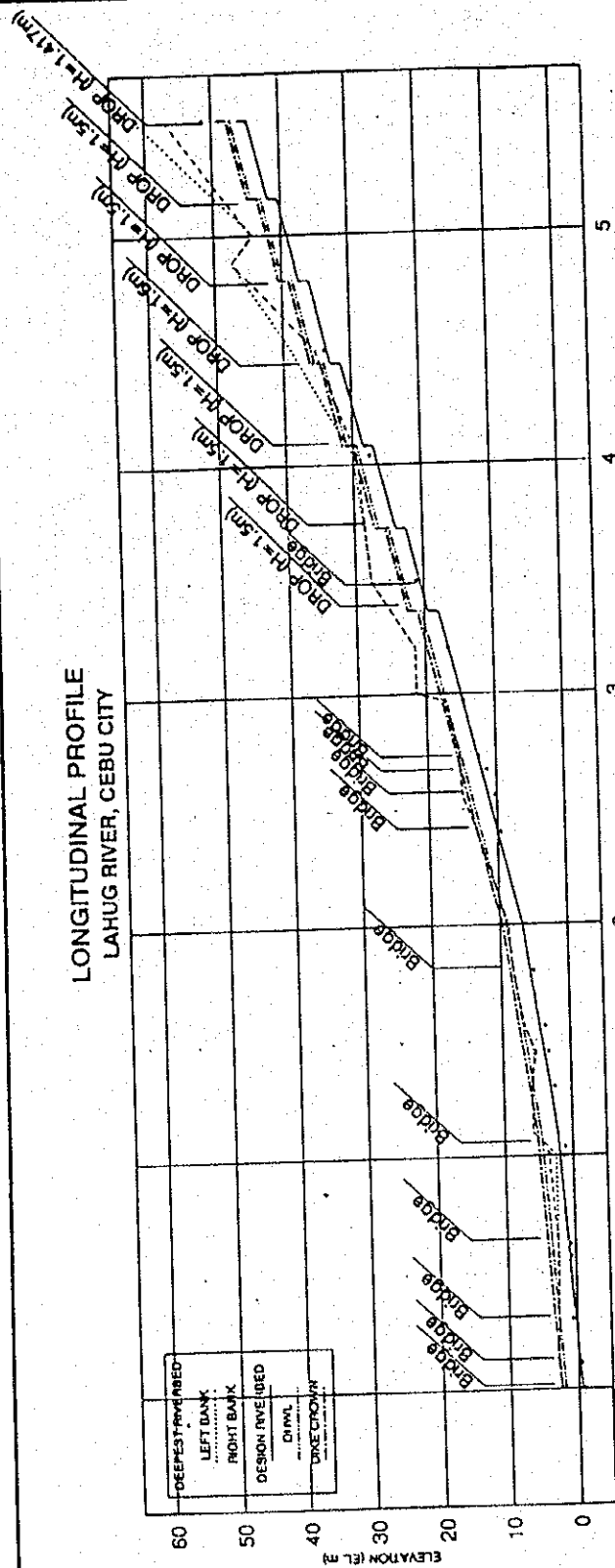


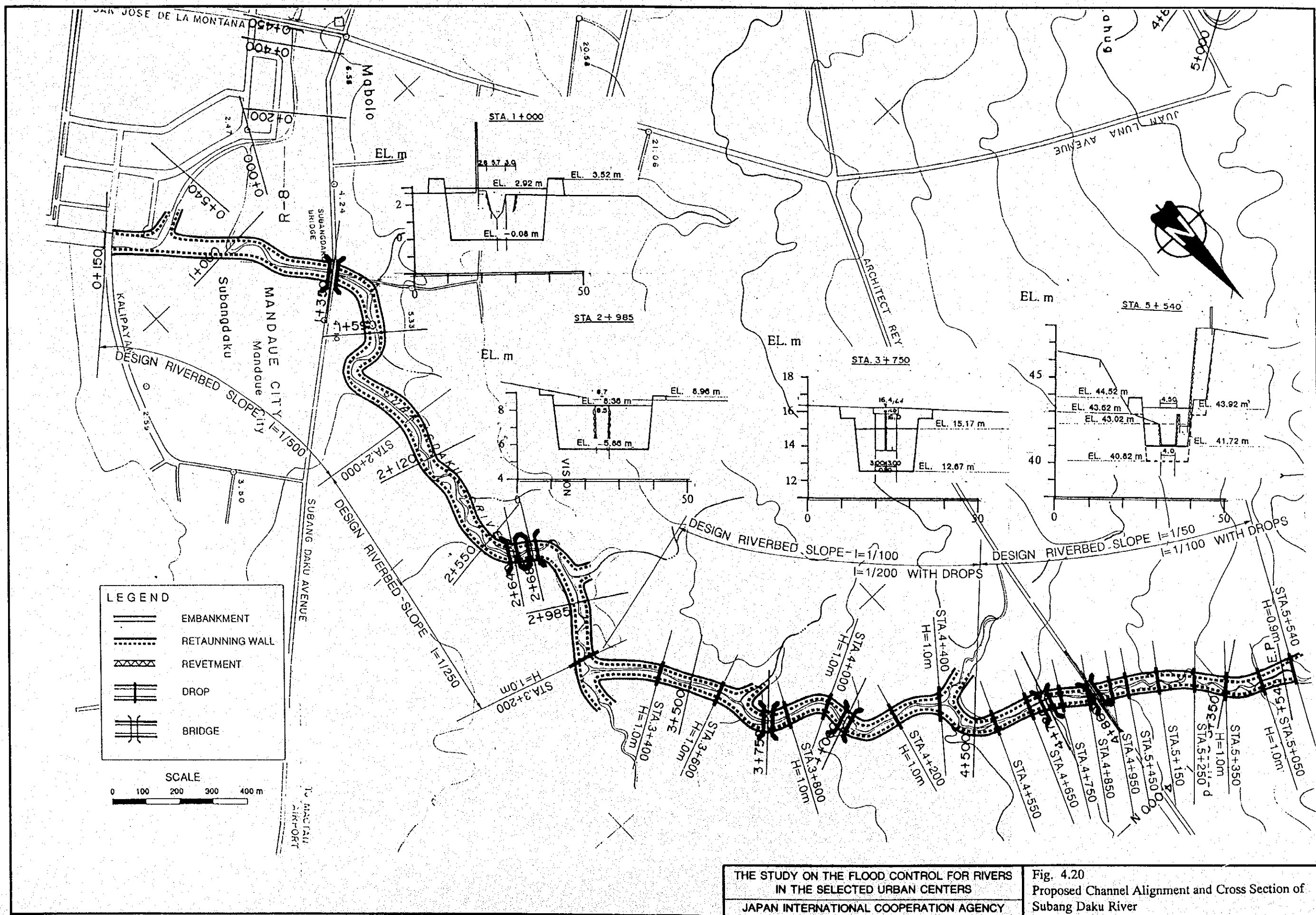
LONGITUDINAL PROFILE
LAHUG RIVER, CEBU CITY



STATION No.	RIGHT BANK	LEFT BANK	DEEPEST RIVERBED	DESIGN RIVERBED	DESIGN HWL	DIKE CROWN	GRADIENT OF RIVERBED
0.000	2.400	2.400	2.400	2.400	1.900	2.500	0.600
0.110	2.900	2.900	2.900	2.900	2.175	2.775	0.325
0.300	2.600	2.600	2.600	2.600	2.050	3.250	0.150
0.570	2.400	2.400	2.400	2.400	3.925	4.050	0.825
0.820	2.500	2.500	2.500	2.500	4.050	4.500	0.950
1.000	2.500	2.500	2.500	2.500	4.500	5.000	1.000
1.040	3.750	3.750	3.750	3.750	4.500	5.000	2.900
1.100	5.800	5.800	5.800	5.800	4.850	5.250	2.150
1.300	5.900	5.900	5.900	5.900	5.850	6.250	3.150
1.500	5.400	6.600	6.600	6.600	6.400	7.000	3.200
1.580	6.600	6.600	6.600	6.600	6.950	7.350	4.450
1.800	8.200	8.200	8.200	8.200	8.150	8.750	8.650
2.000	8.700	8.700	8.700	8.700	8.150	8.750	8.850
2.400	13.000	13.000	13.000	13.000	9.983	13.083	9.500
2.560	15.100	15.100	15.100	15.100	10.317	14.417	11.017
2.670	15.400	15.400	15.400	15.400	12.233	15.333	14.733
2.730	15.400	15.400	15.400	15.400	12.233	15.333	14.733
2.870	17.400	17.400	17.400	17.400	14.233	17.233	17.483
3.000	21.500	21.500	21.500	21.500	14.883	18.083	17.483
3.200	21.500	21.500	21.500	21.500	18.650	19.750	18.650
3.360	21.083	21.083	21.083	21.083	20.483	21.083	17.983
3.460	27.700	27.700	27.700	27.700	21.983	22.583	21.983
3.720	27.083	27.083	27.083	27.083	23.983	25.583	23.983
4.040	30.000	30.000	30.000	30.000	28.483	29.750	28.483
4.440	36.800	36.800	36.800	36.800	32.983	34.083	32.983
4.500	36.800	36.800	36.800	36.800	32.983	34.083	32.983
4.800	40.150	40.150	40.150	40.150	36.150	40.880	36.150
4.880	47.500	47.500	47.500	47.500	40.880	41.250	40.880
5.000	44.200	44.200	44.200	44.200	41.250	42.250	41.250
5.180	43.583	43.583	43.583	43.583	42.250	45.083	42.250
5.500	47.817	47.817	47.817	47.817	46.234	48.234	46.234

THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

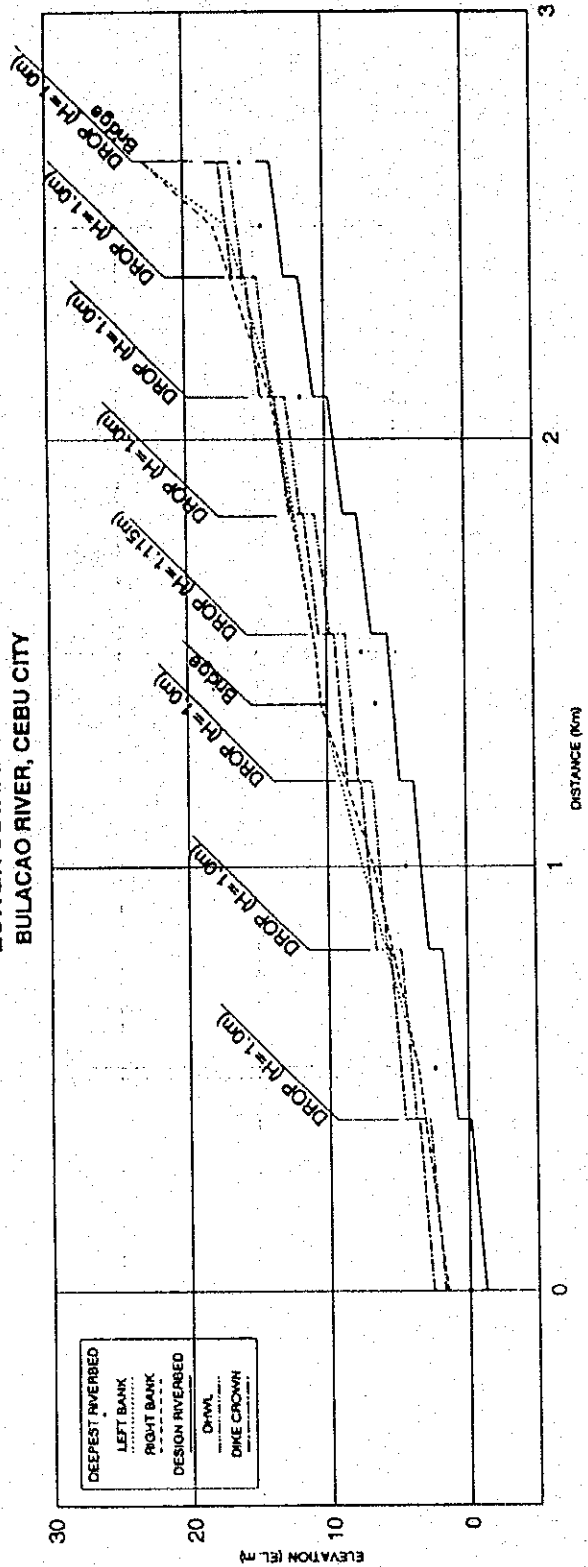
Fig. 4.19
Longitudinal Profile of Lahug River



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.20
 Proposed Channel Alignment and Cross Section of
 Subang Daku River

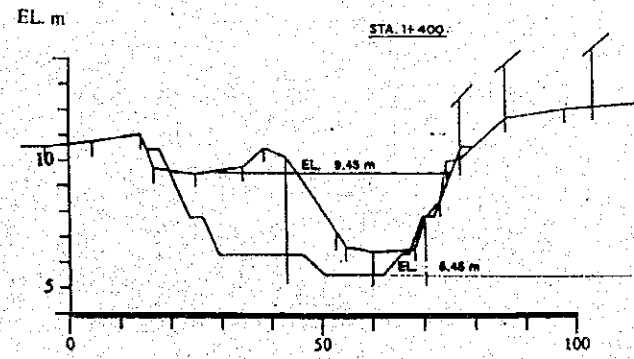
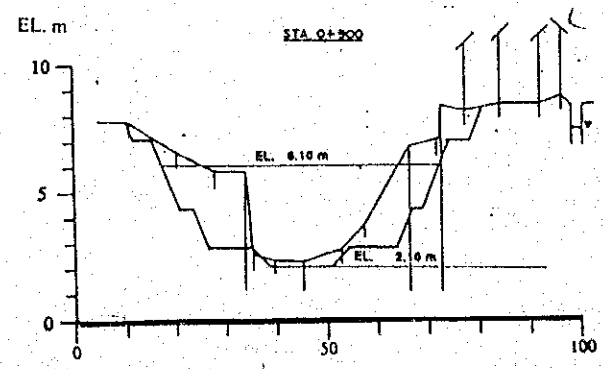
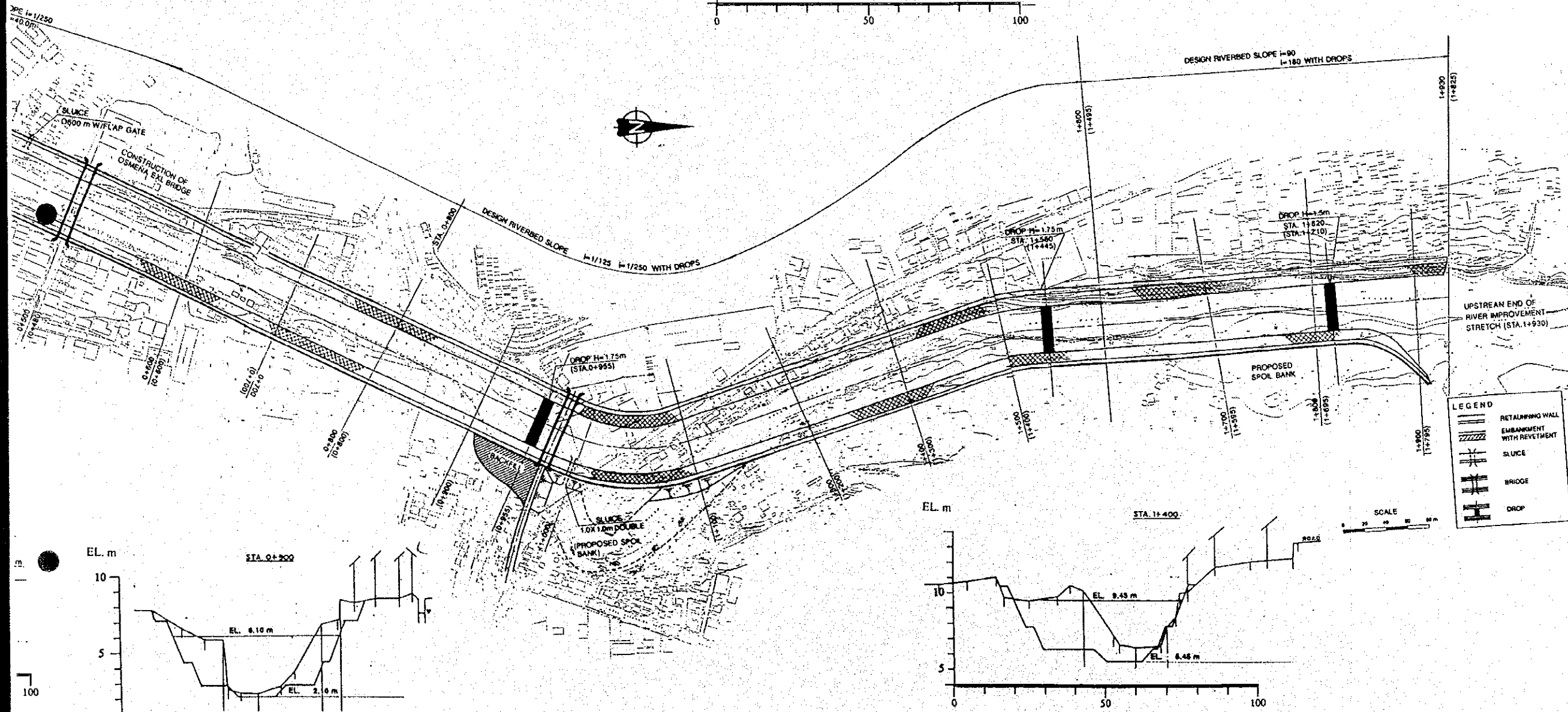
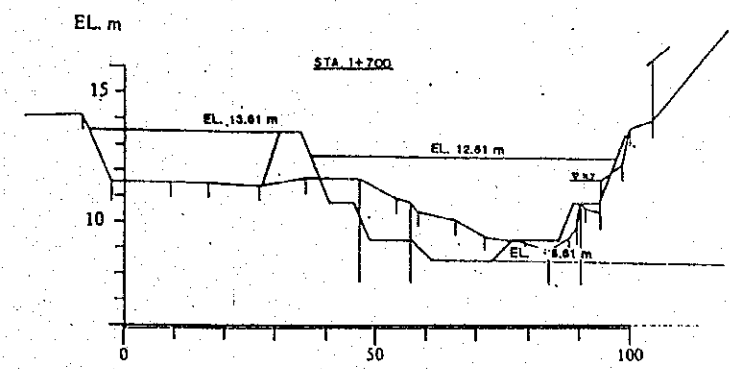
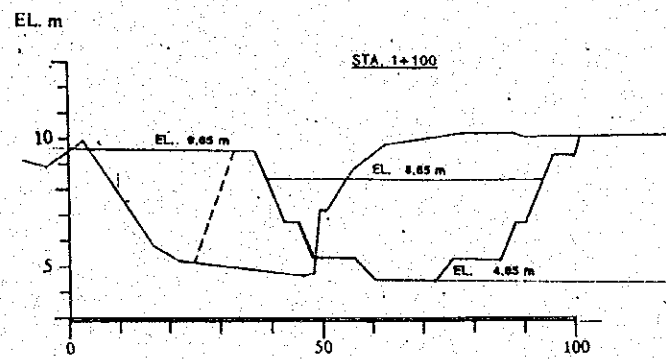
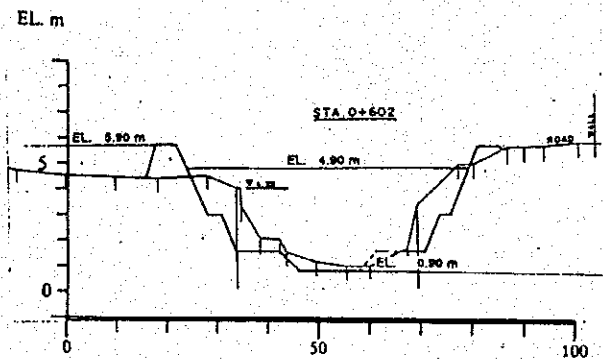
LONGITUDINAL PROFILE
BULACAO RIVER, CEBU CITY



STATION No.	RIGHT BANK	LEFT BANK	DEEPEST RIVERBED	DESIGN RIVERBED	DESIGN HWL	DIKE CROWN	GRADIENT OF RIVERBED
0.00	1.800	1.500	0.000	1.200	1.800	2.800	
0.400	3.800	3.600	2.400	0.800	3.800	3.600	
0.800	7.500	6.700	4.400	2.800	5.800	4.800	1/200
1.000	7.500	6.700	4.400	3.300	5.800	4.800	1/400 with Drops
1.200	10.400	10.400	8.500	4.800	8.800	7.800	
1.380	10.400	10.400	8.500	6.250	8.250	8.050	
1.500	10.700	10.700	7.500	8.350	8.350	8.350	
1.540	10.700	10.700	7.500	8.450	8.450	8.450	
1.565	10.565	10.565	7.785	8.785	8.785	8.785	
1.820	10.785	10.785	7.785	10.785	11.565	11.565	1/140
1.848	11.785	11.785	8.785	11.785	12.548	12.548	1/280 with Drops
1.955	12.785	12.785	9.785	12.785	13.565	13.565	
2.100	13.800	13.800	11.700	10.785	13.565	14.585	
2.280	17.800	17.800	14.400	14.785	15.585	16.585	
2.380	18.800	18.800	15.400	15.785	16.585	17.585	
2.500	19.800	19.800	16.400	16.785	17.585	18.528	
2.850	22.800	22.800	19.400	19.785	20.528	21.528	

THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

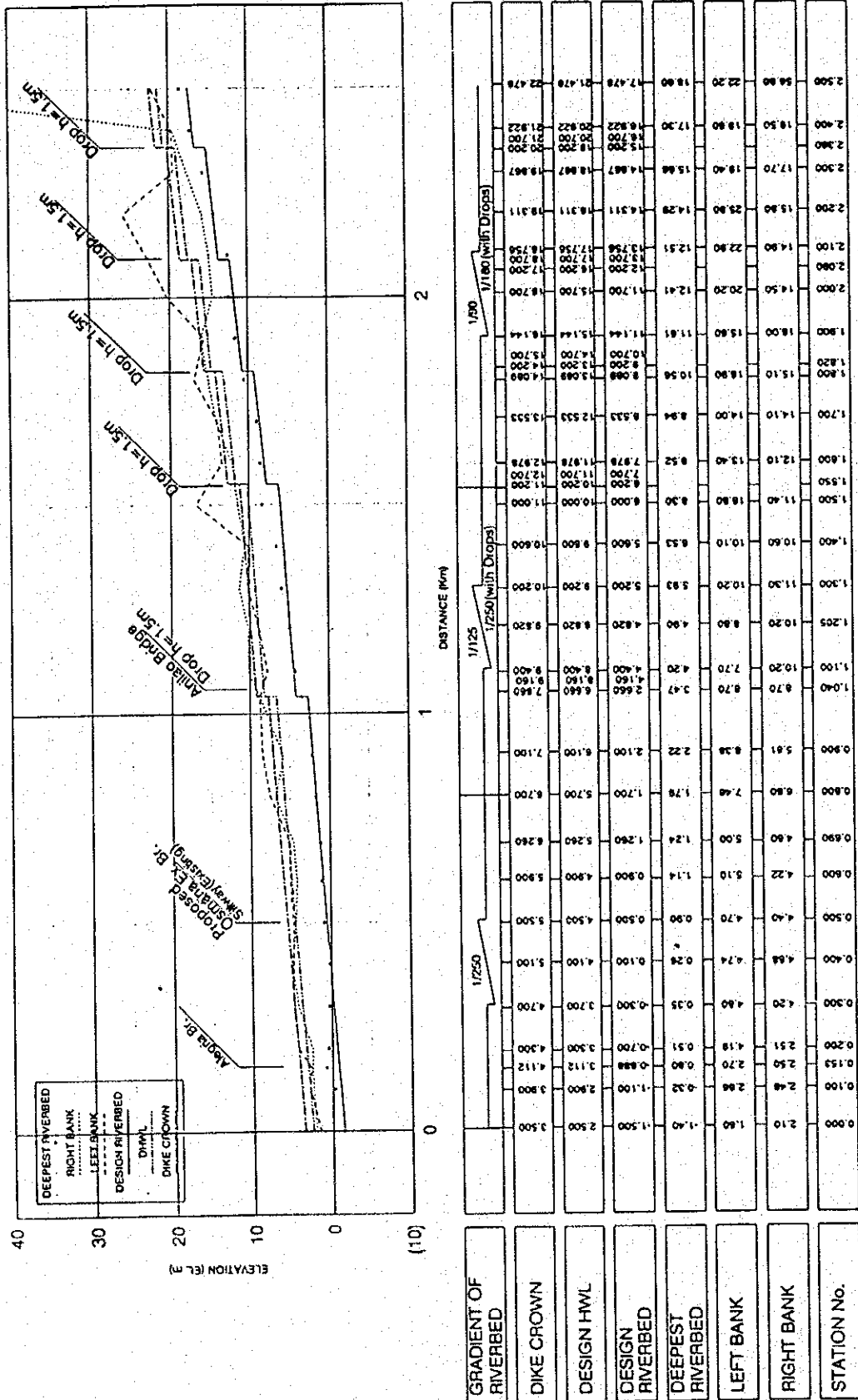
Fig. 4.21
Longitudinal Profile of Subang Daku River



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

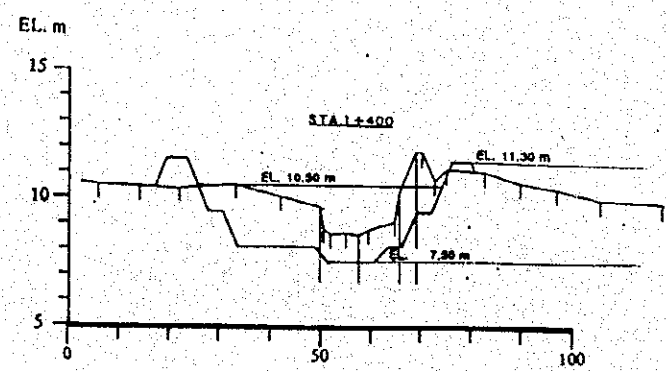
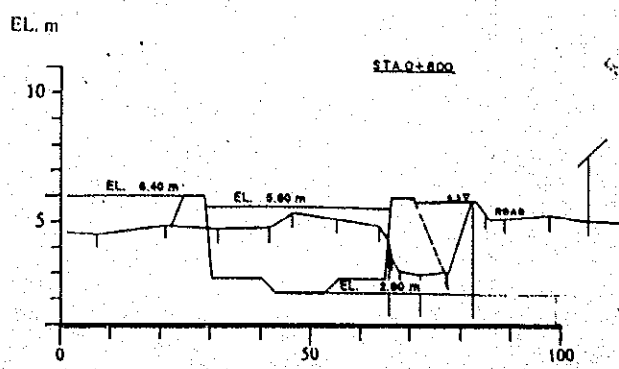
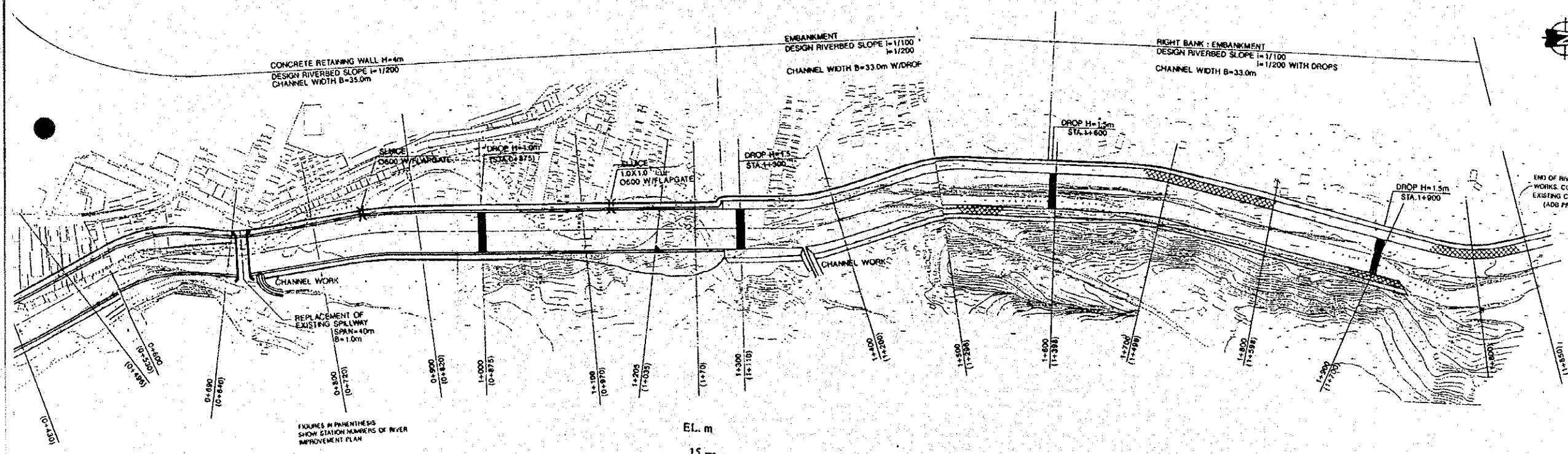
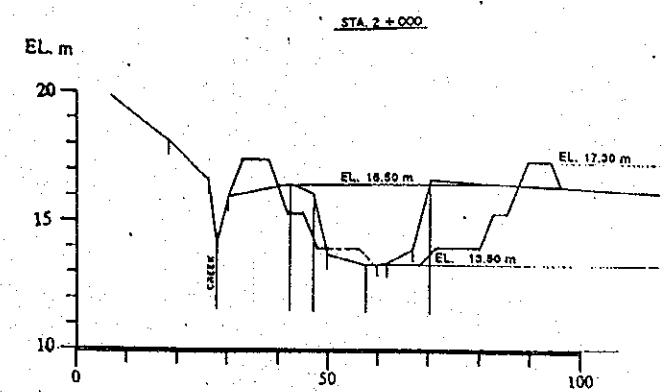
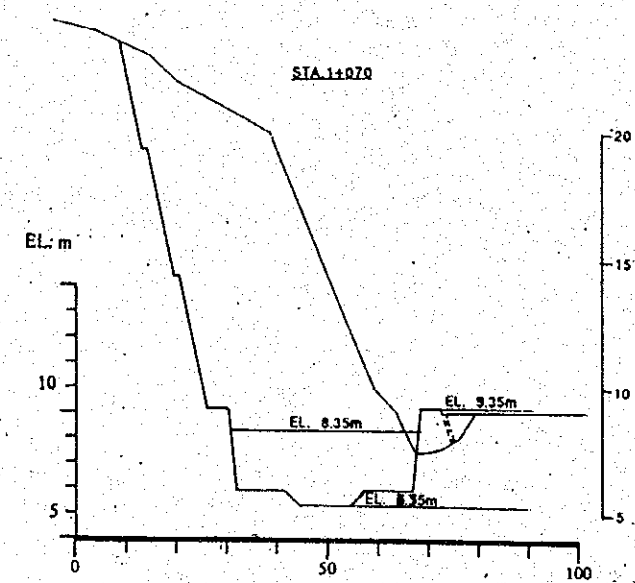
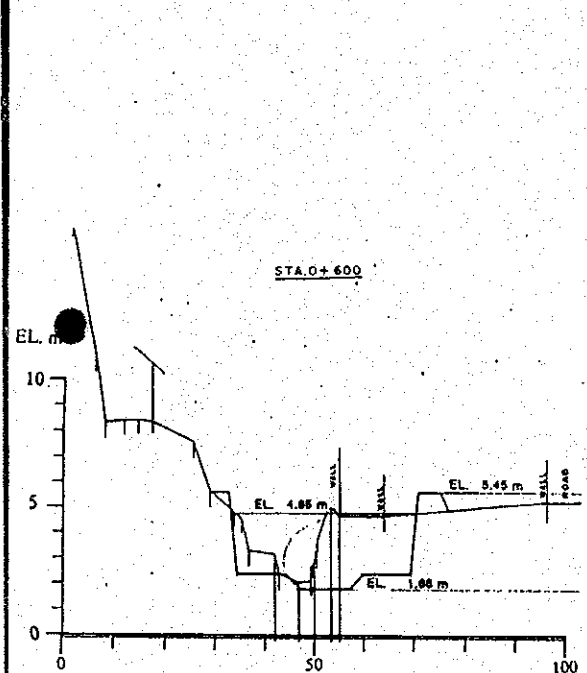
Fig. 4.22
Proposed Channel Alignment and Cross Section of
Anilao River

LONGITUDINAL PROFILE
ANILAO RIVER, ORMOC CITY



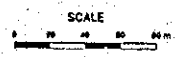
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.23
Longitudinal Profile of Anilao River



LEGEND

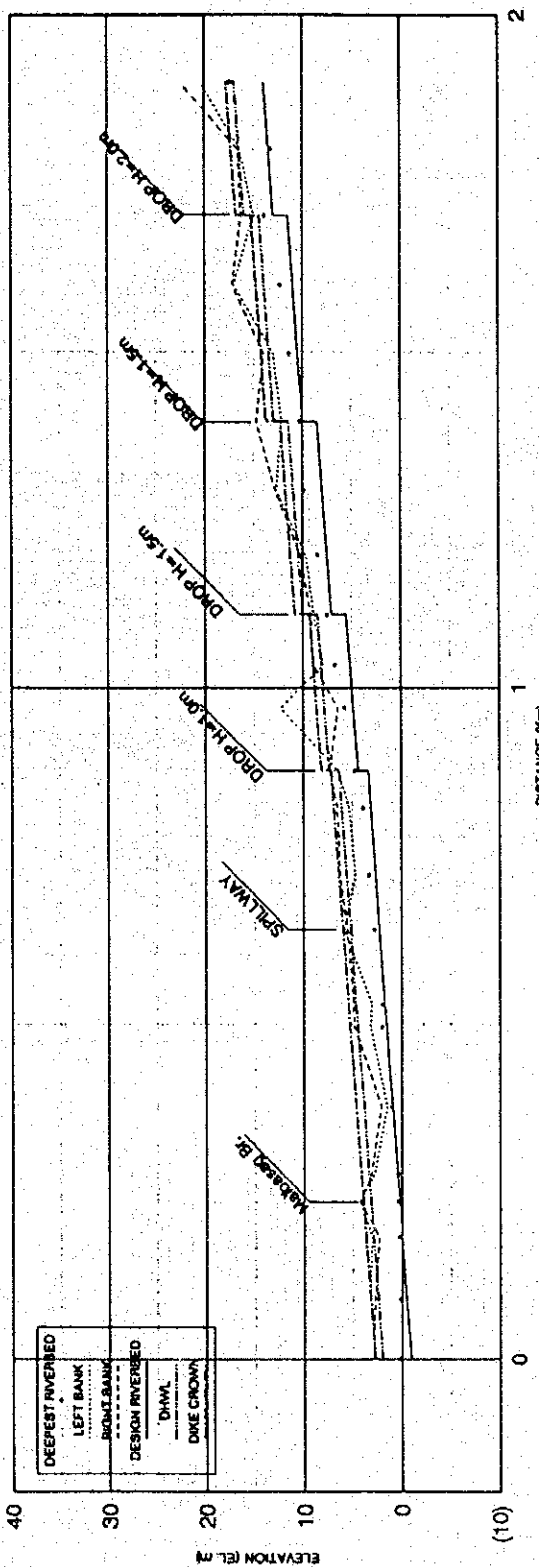
	RETAINING WALL
	EMBANKMENT WITH VEGETATION
	SLUICE
	BRIDGE
	DROP



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.24
Proposed Channel Alignment and Cross Section of
Malbas River

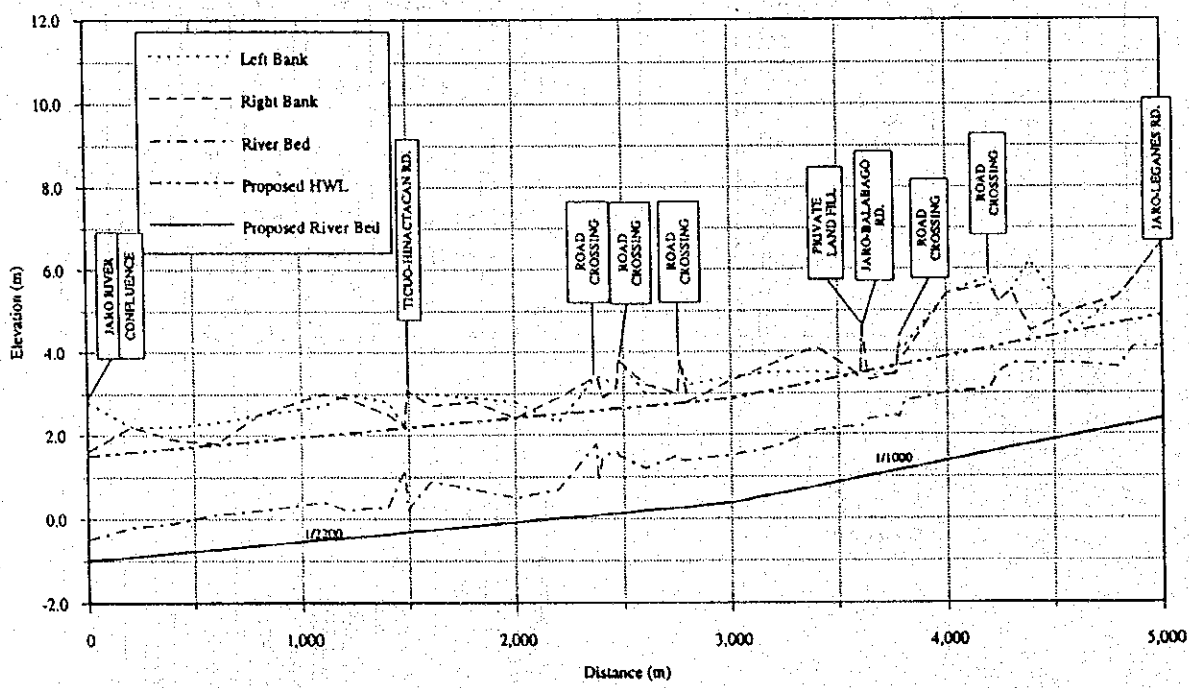
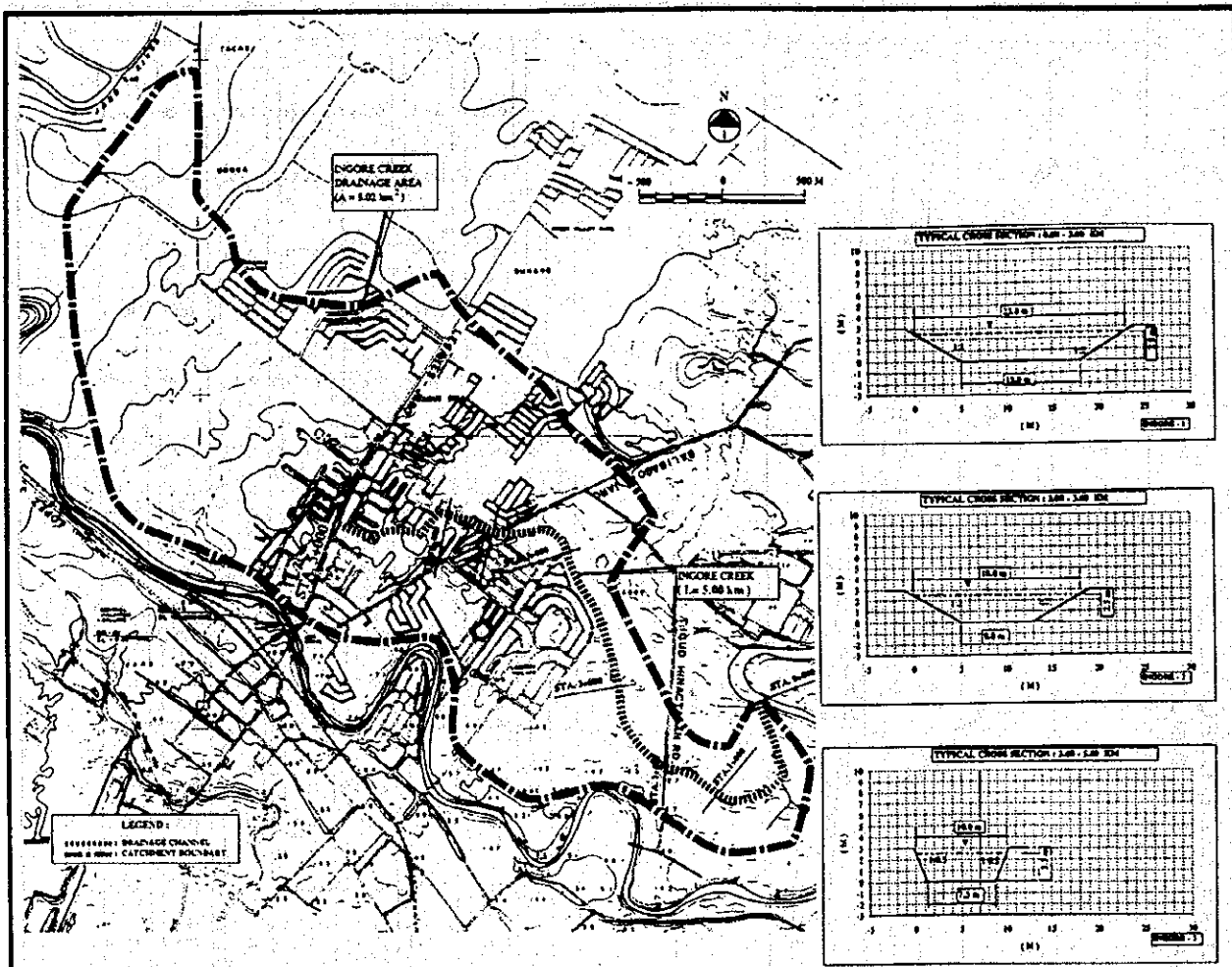
LONGITUDINAL PROFILE
MALBASAG RIVER, ORMOC CITY



STATION No.	LEFT BANK	DEEPEST RIVERBED	DESIGN RIVERBED	DIKE CROWN	GRADIENT OF RIVERBED
0.000	2.90	0.20	1.000	2.000	2.000
0.080	3.25	0.17	0.550	2.450	3.250
0.183	3.07	0.23	0.083	2.815	3.715
0.237	4.30	0.40	0.185	3.185	3.985
0.277	2.78	0.38	0.385	4.185	3.385
0.377	1.38	0.97	0.885	4.885	3.885
0.430			1.150	4.150	4.850
0.498	3.15	2.00	1.480	4.480	5.280
0.530	3.05	1.85	1.850	4.850	5.450
0.640	5.80	2.80	2.200	5.200	6.000
0.720	4.68	3.38	2.800	5.800	6.400
0.820	5.30	3.94	3.100	6.100	6.900
0.875	6.40	4.70	3.275	7.375	8.175
0.875	8.40	4.70	3.275	7.375	8.175
0.870	12.34	5.77	4.850	7.850	8.850
1.035	7.93	6.88	5.175	8.975	8.975
1.110	8.84	8.15	7.84	10.050	10.050
1.110	8.84	8.15	7.84	10.050	10.050
1.200	9.88	8.52	7.500	10.500	11.300
1.298	12.70	8.90	7.980	11.780	11.780
1.328	12.14	10.32	8.480	12.980	12.980
1.488	12.98	14.00	11.42	14.280	14.280
1.588	17.01	12.33	10.980	14.780	14.780
1.700	15.01	13.95	11.500	16.000	16.000
1.800	18.40	13.30	13.500	16.800	16.800
1.900	20.45	17.41	4.000	17.000	17.000

