

Figures

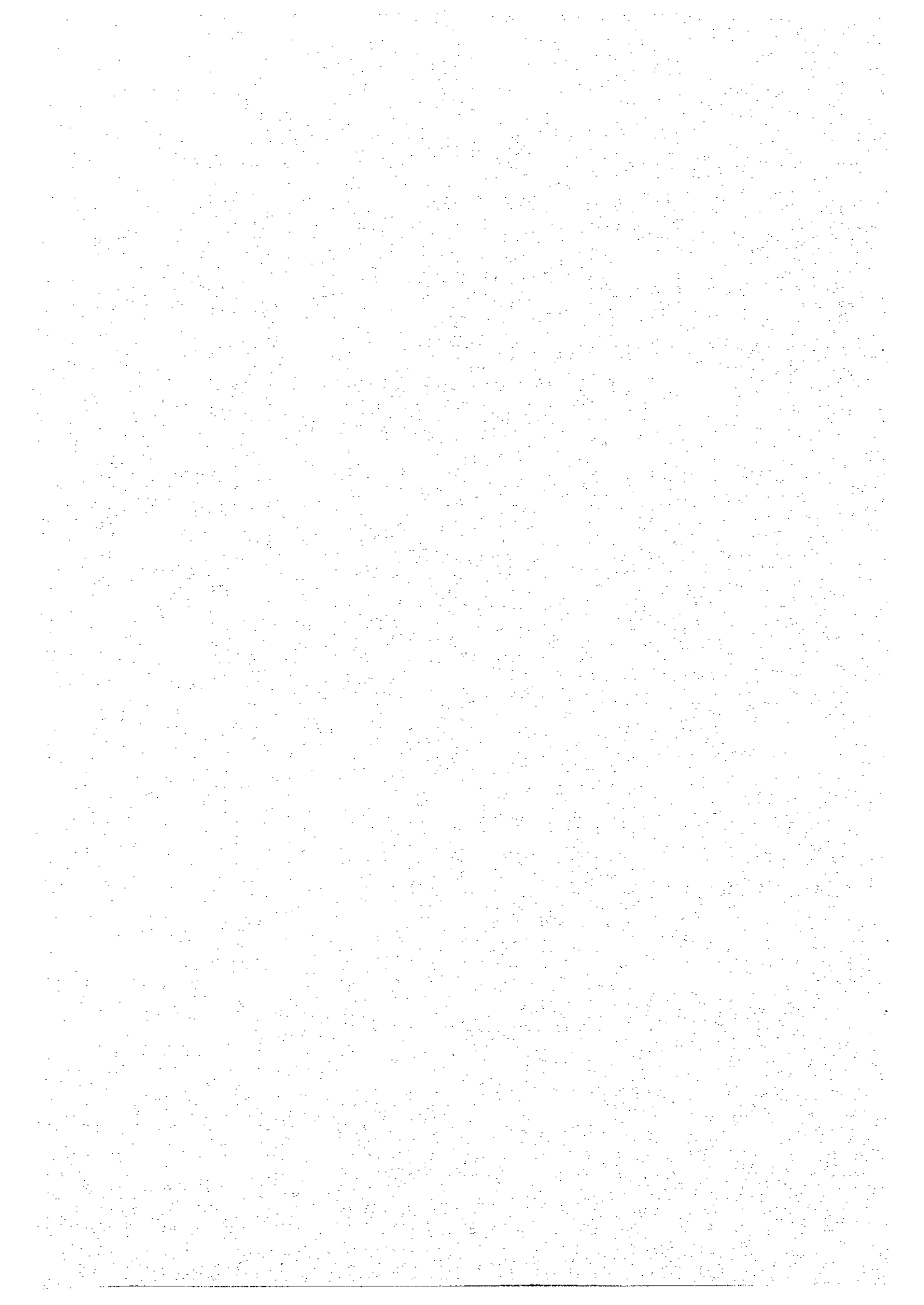
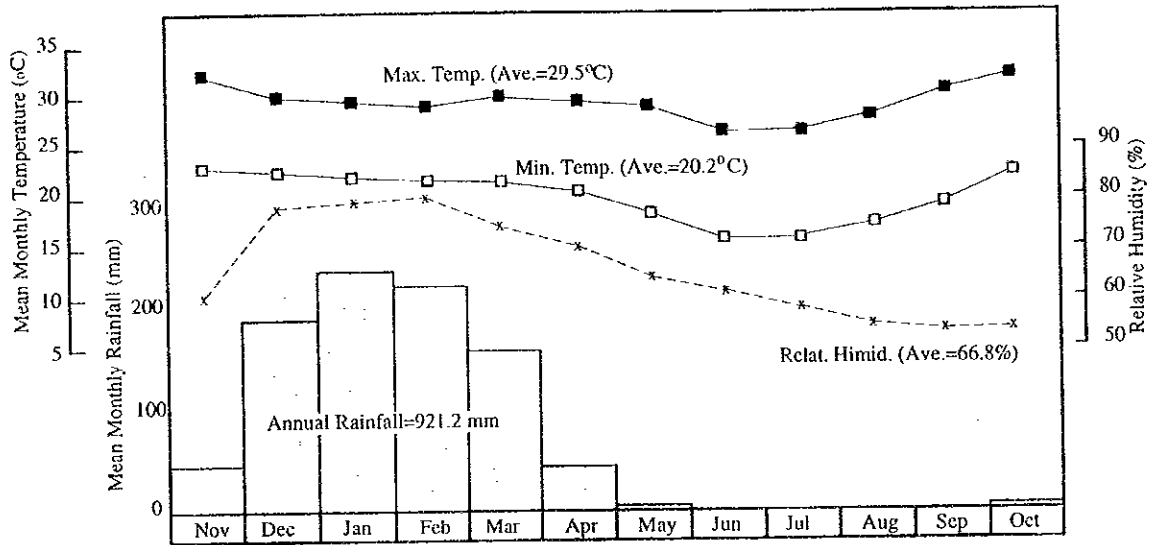


Fig. 2-1 PROPOSED CROPPING PATTERN



Note : Temperature and humidity data are of Monkey Bay Station.
Annual rainfall data are of Mua Mission and Mtakatata Airwing.

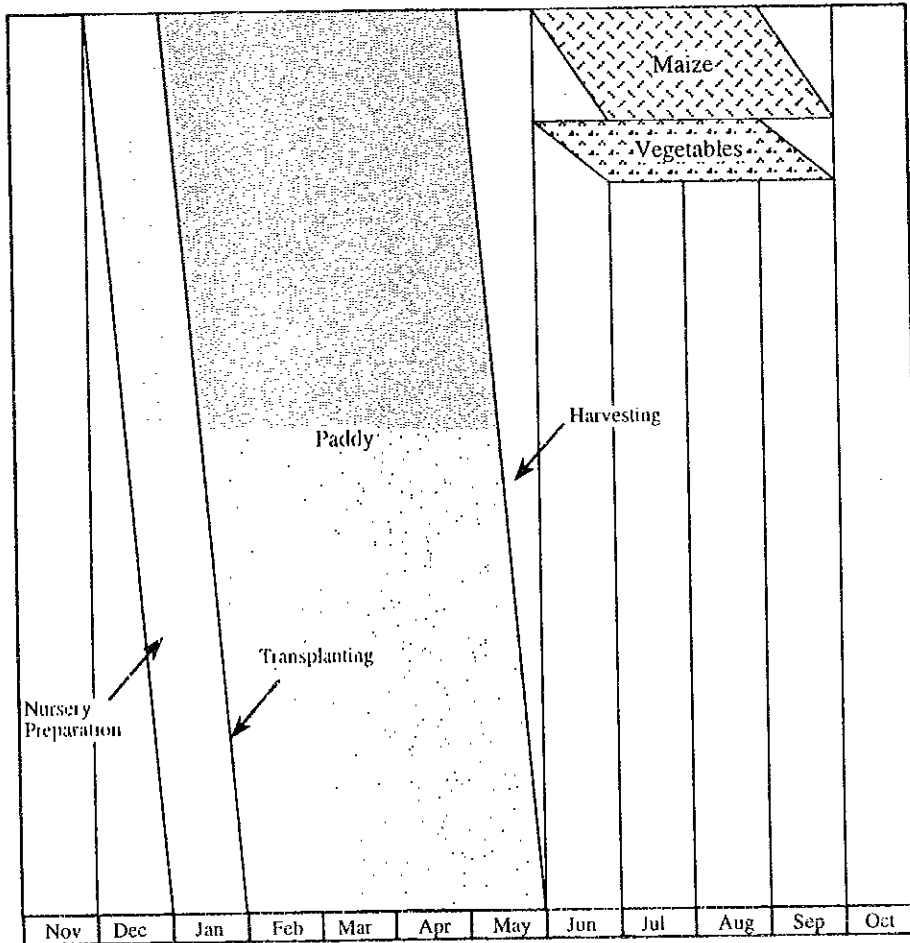


Fig. 2-2 IRRIGABLE AREA

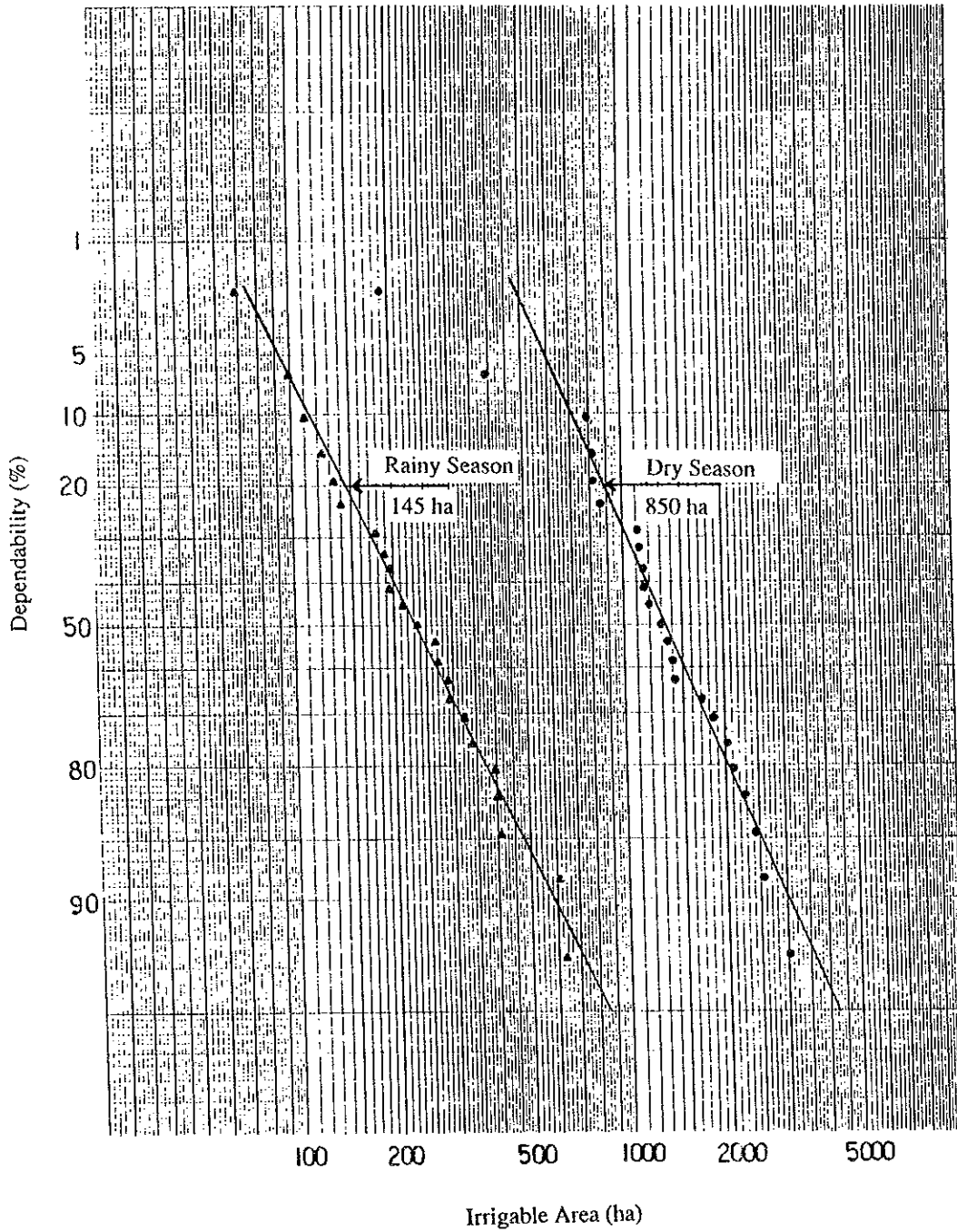


Fig. 2-3 PROBABLE FLOOD DISCHARGE

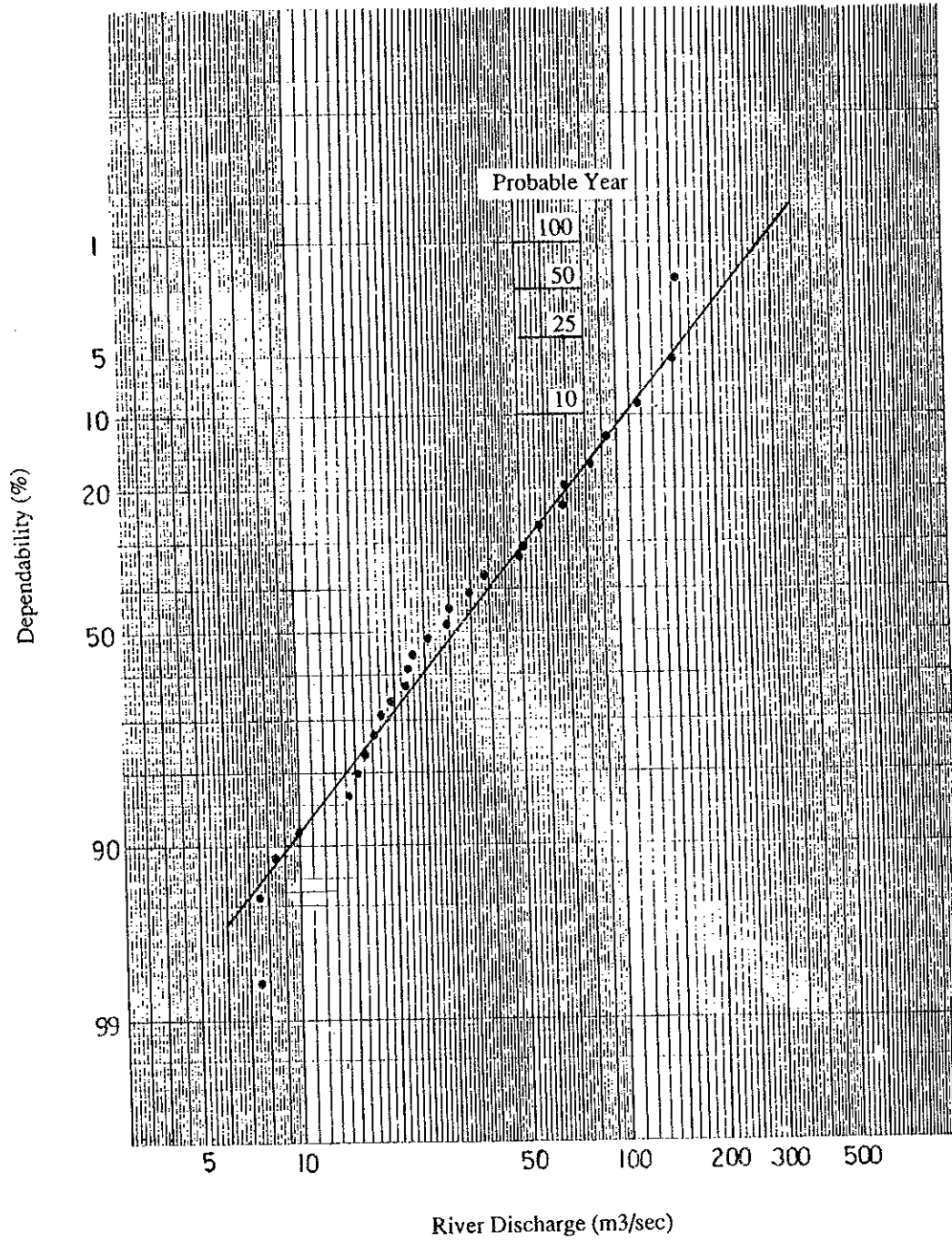


Fig. 3-1 PRESENT ORGANIZATION OF MINISTRY OF IRRIGATION AND WATER DEVELOPMENT

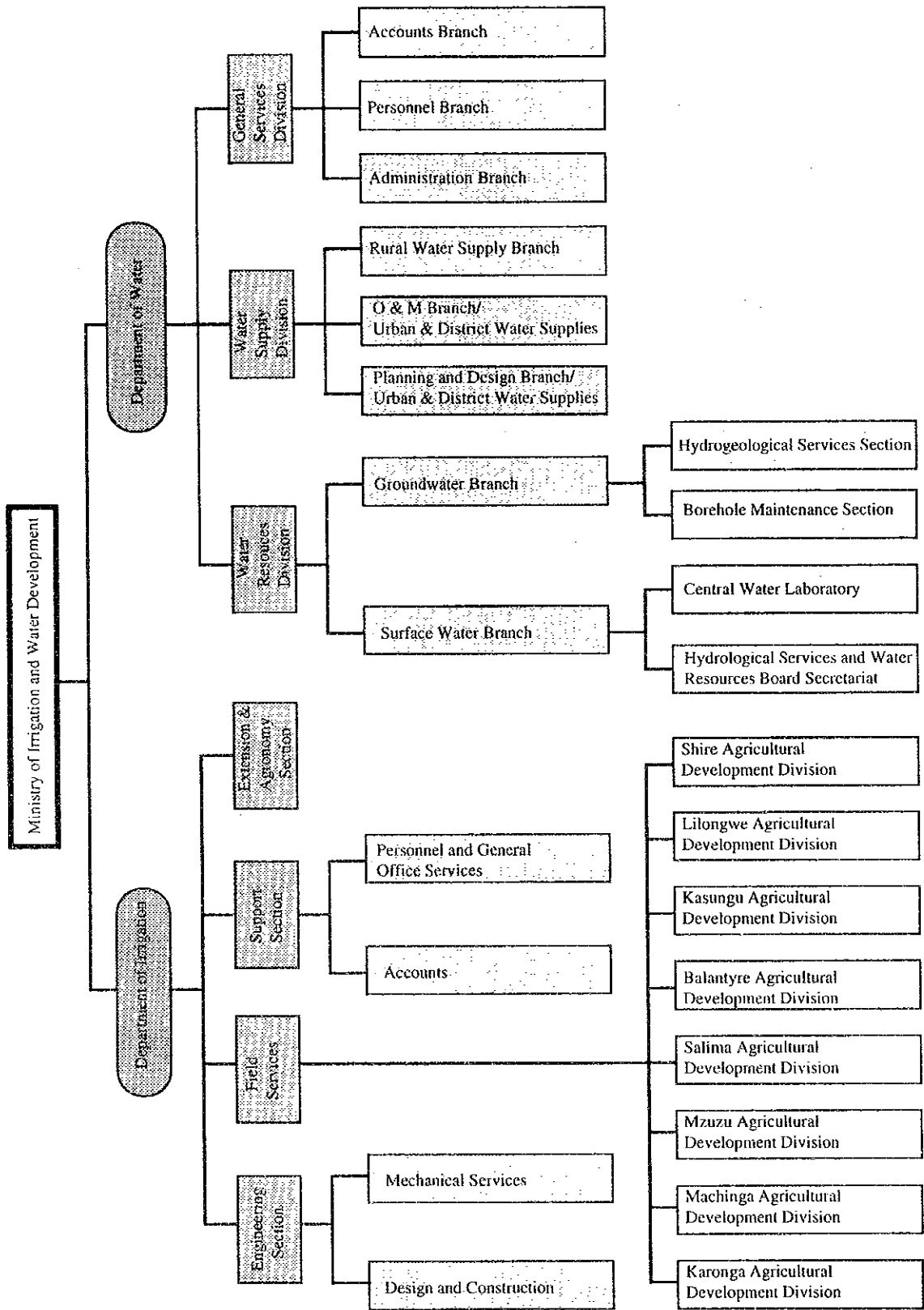


Fig. 3-2 PROPOSED ORGANIZATION OF CONSTRUCTION OFFICE

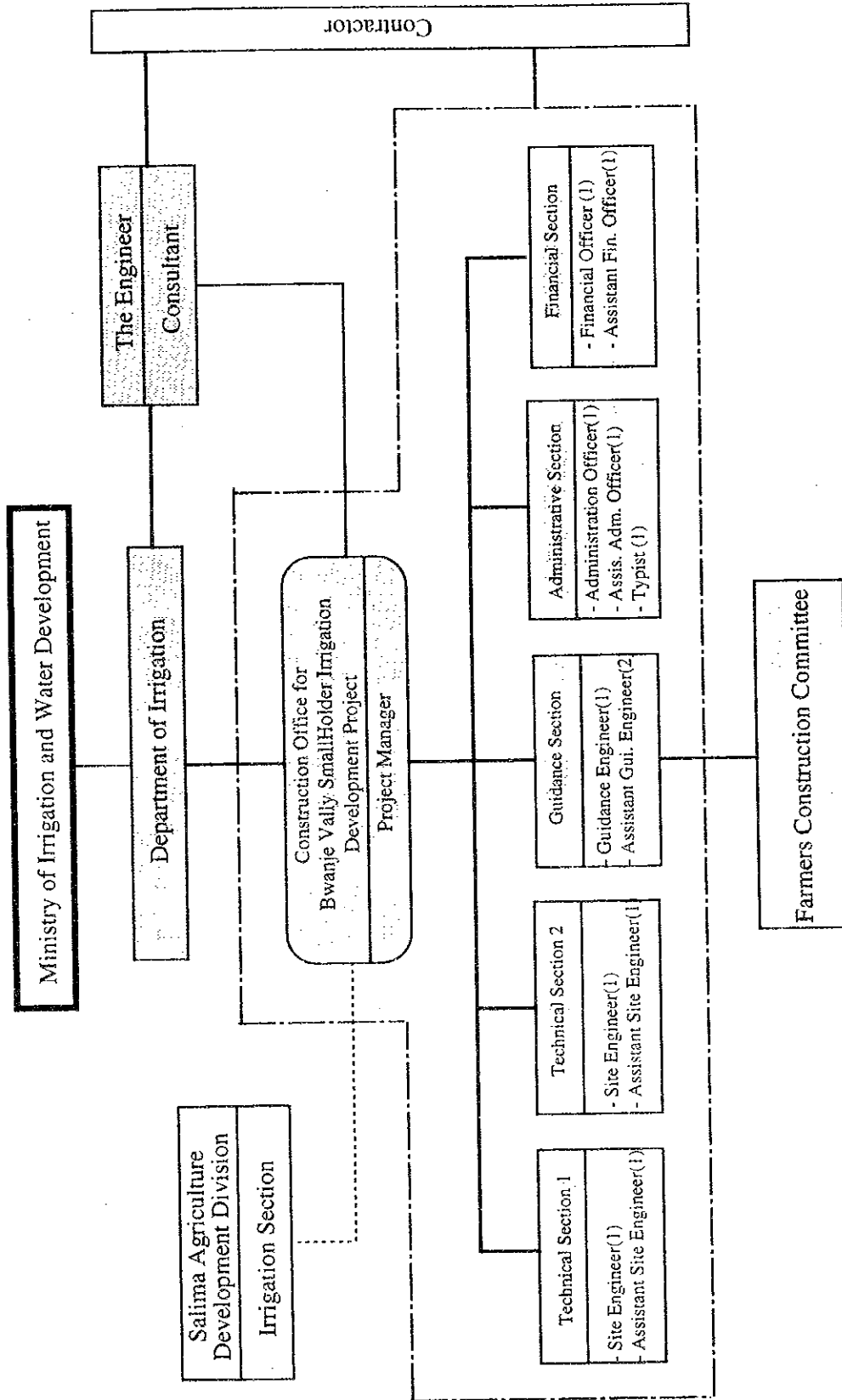


Fig. 3-3 PRESENT FARMERS ORGANIZATION IN MTANDAMULA

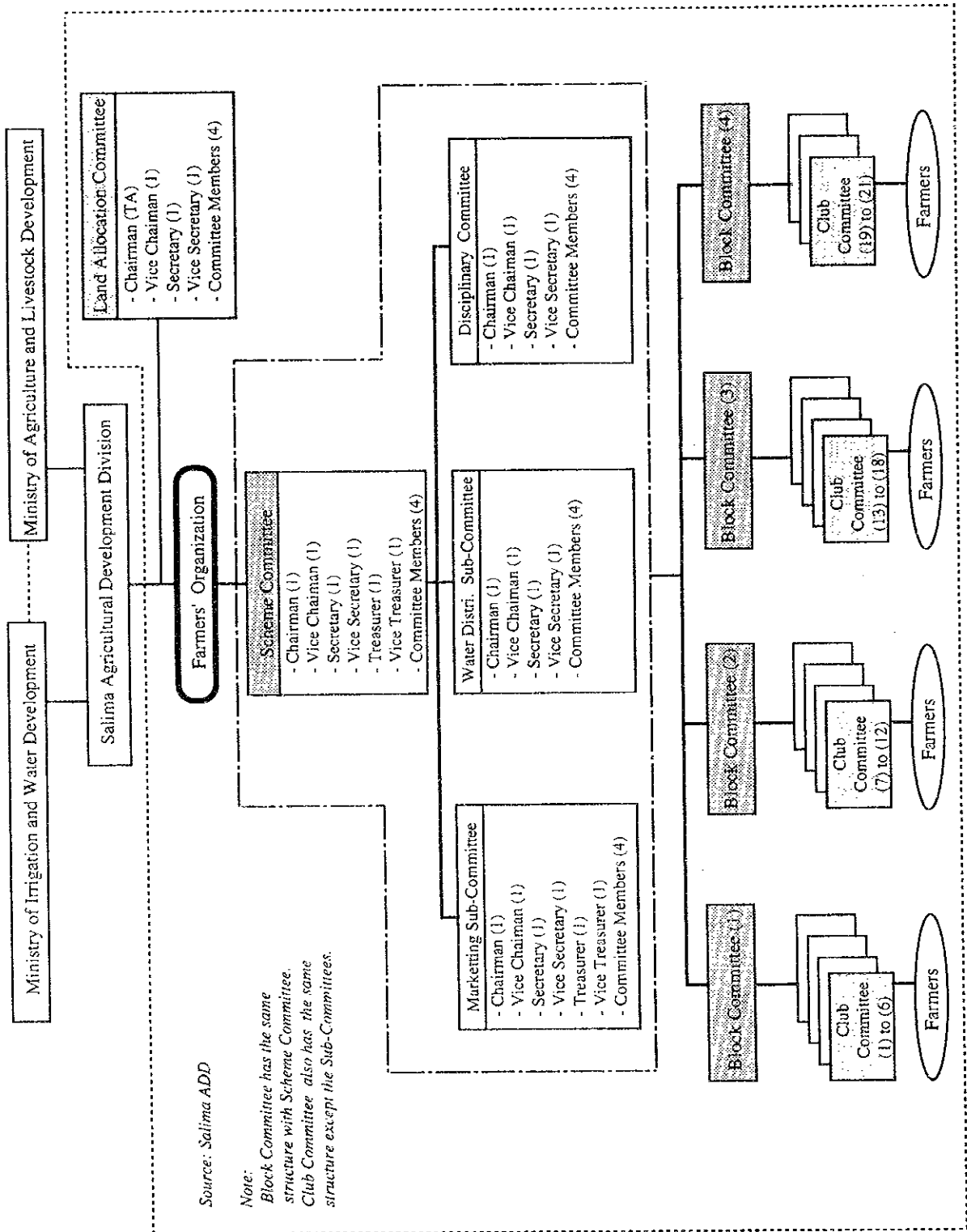


Fig. 3-4 PRESENT ORGANIZATION OF SALIMA ADD

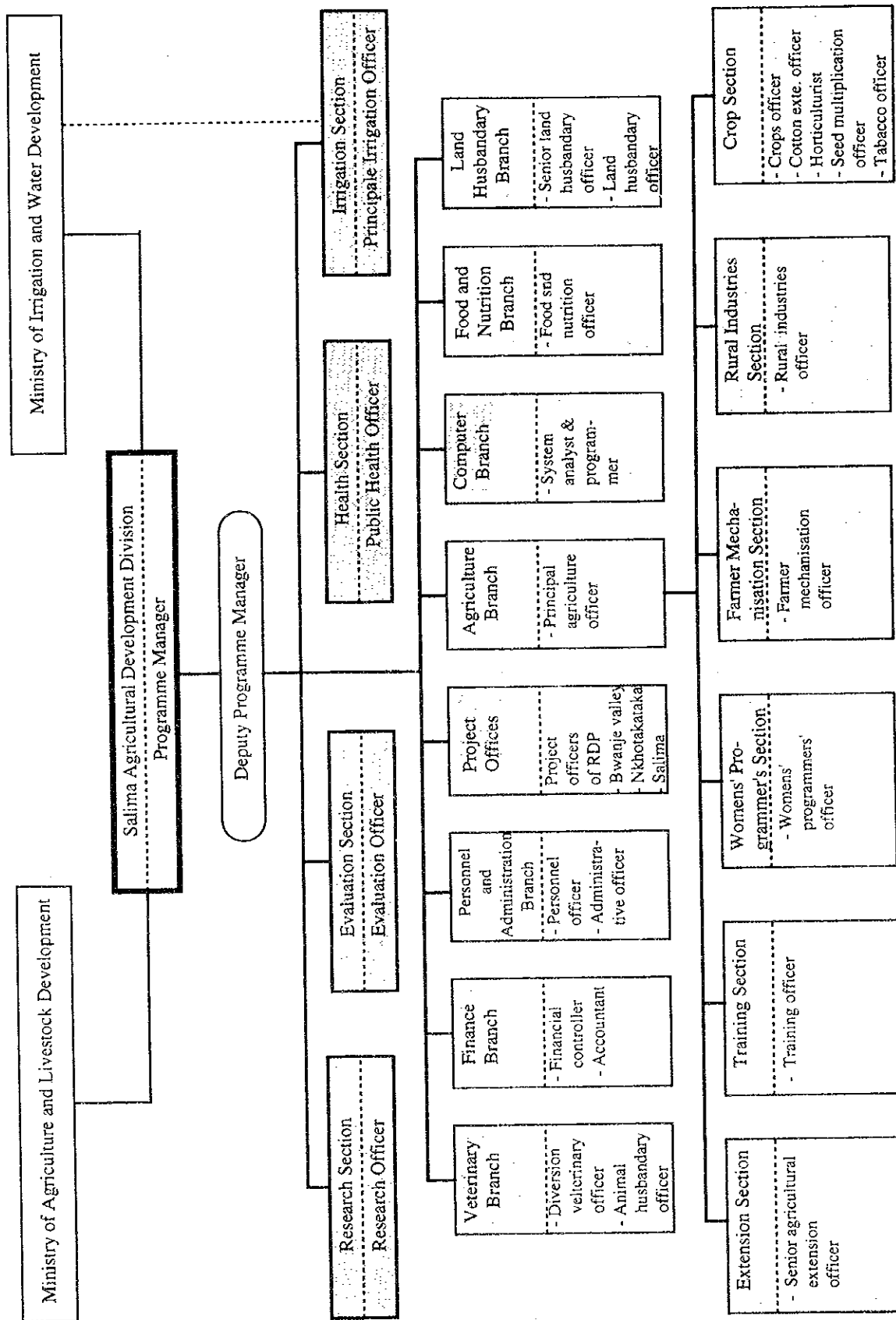


Fig. 3-5 HIERARCHICAL RELATION BETWEEN MIWD (DOI) AND MALID

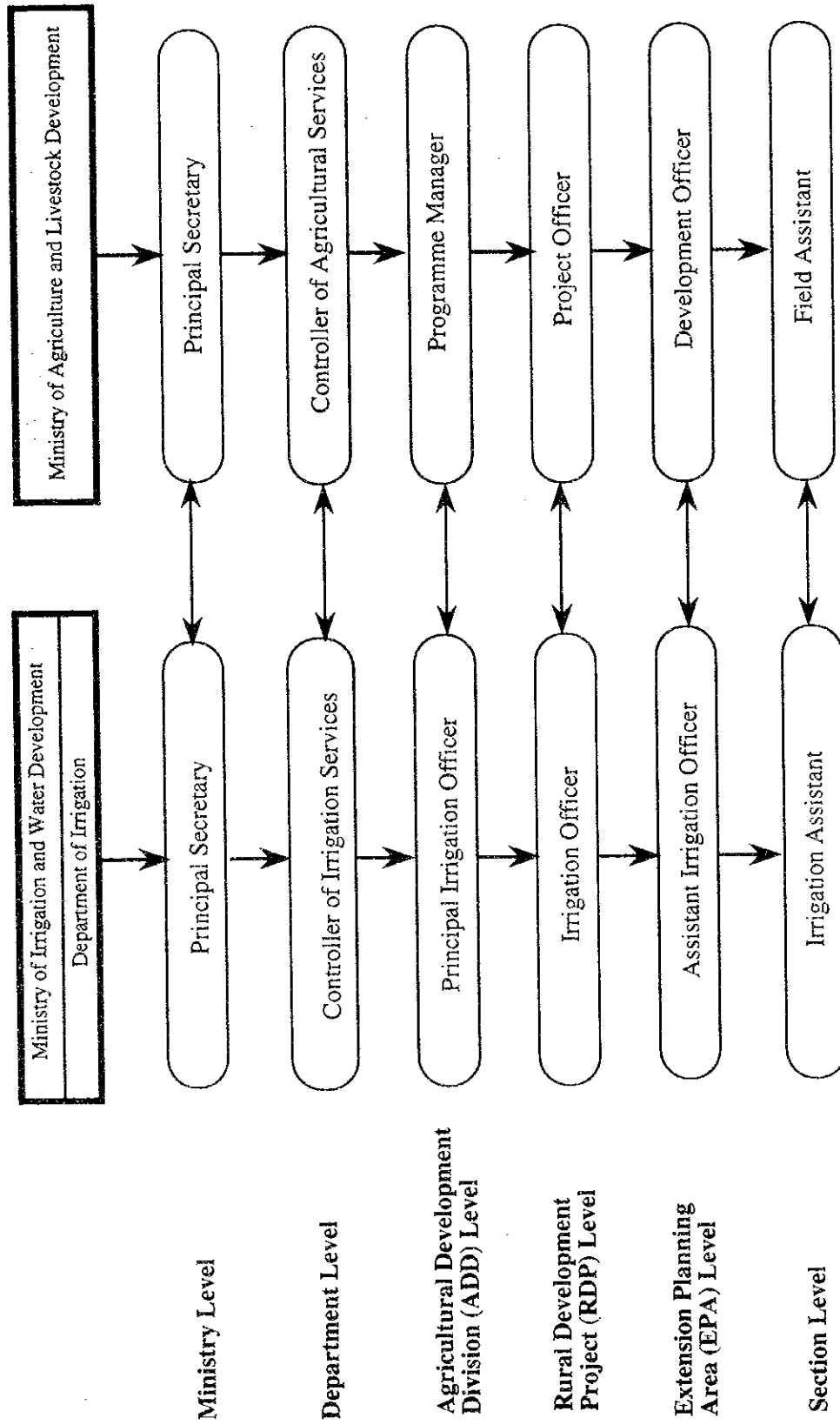


Fig. 3-6 PROPOSED ORGANIZATION OF O & M OFFICE

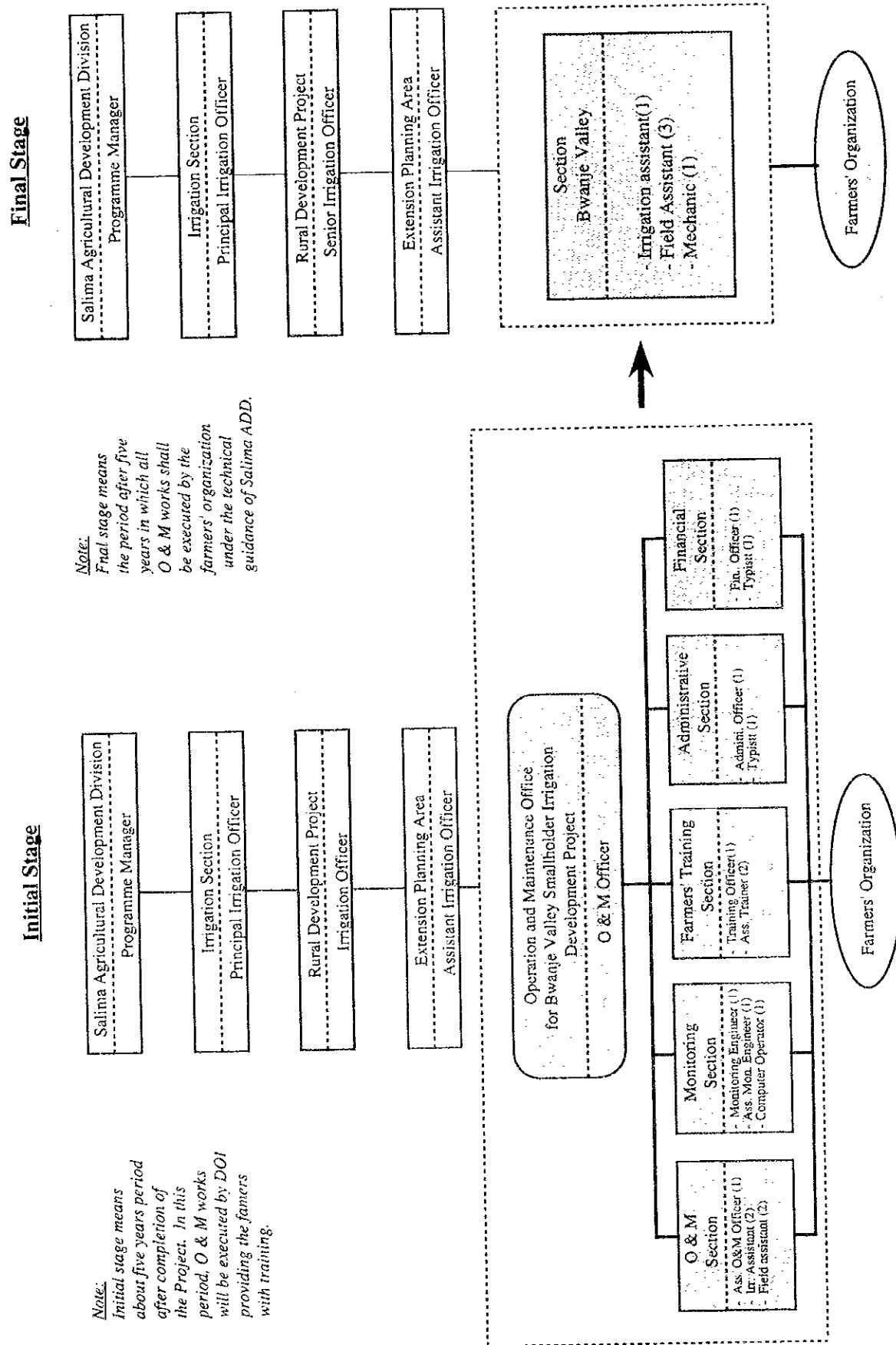
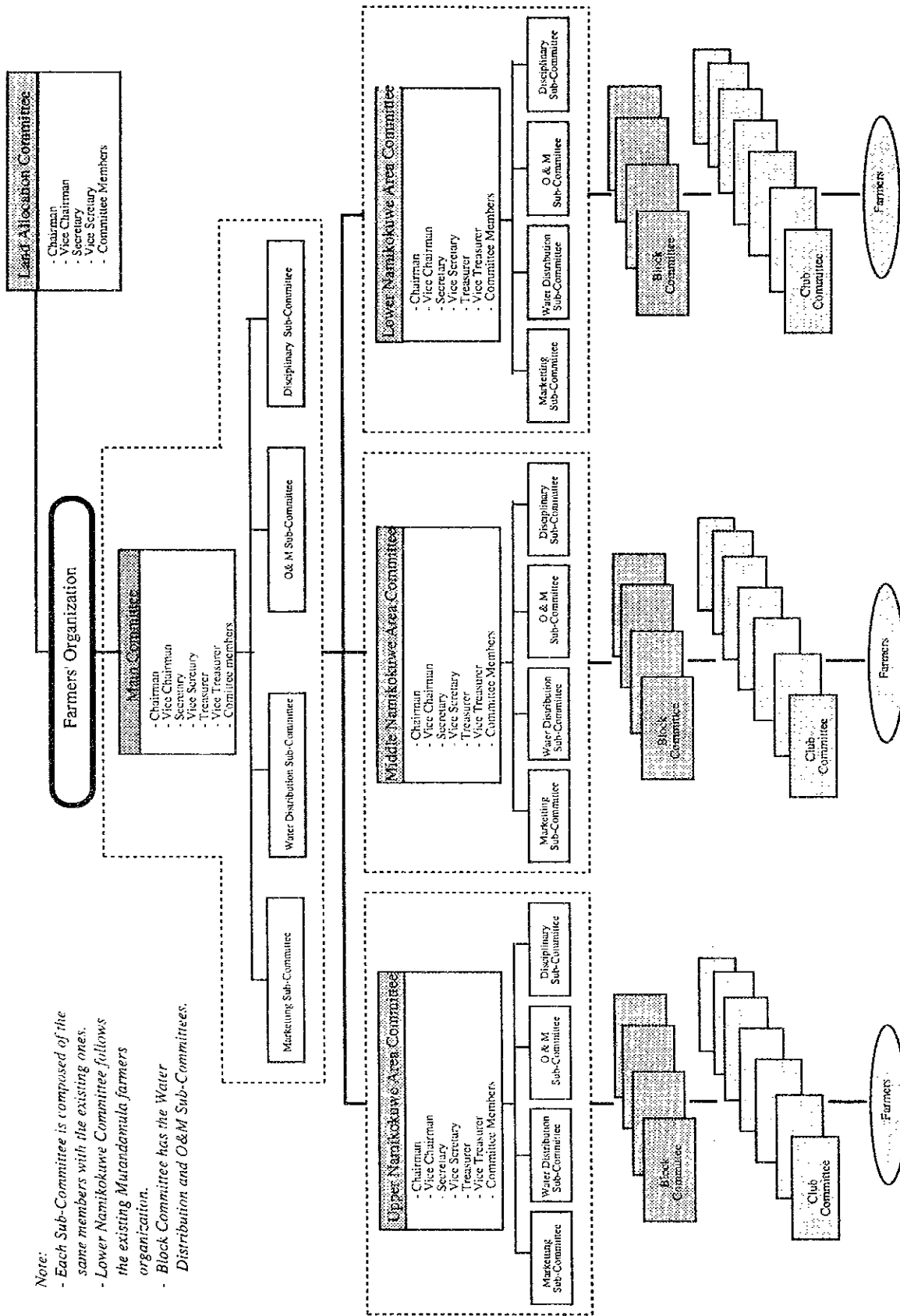


