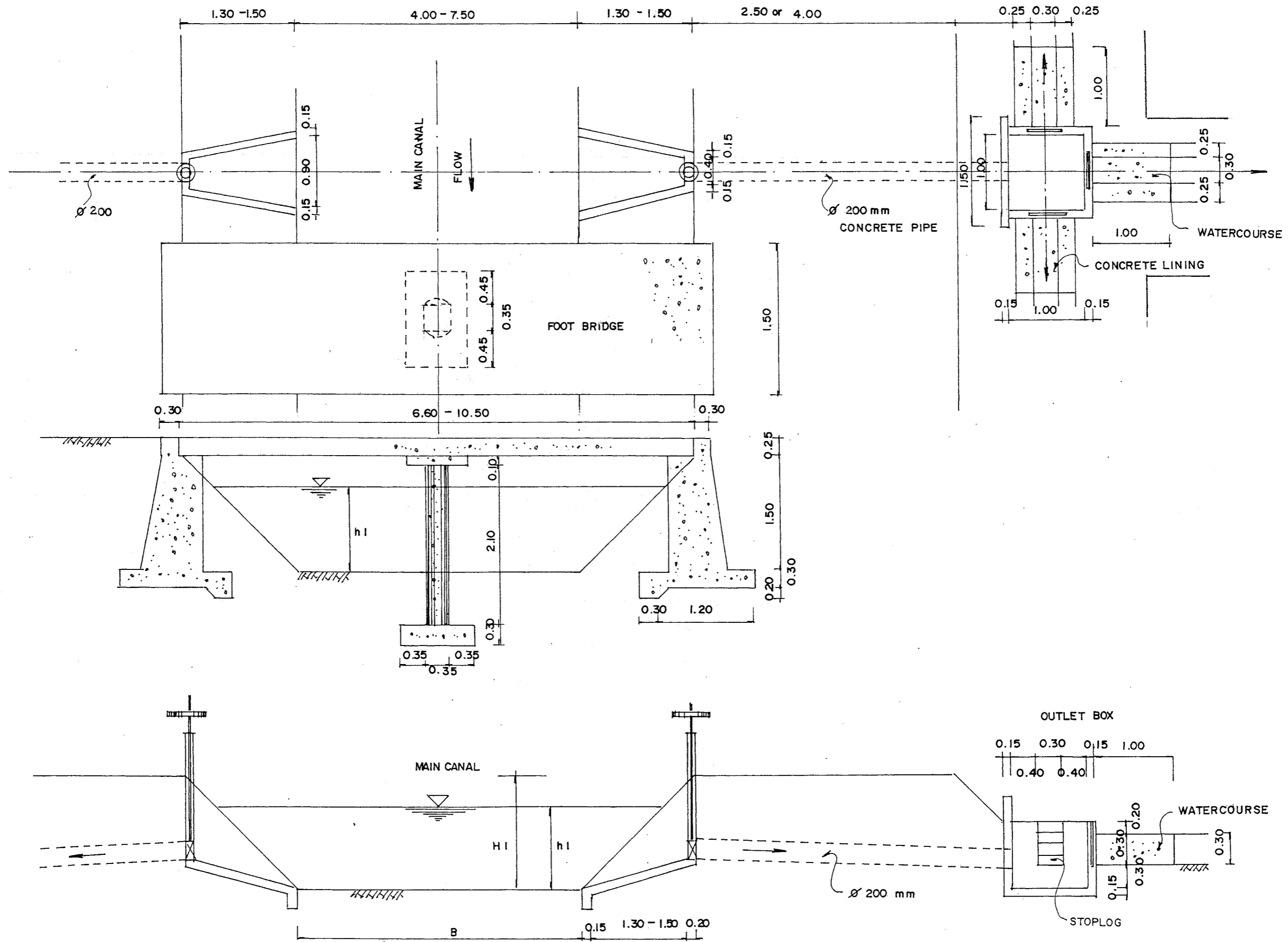


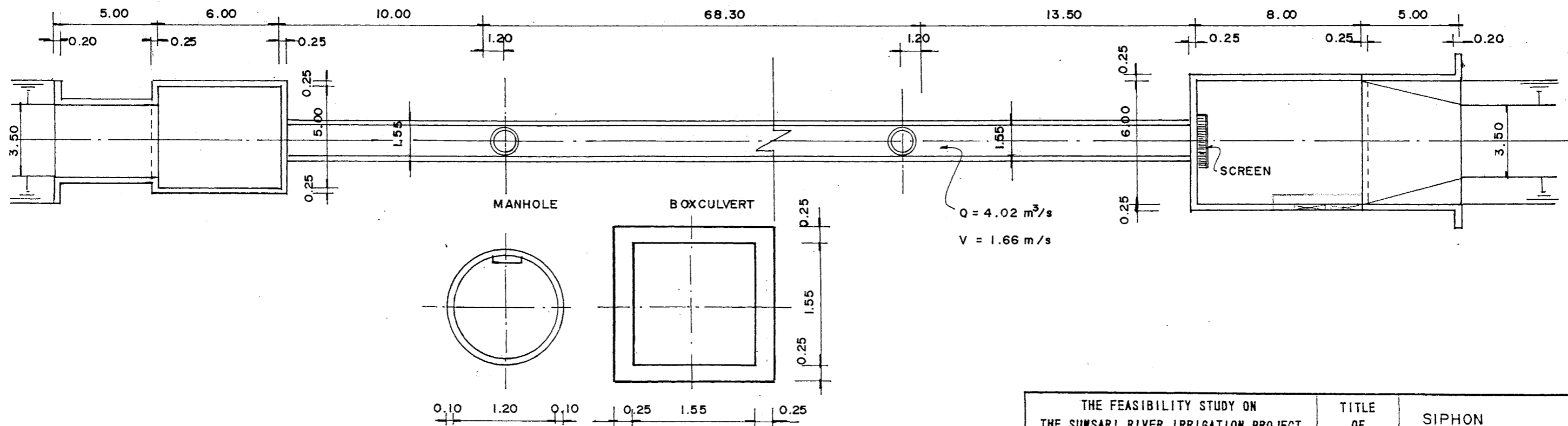
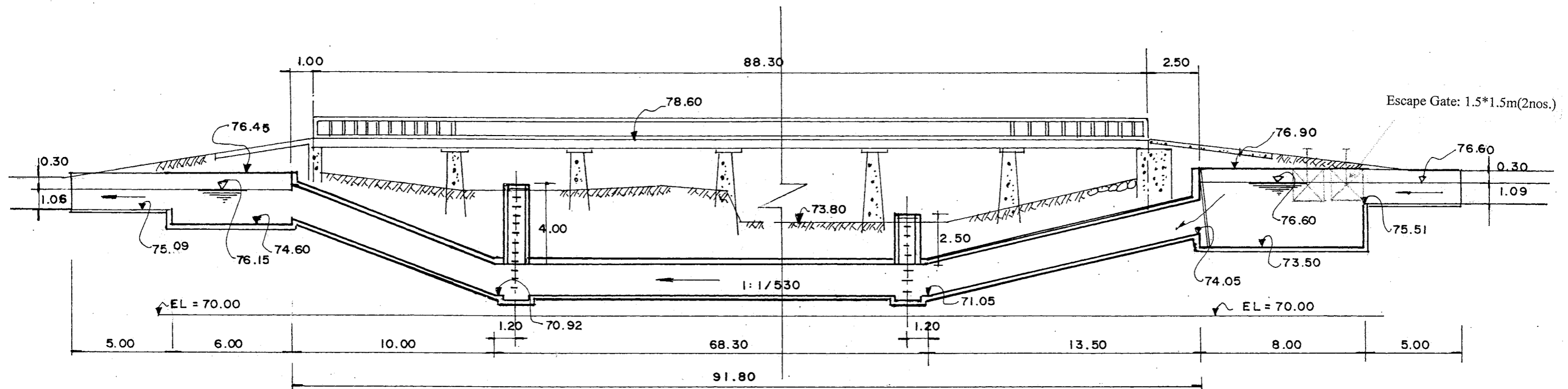
CROSS REGULATOR DIMENSIONS

Q (m ³ /s)	B1 (m)	B2 (m)	B3 (m)	L1 (m)	L2 (m)	L3 (m)	L4 (m)	L5 (m)	L6 (m)	L7 (m)	W (m)	H1 (m)	h1 (m)	H2 (m)	h2 (m)	H3 (m)
4.0-9.0	3.5-7.2	3.0-6.5	3.90	4.00	4.00	4.00	6.50	2.50	2.50	6.00	1.60	1.40-1.60	1.06-1.19	1.40-1.60	1.06-1.19	0.50-1.56
2.0-4.0	1.8-3.0	1.8-3.0	2.70	3.00	3.00	3.00	4.60	2.00	2.00	4.00	1.00	1.30-1.40	0.91-1.07	1.30-1.40	0.96-1.07	0.87-1.50
0.3-2.0	1.5-1.8	1.5-1.8	2.10	1.60	2.40	1.60	2.50	1.50	1.50	3.00	0.70	1.00-1.30	0.69-0.97	1.00-1.10	0.69-0.79	0.72

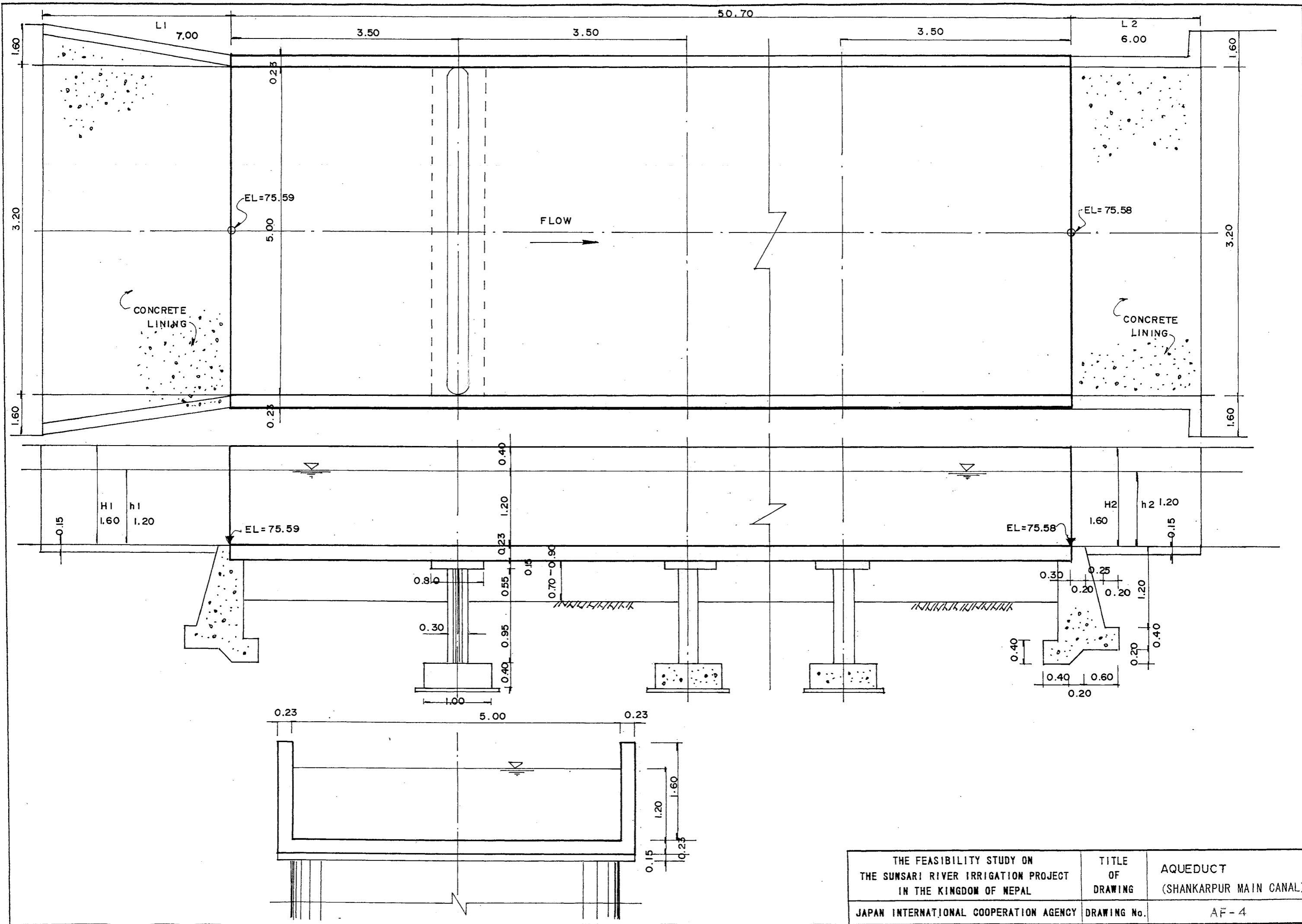
THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	MAIN CANAL CROSS REGULATOR
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-1



THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	MAIN CANAL OUTLET
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-2

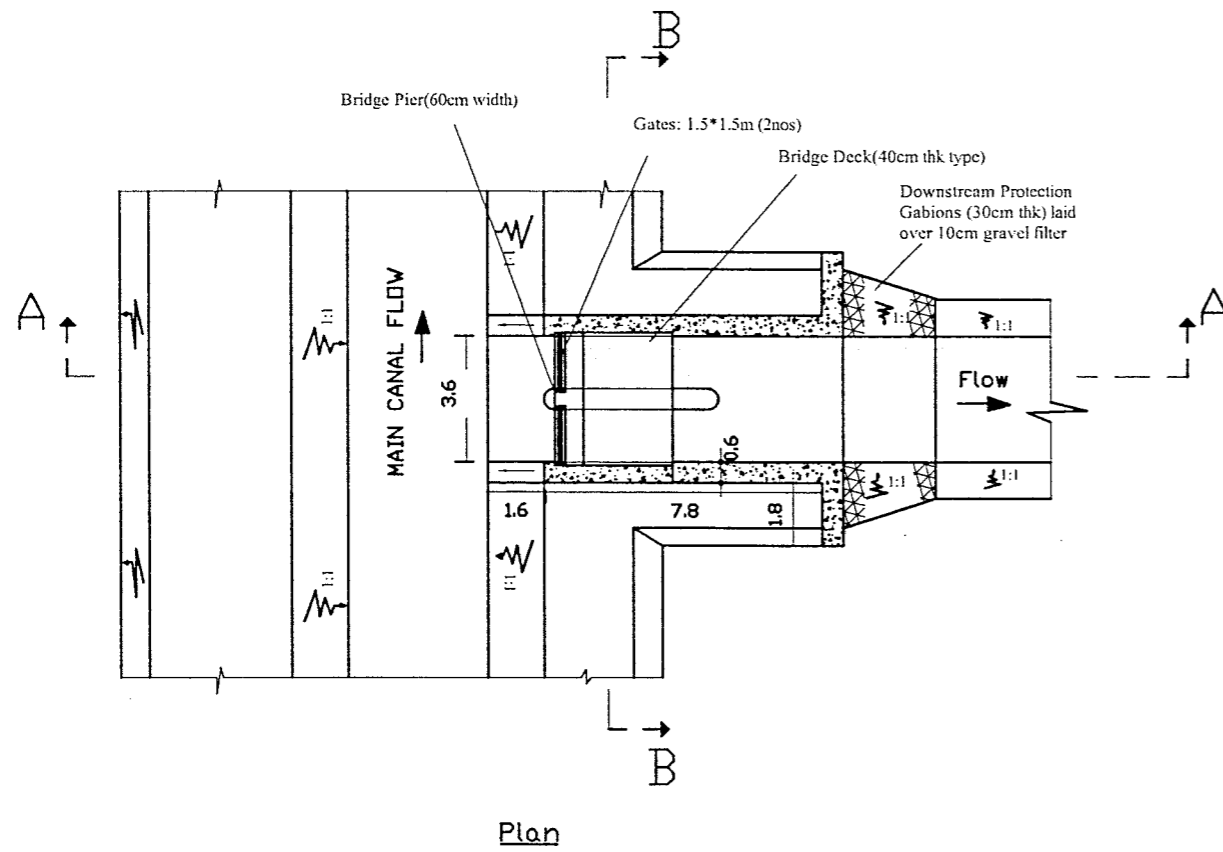


THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	SIPHON (SUKSENA MAIN CANAL)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-3