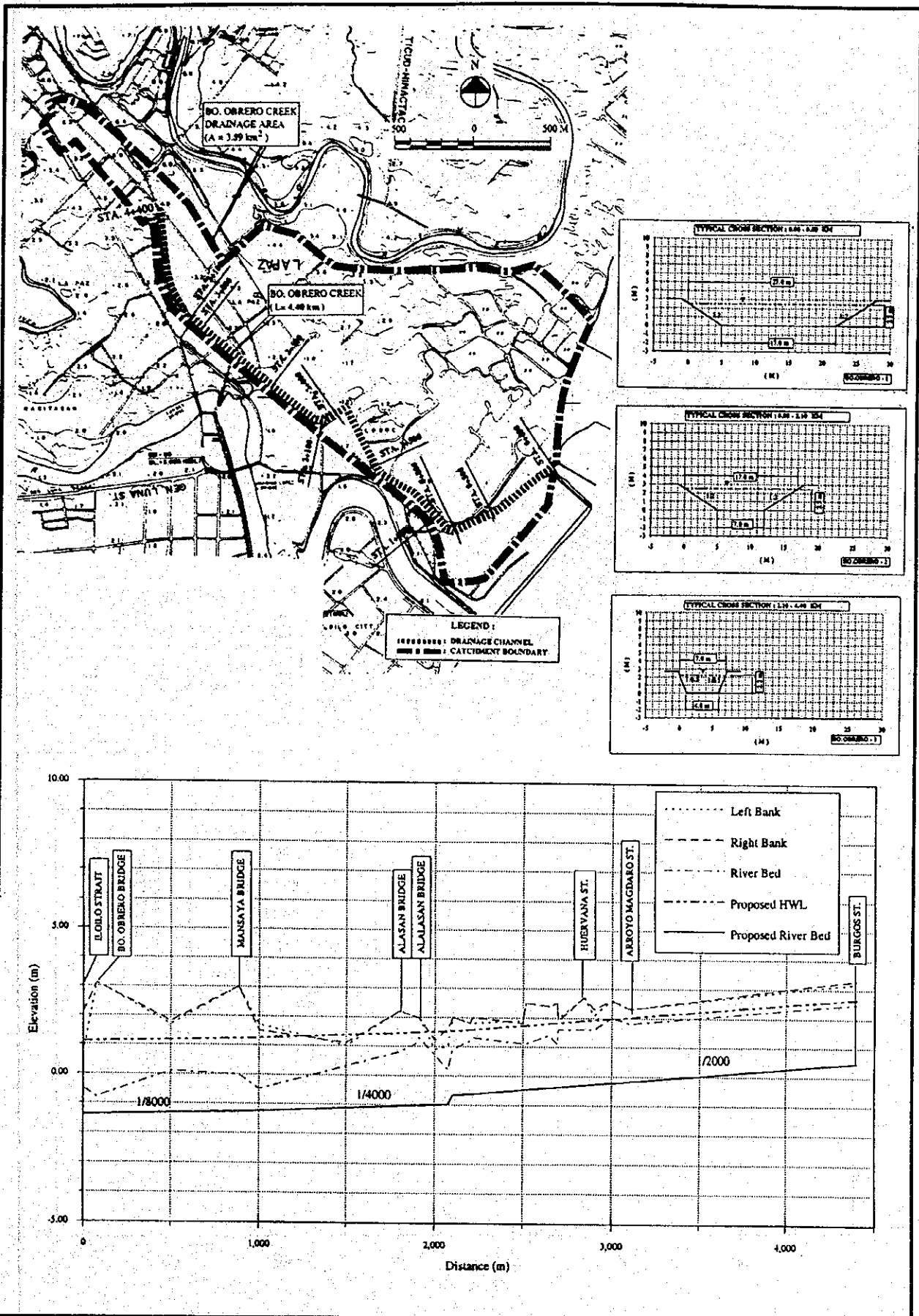
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.25
Longitudinal Profile of Malbasag River



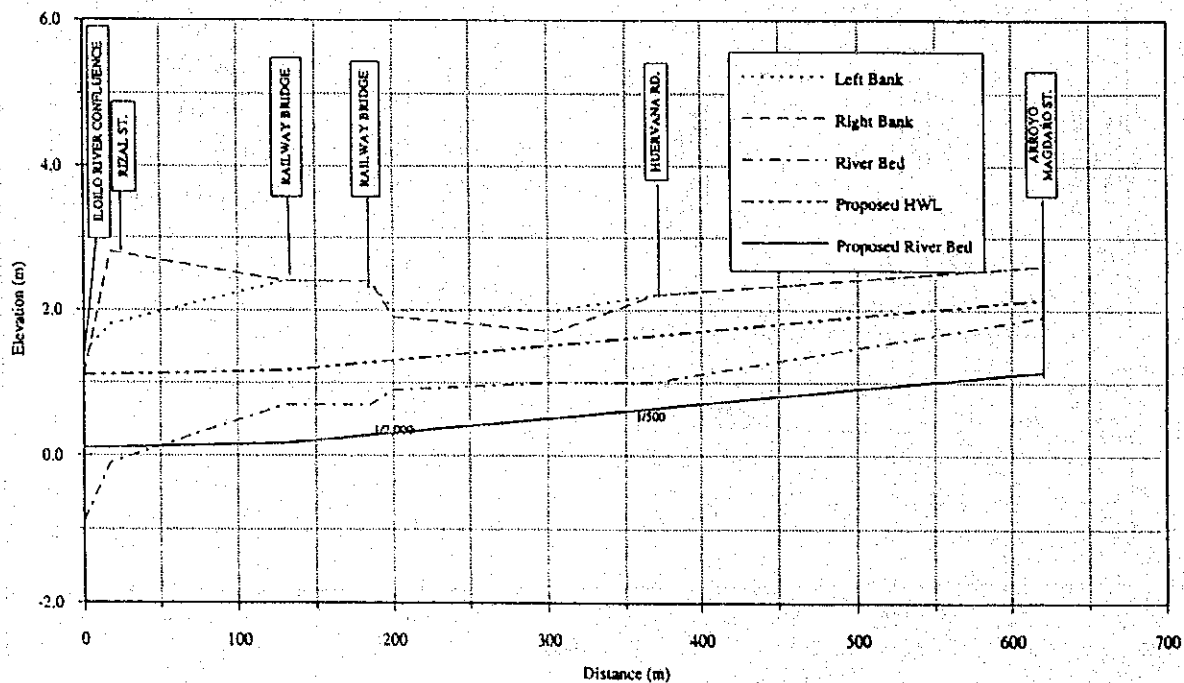
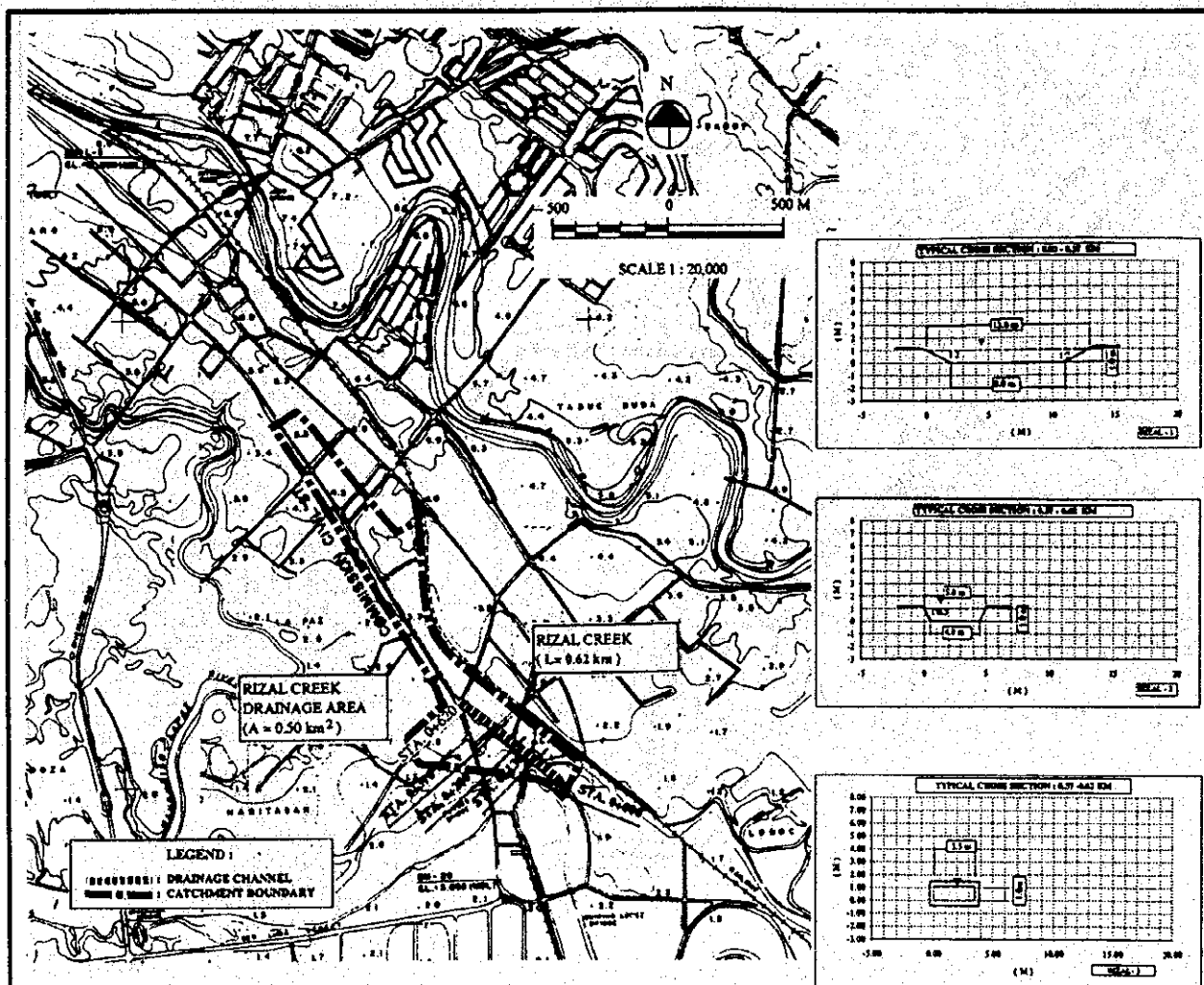
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.26
Proposed Channel Alignment, Cross Section and
Longitudinal Profile, Ingore Creek, Iloilo



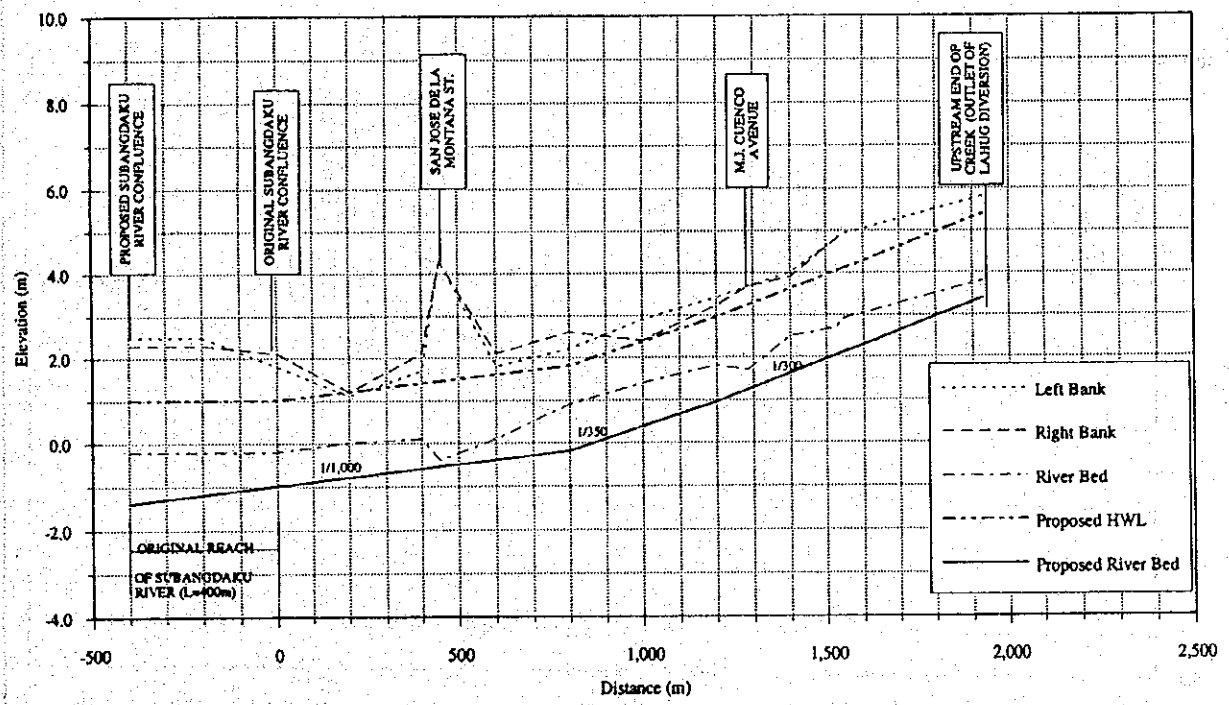
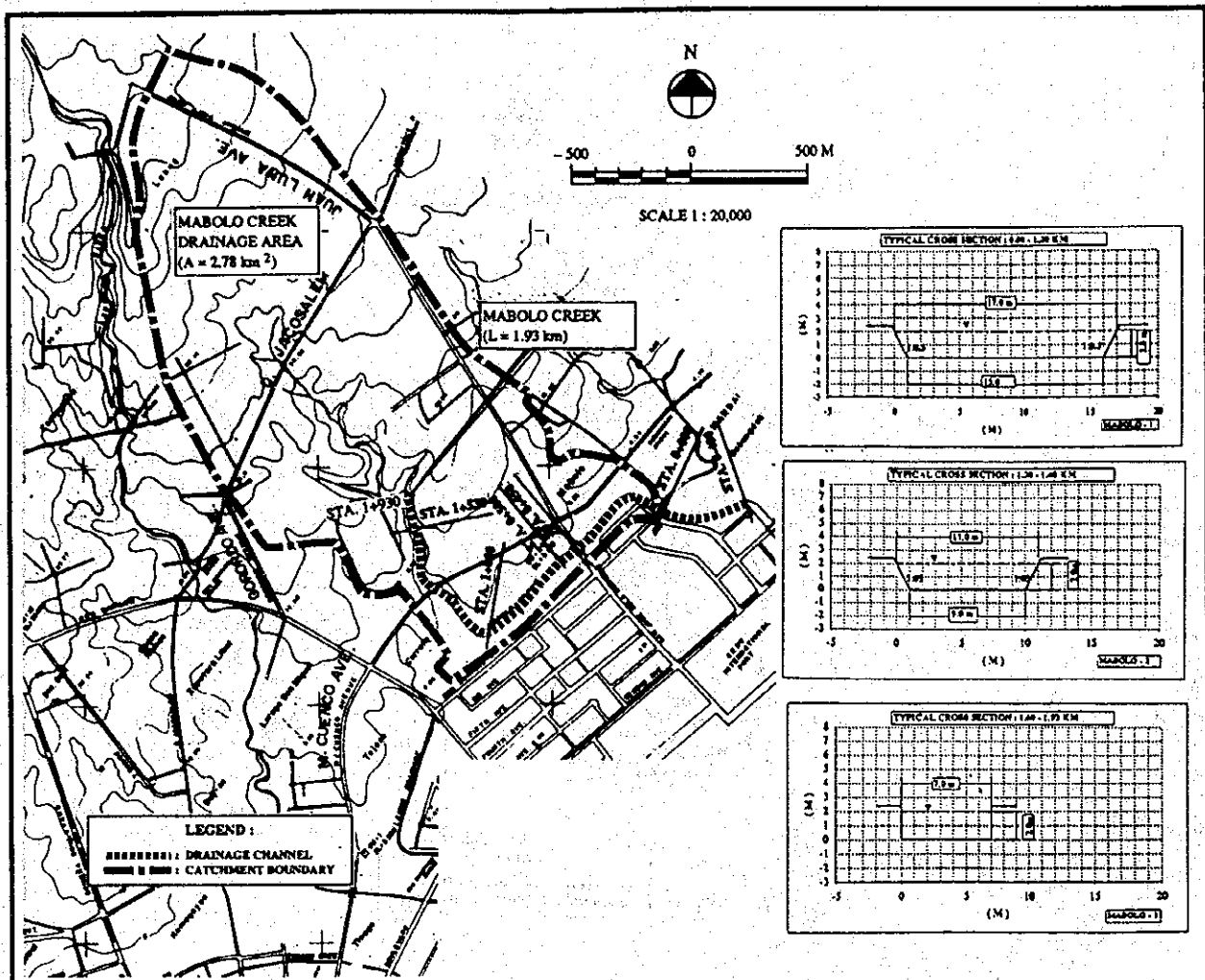
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.27
 Proposed Channel Alignment, Cross Section and
 Longitudinal Profile, Bo. Obrero Creek, Iloilo



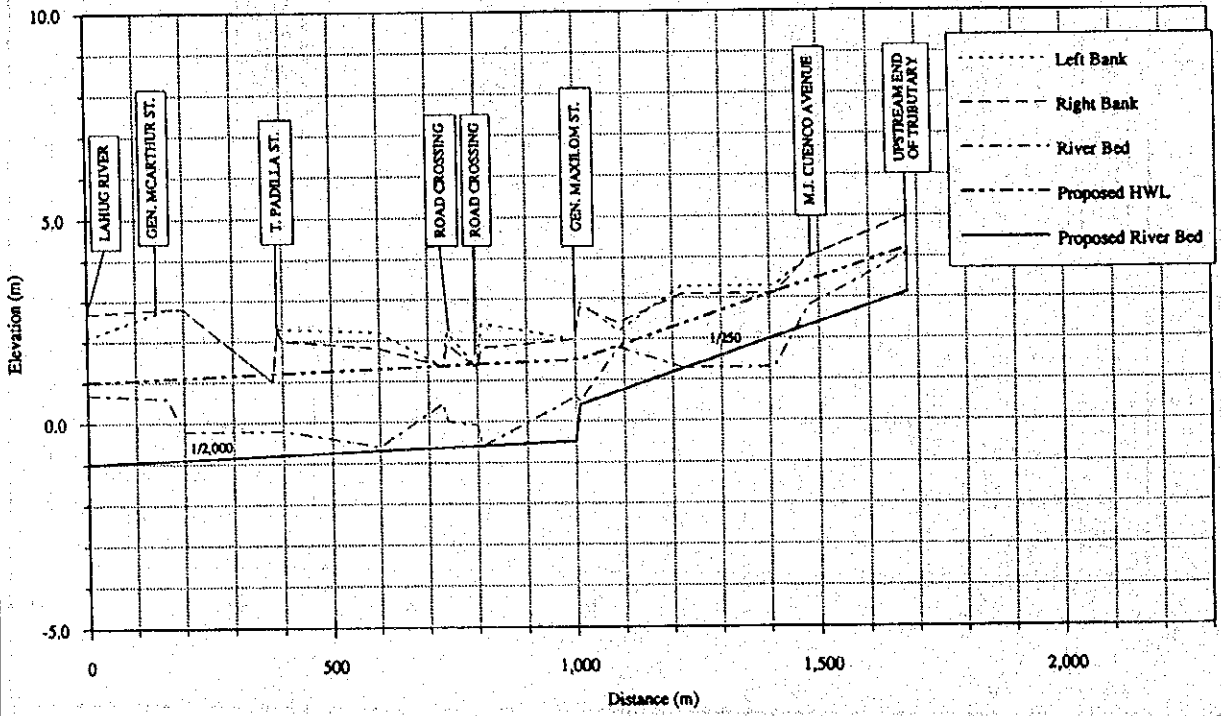
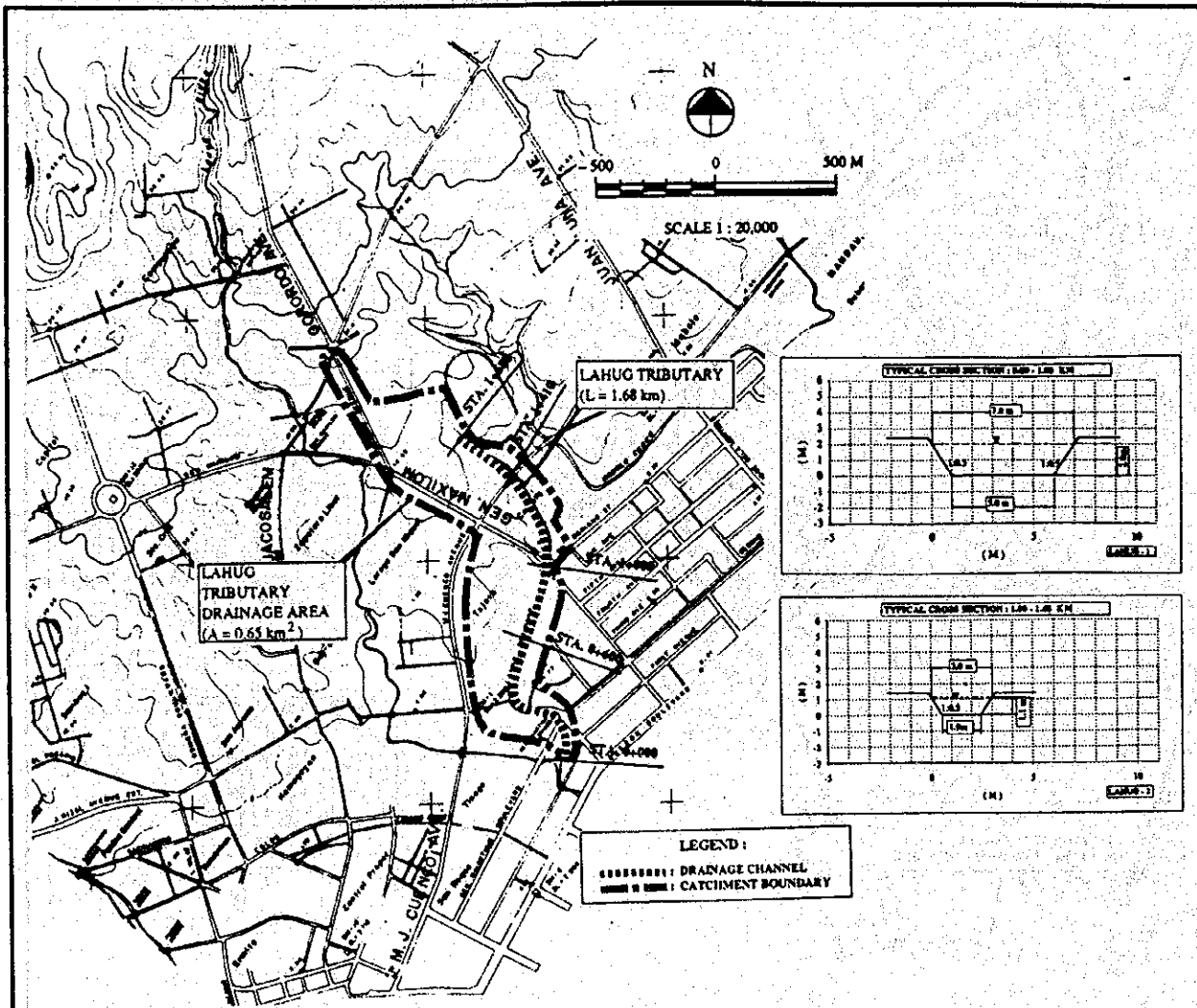
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.28
 Proposed Channel Alignment, Cross Section and
 Longitudinal Profile, Rizal Creek, Iloilo