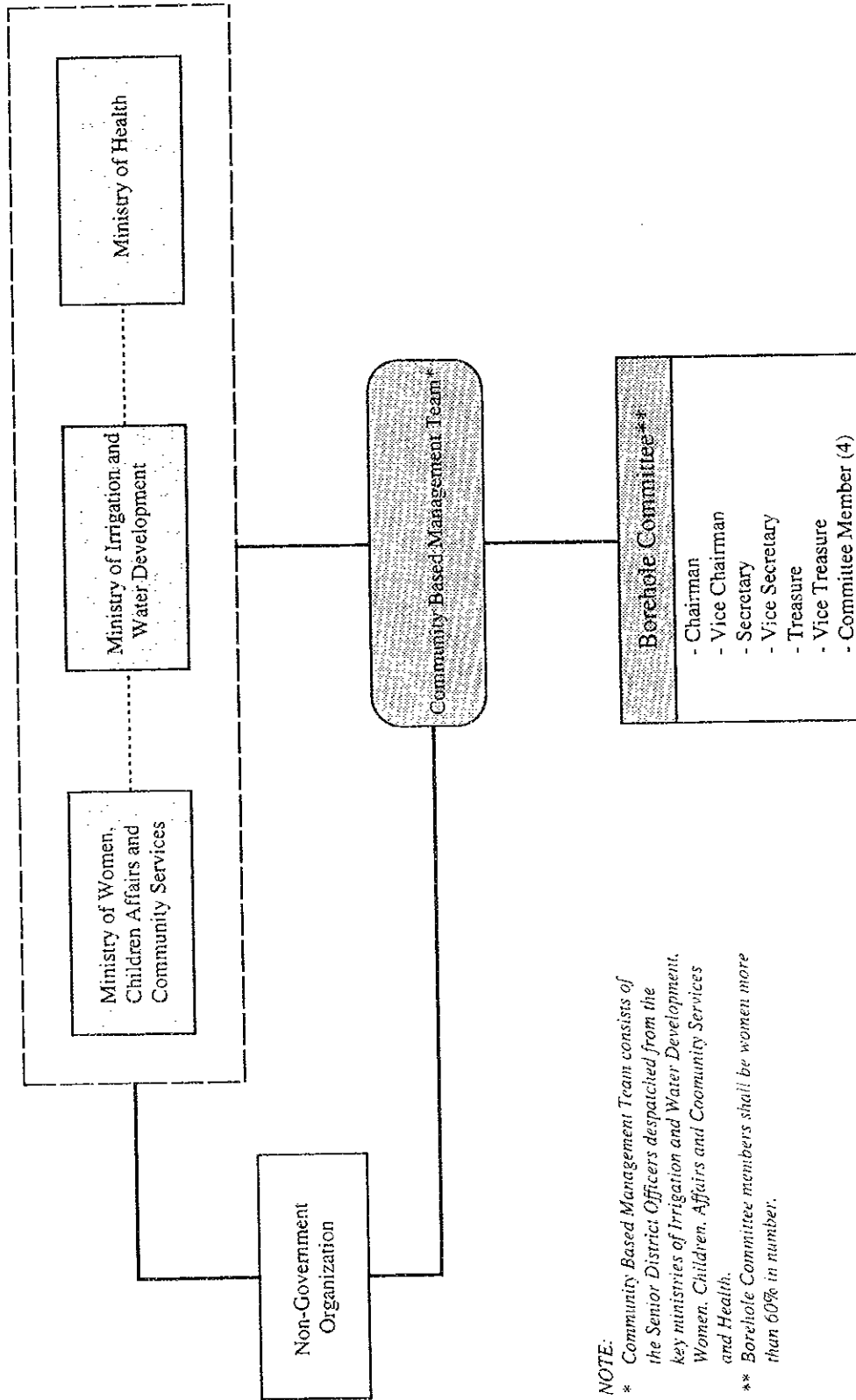
Fig. 3-7 PROPOSED FARMERS ORGANIZATION



Note:

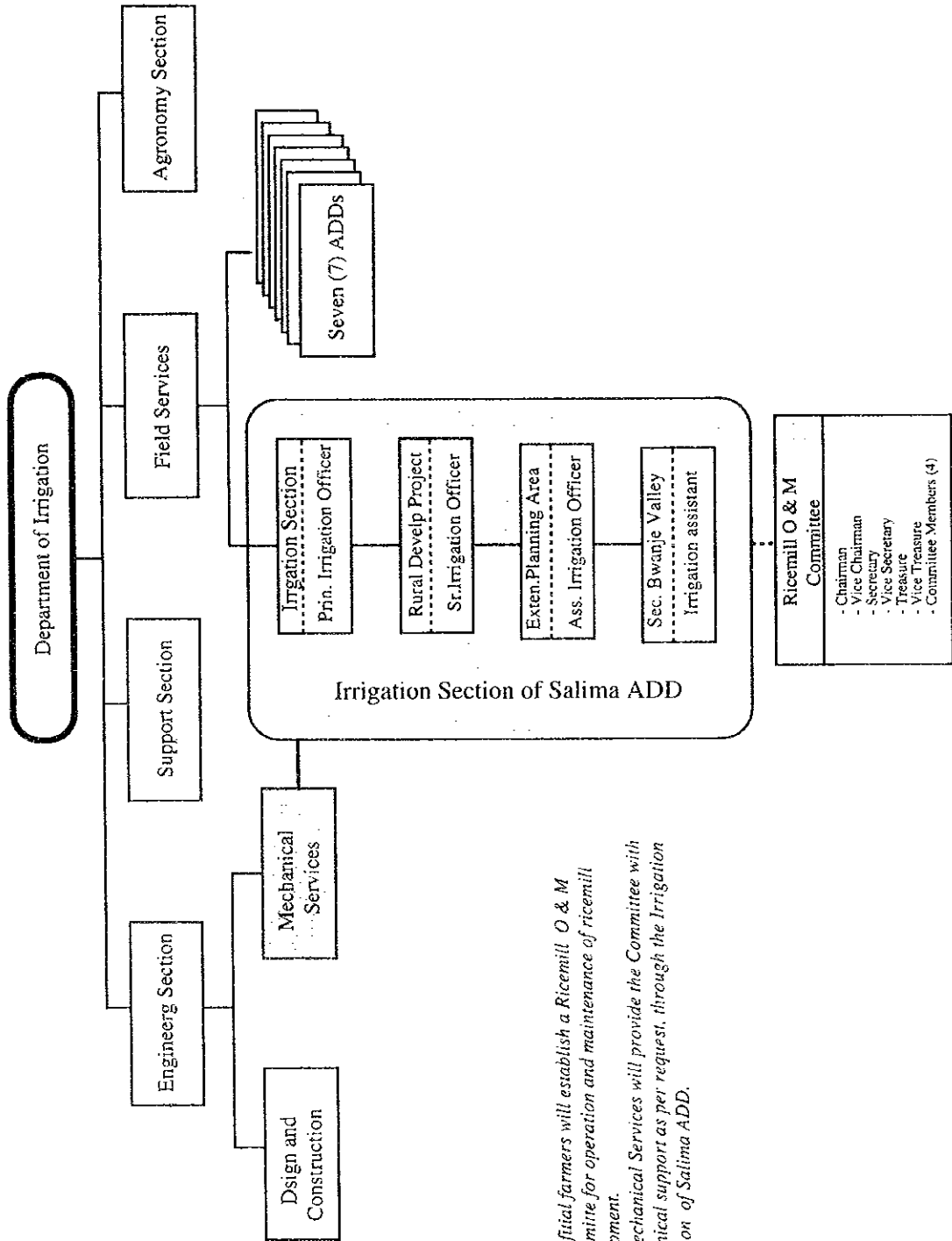
- Each Sub-Committee is composed of the same members with the existing ones.
- Lower Namikokwe Committee follows the existing Mutandamula farmers organization.
- Block Committee has the Water Distribution and O&M Sub-Committees.

Fig. 3-8 PROPOSED ORGANIZATION FOR BOREHOLE COMMITTEE



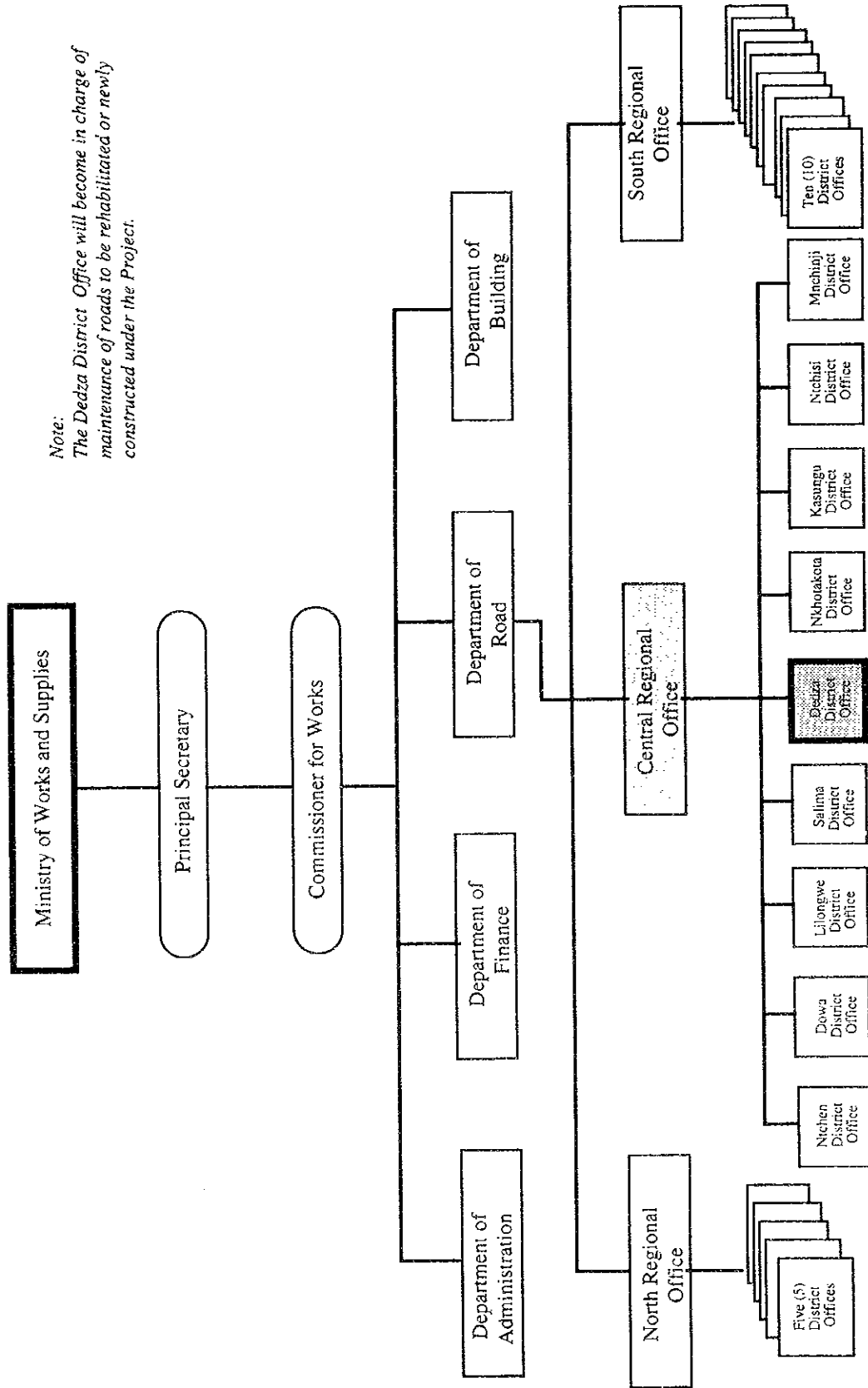
NOTE:
 * Community Based Management Team consists of the Senior District Officers despatched from the key ministries of Irrigation and Water Development, Women, Children, Affairs and Community Services and Health.
 ** Borehole Committee members shall be women more than 60% in number.

Fig. 3-9 PROPOSED ORGANIZATION OF RICE MILL O & M COMMITTEE



- Note:
- Beneficial farmers will establish a Ricemill O & M Committee for operation and maintenance of ricemill equipment.
 - A Mechanical Services will provide the Committee with technical support as per request, through the Irrigation Section of Salima ADD.

Fig. 3-10 ORGANIZATION OF MINISTRY OF WORKS AND SUPPLIES

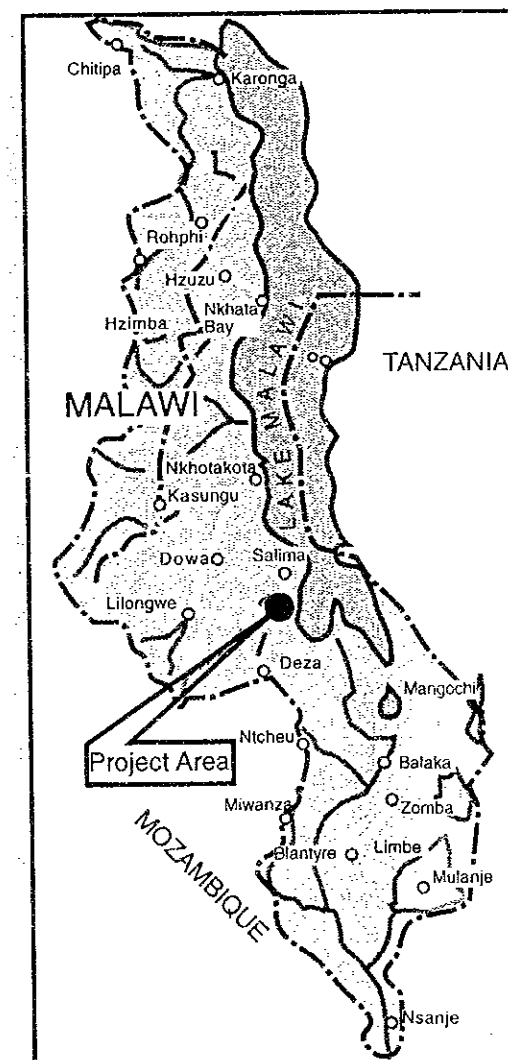
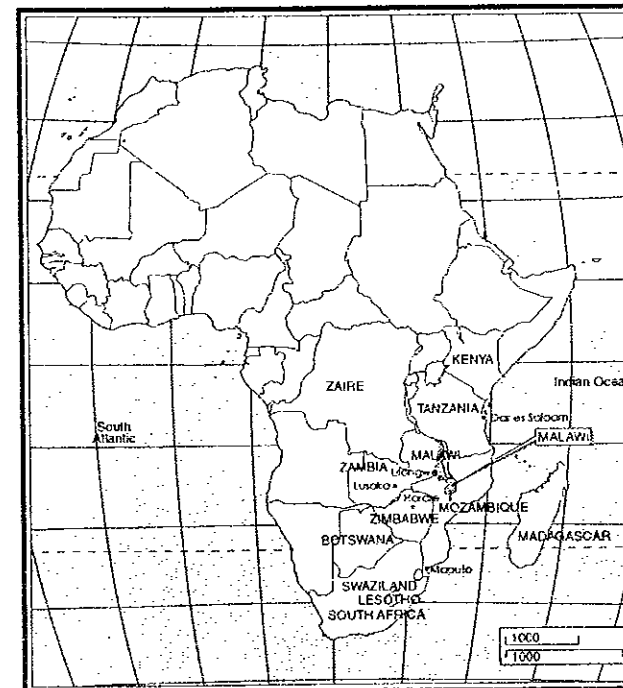
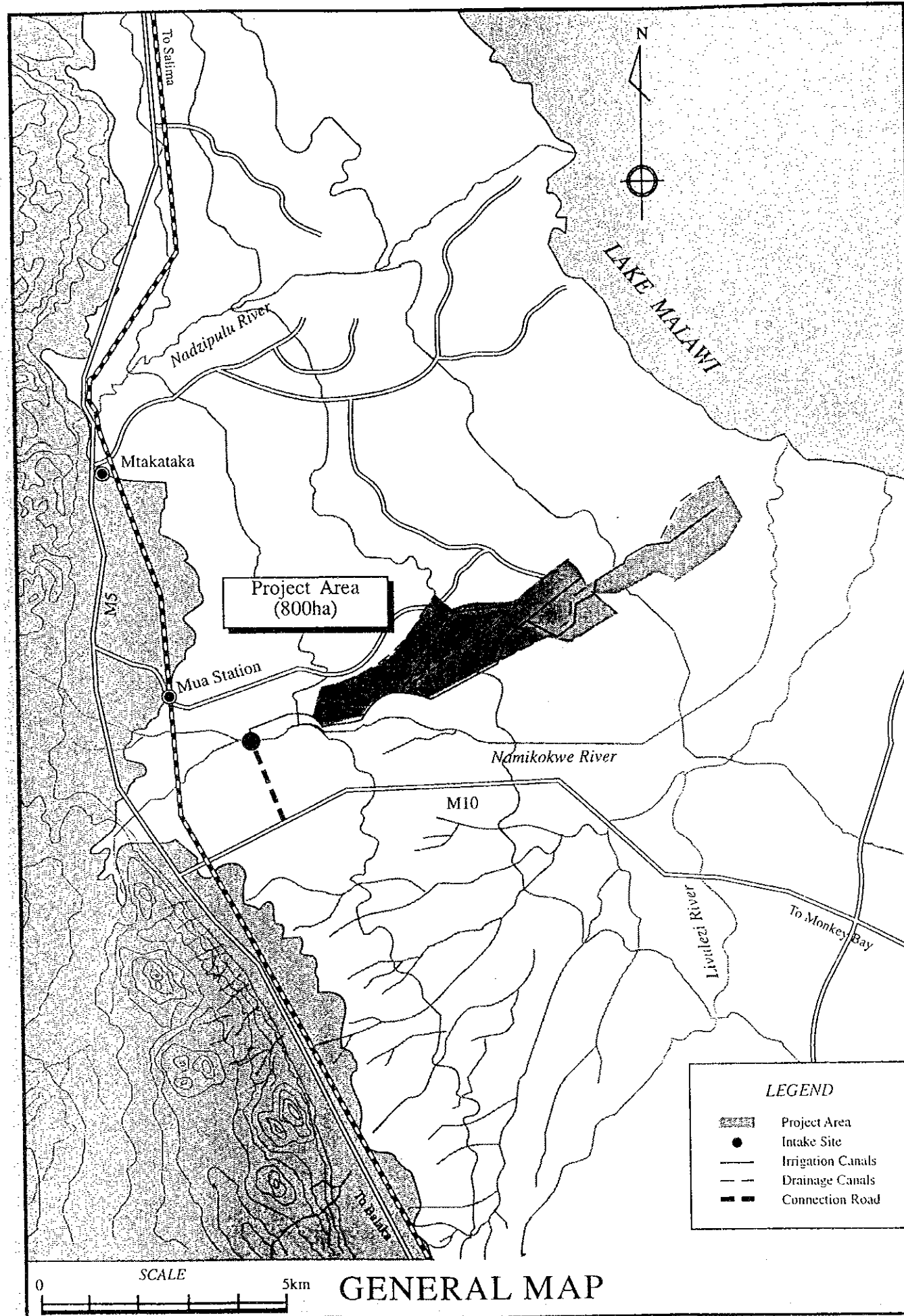


Note:
 The Deas District Office will become in charge of maintenance of roads to be rehabilitated or newly constructed under the Project.

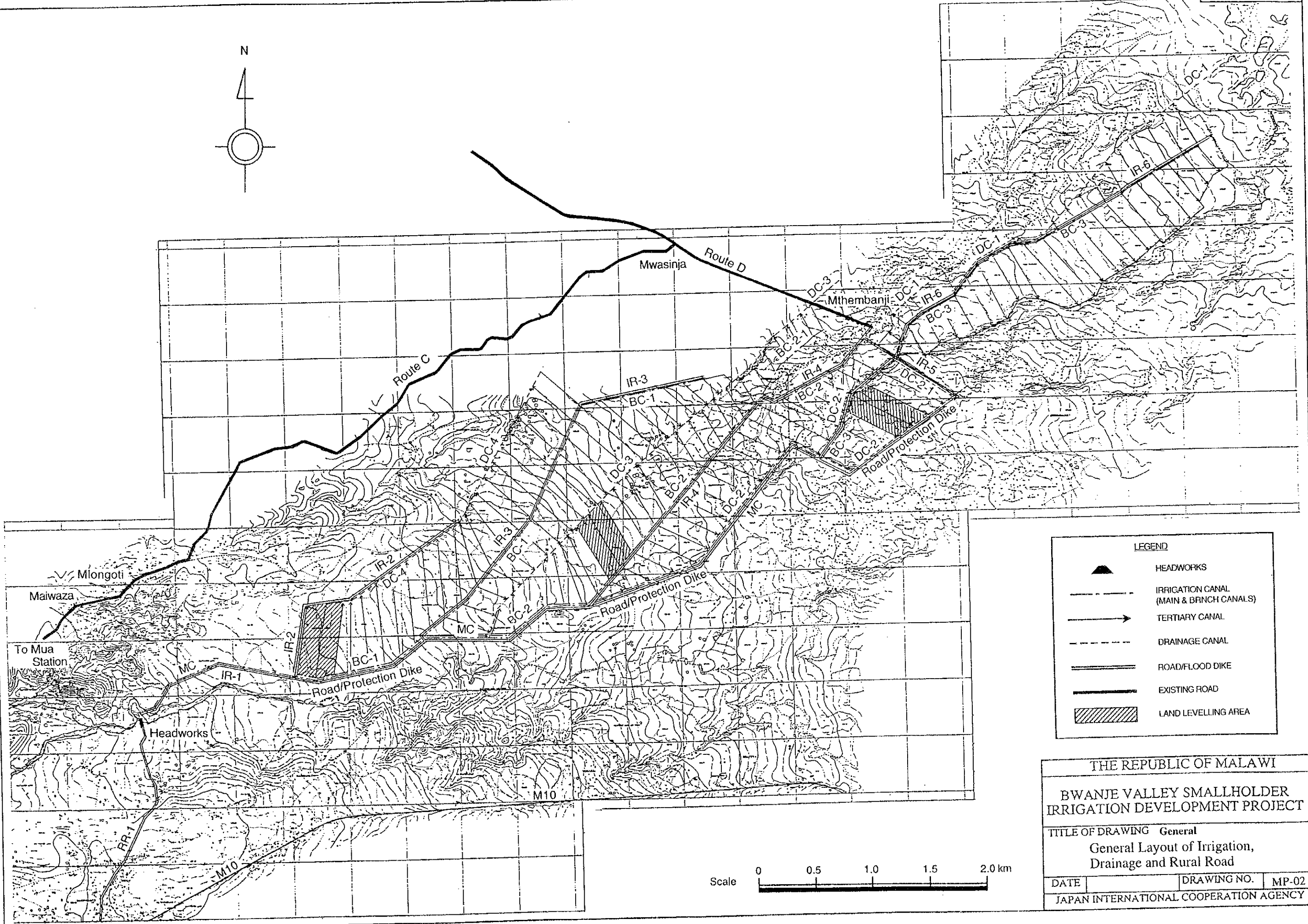
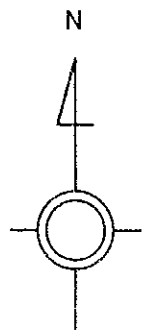
Basic Design Drawings

List of Basic Design Drawings


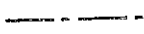


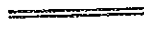


No.	Dwg. No.	Title of Drawing	
General			
1	MP-01	Location Map	
2	MP-02	General Layout of Irrigation, Drainage and Rural Road	
3	MP-03	Location Map for Rural Water Supply System and Post Harvest Facilities	
Headworks			
4	HW-01	Plan and Profile	
5	HW-02	Plan	
6	HW-02	Structural Plan	(1/2)
7	HW-02	Structural Plan	(2/2)
8	HW-02	Control House, Elevation	
Irrigation and Drainage Facilities			
9	ID-01	Irrigation Flow Diagram	
10	ID-02	Drainage Flow Diagram	
11	ID-3	Typical Cross Section	
12	ID-4	Longitudinal Profile	Main Canal (1/3)
13	ID-5		Main Canal (2/3)
14	ID-6		Main Canal (3/3)
15	ID-7		Branch Canal - 1 (1/2)
16	ID-8		Branch Canal - 1 (2/2)
17	ID-9		Branch Canal - 2 (1/2)
18	ID-10		Branch Canal - 2 (2/2)
19	ID-11		Branch Canal - 2 - 1
20	ID-12		Branch Canal - 3 (1/2)
21	ID-13		Branch Canal - 3 (2/2)
22	ID-14	Longitudinal Profile	Drainage Canal - 1
23	ID-15		Drainage Canal - 1 (2/2)
24	ID-16		Drainage Canal - 2 (1/2)
25	ID-17		Drainage Canal - 2 (2/2)
26	ID-18		Drainage Canal - 2-1
27	ID-19		Drainage Canal - 3 (1/2)
28	ID-20		Drainage Canal - 3 (2/2)
29	ID-21		Drainage Canal - 4 (1/2)
30	ID-22		Drainage Canal - 4 (2/2)
31	ID-23		Flood Dike (1/3)
32	ID-24		Flood Dike (2/3)
33	ID-25		Flood Dike (3/3)
34	ID-26	Bifurcation	
35	ID-27	Turnout	
36	ID-28	Irrigation Drop and Culvert	
37	ID-29	Cross Drain and Drainage Culvert	
38	ID-30	Drainage Drop	
39	ID-31	Foot Path Bridge	
40	ID-32	On-Farm Facilities	
Rural Road			
41	RR-01	Typical Cross Section and Causeway	
42	RR-02	Longitudinal Profile	RR-1
Rural Water Supply			
43	RW-01	Typical Section of Borehole and Related Structures	
Post Harvest Facility			
44	PH-01	Riccmill House	



THE REPUBLIC OF MALAWI	
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT	
TITLE OF DRAWING	
General Location Map	
DATE	DRAWING NO.
JAPAN INTERNATIONAL COOPERATION AGENCY	



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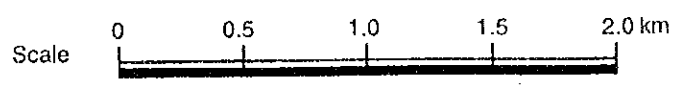
-  HEADWORKS
-  IRRIGATION CANAL (MAIN & BRINCH CANALS)
-  TERTIARY CANAL
-  DRAINAGE CANAL
-  ROAD/FLOOD DIKE
-  EXISTING ROAD
-  LAND LEVELLING AREA

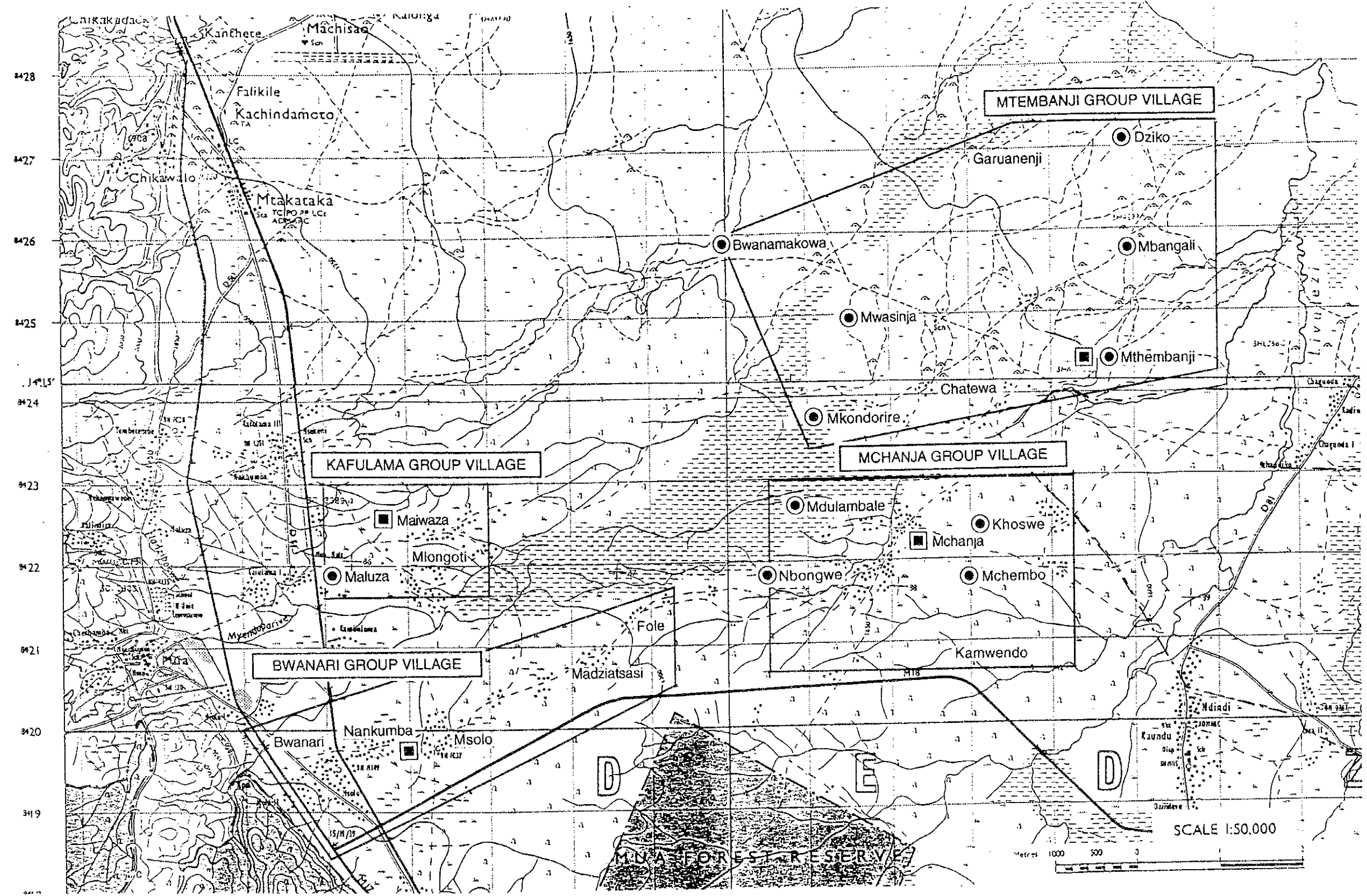
THE REPUBLIC OF MALAWI

BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING General
General Layout of Irrigation, Drainage and Rural Road

DATE	DRAWING NO.	MP-02
JAPAN INTERNATIONAL COOPERATION AGENCY		

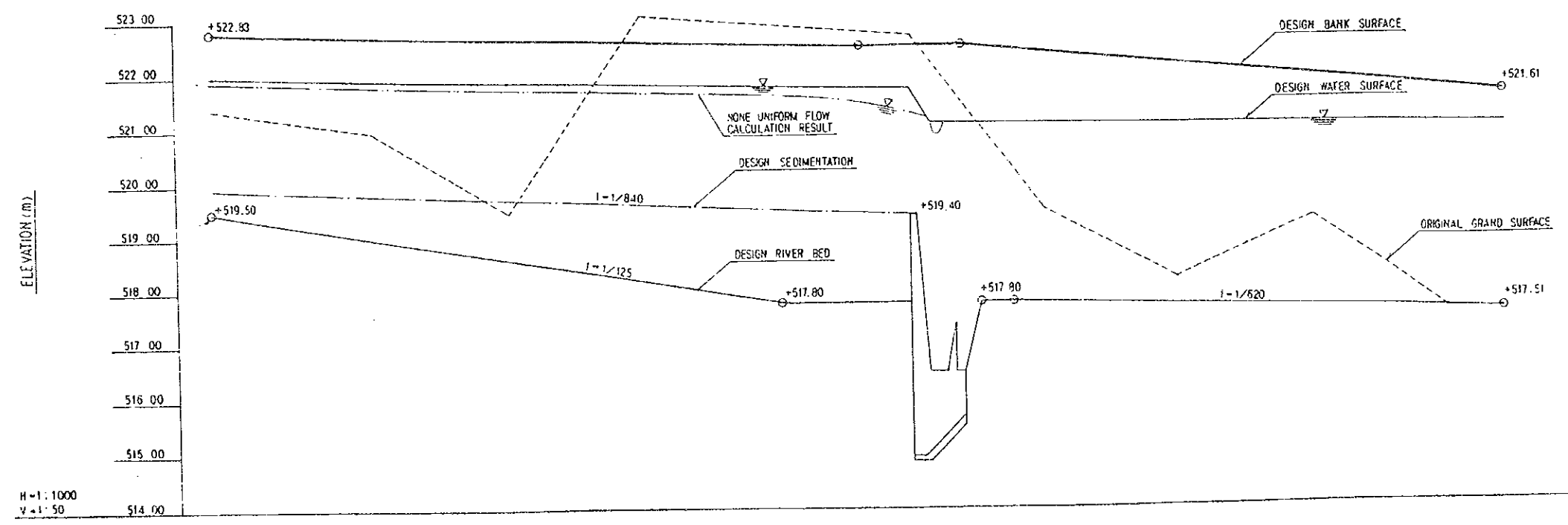
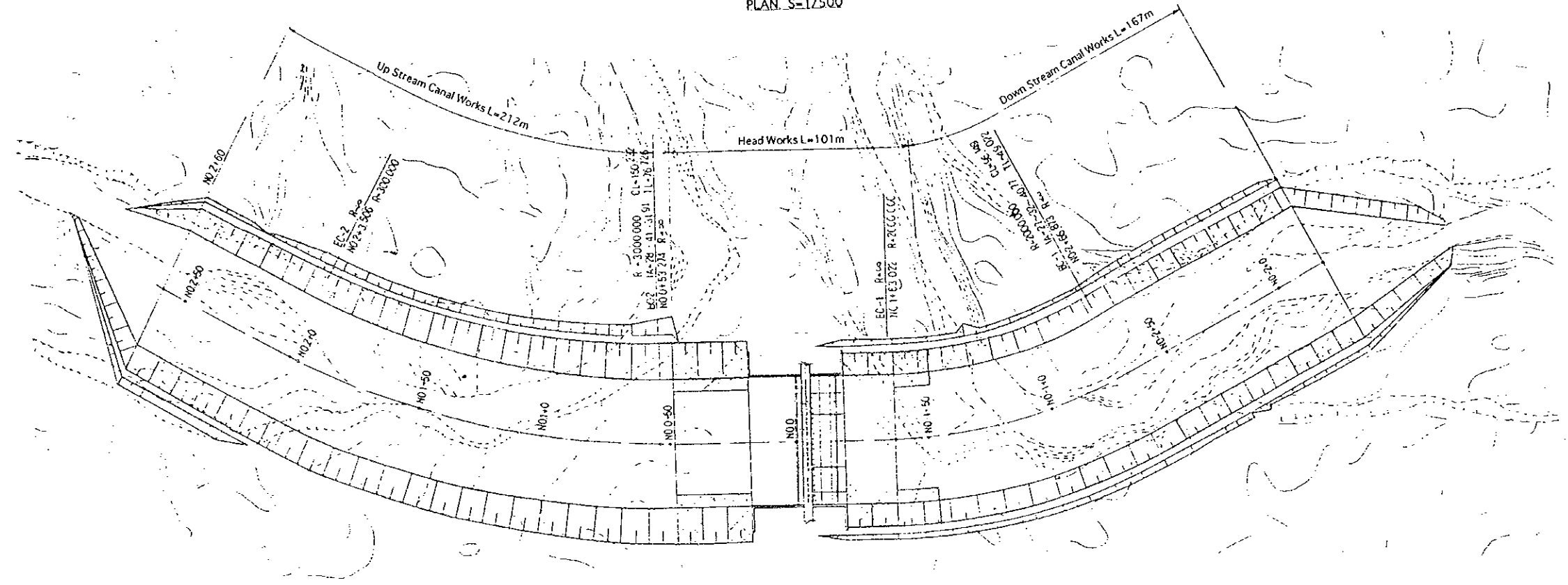




- LEGEND**
- Borehole with hand pump is to be installed.
 - Rice and maize mills are to be installed.

