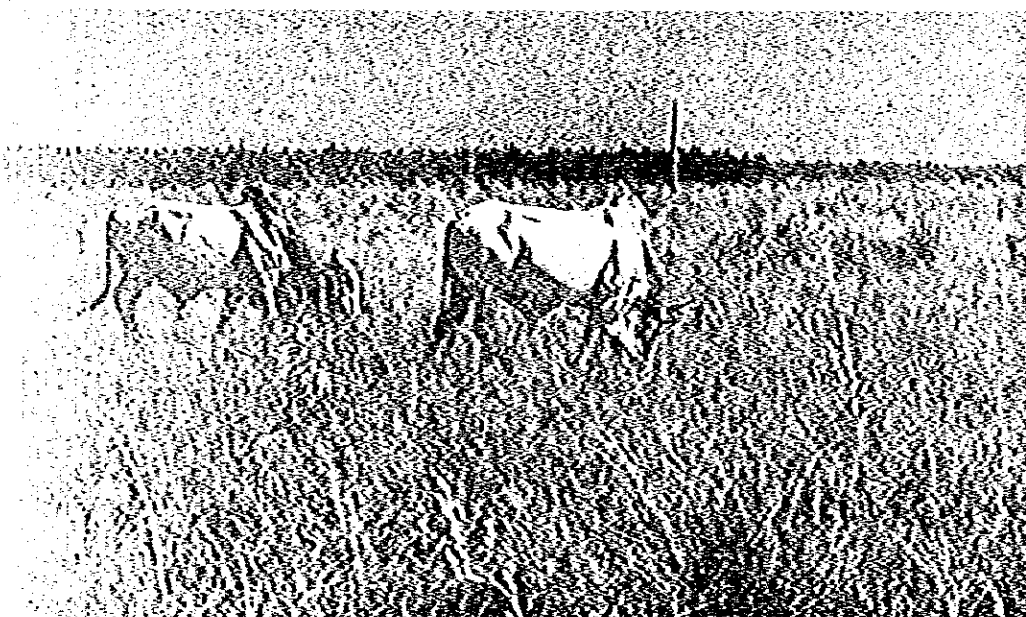


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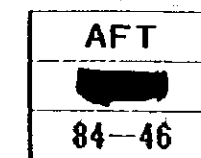
FEASIBILITY STUDY ON

**AGRICULTURAL DEVELOPMENT PROJECT
FINAL REPORT DRAWINGS**



JUNE, 1984

**JAPAN INTERNATIONAL COOPERATION AGENCY
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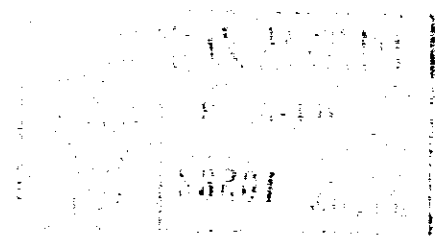
1030146(3)

L705
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AFT

THE REPUBLIC OF COLOMBIA

**FEASIBILITY STUDY ON
THE PAMPLONITA RIVER BASIN
AGRICULTURAL DEVELOPMENT PROJECT
FINAL REPORT DRAWINGS**

JUNE, 1984



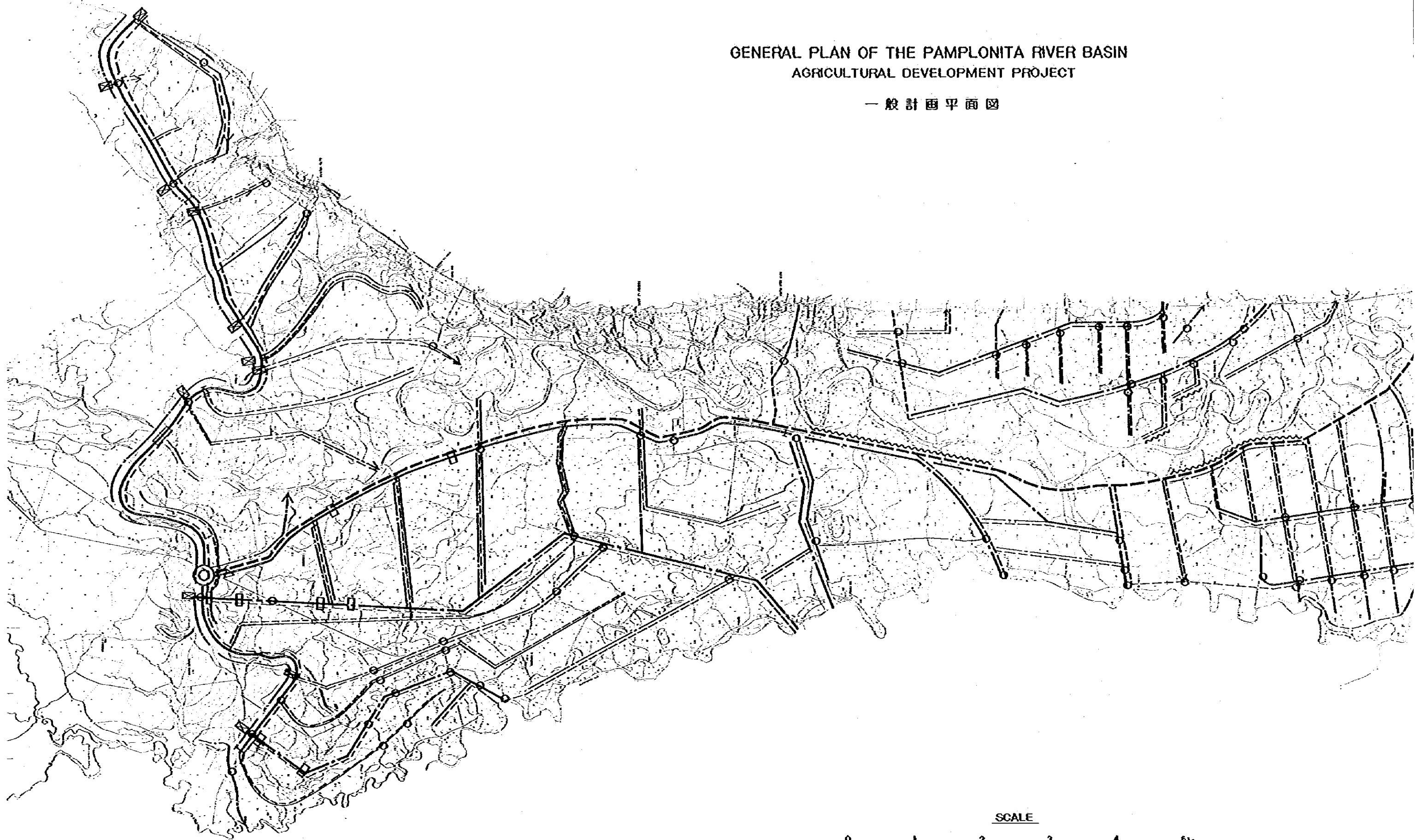
**JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)**

国際協力事業団	
受入 月日 '84.8. 3	L705
登録No 10582	80.7
	AFT

TOHOKU UNIVERSITY INTERNATIONAL MAIL
(AFT)

GENERAL PLAN OF THE PAMPLONITA RIVER BASIN
AGRICULTURAL DEVELOPMENT PROJECT

一般計画平面図

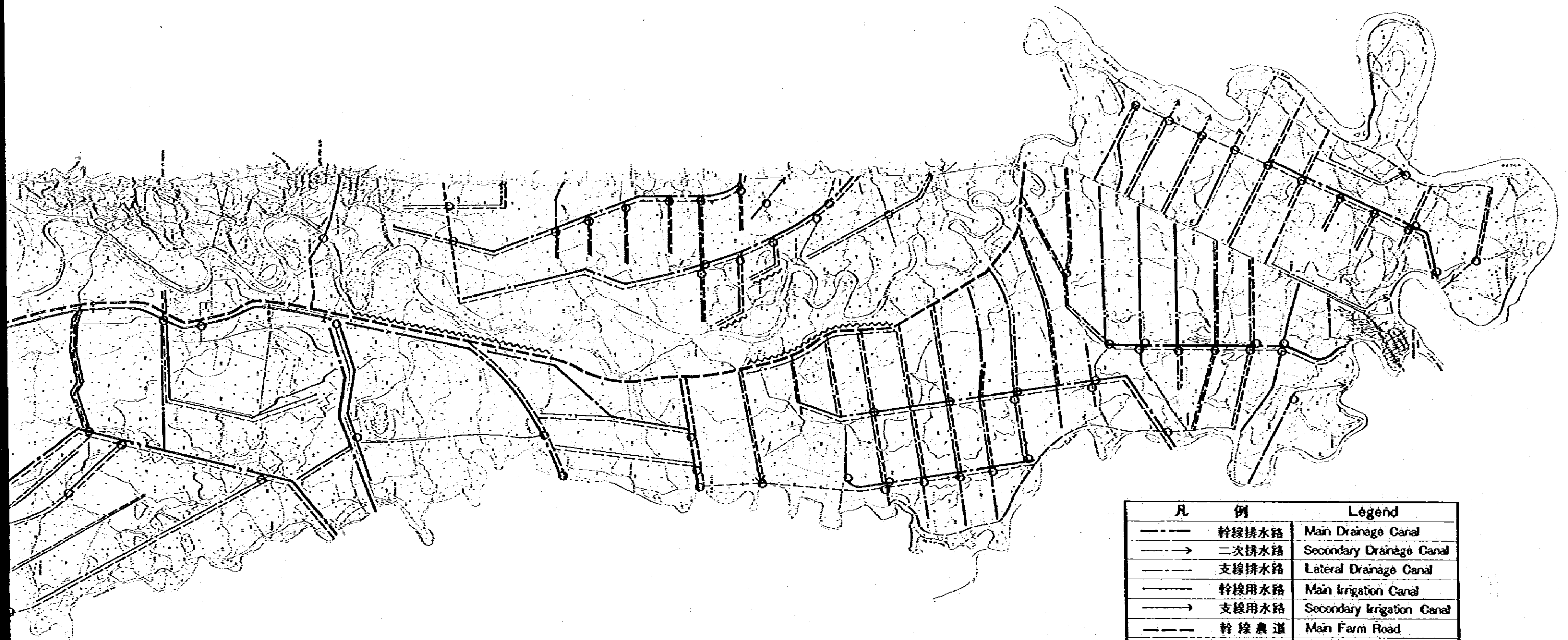
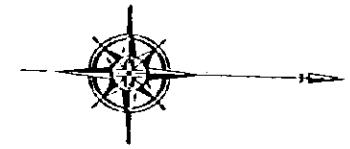