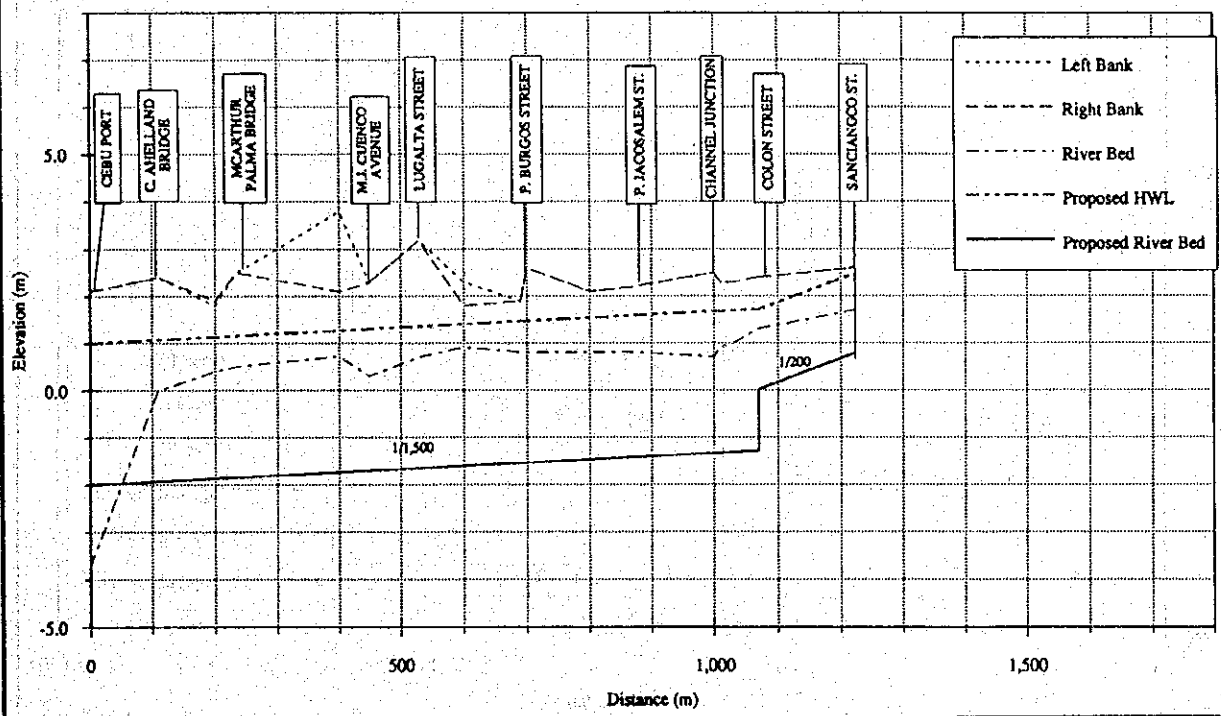
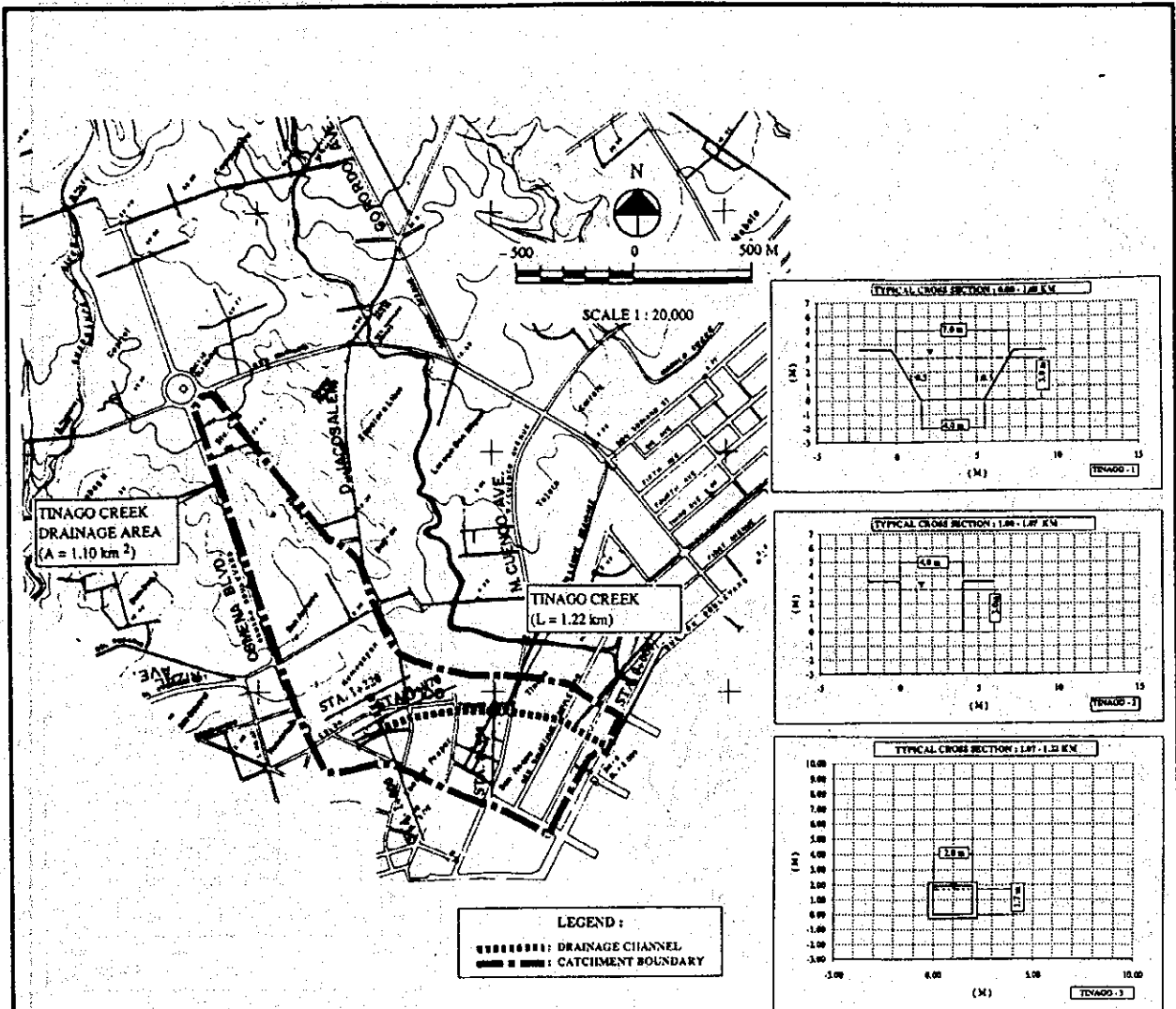
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.29
 Proposed Channel Alignment, Cross Section and
 Longitudinal Profile, Mabolo Creek, Cebu



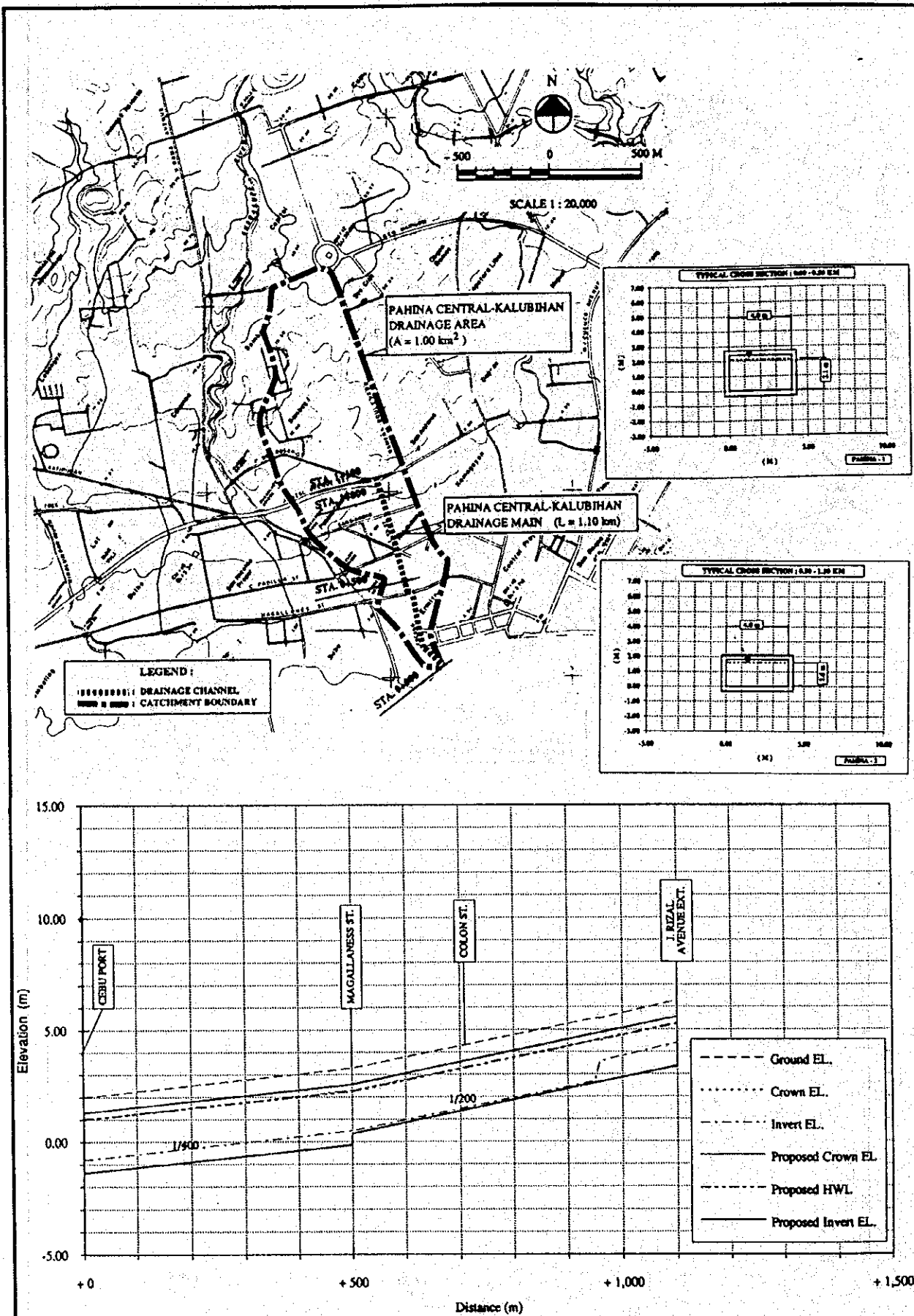
THE STUDY ON THE FLOOD CONTROL FOR RIVERS IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.30
 Proposed Channel Alignment, Cross Section and Longitudinal Profile, Lahug Tributary, Cebu



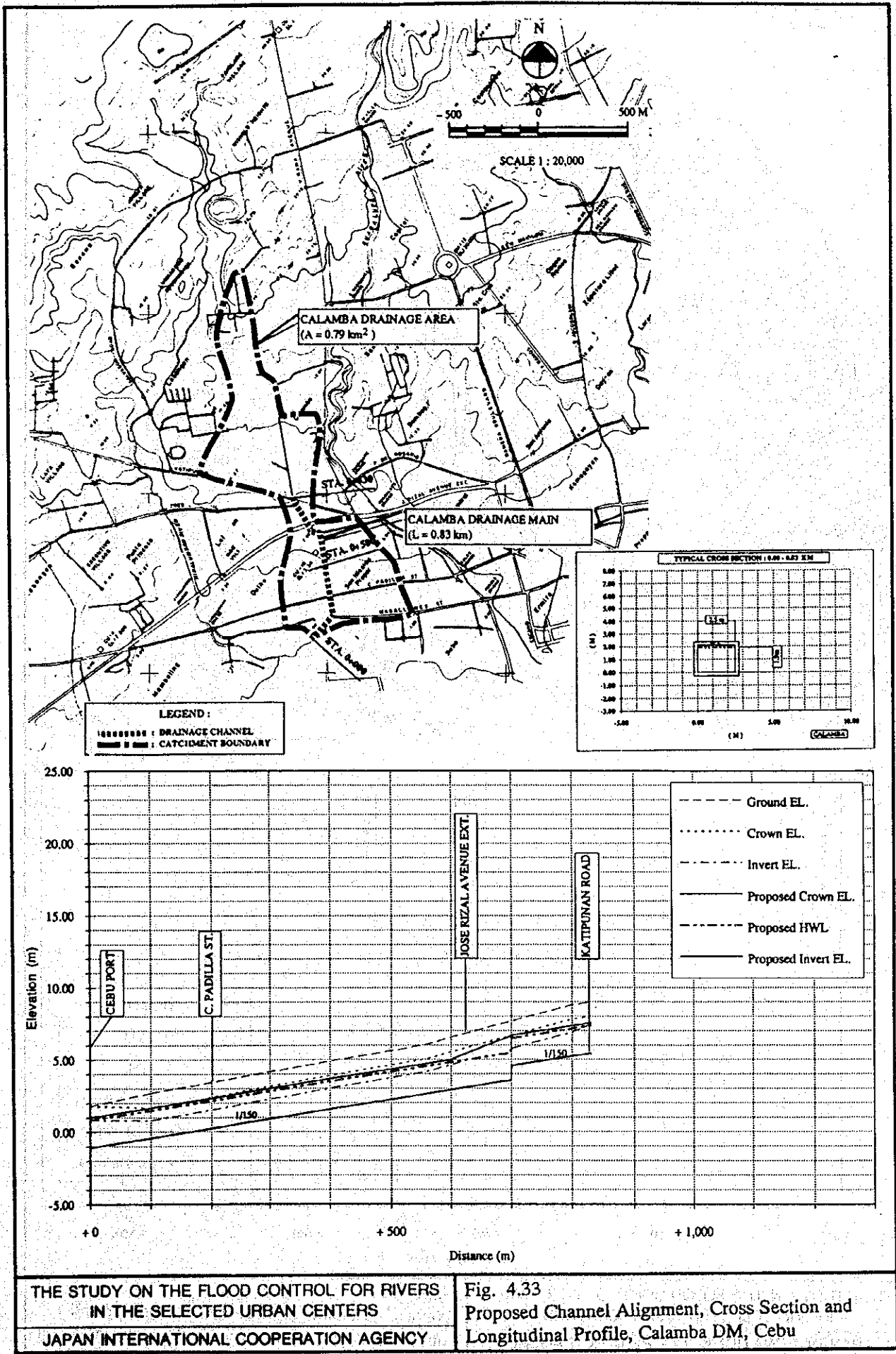
THE STUDY ON THE FLOOD CONTROL FOR RIVERS IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.31
 Proposed Channel Alignment, Cross Section and Longitudinal Profile, Tinago Creek, Cebu



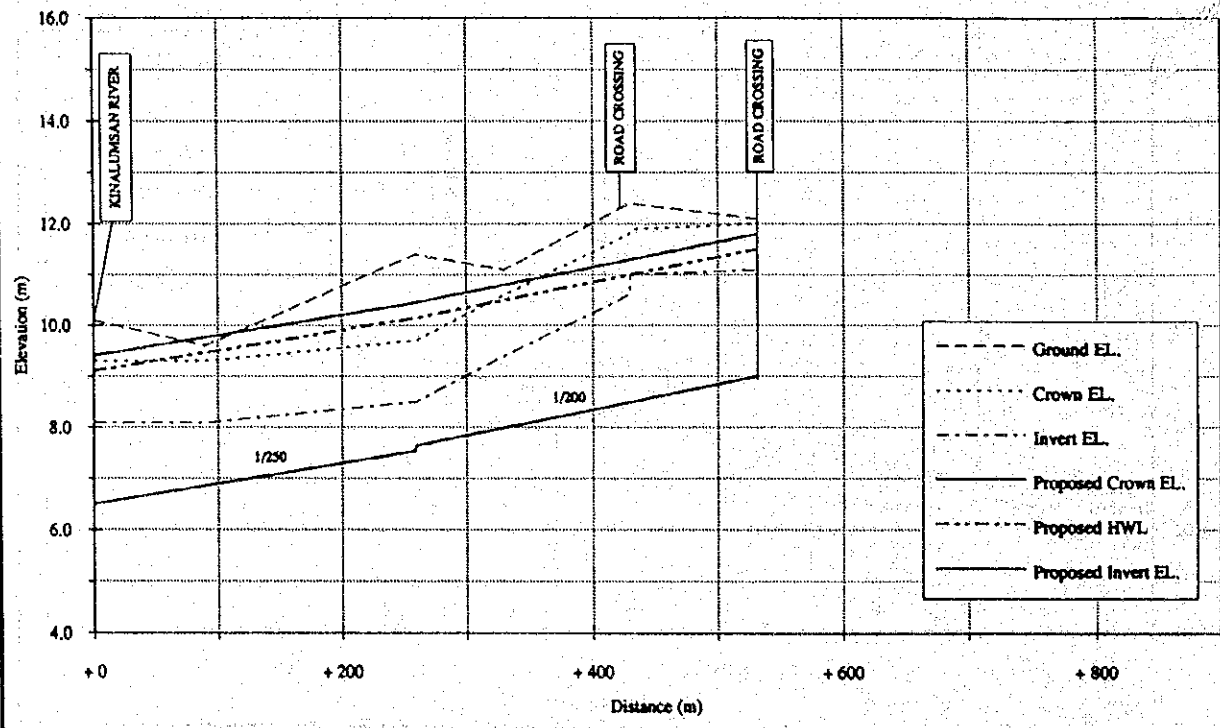
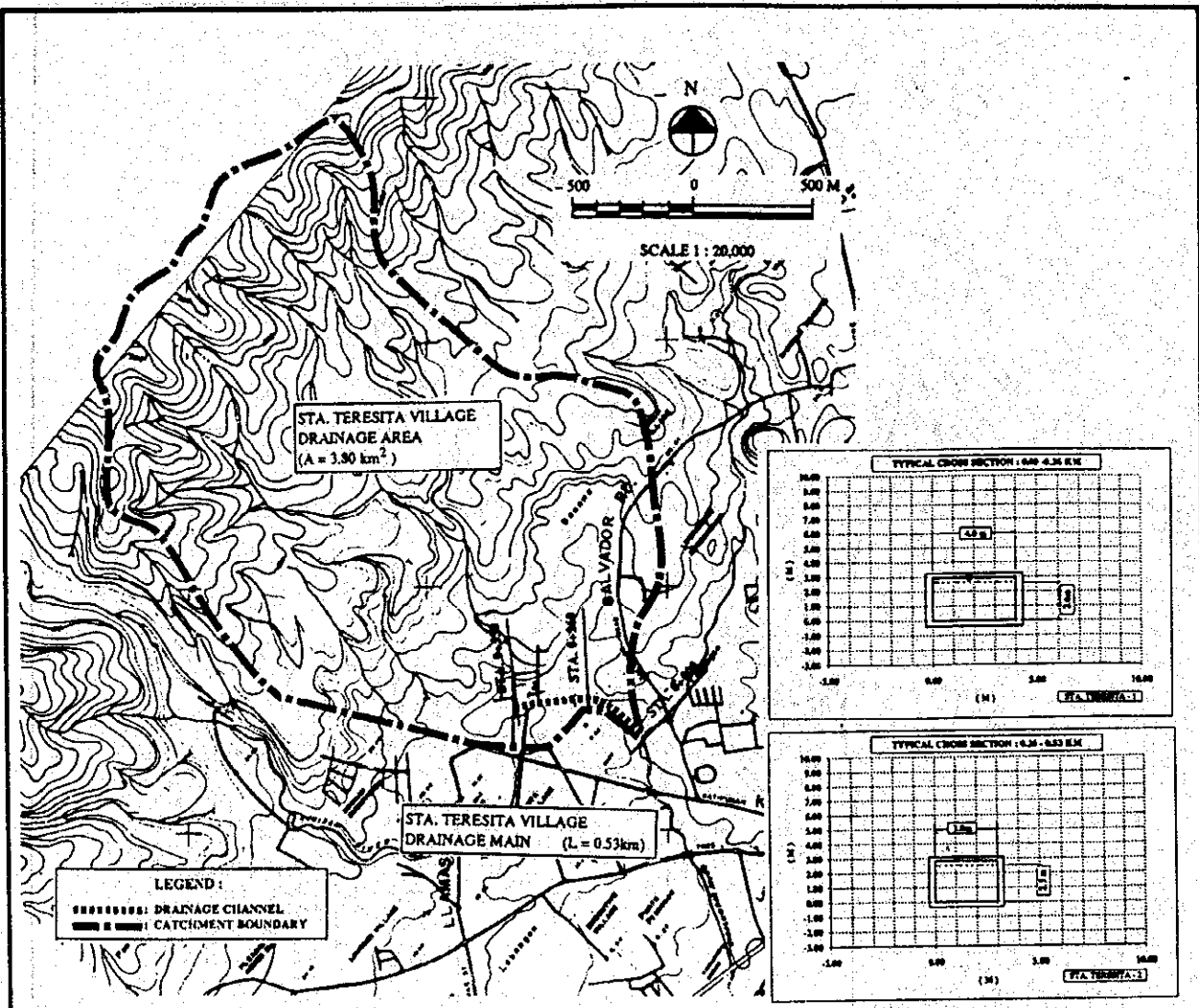
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.32
Proposed Channel Alignment, Cross Section and
Longitudinal Profile, Pahina Central - Kinalumsan DM,



