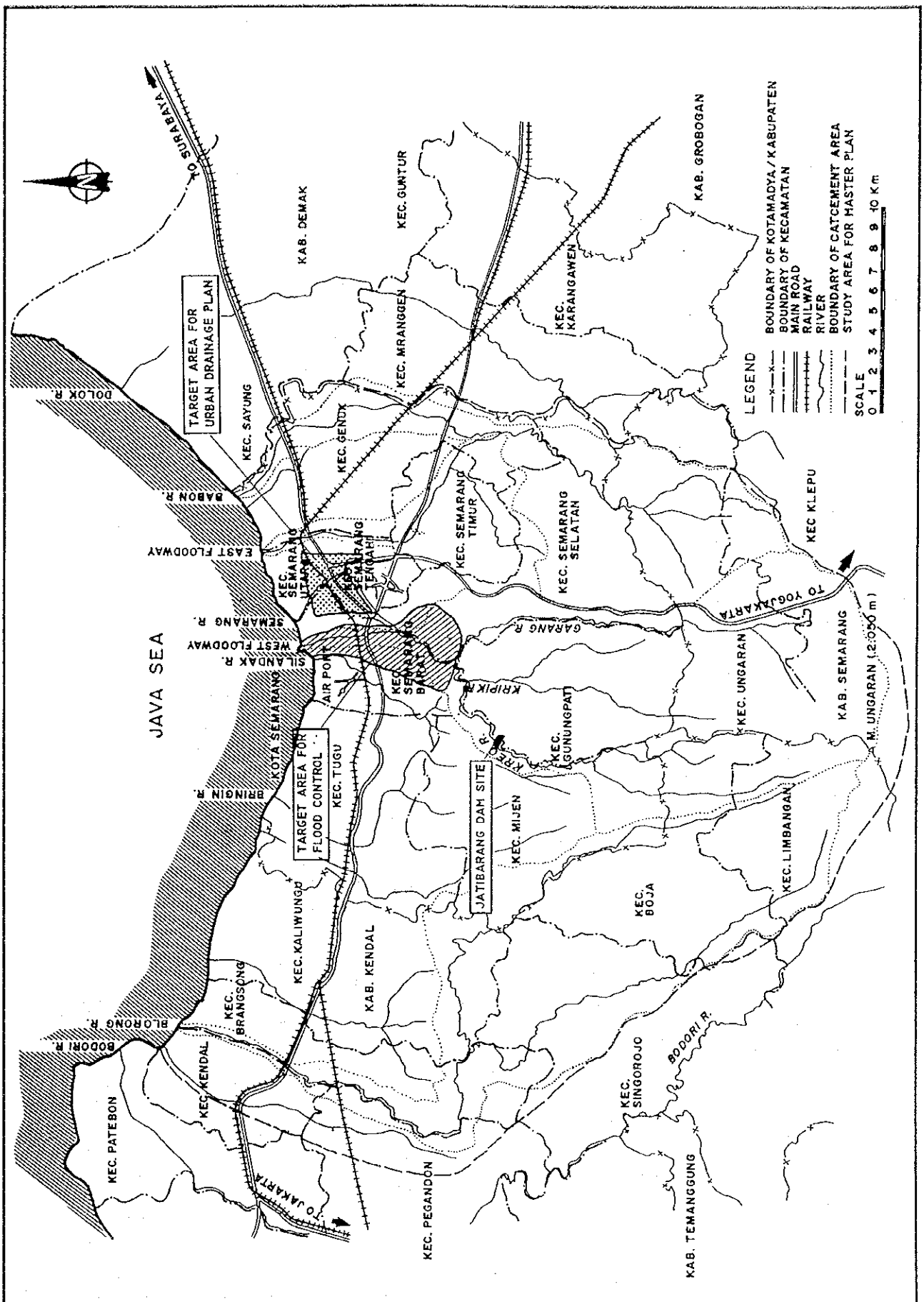
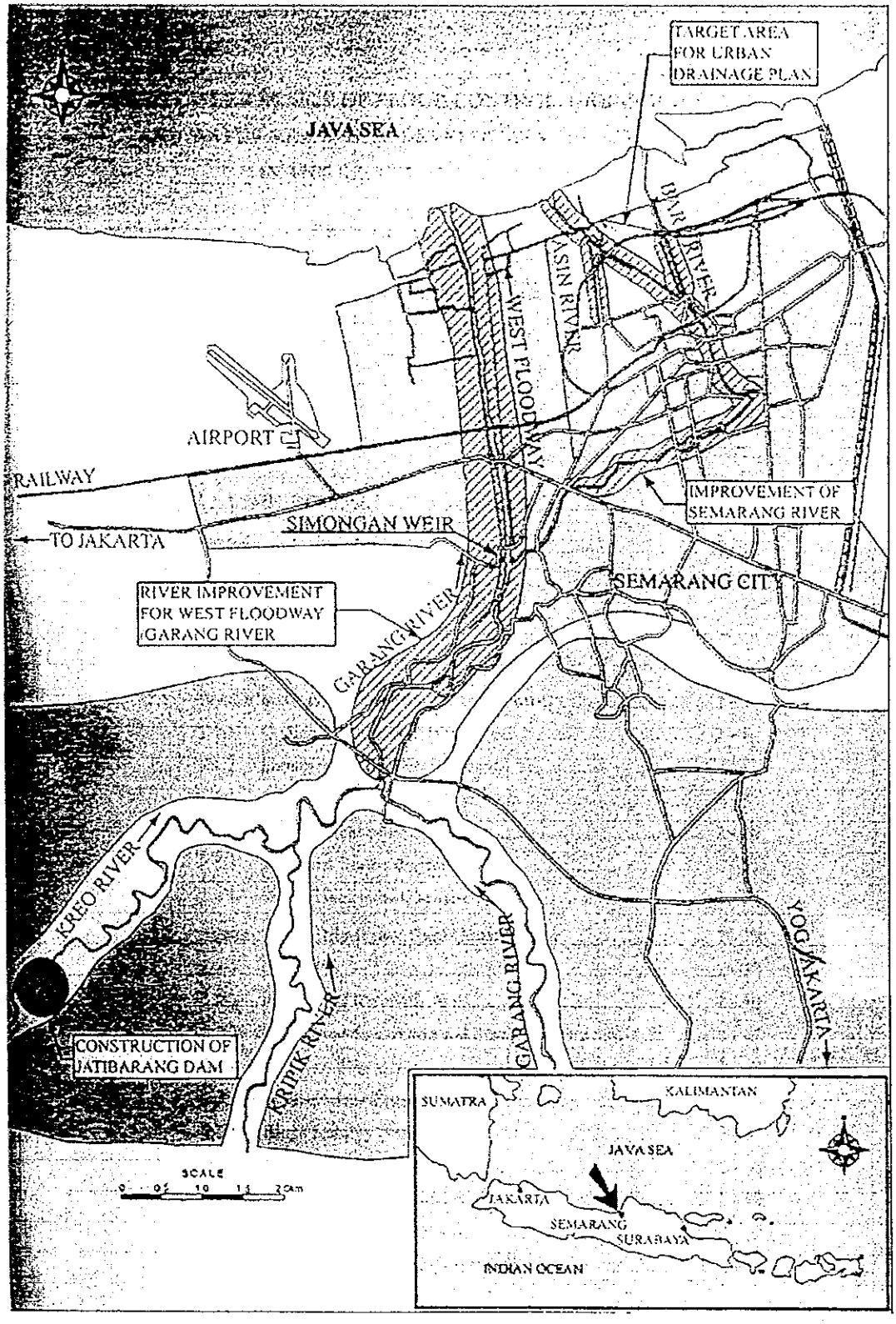
図



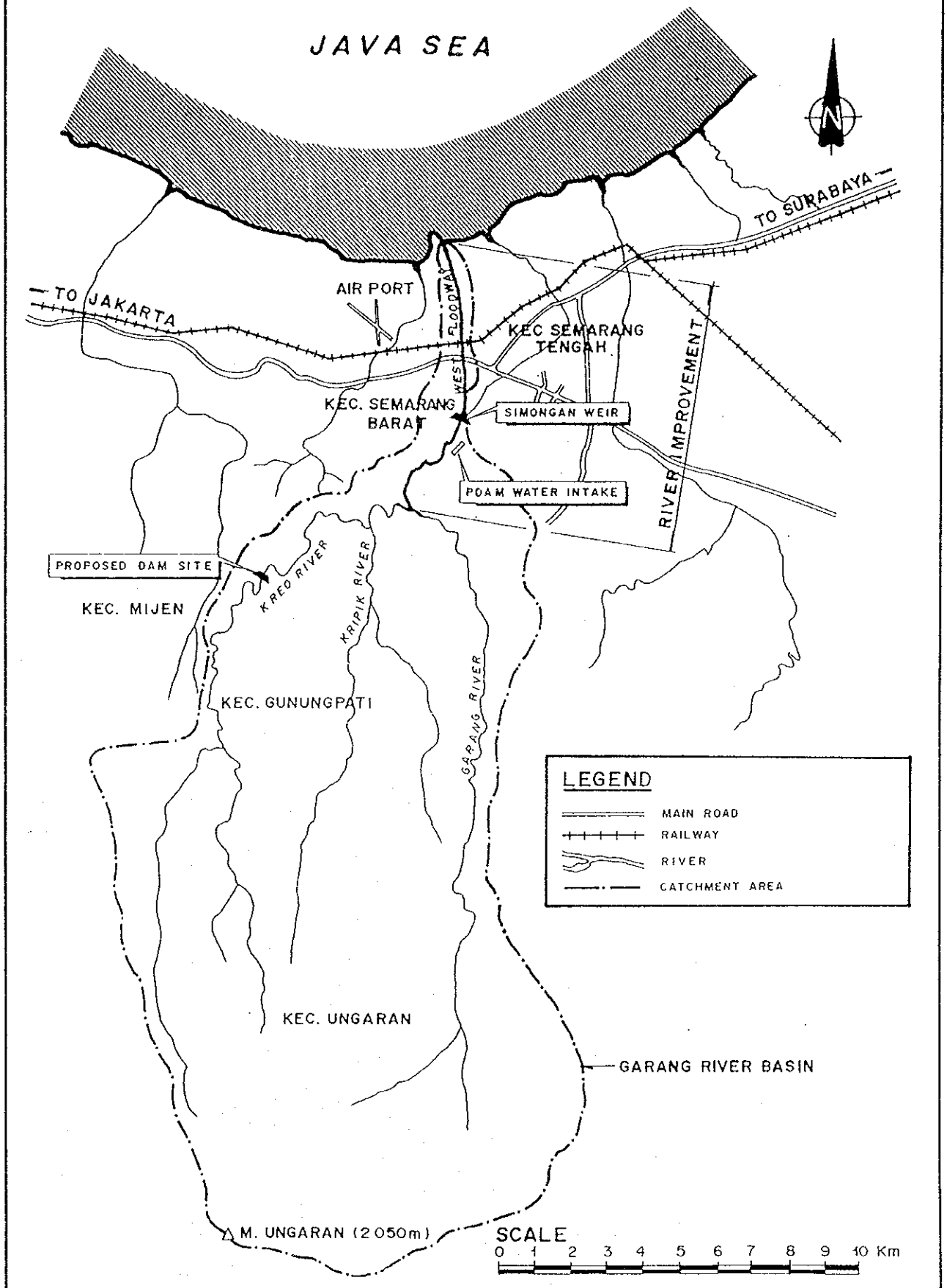
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

