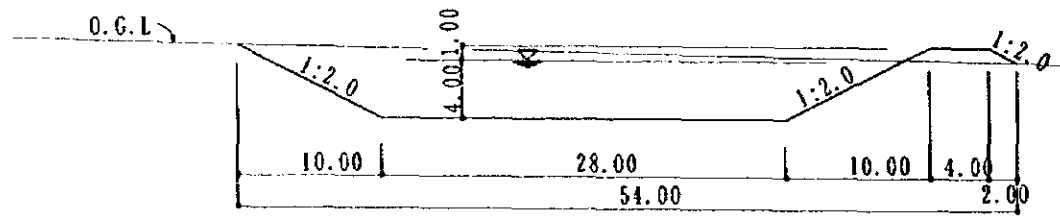
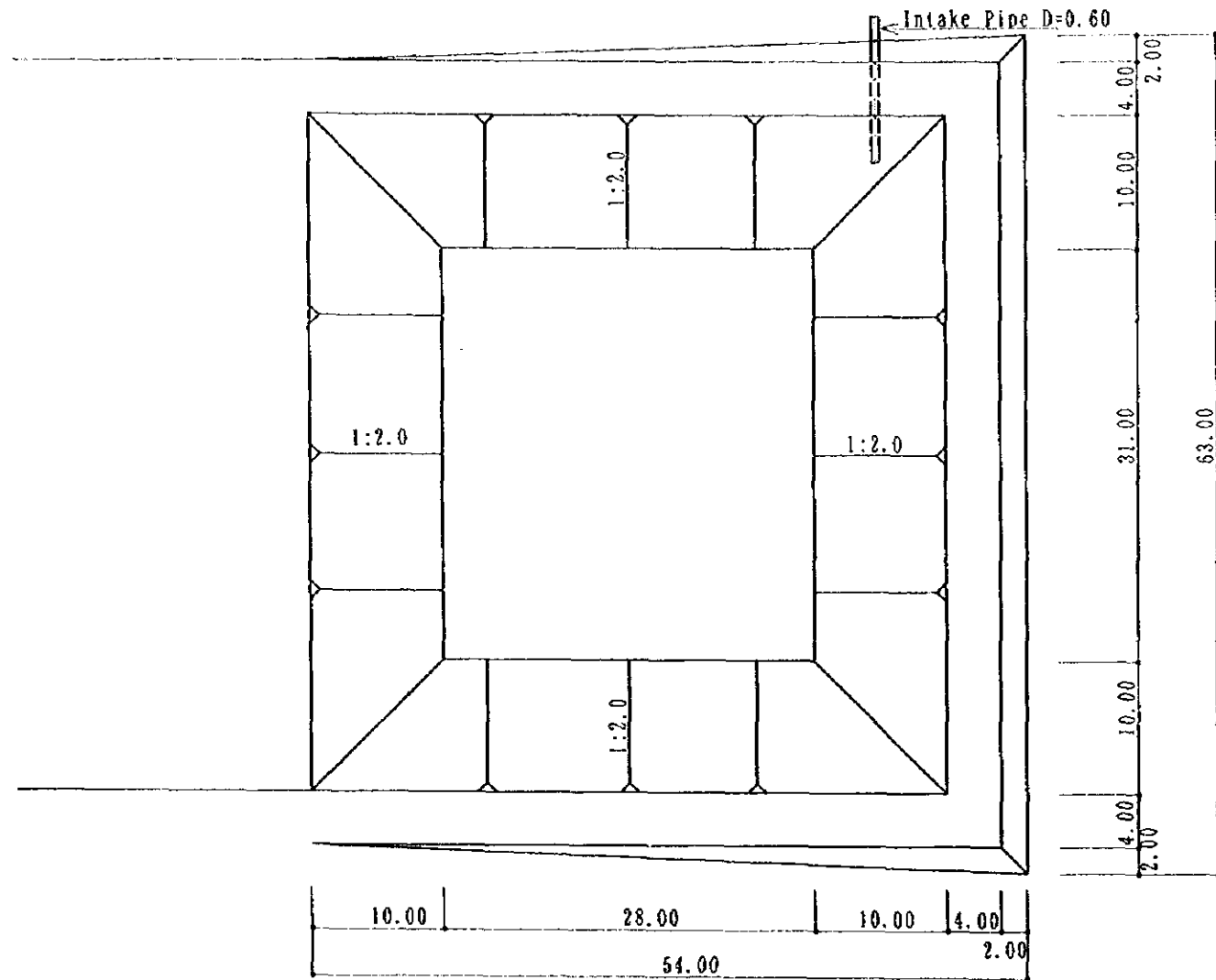
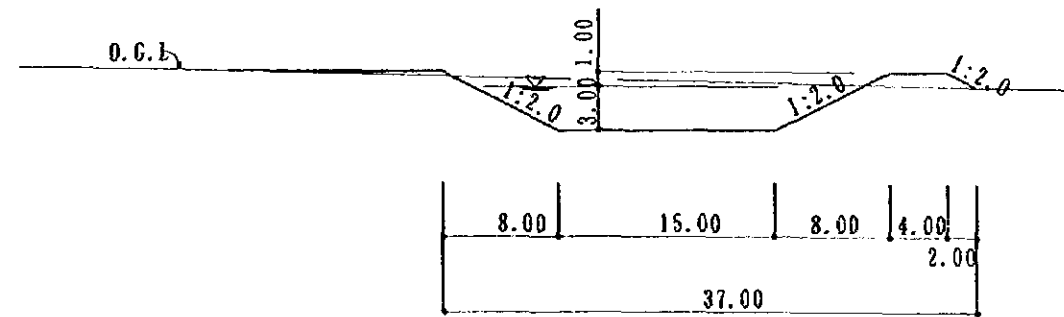
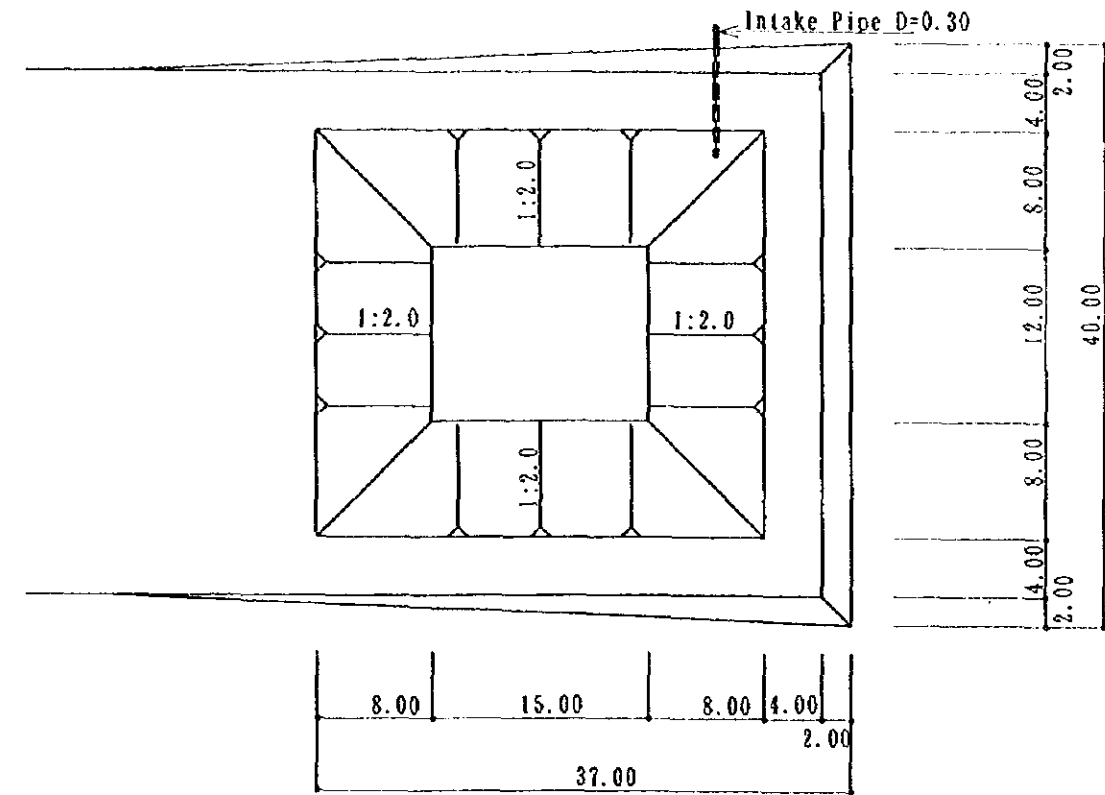


CHAPTER 8 DRAWINGS

Typical Design of 6,000m³ Farm Pond



Typical Design of 1,200m³ Farm Pond



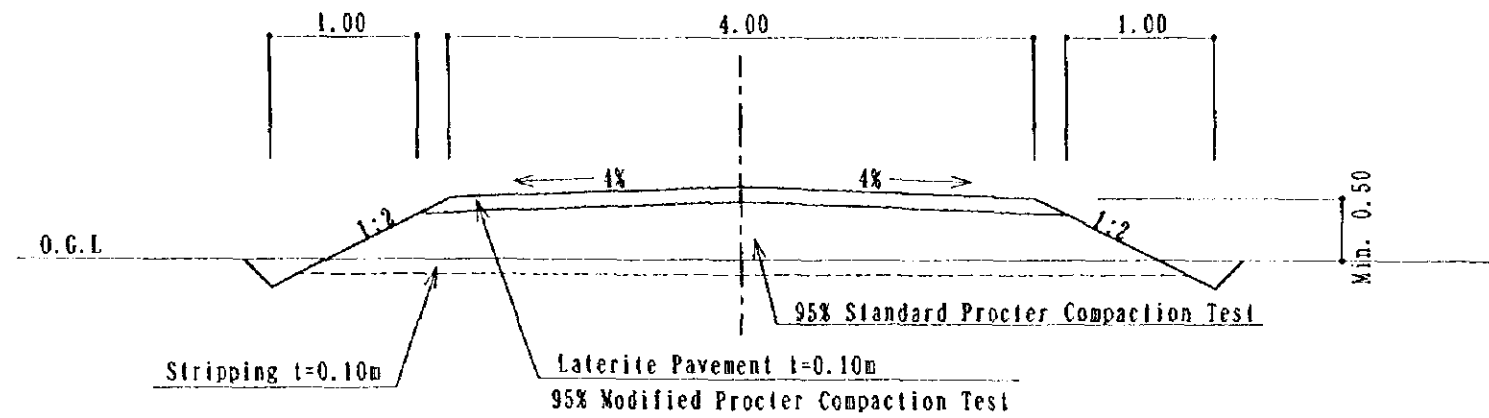
THE FEASIBILITY STUDY
 THE INTEGRATED AGRICULTURE DEVELOPMENT
 THE AGRICULTURAL LAND REFORM AREAS
 THE UPPER NORTHEASTERN REGION

TYPICAL DESIGN OF FARM POND

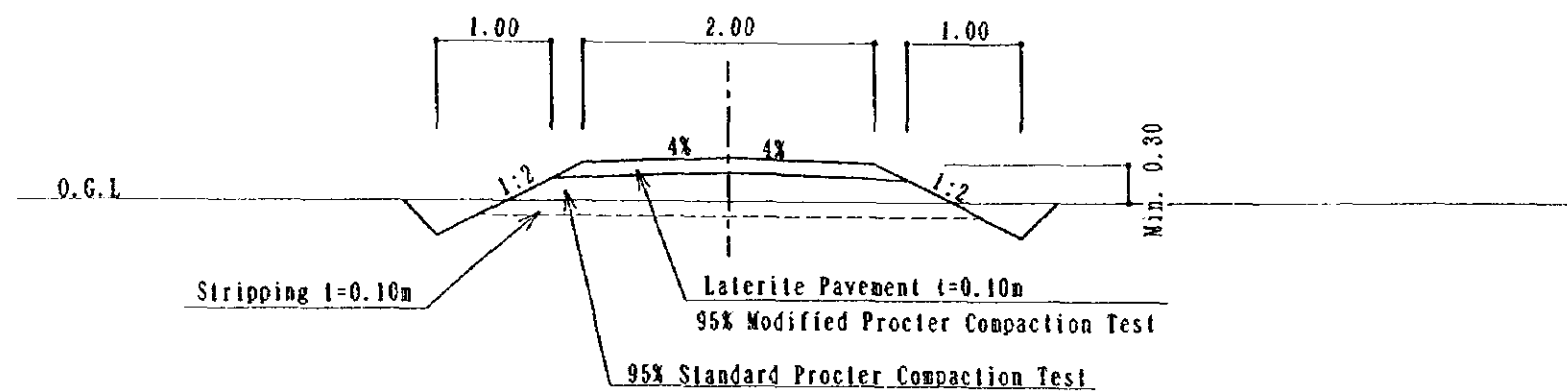
DRAWING NO. 1 | MARCH, 1998

JAPAN INTERNATIONAL COOPERATION AGENCY

Main and Lateral Farm Road



On- Farm Road

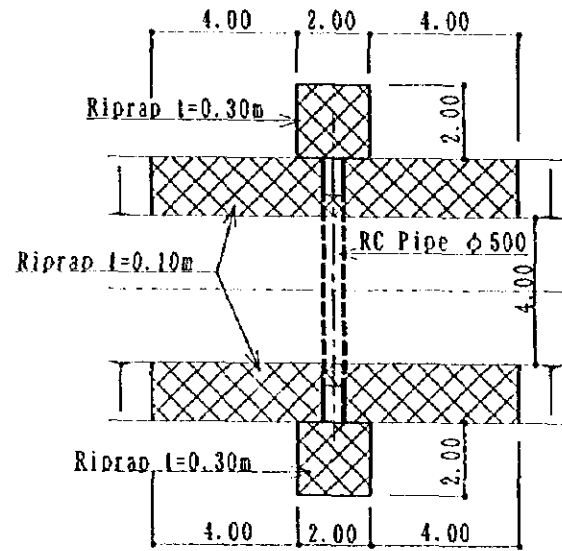


TYPICAL CROSS SECTION OF FARM ROAD

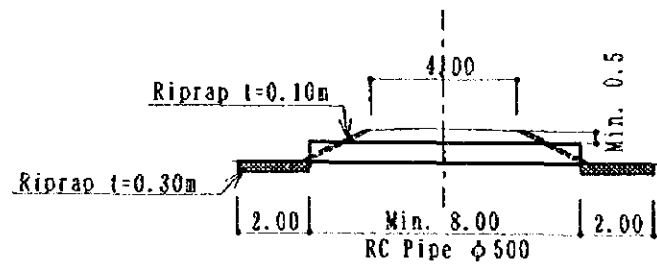
THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
TYPICAL CROSS SECTION OF FARM ROAD	
DRAWING NO. 2	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

Main and Lateral Road

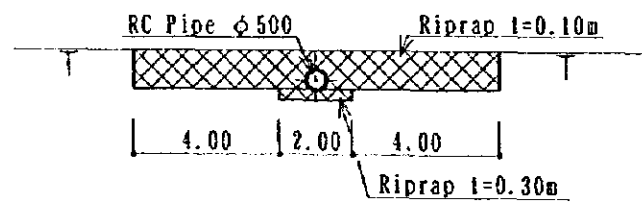
Plane Plan



Longitudinal Cross Section

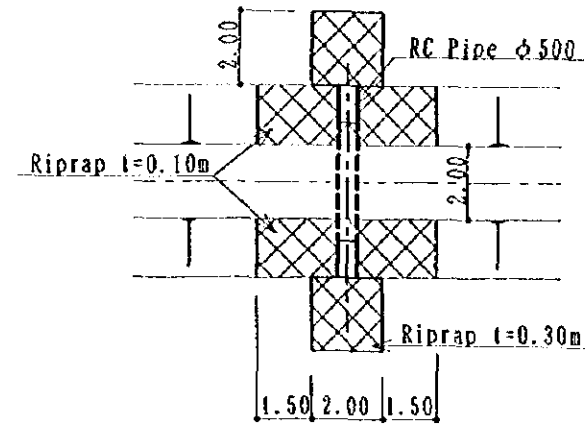


Cross Section

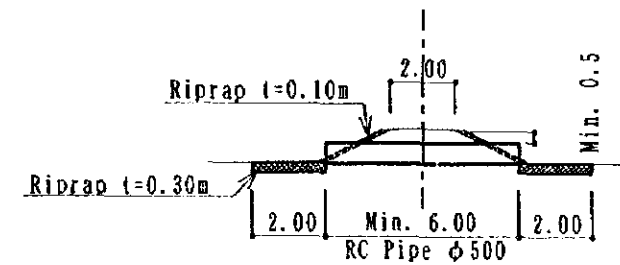


On-Farm Road

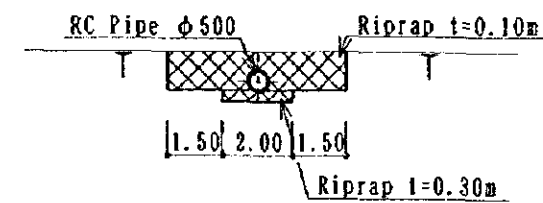
Plane Plan



Longitudinal Cross Section



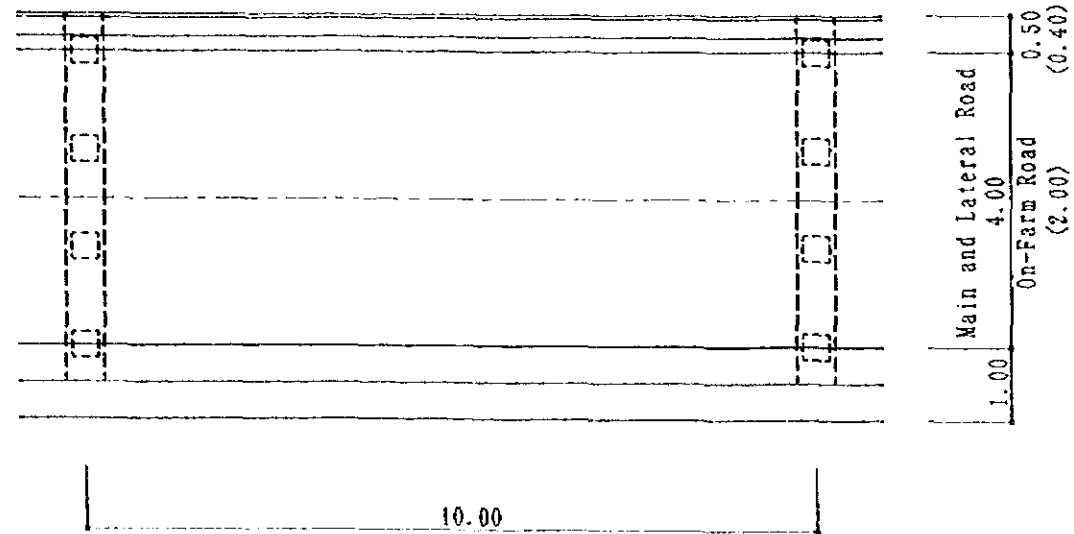
Cross Section



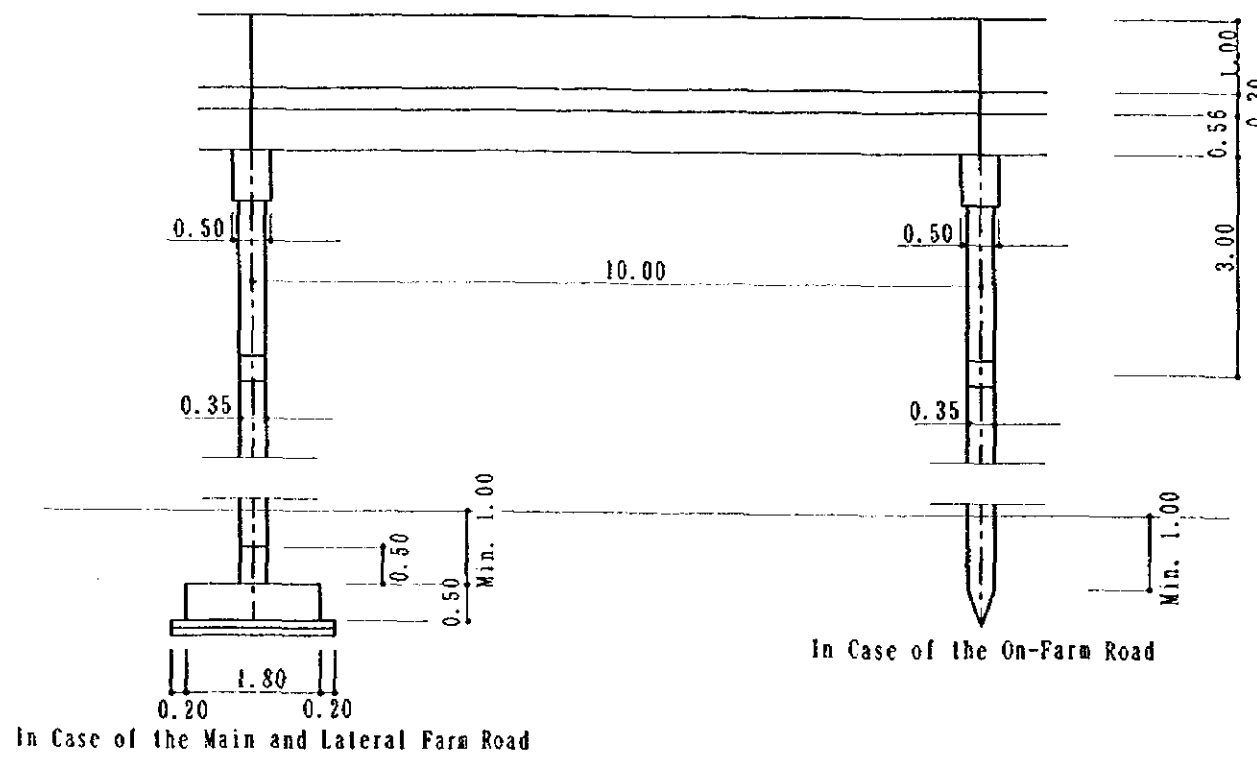
ROAD CROSSING CULVERT

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
ROAD CROSSING CULVERT	
DRAWING NO. 3	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