SCALE

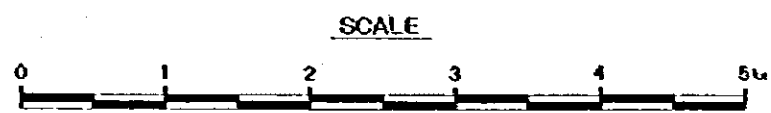


GENERAL PLAN OF THE PAMPLONITA RIVER BASIN
 AGRICULTURAL DEVELOPMENT PROJECT

一般計画平面図



凡 例	Legend
———	Main Drainage Canal
——→	Secondary Drainage Canal
———	Lateral Drainage Canal
———	Main Irrigation Canal
——→	Secondary Irrigation Canal
———	Main Farm Road
———	Secondary Farm Road
— —	Siphon
◎	Diversion Work
△	Shute
□	Drop
— —	Check Gate
○	Bridge
~~~~~	Overflow Zone
⊠	Cross Culvert



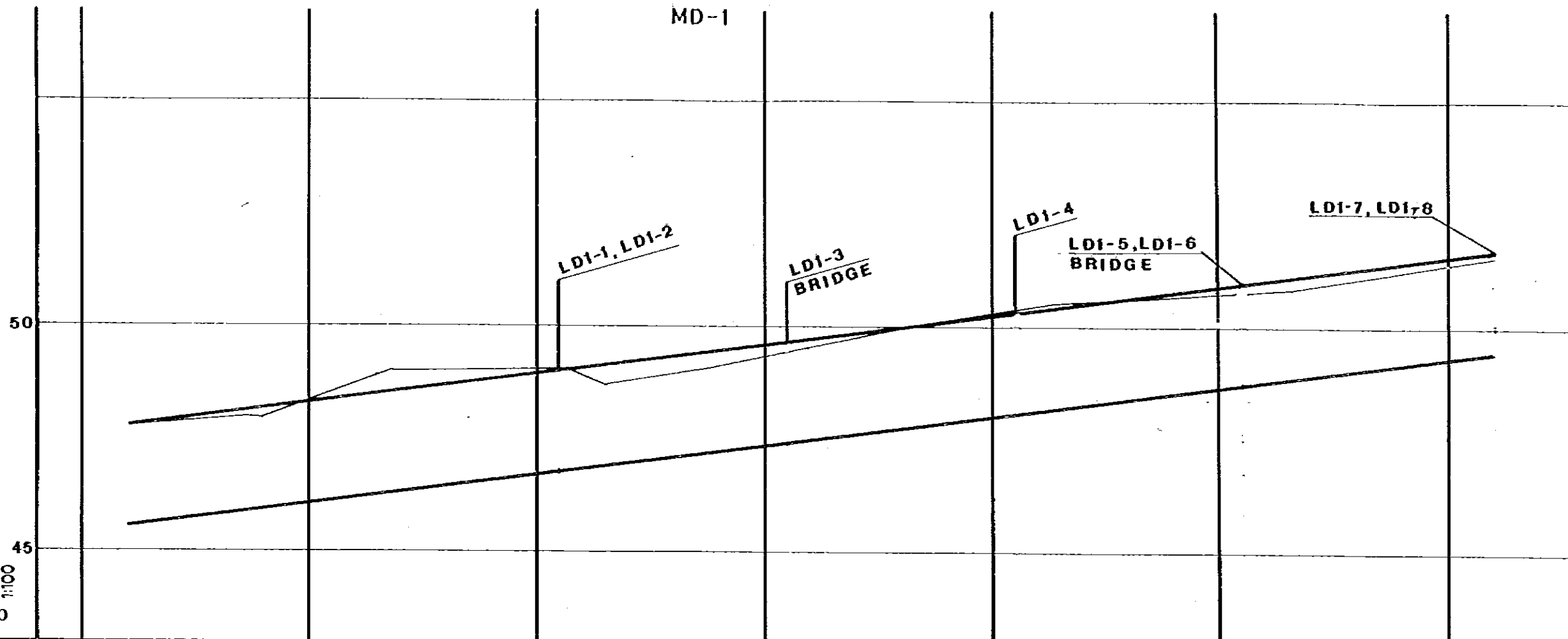
LIST OF DRAWINGS

GENERAL PLAN

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LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 1/7  
MD-1

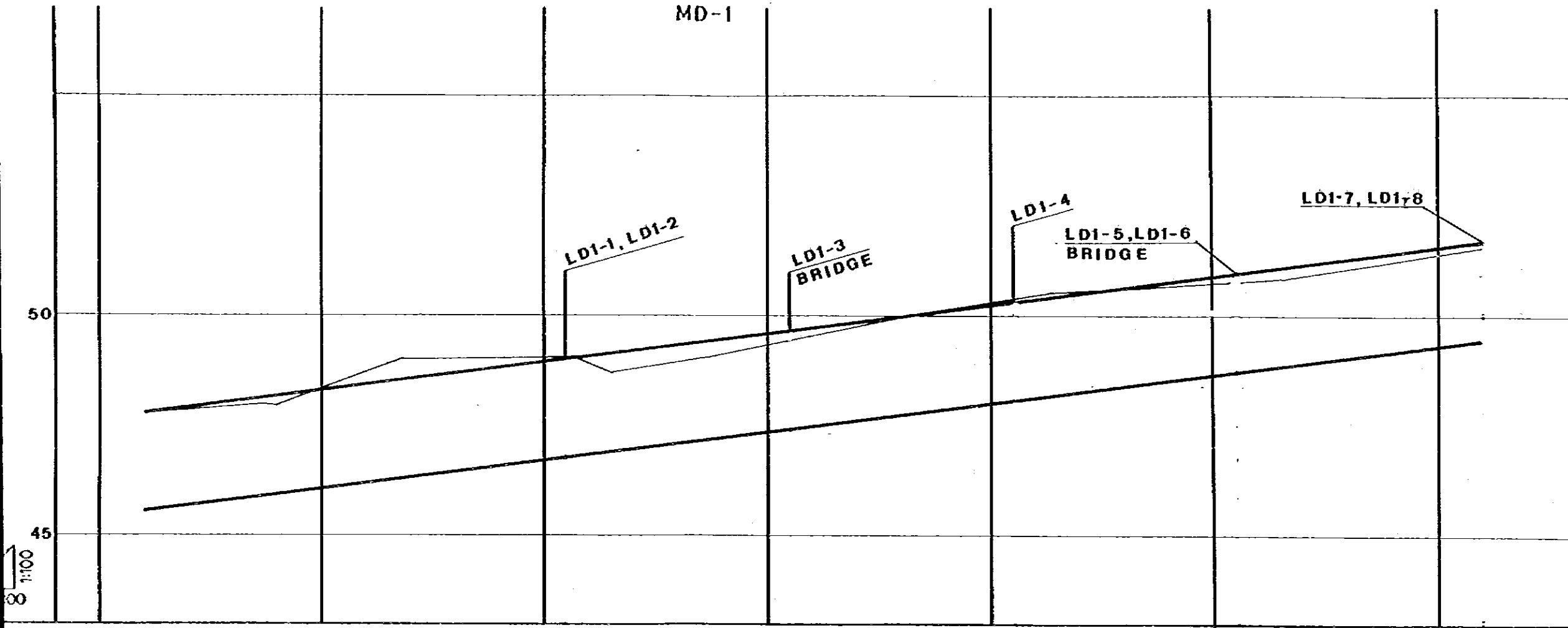
1:100  
1:10000



CANAL SLOPE	1/800																					
CROSS SECTION TYPE	TYPE III																					
DESIGN CANAL BED	45.6		46.8					48.7			49.4											
GROUND LEVEL	47.8	48.0	48.0	48.8	49.0	49.0	49.0	49.5	49.6	50.0	50.0	50.4	50.5	50.6	50.7	50.8	51.0	51.1	51.5			
TOTAL DISTANCE	0	250	300	500	580	750	970	1000	1050	1250	1500	1550	1730	1750	2000	2050	2250	2500	2550	2700	2750	3000
SECTION NO.	NO. 0			NO. 1							NO. 2					NO. 3						



# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 1/7

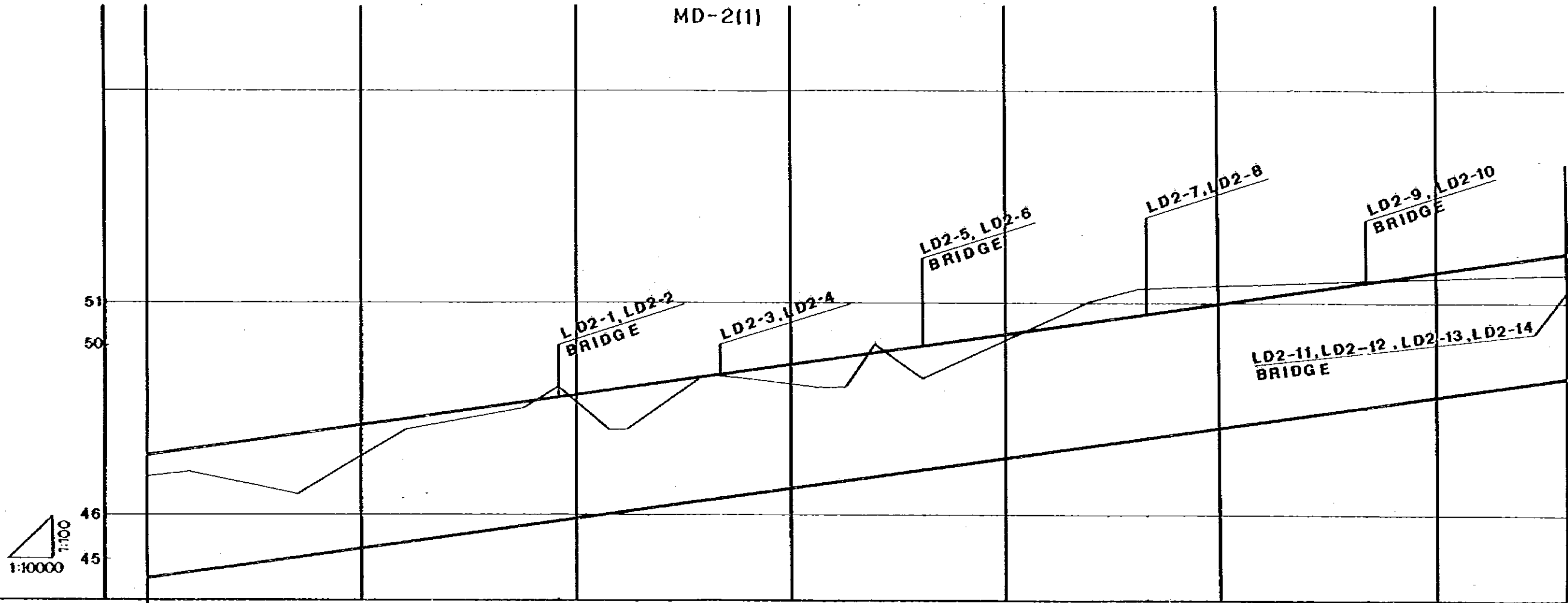


LINE	1/800																					
SECTION	TYPE III																					
ELEVATION	45.6						46.6						48.7					49.4				
CANAL BED	47.8	48.0	48.0	48.8	49.0	49.0	49.0	49.5	49.6	50.0	50.0	50.4	50.5	50.6	50.7	50.8	51.0	51.1	51.5			
DISTANCE	0	250	300	500	580	750	970	1000	1050	1250	1500	1550	1730	1750	2000	2050	2250	2500	2550	2700	2750	3000
STATION	NO. 0						NO. 1						NO. 2						NO. 3			

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF  
 MAIN DRAINAGE CANAL (1/7)  
 JUNE 1964 No. 1  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 2/7

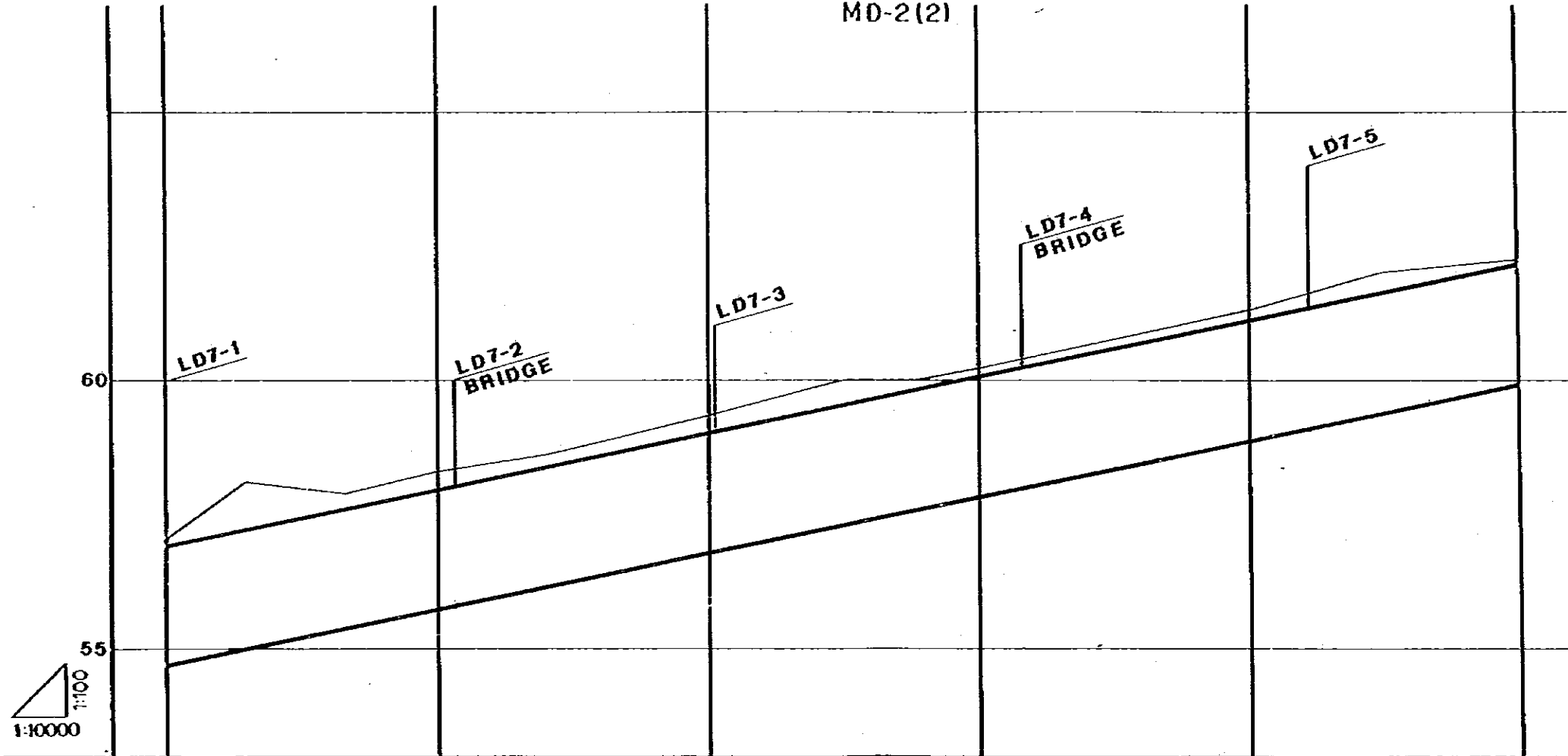
MD-2(1)



<b>CANAL SLOPE</b>	← $\frac{1}{700}$ →																													
<b>CROSS SECTION TYPE</b>	TYPE III																													
<b>DESIGN CANAL BED</b>	44.5									45.9								47.3						48.8		49.2				
<b>GROUND LEVEL</b>	46.5	47.0	46.7	46.5	47.4	48.0	48.3	48.5	49.0	48.6	48.0	48.0	49.0	49.3	49.1	49.0	50.0	49.2	50.0	51.0	51.2	51.3	51.4	51.4	51.5	51.5	51.6			
<b>TOTAL DISTANCE</b>	0	100	250	350	500	600	750	880	950	1000	1080	1120	1250	1300	1500	1550	1625	1680	1750	1800	2000	2180	2250	2300	2500	2750	2800	3000	3250	3300
<b>SECTION NO.</b>	NO. 0				NO. 1						NO. 2						NO. 3													



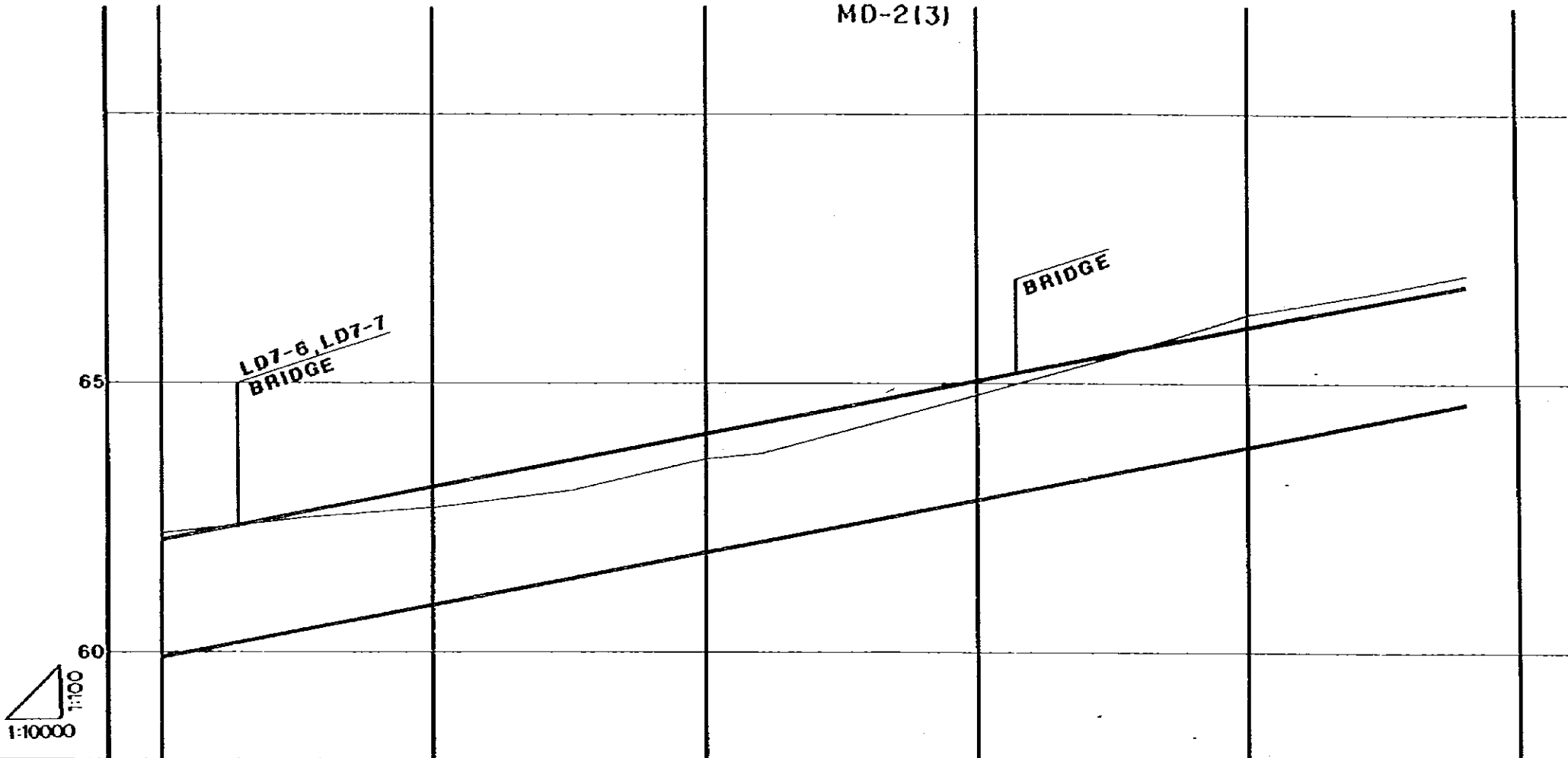
LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 3/7  
MD-2(2)