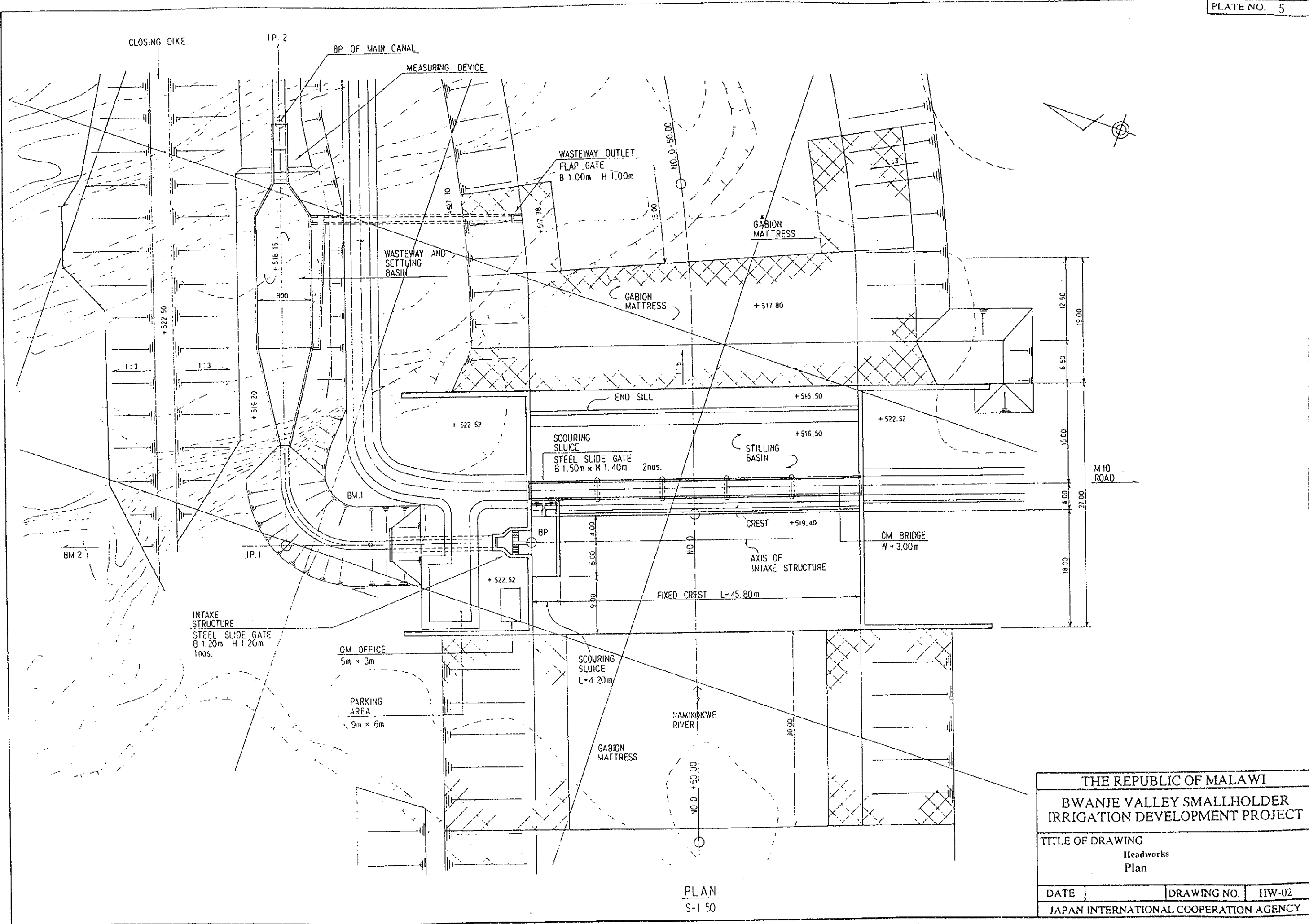
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JAPAN INTERNATIONAL COOPERATION AGENCY		

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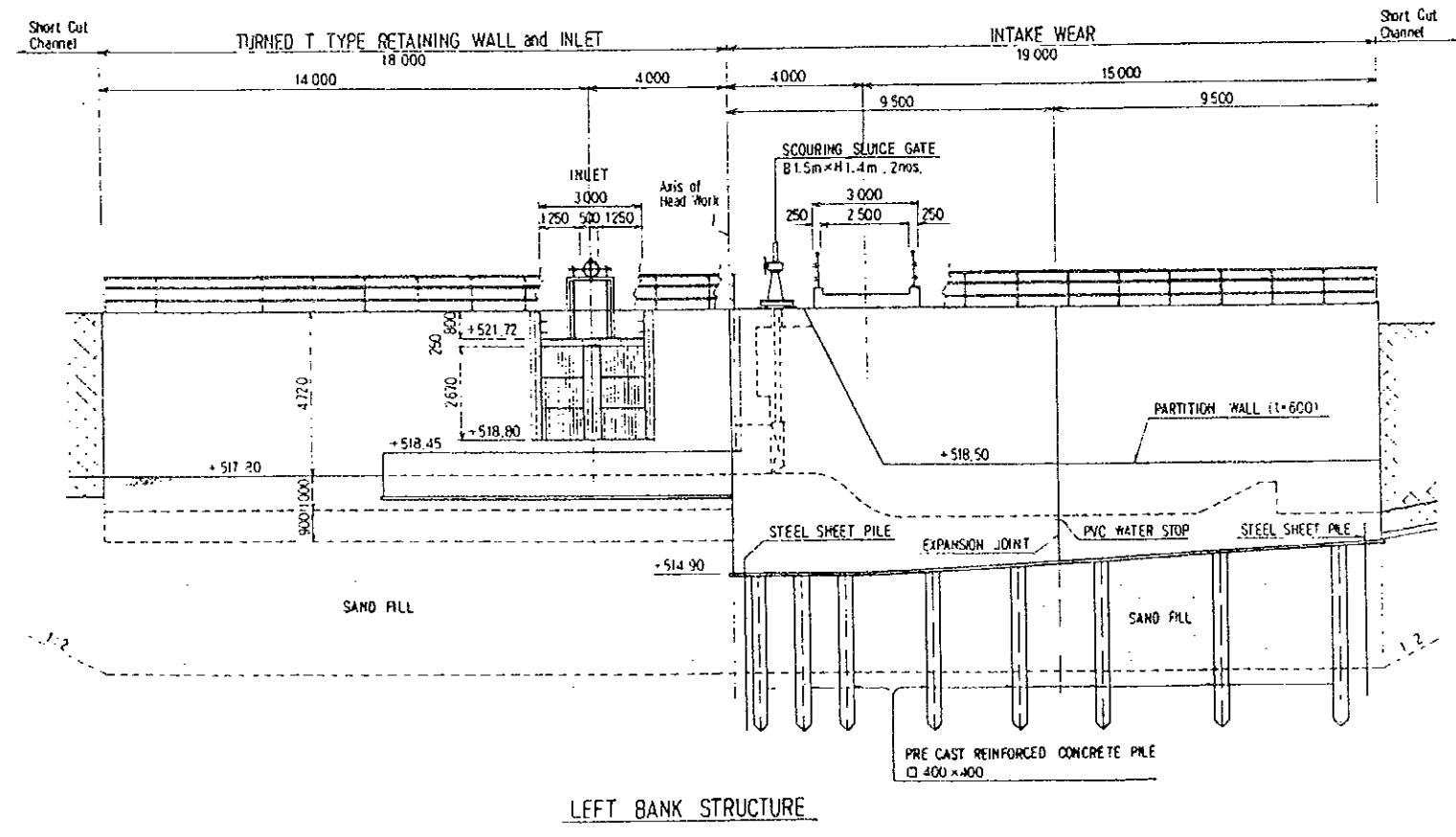
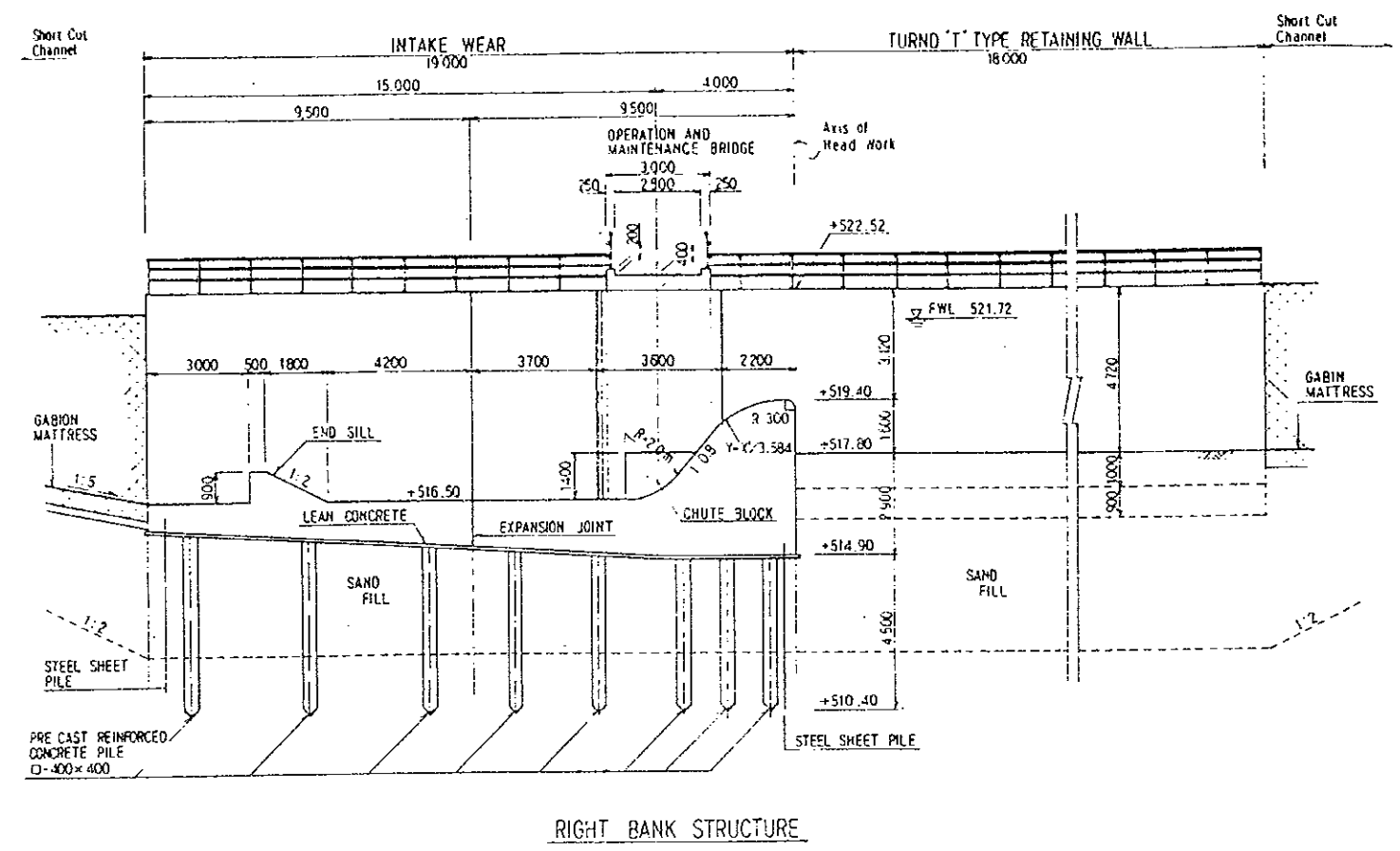
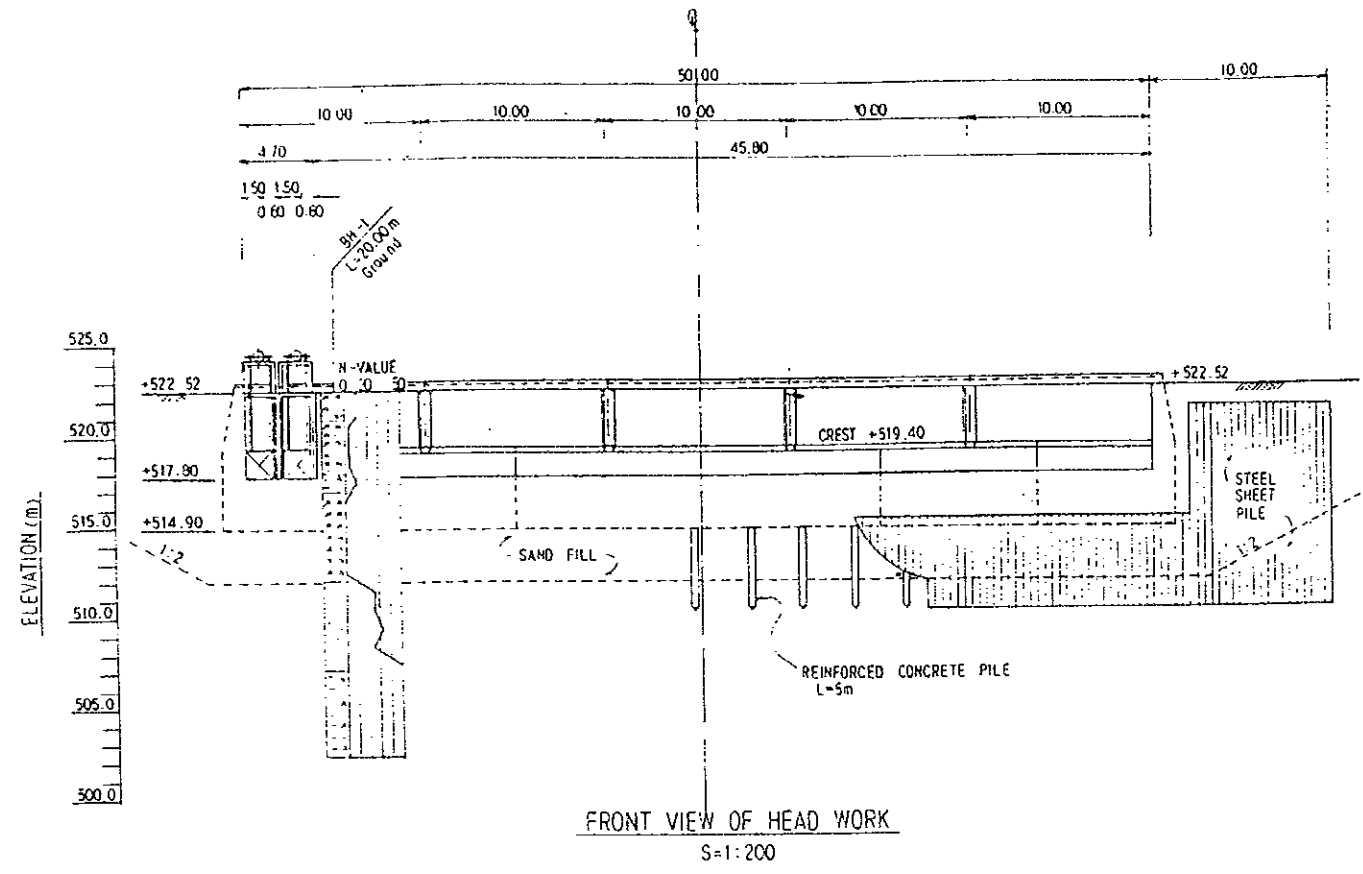
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JAPAN INTERNATIONAL COOPERATION AGENCY			

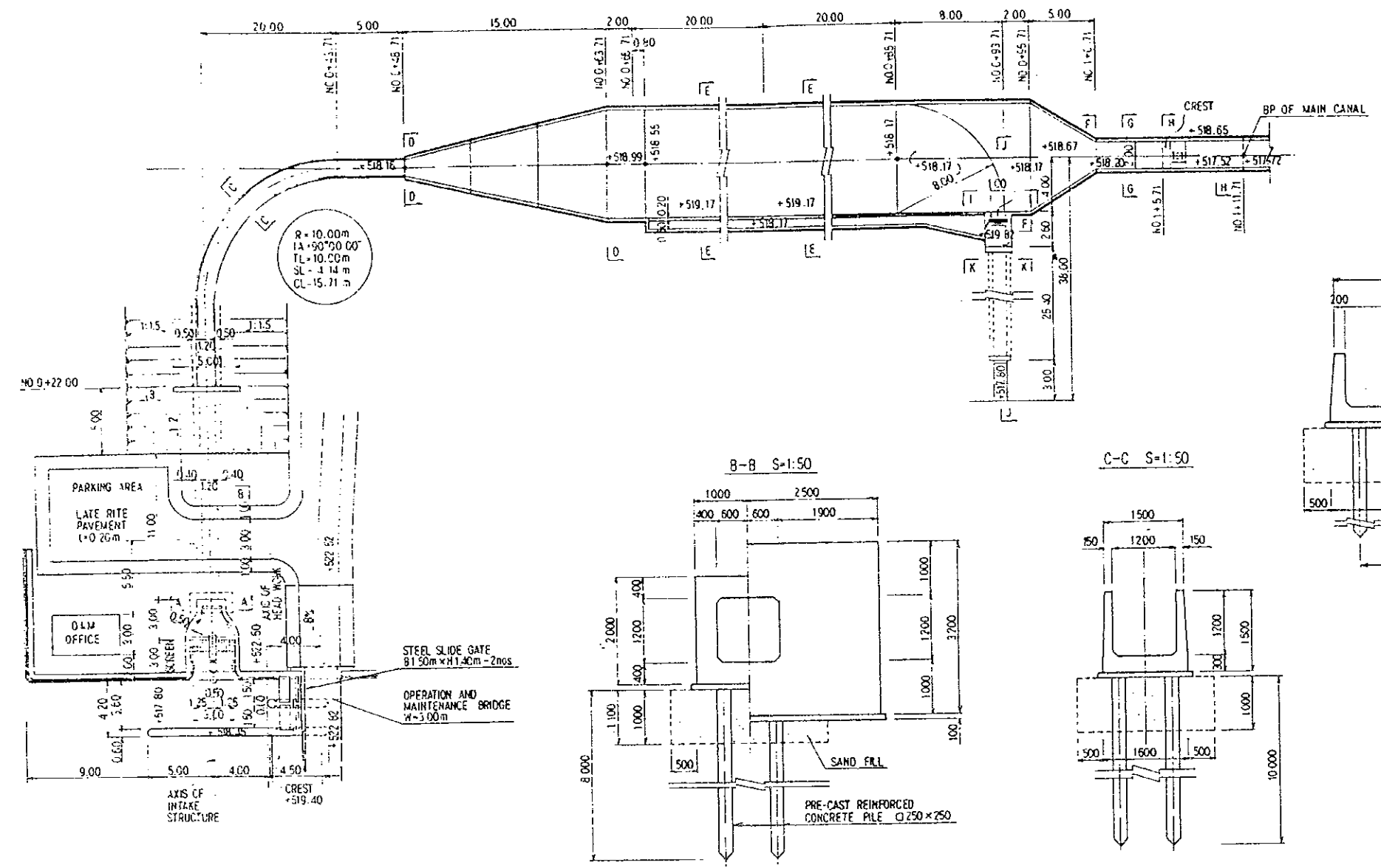


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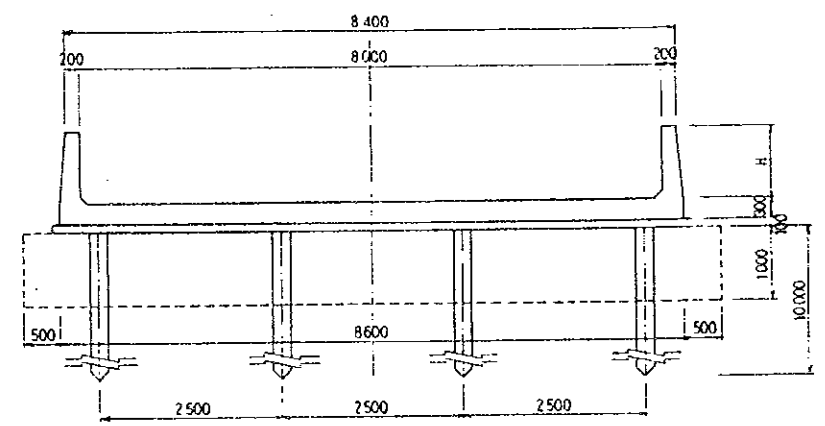
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JAPAN INTERNATIONAL COOPERATION AGENCY		



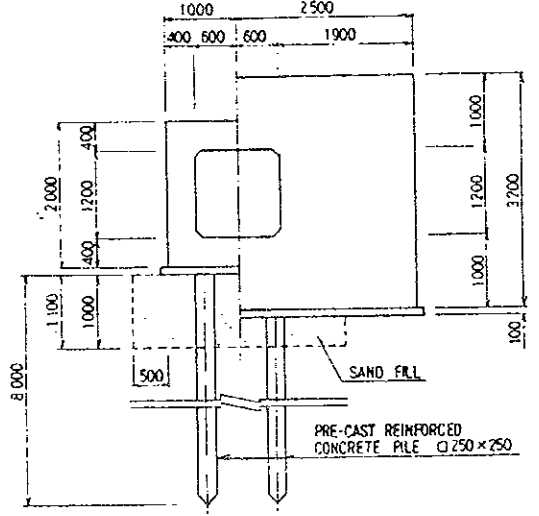
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DATE	DRAWING NO.	HW-03
JAPAN INTERNATIONAL COOPERATION AGENCY		



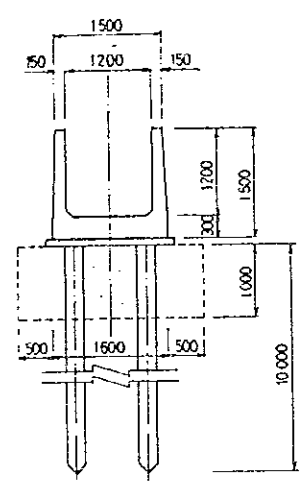
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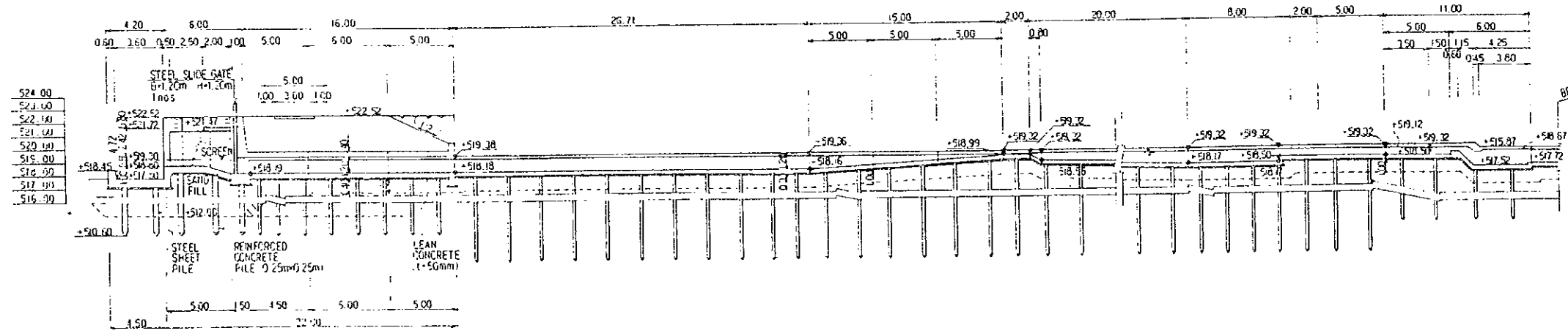
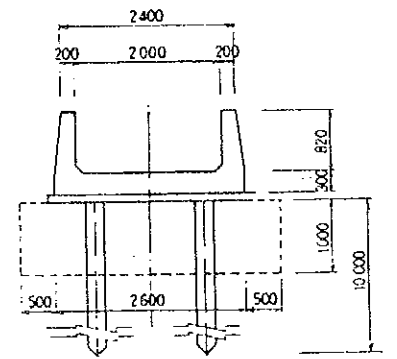
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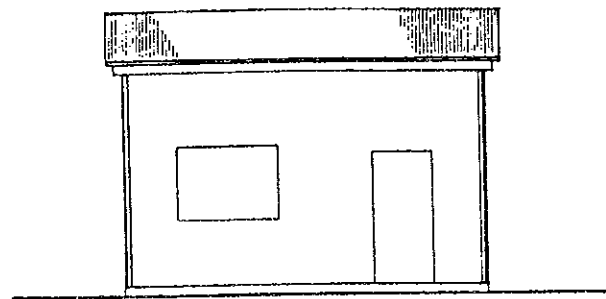


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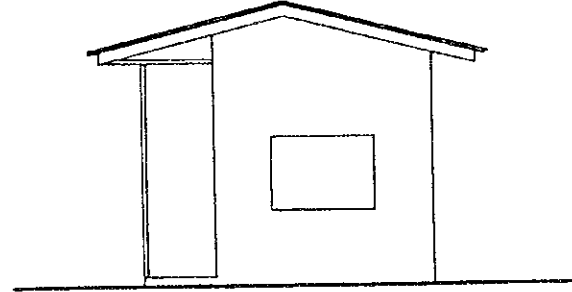


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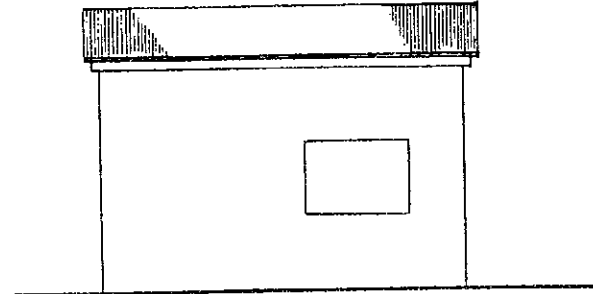
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BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Headworks Structural Plan (2/2)		
DATE	DRAWING NO.	HW-04
JAPAN INTERNATIONAL COOPERATION AGENCY		



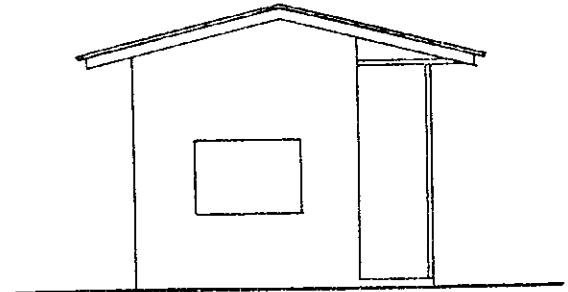
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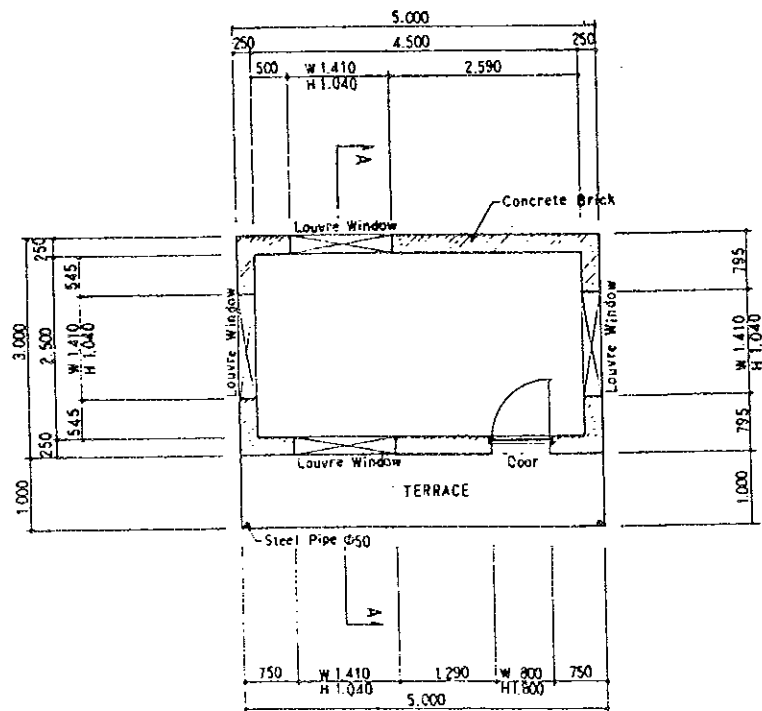
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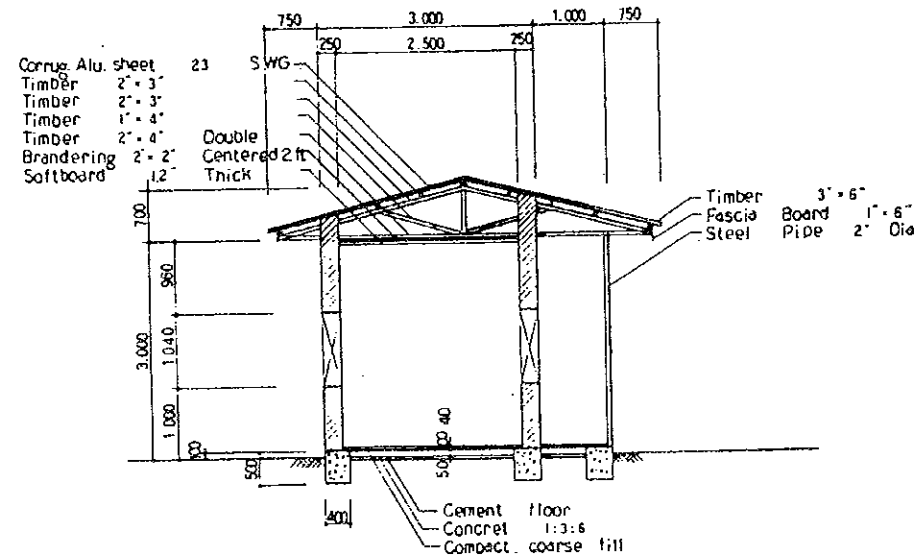
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LEFT SIDE VIEW

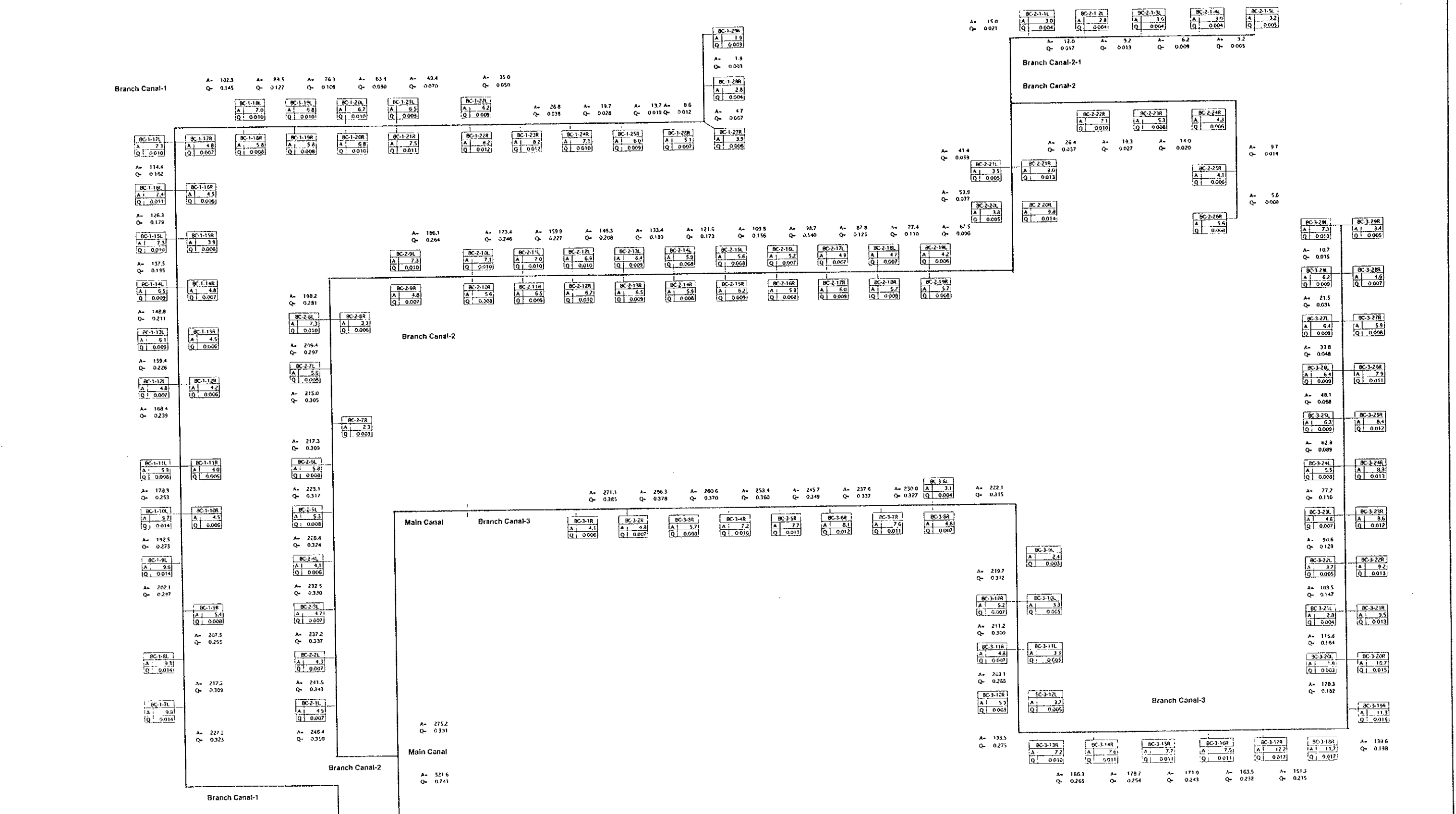


PLAN
Scale 1:50



SECTION A-A
Scale 1:50

THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
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DATE	DRAWING NO.	HW-05
JAPAN INTERNATIONAL COOPERATION AGENCY		

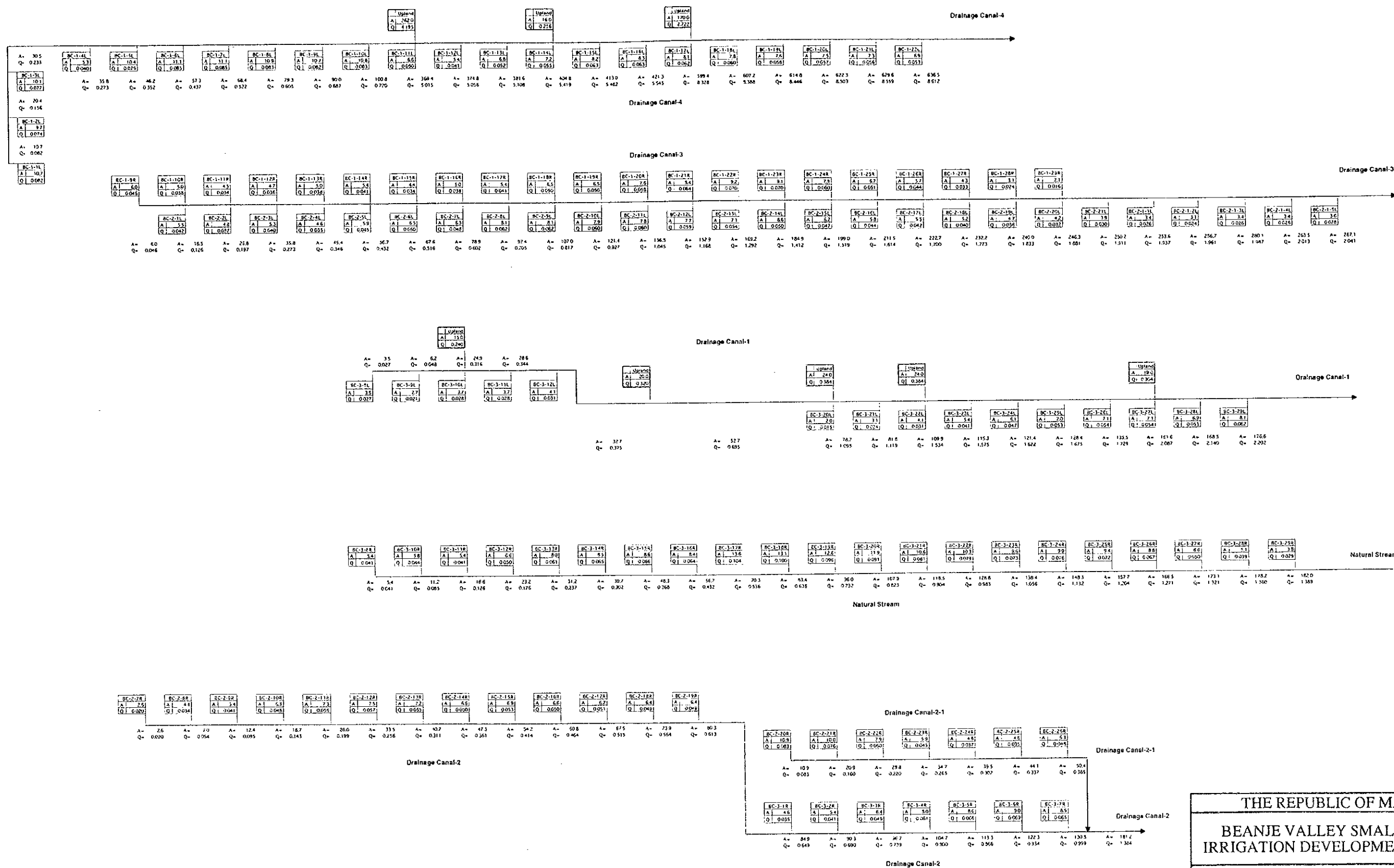


THE REPUBLIC OF MALAWI

BEANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT

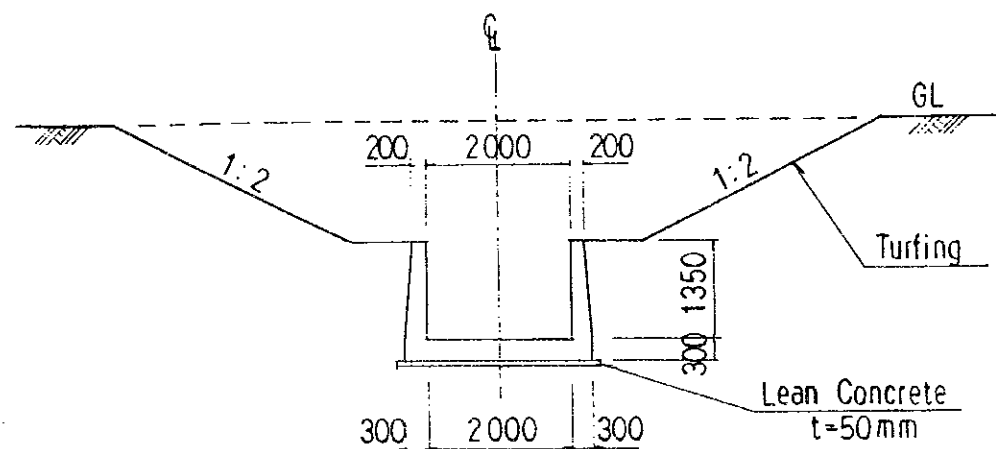
TITLE OF DRAWING
Irrigation and Drainage Facilities
Irrigation Flow Diagram