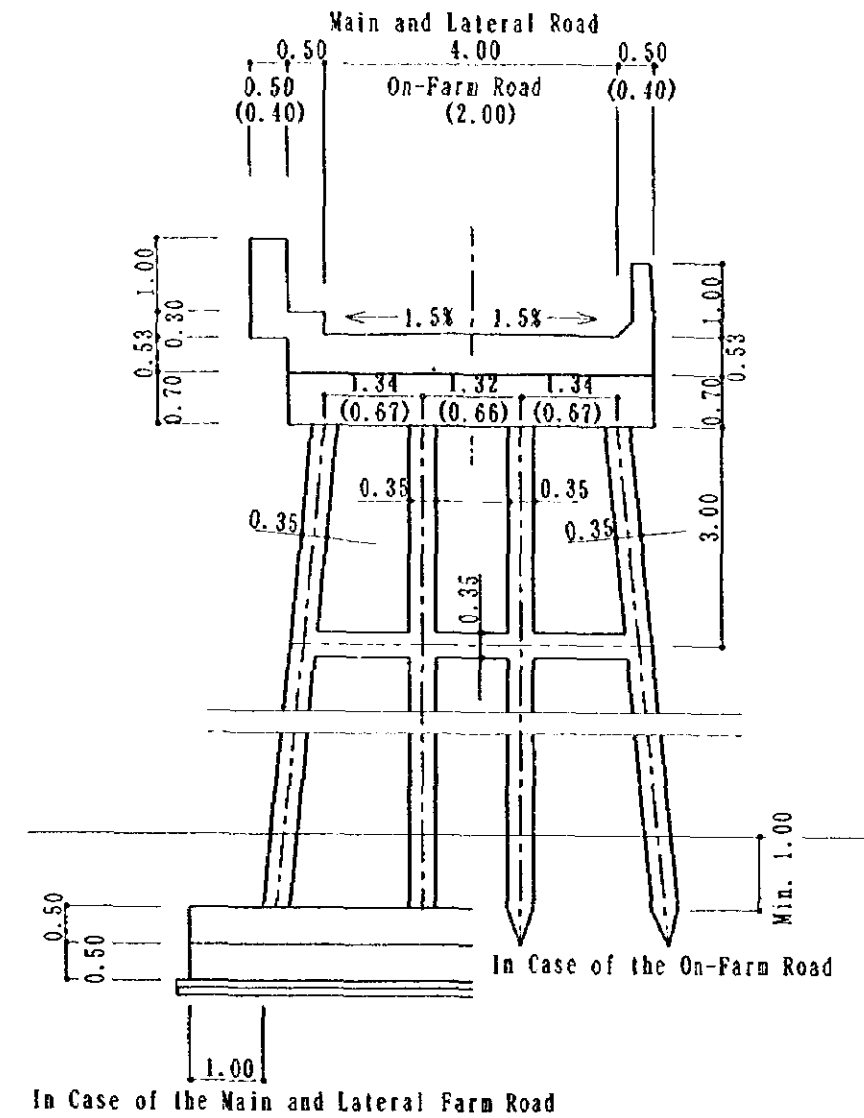
Plane Plan



Longitudinal Cross Section

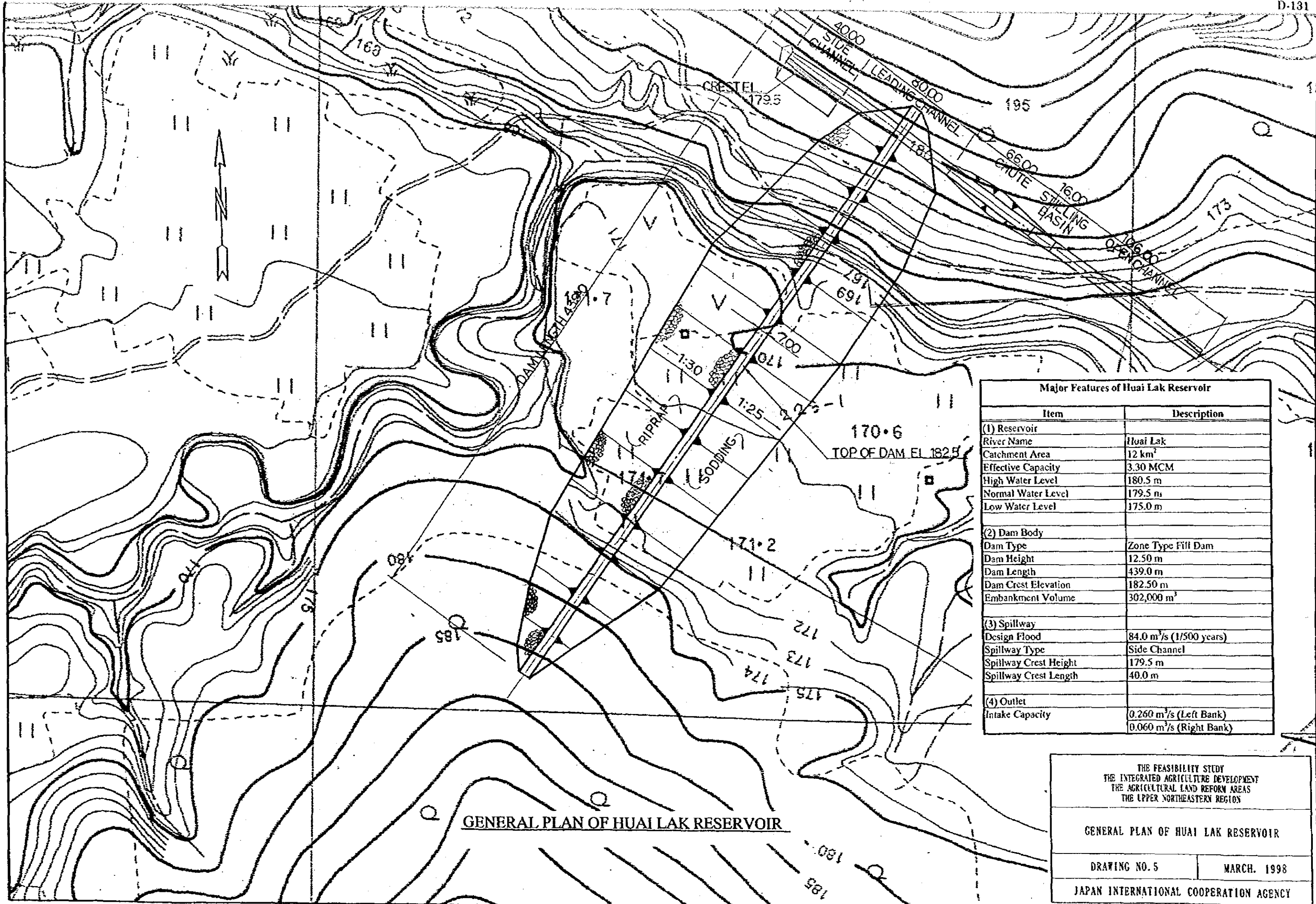


Cross Section



TYPICAL DESIGN OF BRIDGE

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
TYPICAL DESIGN OF BRIDGE	
DRAWING NO. 4	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



Major Features of Huai Lak Reservoir	
Item	Description
(1) Reservoir	
River Name	Huai Lak
Catchment Area	12 km ²
Effective Capacity	3.30 MCM
High Water Level	180.5 m
Normal Water Level	179.5 m
Low Water Level	175.0 m
(2) Dam Body	
Dam Type	Zone Type Fill Dam
Dam Height	12.50 m
Dam Length	439.0 m
Dam Crest Elevation	182.50 m
Embankment Volume	302,000 m ³
(3) Spillway	
Design Flood	84.0 m ³ /s (1/500 years)
Spillway Type	Side Channel
Spillway Crest Height	179.5 m
Spillway Crest Length	40.0 m
(4) Outlet	
Intake Capacity	0.260 m ³ /s (Left Bank) 0.060 m ³ /s (Right Bank)

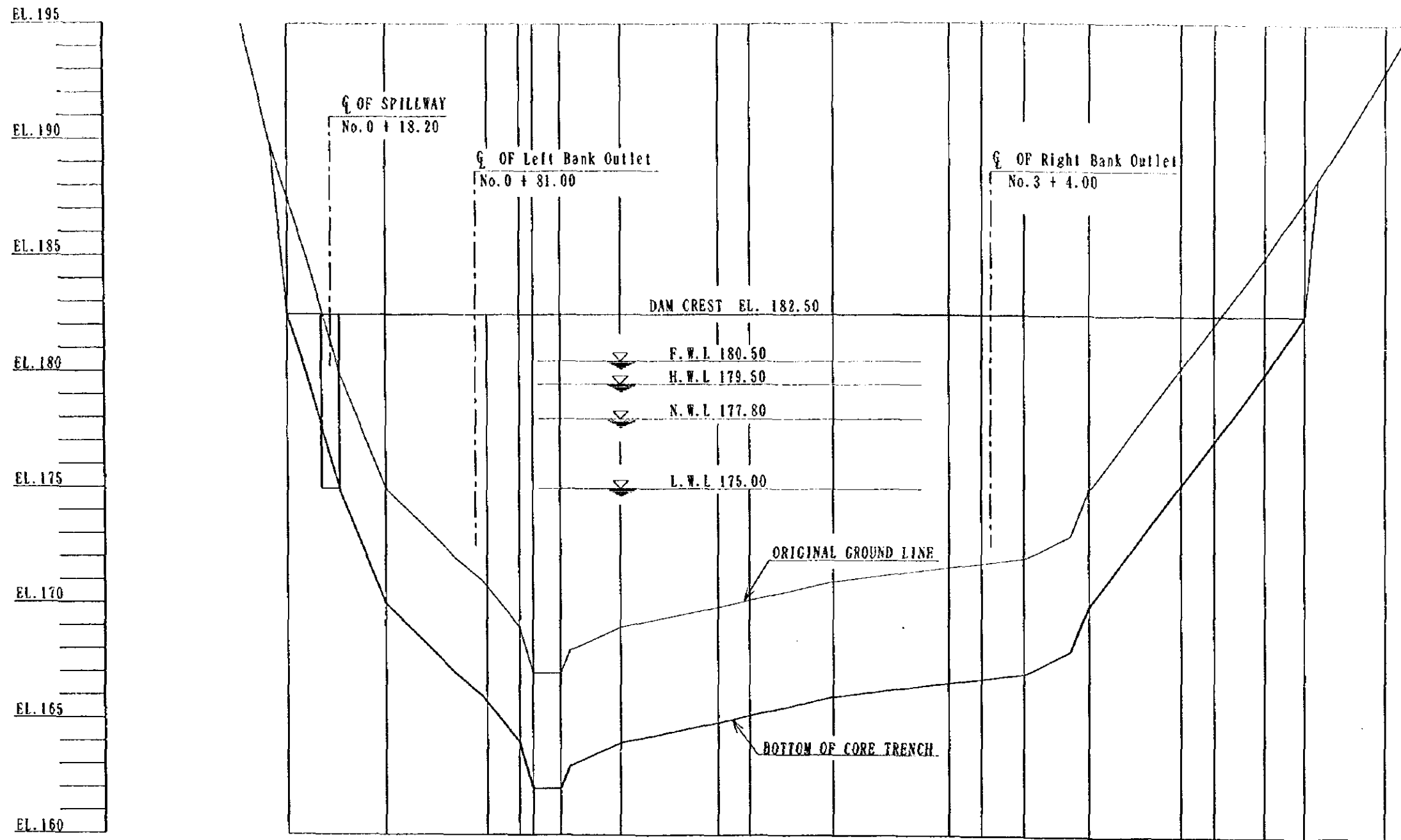
GENERAL PLAN OF HUAI LAK RESERVOIR

THE FEASIBILITY STUDY
 THE INTEGRATED AGRICULTURE DEVELOPMENT
 THE AGRICULTURAL LAND REFORM AREAS
 THE UPPER NORTHEASTERN REGION

GENERAL PLAN OF HUAI LAK RESERVOIR

DRAWING NO. 5 MARCH, 1998

JAPAN INTERNATIONAL COOPERATION AGENCY



STATION	DISTA.	ACCUM. DISTA.	ORIGIN. GROUND ELEV.	CORE TRENCH ELEV.	DAM CREST ELEV.
NO. 0	0.00	0.00	187.5	182.5	182.5
	42.00	44.0	175.0	170.0	182.5
	44.00	86.0	170.8	165.8	182.5
NO. 1	16.00	100.0	169.0	164.0	182.5
	6.0	106.0	167.0	162.0	182.5
	12.0	118.0	167.0	162.0	182.5
	44.0	164.0	169.0	164.0	182.5
	42.0	186.0	170.0	165.0	182.5
NO. 2	14.0	200.0	170.2	165.2	182.5
	36.0	236.0	171.0	166.0	182.5
	50.0	286.0	171.6	166.6	182.5
NO. 3	14.0	300.0	171.8	166.8	182.5
	18.0	318.0	172.0	167.0	182.5
	28.0	346.0	175.0	170.0	182.5
	40.0	386.0	180.3	175.3	182.5
NO. 4	14.0	400.0	182.1	177.1	182.5
	22.0	422.0	185.0	180.0	182.5
	17.0	439.0	187.5	182.5	182.5
	35.0	474.0	192.5	187.5	182.5
	12.0	486.0	194.2	189.2	

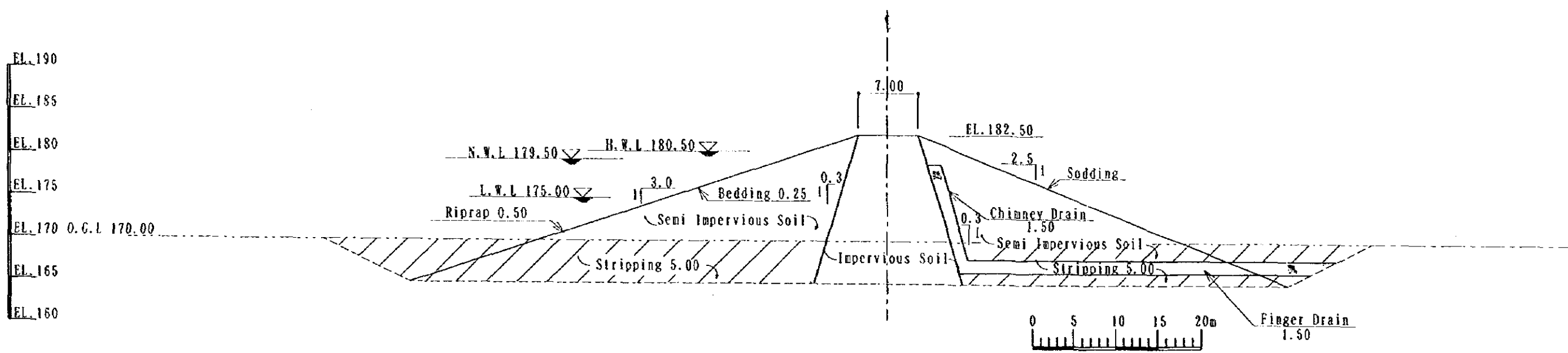
LONGITUDINAL SECTION ALONG DAM AXIS

THE FEASIBILITY STUDY
THE INTEGRATED AGRICULTURE DEVELOPMENT
THE AGRICULTURAL LAND REFORM AREAS
THE UPPER NORTHEASTERN REGION

LONGITUDINAL SECTION ALONG DAM AXIS

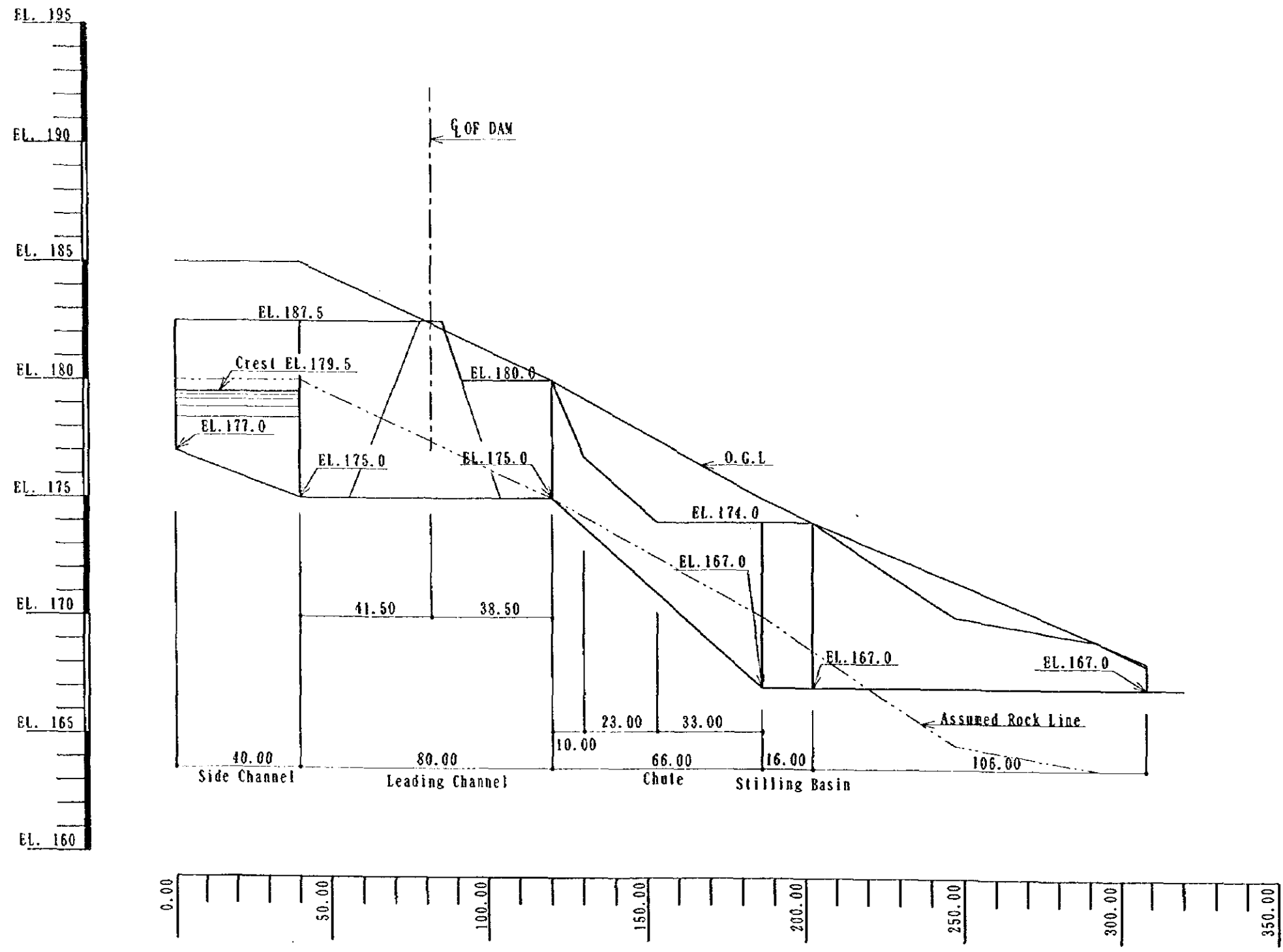
DRAWING NO. 6	MARCH, 1998
---------------	-------------

JAPAN INTERNATIONAL COOPERATION AGENCY



TYPICAL CROSS SECTION OF DAM

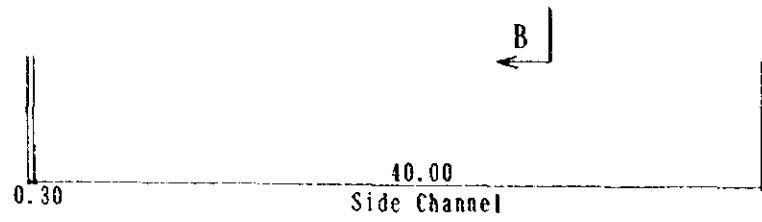
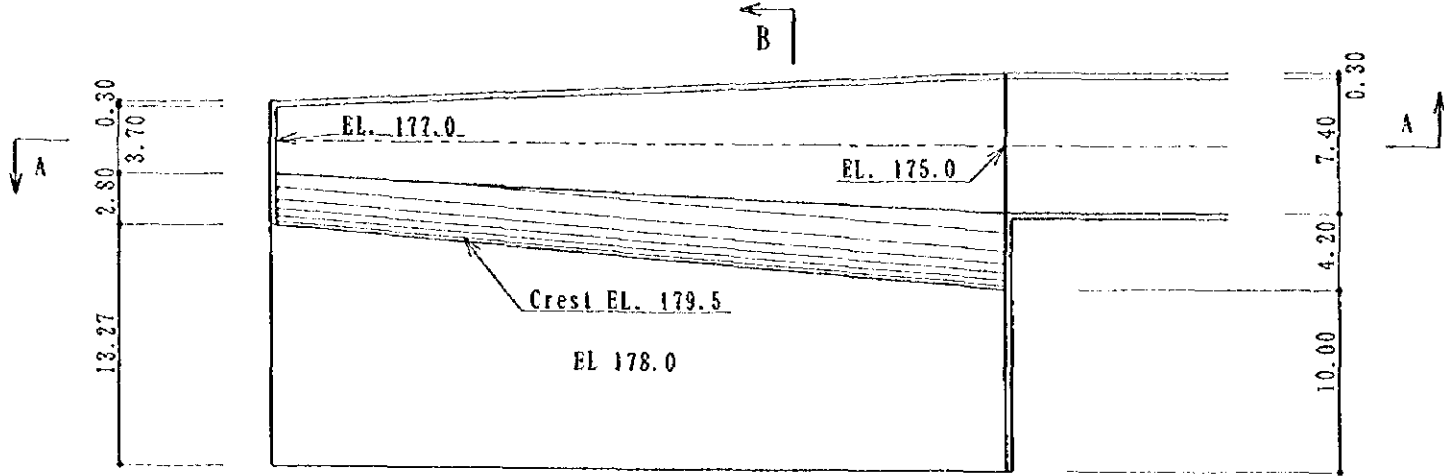
THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
TYPICAL CROSS SECTION OF DAM	
DRAWING NO. 7	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



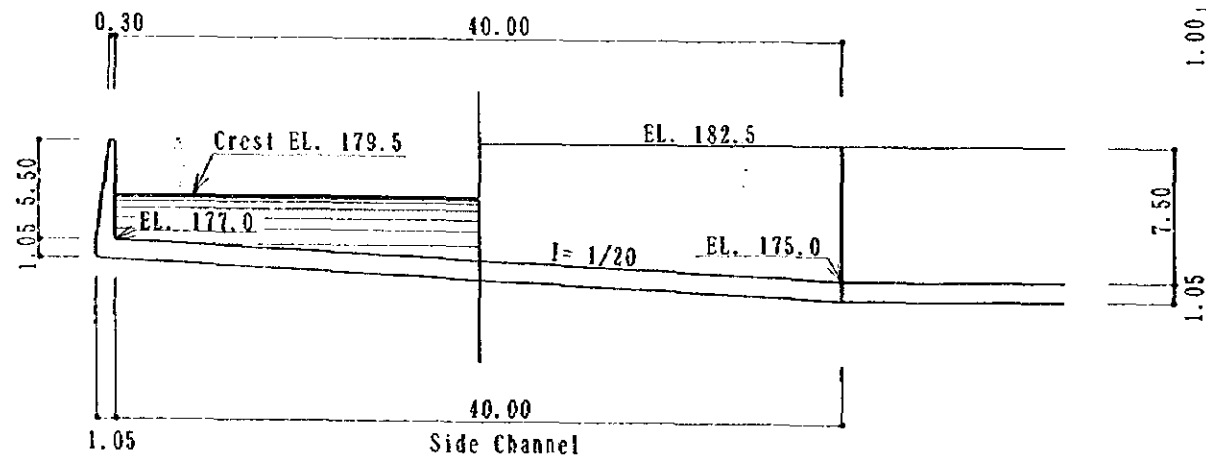
LONGITUDINAL SECTION OF SPILLWAY

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF SPILLWAY	
DRAWING NO. 8	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

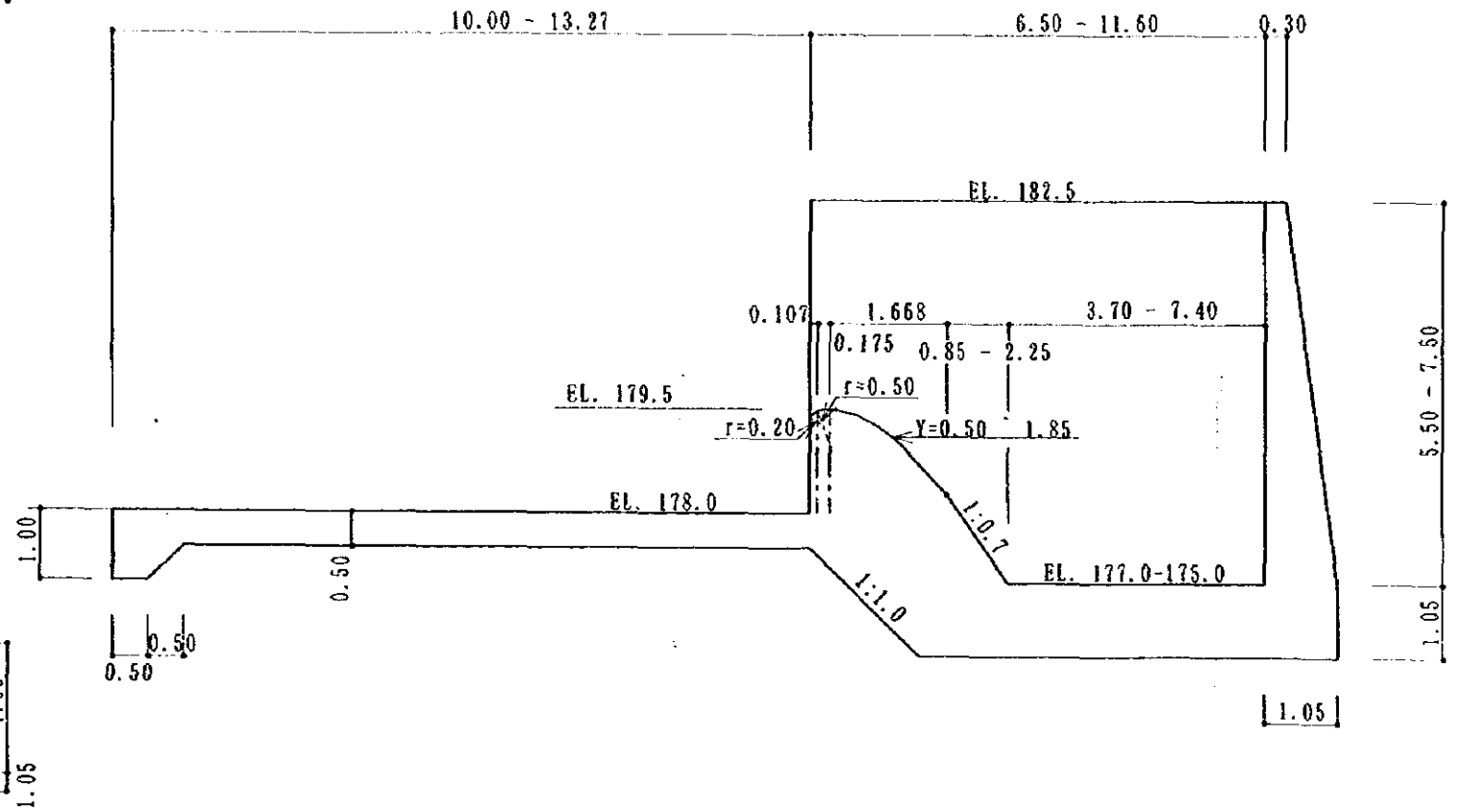
PLANE PLAN



SECTION A - A



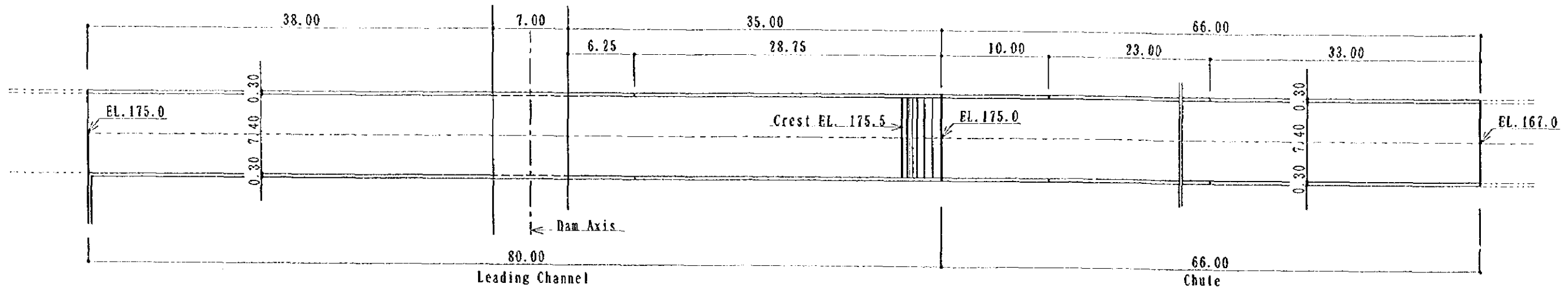
SECTION B - B



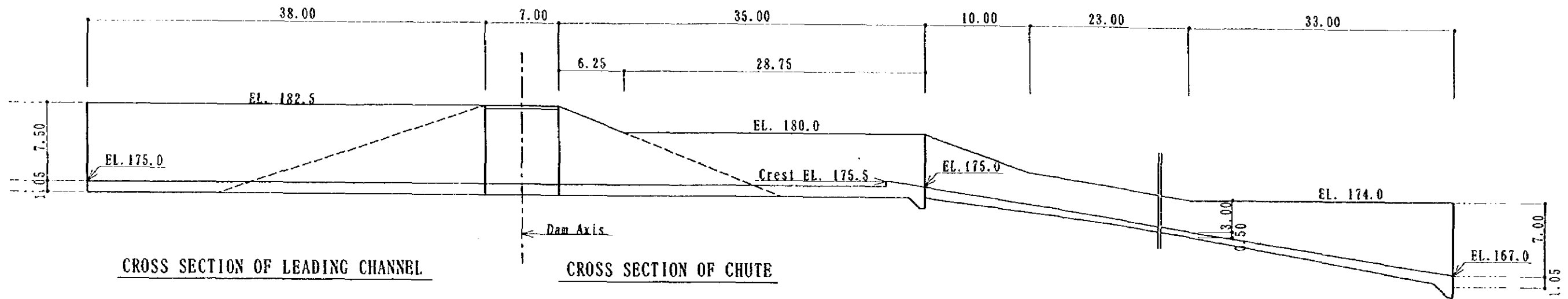
DETAILS OF THE SIDE CHANNEL

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
DETAILS OF THE SIDE CHANNEL	
DRAWING NO. 9	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