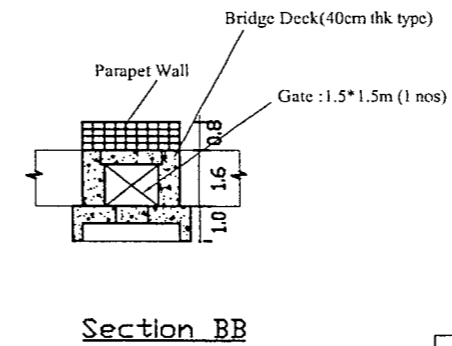
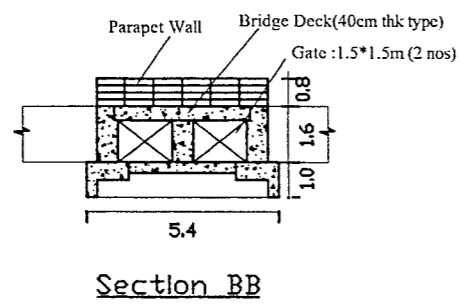
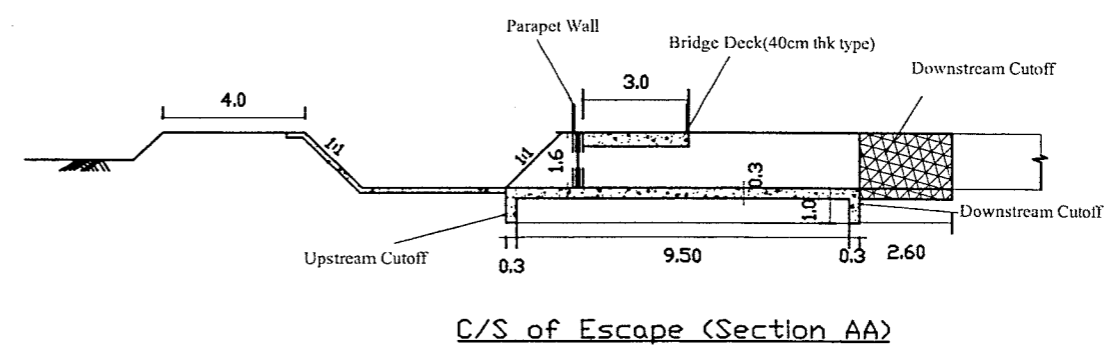
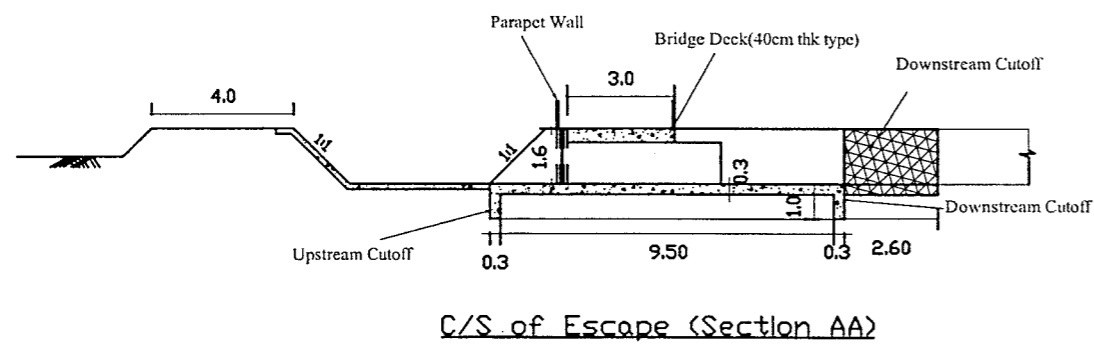
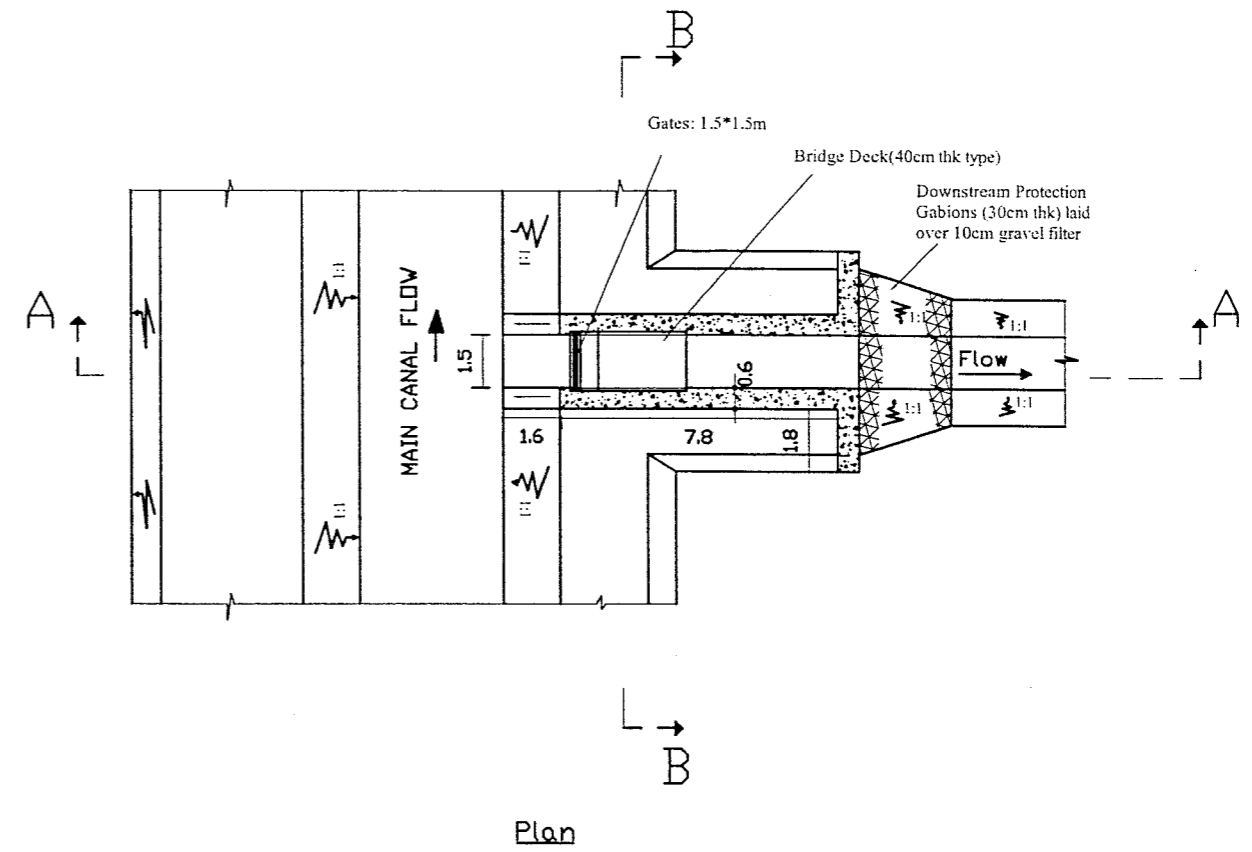


THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	AQUEDUCT (SHANKARPUR MAIN CANAL)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-4

Escape Structure (5cu.m. Capacity)



Escape Structure (2.5cu.m. Capacity)



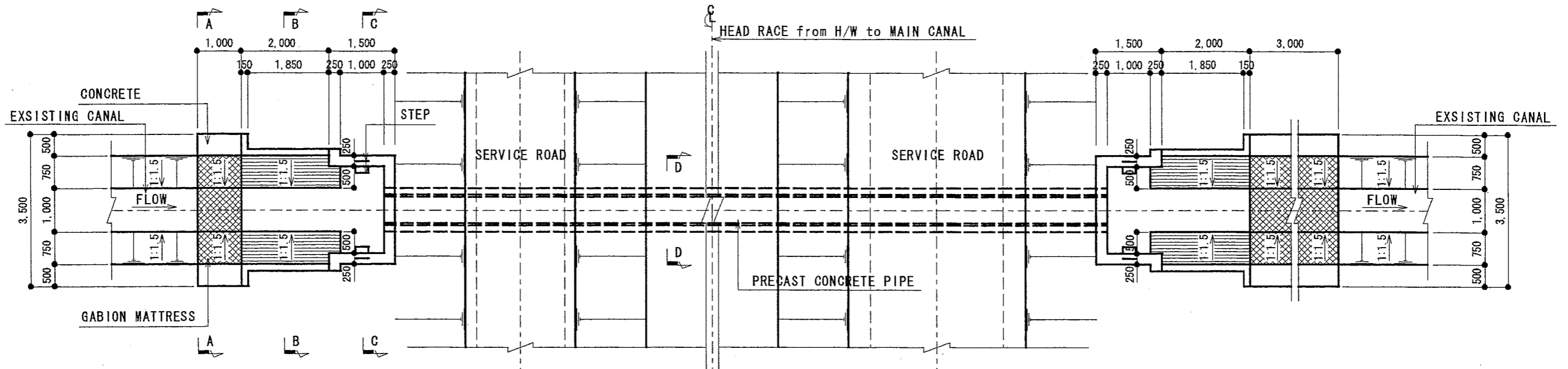
0 2.5 5.0M
Scale
All Dimensions are in metre.

THE FEASIBILITY STUDY ON THE SUNSARI IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWINGS OF MAIN CANAL ESCAPE STRUCTURE
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	AF-5

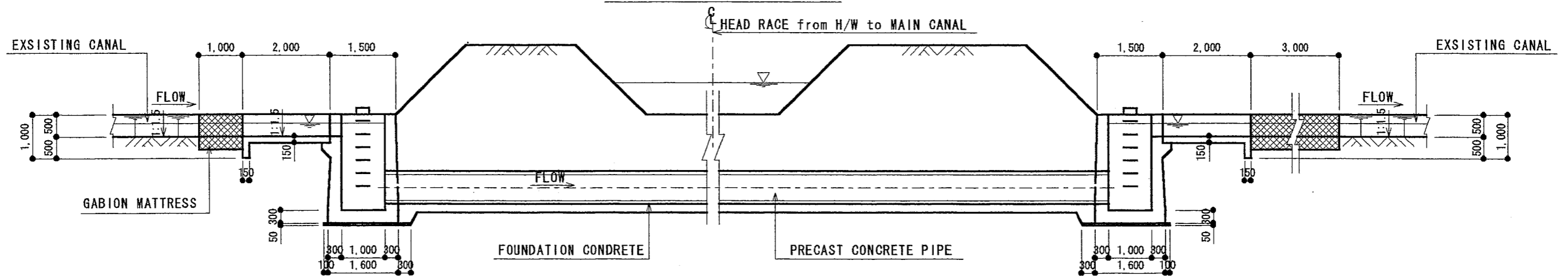
TYPICAL DRAWING OF HEAD RACE CROSSING

PLAN

S=1:100



PROFILE

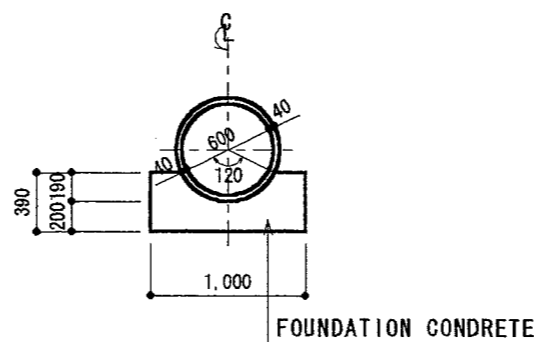
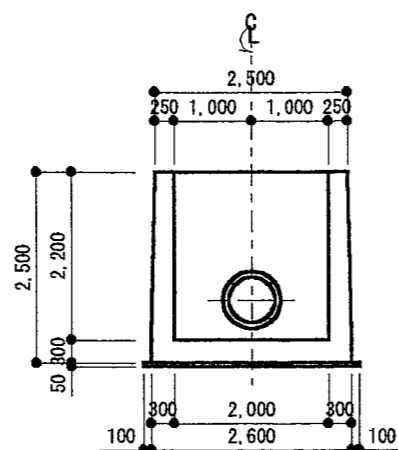
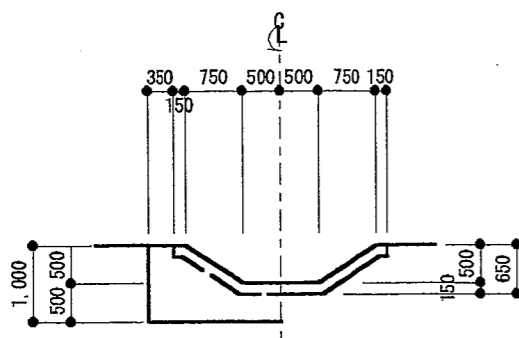


A - A

B - B

C - C

D - D



DIMENSIONS

Q (m ³ /sec)	D (mm)	Barrel (nos.)	L (m)	Remarks
0.16	800	1	20.0	
0.16-0.30	900	1	20.0	
0.30-0.70	900	2	20.0	

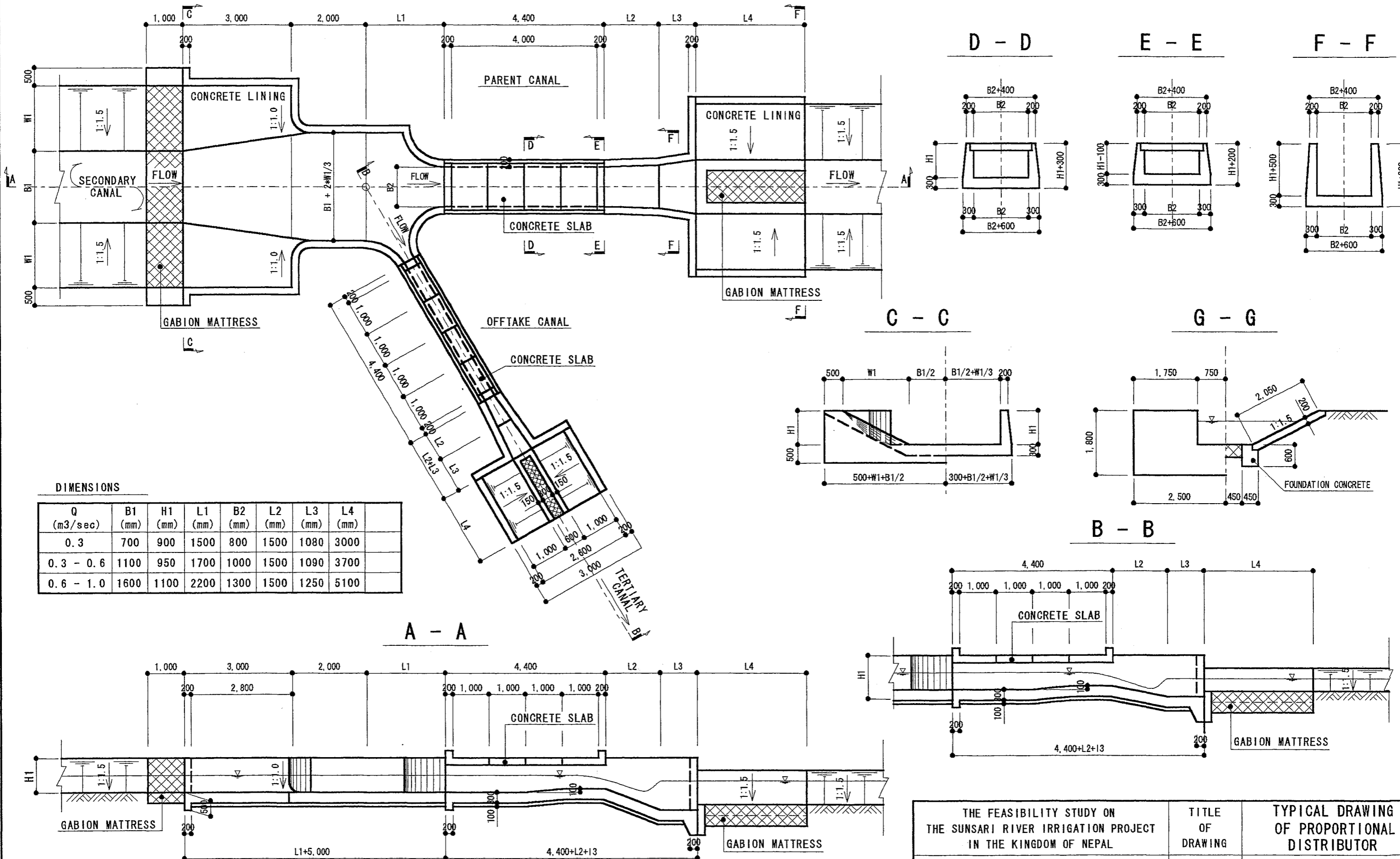
THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF HEAD RACE CROSSING
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-6

TYPICAL DRAWING OF PROPORTIONAL DISTRIBUTOR

(from Secondary to Tertiary)