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 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

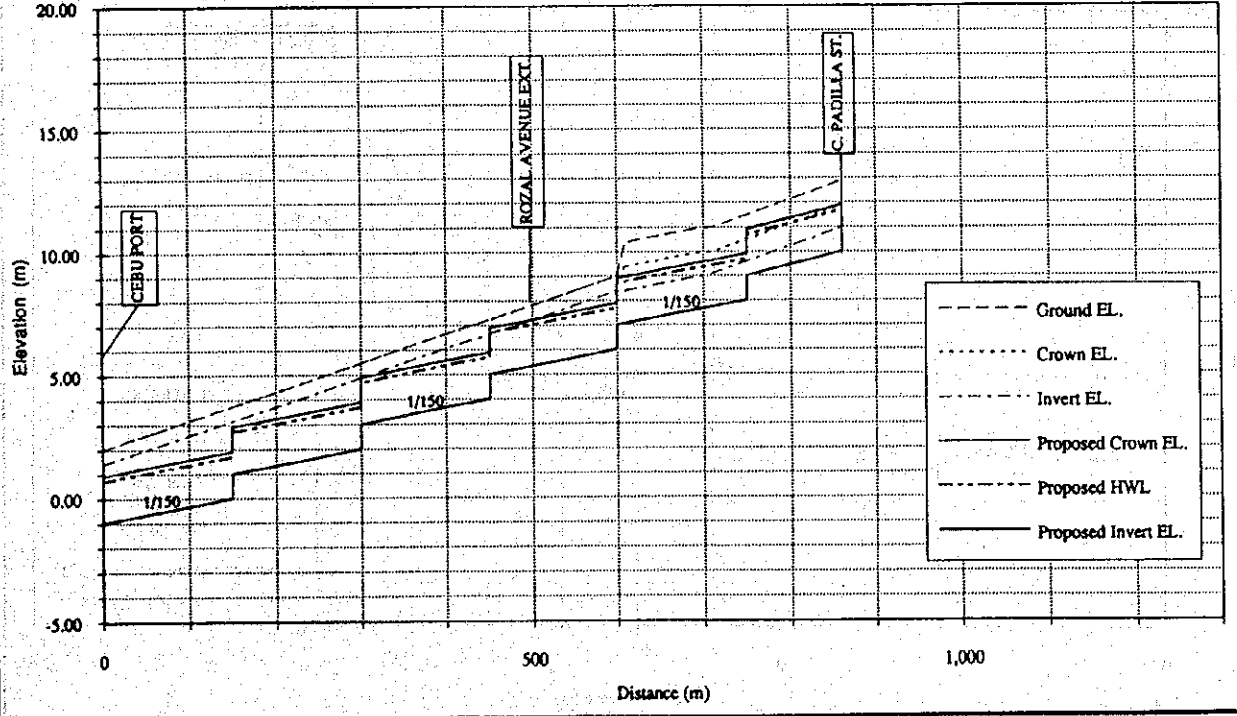
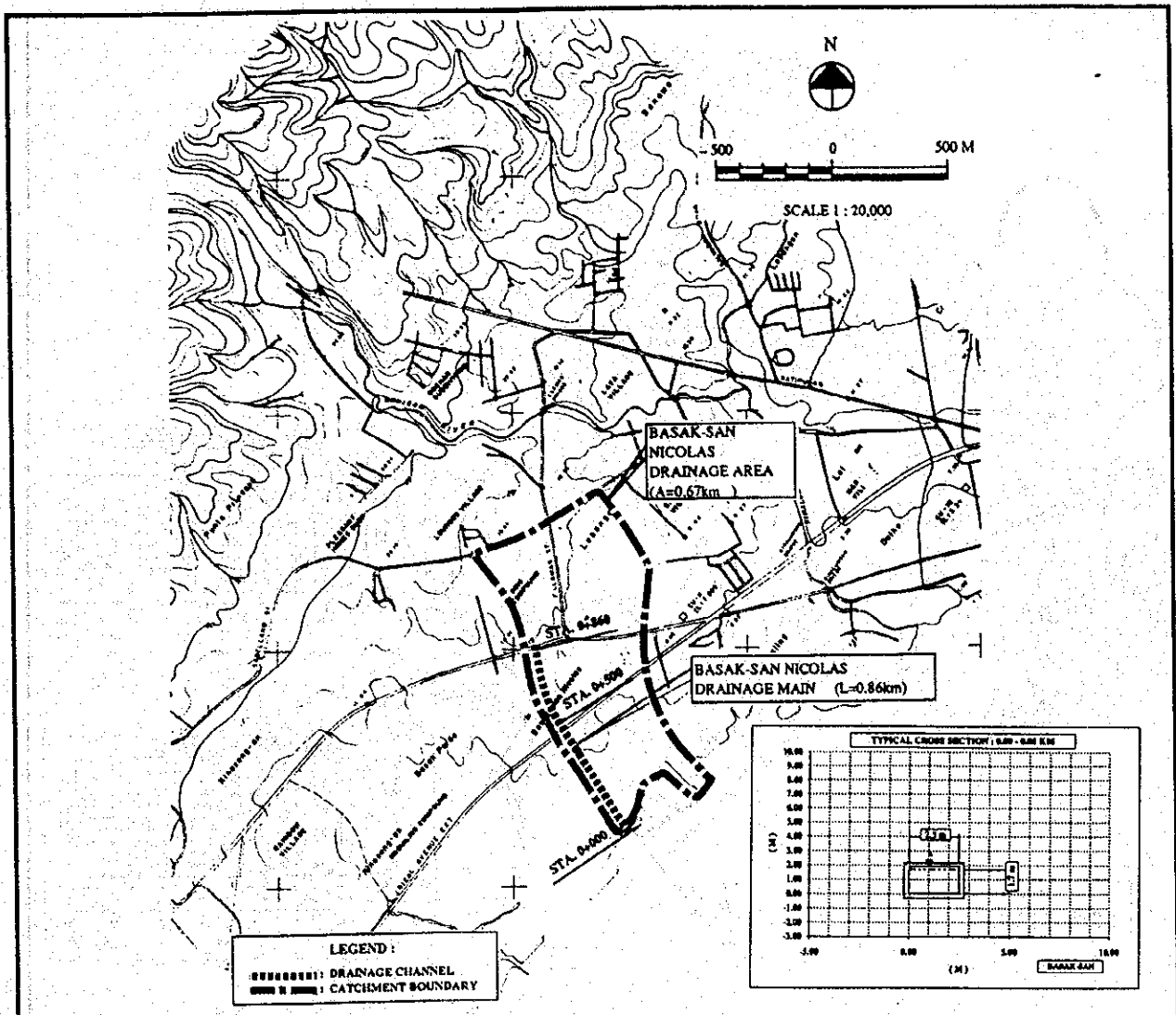
Fig. 4.33
 Proposed Channel Alignment, Cross Section and
 Longitudinal Profile, Calamba DM, Cebu



THE STUDY ON THE FLOOD CONTROL FOR RIVERS IN THE SELECTED URBAN CENTERS

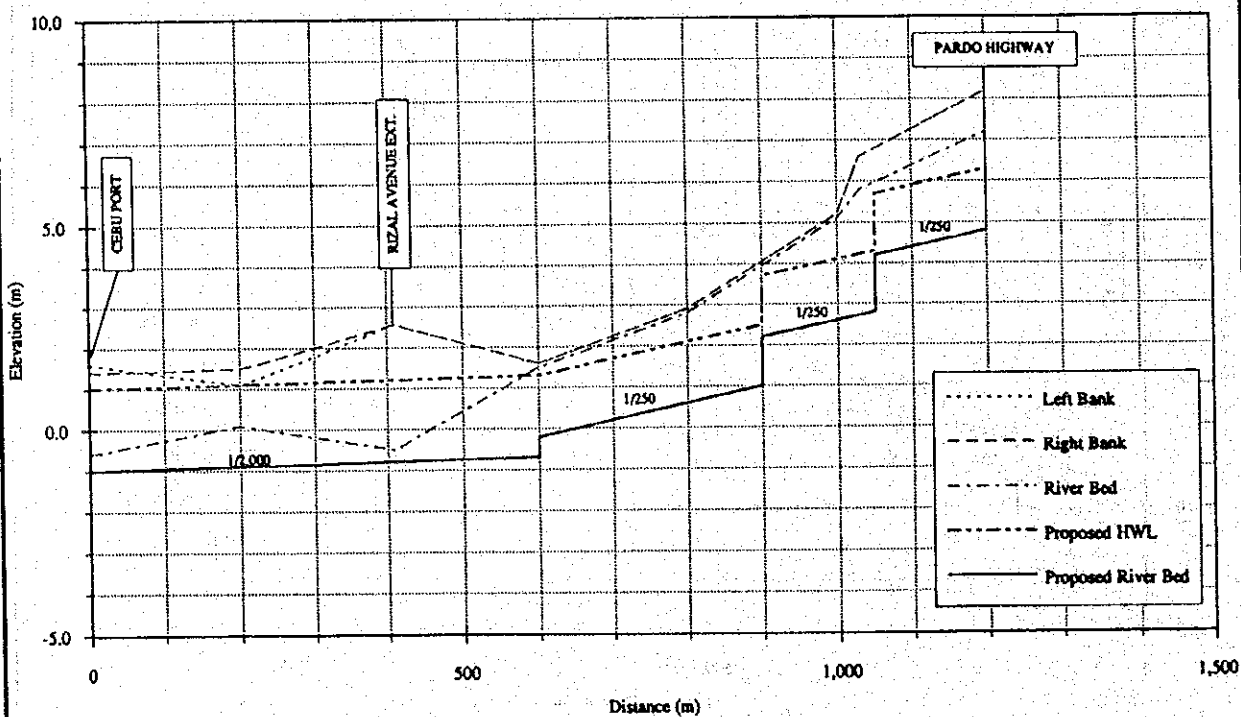
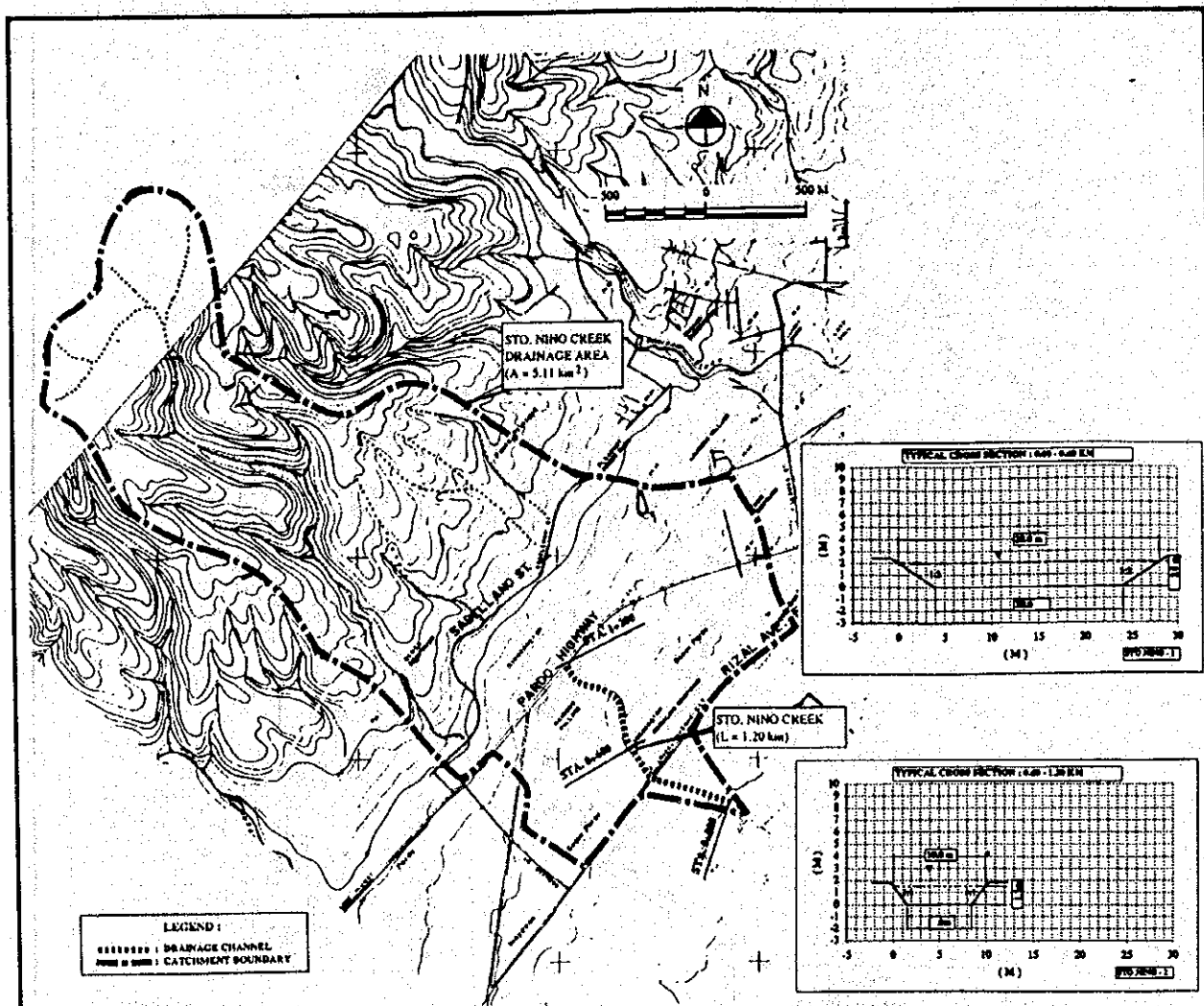
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.34 Proposed Channel Alignment, Cross Section and Longitudinal Profile, Sta. Teresita Village DM, Cebu



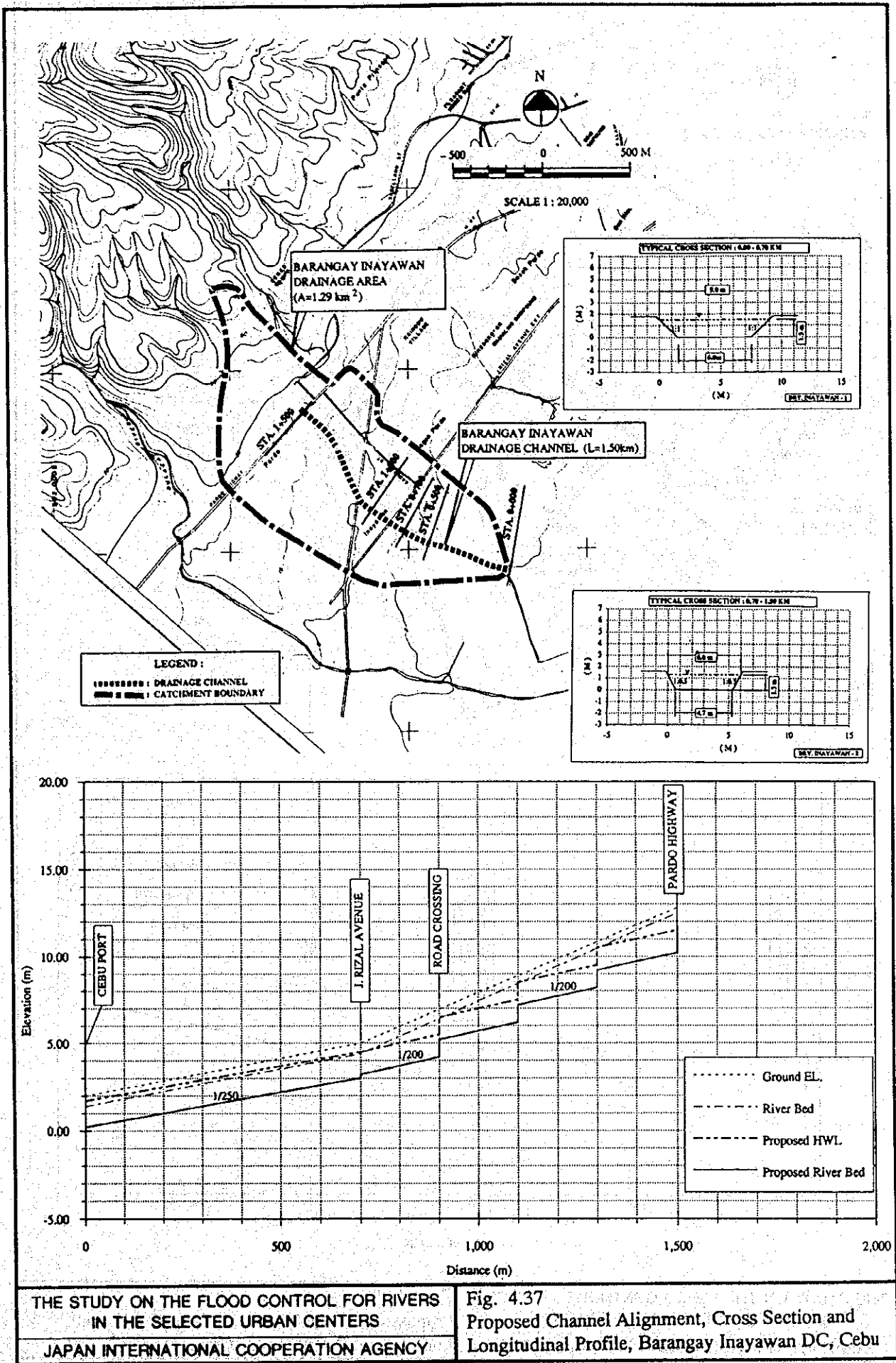
THE STUDY ON THE FLOOD CONTROL FOR RIVERS IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

