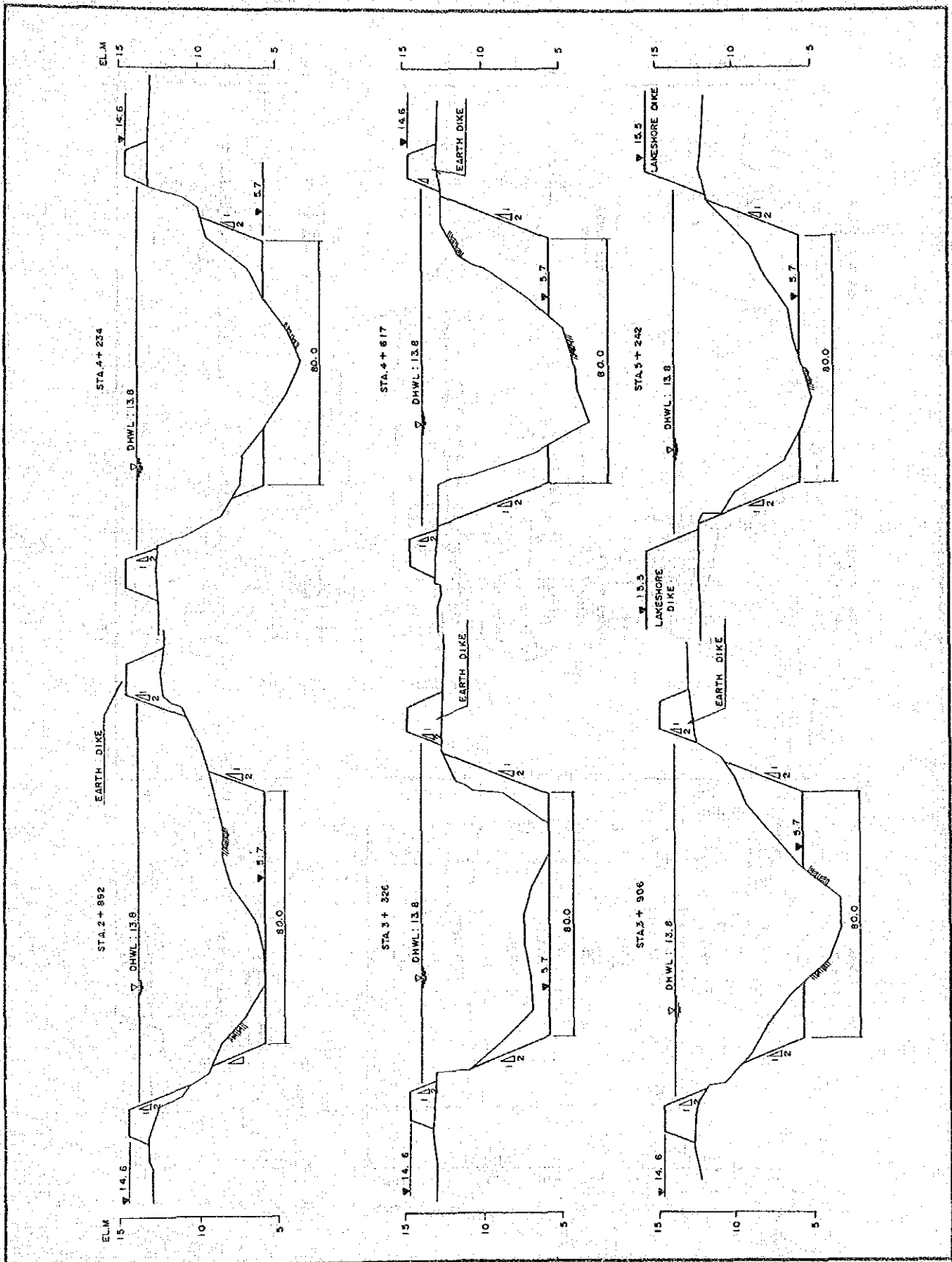


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

PROPOSED CROSS-SECTIONS OF BACKWATER
 DIKE (NAPINDAN CHANNEL(1/2))
 Fig.7.2-6(1/3)

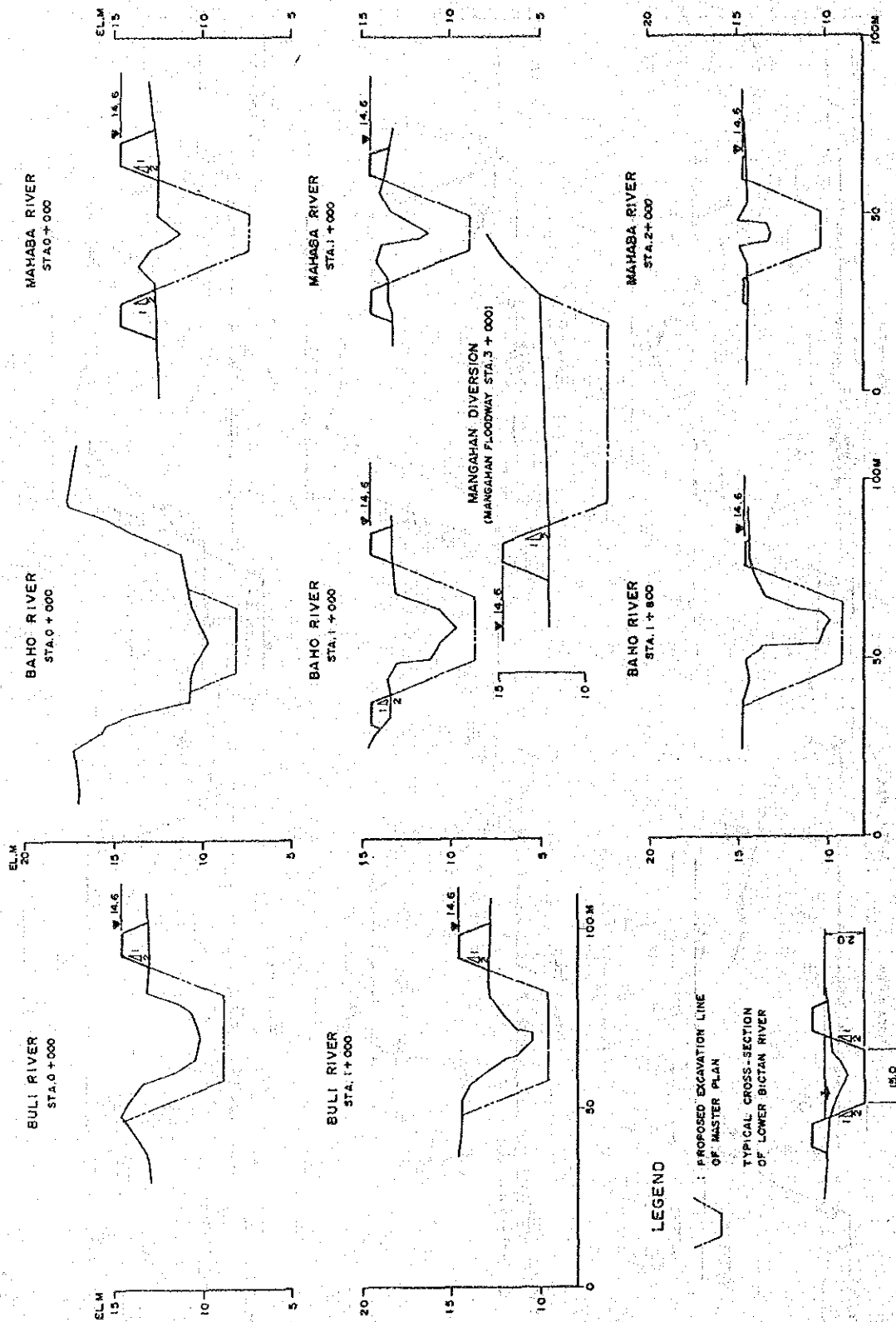


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

PROPOSED CROSS-SECTIONS OF BACKWATER
DIKE (NAPINDAN CHANNEL(2/2))

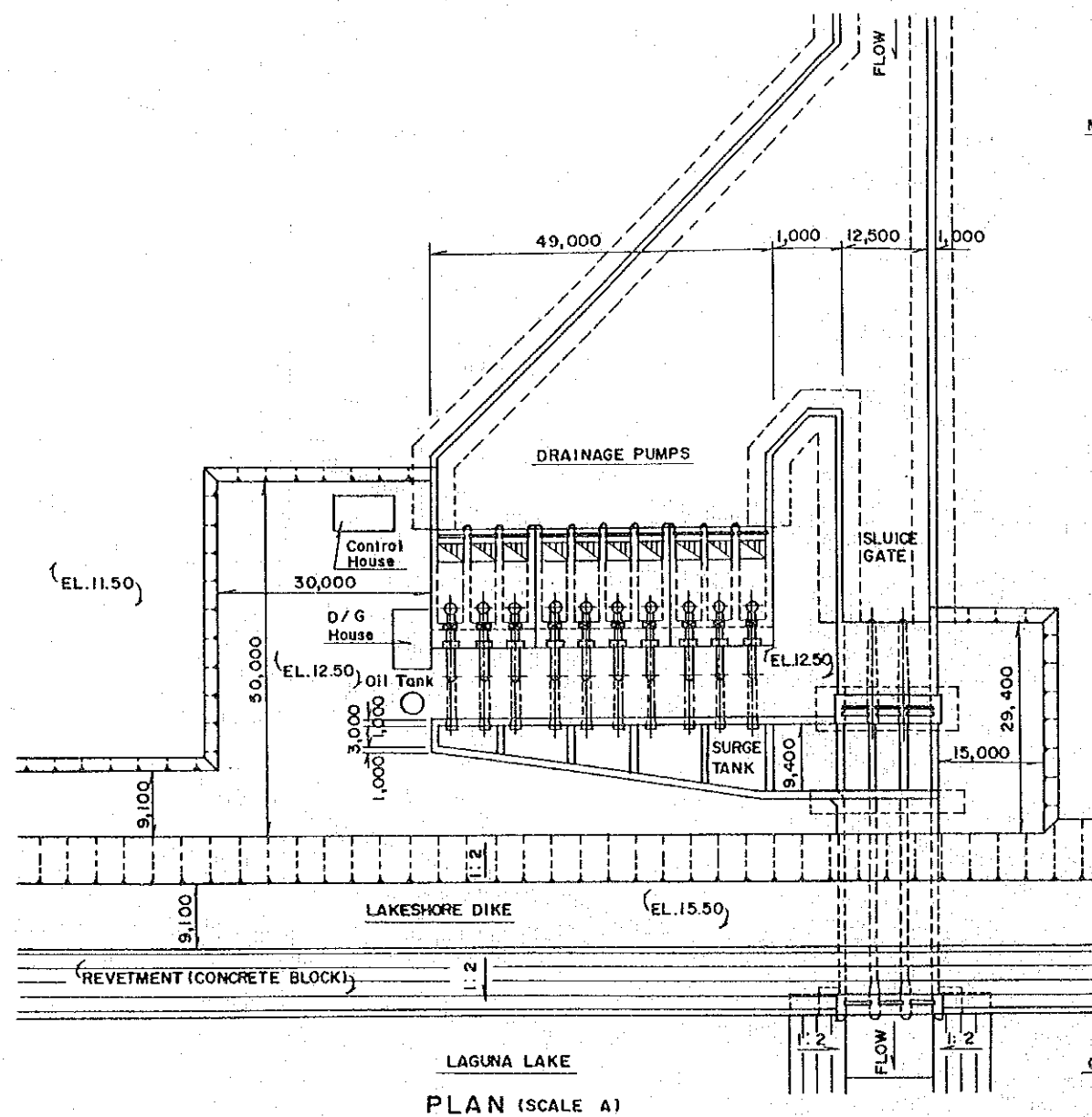
Fig.7.2-6(2/3)



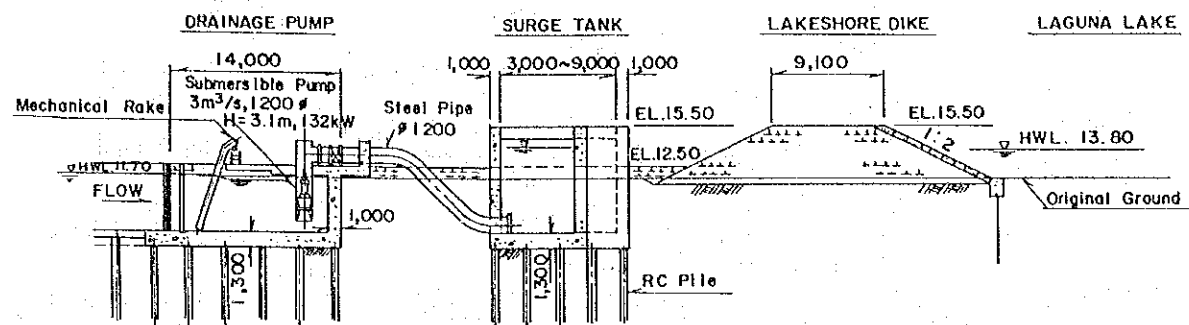
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

**PROPOSED CROSS-SECTIONS OF BACKWATER
 DIKE**

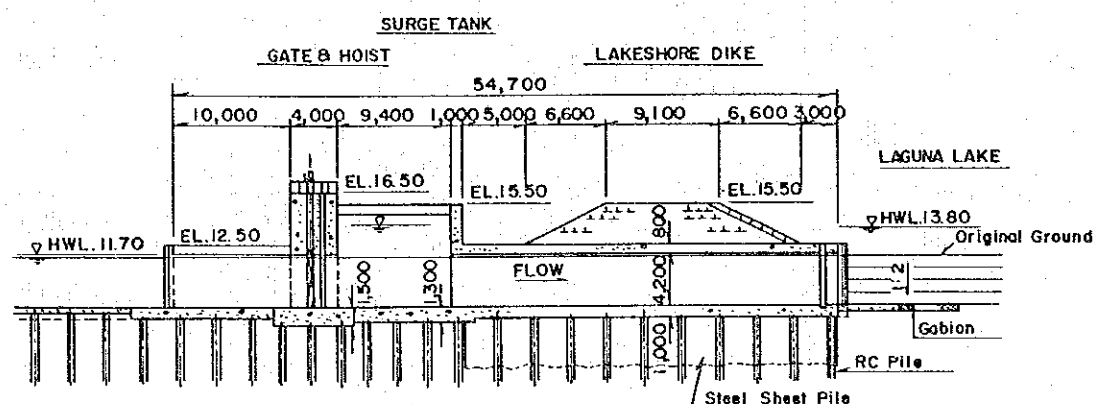
Fig. 7.2-6(3/3)



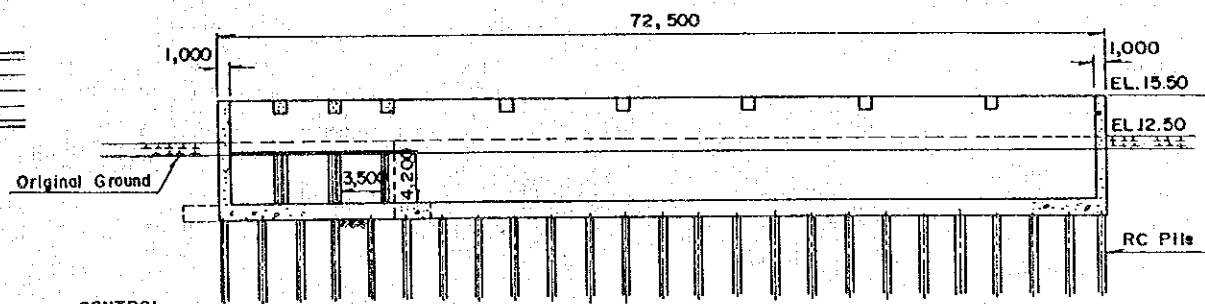
PLAN (SCALE A)



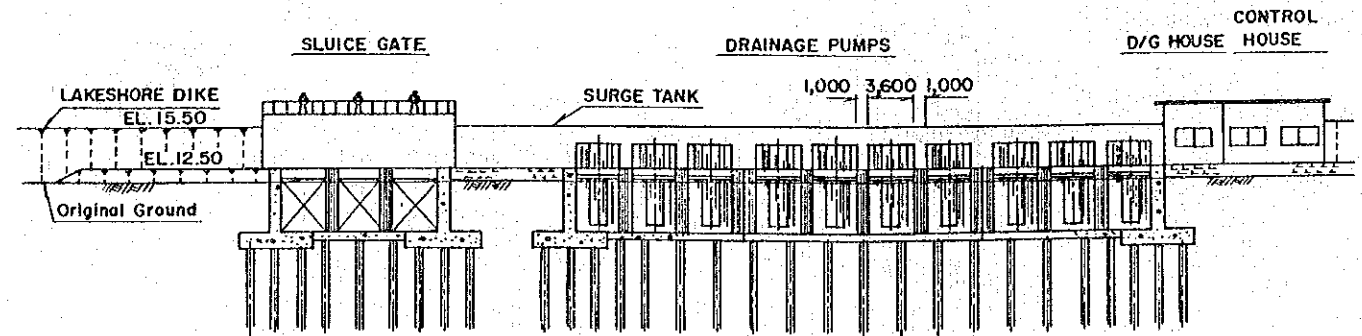
PROFILE OF DRAINAGE PUMP (SCALE B)



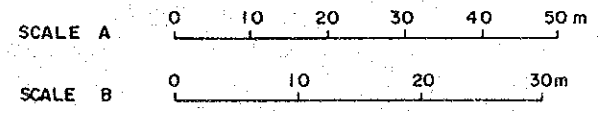
PROFILE OF SLUICE WAY (SCALE B)



PROFILE OF SURGE TANK (SCALE B)