DATE	DRAWING NO.	ID-01
JAPAN INTERNATIONAL COOPERATION AGENCY		

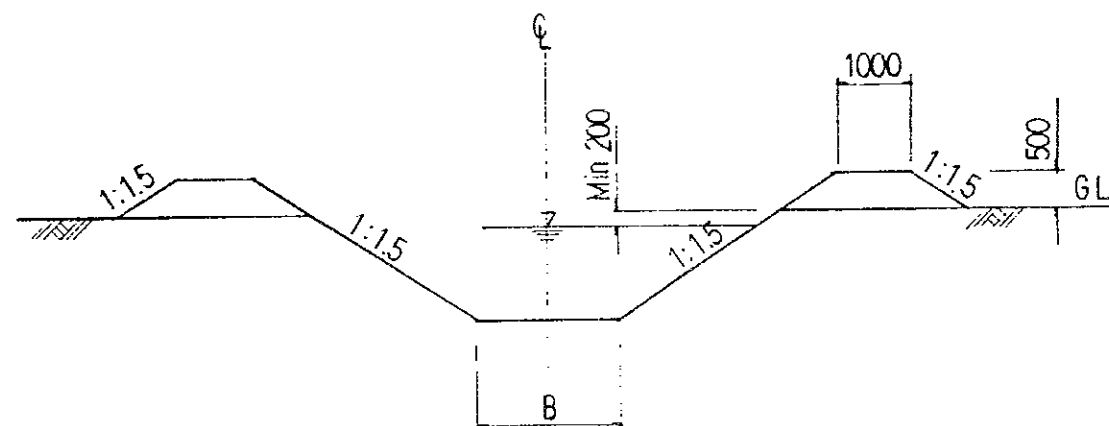


THE REPUBLIC OF MALAWI		
BEANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING Irrigation and Drainage Facilities Drainage Flow Diagram		
DATE	DRAWING NO.	ID-02
JAPAN INTERNATIONAL COOPERATION AGENCY		

IRRIGATION CANAL

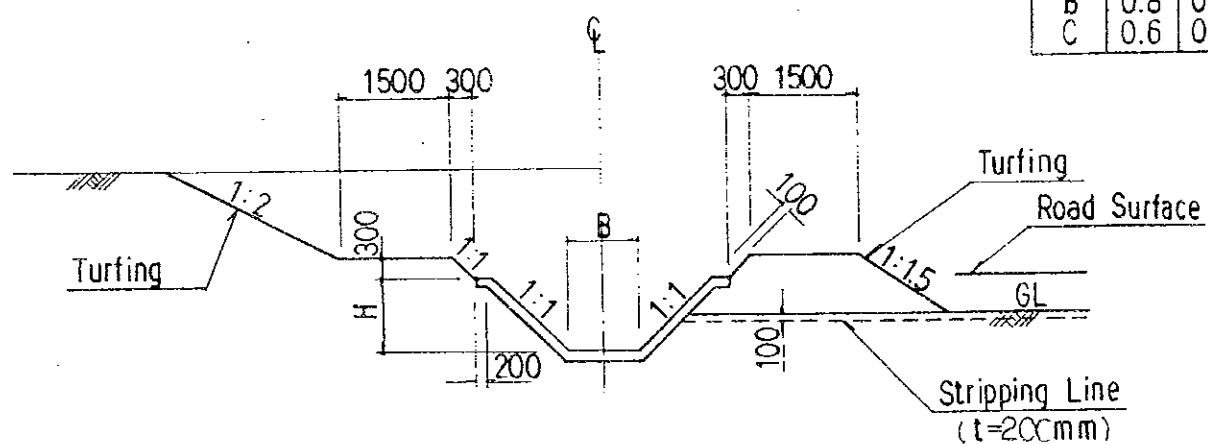


DRAINAGE CANAL

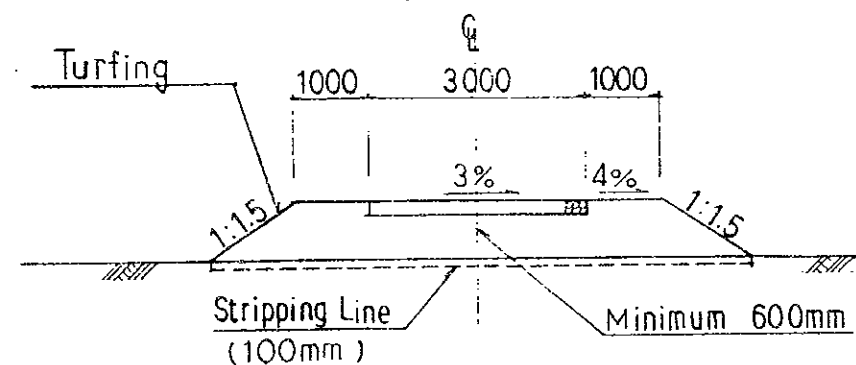


FLUME SECTION
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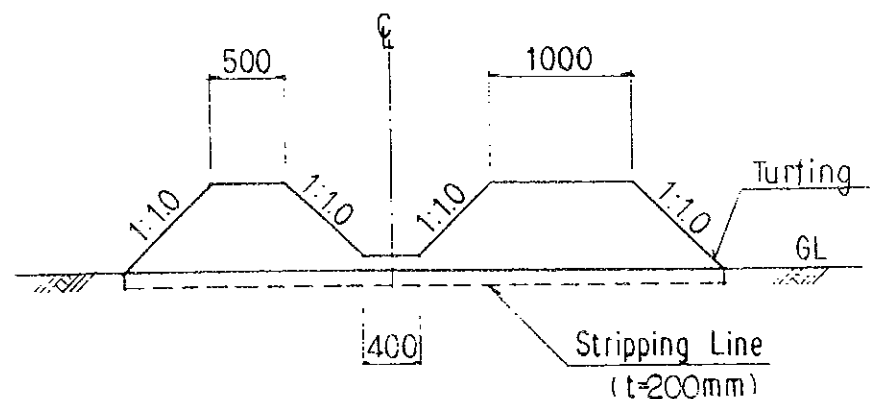
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C	0.6	0.6



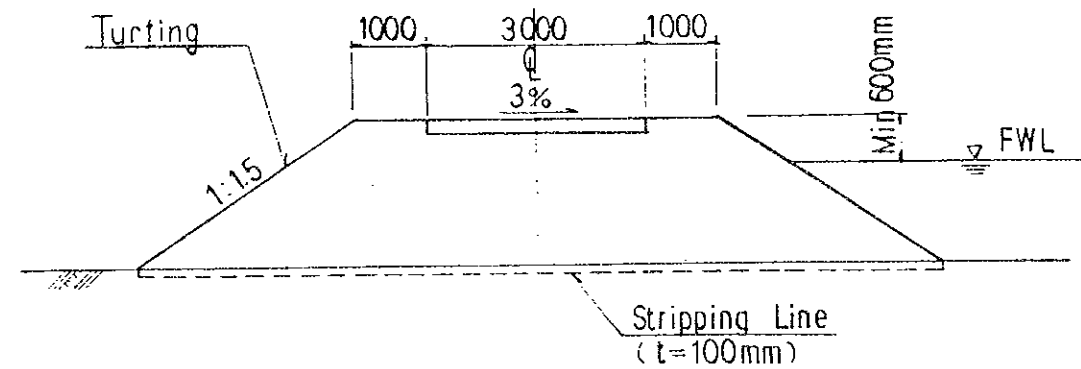
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SCALE A



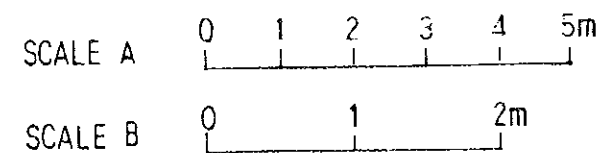
LINING SECTION
SCALE A



FLOOD DIKE SCALE A

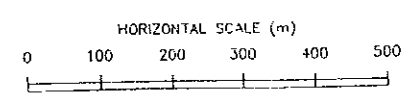
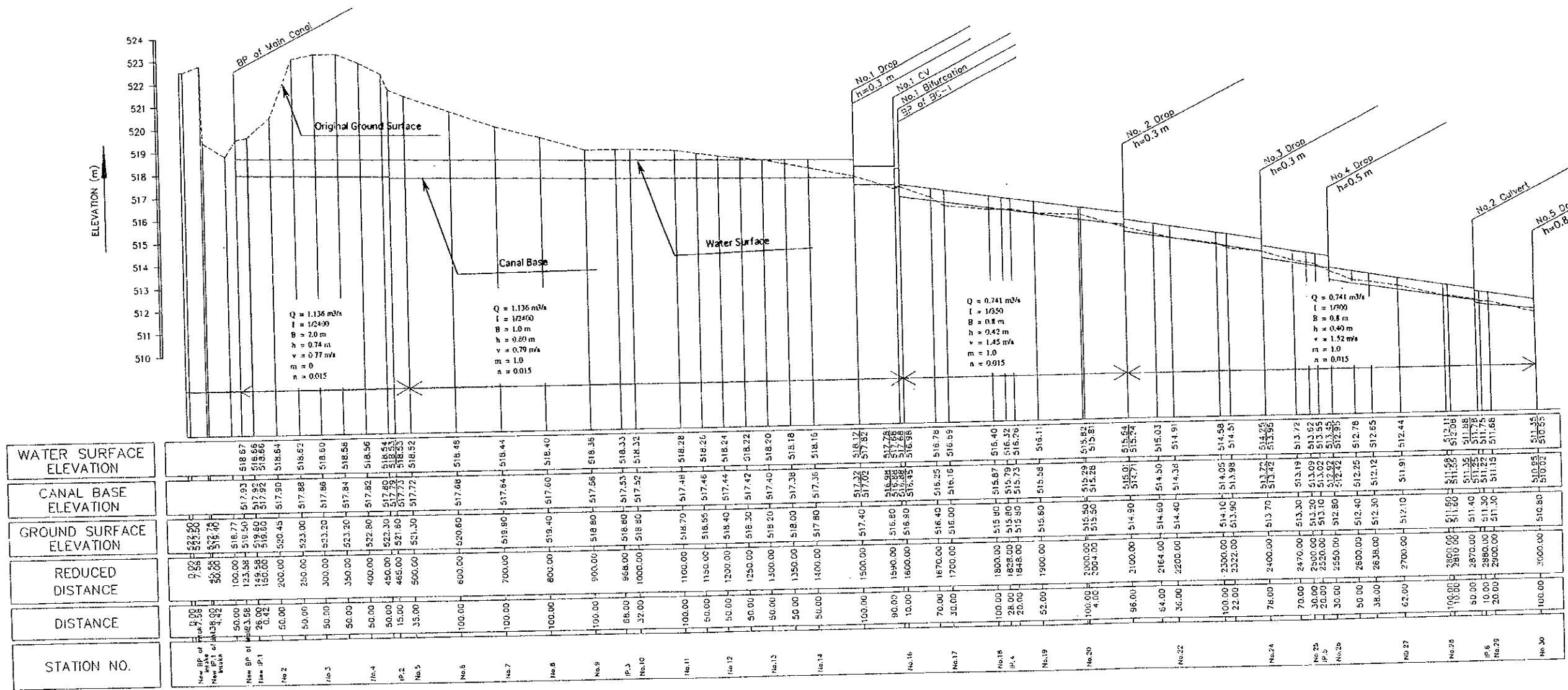


FEEDER CANAL
SCALE B



THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
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JAPAN INTERNATIONAL COOPERATION AGENCY		

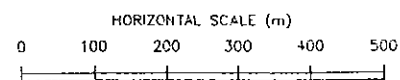
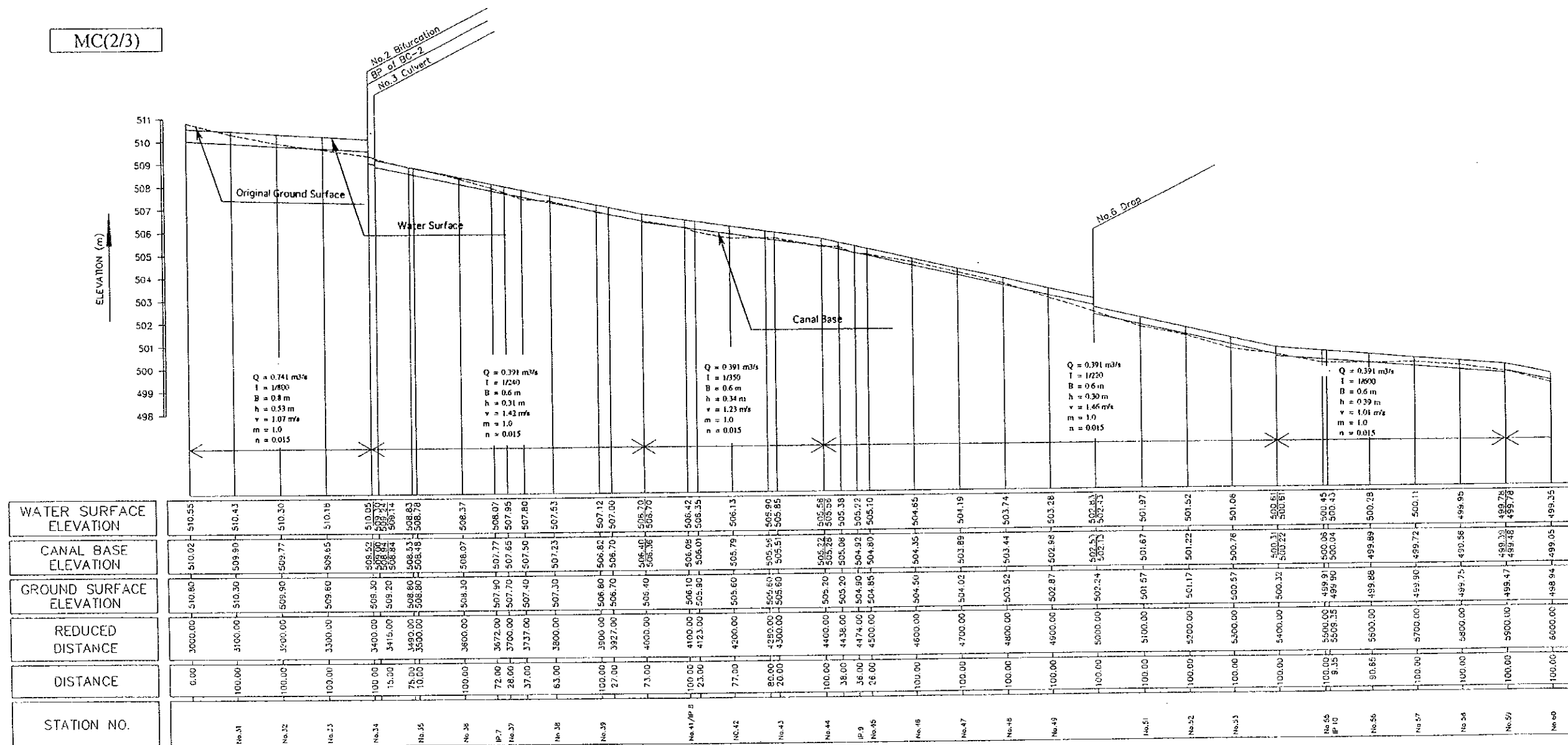
MC(1/3)



THE REPUBLIC OF MALAWI
BWANJE VALLEY SMALLHOLDER
IRRIGATION DEVELOPMENT PROJECT
 TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Main Canal (1/3)

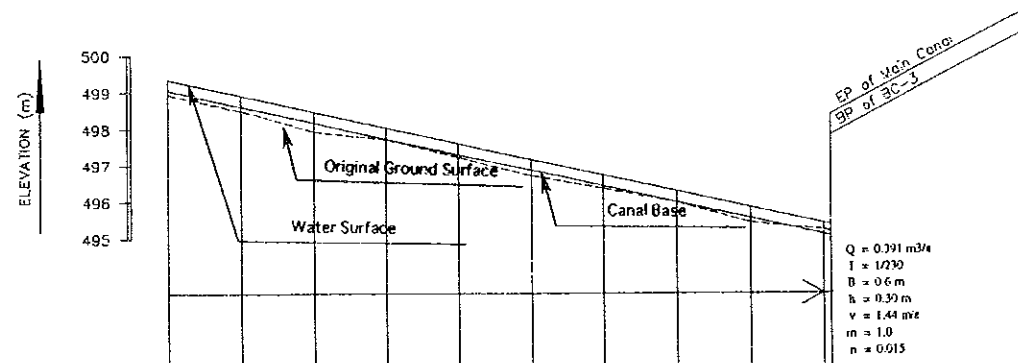
DATE	DRAWING NO.	ID-4
JAPAN INTERNATIONAL COOPERATION AGENCY		

MC(2/3)

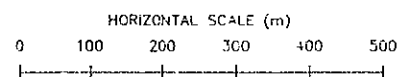


THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT
 TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Main Canal (2/3)
 DATE _____ DRAWING NO. _____ ID-5
 JAPAN INTERNATIONAL COOPERATION AGENCY

MC(3/3)

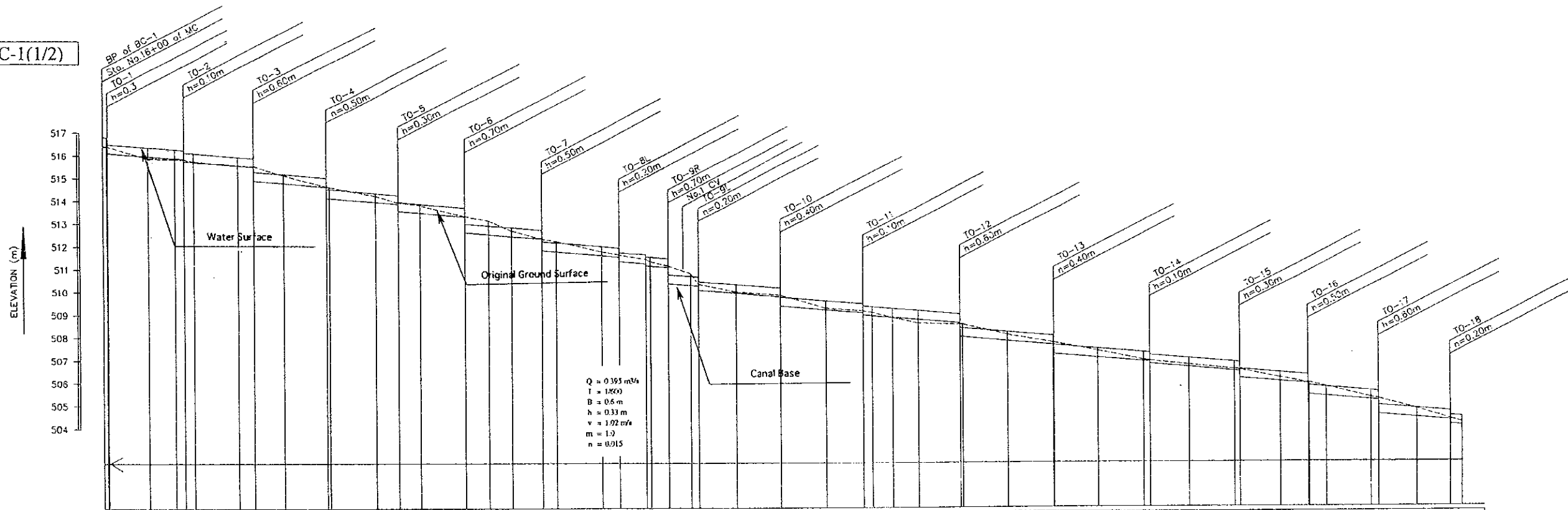


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CANAL BASE ELEVATION	499.05	498.61	498.18	497.74	497.31	496.87	496.44	496.00	495.57	495.13	495.00
GROUND SURFACE ELEVATION	498.94	498.50	498.04	497.72	497.24	496.72	496.37	496.00	495.44	495.25	495.20
REDUCED DISTANCE	6000.00	6100.00	6200.00	6300.00	6400.00	6500.00	6600.00	6700.00	6800.00	6900.00	6906.95
DISTANCE	0.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	6.95
STATION NO.		No. 81	No. 82	No. 83	No. 84	No. 85	No. 86	No. 87	No. 88	No. 89	DP

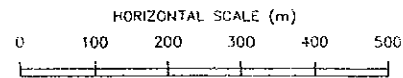


THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities Longitudinal Profile Main Canal (3/3)		
DATE	DRAWING NO.	ID-6
JAPAN INTERNATIONAL COOPERATION AGENCY		

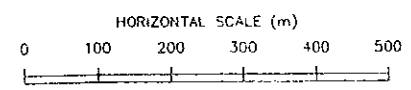
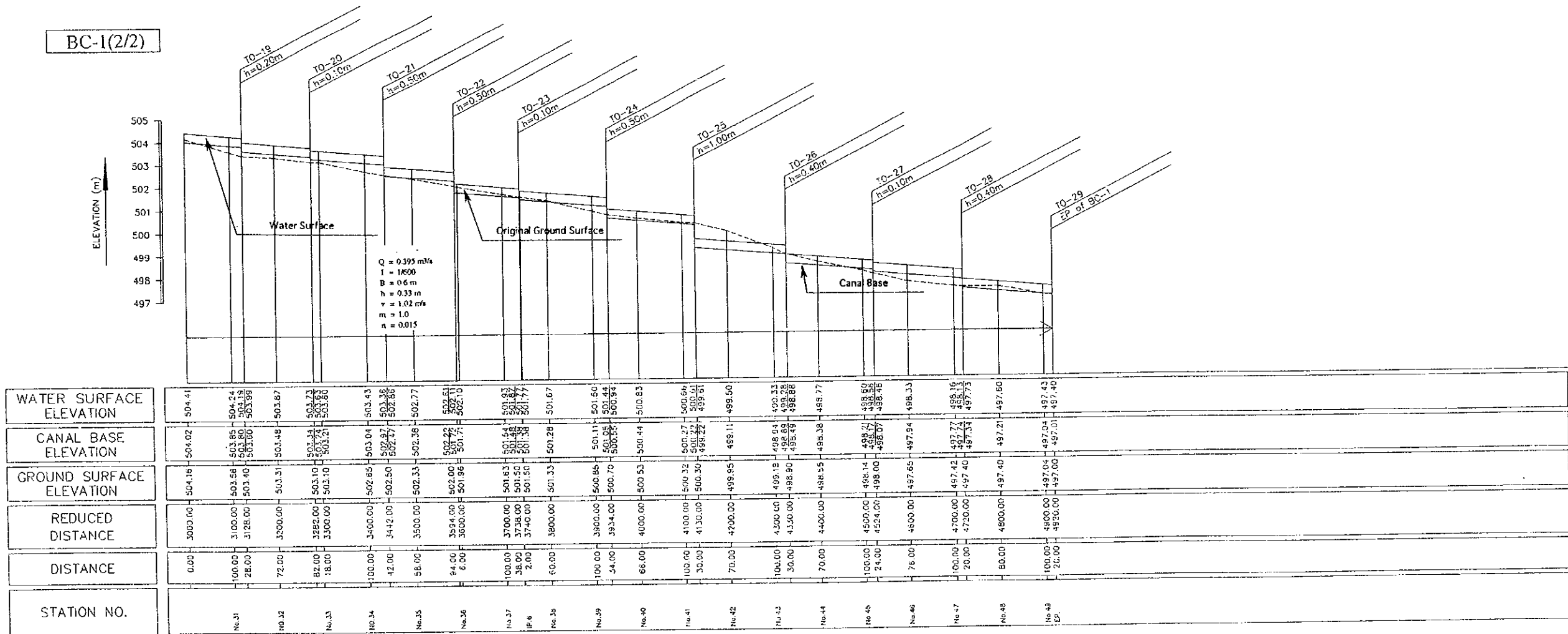
BC-1(1/2)



STATION NO.	DISTANCE	REDUCED DISTANCE	GROUND SURFACE ELEVATION	CANAL BASE ELEVATION	WATER SURFACE ELEVATION
BP No. 1	0.00	0.00	516.40	516.40	516.91
No. 1	2.00	10.00	516.40	516.10	516.78
No. 2	90.00	100.00	515.86	515.95	516.34
No. 3	158.00	158.00	515.80	515.85	516.24
No. 4	178.00	178.00	515.80	515.71	516.21
No. 5	220.00	200.00	515.72	515.69	516.08
No. 6	300.00	300.00	515.53	515.62	515.91
No. 7	334.00	334.00	515.50	515.48	515.85
No. 8	400.00	400.00	515.09	514.85	515.25
No. 9	494.00	494.00	514.60	514.75	515.14
No. 10	500.00	500.00	514.57	514.59	514.98
No. 11	600.00	600.00	514.19	514.69	514.78
No. 12	652.00	652.00	513.90	514.31	514.31
No. 13	700.00	700.00	513.78	513.82	513.82
No. 14	800.00	800.00	513.30	513.53	513.52
No. 15	850.00	850.00	513.10	513.32	513.32
No. 16	900.00	900.00	512.68	513.15	513.15
No. 17	988.00	988.00	512.30	512.94	512.94
No. 18	1000.00	1000.00	512.20	512.82	512.82
No. 19	1100.00	1100.00	511.75	512.41	512.41
No. 20	1140.00	1140.00	511.60	512.40	512.40
No. 21	1200.00	1200.00	511.40	512.30	512.30
No. 22	1210.00	1210.00	511.30	512.28	512.28
No. 23	1250.00	1250.00	511.10	512.25	512.25
No. 24	1300.00	1300.00	510.77	512.18	512.18
No. 25	1318.00	1318.00	510.30	512.14	512.14
No. 26	1400.00	1400.00	508.94	511.58	511.97
No. 27	1500.00	1500.00	508.60	511.50	511.90
No. 28	1600.00	1600.00	509.22	511.30	511.70
No. 29	1660.00	1660.00	509.10	511.21	511.60
No. 30	1700.00	1700.00	509.03	511.10	511.50
No. 31	1744.00	1744.00	508.80	510.93	511.34
No. 32	1800.00	1800.00	508.55	510.77	511.17
No. 33	1854.00	1854.00	508.50	510.62	510.94
No. 34	1900.00	1900.00	508.50	509.69	510.28
No. 35	2000.00	2000.00	508.05	509.72	510.11
No. 36	2100.00	2100.00	507.71	509.37	509.71
No. 37	2102.00	2102.00	507.70	509.15	509.54
No. 38	2200.00	2200.00	507.34	509.00	509.41
No. 39	2300.00	2300.00	506.94	508.90	509.31
No. 40	2314.00	2314.00	506.80	508.88	509.27
No. 41	2400.00	2400.00	506.72	508.85	509.24
No. 42	2500.00	2500.00	506.52	508.84	509.21
No. 43	2512.00	2512.00	506.50	508.83	509.19
No. 44	2600.00	2600.00	506.14	508.81	509.17
No. 45	2650.00	2650.00	506.00	508.78	509.15
No. 46	2662.00	2662.00	505.90	508.76	509.13
No. 47	2700.00	2700.00	505.74	508.74	509.11
No. 48	2800.00	2800.00	505.25	508.71	509.08
No. 49	2816.00	2816.00	505.20	508.69	509.06
No. 50	2900.00	2900.00	504.75	508.66	509.03
No. 51	2974.00	2974.00	504.30	508.62	509.00
No. 52	3000.00	3000.00	504.15	508.59	508.97



THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT
 TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Branch Canal - 1 (1/2)
 DATE _____ DRAWING NO. _____ ID-7
 JAPAN INTERNATIONAL COOPERATION AGENCY

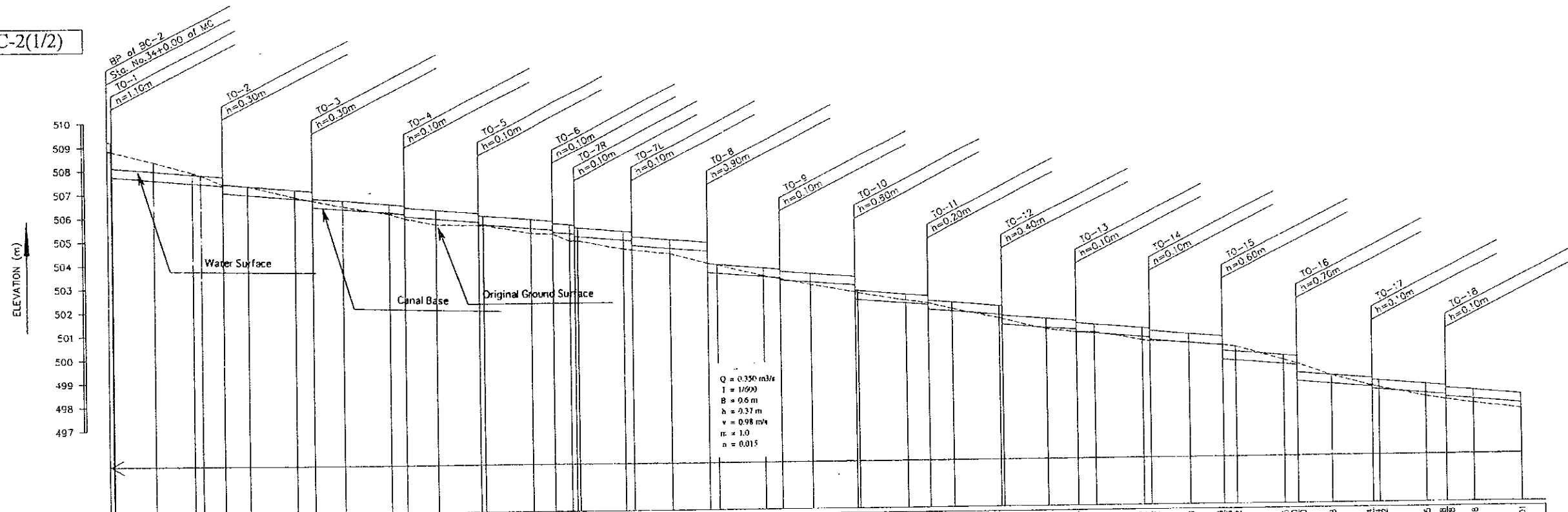


THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Branch Canal - 1 (2/2)

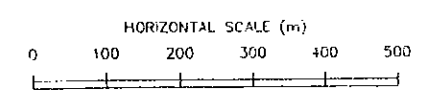
DATE	DRAWING NO.	ID-8
JAPAN INTERNATIONAL COOPERATION AGENCY		

BC-2(1/2)



$Q = 0.350 \text{ m}^3/\text{s}$
 $T = 1.690$
 $B = 0.6 \text{ m}$
 $h = 0.37 \text{ m}$
 $v = 0.98 \text{ m/s}$
 $m = 1.0$
 $n = 0.015$

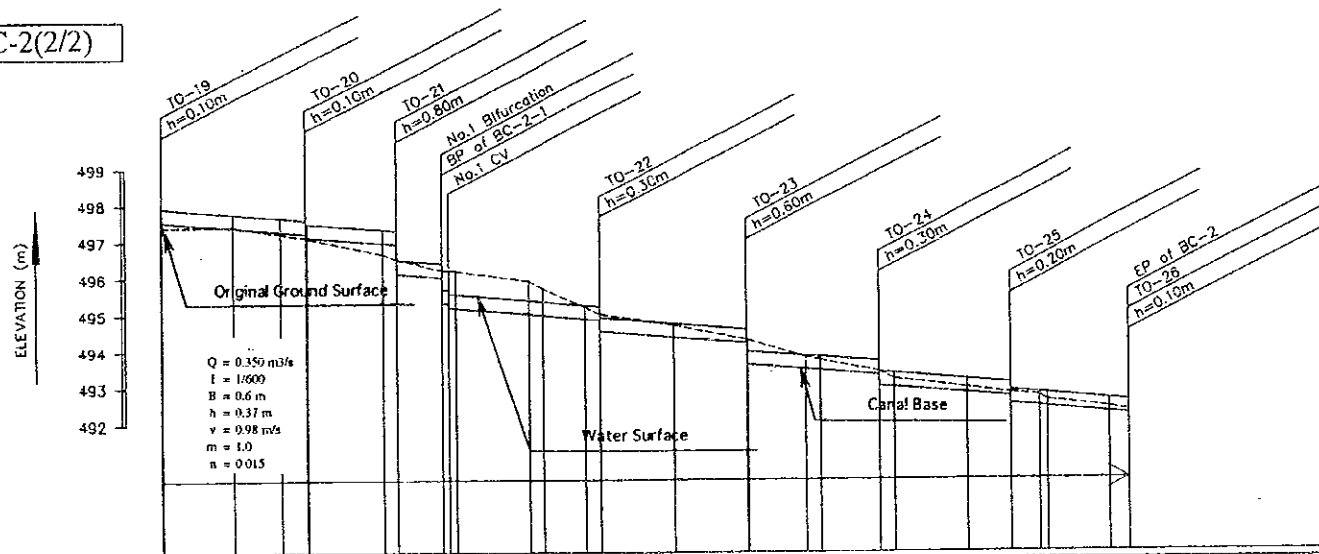
STATION NO.	DISTANCE	REDUCED DISTANCE	GROUND SURFACE ELEVATION	CANAL BASE ELEVATION	WATER SURFACE ELEVATION
BP	0.00	0.00	508.80	508.80	508.80
IP-1	7.00	10.00	508.80	508.80	508.80
No.1	9.00	100.00	508.35	507.59	507.96
IP-2	18.00	182.00	507.90	507.45	507.82
No.2	26.00	260.00	507.77	507.42	507.79
No.3	47.00	247.00	507.40	507.32	507.41
No.4	53.00	300.00	507.32	507.32	507.32
No.5	100.00	400.00	506.85	506.78	507.15
No.6	37.00	437.00	506.70	506.42	506.79
No.7	63.00	500.00	506.44	506.32	506.60
No.8	100.00	600.00	506.10	506.15	506.52
No.9	33.00	633.00	505.90	505.99	506.36
No.10	67.00	700.00	505.64	505.68	506.25
No.11	90.00	790.00	505.60	505.73	506.10
No.12	100.00	800.00	505.60	505.62	505.99
No.13	100.00	900.00	505.24	505.45	505.82
No.14	48.00	948.00	505.20	505.37	505.74
No.15	36.00	984.00	504.90	505.21	505.58
No.16	6.00	994.00	504.90	505.15	505.58
No.17	84.00	1000.00	504.54	504.90	505.48
No.18	19.00	1100.00	504.50	504.81	505.26
No.19	81.00	1180.00	504.32	504.91	505.26
No.20	80.00	1260.00	503.90	504.41	504.78
No.21	20.00	1300.00	503.82	503.51	503.88
No.22	100.00	1400.00	503.35	503.48	503.85
No.23	36.00	1436.00	503.20	503.15	503.52
No.24	64.00	1500.00	502.94	503.05	503.42
No.25	84.00	1584.00	502.60	502.89	503.47
No.26	6.00	1600.00	502.58	502.78	503.45
No.27	100.00	1700.00	502.23	502.11	502.48
No.28	48.00	1748.00	502.10	502.03	502.40
No.29	52.00	1800.00	501.85	501.75	502.12
No.30	8.00	1900.00	501.43	501.58	501.95
No.31	94.00	1906.00	501.40	501.57	501.94
No.32	82.00	2000.00	500.95	501.01	501.38
No.33	38.00	2062.00	500.80	500.91	501.28
No.34	100.00	2100.00	500.80	500.75	501.12
No.35	18.00	2200.00	500.44	500.52	500.85
No.36	84.00	2218.00	500.40	500.45	500.82
No.37	72.00	2300.00	500.31	500.31	500.68
No.38	28.00	2372.00	500.20	500.18	500.55
No.39	100.00	2400.00	500.13	499.55	499.92
No.40	28.00	2500.00	499.56	499.38	499.75
No.41	72.00	2528.00	499.40	498.83	499.00
No.42	88.00	2600.00	498.40	498.37	498.74
No.43	14.00	2686.00	498.34	498.27	498.64
No.44	100.00	2700.00	498.00	497.81	498.18
No.45	42.00	2800.00	497.80	497.81	498.18
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No.47	100.00	2900.00	497.40	497.40	498.01



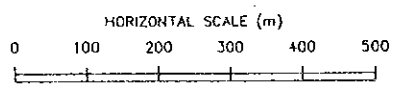
THE REPUBLIC OF MALAWI
BWANJE VALLEY SMALLHOLDER
IRRIGATION DEVELOPMENT PROJECT
TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Branch Canal - 2 (1/2)

DATE	DRAWING NO.	ID-9
JAPAN INTERNATIONAL COOPERATION AGENCY		

BC-2(2/2)



No. 43	89.00	4300.00	482.41	482.27	492.64																									
						WATER SURFACE ELEVATION	498.01	497.75	497.31	496.94	495.37	494.74	493.84	493.44	492.88	492.42	492.79													
						CANAL BASE ELEVATION	497.64	497.38	496.94	496.57	495.00	494.37	493.47	493.07	492.51	492.05	492.42													
						GROUND SURFACE ELEVATION	497.40	497.40	497.20	497.20	497.10	497.10	497.10	497.10	497.10	497.10	497.10													
						REDUCED DISTANCE	3000.00	3100.00	3164.00	3194.00	3200.00	3300.00	3500.00	3700.00	3798.00	3900.00	3980.00	4000.00												
						DISTANCE	0.00	98.00	64.00	34.00	2.00	10.00	20.00	100.00	98.00	80.00	80.00	19.00												
						STATION NO.		No. 31		No. 32		No. 33		No. 34		No. 35 BP 1		No. 36		No. 37		No. 38		No. 39		No. 40		No. 41		No. 42 BP 7

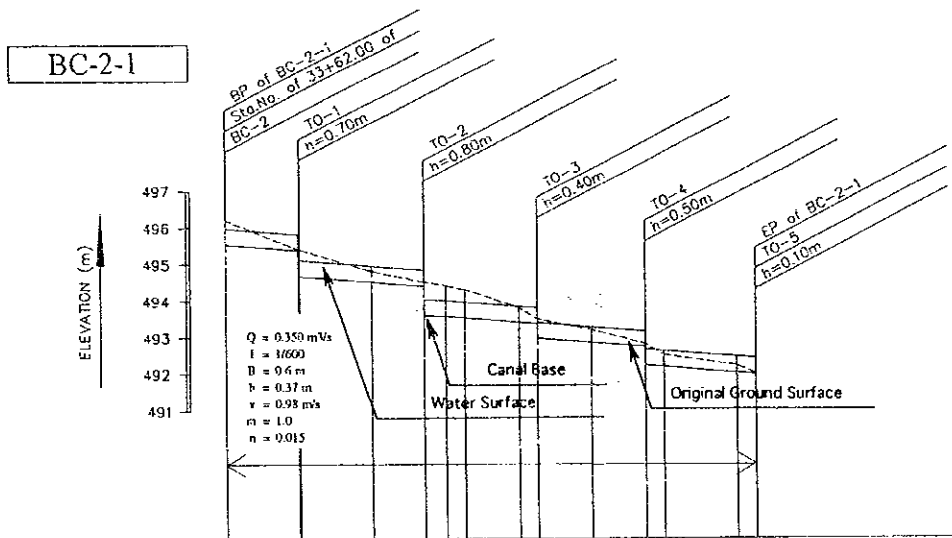


THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

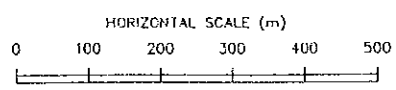
TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Branch Canal - 2 (2/2)

