

REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF
WATER RESOURCES DEVELOPMENT


FEASIBILITY STUDY
ON
THE LANGKEMME IRRIGATION PROJECT

ANNEX-IV

DRAWINGS

MARCH 1981

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

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**REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL OF
WATER RESOURCES DEVELOPMENT**

**FEASIBILITY STUDY
ON
THE LANGKEMME IRRIGATION PROJECT**

ANNEX-IV

DRAWINGS

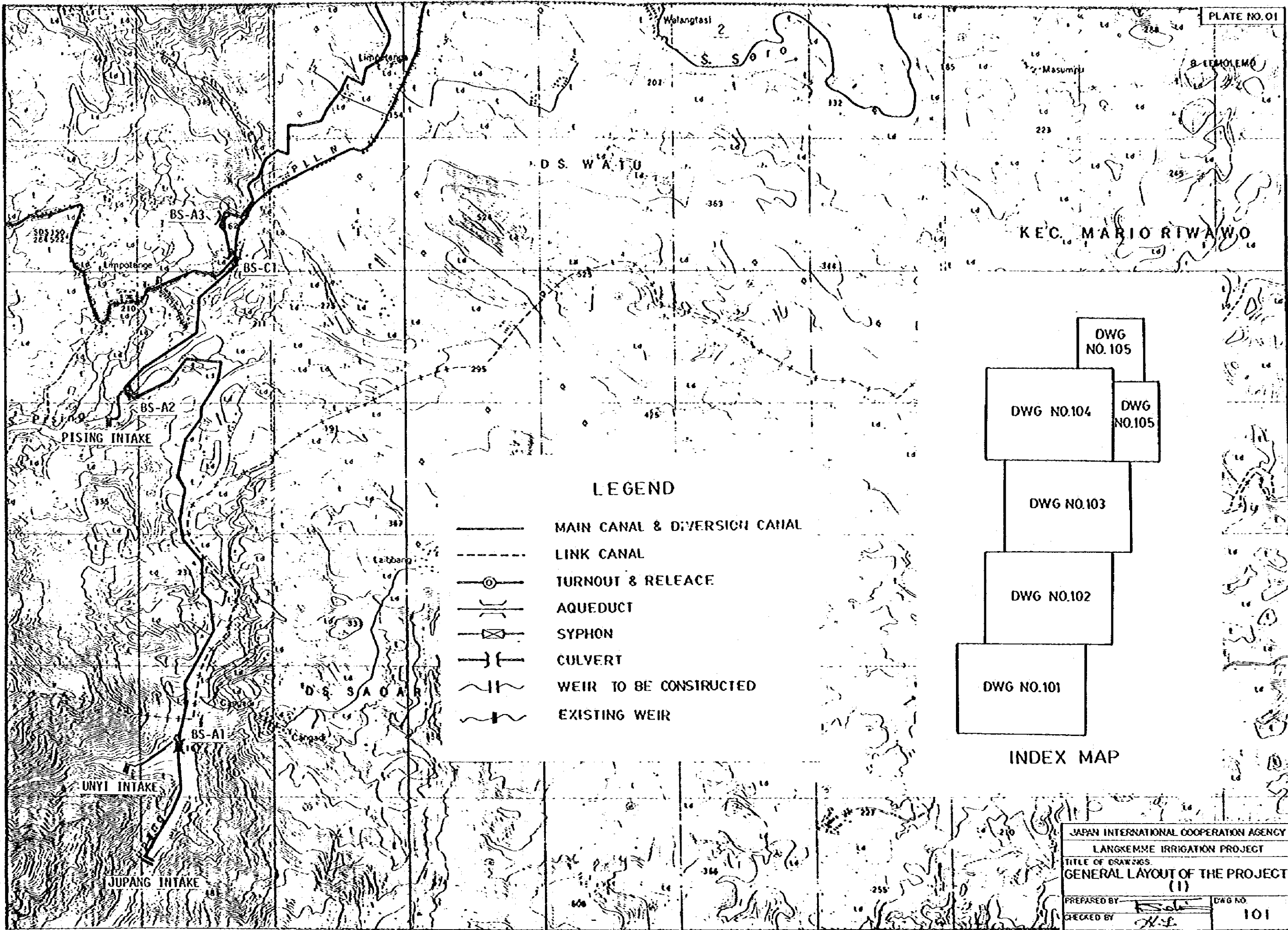
MARCH 1981

**JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN**

国際協力事業団	
参入 船	56.7.20 84.5.21
登録No. 06250	1080 8336 AFT

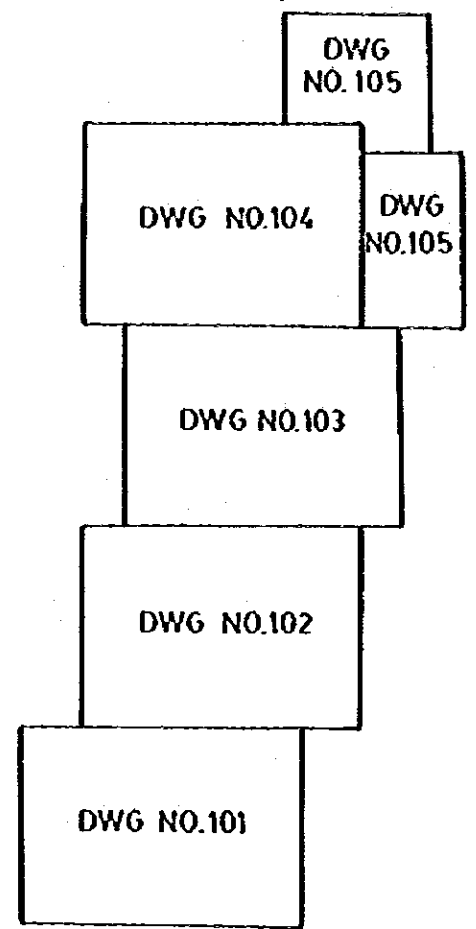
LIST OF DRAWINGS

<u>DWG. NO.</u>		<u>PLATE NO.</u>
101	GENERAL LAYOUT OF THE PROJECT (1)	0 1
102	GENERAL LAYOUT OF THE PROJECT (2)	0 2
103	GENERAL LAYOUT OF THE PROJECT (3)	0 3
104	GENERAL LAYOUT OF THE PROJECT (4)	0 4
105	GENERAL LAYOUT OF THE PROJECT (5)	0 5
201	LANGKEWIE INTAKE WEIR	0 6
202	JUPANG INTAKE (TIROL TYPE)	0 7
203	PISING AND UNYI INTAKES	0 8
301	LONGITUDINAL SECTION OF LANGKEWIE MAIN CANAL 1/6	0 9
302	LONGITUDINAL SECTION OF LANGKEWIE MAIN CANAL 2/6	1 0
303	LONGITUDINAL SECTION OF LANGKEWIE MAIN CANAL 3/6	1 1
304	LONGITUDINAL SECTION OF LANGKEWIE MAIN CANAL 4/6	1 2
305	LONGITUDINAL SECTION OF LANGKEWIE MAIN CANAL 5/6	1 3
306	LONGITUDINAL SECTION OF LANGKEWIE MAIN CANAL 6/6	1 4
307	LONGITUDINAL SECTION OF SERO DIVERSION CANAL 1/3	1 5
308	LONGITUDINAL SECTION OF SERO DIVERSION CANAL 2/3	1 6
309	LONGITUDINAL SECTION OF SERO DIVERSION CANAL 3/3	1 7
401	TURNOUT, RELEASE AND WASTEWAY	1 8
402	CULVERT AND SPILLWAY	1 9
403	DROP	2 0
404	CHUTE	2 1
405	CHECK STRUCTURE AND JUNCTION	2 2
406	AQUEDUCT	2 3
407	SYPHON AND CROSS DRAIN	2 4
408	TIROL TYPE INTAKE (DUAL DIVERSION TYPE)	2 5
501	ROAD NETWORK	2 6



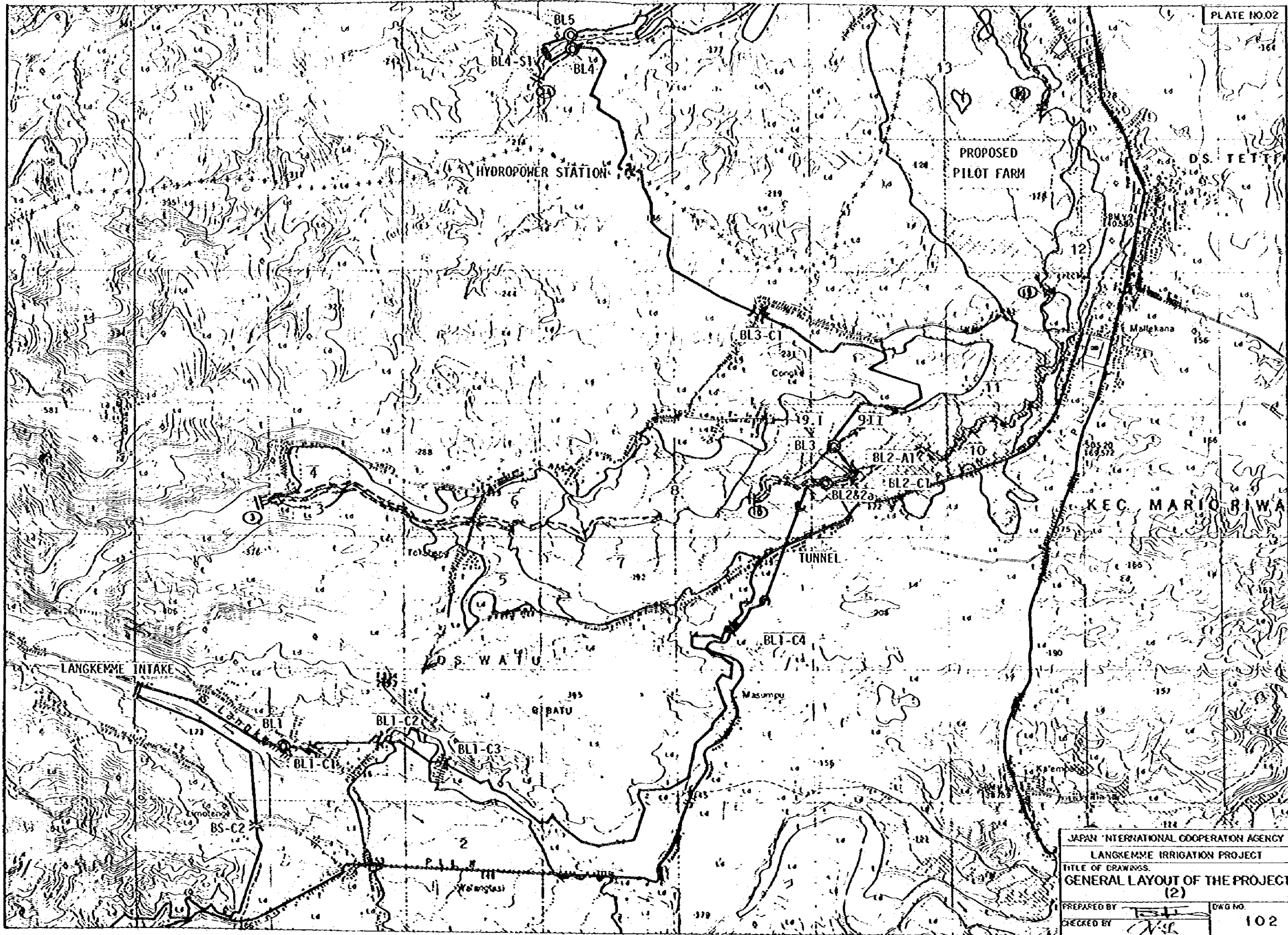
LEGEND

- MAIN CANAL & DIVERSION CANAL
- - - - LINK CANAL
- ⊙ TURNOUT & RELEASE
- |—|— AQUEDUCT
- X— SYPHON
- |—|— CULVERT
- ~|~ WEIR TO BE CONSTRUCTED
- ~|~ EXISTING WEIR

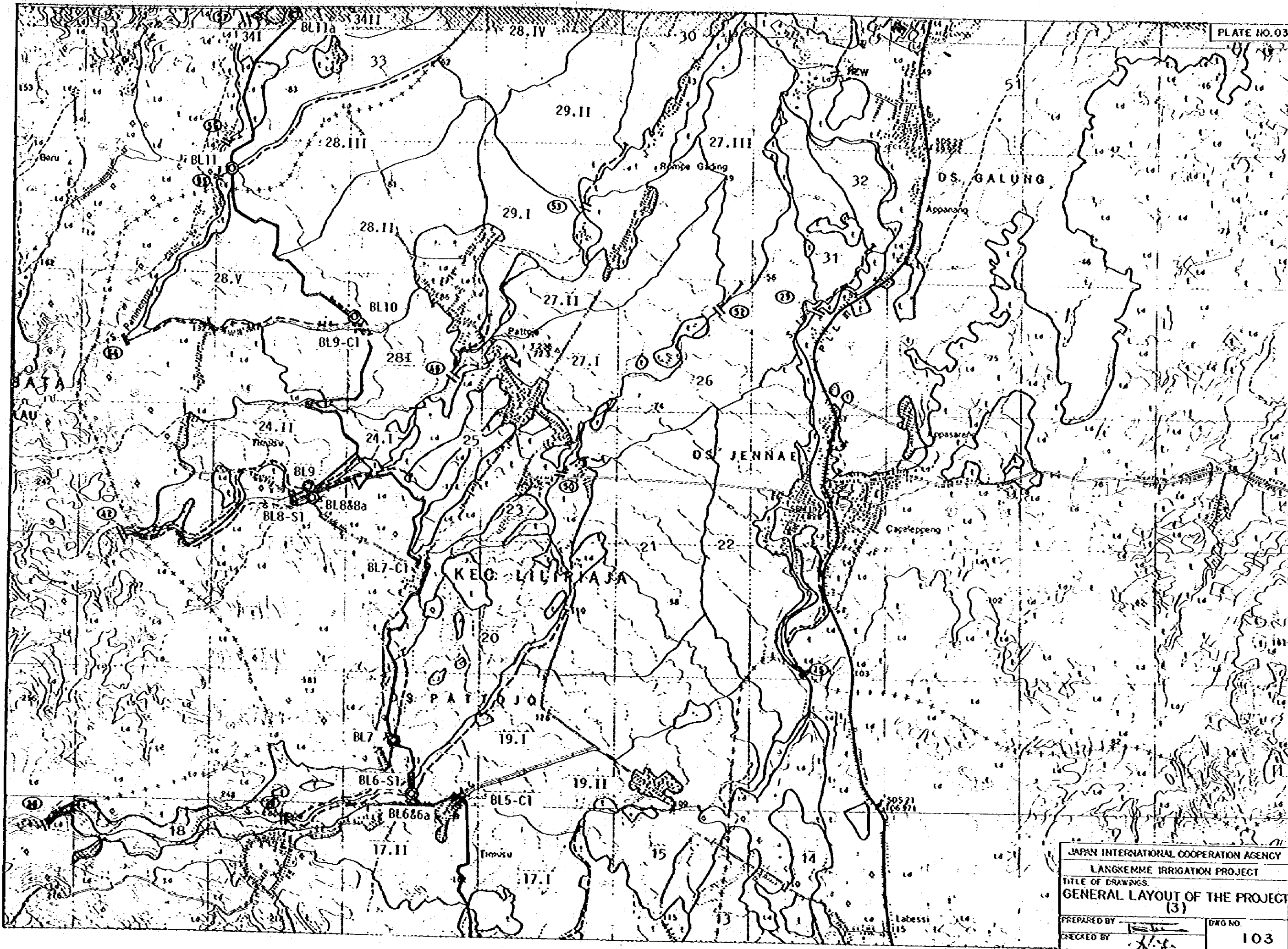


INDEX MAP

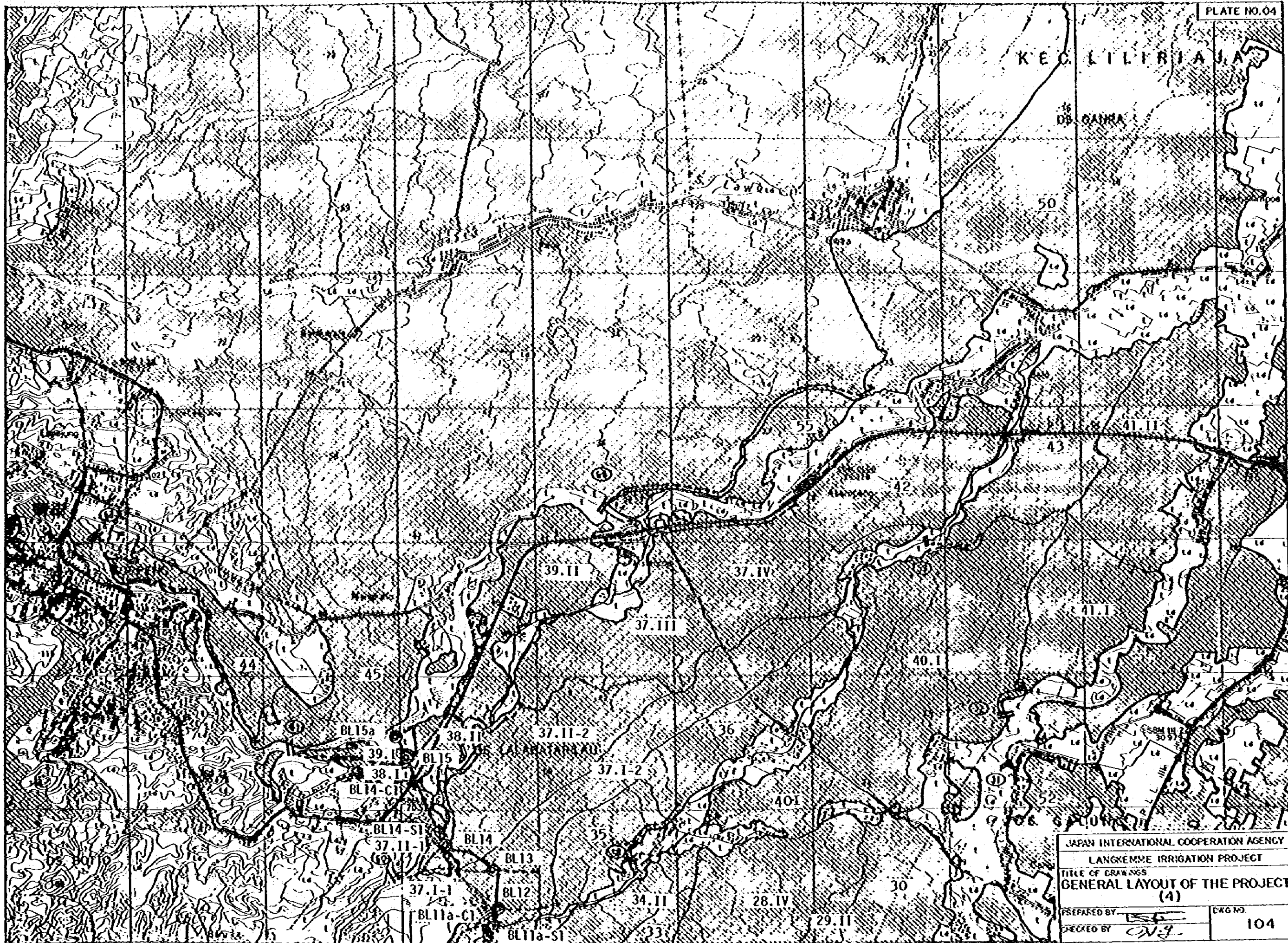
JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWINGS GENERAL LAYOUT OF THE PROJECT (1)	
PREPARED BY <i>[Signature]</i>	DWG NO.
CHECKED BY <i>[Signature]</i>	101



JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMPE IRRIGATION PROJECT	
TITLE OF DRAWINGS: GENERAL LAYOUT OF THE PROJECT (2)	
PREPARED BY <i>[Signature]</i>	DWG NO. 102
CHECKED BY <i>[Signature]</i>	



JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWINGS	
GENERAL LAYOUT OF THE PROJECT	
(3)	
PREPARED BY	DWG NO.
CHECKED BY	103



JAPAN INTERNATIONAL COOPERATION AGENCY
 LANGKEMME IRRIGATION PROJECT
 TITLE OF DRAWINGS
GENERAL LAYOUT OF THE PROJECT
 (4)
 PREPARED BY: *[Signature]*
 CHECKED BY: *[Signature]*
 DKG NO. 104

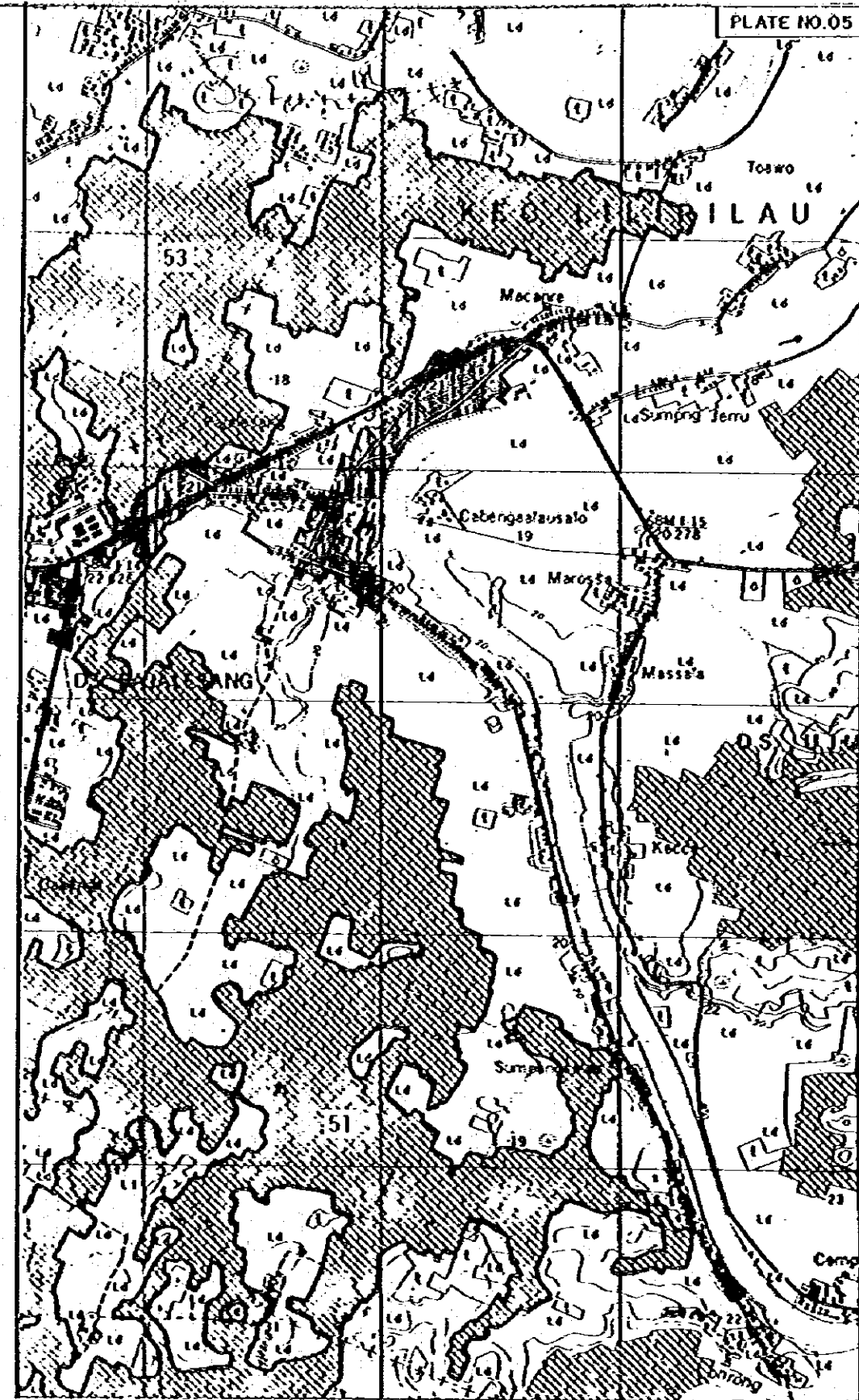
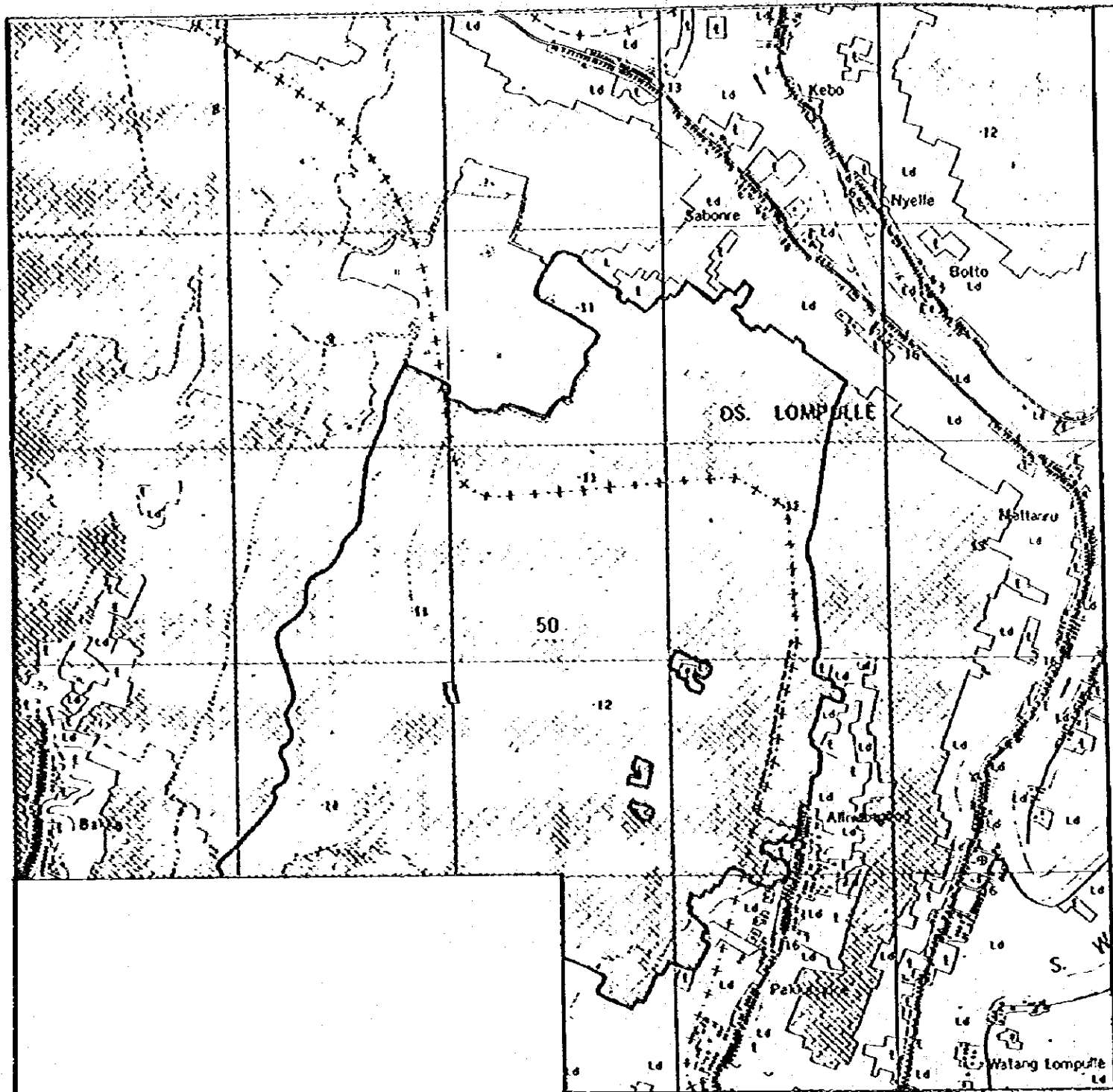
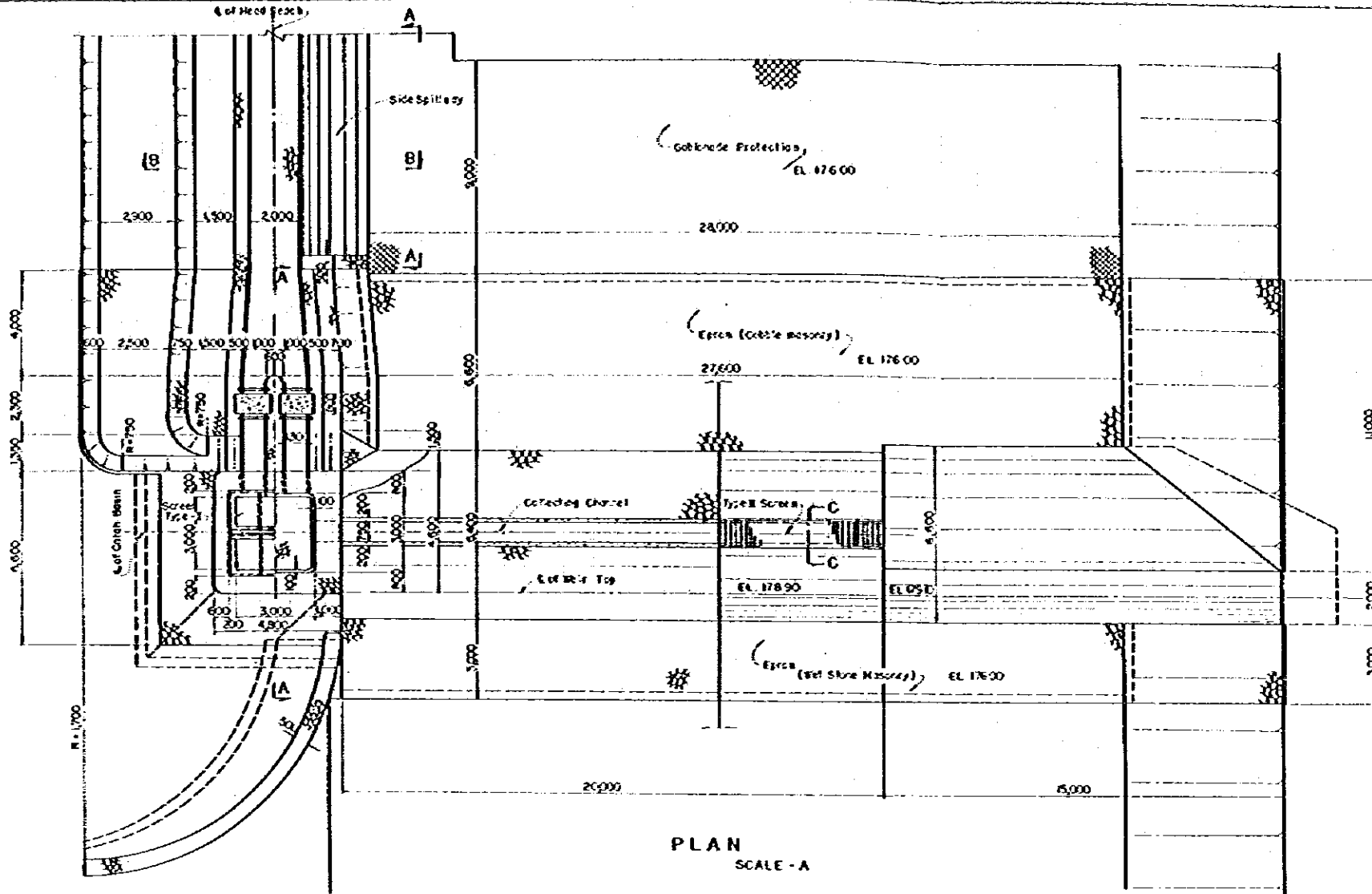
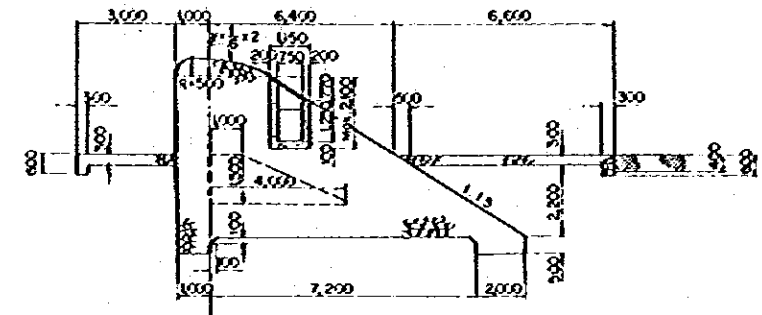


PLATE NO. 05

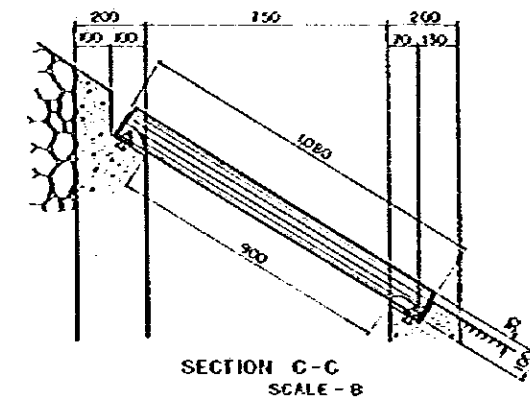
JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWINGS	
GENERAL LAYOUT OF THE PROJECT	
(5)	
PREPARED BY	CAG NO
CHECKED BY	105



