	0	2.20	20.00	25.00	40.00	60.00	80.00
DISTANCE	0	2.20	17.80	5.00	20.00	20.00	20.00
STATION NO.	STA 0+000 +220	+20	+250	+40	+60	+80	
SUPERELEVATION							
CURVE BAND	I.P.I IA=44°-34'51.5" R=100000 TL=40994 C.L=77.809 S.L=6.076						

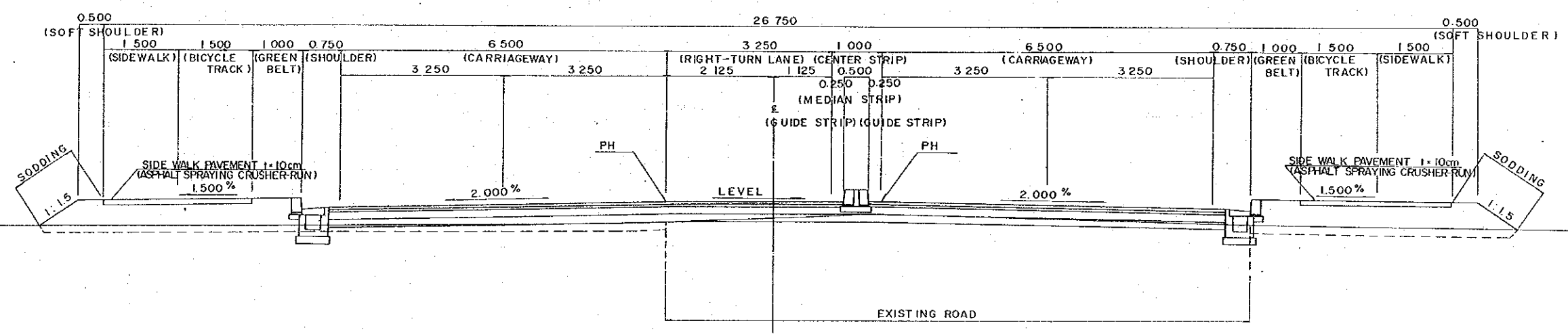
Scale Horizontal = A
Vertical = B



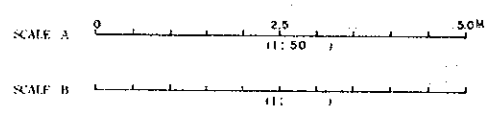
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	PROFILE ACCESS ROAD (4) OCEAN ROAD	MINISTRY OF WORKS	APPROVED _____
								MINISTRY OF WORKS	DATE _____
								NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	PREPARED _____ CHECKED _____ SUBMITTED _____
							DWG NO. D-8		DATE JUNE 30, 1980



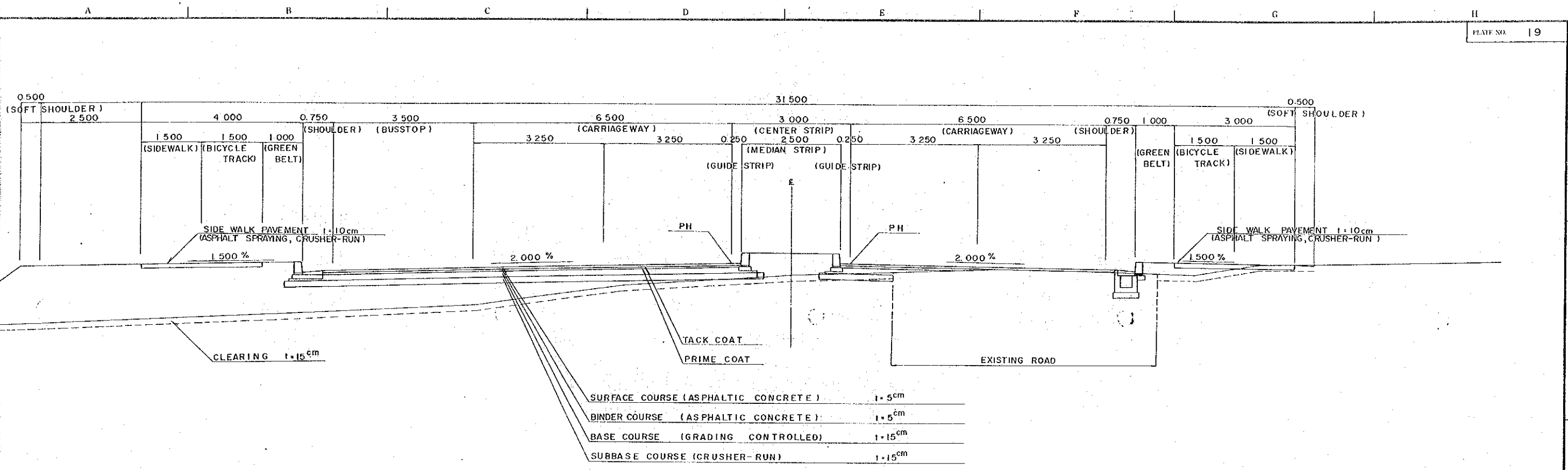
JUNCTION
(RIGHT - TURN TWO LANE)



JUNCTION
(RIGHT - TURN ONE LANE)

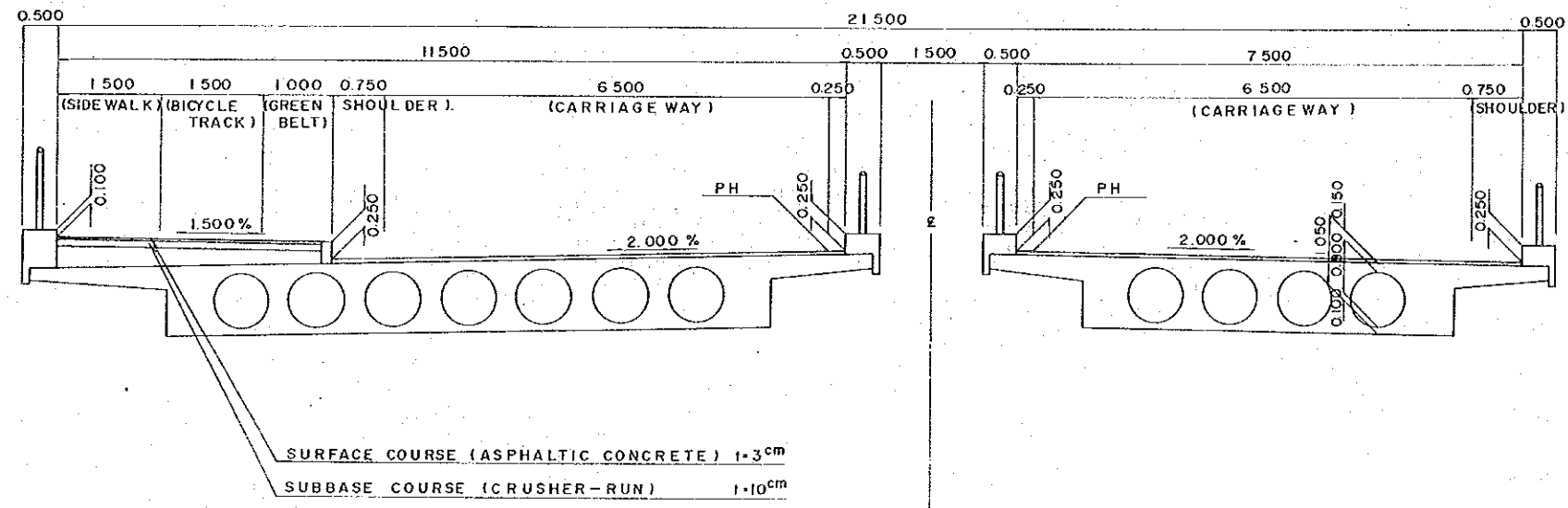


				THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		TYPICAL CROSS SECTION (2)		MINISTRY OF WORKS	
								APPROVED	
								DATE	
								PREPARED	
								CHECKED	
								SUBMITTED	
								DATE	
								JUNE 30, 1980	
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	MINISTRY OF WORKS	DWG. NO. E - 2	NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	

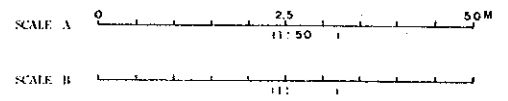


SURFACE COURSE (ASPHALTIC CONCRETE)	1.5cm
BINDER COURSE (ASPHALTIC CONCRETE)	1.5cm
BASE COURSE (GRADING CONTROLLED)	1.15cm
SUBBASE COURSE (CRUSHER-RUN)	1.15cm