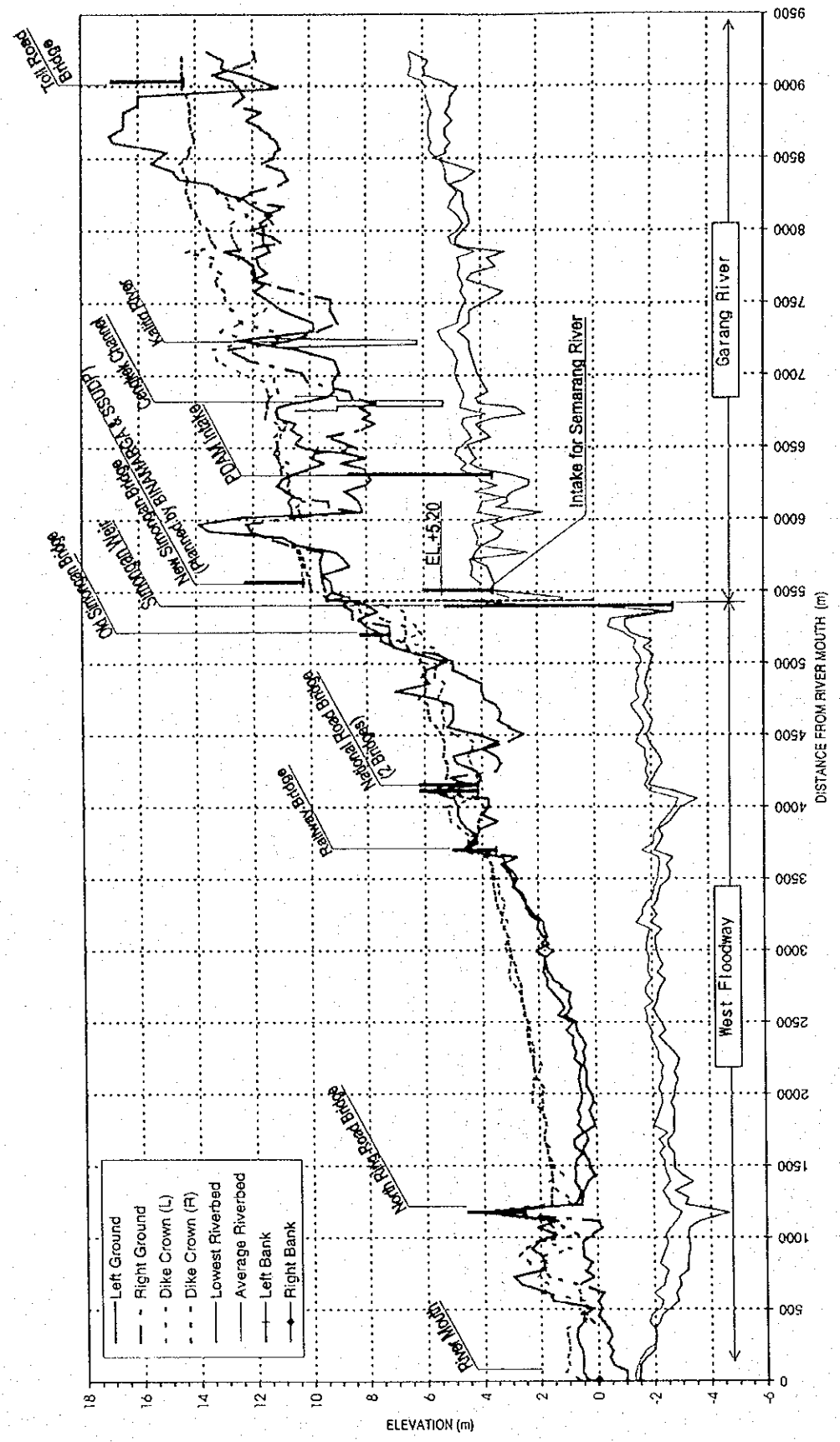
図 1.1
スマラン地域における洪水防御と都市排水に関するマスタープラン及びF/S調査の対象地域



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 2.1 実施設計調査対象地域
JAPAN INTERNATIONAL COOPERATION AGENCY	



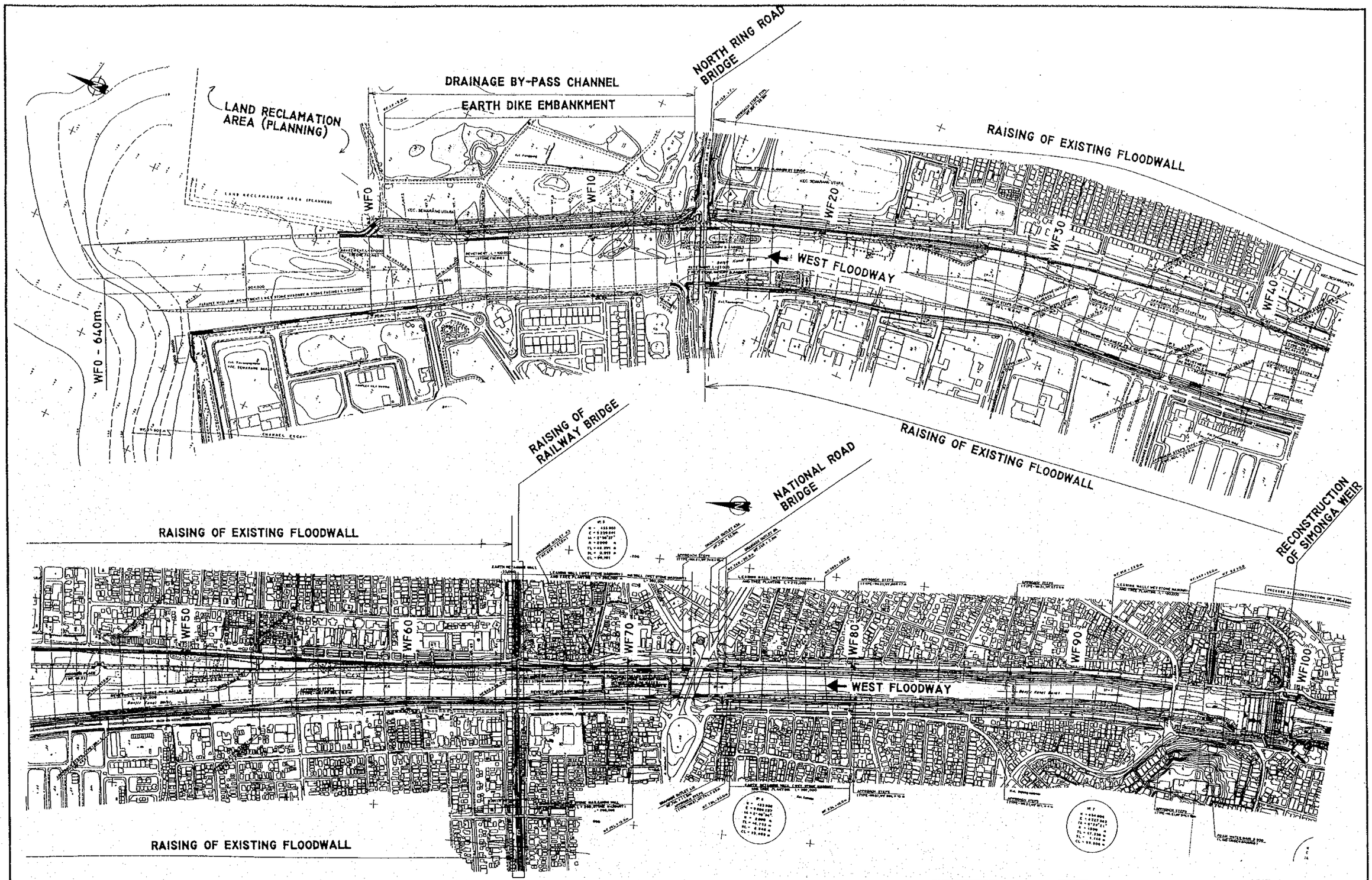
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 3.1 ガラン川流域平面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



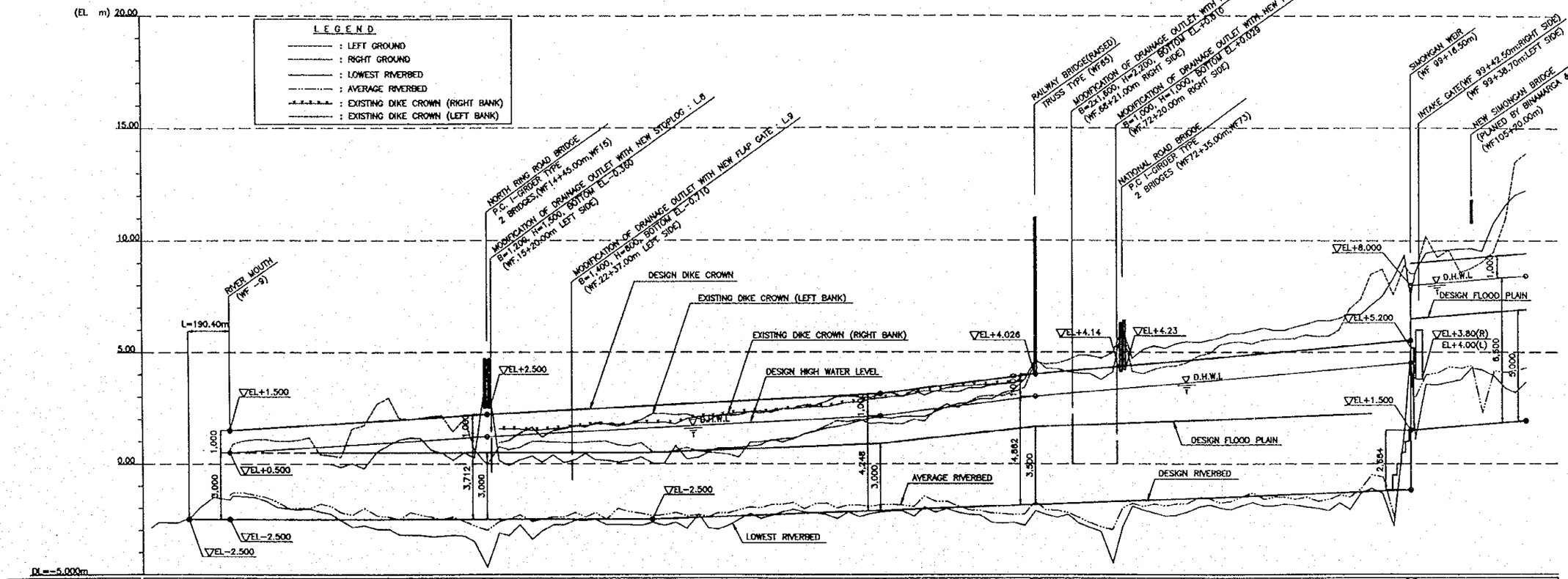
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.2
西放水路及びガラン川の現況縦断形状



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 3.3 西放水路河道の計画平面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



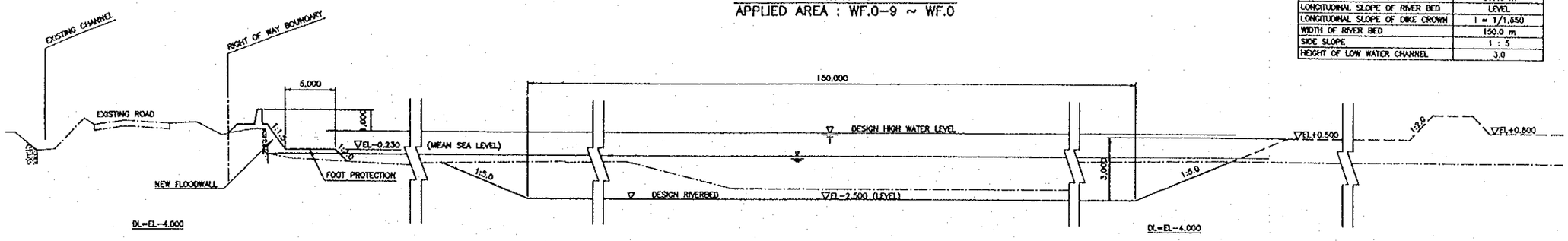
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.4
西放水路河道の計画縦断図