PLANE PLAN

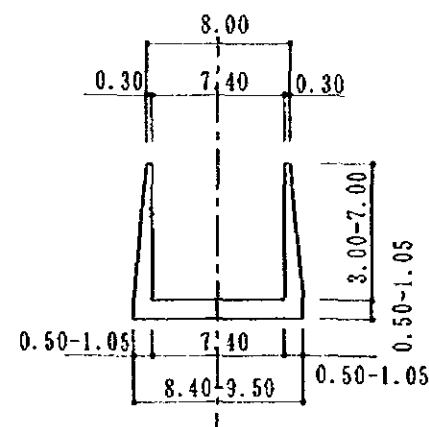
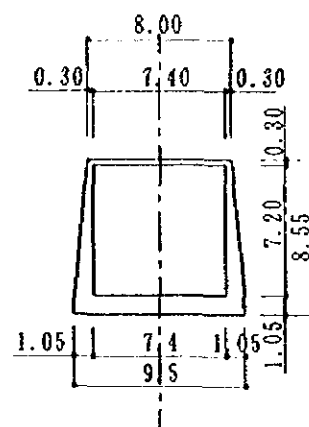
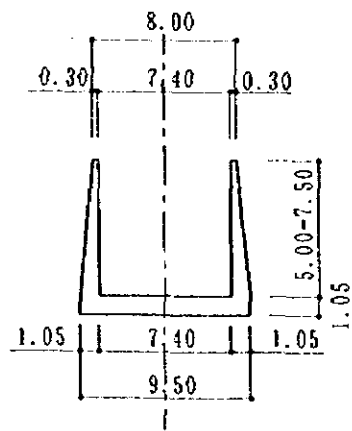


LONGITUDINAL SECTION

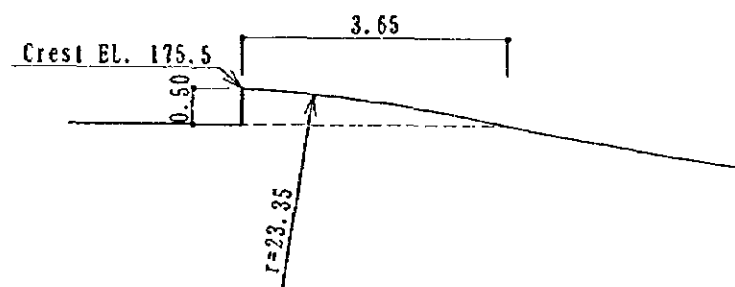


CROSS SECTION OF LEADING CHANNEL

CROSS SECTION OF CHUTE



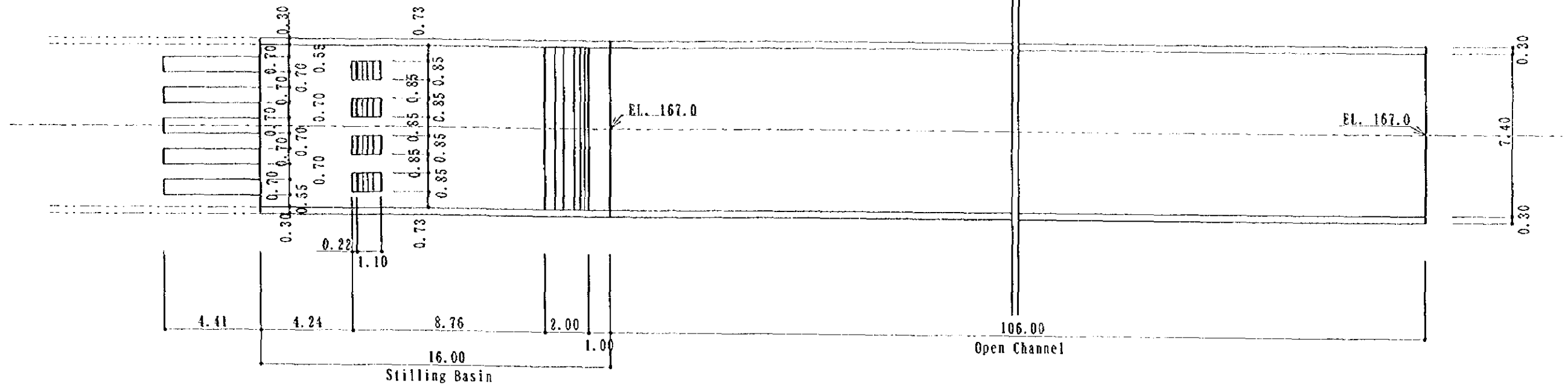
DETAIL OF THE CREST



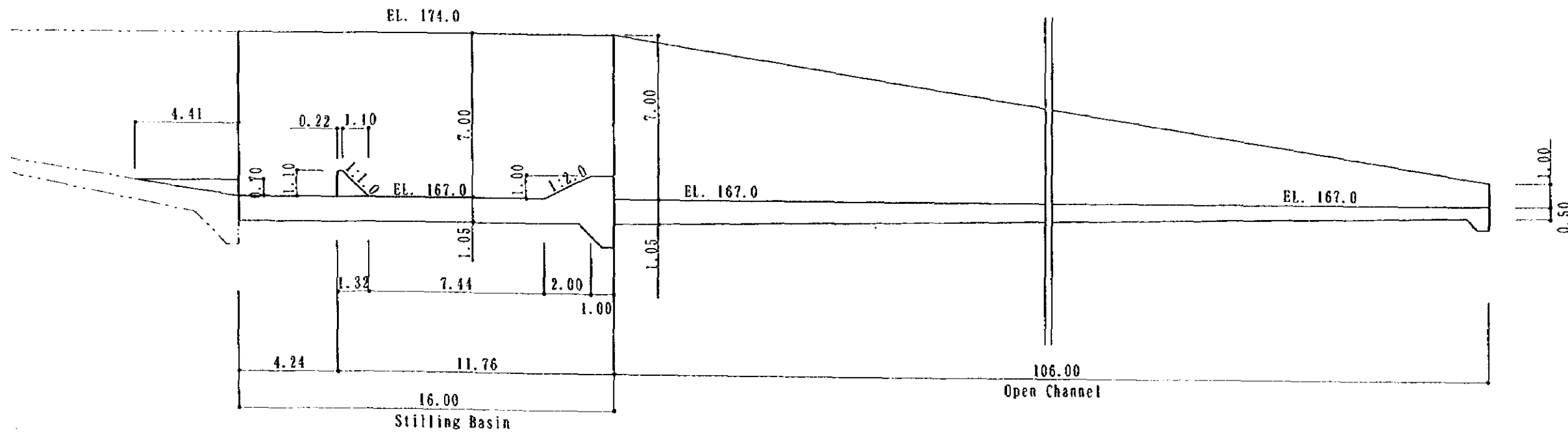
DETAILS OF THE LEADING CHANNEL AND CHUTE

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
DETAILS OF THE LEADING CHANNEL AND CHUTE	
DRAWING NO. 10	MARCH, 1998.
JAPAN INTERNATIONAL COOPERATION AGENCY	

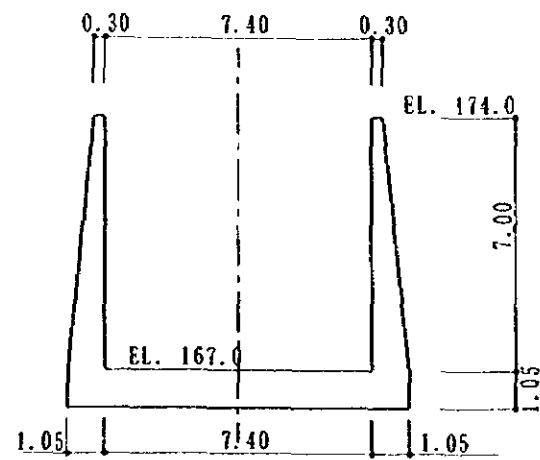
PLANE PLAN



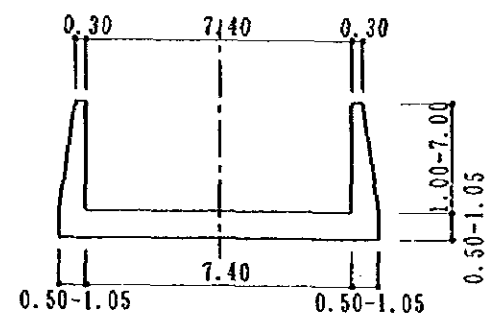
LONGITUDINAL SECTION



CROSS SECTION OF THE STILLING BASIN



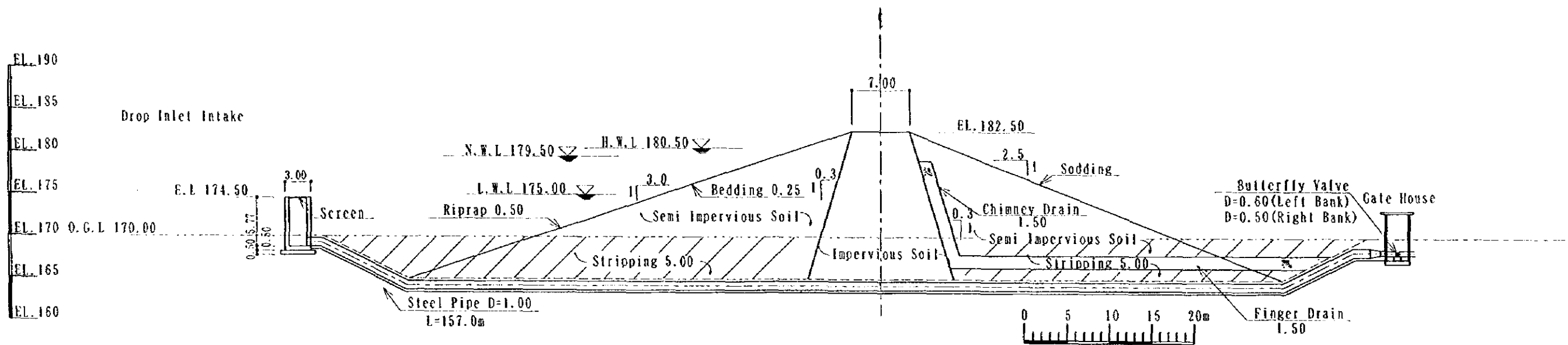
CROSS SECTION OF THE OPEN CHANNEL



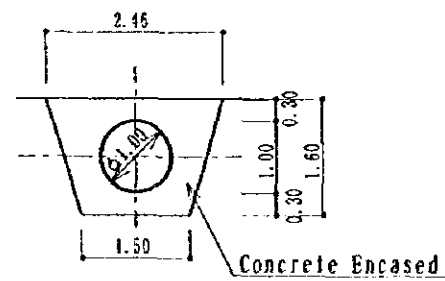
DETAILS OF THE STILLING BASIN AND OPEN CHANNEL

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
DETAILS OF THE STILLING BASIN AND OPEN CHANNEL	
DRAWING NO. 11	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

LONGITUDINAL SECTION OF CONDUIT PIPE

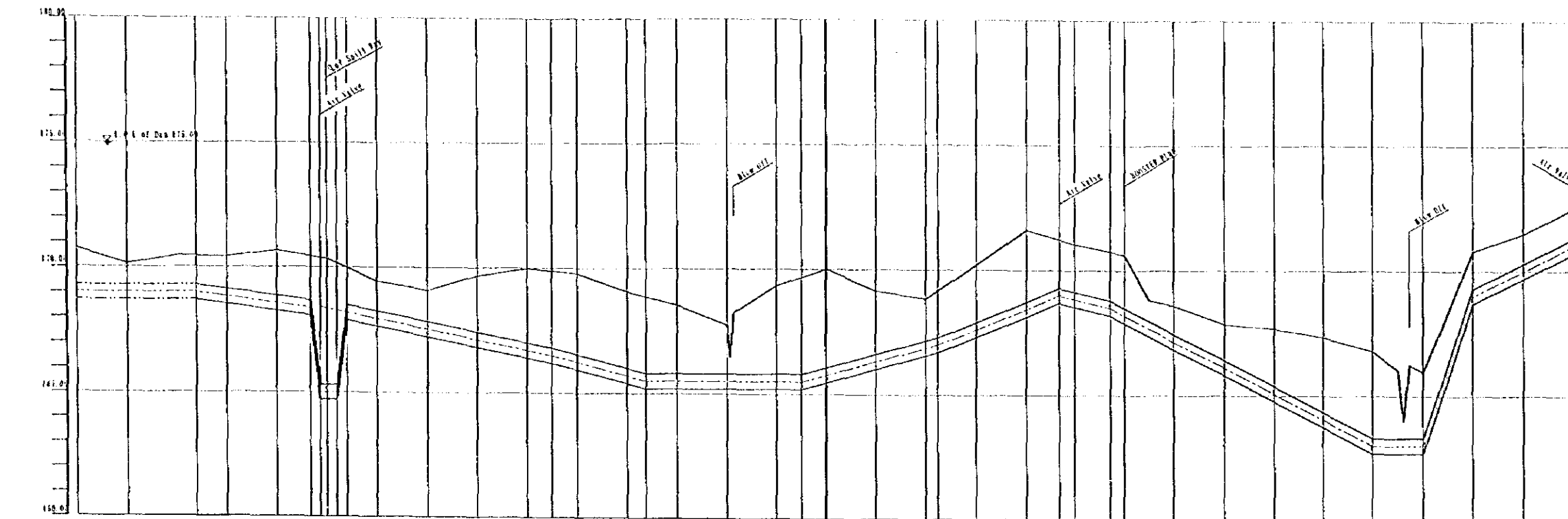


TYPICAL SECTION OF CONDUIT PIPE



PROFILE OF OUTLET

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
PROFILE OF OUTLET	
DRAWING NO. 12	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



Scale: 1:100
 H=1:2,000

PIPE SIZE DISCHARGE	GRADE	PIPE CENTER LEVEL	ORIGINAL GROUND LEVEL	ACCUMULATED DISTANCE	DISTANCE	STATION	CURVE
Steel Pipe ϕ 1.00 D=0.1923 m/s	18.00	166.00	170.74	0.00	0.00	0+00	
		166.58	170.14	50.00	50.00	+50.00	
		166.16	170.46	100.00	50.00	NO.1	
		166.08	170.54	118.94	18.94	P.I. 1	
		166.40	170.43	150.00	31.06	NO.2	
		166.54	170.67	200.00	50.00	NO.3	
		166.10	170.45	222.467	22.467	P.I. 2	
		166.00	170.35	250.00	27.533	NO.4	
		165.20	170.00	270.00	20.00	NO.5	
		165.04	169.45	300.00	30.00	NO.6	
		167.80	169.03	350.00	50.00	NO.7	
		166.16	168.64	400.00	50.00	NO.8	
		166.77	168.58	450.00	50.00	NO.9	
		166.59	168.78	474.842	24.842	P.I. 3	
		166.22	168.78	500.00	25.158	NO.10	
		165.29	168.06	550.00	50.00	NO.11	
		165.50	168.50	600.00	50.00	NO.12	
		165.50	168.34	700.00	100.00	NO.13	
		165.77	168.02	749.420	49.420	P.I. 4	
		165.78	168.02	750.00	0.580	NO.14	
		166.33	169.16	800.00	50.00	NO.15	
		166.88	168.85	850.00	50.00	NO.16	
		167.00	169.68	900.00	50.00	NO.17	
		167.82	170.22	950.00	50.00	NO.18	
		168.44	171.81	1000.00	50.00	NO.19	
		169.00	171.85	1050.00	50.00	NO.20	
		168.70	171.85	1100.00	50.00	NO.21	
		168.30	170.62	1150.00	50.00	NO.22	
		168.03	169.82	1200.00	50.00	NO.23	
		167.75	168.82	1250.00	50.00	NO.24	
		166.80	167.85	1300.00	50.00	NO.25	
		165.85	167.88	1350.00	50.00	NO.26	
		165.90	167.34	1400.00	50.00	NO.27	
		165.00	166.41	1450.00	50.00	NO.28	
		164.00	165.86	1500.00	50.00	NO.29	
		163.00	165.00	1550.00	50.00	NO.30	
		162.00	164.00	1600.00	50.00	NO.31	
		161.00	163.00	1650.00	50.00	NO.32	
		160.00	162.00	1700.00	50.00	NO.33	
		160.00	161.00	1750.00	50.00	NO.34	
		160.00	160.00	1800.00	50.00	NO.35	

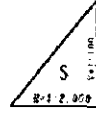
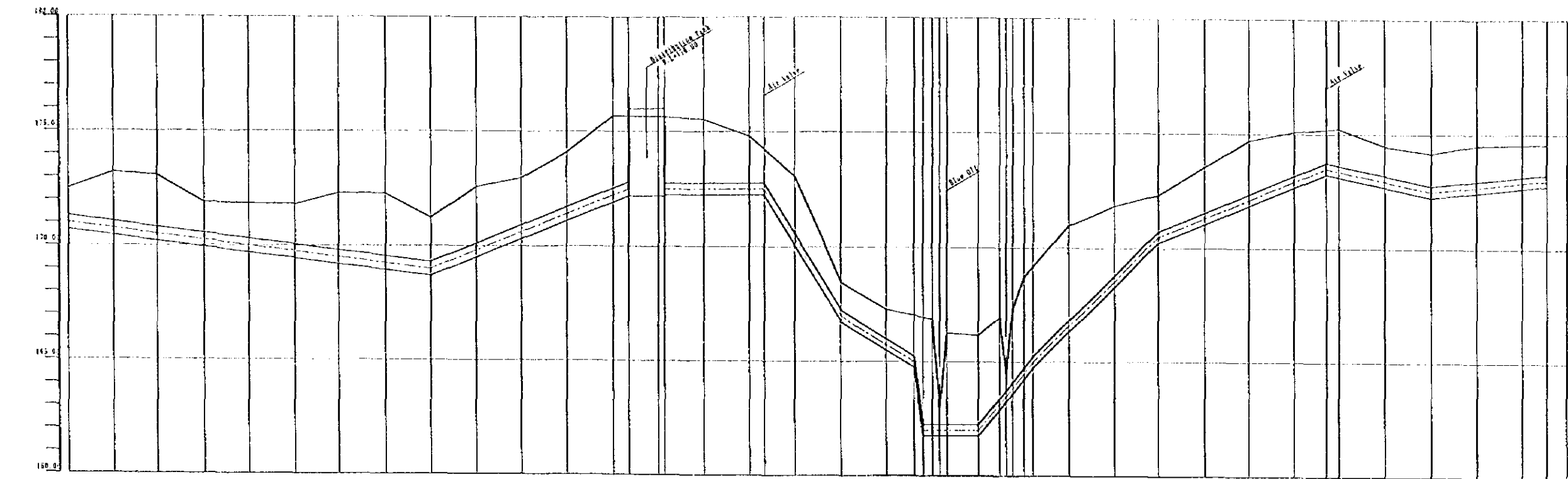
LONGITUDINAL SECTION OF HUI LAK LEFT BANK PIPE LINE (1/2)

THE FEASIBILITY STUDY
 THE INTEGRATED AGRICULTURE DEVELOPMENT
 THE AGRICULTURAL LAND REFORM AREAS
 THE UPPER NORTHEASTERN REGION

LONGITUDINAL SECTION OF
 HUI LAK LEFT BANK PIPE LINE (1/2)

DRAWING NO. 13 MARCH, 1998

JAPAN INTERNATIONAL COOPERATION AGENCY



CLAVE	STATION	DISTANCE	ACCUM. STATION DISTANCE	ORIGINAL GROUND LEVEL	PIPE CENTER LEVEL	GRADIENT	PIPE SIZE DISCHARGE
	NO. 13	30.00	1500.0	172.31	171.00	(171.00)	Asbestos Concrete Pipe $\phi 810$ $Q = 0.760 \text{ m}^3/\text{s}$
	450.00	30.00	1530.0	170.28	170.75		
	NO. 14	30.00	1560.0	173.07	170.50		
	450.00	30.00	1590.0	171.96	170.55		
	NO. 17	30.00	1620.0	171.43	170.00		
	450.00	4.333	1624.333	171.81	169.75		
	NO. 18	30.00	1650.0	172.30	169.50		
	450.00	30.00	1680.0	172.24	169.35		
	NO. 19	30.00	1710.0	171.22	169.00		
	450.00	30.00	1740.0	172.56	169.81		
	NO. 20	30.00	1770.0	172.86	170.41		
	450.00	30.00	1800.0	174.11	171.42		
	NO. 21	50.00	1850.0	175.48	172.23		
	PI. 11	16.946	1866.946	172.50	172.50		
	450.00	21.024	1887.970	172.47	172.50		
	NO. 22	42.024	1930.0	173.53	172.50		
	450.00	30.00	1960.0	174.80	172.50		
	PI. 12	16.424	1976.424	172.50	172.50		
	NO. 23	21.374	1997.800	172.07	170.30		
	450.00	30.00	2027.800	186.46	167.00		
	NO. 24	30.00	2057.800	167.27	165.75		
	450.00	20.00	2077.800	168.00	165.00		
	450.00	30.00	2107.800	165.07	162.00		
	450.00	30.00	2137.800	163.00	160.00		
	450.00	30.00	2167.800	161.26	158.00		
	NO. 25	30.00	2197.800	161.18	162.00		
	450.00	30.00	2227.800	163.00	163.00		
	450.00	30.00	2257.800	163.25	163.25		
	450.00	30.00	2287.800	163.73	164.50		
	450.00	30.00	2317.800	165.00	165.00		
	NO. 26	40.00	2357.800	170.58	168.57		
	450.00	30.00	2387.800	171.85	169.54		
	NO. 27	30.00	2417.800	172.33	170.50		
	450.00	30.00	2447.800	172.55	171.31		
	NO. 28	30.00	2477.800	174.22	172.11		
	450.00	30.00	2507.800	175.10	172.92		
	450.00	30.00	2537.800	175.24	173.40		
	PI. 13	36.016	2573.816	172.50	172.50		
	NO. 29	11.914	2585.730	174.49	172.98		
	450.00	30.00	2615.730	174.17	172.50		
	NO. 30	30.00	2645.730	174.33	172.70		
	450.00	30.00	2675.730	174.35	172.89		
	450.00	30.00	2705.730	174.37	173.00		