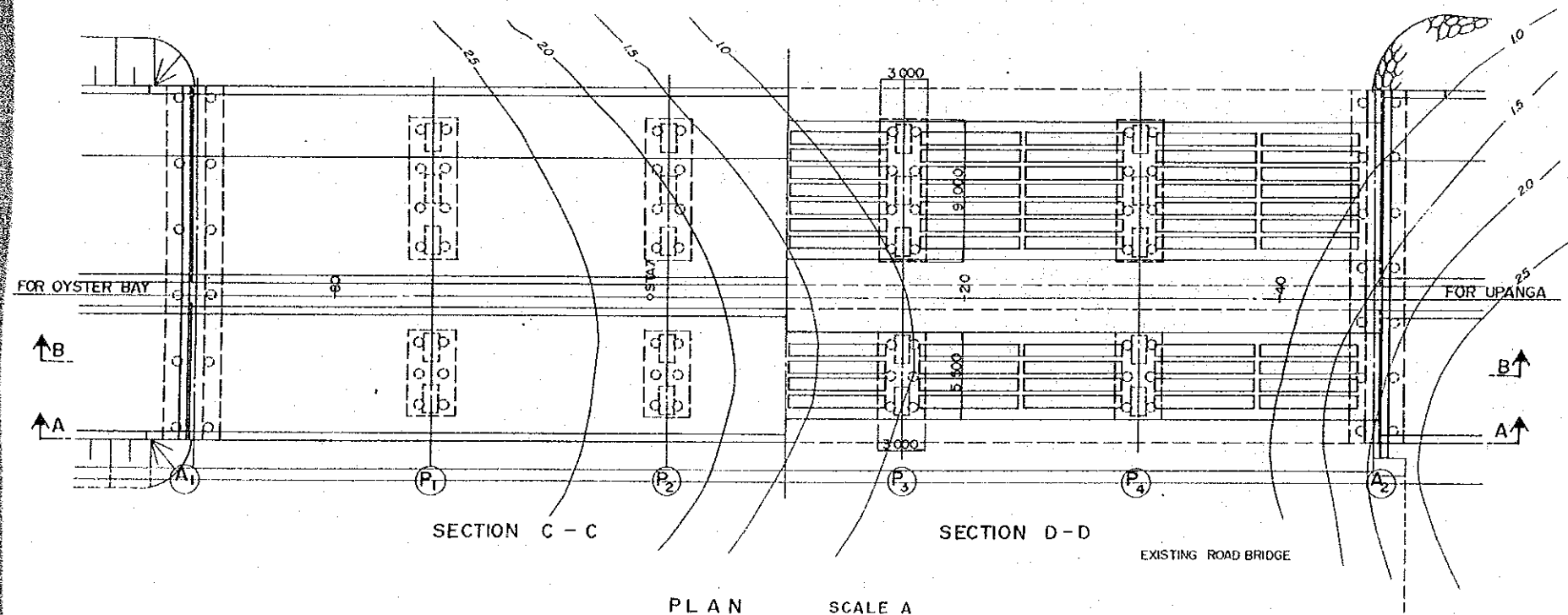
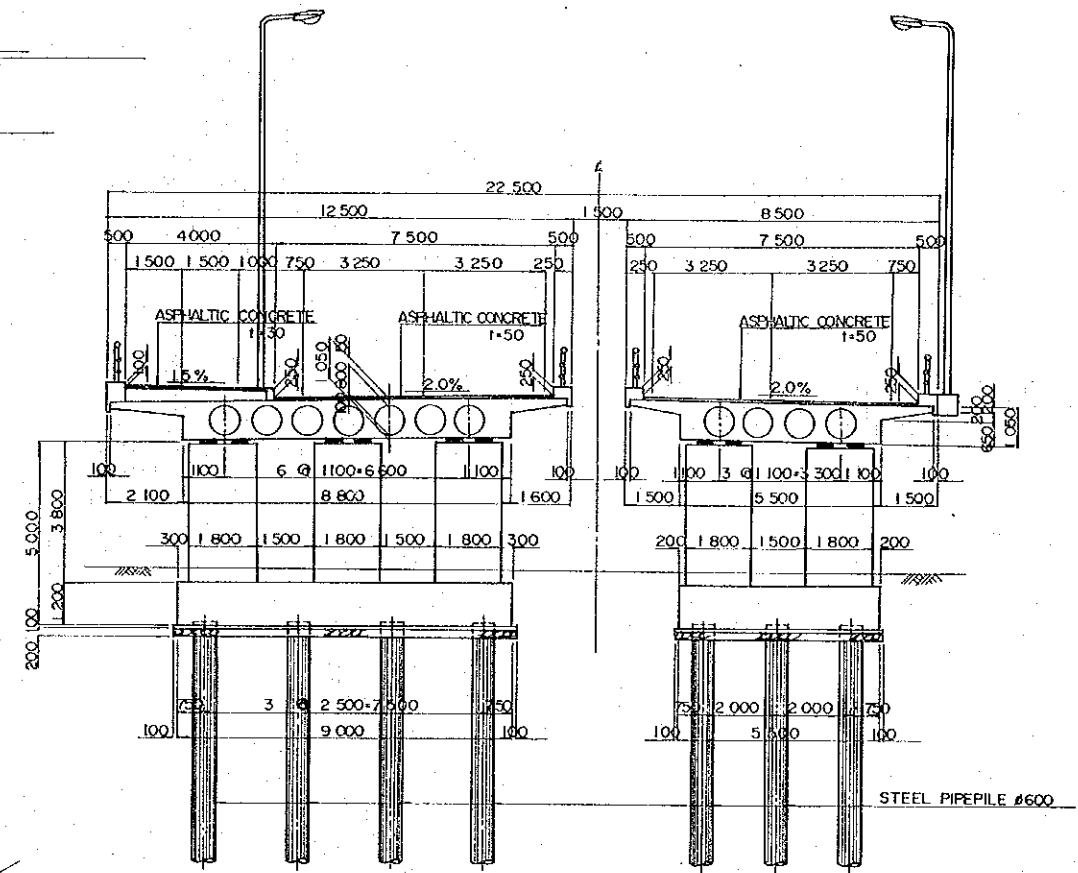
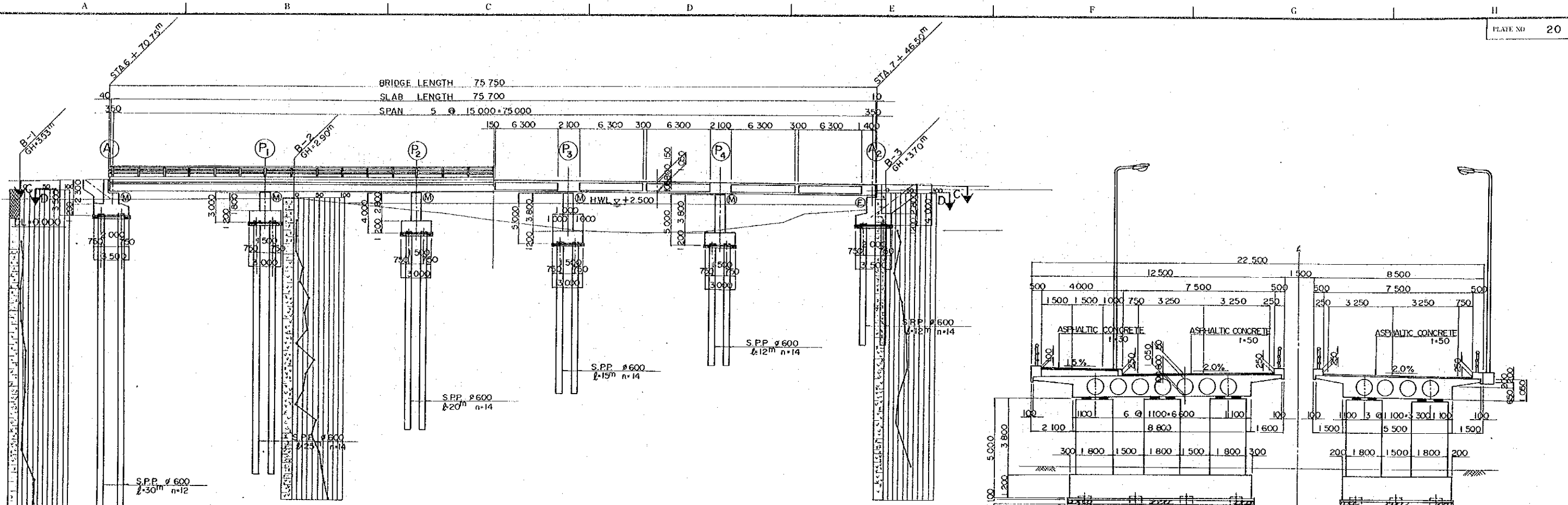
BUSSTOP SECTION



BRIDGE SECTION



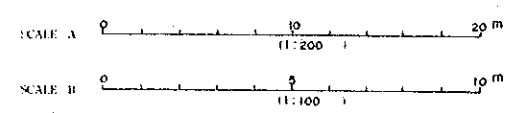
				THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		MINISTRY OF WORKS		APPROVED
						TYPICAL CROSS SECTION(3)		DATE
						MINISTRY OF WORKS		PREPARED
						NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		CHECKED
						DWG. NO. E - 3		DATE
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE			JUNE 30, 1980



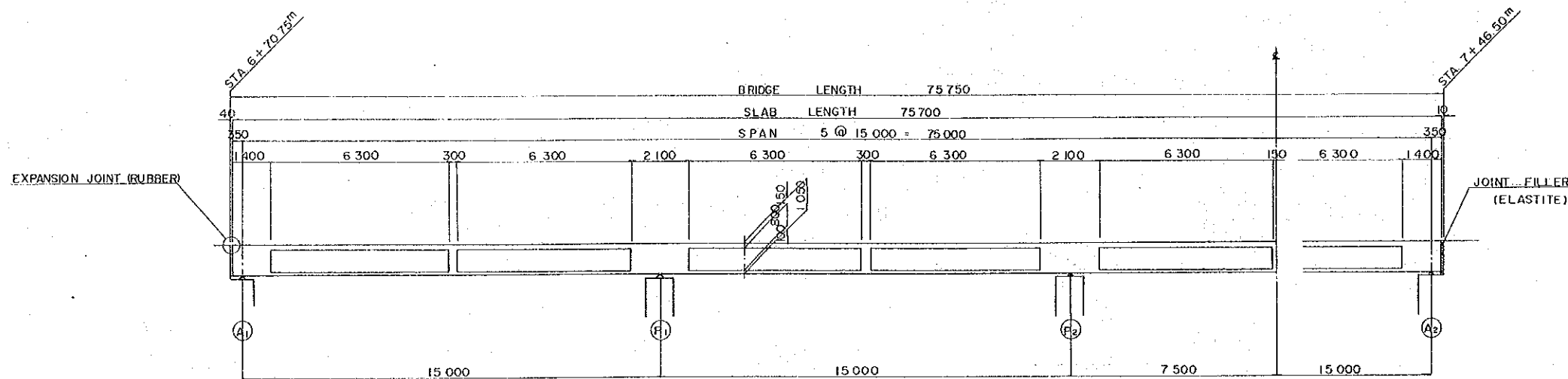
LEGEND ;

	FILL MATERIAL		CLAY
	SAND		SHELLS
	SILT		CORAL

NOTES ;
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED



REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	MINISTRY OF WORKS	SELANDER BRIDGE GENERAL VIEW	MINISTRY OF WORKS	APPROVED _____ DATE _____ PREPARED _____ CHECKED _____ NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN
								DWG. NO. F - 1		DATE JUNE 30, 1990