S=1:200

P L A N



DIMENSIONS

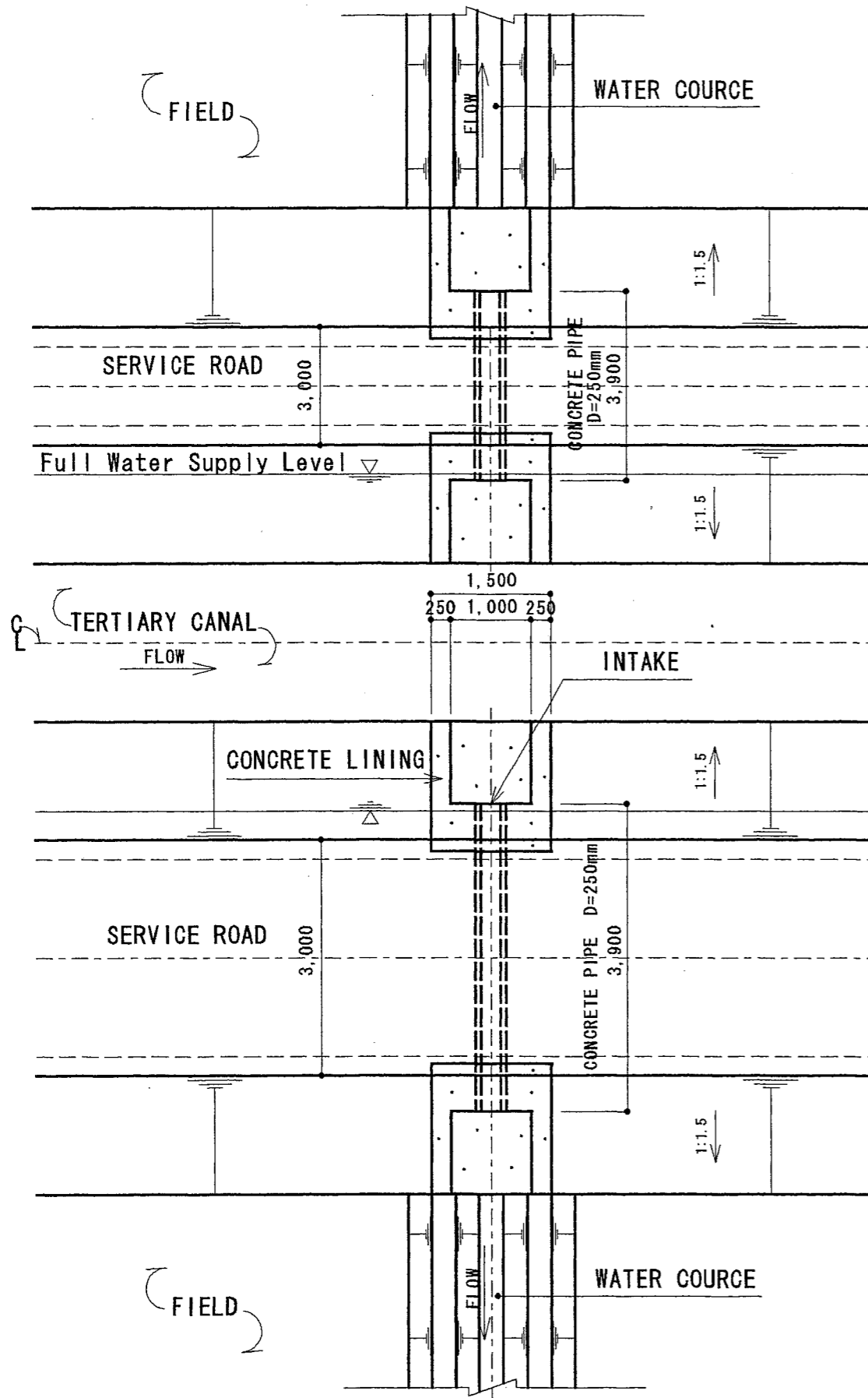
Q (m ³ /sec)	B1 (mm)	H1 (mm)	L1 (mm)	B2 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
0.3	700	900	1500	800	1500	1080	3000
0.3 - 0.6	1100	950	1700	1000	1500	1090	3700
0.6 - 1.0	1600	1100	2200	1300	1500	1250	5100

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF PROPORTIONAL DISTRIBUTOR
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-7

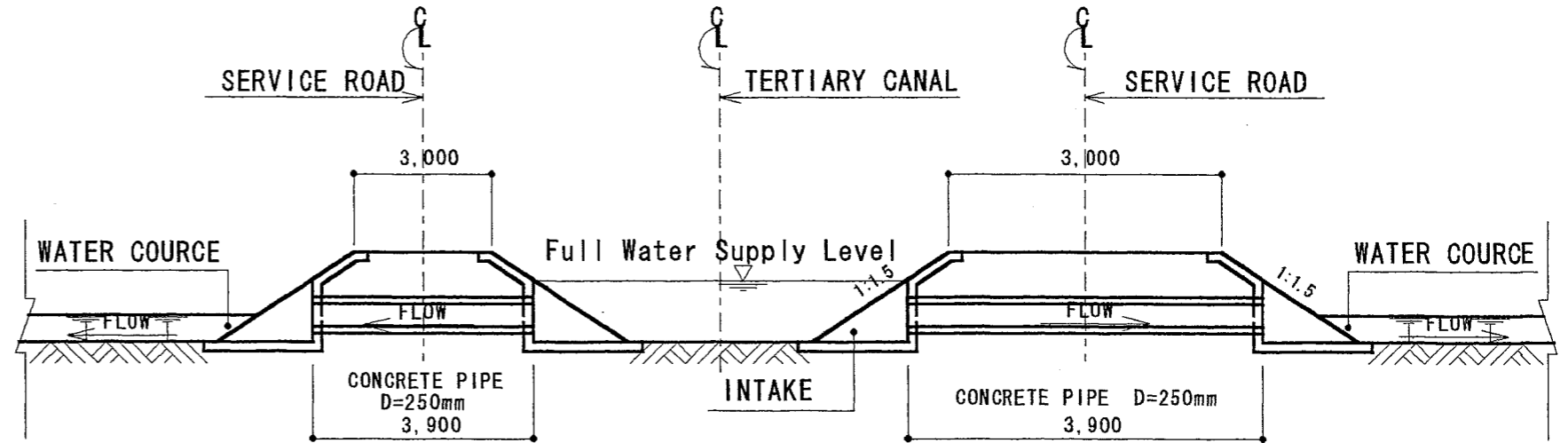
TYPICAL DRAWING OF FARM TURNOUT

(from Tertiary to Watercourse) S=1:75

P L A N

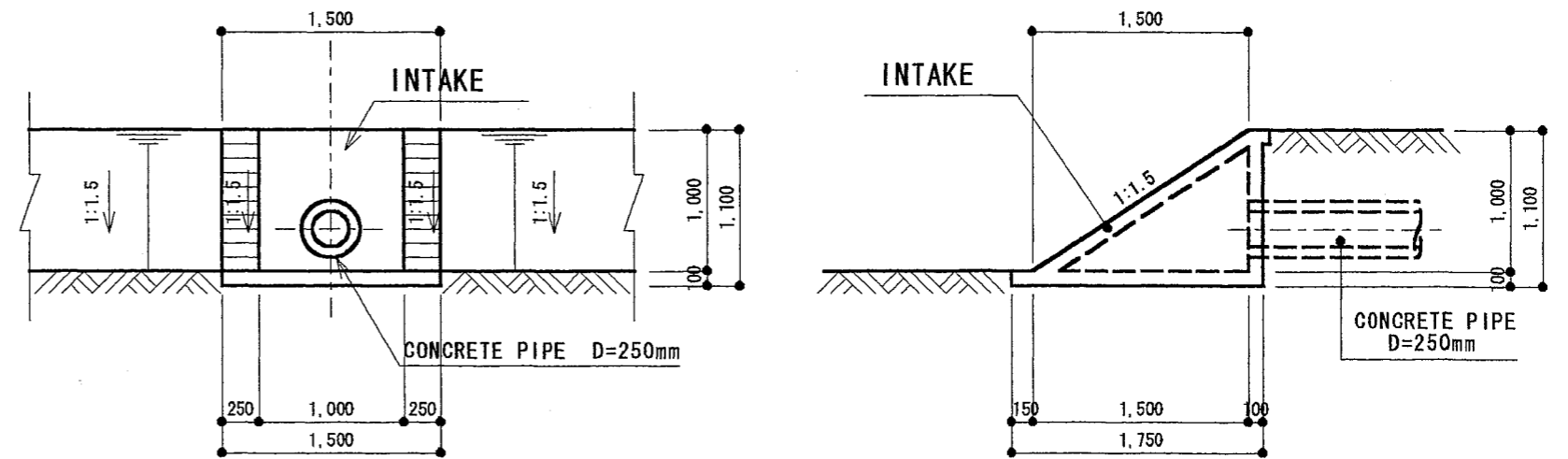


SECTION



INTAKE STRUCTURE

S=1:50

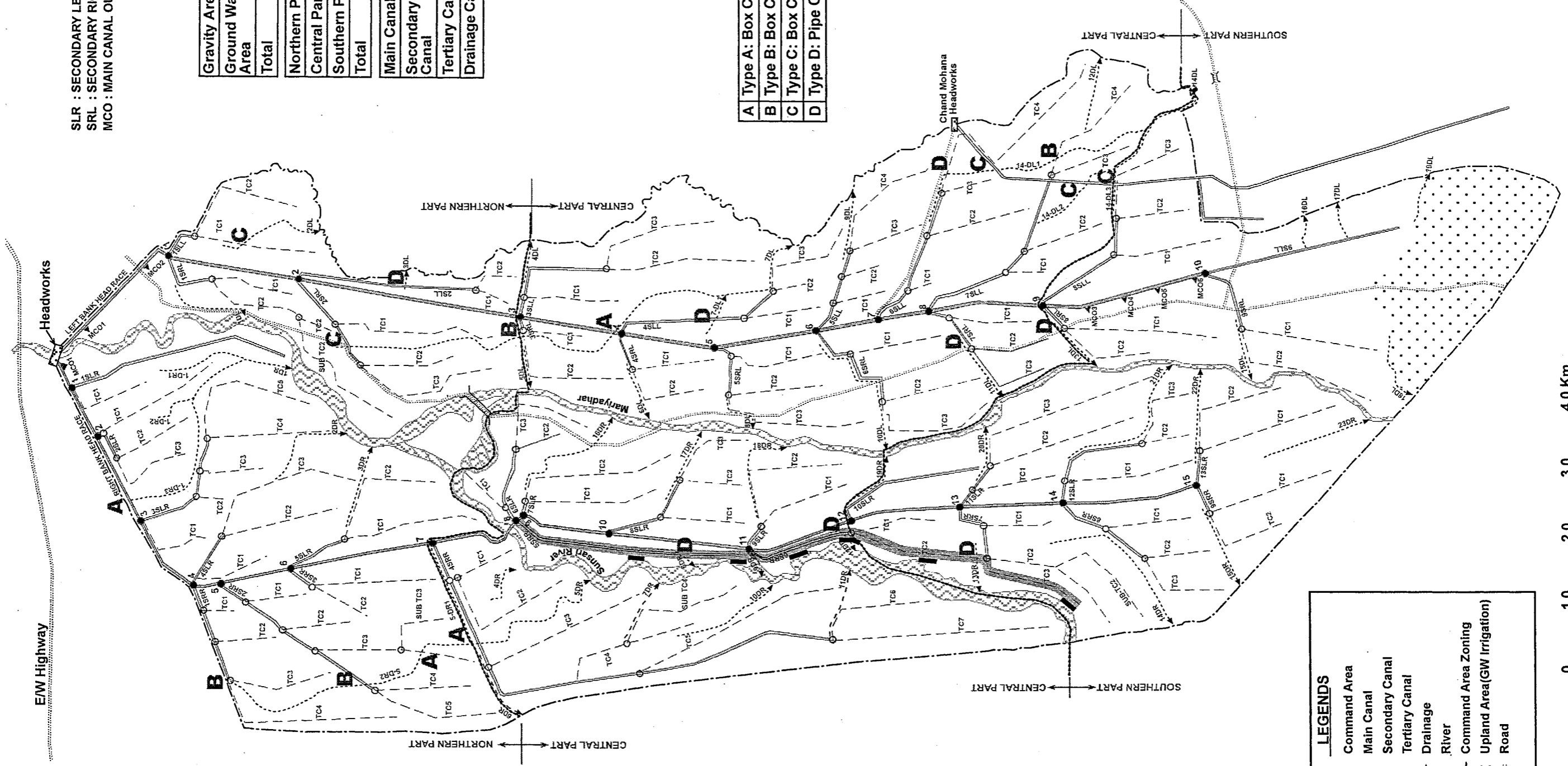


THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF FARM TURNOUT from TERTIARY to WATERCOURSE
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-8

SLR : SECONDARY LEFT RIGHT BANK
 SRL : SECONDARY RIGHT LEFT BANK
 MCO : MAIN CANAL OUTLET

Gravity Area	10,147ha
Ground Water Area	397ha
Total	10,544ha
Northern Part	2,926ha
Central Part	4,518ha
Southern Part	3,100ha
Total	10,544ha
Main Canal	36,830m
Secondary Canal	60,520m
Tertiary Canal	172,410m
Drainage Canal	66,350m

A	Type A: Box Culvert- 4 Nos.
B	Type B: Box Culvert- 4 Nos.
C	Type C: Box Culvert- 5 Nos.
D	Type D: Pipe Culvert- 8 Nos.



LEGENDS

- Command Area
- Main Canal
- Secondary Canal
- Tertiary Canal
- Drainage
- River
- Command Area Zoning
- Upland Area(GW Irrigation)
- Road

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	POSITION OF CANAL PROTECTION WORKS
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No	AF-9

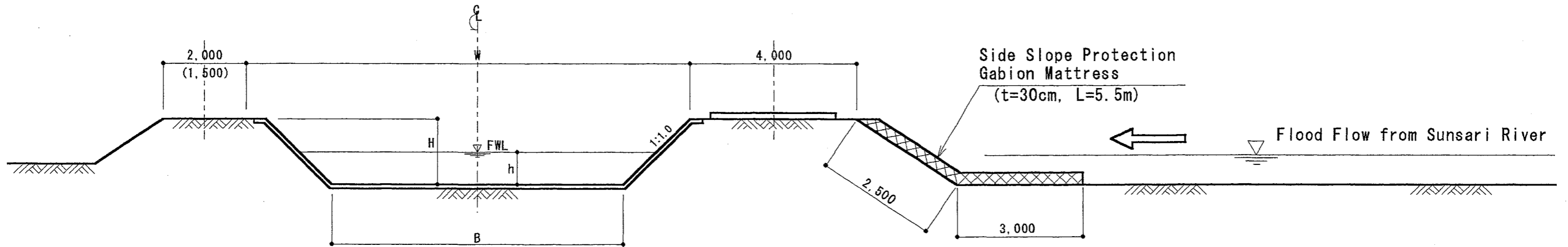
TYPICAL DRAWING OF CANAL PROTECTION WORKS

(from Middle to Down Stream in Suksena Area)

S=1:100

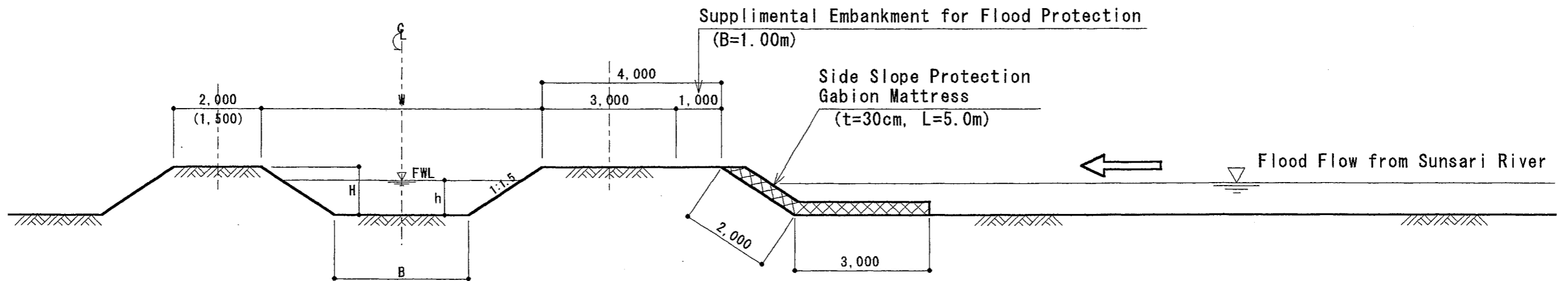
SUKSENA MAIN CANAL

(Between No.10 Division to No.11 Division)



SECONDARY and TERTIARY CANAL

(5SRR, 6SRR, TC2 of 6SRR and TC3 of 7SRR)