CANAL SLOPE	← 1/480 →												
CROSS SECTION TYPE	← TYPE III →												
DESIGN CANAL BED	54.7					56.8					58.9		
GROUND LEVEL	57.7	58.1	57.9	58.3	58.6	59.3	60.0	60.0	60.2	60.8	61.3	62.0	62.2
TOTAL DISTANCE	0	250	330	500	750	1000	1250	1380	1500	1750	2000	2250	2500
SECTION NO.	NO. 0					NO. 1					NO. 2		

THE REPUBLIC OF COLOMBIA  
THE PAMPLONITA RIVER BASIN  
AGRICULTURAL  
DEVELOPMENT PROJECT  
LONGITUDINAL PROFILE OF MAIN  
DRAINAGE CANAL (3/7)  
JUNE 1964 M. 3  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

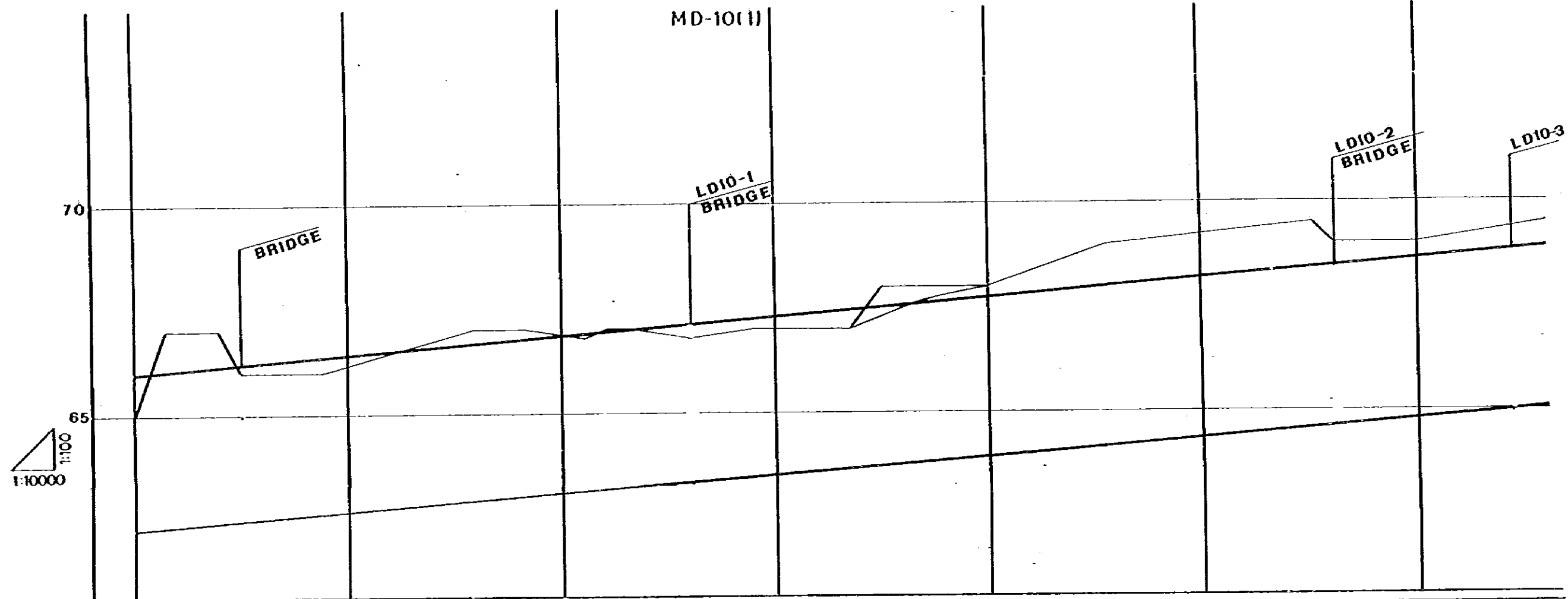
LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 4/7  
MD-2(3)



CANAL SLOPE	← $\frac{1}{510}$ →											
CROSS SECTION TYPE	← TYPE III →											
DESIGN CANAL BED	59.9		60.9					63.1			64.6	
GROUND LEVEL	62.2	62.5	62.7	63.0	63.6	63.7	64.1	64.8	65.5	66.3	66.7	67.0
TOTAL DISTANCE	2500	2750	3000	3250	3500	3600	3750	4000	4250	4500	4750	4900
SECTION NO.	NO. 3							NO. 4				

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 THE PAMPLONÁ RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF MAIN  
 DRAINAGE CANAL (4/7)  
 JUNE 1964  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

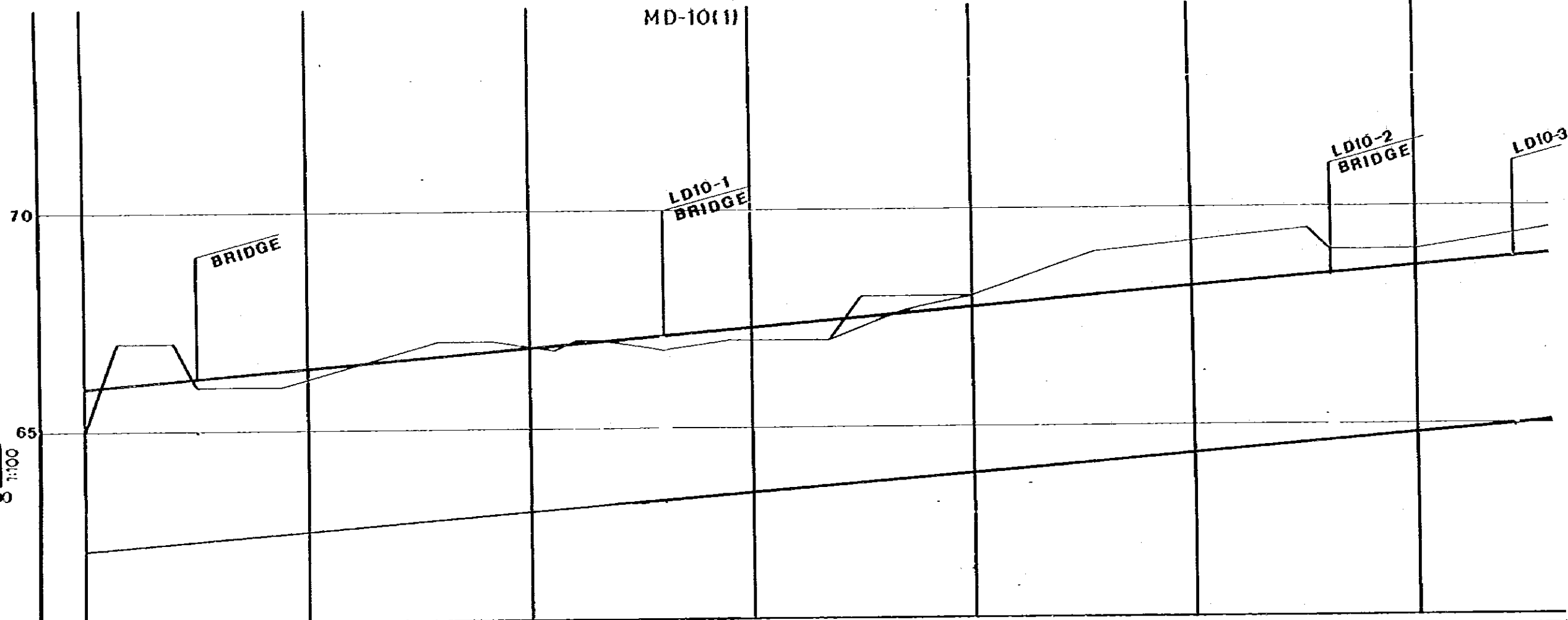
# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 5/7



<b>CANAL SLOPE</b>	1/1130																								
<b>CROSS SECTION TYPE</b>	TYPE I																								
<b>DESIGN CANAL BED</b>	62.3									63.1					64.0					64.8		65.1			
<b>GROUND LEVEL</b>	65.0	67.0	67.0	66.0	66.2	67.0	67.0	66.9	66.8	67.0	67.0	66.8	66.8	67.0	67.0	68.0	68.0	68.9	69.0	69.5	69.0	69.4	69.5		
<b>TOTAL DISTANCE</b>	0	75	200	250	440	500	790	810	1000	1050	1100	1150	1250	1300	1450	1500	1680	1750	2000	2250	2750	2800	3000	3250	3300
<b>SECTION NO.</b>	NO. 0		NO. 1										NO. 2		NO. 3										

THE REPUBLIC OF COLOMBIA  
 THE PAMPONITA RIVER AGRICULTURAL DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF DRAINAGE CANAL (5/7)  
 JUNE 1981  
 JAPAN INTERNATIONAL COOPERATION AGENCY

# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 5/7

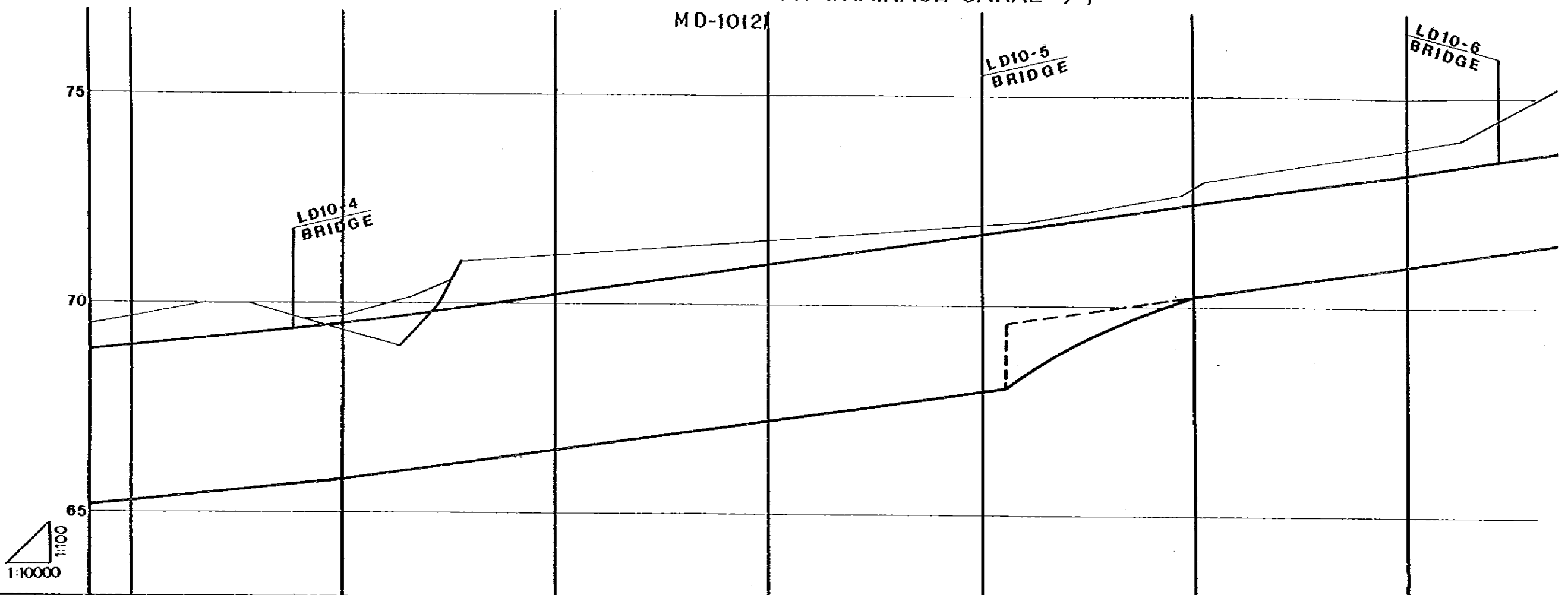


			1/1130																																
	TYPE I																																		
	62.3											63.1											64.0											64.8	65.1
ELEVATION	65.0	67.0	67.0	66.0	66.2	67.0	67.0	66.9	66.8	67.0	67.0	66.8	66.8	67.0	67.0	67.0	68.0	68.0	68.9	69.0	69.5	69.0	69.0	69.0	69.4	69.5									
DISTANCE	0	75	200	250	440	500	790	810	1000	1050	1100	1150	1250	1300	1450	1500	1680	1750	2000	2250	2750	2800	3000	3250	3300										