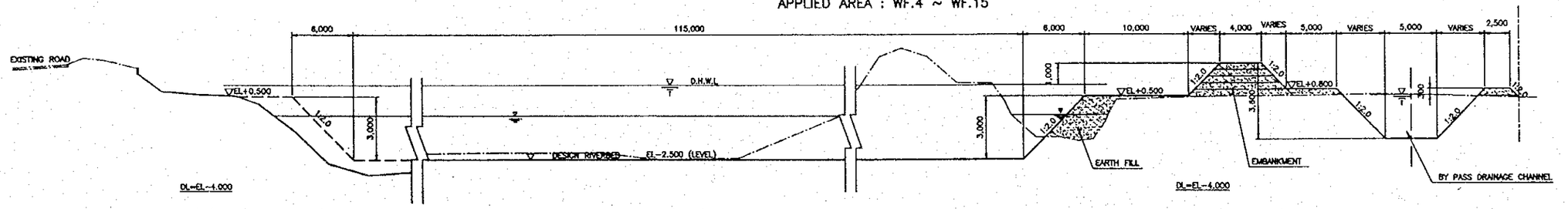
WF.0-3
APPLIED AREA : WF.0-9 ~ WF.0

LENGTH OF RIVER CHANNEL	867.6 m
LONGITUDINAL SLOPE OF RIVER BED	LEVEL
LONGITUDINAL SLOPE OF DIKE CROWN	I = 1/1,650
WIDTH OF RIVER BED	150.0 m
SIDE SLOPE	1 : 5
HEIGHT OF LOW WATER CHANNEL	3.0



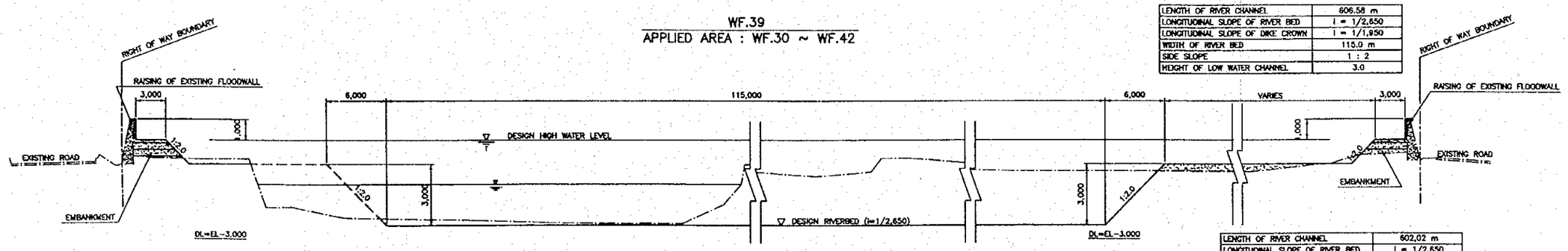
WF.9
APPLIED AREA : WF.4 ~ WF.15

LENGTH OF RIVER CHANNEL	562.53 m
LONGITUDINAL SLOPE OF RIVER BED	LEVEL
LONGITUDINAL SLOPE OF DIKE CROWN	I = 1/1,650
WIDTH OF RIVER BED	115.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.0



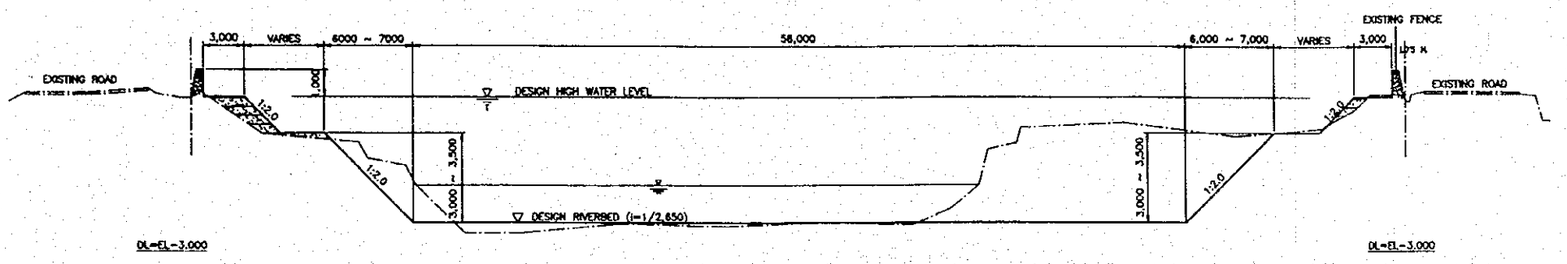
WF.39
APPLIED AREA : WF.30 ~ WF.42

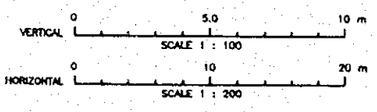
LENGTH OF RIVER CHANNEL	606.58 m
LONGITUDINAL SLOPE OF RIVER BED	I = 1/2,650
LONGITUDINAL SLOPE OF DIKE CROWN	I = 1/1,950
WIDTH OF RIVER BED	115.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.0



WF.60
APPLIED AREA : WF.53 ~ WF.65

LENGTH OF RIVER CHANNEL	602.02 m
LONGITUDINAL SLOPE OF RIVER BED	I = 1/2,650
LONGITUDINAL SLOPE OF DIKE CROWN	I = 1/800
WIDTH OF RIVER BED	58.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.0~3.5 m

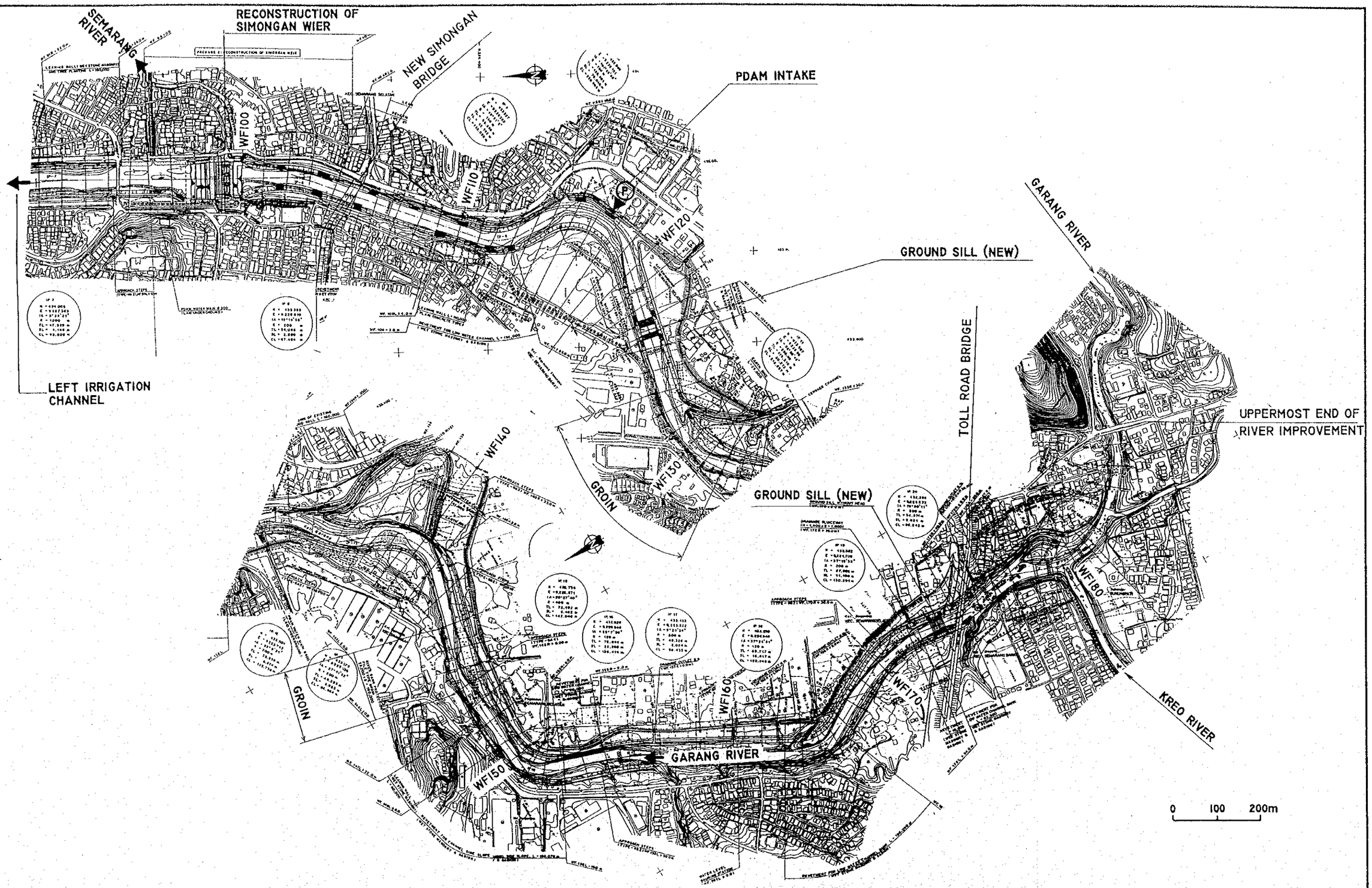




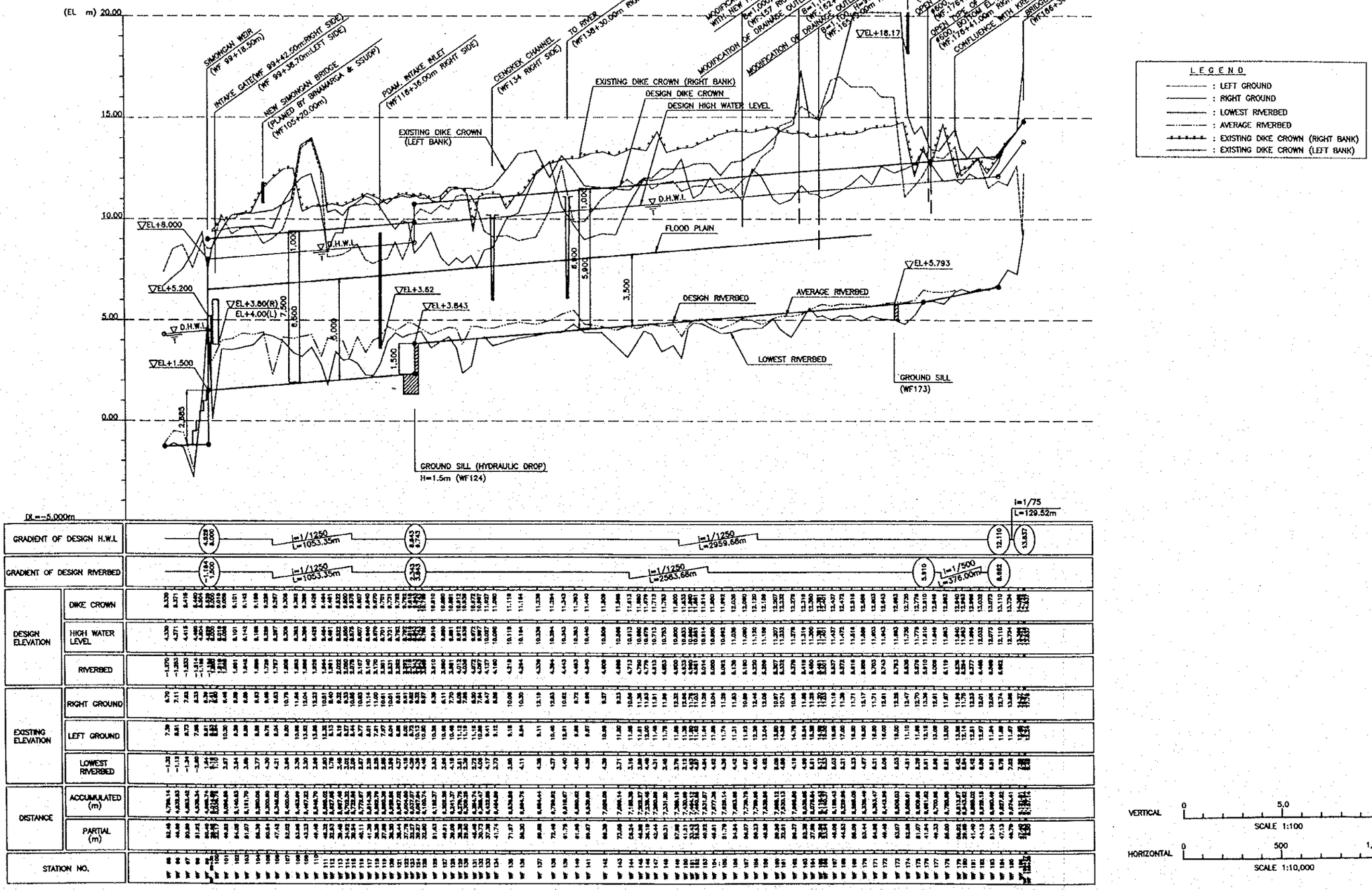
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.5
西放水路河道の計画標準断面図