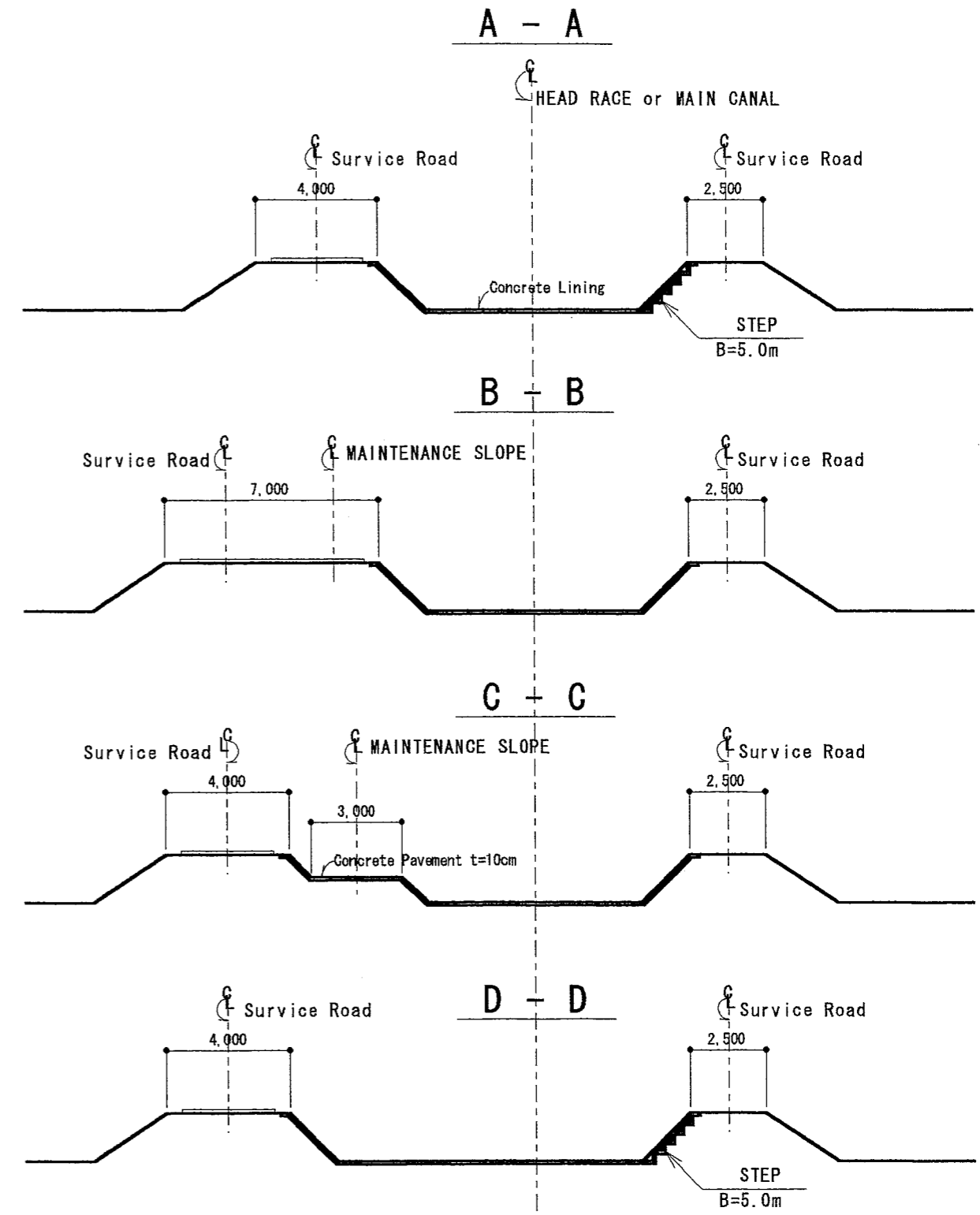
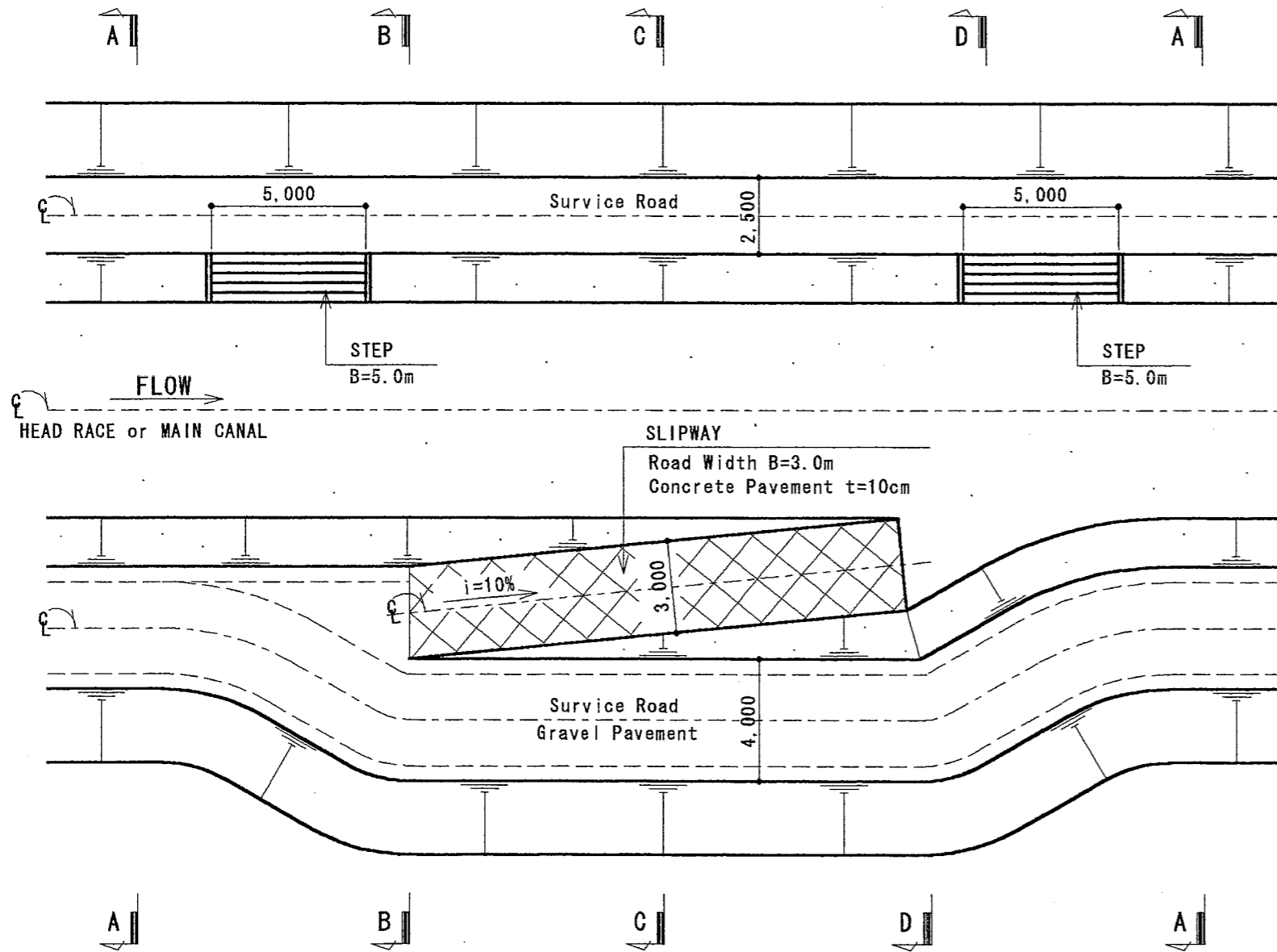
The width of gabion mattress changes depend on site condition.)

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF CANAL PROTECTION WORKS
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-10

TYPICAL DRAWING OF SLIPWAY AND STEPS IN CANAL

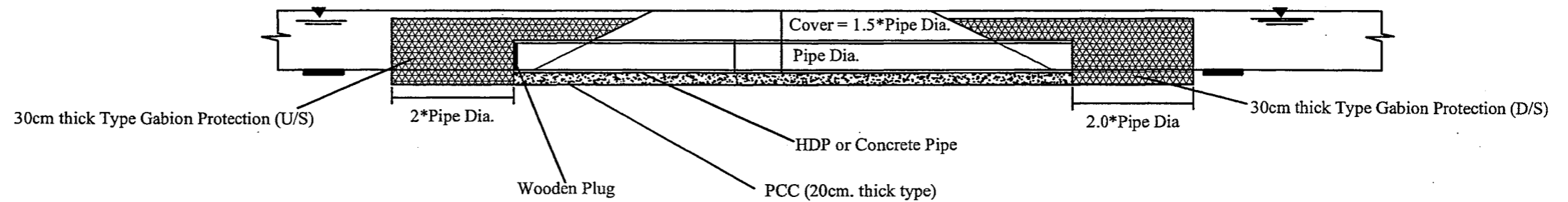
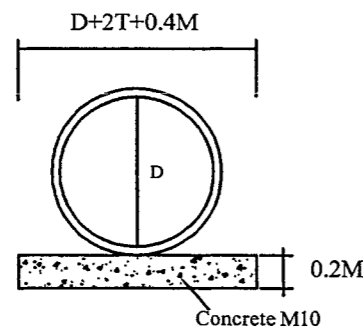
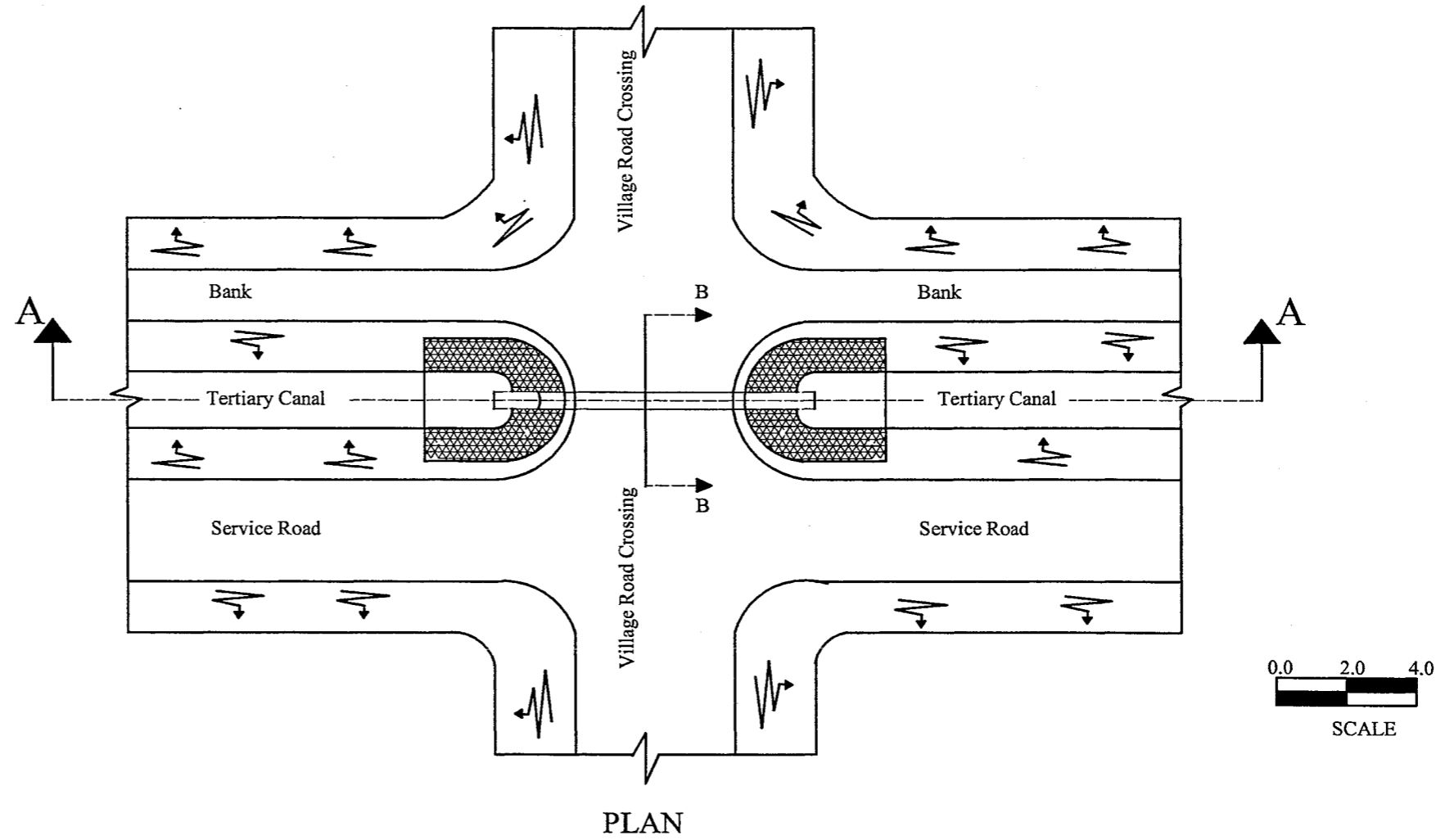
S=1:200

PLAN



THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF SLIPWAY AND STEPS IN CANAL
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-11

Typical Drawing of Pipe Culvert (Tertiary Crossing Road)



Pipe Culvert

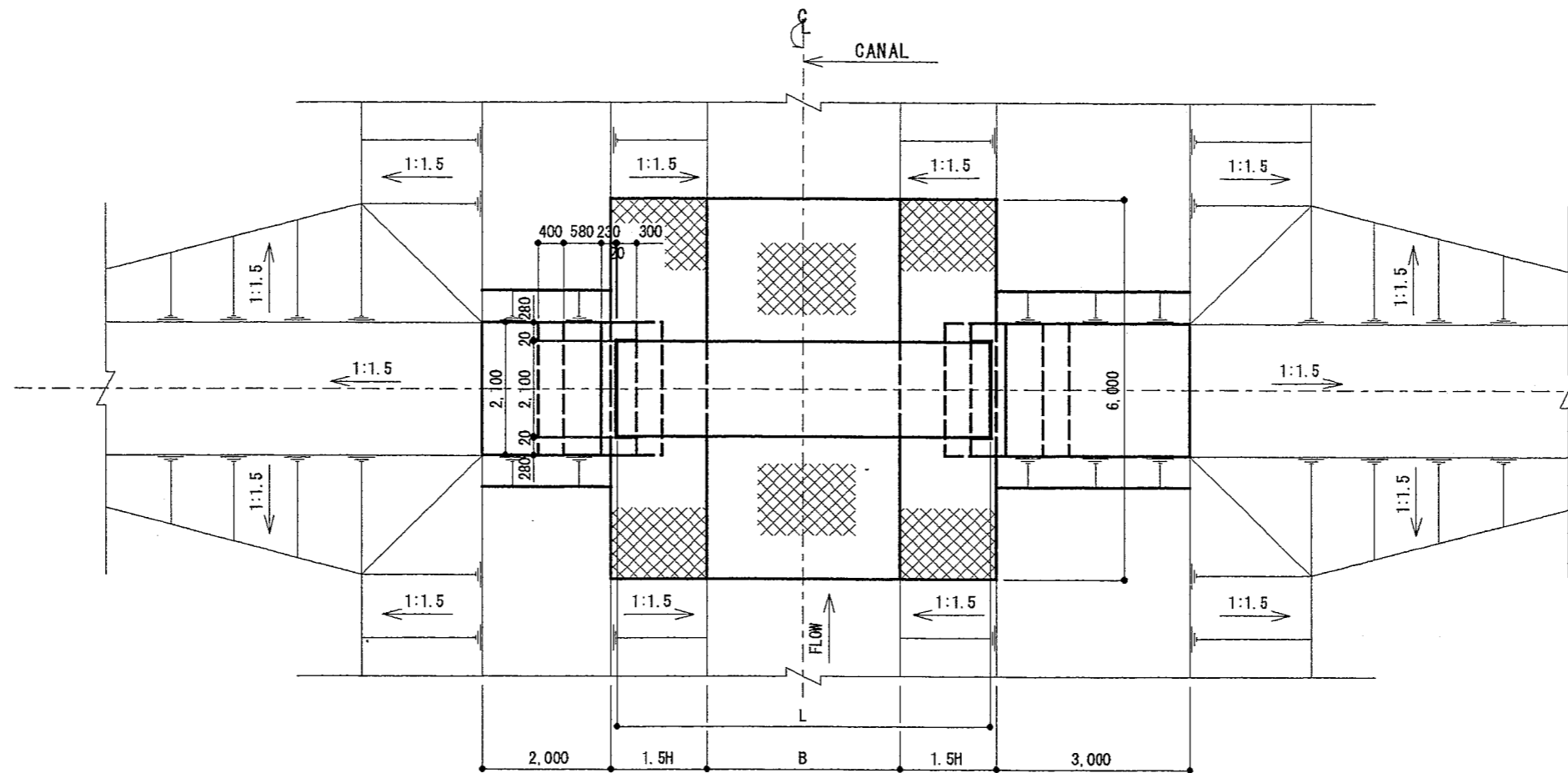
Type	Pipe Dia (m)	Discharge Capacity (m ³ /s)	Pipe Length (m)
A	0.45	0.10	10
B	0.60	0.20	10
C	0.75	0.30	10
D	0.90	0.45	10

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF PIPE CULVERT (TERTIARY CROSSING ROAD)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	AF-12