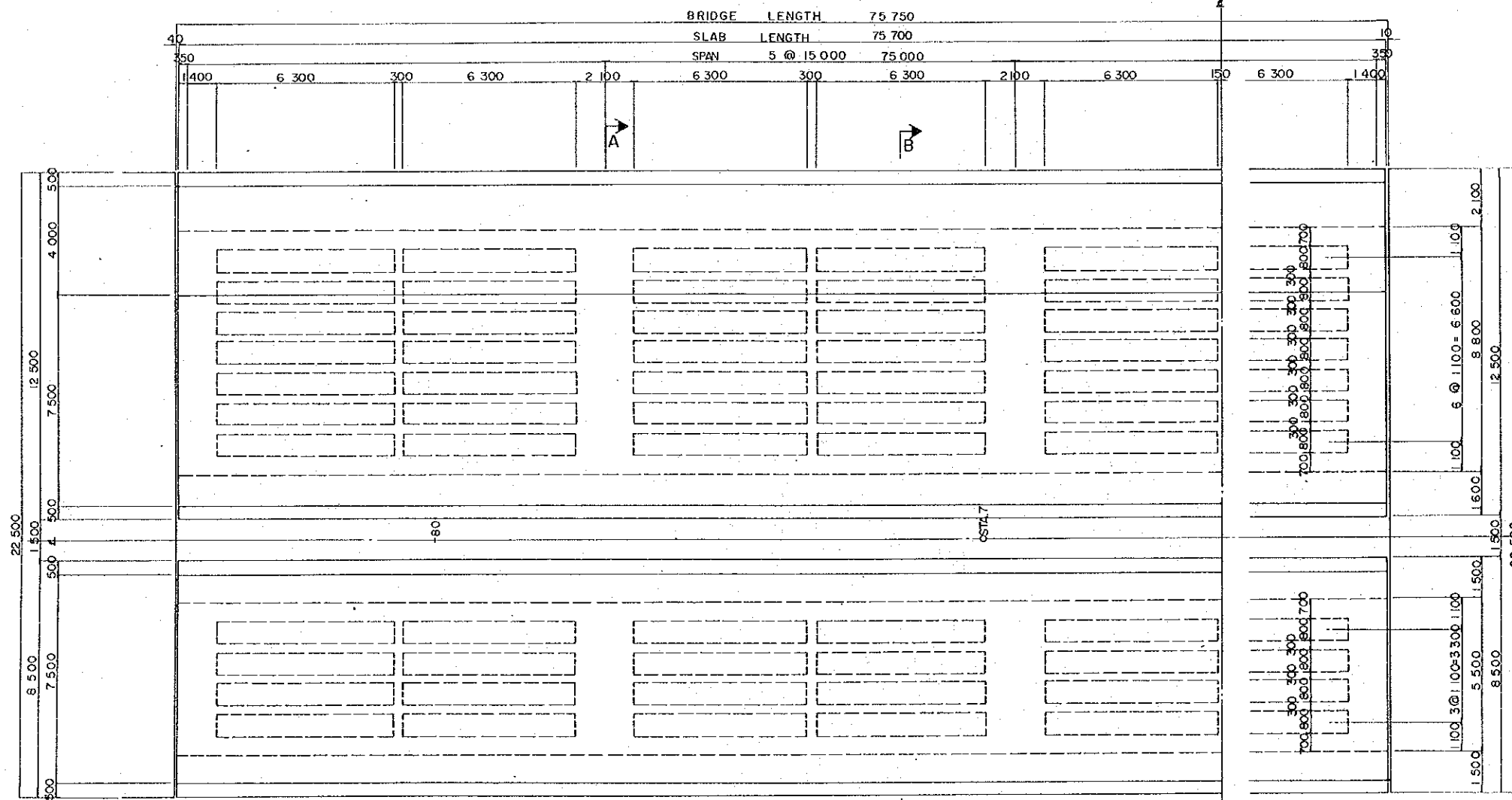
SIDE ELEVATION SCALE A

DESIGN CONDITIONS

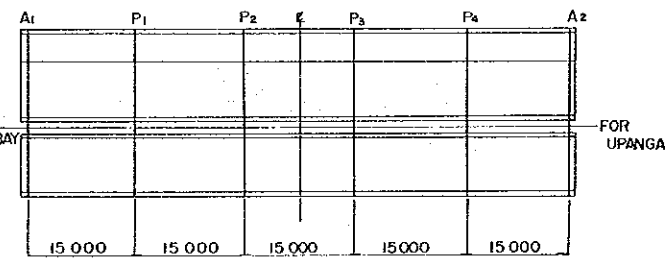
TOTAL BRIDGE LENGTH	75 ^m 750
SLAB LENGTH	75 ^m 700
SPAN	15 ^m 000
WIDTH	12 ^m 500 8 ^m 500
LIVE LOAD	HA LOAD, HB LOAD (45 unit)
IMPACT COEFFICIENT	$i = \frac{10}{725+l} \leq \frac{20}{750+l}$
TEMPERATURE CHANGE	$\pm 10^{\circ}C$
SEISMIC COEFFICIENT	$K_H = 0.05 \quad K_V = 0$
ANGLE OF SKEW	$90^{\circ} 00' 00''$
RADIUS OF CURVATURE	∞
LONGITUDINAL SLOPE	11% - 13% (V.C)

MATERIAL STRENGTH AND ALLOWABLE STRESSES

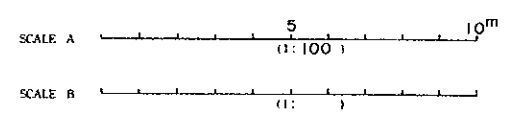
CONCRETE	COMPRESSIVE STRENGTH AT 28 DAYS	2 40 $\frac{kg}{cm^2}$
	ALLOWABLE BENDING COMPRESSIVE STRESS	80 %
	ALLOWABLE SHEARING STRESS	3.9 %
	MAXIMUM SIZE OF COARSE AGGREGATE	25 mm
REINFORCING BAR	ALLOWABLE TENSILE STRESS	1 800 $\frac{kg}{cm^2}$



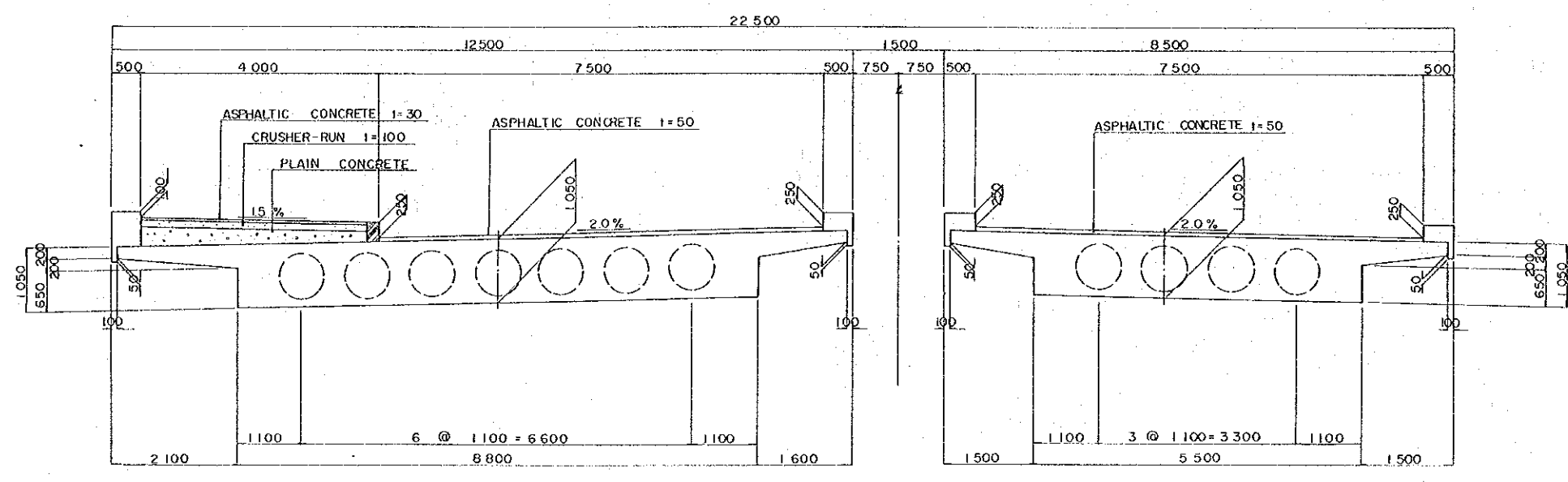
PLAN SCALE A



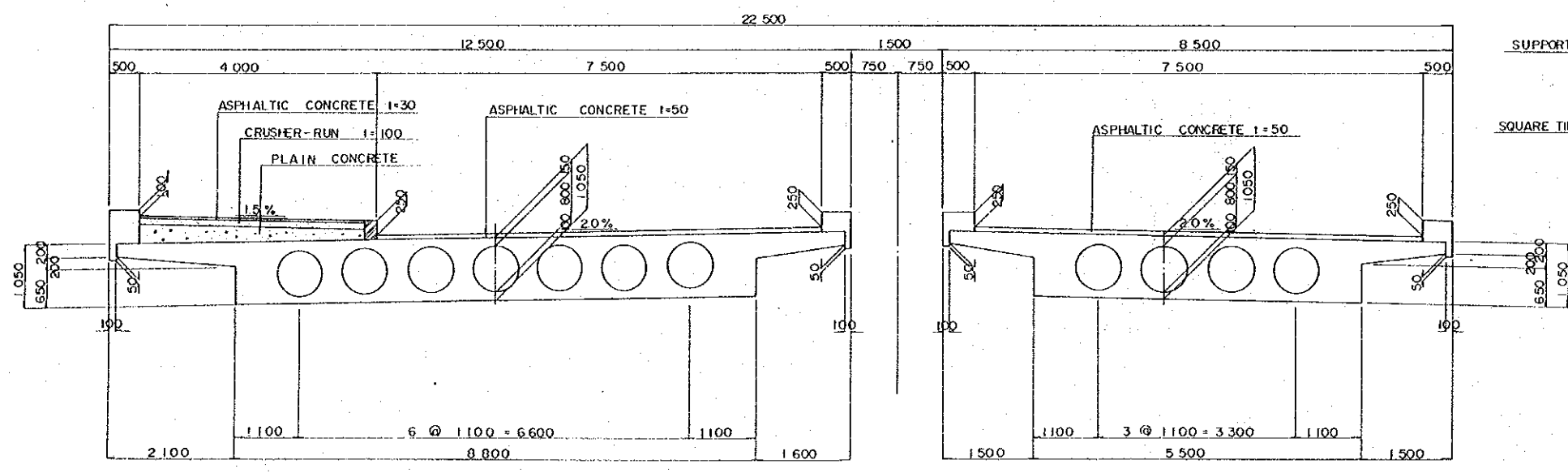
NOTE :
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED



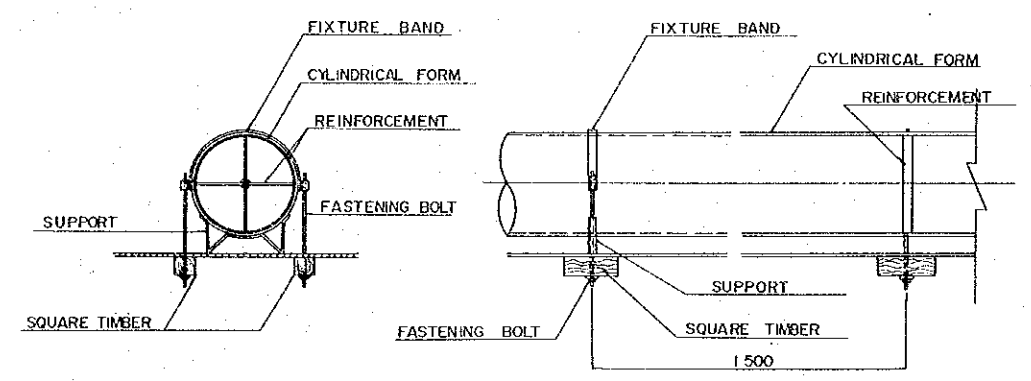
REV. NO.	DATE	COORDINATE	REVISION	APPRO. DATE	MINISTRY OF WORKS	SELANDER BRIDGE STRUCTURAL LAYOUT AND DETAILS OF SUPERSTRUCTURE (1)	MINISTRY OF WORKS	APPROVED _____ DATE _____ PREPARED _____ CHECKED _____ SUBMITTED _____ DATE _____
					THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	DWG. NO. F-2	NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	JUNE 30, 1980