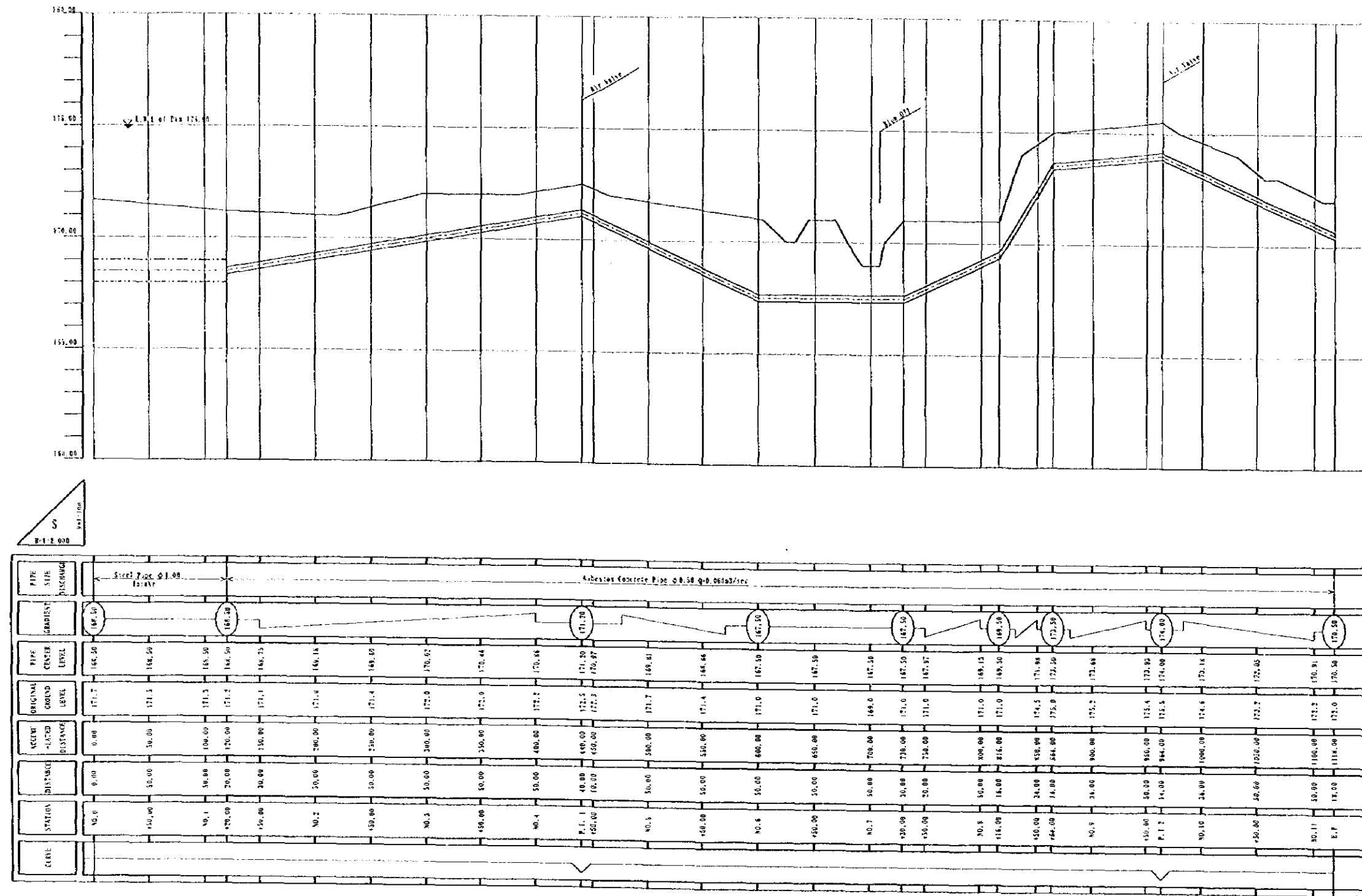
LONGITUDINAL SECTION OF HUAI LAK LEFT BANK PIPE LINE (2/2)

THE FEASIBILITY STUDY
THE INTEGRATED AGRICULTURE DEVELOPMENT
THE AGRICULTURAL LAND REFORM AREAS
THE UPPER NORTHEASTERN REGION

LONGITUDINAL SECTION OF
HUAI LAK LEFT BANK PIPE LINE (2/2)

DRAWING NO. 14	MARCH, 1998
----------------	-------------

JAPAN INTERNATIONAL COOPERATION AGENCY



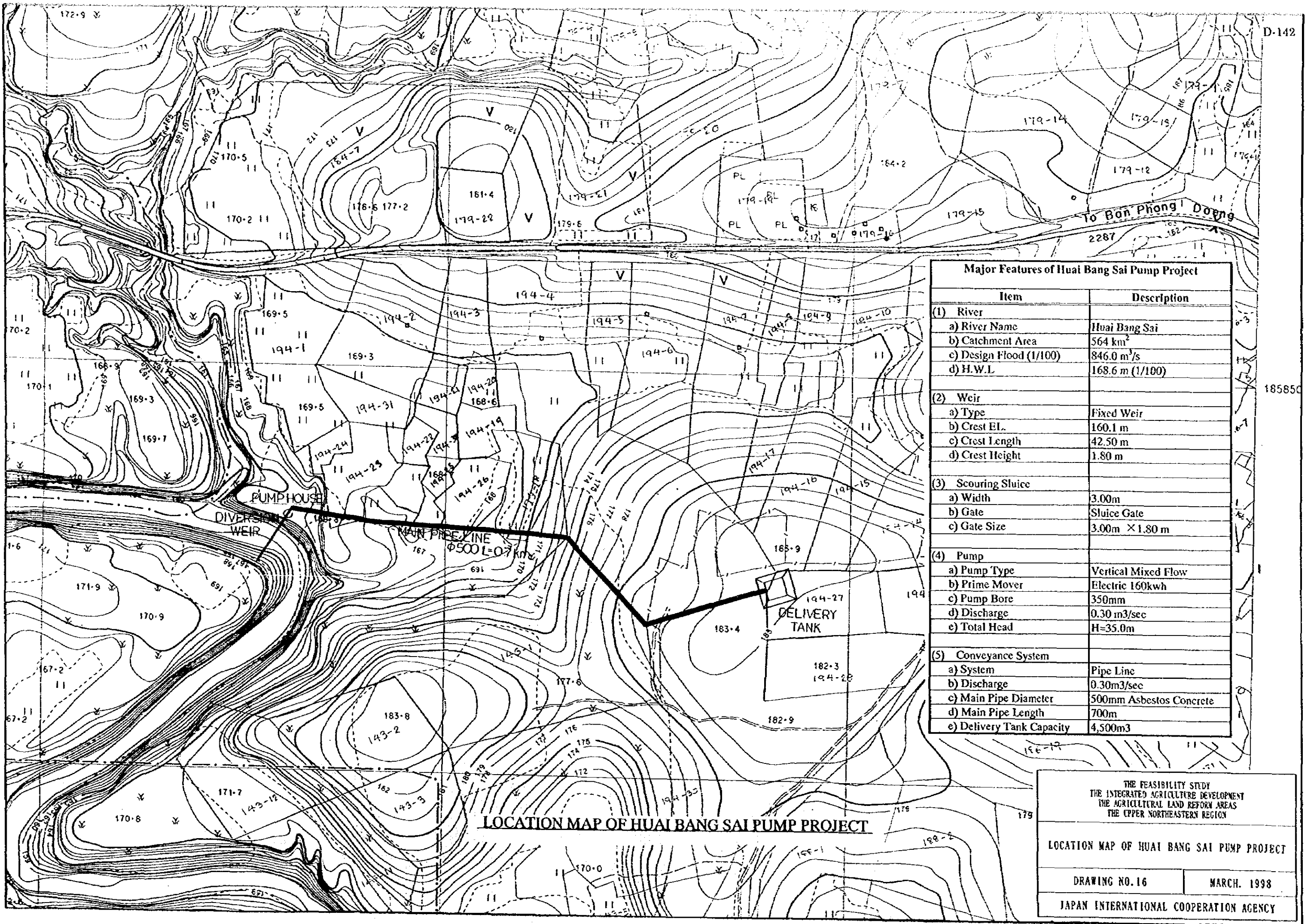
LONGITUDINAL SECTION OF Hwai LAK RIGHT BANK PIPE LINE

THE FEASIBILITY STUDY
THE INTEGRATED AGRICULTURE DEVELOPMENT
THE AGRICULTURAL LAND REFORM AREAS
THE UPPER NORTHEASTERN REGION

LONGITUDINAL SECTION OF
Hwai LAK RIGHT BANK PIPE LINE

DRAWING NO. 15 MARCH, 1998

JAPAN INTERNATIONAL COOPERATION AGENCY



Major Features of Huai Bang Sai Pump Project	
Item	Description
(1) River	
a) River Name	Huai Bang Sai
b) Catchment Area	564 km ²
c) Design Flood (1/100)	846.0 m ³ /s
d) H.W.L.	168.6 m (1/100)
(2) Weir	
a) Type	Fixed Weir
b) Crest EL.	160.1 m
c) Crest Length	42.50 m
d) Crest Height	1.80 m
(3) Scouring Sluice	
a) Width	3.00m
b) Gate	Sluice Gate
c) Gate Size	3.00m × 1.80 m
(4) Pump	
a) Pump Type	Vertical Mixed Flow
b) Prime Mover	Electric 160kwh
c) Pump Bore	350mm
d) Discharge	0.30 m ³ /sec
e) Total Head	H=35.0m
(5) Conveyance System	
a) System	Pipe Line
b) Discharge	0.30m ³ /sec
c) Main Pipe Diameter	500mm Asbestos Concrete
d) Main Pipe Length	700m
e) Delivery Tank Capacity	4,500m ³

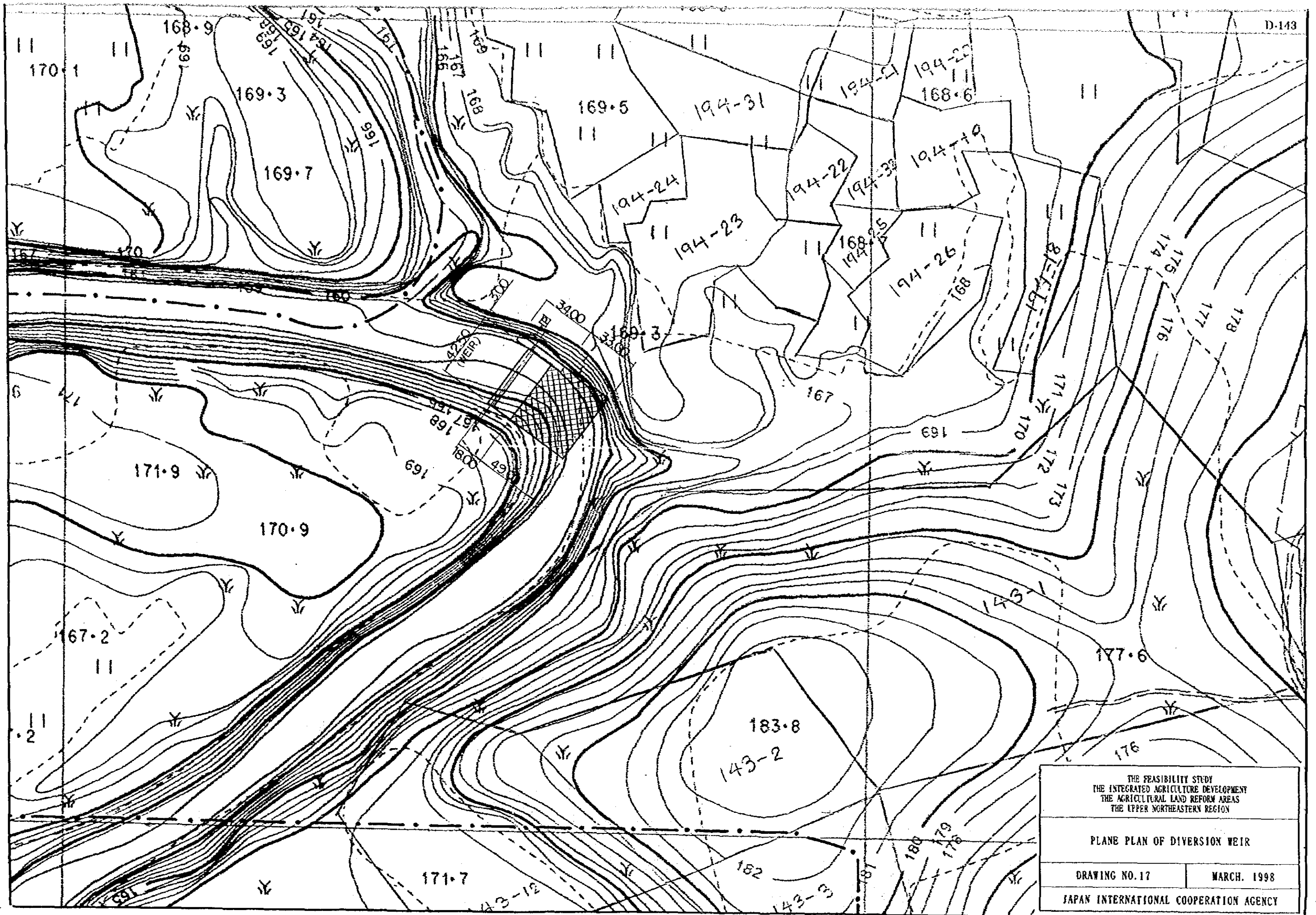
LOCATION MAP OF HUI BANG SAI PUMP PROJECT

THE FEASIBILITY STUDY
THE INTEGRATED AGRICULTURE DEVELOPMENT
THE AGRICULTURAL LAND REFORM AREAS
THE UPPER NORTHEASTERN REGION

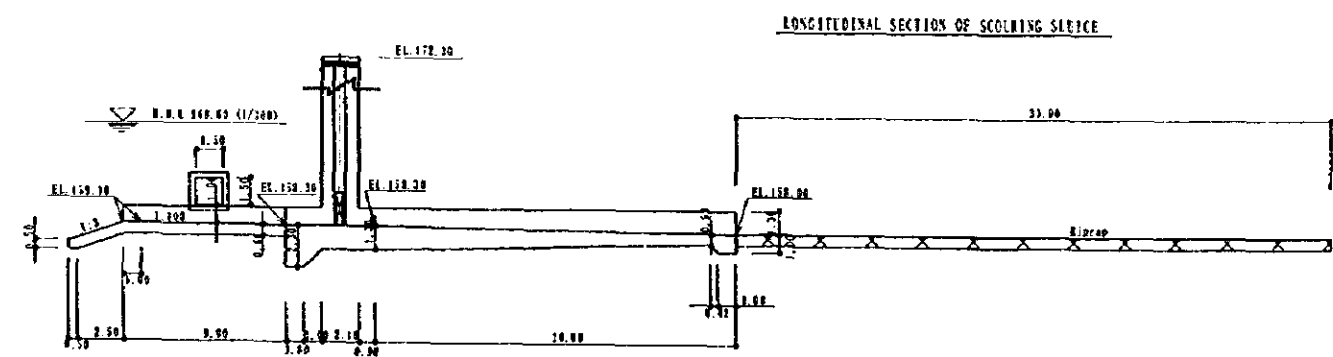
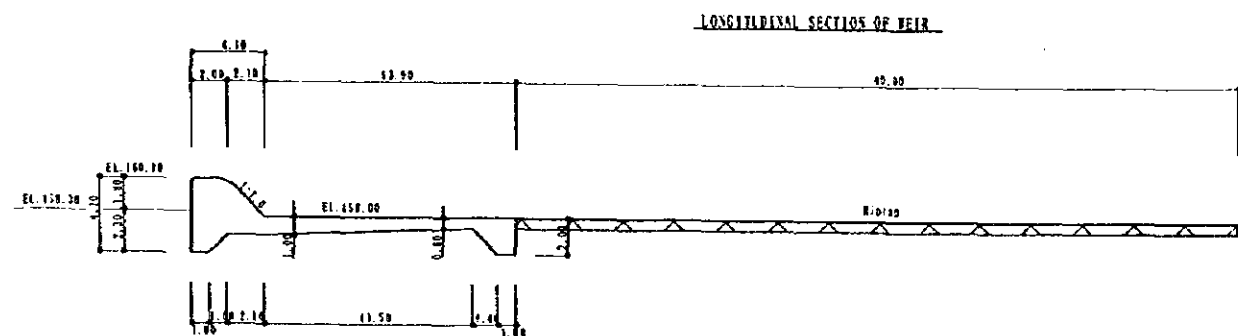
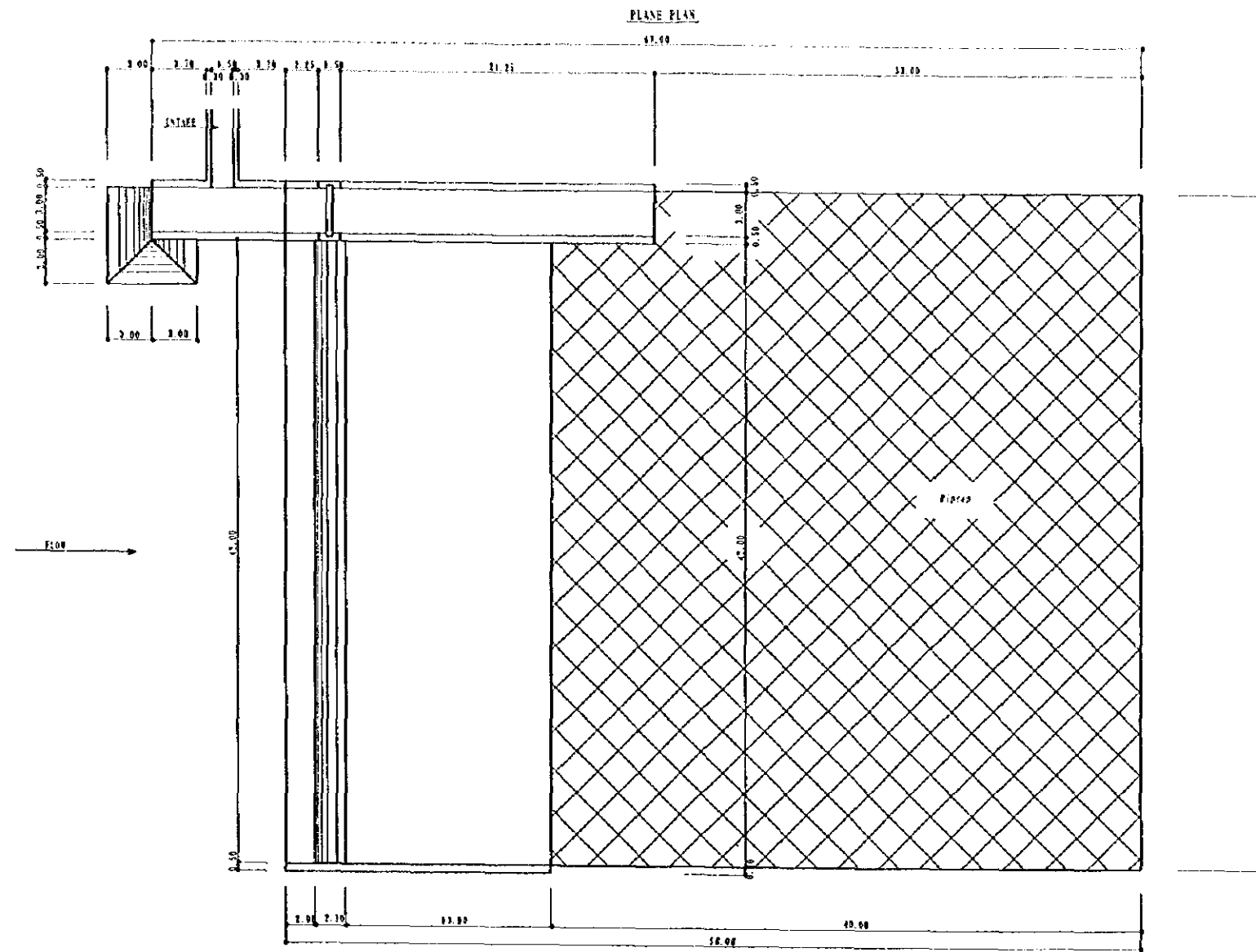
LOCATION MAP OF HUI BANG SAI PUMP PROJECT

DRAWING NO.16	MARCH, 1998
---------------	-------------

JAPAN INTERNATIONAL COOPERATION AGENCY

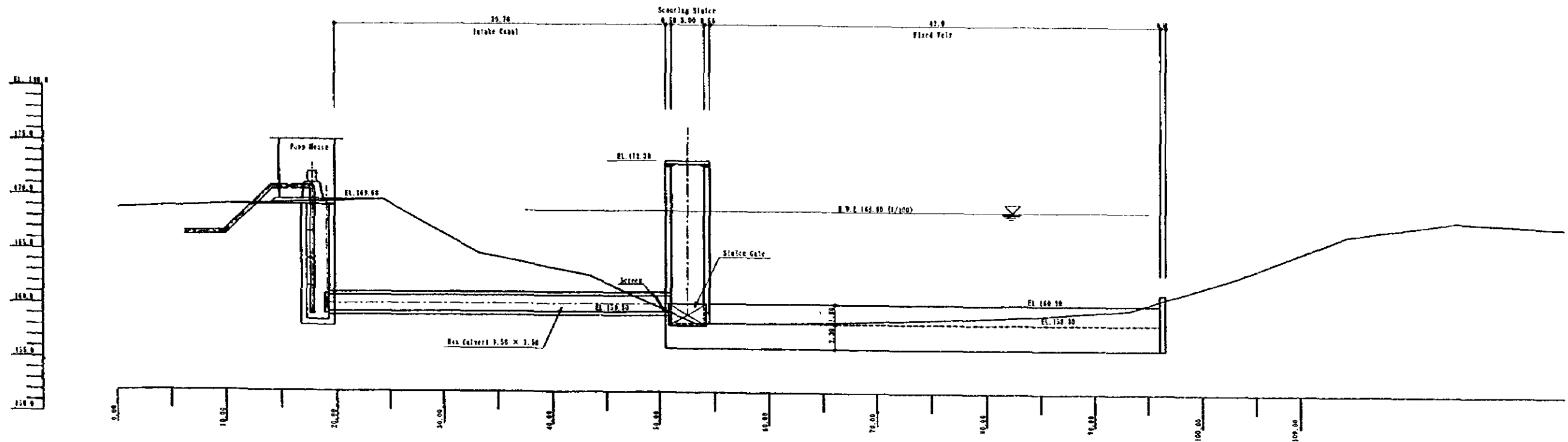


THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
PLANE PLAN OF DIVERSION WEIR	
DRAWING NO. 17	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