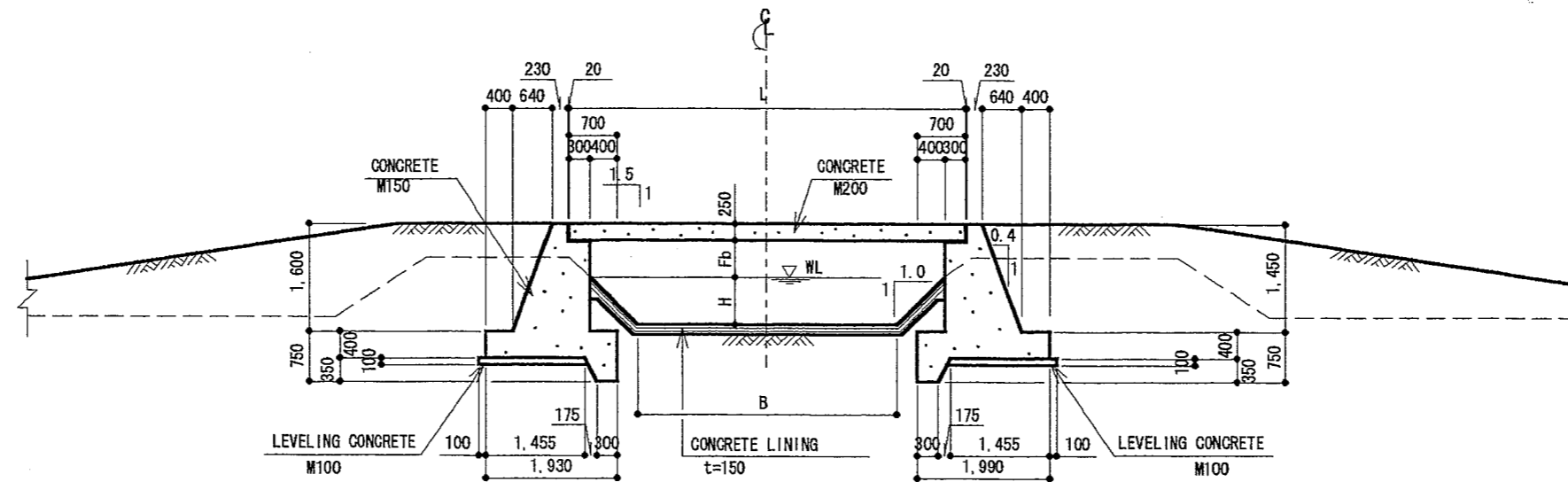
TYPICAL DRAWING OF FOOT BRIDGE

S=1:100

PLAN

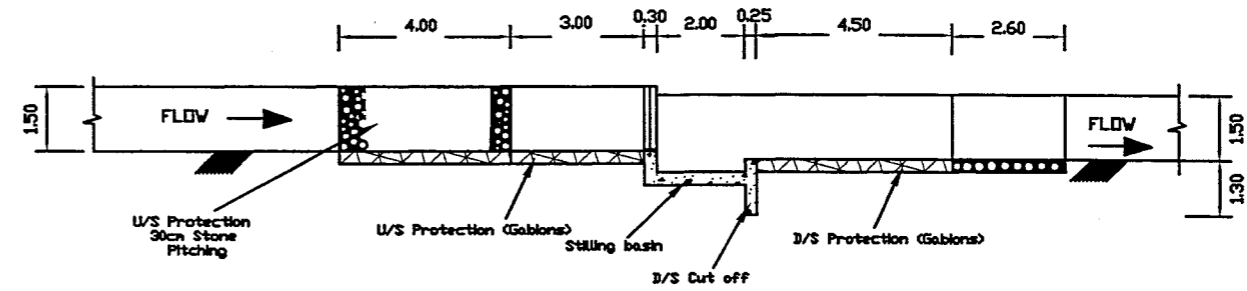
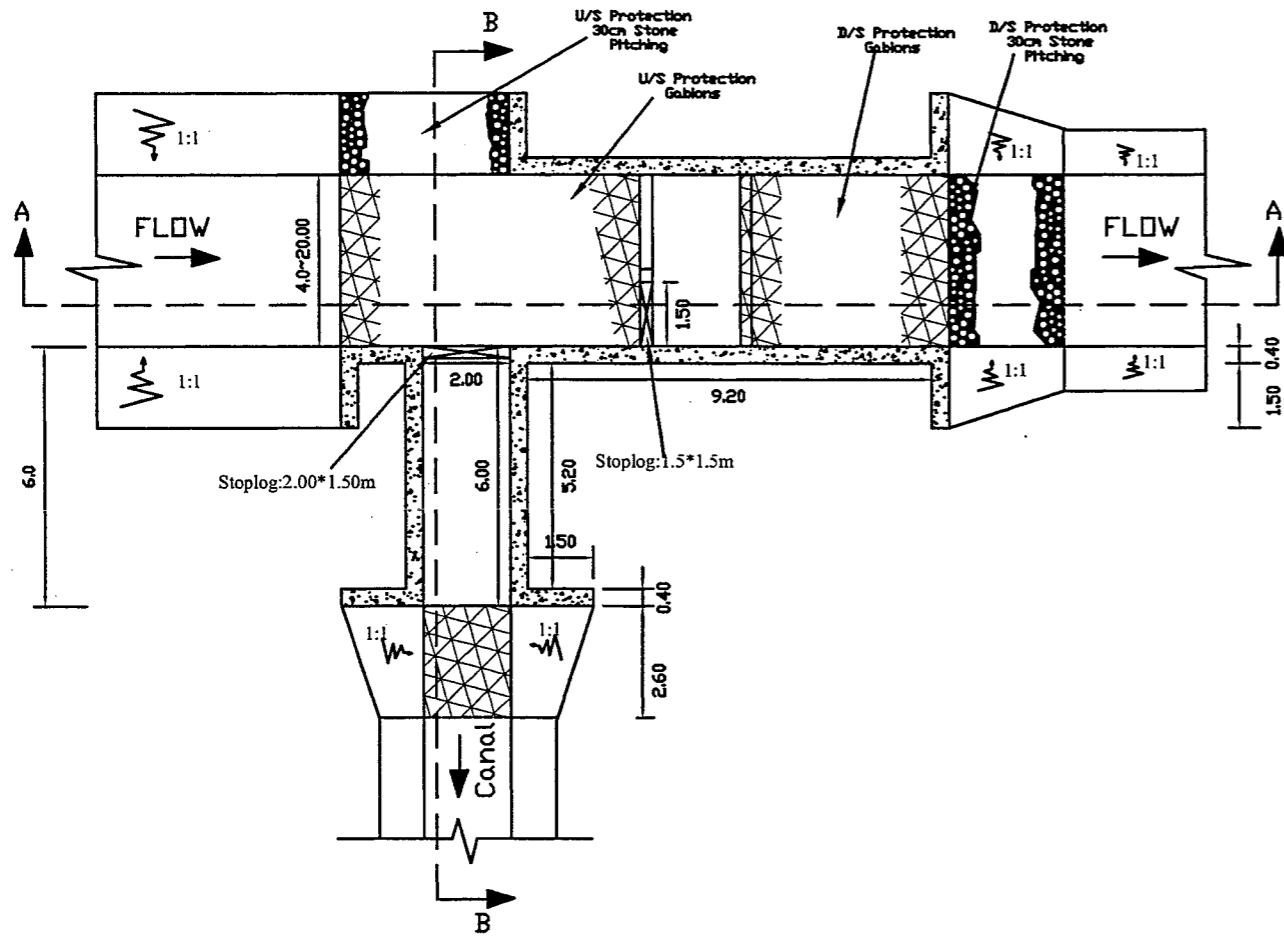


SECTION

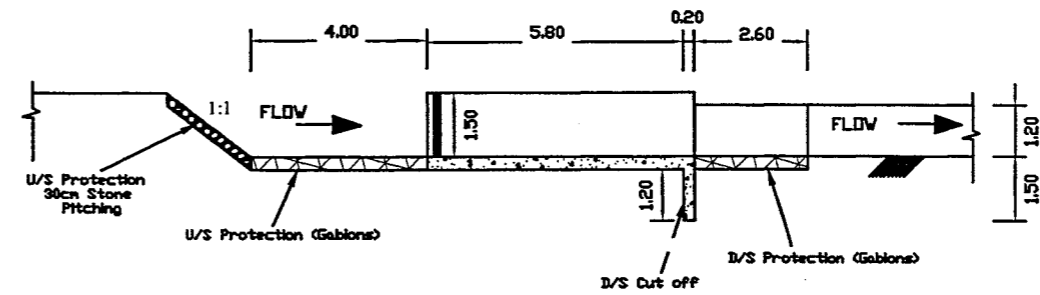


THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL SECTION OF FOOT BRIDGE
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	AF-13

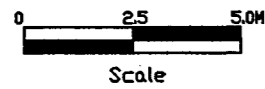
TYPICAL DRAWING OF DRAINAGE RE-USE STRUCTURE



Longitudinal Section (Section A-A)



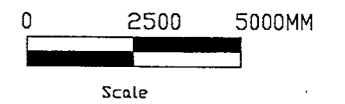
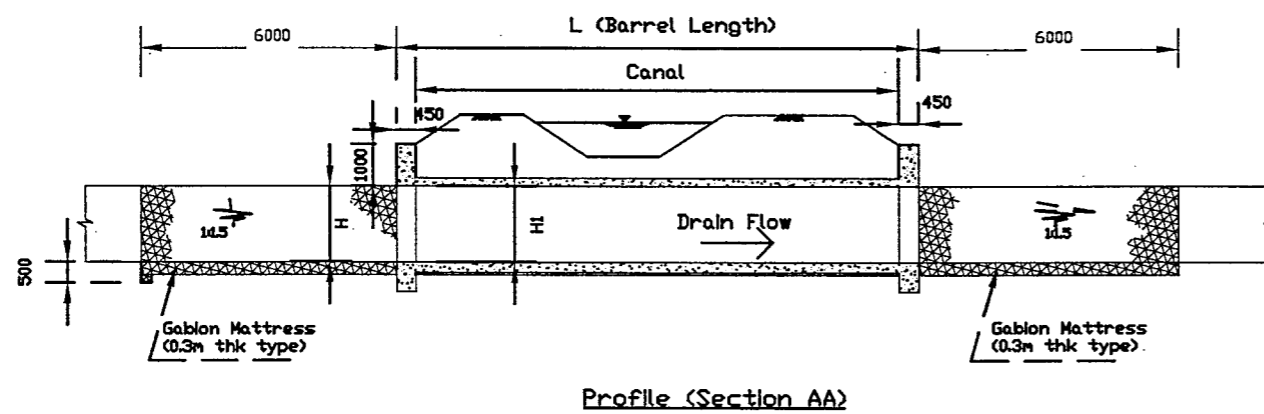
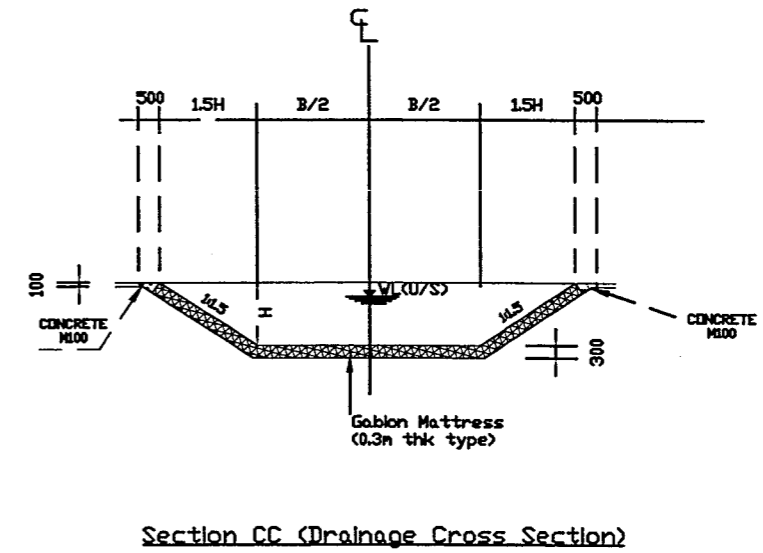
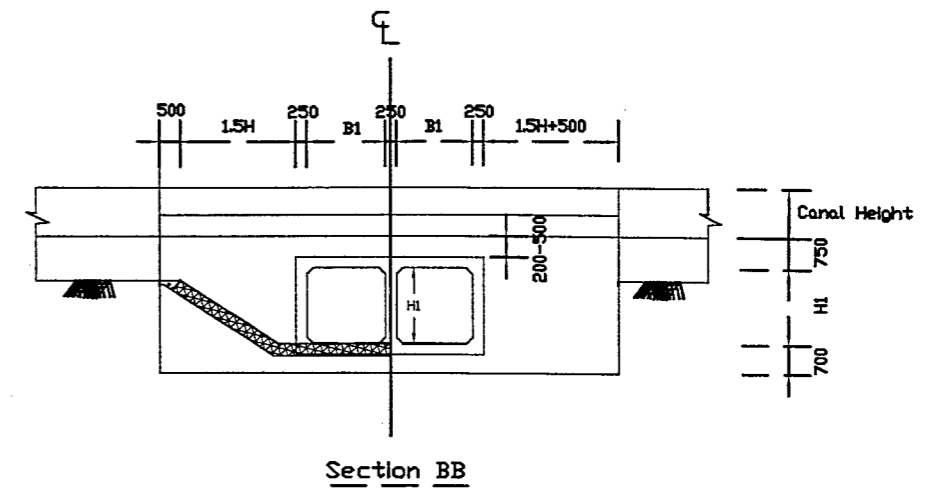
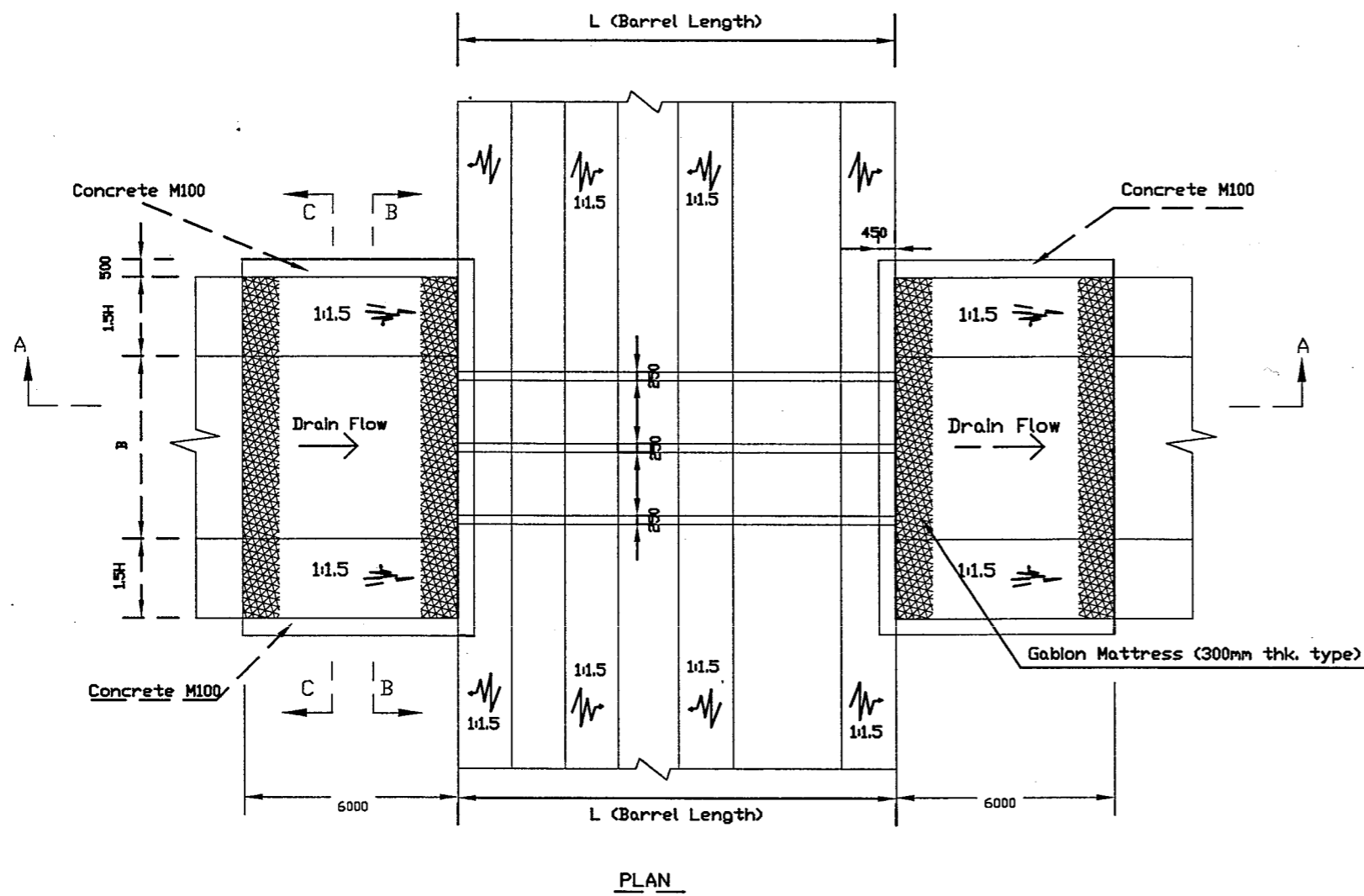
Longitudinal Section of Head Regulator (Section B-B)



All Dimensions are in metre.