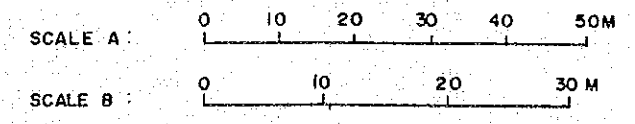
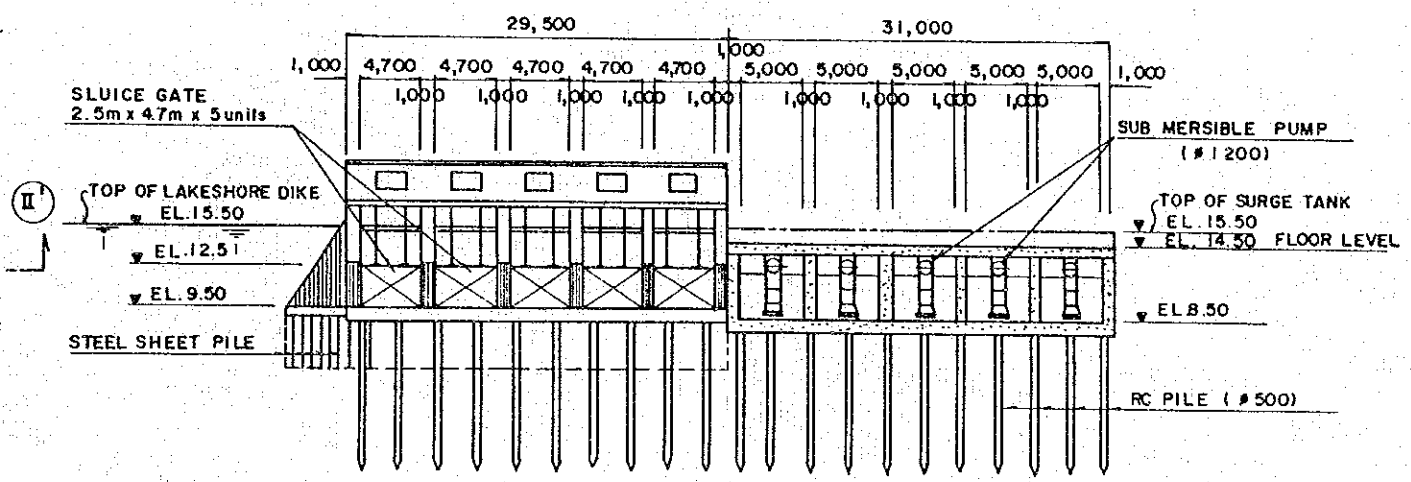
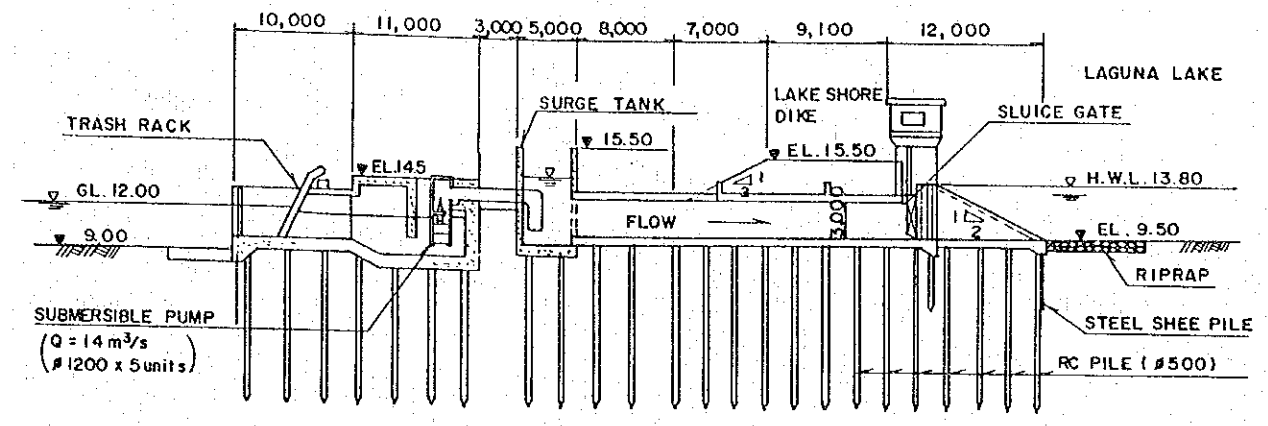
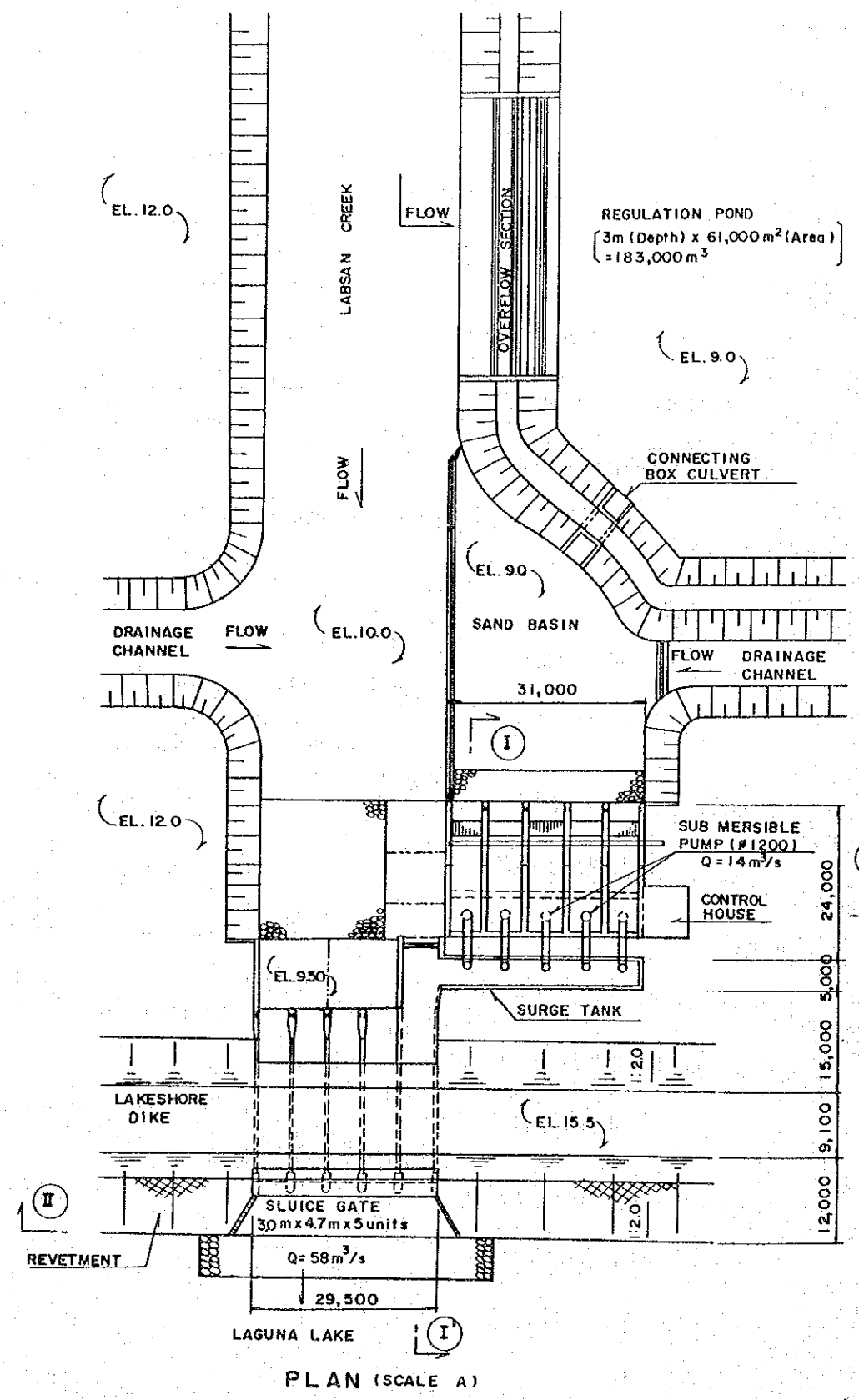
FRONT VIEW (SCALE B)



COMPARISON STUDY OF PUMP STATION
 TYPICAL MODEL OF SUBMERSIBLE TYPE PUMP STATION FOR
 EAST AND WEST OF MANGAHAN
 (Q = 30.0m³/s)

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

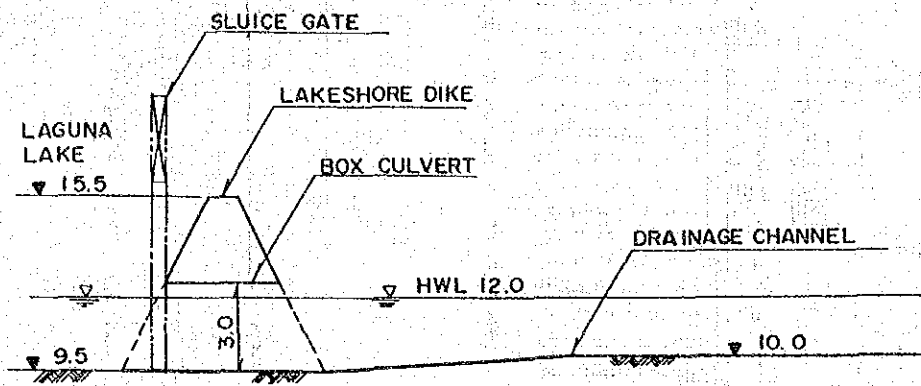
TYPICAL LAYOUT OF PUMP STATION
 (EAST AND WEST OF MANGAHAN)
 Fig.7.2-7



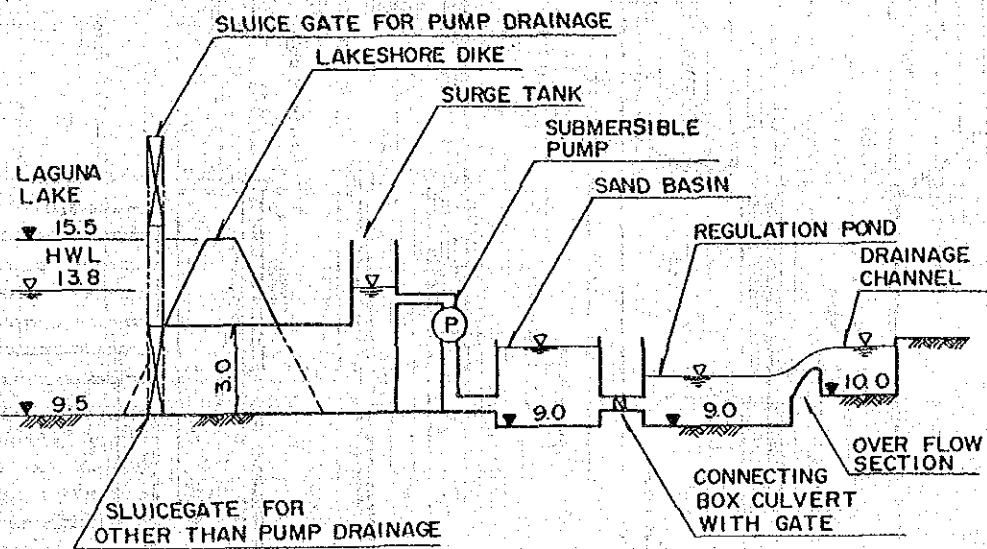
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

GENERAL ARRANGEMENT OF REGULATION POND,
PUMP STATION AND SLUICE GATE
Fig.7.2-8



GRAVITY FLOW DRAINAGE



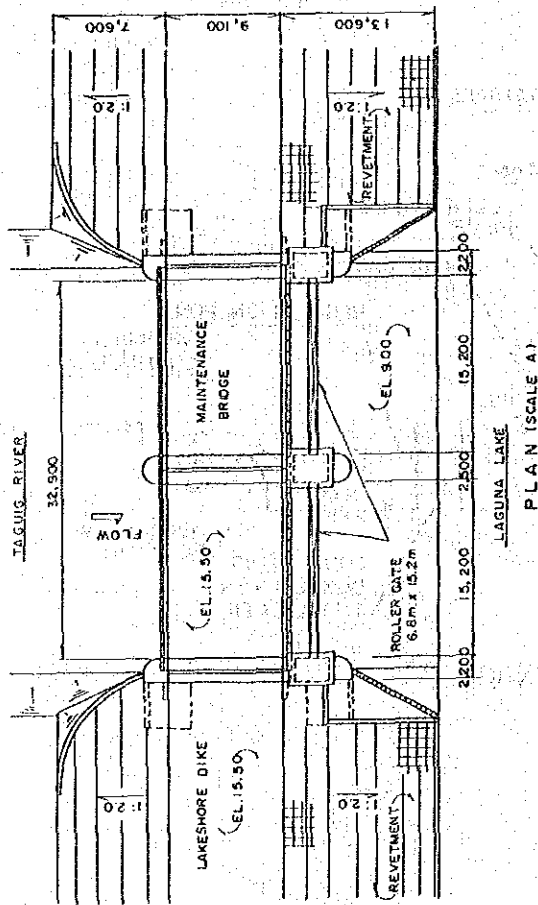
PUMP DRAINAGE

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

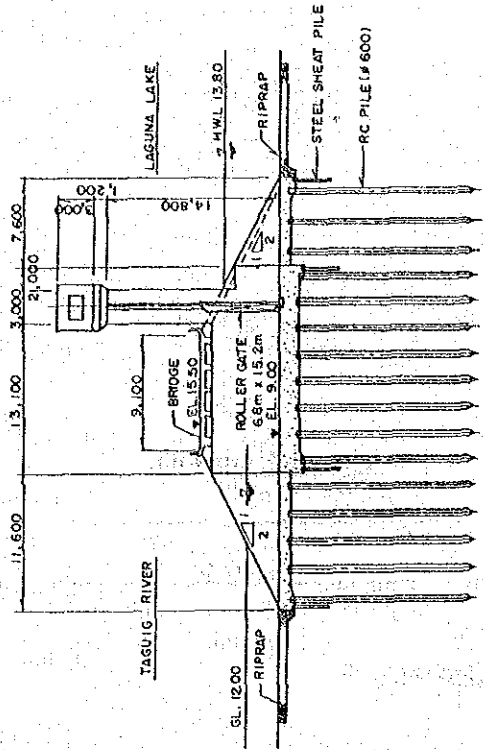
JAPAN INTERNATIONAL COOPERATION AGENCY

SCHEMATIC PROFILE OF REGULATION POND,
PUMP STATION AND SLUICE GATE

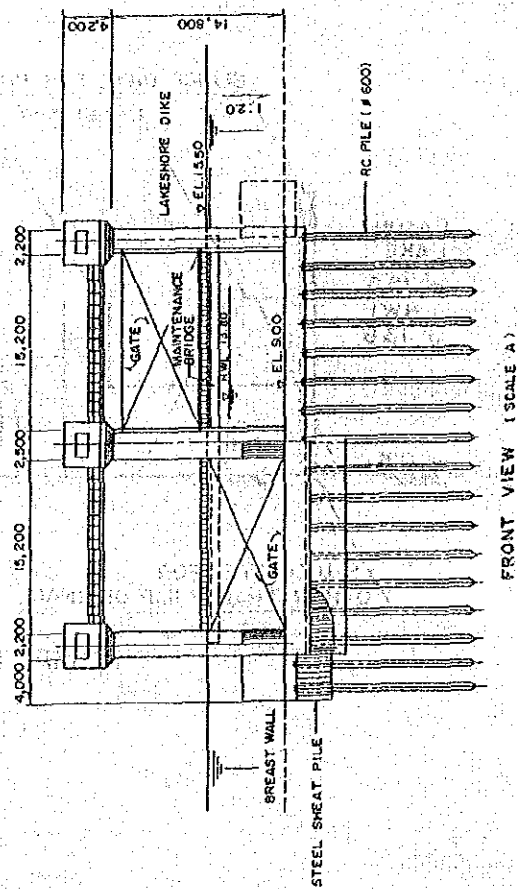
Fig.7.2-9



PLAN (SCALE A)



PROFILE OF SLUICE GATE (SCALE A)



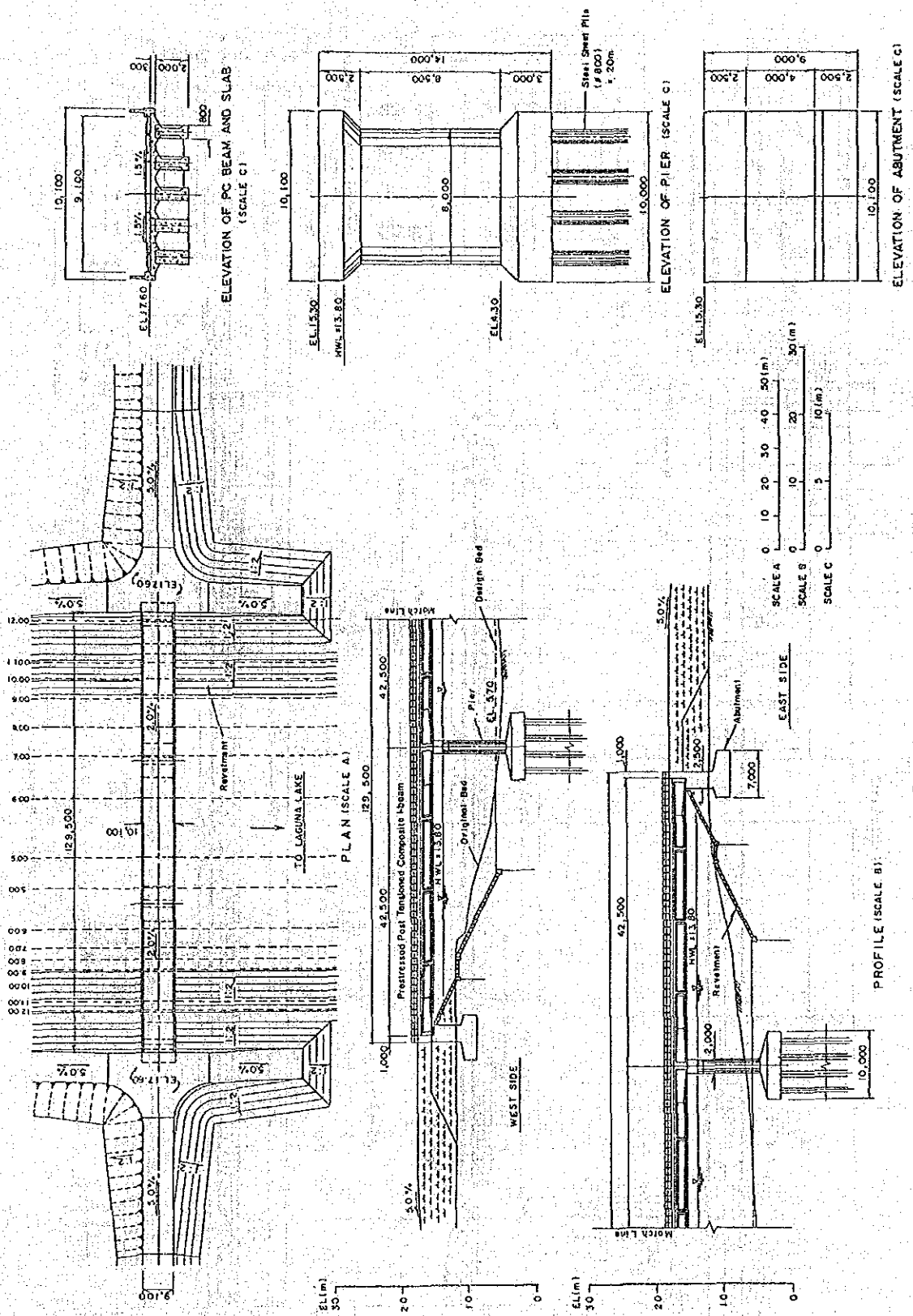
FRONT VIEW (SCALE A)

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

TYPICAL LAYOUT OF SLUICE GATE
(EAST AND WEST OF MANGAHAN)

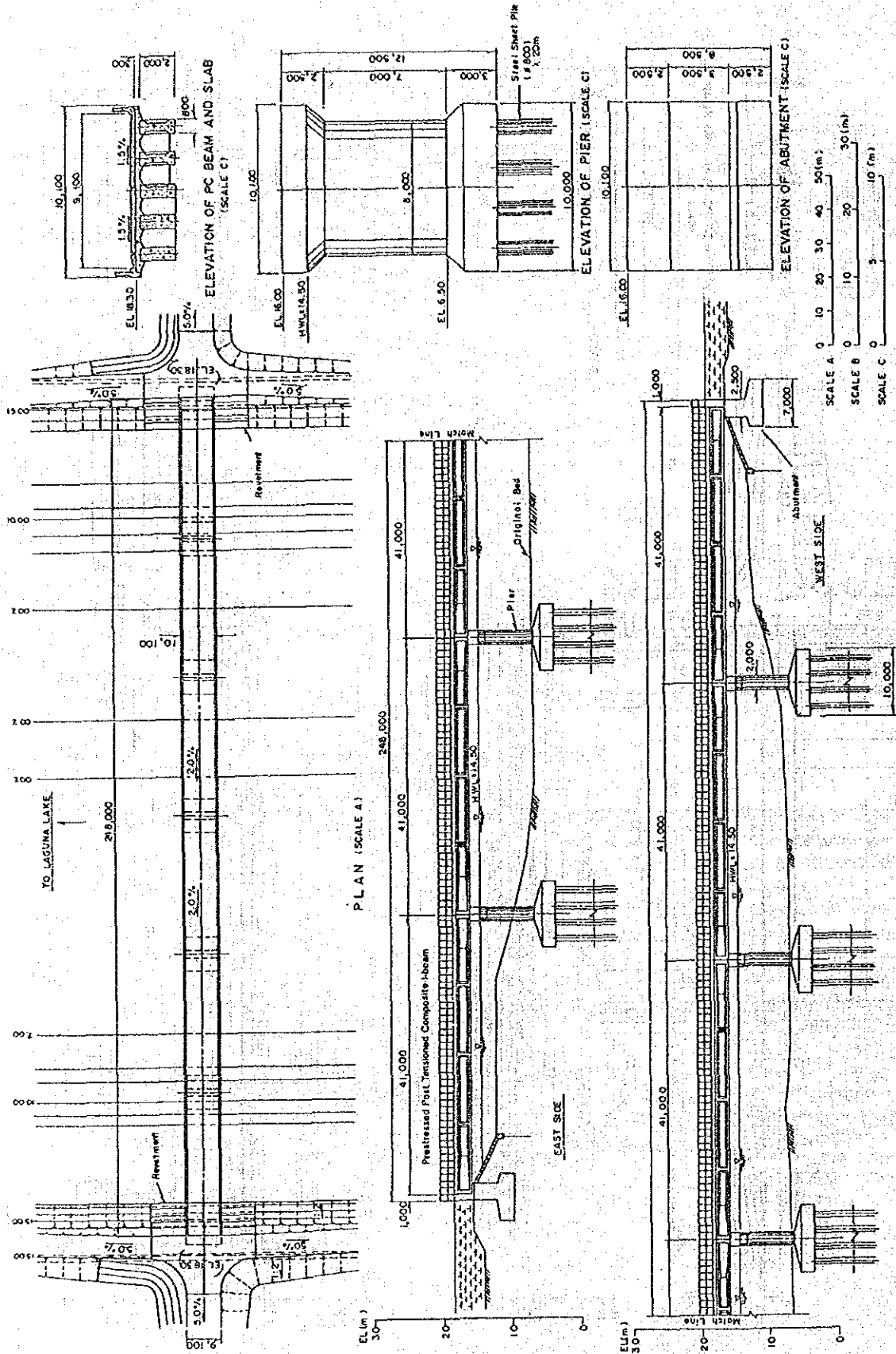
Fig. 7.2-10



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

**GENERAL DRAWING OF BRIDGE
 (NAPINDAN CHANNEL)**

Fig.7.2-11(1/2)



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

GENERAL DRAWING OF BRIDGE
(MANGAHAN FLOODWAY)