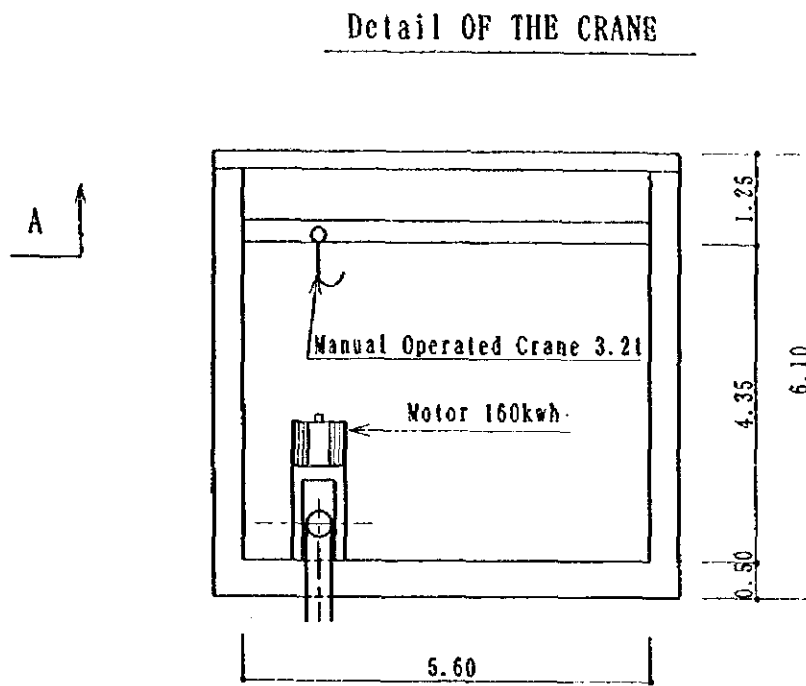
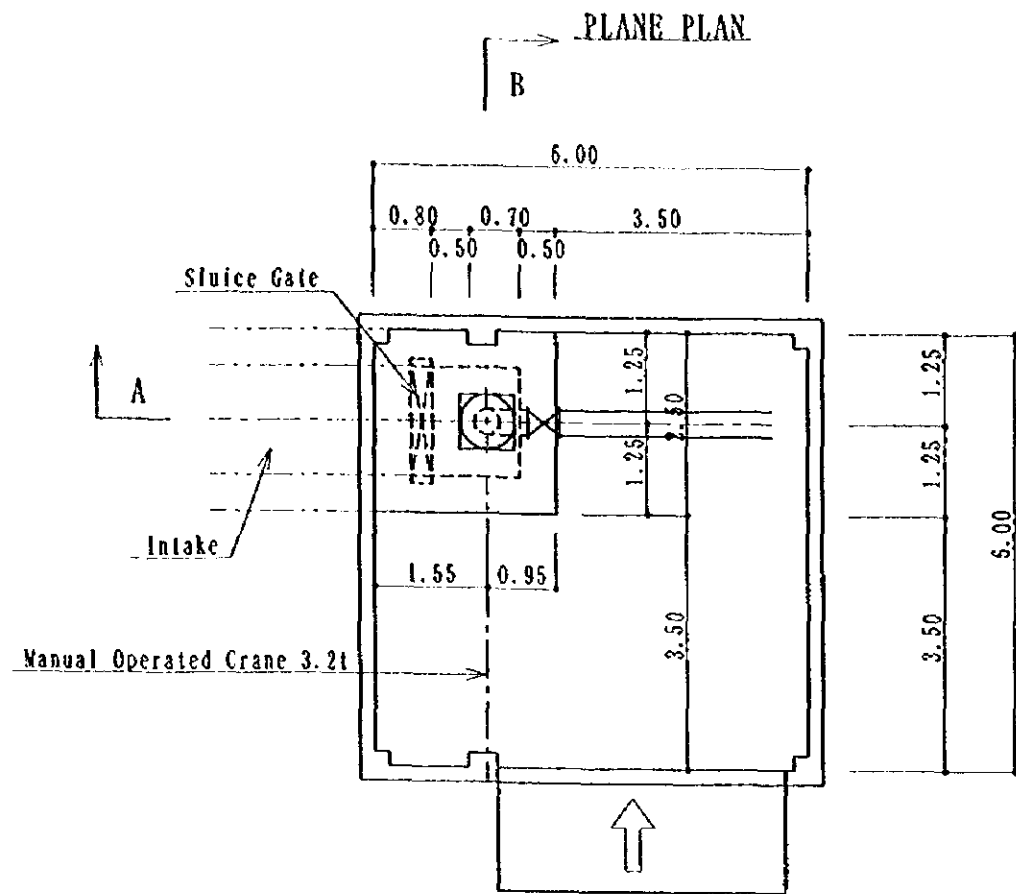
HUAI BANG SAI DIVERSION WEIR

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
HUAI BANG SAI DIVERSION WEIR	
DRAWING NO. 18	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

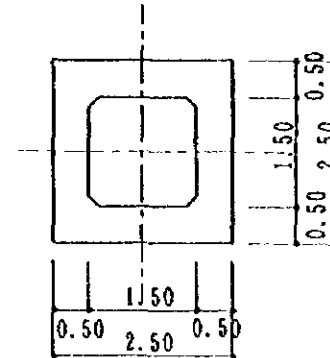


Cross Section of Hwai Bang Sai Weir

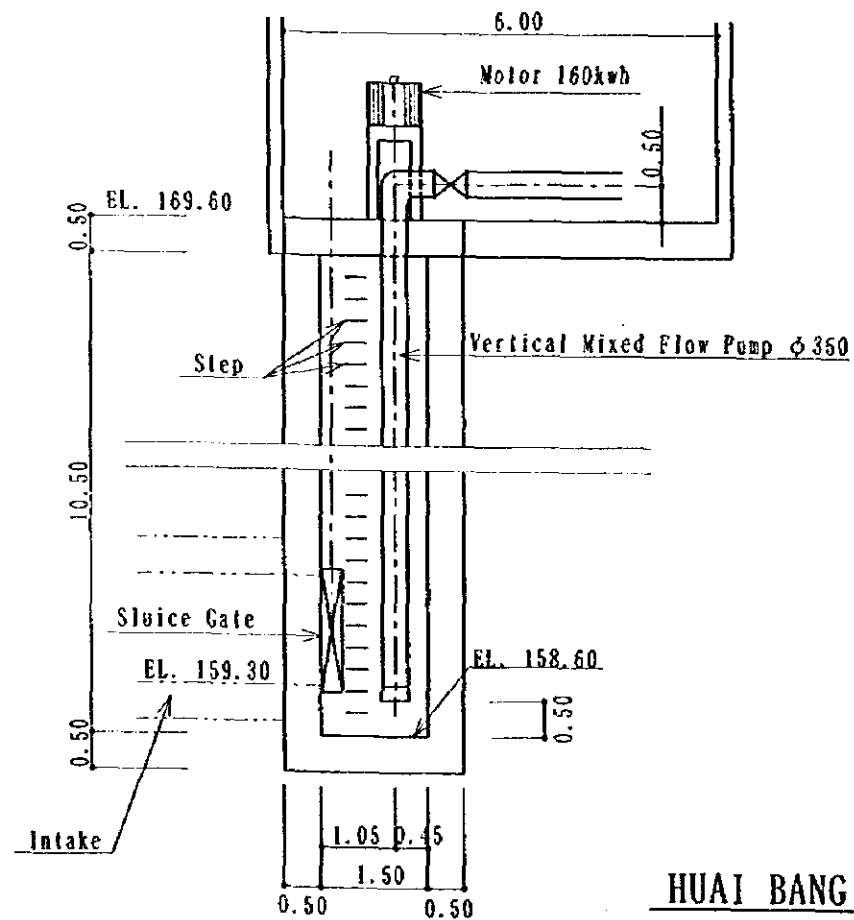
THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF HUAI BANG SAI WEIR	
DRAWING NO. 19	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



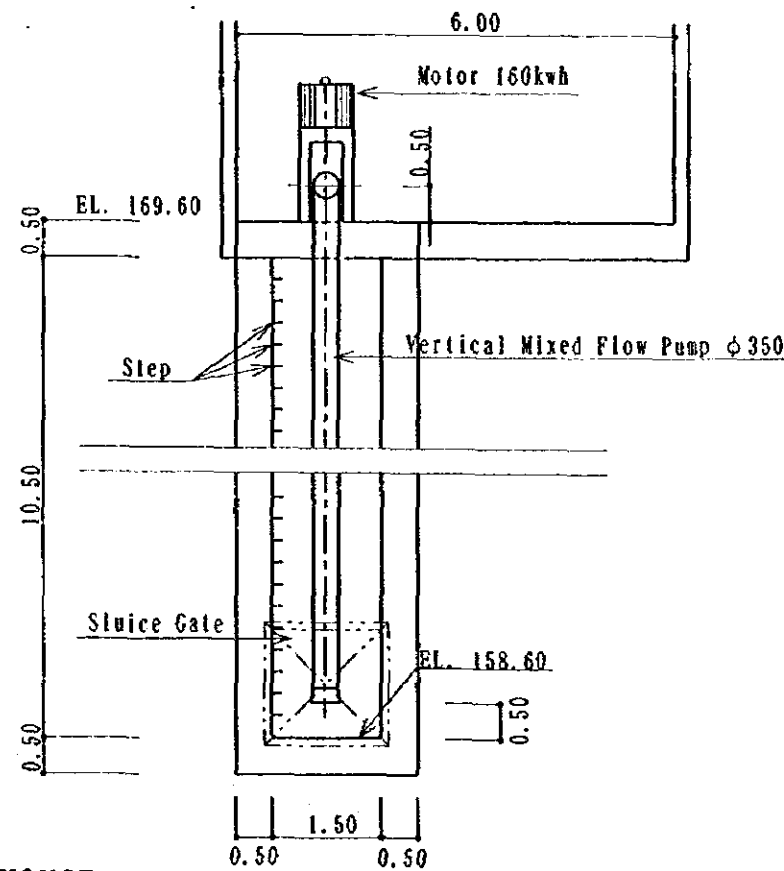
CROSS SECTION OF THE INTAKE



SECTION A - A

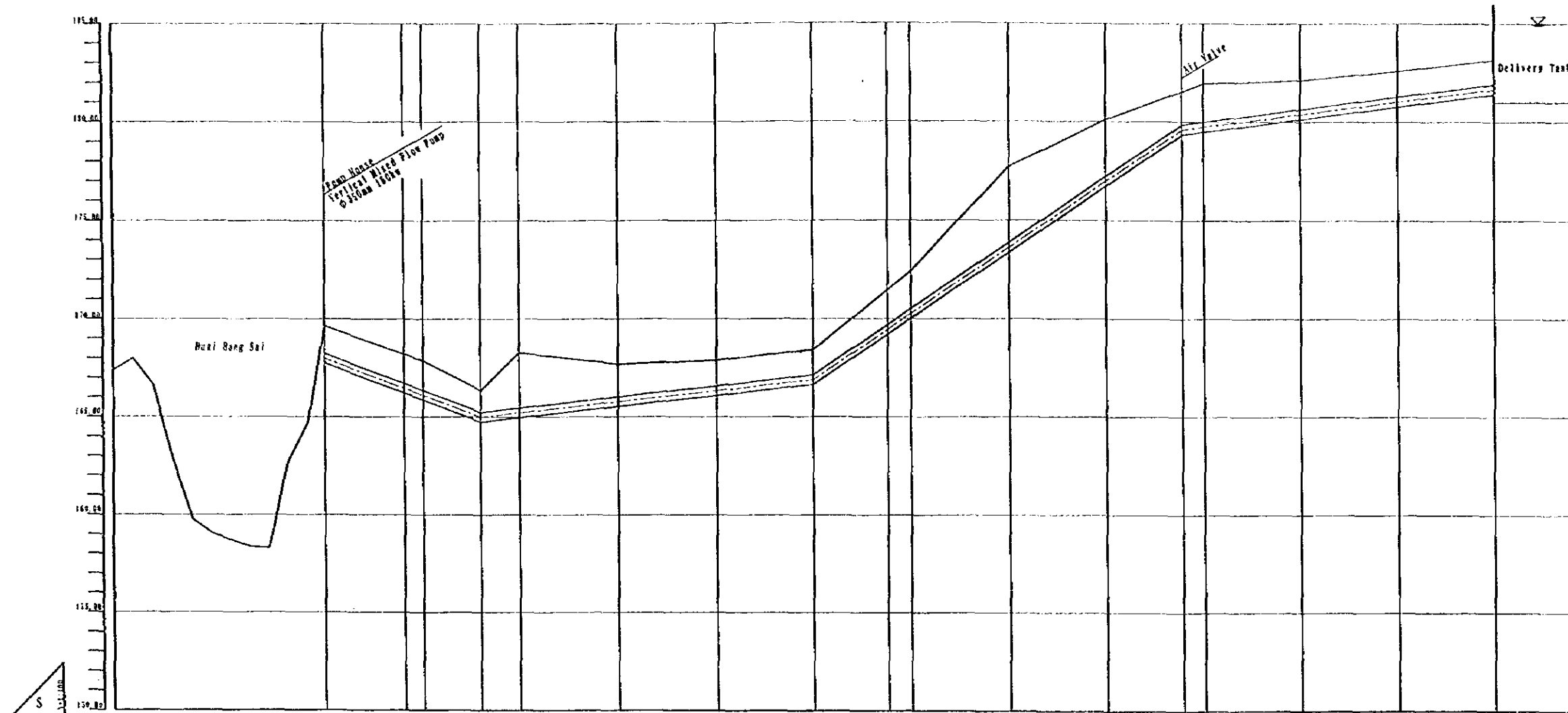


SECTION B - B



HUAI BANG SAI PUMP HOUSE

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
HUAI BANG SAI PUMP HOUSE	
DRAWING NO. 20	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



S
1:1,000

PIPE SITE DISCHARGE	PIPE CENTER ELEVATION	REGIONAL GROUND LEVEL	ACTUAL GROUND DISTANCE	STATION	PIPE CENTER ELEVATION	REGIONAL GROUND LEVEL	ACTUAL GROUND DISTANCE	STATION	PIPE CENTER ELEVATION	REGIONAL GROUND LEVEL	ACTUAL GROUND DISTANCE	STATION	PIPE CENTER ELEVATION	REGIONAL GROUND LEVEL	ACTUAL GROUND DISTANCE	STATION
			0.00	NO. 0	168.00	168.00	0.00	NO. 0	168.00	168.00	0.00	NO. 0	168.00	168.00	0.00	NO. 0
			40.00	PI. 1	166.47	166.13	40.00	PI. 1	166.47	166.13	40.00	PI. 1	166.47	166.13	40.00	PI. 1
			80.00	NO. 1	165.07	165.07	80.00	NO. 1	165.07	165.07	80.00	NO. 1	165.07	165.07	80.00	NO. 1
			120.00	NO. 2	166.85	166.85	120.00	NO. 2	166.85	166.85	120.00	NO. 2	166.85	166.85	120.00	NO. 2
			160.00	PI. 2	171.14	171.21	160.00	PI. 2	171.14	171.21	160.00	PI. 2	171.14	171.21	160.00	PI. 2
			200.00	NO. 3	177.42	177.42	200.00	NO. 3	177.42	177.42	200.00	NO. 3	177.42	177.42	200.00	NO. 3
			240.00	NO. 4	175.46	175.74	240.00	NO. 4	175.46	175.74	240.00	NO. 4	175.46	175.74	240.00	NO. 4
			280.00	PI. 3	180.28	181.02	280.00	PI. 3	180.28	181.02	280.00	PI. 3	180.28	181.02	280.00	PI. 3
			320.00	NO. 5	181.91	181.91	320.00	NO. 5	181.91	181.91	320.00	NO. 5	181.91	181.91	320.00	NO. 5
			360.00	NO. 6	181.91	181.91	360.00	NO. 6	181.91	181.91	360.00	NO. 6	181.91	181.91	360.00	NO. 6
			400.00	NO. 7	181.91	181.91	400.00	NO. 7	181.91	181.91	400.00	NO. 7	181.91	181.91	400.00	NO. 7

LONGITUDINAL SECTION OF H'AI BANG SAI PIPE LINE

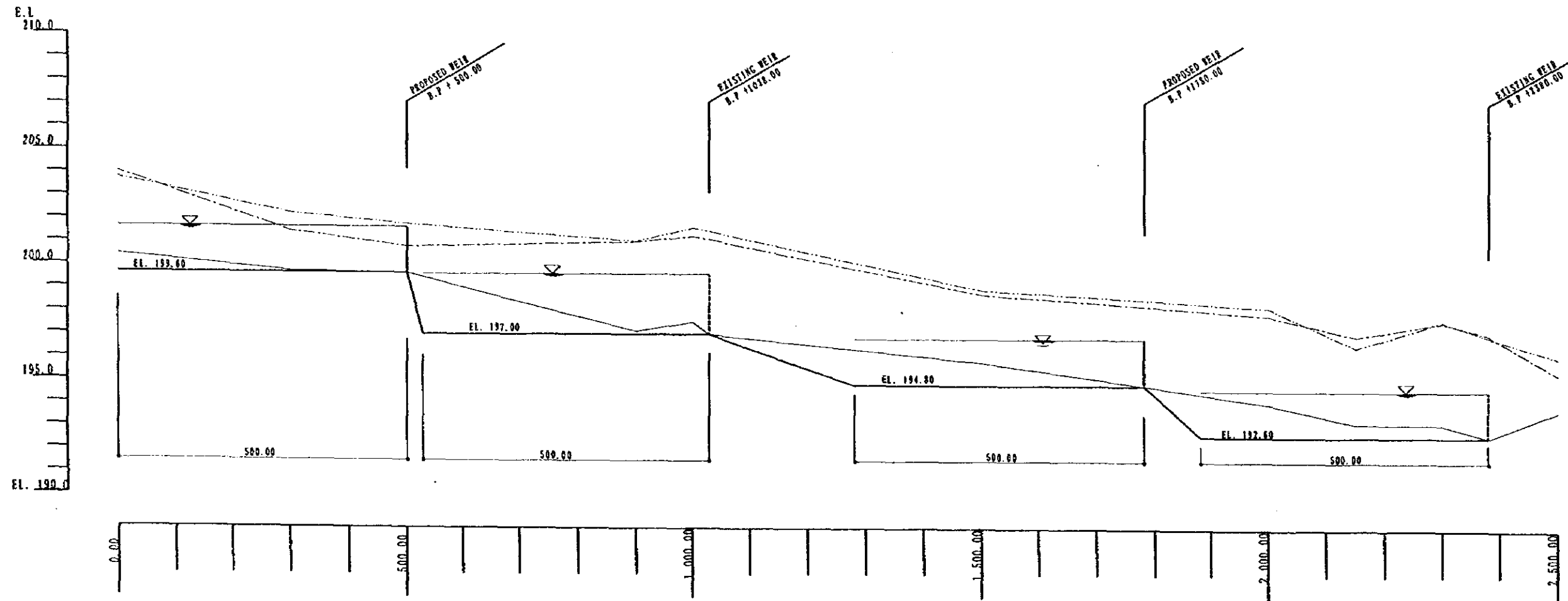
THE FEASIBILITY STUDY
THE INTEGRATED AGRICULTURE DEVELOPMENT
THE AGRICULTURAL LAND REFORM AREAS
THE UPPER NORTHEASTERN REGION

LONGITUDINAL SECTION OF
H'AI BANG SAI PIPE LINE

DRAWING NO. 21 MARCH, 1998

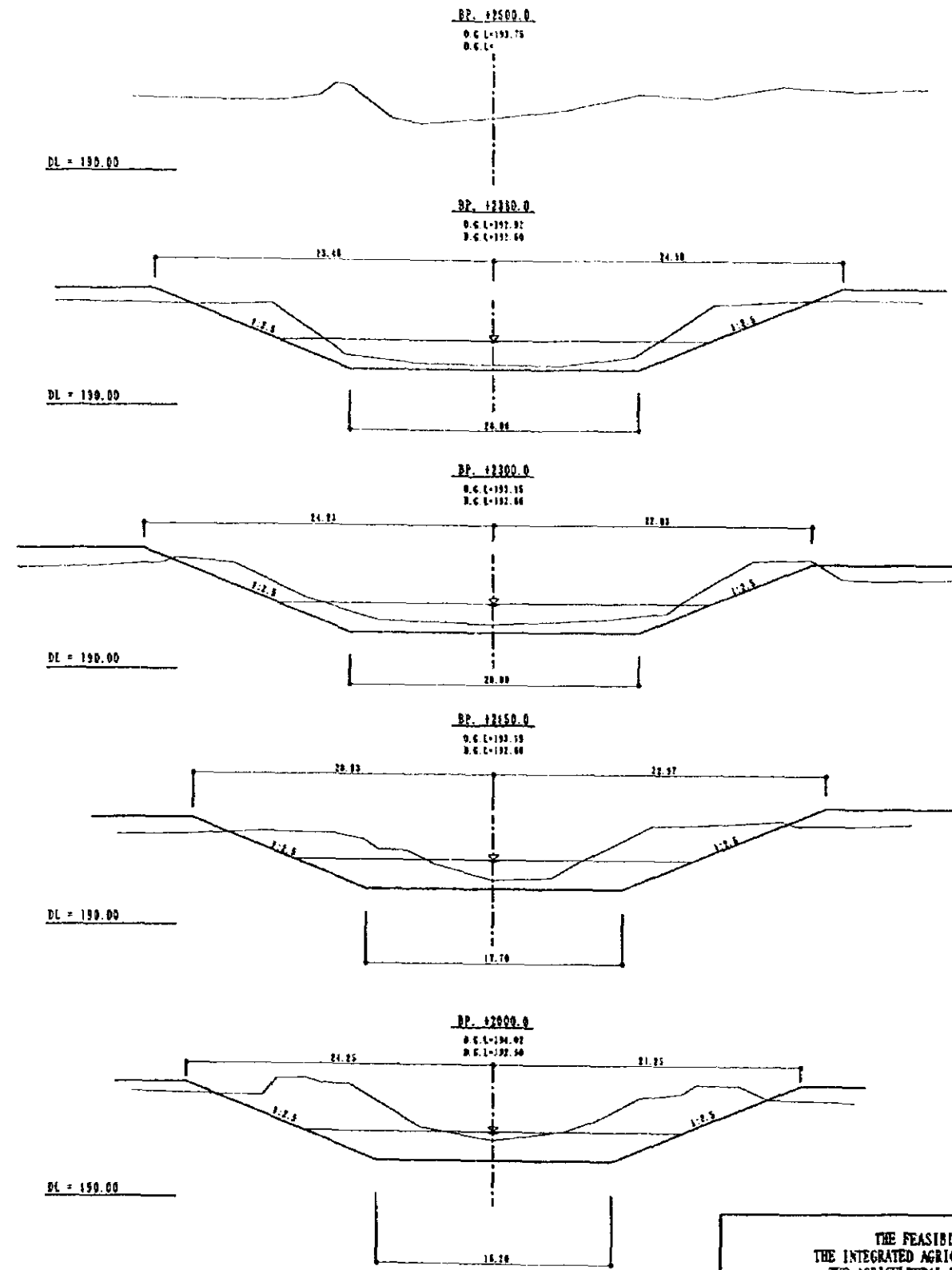
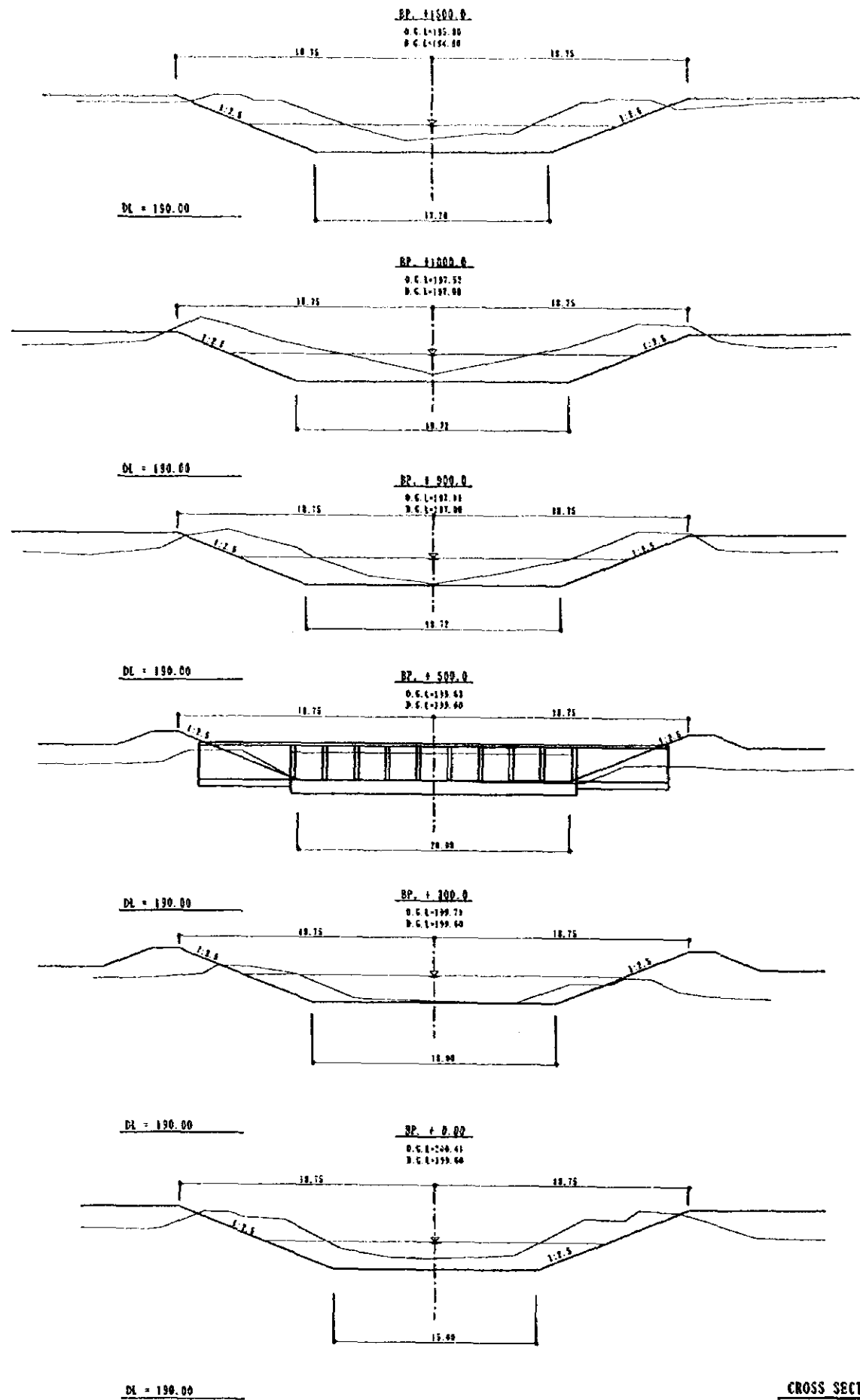
JAPAN INTERNATIONAL COOPERATION AGENCY