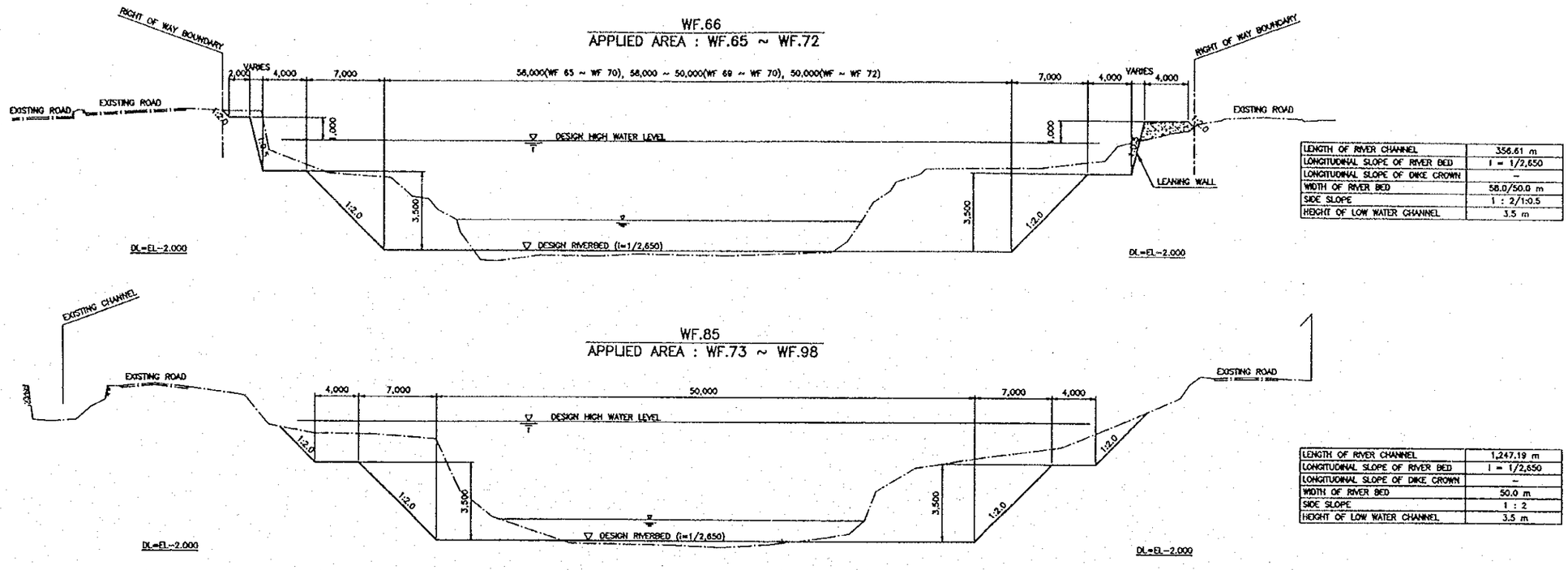
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 3.6 ガラン川河道の計画平面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.7
ガラン川河道の計画縦断図



LENGTH OF RIVER CHANNEL	356.61 m
LONGITUDINAL SLOPE OF RIVER BED	I = 1/2,650
LONGITUDINAL SLOPE OF DIKE CROWN	–
WIDTH OF RIVER BED	58.0/50.0 m
SIDE SLOPE	1 : 2/1:0.5
HEIGHT OF LOW WATER CHANNEL	3.5 m

LENGTH OF RIVER CHANNEL	1,247.19 m
LONGITUDINAL SLOPE OF RIVER BED	I = 1/2,650
LONGITUDINAL SLOPE OF DIKE CROWN	–
WIDTH OF RIVER BED	50.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.5 m

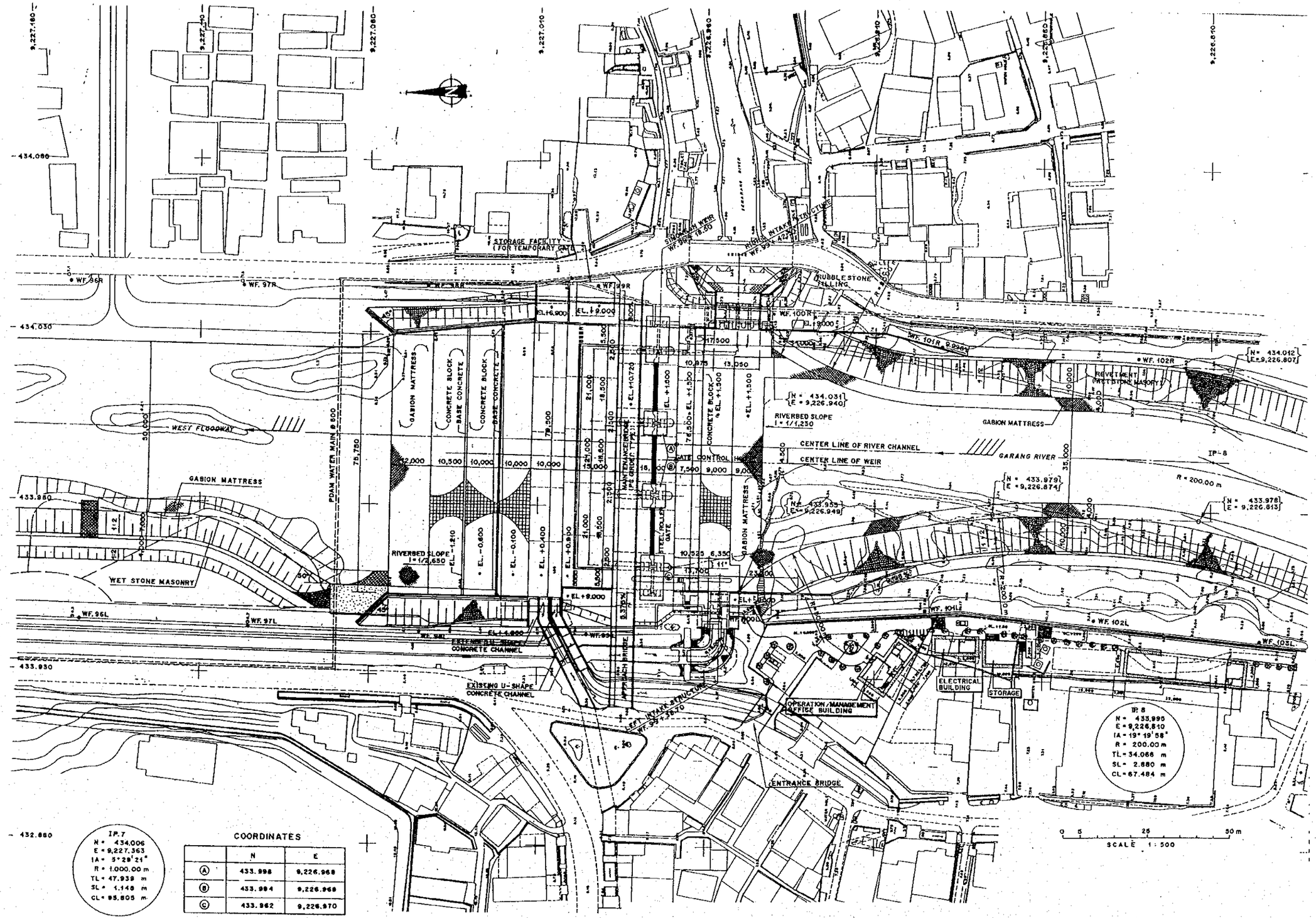
LENGTH OF RIVER CHANNEL	981.36 m
LONGITUDINAL SLOPE OF RIVER BED	I = 1/1,250
LONGITUDINAL SLOPE OF DIKE CROWN	–
WIDTH OF RIVER BED	35.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	5.0 m

LENGTH OF RIVER CHANNEL	2,583.68 m
LONGITUDINAL SLOPE OF RIVER BED	I = 1/1,250
LONGITUDINAL SLOPE OF DIKE CROWN	–
WIDTH OF RIVER BED	40.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.5 m