DATE	DRAWING NO.	ID-10
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JAPAN INTERNATIONAL COOPERATION AGENCY

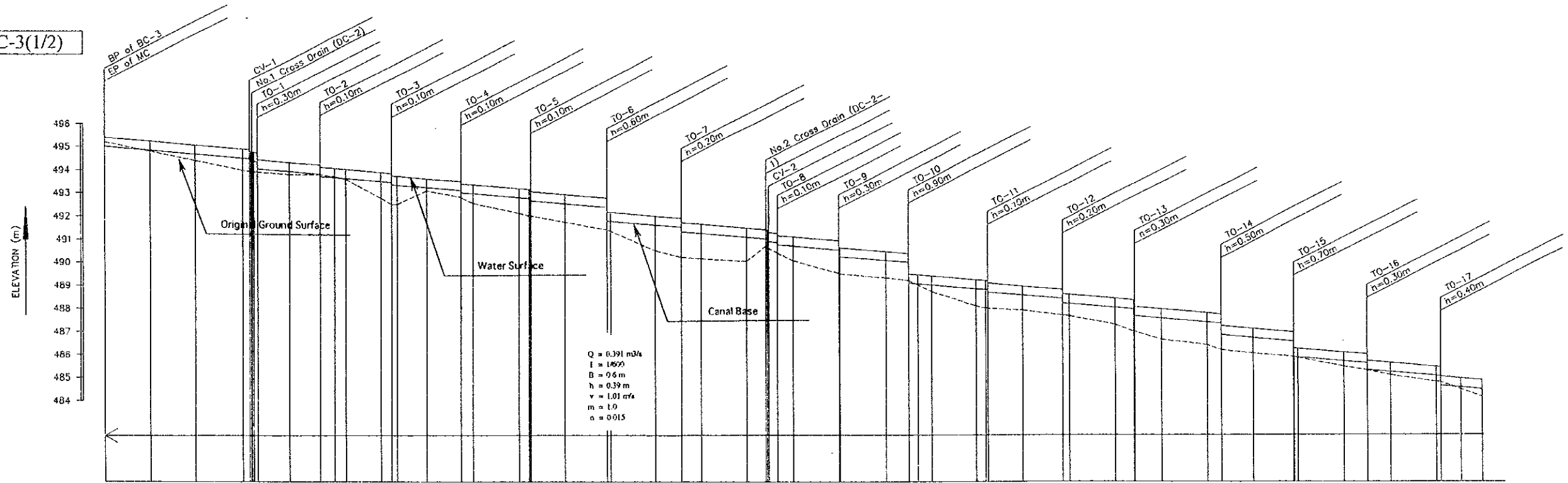


WATER SURFACE ELEVATION	485.97	485.80	485.70	485.54	484.82	484.00	483.56	483.41	483.27	483.15	482.44	482.40
CANAL BASE ELEVATION	486.54	486.37	486.27	486.10	484.51	483.55	483.53	483.41	482.84	482.72	482.01	481.97
GROUND SURFACE ELEVATION	486.70	486.40	485.40	484.80	484.50	484.40	484.30	483.80	483.20	482.80	482.20	482.00
REDUCED DISTANCE	0.00	100.00	102.00	200.00	270.00	300.00	328.00	400.00	500.00	574.00	700.00	726.00
DISTANCE	0.00	100.00	2.00	98.00	70.00	30.00	26.00	74.00	26.00	74.00	26.00	100.00
STATION NO.	BP	No.1		No.2	No.3	IP.1		No.4	No.5	No.6		No.7 EP

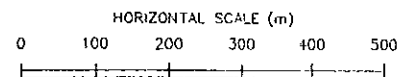


THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities		
Longitudinal Profile Branch Canal - 2 - 1		
DATE	DRAWING NO.	ID-11
JAPAN INTERNATIONAL COOPERATION AGENCY		

BC-3(1/2)



STATION NO.	DISTANCE	REDUCED DISTANCE	GROUND SURFACE ELEVATION	CANAL BASE ELEVATION	WATER SURFACE ELEVATION
BP	0.00	0.00	485.70	485.00	485.39
No.1	100.00	100.00	484.86	484.84	485.23
No.2	100.00	200.00	484.40	484.67	485.06
No.3	100.00	300.00	483.88	484.50	484.89
IP.1	15.00	315.00	483.92	484.48	484.87
No.4	30.00	330.00	483.88	484.48	484.87
No.5	68.00	400.00	483.86	484.52	484.81
No.6	68.00	468.00	483.86	484.52	484.81
No.7	32.00	500.00	483.69	484.65	484.95
IP.2	24.00	524.00	483.60	484.62	484.91
No.8	76.00	600.00	482.76	484.78	484.88
No.9	24.00	624.00	482.50	484.79	484.79
IP.3	12.00	636.00	482.50	484.79	484.79
No.10	64.00	700.00	483.08	484.22	484.61
No.11	74.00	774.00	482.80	484.10	484.55
No.12	25.00	800.00	482.54	482.96	483.33
No.13	100.00	900.00	482.12	482.79	483.18
IP.4	28.00	928.00	482.00	482.70	483.14
No.14	2.00	930.00	482.00	482.70	483.14
No.15	74.00	1000.00	481.73	482.52	482.91
No.16	92.00	1092.00	481.40	482.27	482.71
No.17	5.00	1100.00	481.34	482.21	482.65
No.18	100.00	1200.00	480.60	481.59	481.88
IP.5	56.00	1256.00	480.20	481.50	481.80
No.19	44.00	1300.00	480.14	481.24	481.63
No.20	100.00	1400.00	480.00	481.07	481.48
IP.6	3.00	1403.00	480.00	481.07	481.48
No.21	3.00	1406.00	480.00	481.07	481.48
No.22	19.00	1425.00	480.40	480.60	481.21
No.23	34.00	1500.00	480.05	480.68	481.03
No.24	98.00	1598.00	480.50	480.53	480.82
No.25	2.00	1600.00	480.48	480.51	480.80
No.26	100.00	1700.00	480.30	480.06	480.45
IP.7	50.00	1750.00	480.20	480.00	480.37
No.27	20.00	1770.00	480.00	480.00	480.34
No.28	30.00	1800.00	480.72	480.00	480.39
No.29	100.00	1900.00	480.10	480.83	480.22
IP.8	20.00	1920.00	480.00	480.80	480.19
No.30	4.00	1924.00	480.00	480.79	480.18
No.31	76.00	2000.00	480.82	480.56	480.95
No.32	86.00	2086.00	480.70	480.42	480.81
No.33	14.00	2100.00	480.66	480.36	480.75
No.34	100.00	2200.00	480.30	480.03	480.42
IP.9	40.00	2240.00	480.00	480.96	480.35
No.35	2.00	2242.00	480.00	480.96	480.35
No.36	58.00	2300.00	480.65	480.78	480.96
No.37	100.00	2400.00	480.42	480.40	480.79
IP.10	30.00	2430.00	480.20	480.65	480.74
No.38	70.00	2500.00	480.05	480.75	480.72
No.39	90.00	2590.00	480.90	480.58	480.87
No.40	2.00	2592.00	480.90	480.58	480.87
No.41	6.00	2600.00	480.85	480.57	480.86
No.42	100.00	2700.00	480.47	480.70	480.69
No.43	50.00	2750.00	480.30	480.52	480.61
No.44	50.00	2800.00	480.10	480.34	480.53
No.45	100.00	2900.00	480.62	480.07	480.46
IP.11	10.00	2910.00	480.60	480.06	480.44
No.46	44.00	2954.00	480.50	480.38	480.97
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THE REPUBLIC OF MALAWI
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT

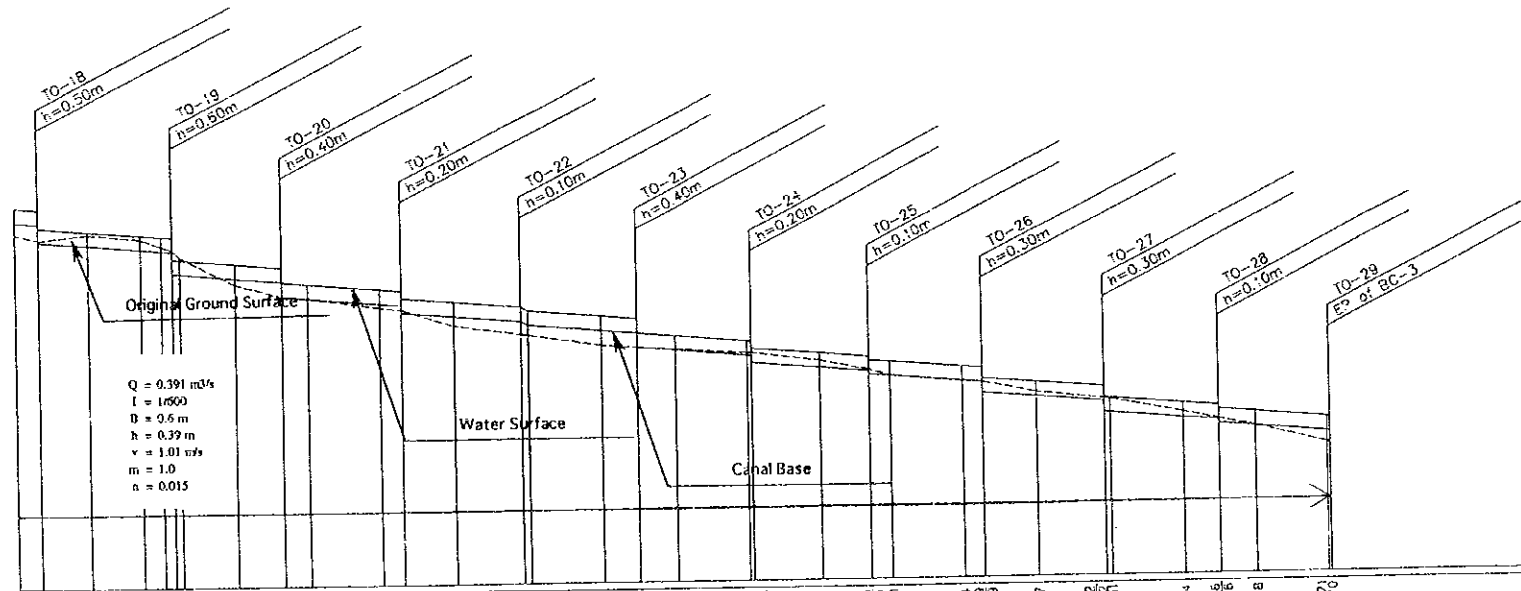
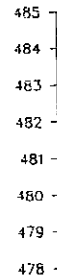
TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Branch Canal - 3 (1/2)

DATE	DRAWING NO.	ID-12
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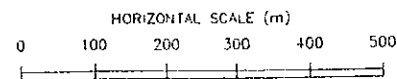
JAPAN INTERNATIONAL COOPERATION AGENCY

BC-3(2/2)

ELEVATION (m)



WATER SURFACE ELEVATION	484.69	484.64	484.73	484.11	484.09	483.43	483.30	482.56	482.51	481.93	481.76	481.88	481.78	480.82	480.67	480.55	480.45	480.07	480.44	479.85	479.82	479.62	479.51	479.14	478.08	478.88	478.70			
CANAL BASE ELEVATION	484.50	484.45	483.95	483.84	483.72	483.09	482.90	482.40	482.30	481.54	481.37	481.58	480.85	480.64	480.28	480.15	480.05	480.07	479.85	479.85	479.50	479.38	479.23	479.14	478.75	478.57	478.88	478.70		
GROUND SURFACE ELEVATION	484.17	484.00	484.15	484.00	483.72	483.70	483.04	482.74	482.91	481.55	481.80	481.80	481.30	480.61	480.43	480.52	480.71	480.20	480.03	480.03	479.80	479.50	479.50	479.28	478.23	478.23	478.52	478.52		
REDUCED DISTANCE	3000.00	3032.00	3100.00	3172.00	3200.00	3214.00	3224.00	3300.00	3364.00	3400.00	3500.00	3530.00	3600.00	3690.00	3700.00	4000.00	4006.00	4100.00	4170.00	4200.00	4300.00	4328.00	4400.00	4482.00	4500.00	4600.00	4650.00	4700.00	4800.00	
DISTANCE	0.00	32.00	68.00	72.00	26.00	14.00	10.00	76.00	64.00	36.00	100.00	30.00	70.00	90.00	10.00	100.00	6.00	84.00	70.00	30.00	100.00	28.00	72.00	92.00	8.00	100.00	50.00	50.00	100.00	4.00
STATION NO.			No.31	P 10 No.32			No.33		No.34		No.35		No.36	No.37	No.38	No.39	No.40	No.41	No.42	No.43	No.44	No.45	No.46	No.47				126.46 EP		



THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

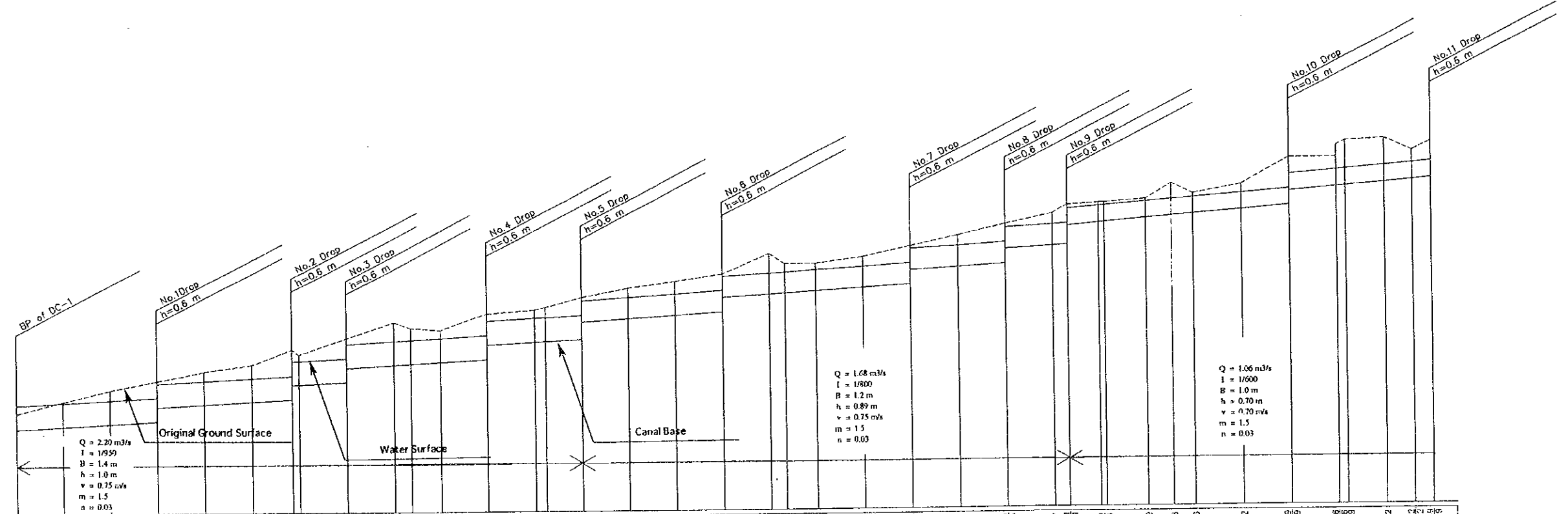
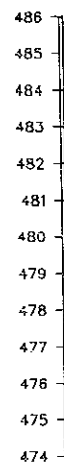
TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Branch Canal - 3 (2/2)

DATE	DRAWING NO.	ID-13
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JAPAN INTERNATIONAL COOPERATION AGENCY

DC-1(1/2)

ELEVATION (m)

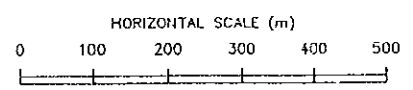


Q = 2.20 m³/s
 l = 1.950
 B = 1.4 m
 h = 1.0 m
 v = 0.75 m/s
 m = 1.5
 n = 0.03

Q = 1.68 m³/s
 l = 1.600
 B = 1.2 m
 h = 0.89 m
 v = 0.75 m/s
 m = 1.5
 n = 0.03

Q = 1.06 m³/s
 l = 1.600
 B = 1.0 m
 h = 0.70 m
 v = 0.70 m/s
 m = 1.5
 n = 0.03

STATION NO.	DISTANCE	REDUCED DISTANCE	GROUND SURFACE ELEVATION	CANAL BASE ELEVATION	WATER SURFACE ELEVATION
BP	0.00	0.00	474.73	474.05	475.06
No.1	100.00	100.00	475.22	474.16	475.16
No.2	109.60	209.60	475.69	474.27	475.27
No.3	100.00	309.60	476.08	474.37	475.37
No.4	100.00	409.60	476.48	474.48	475.48
No.5	100.00	509.60	476.75	474.58	475.58
No.6	14.00	523.60	477.16	474.69	475.69
No.7	100.00	623.60	477.84	474.80	475.80
No.8	36.00	659.60	478.25	474.91	475.91
No.9	64.00	723.60	478.15	475.02	476.02
No.10	100.00	823.60	478.82	475.13	476.13
No.11	23.00	846.60	478.97	475.24	476.24
No.12	77.00	923.60	479.57	475.35	476.35
No.13	100.00	1023.60	479.84	475.46	476.46
No.14	100.00	1123.60	480.10	475.57	476.57
No.15	100.00	1223.60	480.40	475.68	476.68
No.16	34.00	1257.60	481.24	475.79	476.79
No.17	86.00	1343.60	480.81	475.90	476.90
No.18	100.00	1443.60	481.08	476.01	477.01
No.19	100.00	1543.60	481.51	476.12	477.12
No.20	100.00	1643.60	481.95	476.23	477.23
No.21	100.00	1743.60	482.40	476.34	477.34
No.22	100.00	1843.60	482.63	476.45	477.45
No.23	33.00	1876.60	483.17	476.56	477.56
No.24	67.00	1943.60	483.26	476.67	477.67
No.25	46.00	1989.60	483.62	476.78	477.78
No.26	100.00	2089.60	483.96	476.89	477.89
No.27	100.00	2189.60	485.08	477.00	478.00
No.28	19.00	2208.60	485.78	477.11	478.11
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No.30	40.00	2329.60	485.33	477.33	478.33



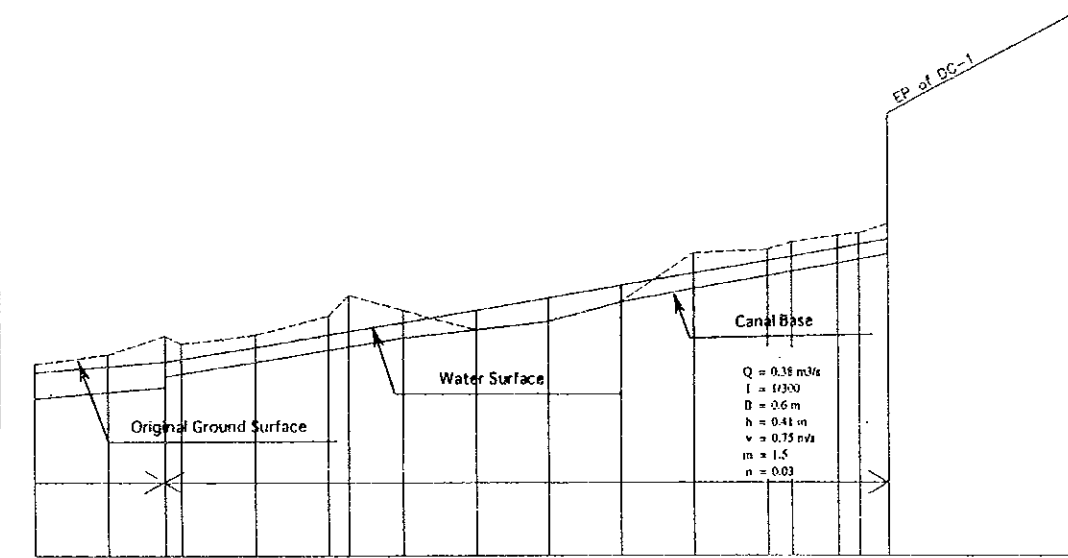
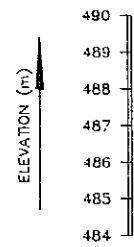
THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Drainage Canal - 1 (1/2)

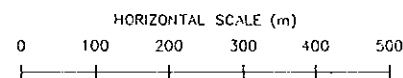
DATE	DRAWING NO.	ID-14
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JAPAN INTERNATIONAL COOPERATION AGENCY

DC-1(2/2)

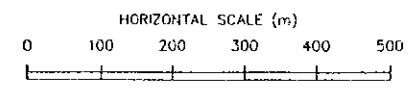
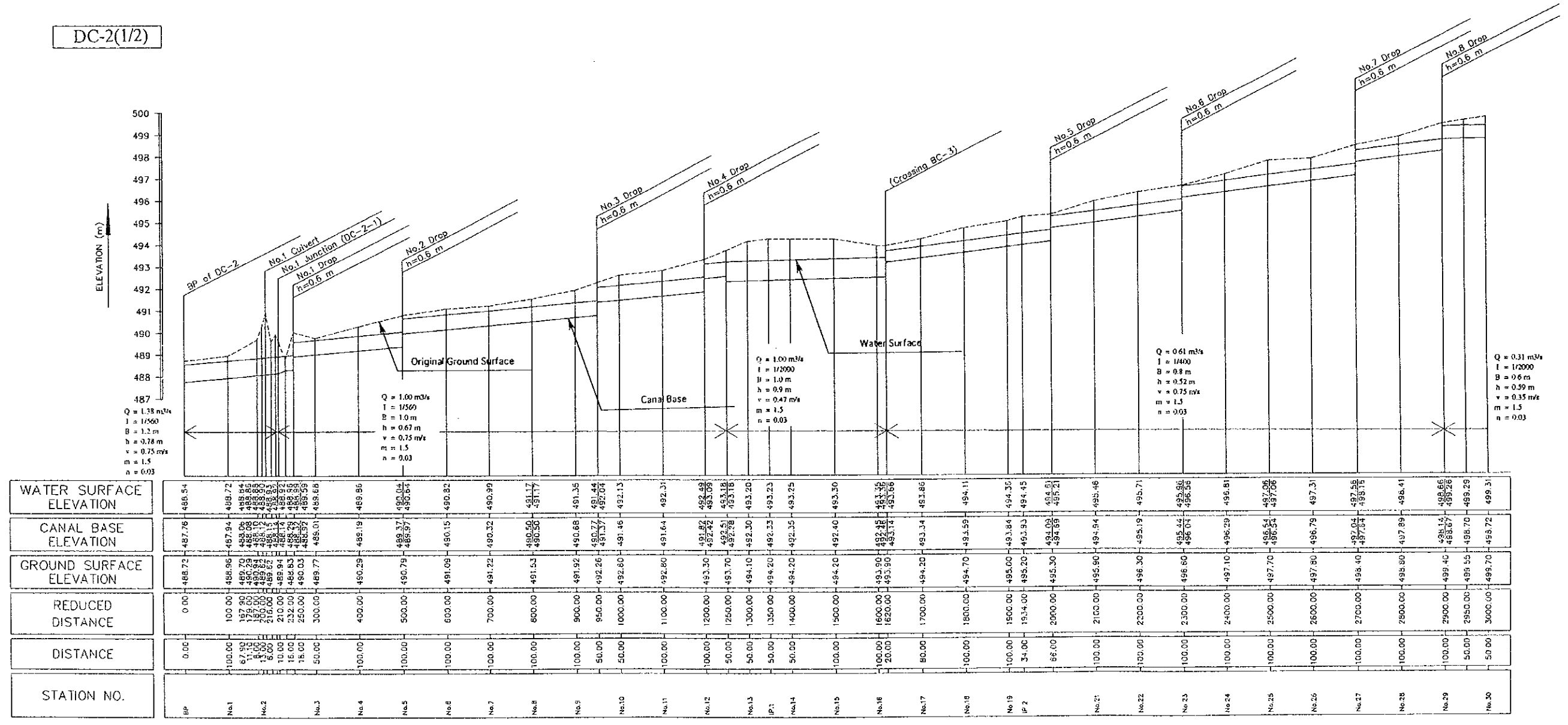


WATER SURFACE ELEVATION	485.49	485.66	485.79	485.86	486.19	486.34	486.33	486.02	486.86	487.19	487.53	487.86	488.19	488.53	488.64	488.86	488.96	489.10
CANAL BASE ELEVATION	484.79	484.95	485.09	485.15	485.78	486.12	486.12	486.27	486.45	486.66	486.88	487.41	487.76	488.12	488.23	488.45	488.55	488.69
GROUND SURFACE ELEVATION	485.72	485.99	486.51	486.29	486.53	487.05	487.61	487.20	486.86	486.86	487.41	487.74	488.33	488.83	489.03	489.21	489.26	489.50
REDUCED DISTANCE	3000.00	3100.00	3178.00	3200.00	3300.00	3400.00	3426.00	3500.00	3600.00	3700.00	3800.00	3900.00	4000.00	4034.00	4100.00	4131.00	4172.00	
DISTANCE	0.00	100.00	72.00	22.00	100.00	100.00	26.00	72.00	100.00	100.00	100.00	100.00	100.00	34.00	66.00	31.00	41.00	
STATION NO.		No.31	IP.6 No.32		No.33	No.34 IP.7		No.35	No.36	No.37	No.38	No.39	No.40 IP.8	No.41 IP.9		EP		



THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities		
Longitudinal Profile Drainage Canal - 1 (2/2)		
DATE	DRAWING NO.	ID-15
JAPAN INTERNATIONAL COOPERATION AGENCY		

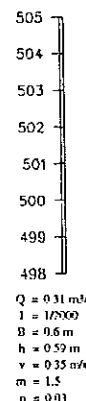
DC-2(1/2)



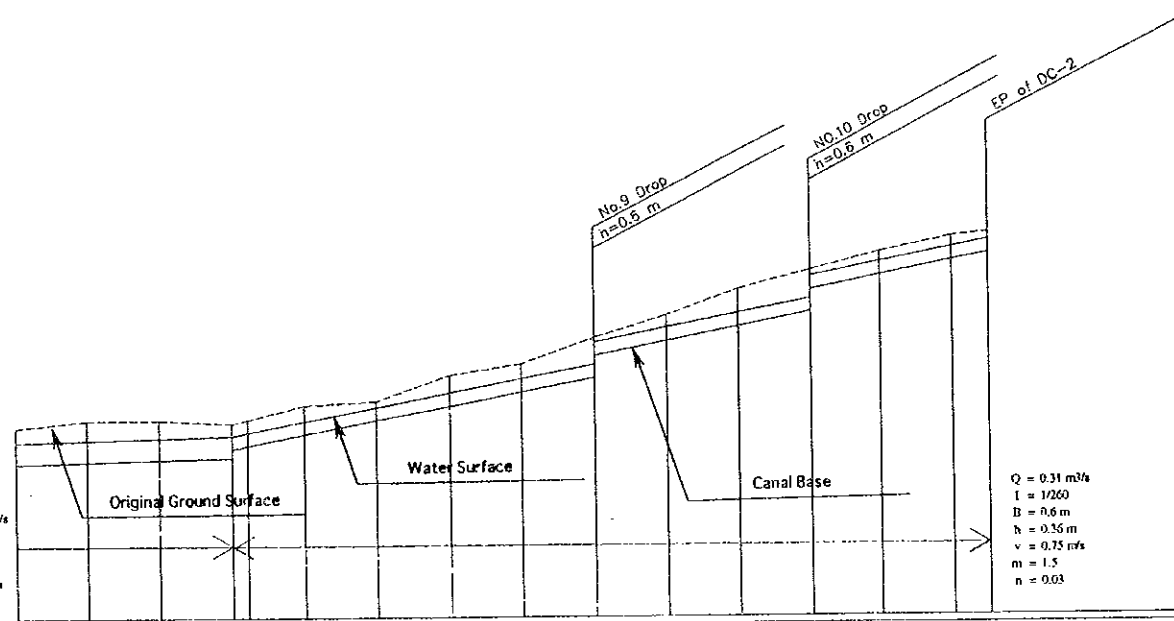
THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT
 TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Drainage Canal - 2 (1/2)
 DATE _____ DRAWING NO. _____ ID-16
 JAPAN INTERNATIONAL COOPERATION AGENCY

DC-2(2/2)

ELEVATION (m)

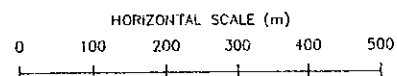


Q = 0.31 m³/s
 I = 1/2000
 B = 0.6 m
 h = 0.55 m
 v = 0.35 m/s
 m = 1.5
 n = 0.03



Q = 0.31 m³/s
 I = 1/2000
 B = 0.6 m
 h = 0.55 m
 v = 0.35 m/s
 m = 1.5
 n = 0.03

WATER SURFACE ELEVATION	499.31	499.36	499.41	499.45	499.55	500.23	500.82	501.00	501.38	501.37	502.75	503.74	504.12	504.51	504.70	
CANAL BASE ELEVATION	498.72	498.77	498.82	498.87	498.99	500.26	500.84	501.02	501.52	502.01	502.39	503.38	503.76	504.15	504.34	
GROUND SURFACE ELEVATION	498.70	498.80	498.90	498.80	498.80	500.40	501.10	501.40	502.10	502.70	503.40	503.80	504.10	504.80	504.90	
REDUCED DISTANCE	3000.00	3100.00	3200.00	3300.00	3322.00	3400.00	3500.00	3600.00	3700.00	3800.00	3900.00	4000.00	4100.00	4200.00	4300.00	
DISTANCE	0.00	100.00	200.00	100.00	22.00	78.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	
STATION NO.		No.31	No.32	No.33	No.33 P-3	No.34	No.35	No.36	No.37	No.38	No.39	No.40	No.41	No.42	No.43	EP



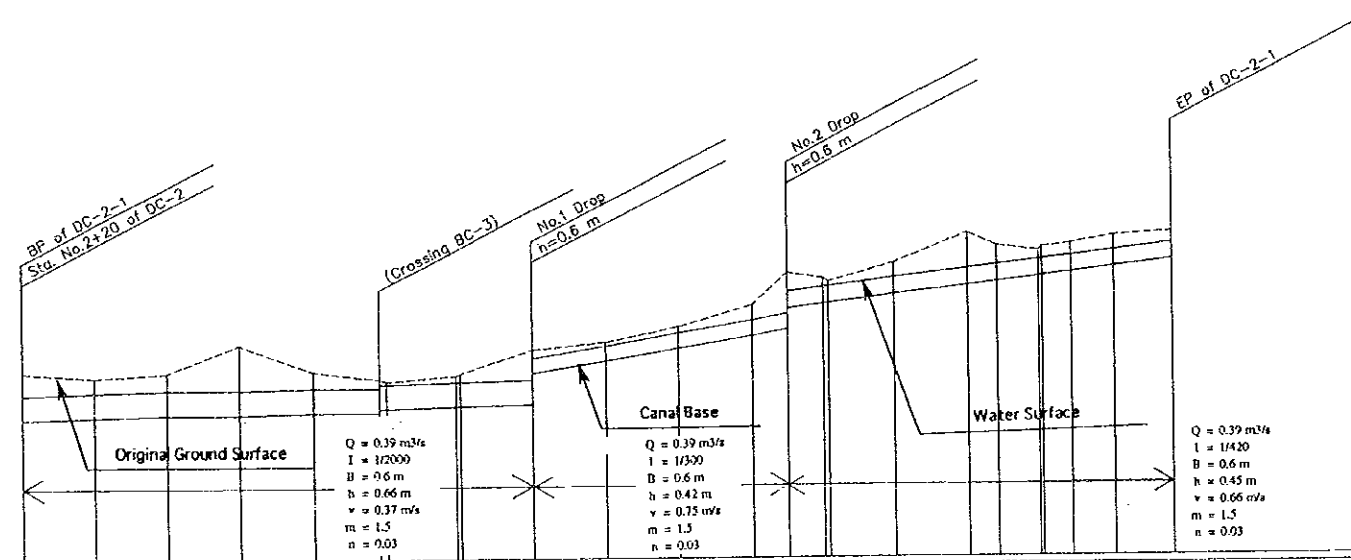
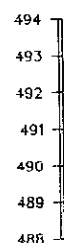
THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Drainage Canal - 2 (2/2)

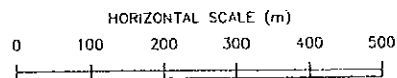
DATE	DRAWING NO.	ID-17
JAPAN INTERNATIONAL COOPERATION AGENCY		

DC-2-1

ELEVATION (m)



WATER SURFACE ELEVATION	489.02	489.07	489.12	489.12	489.17	489.17	489.27	489.32	489.37	489.40	489.54	490.55	490.57	491.14	491.74	491.41	491.88	492.10	492.33	492.43	492.56	492.57	492.67	492.81	493.00
CANAL BASE ELEVATION	488.16	488.41	488.46	488.48	488.51	488.51	488.51	488.55	488.71	489.38	489.68	490.22	490.55	491.14	491.74	491.95	492.11	492.12	492.22	492.36	492.43	492.57	492.67	492.81	493.00
GROUND SURFACE ELEVATION	489.62	489.49	489.60	489.38	489.62	489.40	489.35	489.50	489.20	489.40	489.80	490.64	491.38	492.25	492.25	492.80	492.90	493.00	493.00	493.20	493.36	493.36	493.36	493.36	493.36
REDUCED DISTANCE	0.00	100.00	200.00	300.00	400.00	490.00	500.00	594.00	600.00	700.00	800.00	900.00	1000.00	1050.00	1100.00	1108.00	1200.00	1300.00	1340.00	1396.00	1400.00	1440.00	1500.00	1580.00	
DISTANCE	0.00	100.00	100.00	100.00	100.00	90.00	10.00	94.00	6.00	100.00	100.00	100.00	50.00	50.00	8.00	92.00	100.00	40.00	56.00	4.00	40.00	60.00	80.00		
STATION NO.	BP	No. 1	No. 2	No. 3	No. 4	No. 5	No. 5	IP 1 No. 6	No. 7	No. 8	No. 9	No. 10	No. 10	No. 11	IP 2	No. 12	No. 13	No. 13	IP 3 No. 4	No. 13	No. 13	EP			



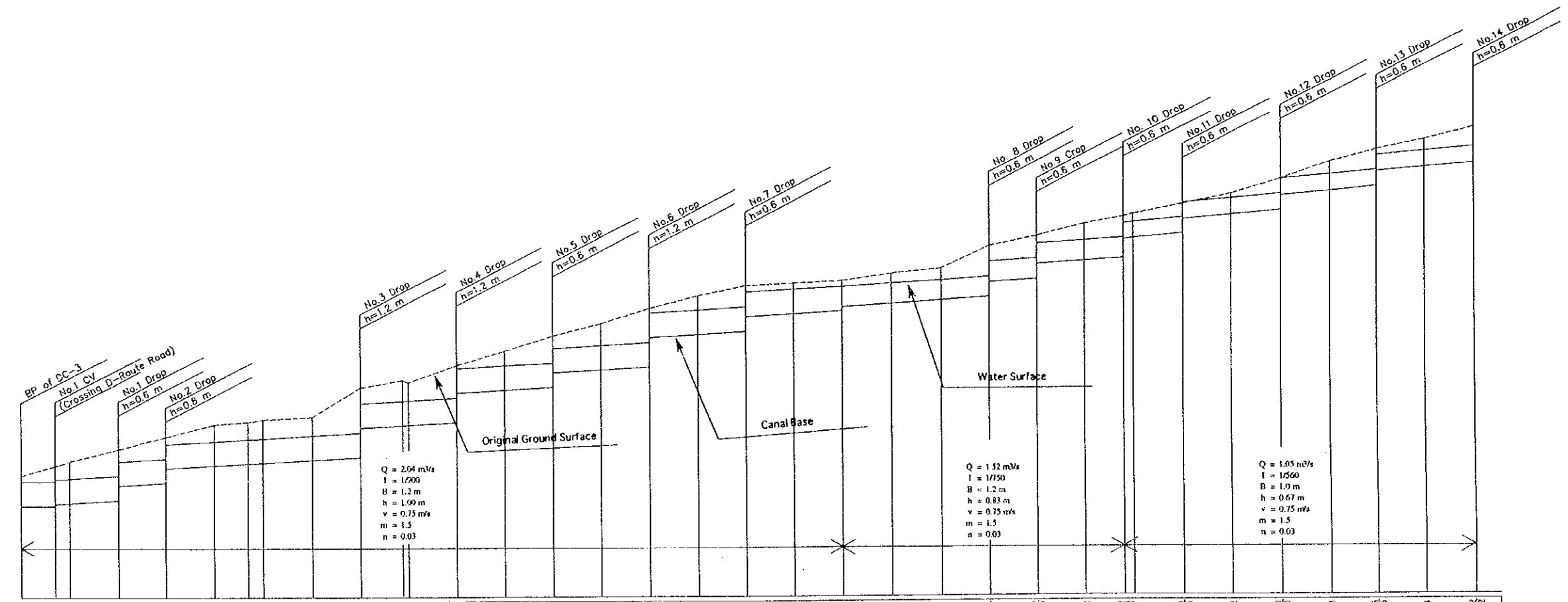
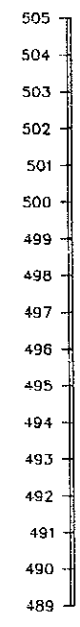
THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Drainage Canal - 2-1

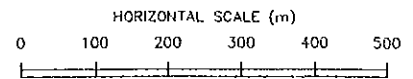
DATE	DRAWING NO.	ID-18
JAPAN INTERNATIONAL COOPERATION AGENCY		

DC-3(1/2)

ELEVATION (m)



WATER SURFACE ELEVATION	490.25	490.95	491.38	491.09	491.91	492.02	492.14	492.25	492.45	493.55	493.87	494.98	495.09	495.11	497.22	497.34	497.34	497.46	498.05	498.16	498.16	498.29	498.42	498.56	498.76	499.28	499.28	500.02	500.12	500.12	500.77	500.95	501.55	501.72	501.90	502.50	502.50	502.88	502.88	503.64	503.64	504.42	504.42			
CANAL BASE ELEVATION	489.25	489.25	489.38	489.09	490.31	490.99	491.02	491.14	491.25	492.55	492.87	493.98	494.09	494.11	496.22	496.34	496.34	497.05	497.64	498.05	498.16	498.16	498.29	498.42	498.56	498.76	499.28	499.28	500.02	500.12	500.12	500.77	500.95	501.55	501.72	501.90	502.50	502.50	502.88	502.88	503.64	503.64	504.42	504.42		
GROUND SURFACE ELEVATION	490.50	490.80	491.10	491.60	492.10	492.50	492.80	492.90	494.10	494.40	495.50	495.60	496.20	496.20	497.30	497.30	497.30	497.46	498.30	498.40	498.40	498.70	498.80	498.90	499.60	500.20	500.20	500.70	500.70	501.00	501.00	501.50	501.50	501.90	502.50	502.50	503.20	503.20	504.10	504.10	504.60	504.60				
REDUCED DISTANCE	0.00	70.00	100.00	200.00	300.00	400.00	470.00	500.00	600.00	700.00	768.00	800.00	900.00	1000.00	1100.00	1200.00	1300.00	1400.00	1500.00	1600.00	1700.00	1800.00	1900.00	2000.00	2100.00	2200.00	2300.00	2400.00	2500.00	2600.00	2700.00	2800.00	2900.00	3000.00	3100.00	3200.00	3300.00	3400.00	3500.00	3600.00	3700.00	3800.00	3900.00	4000.00		
DISTANCE	0.00	70.00	30.00	100.00	100.00	100.00	70.00	30.00	100.00	100.00	88.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
STATION NO.	BP	No.1	No.2	No.3	No.4	P.2	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16	No.17	No.18	No.19	No.20	No.21	No.22	No.23	No.24	No.25	No.26	No.27	No.28	No.29	No.30														