ORIGINAL RIVER BED LINE
LEFT BANK DUNE LEVEL
RIGHT BANK DUNE LEVEL
DESIGNED RIVER BED LINE



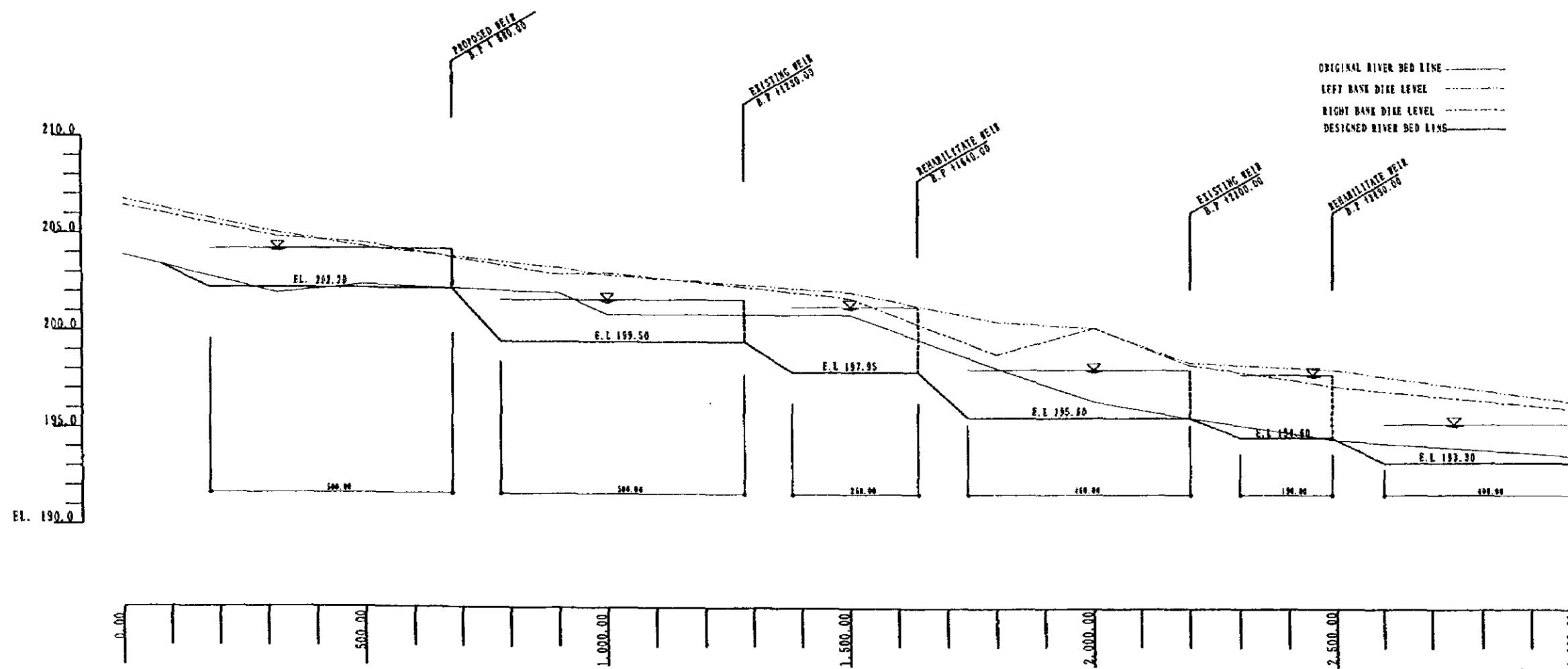
LONGITUDINAL SECTION OF HUAL KHAN

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF HUAL KHAN	
DRAWING NO. 22	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



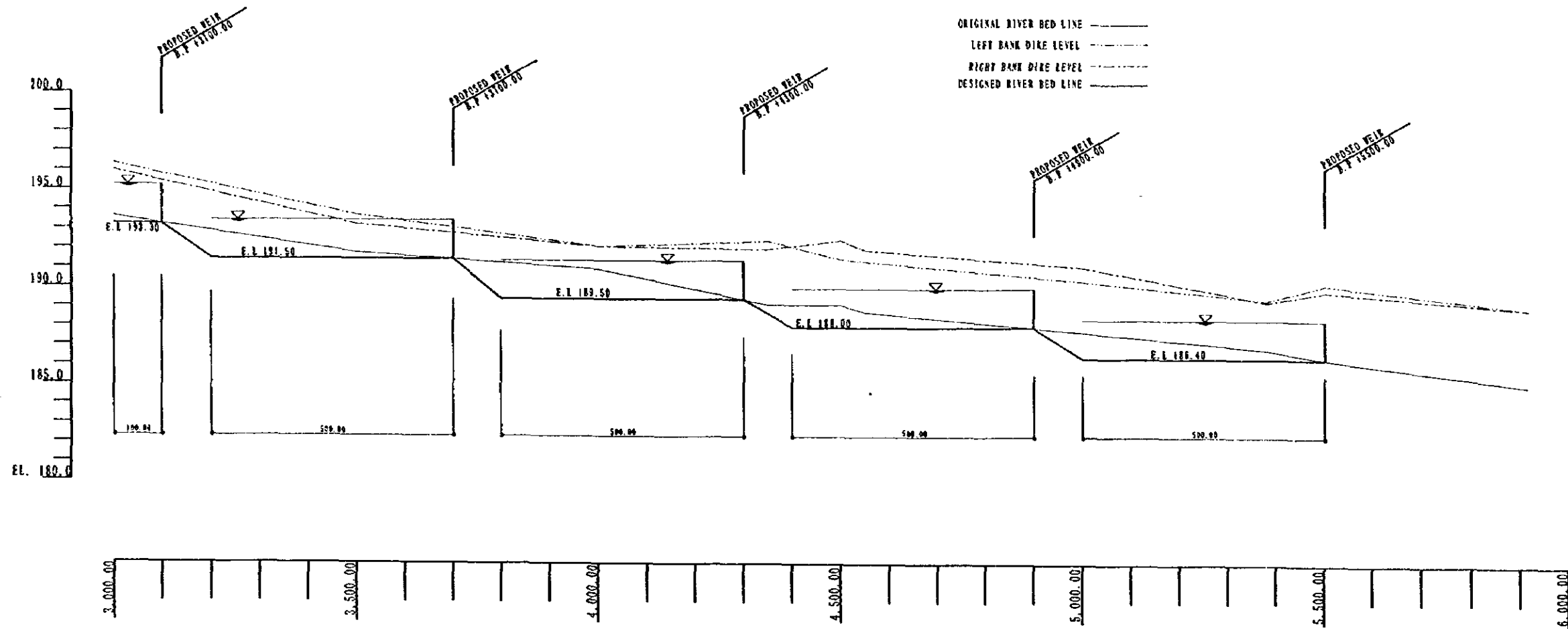
CROSS SECTION OF HUAI KHAN

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF HUAI KHAN	
DRAWING NO. 23	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



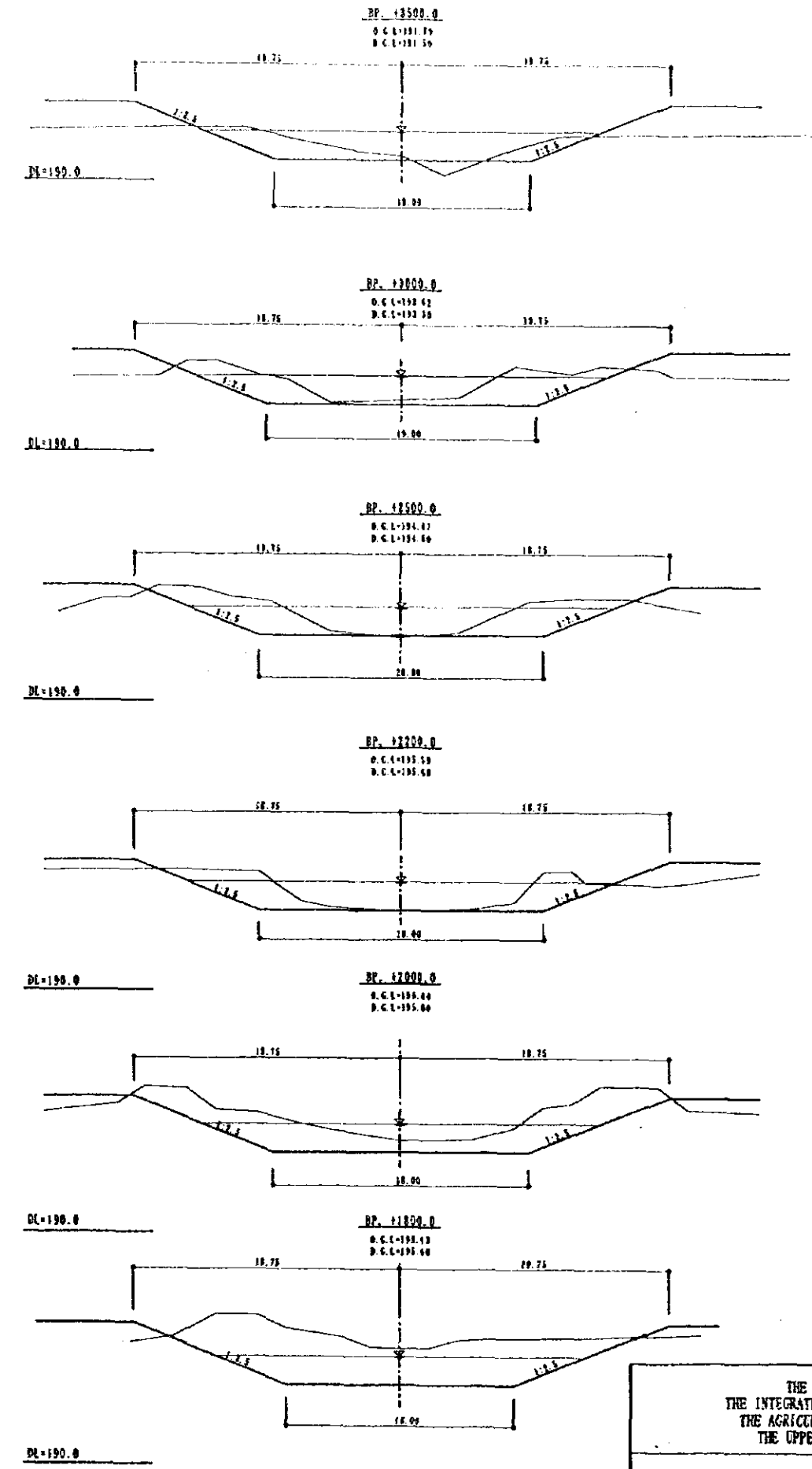
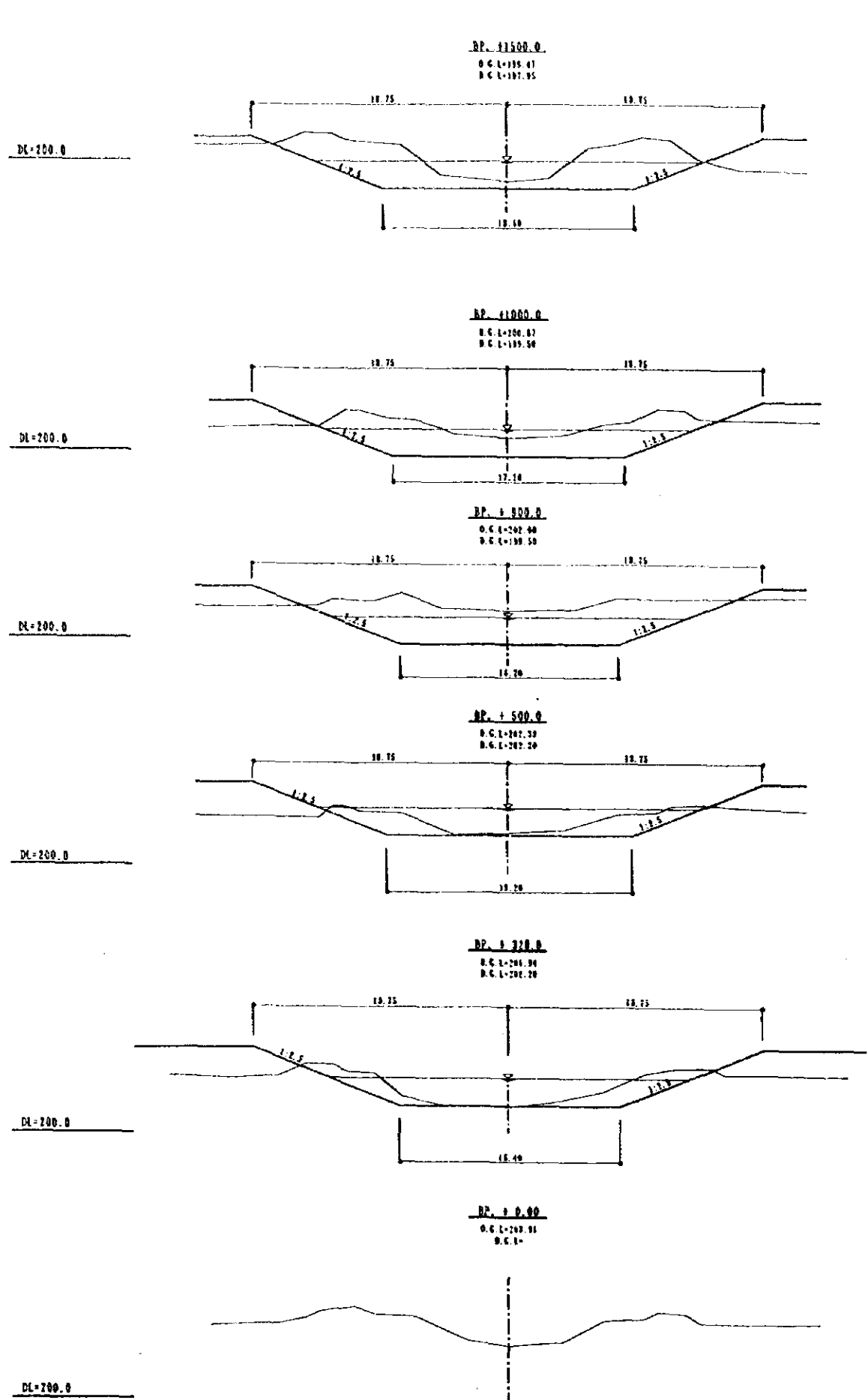
LONGITUDINAL SECTION OF HUAI SUA THAO NOI (1/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF HUAI SUA THAO NOI (1/2)	
DRAWING NO. 24	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



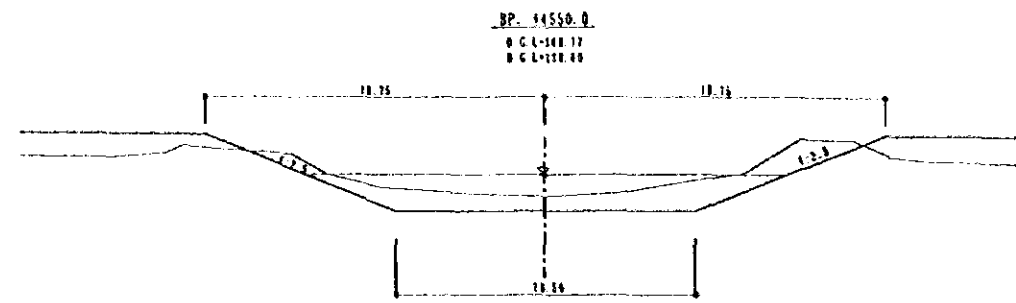
LONGITUDINAL SECTION OF HUAI SUA THAO NOI (2/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF HUAI SUA THAO NOI (2/2)	
DRAWING NO. 25	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

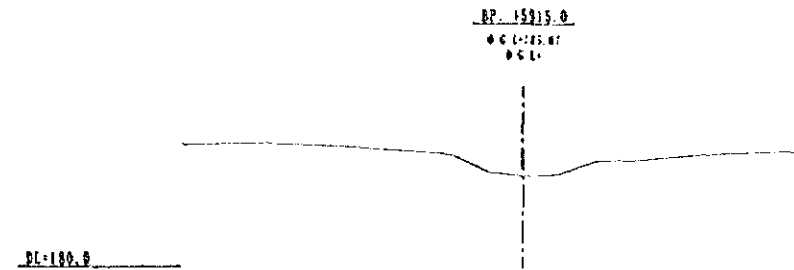


CROSS SECTION OF HUAL SUA THAO NOI (1/2).

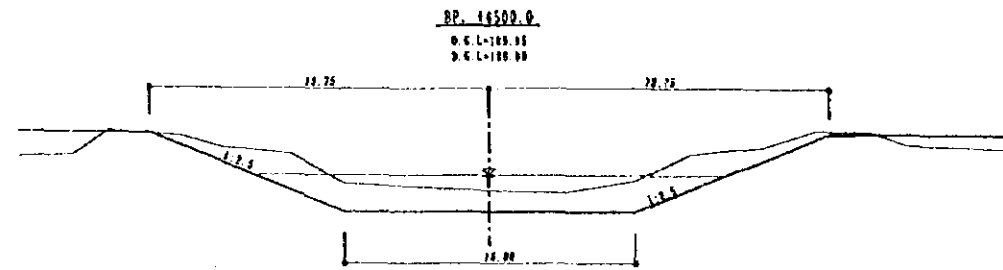
THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF HUAL SUA THAO NOI (1/2)	
DRAWING NO. 26	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



