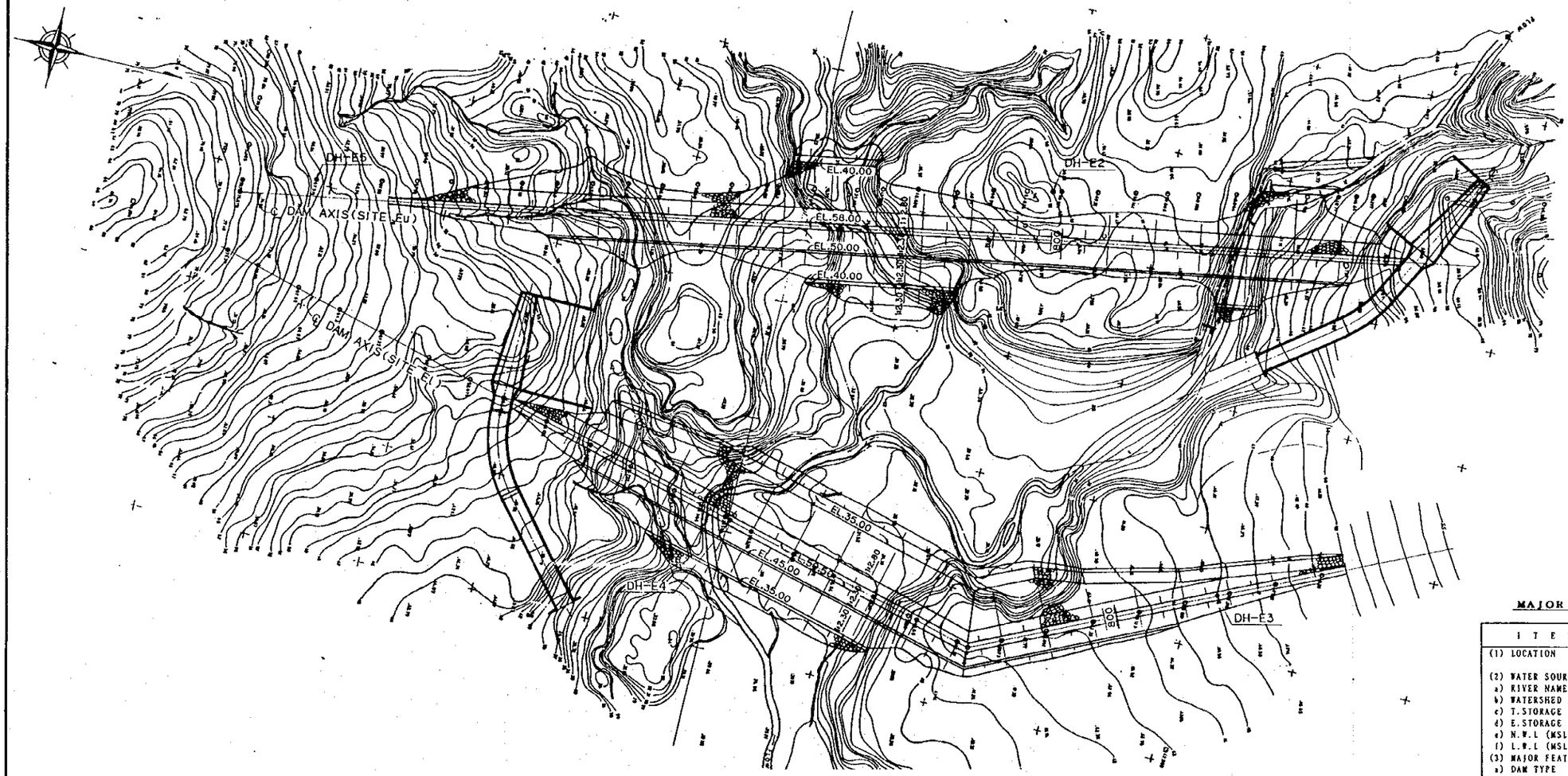
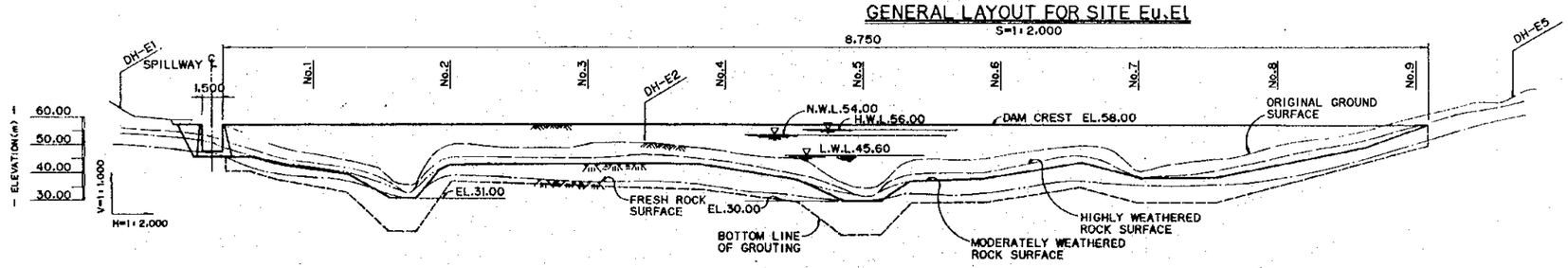


GENERAL LAYOUT FOR SITE Eu.El

S=1:2,000

MAJOR FEATURE OF SITE Eu & El

ITEM	DESCRIPTION	
	SITE Eu	SITE El
(1) LOCATION	BARANGAY INAGAWAN PUERTO PRINCESA	BARANGAY INAGAWAN PUERTO PRINCESA
(2) WATER SOURCE		
a) RIVER NAME	PINAGSALURAN R.	PINAGSALURAN R.
b) WATERSHED AREA	14.5 (㎢)	15.0 (㎢)
c) T.STORAGE	2.09 (MCM)	2.06 (MCM)
d) E.STORAGE	1.65 (MCM)	1.61 (MCM)
e) N.W.L (MSL)	54.0 (m)	46.5 (m)
f) L.W.L (MSL)	45.6 (m)	37.8 (m)
(3) MAJOR FEATURE		
a) DAM TYPE	FILLTYPE	FILLTYPE
b) CREST LENGTH	875.0 (m)	867.5 (m)
c) HEIGHT	28.0 (m)	25.5 (m)
d) CREST ELEVATION	58.0 (m)	50.5 (m)
e) DESIGN FLOOD	430.0 (㎥/sec)	440.0 (㎥/sec)
f) INTAKE DISCHARGE	0.84 (㎥/sec)	0.84 (㎥/sec)

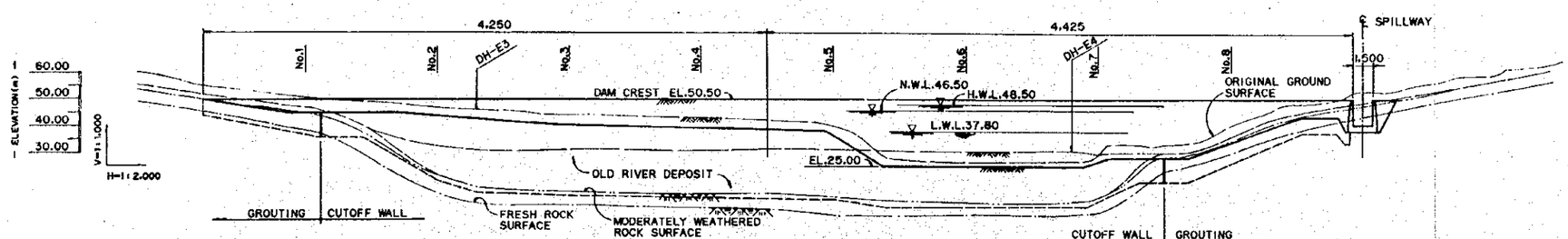


LEFT BANK

PROFILE OF DAM(SITE Eu)

SCALE V=1:1,000 H=1:2,000

RIGHT BANK



PROFILE OF DAM(SITE El)

SCALE V=1:1,000 H=1:2,000

NOTE:

1. ALL DIMENSIONS ARE SHOWN IN CENTIMETER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

SCALE 1:2,000

0 50 100m

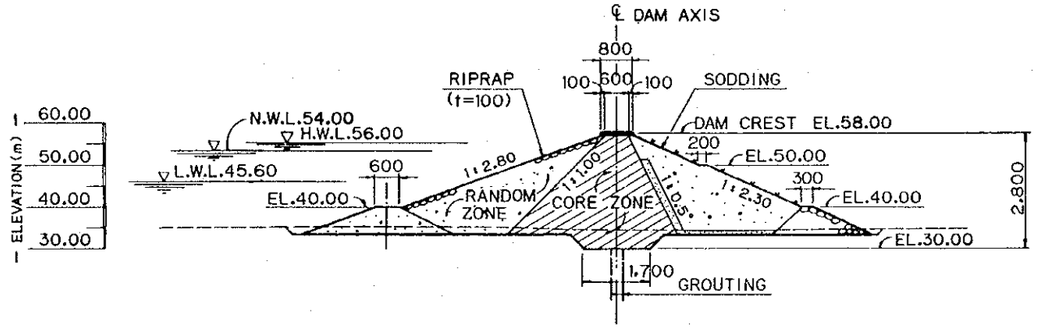
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT
SITE Eu & El (1/2)

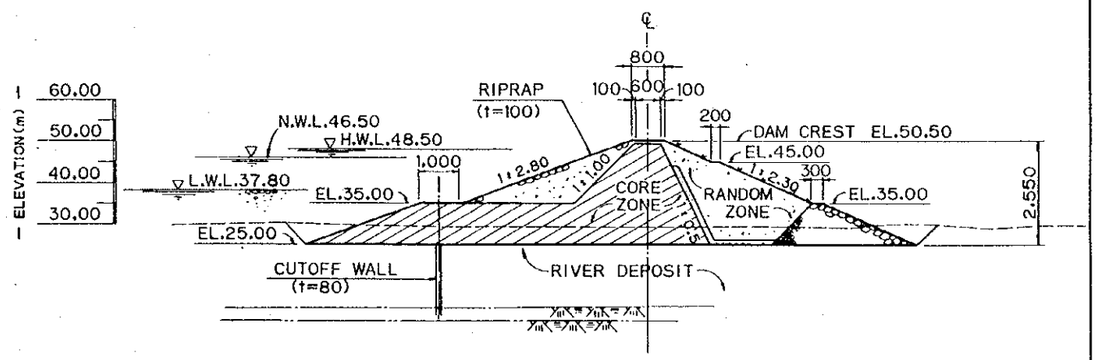
DAR

JAPAN INTERNATIONAL COOPERATION AGENCY

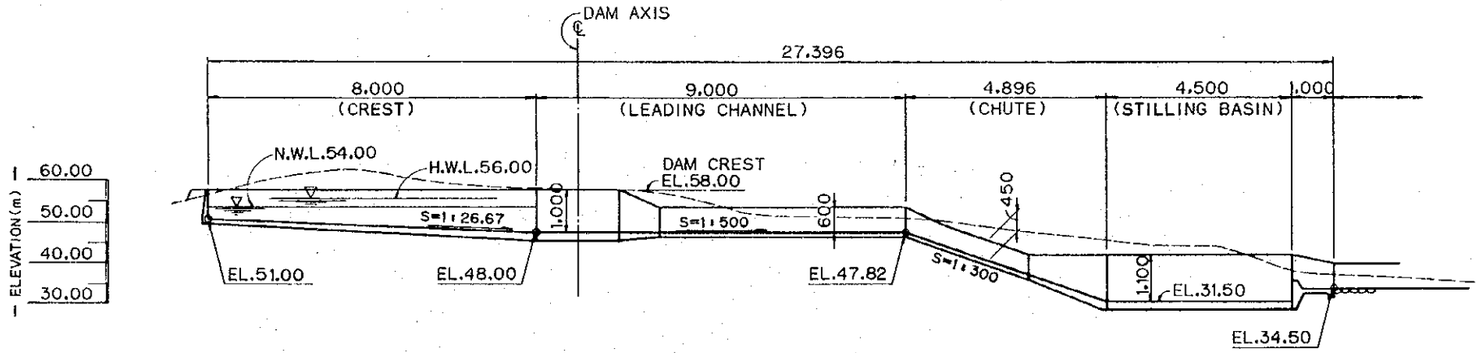
Dr-2



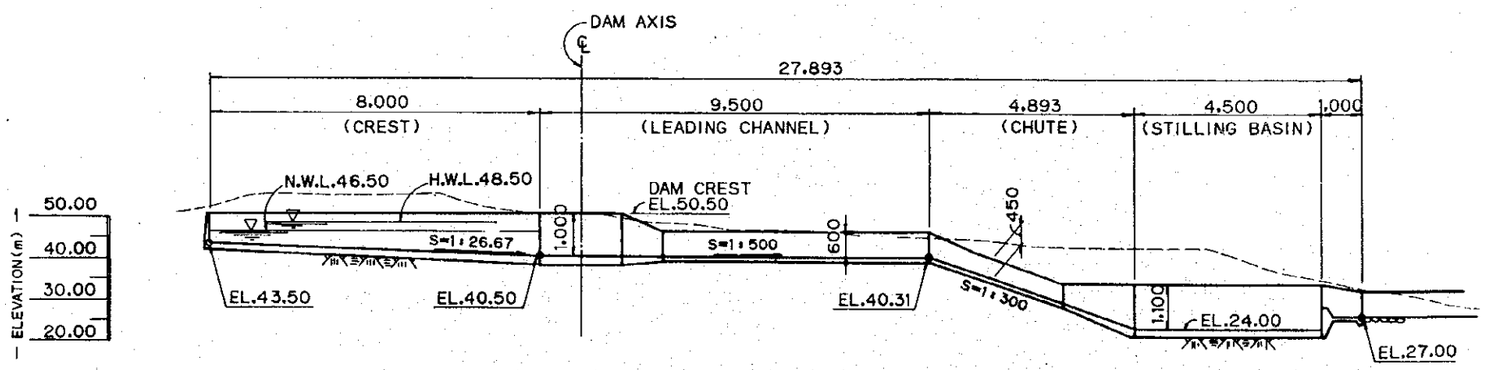
TYPICAL CROSS SECTION OF DAM
(SITE Eu)



TYPICAL CROSS SECTION OF DAM
(SITE El)



PROFILE OF SPILLWAY
(SITE Eu)



PROFILE OF SPILLWAY
(SITE El)

NOTE:

1. ALL DIMENSIONS ARE SHOWN IN CENTIMETER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

SCALE 1:1,000
0 10 20 30 40 50m

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

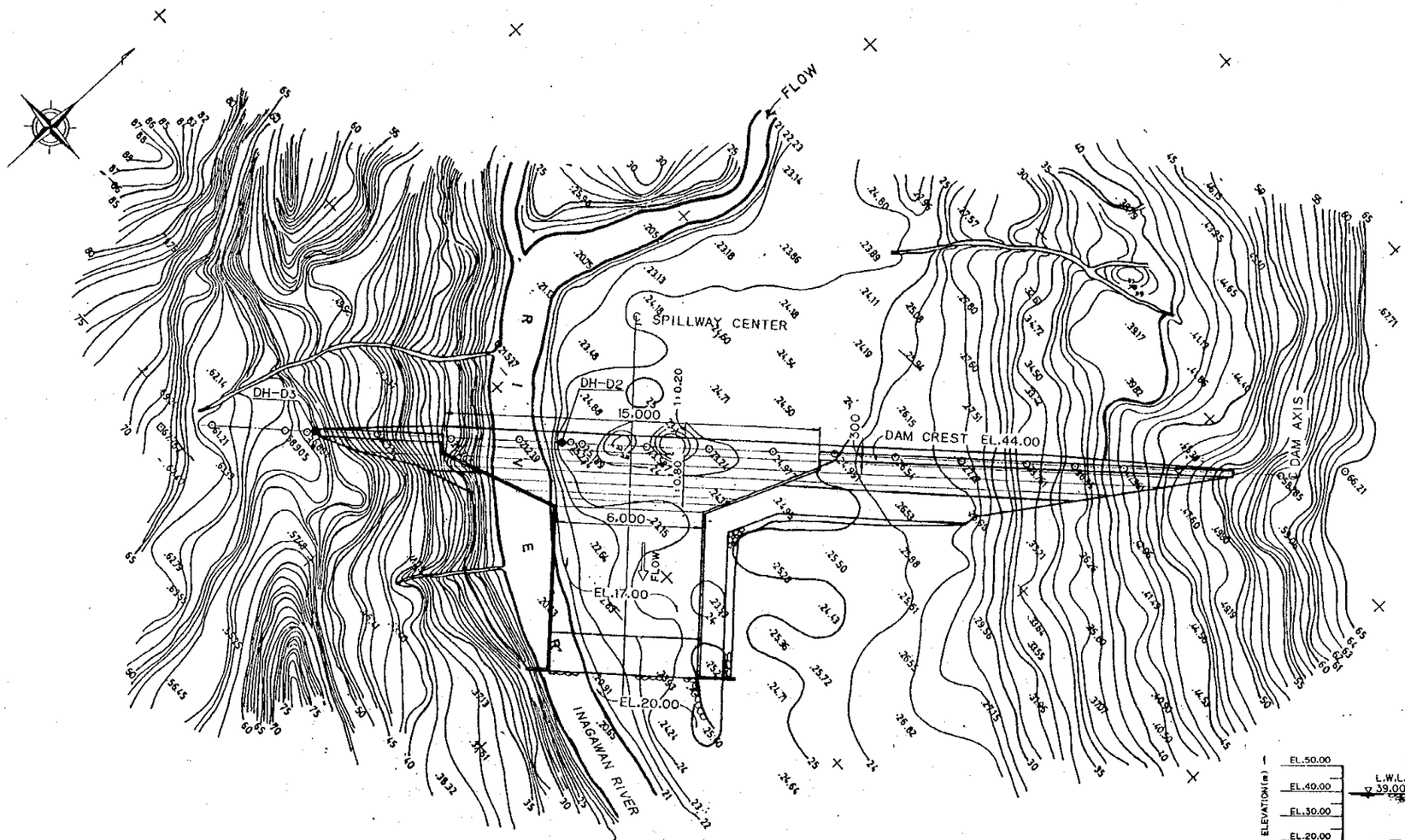
WATER RESOURCES DEVELOPMENT
SITE Eu & El (2/2)

DAR

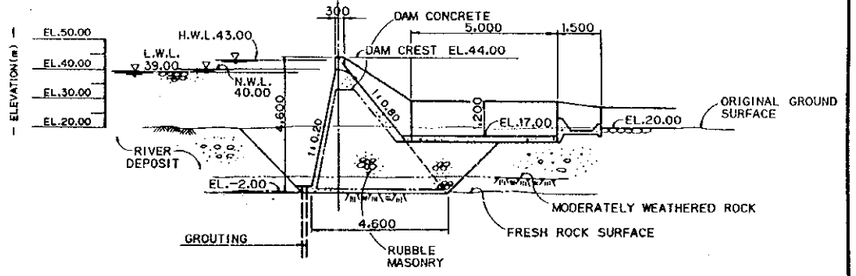
JAPAN INTERNATIONAL COOPERATION AGENCY

MAJOR FEATURE OF SITE D

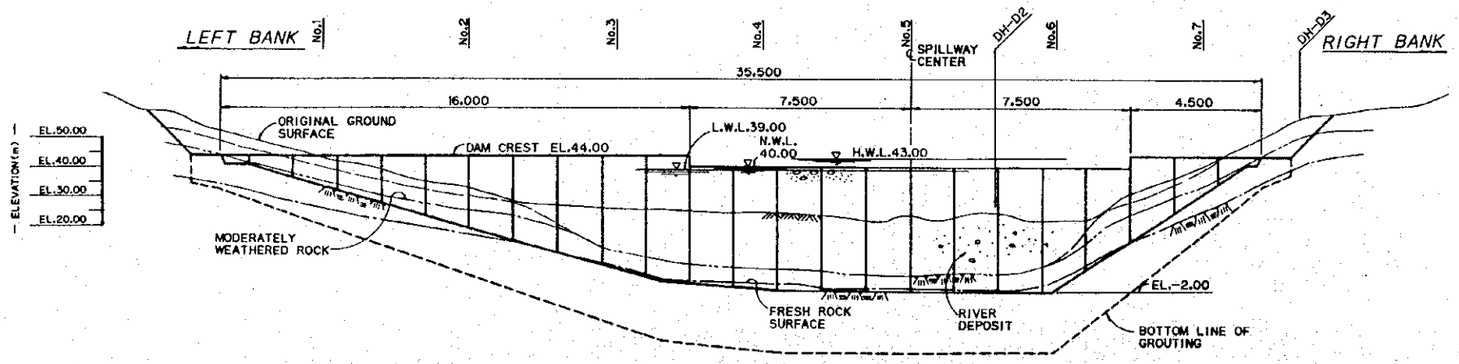
ITEM	DESCRIPTION
(1) LOCATION	BARANGAY INAGAWAN PUERTO PRINCESA
(2) WATER SOURCE	
a) RIVER NAME	INAGAWAN R.
b) WATERSHED AREA	118.1 (㎢)
c) T.STORAGE	2.56 (MCM)
d) E.STORAGE	0.20 (MCM)
e) N.W.L (MSL)	40.0 (m)
f) L.W.L (MSL)	39.0 (m)
(3) MAJOR FEATURE	
a) DAM TYPE	CONCRETE
b) CREST LENGTH	335.0 (m)
c) HEIGHT	46.0 (m)
d) CREST ELEVATION	44.0 (m) MSL
e) DESIGN FLOOD	1,600.0 (㎥/sec)
f) INTAKE DISCHARGE	0.84 (㎥/sec)



GENERAL LAYOUT FOR SITE D
SCALE 1:1,000



TYPICAL CROSS SECTION OF DAM
(SITE D) SCALE 1:1,000



PROFILE OF DAM
(SITE D) SCALE 1:1,000

SCALE 1:1,000
0 10 20 30 40 50m

NOTE:

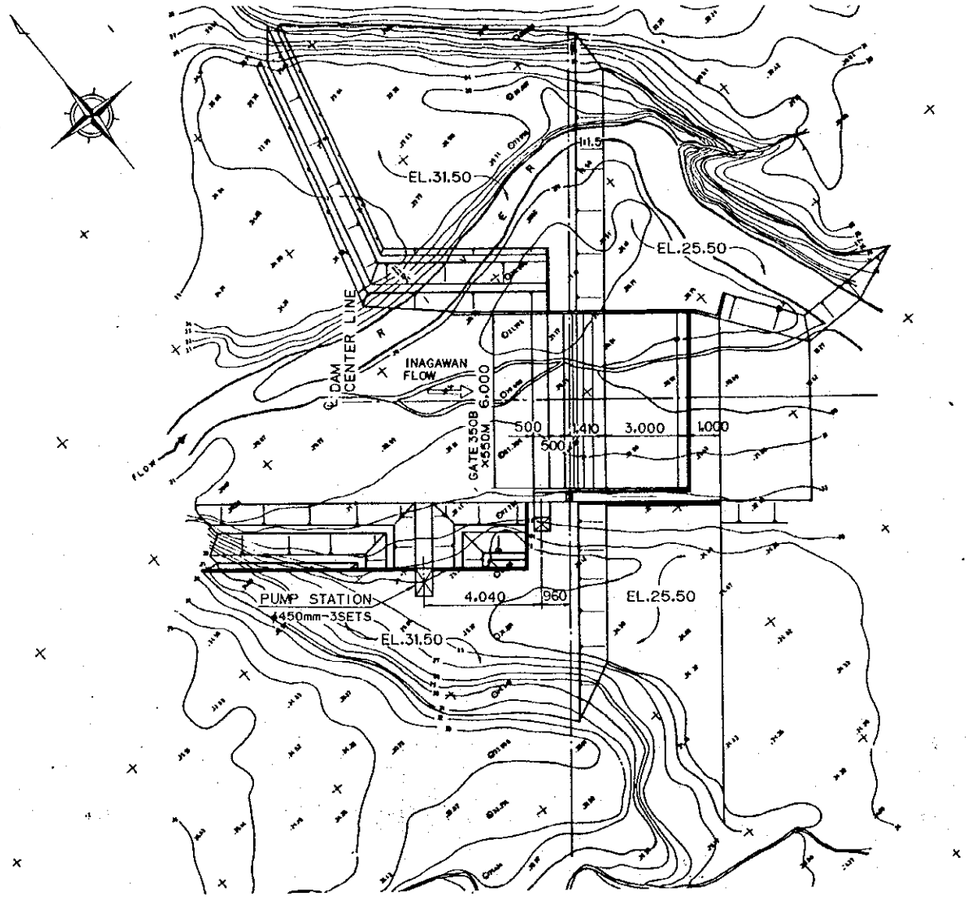
1. ALL DIMENSIONS ARE SHOWN IN CENTIMETER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).
3. UNSUITABLE SITE FOR DAM DUE TO DEEP RIVER DEPOSIT.

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT SITE D

DAR

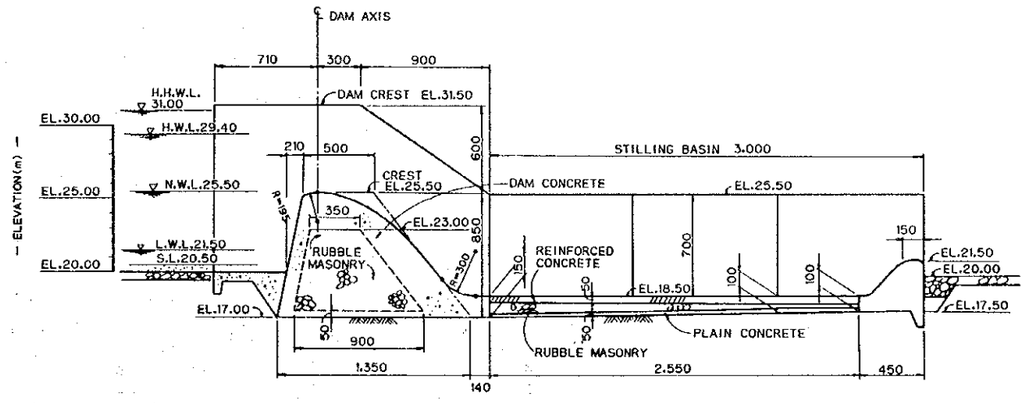
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY



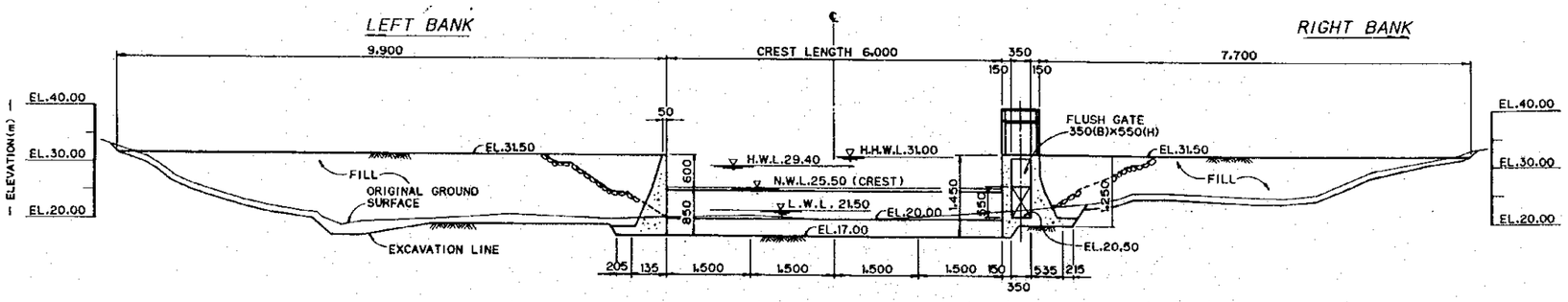
GENERAL LAYOUT FOR SITE LD
SCALE 1:4,000

MAJOR FEATURE OF SITE LD

ITEM	DESCRIPTION	ITEM	DESCRIPTION
(1) LOCATION	INAGAWAN	(4) PUMP STATION	
	PUERTO PRINCESA	a) DESIGN DISCHARGE	0.84 (m³/sec)
(2) WATER RESOURCES		b) TYPE OF PUMP	VERTICAL PUMP
a) RIVER	INAGAWAN	c) SIZE	φ 450mm×3sets
b) WATERSHED AREA	118.5 (km²)	d) OUTPUT OF PUMP	190KW×3sets
c) EFFECTIVE STORAGE	0.20 (MCM)	(5) IRRIGABLE AREA	590 (ha)
(3) WEIR			
a) TYPE	FIXED WEIR TYPE		
b) CREST LENGTH	60.0 (m)		
c) HEIGHT	8.5 (m)		
d) CREST ELEVATION	25.50(m)		
e) DESIGN FLOOD	990 (m³/sec)		
f) INTAKE DISCHARGE	0.45 (m³/sec)		



TYPICAL CROSS SECTION OF DAM
SCALE 1:200



PROFILE OF DAM AXIS
SCALE 1:500

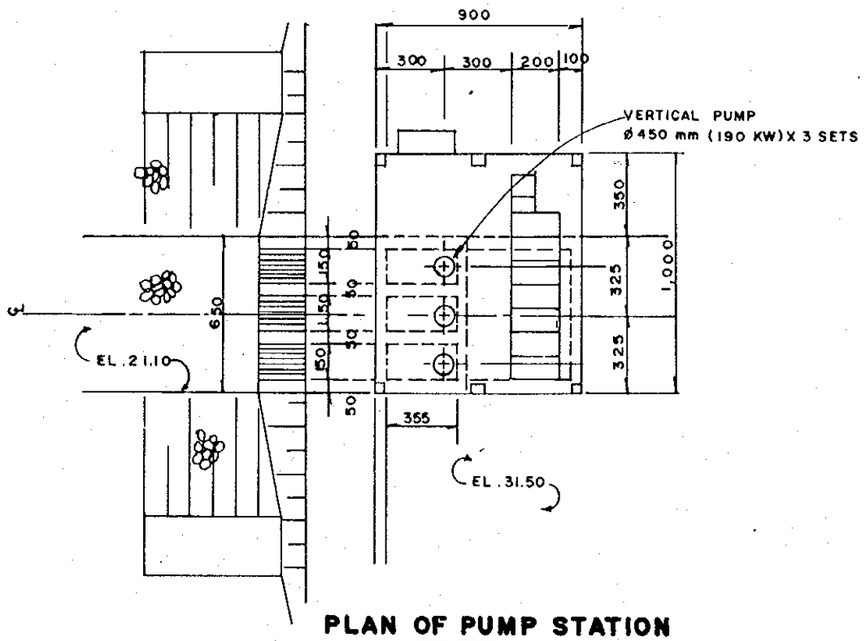
SCALE 1:200
0 5 10m
SCALE 1:500
0 10 20 25m
SCALE 1:1,000
0 10 20 30 40 50m

NOTE:
1. ALL DIMENSIONS ARE SHOWN IN CENTIMETER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

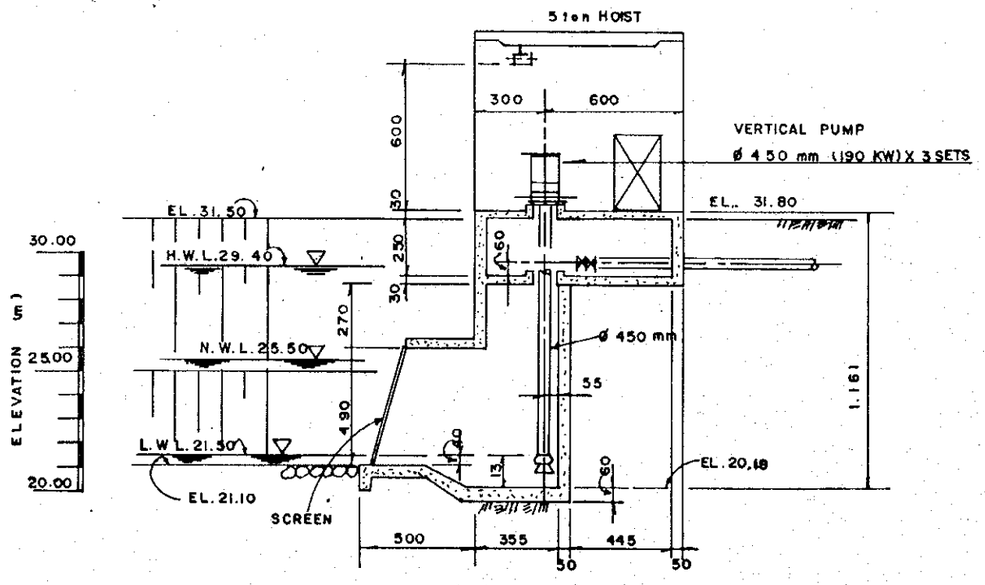
WATER RESOURCES DEVELOPMENT SITE LD (DIVERSION DAM, PUMP STA.) (1/2)