SECTION	NO. 0		NO. 1										NO. 2										NO. 3												

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF MAIN  
 DRAINAGE CANAL (5/7)  
 JUNE 1966  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 6/7

MD-10(2)



<b>CANAL SLOPE</b>																												
<b>CROSS SECTION TYPE</b>	TYPE I										TYPE III																	
<b>DESIGN CANAL BED</b>	65.1			65.7	65.9					67.4				70.4		71.5												
<b>GROUND LEVEL</b>	69.5	69.9	70.0	70.0	69.5	69.7	69.0	70.0	71.0	71.1		71.2	71.4	71.6	71.8		72.0	72.0	72.5	72.7	73.0	73.1		73.5		74.0		75.2
<b>TOTAL DISTANCE</b>	3300	3500	3580	3680	3880	4000	4000	4130	4180	4250		4500	4750	5000	5250		5500	5510	5750	5880	5930	6000		6250		6530		6750
<b>SECTION NO.</b>					NO. 4						NO. 5						NO. 6											

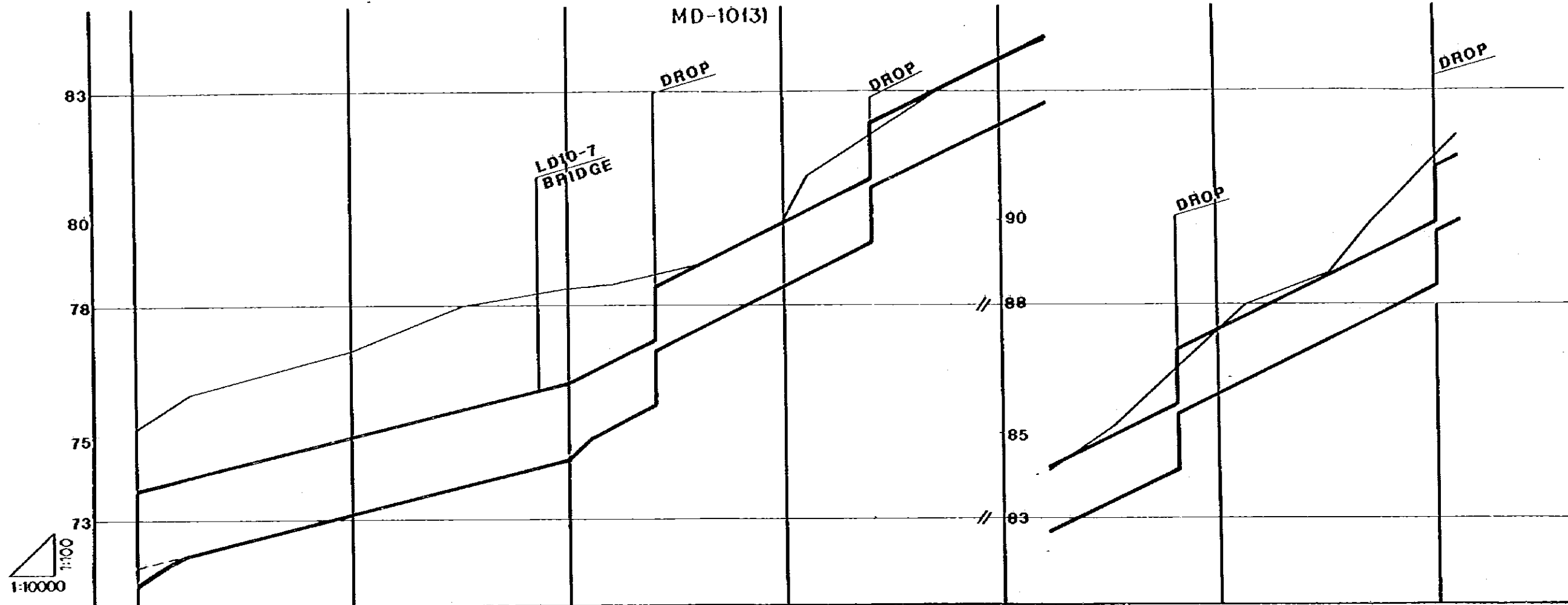
THE REPUBLIC OF COLOMBIA  
 THE PAMPORITA RIVER BASIN  
 AGRICULTURAL DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL (6/7)  
 JUNE 1966  
 JAPAN INTERNATIONAL COOPERATION AGENCY





# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 7/7

MD-10(13)

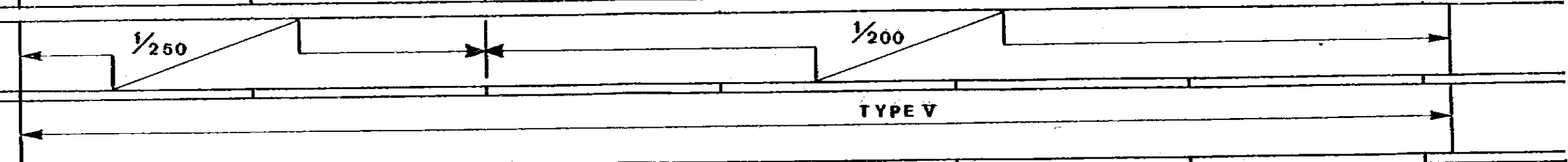
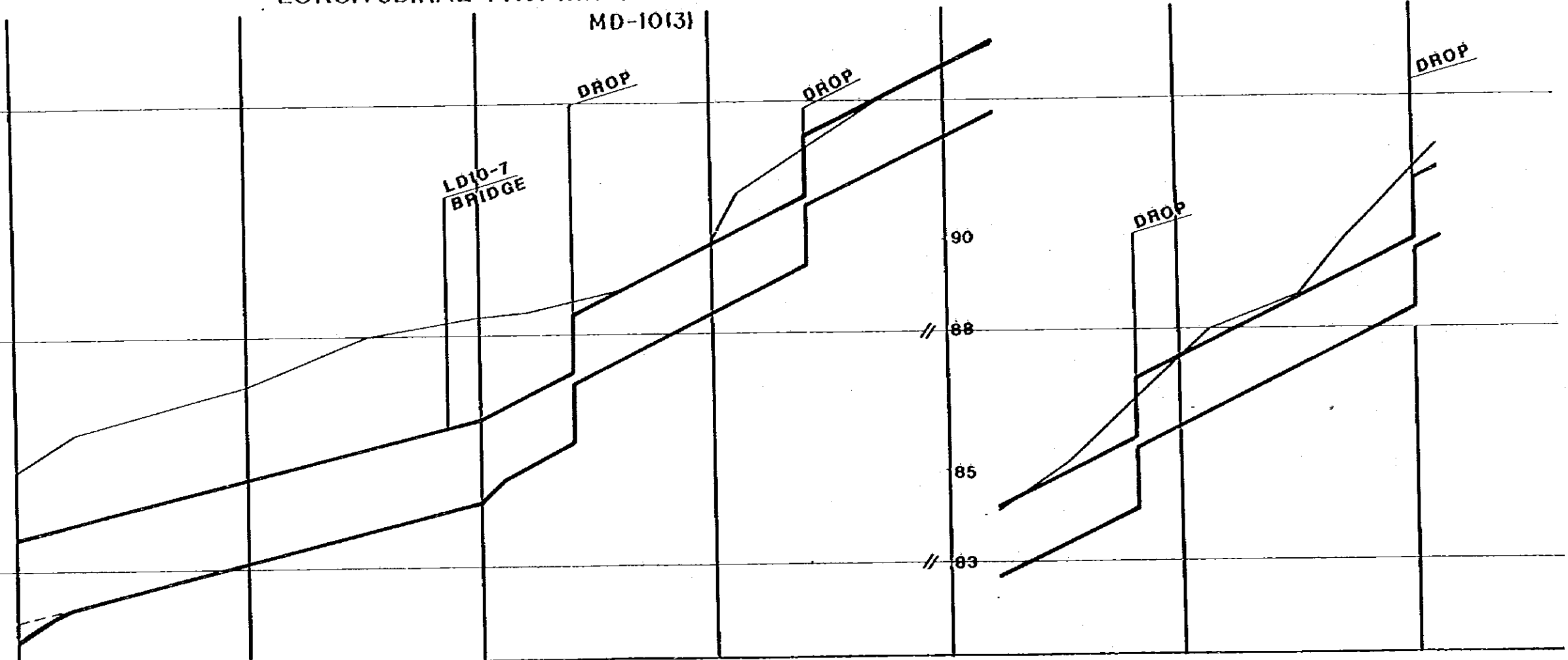


<b>CANAL SLOPE</b>																				
<b>CROSS SECTION TYPE</b>	TYPE V																			
<b>DESIGN CANAL BED</b>	71.5	72.5						77.0					82.9				89.9			
<b>GROUND LEVEL</b>	75.2	76.0	76.3	77.0	78.0	78.4	78.5	78.8	79.0	80.0	81.0	83.0	83.8	84.2	85.2	88.0	88.8	89.0	90.0	91.0
<b>TOTAL DISTANCE</b>	6750	6880	7000	7250	7500	7750	7850	8000	8050	8250	8300	8600	8750	8850	9000	9300	9500	9600	9700	9800
<b>SECTION NO.</b>	NO. 7			NO. 8							NO. 9									

THE REPUBLIC OF COLO  
 THE PAMPLONITA RIVER  
 AGRICULTURAL  
 DEVELOPMENT PROJ  
 LONGITUDINAL PROFILE O  
 DRAINAGE CANAL (7/7)  
 JUNE 1961 H. 7  
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# LONGITUDINAL PROFILE OF MAIN DRAINAGE CANAL 1/7

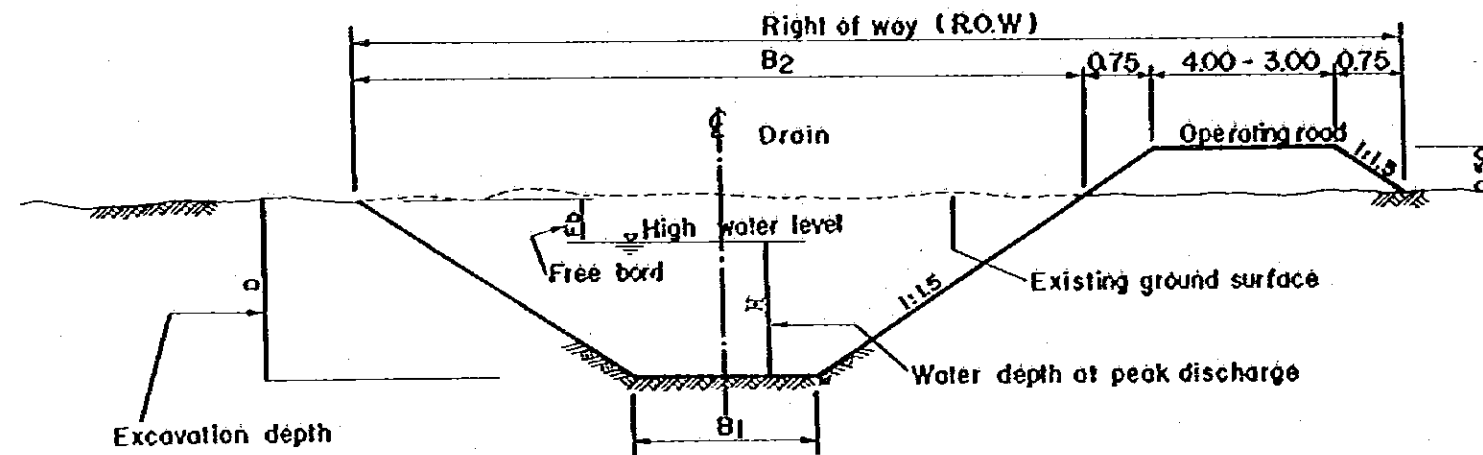
MD-10(3)



71.5	72.5	77.0	77.0	78.0	78.4	78.5	77.0	82.9	89.9
75.2	76.0	76.3	77.0	78.0	78.4	78.5	78.8	85.2	91.0
6750	6880	7000	7250	7500	7750	7850	8000	8600	9300
							8050	8750	9500
							81.0	8850	9600
							83.0	9000	9700
							83.8		
							84.2		
							88.0		
							88.8		
							89.0		
							90.0		
							91.0		
NO. 7							NO. 8		NO. 9

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF MAIN  
 DRAINAGE CANAL (1/7)  
 JUNE 1961 M. 2  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

## TYPICAL SURFACE DRAIN SECTION by TYPES

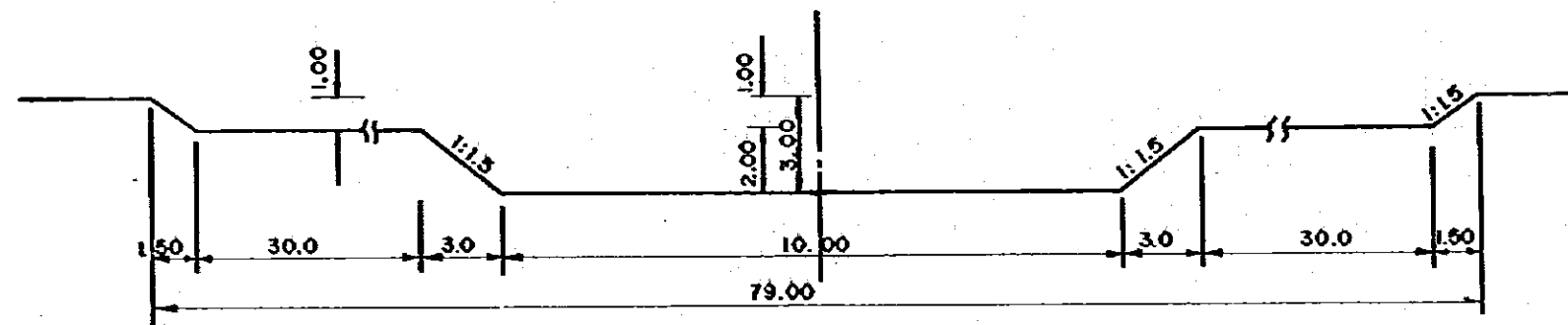


Dimension of Drain Types

Unit : m

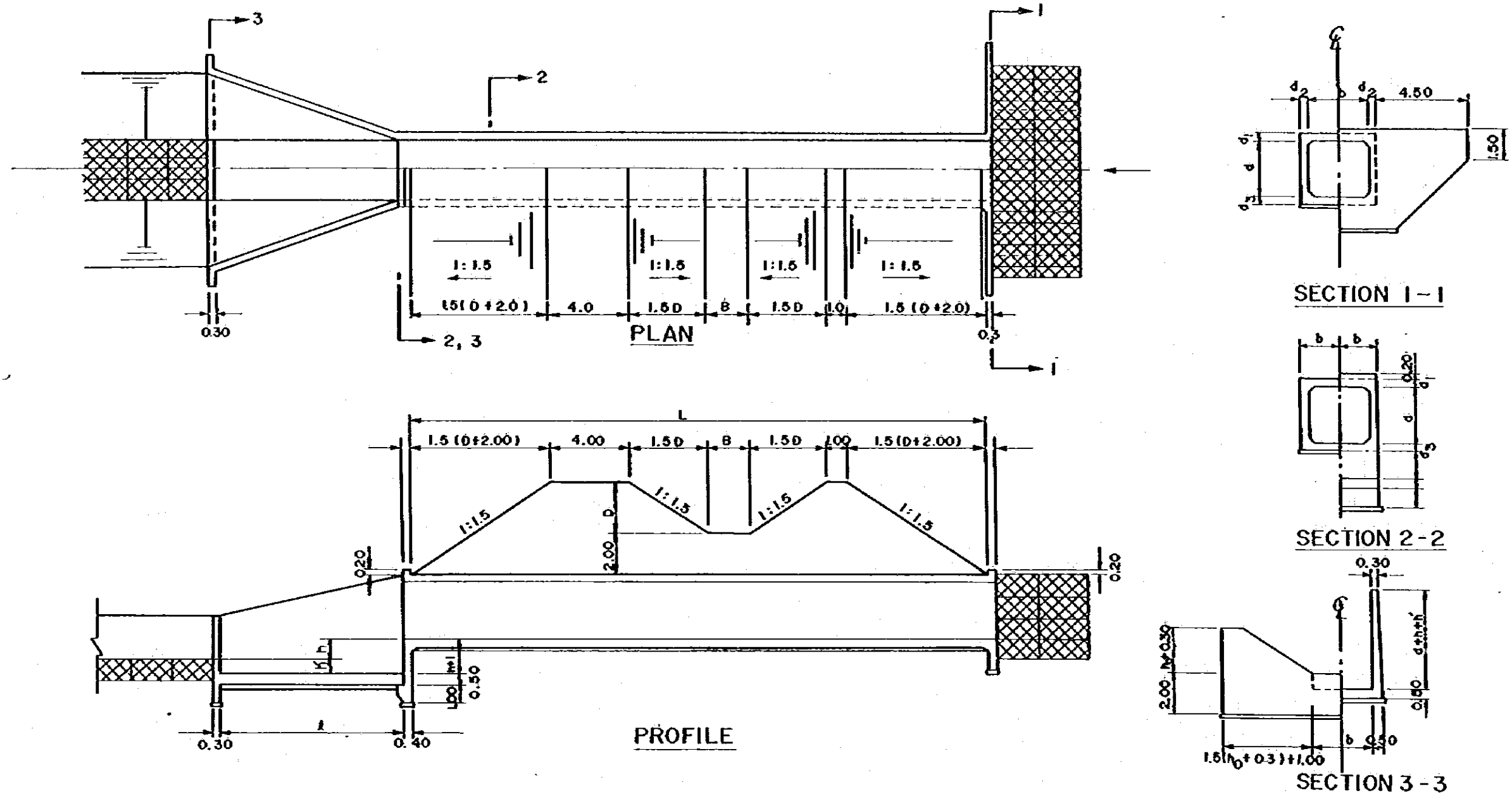