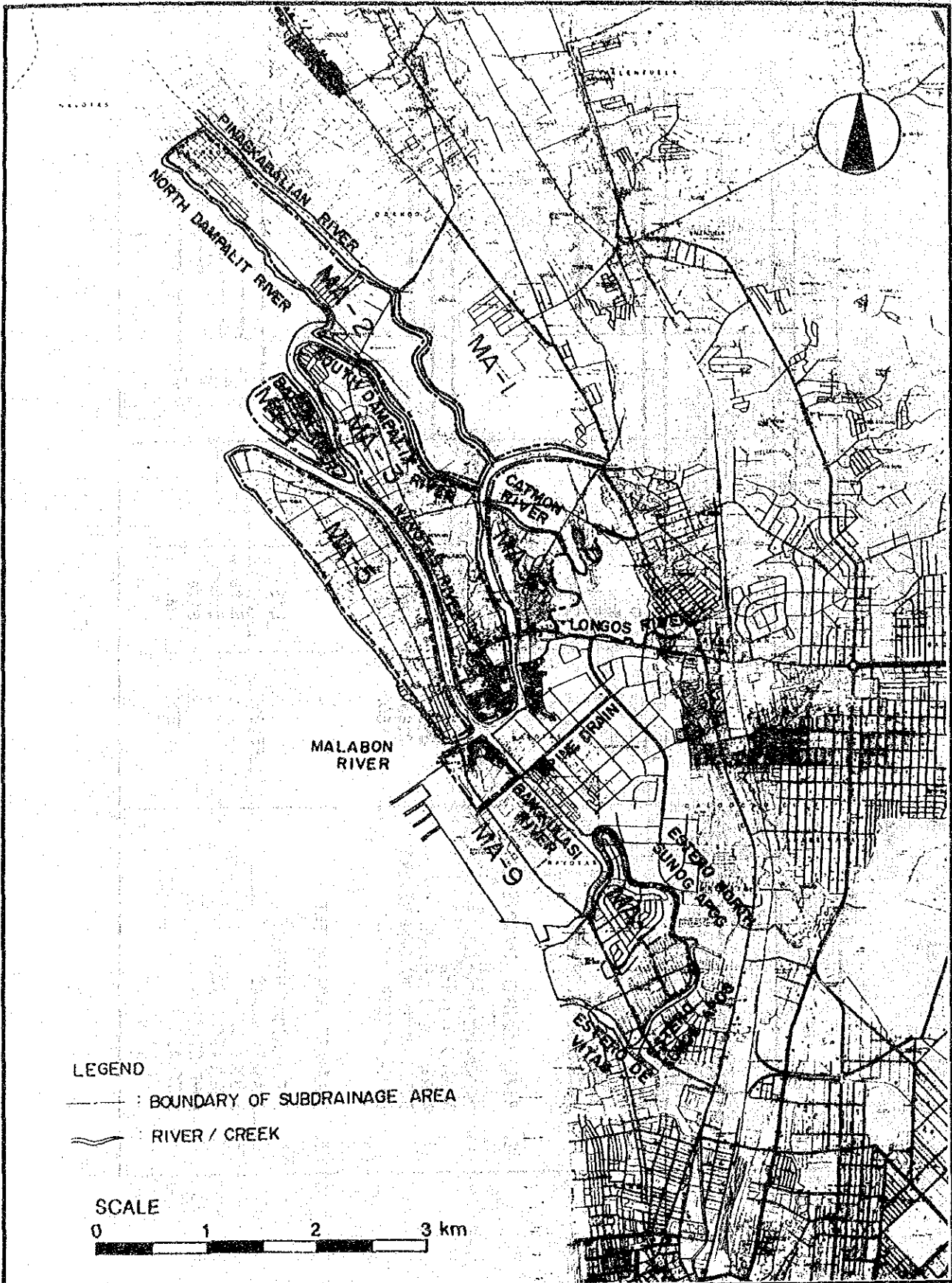
Fig. 7.2-11(2/2)

WORK ITEM	QUANTITY	UNIT	Y E A R			
			1991	1992	1993	1994
1. LAKESHORE DIKE						
PREPARATORY WORKS	1	L/S				
EXCAVATION	145,000	m ³				
EMBANKMENT	872,000	m ³				
REVEGETMENT	80,000	m ²				
SLUICE GATE	5	Site				
MAINTENANCE BRIDGE	4	Site				
2. RIVER CHANNEL IMPROVEMENT						
PREPARATORY WORKS	1	L/S				
NAPINDAN RIVER	5,242	m				
MANGAHAN DIVERSION	3,900	m				
BULI, BAHO, MAHABA RIVERS	5,800	m				
LOWER BICUTAN RIVER	800	m				
3. DRAINAGE IMPROVEMENT						
PREPARATORY WORKS	1	L/S				
CHANNEL WORKS	55,000	m				
SLUICE GATE	9	Site				
REGULATION POND	6	Site				
PUMP STATION	9	Site				
LATERAL	114,500	m				

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

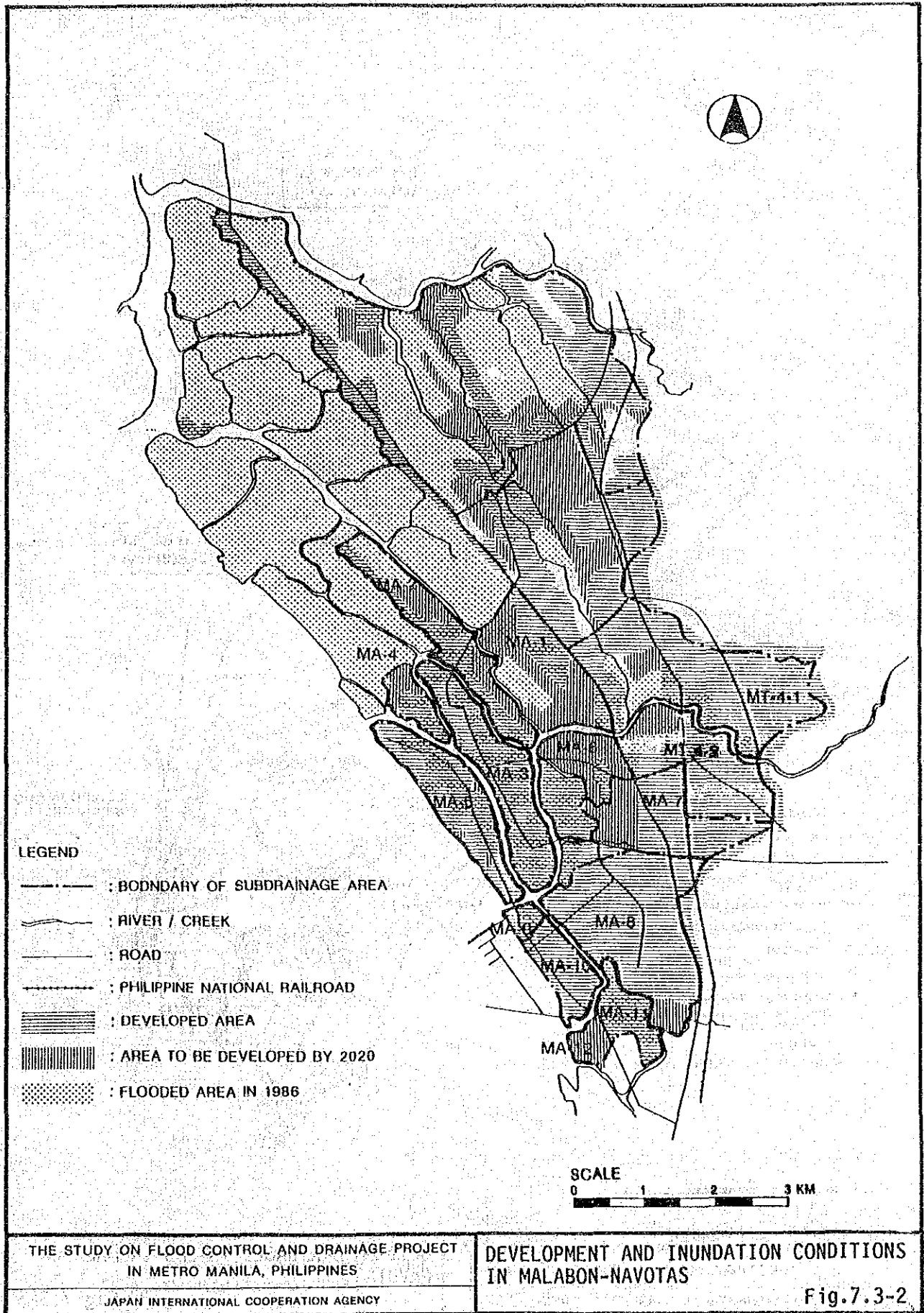
WORK SCHEDULE FOR EAST AND WEST OF
MANGAHAN DRAINAGE IMPROVEMENT PROJECT
Fig.7.2-12