SECTION A - A SCALE A

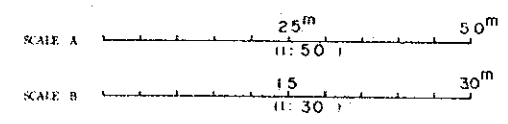


SECTION B - B SCALE A

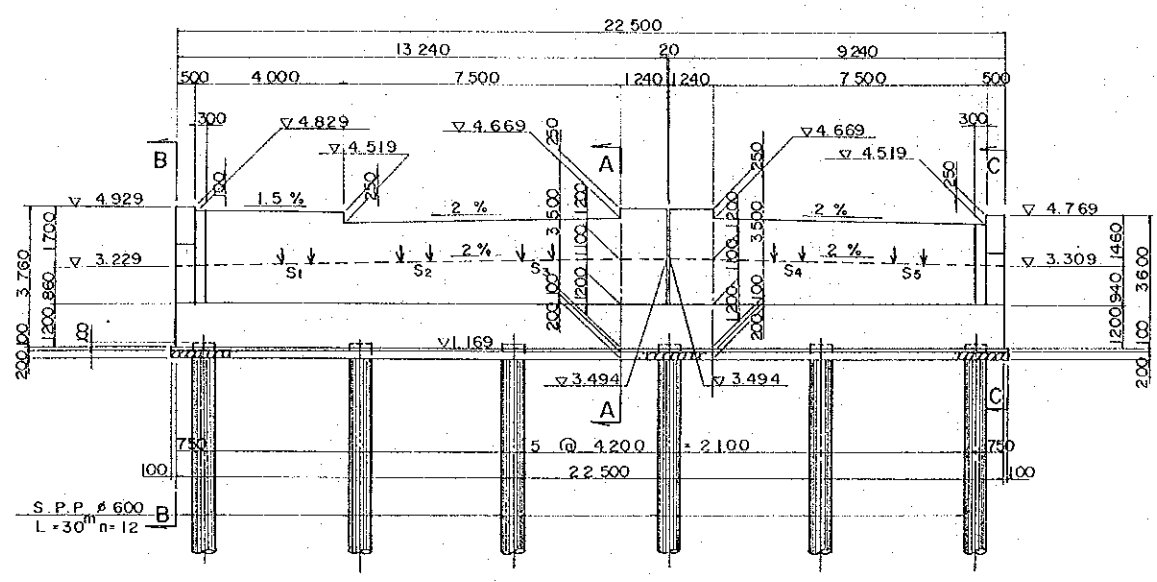


DETAIL OF CYLINDRICAL FORM FIXTURE SCALE B

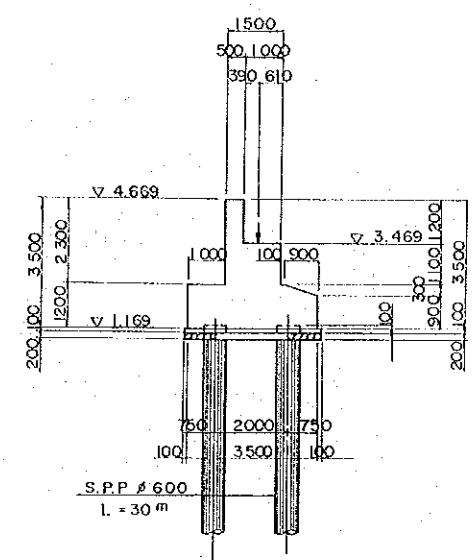
NOTES;
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED



REV. NO.		DATE		CORRECTURE		REVISION		APPRO. DATE		THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM MINISTRY OF WORKS	SELANDER BRIDGE STRUCTURAL LAYOUT AND DETAILS OF SUPERSTRUCTURE (2) DWG. NO. F - 3	MINISTRY of WORKS APPROVED _____ DATE _____
REV. NO.		DATE		CORRECTURE		REVISION		APPRO. DATE				NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN PREPARED _____ CHECKED _____ DATE JUNE 30, 1980



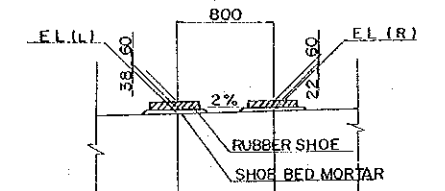
BACK ELEVATION SCALE A



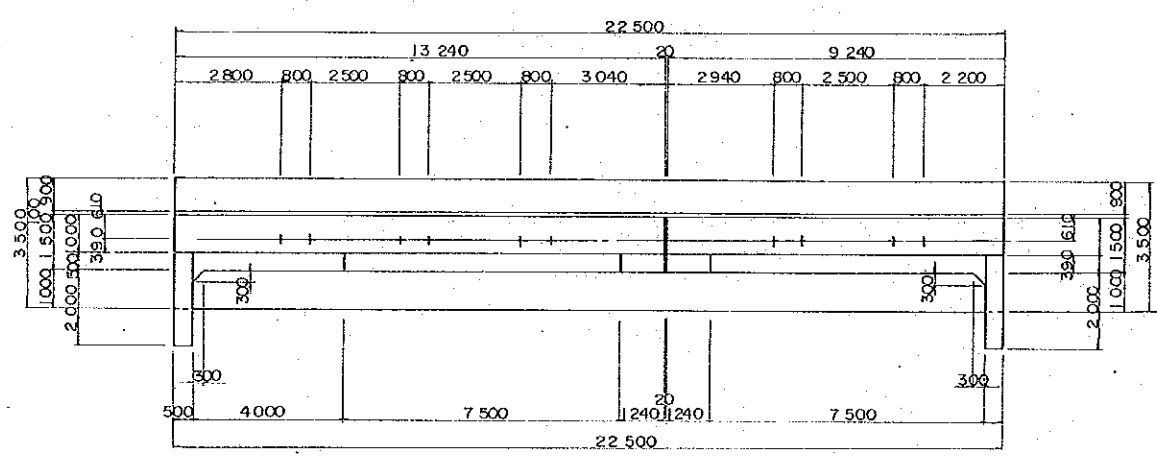
SECTION A - A SCALE A

SHOE BED ELEVATION

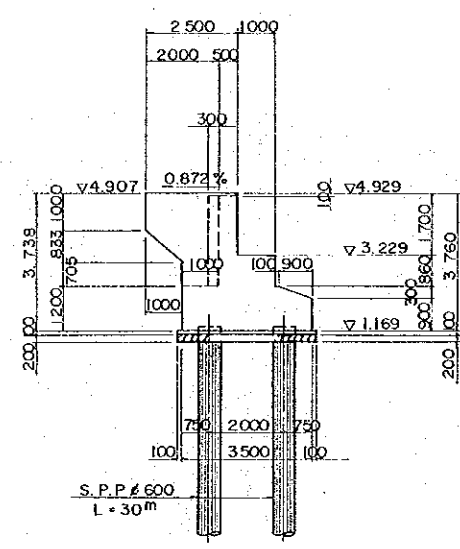
	EL (L)	EL (R)
S1	3.285	3.301
S2	3.351	3.367
S3	3.417	3.433
S4	3.435	3.419
S5	3.369	3.353