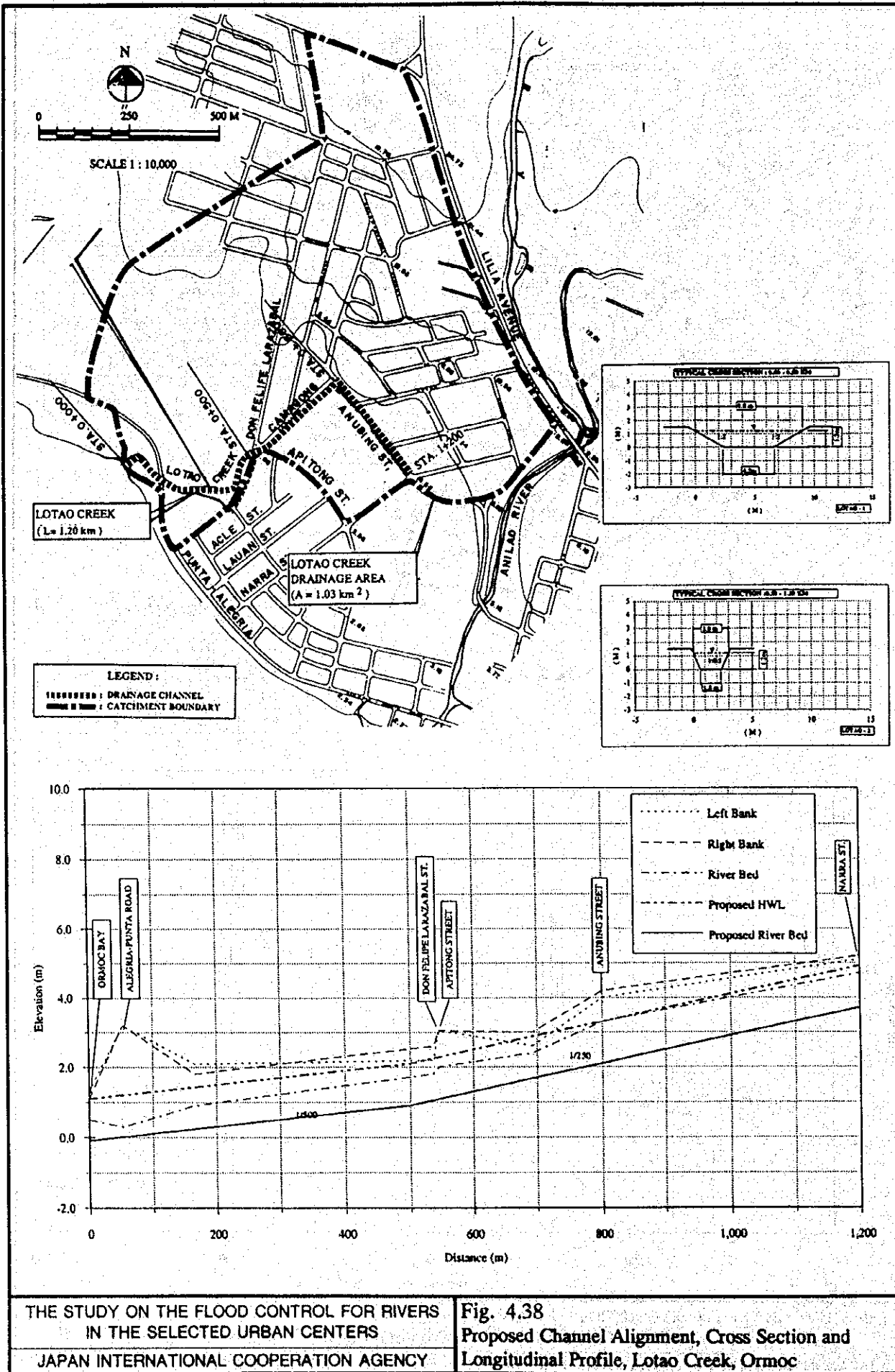
Fig. 4.35
 Proposed Channel Alignment, Cross Section and Longitudinal Profile, Basak-San Nicolas DM, Cebu



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.36
 Proposed Channel Alignment, Cross Section and
 Longitudinal Profile, Sto. Niño Creek, Cebu





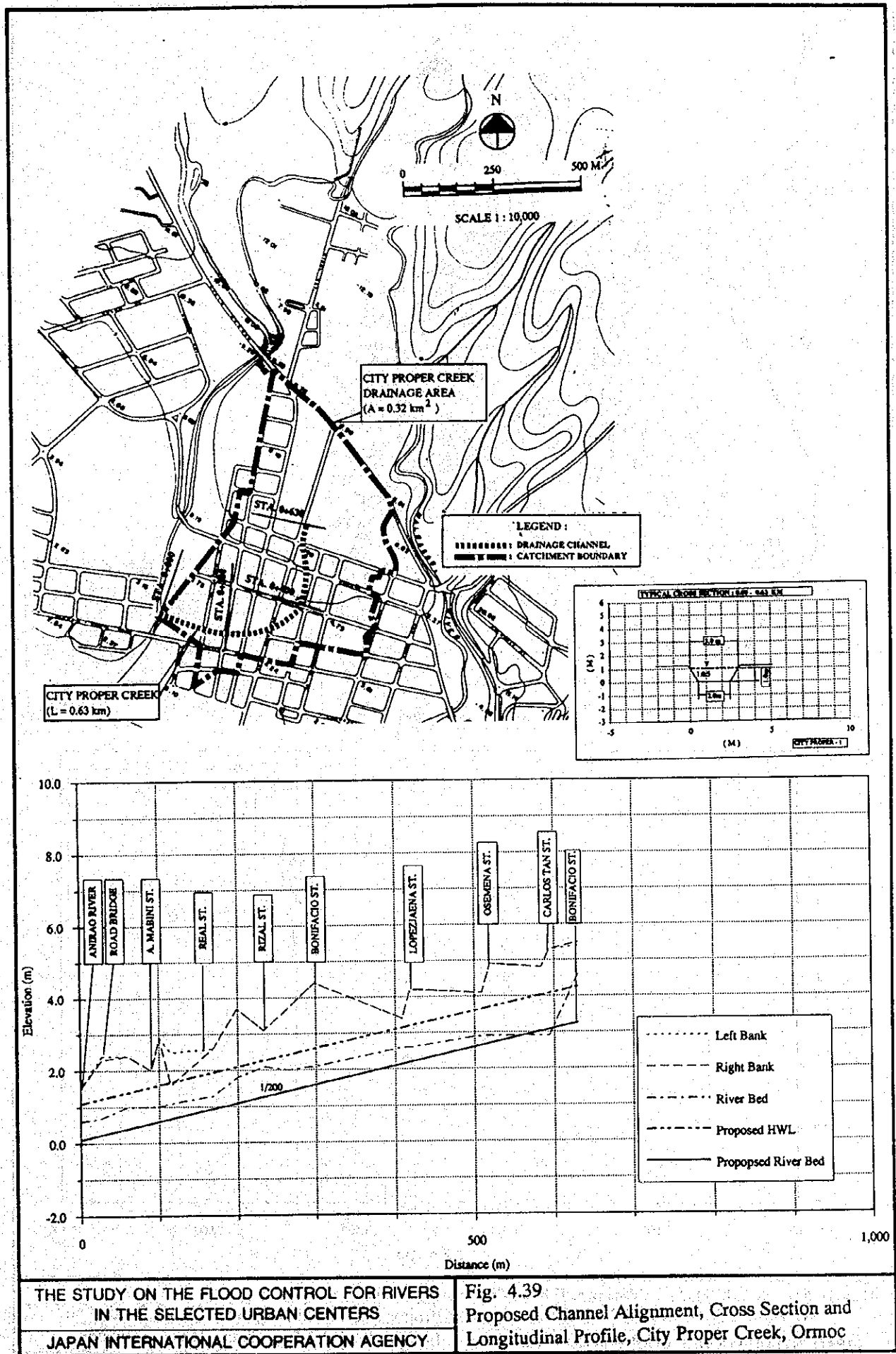
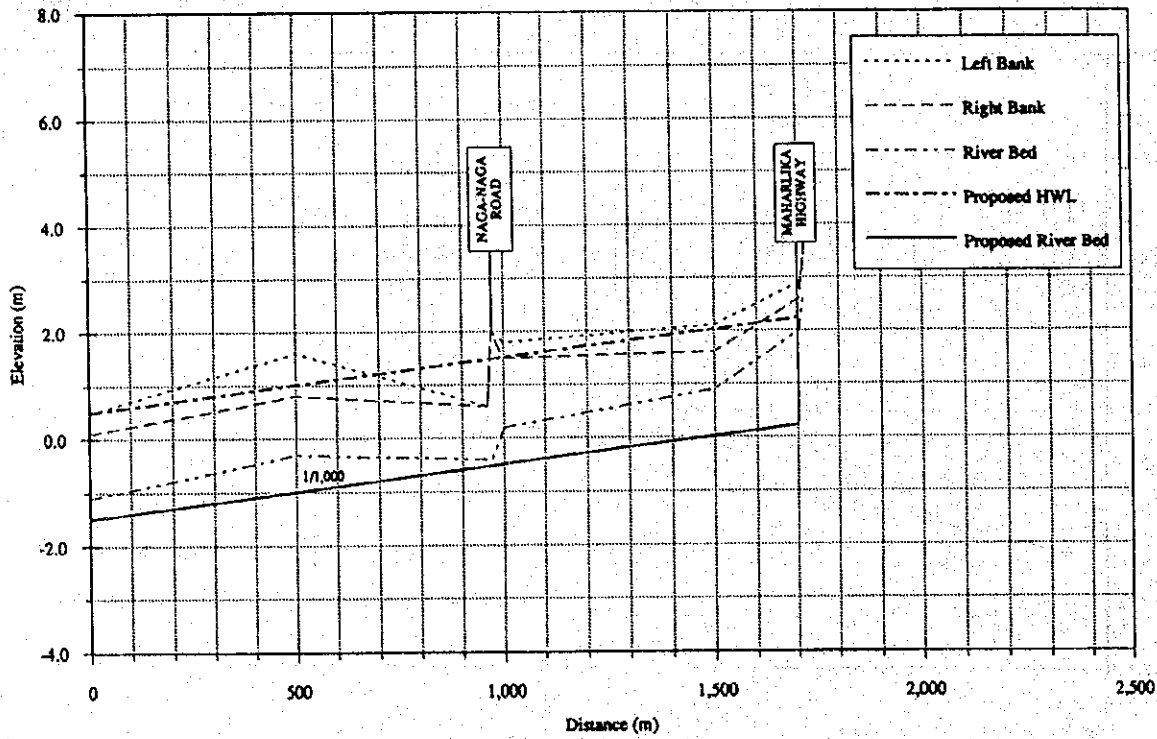
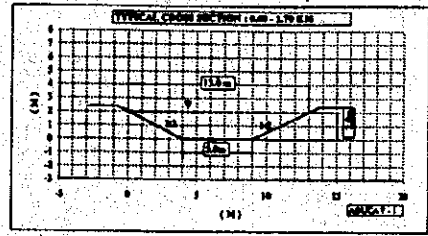
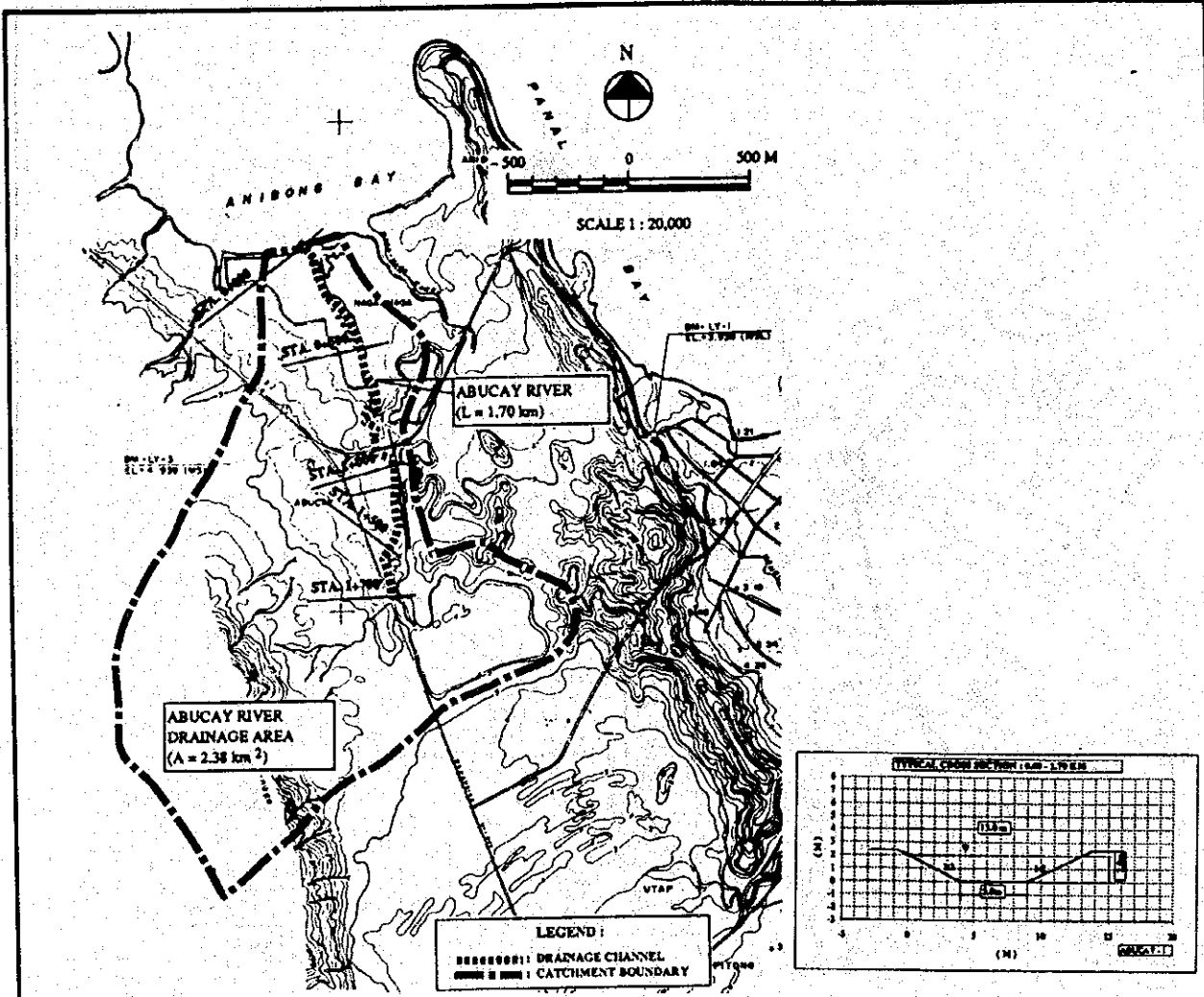


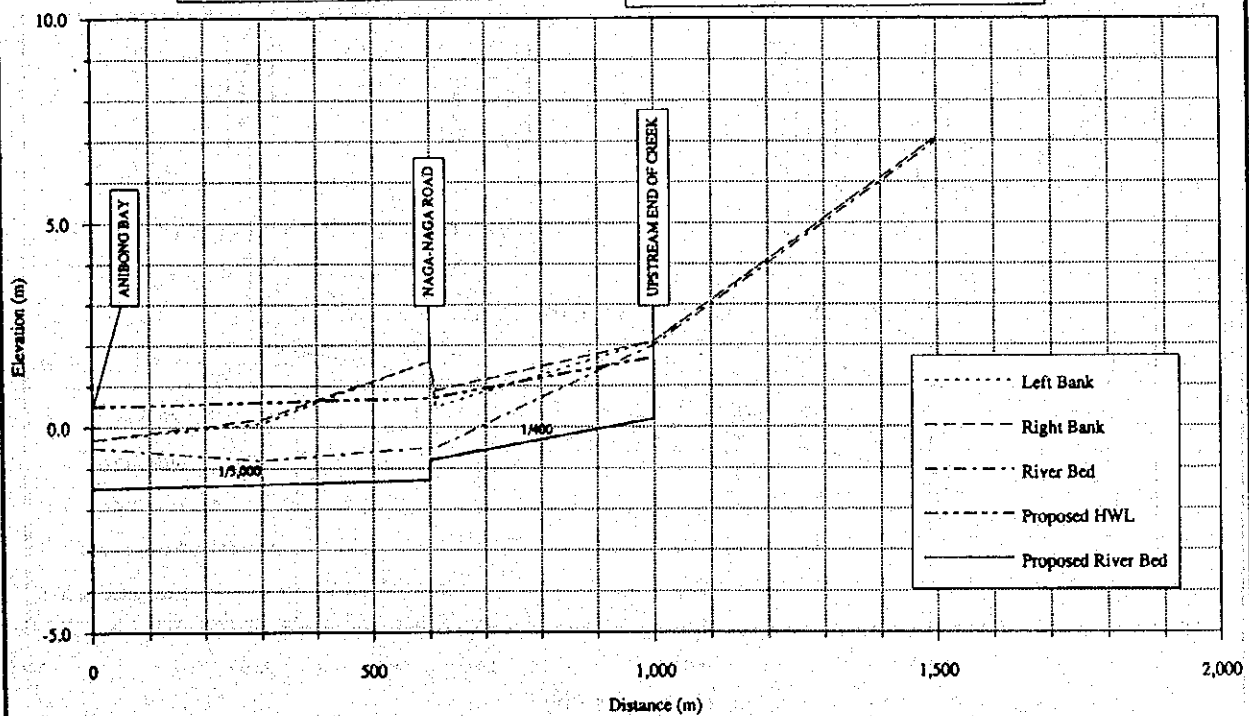
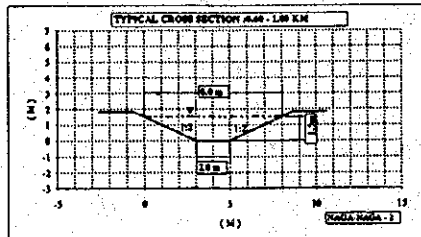
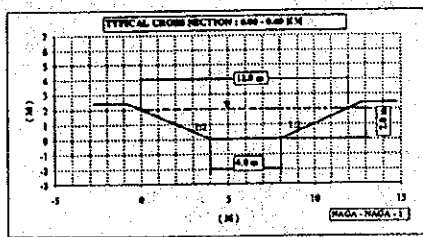
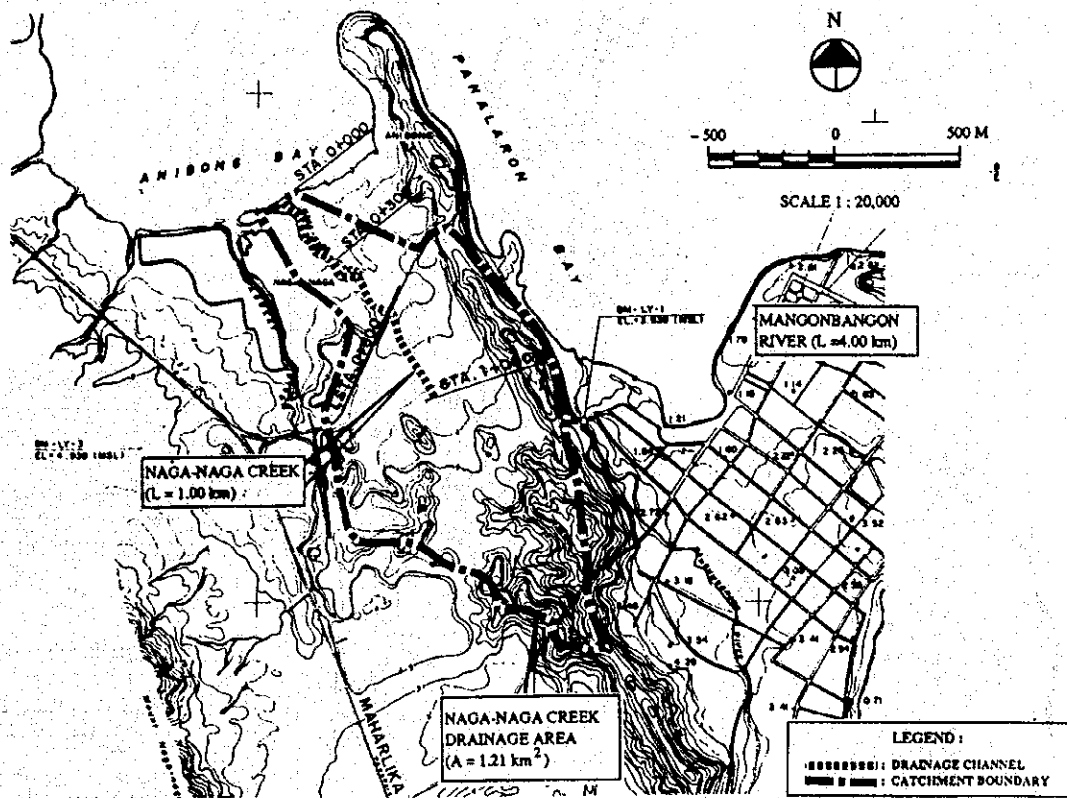
Fig. 4.39
 Proposed Channel Alignment, Cross Section and Longitudinal Profile, City Proper Creek, Ormoc