DAR
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY



PLAN OF PUMP STATION

SCALE 1: 200



CROSS SECTION

SCALE 1: 200

SCALE 1:200

0 5.0 10.0

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

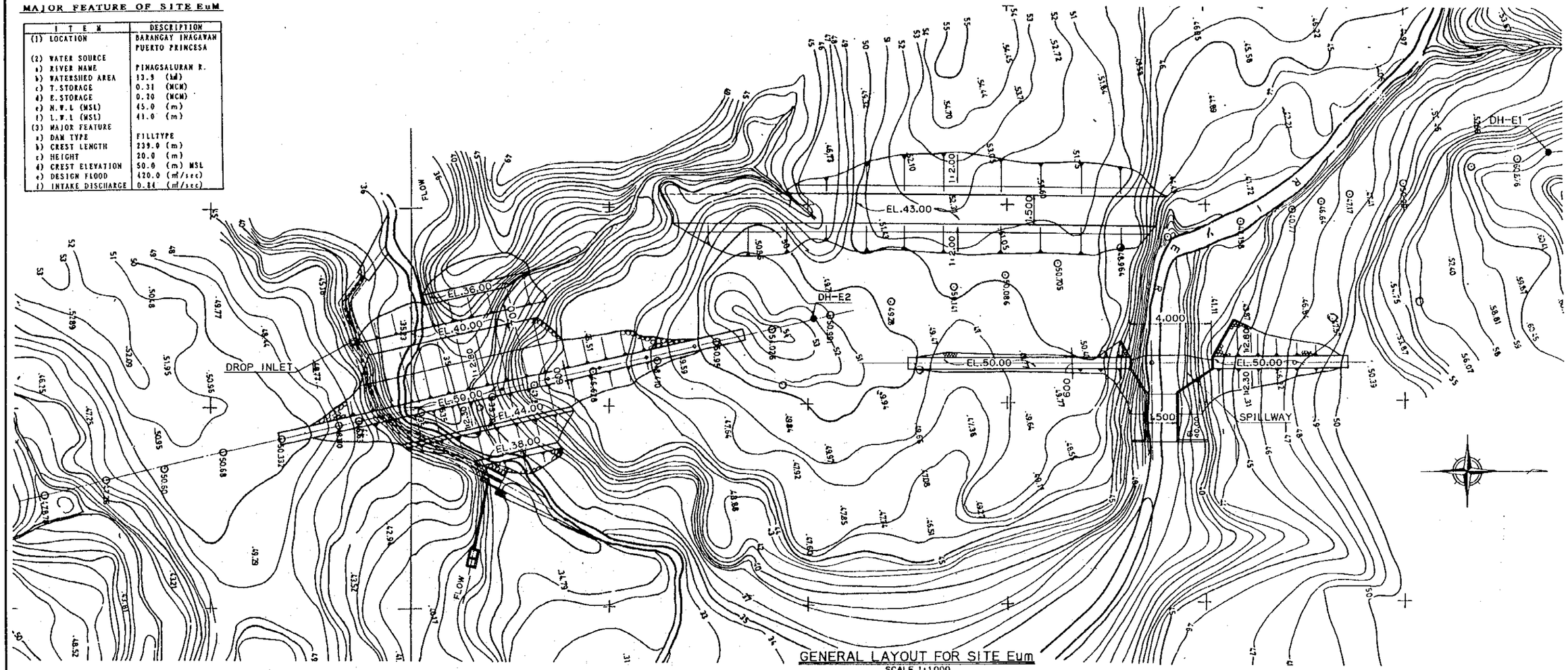
WATER RESOURCES DEVELOPMENT
SITE LD (DIVERSION DAM, PUMP STA.)
(2/2)

DAR

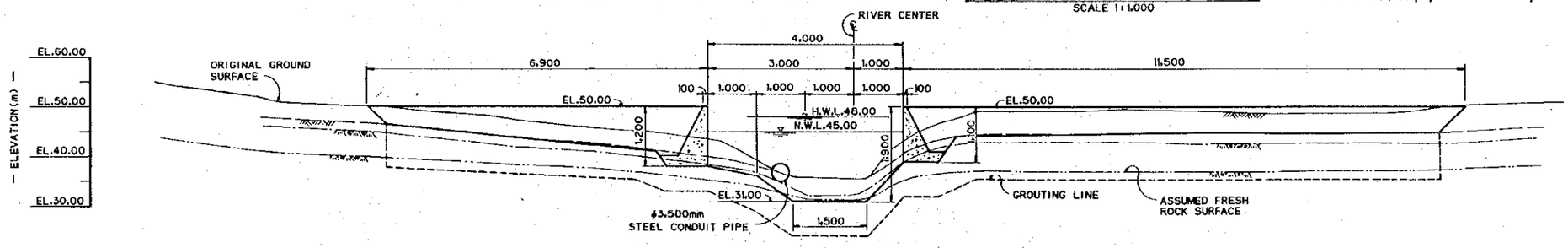
JAPAN INTERNATIONAL COOPERATION AGENCY

MAJOR FEATURE OF SITE EuM

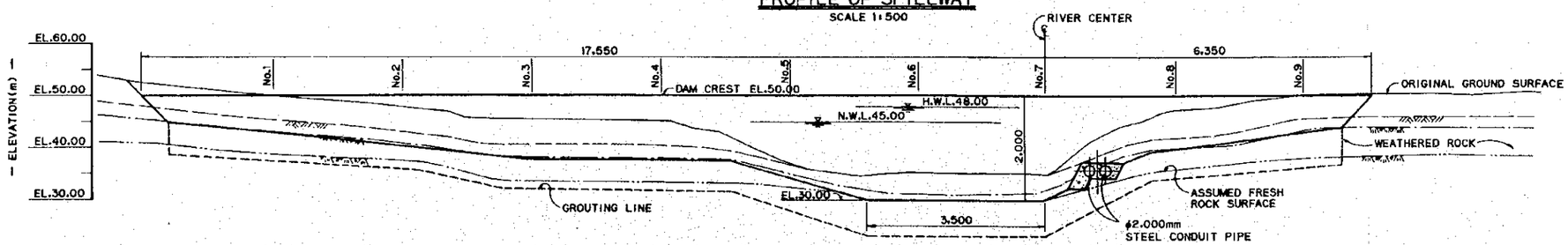
ITEM	DESCRIPTION
(1) LOCATION	BARANGAY INAGAWAN PUERTO PRINCESA
(2) WATER SOURCE	
a) RIVER NAME	PINAGSALURAN R.
b) WATERSHED AREA	13.9 (㎢)
c) T.STORAGE	0.31 (MCM)
d) E.STORAGE	0.20 (MCM)
e) N.W.L (MSL)	45.0 (m)
f) L.W.L (MSL)	41.0 (m)
(3) MAJOR FEATURE	
a) DAM TYPE	FILLTYPE
b) CREST LENGTH	239.0 (m)
c) HEIGHT	20.0 (m)
d) CREST ELEVATION	50.0 (m) MSL
e) DESIGN FLOOD	420.0 (㎥/sec)
f) INTAKE DISCHARGE	0.84 (㎥/sec)



GENERAL LAYOUT FOR SITE Eum
SCALE 1:1,000



PROFILE OF SPILLWAY
SCALE 1:500



PROFILE OF DAM
SCALE 1:500

NOTE:

1. ALL DIMENSIONS ARE SHOWN IN CENTIMETER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

SCALE 1:500
0 10 20 25m

SCALE 1:1,000
0 10 20 30 40 50m

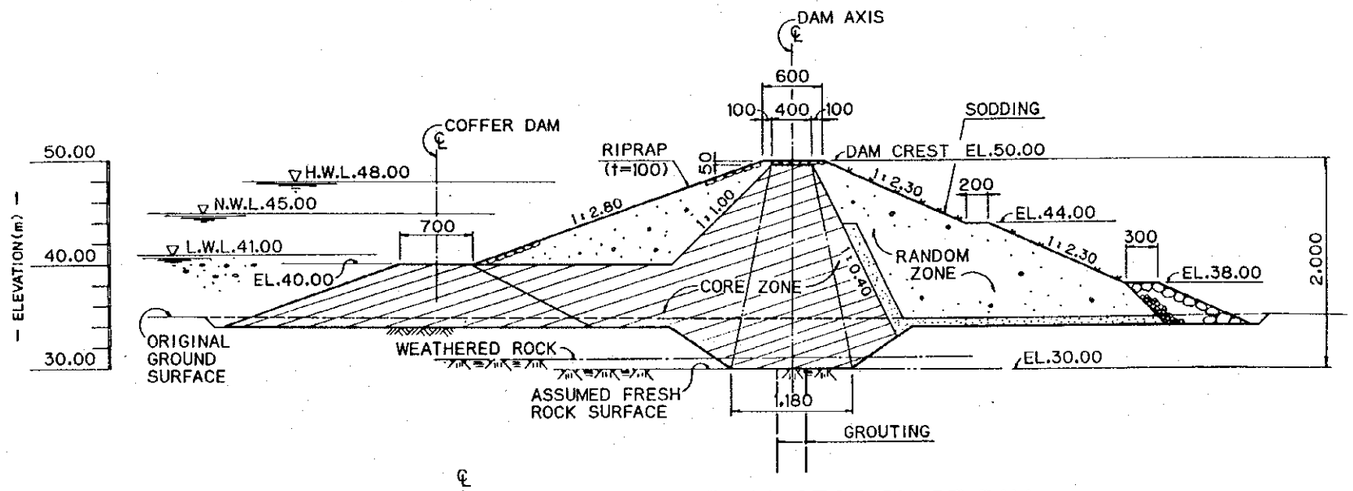
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT SITE EuM (1/2)

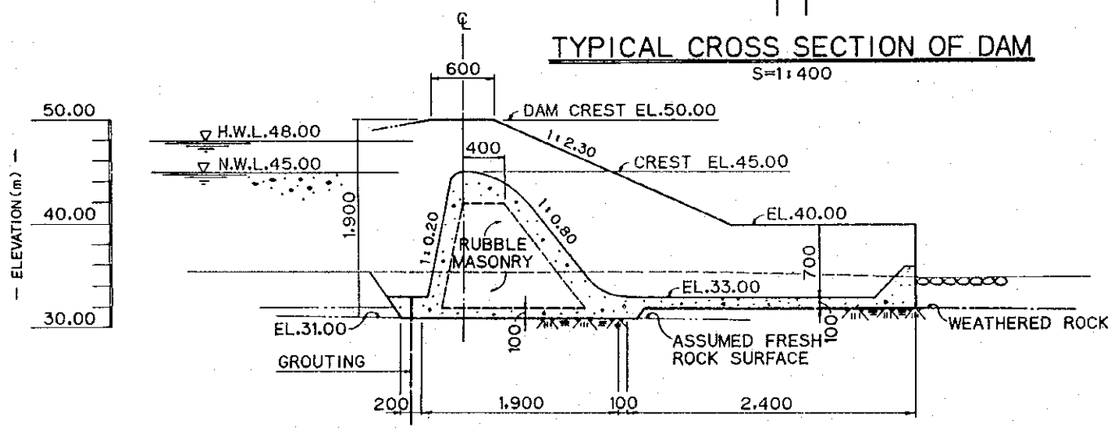
DAR

JAPAN INTERNATIONAL COOPERATION AGENCY

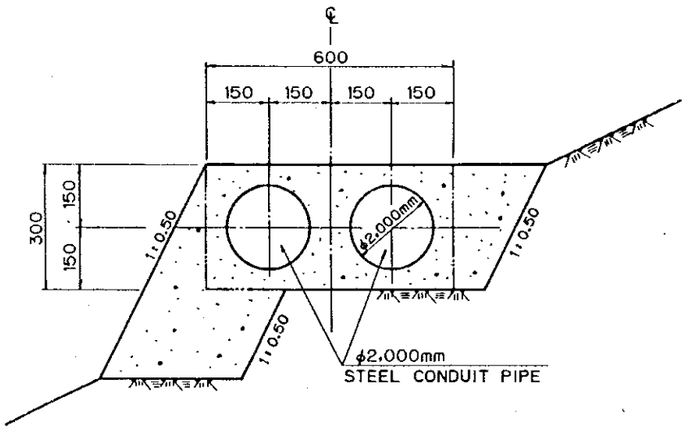
Dr-7



TYPICAL CROSS SECTION OF DAM
S=1:400



TYPICAL CROSS SECTION OF SPILLWAY
S=1:400



SECTION A–A
S = 1:100

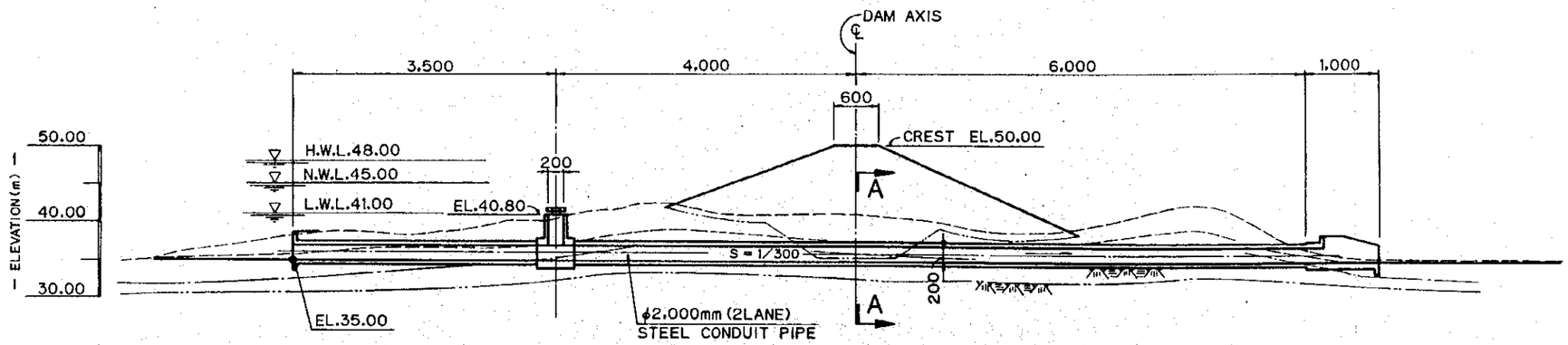
NOTE:

1. ALL DIMENSIONS ARE SHOWN IN CENTIMETER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

SCALE 1:400
0 10 20m

SCALE 1:500
0 10 20m

SCALE 1:1,000
0 10 20 30 40 50m



PROFILE OF INTAKE FACILITIES
S=1:500

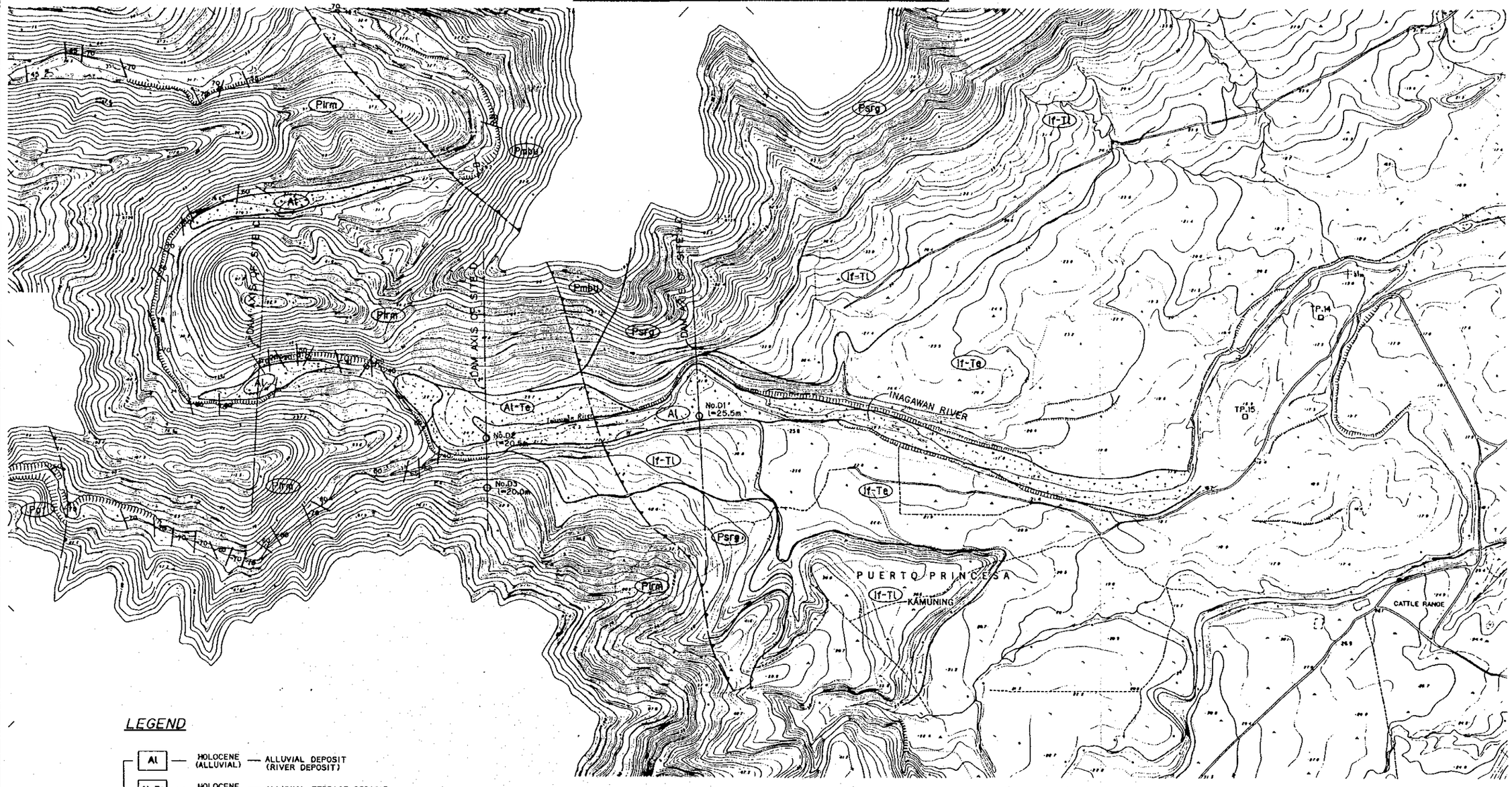
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT SITE EuM (2/2)

DAR

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

GEOLOGICAL MAP (SITE C, D, LD)



LEGEND

QUARTERNARY	Al	HOLOCENE (ALLUVIAL)	ALLUVIAL DEPOSIT (RIVER DEPOSIT)
	At-Te	HOLOCENE (ALLUVIAL)	ALLUVIAL TERRACE DEPOSIT
	If-Tl	PLEISTOCENE (DILUVIAL)	DILUVIAL TALUS(FAN) DEPOSIT (IWAHIG FORMATION)
	If-Te	PLEISTOCENE (DILUVIAL)	DILUVIAL TERRACE DEPOSIT (IWAHIG FORMATION)
TERTIARY	Plrm	EOCENE TO MIOCENE	INAGAWAN RIVER METAMORPHICS (SCHIST, AMPHIBOLITE etc.)
	Ppf	EOCENE	PANAS FORMATION (TURBIDITIC FORMATION)
	Pmbu	EOCENE	MT.BEAUFORT ULTRMAPHICS (SERPENTINITED PERIDOTITE etc.)
	Psrg	EOCENE	STAVELY RANGE GABBRO

GEOLOGICAL SYMBOLS

- 70 — STRIKE AND DIP OF BEDDING PLANE
- 60 — STRIKE AND DIP OF JOINT PLANE
- STRIKE OF VERTICAL JOINT PLANE
- 70 — STRIKE AND DIP OF SHEAR
- ANTICLINE
- SYNCLINE
- THRUST FAULT
- SHEAR ZONE
- FORMATIONAL BOUNDARY
- ○ No.E3 DRILLING LOCATION AND HOLE NUMBER
- □ TP.6 TEST PIT LOCATION AND PIT NUMBER
- ○ AH.10 AUGER HOLE LOCATION AND HOLE NUMBER

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

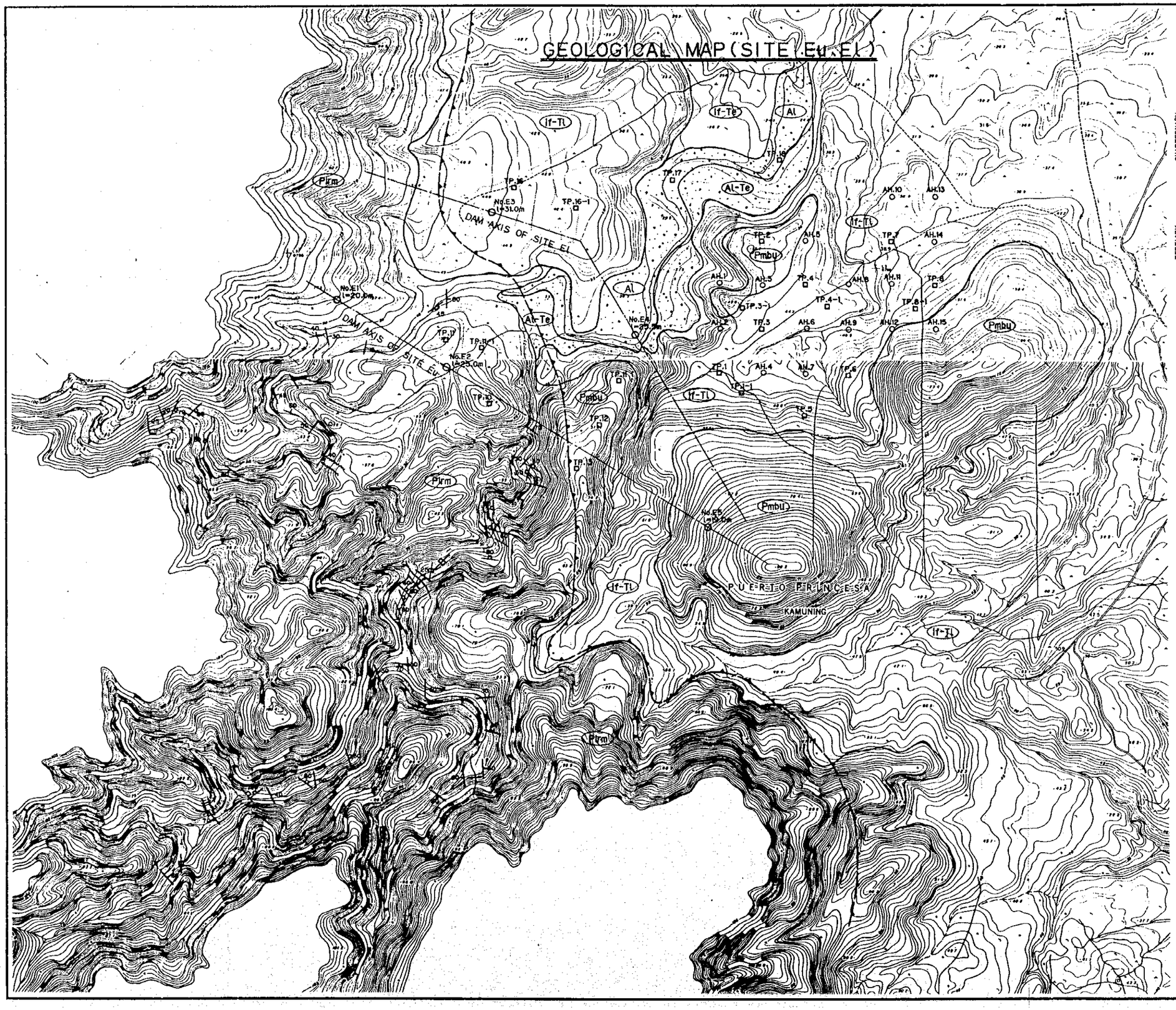
WATER RESOURCES DEVELOPMENT GEOLOGICAL MAP (SITE C, D, LD)

DAR

JAPAN INTERNATIONAL COOPERATION AGENCY

Dr-9

GEOLOGICAL MAP (SITE Eu, El)



LEGEND

QUATERNARY	Al	HOLOCENE (ALLUVIAL)	ALLUVIAL DEPOSIT (RIVER DEPOSIT)
	Al-Te	HOLOCENE (ALLUVIAL)	ALLUVIAL TERRACE DEPOSIT
	If-Tl	PLEISTOCENE (DILUVIAL)	DILUVIAL TALUS(FAN) DEPOSIT (IWAHIG FORMATION)
	If-Te	PLEISTOCENE (DILUVIAL)	DILUVIAL TERRACE DEPOSIT (IWAHIG FORMATION)
TERTIARY	Pirm	EOCENE TO MIOCENE	INAGAWAN RIVER METAMORPHICS (SCHIST, AMPHIBOLITE etc.)
	Ppf	EOCENE	PANAS FORMATION (TURBIDITIC FORMATION)
	Pmbu	EOCENE	MT. BEAUFORT ULTRAMAPHICS (SERPENTINITED PERIDOTITE etc.)
	Psrg	EOCENE	STAVELY RANGE GABBRO

GEOLOGICAL SYMBOLS

- 70 — STRIKE AND DIP OF BEDDING PLANE
- 60 — STRIKE AND DIP OF JOINT PLANE
- STRIKE OF VERTICAL JOINT PLANE
- 70 — STRIKE AND DIP OF SHEAR
- ANTICLINE
- SYNCLINE
- THRUST FAULT
- SHEAR ZONE
- FORMATIONAL BOUNDARY
- No.E3 — DRILLING LOCATION AND HOLE NUMBER
- TP.6 — TEST PIT LOCATION AND PIT NUMBER
- AH.10 — AUGER HOLE LOCATION AND HOLE NUMBER

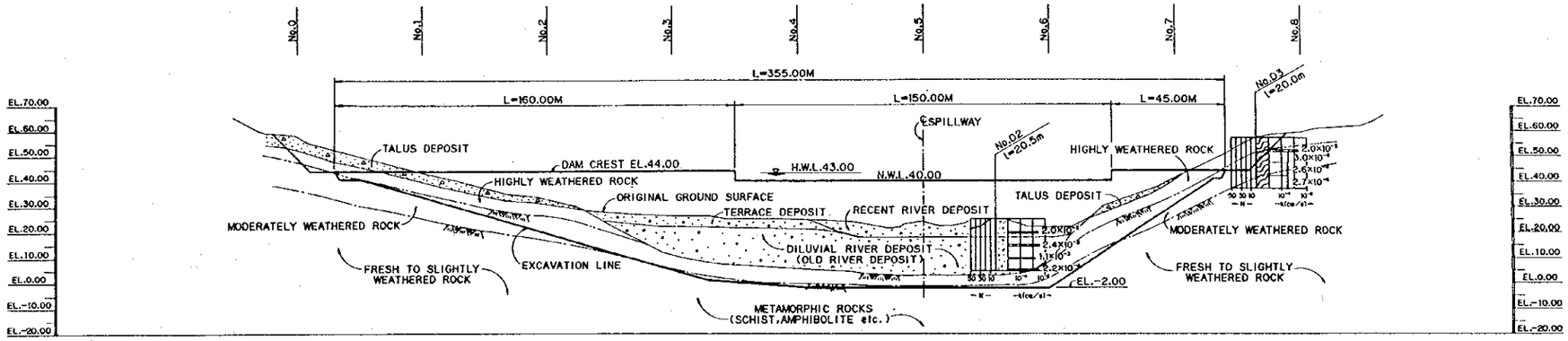
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT
GEOLOGICAL MAP (SITE Eu, El)

DAR

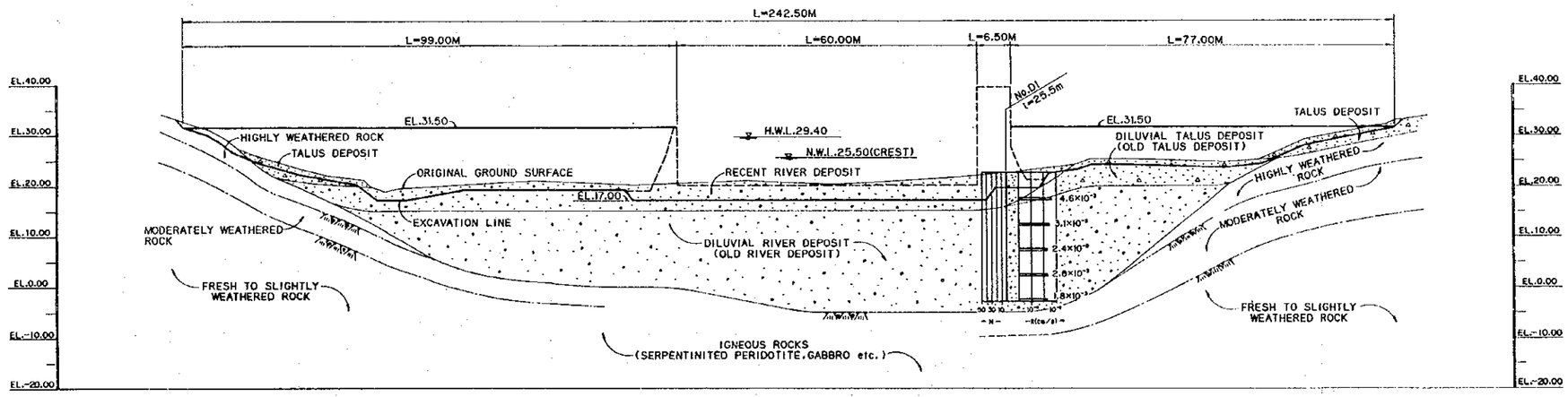
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

Dr-10



GEOLOGICAL PROFILE SECTION ALONG D DAM AXIS

SCALE V=1:1,000, H=1:1,000



GEOLOGICAL PROFILE SECTION ALONG LD DAM AXIS

SCALE V=1:500, H=1:500

LEGEND

- RIVER DEPOSIT, TALUS DEPOSIT — ALLUVIAL DEPOSIT (HOLOCENE)
- OLD RIVER DEPOSIT (DILUVIAL RIVER DEPOSIT), OLD TALUS DEPOSIT (DILUVIAL TALUS DEPOSIT) — IWAHIG FORMATION (PLEISTOCENE)
- IGNEOUS ROCKS (SERPENTINITED PERIDOTITE etc.) — MT.BEAUFORT ULTAMAFICS (EOCENE)
- METAMORPHIC ROCKS (SCHIST,AMPHIBOLITE etc.) — INAGAWAN RIVER METAMORPHICS (EOCENE~MIOCENE)
- STAVELY RANGE GABBRO — STAVELY RANGE GABBRO
- ASSUMED MODERATELY WEATHERED ROCK LINE
- ASSUMED SLIGHTLY WEATHERED TO FRESH ROCK LINE
- THRUST FAULT

NOTE:

1. ALL DIMENSIONS ARE SHOWN IN METER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

SCALE 1:500
0 10 20 30m

SCALE 1:1,000
0 20 40 60m

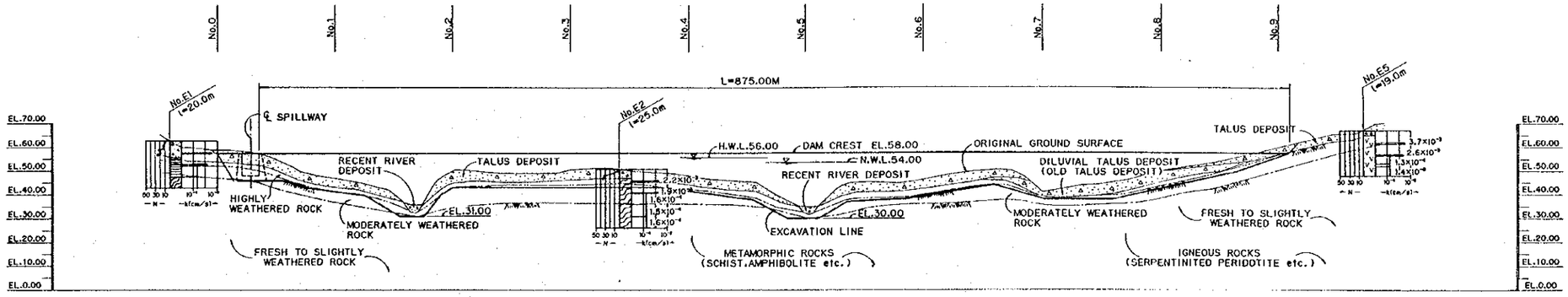
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT
GEOLOGICAL PROFILE SECTION
(SITE D, LD)