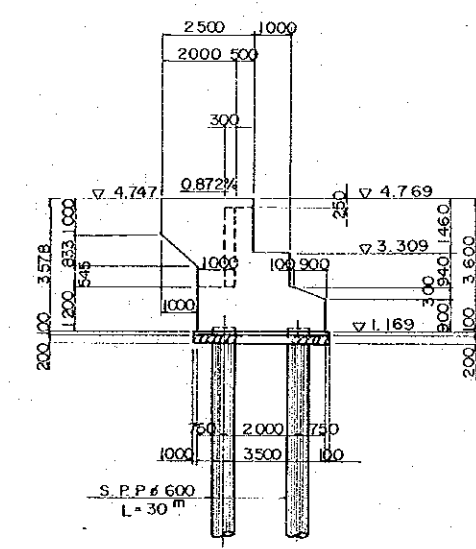
FRONT ELEVATION



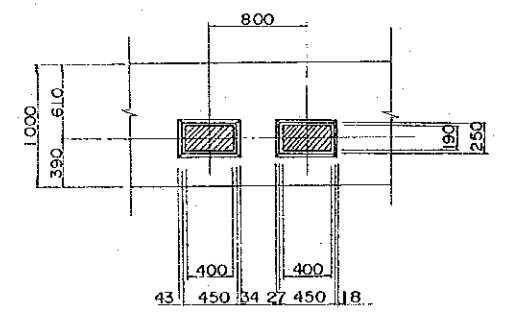
PLAN SCALE A



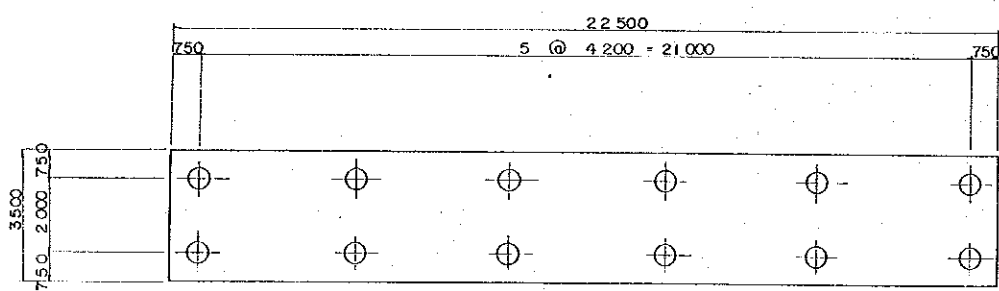
SECTION B - B SCALE A



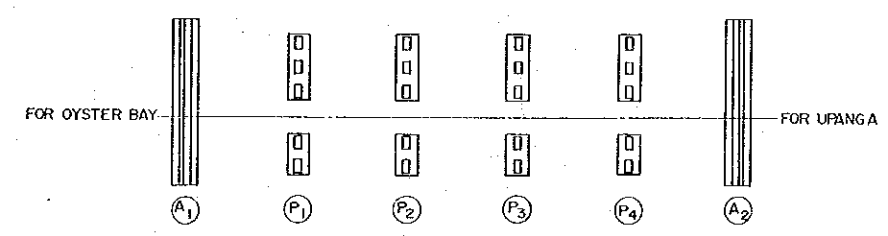
SECTION C - C SCALE A



PLAN SHOE BED MORTAR SCALE B

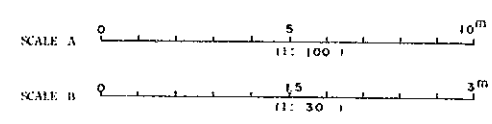


PILE ARRANGEMENT SCALE A

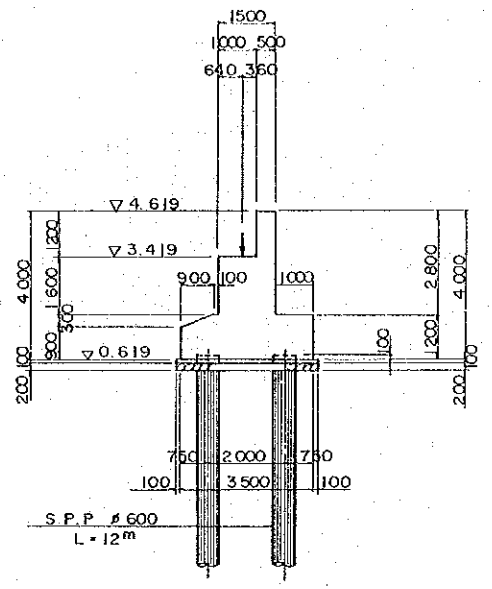
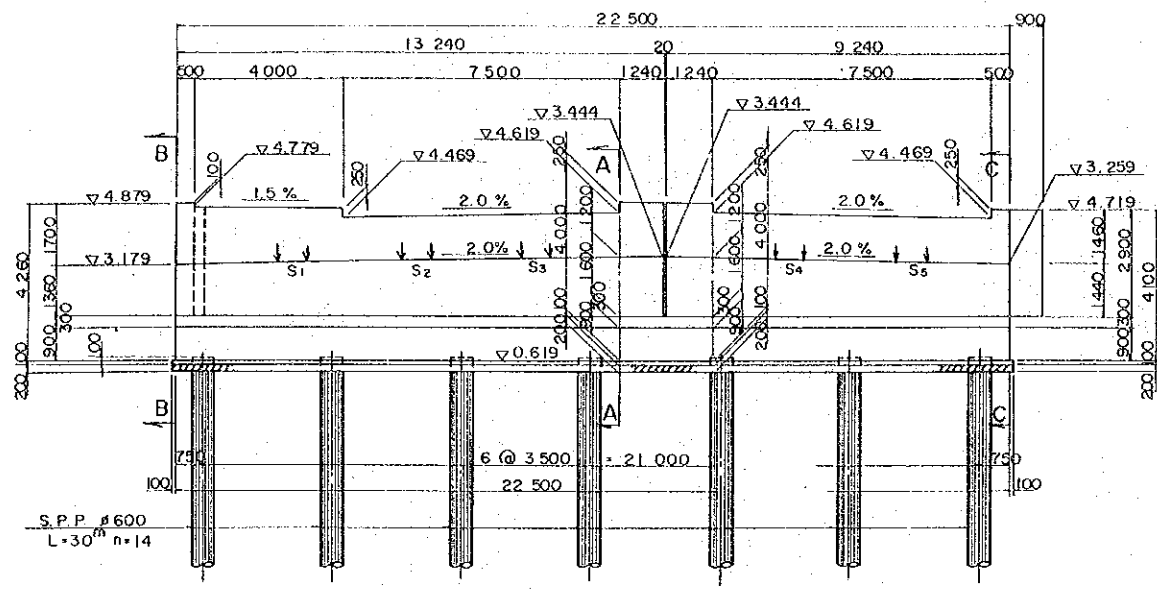


MARKING DIAGRAM

NOTES:
ALL DIMENSIONS ARE
IN MILLIMETERS UNLESS
OTHERWISE INDICATED

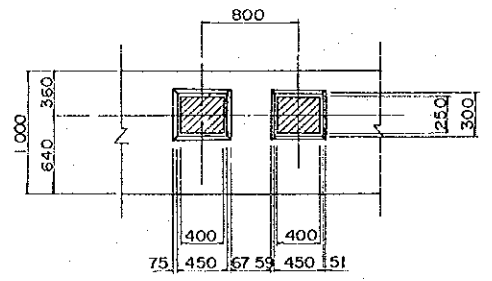
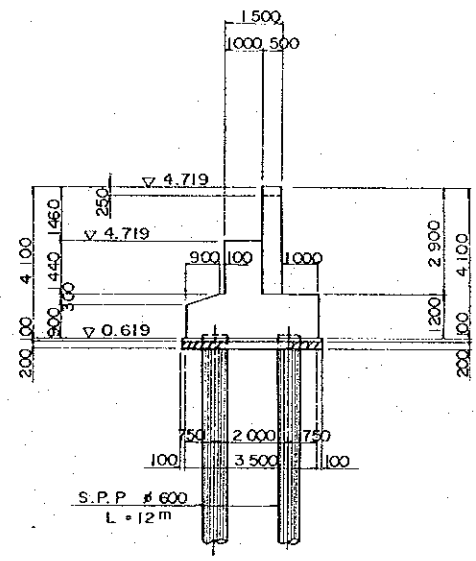
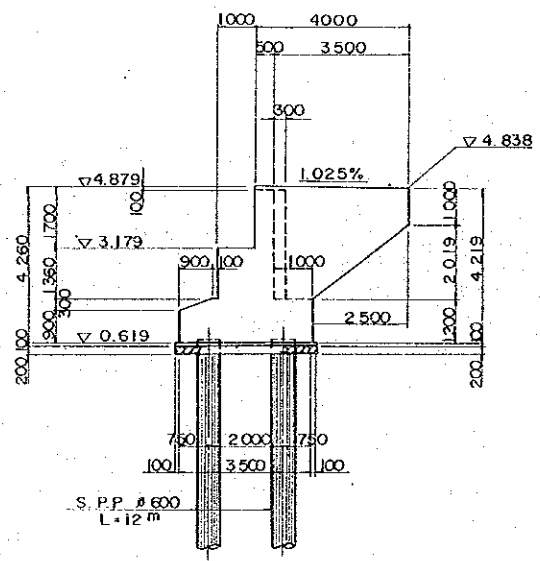
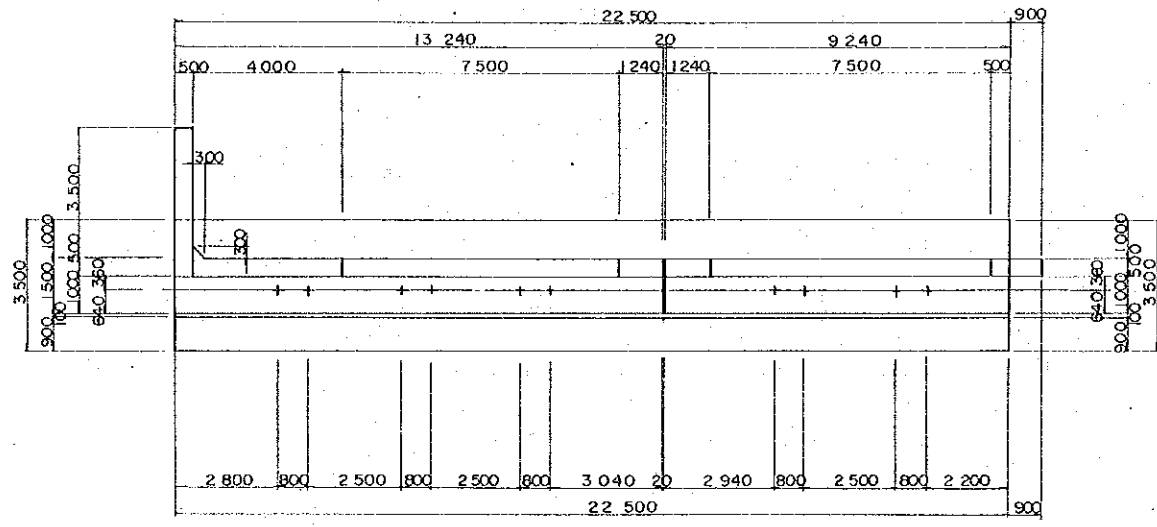
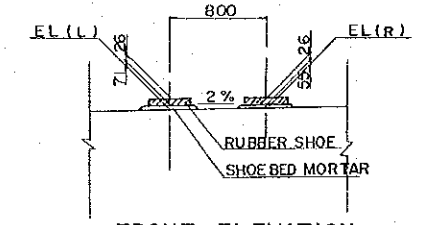


REV. NO.		DATE	COORDINATE	REVISION	APPRO. DATE	MINISTRY OF WORKS	SELANDER BRIDGE Ai ABUTMENT STRUCTURAL LAYOUT AND DETAILS	MINISTRY OF WORKS	APPROVED _____ DATE _____ PREPARED _____ CHECKED _____ DATE _____
						THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	SELANDER BRIDGE Ai ABUTMENT STRUCTURAL LAYOUT AND DETAILS	MINISTRY OF WORKS NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	APPROVED _____ DATE _____ PREPARED _____ CHECKED _____ DATE _____
						MINISTRY OF WORKS	DWG. NO. F - 4		DATE JUNE 30, 1980

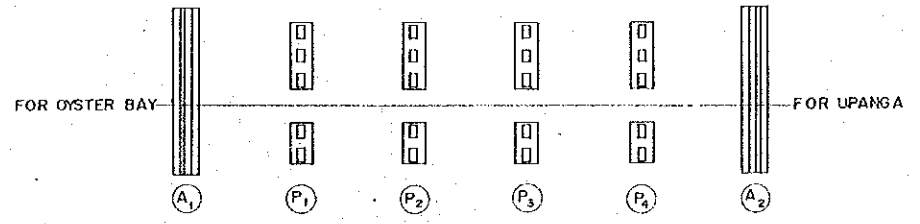
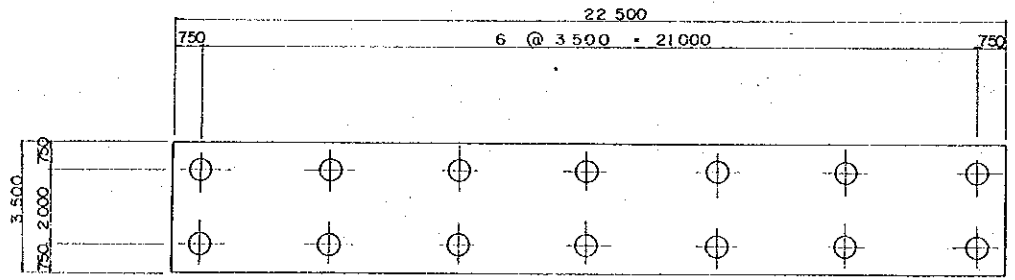


SHOE BED ELEVATION

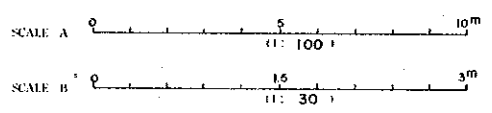
	EL (L)	EL (R)
S ₁	3.235	3.251
S ₂	3.301	3.317
S ₃	3.367	3.383
S ₄	3.385	3.369
S ₅	3.319	3.303