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

SUBDRAINAGE AREAS IN MALABON-NAVOTAS
Fig.7.3-1



LEGEND

- : BODNDARY OF SUBDRAINAGE AREA
- ~~~~~ : RIVER / CREEK
- : ROAD
- : PHILIPPINE NATIONAL RAILROAD
- ||||| : DEVELOPED AREA
- ||||| : AREA TO BE DEVELOPED BY 2020
- : FLOODED AREA IN 1986

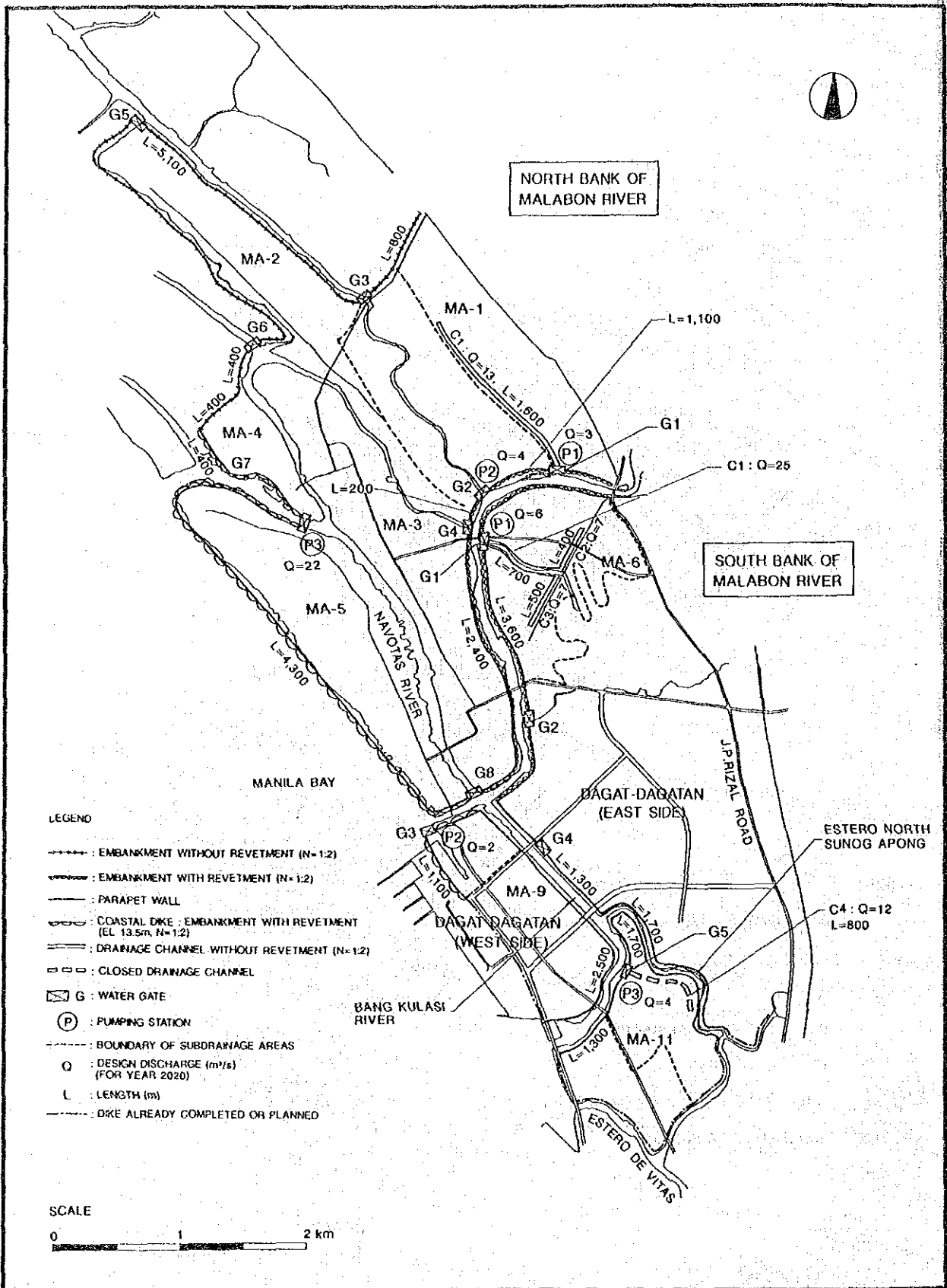
SCALE
0 1 2 3 KM

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

DEVELOPMENT AND INUNDATION CONDITIONS
IN MALABON-NAVOTAS

Fig.7.3-2



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

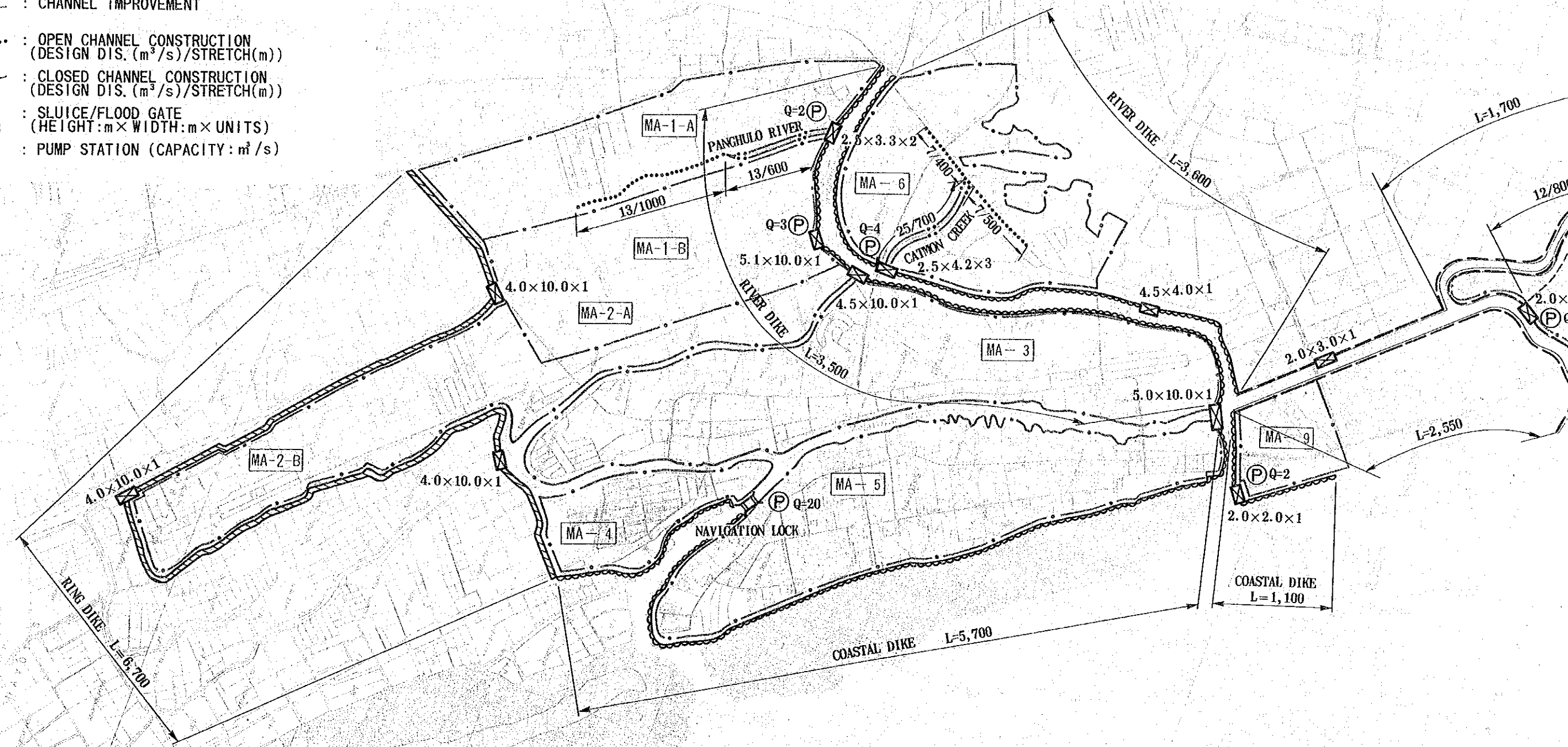
JAPAN INTERNATIONAL COOPERATION AGENCY

OPTIMUM DRAINAGE SYSTEMS IN MALABON-
NAVOTAS

Fig.7.3-3

LEGEND

- · — · — : BOUNDARY OF DRAINAGE AREA
- ▨ : RING DIKE (EMBANKMENT W/O REVETMENT)
- ▩ : RIVER DIKE/COASTAL DIKE (EMBANKMENT W/ REVETMENT)
- ▬ : PARAPET/RIVER WALL
- · · · : CHANNEL IMPROVEMENT
- ⋯ : OPEN CHANNEL CONSTRUCTION (DESIGN DIS. (m³/s)/STRETCH(m))
- · — · — : CLOSED CHANNEL CONSTRUCTION (DESIGN DIS. (m³/s)/STRETCH(m))
- ⊠ : SLUICE/FLOOD GATE (HEIGHT:m×WIDTH:m×UNITS)
- Ⓟ : PUMP STATION (CAPACITY:m³/s)

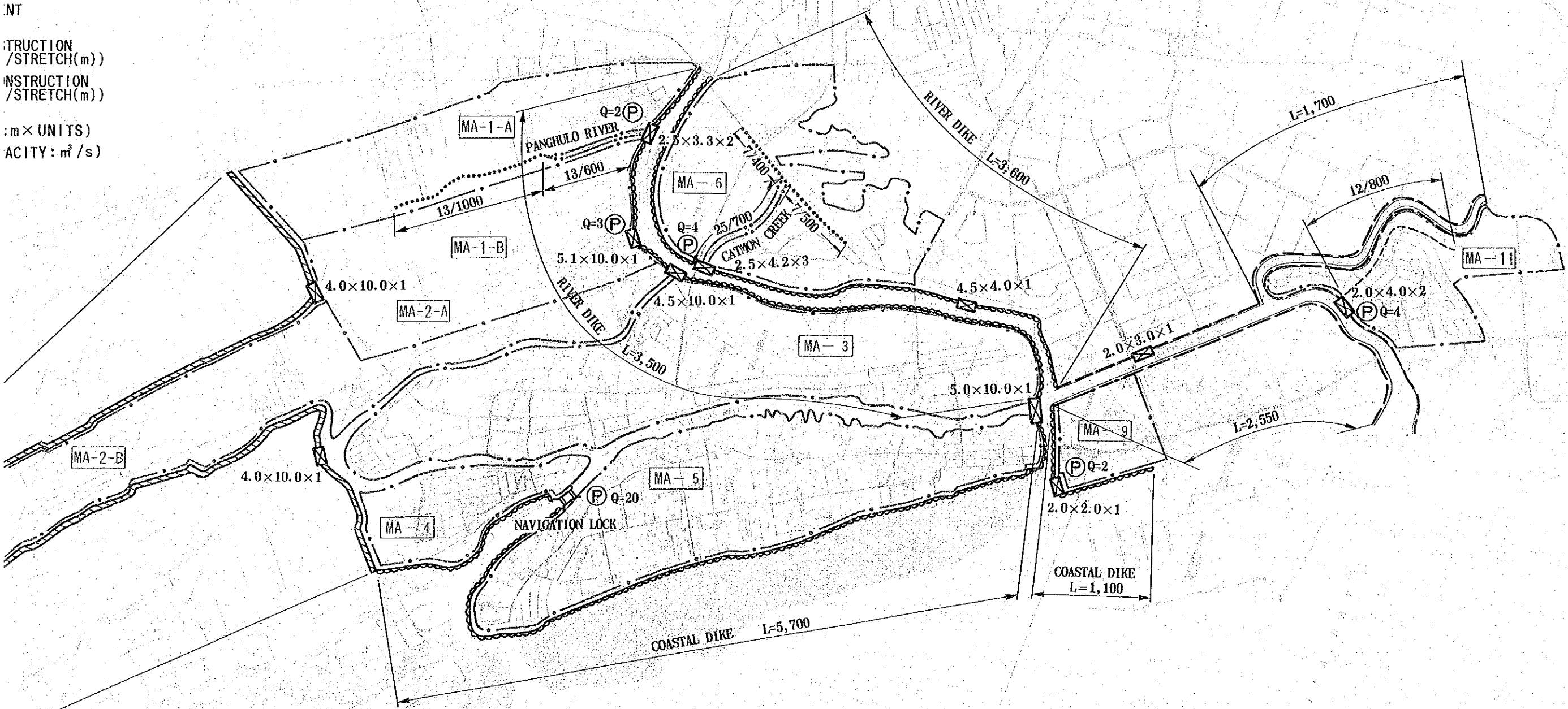


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT IN METRO MANILA, PHILIPPINES	LAYOUT OF MALABON-
JAPAN INTERNATIONAL COOPERATION AGENCY	

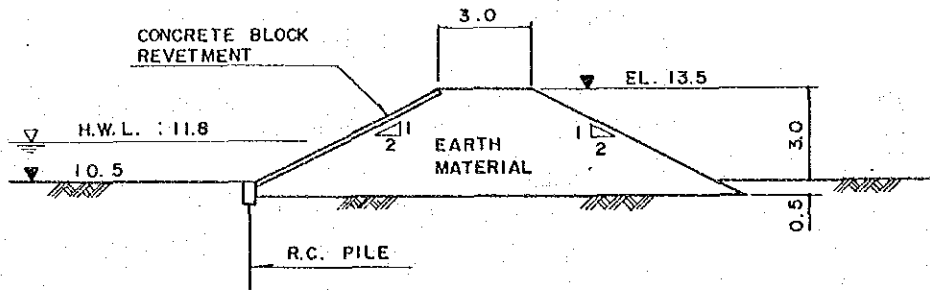
IMAGE AREA
 (MENT W/O REVETMENT)
 RIVER DIKE (EMBANKMENT
 W/ REVETMENT)
 L
 NT
 TRUCTION
 /STRETCH(m))
 NSTRUCTION
 /STRETCH(m))
 :m×UNITS)
 ACITY: m²/s)



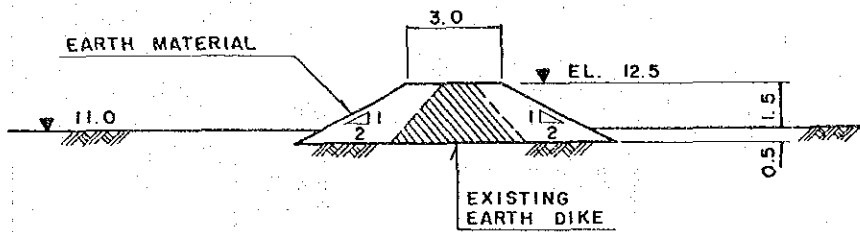
SCALE
 0 1 km



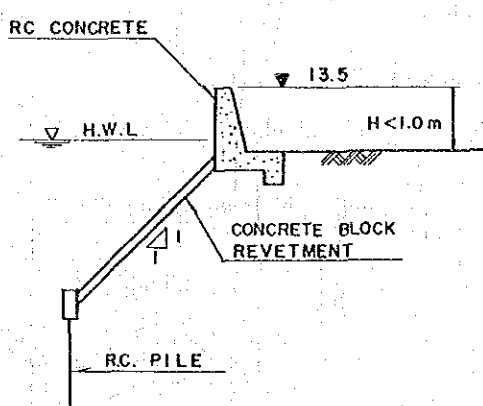
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT IN METRO MANILA, PHILIPPINES JAPAN INTERNATIONAL COOPERATION AGENCY	LAYOUT OF FACILITIES FOR MALABON-NAVOTAS Fig.7.3-4
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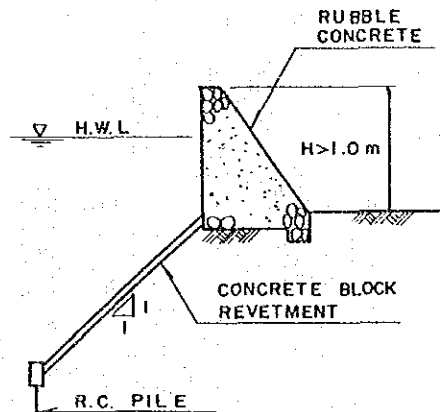
COASTAL DIKE



RING DIKE



PARAPET WALL



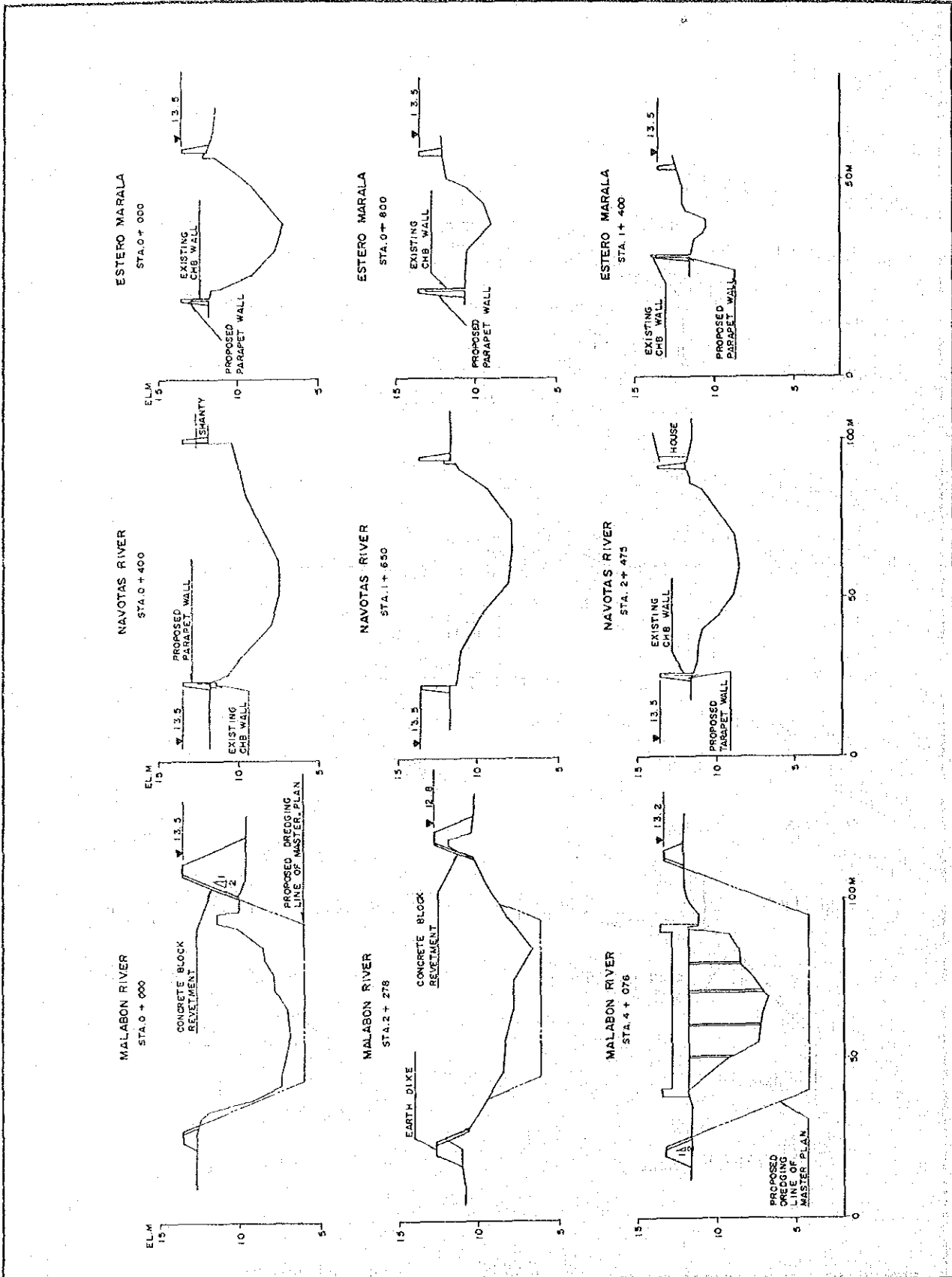
RIVER WALL

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

TYPICAL CROSS-SECTIONS OF RING DIKE
(MALABON-NAVOTAS)

Fig.7.3-5

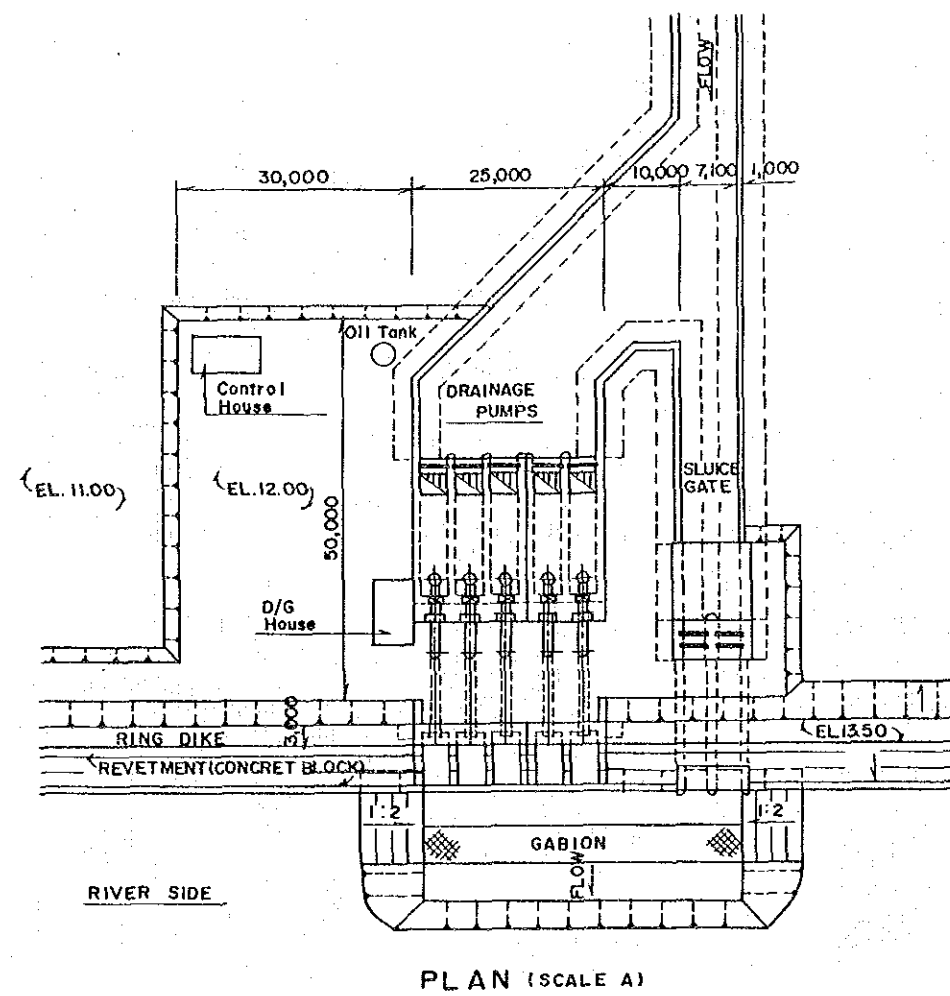


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

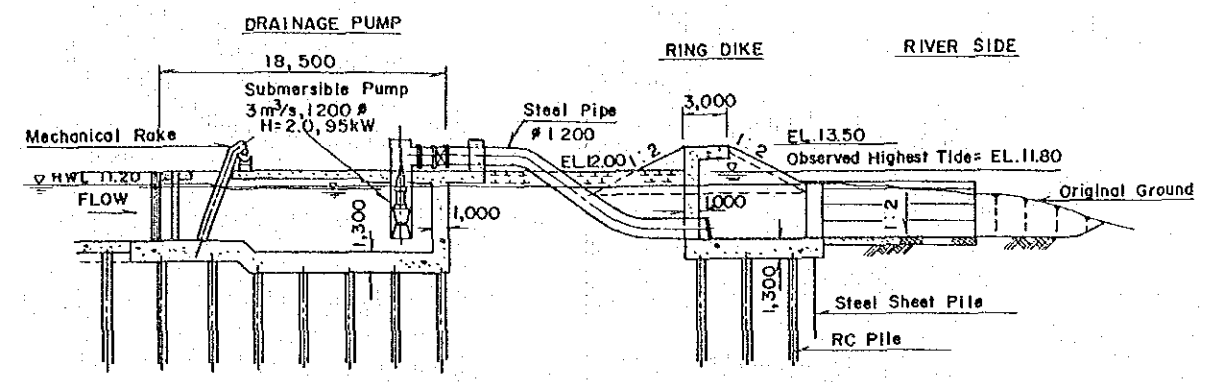
JAPAN INTERNATIONAL COOPERATION AGENCY

PROPOSED RIVER DIKE AND PARAPET WALL

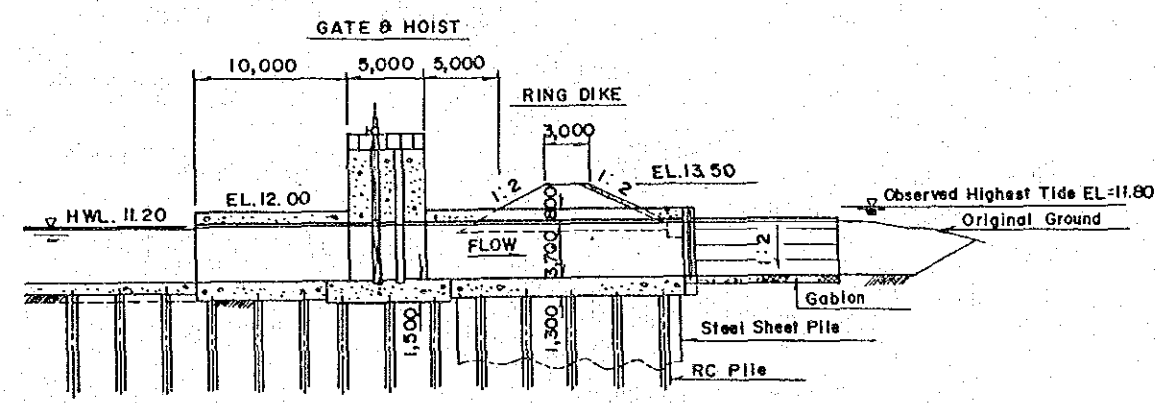
Fig.7.3-6



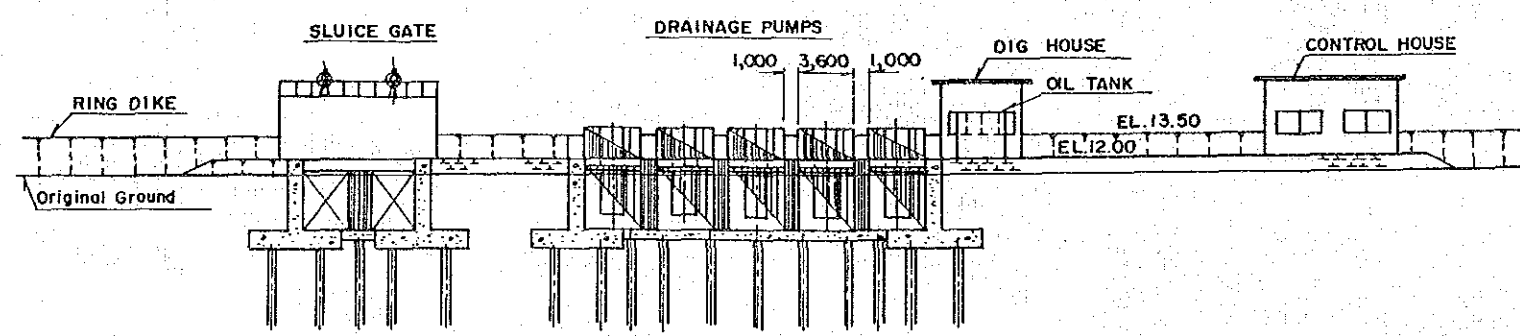
PLAN (SCALE A)



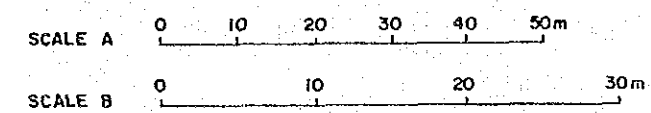
PROFILE OF DRAINAGE PUMP (SCALE B)



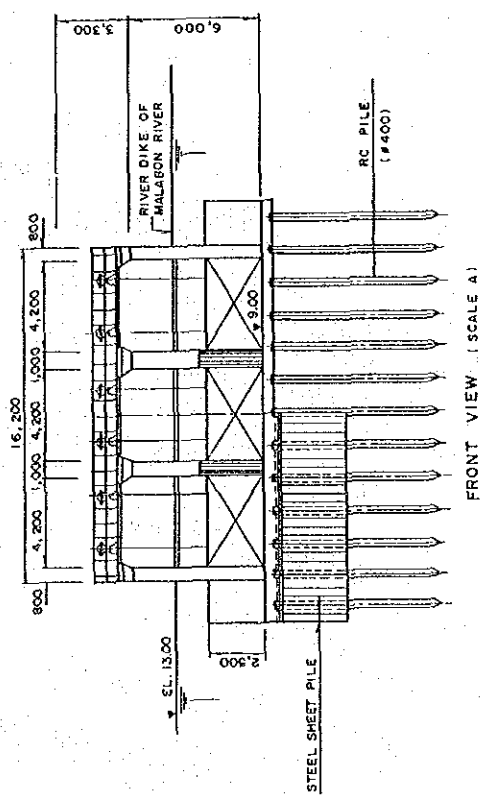
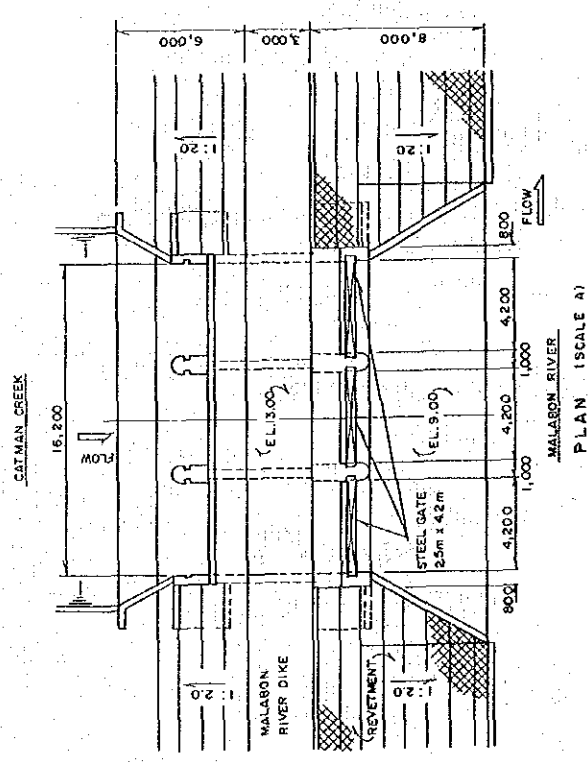
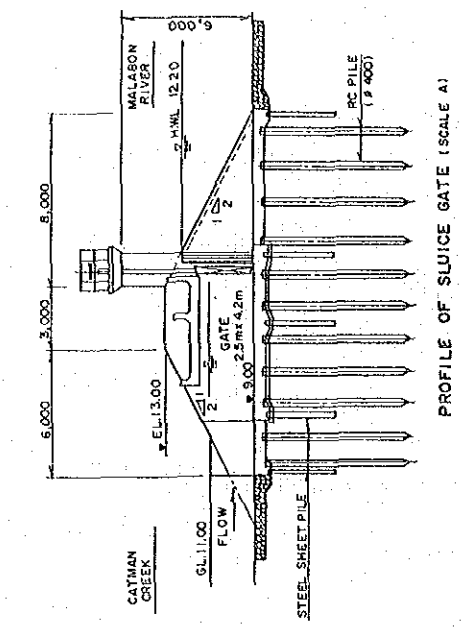
PROFILE OF SLUICE WAY (SCALE B)



FRONT VIEW (SCALE B)

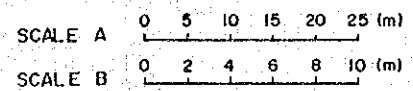
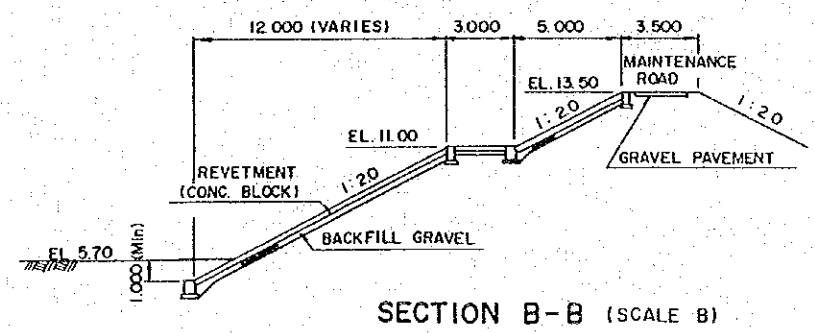
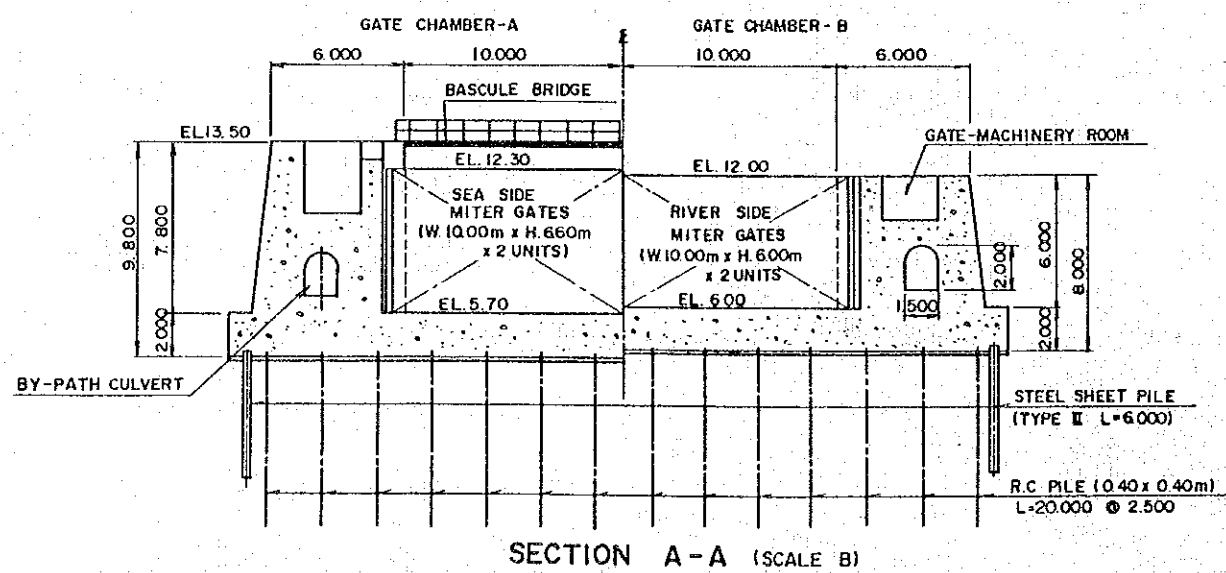
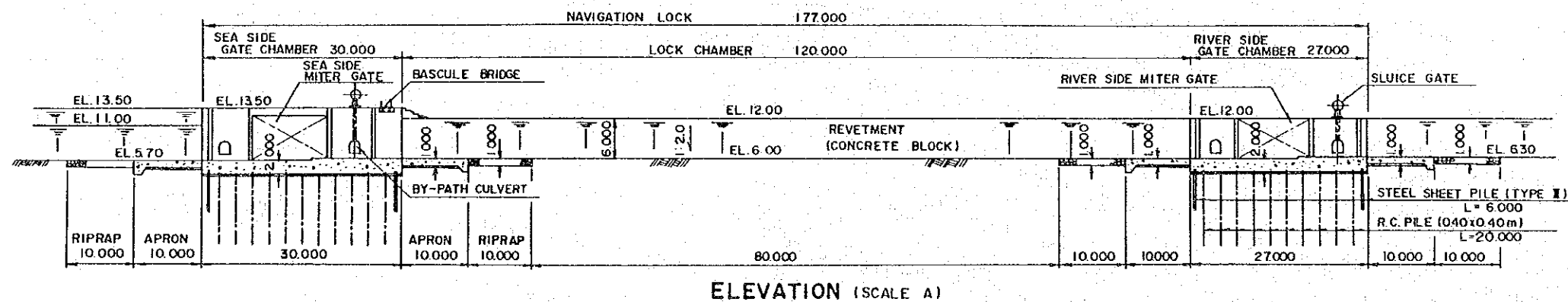
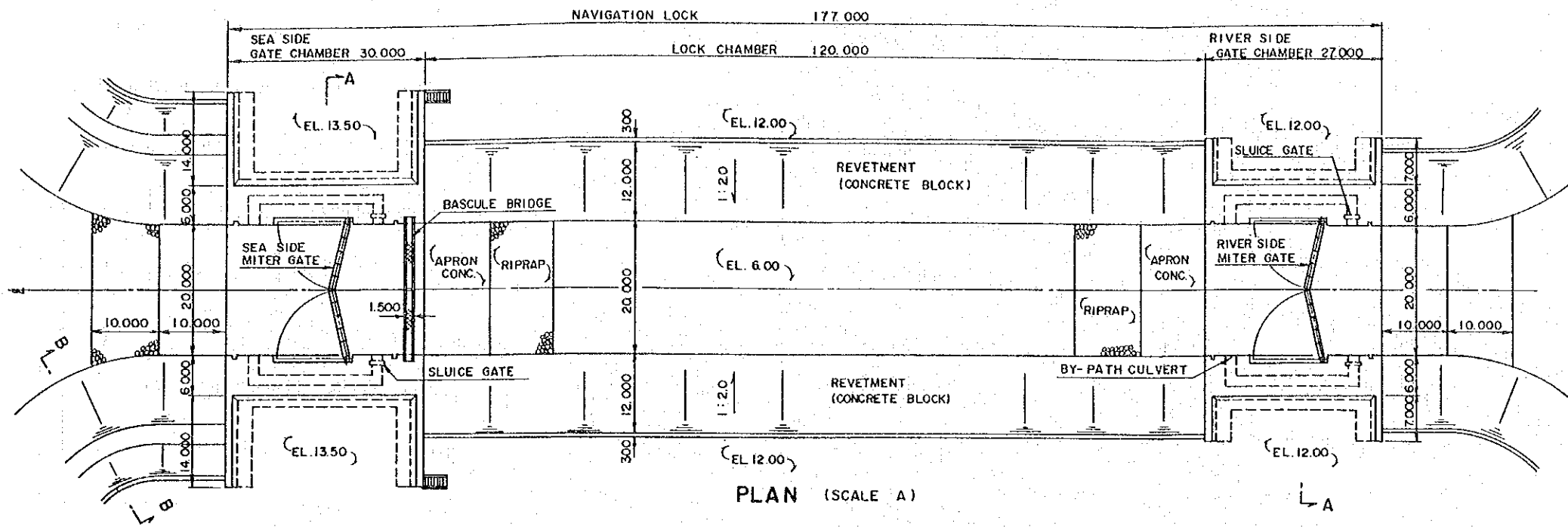


COMPARISON STUDY OF PUMP STATION