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

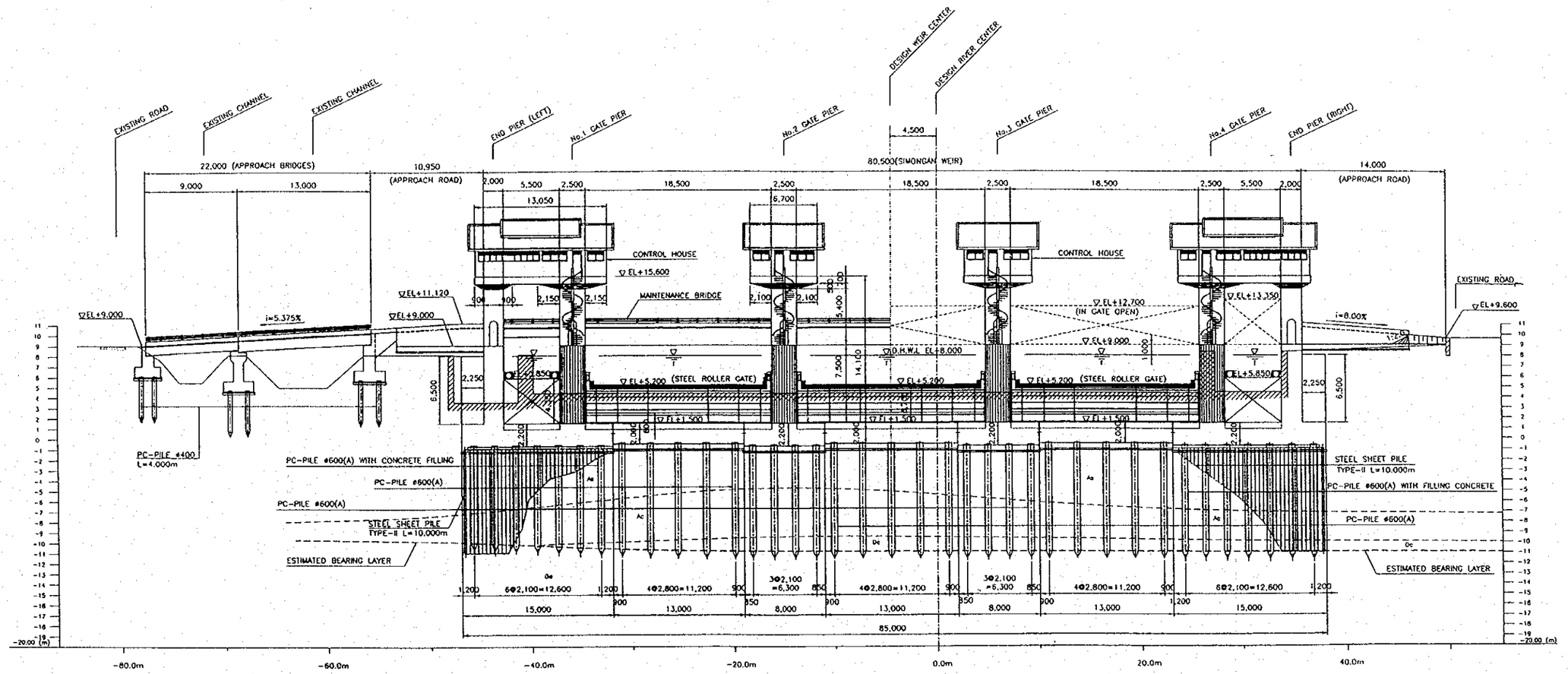
図 3.8
ガラン川河道の計画標準断面図



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.9
シモンガン堰改築の一般平面図



UPSTREAM ELEVATION OF WEIR
SCALE A

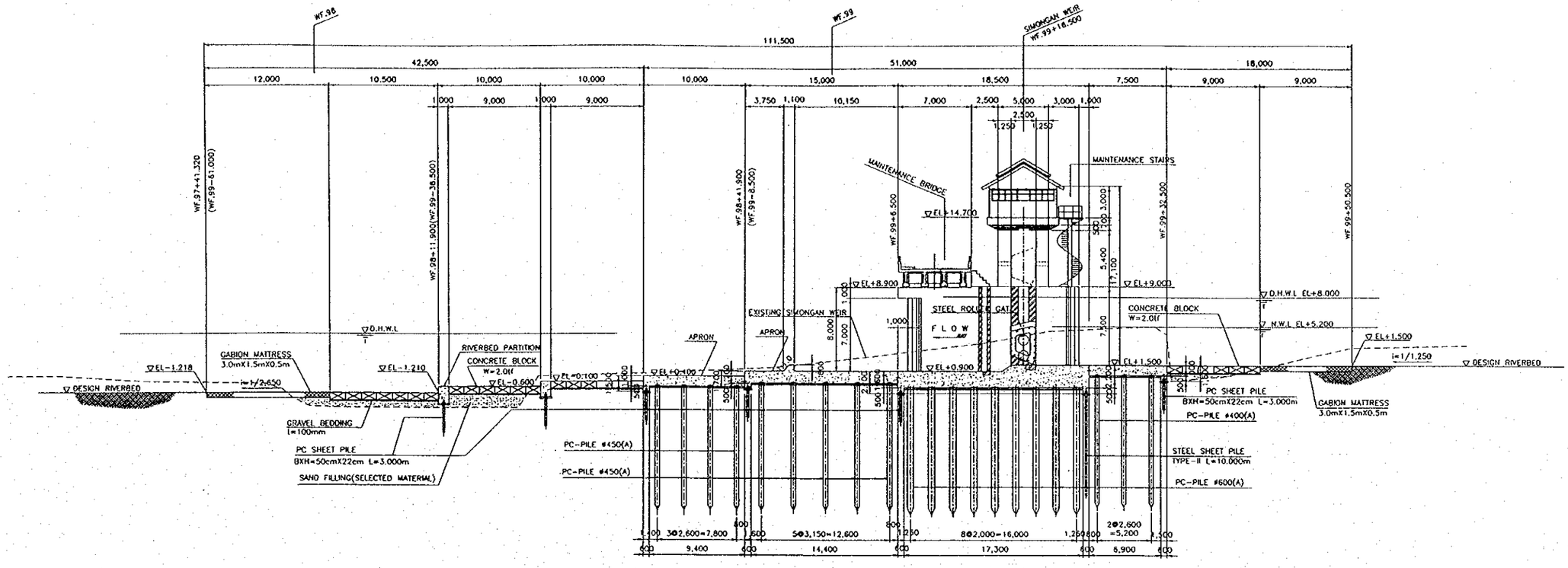
SCALE A 0 5 10 15m
SCALE 1:200

NOTE:
1. PILE LENGTH SHOWN ON THIS DRAWING IS TENTATIVE.
THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.
2. THE ESTIMATED FORMATION OF GEOLOGICAL LAYER IS SHOWN ON THE DRAWING FOR REFERENCE.
As,Ac,Dc AND Da SHOWN ON THE DRAWING INDICATE LAYER'S NAME AND ARE DESCRIBED AS FOLLOWS:
As : ALLUVIUM SOIL CONSISTING OF FINE GRAIN TO MIDDLE GRAIN SAND, CONTAINING THE INTERCALATED CLAY AND SILT PARTIALLY.
N-VALUE OF 15 ~ 30
Ac : SOFT ALLUVIUM SOIL CONSISTING OF CLAY AND SANDY CLAY.
N-VALUE OF 10 ~ 20
Dc : DILUVIUM SOIL CONSISTING OF HARD CLAY, PARTLY CONTAINING CORAL LIMESTONE.
N-VALUE OF 20 ~ 35
Da : DAMAR FORMATION (SEDIMENTARY ROCK UNIT) WITH N-VALUE OF MORE THAN 50.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

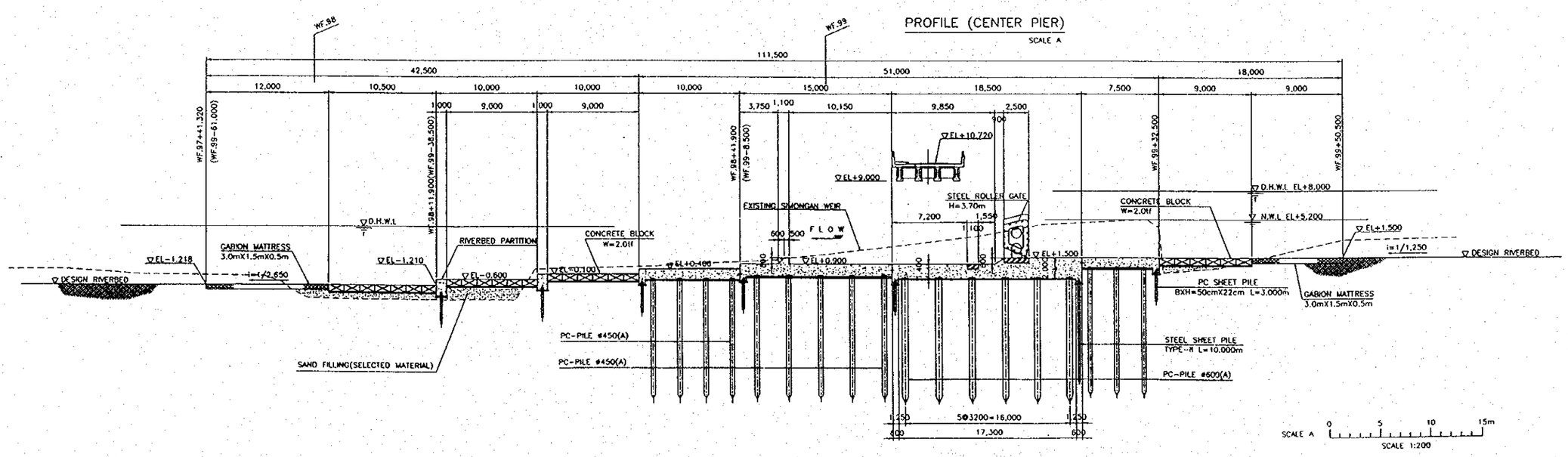
JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.10
シモンガン堰の横断面図



PROFILE (CENTER PIER)

SCALE A



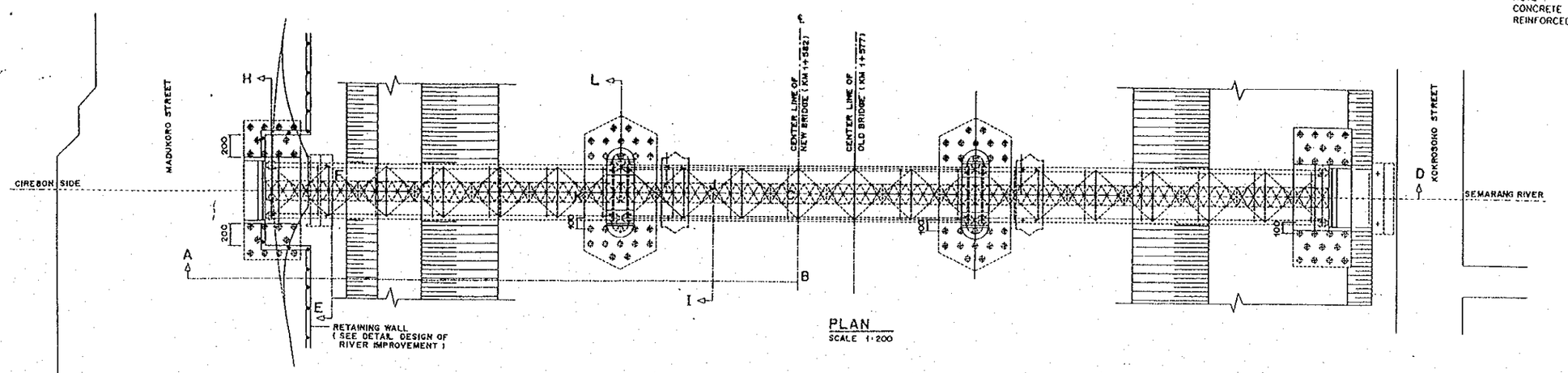
PROFILE (GATE FLOOR SLAB)

SCALE A

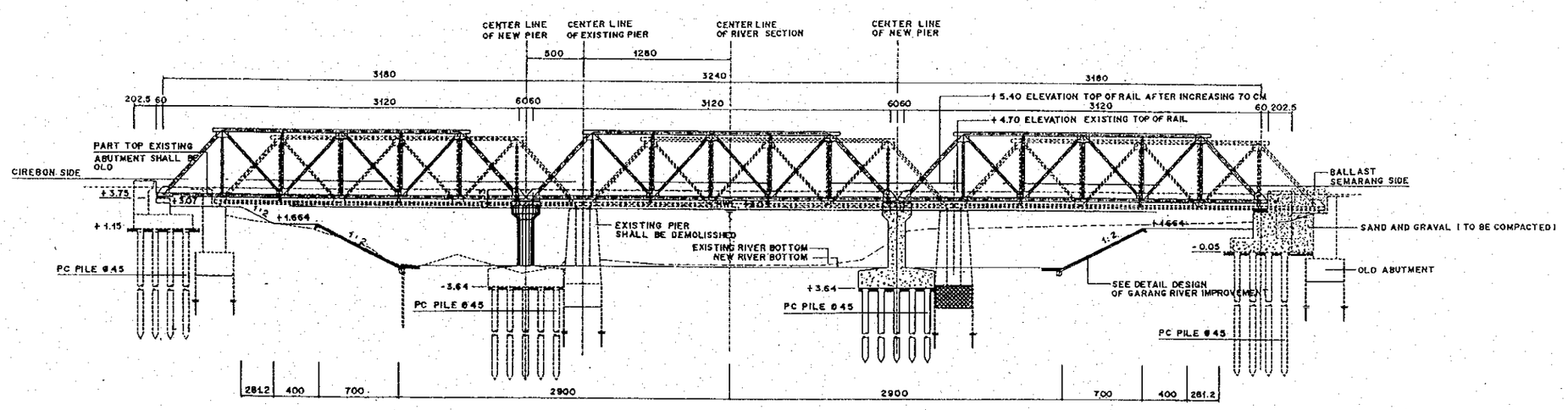
NOTE:
PILE LENGTH SHOWN ON THIS DRAWING IS TENTATIVE.
THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 3.11 シモンガン堰の縦断面図
JAPAN INTERNATIONAL COOPERATION AGENCY	