Drain Type	D	B ₁	B ₂	H	Fb	R.O.W	Remarks
I	3.70	4.00	15.10	3.30	0.40	20.60	For 5 - years
I'	3.20	4.00	13.60	2.80	0.40	19.10	For 2 - years
II	2.90	3.00	11.70	2.60	0.30	17.20	
III	2.20	3.00	9.60	1.90	0.30	15.10	
IV	1.80	2.00	7.40	1.60	0.20	12.90	
V	1.50	1.00	5.50	1.35	0.15	11.00	
VI	1.00	1.00	4.00	0.85	0.15		For Interceptor

### Catch Drainage



THE REPUBLIC OF COLOMBIA
THE PAMPLONITA RIVER BASIN
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TYPICAL SURFACE DRAIN
SECTION BY TYPES
JUNE 1971 N. 8
JAPAN INTERNATIONAL
COOPERATION AGENCY

# BOX CULVERT for INTERCEPTION DRAINAGE CANAL

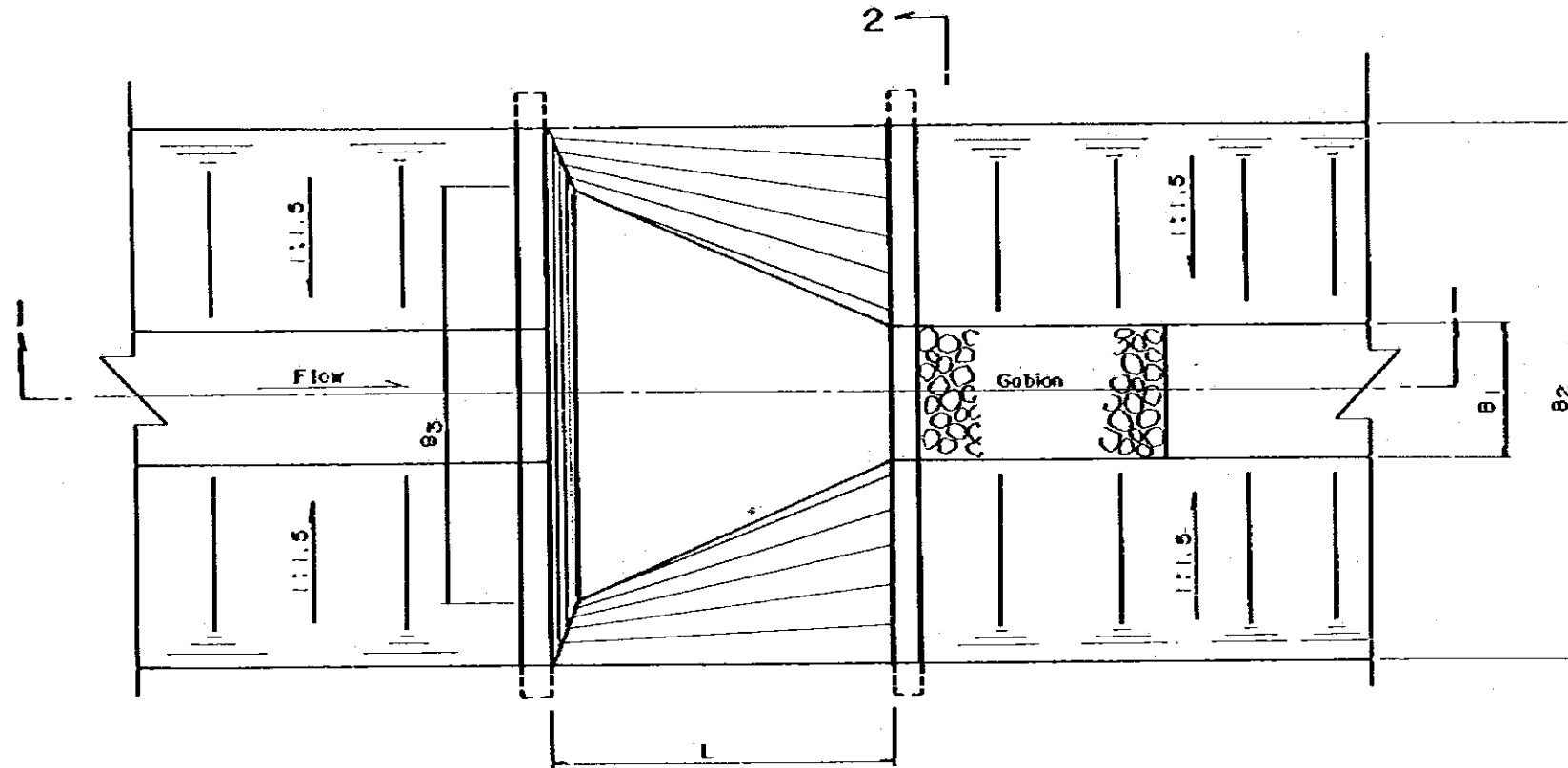


**DIMENSION**

Canal Type	b	d	d ₁	d ₂	d ₃	h	h'	L	f	m
III	3.0	2.8	0.40	0.35	0.40	1.0	0.75	29.0	9.0	1.9
IV	2.5	2.0	0.35	0.30	0.35	1.0	0.60	29.0	5.5	1.6
V	2.0	1.5	0.30	0.30	0.30	1.0	0.50	29.0 / 23.0	4.5	1.35

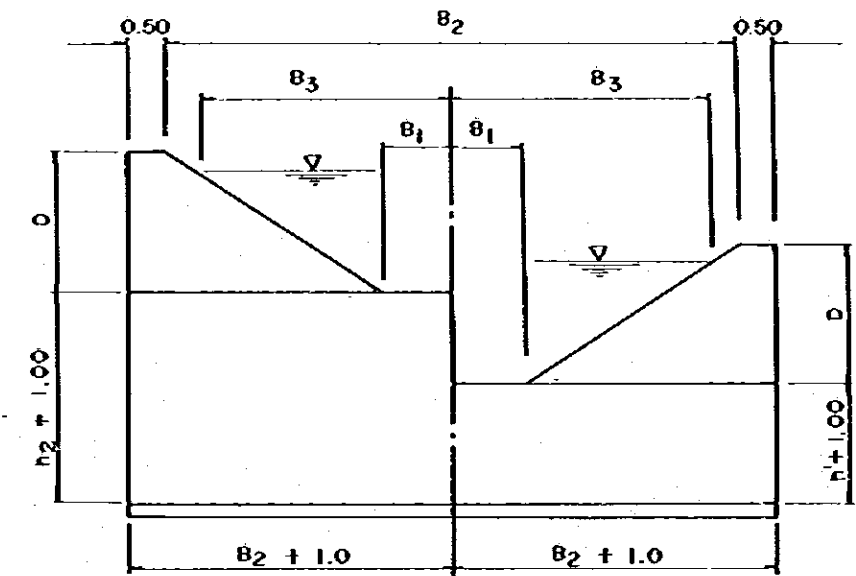
THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 BOX CULVERT FOR INTER-  
 CEPTION DRAINAGE CANAL  
 JUNE 1961 No. 9  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

# DROP STRUCTURE



**PLAN**

$$B_3 = 1.5 \text{ } dc \times 2 + B_1$$

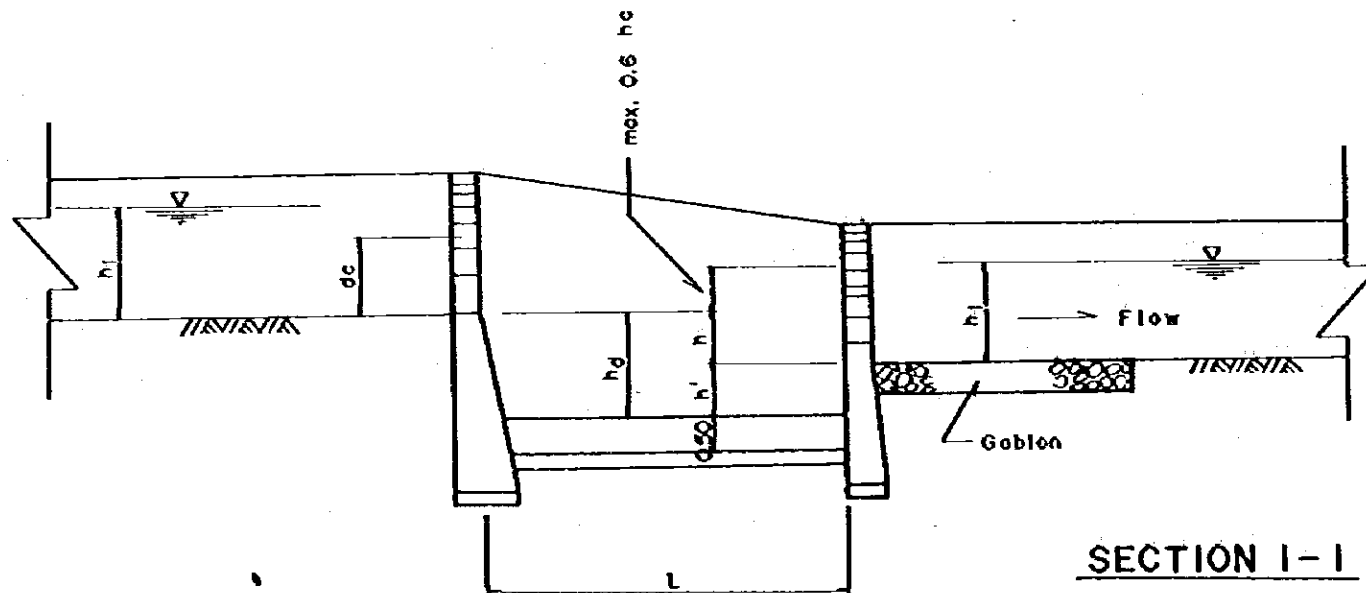


**SECTION 2-2**

Dimension of Drops

Unit: m

Canal Type	D	B ₁	B ₂	h ₁	B ₃	dc	L	h'	hd	h
III	2.20	3.00	9.60	1.90	6.60	1.20	5.10	0.60	1.80	1.20
IV	1.80	2.00	7.40	1.60	5.10	1.04	4.40	0.50	1.50	1.00
V	1.50	1.00	5.50	1.35	4.00	1.00	4.20	0.50	1.25	0.75
VI	1.00	1.00	4.00	0.85	3.10	0.70	3.00	0.35	1.10	0.75
Irrigation Canal	1.35	2.00	6.05	1.05	3.20	0.42	2.00	0.25	1.25	1.00



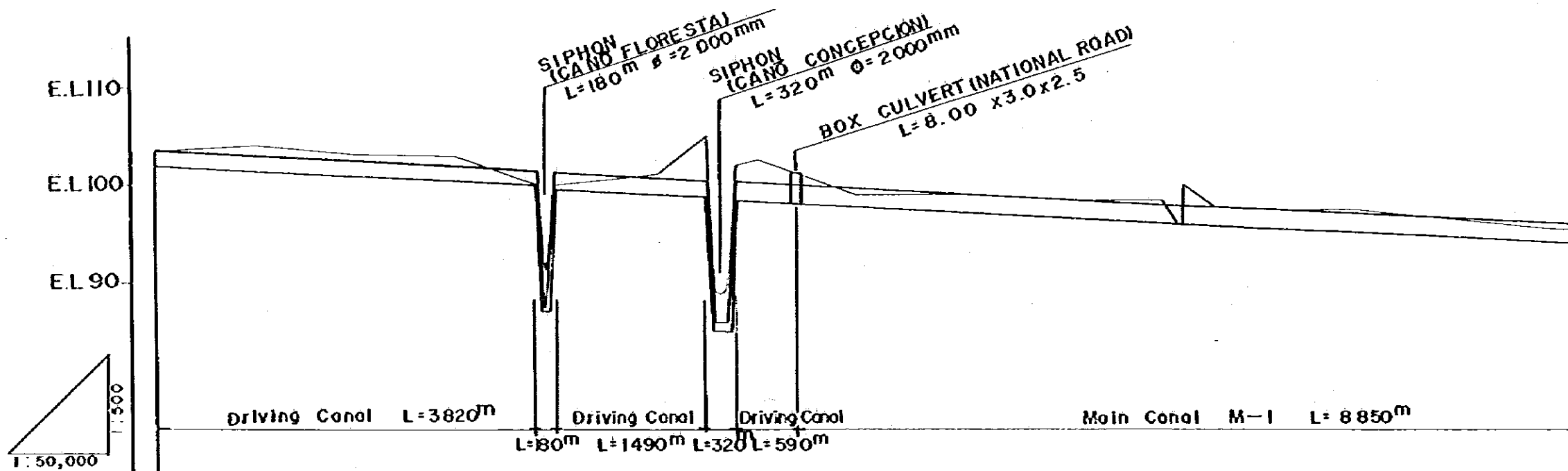
**SECTION 1-1**

$$L = \left[ 2.5 + 1.1 \frac{dc}{h} + 0.7 \left( \frac{dc}{h} \right)^3 \right] \sqrt{hd}$$

$$h' = \frac{dc}{2}$$

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DROP STRUCTURE  
JUNE 1961 No. 10  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

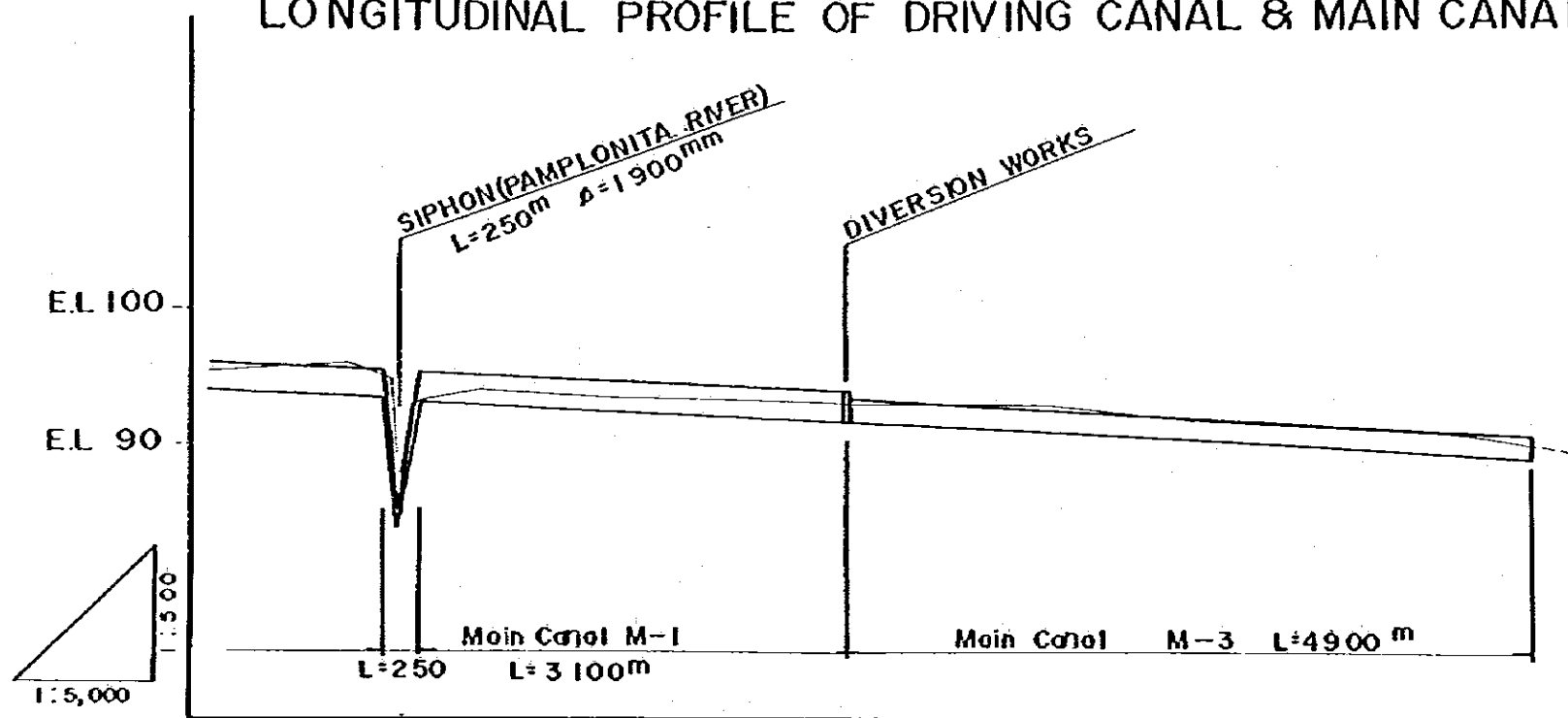
# LONGITUDINAL PROFILE OF DRIVING CANAL & MAIN CANAL (1)



SLOPE OF CANAL BED																					
ELEVATION OF DESIGN CANAL BED	101.85	101.35	100.85	100.35	99.95	99.50	99.00	98.75	98.20	97.70	97.20	96.70	96.20	95.70	95.20	94.70	94.20				
ELEVATION OF GROUNDLEVEL	103.5	104.0	103.0	103.0	100.0	101.0				99.0	99.0	98.5	98.5	97.5	97.5	96.5	96.5				
ACCUMULATED DISTANCE	0	1000	2000	3000	3800	4000	5000	5500	5850	6000	7000	8000	9000	10000	10200	10300	10550	11000	12000	13000	14000
DISTANCE	0	1000	1000	1000	800	200	1000	500	150	350	1000	1000	1000	1000	200	100	250	450	1000	1000	1000
STATION NO	NO. 0	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						