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF DRAINAGE REUSE STRUCTURE
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	DR-1

BOX CULVERT FOR DRAINAGE (DRAIN CROSSING CANAL)

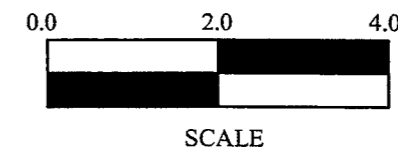
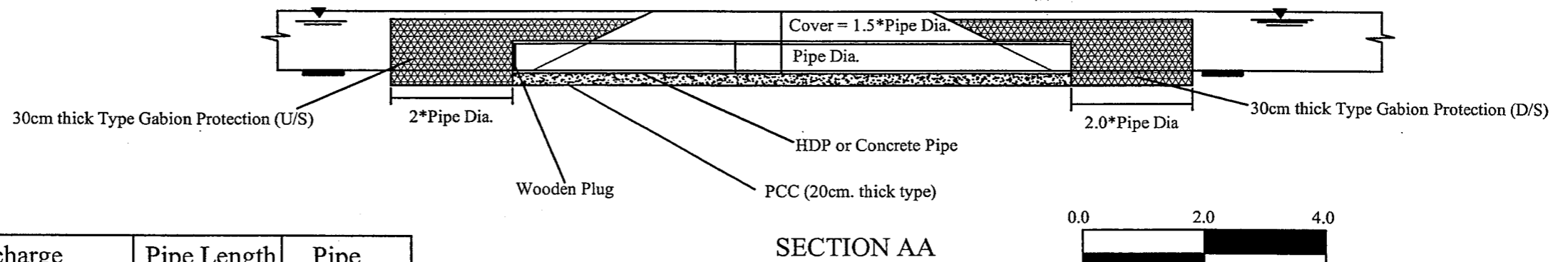
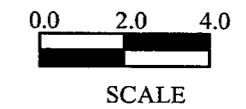
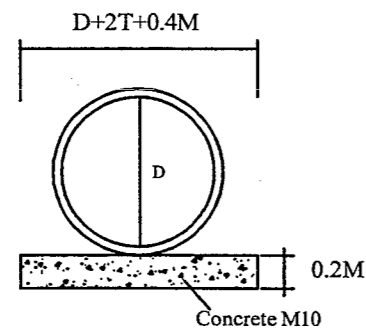
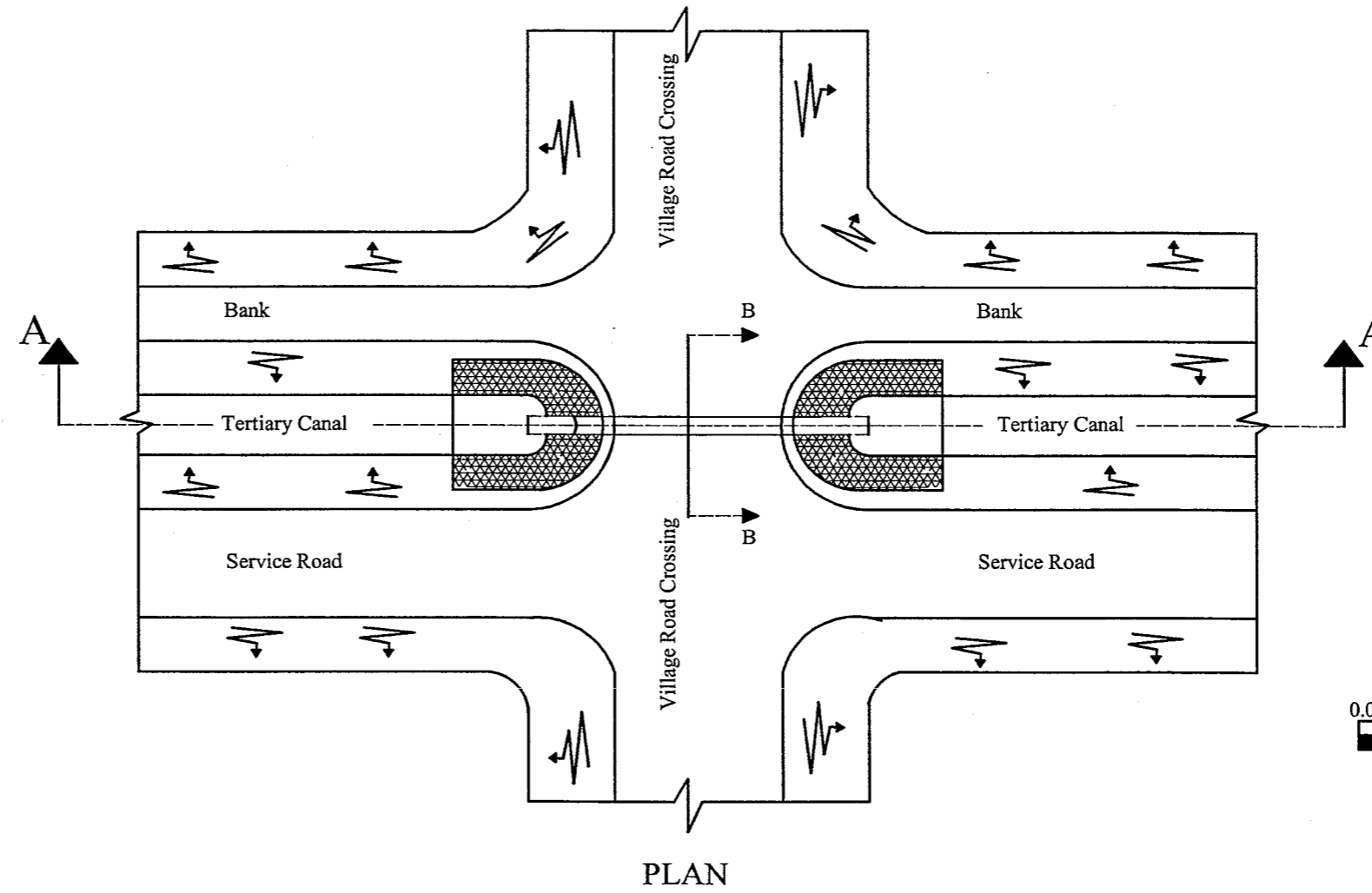


DIMENSIONS

TYPE	Q (m ³ /s)	B (mm)	H (mm)	B1 (mm)	H1 (mm)	Barrel (Nos)
A	5.0-8.0	6500	2000	2200	2200	2
B	3.0-5.0	6000	1800	2000	2000	2
C	2.0-3.0	5200	1500	1800	1800	2

THE FEASIBILITY STUDY ON THE SUNSARI IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWINGS OF BOX CULVERT FOR DRAINAGE (DRAIN CROSSING CANAL)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	DR-2

PIPE CULVERT FOR DRAINAGE (DRAIN CROSSING CANAL)

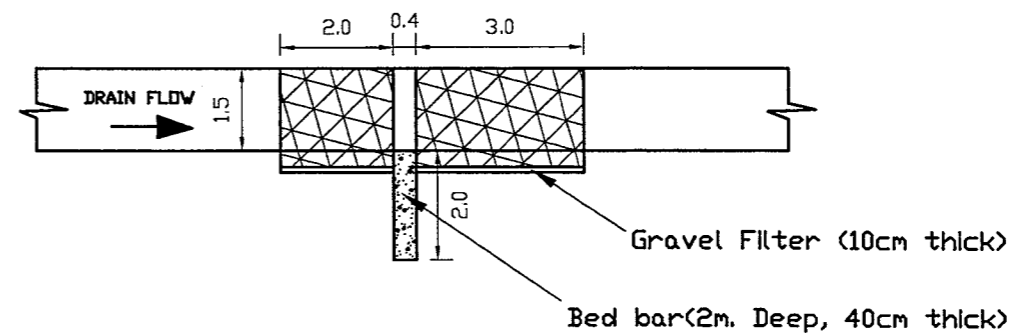
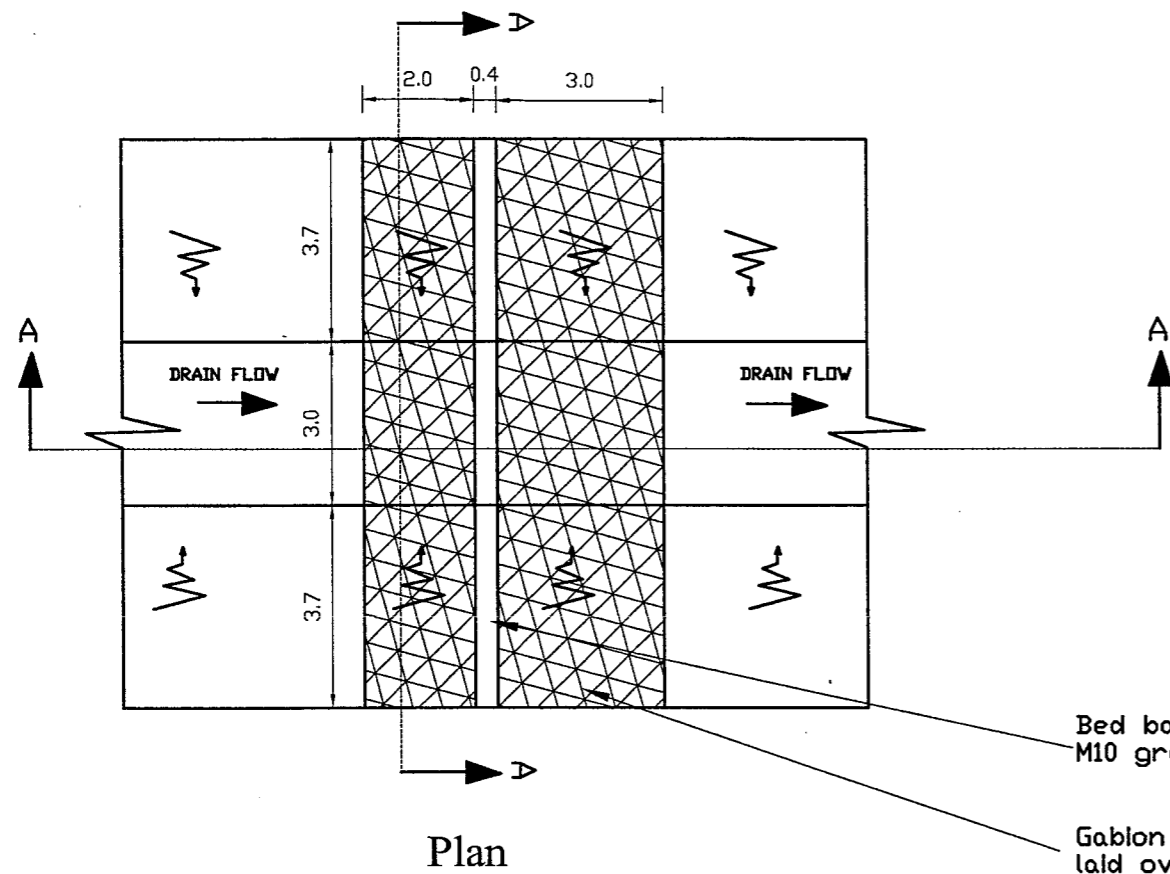


Pipe Culvert

Type	Pipe Dia (m)	Discharge Capacity (m ³ /s)	Pipe Length (m)	Pipe Nos.
D	0.90	1.0	10	2

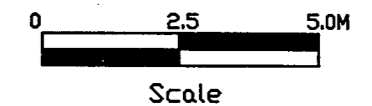
THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF PIPE CULVERT FOR DRAINAGE (DRAIN CROSSING CANAL)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	DR-3

TYPICAL DRAWING OF DRAINAGE OUTFALL STRUCTURE

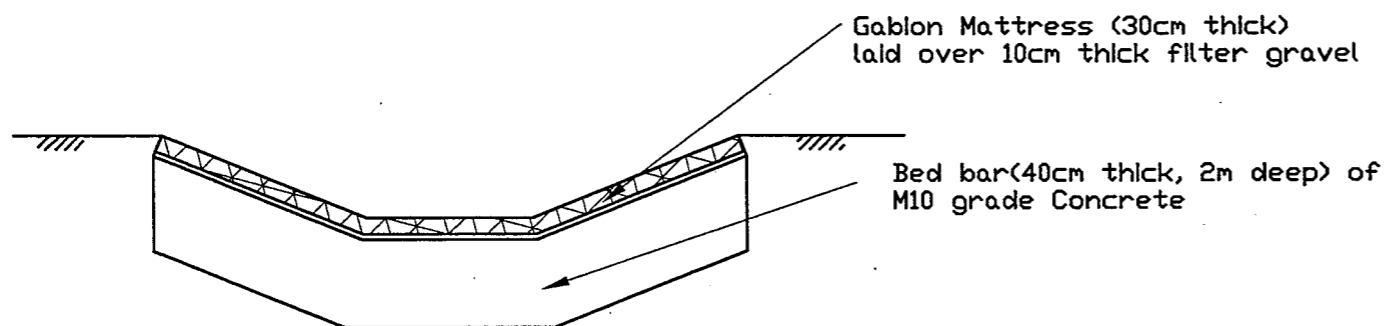


Bed bar(40cm thick, 2m deep) of M10 grade Concrete

Gablon Mattress (30cm thick) laid over 10cm thick filter gravel



All Dimensions are in metre.



Gablon Mattress (30cm thick) laid over 10cm thick filter gravel

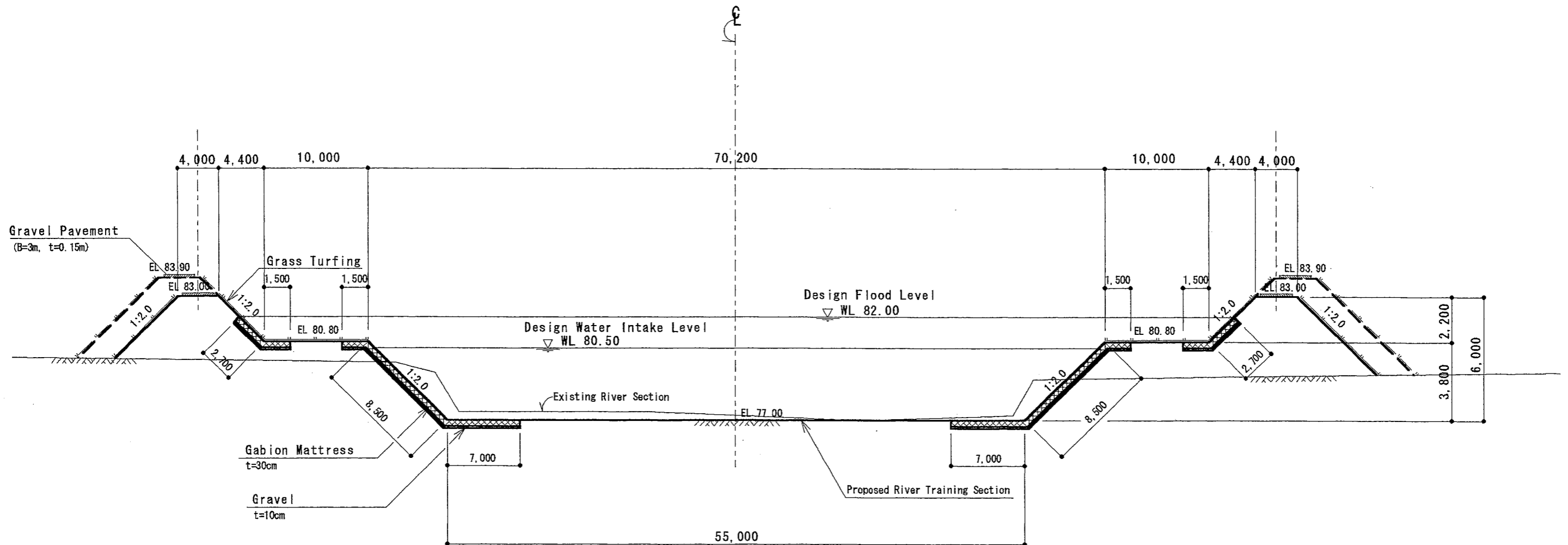
Bed bar(40cm thick, 2m deep) of M10 grade Concrete

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF DRAINAGE OUTFALL STRUCTURE
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	DR-4

PROPOSED RIVER TRAINING SECTION OF SUNSARI RIVER

SCALE: V=1:200
H=1:400

(from E-W Highway Bridge to Headworks site)



(Each elevation indicates at the portion of Headworks site.)

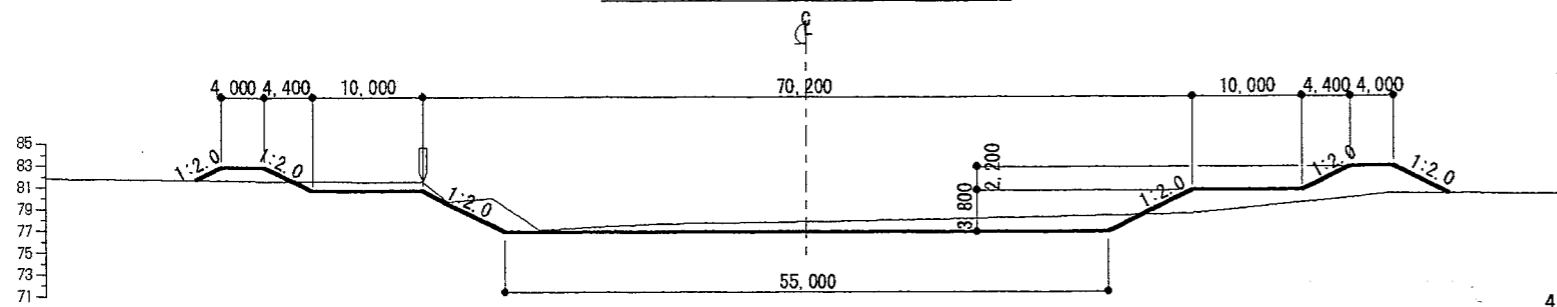
THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	PROPOSED RIVER TRAINING SECTION OF SUNSARI RIVER(1/2)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	RT-1

PROPOSED RIVER TRAINING SECTION OF SUNSARI RIVER

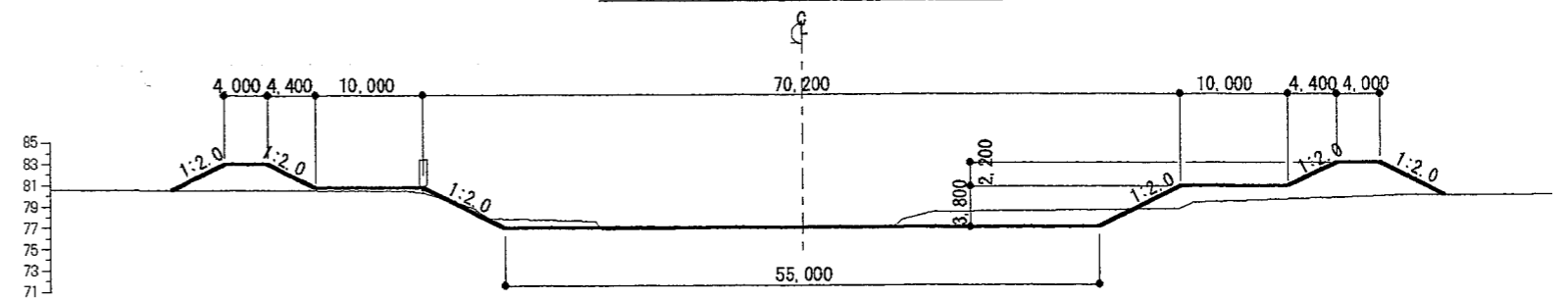
(from E-W Highway Bridge to Headworks Site)