 TYPICAL MODEL OF SUBMERSIBLE-TYPE PUMP STATION
 FOR MALABON-NAVOTAS
 (Q = 15.0 m³/s)



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

TYPICAL LAYOUT OF SLUICE GATE
 (MALABON-NAVOTAS)
 Fig.7.3-8



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

GENERAL DRAWING OF NAVOTAS
 NAVIGATION LOCK
 Fig.7.3-9

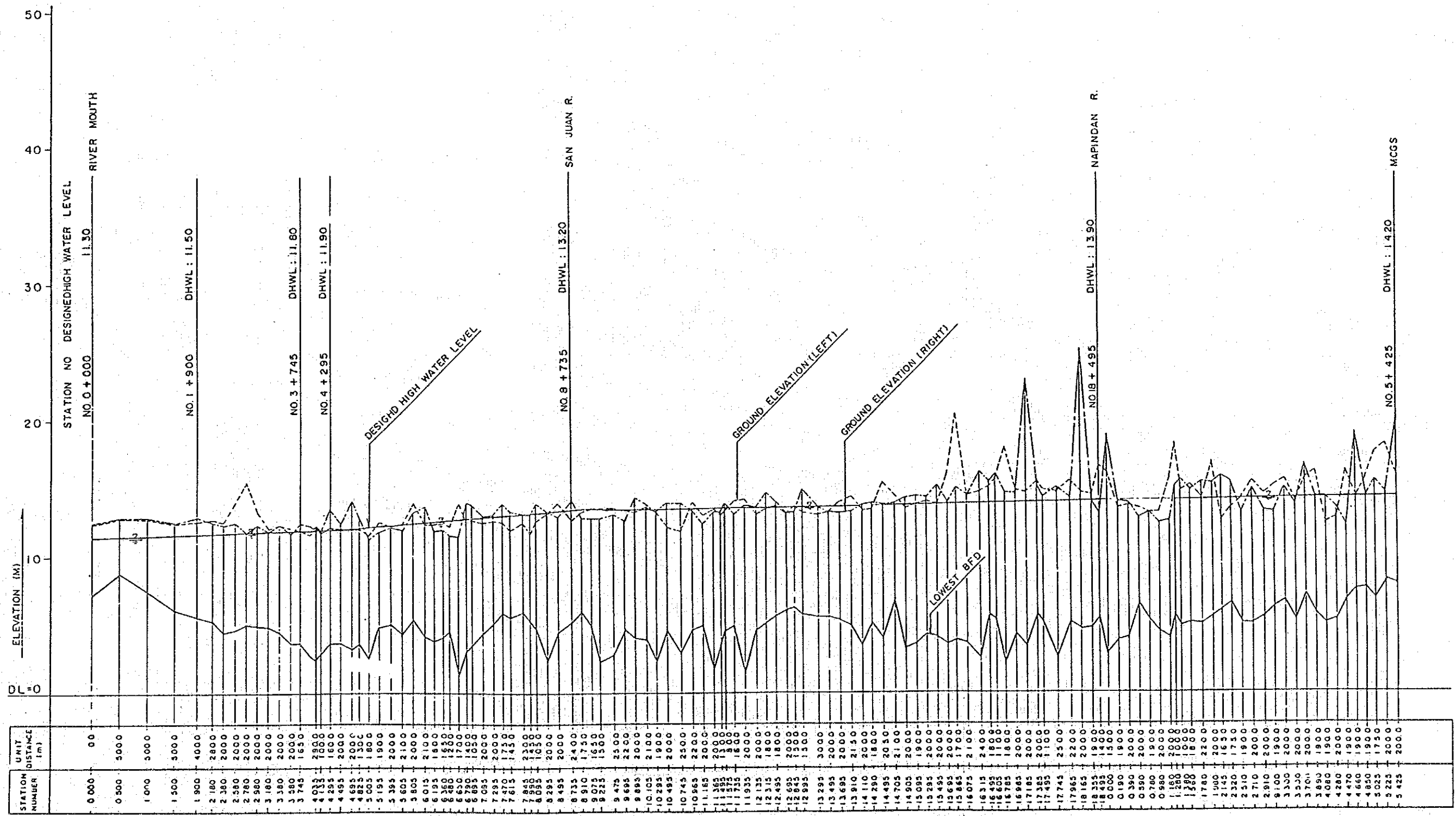
WORK ITEM	QUANTITY	UNIT	Y E A R			
			1991	1992	1993	1994
1. NORTH OF MALABON RIVER						
PREPARATORY WORKS	1	L/S				
RING DIKE	15,900	m				
CHANNEL WORKS	1,600	m				
GATE	7	Site				
PUMP STATION	3	Site				
LATERAL	31,200	m				
2. NAVIGATION LOCK						
PREPARATORY WORKS	1	L/S				
EARTHWORKS	1	L/S				
CONCRETE WORKS	1	L/S				
GATE/EQUIPMENT	1	L/S				
3. SOUTH OF MALABON RIVER						
PREPARATORY WORKS	1	L/S				
RING DIKE	13,200	m				
CHANNEL WORKS	2,400	m				
GATE	5	Site				
PUMP STATION	3	Site				
LATERAL	5,900	m				

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

WORK SCHEDULE FOR MALABON-NAVOTAS
DRAINAGE IMPROVEMENT PROJECT

Fig.7.3-10

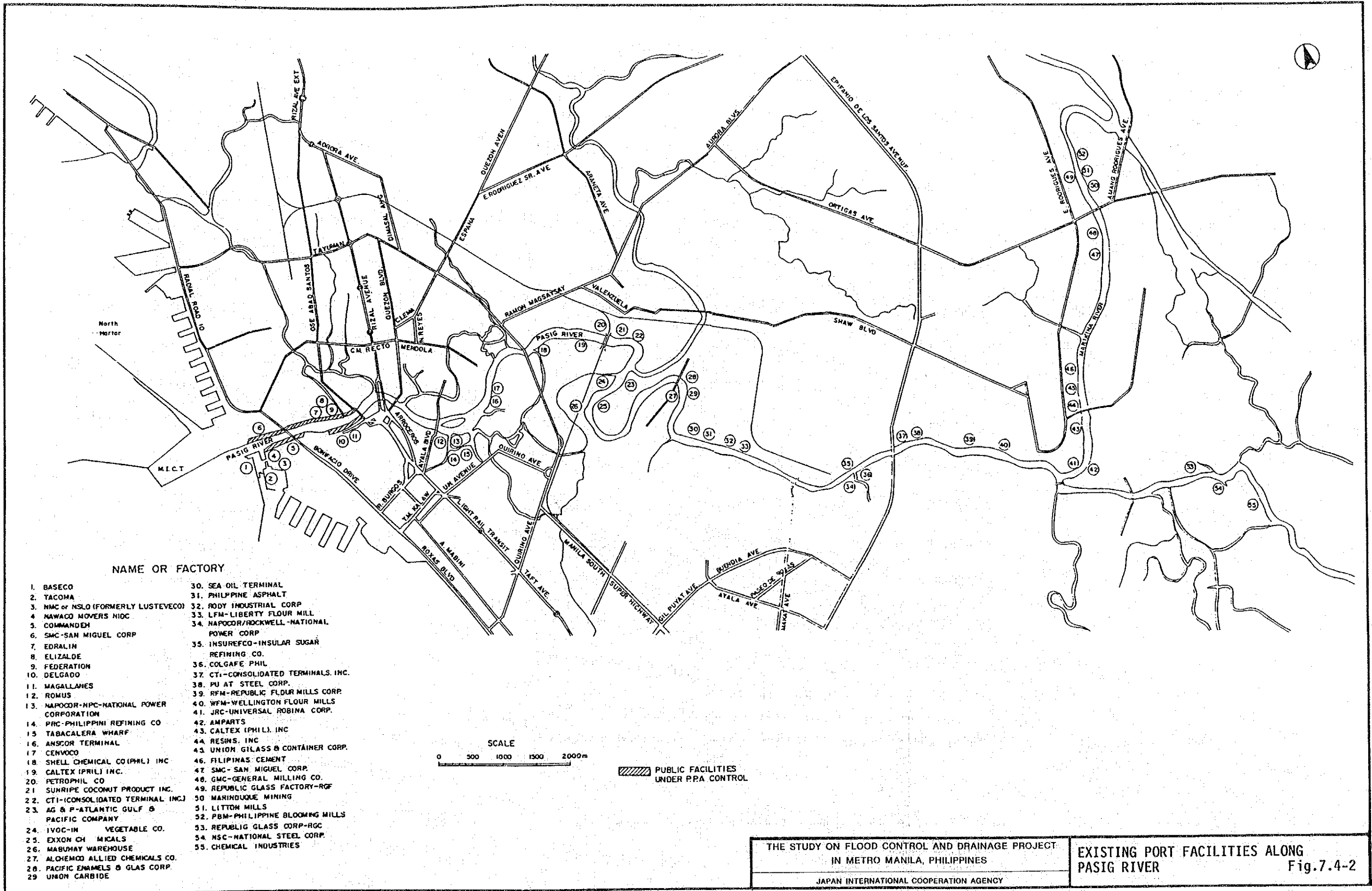


STATION NUMBER	UNIT DISTANCE (m)
0 000	00
0 500	500
1 000	1000
1 500	1500
1 900	1900
2 180	2180
2 360	2360
2 580	2580
2 780	2780
2 980	2980
3 180	3180
3 380	3380
3 580	3580
3 745	3745
4 035	4035
4 235	4235
4 495	4495
4 695	4695
4 835	4835
5 005	5005
5 195	5195
5 395	5395
5 605	5605
5 805	5805
6 015	6015
6 195	6195
6 360	6360
6 480	6480
6 620	6620
6 780	6780
6 950	6950
7 095	7095
7 295	7295
7 470	7470
7 615	7615
7 845	7845
8 035	8035
8 235	8235
8 495	8495
8 735	8735
8 910	8910
9 075	9075
9 225	9225
9 475	9475
9 695	9695
9 895	9895
10 105	10105
10 295	10295
10 495	10495
10 745	10745
10 965	10965
11 165	11165
11 365	11365
11 575	11575
11 735	11735
11 935	11935
12 135	12135
12 315	12315
12 495	12495
12 695	12695
12 895	12895
13 095	13095
13 295	13295
13 495	13495
13 695	13695
13 865	13865
14 075	14075
14 215	14215
14 315	14315
14 495	14495
14 705	14705
14 905	14905
15 095	15095
15 295	15295
15 495	15495
15 695	15695
16 075	16075
16 315	16315
16 495	16495
16 605	16605
16 785	16785
16 965	16965
17 185	17185
17 385	17385
17 495	17495
17 745	17745
17 965	17965
18 165	18165
18 355	18355
18 495	18495
0 000	1500
0 190	1900
0 390	2000
0 590	2000
0 780	1900
0 980	2000
1 180	2000
1 380	1800
1 580	2200
1 780	2000
1 980	2000
2 145	1650
2 320	1750
2 510	1900
2 710	2000
2 910	2000
3 100	1900
3 300	2000
3 500	2000
3 701	2000
3 890	1900
4 080	1900
4 280	2000
4 470	1900
4 660	1900
4 850	1900
5 025	1750
5 225	2000
5 425	2000

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

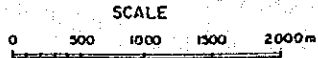
DESIGNED HIGH WATER LEVEL

Fig.7.4-1



NAME OR FACTORY

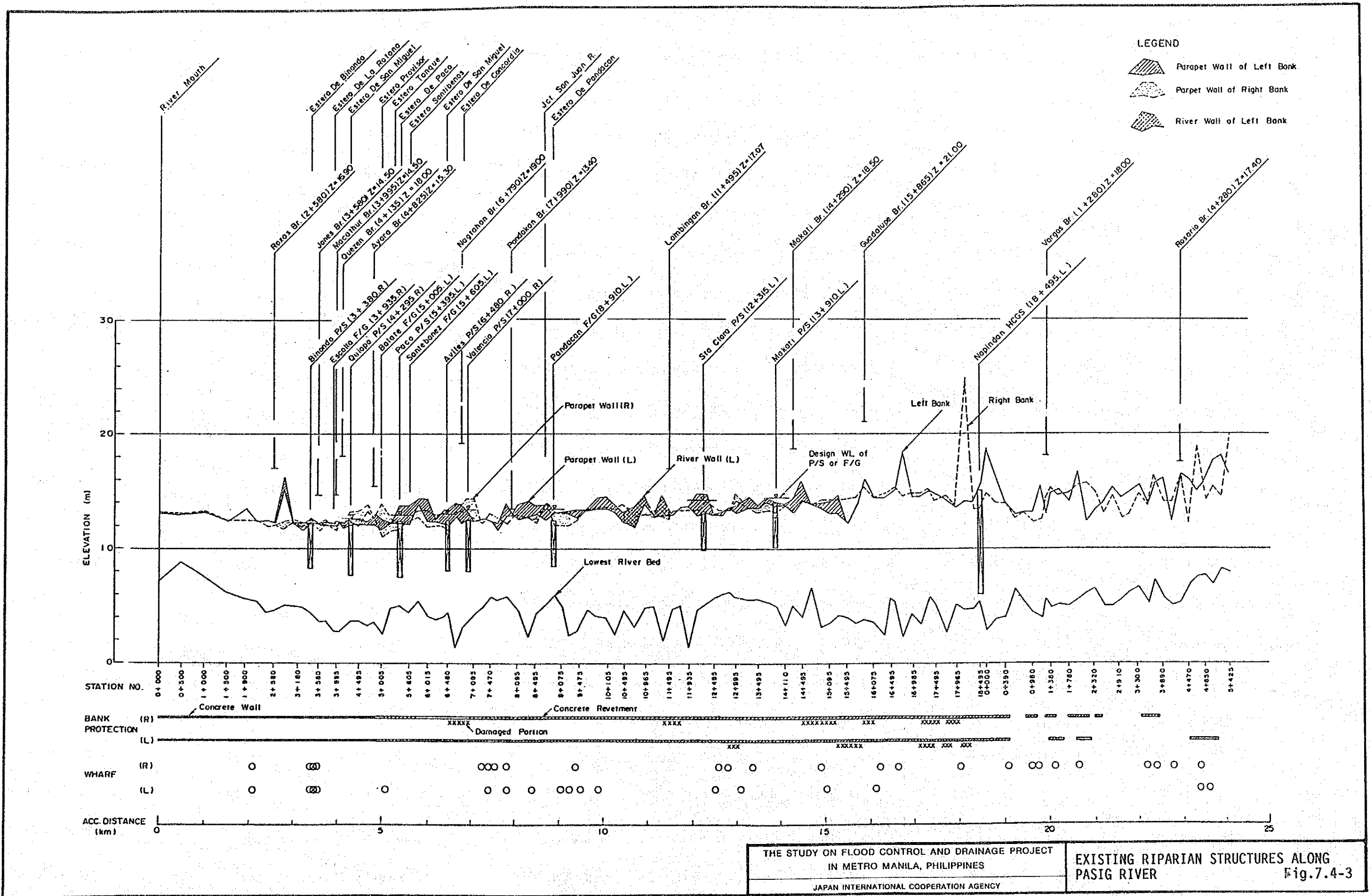
- | | |
|--|--|
| 1. BASECO | 30. SEA OIL TERMINAL |
| 2. TACOMA | 31. PHILIPPINE ASPHALT |
| 3. NMC or NSLO (FORMERLY LUSTEVECO) | 32. RODY INDUSTRIAL CORP |
| 4. NAWACO MOVERS NIOC | 33. LFM-LIBERTY FLOUR MILL |