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 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF DRIVING CANAL & MAIN IRRIGATION CANAL (1/3)  
 JUNE 1961 No. 11  
 JAPAN INTERNATIONAL COOPERATION AGENCY

## LONGITUDINAL PROFILE OF DRIVING CANAL & MAIN CANAL (2)

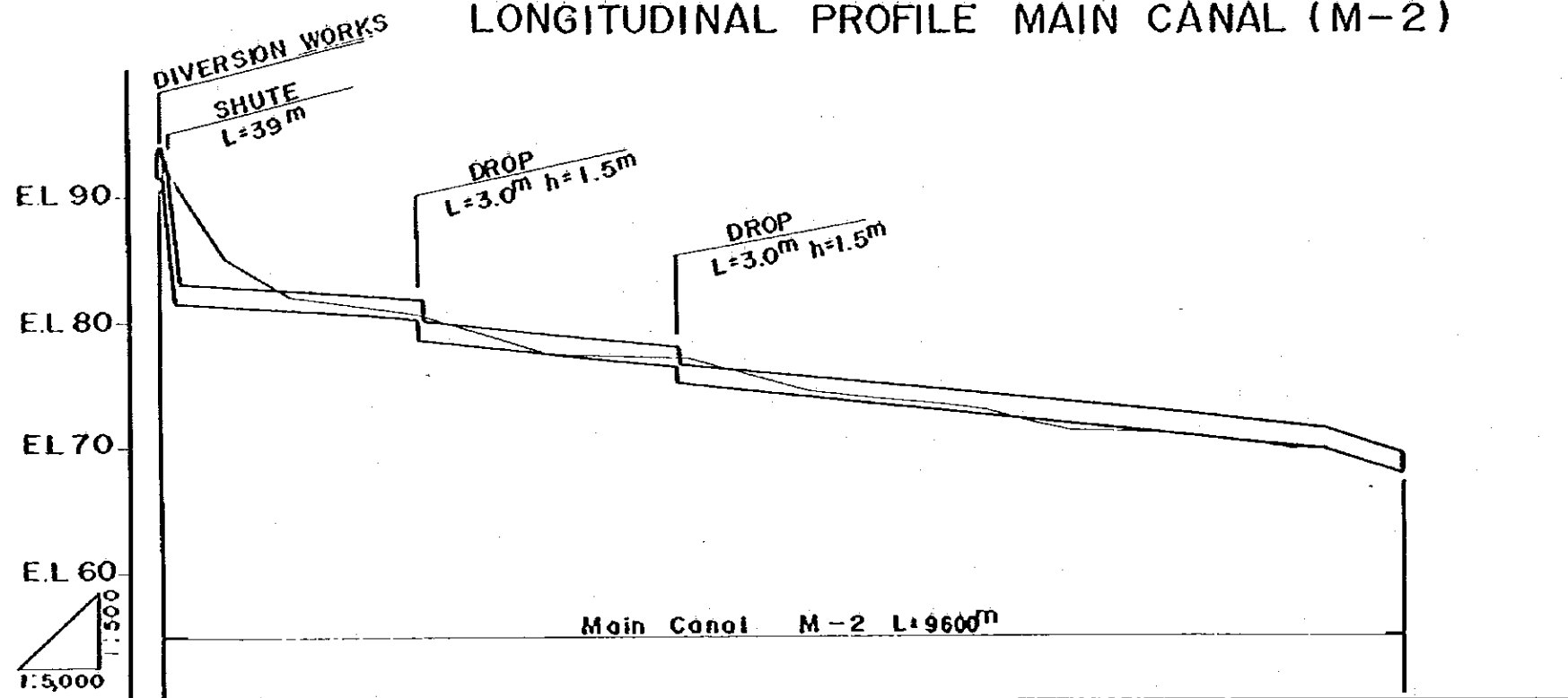


SLOPE OF CANAL BED												
ELEVATION OF DESIGN CANAL BED	94.20	93.70	93.55	92.90	92.40	91.90	91.40	90.90	90.40	89.90	89.40	89.0
ELEVATION OF GROUND LEVEL	95.5	96.0	94.0	93.5	93.0	93.5	93.0	92.0	91.5	91.0	90.5	
ACCUMULATED DISTANCE	1400	15000	16000	17000	18000	19000	20000	21000	22000	23000	23500	
DISTANCE	1000	1000		1000	1000	1000	1000	1000	1000	1000	500	
STATION NO	NO. 14	NO. 15	NO. 16	NO. 17	NO. 18	NO. 19	NO. 20	NO. 21	NO. 22	NO. 23		

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF DRIVING CANAL & MAIN IRRIGATION CANAL (2/3)  
 JUNE 1981 33.12  
 JAPAN INTERNATIONAL COOPERATION AGENCY



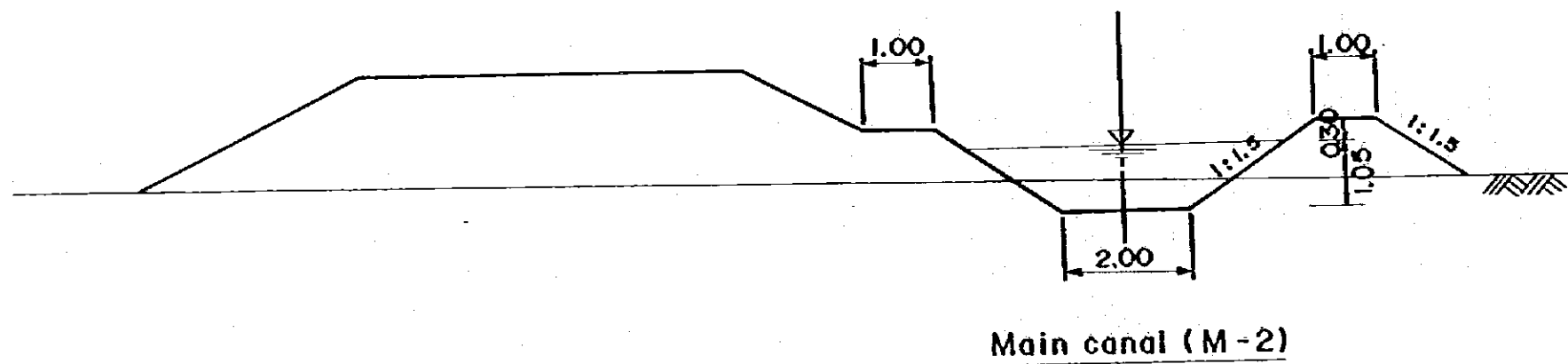
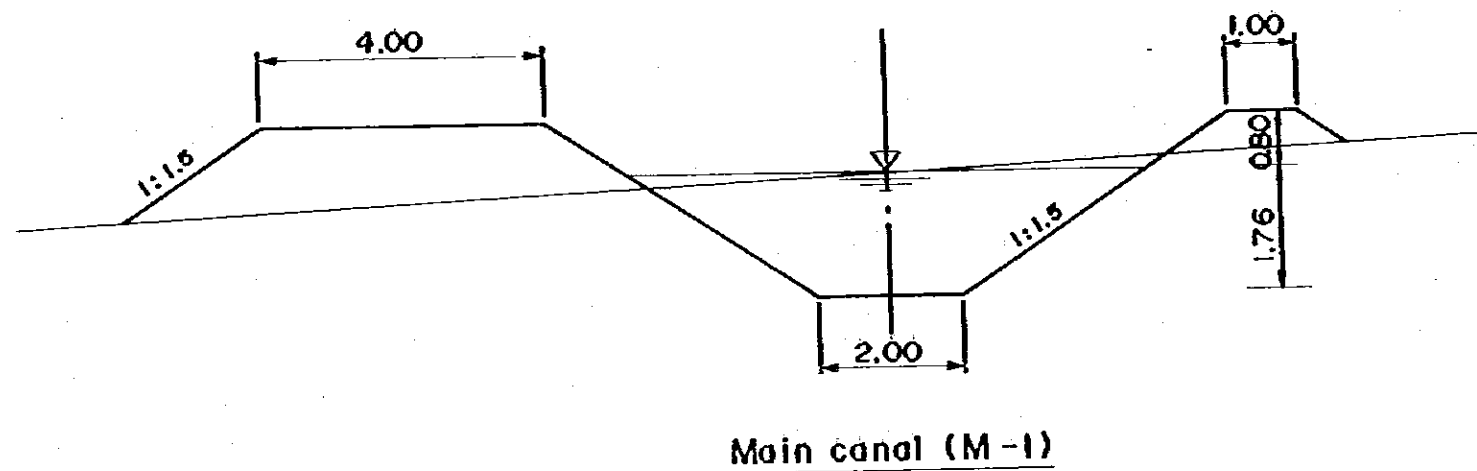
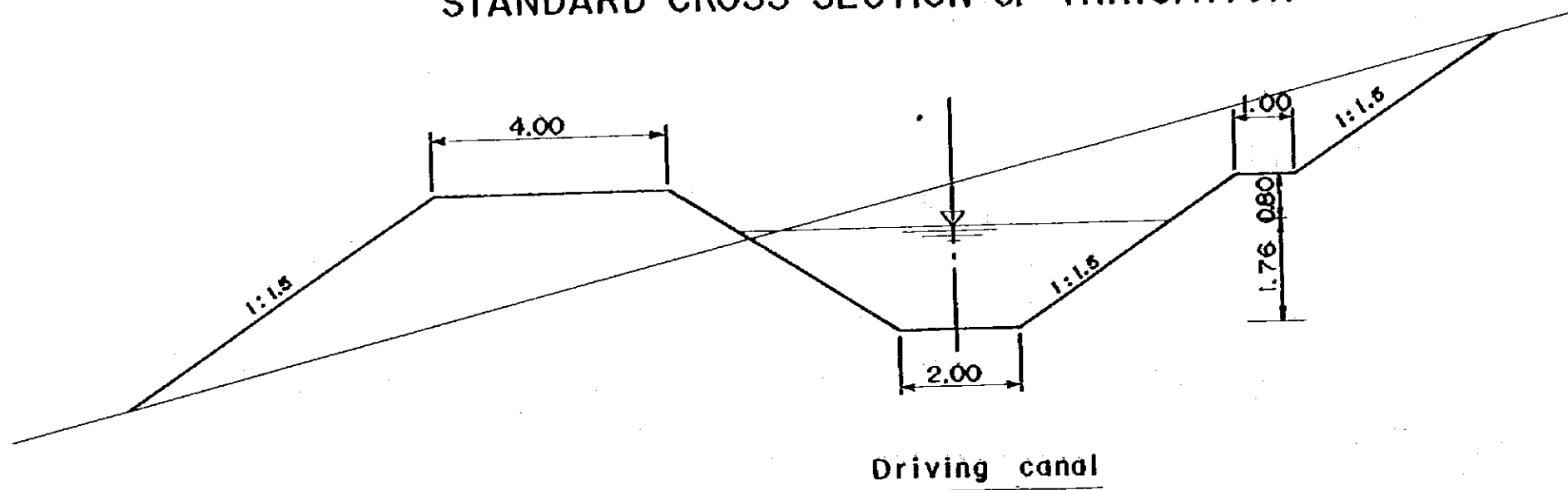
# LONGITUDINAL PROFILE MAIN CANAL (M-2)



SLOPE OF CANAL BED														
ELEVATION OF DESIGN CANAL BED	93.0	85.0	82.0	80.5	77.5	75.5	74.0	73.0	72.0	71.0	70.0	69.0		
ELEVATION OF GROUND LEVEL	93.0	85.0	82.0	80.5	77.5	77.0	75.0 74.5	74.0	73.5	73.0	72.0 71.4	71.2 70.9	70.0 70.0 69.0	68.0 66.7
ACCUMULATED DISTANCE	0	475	1000	2000	3000	4000	4850 5000	5400	6000	6400	6750 7000	7720 8000	8730 9000 9200	9600 10000
DISTANCE	0	475	525	1000	1000	1000	750 150	400	600	400	350 250	720 280	730 270 200	400 400
STATION NO	NO. 0	+ 475	NO. 1	NO. 2	NO. 3	NO. 4	+ 850 NO. 5	+ 400	NO. 6	+ 400	+ 750 NO. 7	+ 720 NO. 8	+ 730 NO. 9 + 200	+ 600 NO. 10

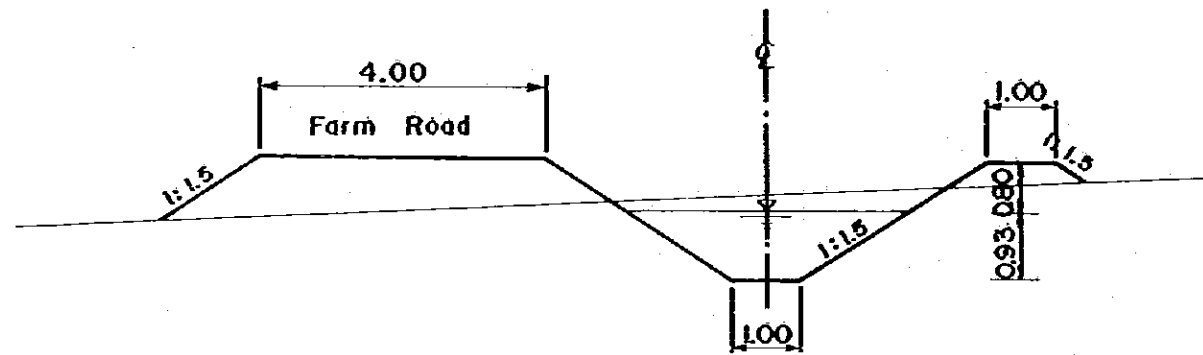
THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE OF DIV-  
 ING CANAL & MAIN IRRIGATION  
 CANAL (3/3)  
 JUNE 1981 N. 13  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

# STANDARD CROSS SECTION OF IRRIGATION CANAL (1)

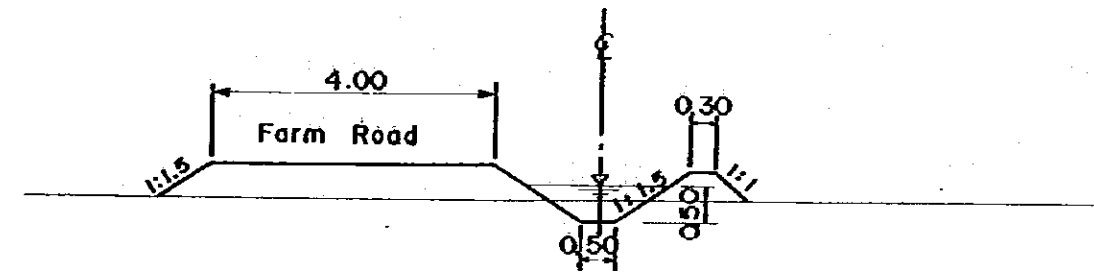


THE REPUBLIC OF COLOMBIA
THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
STANDARD CROSS-SECTION OF IRRIGATION CANAL (1/2)
JUNE 1961 # 14
JAPAN INTERNATIONAL COOPERATION AGENCY

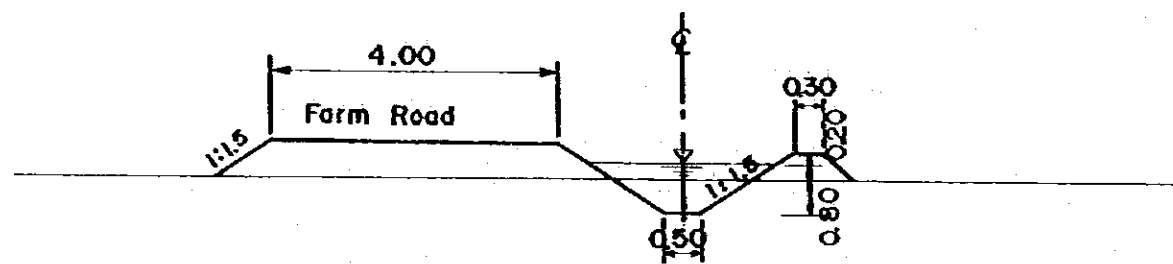
## STANDARD CROSS SECTION OF IRRIGATION CANAL (2)



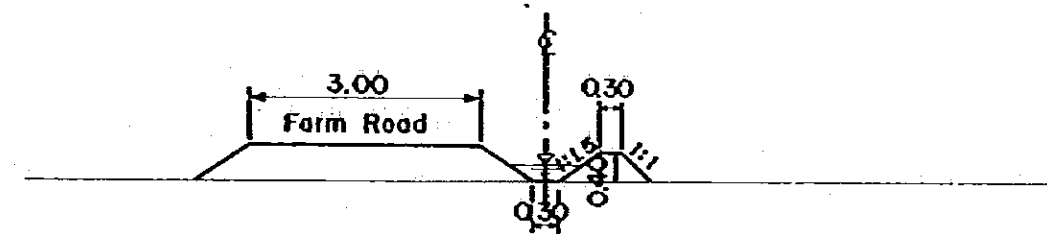
Main canal (M-3)



Secondary canal



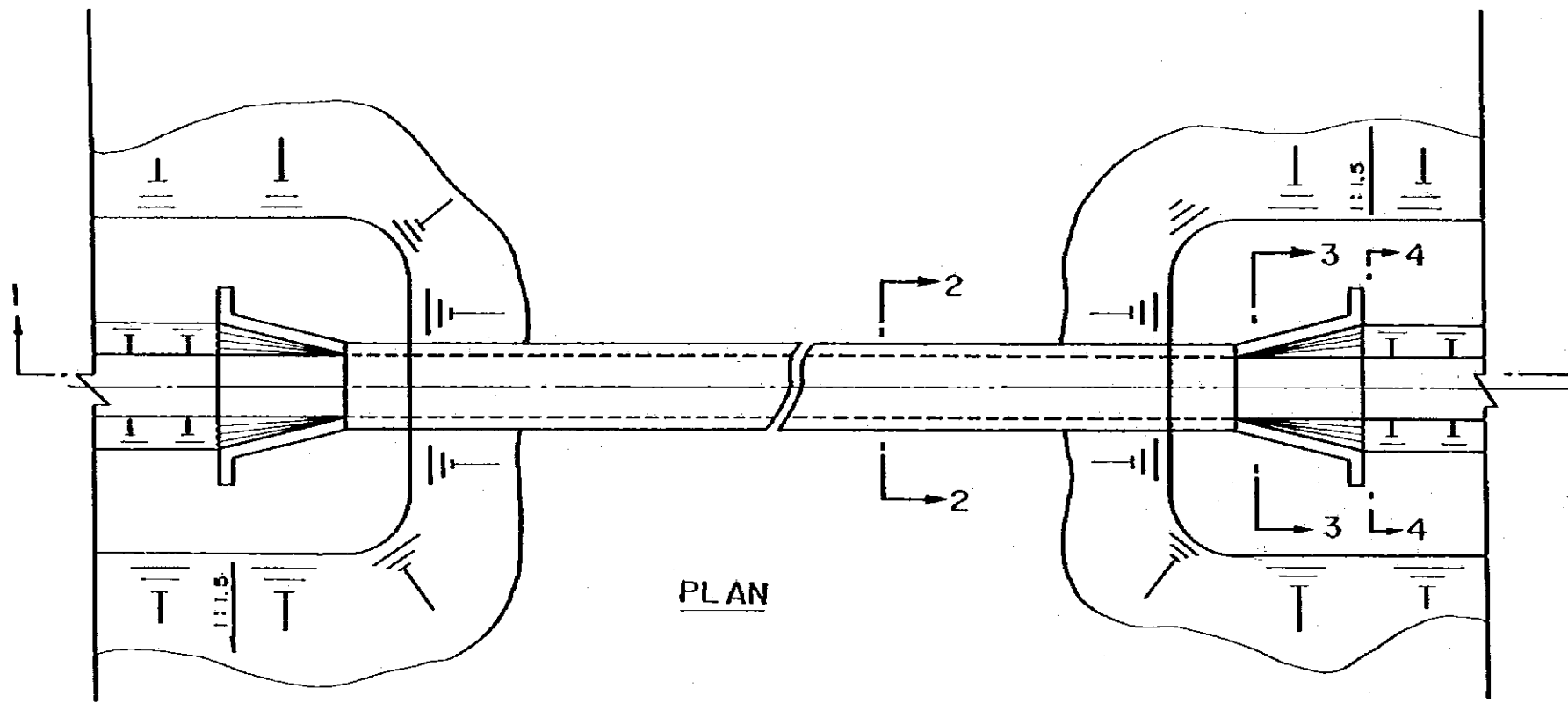
Secondary canal



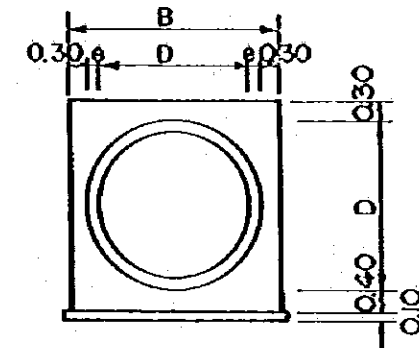
Tertiary canal