THE STUDY ON THE FLOOD CONTROL FOR RIVERS IN THE SELECTED URBAN CENTERS

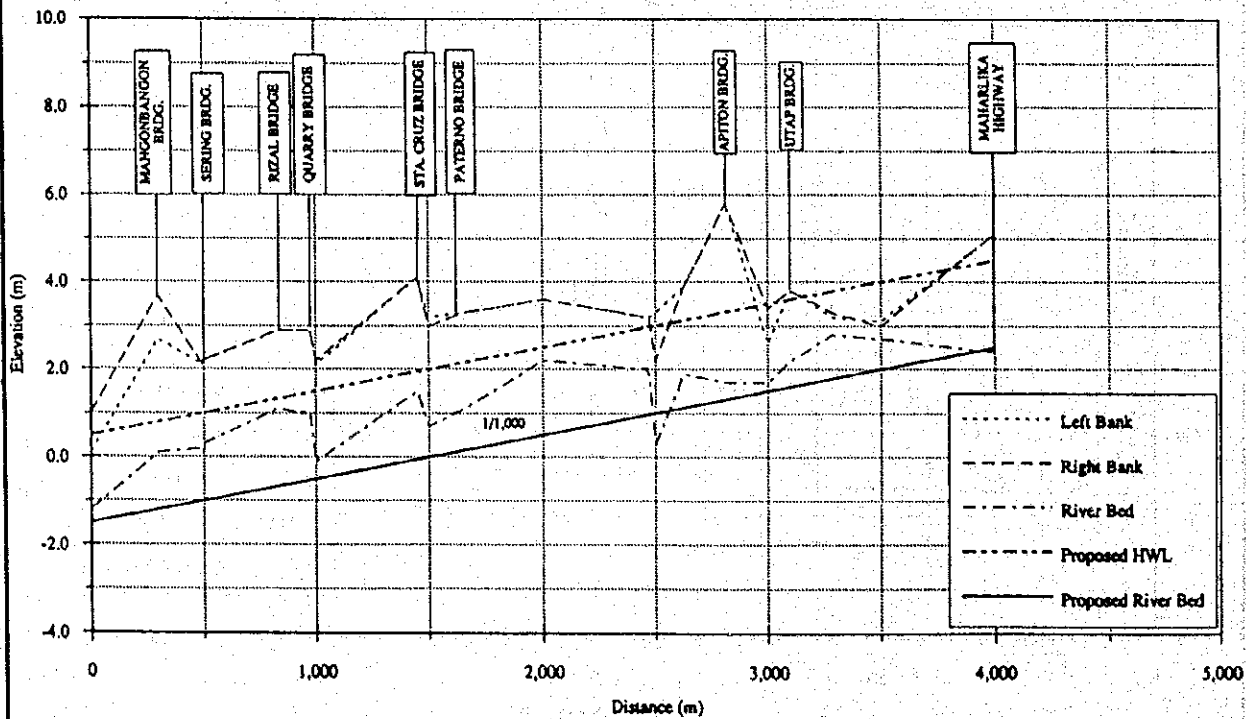
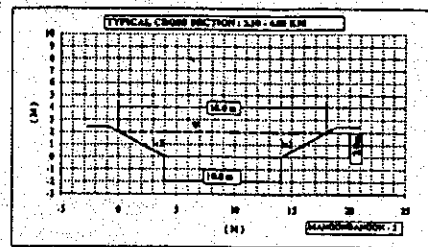
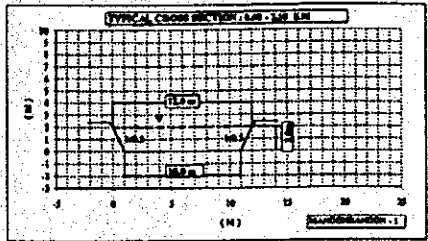
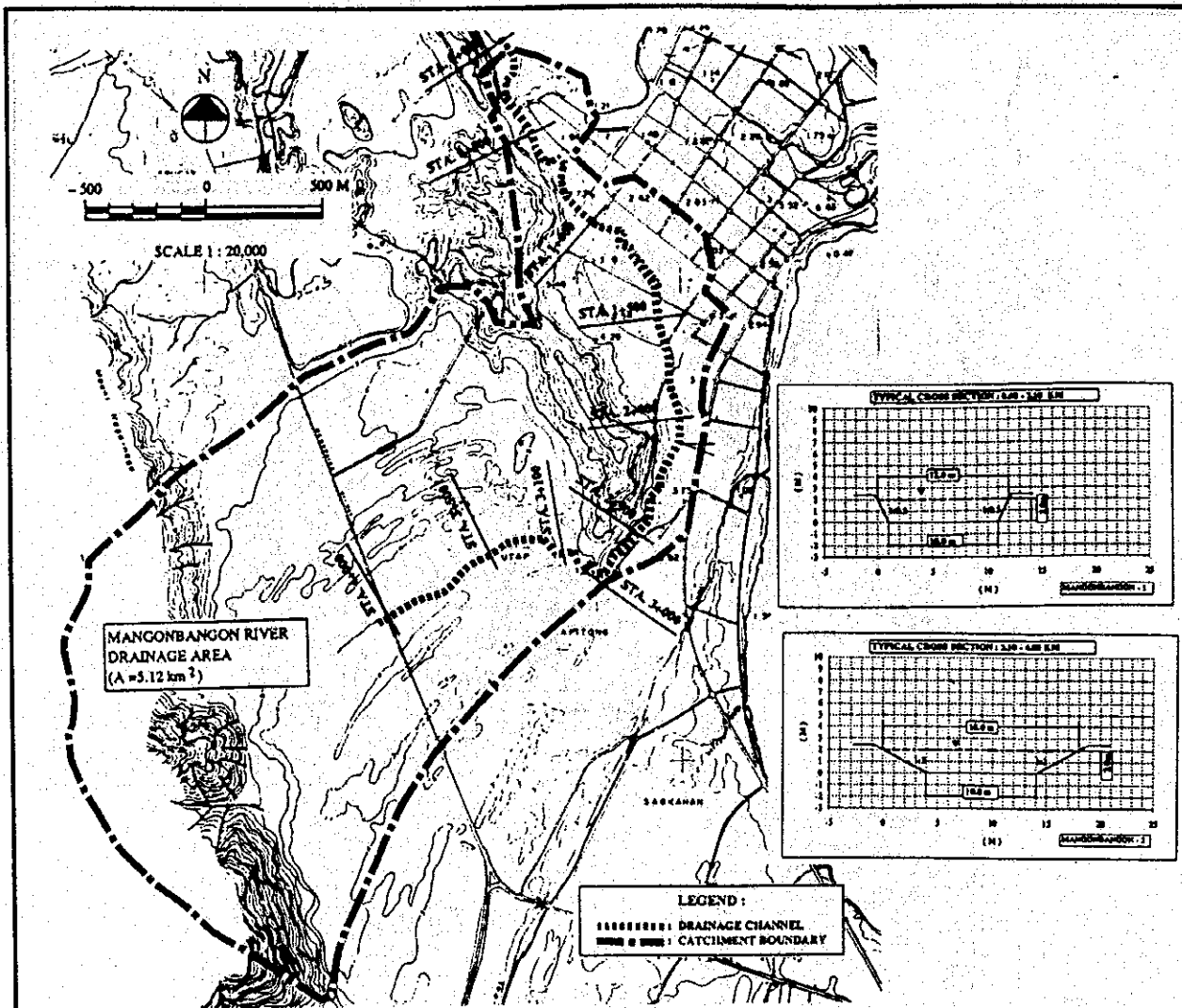
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Fig. 4.40 Proposed Channel Alignment, Cross Section and Longitudinal Profile, Abucay River, Tacloban



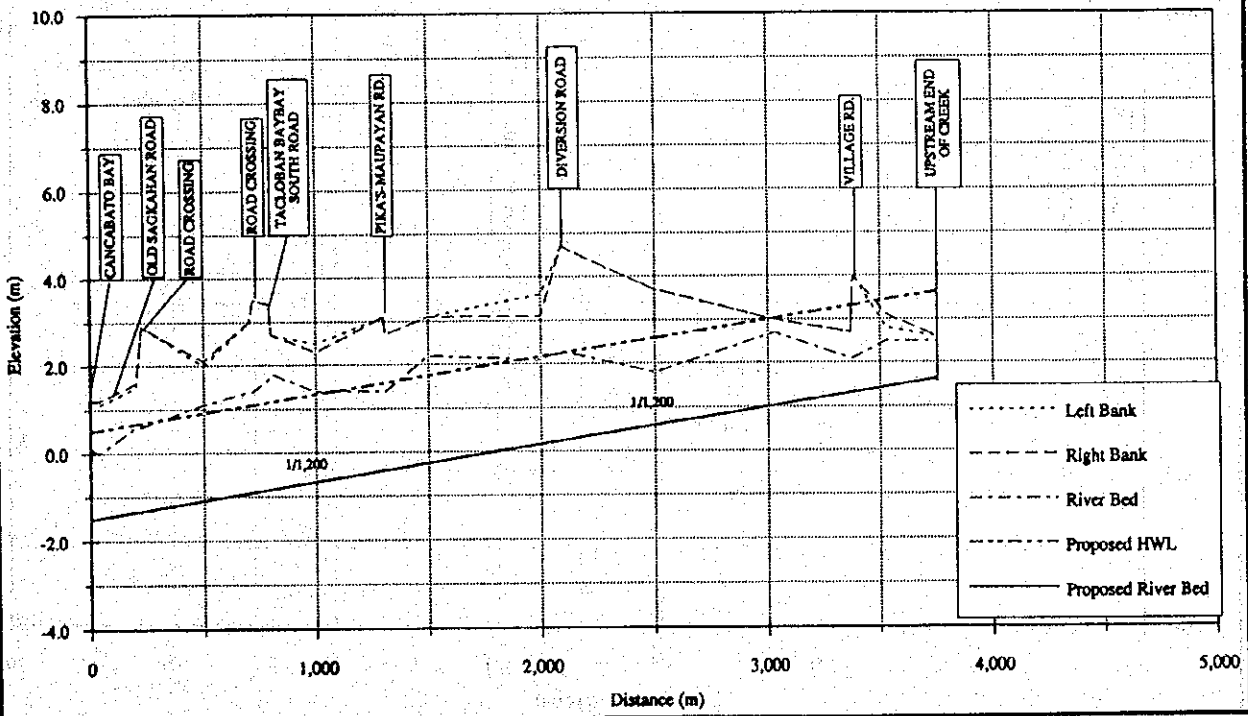
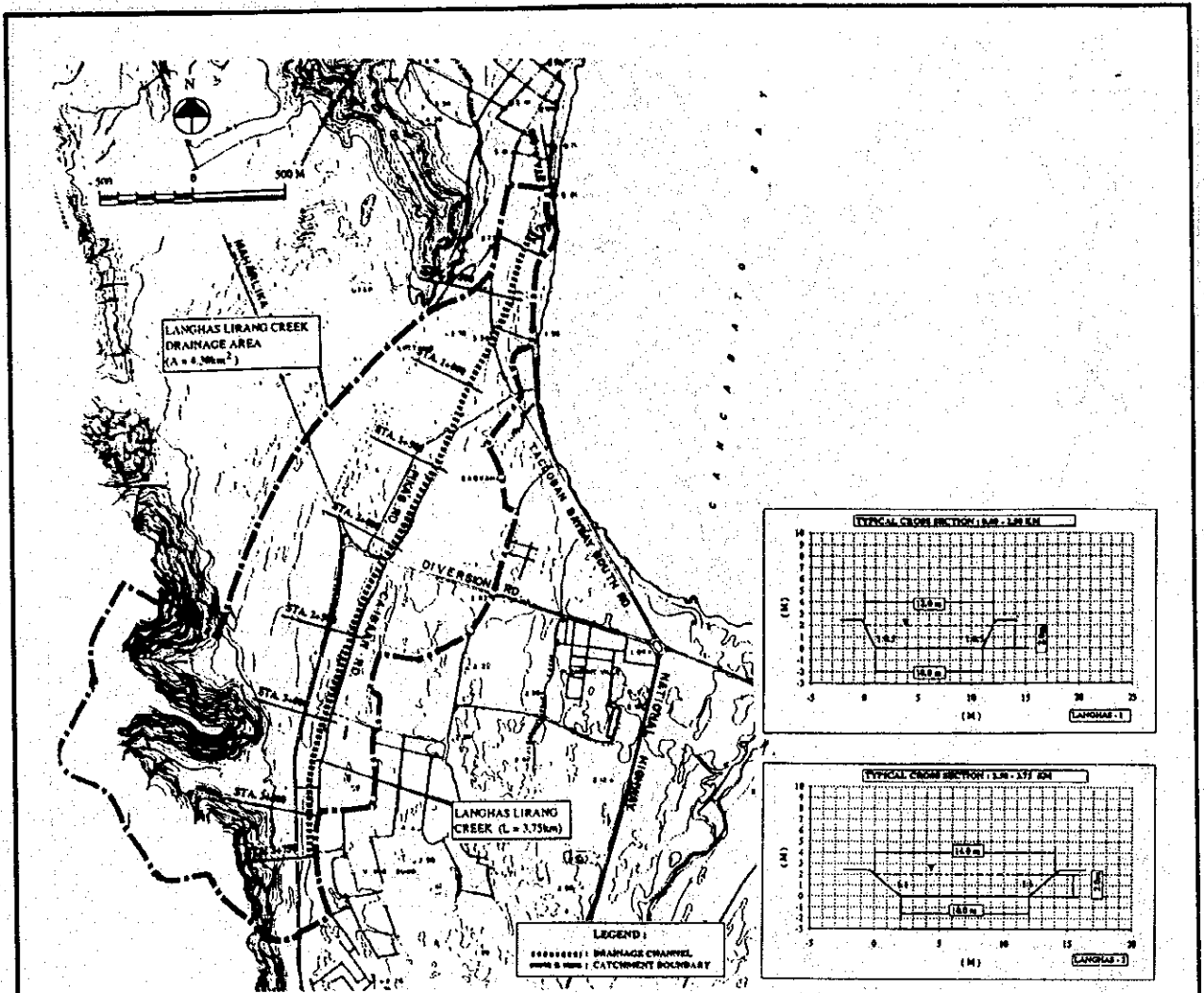
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
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Fig. 4.41
Proposed Channel Alignment, Cross Section and
Longitudinal Profile, Naga-Naga Creek, Tacloban



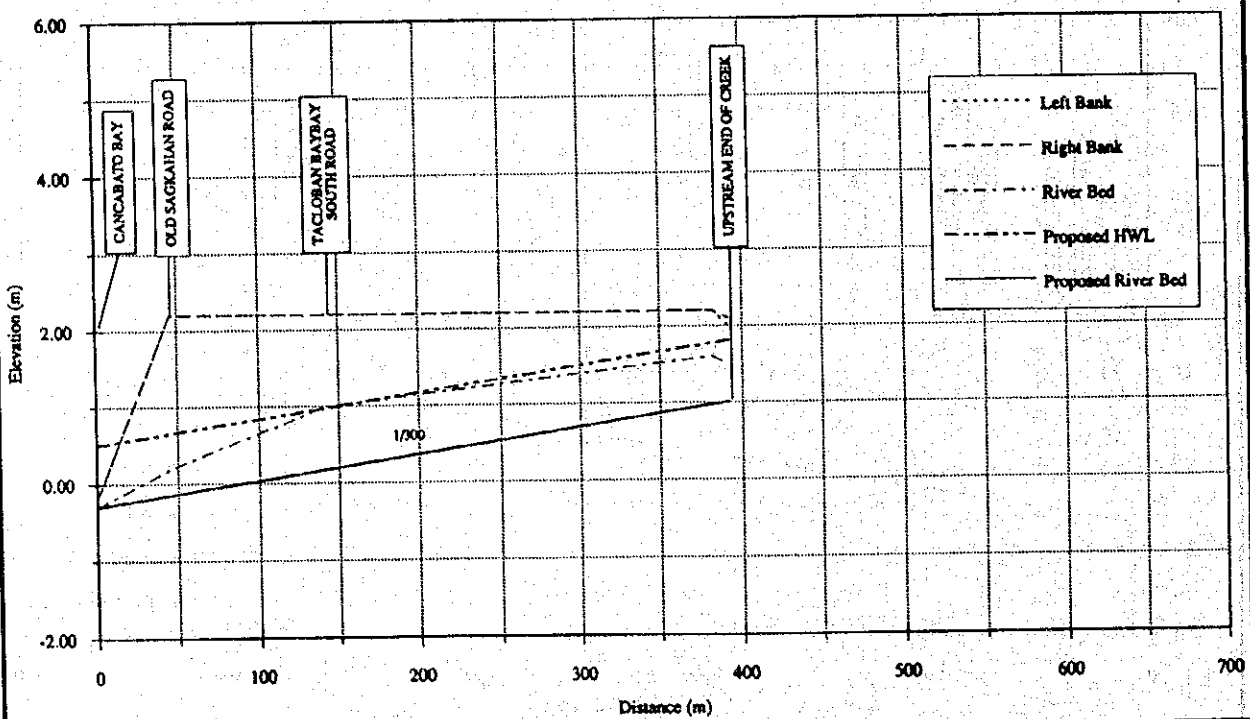
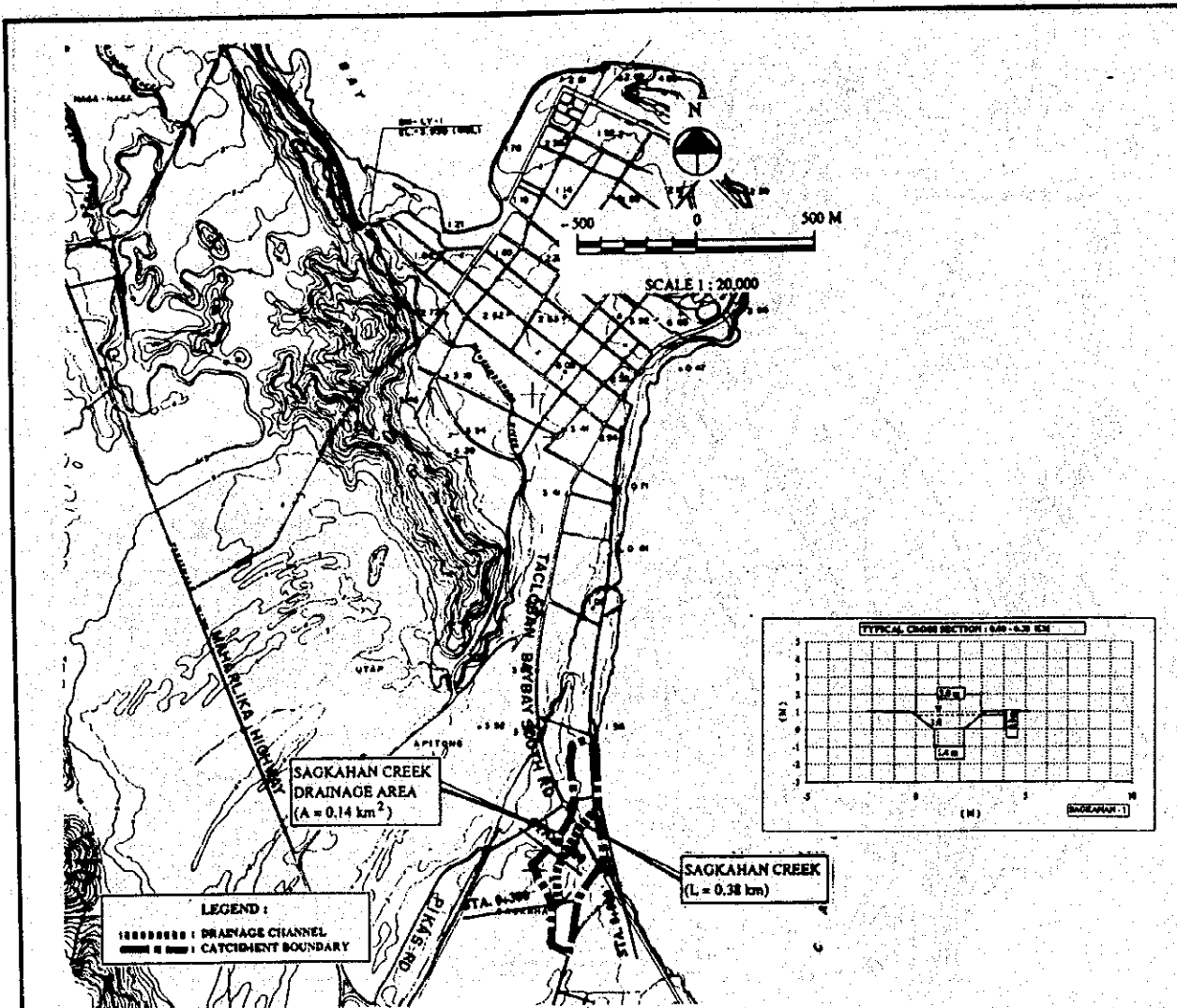
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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Fig. 4.42
 Proposed Channel Alignment, Cross Section and
 Longitudinal Profile, Langhas Lirang Creek, Tacloban



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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Fig. 4.43
Proposed Channel Alignment, Cross Section and
Longitudinal Profile, Sagkahan Creek, Tacloban