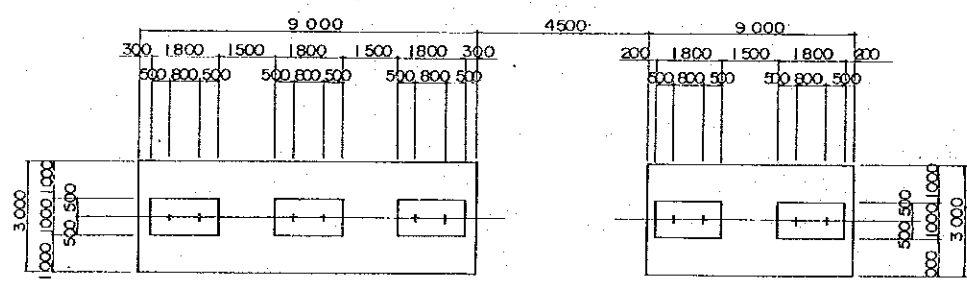
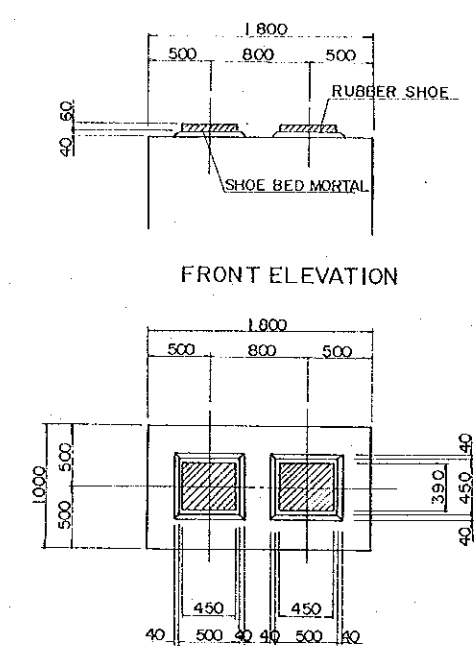
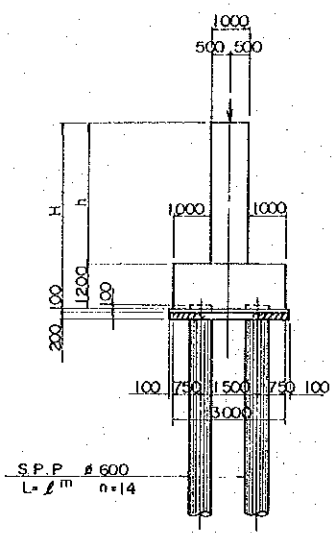
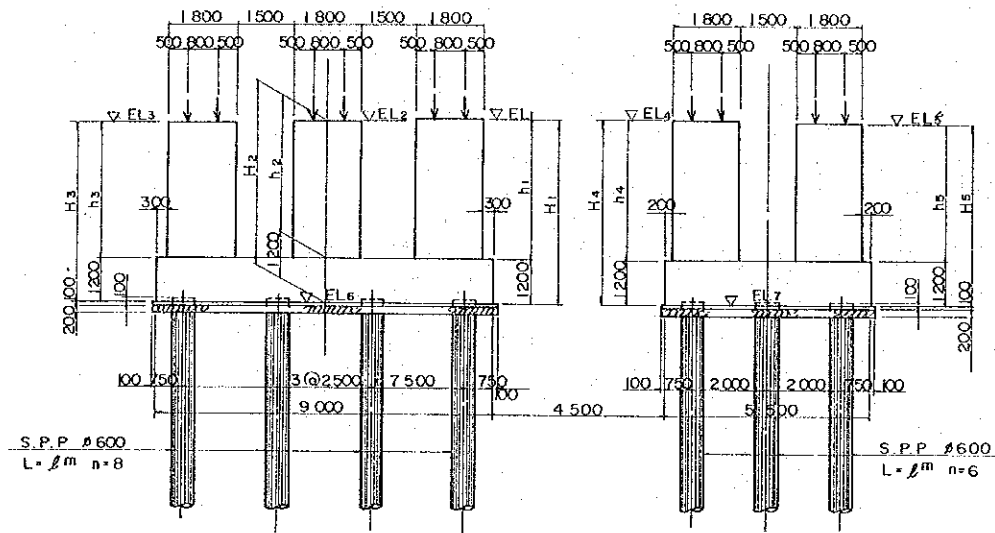
SHOE BED MORTAR SCALE: B



NOTES;
ALL DIMENSIONS ARE
IN MILLIMETERS UNLESS
OTHERWISE INDICATED

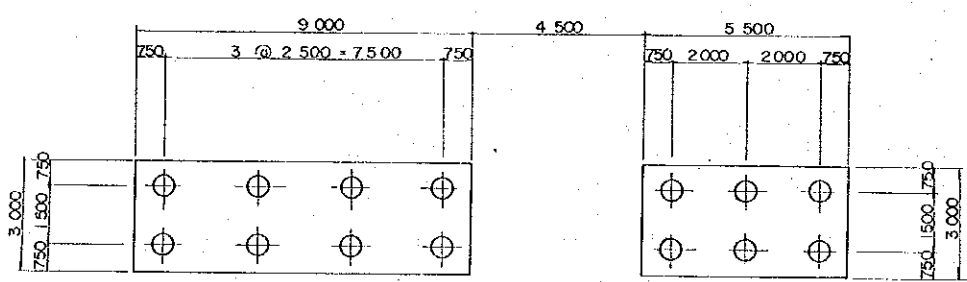
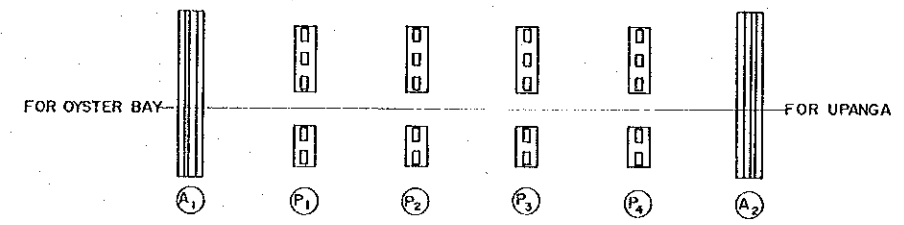


REV. NO.		DATE	COORDINATE	REVISION	APPRO. DATE	THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	SELANDER BRIDGE A2 ABUTMENT STRUCTURAL LAYOUT AND DETAILS	MINISTRY OF WORKS	APPROVED
						MINISTRY OF WORKS	DWG. NO. F-5	NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN	DATE PREPARED DATE CHECKED DATE SUBMITTED DATE
									JUNE 30, 1980



DIMENSION (mm)

	P ₁	P ₂	P ₃	P ₄
H ₁	3 000	4 000	5 000	5 000
h ₁	1 800	2 800	3 800	3 800
H ₂	2 934	3 934	4 934	4 934
h ₂	1 734	2 734	3 734	3 734
H ₃	2 868	3 868	4 868	4 868
h ₃	1 668	2 668	3 668	3 668
H ₄	3 000	4 000	5 000	5 000
h ₄	1 800	2 800	3 800	3 800
H ₅	2 934	3 934	4 934	4 934
h ₅	1 734	2 734	3 734	3 734



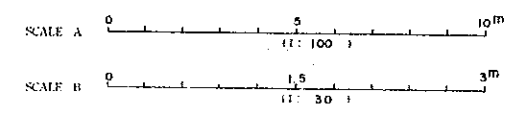
ELEVATION (m)

	P ₁	P ₂	P ₃	P ₄
EL ₁	3.513	3.556	3.546	3.482
EL ₂	3.447	3.490	3.480	3.416
EL ₃	3.381	3.424	3.414	3.350
EL ₄	3.515	3.558	3.548	3.484
EL ₅	3.449	3.492	3.482	3.418
EL ₆	0.513	-0.444	-1.454	-1.518
EL ₇	0.515	-0.442	-1.452	-1.516

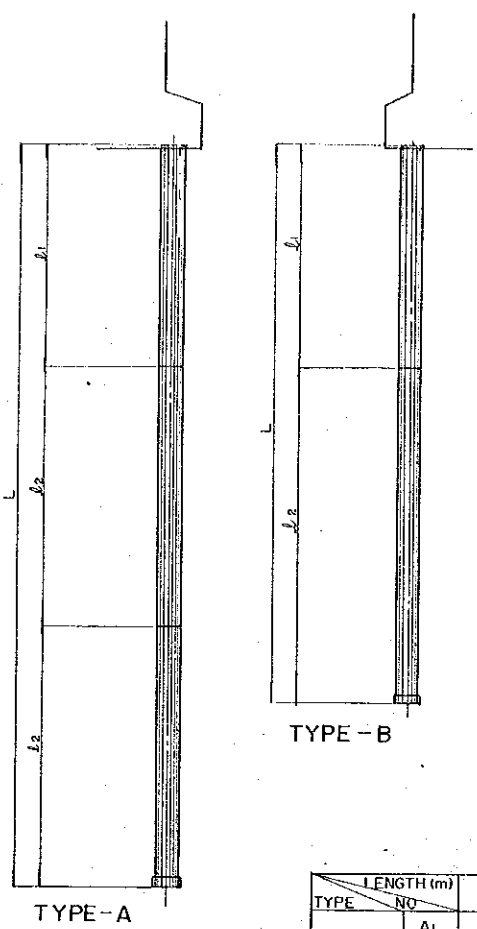
PILE LENGTH (mm)

	P ₁	P ₂	P ₃	P ₄
L	25 000	20 000	15 000	12 000

NOTES:
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED



THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		SELANDER BRIDGE P ₁ - P ₄ PIERS STRUCTURAL LAYOUT AND DETAILS		MINISTRY OF WORKS		APPROVED _____ DATE _____	
MINISTRY OF WORKS		DWG. NO. F - 6		NIPPON KOEI CO., LTD. CONSULTING ENGINEERS TOKYO JAPAN		PREPARED _____ CHECKED _____ SURVEYED _____ DATE _____	
REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE	JUNE 30, 1980	