| 5. COMMANDEN | 34. NAPOCOR/ROCKWELL-NATIONAL POWER CORP |
| 6. SMC-SAN MIGUEL CORP | 35. INSUREFCO-INSULAR SUGAR REFINING CO. |
| 7. EDRALIN | 36. COLGAFE PHIL |
| 8. ELIZALOE | 37. CTI-CONSOLIDATED TERMINALS, INC. |
| 9. FEDERATION | 38. PU AT STEEL CORP. |
| 10. DELGADO | 39. RFM-REPUBLIC FLOUR MILLS CORP. |
| 11. MAGALLANES | 40. WFM-WELLINGTON FLOUR MILLS |
| 12. ROMUS | 41. JRC-UNIVERSAL ROBINA CORP. |
| 13. NAPOCOR-HPC-NATIONAL POWER CORPORATION | 42. AMPARTS |
| 14. PRC-PHILIPPINE REFINING CO | 43. CALTEX (PHIL.) INC |
| 15. TABACALERA WHARF | 44. RESINS, INC |
| 16. ANSCOR TERMINAL | 45. UNION GLASS & CONTAINER CORP. |
| 17. CENVOCO | 46. FILIPINAS CEMENT |
| 18. SHELL CHEMICAL CO (PHIL.) INC | 47. SMC-SAN MIGUEL CORP. |
| 19. CALTEX (PHIL.) INC. | 48. GMC-GENERAL MILLING CO. |
| 20. PETROPHIL CO | 49. REPUBLIC GLASS FACTORY-RGF |
| 21. SUHRIPE COCONUT PRODUCT INC. | 50. MARINOUQUE MINING |
| 22. CTI-(CONSOLIDATED TERMINAL INC) | 51. LITTON MILLS |
| 23. AG & P-ATLANTIC GULF & PACIFIC COMPANY | 52. PBM-PHILIPPINE BLOOMING MILLS |
| 24. IVOC-IM VEGETABLE CO. | 53. REPUBLIC GLASS CORP-RGC |
| 25. EXXON CHEMICALS | 54. NSC-NATIONAL STEEL CORP. |
| 26. MABUHAY WAREHOUSE | 55. CHEMICAL INDUSTRIES |
| 27. ALCHEMID ALLIED CHEMICALS CO. | |
| 28. PACIFIC ENAMELS & GLASS CORP. | |
| 29. UNION CARBIDE | |



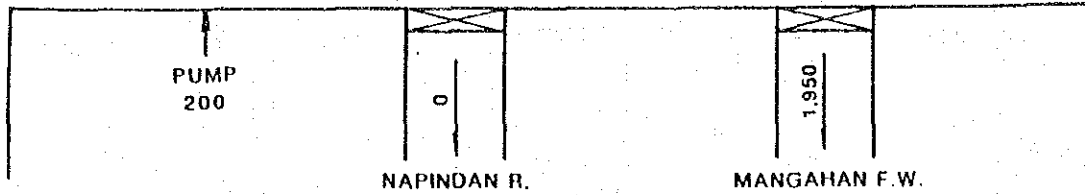
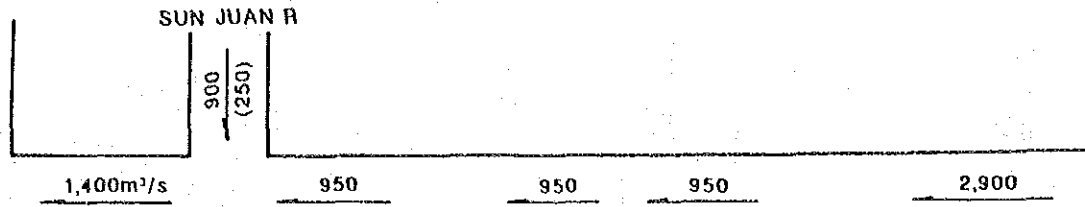
PUBLIC FACILITIES UNDER PPA CONTROL

THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES
JAPAN INTERNATIONAL COOPERATION AGENCY

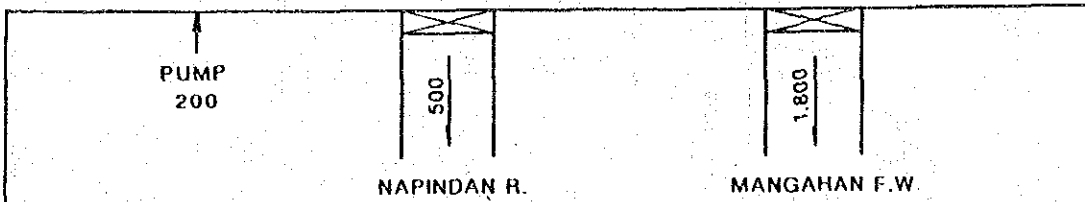
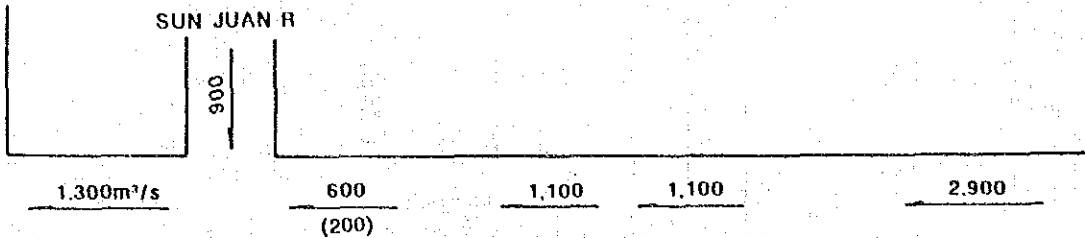
EXISTING PORT FACILITIES ALONG PASIG RIVER
Fig.7.4-2



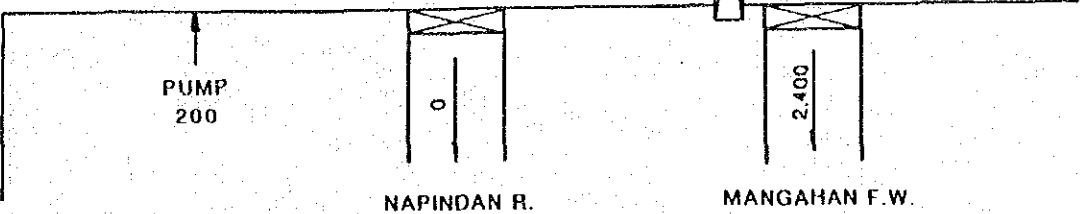
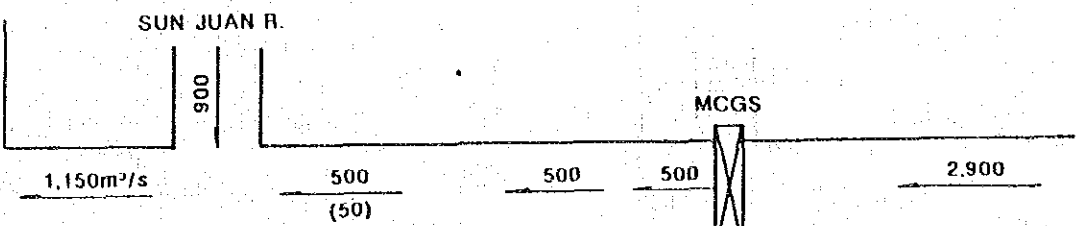
CASE 1



CASE 2



CASE 3

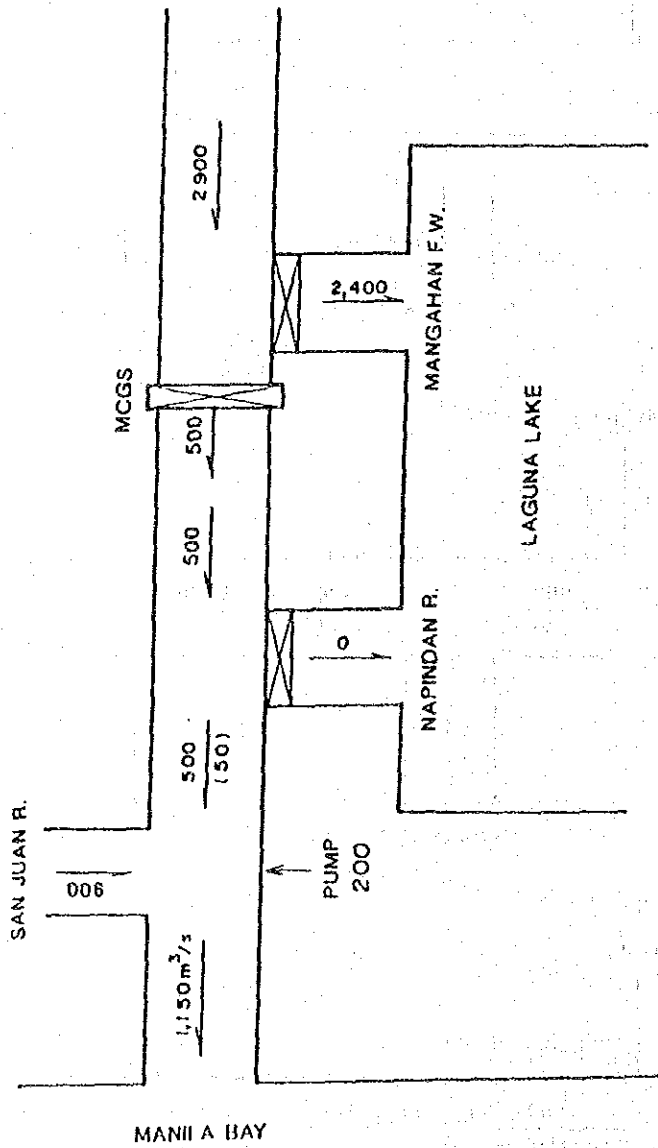


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

JAPAN INTERNATIONAL COOPERATION AGENCY

DISCHARGE DISTRIBUTION OF
THREE STUDY CASES

Fig.7.4-4

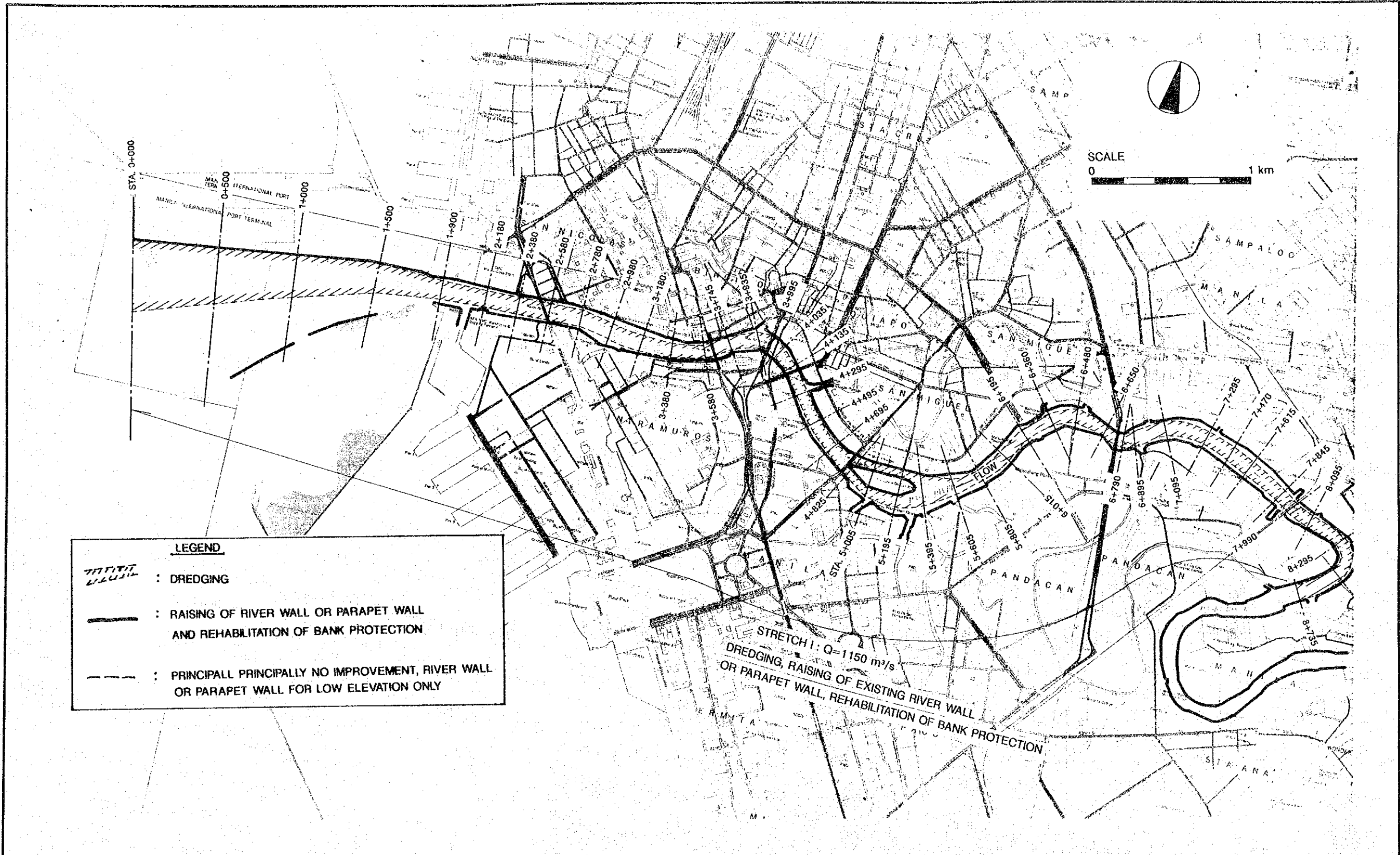


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

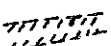
JAPAN INTERNATIONAL COOPERATION AGENCY


DESIGN DISCHARGE DISTRIBUTION

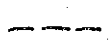
Fig.7.4-5



LEGEND

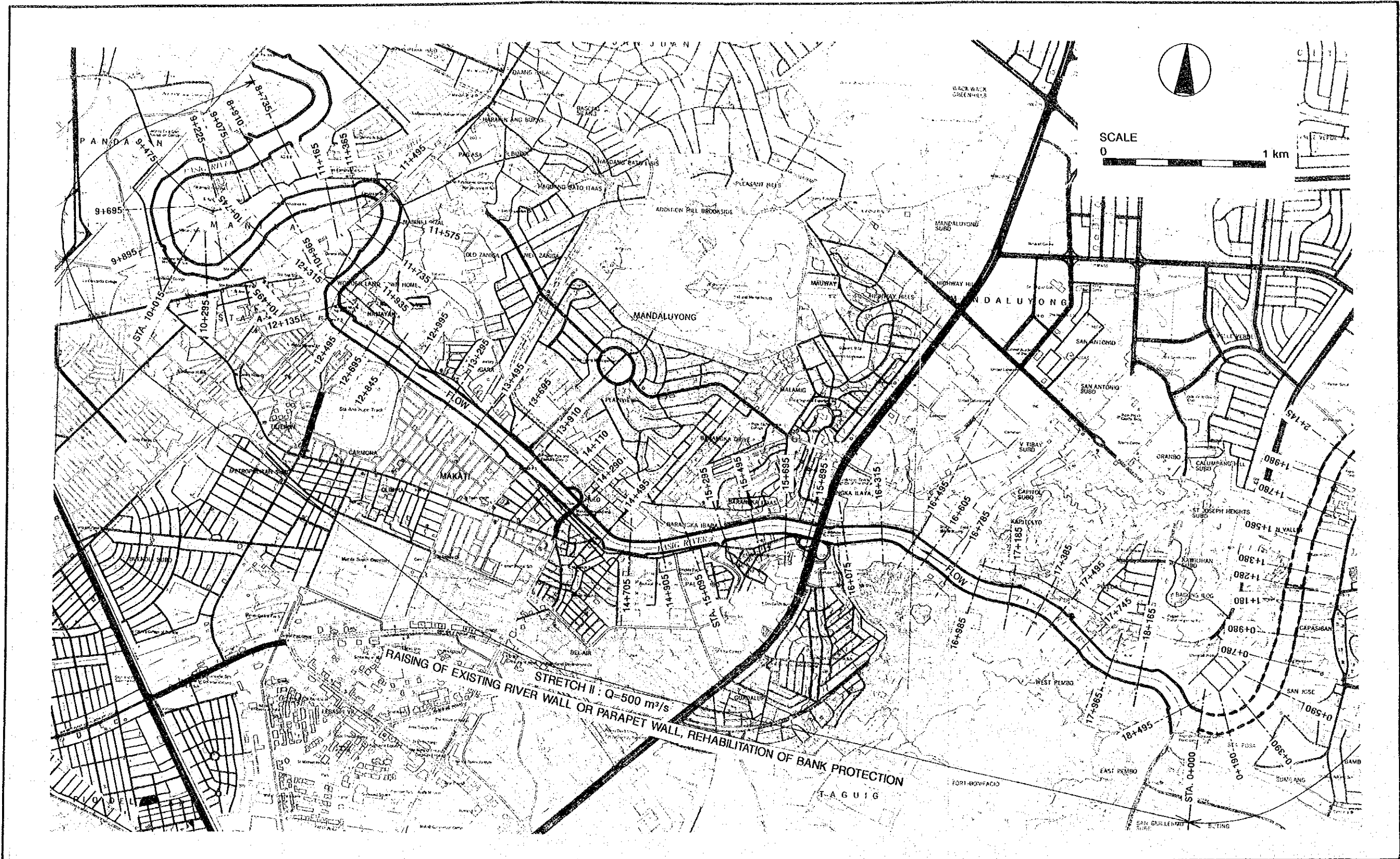
 : DREDGING

 : RAISING OF RIVER WALL OR PARAPET WALL AND REHABILITATION OF BANK PROTECTION

 : PRINCIPALLY NO IMPROVEMENT, RIVER WALL OR PARAPET WALL FOR LOW ELEVATION ONLY

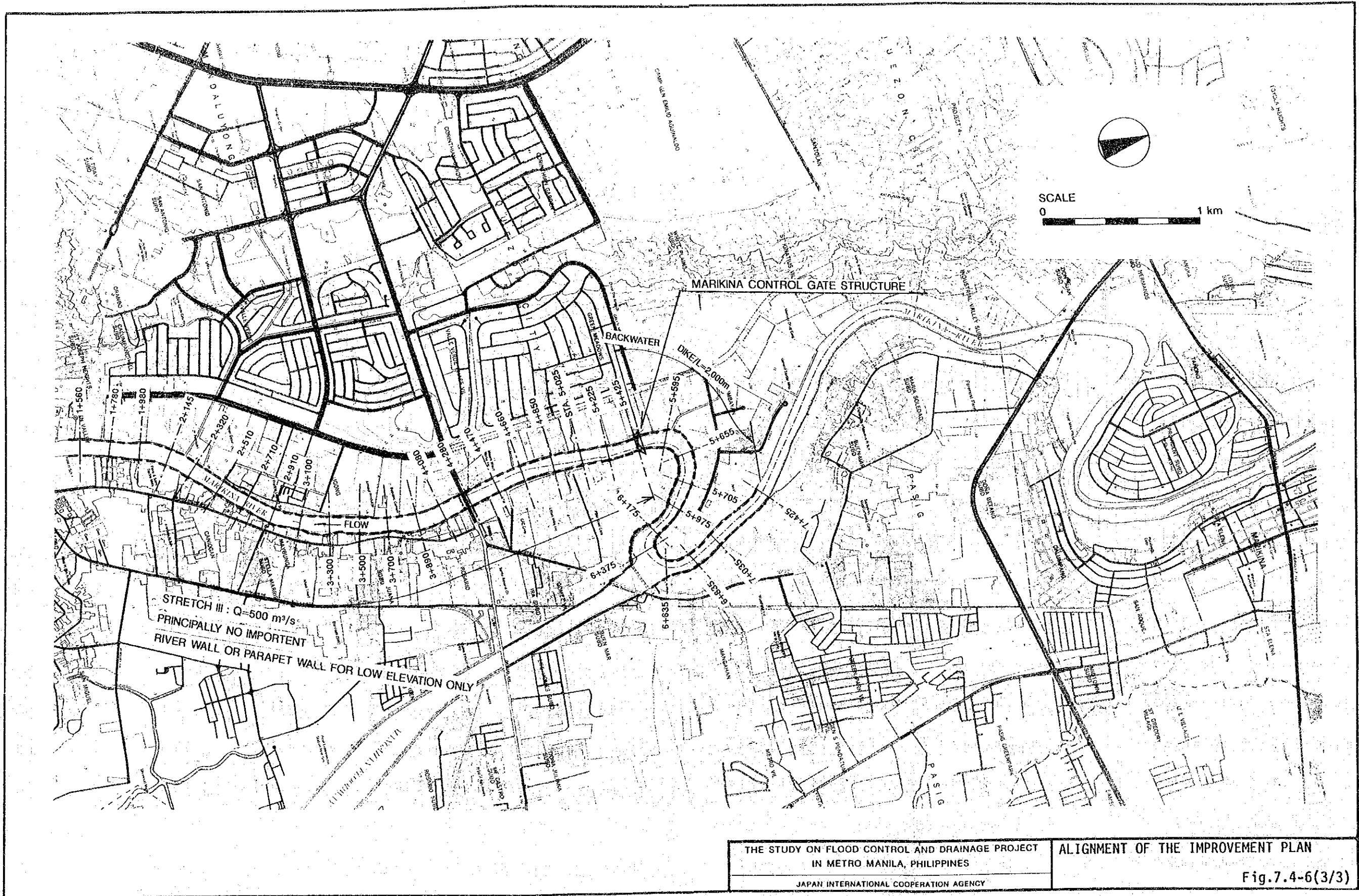
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES
JAPAN INTERNATIONAL COOPERATION AGENCY

ALIGNMENT OF THE IMPROVEMENT PLAN
Fig.7.4-6(1/3)



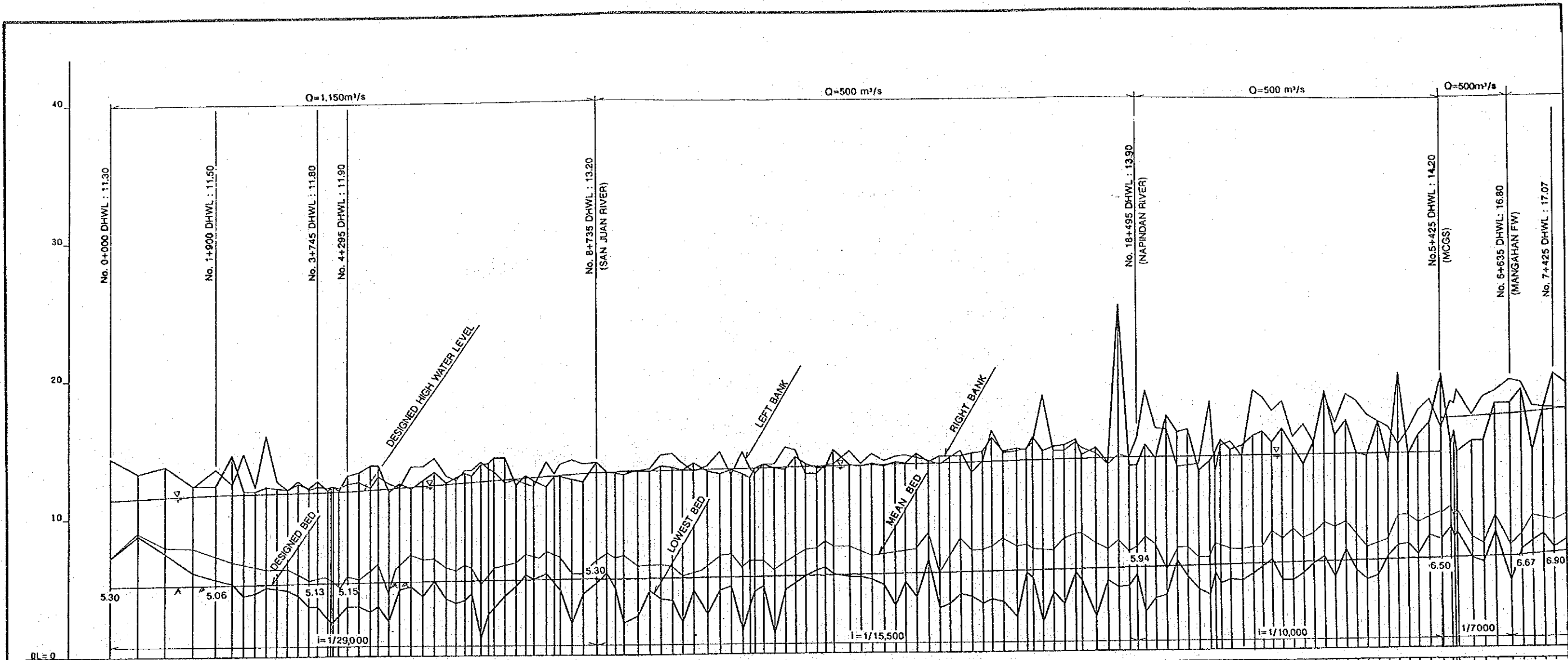
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

ALIGNMENT OF THE IMPROVEMENT PLAN
 Fig.7.4-6(2/3)



THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