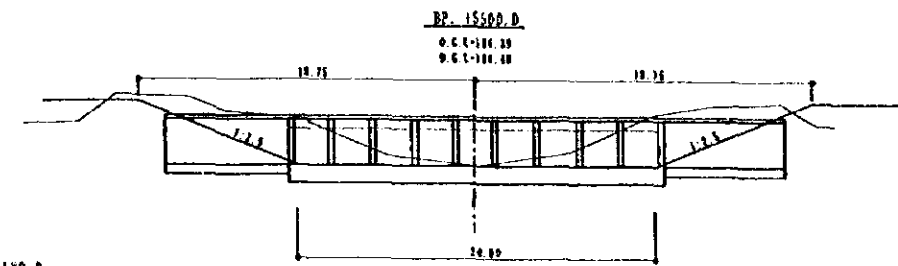
DL=180.0



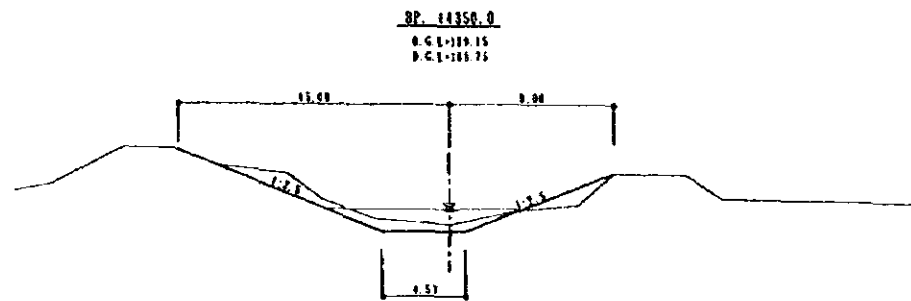
DL=180.0



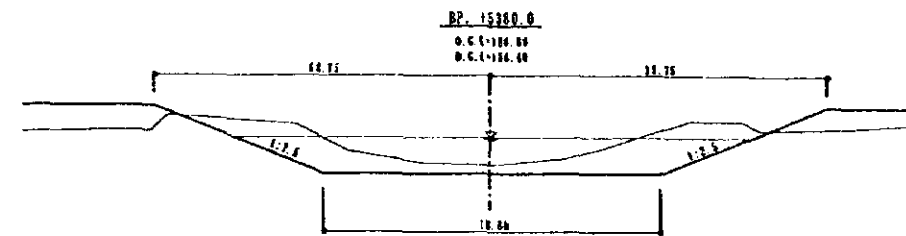
DL=180.0



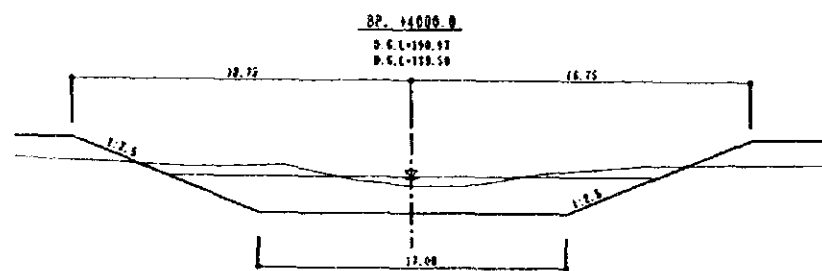
DL=180.0



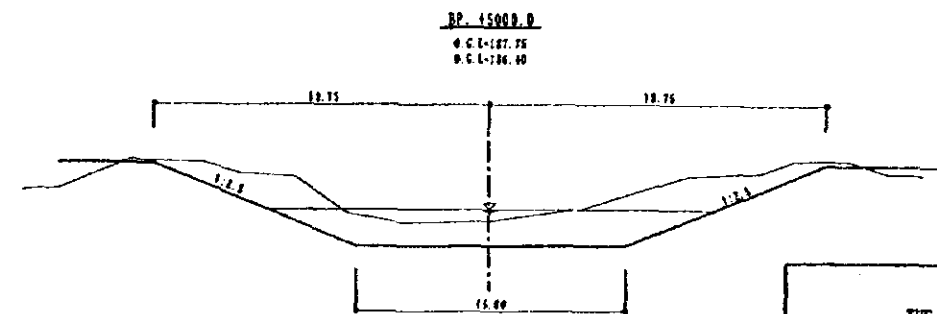
DL=180.0



DL=180.0



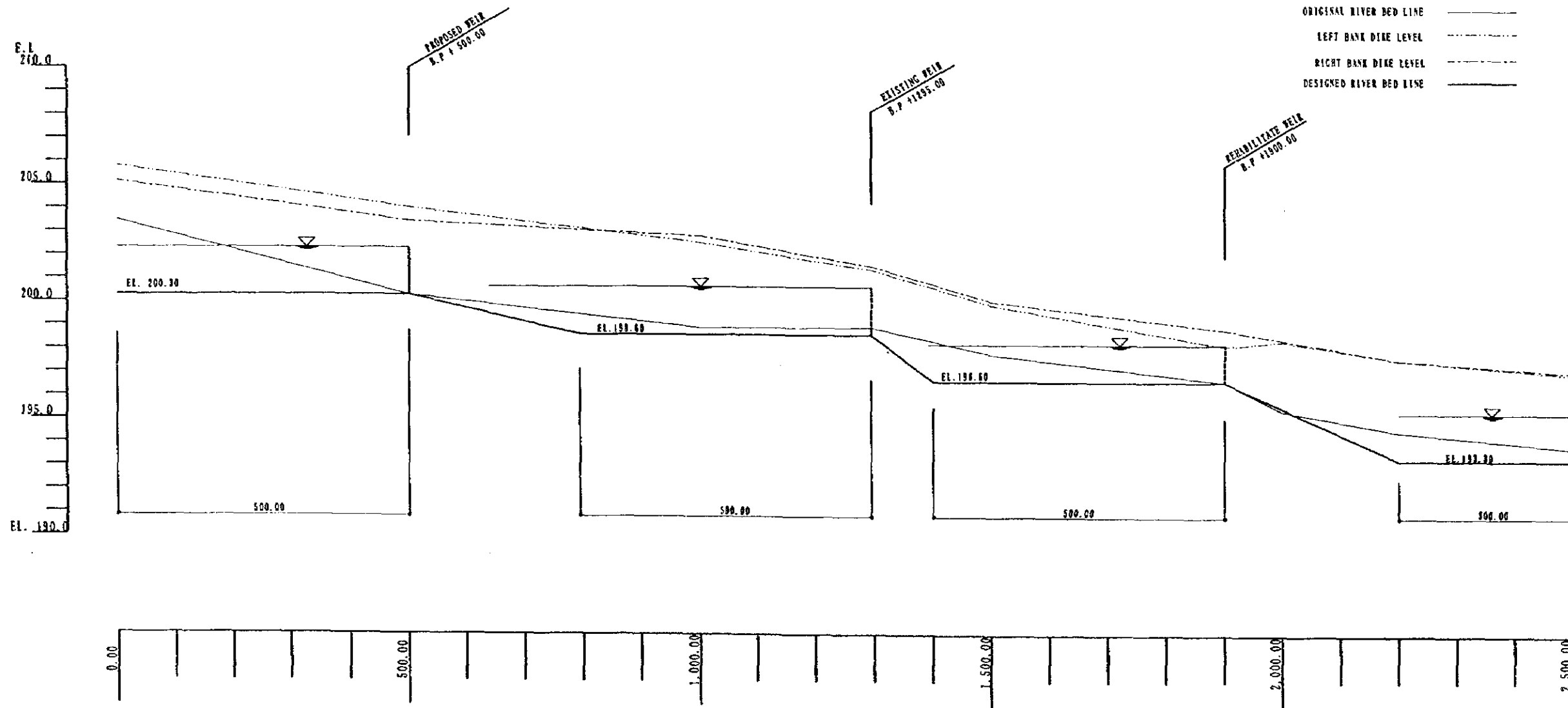
DL=180.0



DL=180.0

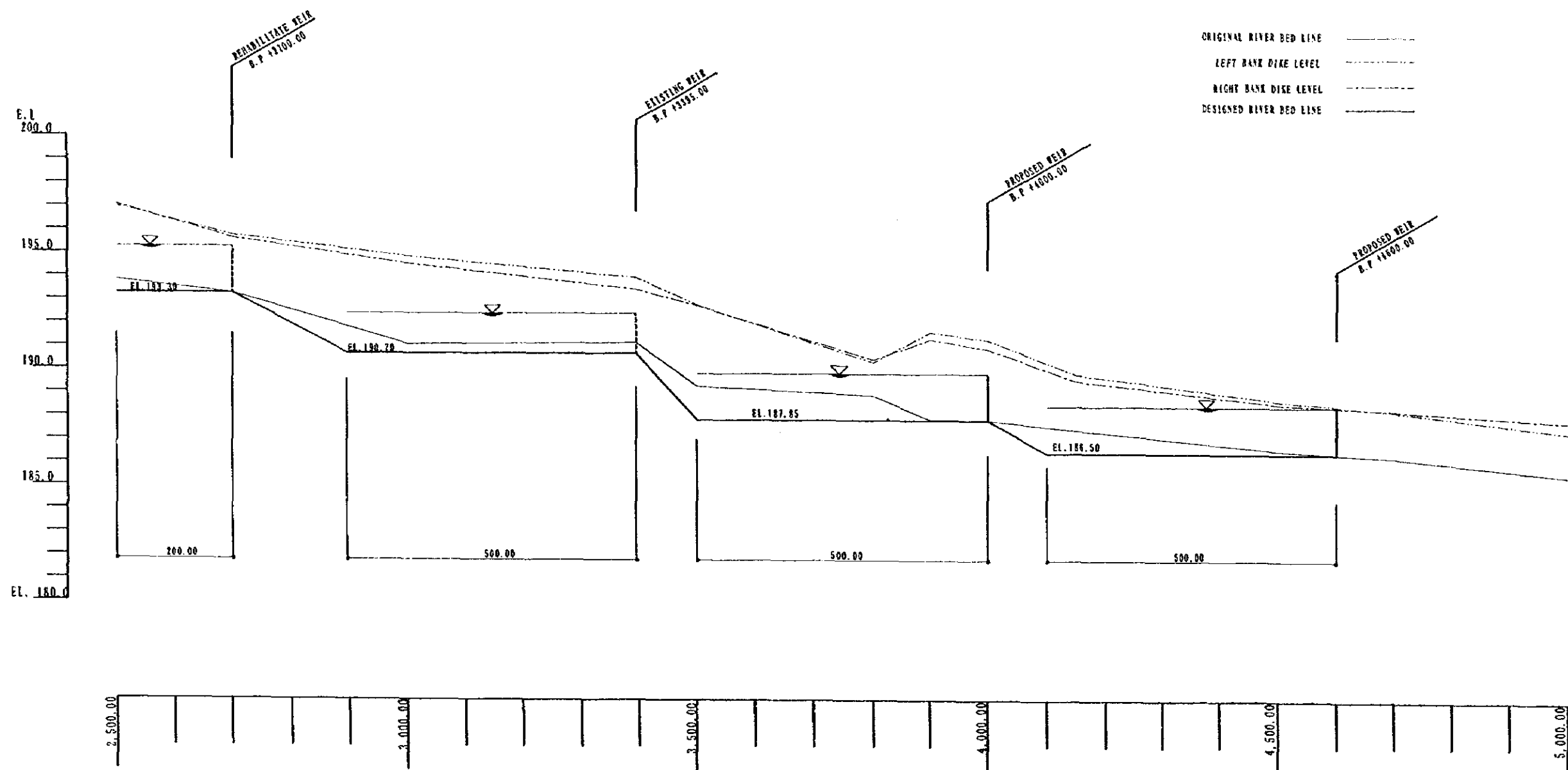
CROSS SECTION OF Hwai SUA THAO NOI (2/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF Hwai SUA THAO NOI (2/2)	
DRAWING NO. 27	MARCH. 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



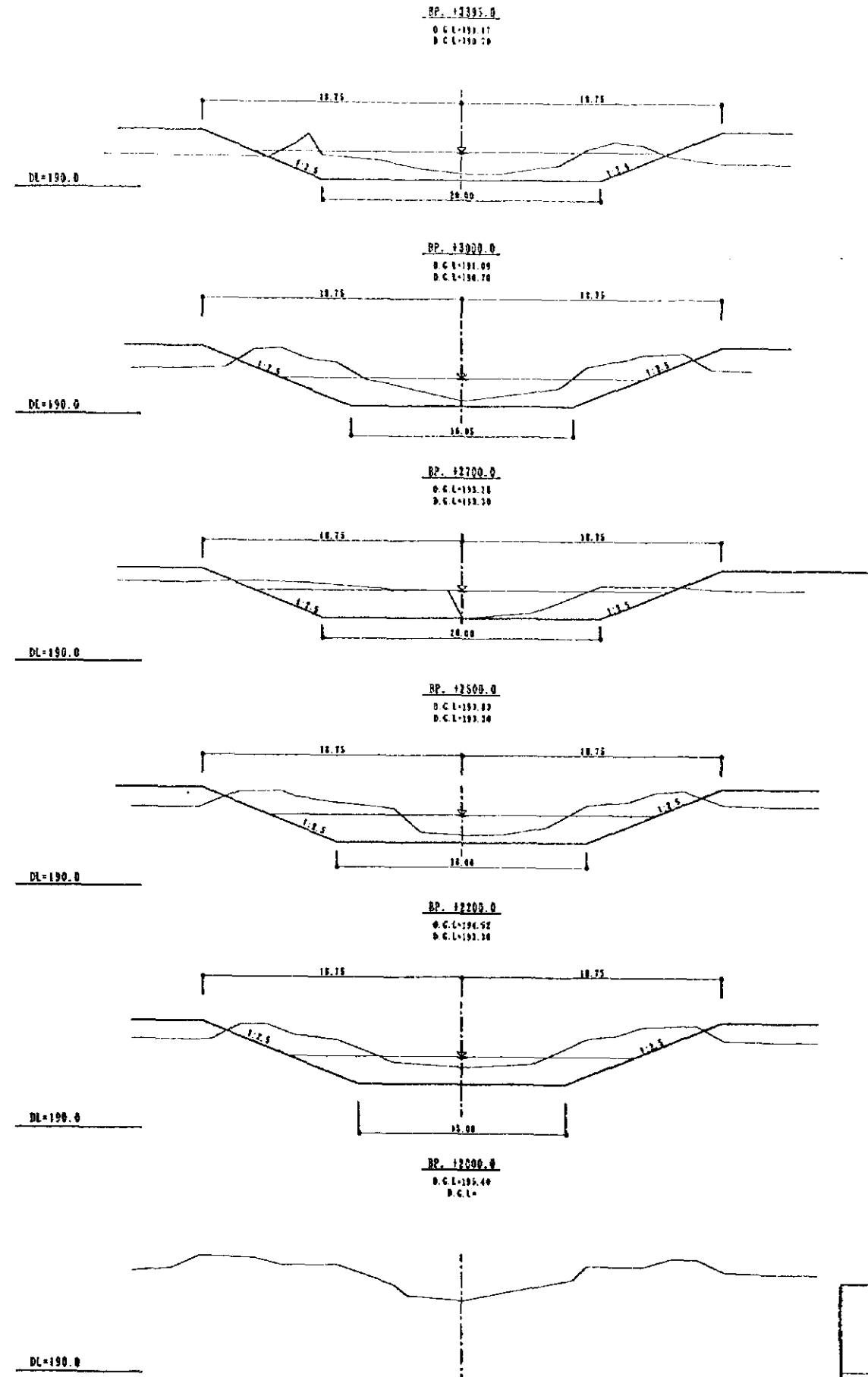
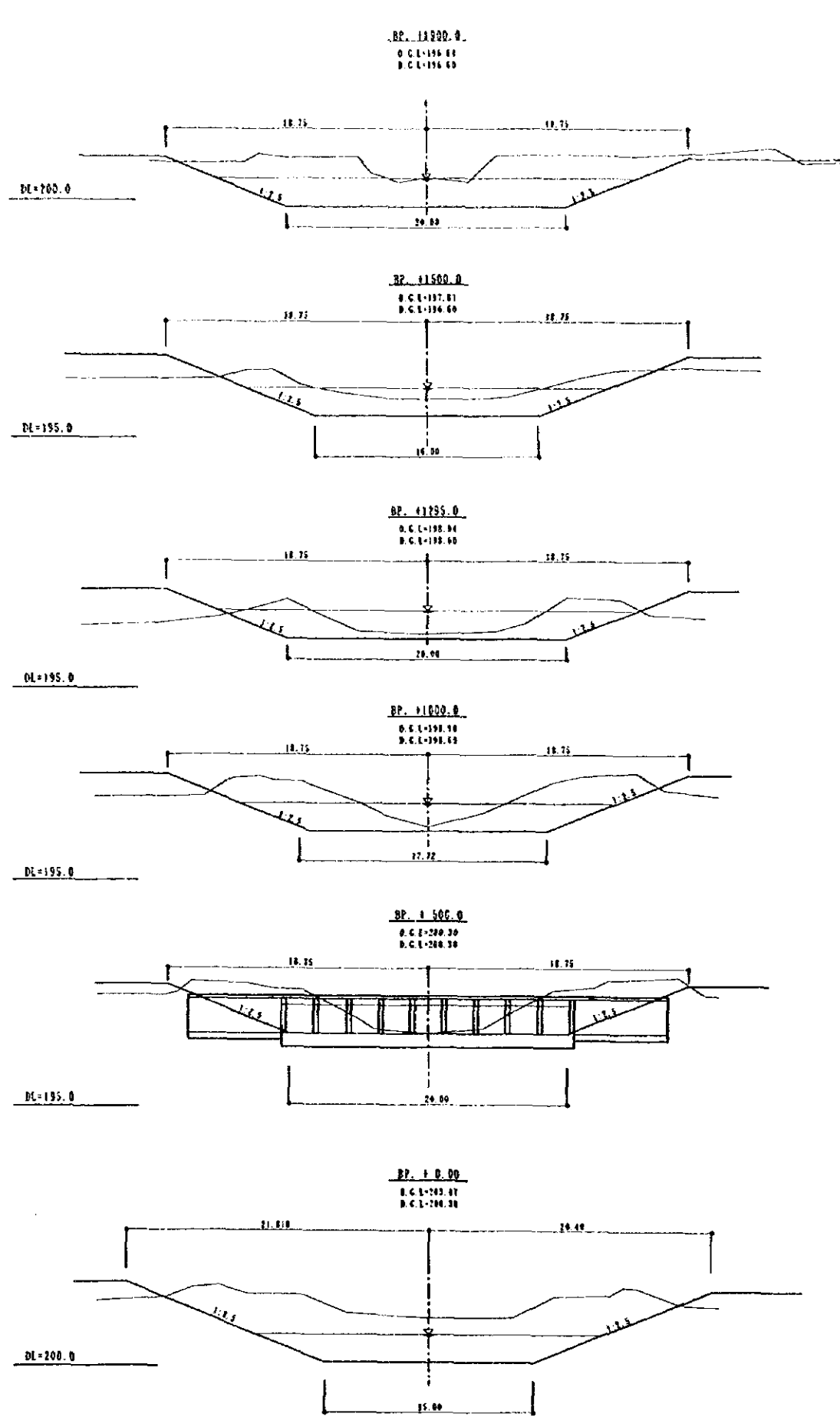
LONGITUDINAL SECTION OF HUAI SUA THAO YAI (1/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF HUAI SUA THAO YAI (1/2)	
DRAWING NO. 28	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



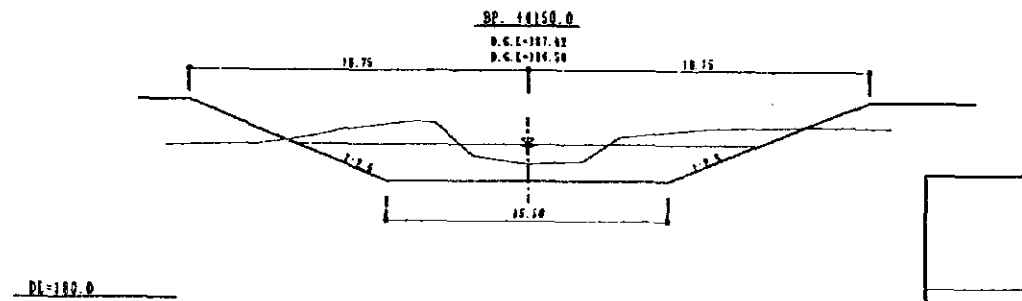
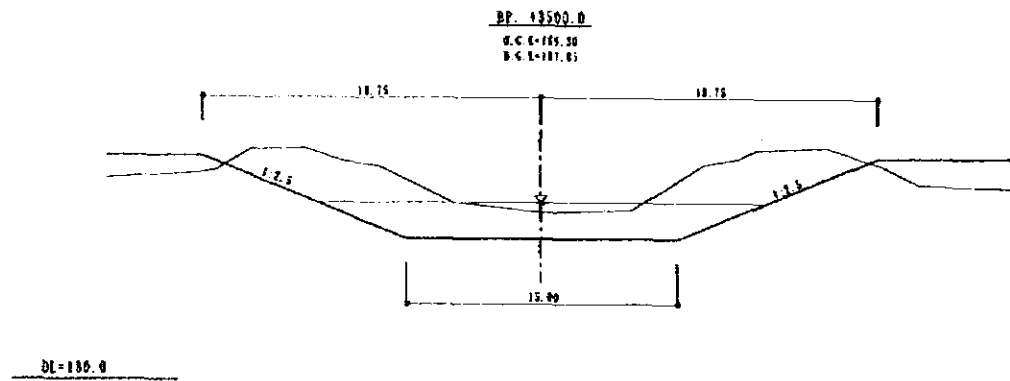
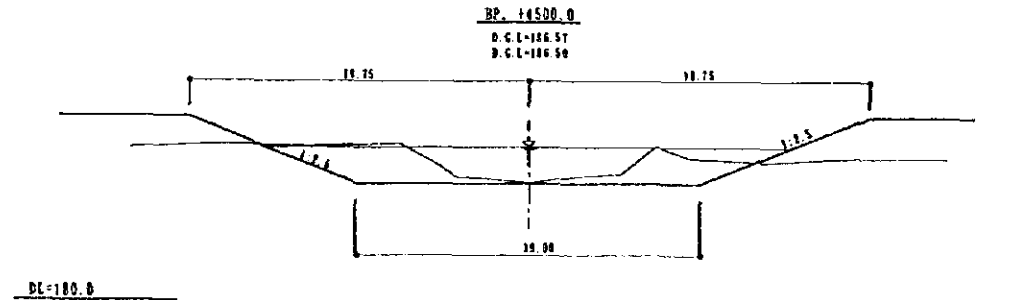
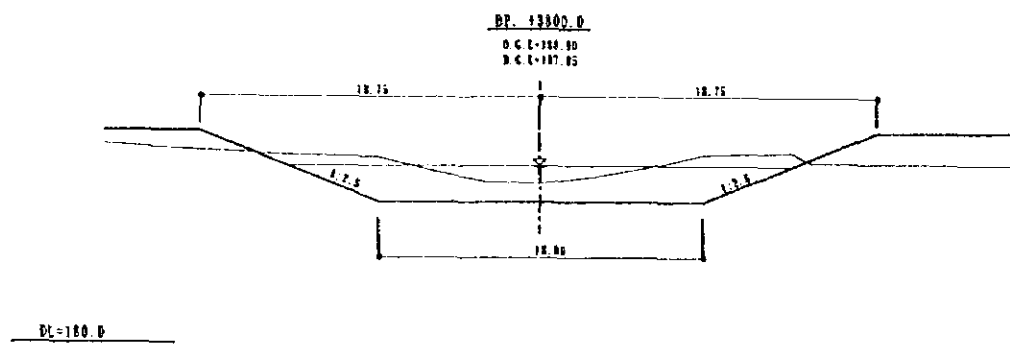
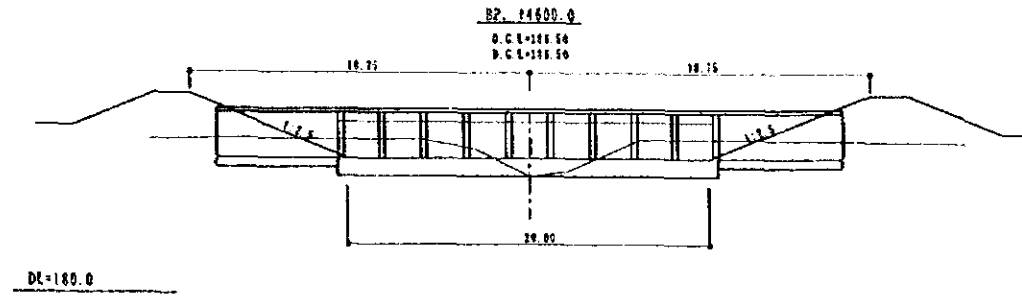
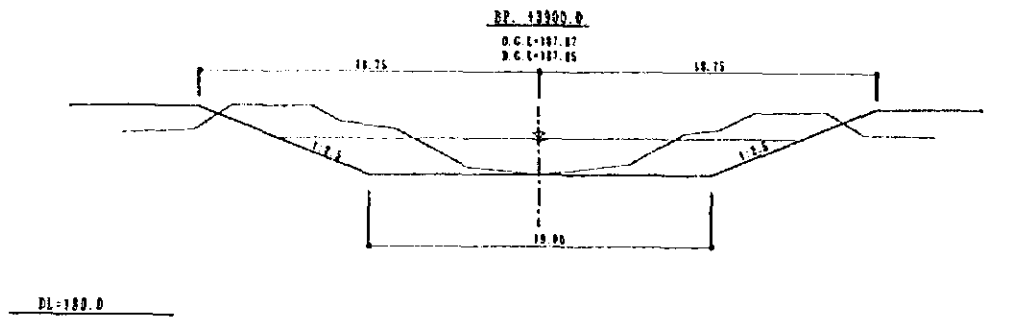
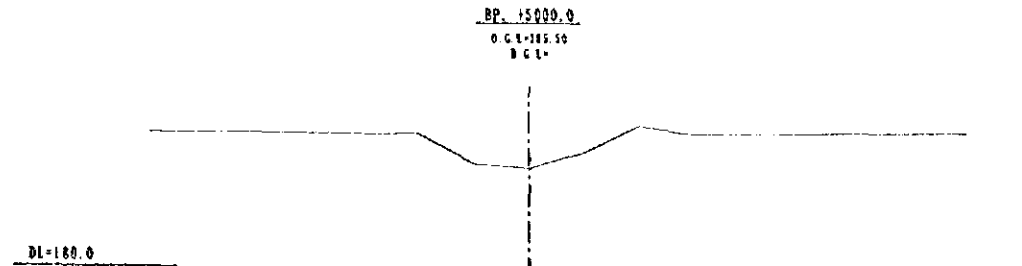
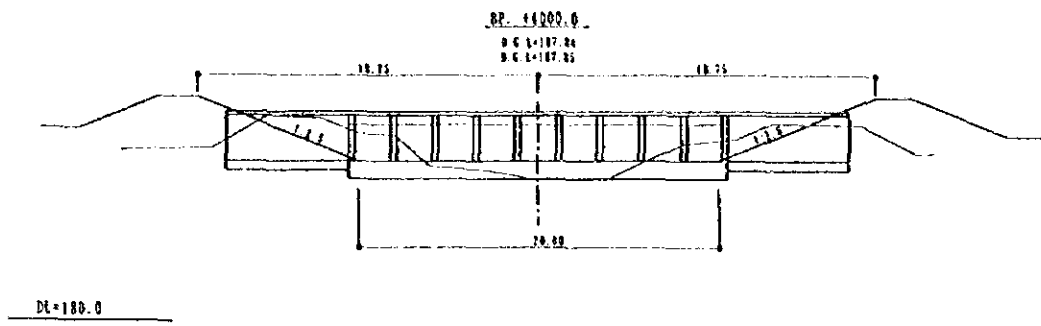
LONGITUDINAL SECTION OF HUAI SUA THAO YAI (2/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF HUAI SUA THAO YAI (2/2)	
DRAWING NO. 29	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



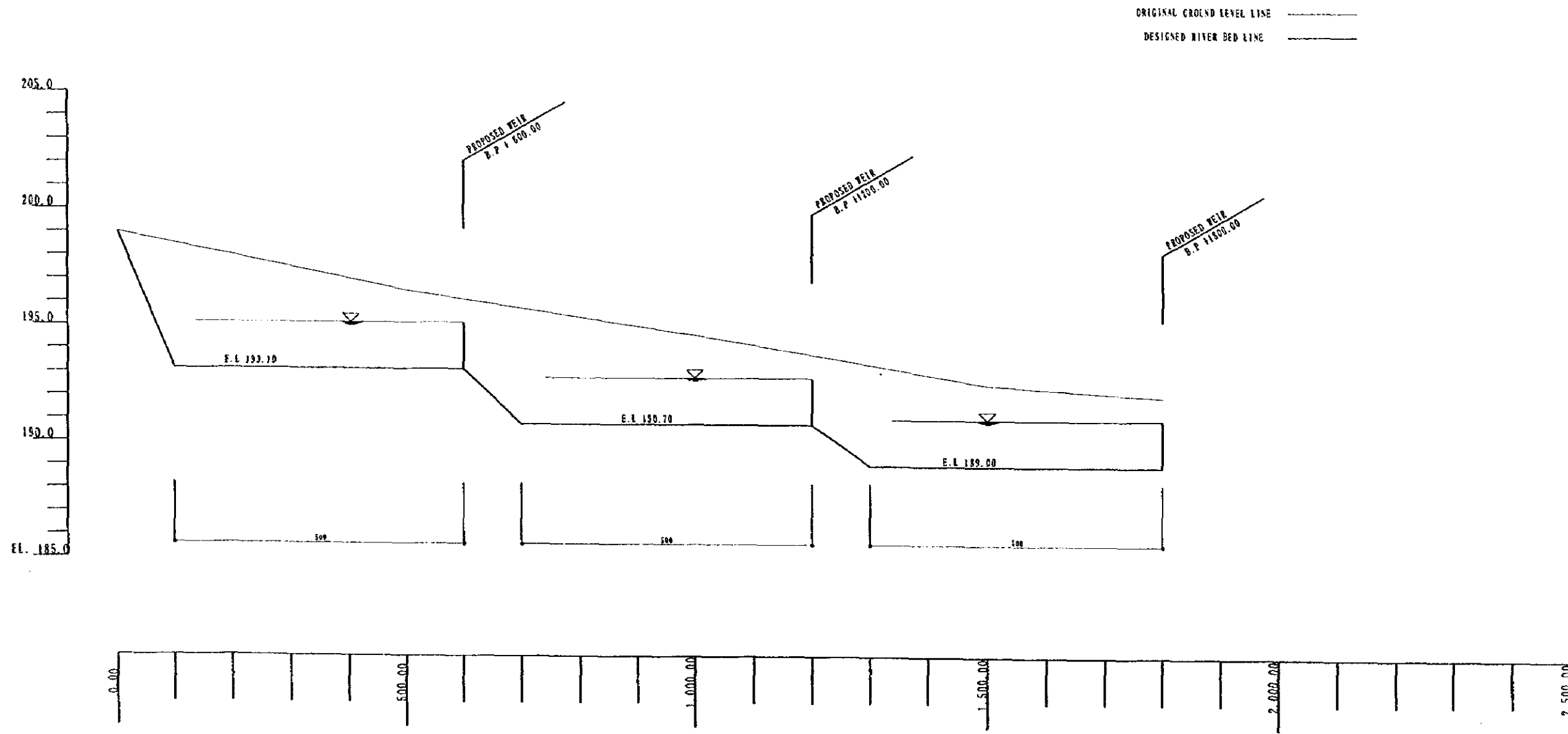
CROSS SECTION OF HUAI SUA THAO YAI (1/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF HUAI SUA THAO YAI (1/2)	
DRAWING NO. 30	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