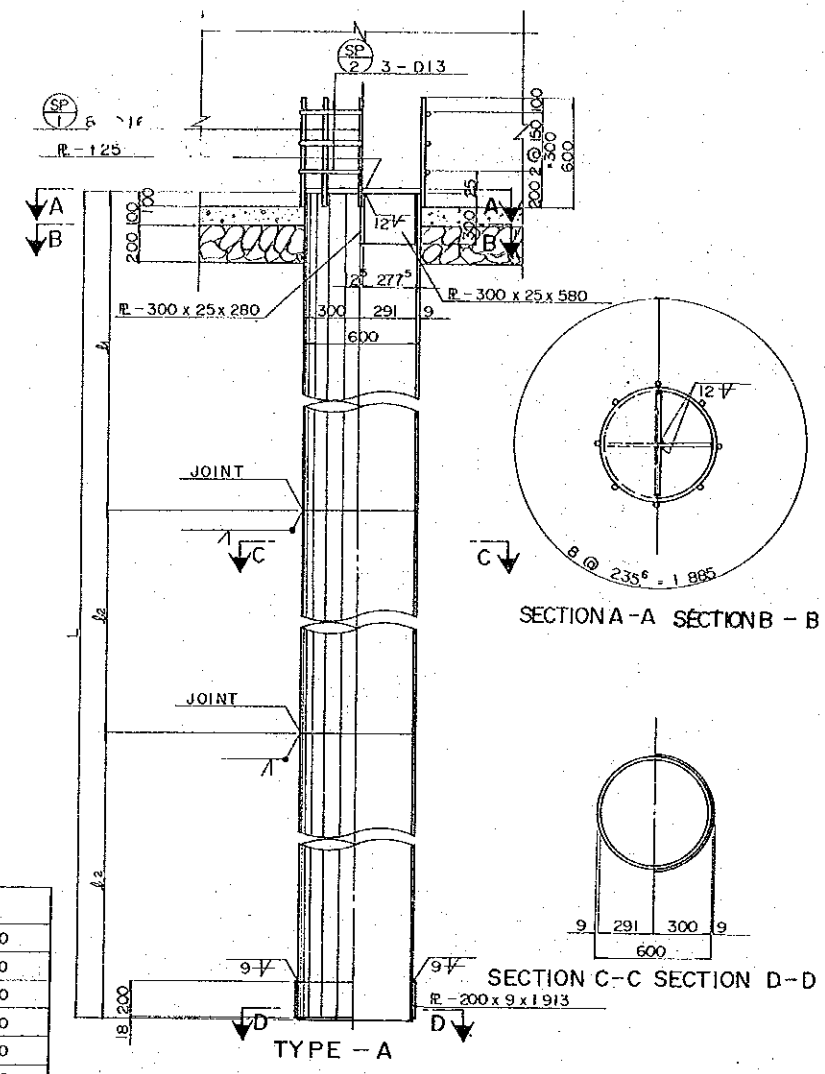


TYPE - B

TYPE - A

PILE LENGTH

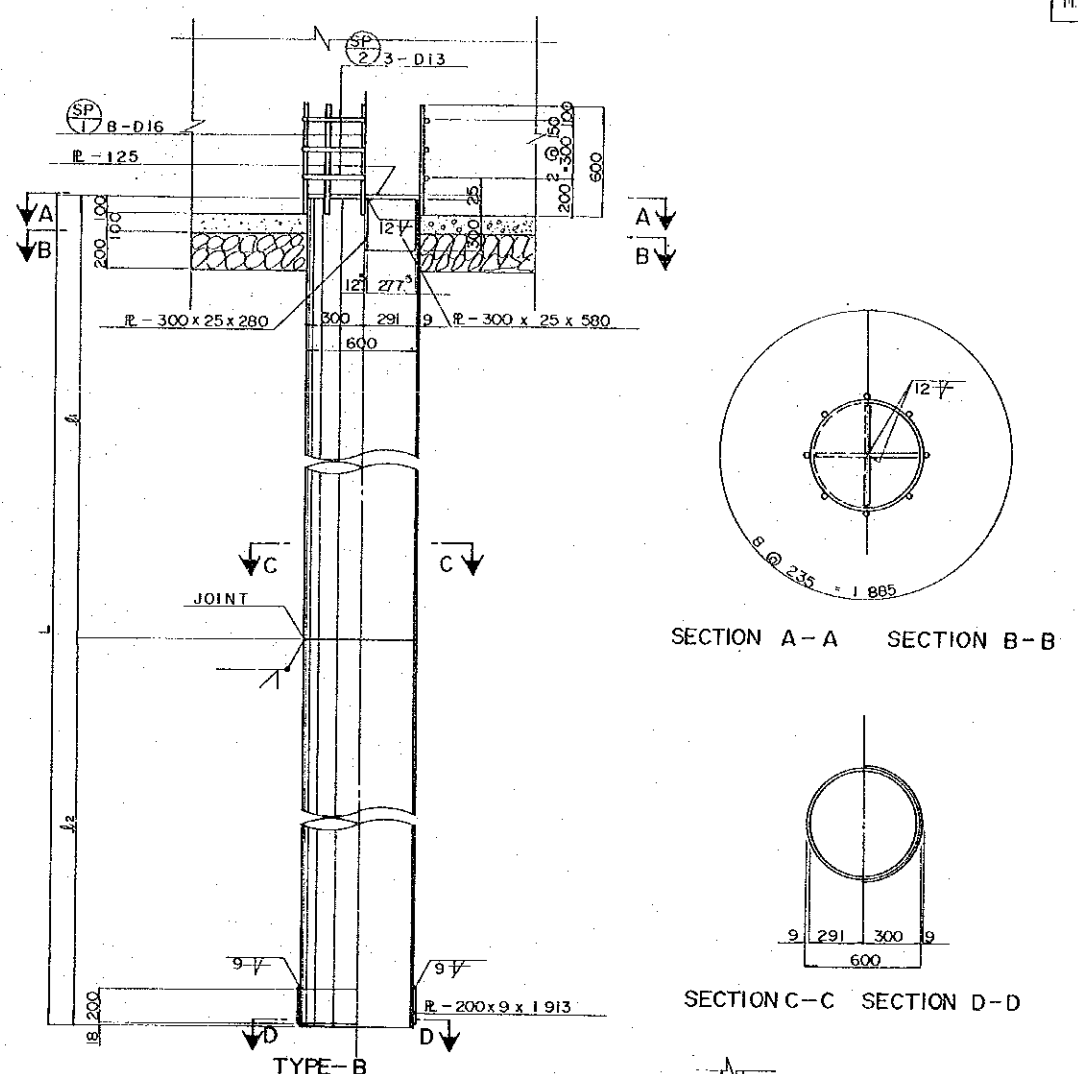
TYPE	NO	LENGTH (m)	l ₁	l ₂	L
TYPE - A	A1		10.00	10.00	30.00
	P1		5.00	10.00	25.00
TYPE - B	P2		10.00	10.00	20.00
	P3		5.00	10.00	15.00
	P4		6.00	6.00	12.00
	A2		6.00	6.00	12.00



SECTION A-A SECTION B - B

SECTION C-C SECTION D-D

TYPE - A

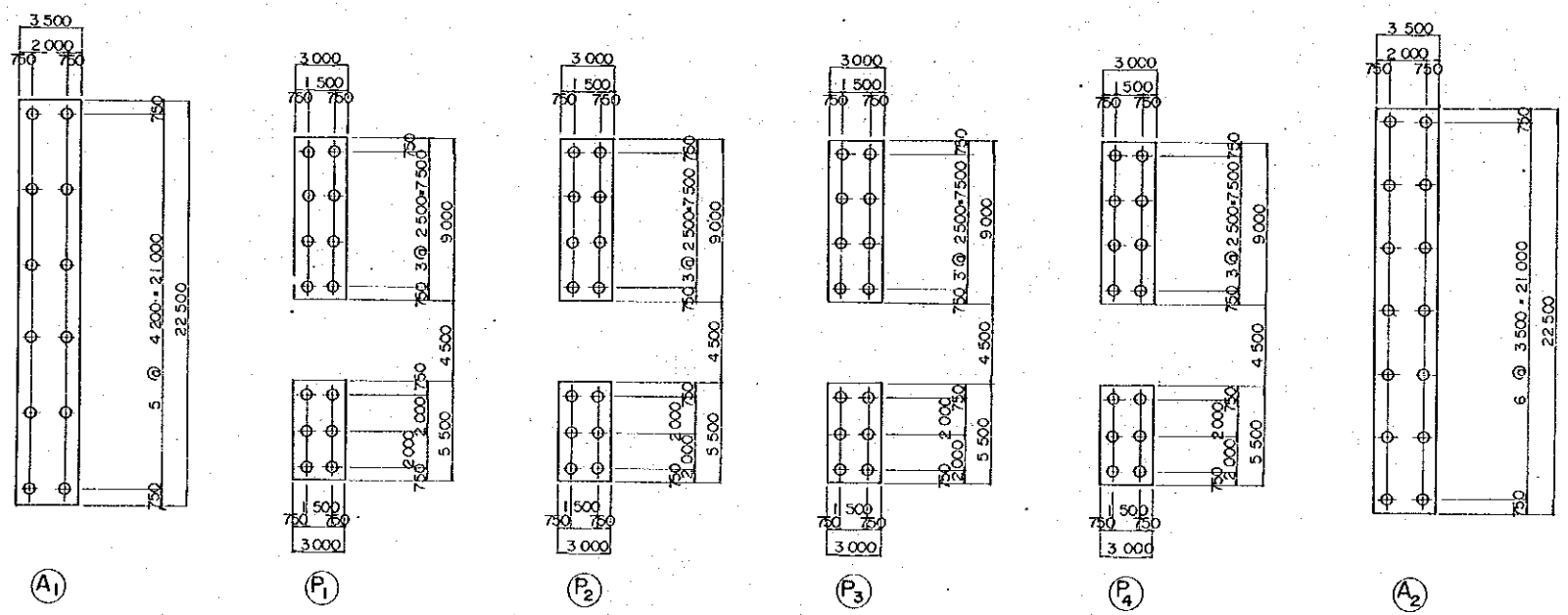


SECTION A-A SECTION B - B

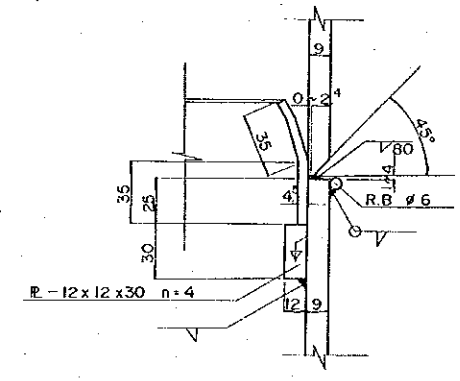
SECTION C-C SECTION D-D

TYPE - B

DETAIL OF STEEL PIPE PILE SCALE : B



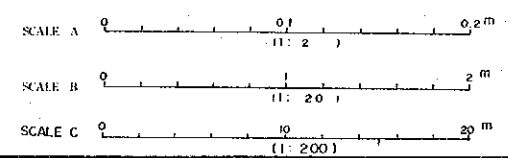
PILE ARRANGEMENT SCALE : C



DETAIL OF JOINT SCALE : A

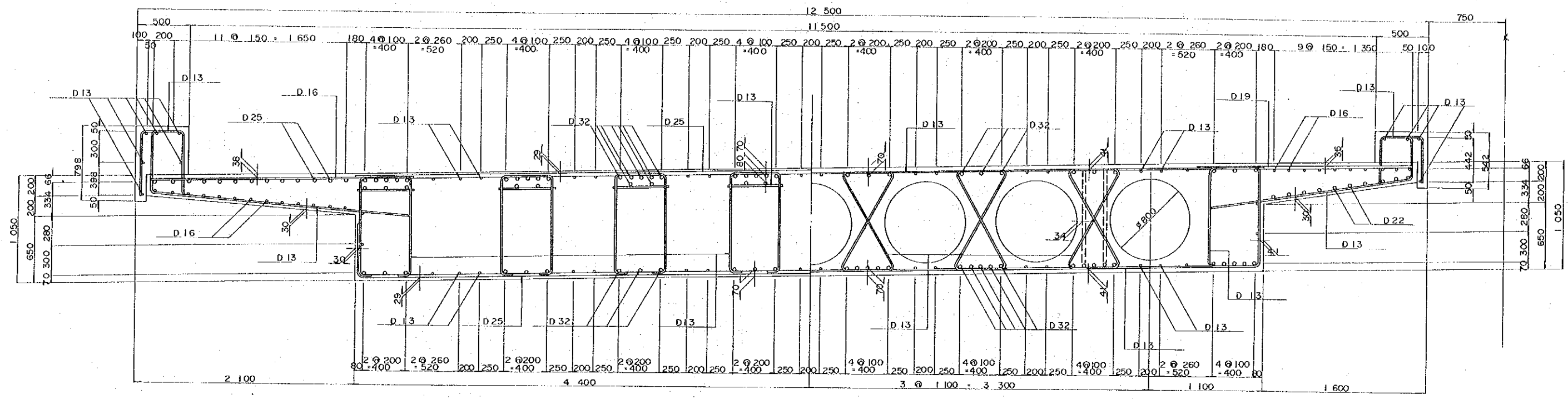
NOTES :