THE REPUBLIC OF COLOMBIA THE PAMPLONIA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
STANDARD CROSS-SECTION OF IRRIGATION CANAL (2/2)
JUNE 1961 N. 15
JAPAN INTERNATIONAL COOPERATION AGENCY

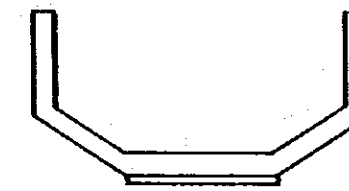
# SYPHON



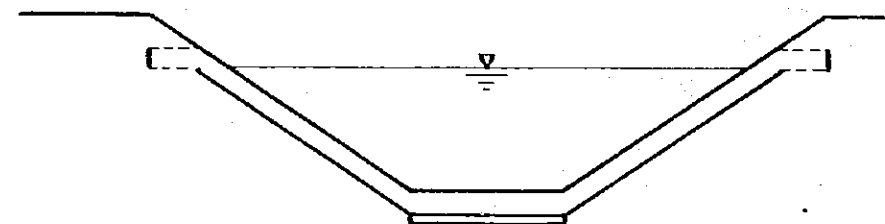
PLAN



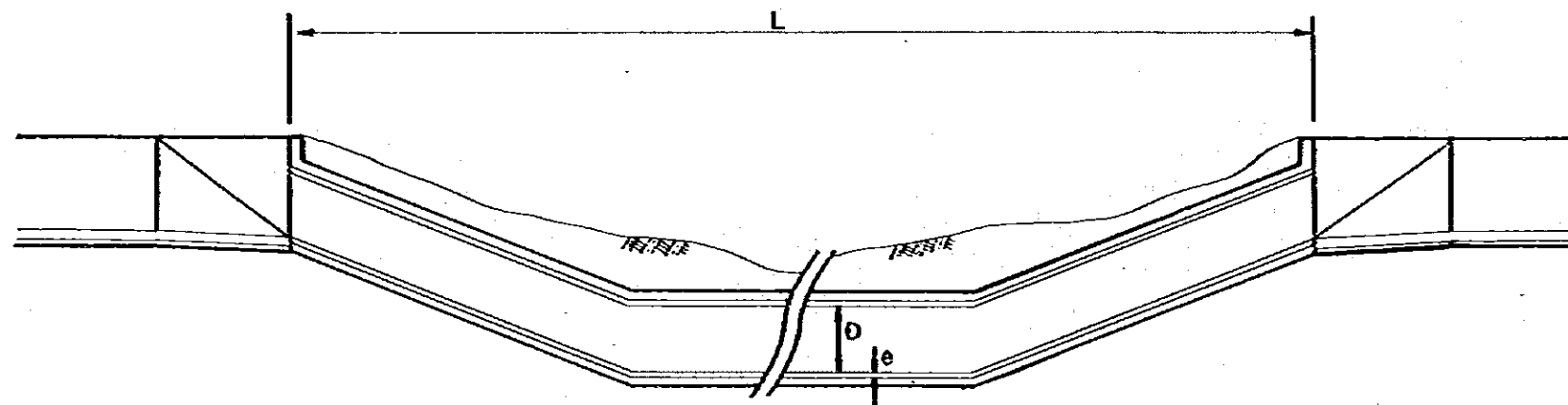
SECTION 2-2



SECTION 3-3



SECTION 4-4

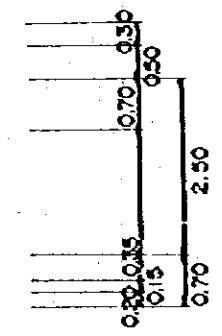
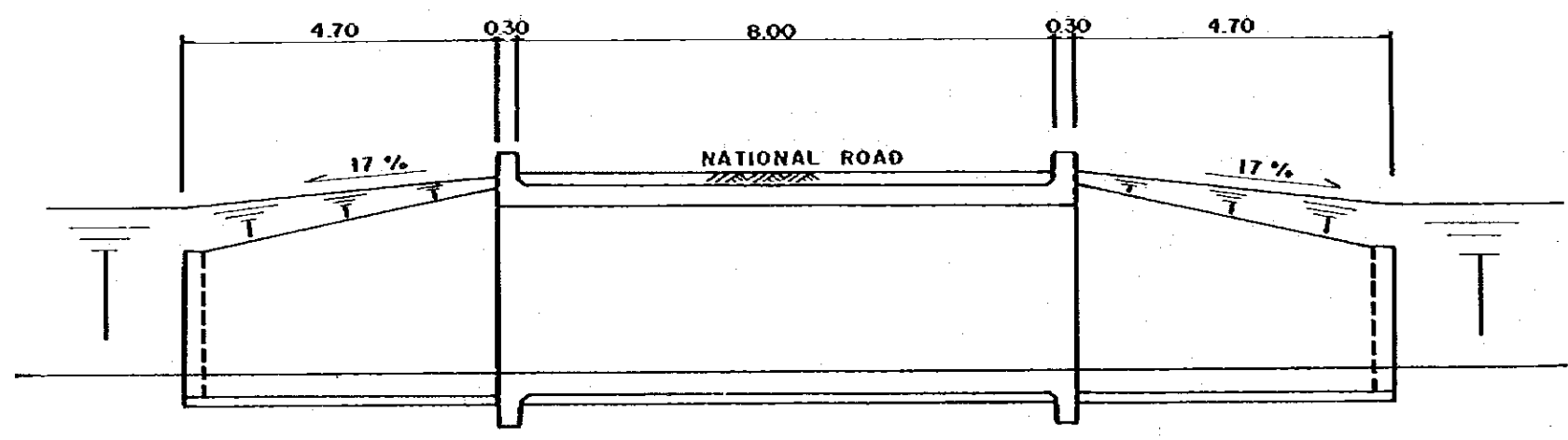
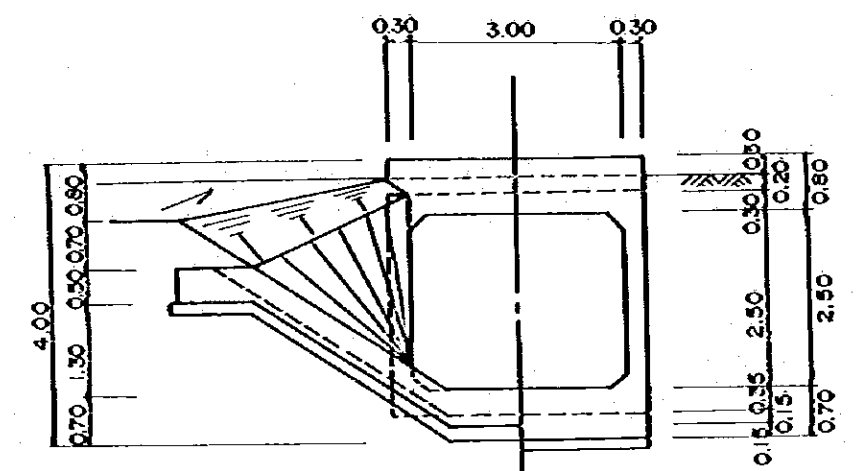
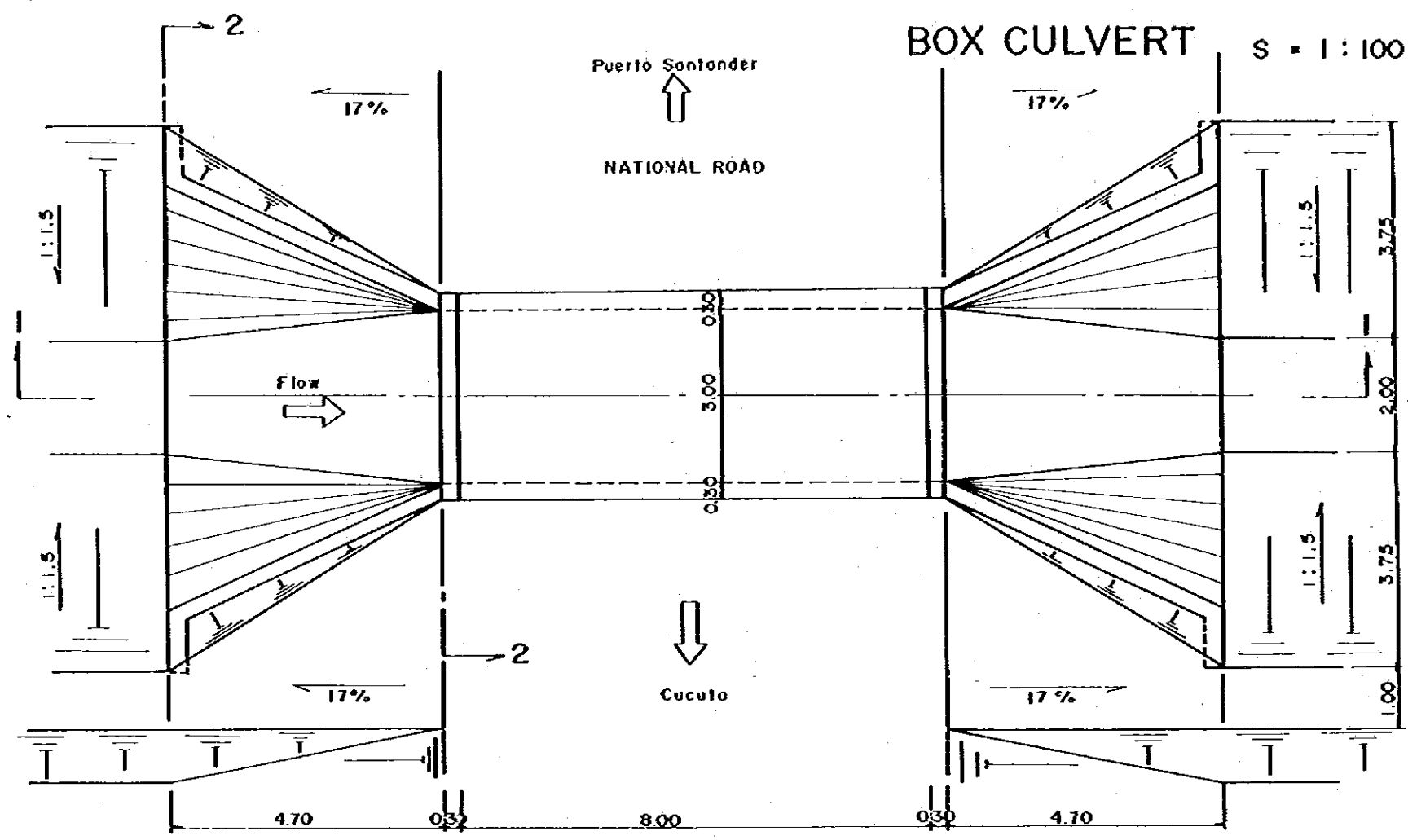


SECTION 1-1

## SYPHON

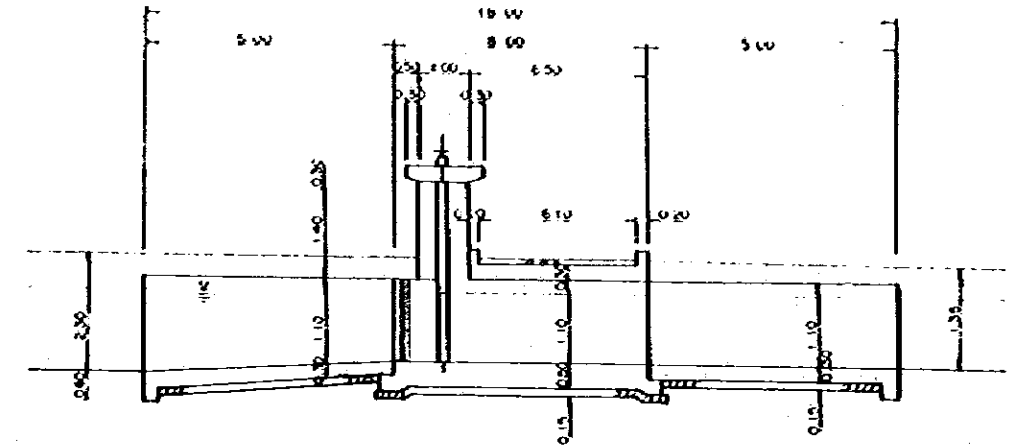
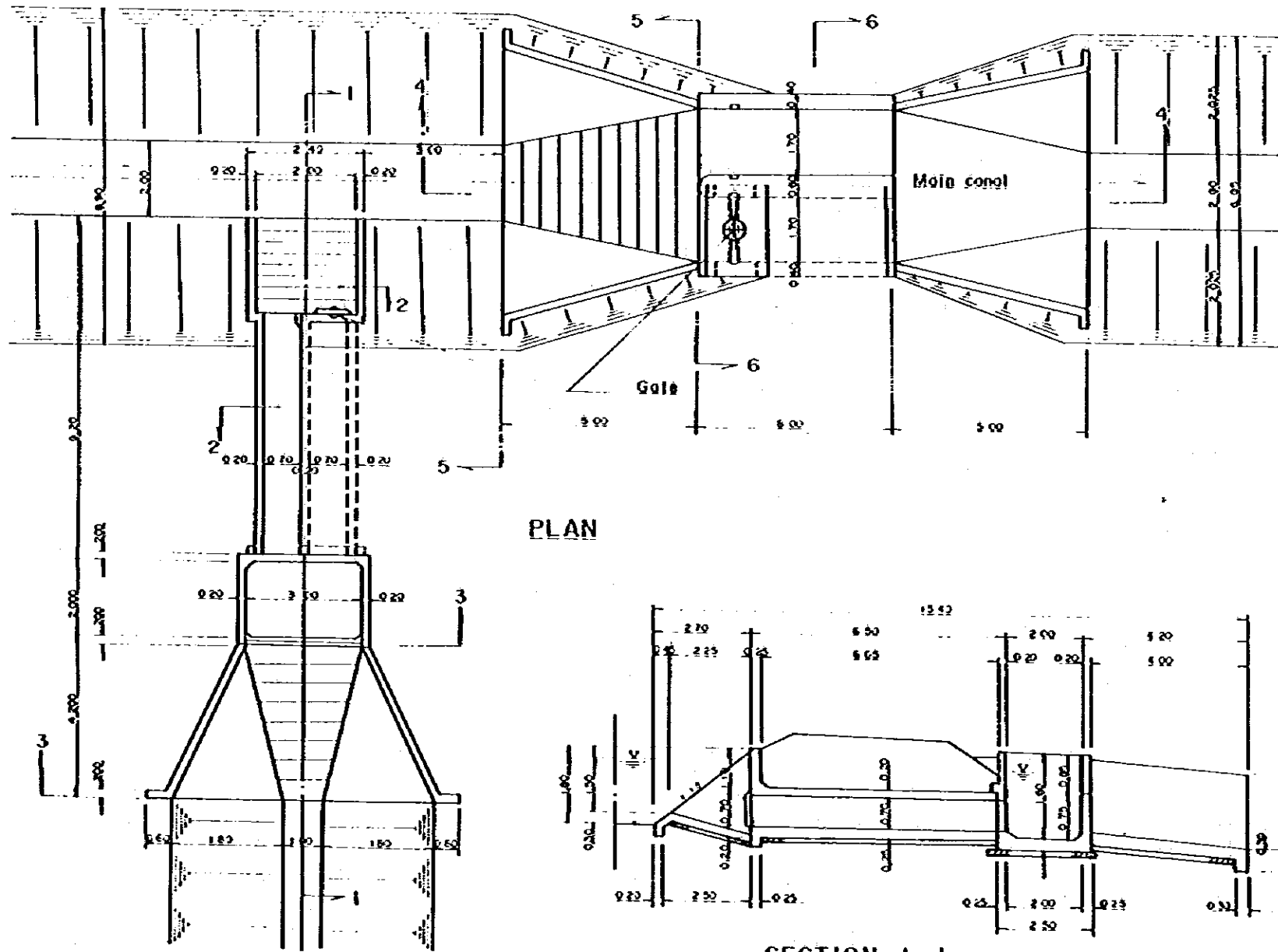
Type	Q m ³ /s	A m ²	V m/s	L m	D φm	e m	B m
1	6	3.14	1.91	180	200	0.145	2.89
2	6	3.14	1.91	320	200	0.145	2.89
3	4.5	2.84	1.587	250	190	0.14	2.78

THE REPUBLIC OF COLOMBIA THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
SYPHON
JUNE 1961 92.16
JAPAN INTERNATIONAL COOPERATION AGENCY

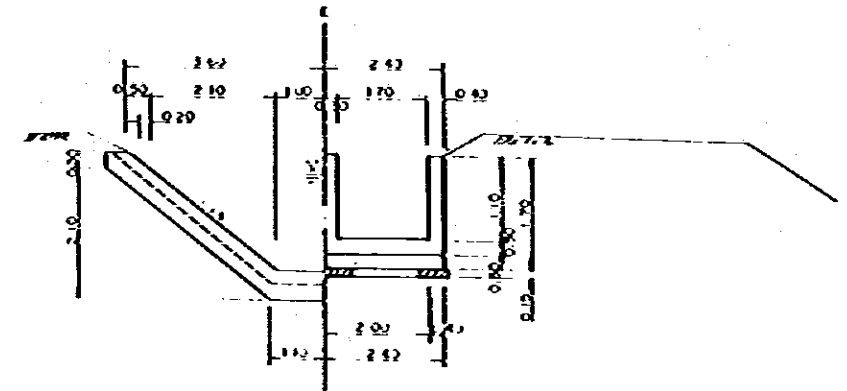


THE REPUBLIC OF COLOMBIA
THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
BOX CULVERT
JUNE 1961 M 17
JAPAN INTERNATIONAL COOPERATION AGENCY

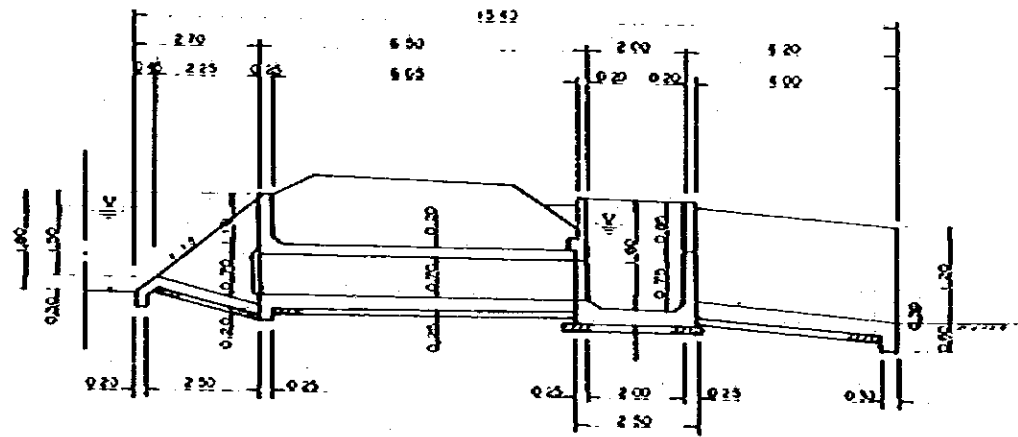
# DIVERSION WORKS



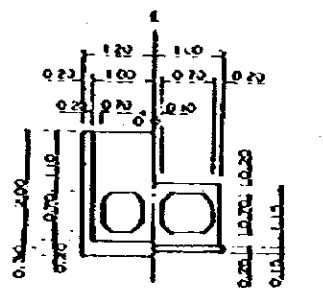
SECTION 4-4



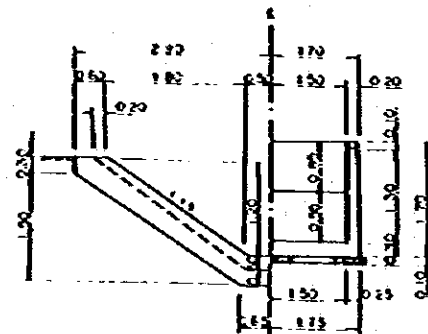
SECTION 5-5



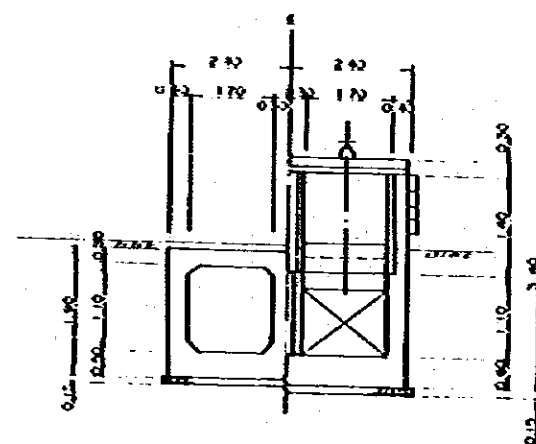
SECTION 1-1



SECTION 2-2



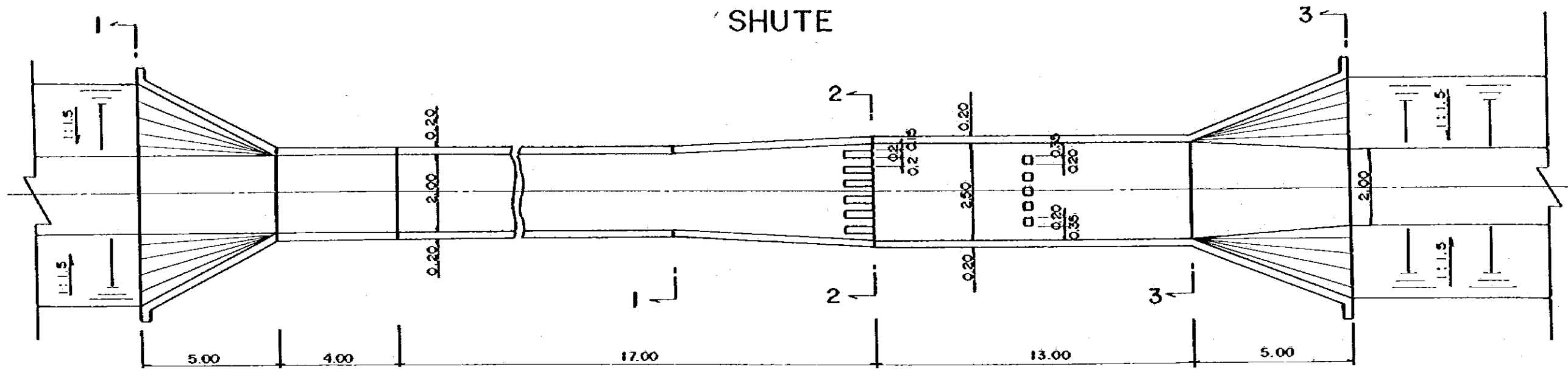
SECTION 3-3



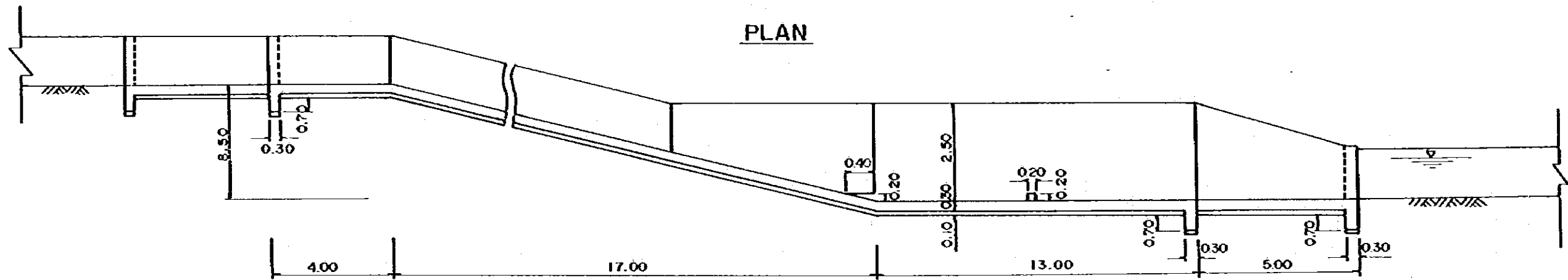
SECTION 6-6

THE REPUBLIC OF COLOMBIA THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
DIVERSION WORKS
JUNE 1964
JAPAN INTERNATIONAL COOPERATION AGENCY

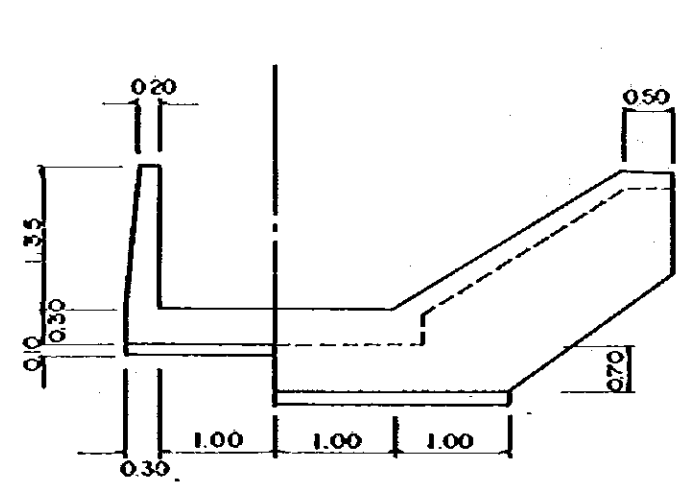
# SHUTE



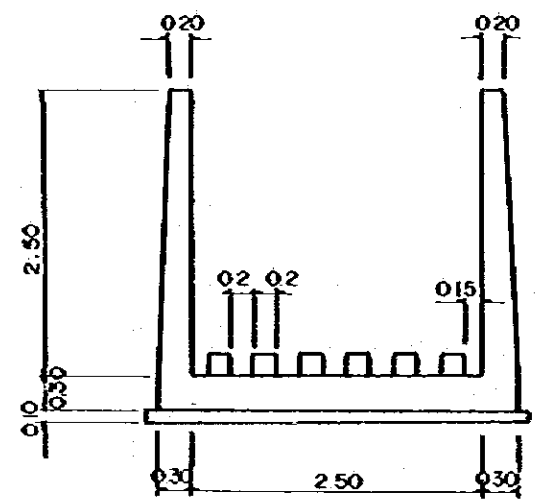
## PLAN



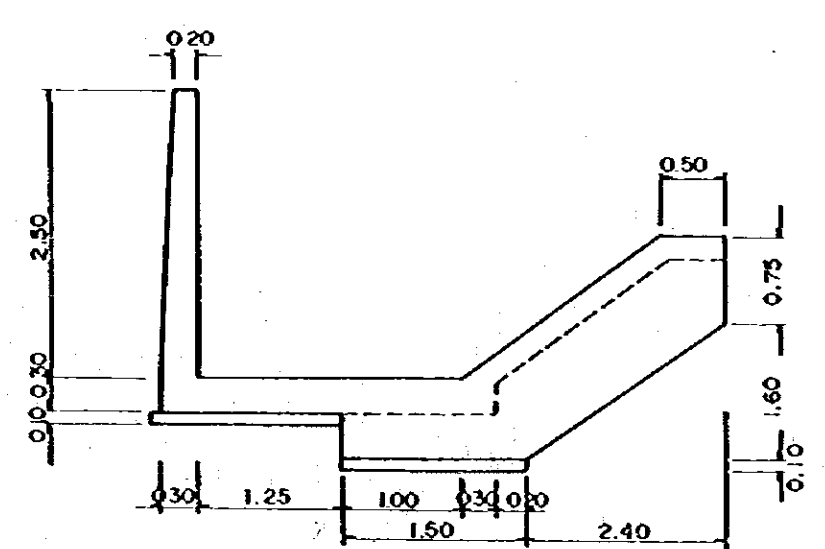
## PROFILE



SECTION 1-1



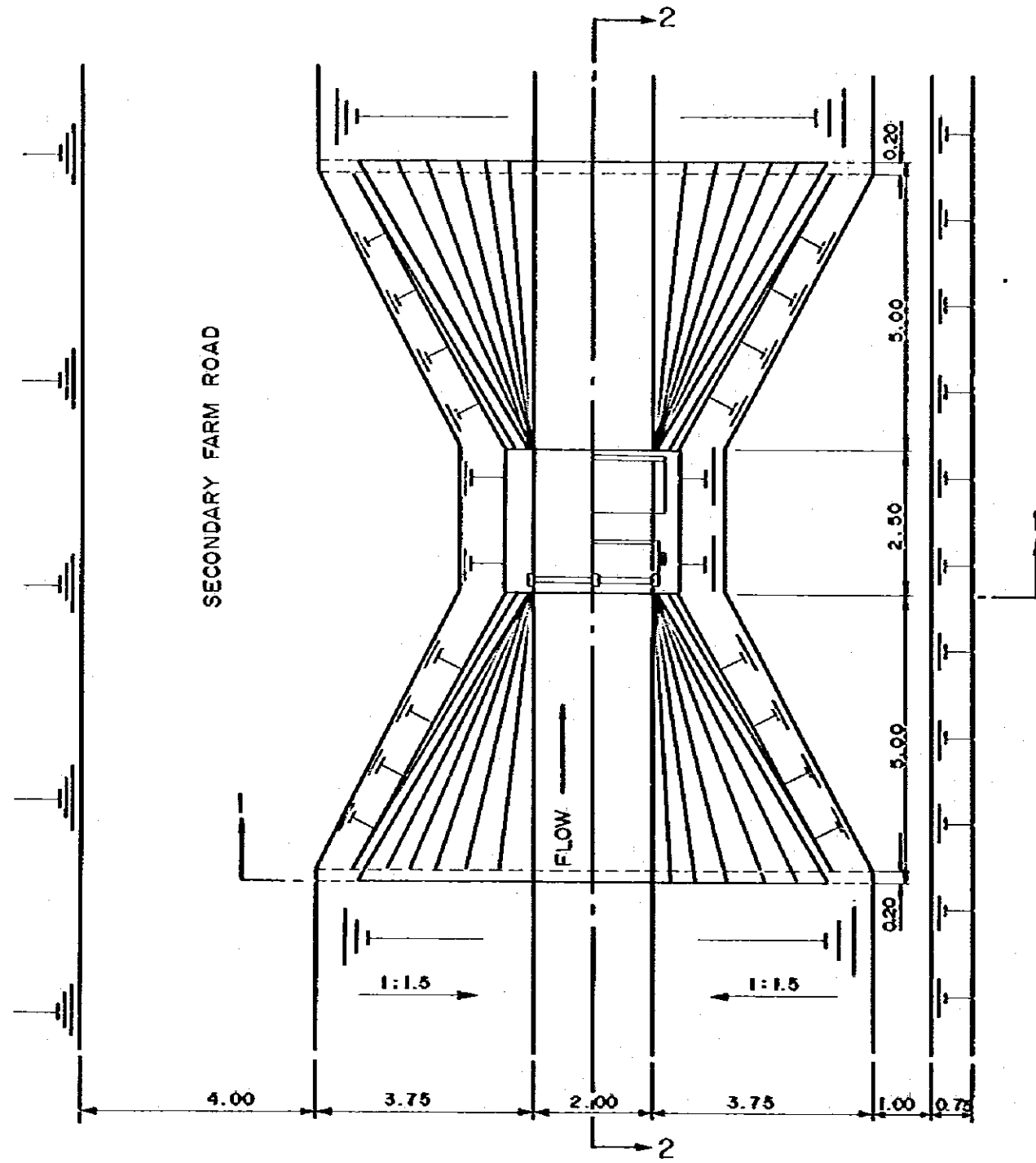
SECTION 2-2



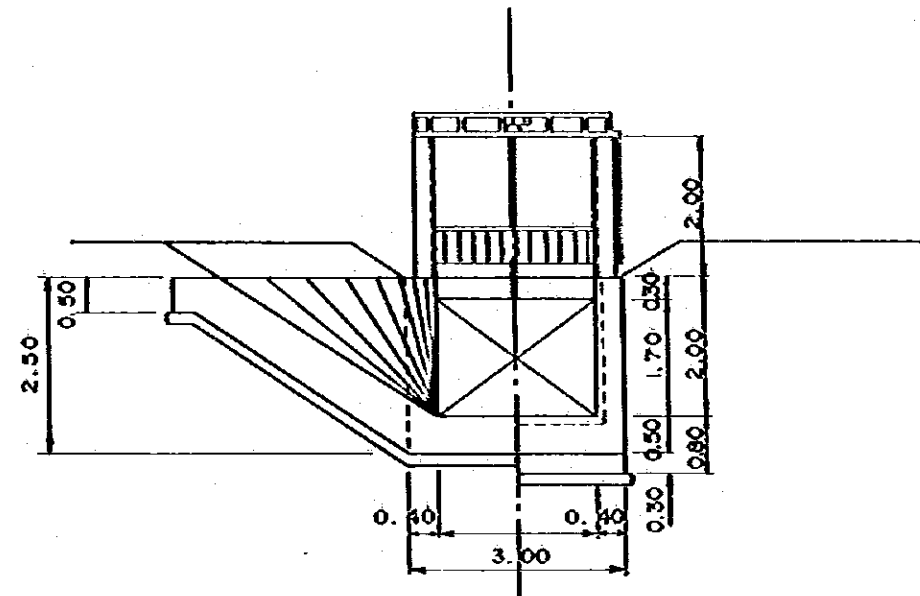
SECTION 3-3

THE REPUBLIC OF COLOMBIA
THE PAMPLONITA RIVER BASIN
AGRICULTURAL
DEVELOPMENT PROJECT
SHUTE
JUNE 1961 No. 19
JAPAN INTERNATIONAL
COOPERATION AGENCY

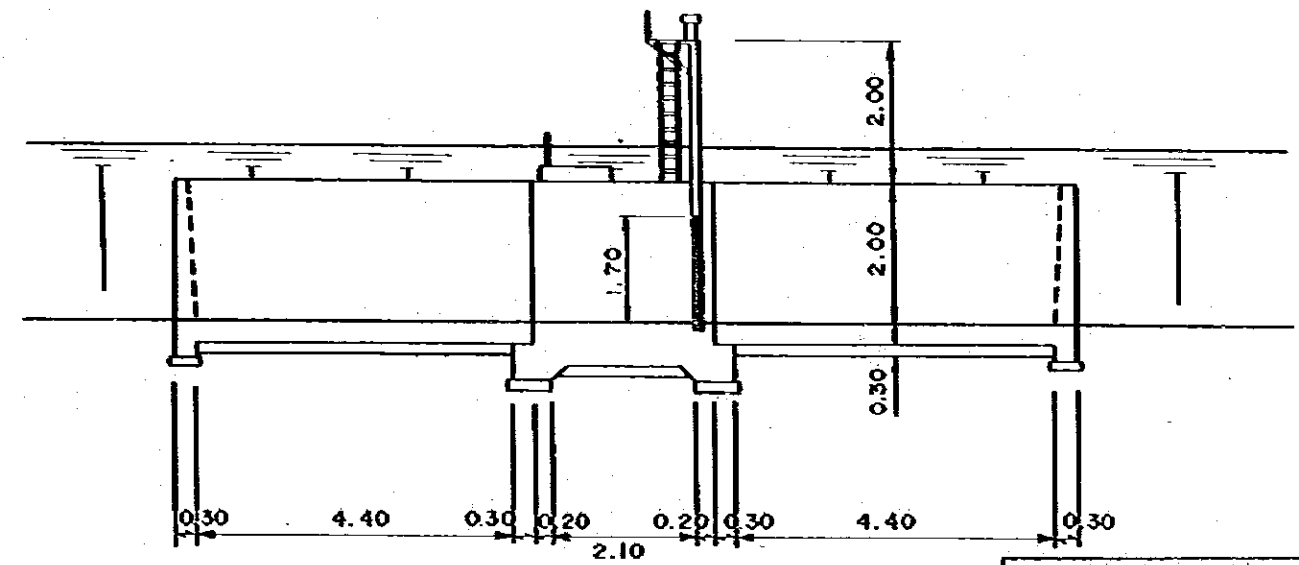
# CHECK GATE



PLAN



SECTION 1-1



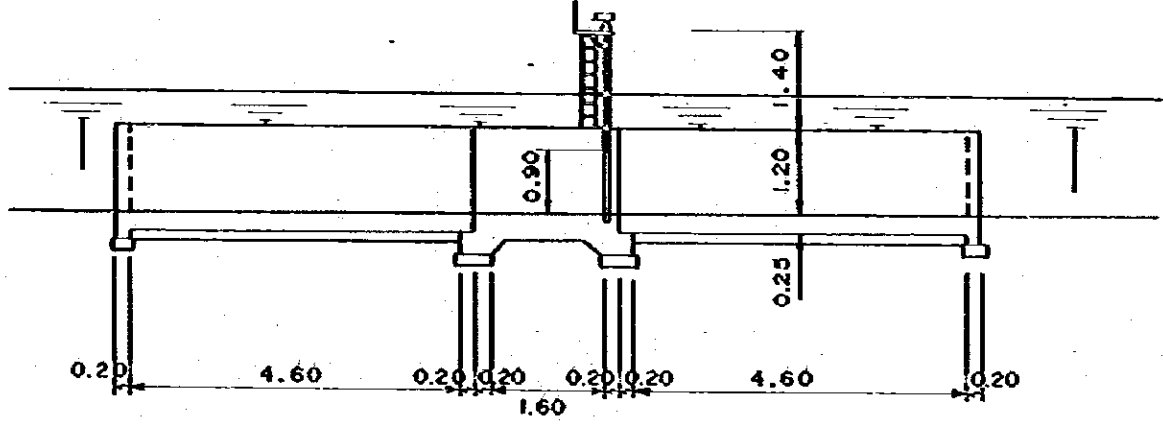
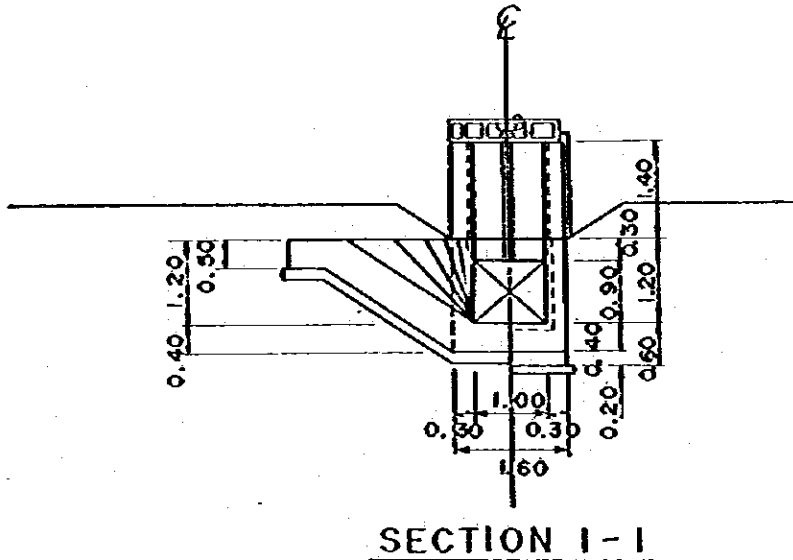
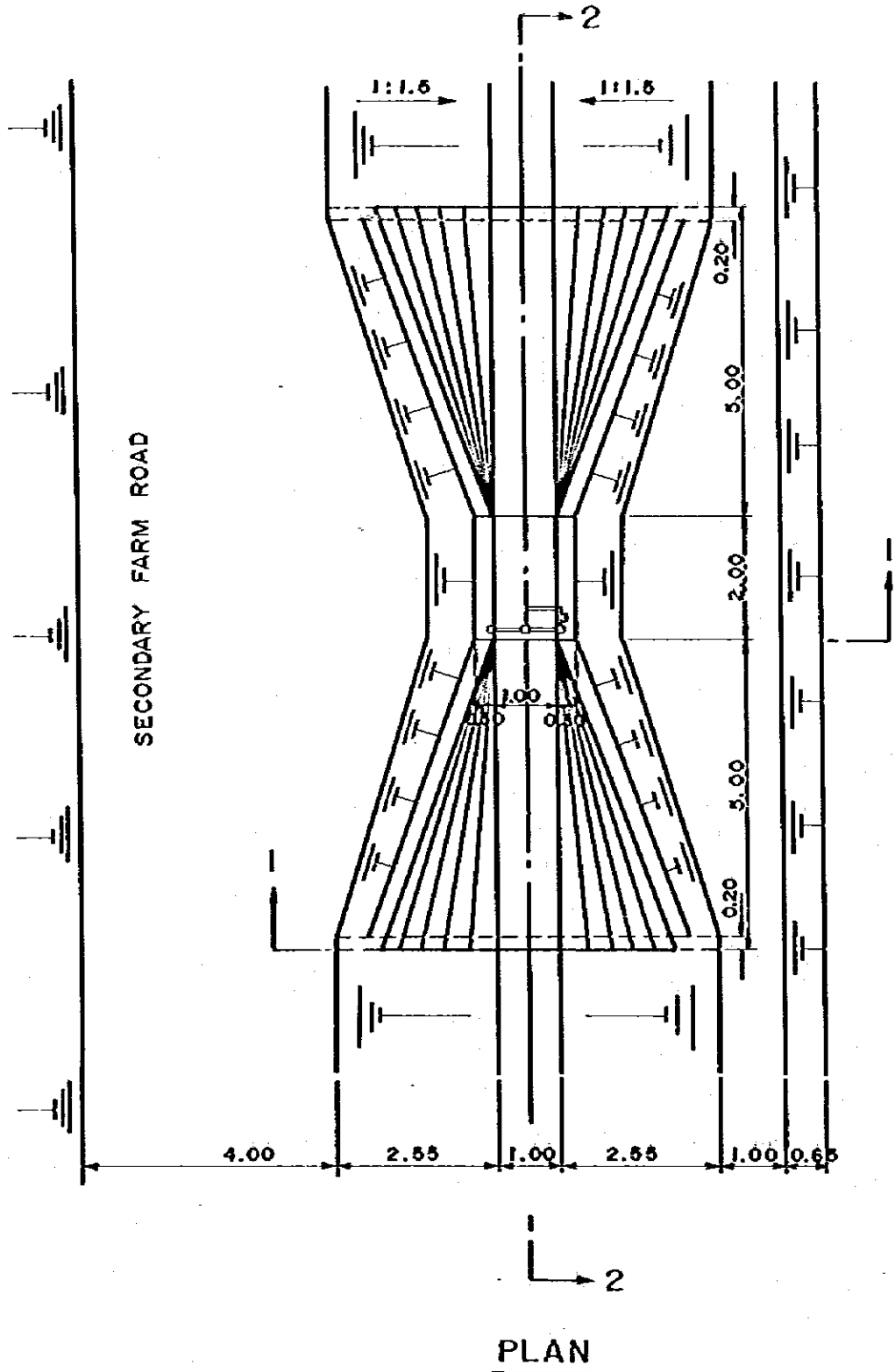
SECTION 2-2

THE REPUBLIC OF COLOMBIA
THE PAMPONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
CHECK GATE (1/2)
JUNE 1961 N. 20
JAPAN INTERNATIONAL COOPERATION AGENCY



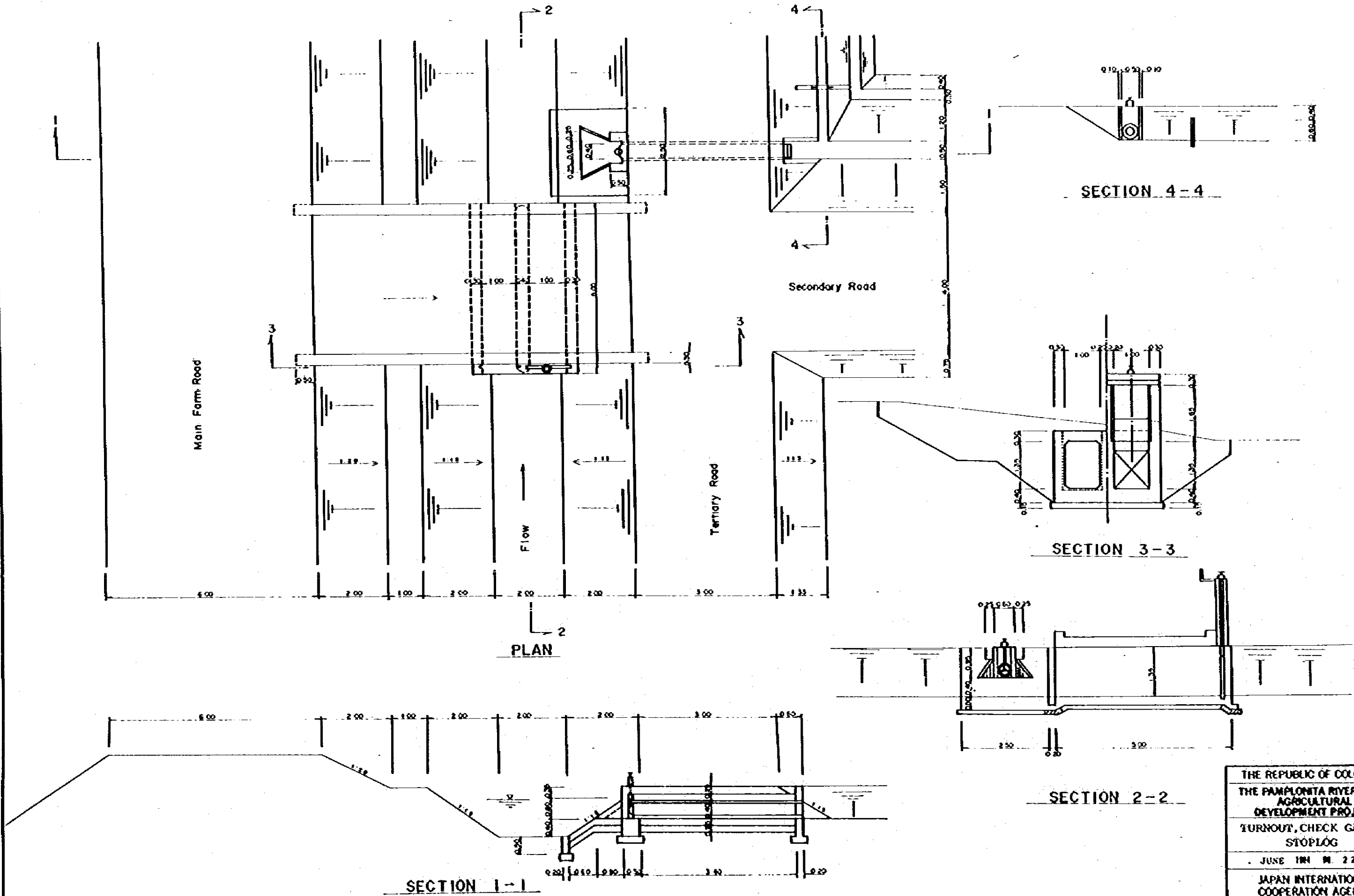
# CHECK GATE ( M - 3 )

S = 1:100



THE REPUBLIC OF COLOMBIA