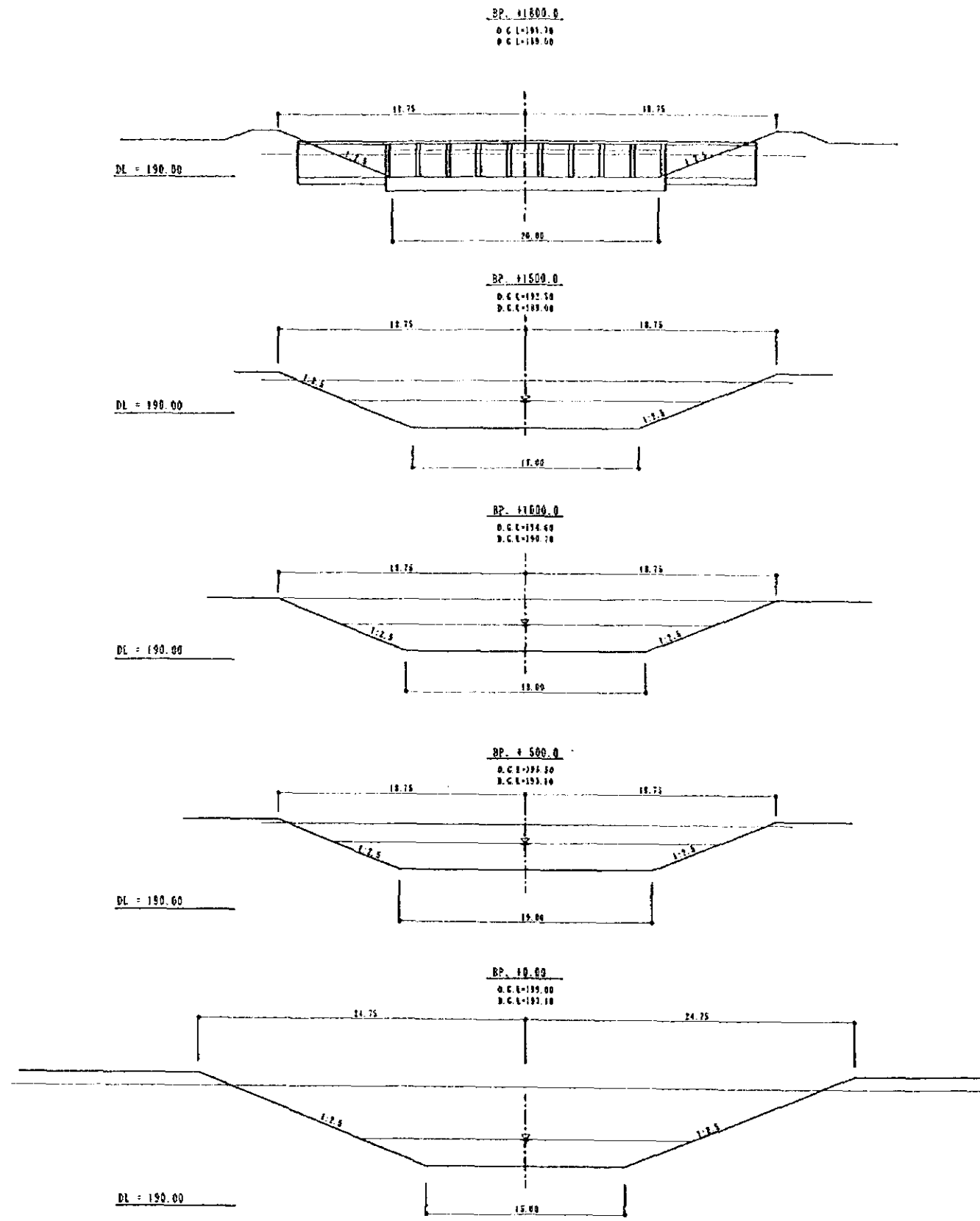
CROSS SECTION OF HUAI SUA THAO YAI (2/2)

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF HUAI SUA THAO YAI (2/2)	
DRAWING NO. 31	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



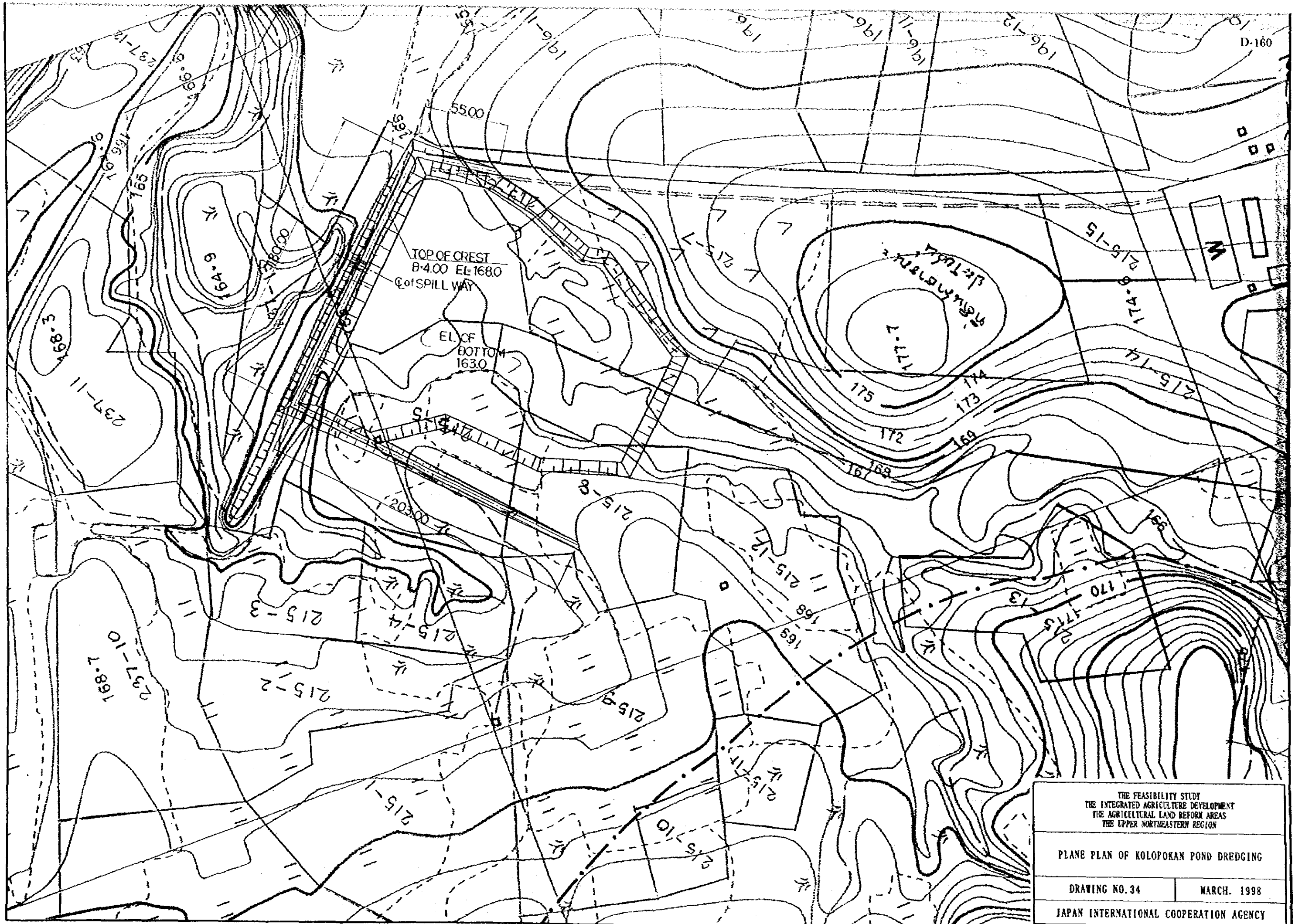
LONGITUDINAL SECTION OF HUAI LAK DAN

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
LONGITUDINAL SECTION OF HUAI LAK DAN	
DRAWING NO. 32	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



CROSS SECTION OF HUAI LAK DAN

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
CROSS SECTION OF HUAI LAK DAN	
DRAWING NO. 33	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



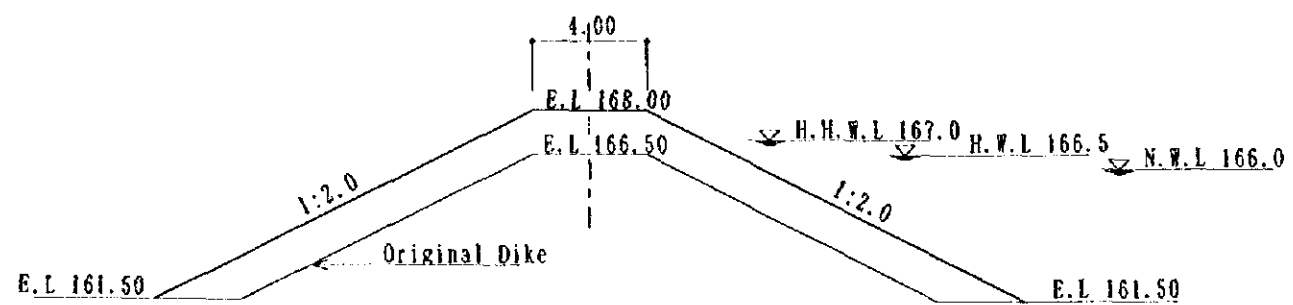
THE FEASIBILITY STUDY
 THE INTEGRATED AGRICULTURE DEVELOPMENT
 THE AGRICULTURAL LAND REFORM AREAS
 THE UPPER NORTHEASTERN REGION

PLANE PLAN OF KOLOPOKAN POND DREDGING

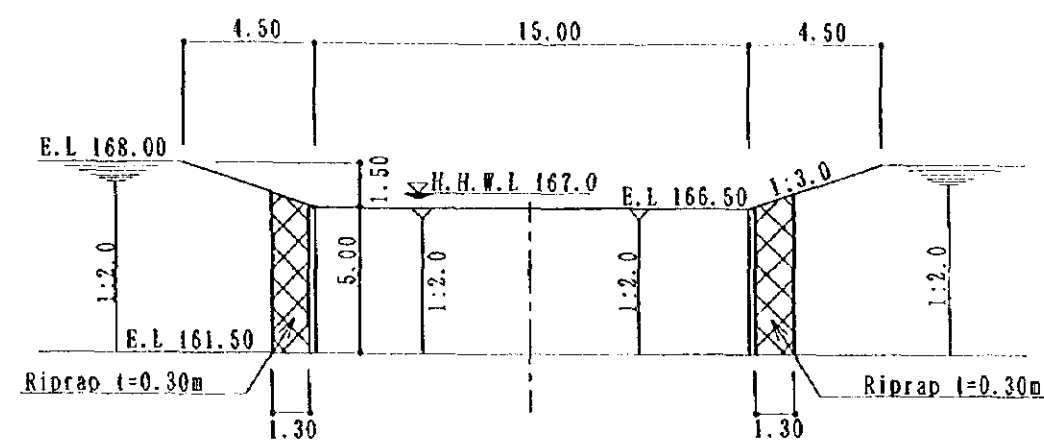
DRAWING NO. 34 MARCH, 1998

JAPAN INTERNATIONAL COOPERATION AGENCY

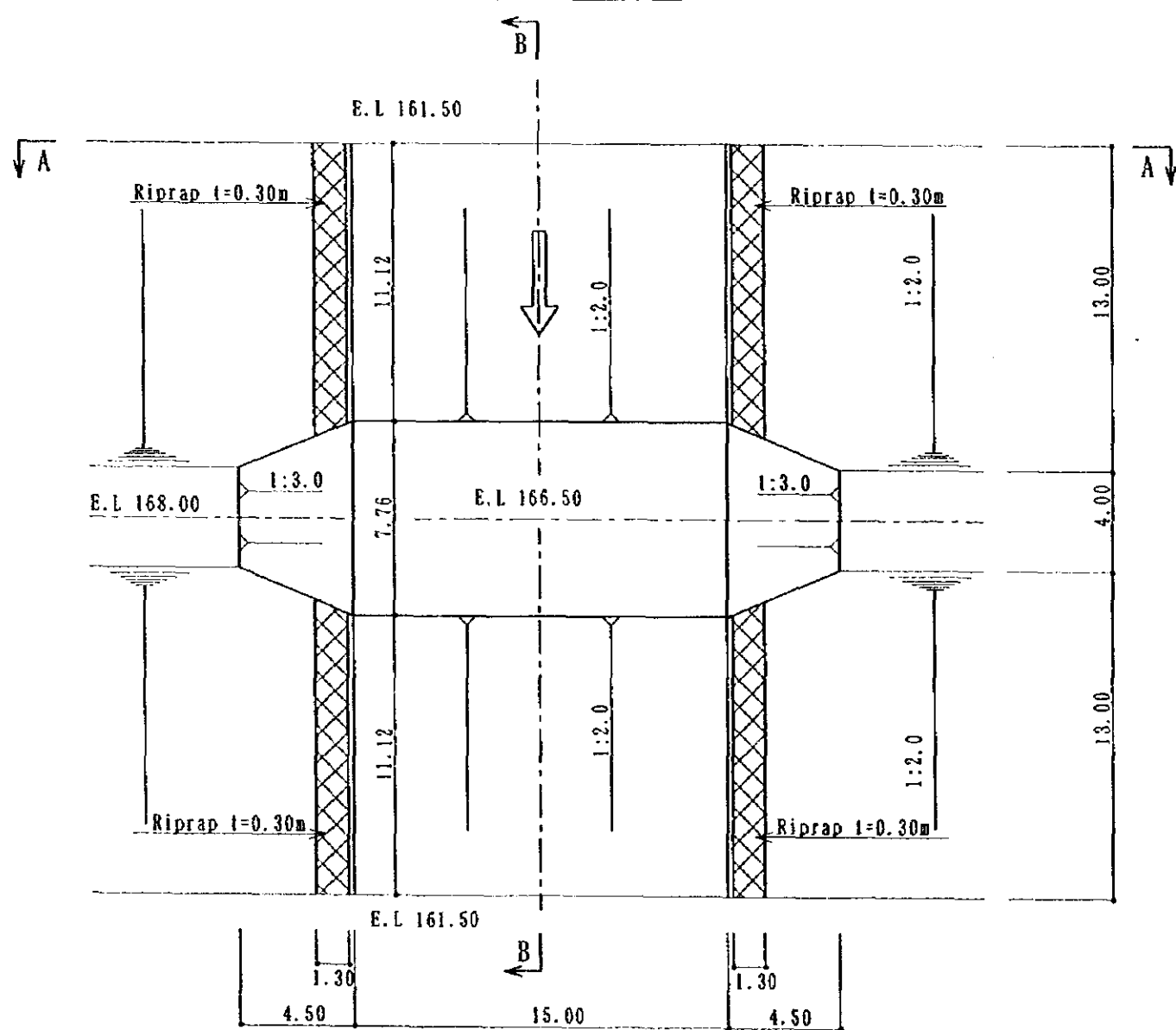
TYPICAL CROSS SECTION OF DIKE



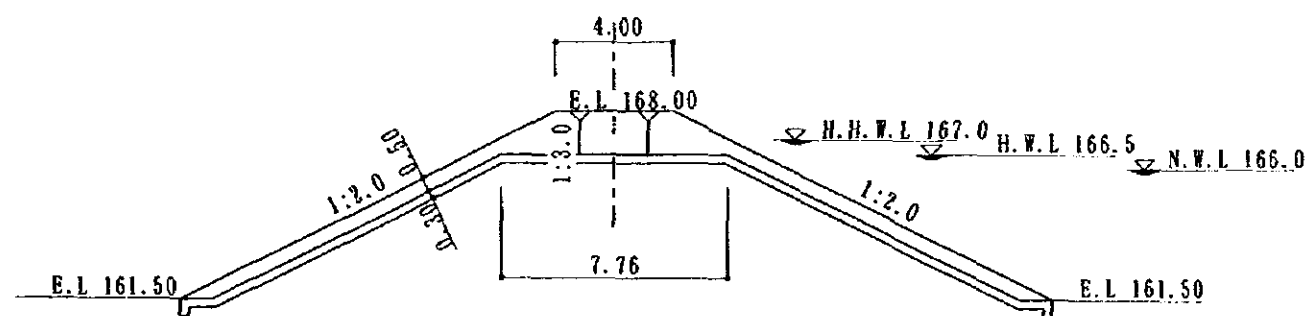
SECTION A - A



PLANE PLAN OF SPILLWAY

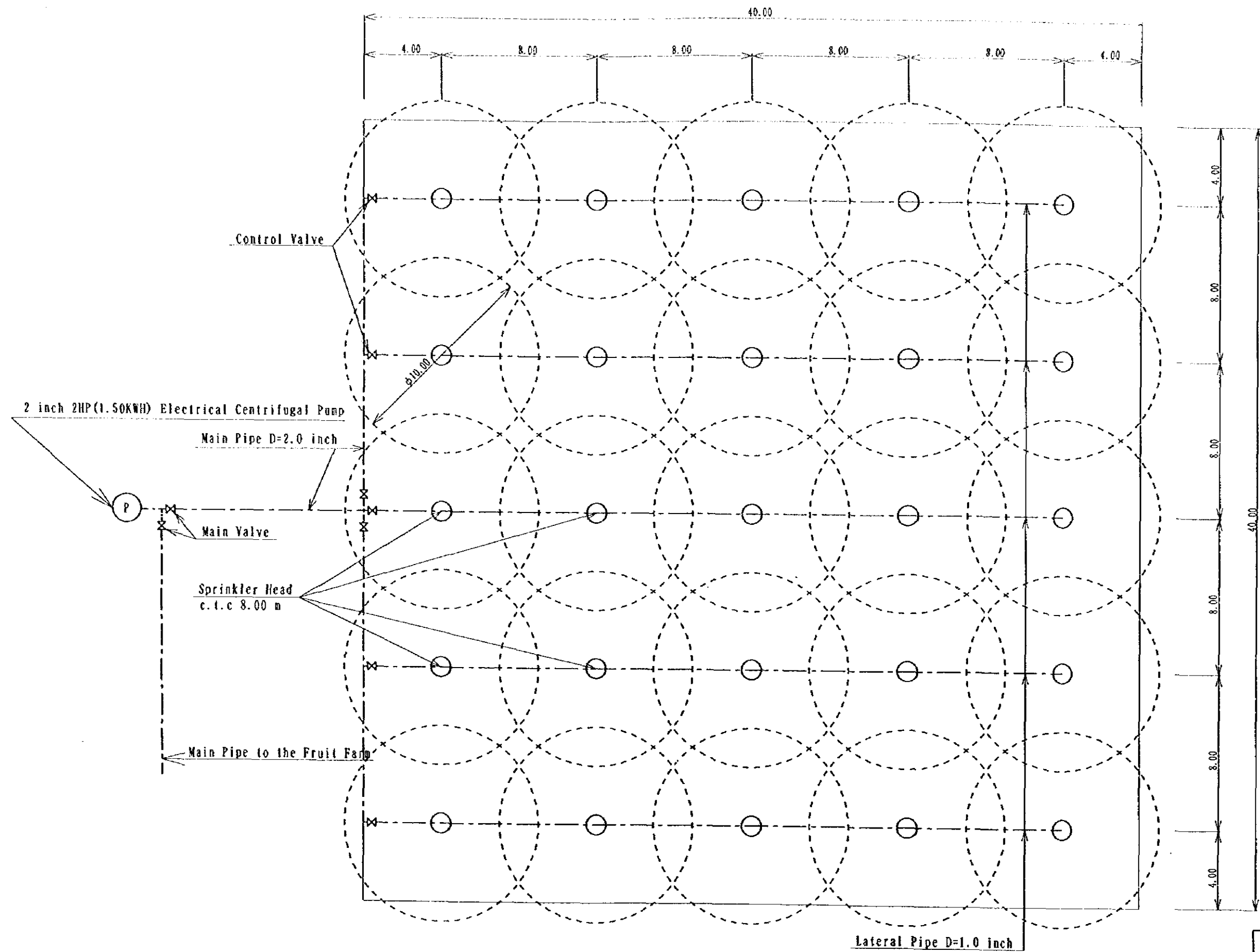


SECTION B - B



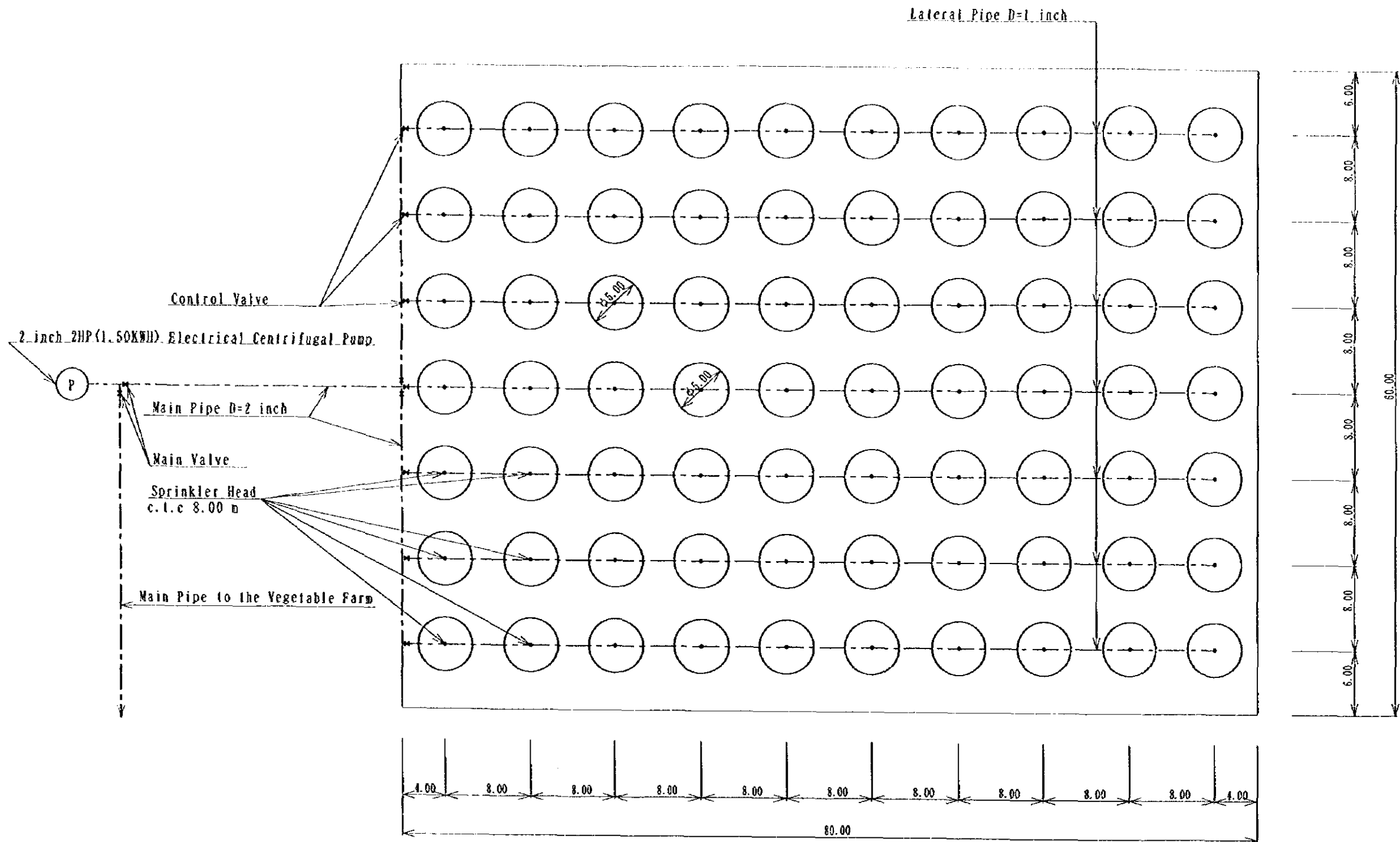
REHABILITATION OF KOLOPOKAN COMMUNITY POND

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
DETAILS OF KOLOPOKAN POND REHABILITATION	
DRAWING NO. 35	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

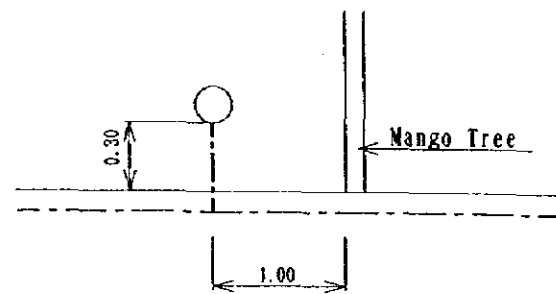


Typical Layout of Sprinkler For 1.0 rai Vegetable Farm

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
TYPICAL LAYOUT OF SPRINKLER (1/2)	
DRAWING NO. 36	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	



Plane Plan



Position of Sprinkler Head

Typical Layout of Sprinkler For 3.0 rai Fruit Tree Farm

THE FEASIBILITY STUDY THE INTEGRATED AGRICULTURE DEVELOPMENT THE AGRICULTURAL LAND REFORM AREAS THE UPPER NORTHEASTERN REGION	
TYPICAL LAYOUT OF SPRINKLER (2/2)	
DRAWING NO.37	MARCH, 1998
JAPAN INTERNATIONAL COOPERATION AGENCY	