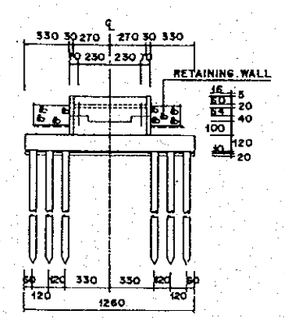
NOTE :
CONCRETE K-225
REINFORCED STEEL BAR U-39



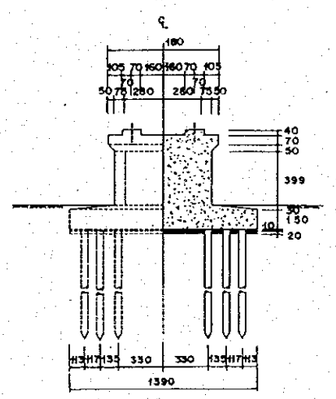
PLAN
SCALE 1:200



SECTION A-B-C-D
SCALE 1:200



SECTION E-F-G-H
SCALE 1:200



SECTION I-J-K-L
SCALE 1:200

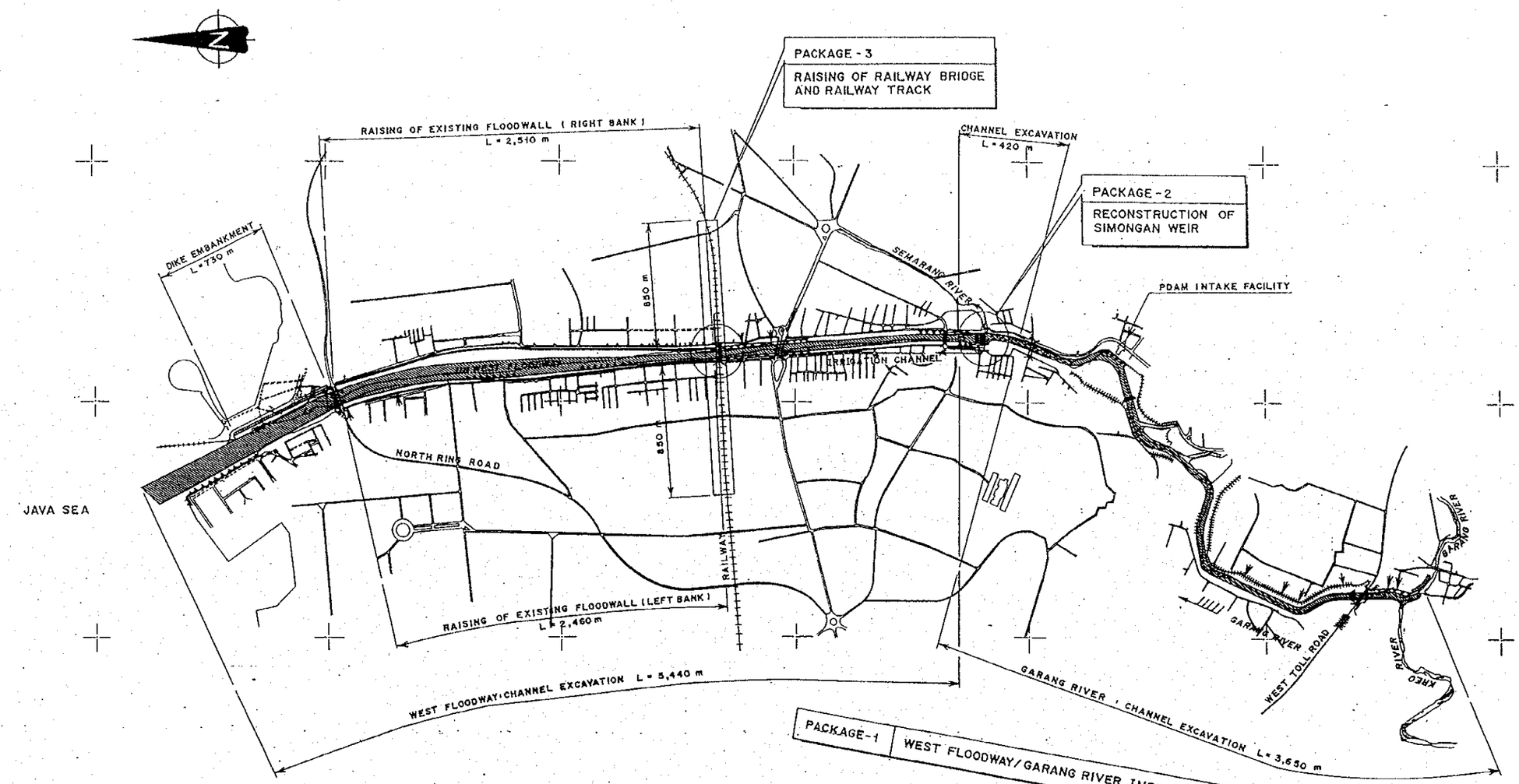
SCALE 0 100 200 Cm

NOTE :
1. ALL DEMENSIONS SHOWN ON THE DRAWING ARE IN CETIMETER.
2. ELEVATIONS OF PILE TIPES SHOWN ON THE DRAWING ARE TENTATIVE.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.12
鉄道橋嵩上げに関する一般図



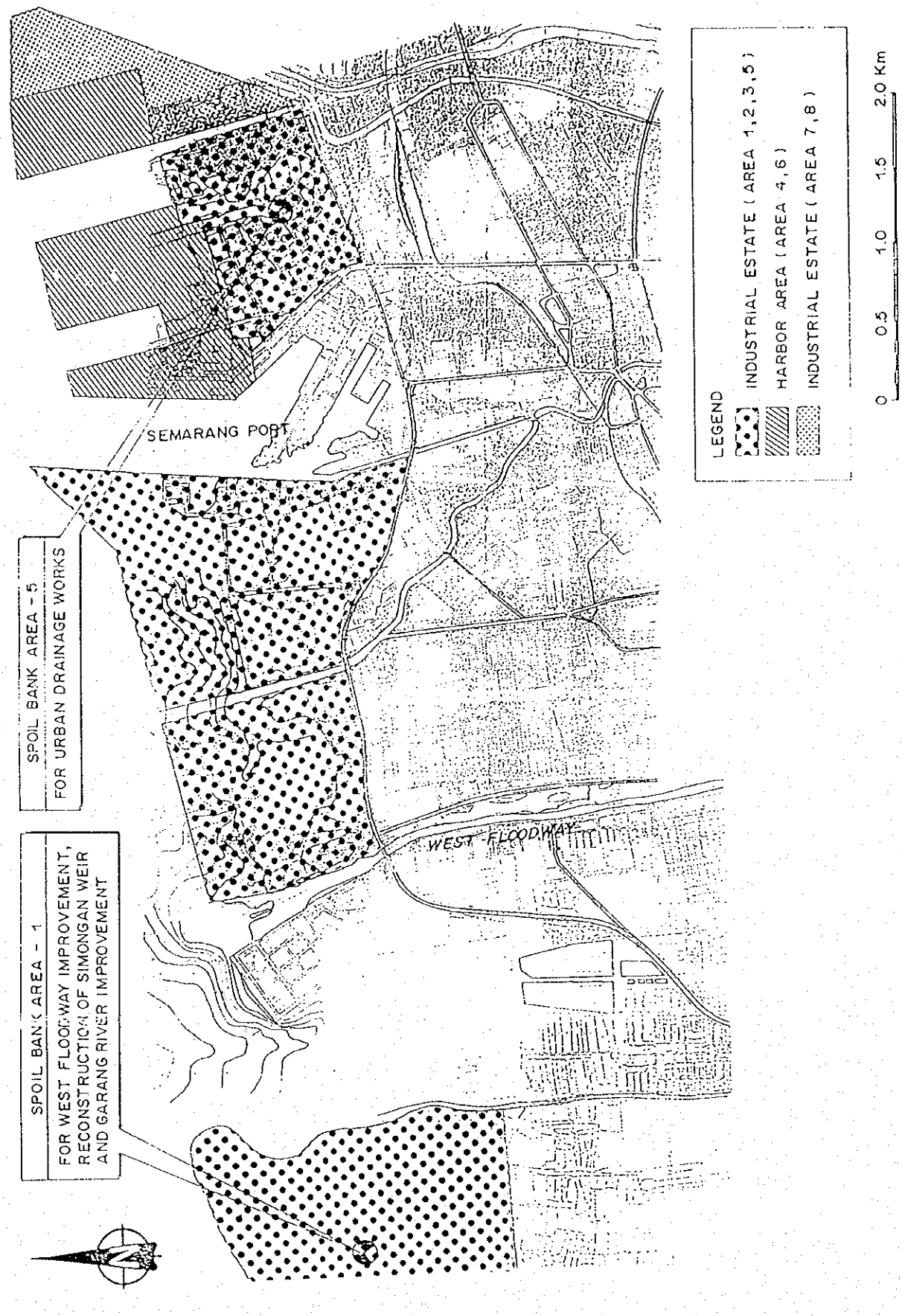
LEGEND

- CHANNEL EXCAVATION
- DIKE EMBANKMENT
- RAISING OF EXISTING FLOODWALL
- GROUND SILL
- REVETMENT
- GROIN
- DRAINAGE SLUICEWAY/OUTLET WITH GATE