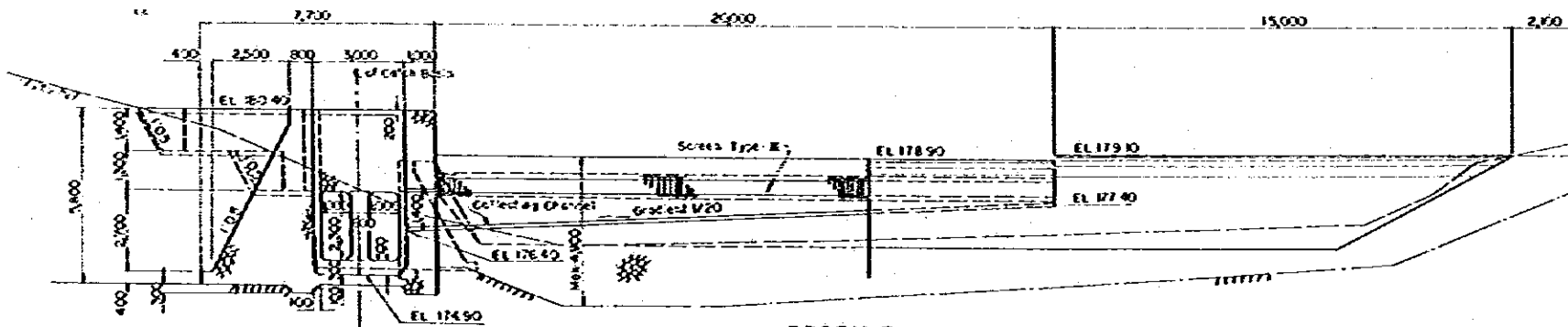
PLAN
SCALE - A



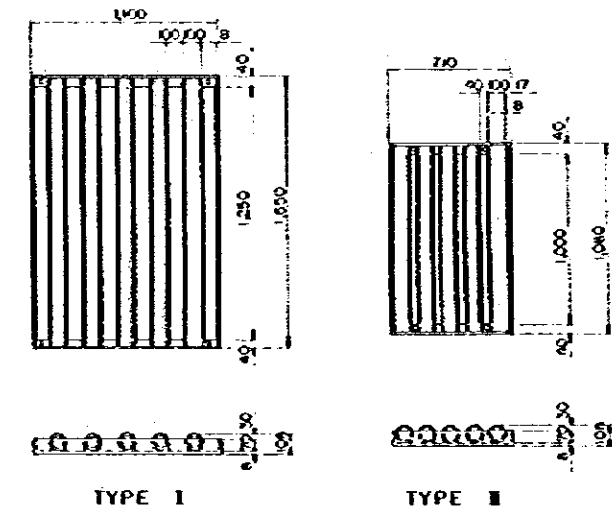
CROSS SECTION OF WEIR
SCALE - A



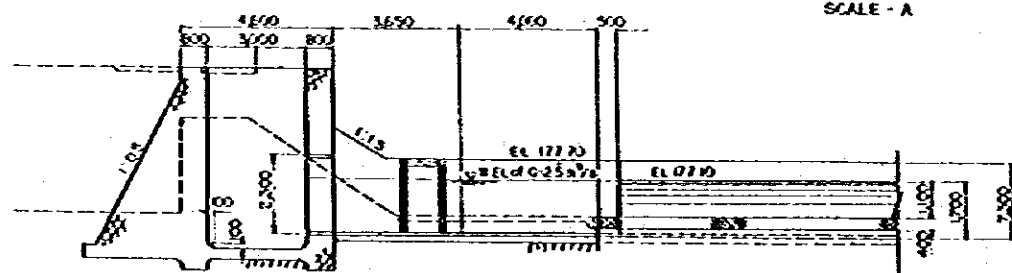
SECTION C-C
SCALE - B



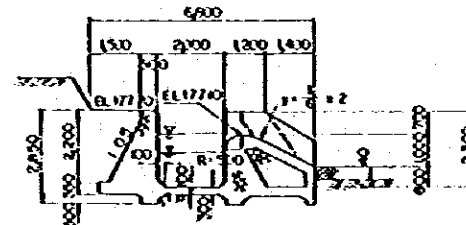
PROFILE
SCALE - A



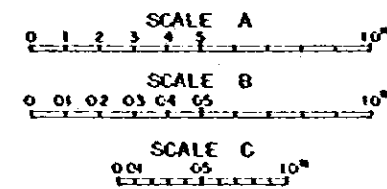
SCREEN
SCALE - C



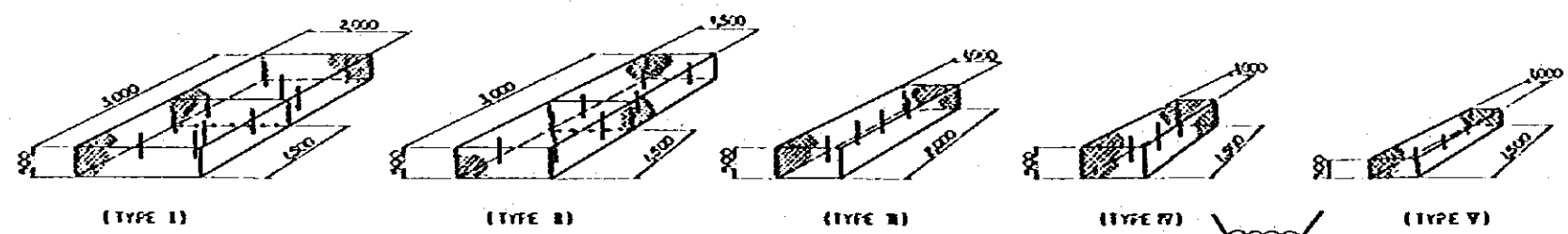
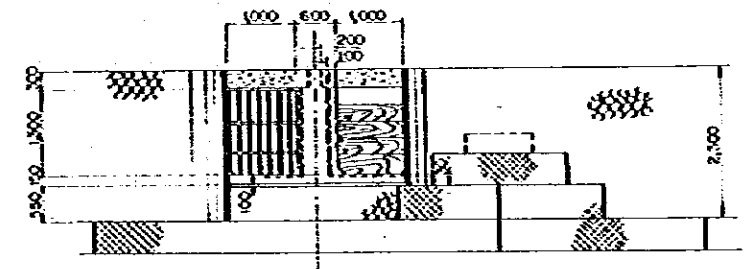
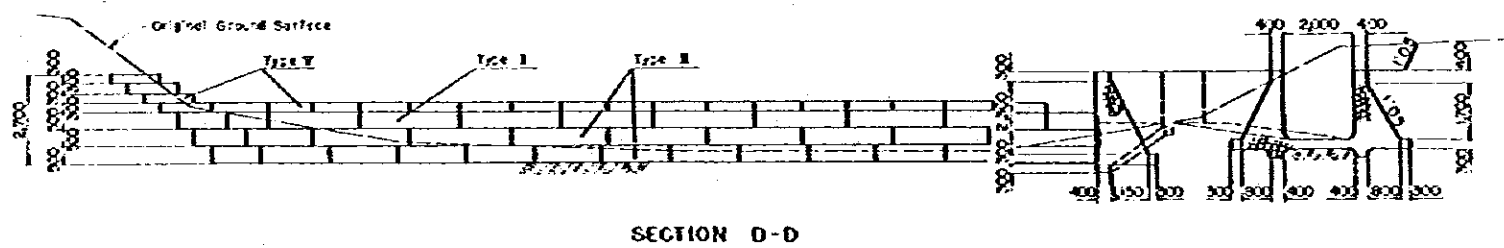
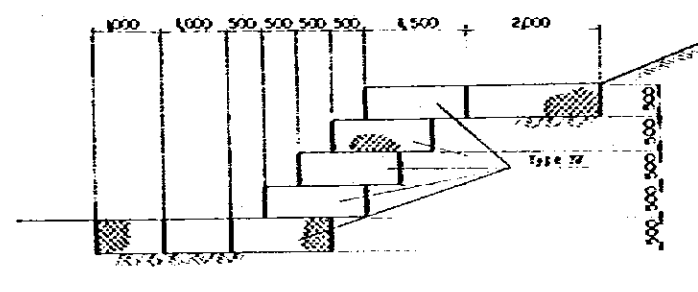
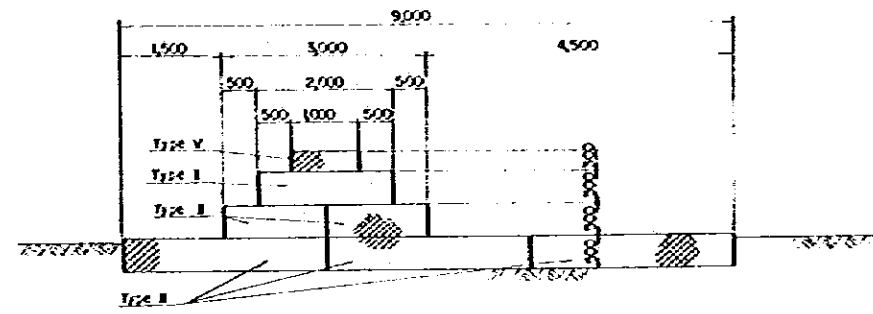
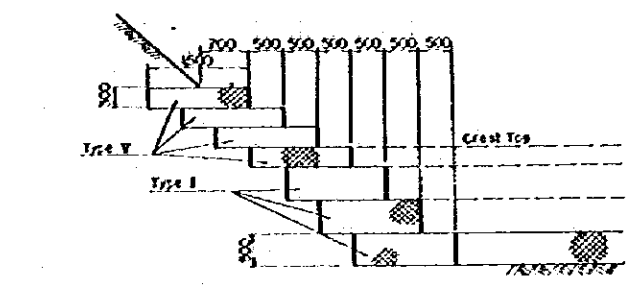
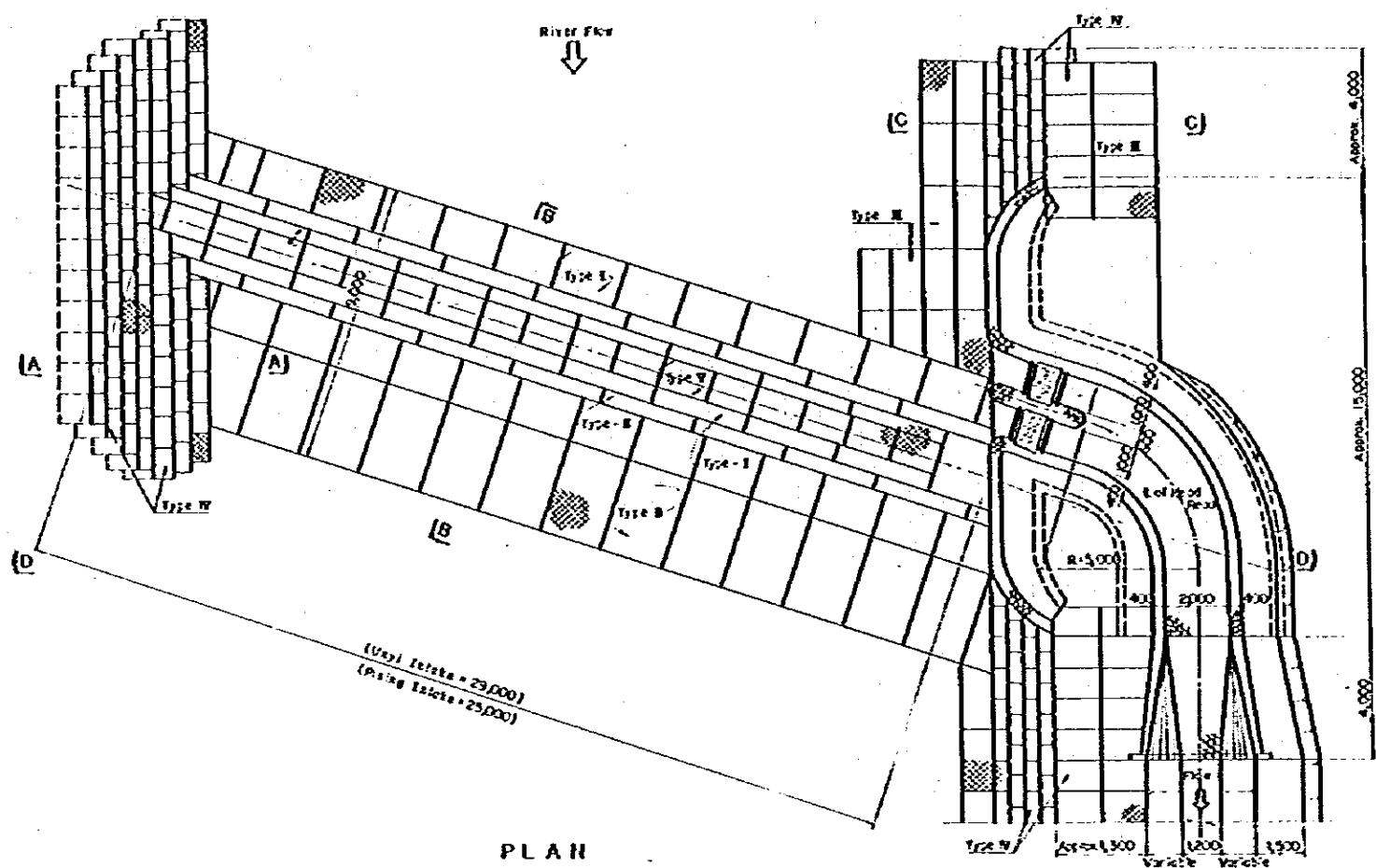
SECTION A-A
SCALE - A



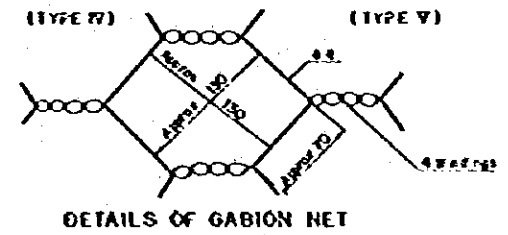
SECTION B-B
SCALE - A



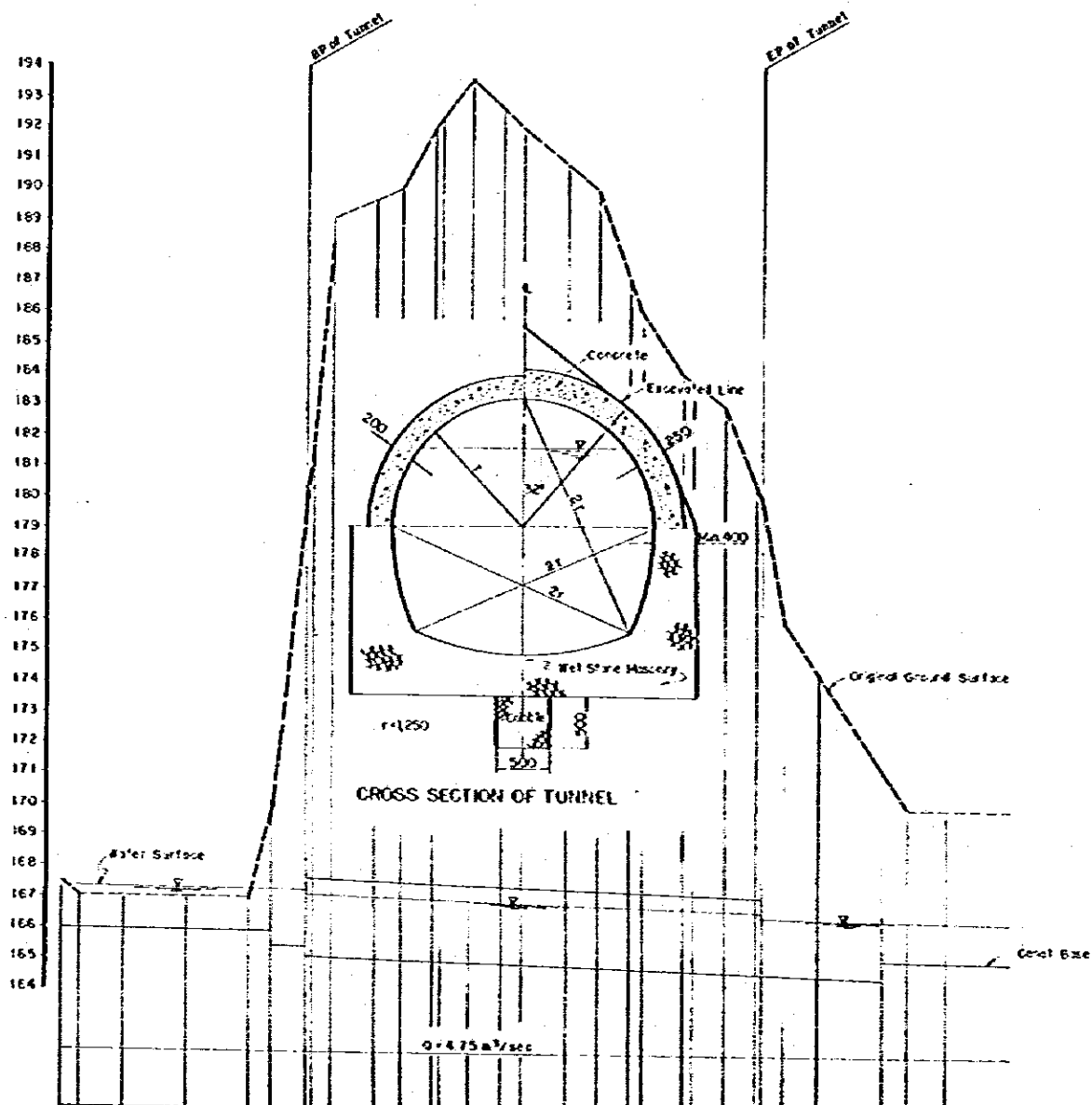
JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWINGS JUPANG INTAKE (TIROL TYPE)	
PREPARED BY	DWG NO.
CHECKED BY	202



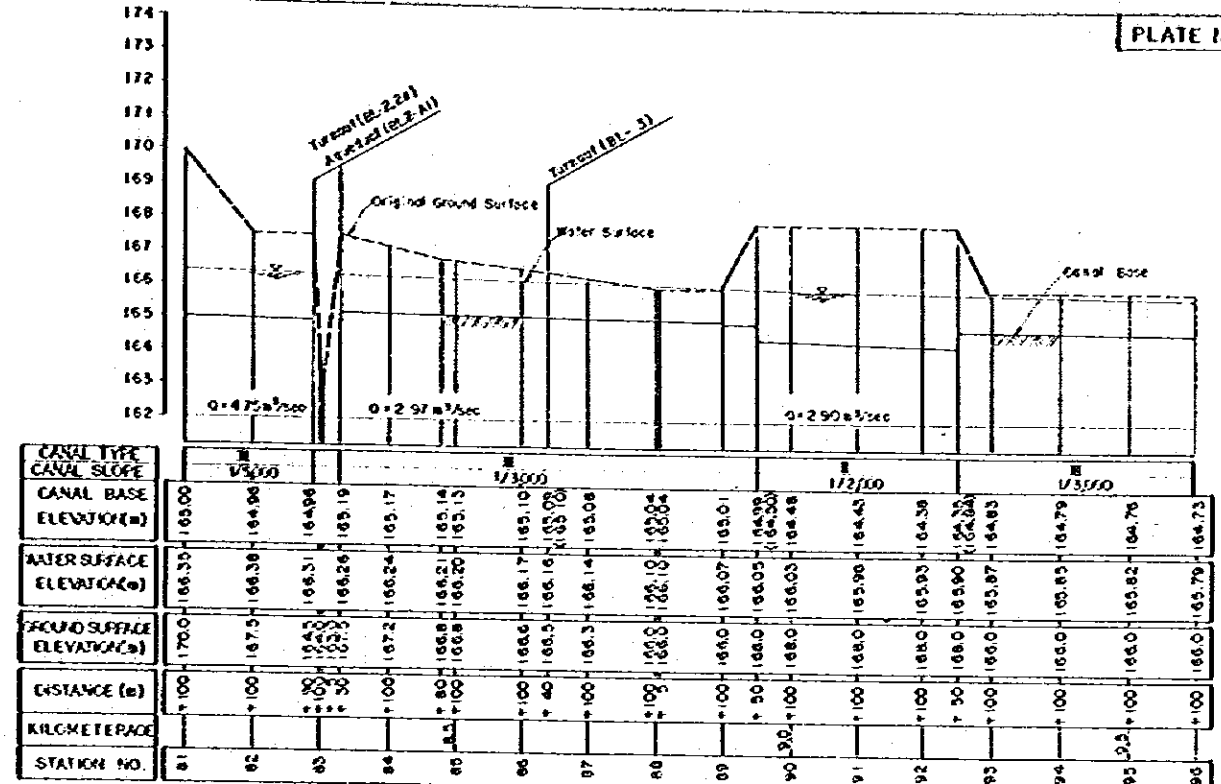
GABION BOX



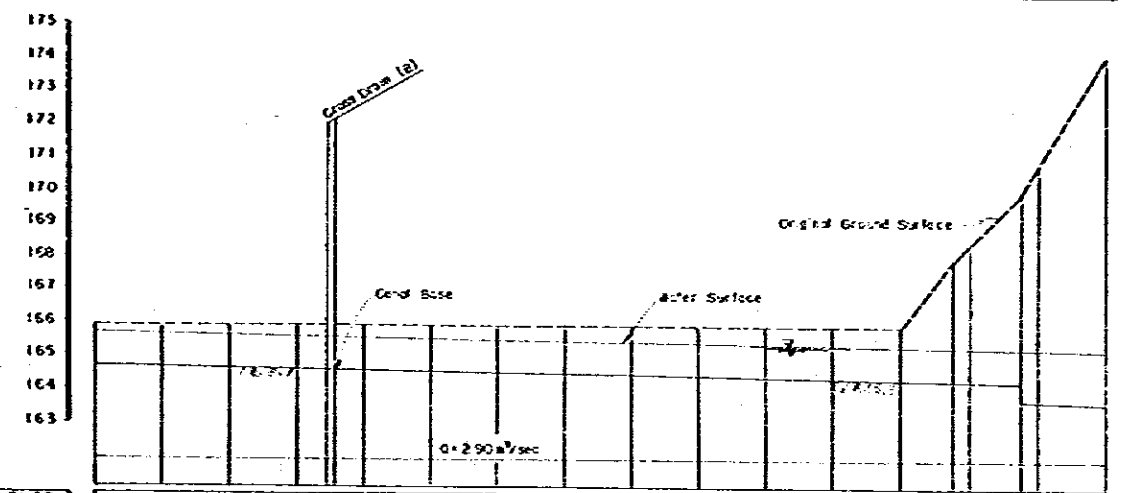
JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEME IRRIGATION PROJECT	
TITLE OF DRAWINGS	
PISING & UNYI INTAKE	
PREPARED BY	DWG NO
CHECKED BY	203