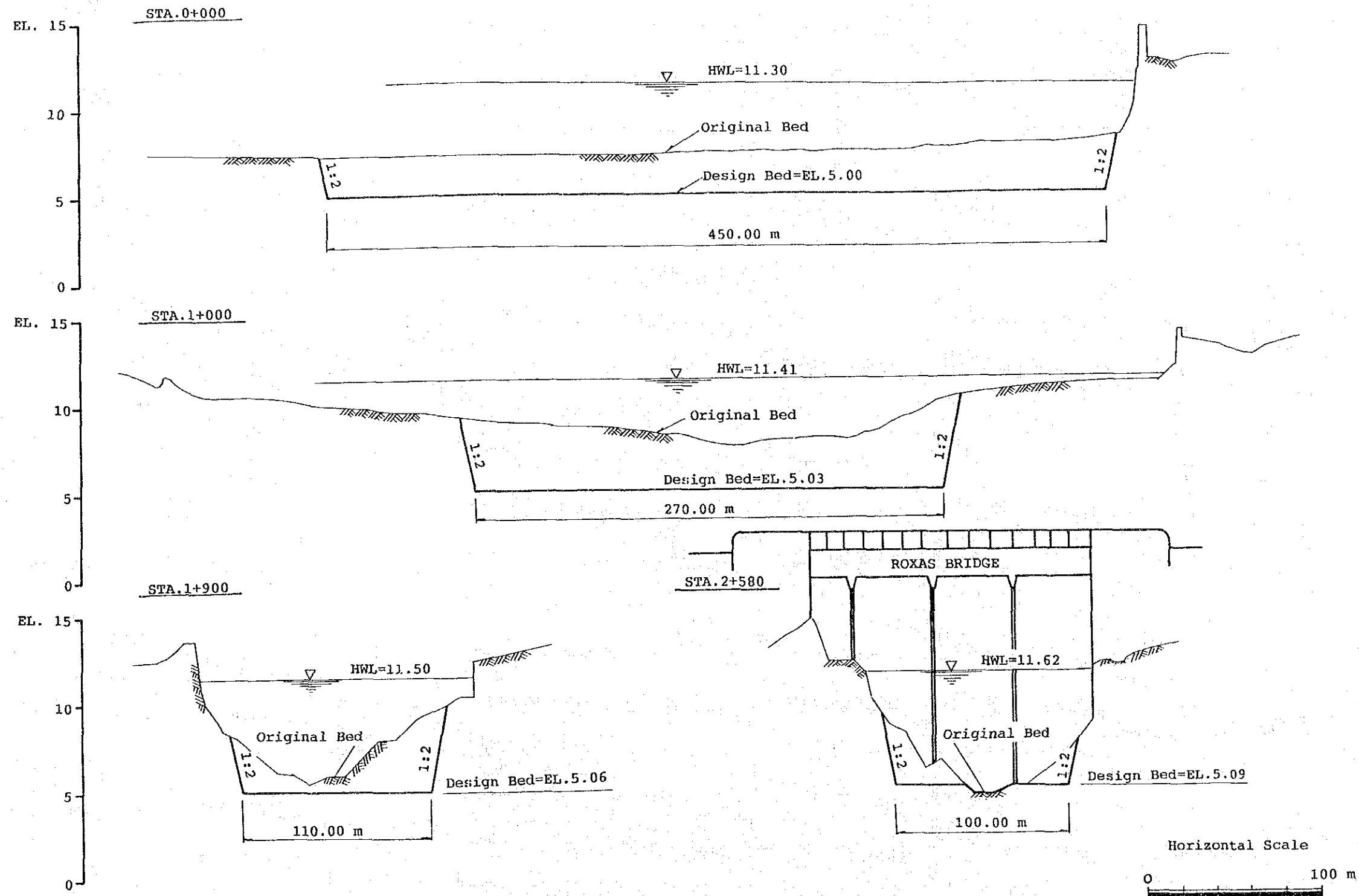
ALIGNMENT OF THE IMPROVEMENT PLAN
 Fig.7.4-6(3/3)



STATION NUMBER	UNIT DISTANCE (M)	ACCUMULATIVE DISTANCE (M)	PRESENT ELEVATION (M) LEFT BANK	PRESENT ELEVATION (M) RIVER BED	PRESENT ELEVATION (M) RIGHT BANK
0+000	0+0	0+0	7.20	7.20	14.40
0+500	500.0	500.0	9.10	9.80	13.30
1+000	500.0	1000.0	8.60	7.60	13.80
1+500	500.0	1500.0	10.00	6.10	12.40
1+900	400.0	1900.0	13.60	5.80	12.40
2+100	200.0	2100.0	12.00	6.30	14.40
2+300	200.0	2300.0	14.70	4.40	12.00
2+500	200.0	2500.0	12.30	4.80	12.00
2+700	200.0	2700.0	18.00	5.00	12.30
2+900	200.0	2900.0	12.70	4.90	12.20
3+100	200.0	3100.0	12.10	4.90	12.10
3+300	200.0	3300.0	12.70	4.40	12.60
3+500	200.0	3500.0	12.50	4.60	12.50
3+745	185.0	3685.0	12.30	4.80	14.70
3+900	150.0	3835.0	11.90	4.50	14.30
4+100	150.0	4000.0	12.50	3.60	13.10
4+295	295.0	4295.0	12.60	3.80	13.10
4+400	105.0	4400.0	12.60	3.60	13.30
4+600	200.0	4600.0	12.20	3.50	13.60
4+800	200.0	4800.0	12.60	2.60	13.90
5+000	200.0	5000.0	12.60	2.50	11.90
5+200	200.0	5200.0	12.20	4.80	12.60
5+400	200.0	5400.0	12.10	8.00	12.10
5+600	200.0	5600.0	13.70	4.30	12.70
5+800	200.0	5800.0	14.30	4.40	13.30
6+000	200.0	6000.0	14.30	5.40	13.30
6+015	15.0	6015.0	14.10	4.10	13.60
6+100	85.0	6100.0	13.00	3.60	12.60
6+185	85.0	6185.0	12.70	3.60	12.90
6+300	115.0	6250.0	13.40	4.00	13.20
6+400	100.0	6350.0	13.40	4.50	13.00
6+500	100.0	6450.0	13.40	4.50	13.00
6+600	100.0	6550.0	13.40	4.50	13.00
6+635	35.0	6585.0	13.30	4.70	13.30
6+700	65.0	6650.0	12.50	3.70	14.30
6+800	100.0	6750.0	12.70	5.20	12.30
6+900	100.0	6850.0	12.40	6.80	12.30
7+000	100.0	6950.0	12.70	6.00	12.30
7+100	100.0	7050.0	12.70	5.20	12.30
7+200	100.0	7150.0	12.40	6.80	12.30
7+300	100.0	7250.0	12.40	6.80	12.30
7+400	100.0	7350.0	12.40	6.80	12.30
7+425	25.0	7375.0	12.40	6.80	12.30
7+435	10.0	7385.0	12.40	6.80	12.30
7+445	10.0	7395.0	12.40	6.80	12.30
7+455	10.0	7405.0	12.40	6.80	12.30
7+465	10.0	7415.0	12.40	6.80	12.30
7+475	10.0	7425.0	12.40	6.80	12.30
7+485	10.0	7435.0	12.40	6.80	12.30
7+495	10.0	7445.0	12.40	6.80	12.30
7+505	10.0	7455.0	12.40	6.80	12.30
7+515	10.0	7465.0	12.40	6.80	12.30
7+525	10.0	7475.0	12.40	6.80	12.30
7+535	10.0	7485.0	12.40	6.80	12.30
7+545	10.0	7495.0	12.40	6.80	12.30
7+555	10.0	7505.0	12.40	6.80	12.30
7+565	10.0	7515.0	12.40	6.80	12.30
7+575	10.0	7525.0	12.40	6.80	12.30
7+585	10.0	7535.0	12.40	6.80	12.30
7+595	10.0	7545.0	12.40	6.80	12.30
7+605	10.0	7555.0	12.40	6.80	12.30
7+615	10.0	7565.0	12.40	6.80	12.30
7+625	10.0	7575.0	12.40	6.80	12.30
7+635	10.0	7585.0	12.40	6.80	12.30
7+645	10.0	7595.0	12.40	6.80	12.30
7+655	10.0	7605.0	12.40	6.80	12.30
7+665	10.0	7615.0	12.40	6.80	12.30
7+675	10.0	7625.0	12.40	6.80	12.30
7+685	10.0	7635.0	12.40	6.80	12.30
7+695	10.0	7645.0	12.40	6.80	12.30
7+705	10.0	7655.0	12.40	6.80	12.30
7+715	10.0	7665.0	12.40	6.80	12.30
7+725	10.0	7675.0	12.40	6.80	12.30
7+735	10.0	7685.0	12.40	6.80	12.30
7+745	10.0	7695.0	12.40	6.80	12.30