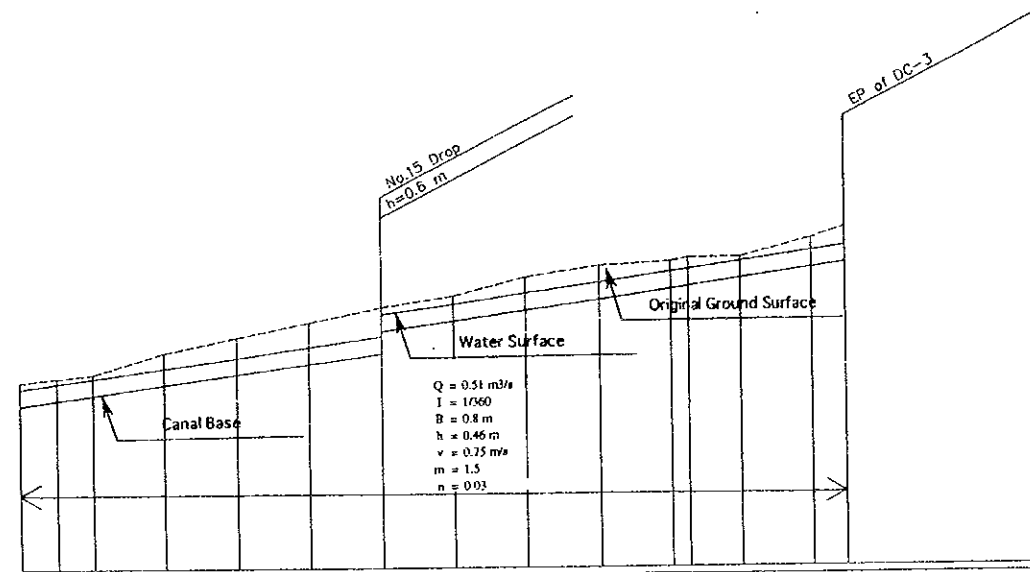
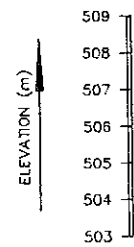


THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

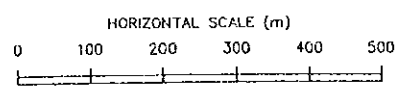
TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Drainage Canal - 3 (1/2)

DATE _____ DRAWING NO. _____ ID-19
 JAPAN INTERNATIONAL COOPERATION AGENCY

DC-3(2/2)

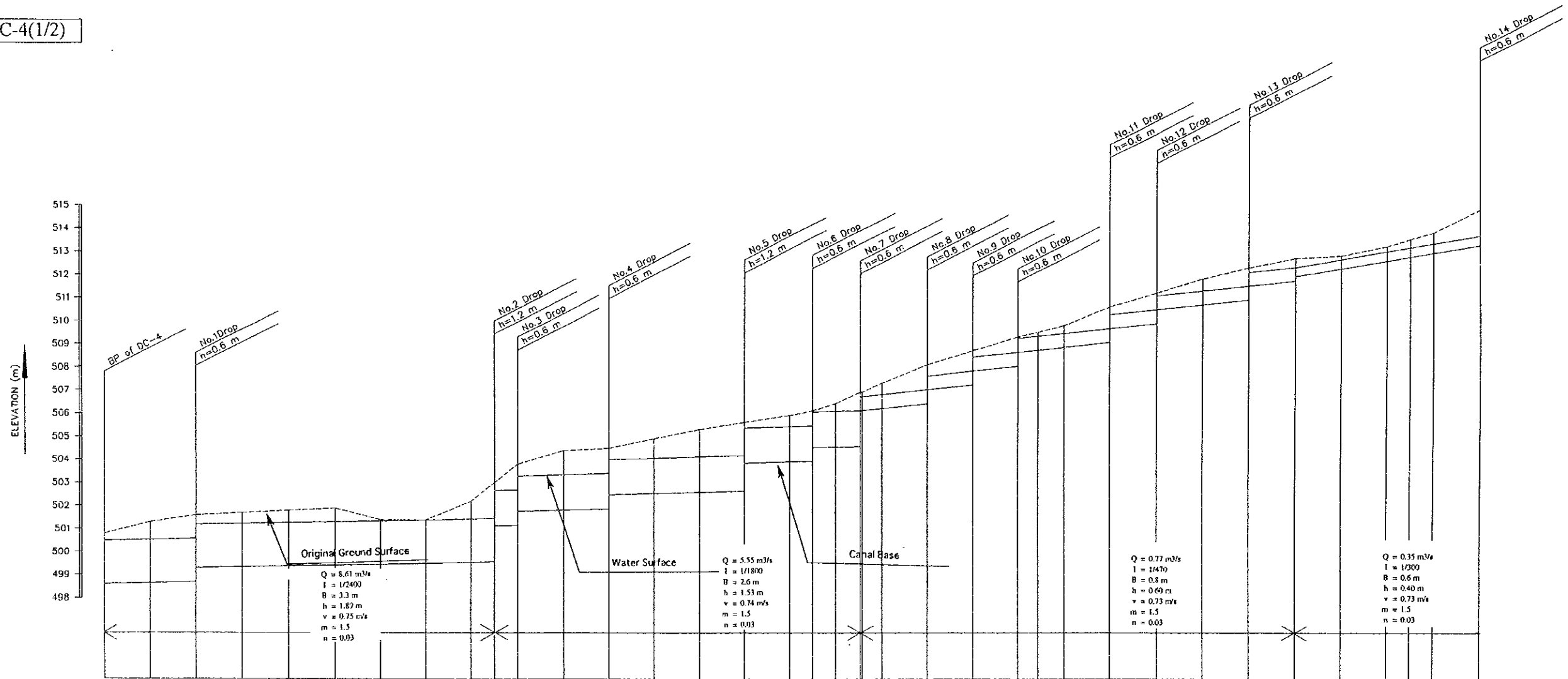


WATER SURFACE ELEVATION	504.42	504.56	504.69	504.87	505.25	505.53	505.81	506.09	506.36	506.68	506.96	507.24	507.52	507.59	507.79	508.07	508.20
CANAL BASE ELEVATION	503.96	504.10	504.23	504.51	504.79	505.07	505.35	505.62	505.89	506.22	506.50	506.78	507.06	507.13	507.33	507.61	507.74
GROUND SURFACE ELEVATION	504.60	504.70	504.80	505.40	505.60	506.20	506.80	507.40	508.00	508.50	509.00	509.50	509.80	509.90	509.90	509.90	509.90
REDUCED DISTANCE	3000.00	3650.00	3100.00	3200.00	3300.00	3400.00	3500.00	3600.00	3700.00	3800.00	3900.00	3926.00	4000.00	4100.00	4146.00		
DISTANCE	0.00	50.00	50.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	28.00	74.00	100.00	46.00		
STATION NO.		No.31	No.32	No.33	No.34	No.35	No.36	No.37	No.38	No.39	No.40	No.41	EP				

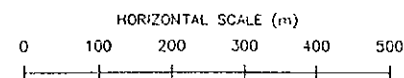


THE REPUBLIC OF MALAWI			
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT			
TITLE OF DRAWING Irrigation and Drainage Facilities Longitudinal Profile Drainage Canal - 3 (2/2)			
DATE		DRAWING NO.	ID-20
JAPAN INTERNATIONAL COOPERATION AGENCY			

DC-4(1/2)



STATION NO.	DISTANCE	REDUCED DISTANCE	GROUND SURFACE ELEVATION	CANAL BASE ELEVATION	WATER SURFACE ELEVATION
BP	0.00	0.00	500.80	498.81	500.70
No.1	100.00	100.00	501.30	498.65	500.74
No.2	100.00	200.00	501.00	498.50	500.73
No.3	100.00	300.00	501.70	499.54	501.43
No.4	100.00	400.00	501.80	499.58	501.47
No.5	100.00	500.00	501.90	499.62	501.51
No.6	100.00	600.00	501.40	499.66	501.55
No.7	100.00	700.00	501.40	499.70	501.59
No.8	100.00	800.00	502.20	499.75	501.64
No.9	50.00	850.00	503.00	499.77	501.66
No.9	50.00	900.00	503.76	500.73	502.26
No.10	100.00	1000.00	503.80	501.96	502.29
No.10	100.00	1000.00	504.40	502.01	503.54
No.11	100.00	1100.00	504.50	502.07	503.60
No.12	100.00	1200.00	504.90	502.72	504.25
No.13	100.00	1300.00	505.30	502.78	504.31
No.14	100.00	1400.00	505.60	502.83	504.38
No.15	100.00	1500.00	505.90	504.09	505.62
No.16	50.00	1550.00	506.10	504.12	505.65
No.16	50.00	1600.00	506.40	504.74	506.27
No.17	4.00	1654.00	506.90	504.77	506.30
No.17	42.00	1696.00	506.90	505.31	506.80
No.18	100.00	1796.00	507.30	506.40	507.00
No.19	100.00	1896.00	508.10	506.61	507.21
No.19	100.00	1996.00	508.70	507.21	507.81
No.20	100.00	2096.00	509.30	507.43	508.03
No.20	44.00	2140.00	509.50	508.03	508.63
No.21	56.00	2196.00	509.50	508.05	508.65
No.22	100.00	2296.00	510.60	508.27	508.87
No.23	100.00	2396.00	511.20	508.87	509.47
No.24	100.00	2496.00	511.80	510.08	510.68
No.25	100.00	2596.00	512.30	511.70	512.30
No.26	100.00	2696.00	512.70	511.92	512.52
No.27	100.00	2796.00	512.90	512.12	512.85
No.28	100.00	2896.00	513.20	512.45	513.18
No.29	50.00	2946.00	513.50	512.62	513.35
No.29	50.00	2996.00	513.80	512.79	513.52
No.30	100.00	3096.00	514.80	513.72	514.45



THE REPUBLIC OF MALAWI
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Drainage Canal - 4 (1/2)

DATE	DRAWING NO.	ID-21
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JAPAN INTERNATIONAL COOPERATION AGENCY

DC-4(2/2)

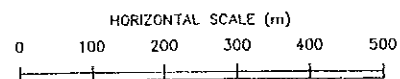
ELEVATION (m)

515
514
513

EP of DC-4

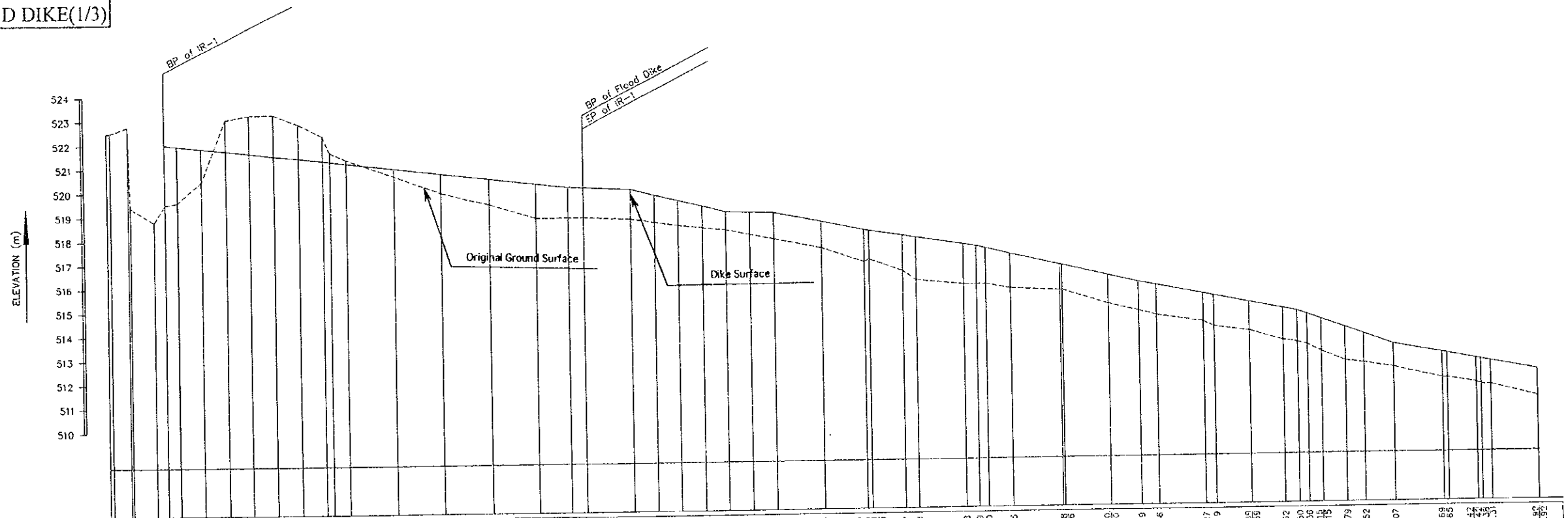
Q = 0.35 m³/s
I = 1/300
B = 0.6 m
h = 0.40 m
v = 0.73 m/s
m = 1.5
n = 0.03

WATER SURFACE ELEVATION	514.45	514.60
CANAL BASE ELEVATION	513.72	513.87
GROUND SURFACE ELEVATION	514.80	514.80
REDUCED DISTANCE	3000.00	3045.00
DISTANCE	0.00	45.00
STATION NO.	6	

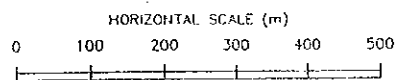


THE REPUBLIC OF MALAWI			
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT			
TITLE OF DRAWING			
Irrigation and Drainage Facilities			
Longitudinal Profile Drainage Canal - 4 (2/2)			
DATE		DRAWING NO.	ID-22
JAPAN INTERNATIONAL COOPERATION AGENCY			

FLOOD DIKE(1/3)



STATION NO.	DISTANCE	REDUCED DISTANCE	GROUND SURFACE ELEVATION	DIKE SURFACE ELEVATION
New BP of IR-1	0.00	0.00	522.50	522.50
PI.1	13.00	13.00	522.25	522.25
	26.00	26.00	521.40	521.40
New BP of IR-1	50.00	100.00	518.77	522.00
PI.2	63.00	123.00	519.50	522.00
PI.3	76.00	136.00	519.60	521.84
PI.4	89.00	149.00	519.60	521.84
No.1	102.00	162.00	520.45	521.83
No.2	115.00	175.00	523.00	521.71
No.3	128.00	188.00	523.70	521.60
No.4	141.00	201.00	523.70	521.48
No.5	154.00	214.00	522.80	521.37
BP.7	167.00	227.00	522.30	521.26
No.6	180.00	240.00	521.60	521.22
No.7	193.00	253.00	521.30	521.14
No.8	206.00	266.00	520.80	520.92
No.9	219.00	279.00	519.80	520.89
No.10	232.00	292.00	519.40	520.46
No.11	245.00	305.00	518.30	520.23
No.12	258.00	318.00	518.80	520.08
No.13	271.00	331.00	518.80	520.05
No.14	284.00	344.00	518.70	519.95
No.15	297.00	357.00	518.55	519.70
No.16	310.00	370.00	518.40	519.45
No.17	323.00	383.00	518.30	519.20
No.18	336.00	396.00	518.20	518.95
No.19	349.00	409.00	518.00	518.92
No.20	362.00	422.00	517.80	518.89
No.21	375.00	435.00	517.40	518.48
No.22	388.00	448.00	517.40	518.45
No.23	401.00	461.00	518.80	518.13
No.24	414.00	474.00	518.30	517.78
No.25	427.00	487.00	518.30	517.78
No.26	440.00	500.00	518.00	517.48
No.27	453.00	513.00	517.30	517.30
No.28	466.00	526.00	516.60	516.58
No.29	479.00	539.00	515.50	516.58
No.30	492.00	552.00	514.90	516.10
No.31	505.00	565.00	514.90	516.10
No.32	518.00	578.00	514.60	515.79
No.33	531.00	591.00	514.40	515.66
No.34	544.00	604.00	514.10	515.27
No.35	557.00	617.00	513.90	515.19
No.36	570.00	630.00	513.70	514.88
No.37	583.00	643.00	513.70	514.65
No.38	596.00	656.00	513.30	514.62
No.39	609.00	669.00	513.10	514.50
No.40	622.00	682.00	513.10	514.36
No.41	635.00	695.00	512.80	514.15
No.42	648.00	708.00	512.40	513.79
No.43	661.00	721.00	512.30	513.52
No.44	674.00	734.00	512.10	513.07
No.45	687.00	747.00	511.60	512.69
No.46	700.00	760.00	511.60	512.69
No.47	713.00	773.00	511.40	512.44
No.48	726.00	786.00	511.30	512.31
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THE REPUBLIC OF MALAWI

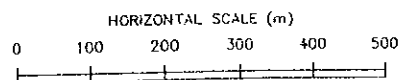
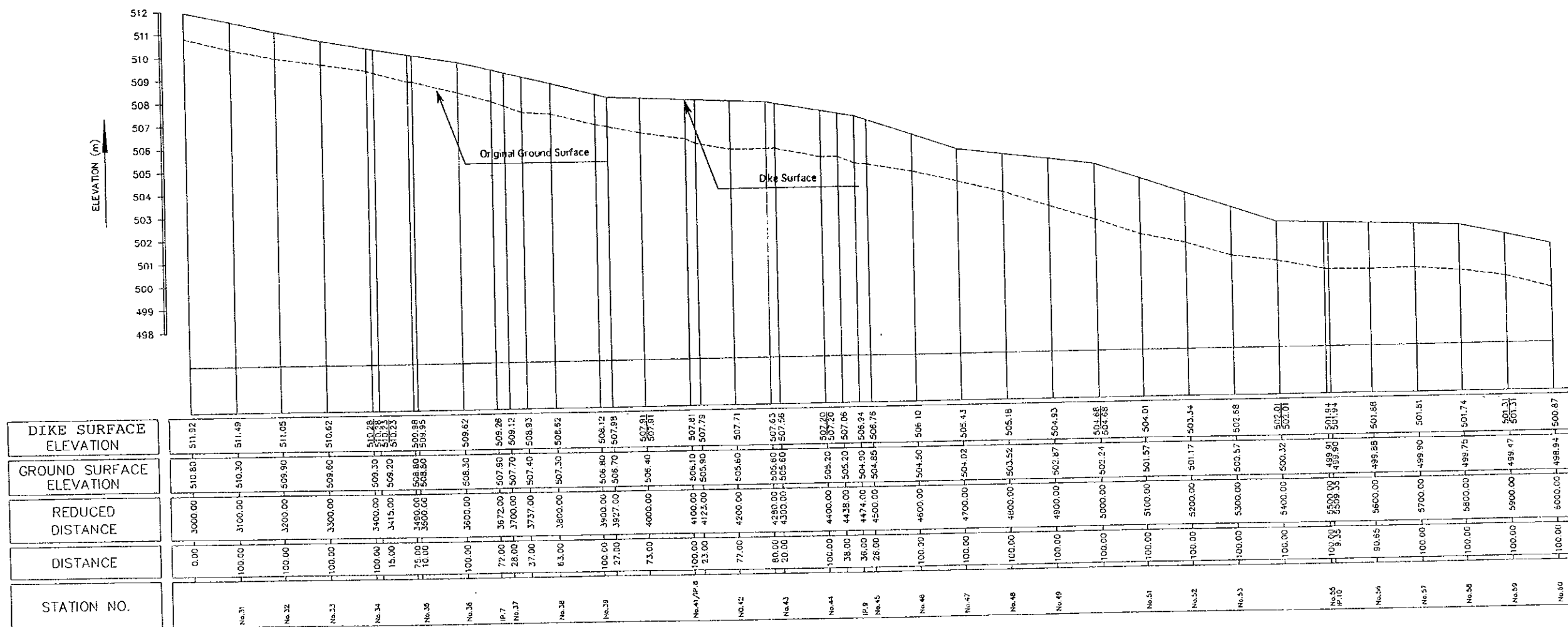
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
Irrigation and Drainage Facilities
Longitudinal Profile Flood Dike (1/3)

DATE	DRAWING NO.	ID-23
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JAPAN INTERNATIONAL COOPERATION AGENCY

FLOOD DIKE(2/3)



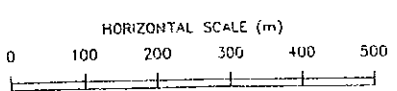
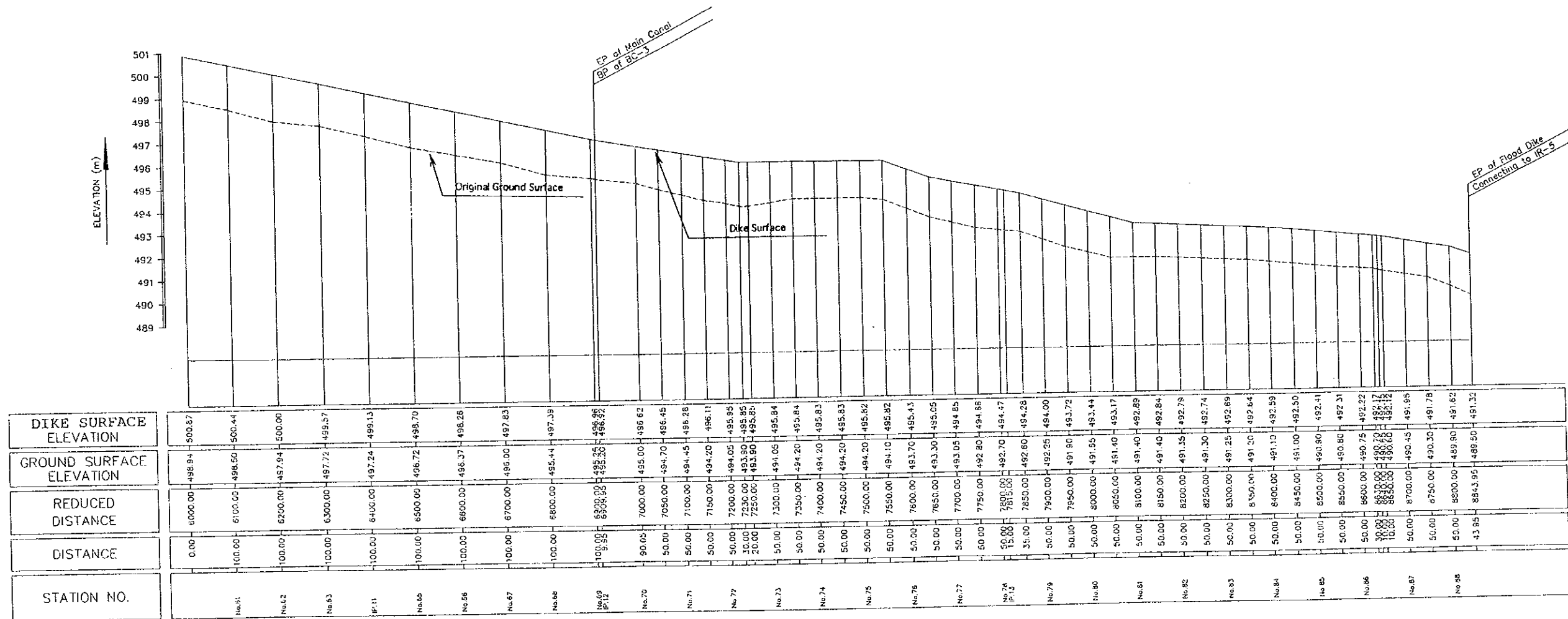
THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Flood Dike (2/3)

DATE	DRAWING NO.	ID-24
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JAPAN INTERNATIONAL COOPERATION AGENCY

FLOOD DIKE(3/3)

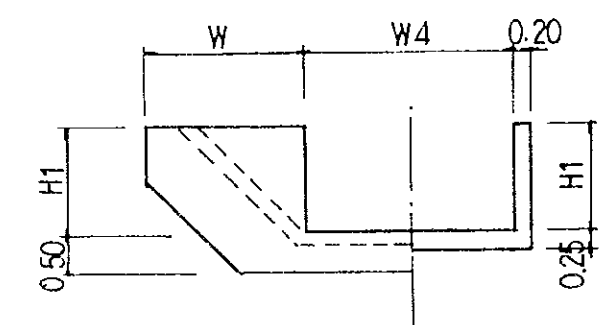
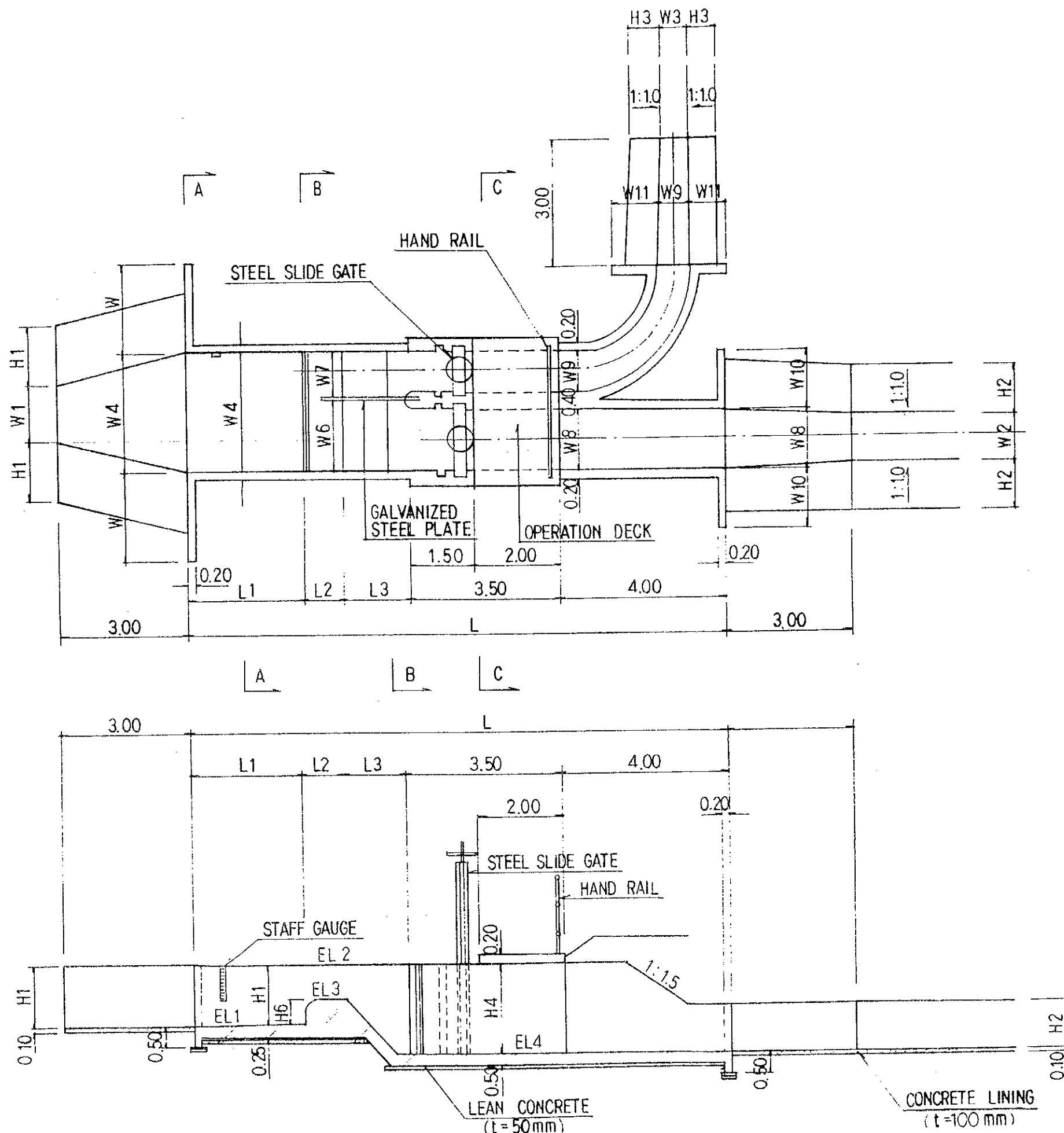


THE REPUBLIC OF MALAWI
 BWANJE VALLEY SMALLHOLDER
 IRRIGATION DEVELOPMENT PROJECT

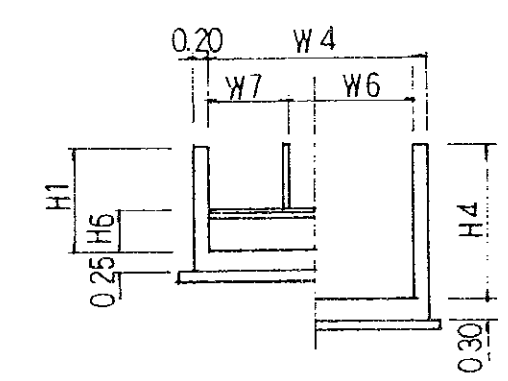
TITLE OF DRAWING
 Irrigation and Drainage Facilities
 Longitudinal Profile Flood Dike (3/3)

DATE	DRAWING NO.	ID-25
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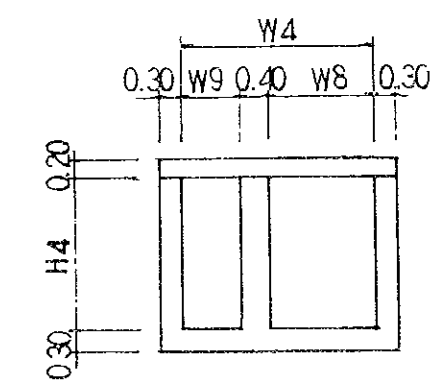
JAPAN INTERNATIONAL COOPERATION AGENCY



SECTION A-A

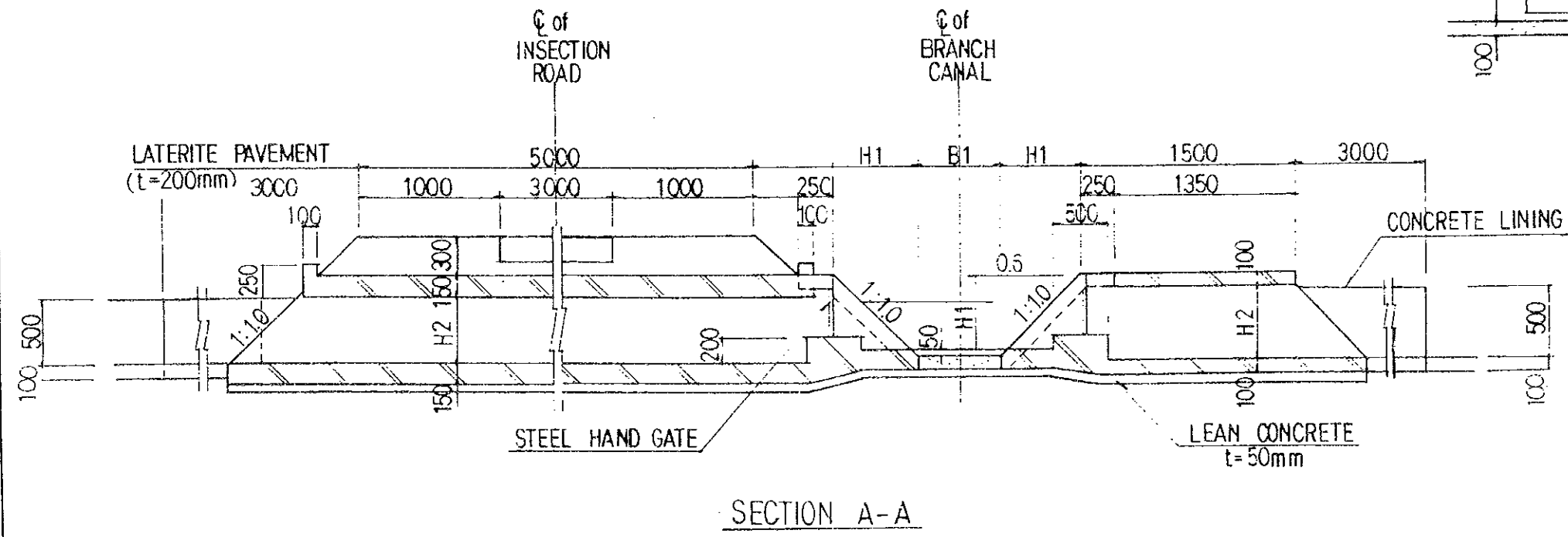
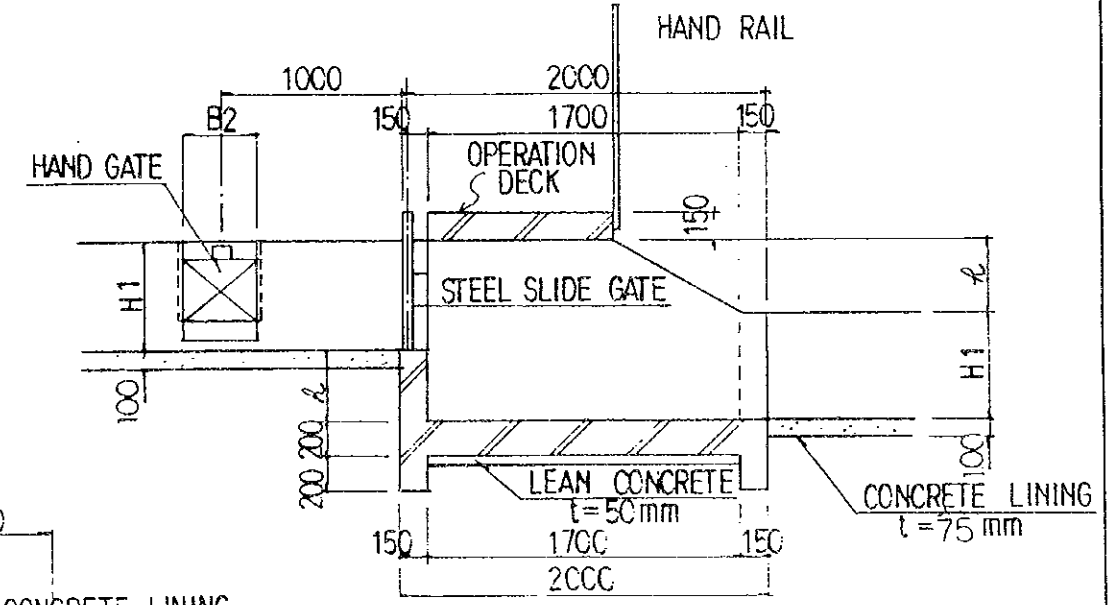
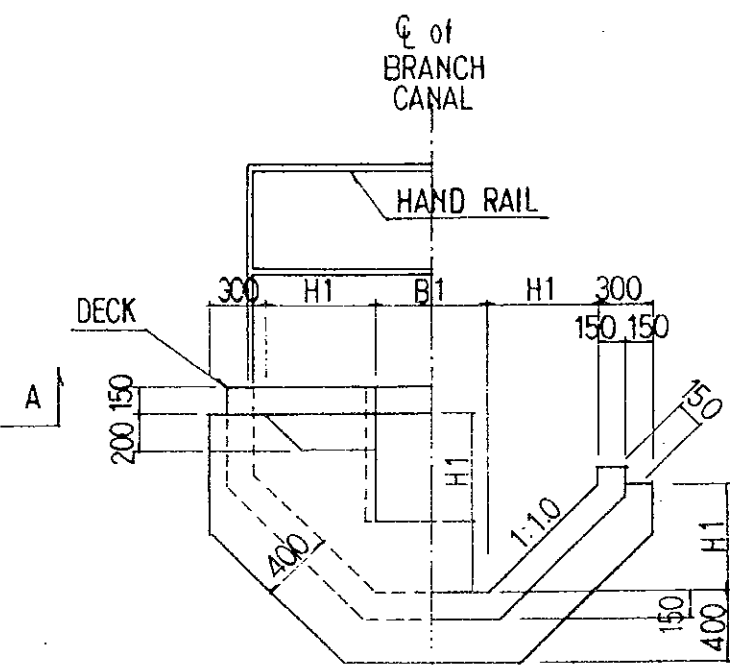
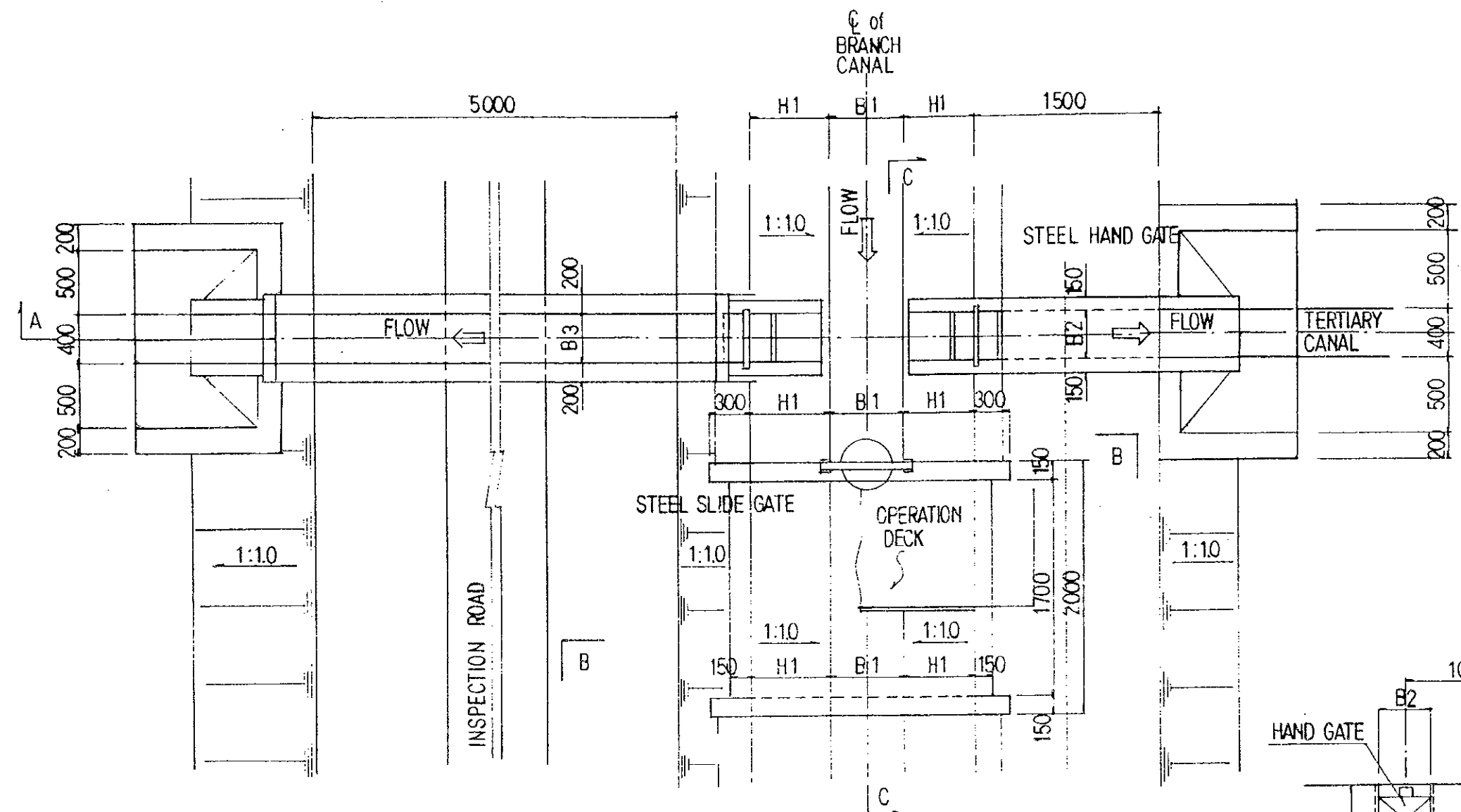