- ALLOWABLE STRESSES
STEEL PIPE PILE (STK41) $\sigma_s = 1400 \text{ kg/cm}^2$
REINFORCING BAR (SD 30) $\sigma_s = 1800 \text{ kg/cm}^2$
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED



THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		SELANDER BRIDGE DETAILS OF STEEL PIPE PILE		MINISTRY OF WORKS		APPROVED _____	
MINISTRY OF WORKS		DWG. NO. F - 7		NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		DATE _____	
REV. NO.	DATE	COORDINATE	REVISION	APPROV.	DATE	PREPARED	CHECKED

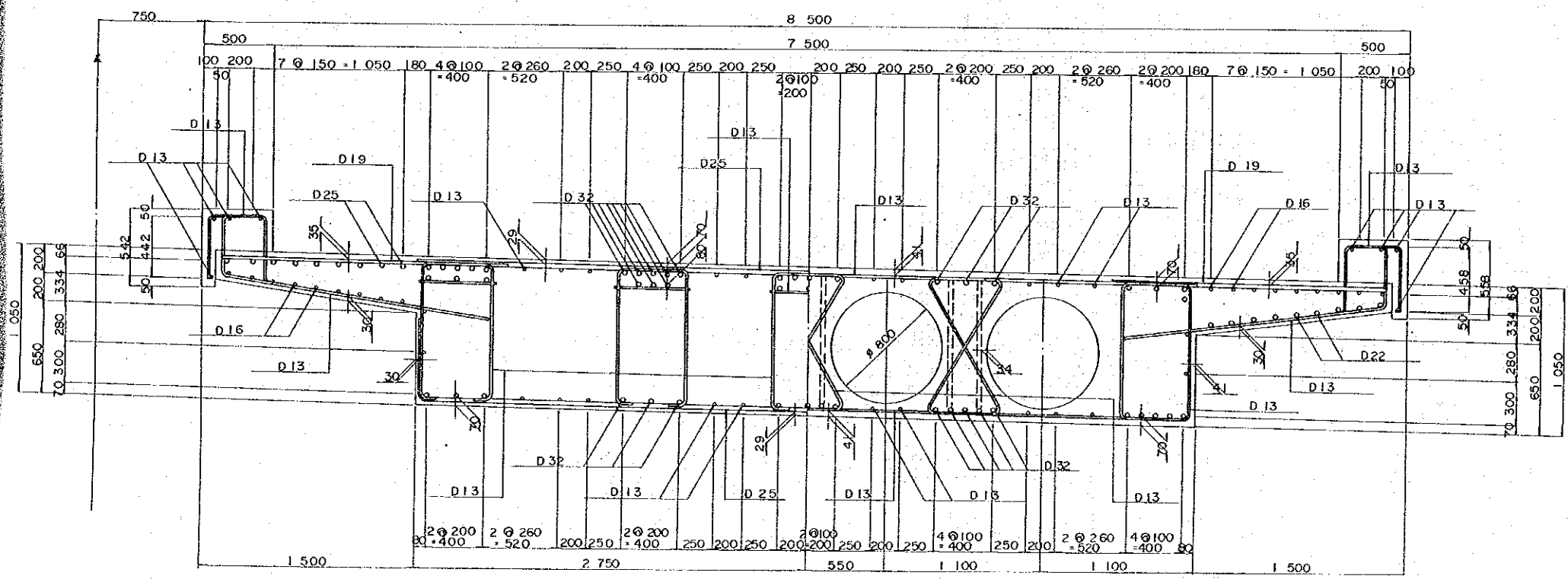
JUNE 30, 1980



SECTION A - A

OCEAN SIDE

SECTION B - B

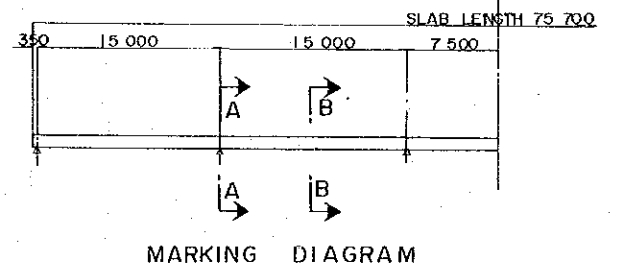


SECTION A - A

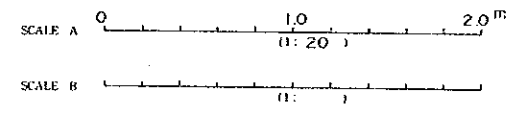
INLAND SIDE

SECTION B - B

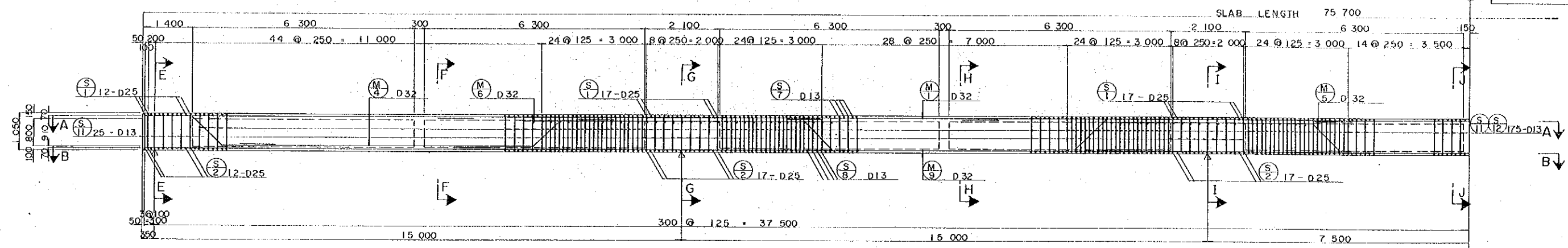
CROSS SECTION



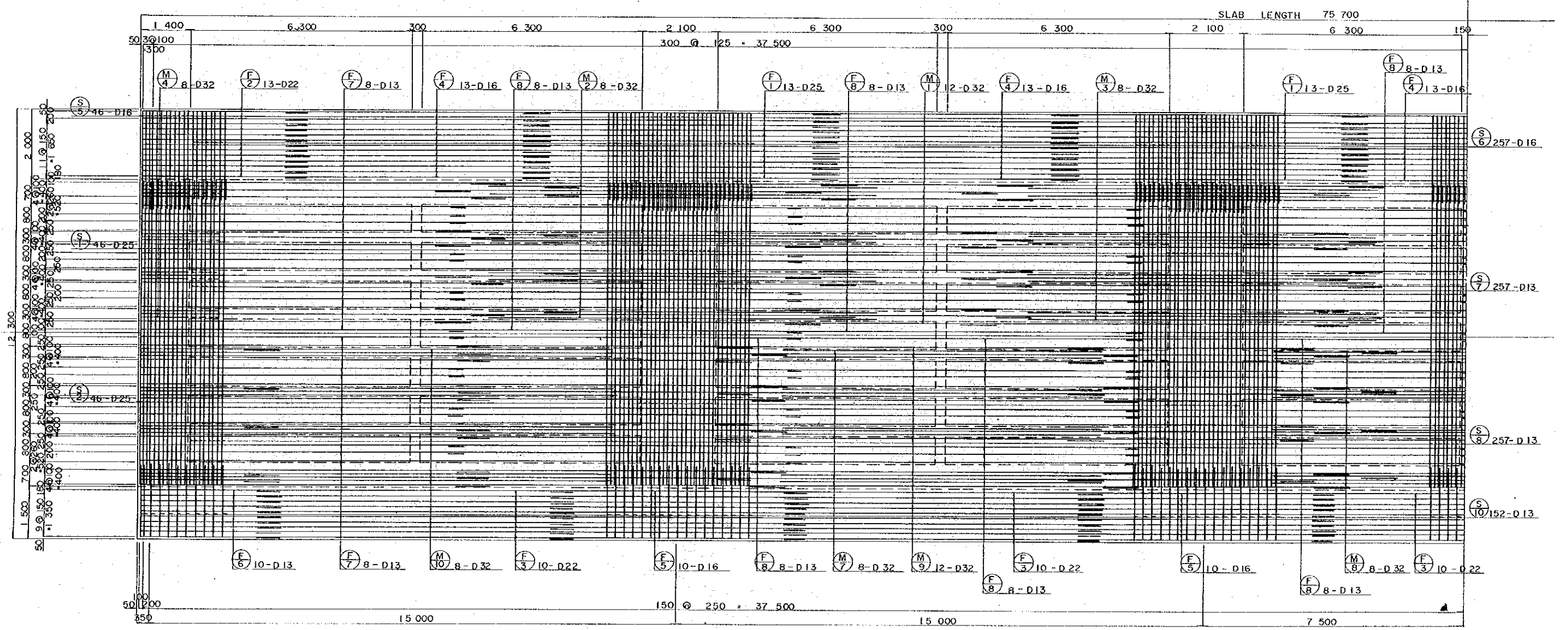
NOTES ;
ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS OTHERWISE INDICATED



				THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM		SELANDER BRIDGE SUPERSTRUCTURE REINFORCEMENT (I)		MINISTRY OF WORKS		APPROVED	
								NIPPON KOEI CO. LTD. CONSULTING ENGINEERS TOKYO JAPAN		DATE	
										CHECKED	
										DATE	
						MINISTRY OF WORKS		DWG. NO. F - 8		JUNE 30, 1980	
REV. NO.	DATE	COORDINATE	REVISION			APPROV.	DATE				

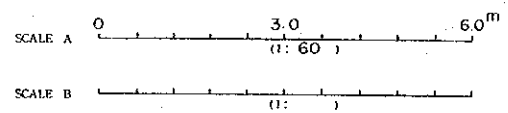


SIDE ELEVATION



PLAN
OCEAN SIDE SCALE A

- NOTES:
- DESIGN STRESSES:
CONCRETE $f'_{cu} = 240 \text{ kg/cm}^2$
 $f'_{ca} = 80 \text{ kg/cm}^2$
REINFORCING BAR $f'_{sa} = 1800 \text{ kg/cm}^2$
 - ALL REINFORCING BARS SHALL BE DEFORMED BARS
 - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED



REV. NO.	DATE	COORDINATE	REVISION	APPRO.	DATE

THE SELANDER BRIDGE EXPANSION PROJECT DAR ES SALAAM	SELANDER BRIDGE SUPERSTRUCTURE REINFORCEMENT (2)	MINISTRY OF WORKS	APPROVED
		NIPPON KOFI CO., LTD. CONSULTING ENGINEERS TORYO JAPAN	DATE JUNE 30, 1980
MINISTRY OF WORKS	DWG. NO. F - 9	PREPARED	CHECKED
		SUBMITTED	