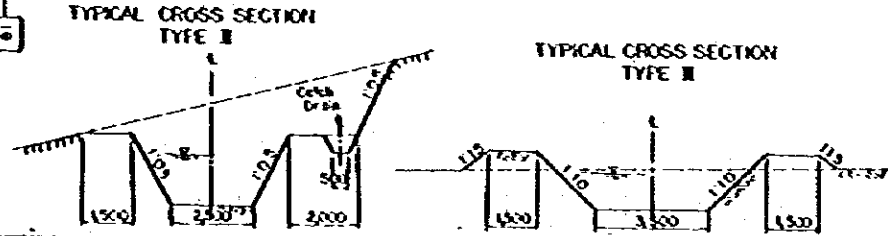
CANAL TYPE	I		II		Type: I		II		III	
CANAL SLOPE	1/3000		1/3000		1/3000		1/2000		1/3000	
CANAL BASE ELEVATION (m)	166.00	165.99	165.98	165.94	165.94	165.91	165.89	165.84	165.80	165.00
WATER SURFACE ELEVATION (m)	167.35	167.34	167.33	167.29	167.28	167.25	167.22	167.14	167.07	166.35
GROUND SURFACE ELEVATION (m)	167.5	167.0	167.0	167.0	167.0	167.0	167.0	167.0	167.0	167.0
DISTANCE (m)	+100	+30	+100	+30	+30	+30	+30	+30	+30	+100
KILOMETERAGE	100	130	230	260	290	320	350	380	410	510
STATION NO.	86	87	88	89	90	91	92	93	94	95



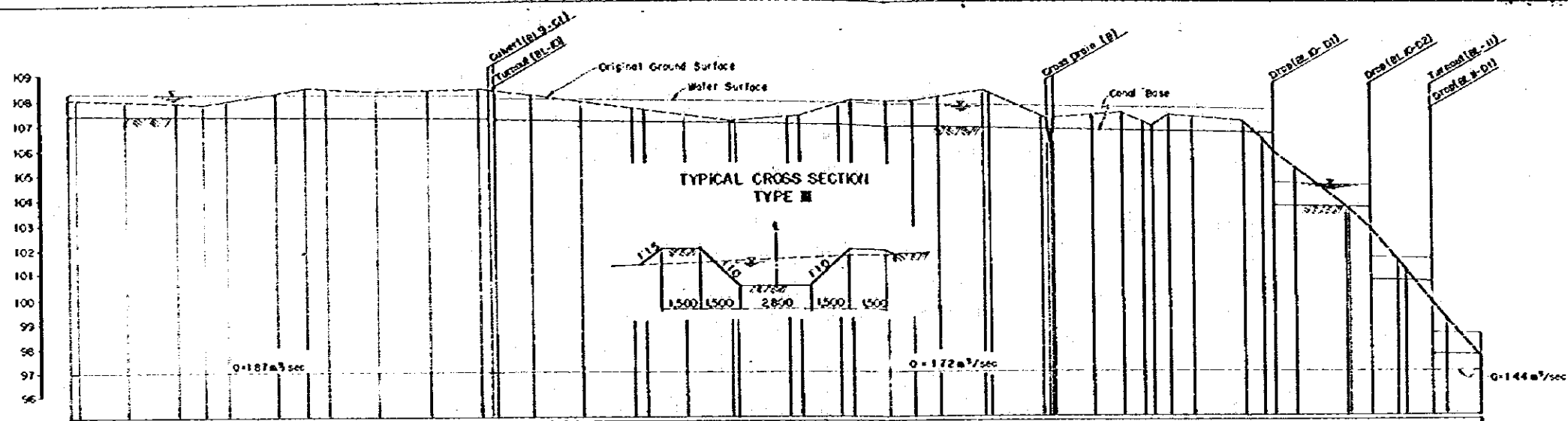
CANAL TYPE	I		II		III	
CANAL SLOPE	1/3000		1/3000		1/3000	
CANAL BASE ELEVATION (m)	165.00	164.96	164.96	164.91	164.87	164.73
WATER SURFACE ELEVATION (m)	166.35	166.34	166.33	166.29	166.28	166.25
GROUND SURFACE ELEVATION (m)	170.0	167.5	167.2	166.8	166.5	166.0
DISTANCE (m)	+100	+30	+30	+30	+30	+100
KILOMETERAGE	100	130	160	190	220	320
STATION NO.	91	92	93	94	95	96



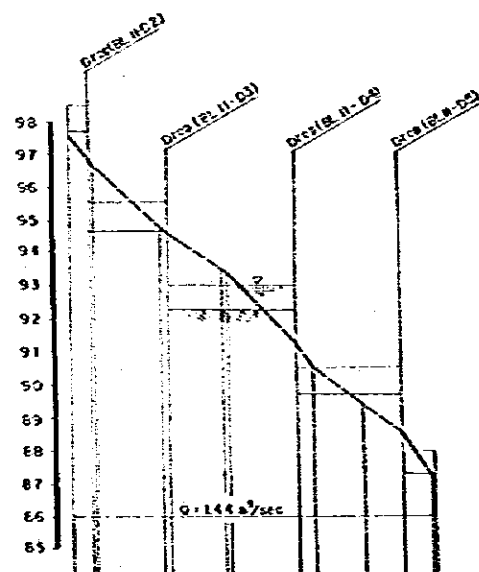
CANAL TYPE	I		II		III	
CANAL SLOPE	1/3000		1/2000		1/2000	
CANAL BASE ELEVATION (m)	164.72	164.65	164.65	164.63	164.55	164.53
WATER SURFACE ELEVATION (m)	165.79	165.73	165.72	165.69	165.62	165.49
GROUND SURFACE ELEVATION (m)	166.0	166.0	166.0	166.0	166.0	166.0
DISTANCE (m)	+100	+30	+30	+30	+30	+100
KILOMETERAGE	100	130	160	190	220	320
STATION NO.	96	97	98	99	100	101



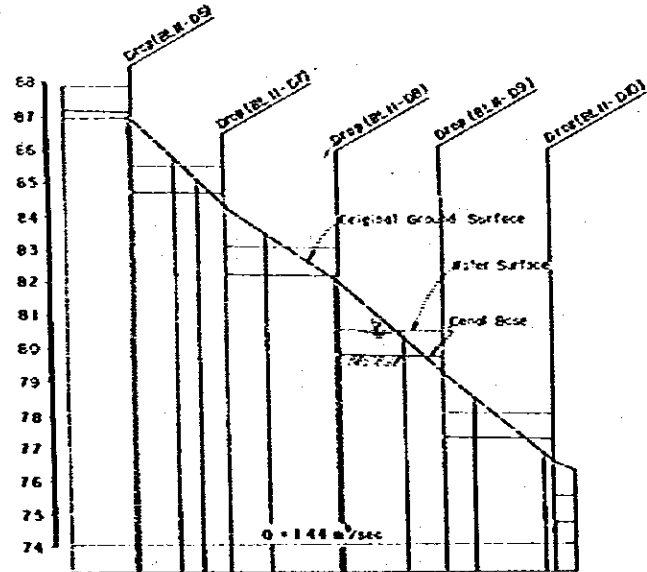
JAPAN INTERNATIONAL COOPERATION AGENCY
 LANDEMME IRRIGATION PROJECT
 TITLE OF DRAWINGS
 LONGITUDINAL SECTION OF LANDEMME MAIN CANAL (2/6)
 PREPARED BY [Signature]
 CHECKED BY [Signature] DWG NO. 302



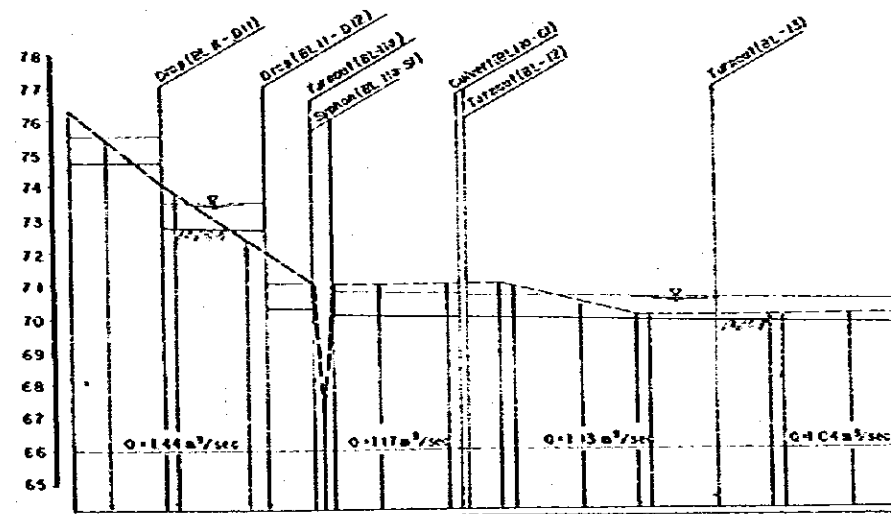
CANAL TYPE	CANAL SLOPE		1/3,000	
CANAL TYPE				
CANAL SLOPE				
CANAL BASE ELEVATION (m)	107.41	107.37	107.34	107.31
WATER SURFACE ELEVATION (m)	108.14	108.30	108.27	108.24
GROUND SURFACE ELEVATION (m)	108.00	107.9	107.8	107.7
DISTANCE (m)	+ 45	+ 100	+ 100	+ 100
KILOMETERAGE	230	231	232	233
STATION NO.	230	231	232	233



CANAL TYPE	CANAL SLOPE		1/3,000	
CANAL TYPE				
CANAL SLOPE				
CANAL BASE ELEVATION (m)	97.67	98.02	98.17	98.07
WATER SURFACE ELEVATION (m)	98.47	98.47	98.27	98.27
GROUND SURFACE ELEVATION (m)	97.5	97.5	97.5	97.5
DISTANCE (m)	+ 45	+ 100	+ 100	+ 100
KILOMETERAGE	234	235	236	237
STATION NO.	234	235	236	237

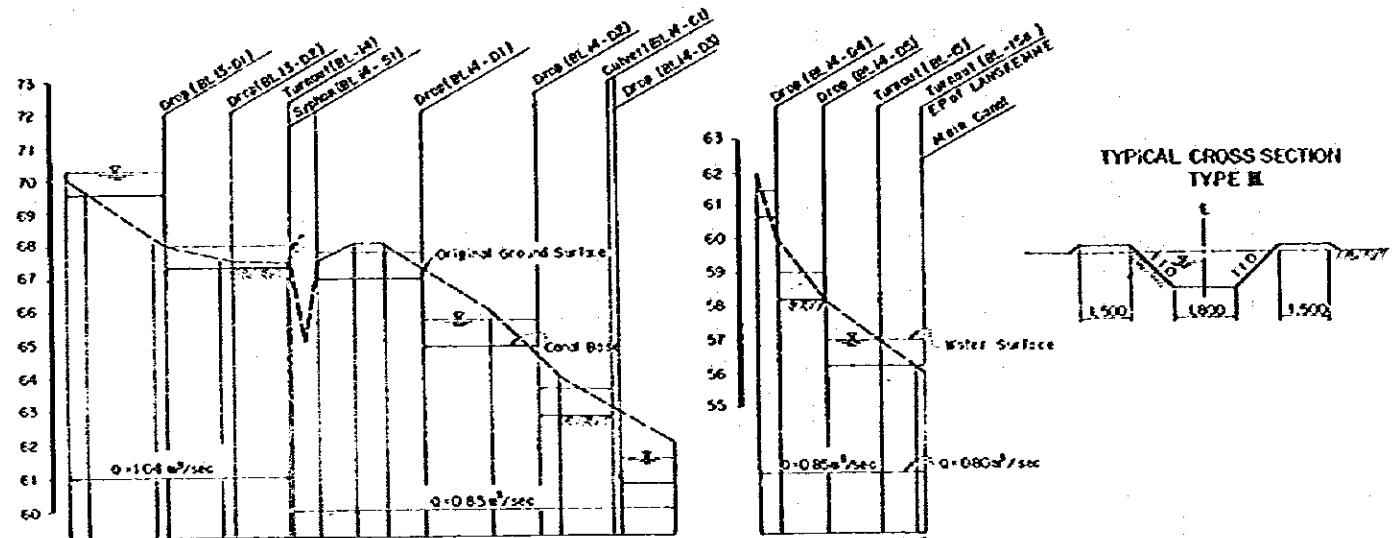


CANAL TYPE	CANAL SLOPE		1/3,000	
CANAL TYPE				
CANAL SLOPE				
CANAL BASE ELEVATION (m)	87.18	87.12	86.64	86.67
WATER SURFACE ELEVATION (m)	87.98	87.98	87.57	87.57
GROUND SURFACE ELEVATION (m)	87.0	87.0	86.5	86.5
DISTANCE (m)	+ 5	+ 100	+ 100	+ 100
KILOMETERAGE	264	265	266	267
STATION NO.	264	265	266	267



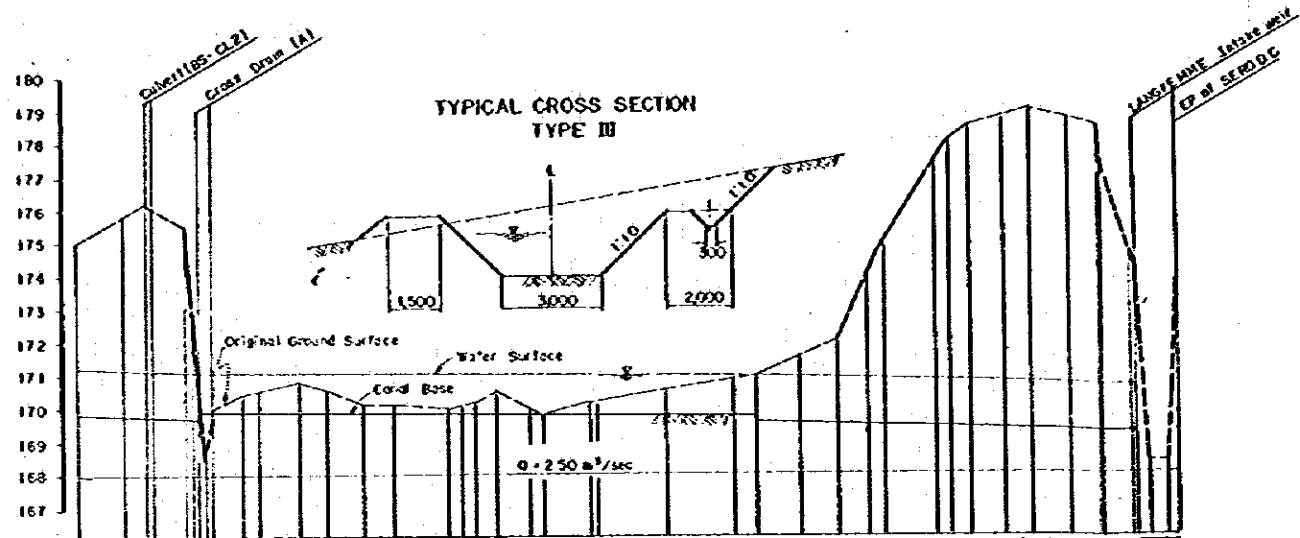
CANAL TYPE	CANAL SLOPE		1/3,000	
CANAL TYPE				
CANAL SLOPE				
CANAL BASE ELEVATION (m)	74.89	74.67	72.66	72.66
WATER SURFACE ELEVATION (m)	75.49	75.47	73.40	73.40
GROUND SURFACE ELEVATION (m)	74.3	74.3	72.4	72.4
DISTANCE (m)	+ 40	+ 100	+ 100	+ 100
KILOMETERAGE	271	272	273	274
STATION NO.	271	272	273	274

JAPAN INTERNATIONAL COOPERATION AGENCY
 LANGKEMME IRRIGATION PROJECT
 TITLE OF DRAWINGS
 LONGITUDINAL SECTION OF LANGKEMME
 MAIN CANAL (5/6)
 PREPARED BY
 CHECKED BY
 (ENG) NO
 305



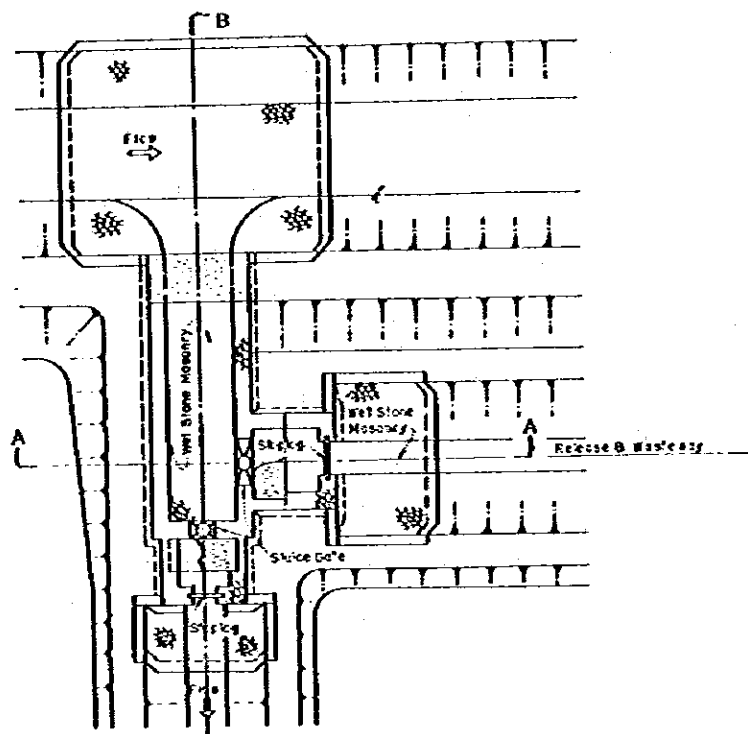
STATION NO.	ALONGITUDINAL	DISTANCE (m)	GROUND SURFACE ELEVATION (m)	WATER SURFACE ELEVATION (m)	CANAL BASE ELEVATION (m)	CANAL TYPE	CANAL SLOPE
283	0+00	7.0	70.0	70.41	69.75		1/300
284	0+10	17.0	69.8	70.40	69.74		
285	0+20	27.0	68.3	70.37	69.71		
286	0+30	37.0	68.0	70.35	69.69		
287	0+40	47.0	67.5	70.32	69.66		
288	0+50	57.0	67.3	70.28	69.62		
289	0+60	67.0	67.0	70.24	69.58		
290	0+70	77.0	66.0	70.17	69.51		
291	0+80	87.0	64.5	70.04	69.38		
292	0+90	97.0	64.0	69.90	69.24		1/3000
293	0+100	107.0	63.0	69.77	69.11		
294	0+110	117.0	62.0	69.64	69.08		