THE PAMPLONTA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
CHECK GATE (2/2)
JUNE 1961
JAPAN INTERNATIONAL COOPERATION AGENCY

TURNOUT, CHECK GATE & STOP LOG



PLAN

SECTION 4-4

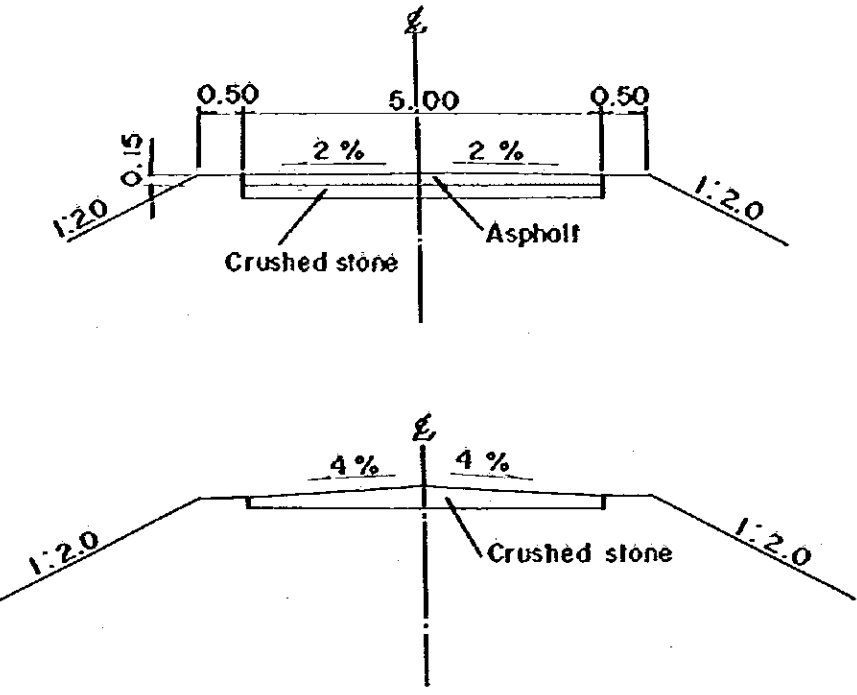
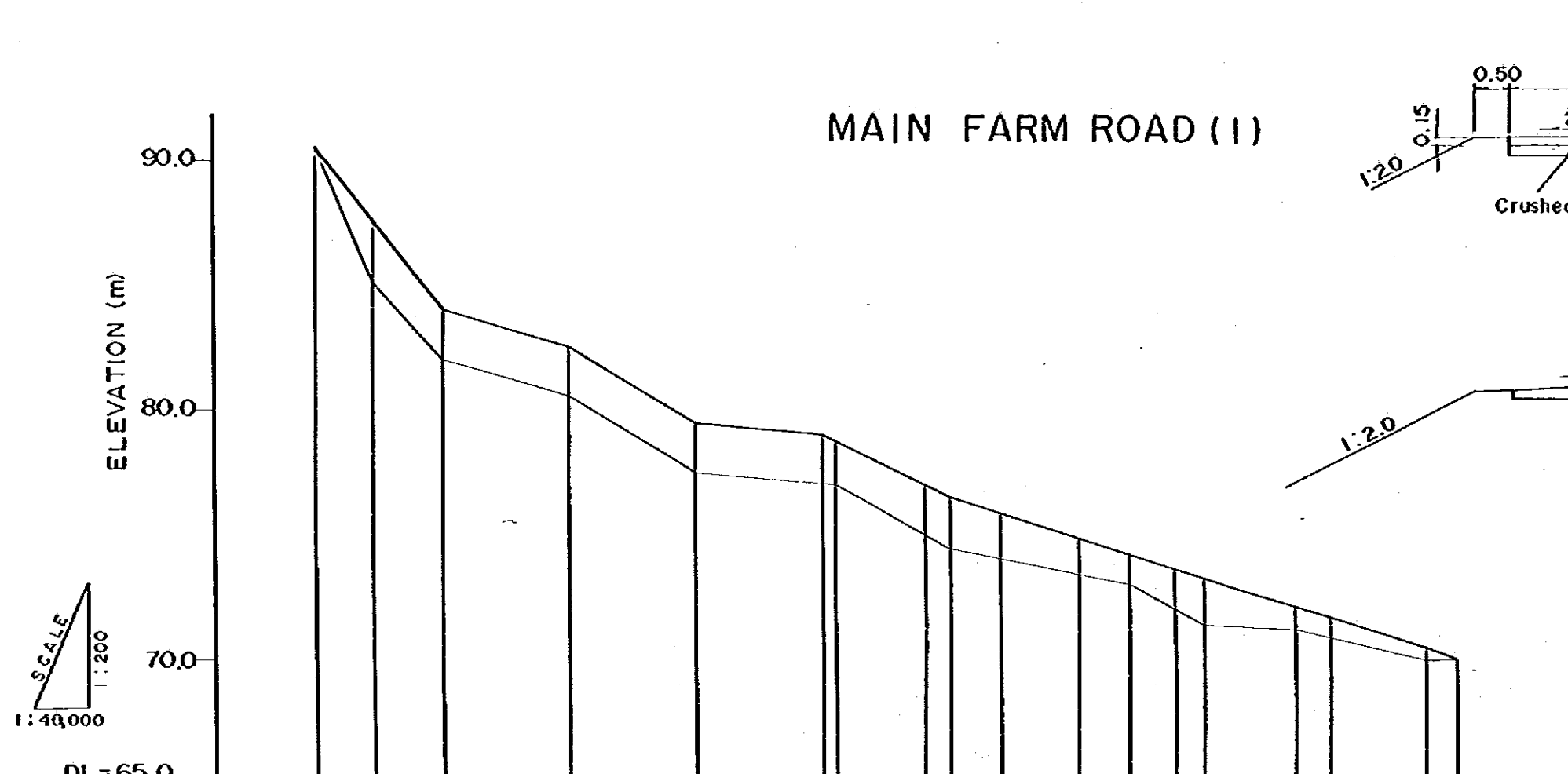
SECTION 3-3

SECTION 2-2

SECTION 1-1

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 TURNOUT, CHECK GATE &  
 STOP LOG  
 JUNE 1961 M. 22  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY

# MAIN FARM ROAD (I)



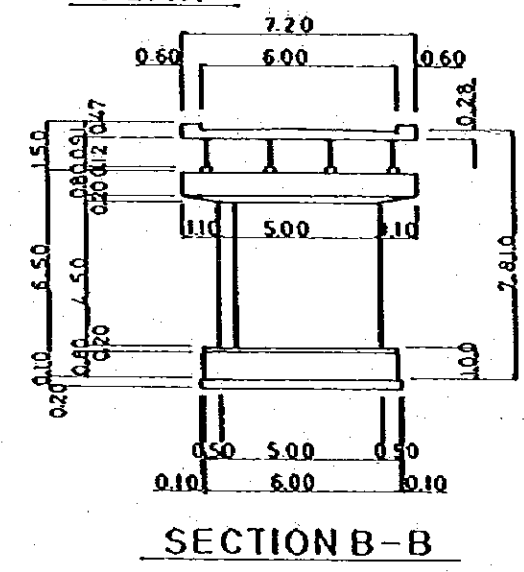
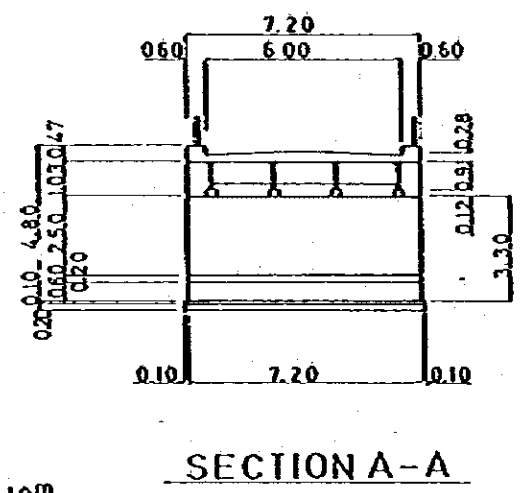
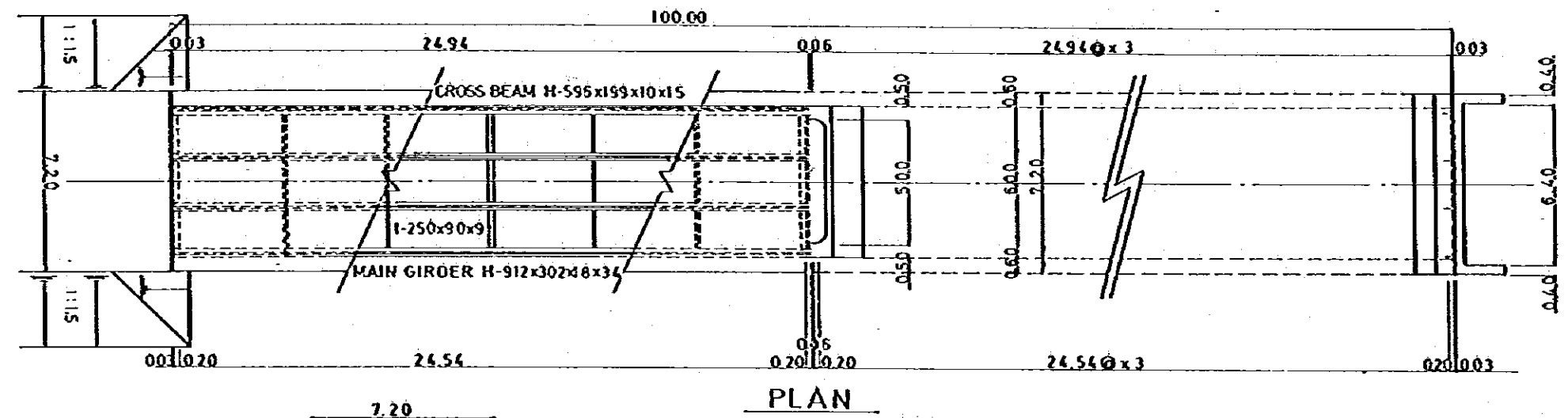
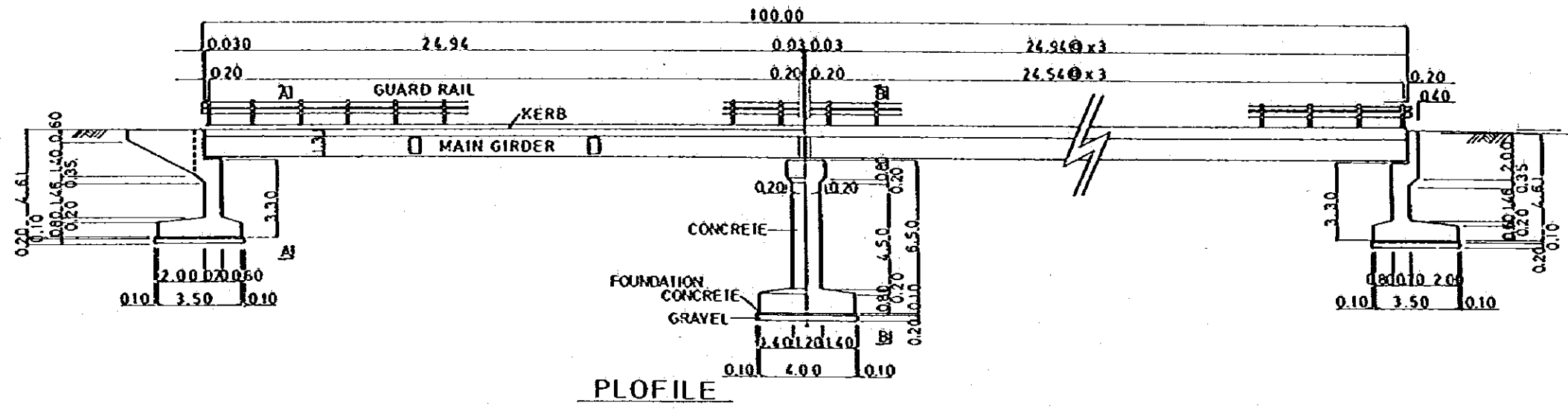
DL = 65.0

GRADIENT	Gravel pavement (proposed) L = 9,000m																
BANKING HEIGHT	0.00	2.00	2.00	2.00	2.00	2.00	1.40	1.80	0.80	0.00							
FINISHED GRADE	90.5	84.0	82.5	79.5	79.0	76.5	74.9	73.2	71.7	70.0							
NATURAL GROUND LEVEL	90.5	85.0	82.0	80.5	77.5	77.0	75.0	74.5	74.0	73.5	73.0	72.0	71.4	71.2	70.9	70.0	70.0
ACCUMULATED DISTANCE	0	475	1000	2000	3000	4000	4850	5000	5400	6000	6400	6750	7000	7720	8000	8730	9000
DISTANCE	0	475	525	1000	1000	1000	750	150	400	600	400	350	250	720	280	730	270
STATION NO.	NO. 0	+ 475	NO. 1	NO. 2	NO. 3	NO. 4	+ 850	NO. 5	+ 400	NO. 6	+ 400	+ 750	NO. 7	+ 720	NO. 8	+ 730	NO. 9

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL DEVELOPMENT PROJECT  
 LONGITUDINAL PROFILE  
 OF MAIN FARM ROAD (1/2)  
 JUNE 1981 H 23  
 JAPAN INTERNATIONAL COOPERATION AGENCY



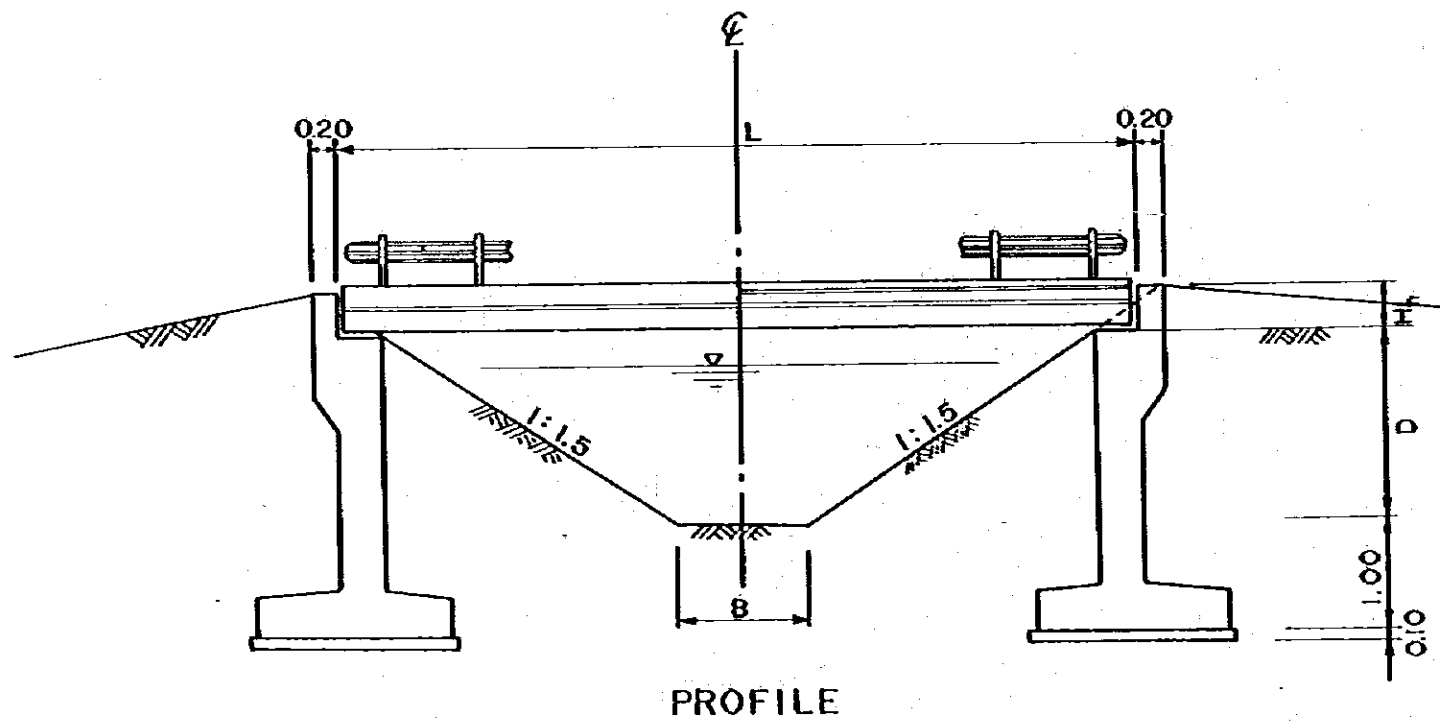
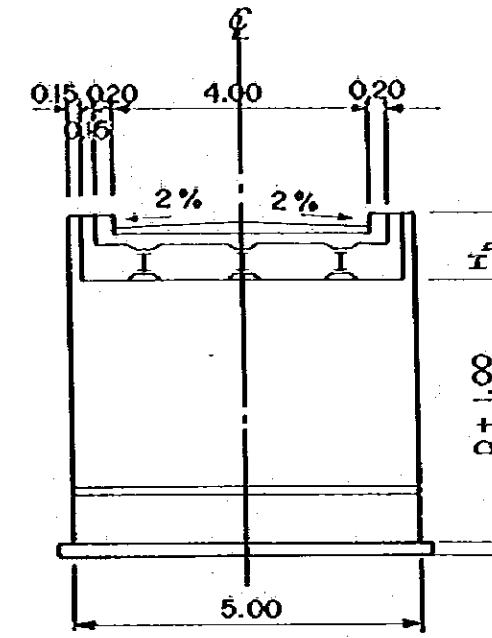
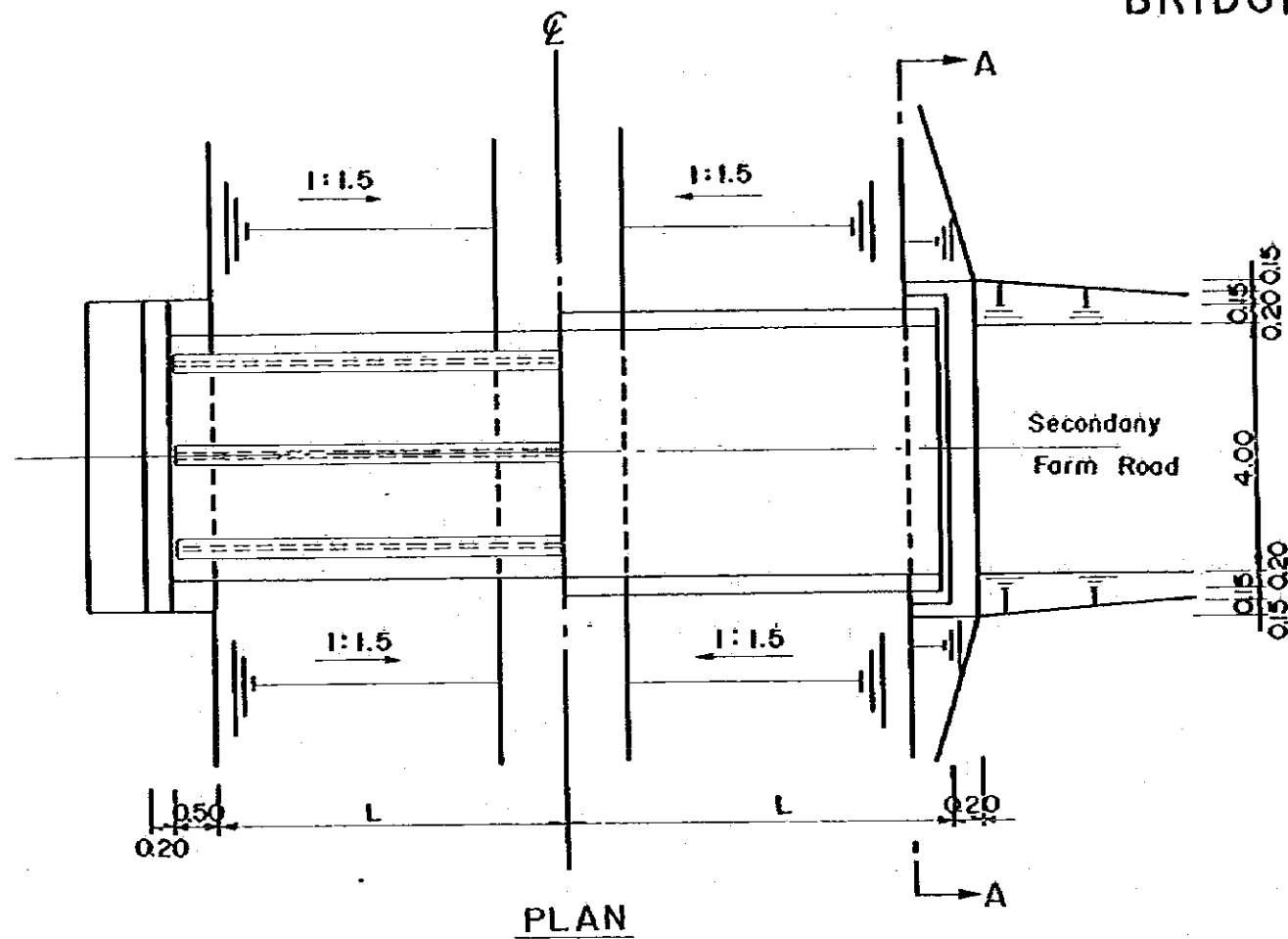
# BRIDGE (1)



DESIGN CRITERIA	
TYPE	SIMPLE COMPOSITE GIRDER
BRIDGE LENGTH	100.00 ^m
GIRDER LENGTH	24.94 x 4 ^m
EFFECTIVE SPAN	24.54 x 4 ^m
BRIDGE WIDTH	7.20 ^m
EFFECTIVE WIDTH	6.00 ^m
LIVE LOAD	1L-20
BRIDGE SURFACE GRADE	2%
SKEW ANGLE	90°00'00"
GIRDER HEIGHT	0.912 ^m

THE REPUBLIC OF COLOMBIA THE PAMPLONITA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT
BRIDGE (1)
JUNE 1981 No. 25
JAPAN INTERNATIONAL COOPERATION AGENCY

# BRIDGE (2)



Canal Type	D	B	L	H _b	Remark
I	3.70	4.00	16.10	1.2	Bridge L=15.0
I'	3.20	4.00	14.60	1.2	- do - L=15.0
II	2.90	3.00	12.70	1.2	- do - L=15.0
III	2.20	3.00	10.60	1.0	- do - L=10.0
IV	1.80	2.00	8.40	1.0	- do - L=10.0
V	1.50	1.00	6.50	0.8	- do - L=7.0
VI	1.00	1.00	5.00	0.8	- do - L=7.0

THE REPUBLIC OF COLOMBIA  
 THE PAMPLONITA RIVER BASIN  
 AGRICULTURAL  
 DEVELOPMENT PROJECT  
 BRIDGE (2)  
 JUNE III M 26  
 JAPAN INTERNATIONAL  
 COOPERATION AGENCY



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