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

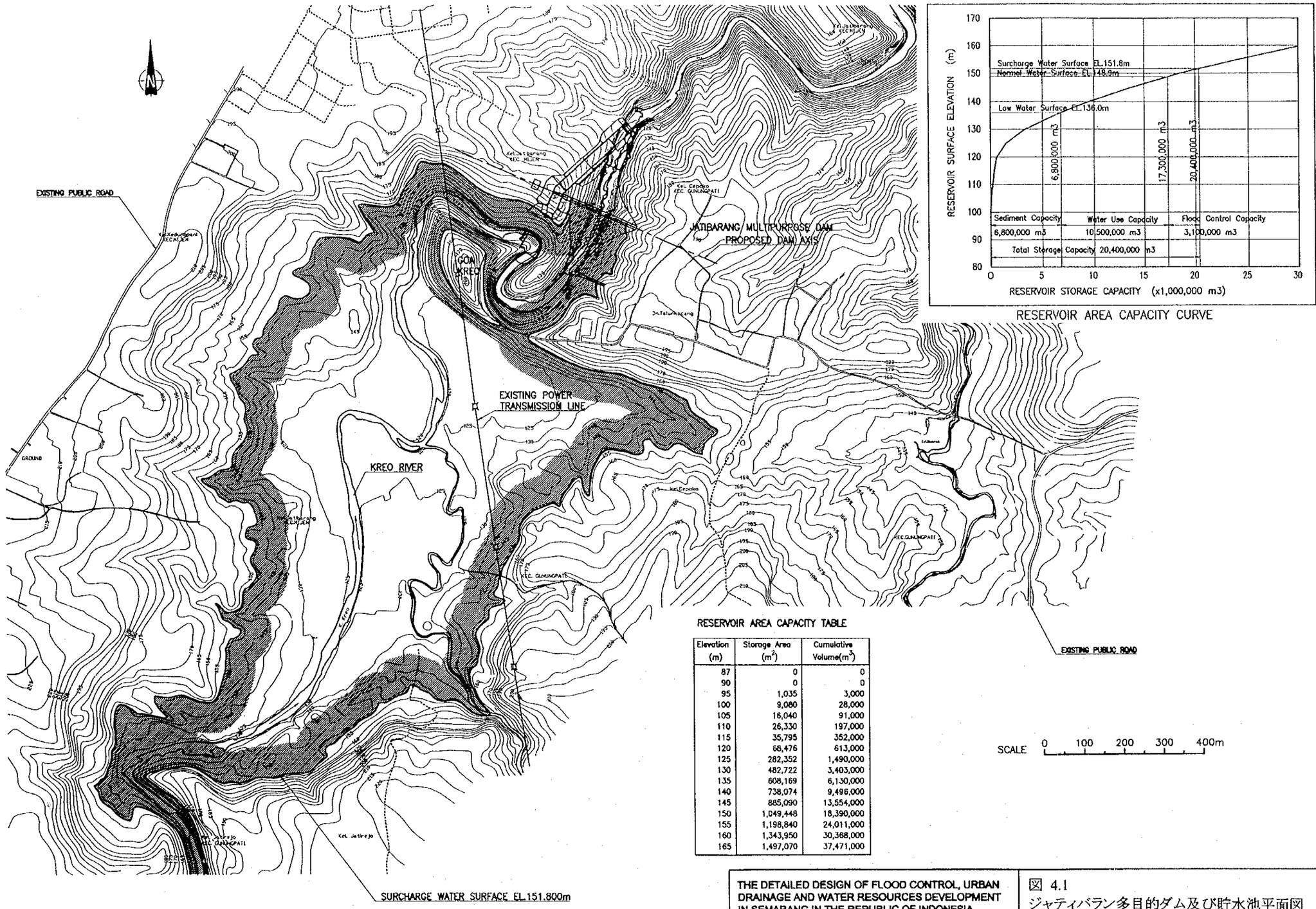
図 3.13
西放水路／ガラン川改修パッケージ分割



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.14
土捨場の候補地



RESERVOIR AREA CAPACITY CURVE

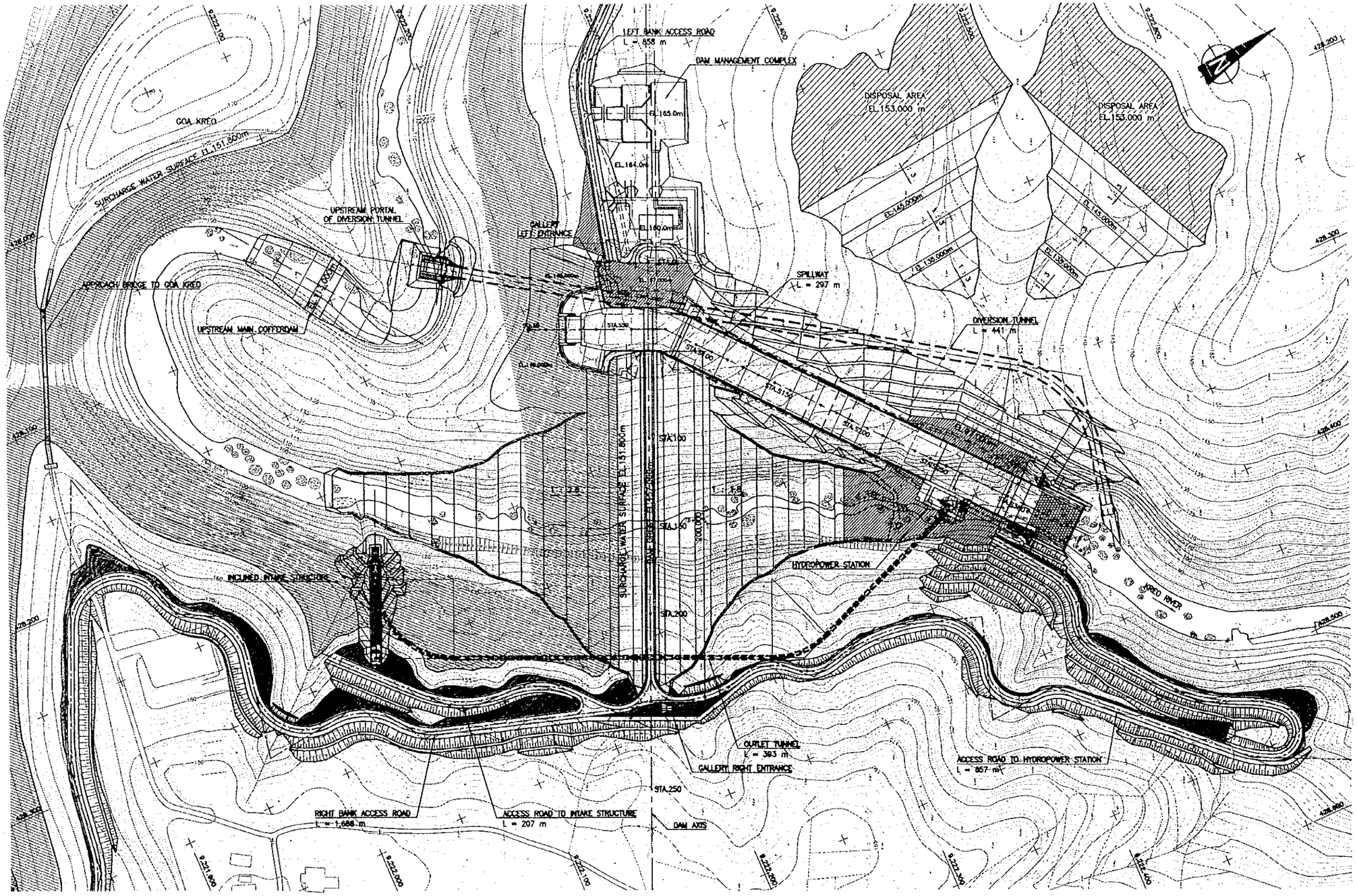
RESERVOIR AREA CAPACITY TABLE

Elevation (m)	Storage Area (m^2)	Cumulative Volume(m^3)
87	0	0
90	0	0
95	1,035	3,000
100	9,080	28,000
105	16,040	91,000
110	26,330	197,000
115	35,795	352,000
120	66,476	613,000
125	282,352	1,490,000
130	482,722	3,403,000
135	608,169	6,130,000
140	738,074	9,496,000
145	885,090	13,554,000
150	1,049,448	18,390,000
155	1,198,840	24,011,000
160	1,343,950	30,368,000
165	1,497,070	37,471,000

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

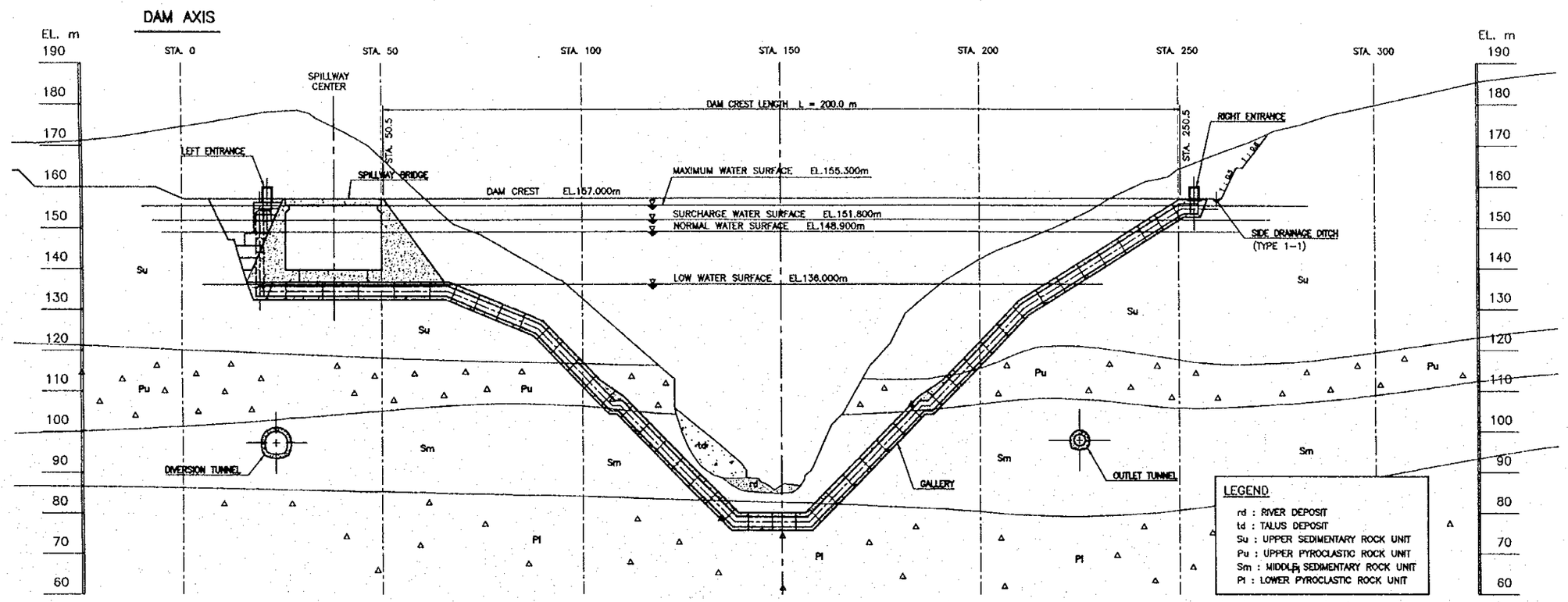
図 4.1
ジャティバラン多目的ダム及び貯水池平面図



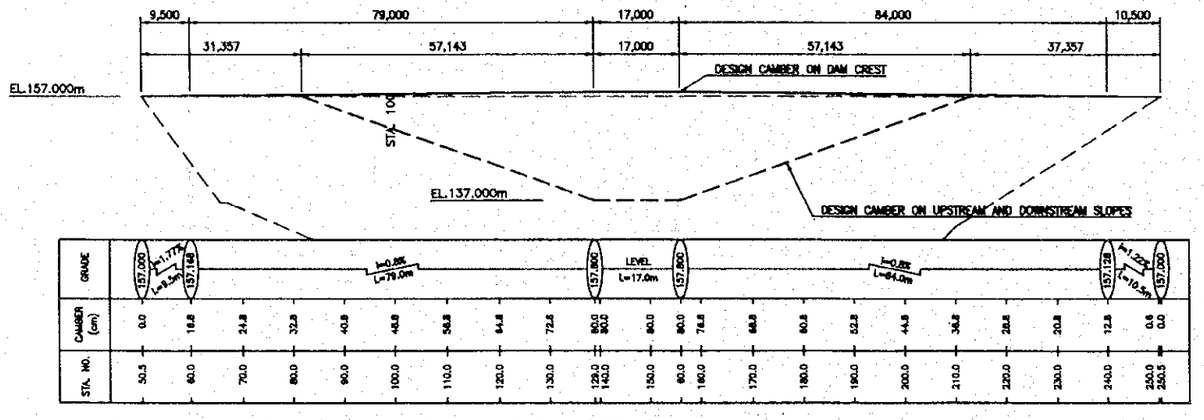
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