S=1:700

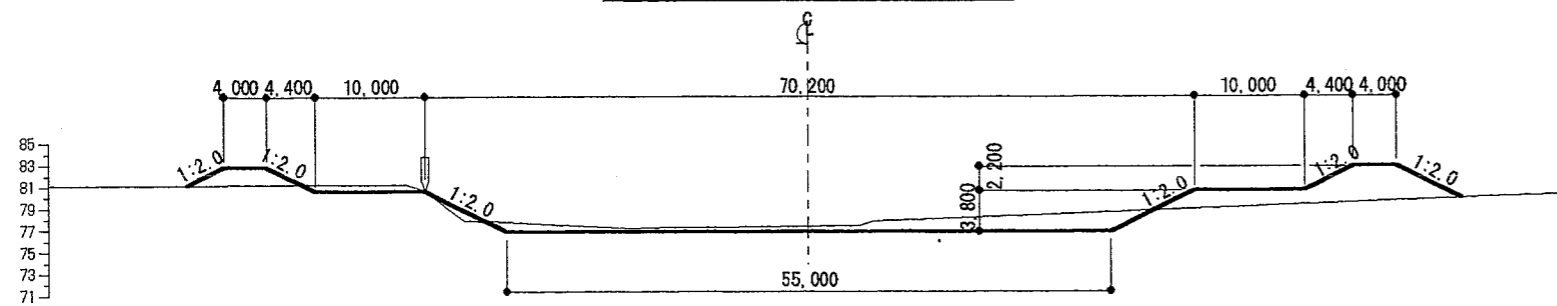
100m D/S from EW Highway



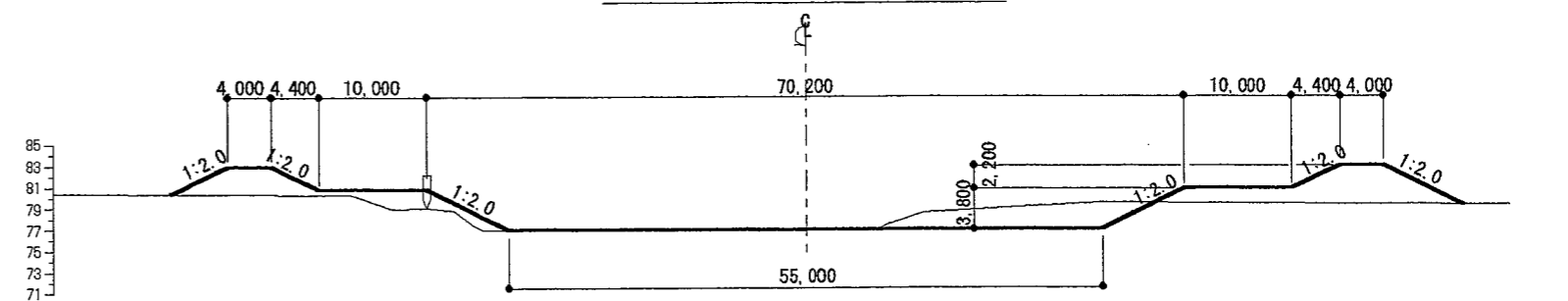
400m D/S from EW Highway



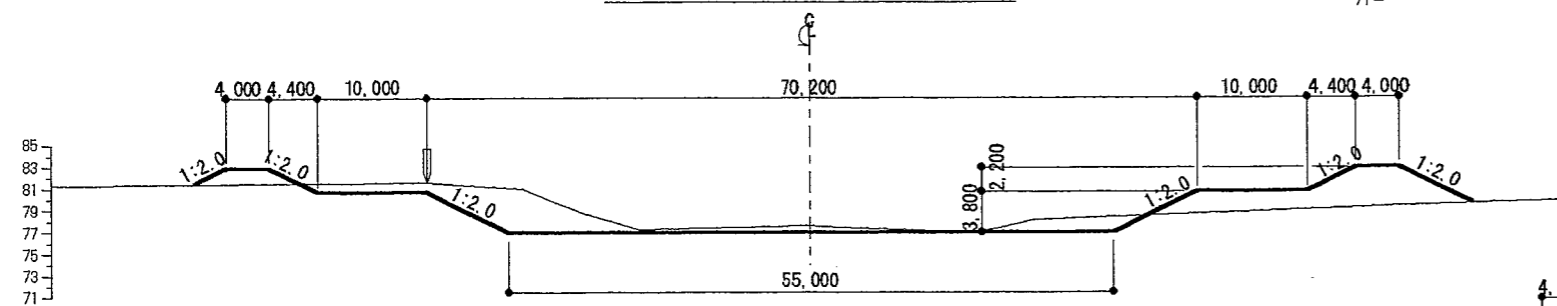
200m D/S from EW Highway



500m D/S from EW Highway

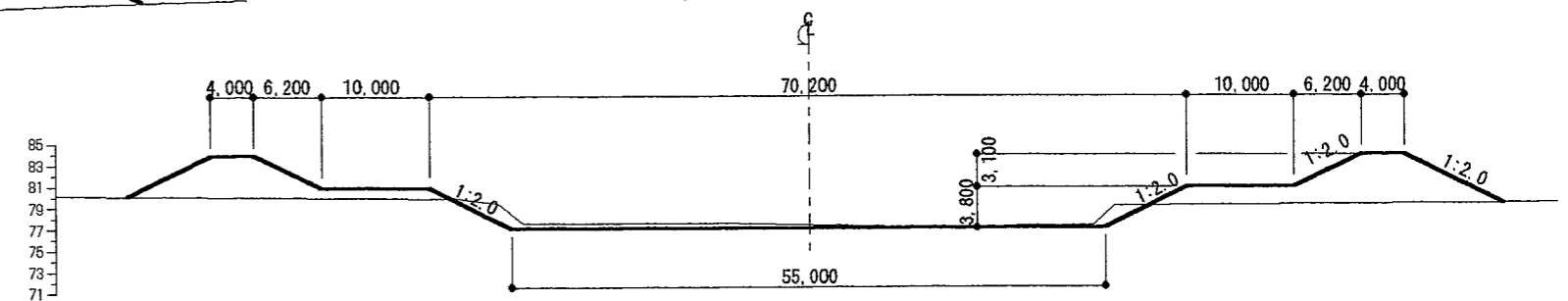


300m D/S from EW Highway

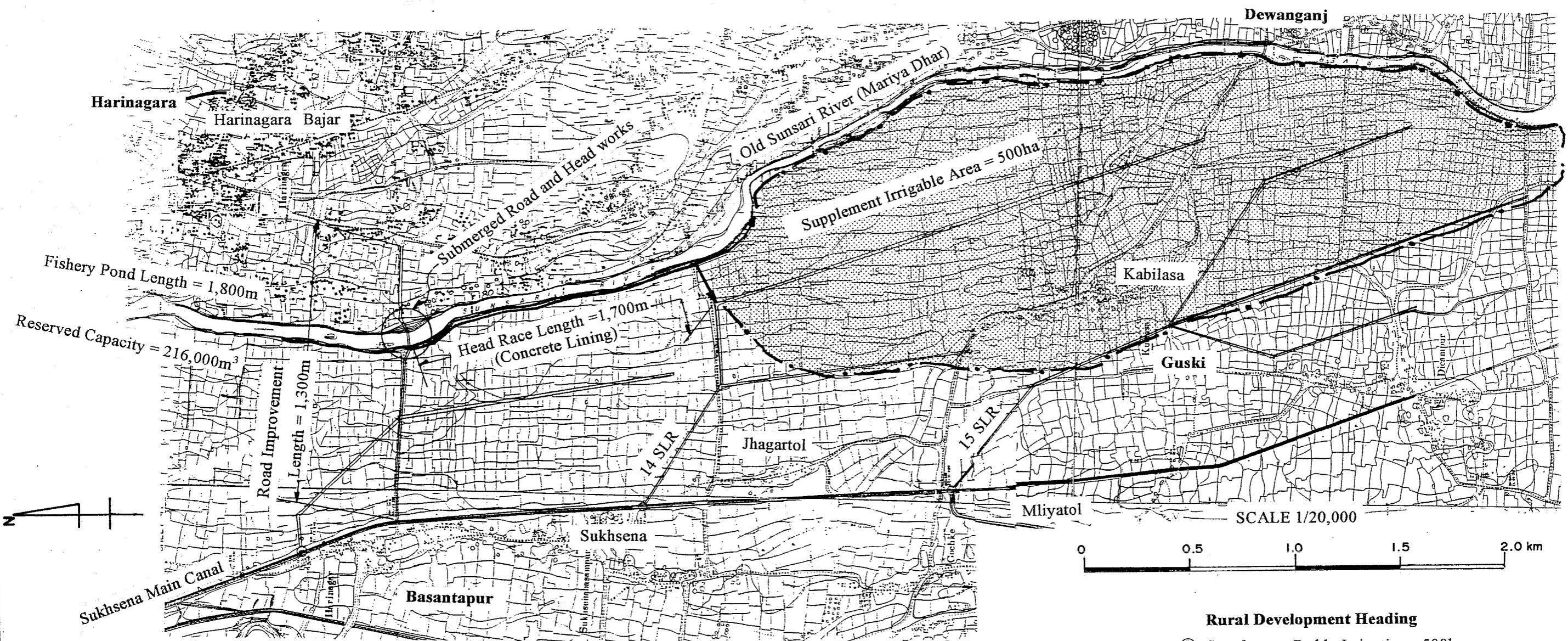


600m D/S from EW Highway

(Headworks Site)



THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	PROPOSED RIVER TRAINING SECTION OF SUNSARI RIVER (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	RT-2

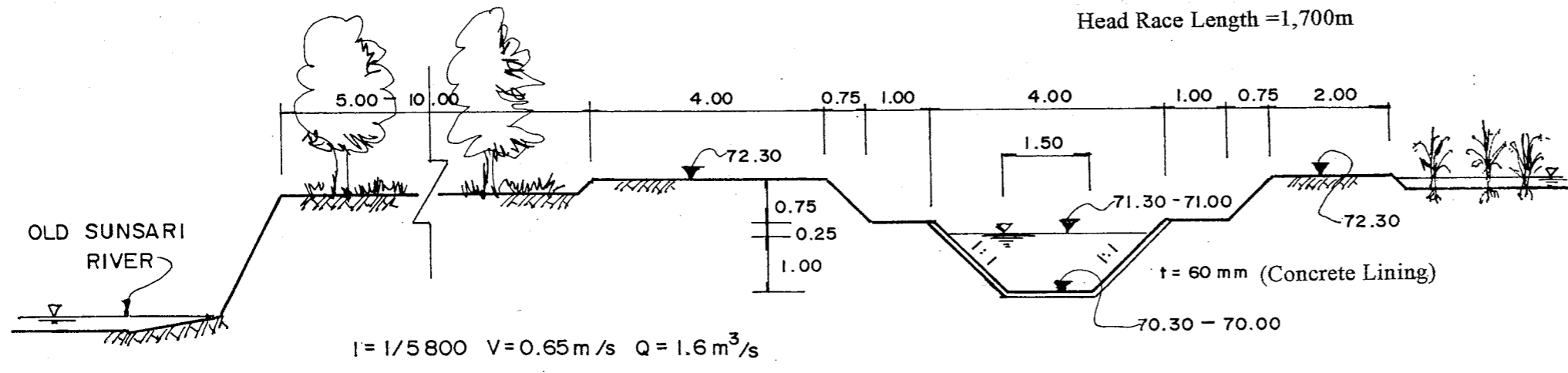


Rural Development Heading

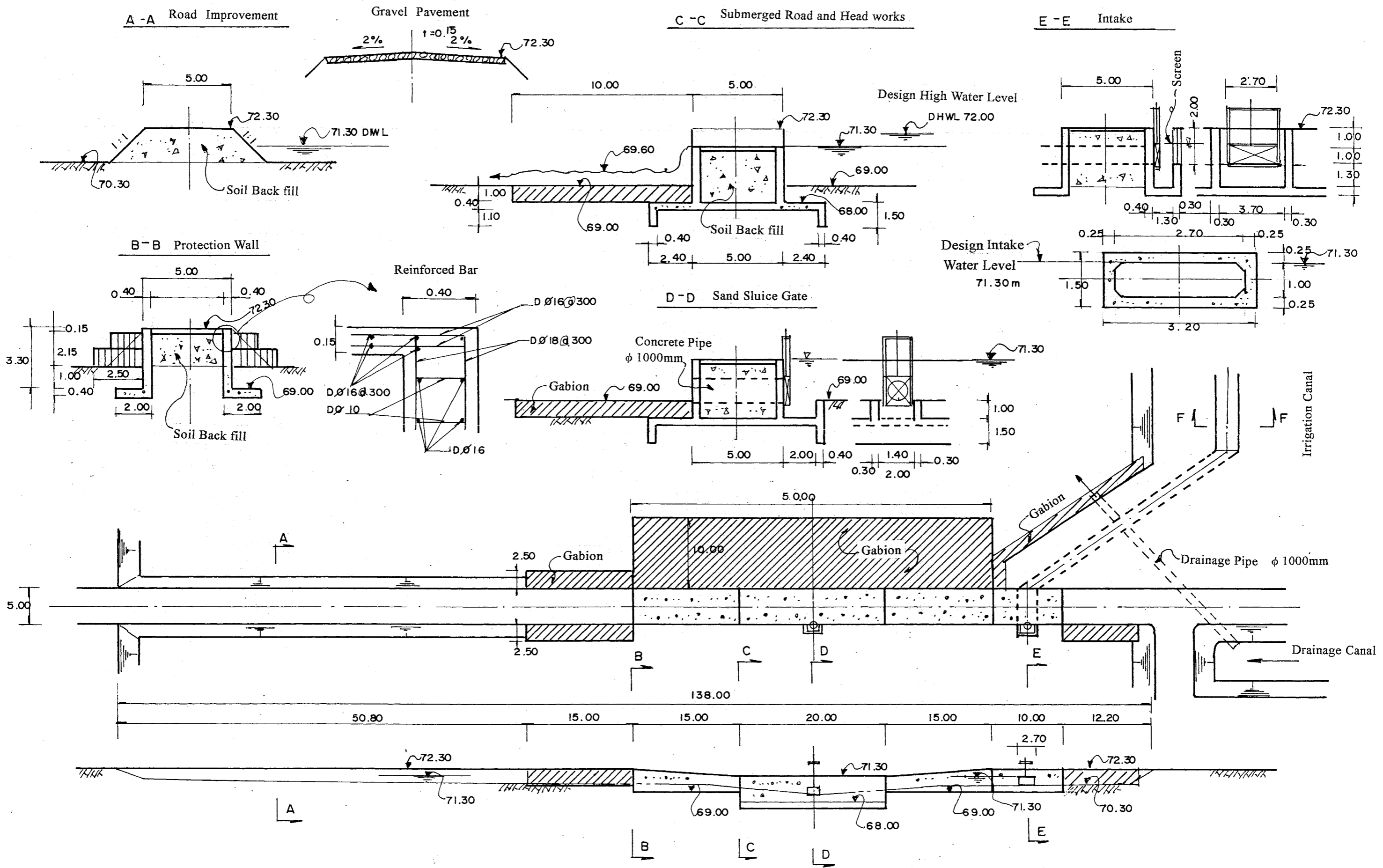
- ① Supplement Paddy Irrigation : 500ha
- ② Rural Transportation Improvement
(Harinagara, Basantapur, Guski and Dewanganj VDCs)
- ③ Inland Fishery Development
- ④ Reduced inundation problems in southern part of VDCs

F - F HEAD RACE (IRRIGATION CANAL)

Head Race Length = 1,700m



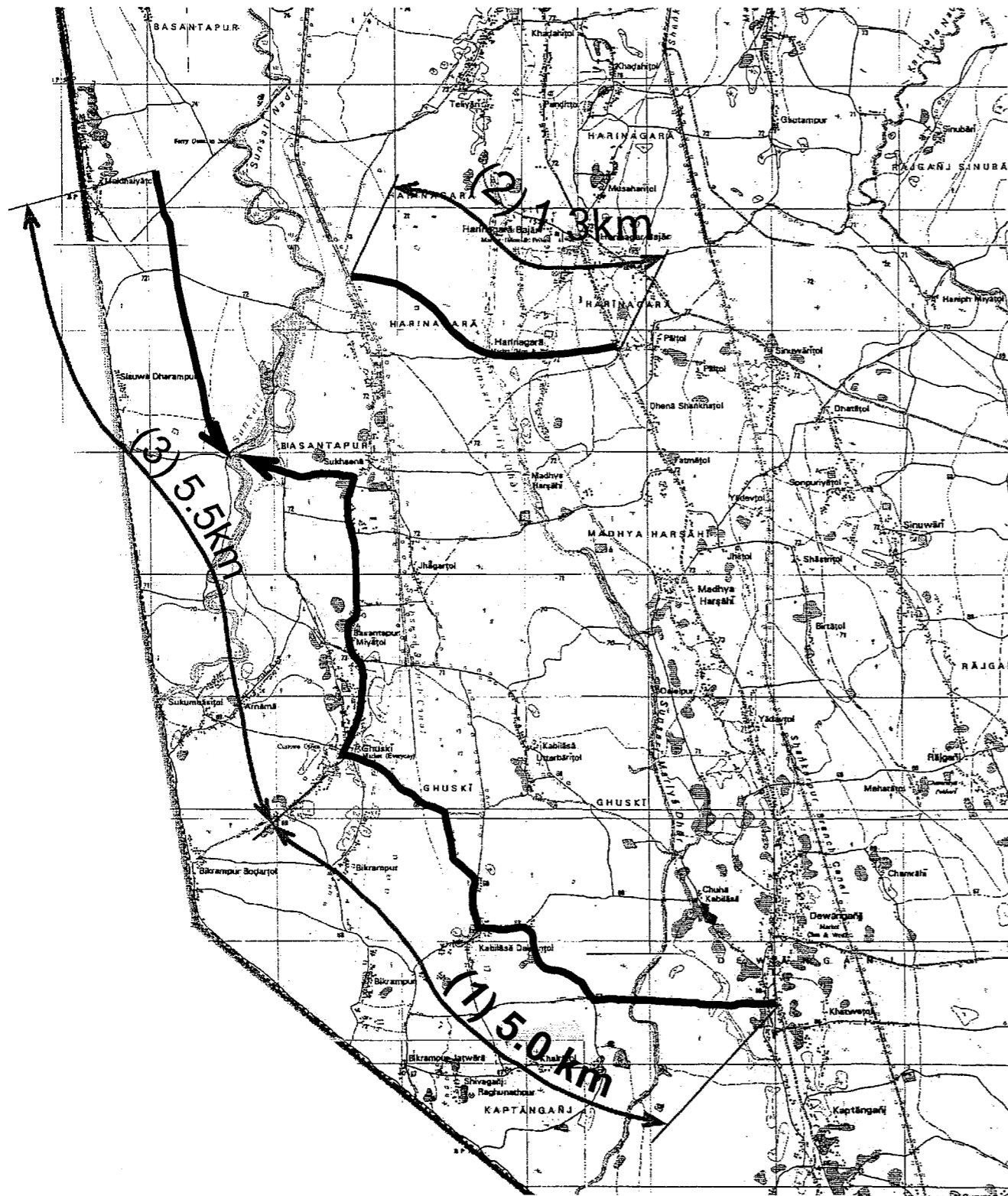
THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	Supplement Irrigation and Rural Development from Old Sunsari River
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	MD-1