7+755	10.0	7705.0	12.40	6.80	12.30
7+765	10.0	7715.0	12.40	6.80	12.30
7+775	10.0	7725.0	12.40	6.80	12.30
7+785	10.0	7735.0	12.40	6.80	12.30
7+795	10.0	7745.0	12.40	6.80	12.30
7+805	10.0	7755.0	12.40	6.80	12.30
7+815	10.0	7765.0	12.40	6.80	12.30
7+825	10.0	7775.0	12.40	6.80	12.30
7+835	10.0	7785.0	12.40	6.80	12.30
7+845	10.0	7795.0	12.40	6.80	12.30
7+855	10.0	7805.0	12.40	6.80	12.30
7+865	10.0	7815.0	12.40	6.80	12.30
7+875	10.0	7825.0	12.40	6.80	12.30
7+885	10.0	7835.0	12.40	6.80	12.30
7+895	10.0	7845.0	12.40	6.80	12.30
7+905	10.0	7855.0	12.40	6.80	12.30
7+915	10.0	7865.0	12.40	6.80	12.30
7+925	10.0	7875.0	12.40	6.80	12.30
7+935	10.0	7885.0	12.40	6.80	12.30
7+945	10.0	7895.0	12.40	6.80	12.30
7+955	10.0	7905.0	12.40	6.80	12.30
7+965	10.0	7915.0	12.40	6.80	12.30
7+975	10.0	7925.0	12.40	6.80	12.30
7+985	10.0	7935.0	12.40	6.80	12.30
7+995	10.0	7945.0	12.40	6.80	12.30

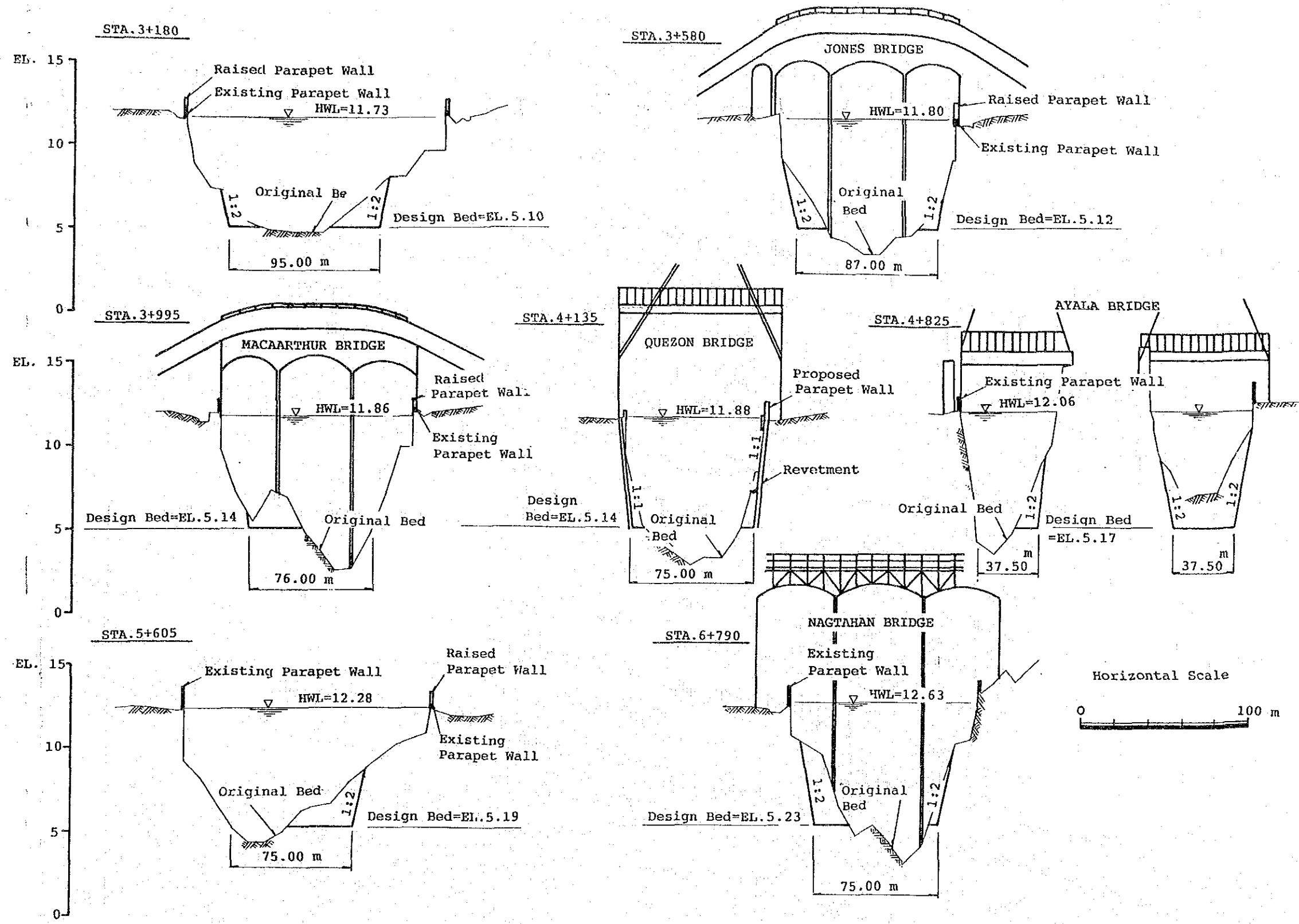
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

LONGITUDINAL PROFILE OF
 THE IMPROVEMENT PLAN
 Fig.7.4-7



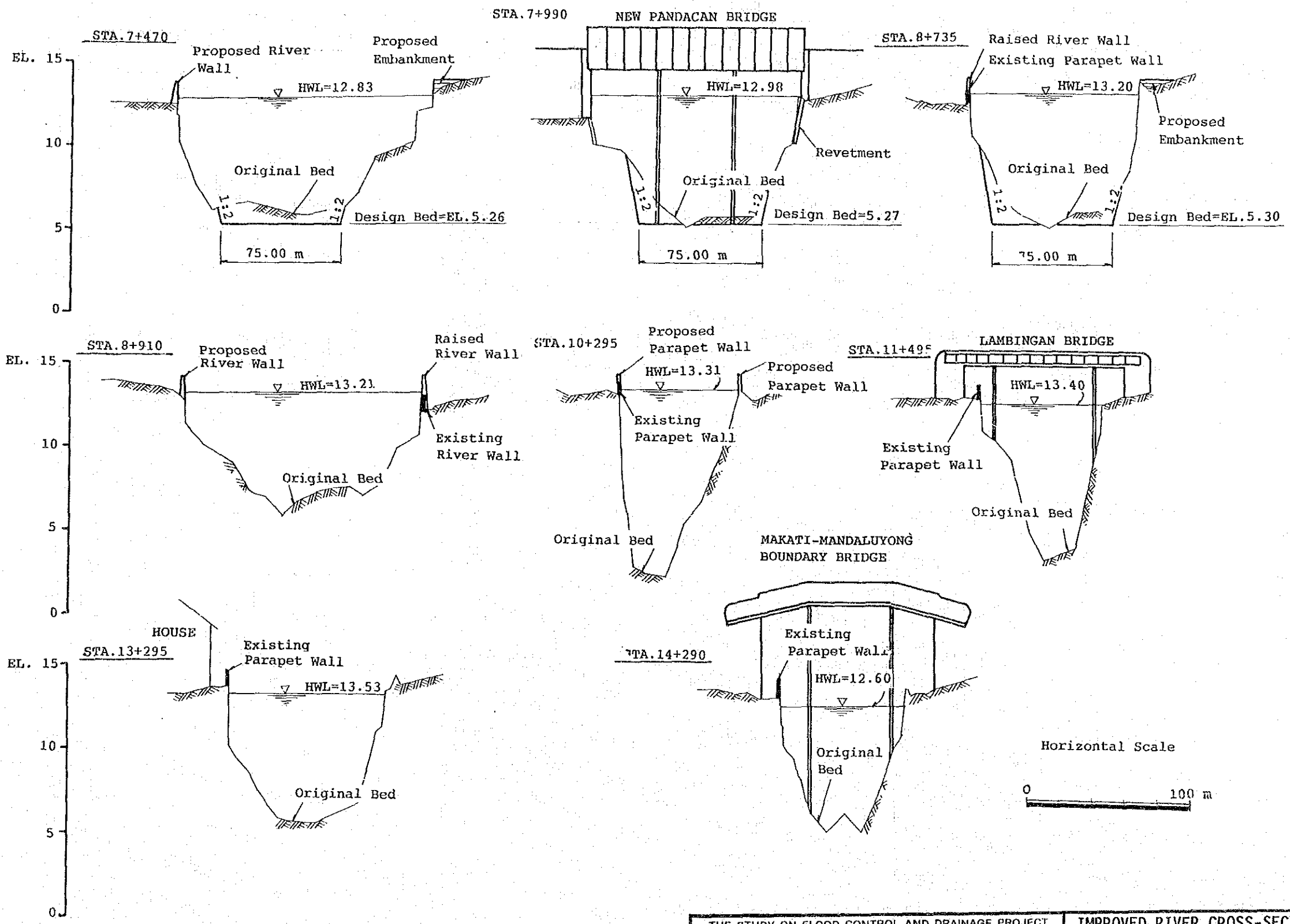
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

IMPROVED RIVER CROSS-SECTIONS OF THE
 PASIG-MARIKINA (PASIG RIVER (1/4))
 Fig. 7.4-8(1/7)

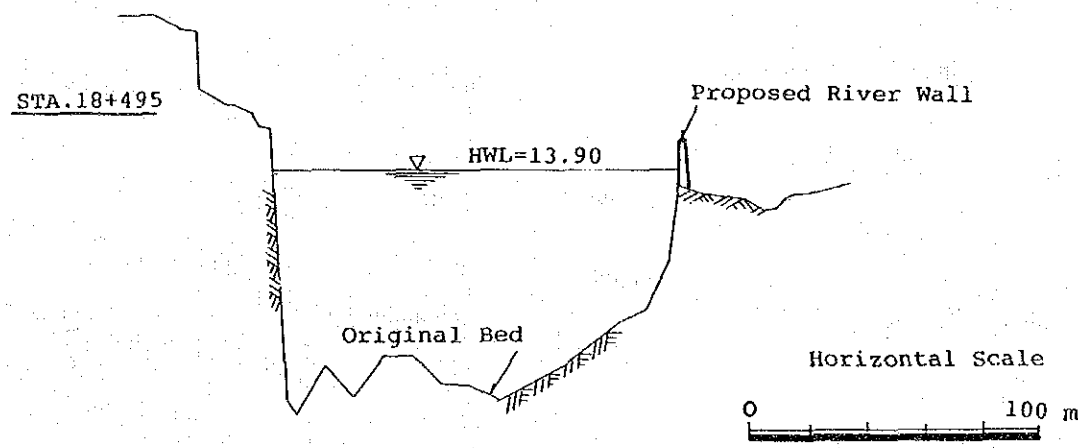
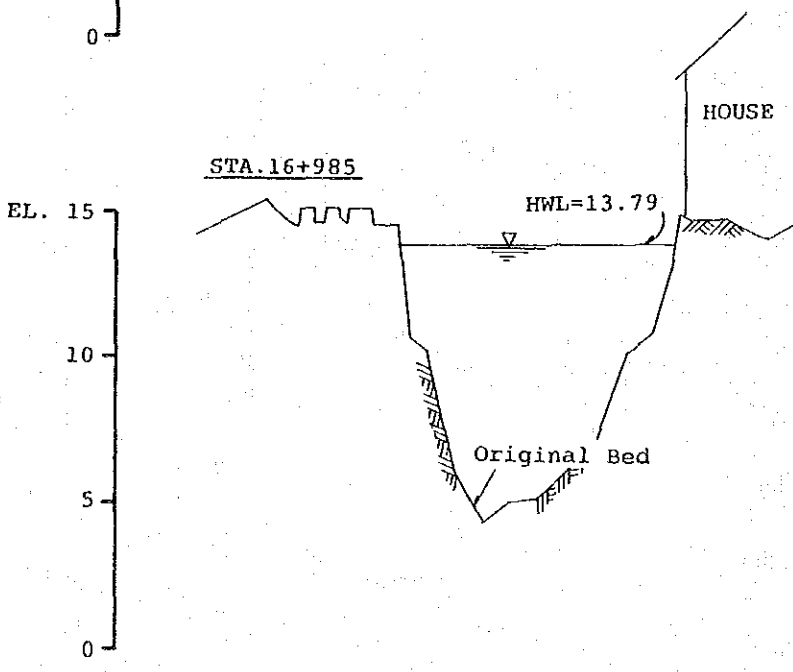
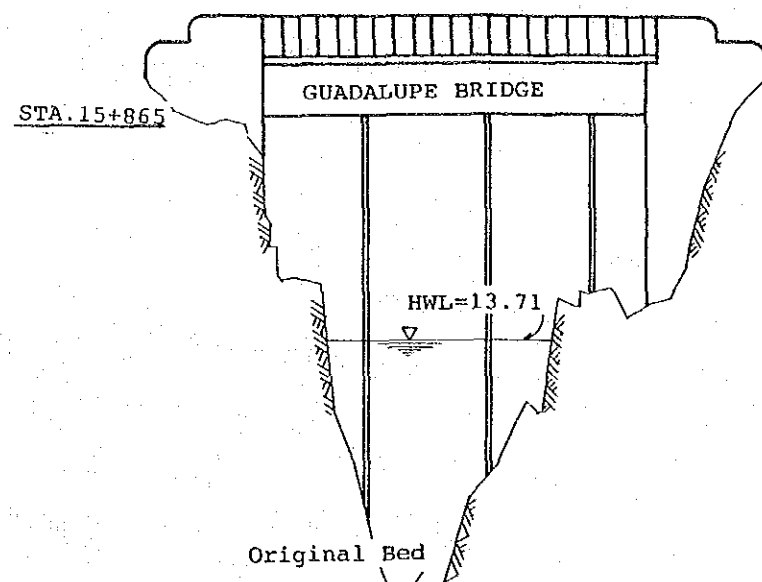
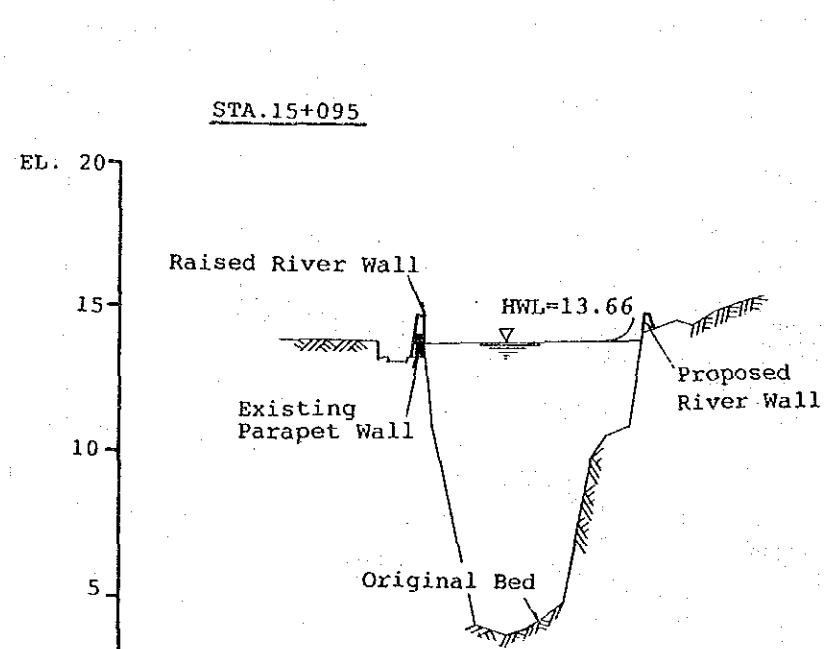


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
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 JAPAN INTERNATIONAL COOPERATION AGENCY

IMPROVED RIVER CROSS-SECTIONS OF THE
 PASIG-MARIKINA (PASIG RIVER (2/4))
 Fig.7.4-8(2/7)

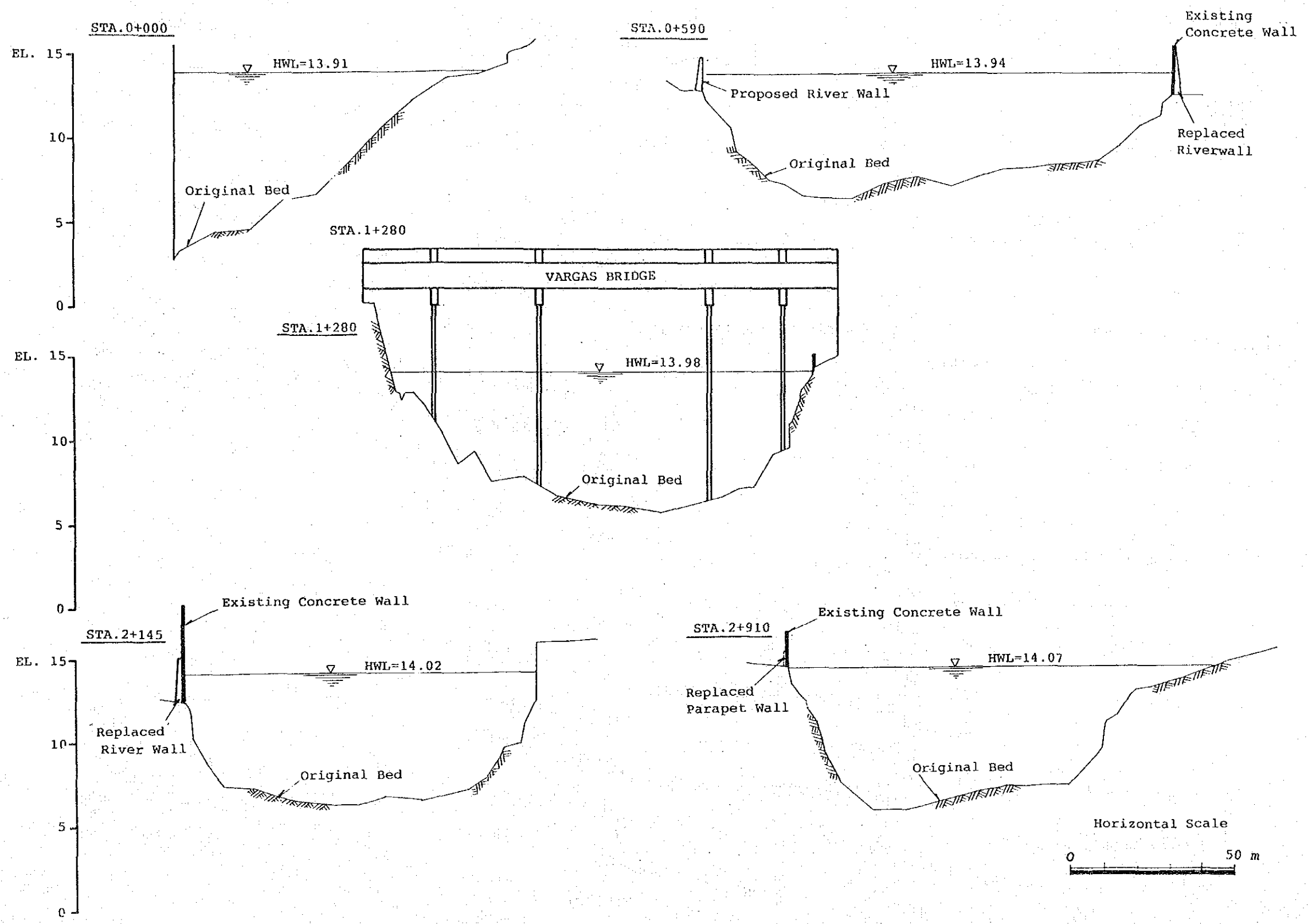


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY
 IMPROVED RIVER CROSS-SECTIONS OF THE
 PASIG-MARIKINA (PASIG RIVER (3/4))
 Fig.7.4-8(3/7)

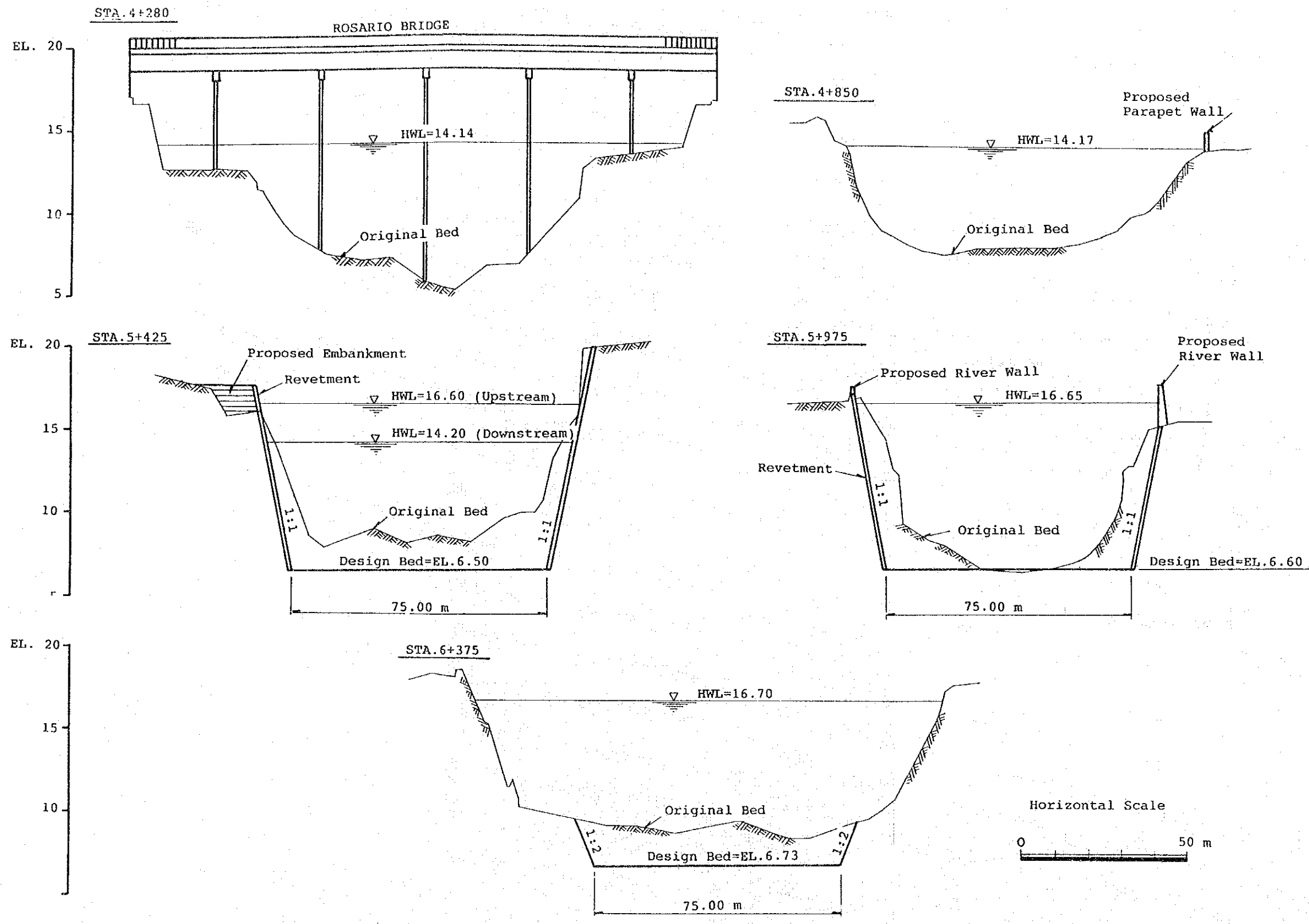


THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES
JAPAN INTERNATIONAL COOPERATION AGENCY

IMPROVED RIVER CROSS-SECTIONS OF THE
PASIG-MARIKINA (MARIKINA RIVER (4/4))
Fig.7.4-8(4/7)

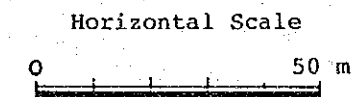
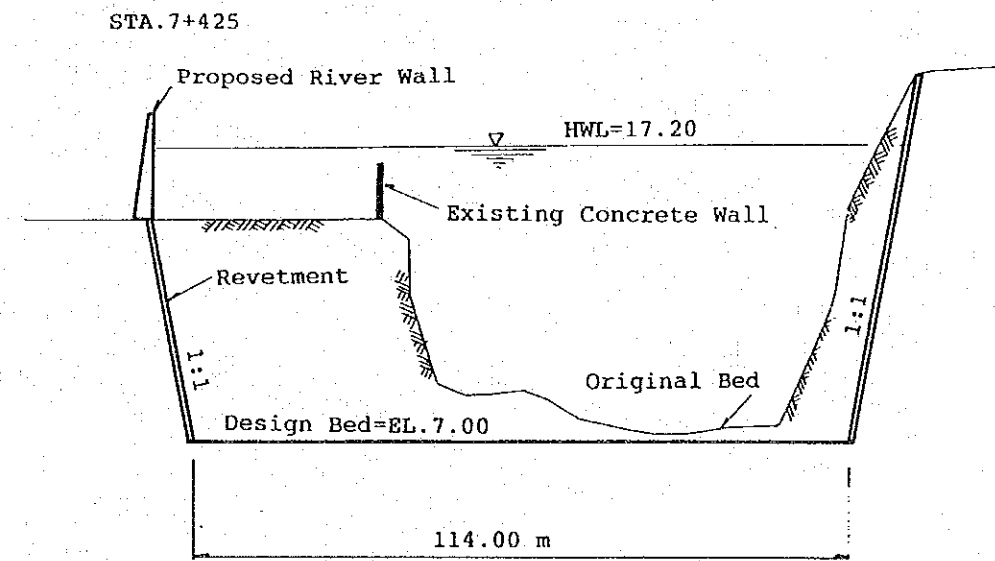
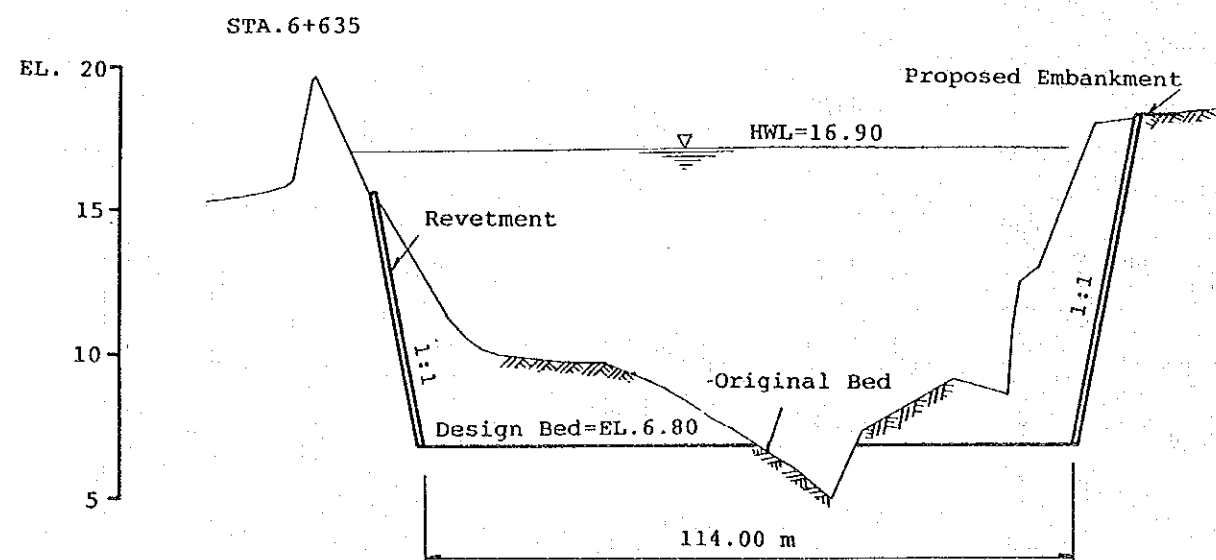


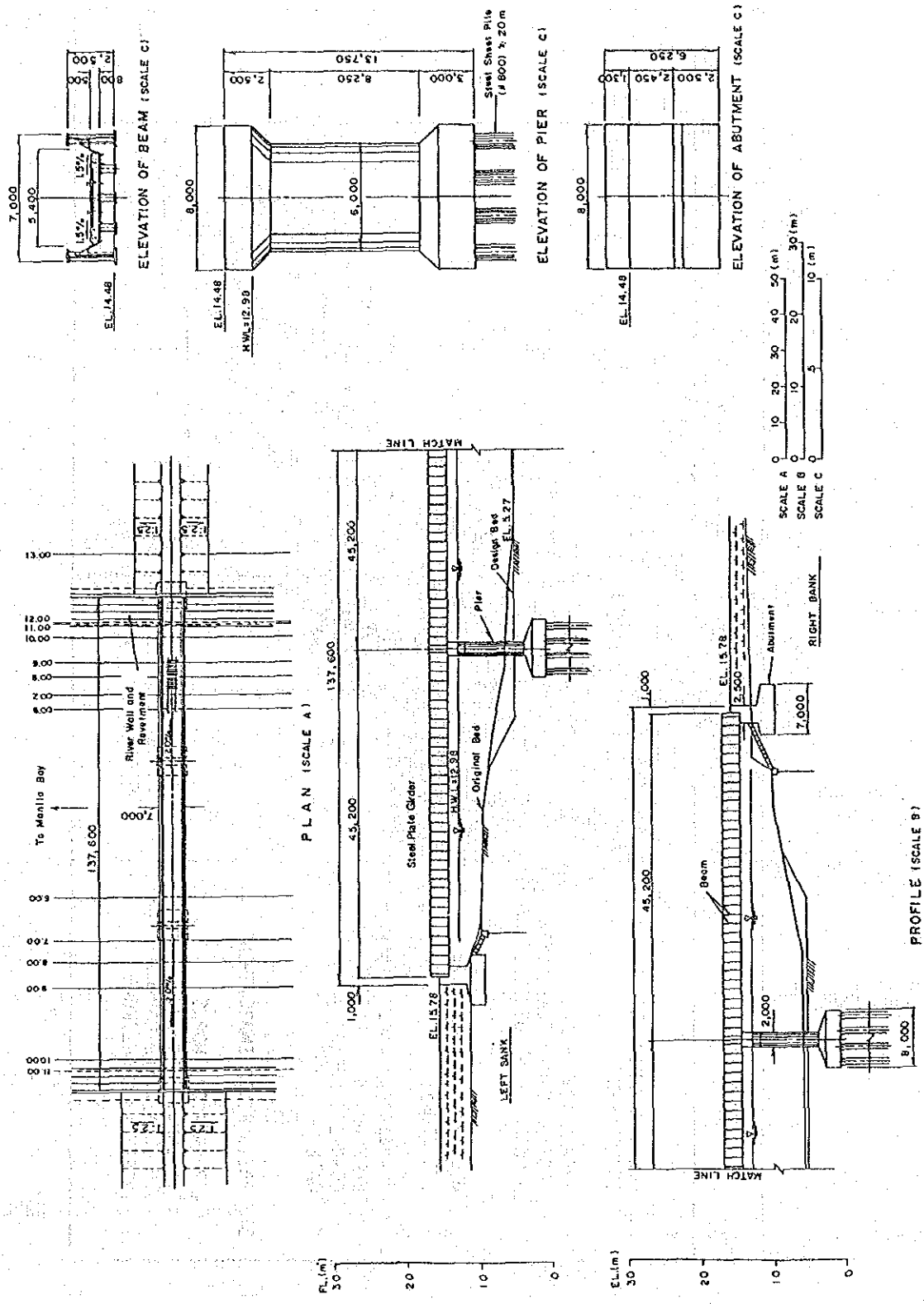
THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT IN METRO MANILA, PHILIPPINES JAPAN INTERNATIONAL COOPERATION AGENCY	IMPROVED RIVER CROSS-SECTIONS OF THE PASIG-MARIKINA (MARIKINA RIVER (2/4)) Fig.7.4-8(5/7)
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THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
 IN METRO MANILA, PHILIPPINES
 JAPAN INTERNATIONAL COOPERATION AGENCY

IMPROVED RIVER CROSS-SECTIONS OF THE
 PASIG-MARIKINA (MARIKINA RIVER (3/4))
 Fig.7.4-8(6/7)





THE STUDY ON FLOOD CONTROL AND DRAINAGE PROJECT
IN METRO MANILA, PHILIPPINES

GENERAL DRAWING OF RECONSTRUCTION OF
PANDACAN BRIDGE

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig.7.4-9