JAPAN INTERNATIONAL COOPERATION AGENCY
 LANGKEMME IRRIGATION PROJECT
 TITLE OF DRAWINGS
 LONGITUDINAL SECTION OF LANGKEMME
 MAIN CANAL (6/6)
 PREPARED BY [Signature]
 CHECKED BY [Signature]
 DAG NO. 306

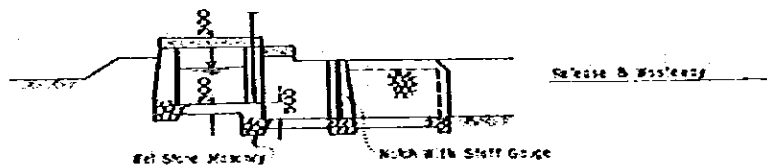


CANAL TYPE	I/2,000										I/5,000										I/2,000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
CANAL SLOPE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
CANAL BASE ELEVATION (m)	169.84	169.80	169.76	169.72	169.68	169.64	169.60	169.56	169.52	169.48	169.44	169.40	169.36	169.32	169.28	169.24	169.20	169.16	169.12	169.08	169.04	169.00	168.96	168.92	168.88	168.84	168.80	168.76	168.72	168.68	168.64	168.60	168.56	168.52	168.48	168.44	168.40	168.36	168.32	168.28	168.24	168.20	168.16	168.12	168.08	168.04	168.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
WATERSURFACE ELEVATION (m)	171.25	171.21	171.17	171.13	171.09	171.05	171.01	170.97	170.93	170.89	170.85	170.81	170.77	170.73	170.69	170.65	170.61	170.57	170.53	170.49	170.45	170.41	170.37	170.33	170.29	170.25	170.21	170.17	170.13	170.09	170.05	170.01	169.97	169.93	169.89	169.85	169.81	169.77	169.73	169.69	169.65	169.61	169.57	169.53	169.49	169.45	169.41	169.37	169.33	169.29	169.25	169.21	169.17	169.13	169.09	169.05	169.01	168.97	168.93	168.89	168.85	168.81	168.77	168.73	168.69	168.65	168.61	168.57	168.53	168.49	168.45	168.41	168.37	168.33	168.29	168.25	168.21	168.17	168.13	168.09	168.05	168.01	167.97	167.93	167.89	167.85	167.81	167.77	167.73	167.69	167.65	167.61	167.57	167.53	167.49	167.45	167.41	167.37	167.33	167.29	167.25	167.21	167.17	167.13	167.09	167.05	167.01	166.97	166.93	166.89	166.85	166.81	166.77	166.73	166.69	166.65	166.61	166.57	166.53	166.49	166.45	166.41	166.37	166.33	166.29	166.25	166.21	166.17	166.13	166.09	166.05	166.01	165.97	165.93	165.89	165.85	165.81	165.77	165.73	165.69	165.65	165.61	165.57	165.53	165.49	165.45	165.41	165.37	165.33	165.29	165.25	165.21	165.17	165.13	165.09	165.05	165.01	164.97	164.93	164.89	164.85	164.81	164.77	164.73	164.69	164.65	164.61	164.57	164.53	164.49	164.45	164.41	164.37	164.33	164.29	164.25	164.21	164.17	164.13	164.09	164.05	164.01	163.97	163.93	163.89	163.85	163.81	163.77	163.73	163.69	163.65	163.61	163.57	163.53	163.49	163.45	163.41	163.37	163.33	163.29	163.25	163.21	163.17	163.13	163.09	163.05	163.01	162.97	162.93	162.89	162.85	162.81	162.77	162.73	162.69	162.65	162.61	162.57	162.53	162.49	162.45	162.41	162.37	162.33	162.29	162.25	162.21	162.17	162.13	162.09	162.05	162.01	161.97	161.93	161.89	161.85	161.81	161.77	161.73	161.69	161.65	161.61	161.57	161.53	161.49	161.45	161.41	161.37	161.33	161.29	161.25	161.21	161.17	161.13	161.09	161.05	161.01	160.97	160.93	160.89	160.85	160.81	160.77	160.73	160.69	160.65	160.61	160.57	160.53	160.49	160.45	160.41	160.37	160.33	160.29	160.25	160.21	160.17	160.13	160.09	160.05	160.01	159.97	159.93	159.89	159.85	159.81	159.77	159.73	159.69	159.65	159.61	159.57	159.53	159.49	159.45	159.41	159.37	159.33	159.29	159.25	159.21	159.17	159.13	159.09	159.05	159.01	158.97	158.93	158.89	158.85	158.81	158.77	158.73	158.69	158.65	158.61	158.57	158.53	158.49	158.45	158.41	158.37	158.33	158.29	158.25	158.21	158.17	158.13	158.09	158.05	158.01	157.97	157.93	157.89	157.85	157.81	157.77	157.73	157.69	157.65	157.61	157.57	157.53	157.49	157.45	157.41	157.37	157.33	157.29	157.25	157.21	157.17	157.13	157.09	157.05	157.01	156.97	156.93	156.89	156.85	156.81	156.77	156.73	156.69	156.65	156.61	156.57	156.53	156.49	156.45	156.41	156.37	156.33	156.29	156.25	156.21	156.17	156.13	156.09	156.05	156.01	155.97	155.93	155.89	155.85	155.81	155.77	155.73	155.69	155.65	155.61	155.57	155.53	155.49	155.45	155.41	155.37	155.33	155.29	155.25	155.21	155.17	155.13	155.09	155.05	155.01	154.97	154.93	154.89	154.85	154.81	154.77	154.73	154.69	154.65	154.61	154.57	154.53	154.49	154.45	154.41	154.37	154.33	154.29	154.25	154.21	154.17	154.13	154.09	154.05	154.01	153.97	153.93	153.89	153.85	153.81	153.77	153.73	153.69	153.65	153.61	153.57	153.53	153.49	153.45	153.41	153.37	153.33	153.29	153.25	153.21	153.17	153.13	153.09	153.05	153.01	152.97	152.93	152.89	152.85	152.81	152.77	152.73	152.69	152.65	152.61	152.57	152.53	152.49	152.45	152.41	152.37	152.33	152.29	152.25	152.21	152.17	152.13	152.09	152.05	152.01	151.97	151.93	151.89	151.85	151.81	151.77	151.73	151.69	151.65	151.61	151.57	151.53	151.49	151.45	151.41	151.37	151.33	151.29	151.25	151.21	151.17	151.13	151.09	151.05	151.01	150.97	150.93	150.89	150.85	150.81	150.77	150.73	150.69	150.65	150.61	150.57	150.53	150.49	150.45	150.41	150.37	150.33	150.29	150.25	150.21	150.17	150.13	150.09	150.05	150.01	149.97	149.93	149.89	149.85	149.81	149.77	149.73	149.69	149.65	149.61	149.57	149.53	149.49	149.45	149.41	149.37	149.33	149.29	149.25	149.21	149.17	149.13	149.09	149.05	149.01	148.97	148.93	148.89	148.85	148.81	148.77	148.73	148.69	148.65	148.61	148.57	148.53	148.49	148.45	148.41	148.37	148.33	148.29	148.25	148.21	148.17	148.13	148.09	148.05	148.01	147.97	147.93	147.89	147.85	147.81	147.77	147.73	147.69	147.65	147.61	147.57	147.53	147.49	147.45	147.41	147.37	147.33	147.29	147.25	147.21	147.17	147.13	147.09	147.05	147.01	146.97	146.93	146.89	146.85	146.81	146.77	146.73	146.69	146.65	146.61	146.57	146.53	146.49	146.45	146.41	146.37	146.33	146.29	146.25	146.21	146.17	146.13	146.09	146.05	146.01	145.97	145.93	145.89	145.85	145.81	145.77	145.73	145.69	145.65	145.61	145.57	145.53	145.49	145.45	145.41	145.37	145.33	145.29	145.25	145.21	145.17	145.13	145.09	145.05	145.01	144.97	144.93	144.89	144.85	144.81	144.77	144.73	144.69	144.65	144.61	144.57	144.53	144.49	144.45	144.41	144.37	144.33	144.29	144.25	144.21	144.17	144.13	144.09	144.05	144.01	143.97	143.93	143.89	143.85	143.81	143.77	143.73	143.69	143.65	143.61	143.57	143.53	143.49	143.45	143.41	143.37	143.33	143.29	143.25	143.21	143.17	143.13	143.09	143.05	143.01	142.97	142.93	142.89	142.85	142.81	142.77	142.73	142.69	142.65	142.61	142.57	142.53	142.49	142.45	142.41	142.37	142.33	142.29	142.25	142.21	142.17	142.13	142.09	142.05	142.01	141.97	141.93	141.89	141.85	141.81	141.77	141.73	141.69	141.65	141.61	141.57	141.53	141.49	141.45	141.41	141.37	141.33	141.29	141.25	141.21	141.17	141.13	141.09	141.05	141.01	140.97	140.93	140.89	140.85	140.81	140.77	140.73	140.69	140.65	140.61	140.57	140.53	140.49	140.45	140.41	140.37	140.33	140.29	140.25	140.21	140.17	140.13	140.09	140.05	140.01	139.97	139.93	139.89	139.85	139.81	139.77	139.73	139.69	139.65	139.61	139.57	139.53	139.49	139.45	139.41	139.37	139.33	139.29	139.25	139.21	139.17	139.13	139.09	139.05	139.01	138.97	138.93	138.89	138.85	138.81	138.77	138.73	138.69	138.65	138.61	138.57	138.53	138.49	138.45	138.41	138.37	138.33	138.29	138.25	138.21	138.17	138.13	138.09	138.05	138.01	137.97	137.93	137.89	137.85	137.81	137.77	137.73	137.69	137.65	137.61	137.57	137.53	137.49	137.45	137.41	137.37	137.33	137.29	137.25	137.21	137.17	137.13	137.09	137.05	137.01	136.97	136.93	136.89	136.85	136.81	136.77	136.73	136.69	136.65	136.61	136.57	136.53	136.49	136.45	136.41	136.37	136.33	136.29	136.25	136.21	136.17	136.13	136.09	136.05	136.01	135.97	135.93	135.89	135.85	135.81	135.77	135.73	135.69	135.65	135.61	135.57	135.53	135.49	135.45	135.41	135.37	135.33	135.29	135.25	135.21	135.17	135.13	135.09	135.05	135.01	134.97	134.93	134.89	134.85	134.81	134.77	134.73	134.69	134.65	134.61	134.57	134.53	134.49	134.45	134.41	134.37	134.33	134.29	134.25	134.21	134.17	134.13	134.09	134.05	134.01	133.97	133.93	133.89	133.85	133.81	133.77	133.73	133.69	133.65	133.61	133.57	133.53	133.49	133.45	133.41	133.37	133.33	133.29	133.25	133.21	133.17	133.13	133.09	133.05	133.01	132.97	132.93	132.89	132.85	132.81	132.77	132.73	132.69	132.65	132.61	132.57	132.53	132.49	132.45	132.41	132.37	132.33	132.29	132.25	132.21	132.17	132.13	132.09	132.05	132.01	131.97	131.93	131.89	131.85	131.81	131.77	131.73	131.69	131.65	131.61	131.57	131.53	131.49	131.45	131.41	131.37	131.33	131.29	131.25	131.21	131.17	131.13	131.09	131.05	131.01	130.97	130.93	130.89	130.85	130.81	130.77	130.73	130.69	130.65	130.61	130.57	130.53	130.49	130.45	130.41	130.37	130.33	130.29	130.25	130.21	130.17	130.13	130.09	130.05	130.01	129.97	129.93	129.89	129.85	129.81	129.77	129.73	129.69

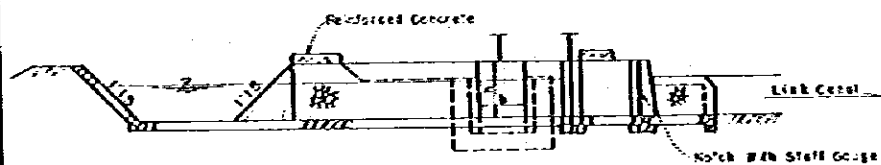
TURNOUT, RELEASE & WASTEWAY



PLAN



SECTION A-A

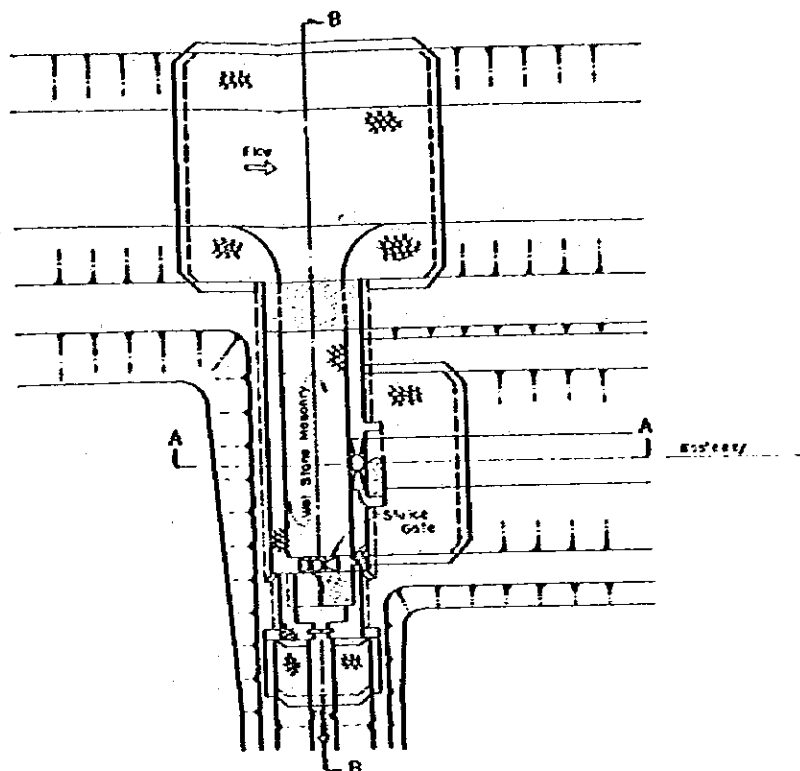


SECTION B-B

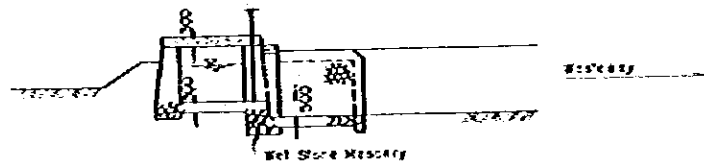
DIMENSION TABLE OF TURNOUT, RELEASE & WASTEWAY

	Discharge (m ³ /sec)	Gate Size (m x m)	Width of Notch (m)
Link Canal	0.062 - 0.393	0.4 x 0.4 - 0.8 x 0.8	0.5 - 1.0
Release	0.159 - 0.450	1.4 x 1.4	0.7 - 1.0
Wasteway	2.303 - 2.579		

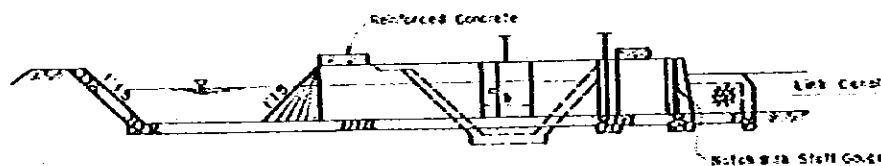
TURNOUT & WASTEWAY



PLAN



SECTION A-A

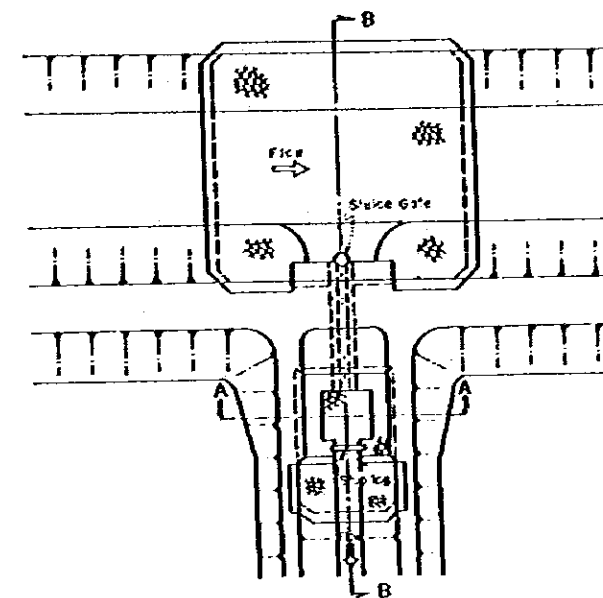


SECTION B-B

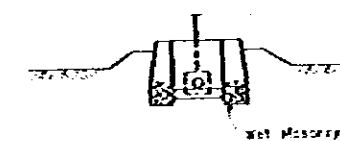
DIMENSION TABLE OF TURNOUT & WASTEWAY

	Discharge (m ³ /sec)	Gate Size (m x m)	Width of Notch (m)
Link Canal	0.054 - 0.278	0.4 x 0.4 - 0.6 x 0.6	0.5 - 0.7
Wasteway	0.887 - 2.878	0.9 x 0.9 - 1.5 x 1.5	