DAR

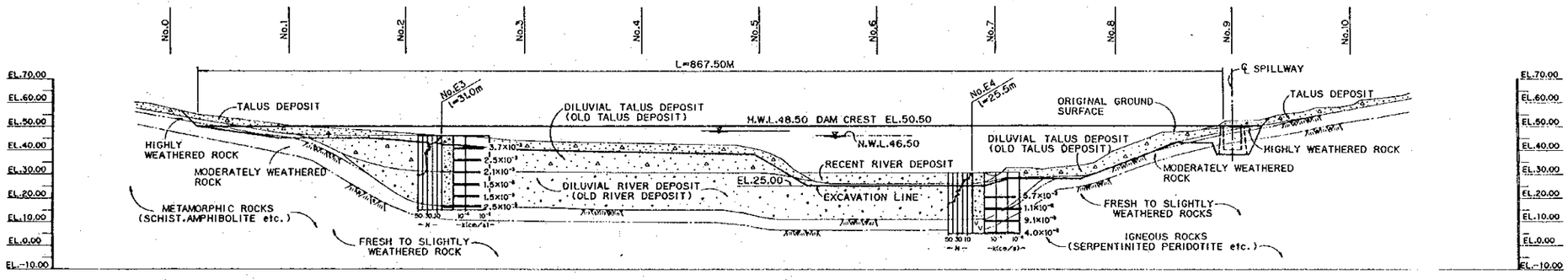
JAPAN INTERNATIONAL COOPERATION AGENCY

Dr-11



GEOLOGICAL PROFILE SECTION ALONG Eu DAM AXIS

SCALE V=1:1,000, H=1:2,000



GEOLOGICAL PROFILE SECTION ALONG El DAM AXIS

SCALE V=1:1,000, H=1:2,000

LEGEND

- RIVER DEPOSIT, TALUS DEPOSIT — ALLUVIAL DEPOSIT (HOLOCENE)
- OLD RIVER DEPOSIT (DILUVIAL RIVER DEPOSIT), OLD TALUS DEPOSIT (DILUVIAL TALUS DEPOSIT) — IWAHIG FORMATION (PLEISTOCENE)
- IGNEOUS ROCKS (SERPENTINITED PERIDOTITE etc.) — Mt. BEAUFORT ULTAMAFICS (EOCENE)
- METAMORPHIC ROCKS (SCHIST, AMPHIBOLITE etc.) — INAGAWAN RIVER METAMORPHICS (EOCENE–MIOCENE)
- STAVELY RANGE GABBRO — STAVELY RANGE GABBRO
- ASSUMED MODERATELY WEATHERED ROCK LINE
- ASSUMED SLIGHTLY WEATHERED TO FRESH ROCK LINE
- THRUST FAULT

NOTE:

1. ALL DIMENSIONS ARE SHOWN IN METER UNLESS OTHERWISE SPECIFIED.
2. ELEVATIONS ARE SHOWN IN METER (M.S.L.).

SCALE 1:1,000
0 20 40 60m

SCALE 1:2,000
0 40 80 120m

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

WATER RESOURCES DEVELOPMENT
GEOLOGICAL PROFILE SECTION
(SITE Eu, El)

DAR

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

Dr-12

General Plan of Irrigation and Drainage and Farm to Market Road System

OUTLINE OF CANAL SYSTEM

Main Canal				
NAME	Q m3/s)	L (km)	B (m)	H (m)
M-1	0.843	0.80	1.20	1.00
M-2	0.758	1.09	1.20	0.90
M-3	0.737	0.71	1.20	0.90
M-4	0.647	0.64	1.20	0.90
M-5	0.574	0.33	1.00	0.80
M-6	0.312	0.64	0.80	0.70
Total		4.21		
Laterl-A				
A-1	0.085	0.44	0.50	0.50
A-2	0.066	0.96	0.40	0.50
A-3	0.021	0.98	0.30	0.40
Total		2.38		
Laterl-B				
B-1	0.073	1.43	0.30	0.60
B-2	0.069	0.87	0.30	0.60
B-3	0.066	0.78	0.30	0.60
B-4	0.025	0.46	0.30	0.50
B-5	0.024	0.42	0.30	0.50
B-6	0.016	0.27	0.30	0.40
Total		4.23		

Lateral-C				
NAME	Q m3/s)	L (km)	B (m)	H (m)
C-1	0.202	0.02	0.70	0.70
C-2	0.126	0.48	0.60	0.60
C-3	0.117	0.59	0.60	0.60
C-4	0.046	0.33	0.50	0.50
Total		1.42		
Laterl-D				
D-1	0.071	0.34	0.50	0.50
D-2	0.060	0.15	0.50	0.50
Total		0.49		
Laterl-E				
E-1	0.218	0.80	0.80	0.70
E-2	0.181	0.27	0.70	0.70
E-3	0.126	0.42	0.60	0.70
E-4	0.049	0.51	0.50	0.50
Total		2.00		

LEGEND

- MAIN ROAD (M. R)
- LATERAL ROAD (L. R)
- MAIN CANAL
- LATERAL CANAL
- MAIN DRAINAGE
- TURN OUT

LATERAL CANAL-A L=2.38km

LATERAL CANAL-B L=4.23km

MAIN CANAL L=4.21km

MAIN DRAINGE-B L=0.70km

LATERAL CANAL-C L=1.42km

MAIN DRAINGE-A L=1.10km

LATERAL CANAL-D L=0.49km

LATERAL CANAL-E L=2.00km

M.R-1

M.R-2

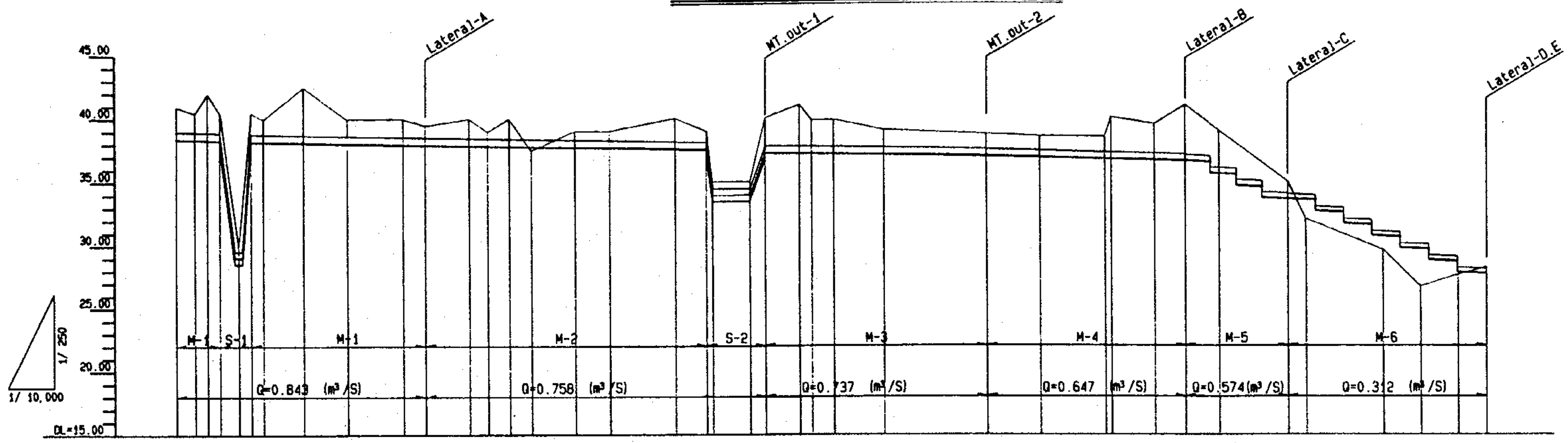
M.R-3

M.R-4

0 Scale 500m

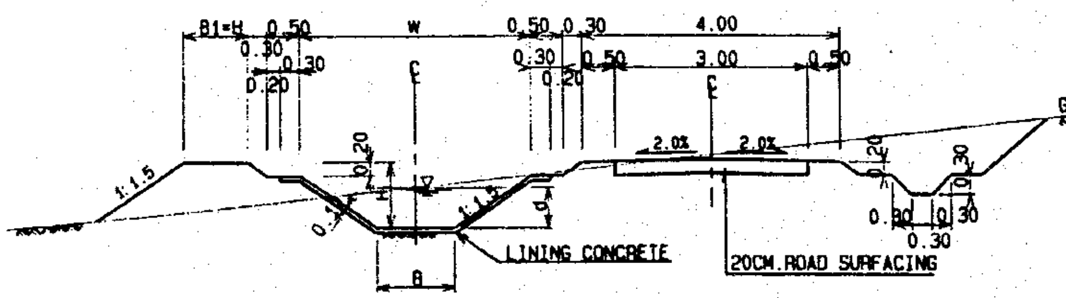
Dr-13

PROFILE OF MAIN CANAL



STATION	LENGTH	DISTANCE	N.G.EL	PLAN C.B.EL	PLAN W.S.EL	PLAN SLOPE
STA.0	0.00	0.00	41.00	38.4	39.0	1/2000
0+ 60	60.00	60.00	40.50			
0+140	80.00	140.00	40.50	38.3	38.9	1/630
0+240	100.00	240.00	40.50	38.2	38.8	1/2000
0+410	130.00	410.00	42.50			
0+730	320.00	730.00	40.00			
0+800	70.00	800.00	39.50	37.9	38.5	
0+940	140.00	940.00	40.00			
STA.1	60.00	1000.00	39.00			
1+280	280.00	1280.00	39.00			
1+390	110.00	1390.00	39.00			
1+700	310.00	1700.00	39.00	37.5	38.0	1/780
1+890	190.00	1890.00	40.00	37.2	37.8	1/2000
STA.2	110.00	2000.00	41.00			
2+ 40	40.00	2040.00	39.80			
2+110	70.00	2110.00	39.80			
2+270	160.00	2270.00	39.00			
2+600	330.00	2600.00	38.70	36.9	37.4	
2+770	170.00	2770.00	38.50			
2+980	210.00	2980.00	38.50			
STA.3	20.00	3000.00	40.00			
3+140	140.00	3140.00	39.50			
3+240	100.00	3240.00	41.00	36.6	37.1	1/1000
3+350	110.00	3350.00	39.00			
3+570	220.00	3570.00	35.00	33.6	34.1	
3+880	310.00	3880.00	29.60			
STA.4	120.00	4000.00	26.70			
4+120	120.00	4120.00	27.60			
4+210	90.00	4210.00	28.20	27.7	28.0	

TYPICAL CANAL SECTIONS



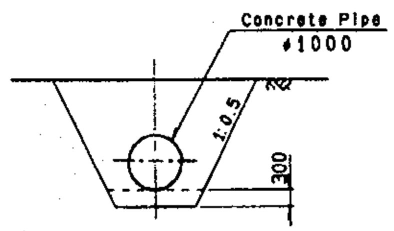
MAIN CANAL (LINED)
TYPE-I

DIMENSION TABLE

Main Canal

TYPE	SECTION	Q (m³/S)	n	I	B (m)	d (m)	H (m)	V (m/S)
I	M-1	0.843	0.018	1/2000	1.20	0.61	1.00	0.65
	M-2	0.758	0.018	1/2000	1.20	0.58	0.90	0.63
	M-3	0.737	0.018	1/2000	1.20	0.57	0.90	0.63
	M-4	0.647	0.018	1/2000	1.20	0.53	0.90	0.61
	M-5	0.574	0.018	1/1000	1.00	0.45	0.80	0.76
	M-6	0.312	0.018	1/1000	0.80	0.36	0.70	0.66

TYPICAL SYPHON SECTIONS



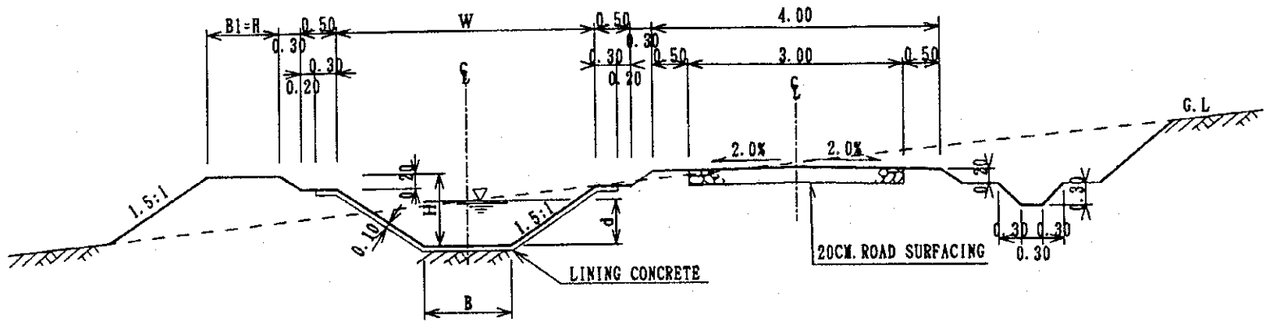
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

Plofile of Irrigation Caal

DAR

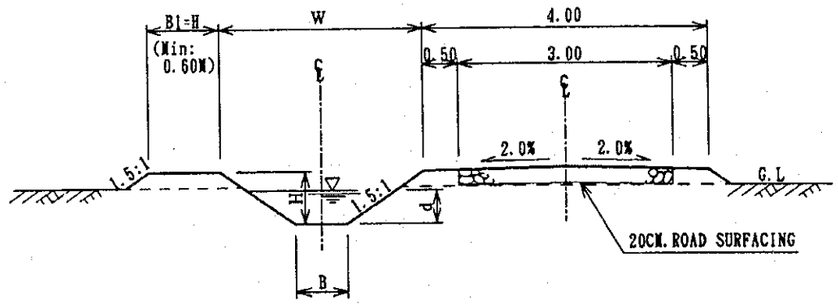
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

TYPICAL CANAL SECTIONS



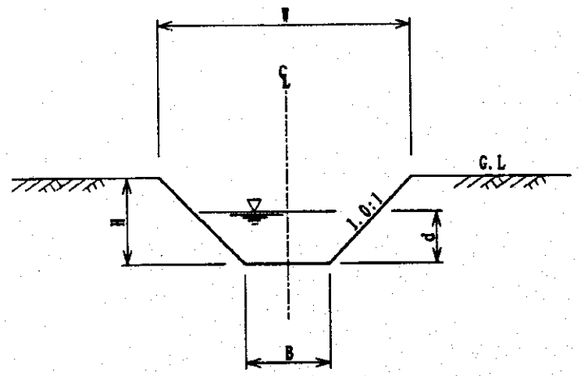
MAIN CANAL (LINED)

TYPE-I



LATERAL CANAL

TYPE-II



LATERAL CANAL

TYPE-III

DIMENSION TABLE

Main Canal

TYPE	SECTION	Q (m3/s)	n	I	B (m)	d (m)	H (m)	V (m/s)
I	M-1	0.843	0.018	1/2000	1.20	0.61	1.00	0.65
	M-2	0.758	0.018	1/2000	1.20	0.58	0.90	0.63
	M-3	0.737	0.018	1/2000	1.20	0.57	0.90	0.63
	M-4	0.647	0.018	1/2000	1.20	0.53	0.90	0.61
	M-5	0.574	0.018	1/1000	1.00	0.45	0.80	0.76
	M-6	0.312	0.018	1/1000	0.80	0.36	0.70	0.66

Lateral-A

TYPE	SECTION	Q (m3/s)	n	I	B (m)	d (m)	H (m)	V (m/s)
III	A-1	0.085	0.030	1/600	0.50	0.28	0.50	0.41
	A-2	0.066	0.030	1/600	0.40	0.27	0.50	0.39
	A-3	0.021	0.030	1/600	0.30	0.16	0.40	0.29

Lateral-B

TYPE	SECTION	Q (m3/s)	n	I	B (m)	d (m)	H (m)	V (m/s)
III	B-1	0.073	0.030	1/1200	0.30	0.36	0.60	0.31
	B-2	0.069	0.030	1/1200	0.30	0.35	0.60	0.30
	B-3	0.066	0.030	1/1200	0.30	0.34	0.60	0.30
	B-4	0.025	0.030	1/1200	0.30	0.21	0.50	0.23
	B-5	0.024	0.030	1/1200	0.30	0.21	0.50	0.23
	B-6	0.016	0.030	1/1200	0.30	0.17	0.40	0.21