SECTION B-B

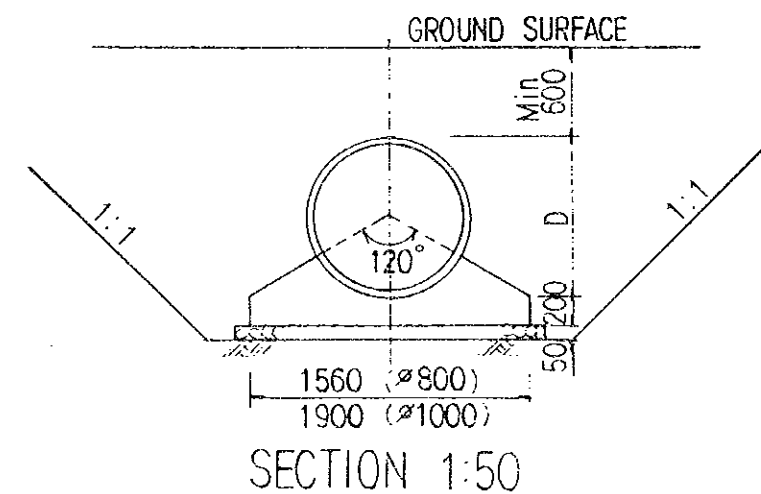
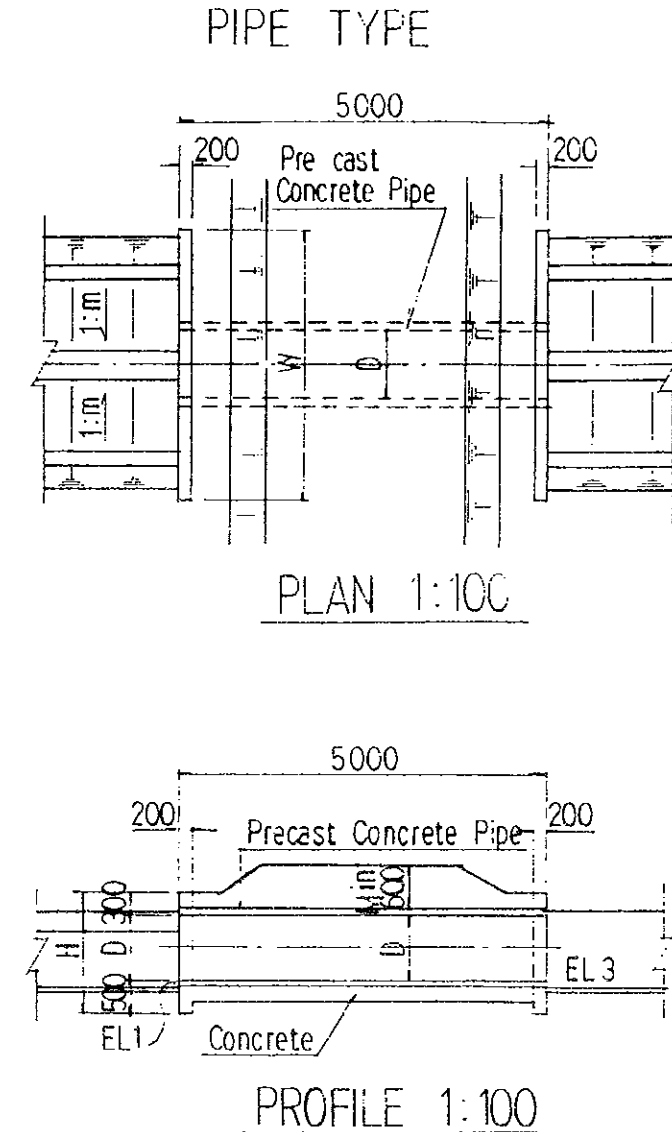
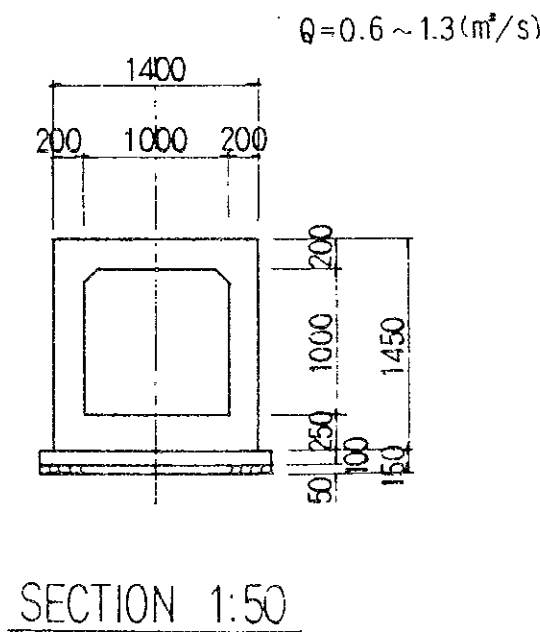
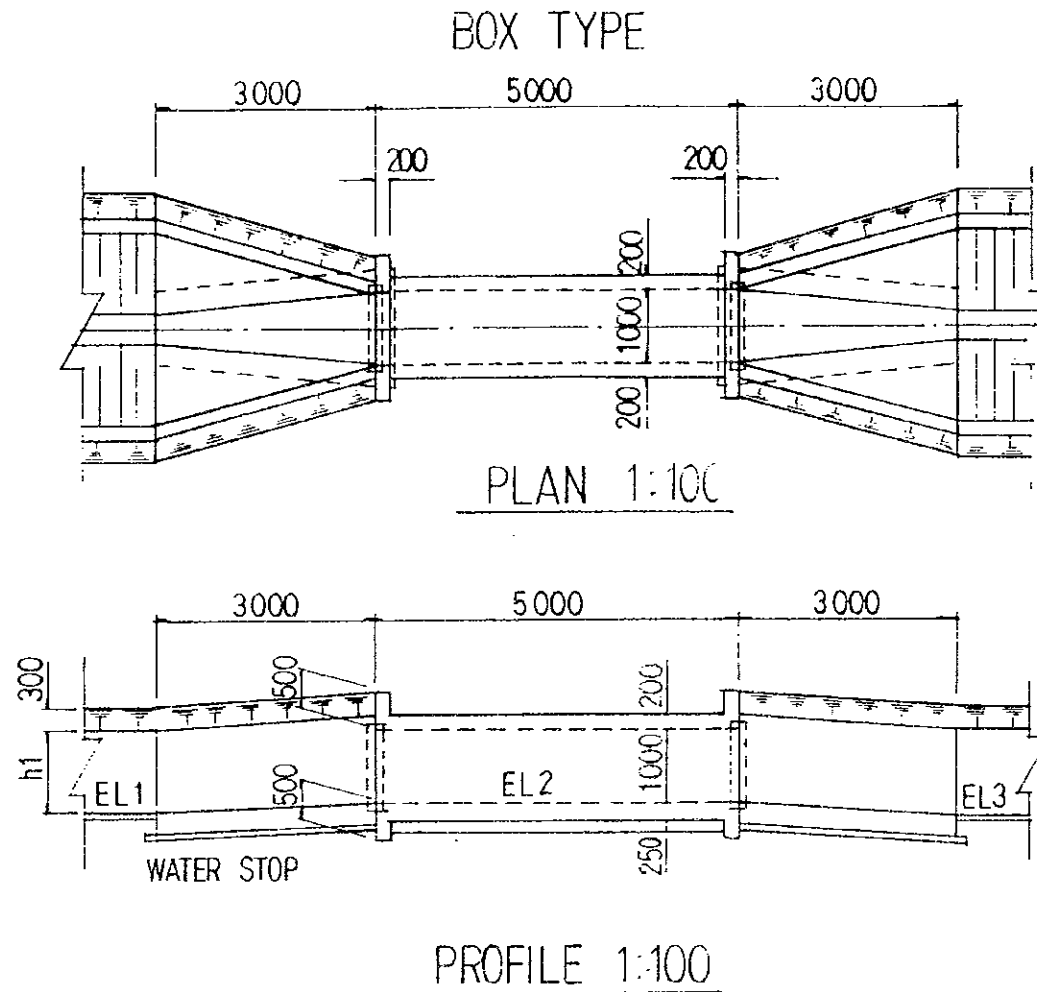
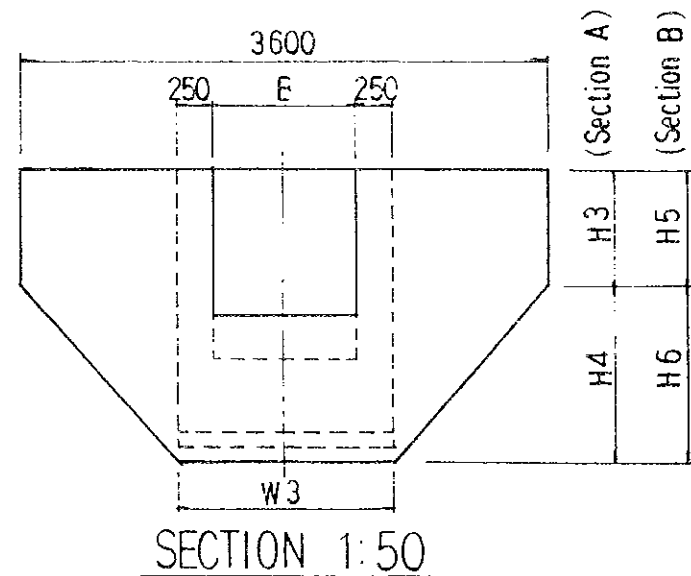
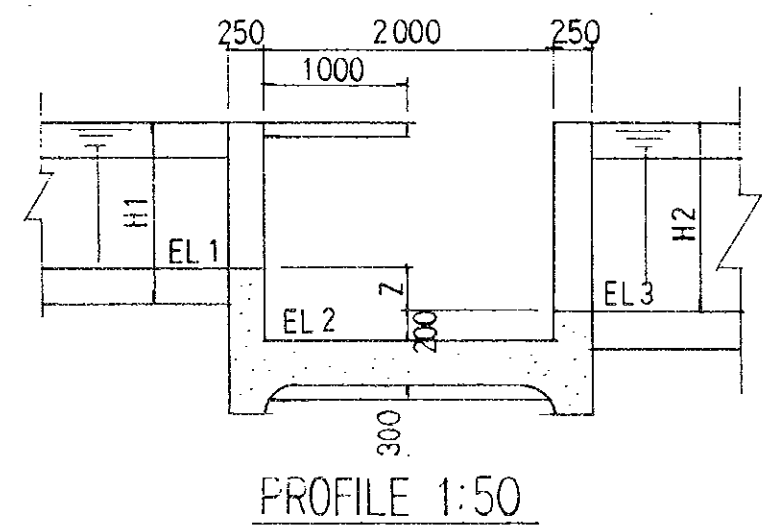
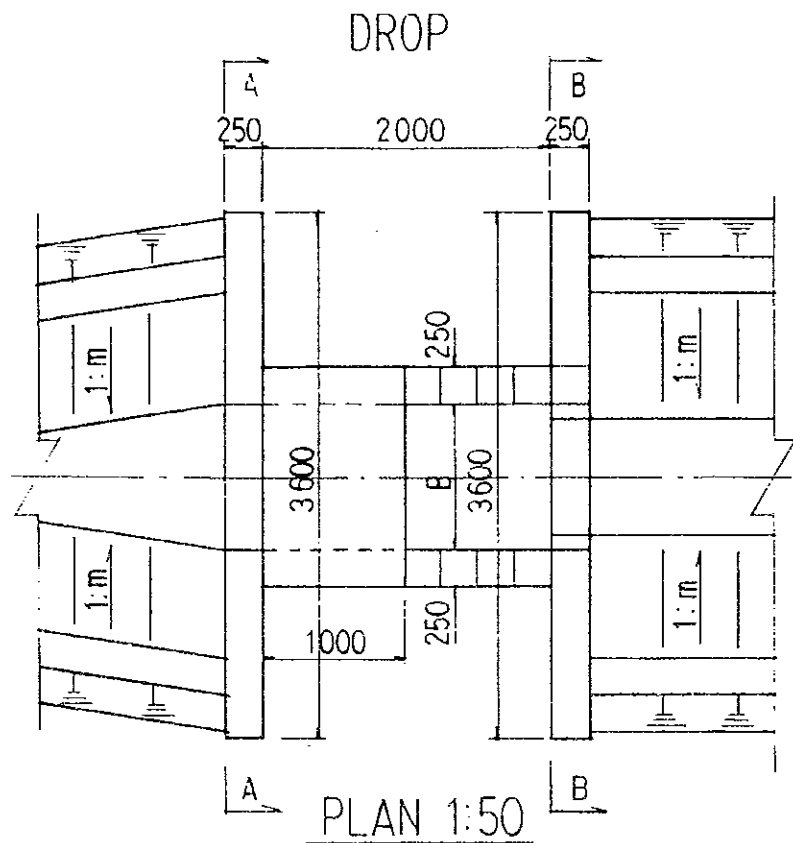


SECTION C-C

THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities Bifurcation		
DATE	DRAWING NO.	ID-26
JAPAN INTERNATIONAL COOPERATION AGENCY		

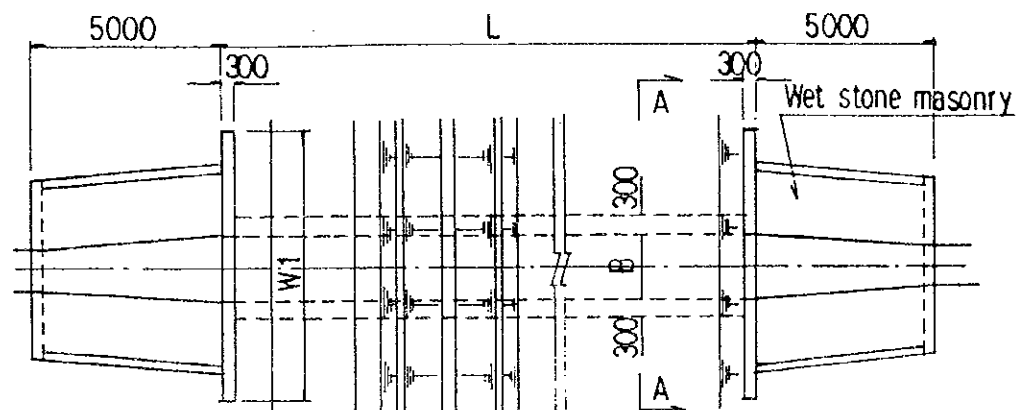


THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities		
Turnout		
DATE	DRAWING NO.	ID-27
JAPAN INTERNATIONAL COOPERATION AGENCY		



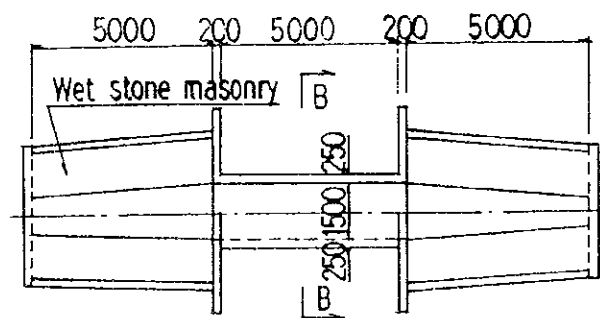
THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities Irrigation Drop and Culvert		
DATE	DRAWING NO.	ID-28
JAPAN INTERNATIONAL COOPERATION AGENCY		

CROSSDRAIN



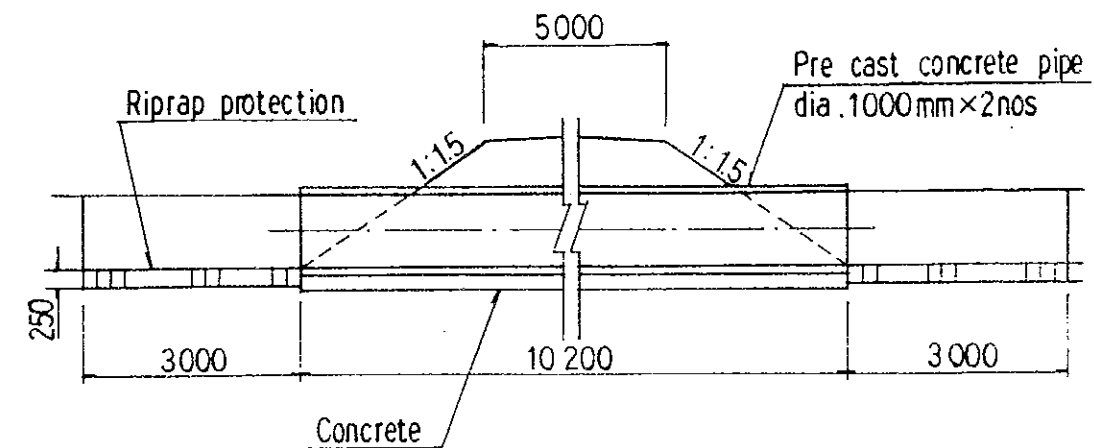
PLAN 1:200

BOX TYPE

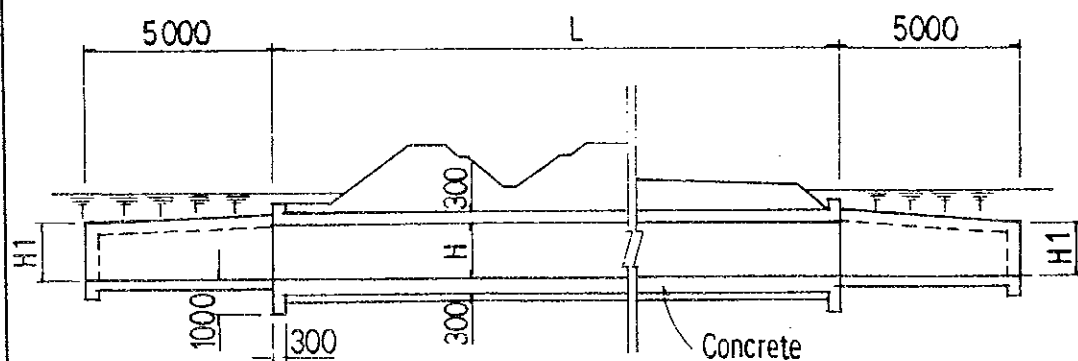


PLAN 1:200

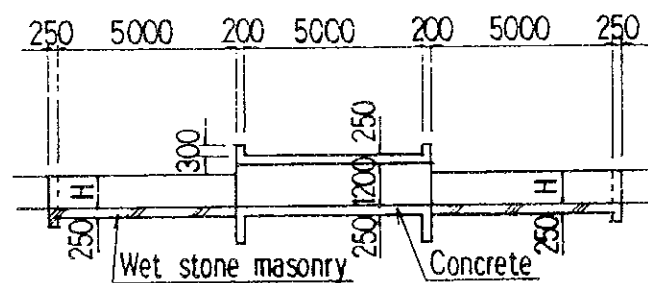
PIPE TYPE



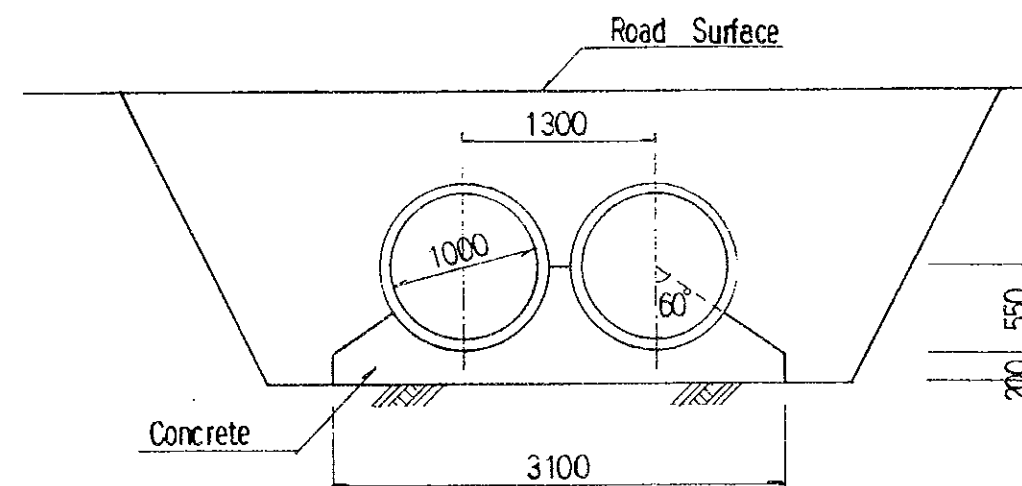
PROFILE 1:100



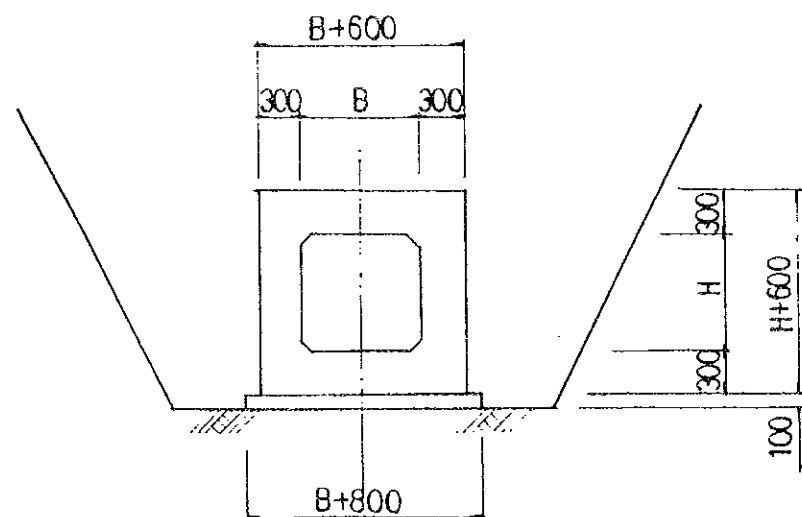
PROFILE 1:200



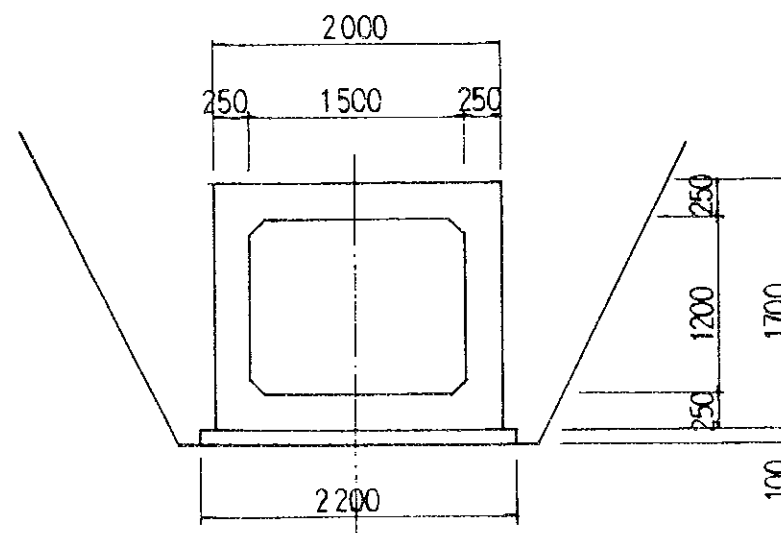
PROFILE 1:200



SECTION (Road Center) 1:50

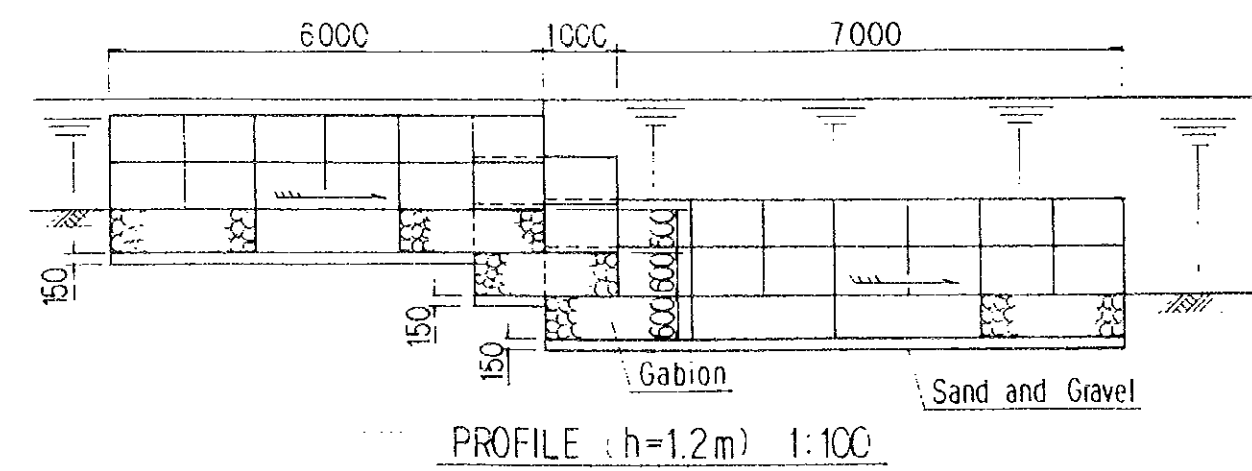
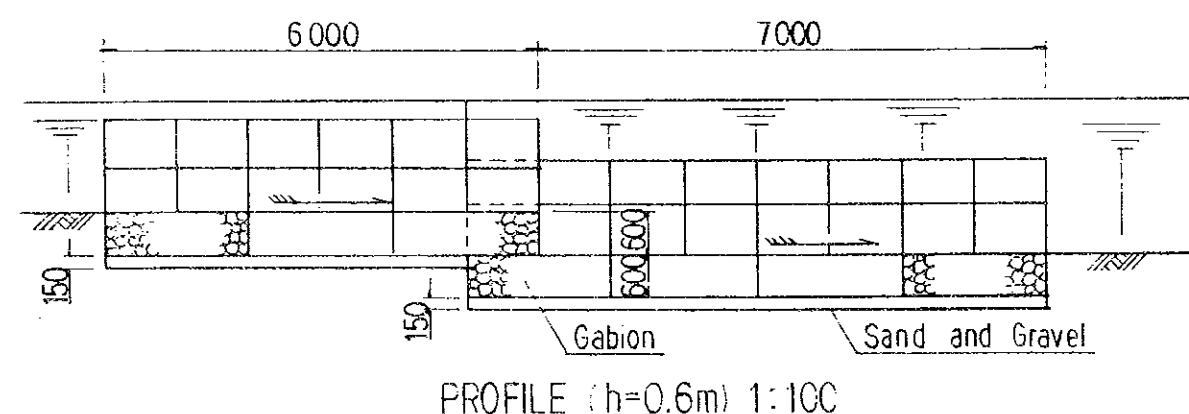
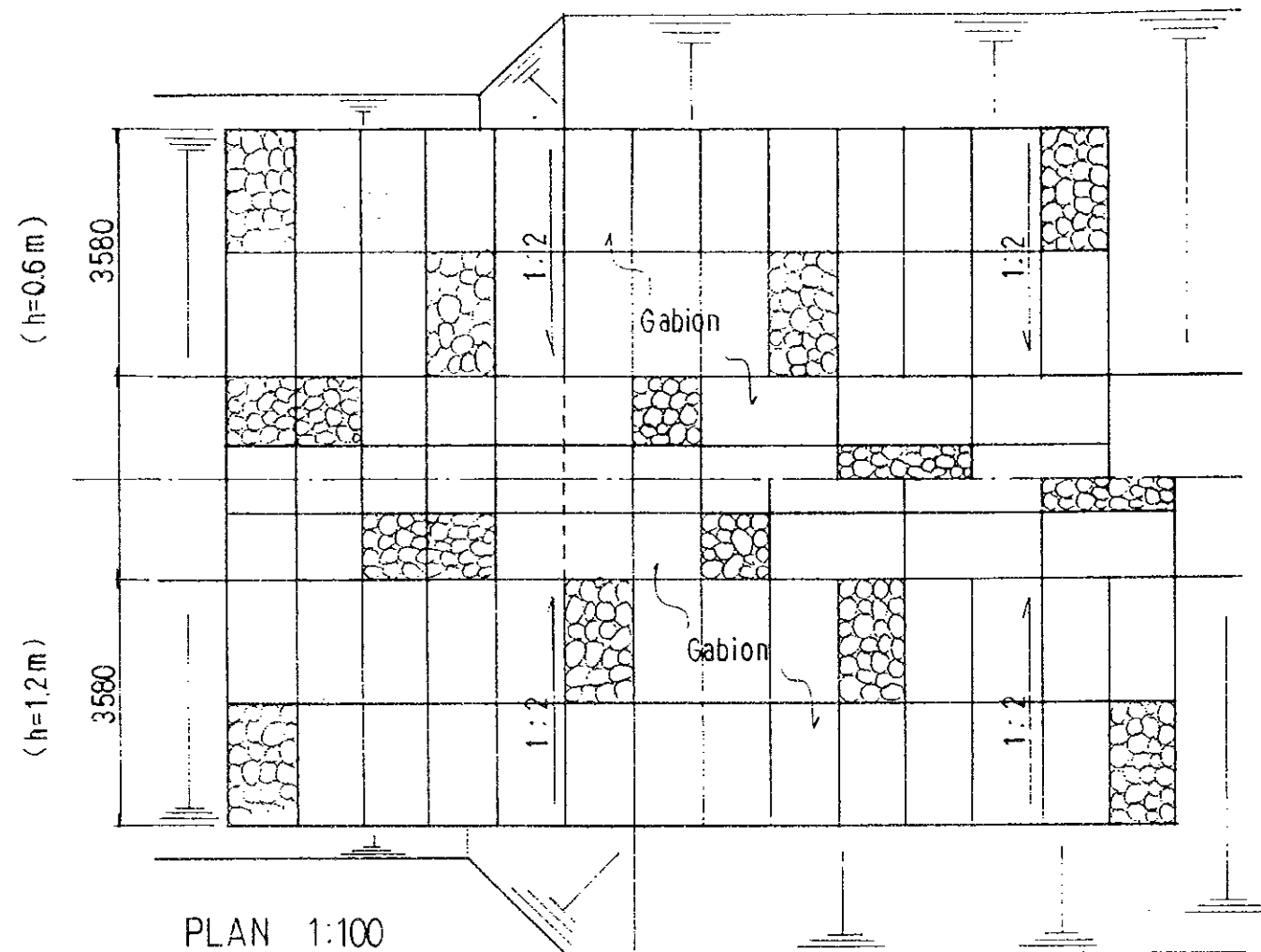


SECTION A-A 1:50

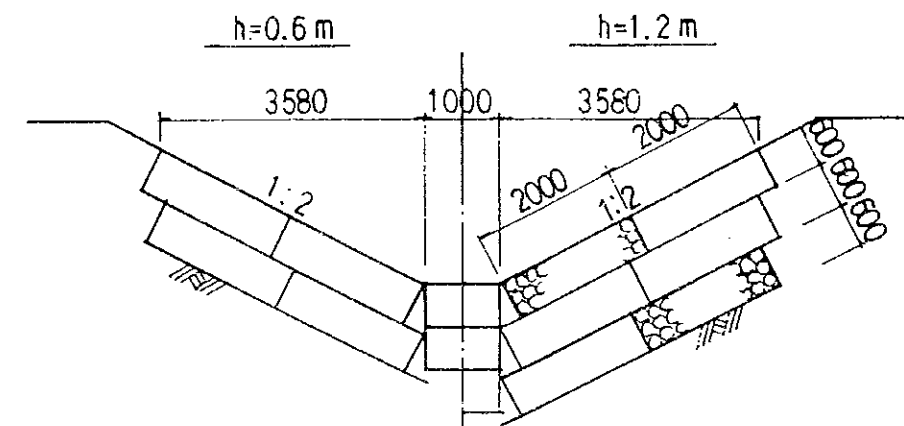


SECTION B-B 1:50

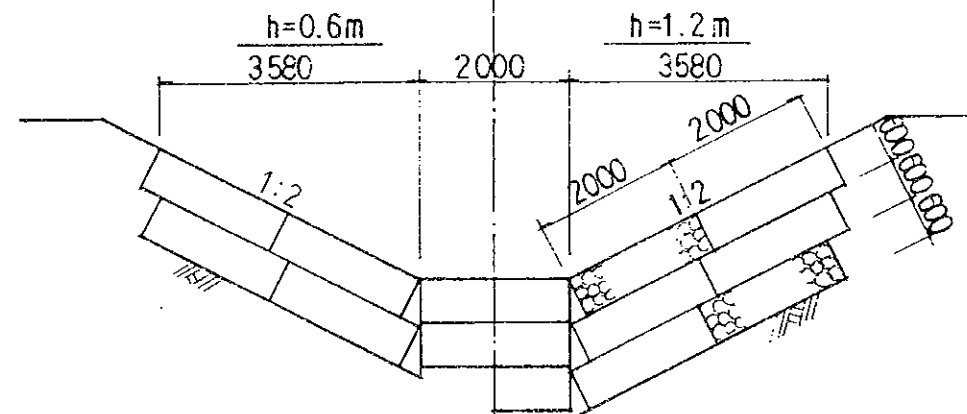
THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities Cross Drain and Drainage Culvert		
DATE	DRAWING NO.	ID-29
JAPAN INTERNATIONAL COOPERATION AGENCY		



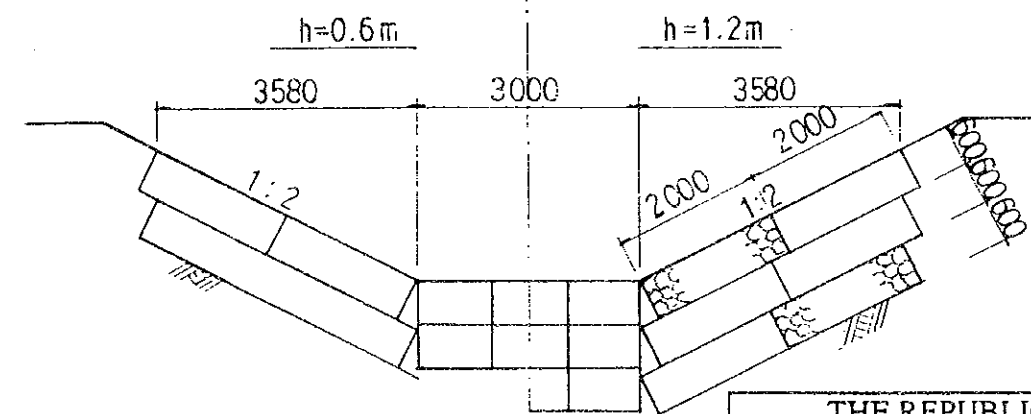
Base Width = 0.6, 0.8, 1.0 m



Base Width = 1.2, 1.4 m

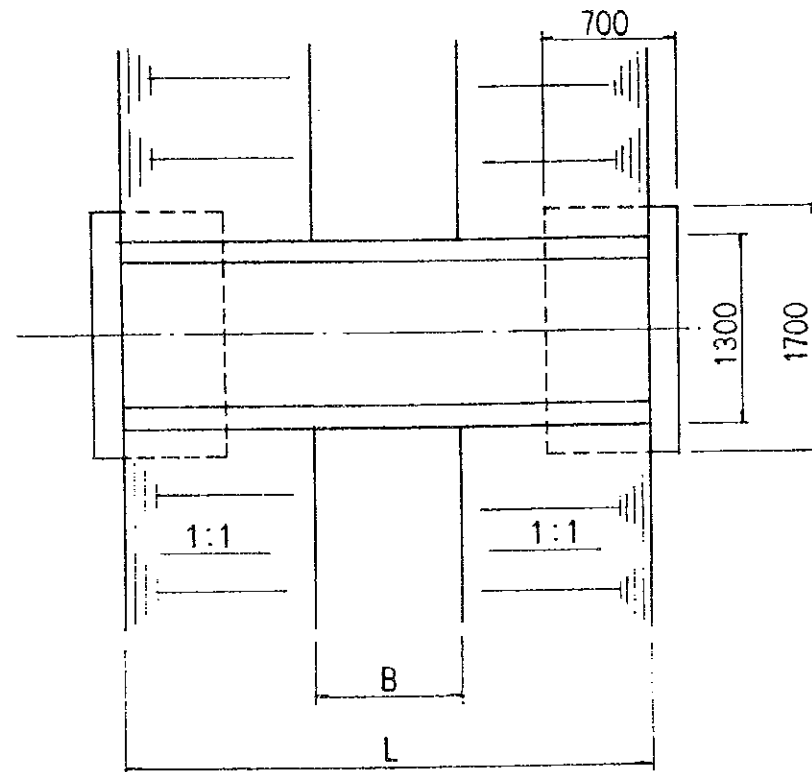


Base Width = 2.6, 3.3 m

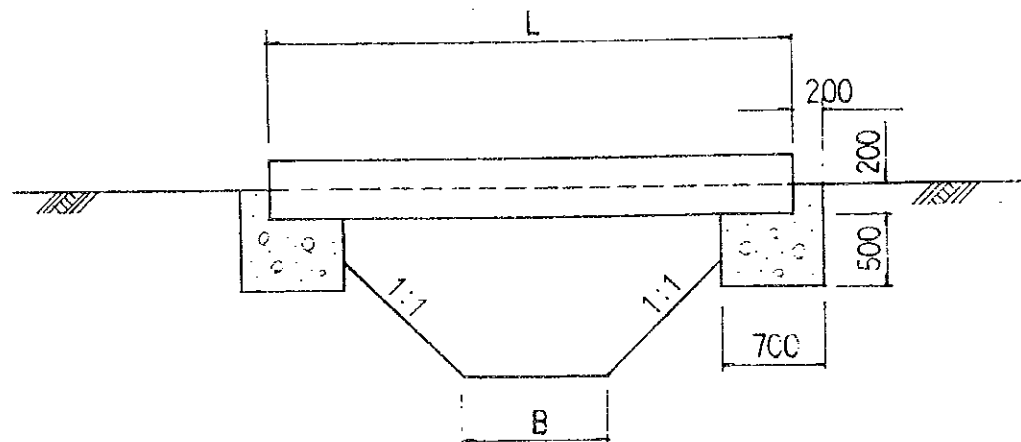


THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING		
Irrigation and Drainage Facilities		
Drainage Drop		
DATE	DRAWING NO.	ID-30
JAPAN INTERNATIONAL COOPERATION AGENCY		