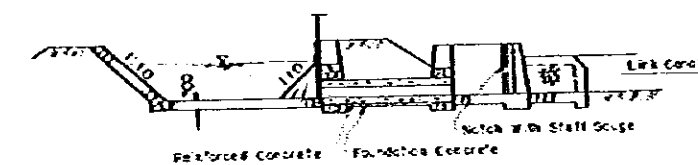
TURNOUT



PLAN



SECTION A-A



SECTION B-B

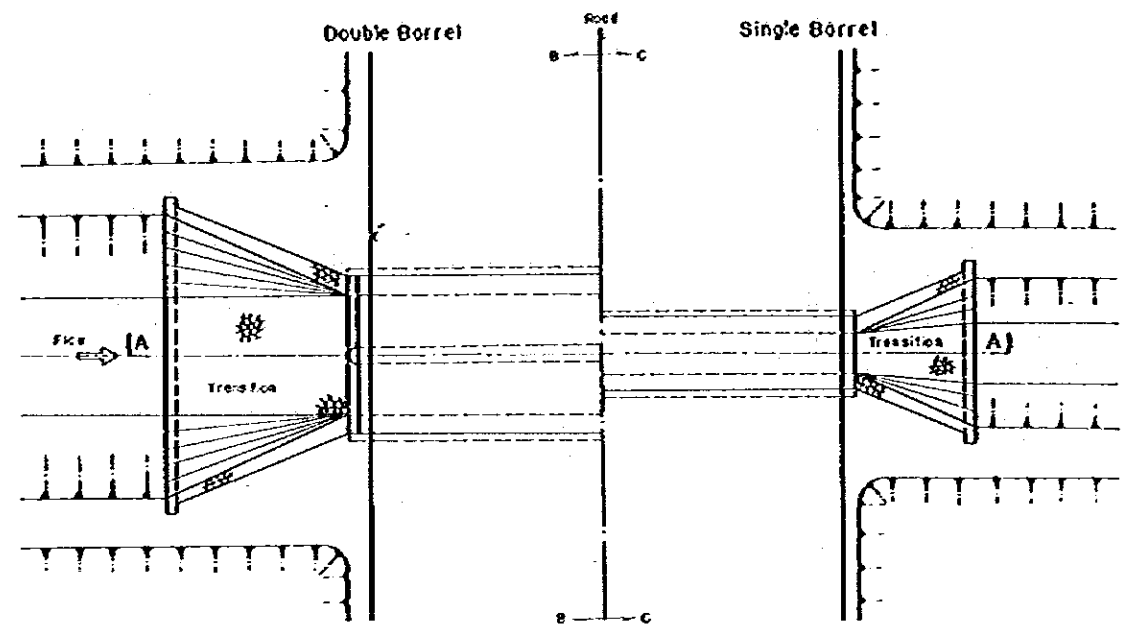
DIMENSION TABLE OF TURNOUT

	Discharge (m ³ /sec)	Gate Size (m x m)	Width of Notch (m)
Link Canal	0.362 - 0.658	0.8 x 0.8 - 0.4 x 0.4	0.8 - 0.5

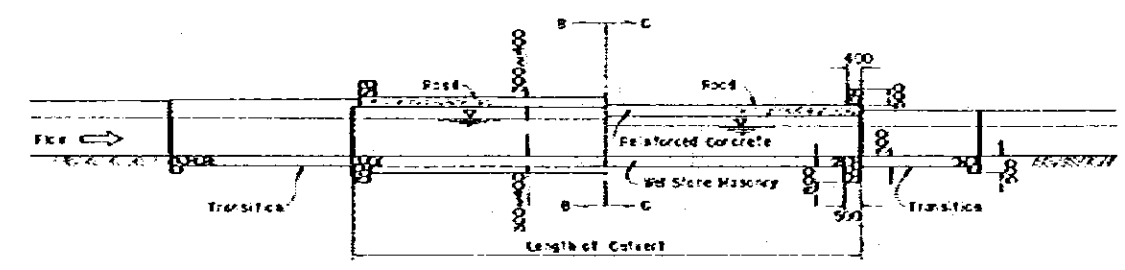
SCALE
0 10 20 30 40 50^m

JAPAN INTERNATIONAL COOPERATION AGENCY
LANGKEMME IRRIGATION PROJECT
TITLE OF DRAWINGS
TURNOUT, RELEASE & WASTEWAY
PREPARED BY [Signature]
CHECKED BY [Signature]
DWG NO
401

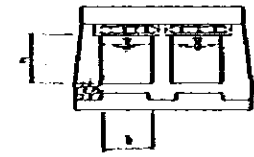
CULVERT



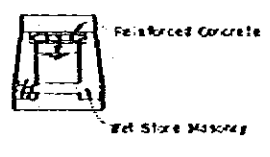
PLAN



SECTION A-A



SECTION B-B

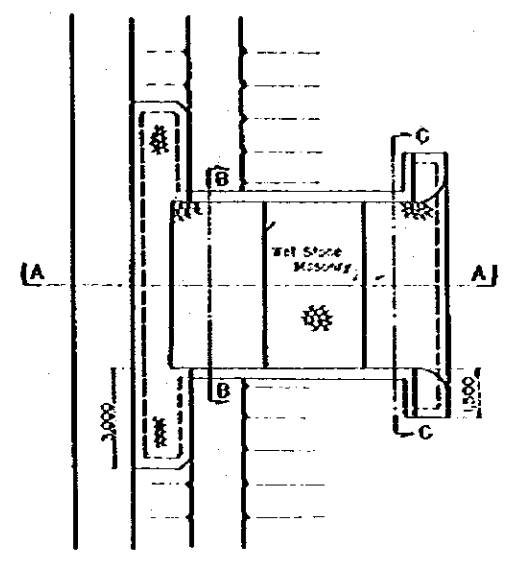


SECTION C-C

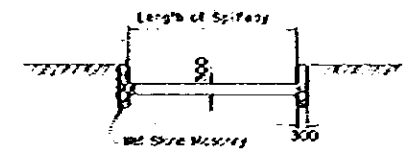
DIMENSION TABLE OF CULVERT

Culvert Type	Discharge m ³ /sec	Barrel	Barrel Size (m x m)	Length (m)
A	50 - 35	Double	180 x 180	100 - 70
B	35 - 25	Double	150 x 150	500 - 100
C	25 - 15	Double	125 x 125	120 - 70
D	15 - 10	Double	100 x 100	200
E	10 - 05	Single	125 x 125	200

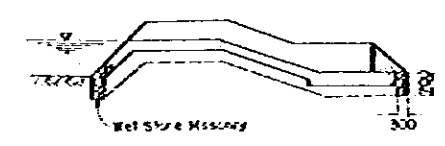
SPILLWAY



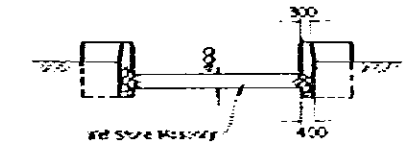
PLAN



SECTION B-B



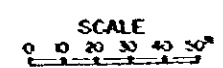
SECTION A-A



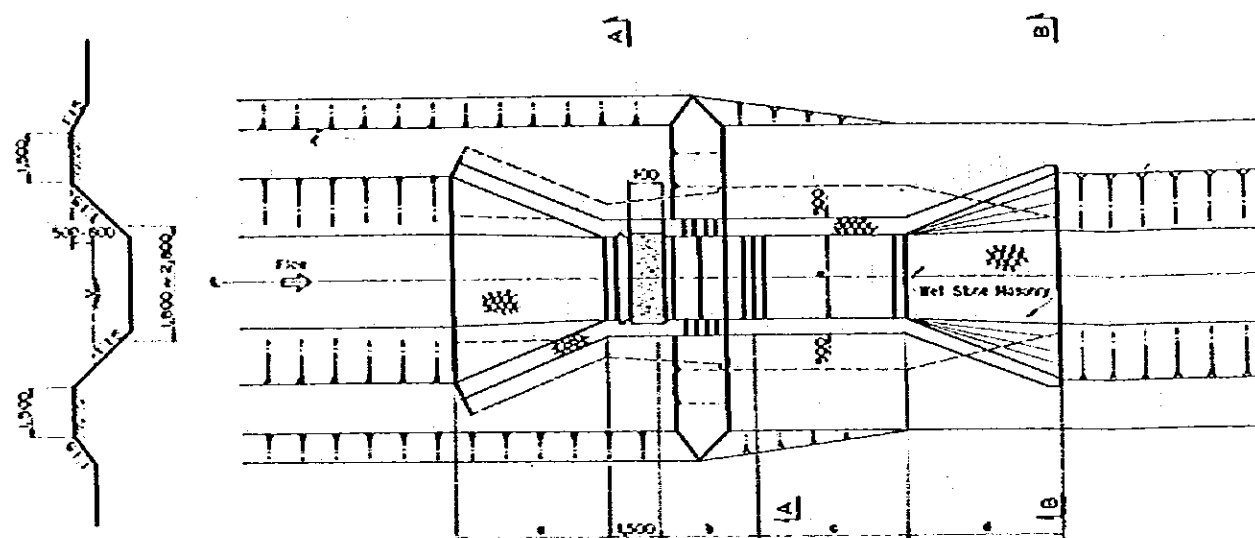
SECTION C-C

DIMENSION TABLE OF SPILLWAY

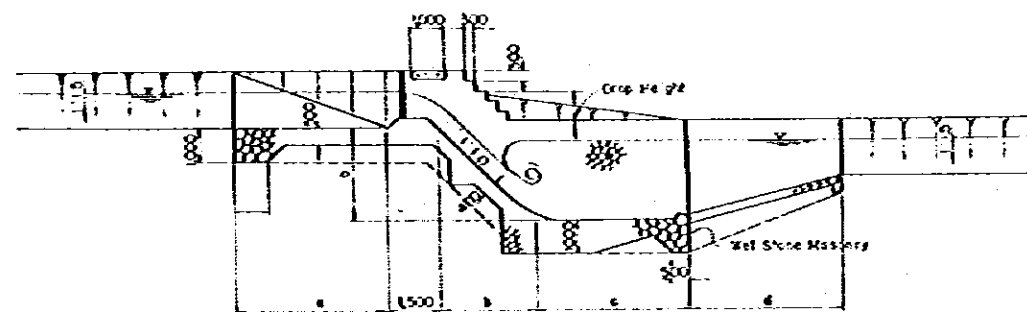
Spillway Type	Discharge Spilled Out (m ³ /s)	Overflow Depth (m)	Length (m)
A	0.205 - 0.135	0.10	5.0
B	0.135 - 0.000	0.10	3.0
S	1.528	0.10	55.0



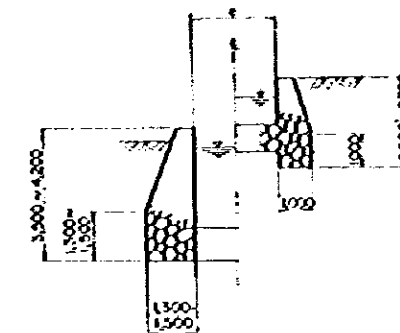
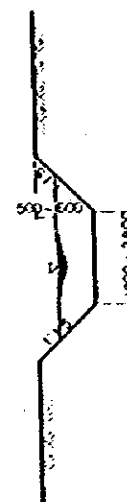
JAPAN INTERNATIONAL COOPERATION AGENCY
 LANGKEMME IRRIGATION PROJECT
 TITLE OF DRAWINGS
CULVERT & SPILLWAY
 PREPARED BY: [Signature]
 CHECKED BY: [Signature] DWS NO. 402



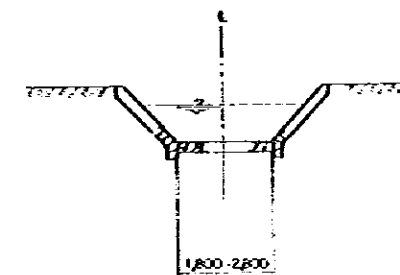
PLAN



PROFILE



SECTION A-A

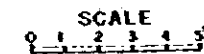


SECTION B-B

DIMENSION TABLE OF DROP

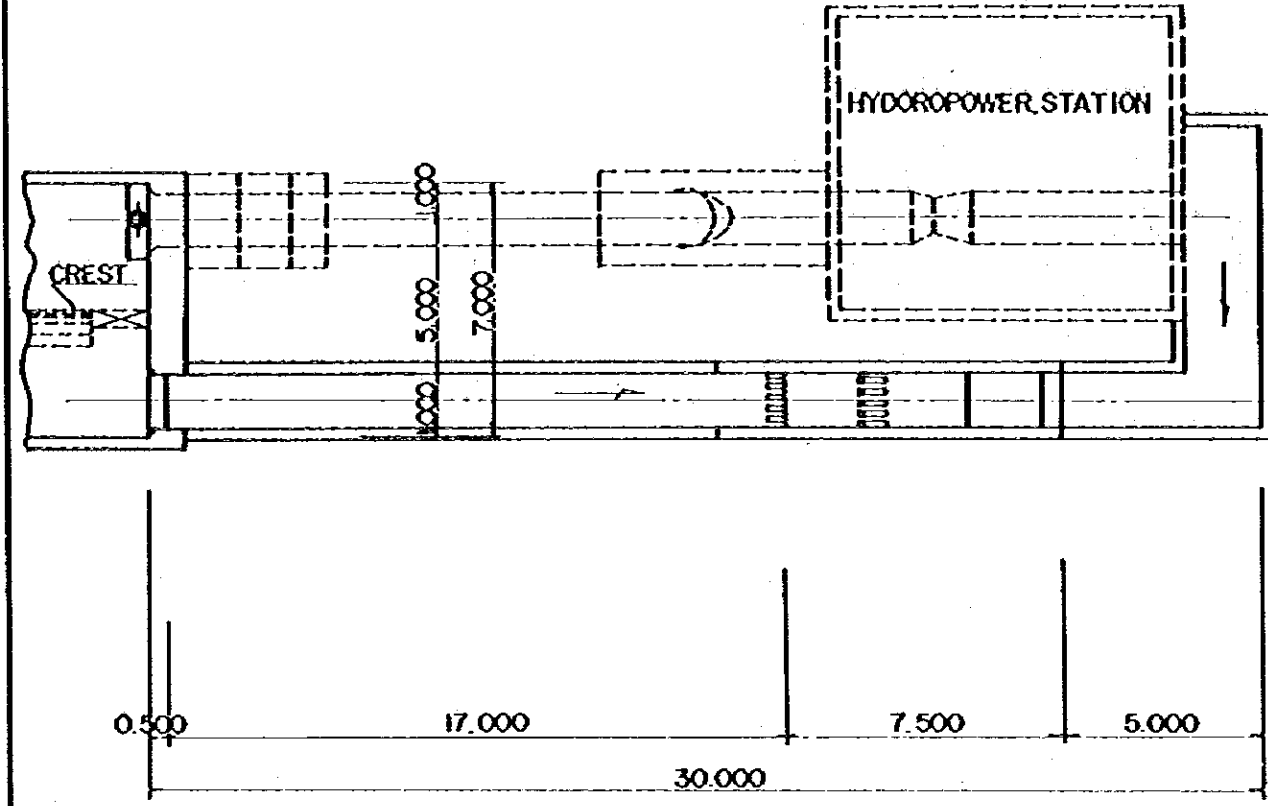
Type	Discharge (m ³ /sec)	Drop Height (m)	a (m)	b (m)	c (m)	d (m)	Total Length (m)	e (m)
Type - I	2.00-2.50	30	40	45	70	70	240	30
Type - II	2.00-2.50	20	40	35	55	55	200	30
Type - III	2.00-2.50	15	40	30	50	50	180	30
Type - IV	1.50-2.00	30	40	45	70	70	240	24
Type - V	1.50-2.00	25	40	40	60	60	210	24
Type - VI	0.75-1.50	25	35	40	60	60	210	18
Type - VII	0.75-1.50	20	35	35	50	50	185	18

Total Length = 4181.66915



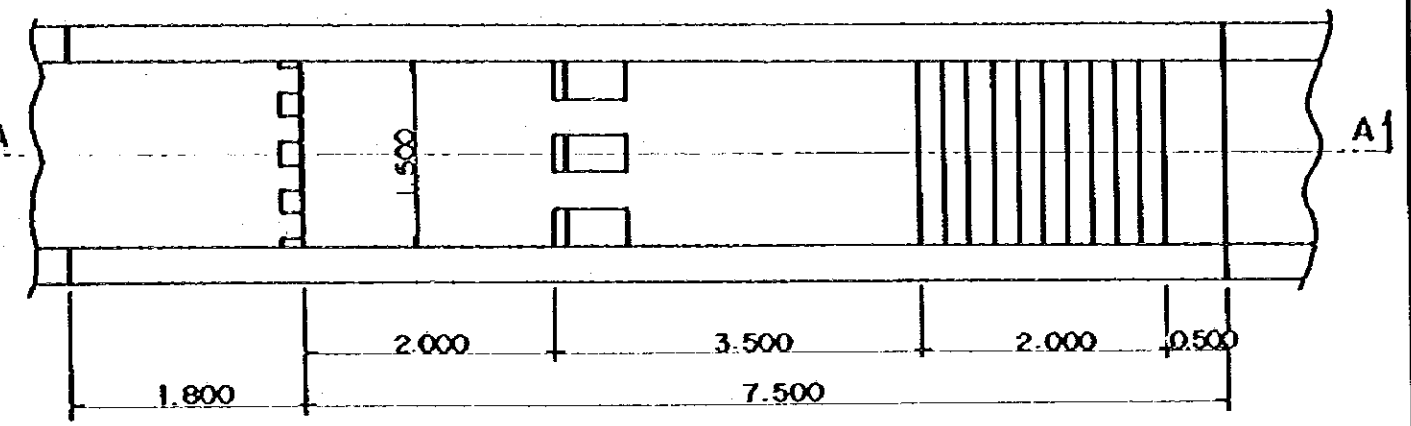
JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWINGS	
DROP	
PREPARED BY	DEG. NO.
CHECKED BY	403