Lateral-C

TYPE	SECTION	Q (m3/s)	n	I	B (m)	d (m)	H (m)	V (m/s)
II	C-1	0.202	0.025	1/1000	0.70	0.36	0.70	0.46
	C-2	0.126	0.025	1/1000	0.60	0.30	0.60	0.41
	C-3	0.117	0.025	1/1000	0.60	0.29	0.60	0.39
III	C-4	0.046	0.030	1/1000	0.50	0.22	0.50	0.29

Lateral-D

TYPE	SECTION	Q (m3/s)	n	I	B (m)	d (m)	H (m)	V (m/s)
III	D-1	0.071	0.030	1/1000	0.50	0.29	0.50	0.31
	D-2	0.060	0.030	1/1000	0.50	0.26	0.50	0.30

Lateral-E

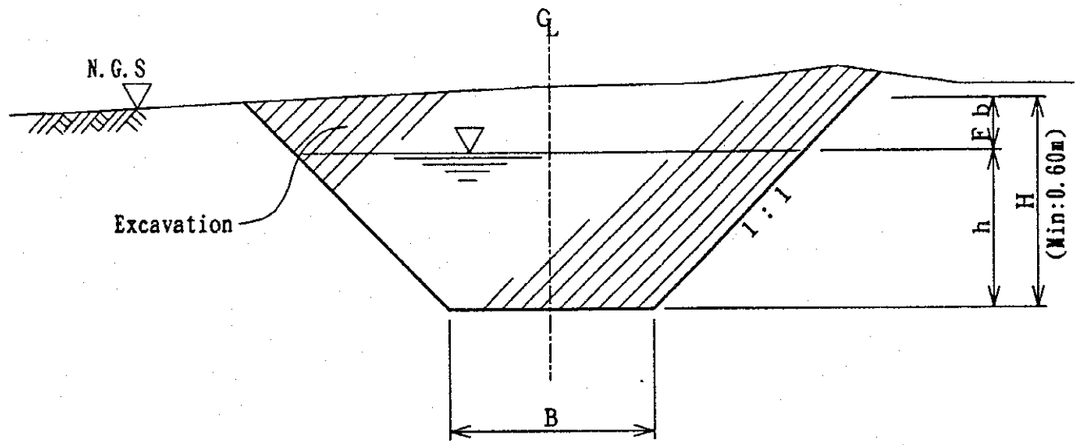
TYPE	SECTION	Q (m3/s)	n	I	B (m)	d (m)	H (m)	V (m/s)
II	E-1	0.218	0.025	1/1500	0.80	0.39	0.70	0.40
	E-2	0.181	0.025	1/1500	0.70	0.37	0.70	0.39
	E-3	0.126	0.025	1/1500	0.60	0.33	0.70	0.35
III	E-4	0.049	0.030	1/1000	0.50	0.23	0.50	0.29

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

Typical Irrigation Canal Section

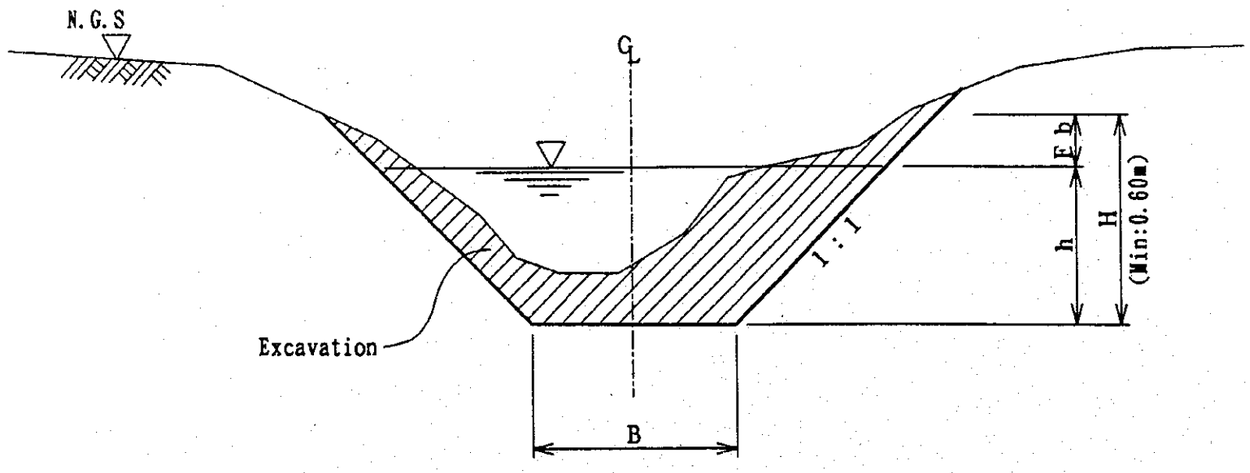
DAR

JICA JAPAN INTERNATIONAL COOPERATION AGENCY



Typical Section of New Canal

NAME	L (km)	Q (m3/s)	V (m/s)	B (m)	h (m)	H (m)	Fb (m)
A-1	0.36	0.165	0.48	0.50	0.39	0.60	0.21
A-2	0.58	0.275	0.58	0.60	0.45	0.60	0.15
A-3	0.16	0.635	0.70	1.00	0.57	0.80	0.23
B-1	0.30	0.155	0.98	0.30	0.28	0.60	0.32
B-2	0.38	0.335	0.79	0.60	0.42	0.60	0.18



Typical Section of Excavated Creek

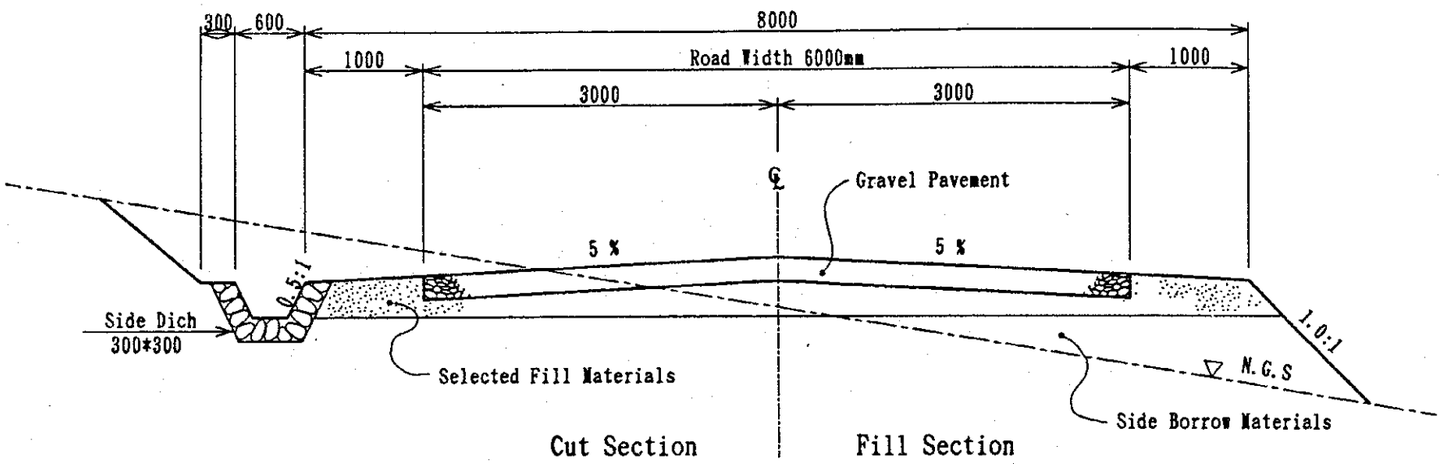
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

Typical Drainage Canal Section

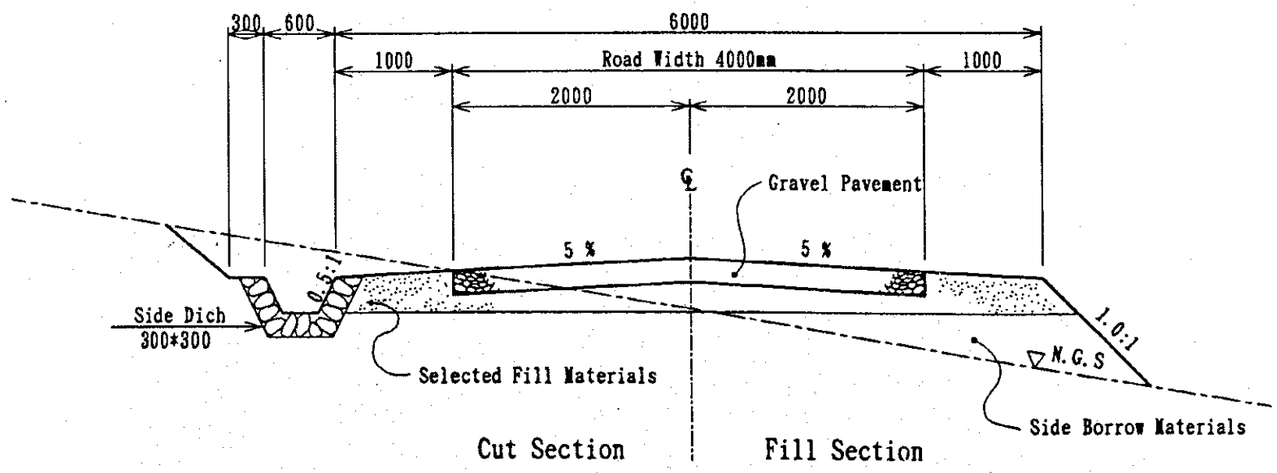
DAR

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

TYPICAL CROSS SECTION OF FARM TO MARKET ROAD



MAIN ROAD (M.R)



LATERAL ROAD (L.R)

OUTLIN OF ROAD SYSTEM

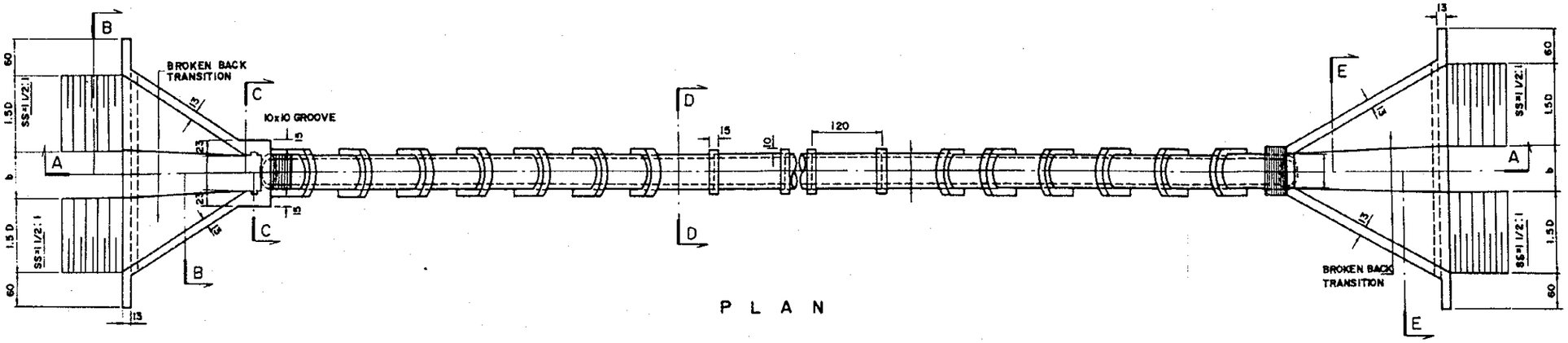
Main Load			
NAME	Length (km)	Total Width (m)	Effective Width (m)
M.R-1	3.50	8.00	6.00
-2	1.28	8.00	6.00
-3	3.50	8.00	6.00
-4	3.50	8.00	6.00
Total	11.78		
Lateral Load			
L.R-1	1.74	6.00	4.00
-2	1.79	6.00	4.00
-3	1.67	6.00	4.00
-4	2.00	6.00	4.00
-5	1.00	6.00	4.00
-6	1.26	6.00	4.00
-7	0.70	6.00	4.00
-8	3.50	6.00	4.00
-9	1.90	6.00	4.00
-10	1.70	6.00	4.00
-11	1.40	6.00	4.00
-12	1.15	6.00	4.00
-13	0.94	6.00	4.00
-14	1.60	6.00	4.00
-15	1.80	6.00	4.00
-16	0.56	6.00	4.00
-17	1.20	6.00	4.00
-18	1.90	6.00	4.00
-19	1.35	6.00	4.00
Total	29.16		

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

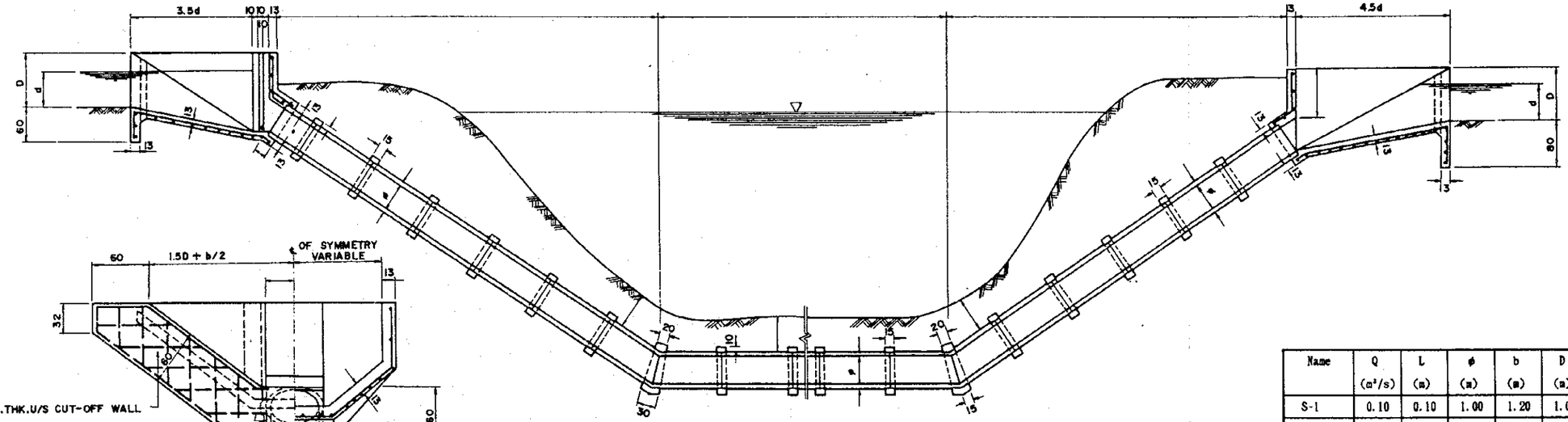
Typical Farm to Market Road Section

DAR

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

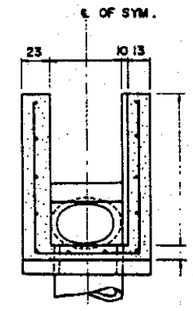


PLAN

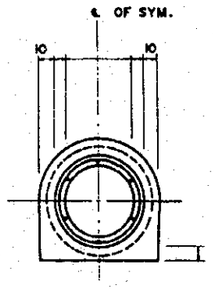


LONGITUDINAL SECTION "A – A"

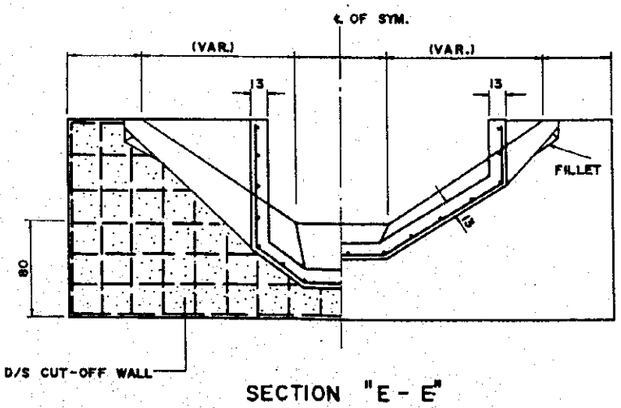
SECTION "B – B"



SECTION "C-C"



SECTION "D-D"



SECTION "E - E"

Name	Q (m³/s)	L (m)	ϕ (m)	b (m)	D (m)
S-1	0.10	0.10	1.00	1.20	1.00
S-2	0.10	0.19	1.00	1.20	0.90