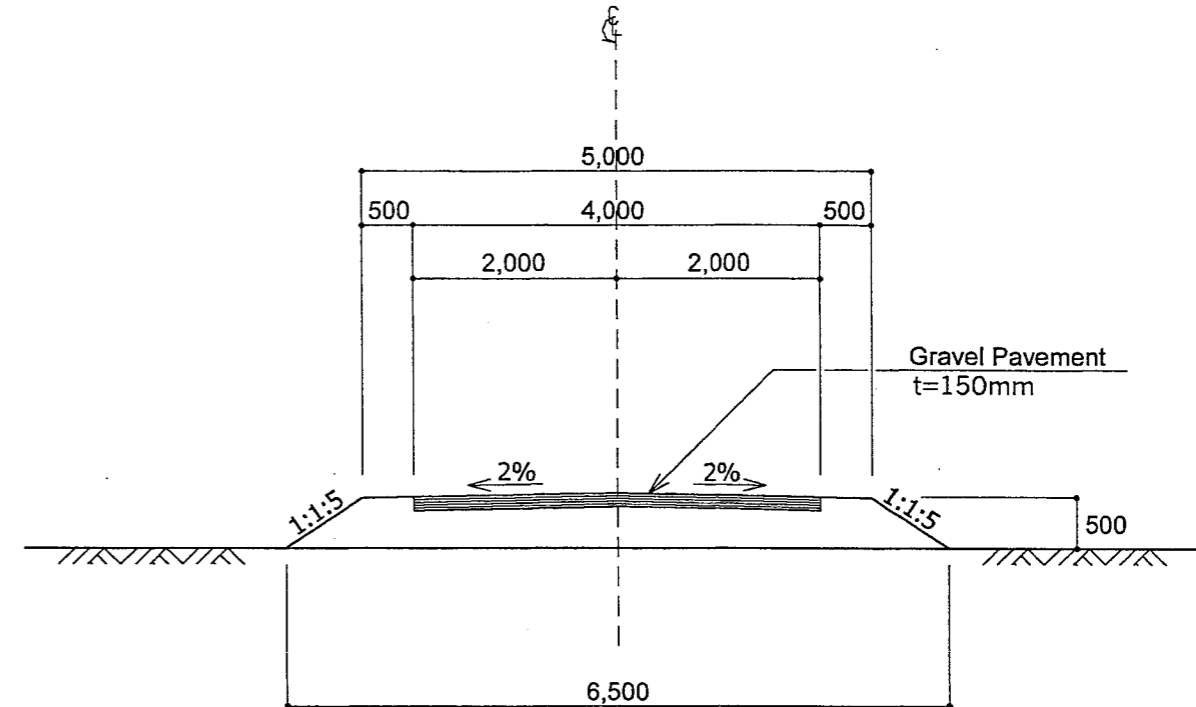
THE FEASIBILITY STUDY ON THE SONSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	Submerged Road and Head works
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	MD-2

TYPICAL DRAWING of ROAD IMPROVEMENT

PLAN



PROPOSED SECTION Scale = 1:75

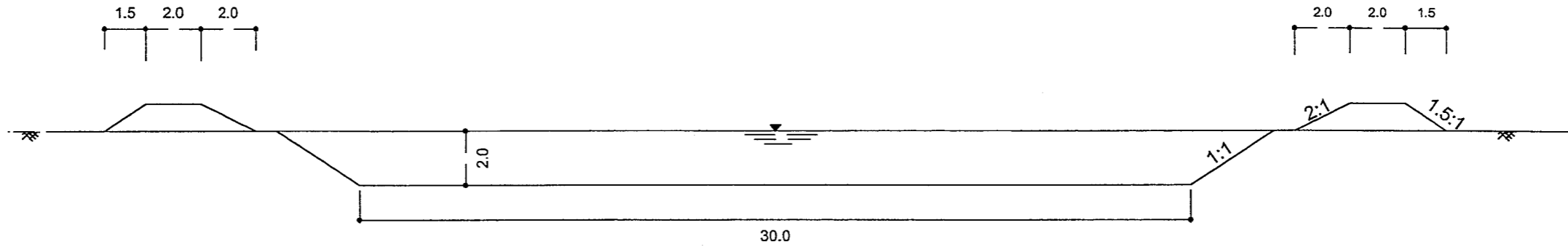


IMPROVEMENT ROUTE AND PROPOSED LENGTH

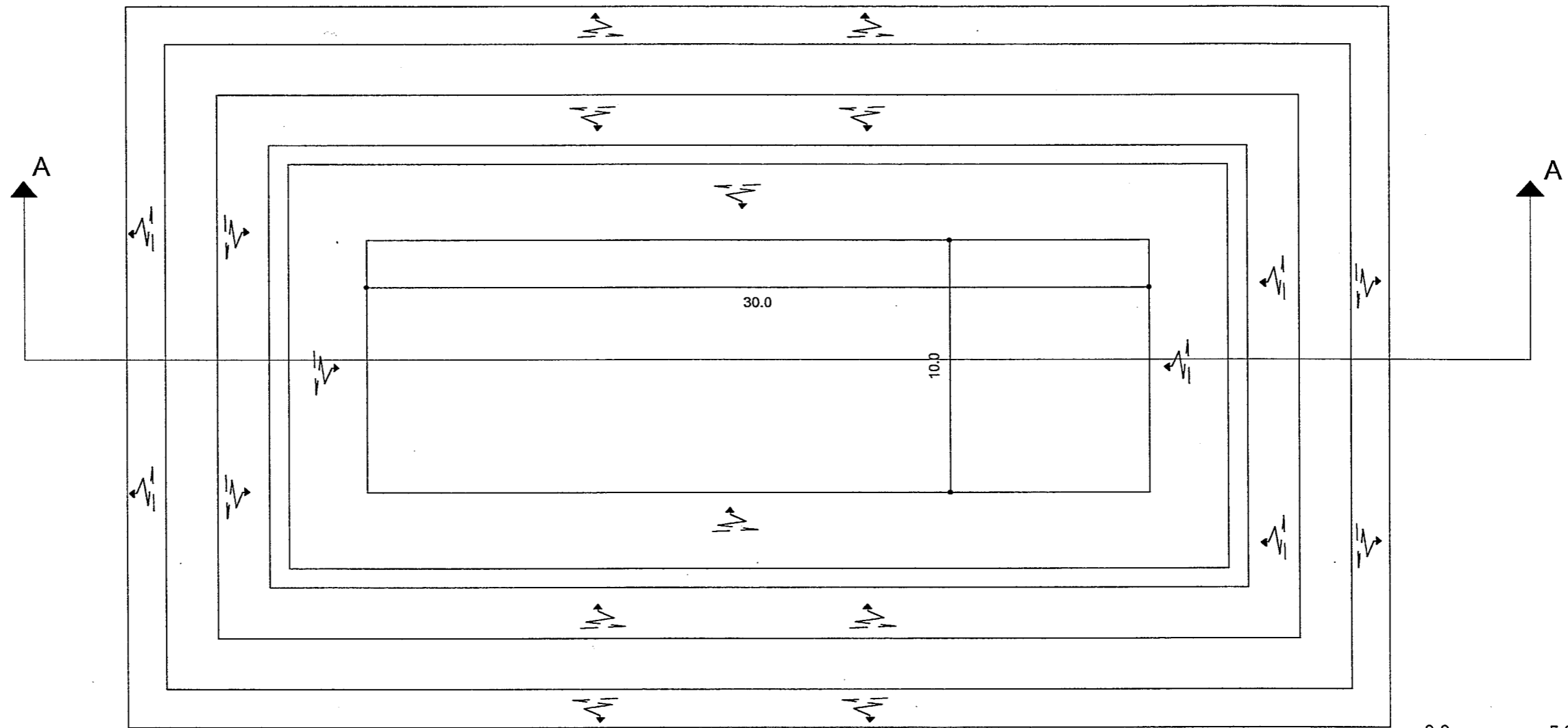
Improvement Route	Proposed Length
(1) Dewanganj – Ghuski	5.0 km
(2) Harinagara – Basantapur	1.3 km
(3) Ghuski – Basantapur	5.5 km
Total	11.8 km

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL CROSS SECTION OF ROAD IMPROVEMENT
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING No.	RI- 1

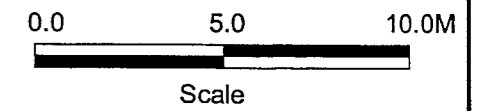
TYPICAL DRAWING OF FISH POND



SECTION A-A

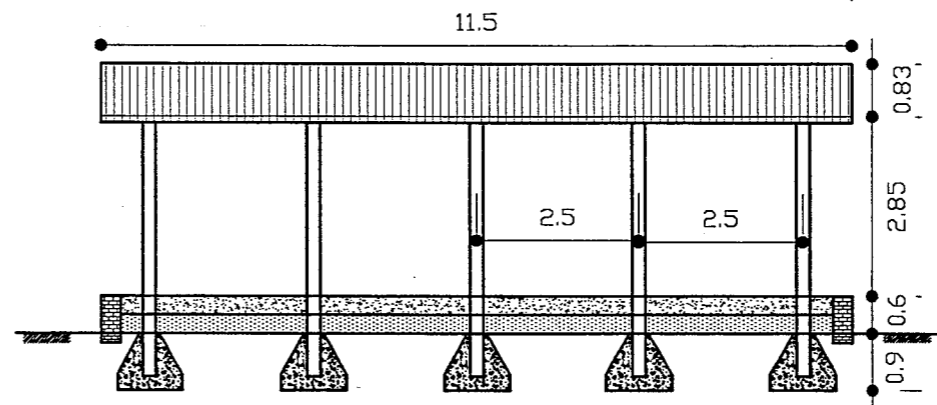
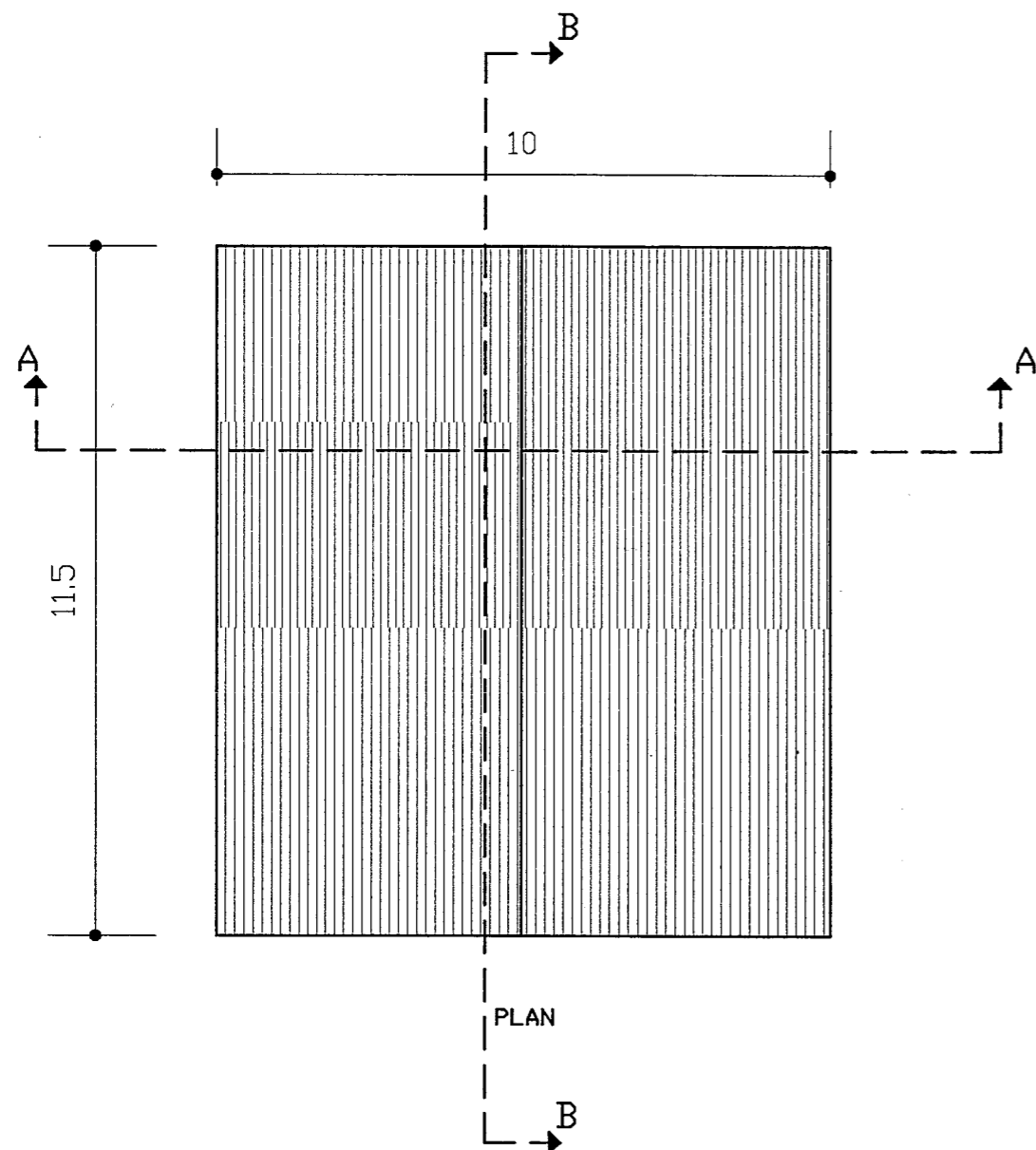


PLAN

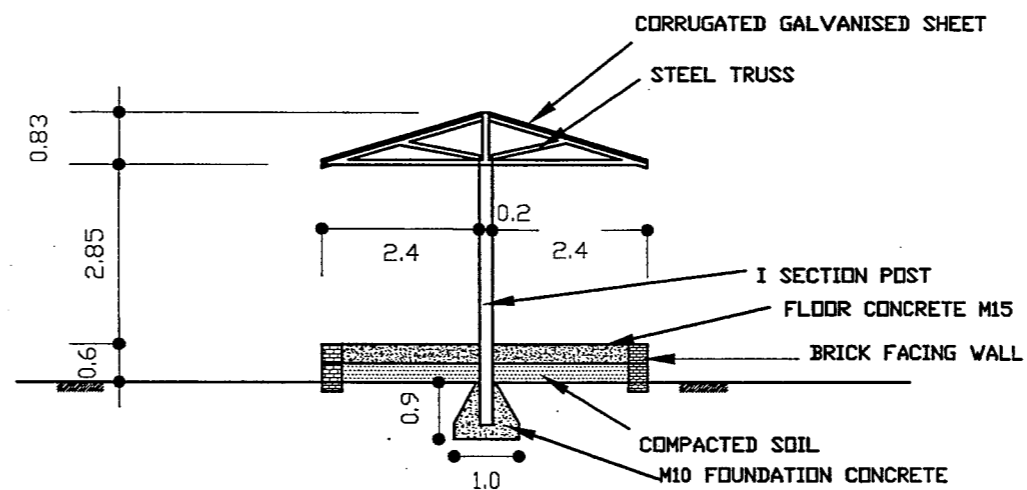


THE FEASIBILITY STUDY ON THE SUNSARI IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF FISH POND
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	FP-1

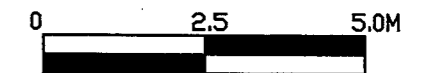
TYPICAL DRAWING OF COLLECTION POINT



LONGITUDINAL SECTION (SECTION BB)



CROSS SECTION (SECTION AA)



Scale

THE FEASIBILITY STUDY ON THE SUNSARI RIVER IRRIGATION PROJECT IN THE KINGDOM OF NEPAL	TITLE OF DRAWING	TYPICAL DRAWING OF COLLECTION POINT
JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING NO.	CP-1