PLAN
S=1:200

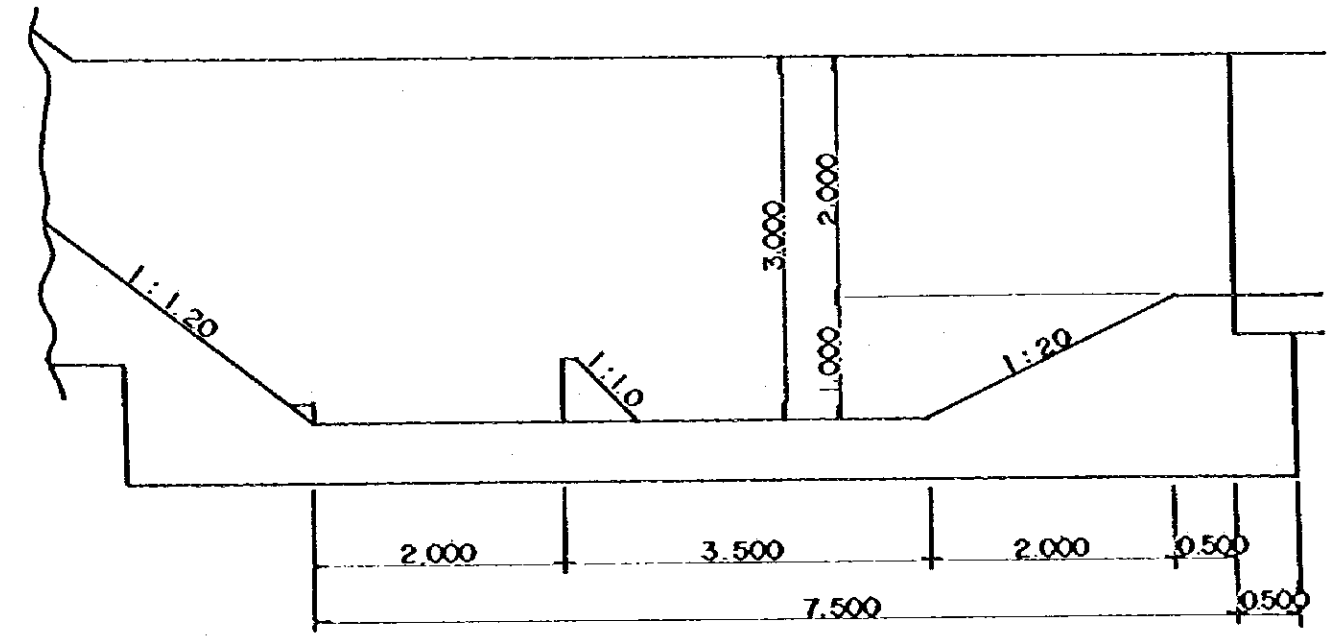


STILLING POOL
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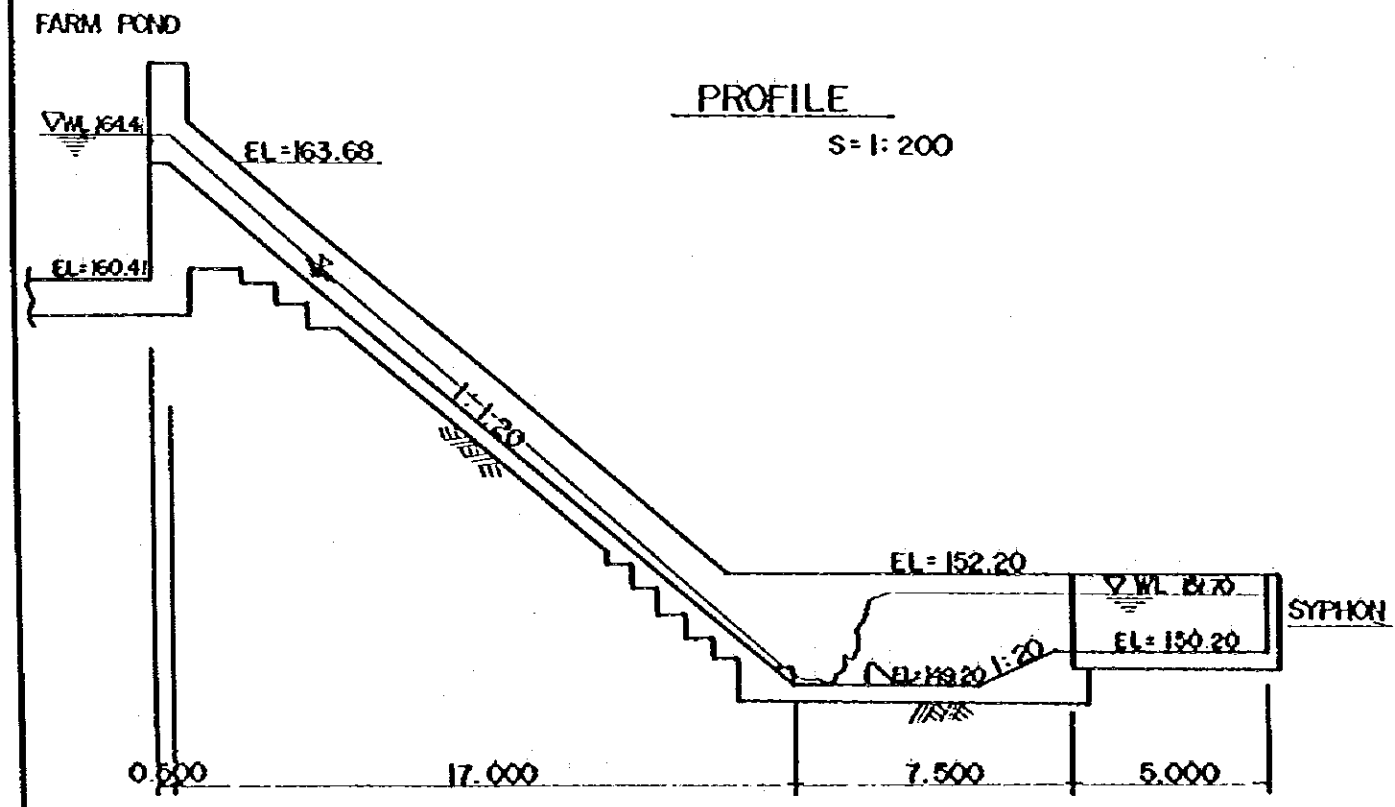
PLAN



SECTION A-A

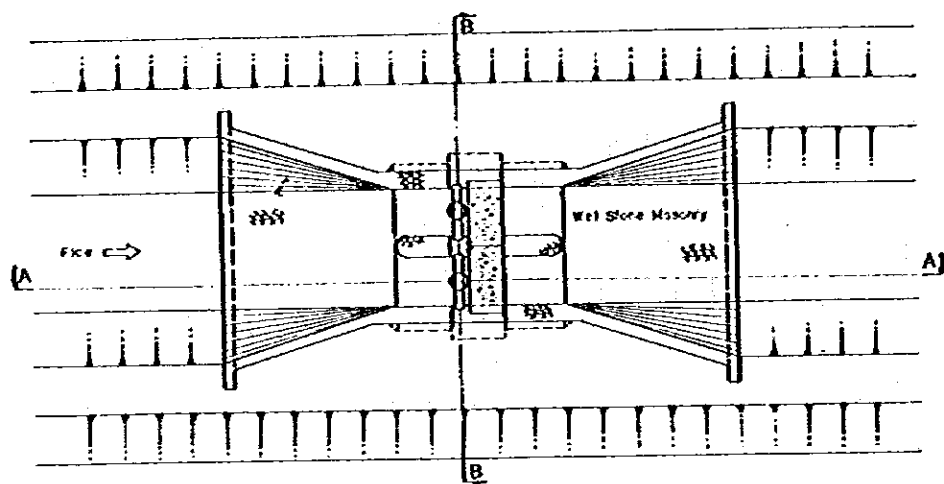


PROFILE
S=1:200

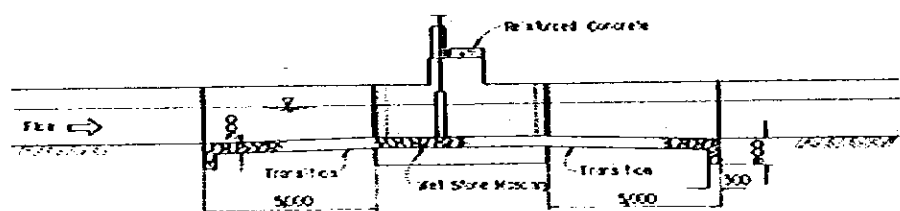


JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWINGS CHUTE	
PREPARED BY <i>[Signature]</i>	DWG. NO.
CHECKED BY <i>[Signature]</i>	404

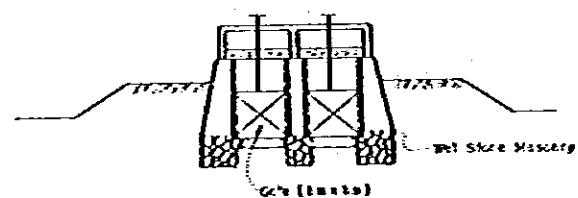
CHECK STRUCTURE



PLAN



SECTION A-A

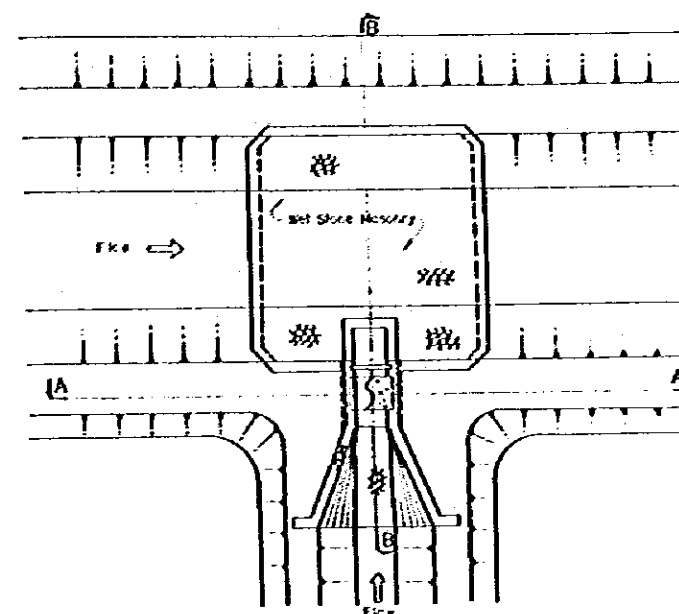


SECTION B-B

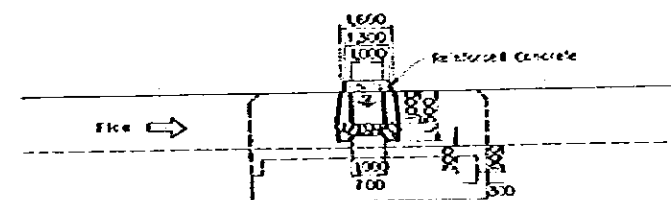
DIMENSION TABLE OF CHECK STRUCTURE

Type	Discharge (cu/sec)	Gate Size (bars)	Nbs of Gate	Nbs of Check Structure
I	50 - 300	20 x 17	2	1
II	30 - 200	16 x 14	2	6
III	20 - 100	12 x 10	2	9

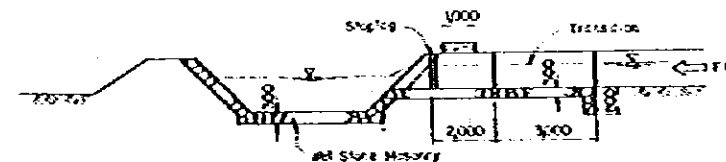
JUNCTION



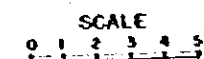
PLAN



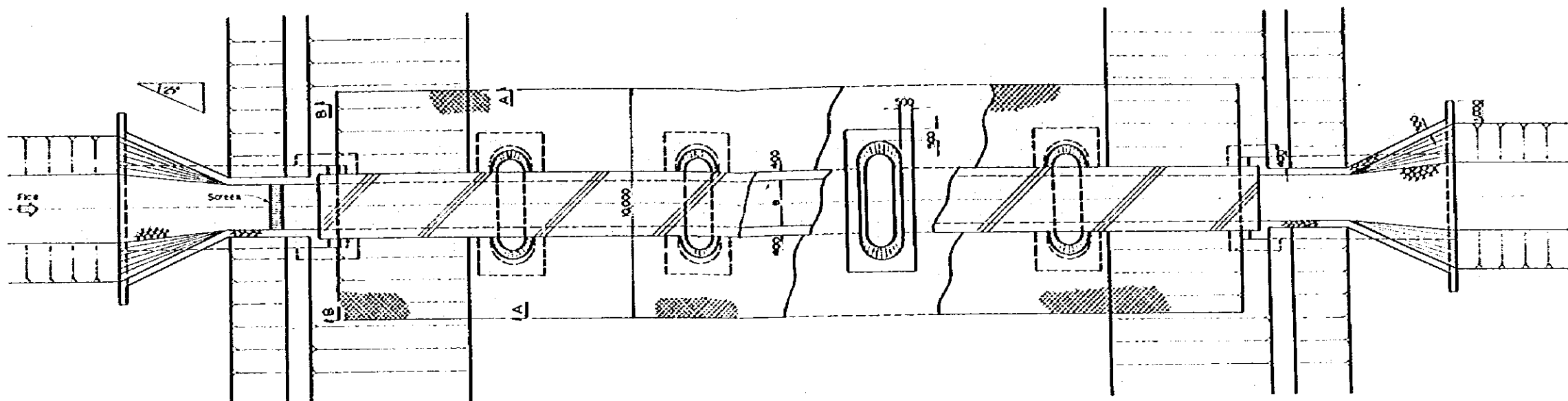
SECTION A-A



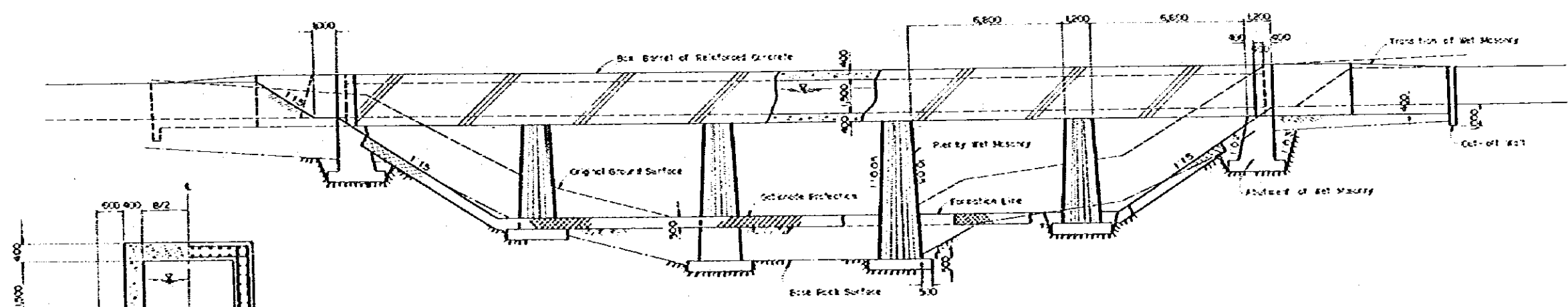
SECTION B-B



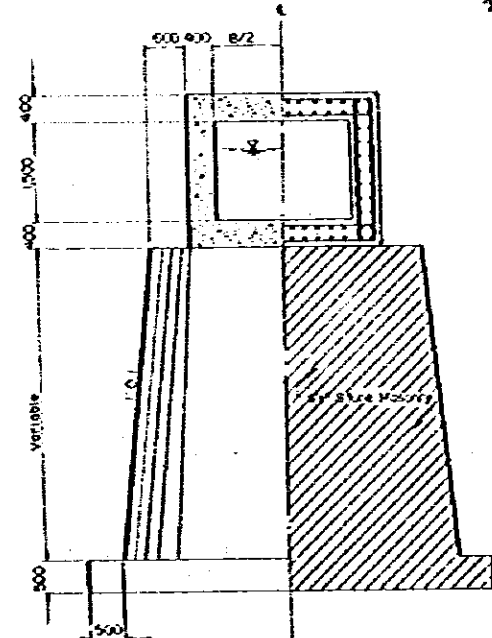
JAPAN INTERNATIONAL COOPERATION AGENCY
 LANGKEMME IRRIGATION PROJECT
 TITLE OF DRAWINGS
CHECK STRUCTURE & JUNCTION
 PREPARED BY *TAKI* OAG NO
 CHECKED BY *2/8* 405



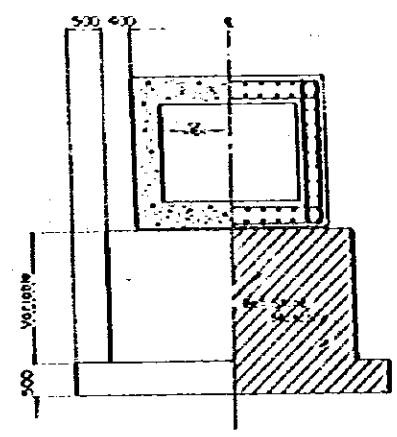
PLAN
SCALE - A



PROFILE
SCALE - A



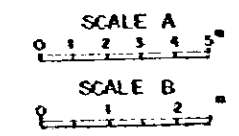
SECTION A-A
SCALE - B



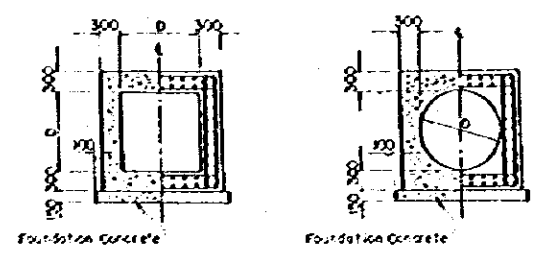
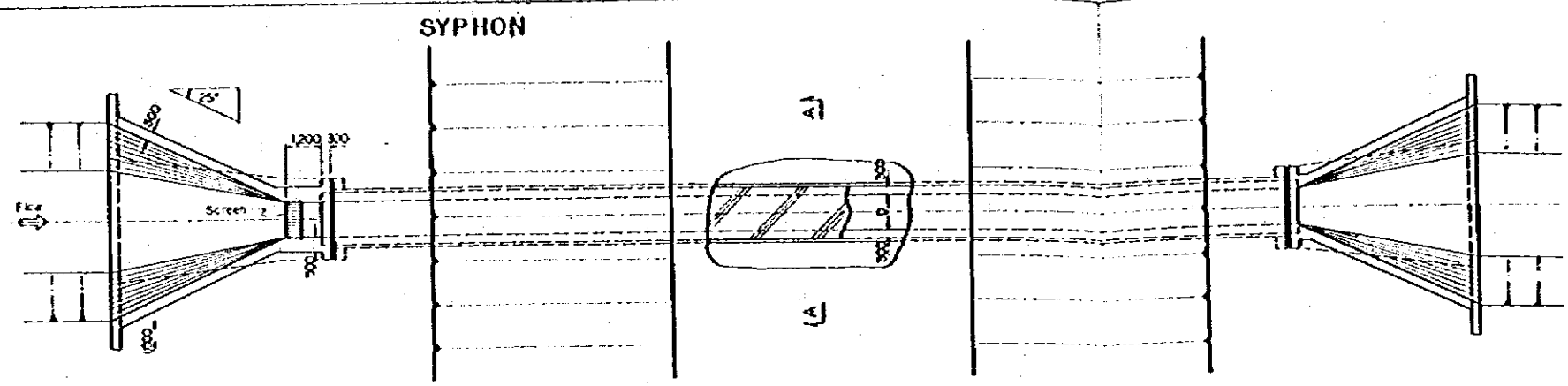
SECTION B-B
SCALE - B