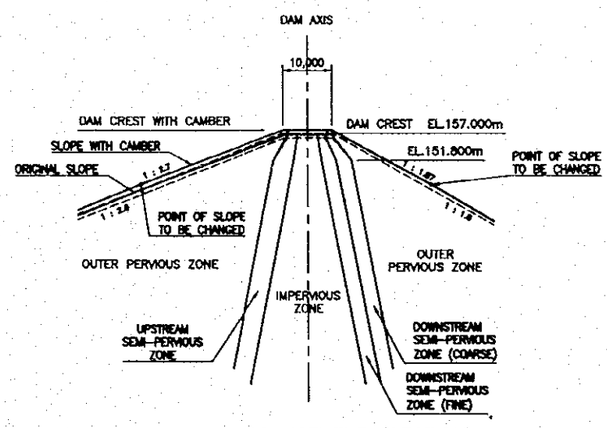
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	図 4.2 ジャティバラン多目的ダム平面図
JAPAN INTERNATIONAL COOPERATION AGENCY	



LONGITUDINAL PROFILE



CAMBER ARRANGEMENT (PROFILE)



CAMBER ARRANGEMENT (SECTION)

NOTES

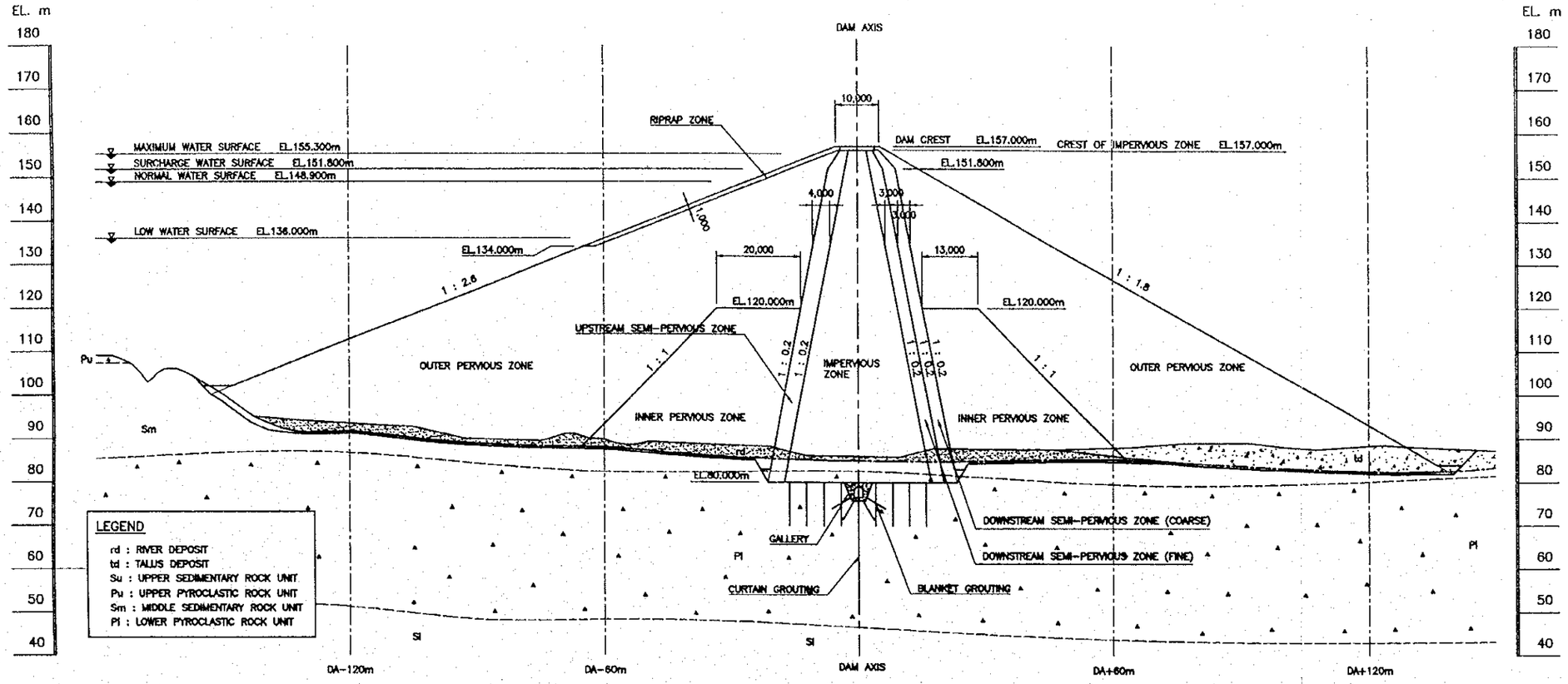
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. THE GEOLOGICAL INFORMATION IS ONLY FOR REFERENCE.

SCALE 0 10 20 30 40 50m

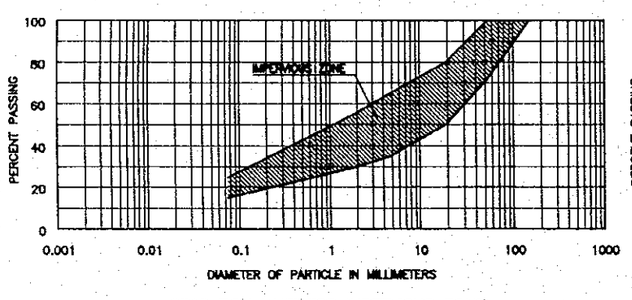
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

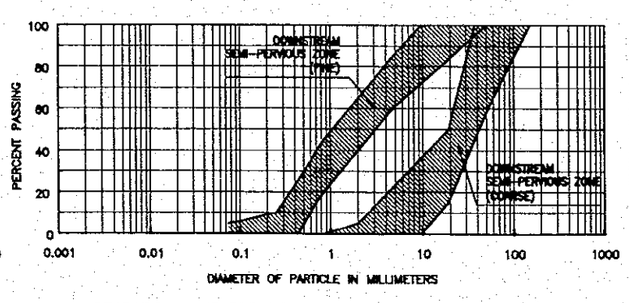
図 4.3
ジャティバラン多目的ダム縦断面図



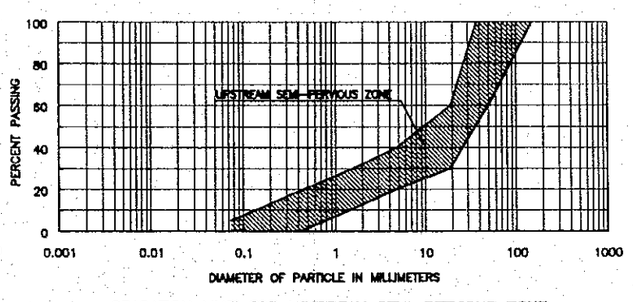
TYPICAL CROSS SECTION



GRADATION LIMIT FOR IMPERVIOUS ZONE



GRADATION LIMIT FOR DOWNSTREAM SEMI-PERVIOUS ZONE



GRADATION LIMIT FOR UPSTREAM SEMI-PERVIOUS ZONE

NOTES

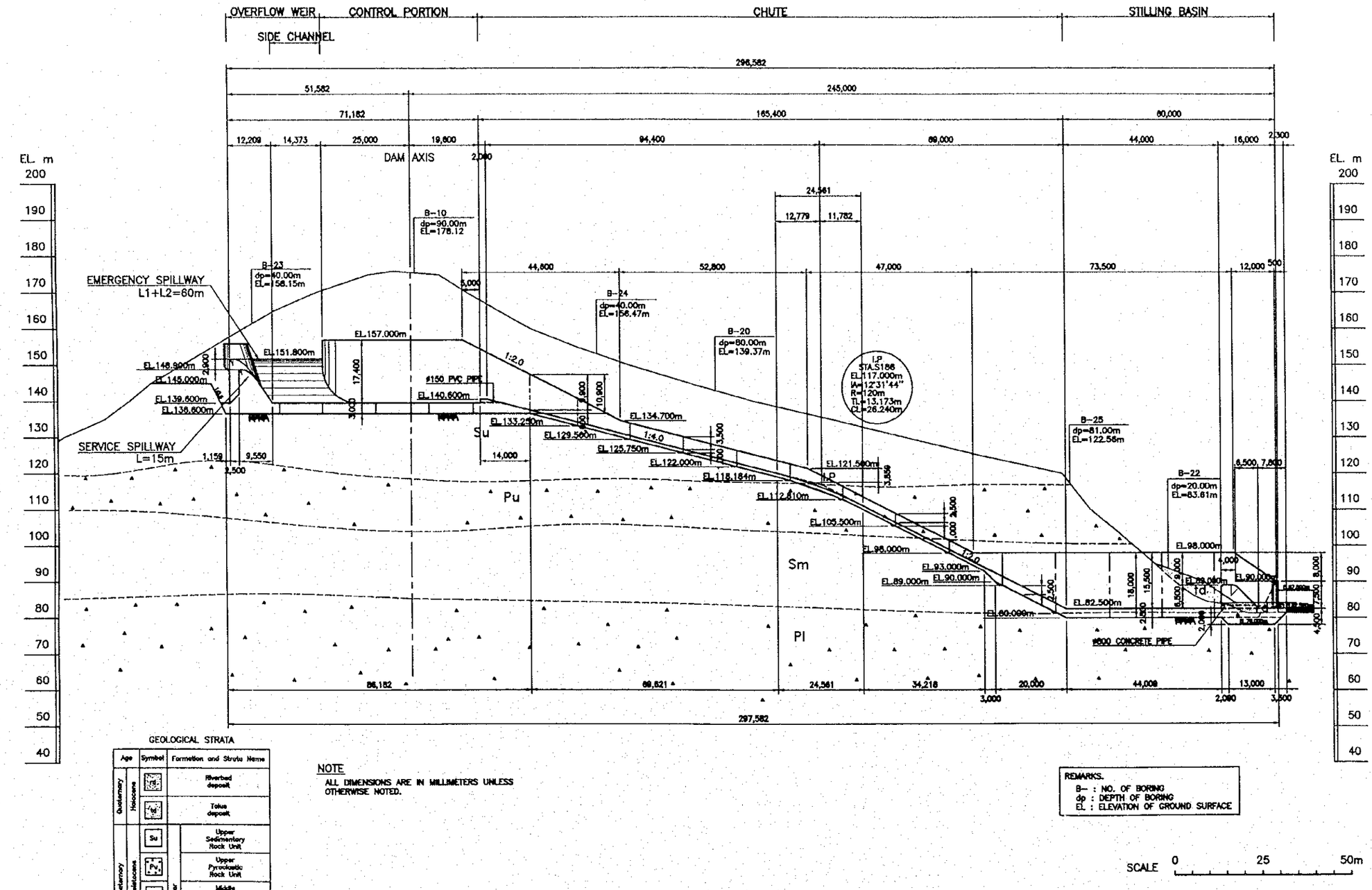
1. INNER AND OUTER PERVIOUS ZONES AND RIP RAP ARE GRADATION AS PER SPECIFICATION.
2. THE CAMBER IS NOT SHOWN IN THIS DRAWING.
3. THE GEOLOGICAL INFORMATION IS ONLY FOR REFERENCE.

SCALE 0 10 20 30 40 50m

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 4.4
ジャティバラン多目的ダム標準断面図



GEOLOGICAL STRATA

Age		Symbol	Formation and Strata Name	
Quaternary	Holocene	Al	Riverbed deposit	
		Al	Talus deposit	
Tertiary–Quaternary	Pliocene–Pleistocene	Su	Upper Sedimentary Rock Unit	Damar
		Pu	Upper Pyroclastic Rock Unit	
		Sm	Middle Sedimentary Rock Unit	
		Pl	Lower Pyroclastic Rock Unit	
		Sl	Lower Sedimentary Rock Unit	

NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

REMARKS.
B– : NO. OF BORING
dp : DEPTH OF BORING
El. : ELEVATION OF GROUND SURFACE

SCALE 0 25 50m

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

図 4.5
洪水吐縦断面図