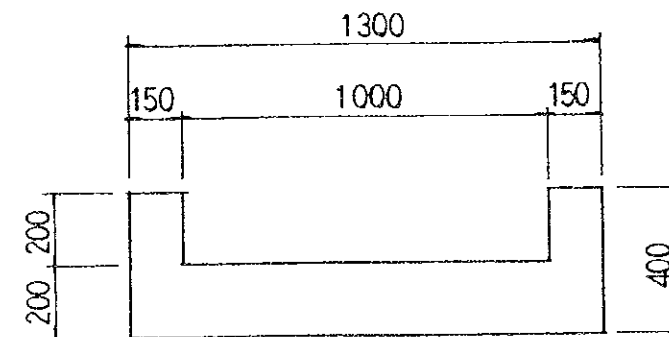
FOOT PATH FOR IRRIGATION CANAL



PLAN 1:50



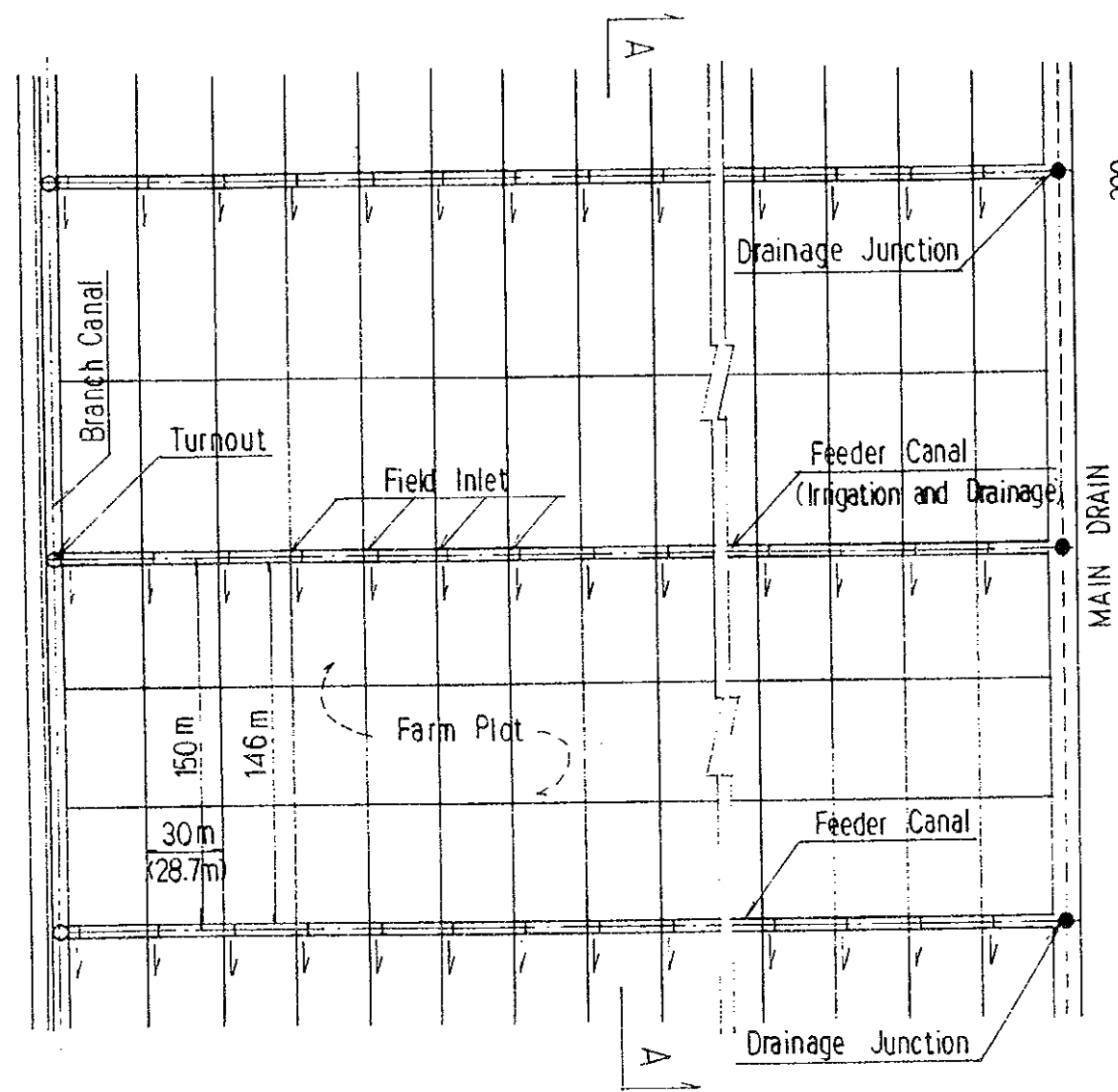
PROFILE 1:50



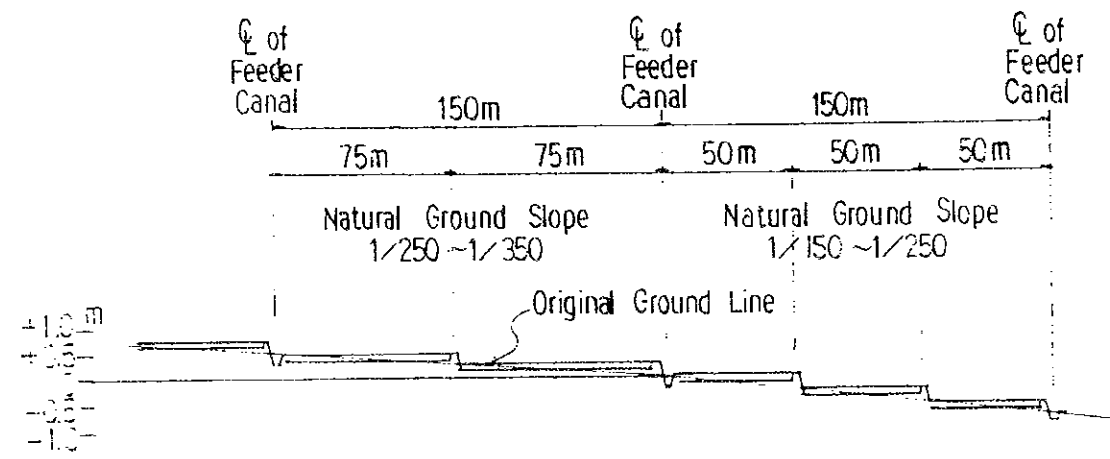
SECTION 1:20

THE REPUBLIC OF MALAWI			
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT			
TITLE OF DRAWING Irrigation and Drainage Facilities Foot Path Bridge			
DATE		DRAWING NO.	ID-31
JAPAN INTERNATIONAL COOPERATION AGENCY			

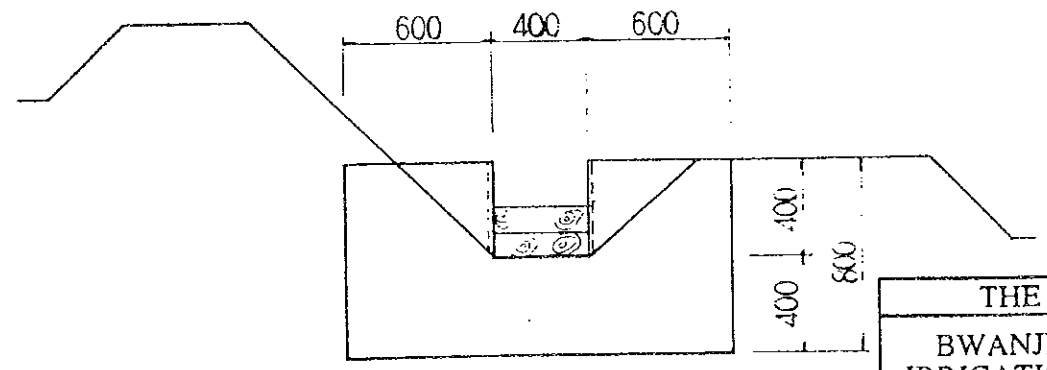
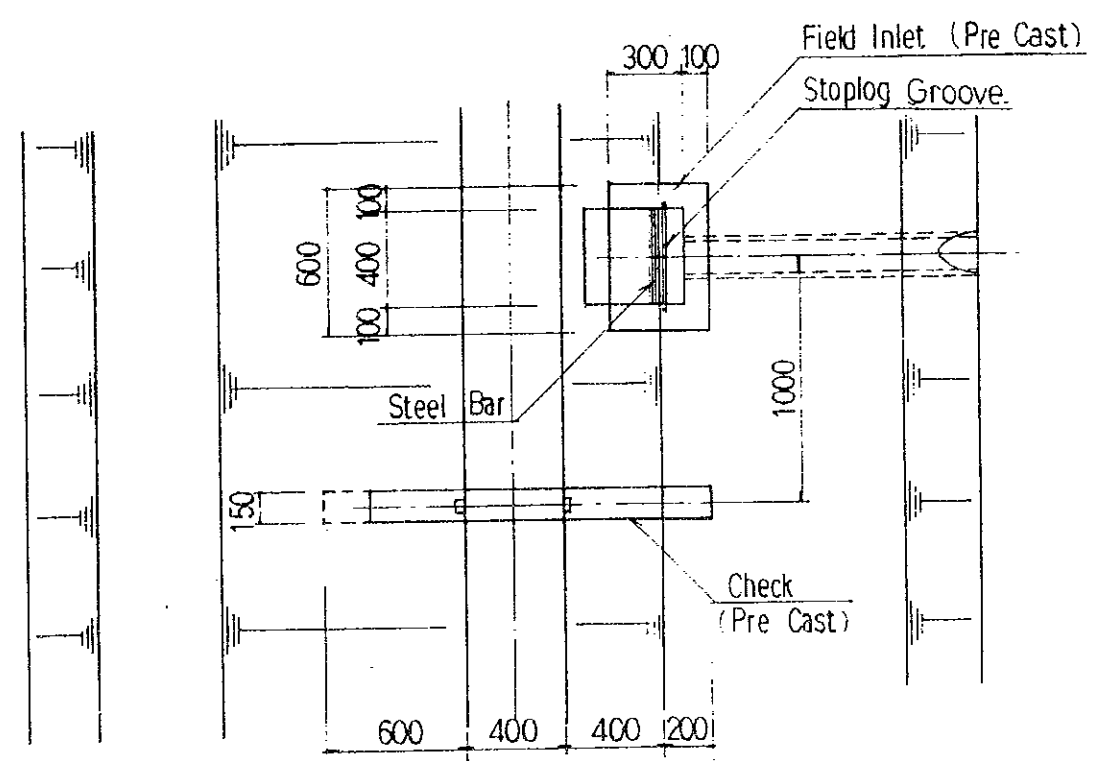
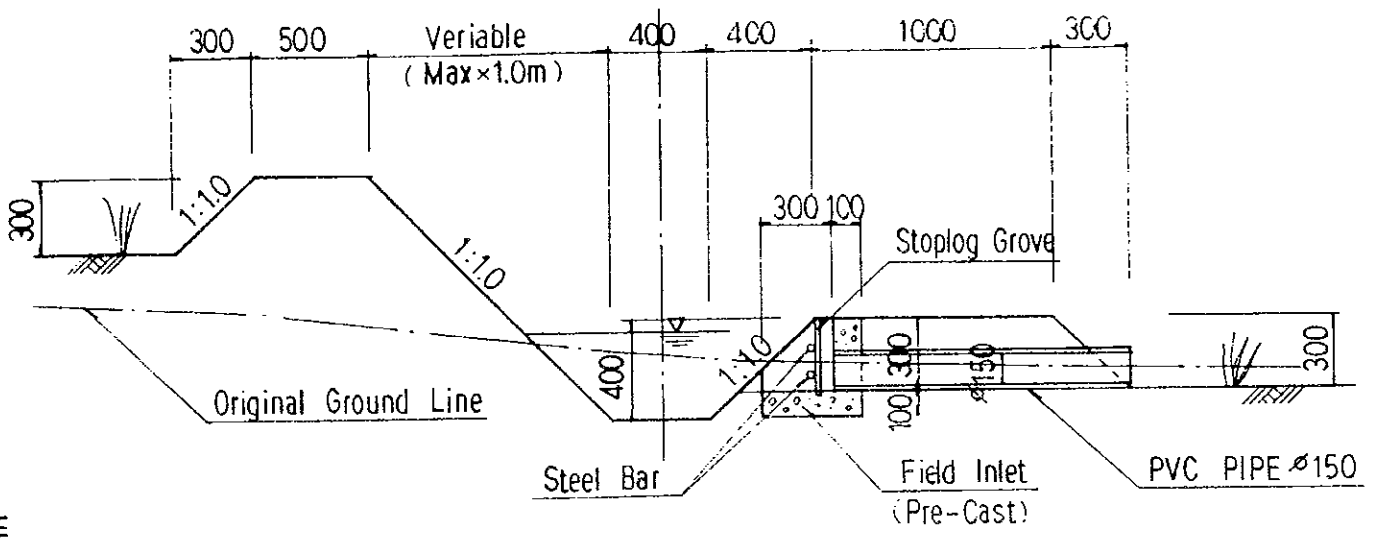
Canal Inspection Road



TYPICAL FARM LAYOUT SCALE-A

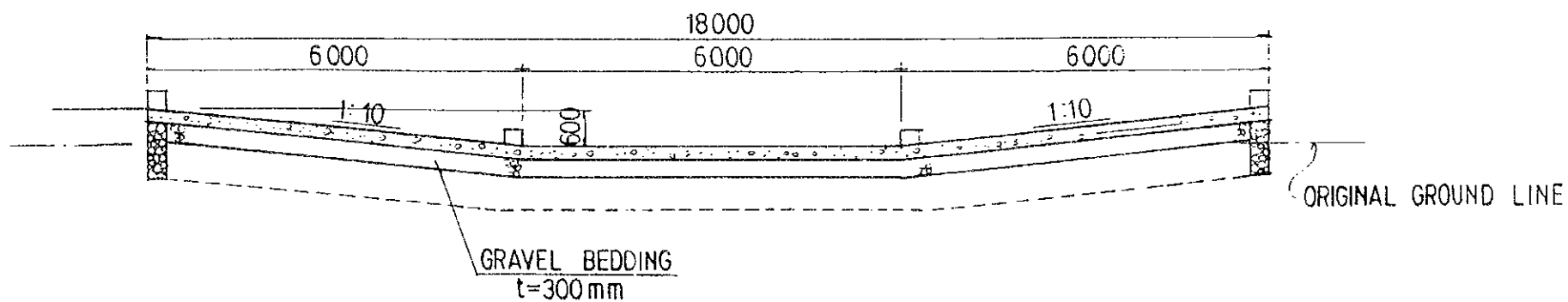
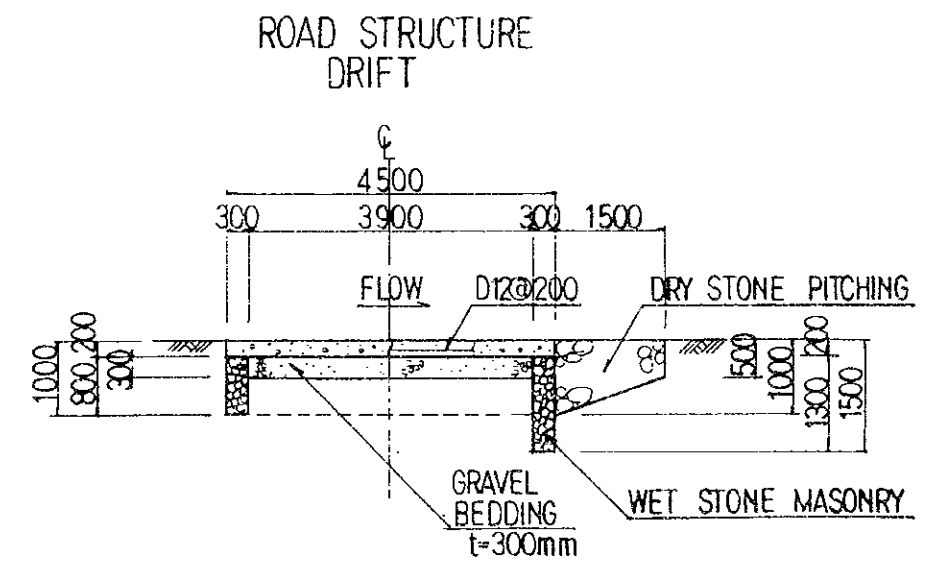
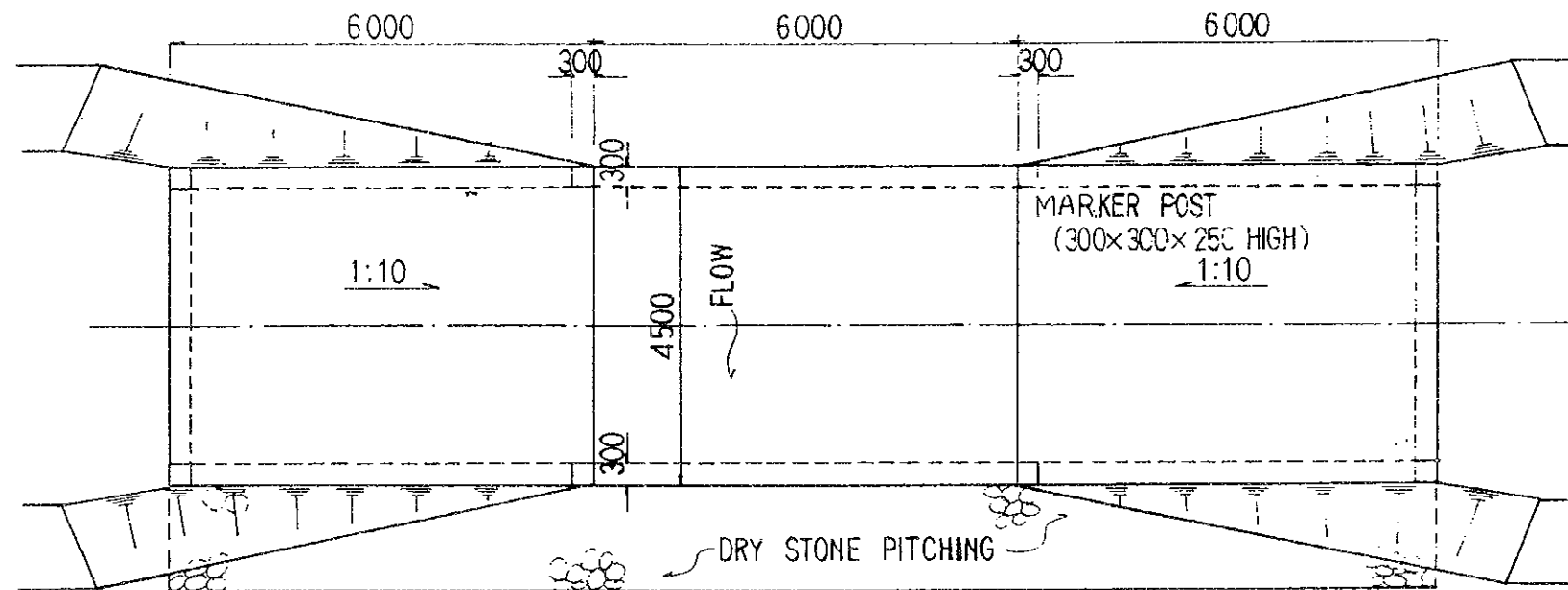
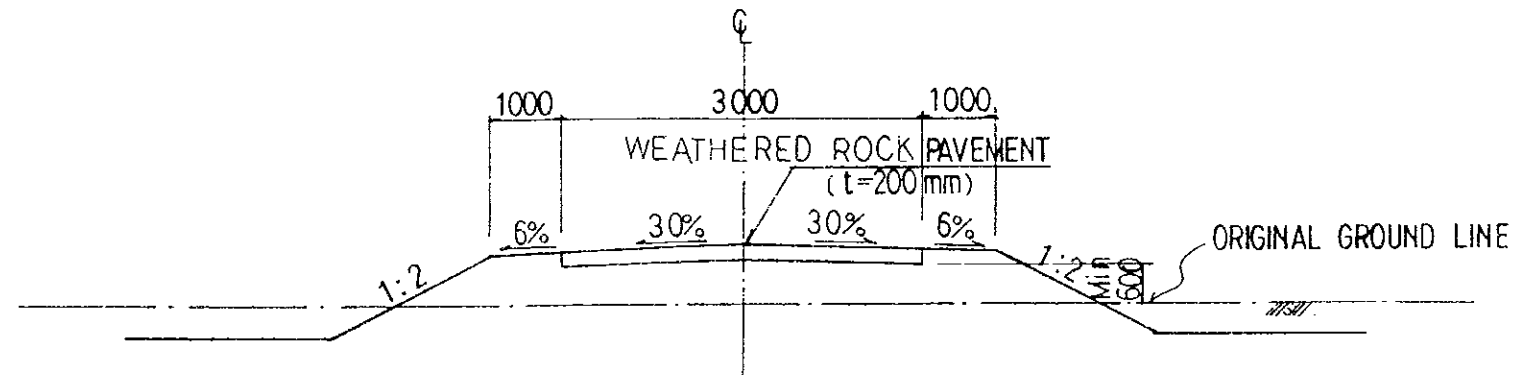


SECTION A-A
Horizontal SCALE - A
Vertical SCALE - B

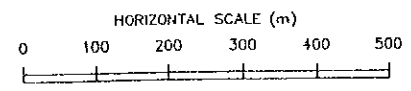
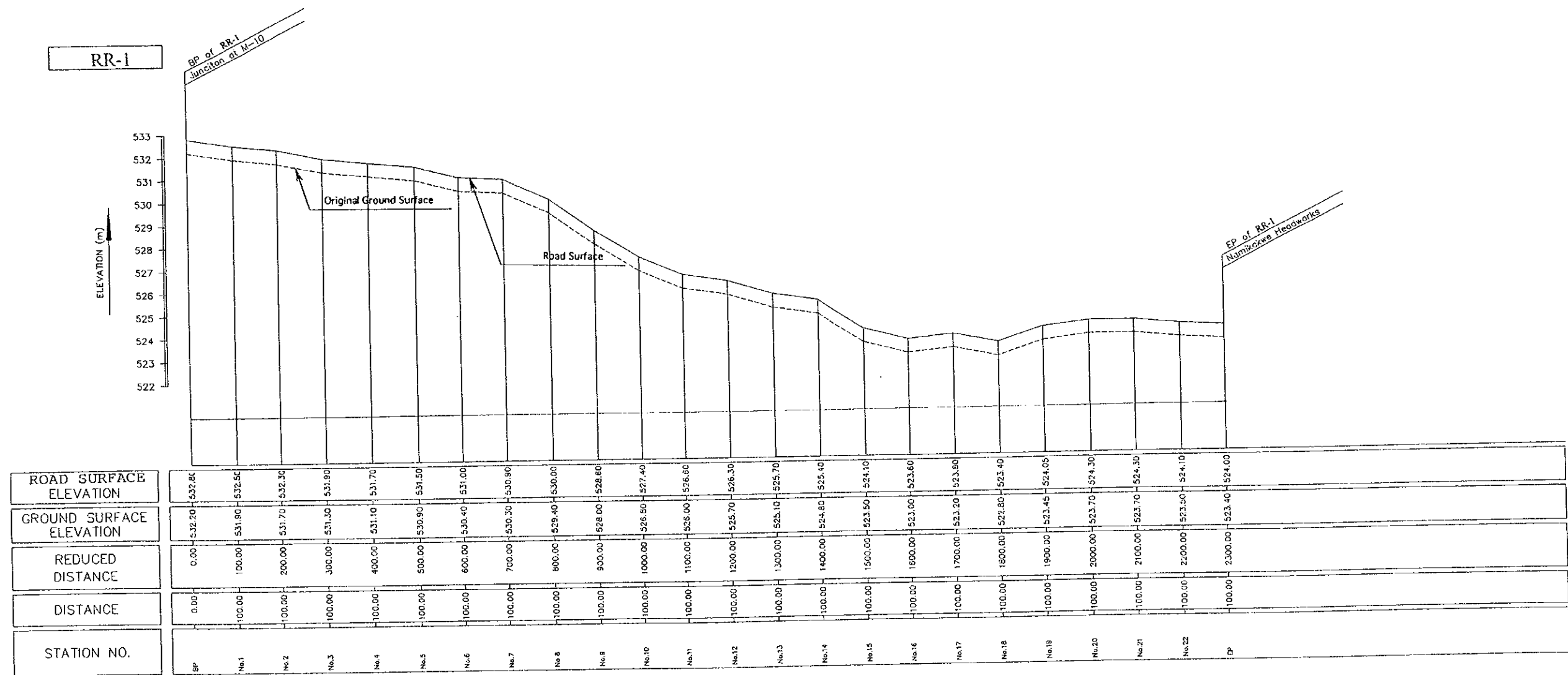


THE REPUBLIC OF MALAWI			
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT			
TITLE OF DRAWING			
Irrigation and Drainage Facilities On-Farm Facilities			
DATE	DRAWING NO.	ID-32	
JAPAN INTERNATIONAL COOPERATION AGENCY			

TYPICAL CROSS SECTION

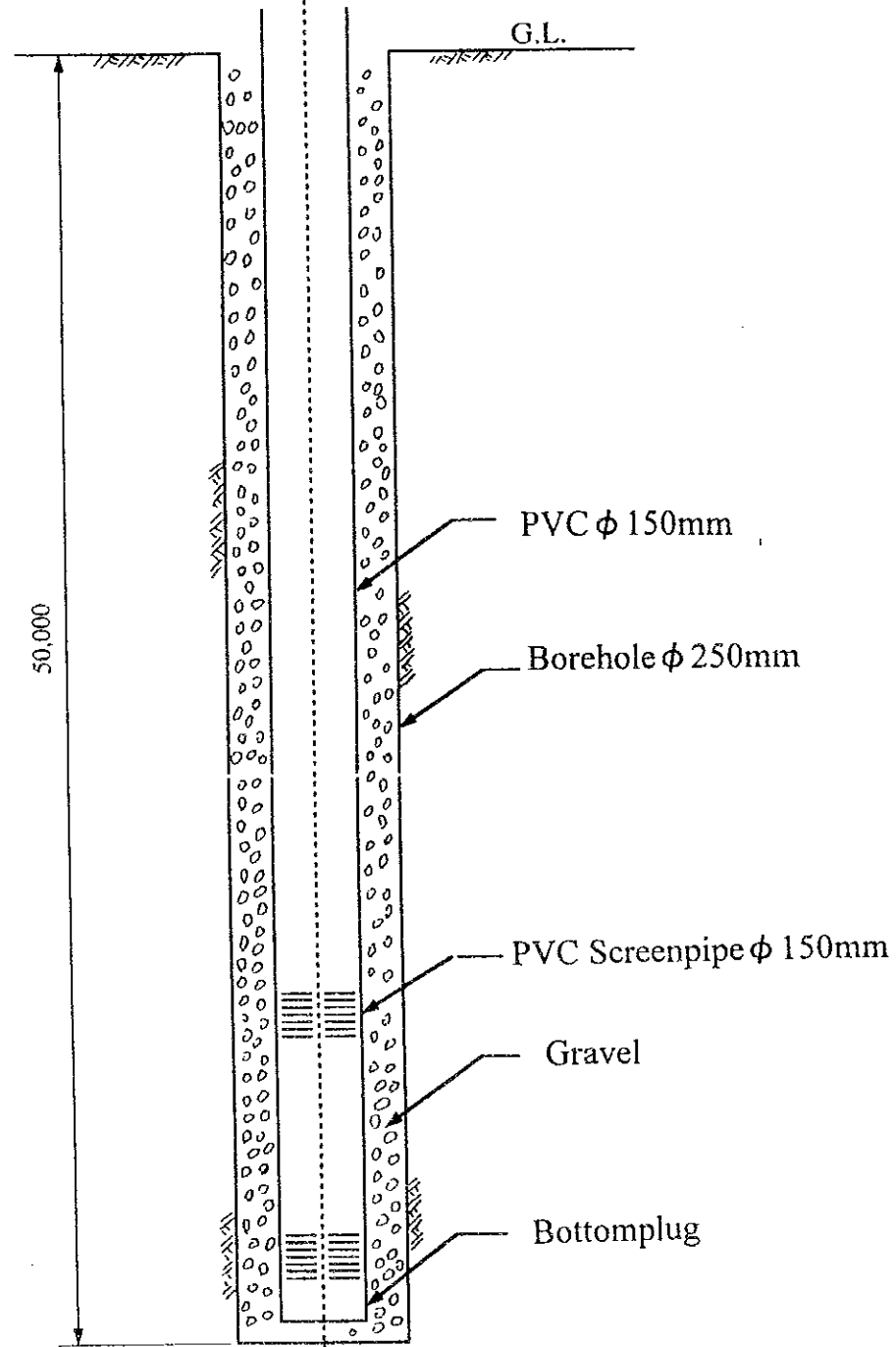


THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING Rural Road Typical Cross Section and Causeway		
DATE	DRAWING NO.	RR-01
JAPAN INTERNATIONAL COOPERATION AGENCY		

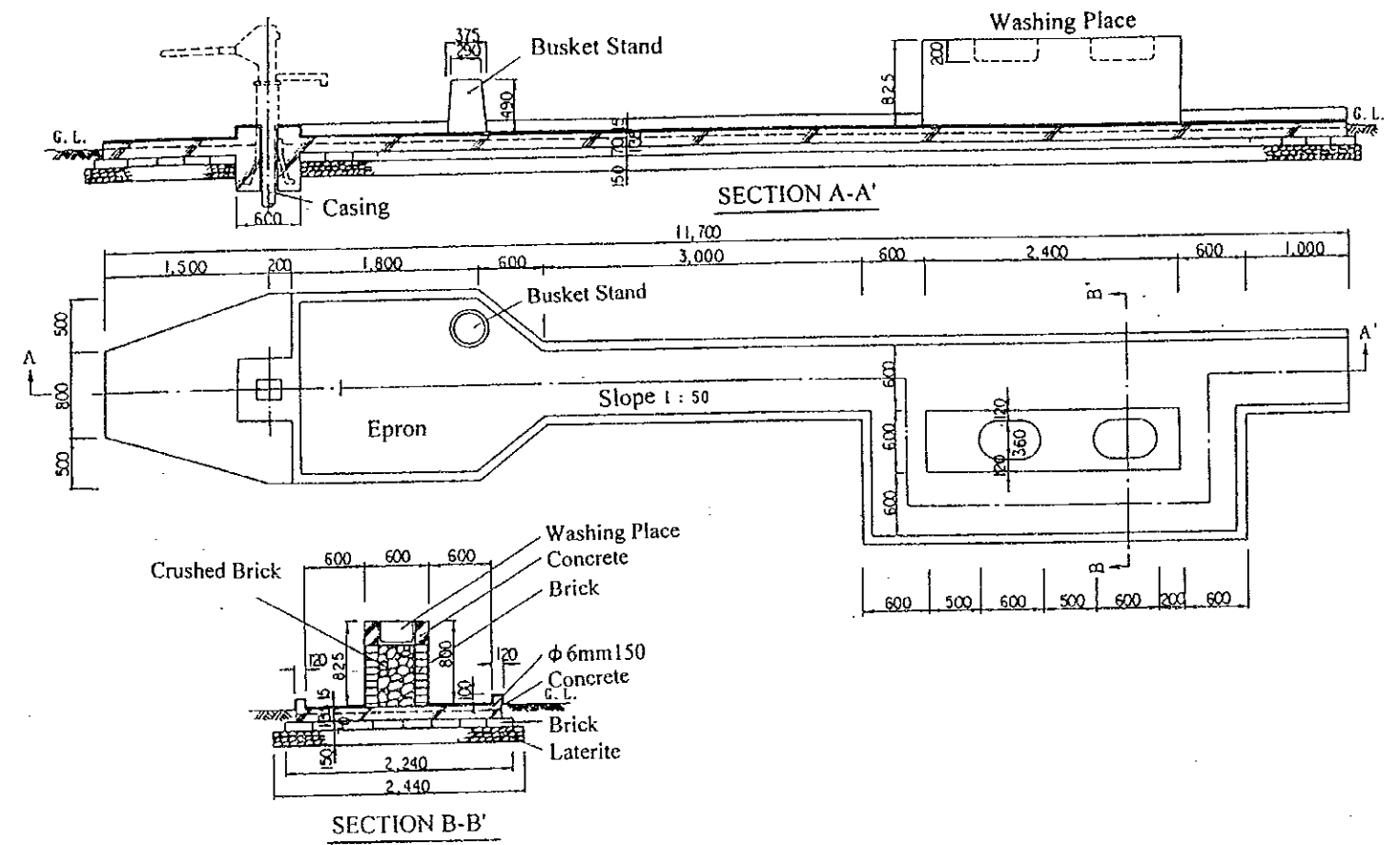


THE REPUBLIC OF MALAWI			
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT			
TITLE OF DRAWING			
Rural Road Longitudinal Profile			
DATE		DRAWING NO.	RR-02
JAPAN INTERNATIONAL COOPERATION AGENCY			

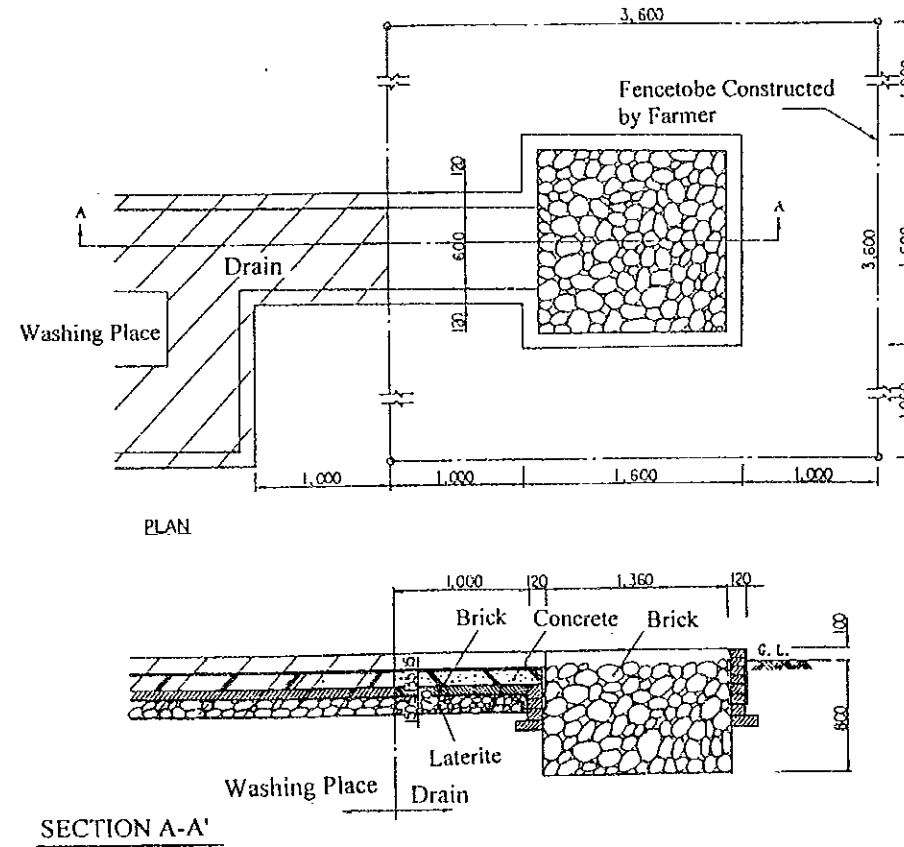
BOREHOLE



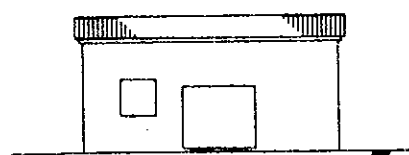
RELATED STRUCTURE(1)



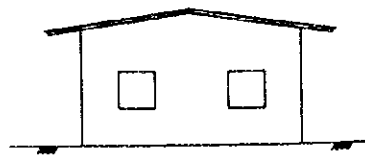
RELATED STRUCTURE(2)



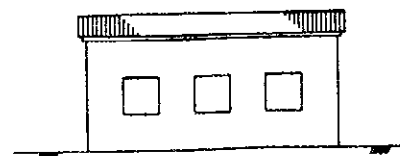
THE REPUBLIC OF MALAWI		
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT		
TITLE OF DRAWING Rural Water Supply Typical Section of Borehole and Related Structures		
DATE	DRAWING NO.	RW-01
JAPAN INTERNATIONAL COOPERATION AGENCY		



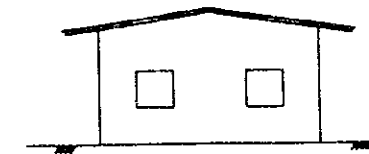
FRONT VIEW
Scale 1:100



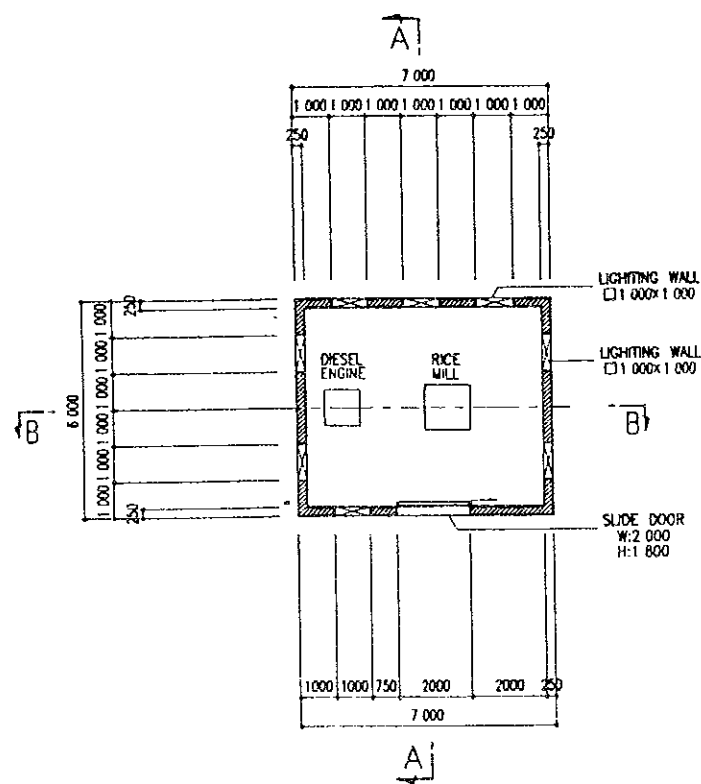
RIGHT SIDE VIEW



BACK VIEW



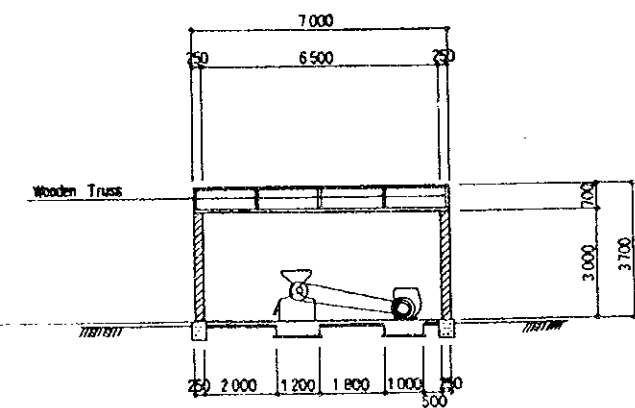
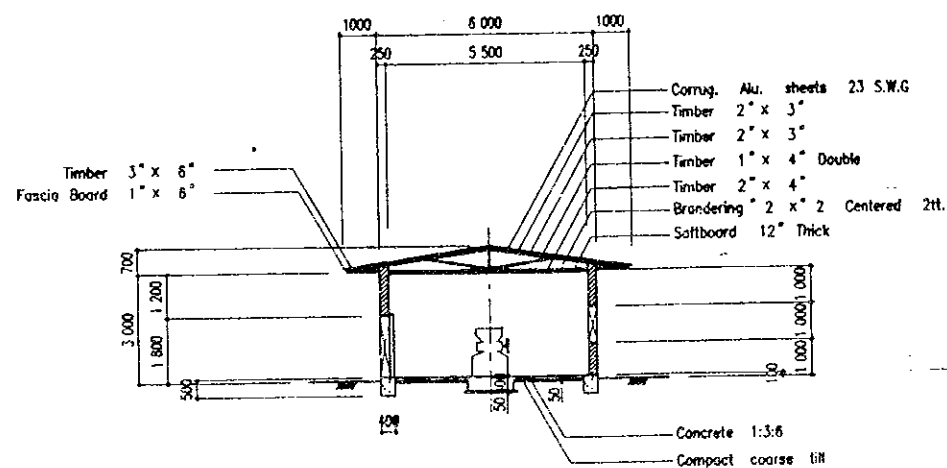
LEFT SIDE VIEW



LIGHTING WALL
□ 1 000 x 1 000

LIGHTING WALL
□ 1 000 x 1 000

SLIDE DOOR
W: 2 000
H: 1 800



THE REPUBLIC OF MALAWI			
BWANJE VALLEY SMALLHOLDER IRRIGATION DEVELOPMENT PROJECT			
TITLE OF DRAWING			
Post Harvest Facility Ricemill House			
DATE		DRAWING NO.	PII-01
JAPAN INTERNATIONAL COOPERATION AGENCY			

JICA