DIMENSION TABLE OF AQUEDUCT

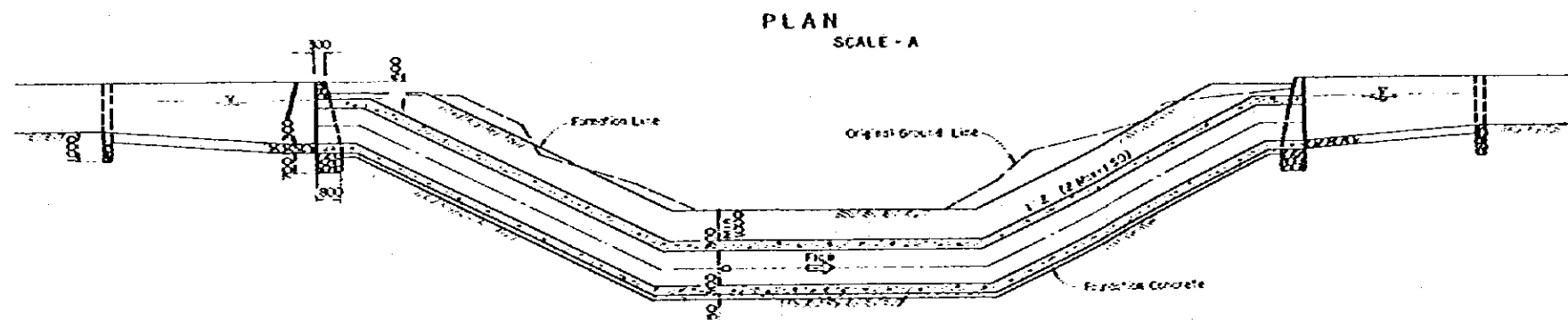
Name of Aqueduct	Name of River	Concl. Discharge	W. of Discharge	No. of Sills
BS-A1	Uru	2.50	2,000	4
BS-A2	Pising	2.50	2,000	5
BS-A3	Langkeme	2.50	2,000	2
BL3-A1	Makara	2.90	3,000	3



JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEME IRRIGATION PROJECT	
TITLE OF DRAWING	
AQUEDUCT	
PREPARED BY	DRG. NO.
CHECKED BY	406



SECTION A-A
SCALE B

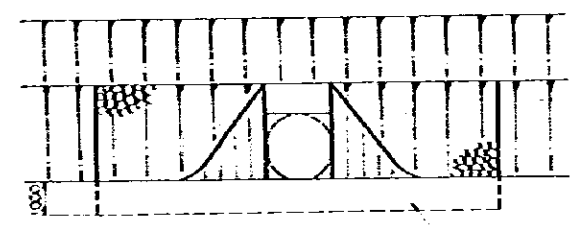
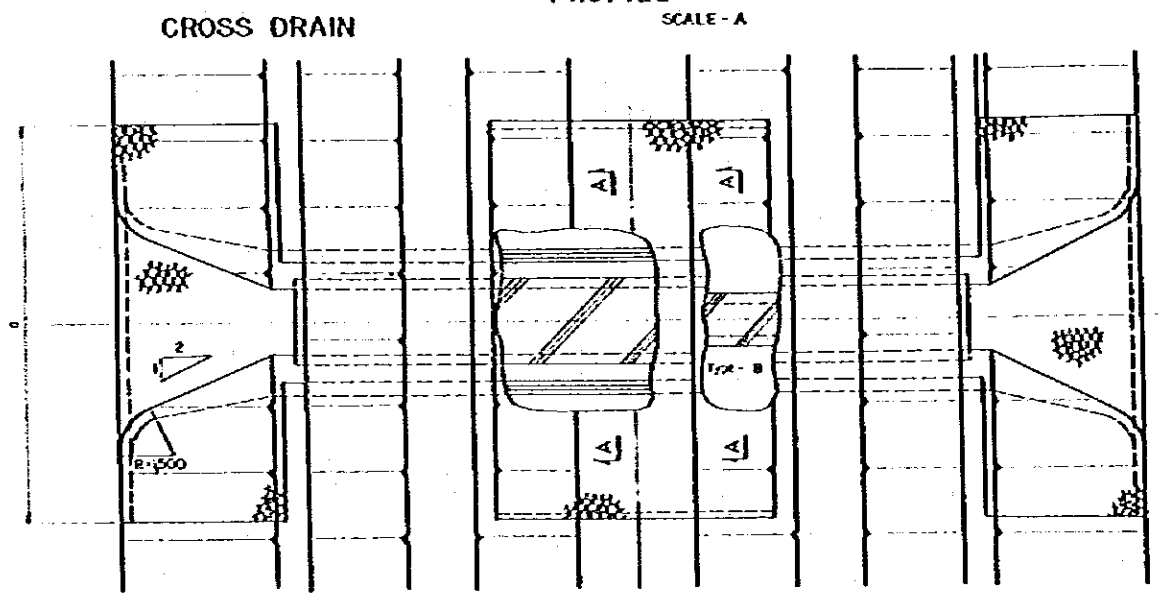


PLAN
SCALE - A

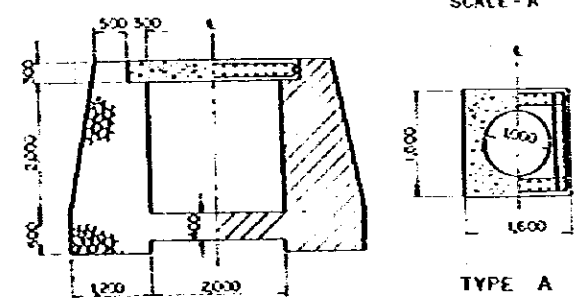
PROFILE
SCALE - A

DIMENSION TABLE OF SYPHON

Type of Siphon	Type of River	Discharge (m ³ /sec)	Const.		
			Type	Length	D
BL3-S	Small river	2.50	A	27	1,400
BL4-S	Small river	2.85	A	35	1,200
BL6-S	Large	2.37	A	44	1,200
BL8-S	Large	1.69	B	56	1,200
BL12-S	Medium	1.17	B	33	1,000
BL14-S	Medium	0.85	B	47	800

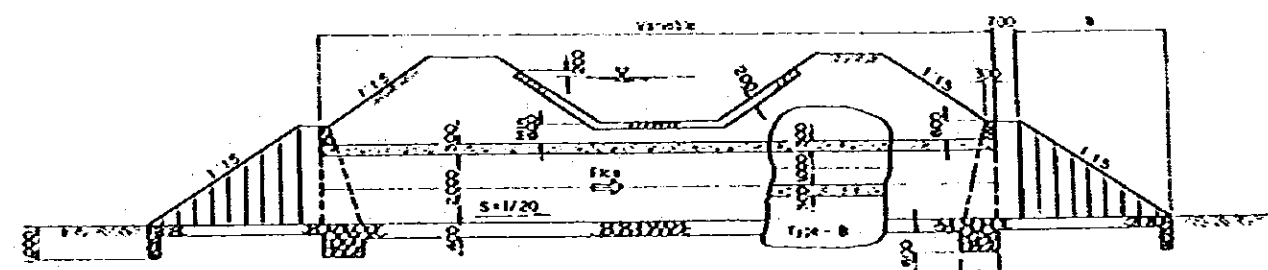


INLET & OUTLET
SCALE - A



TYPE A

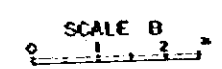
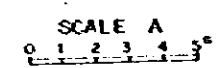
SECTION A-A
SCALE B



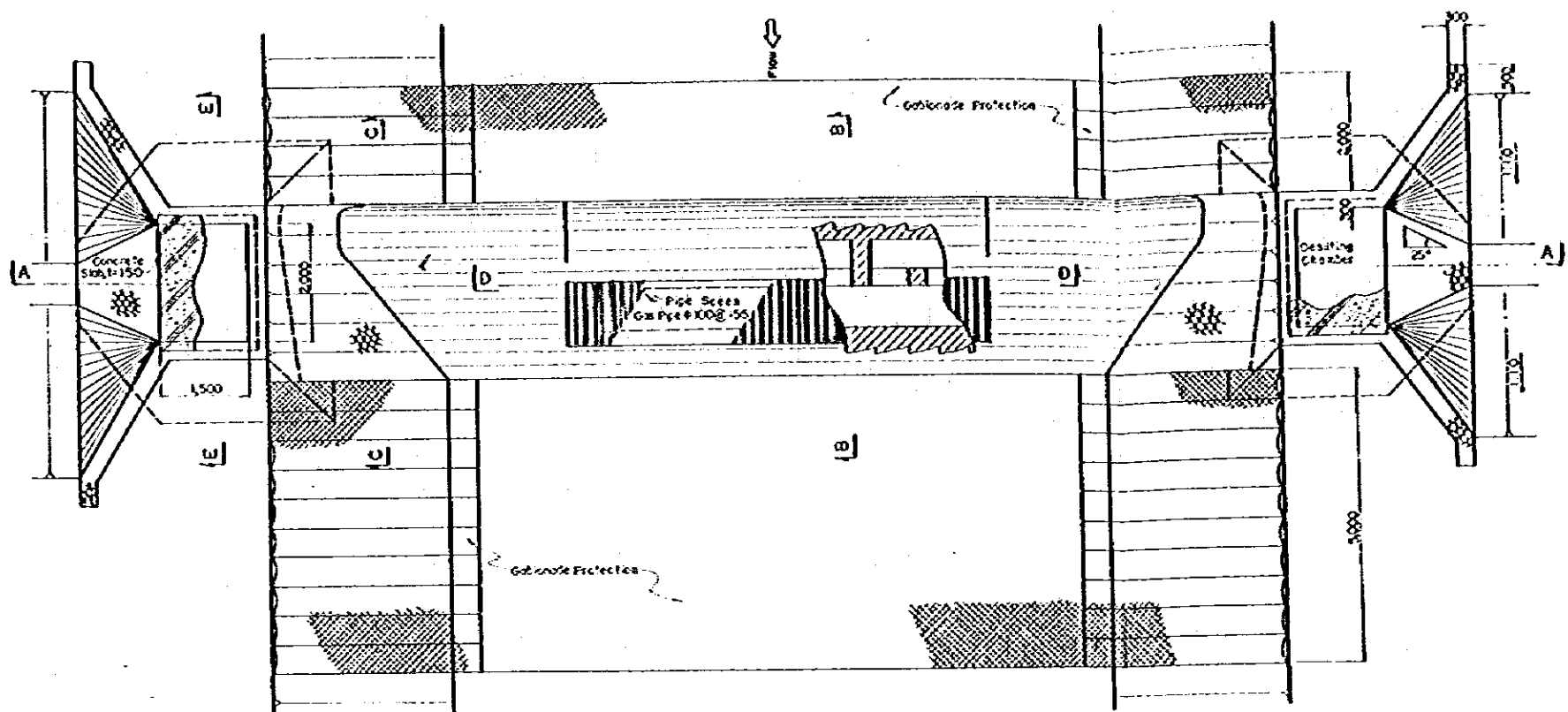
PROFILE (TYPE A)
SCALE - A

DIMENSION TABLE OF CROSS DRAIN

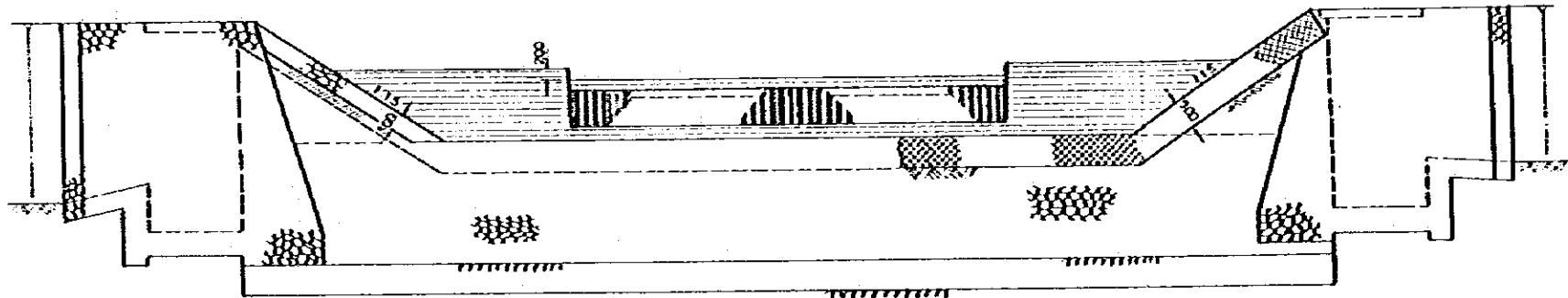
Type	Discharge of Drain (m ³ /sec)	a	b	c
A	≥ 2.5	12,000	4,350	1,200
B	< 2.5	10,000	2,650	1,000



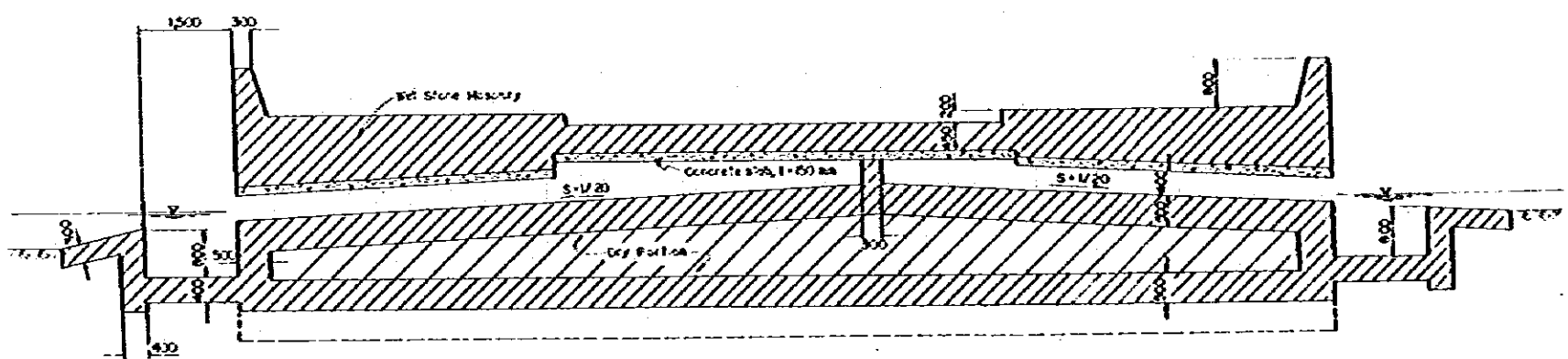
JAPAN INTERNATIONAL COOPERATION AGENCY
LANGKEMME IRRIGATION PROJECT
TITLE OF DRAWINGS
SYPHON & CROSS DRAIN
PREPARED BY: [Signature]
CHECKED BY: [Signature]
DWG NO. 407



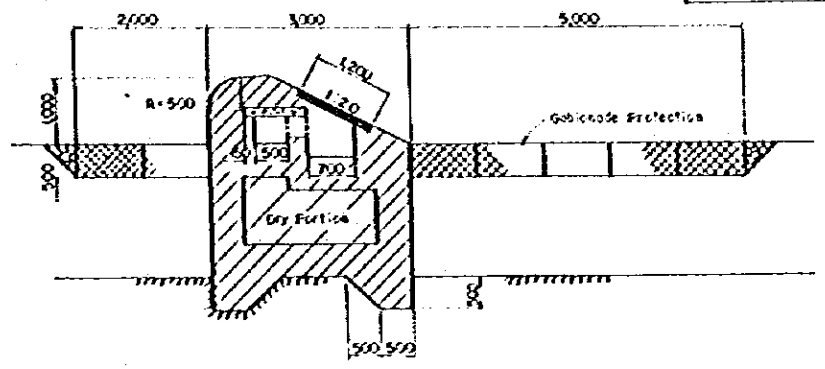
PLAN



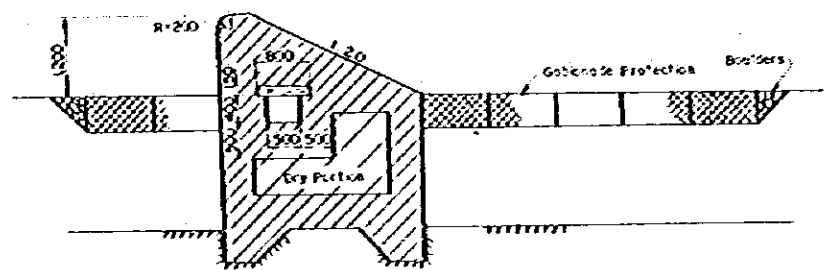
FRONT VIEW



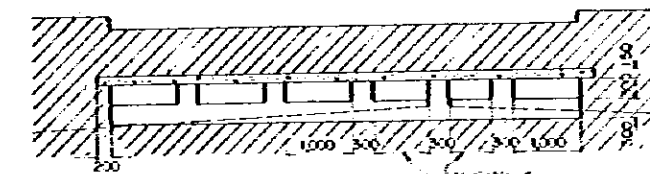
SECTION A-A



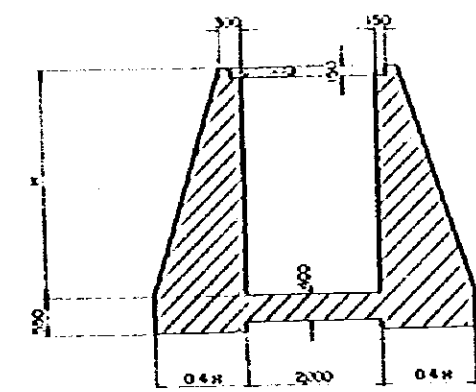
SECTION B-B



SECTION C-C

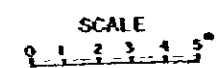


SECTION D-D



SECTION E-E

Note: These values will be determined depending on the distribution ratio.



JAPAN INTERNATIONAL COOPERATION AGENCY	
LANGKEMME IRRIGATION PROJECT	
TITLE OF DRAWING	
TIROL TYPE INTAKE (DUAL DIVERSION TYPE)	
PREPARED BY	045 NS
CHECKED BY	408

JICA