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

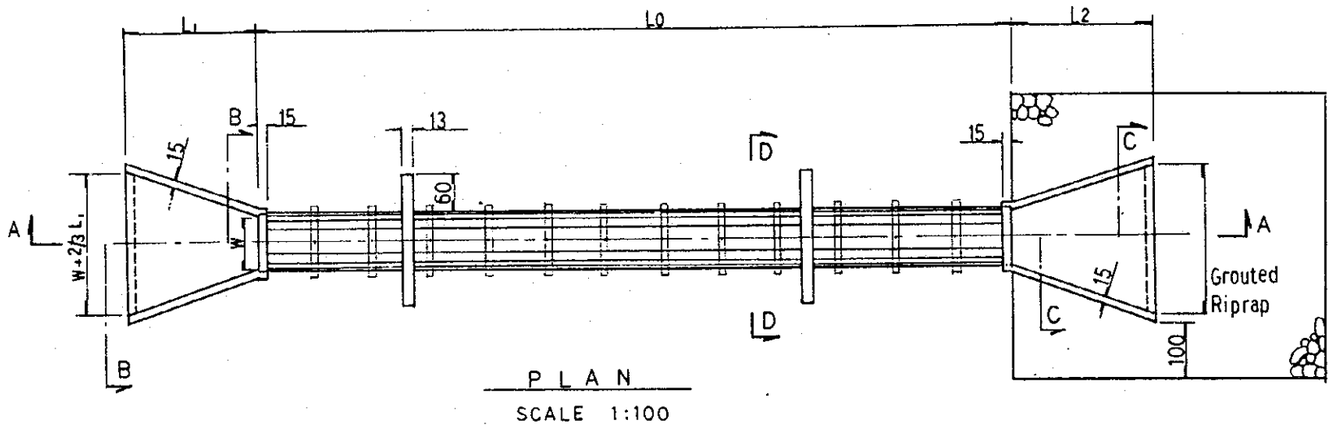
Canal R.C. Pipe Siphon

DAR

JICA

JAPAN INTERNATIONAL COOPERATION AGENCY

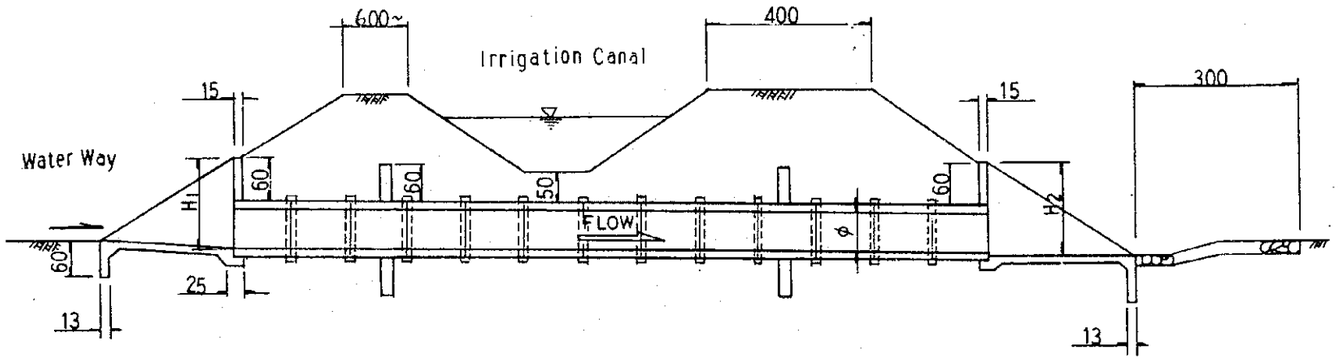
Dr-18



PLAN

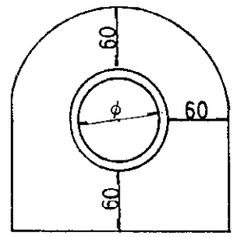
SCALE 1:100

Discharge (m³/sec)	φ (m)	L0 (m)	L1, L2 (m)	H1, H2 (m)	W (m)
0~0.30	0.60		1.95	1.30	0.80
~0.60	0.80		2.25	1.50	1.00
~1.1	1.00		2.55	1.70	1.30
~2.2	1.00*2		2.55	1.70	2.50



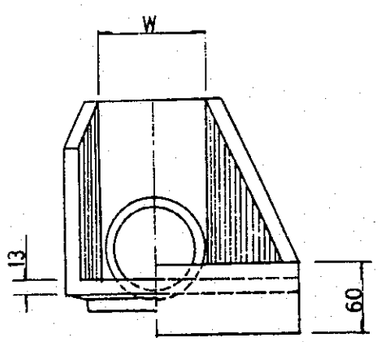
SECTION A-A

SCALE 1:100



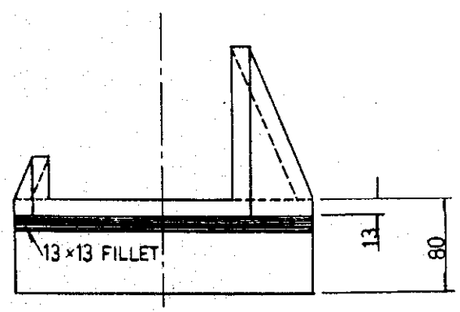
SECTION D-D

SCALE 1:60



SECTION B-B

SCALE 1:60



SECTION C-C

SCALE 1:60

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

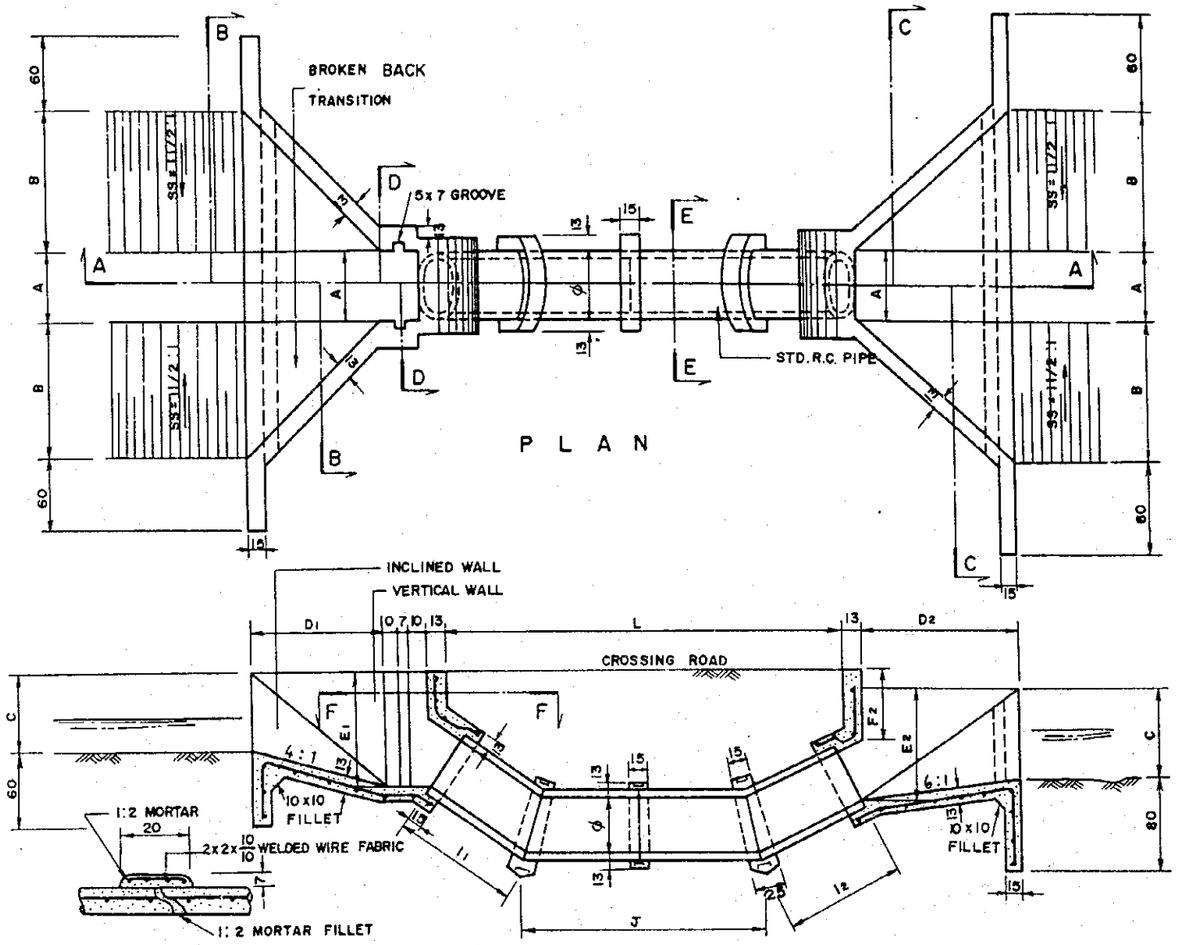
Drainage Crossing

DAR

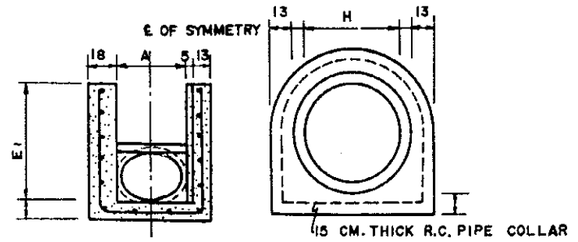
JICA

JAPAN INTERNATIONAL COOPERATION AGENCY

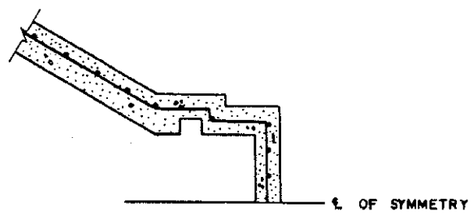
Dr-19



TYPICAL SECTION FOR LAYING PRE-CAST R.C. PIPE

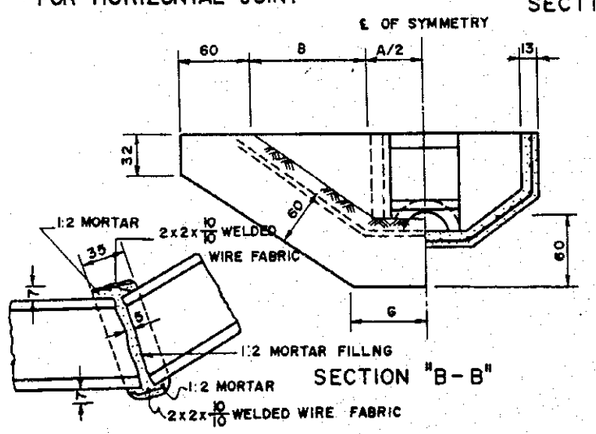


SECTION "D-D" SECTION "E-E"



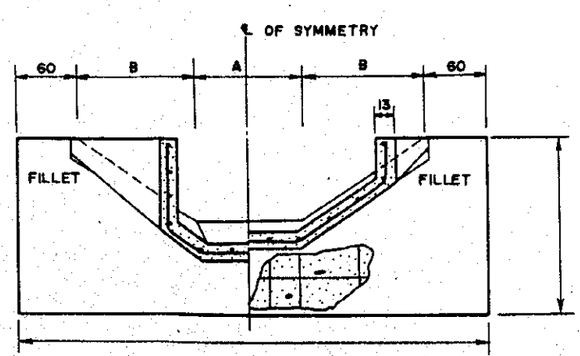
HALF SECTION "F - F"

Discharge (m³/sec)	ϕ (m)	L (m)	A (m)	B (m)	C (m)
0~0.20	0.30				
~0.40	0.45				
~0.60	0.60				
~0.90	0.80				



SECTION "B-B"

ALTERNATE PIPE COLLARS



SECTION "C - C"

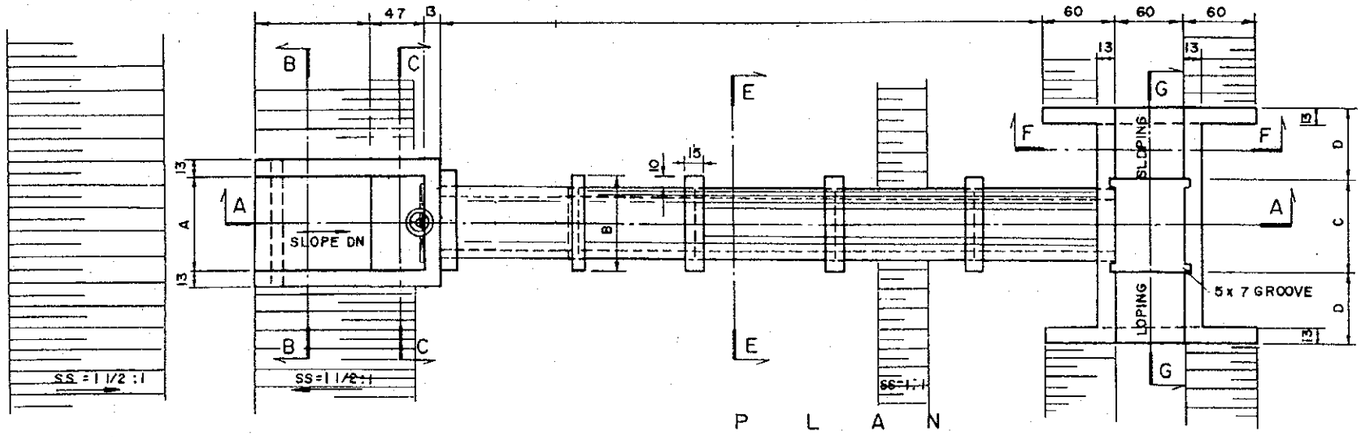
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

Road Crossing

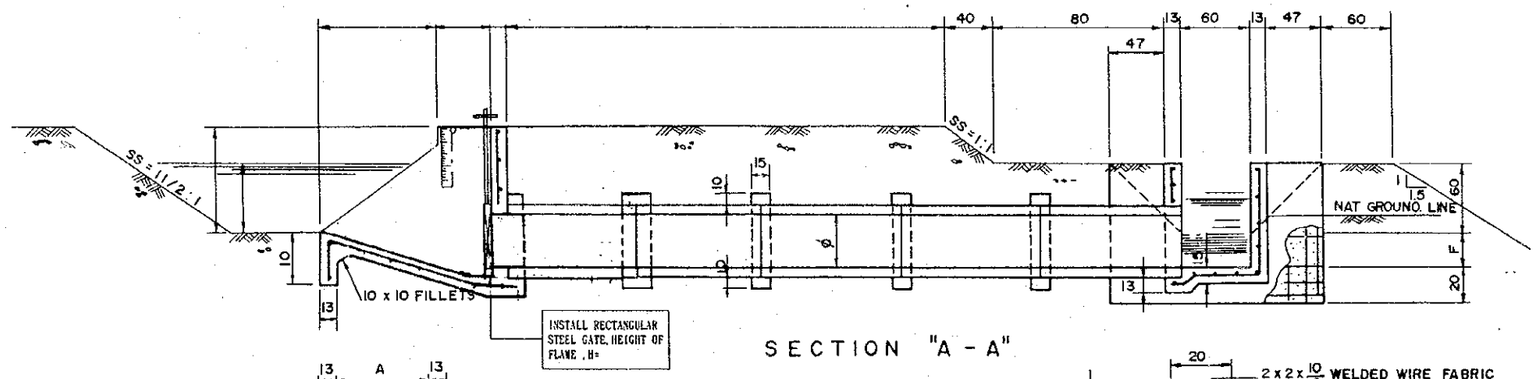
DAR

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

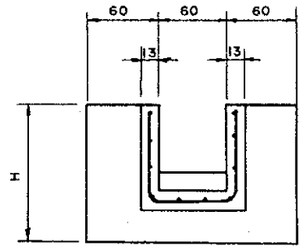
Dr-20



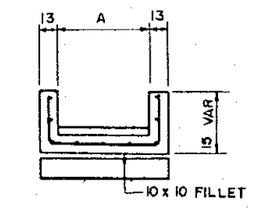
Discharge (m³/sec)	ϕ (m)	A (m)	B (m)	C (m)	D (m)
0~0.064	0.30	0.80	0.60		
~0.150	0.45	0.80	0.78		
~0.250	0.60	0.80	0.96		



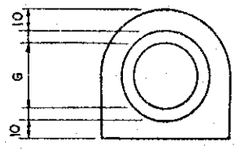
SECTION "A - A"



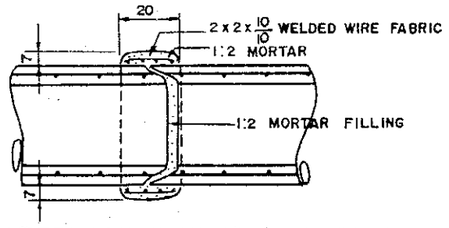
SECTION "F - F"



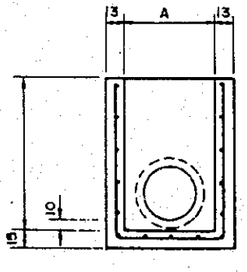
SECTION "B - B"



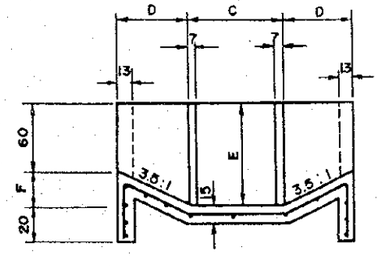
SECTION "E - E"



ALTERNATE PIPE COLLAR JOINT



SECTION "C - C"



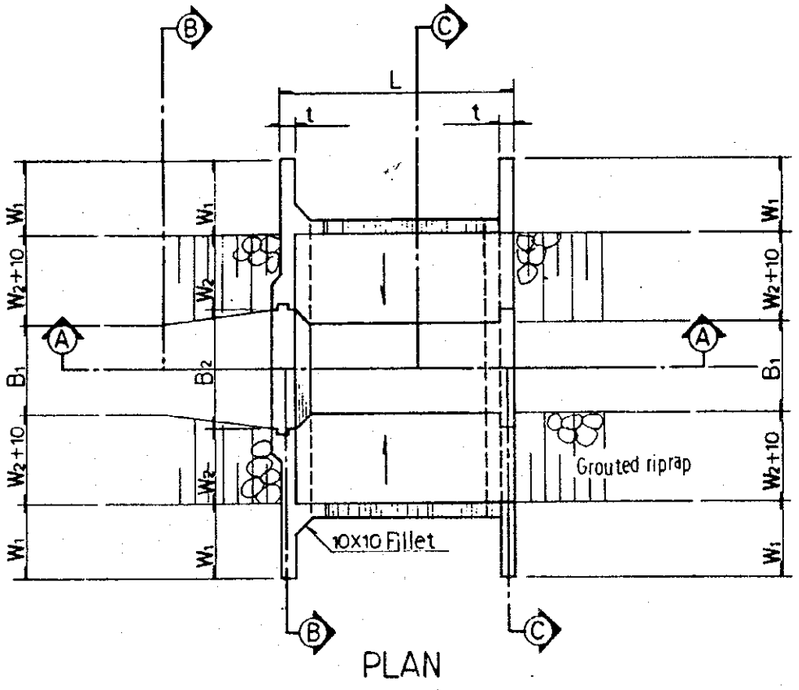
SECTION "G - G"

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

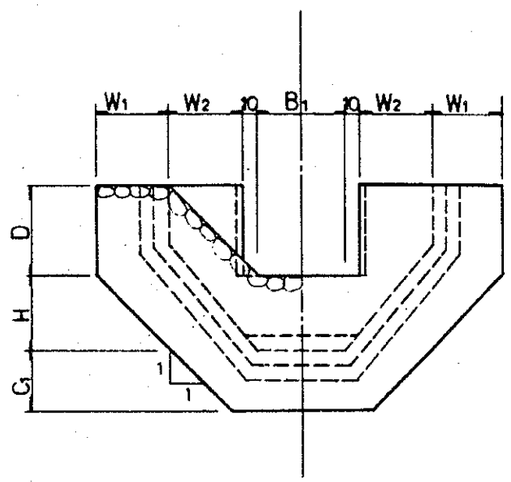
Diversion/Turnouts

DAR

JICA JAPAN INTERNATIONAL COOPERATION AGENCY



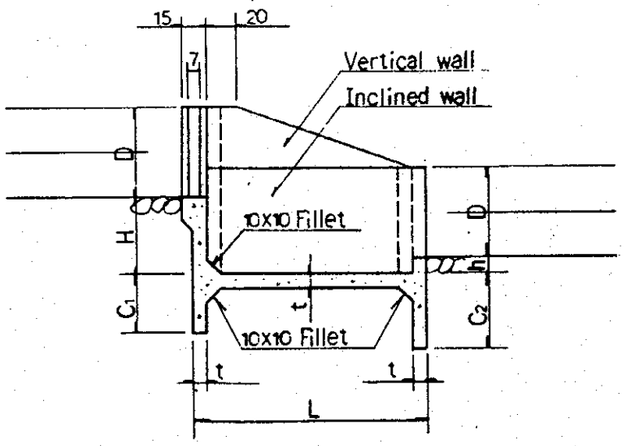
PLAN



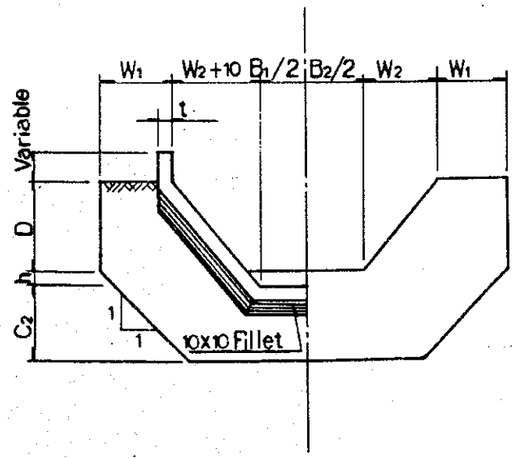
SECTION "B-B"

Name	H (m)	h (m)	L (m)	B1 (m)	B2 (m)
Type-1	1.00	0.10	3.10		0.80
Type-2	0.90	0.10	2.80		0.60

Name	t (m)	W1 (m)	W1 (m)	C1 (m)	C2 (m)
Type-1	0.10	0.50		0.40	0.45
Type-2	0.10	0.50		0.40	0.45



SECTION "A-A"



SECTION "C-C"

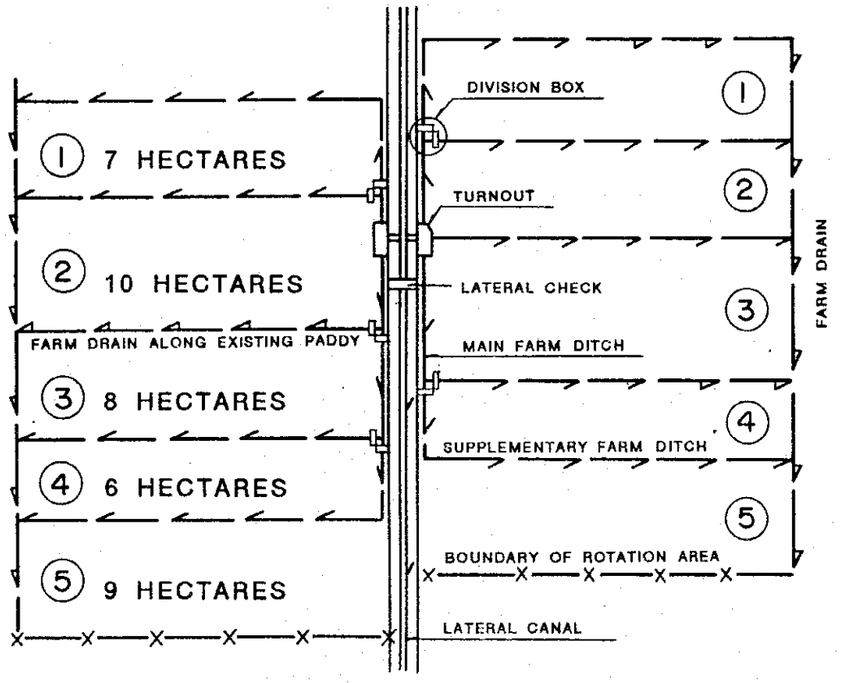
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

Drop

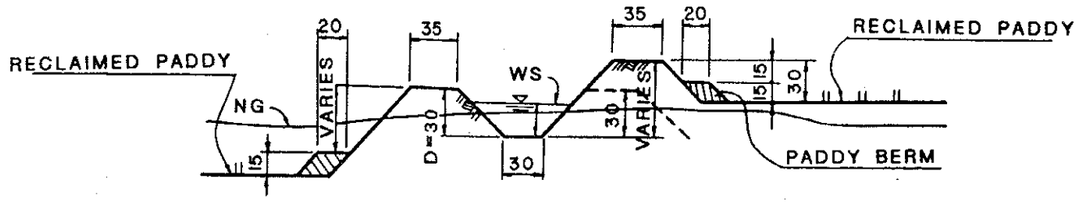
DAR

JICA

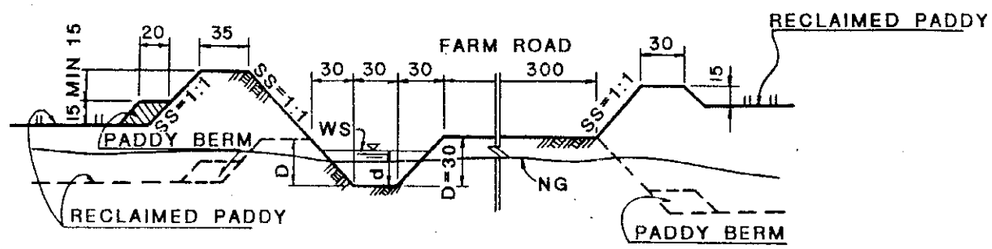
JAPAN INTERNATIONAL COOPERATION AGENCY



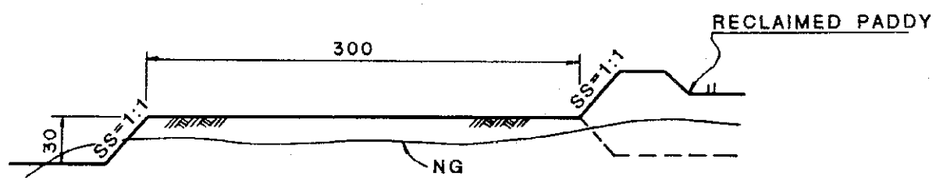
LAYOUT OF TWO ROTATION AREAS



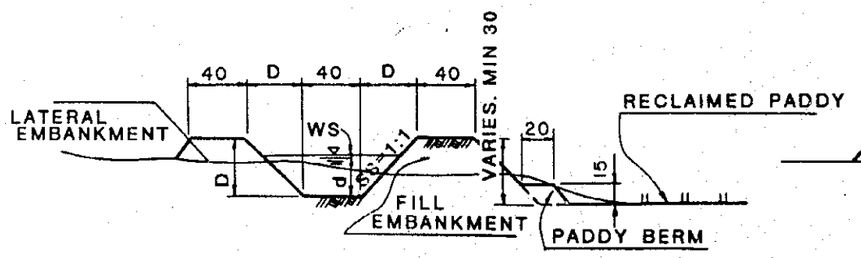
SUPPLEMENTARY FARM DITCH IN THE RECLAIMED AREA



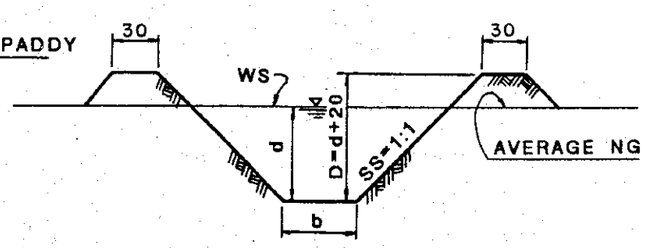
SUPPLEMENTARY FARM DITCH AND FARM ROAD



FARM ROAD



MAIN FARM DITCH ADJACENT TO LATERAL



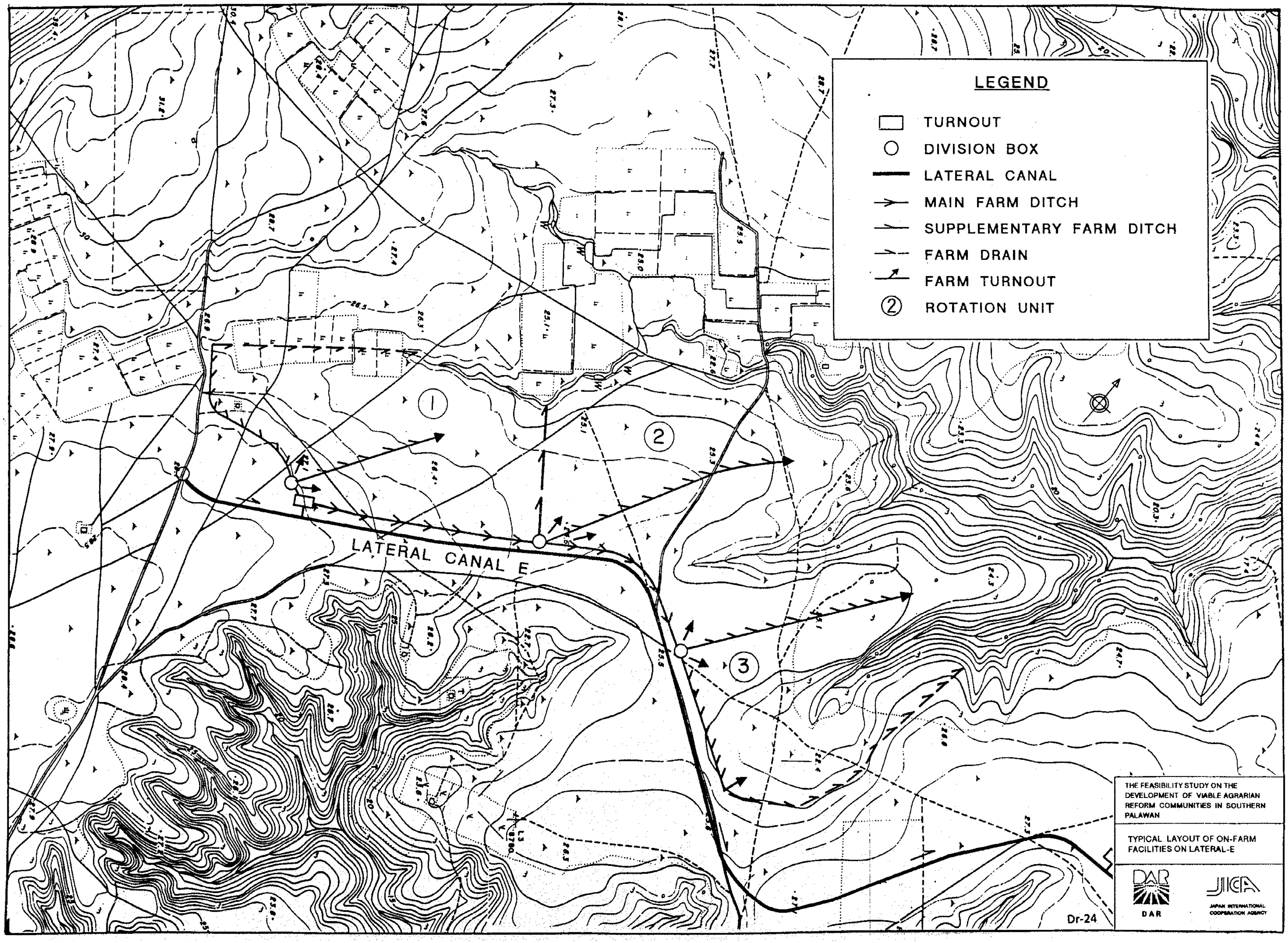
FARM DRAIN

THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN

TYPICAL LAYOUT AND DESIGN OF ON-FARM FACILITIES

DAR

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY


LEGEND
TURNOUT
DIVISION BOX
LATERAL CANAL
MAIN FARM DITCH
SUPPLEMENTARY FARM DITCH
FARM DRAIN
FARM TURNOUT
ROTATION UNIT
LATERAL CANAL E
1
2
3
THE FEASIBILITY STUDY ON THE DEVELOPMENT OF VIABLE AGRARIAN REFORM COMMUNITIES IN SOUTHERN PALAWAN
TYPICAL LAYOUT OF ON-FARM FACILITIES ON LATERAL-E
DAR
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
Dr-24