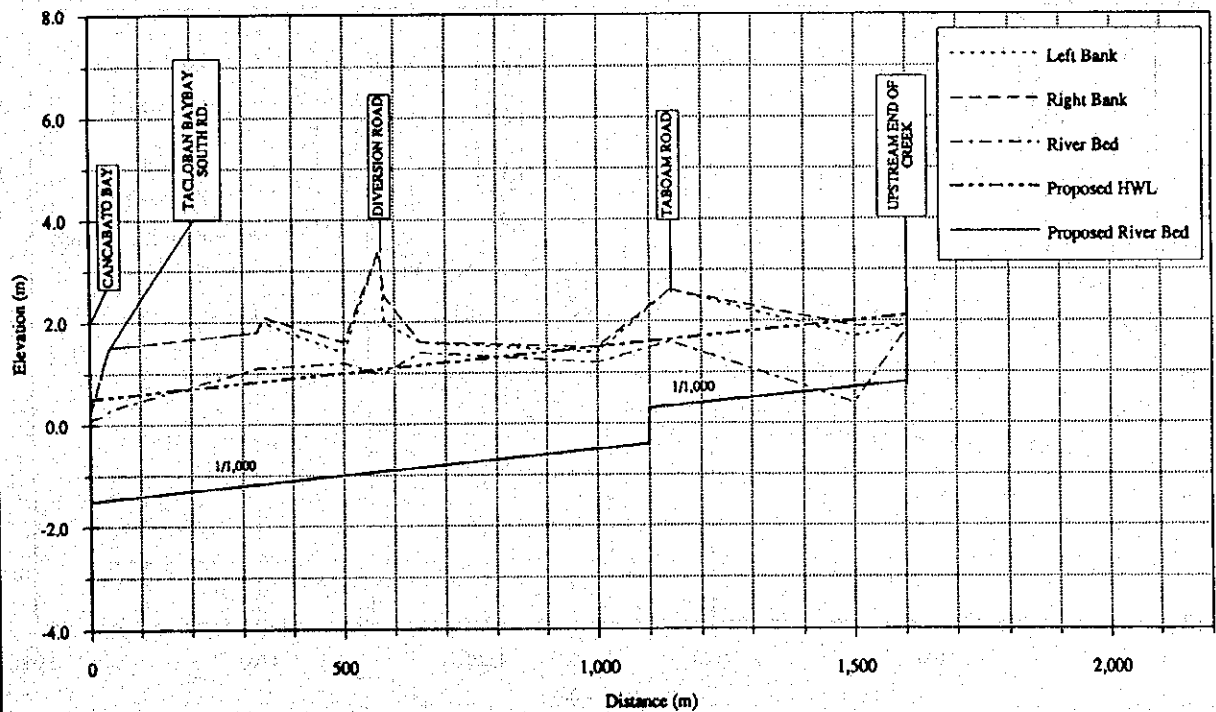
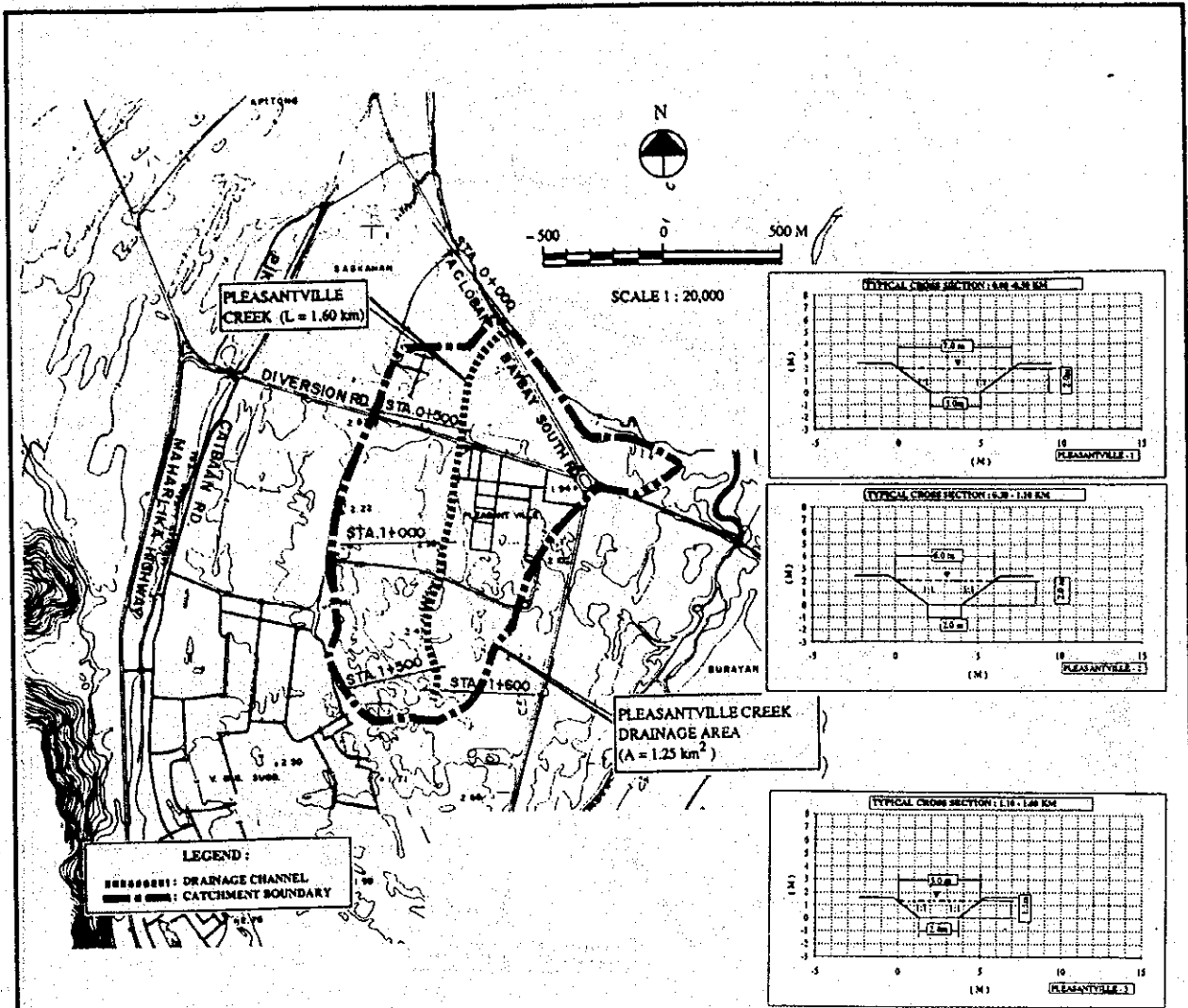


THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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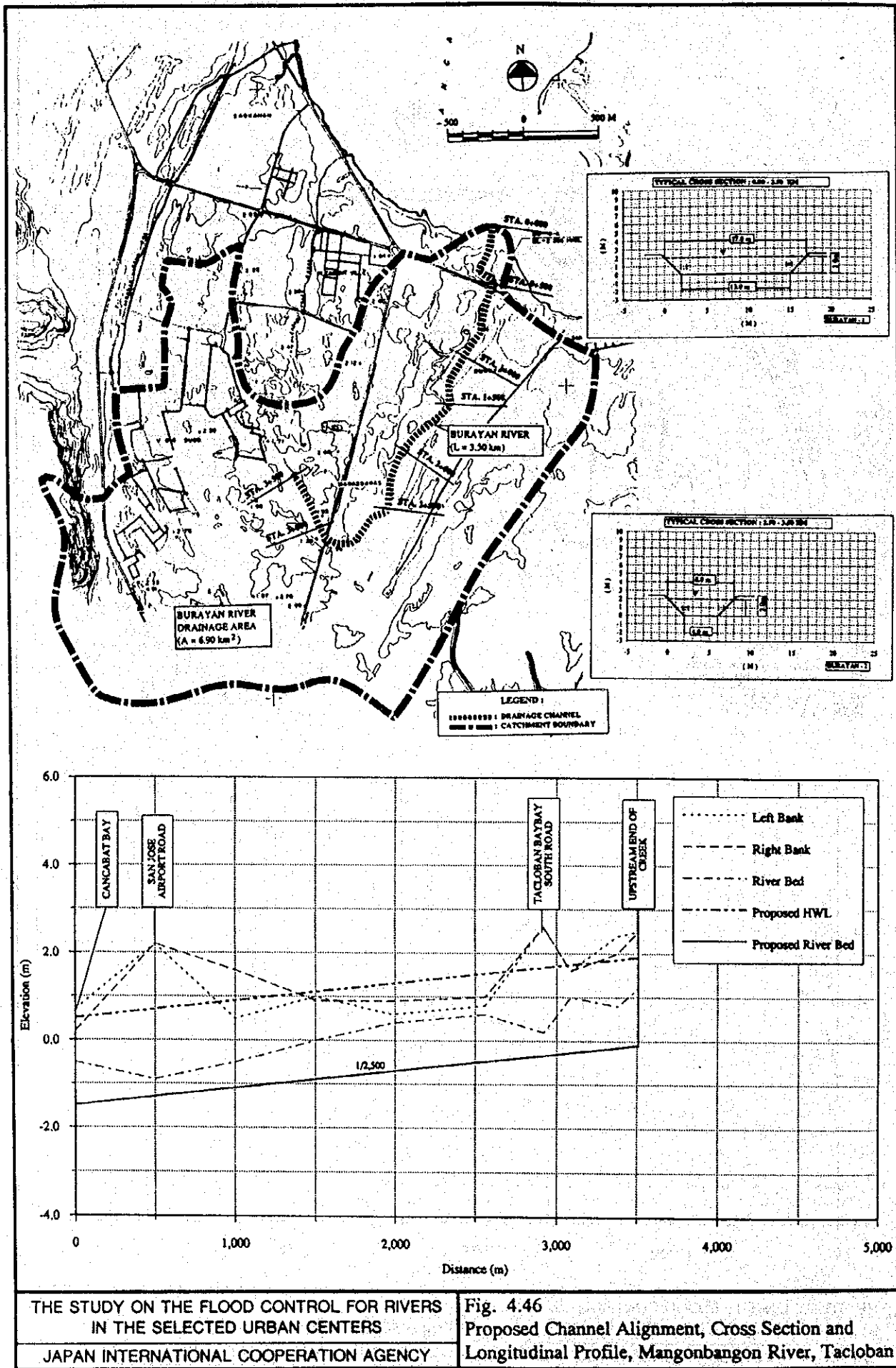
Fig. 4.44

Proposed Channel Alignment, Cross Section and
Longitudinal Profile, Pleasantville Creek, Tacloban



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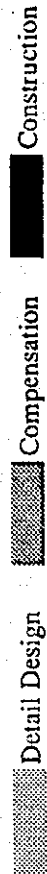
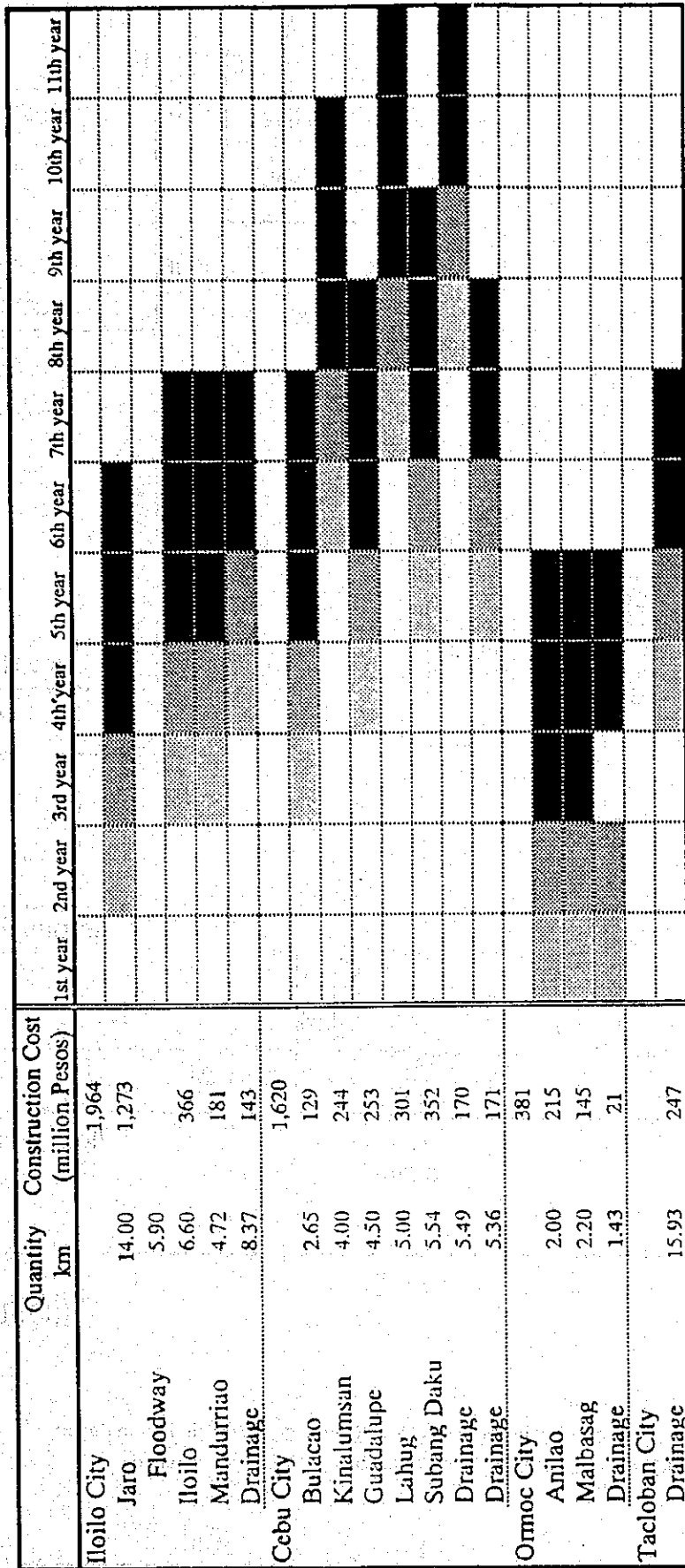
Fig. 4.45
 Proposed Channel Alignment, Cross Section and Longitudinal Profile, Burayan River, Tacloban



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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Fig. 4.46
Proposed Channel Alignment, Cross Section and
Longitudinal Profile, Mangonbangon River, Tacloban

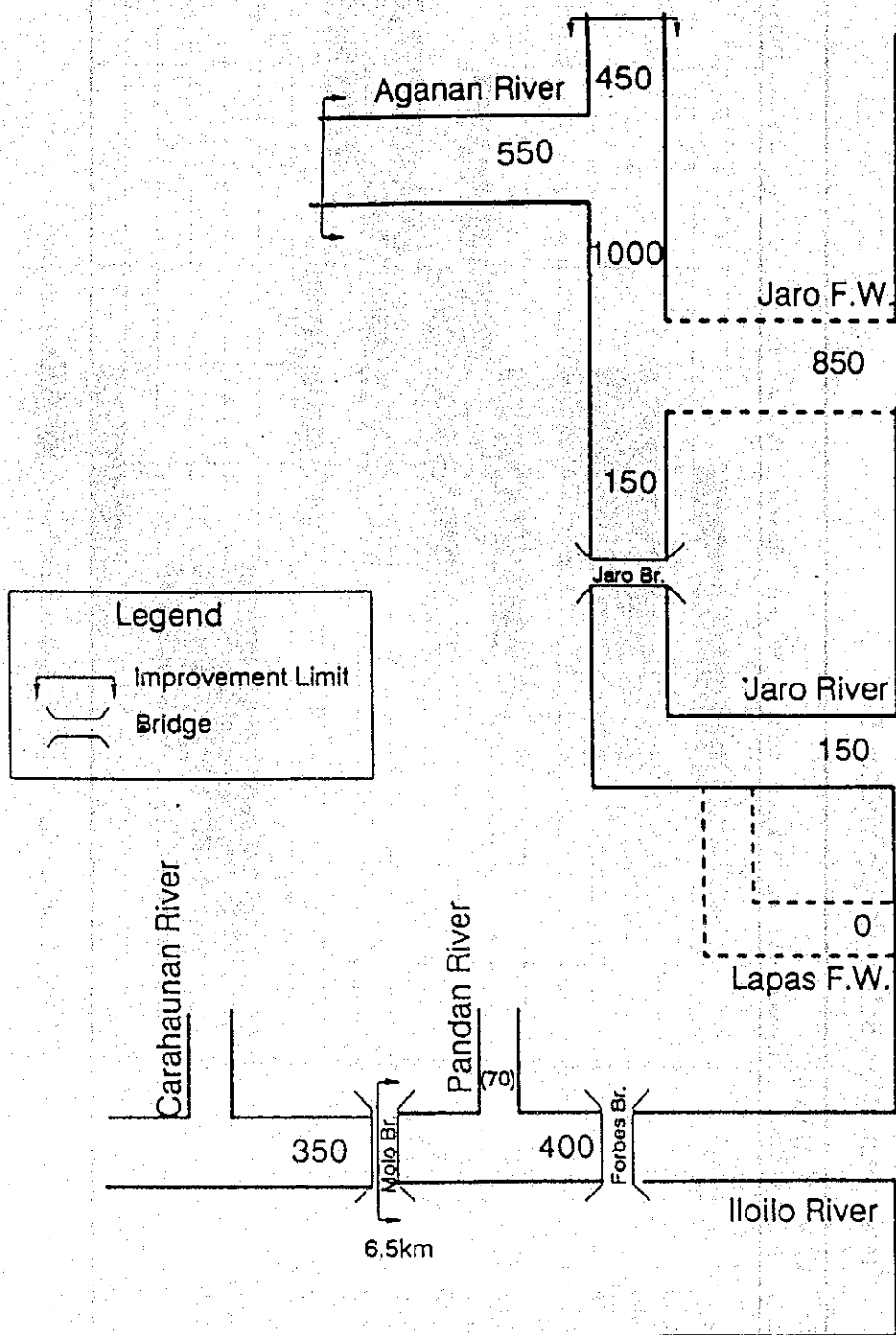
Implementation Schedule for Master Plan



	Quantity km	Construction Cost (million Pesos)
Iloilo City		1,964
Jaro	14.00	1,273
Floodway	5.90	366
Iloilo	6.60	181
Mandurriao	4.72	143
Drainage	8.37	1,620
Cebu City		1,620
Bulacao	2.65	129
Kinalumsan	4.00	244
Guadalupe	4.50	253
Lahug	5.00	301
Subang Daku	5.54	352
Drainage	5.49	170
Drainage	5.36	171
Ormoc City		381
Anilao	2.00	215
Malbasag	2.20	145
Drainage	1.43	21
Tacloban City		247
Drainage	15.93	247

THE STUDY ON THE FLOOD CONTROL FOR RIVERS IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 4.47
 Implementation Schedule for Master Plan

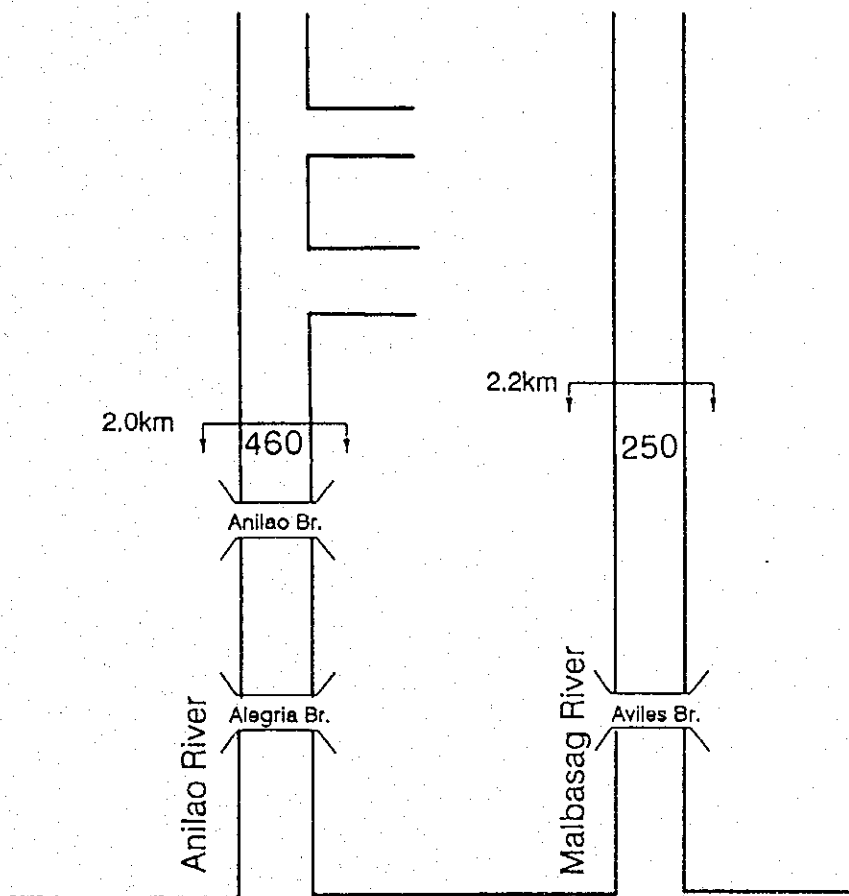


- Note: 1. Unit: m³/s
 2. The Figures show probable Flood Discharge of 50-Year Return Period
 3. (.) shows probable Flood Discharge of 20-Year Return Period

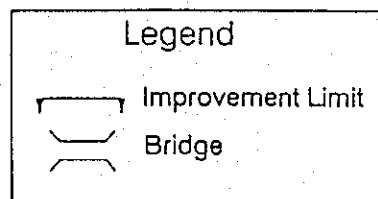
Iloilo Strait

THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 5.1(1/2)
 Distribution of Design Discharge for Urgent Plan
 (Iloilo)



Ormoc Bay



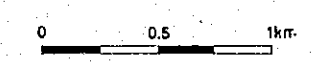
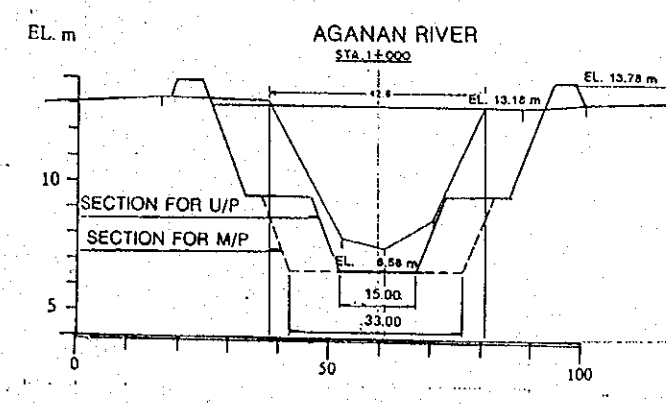
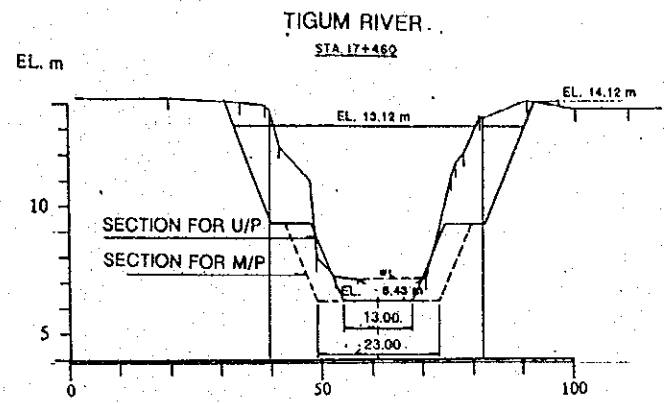
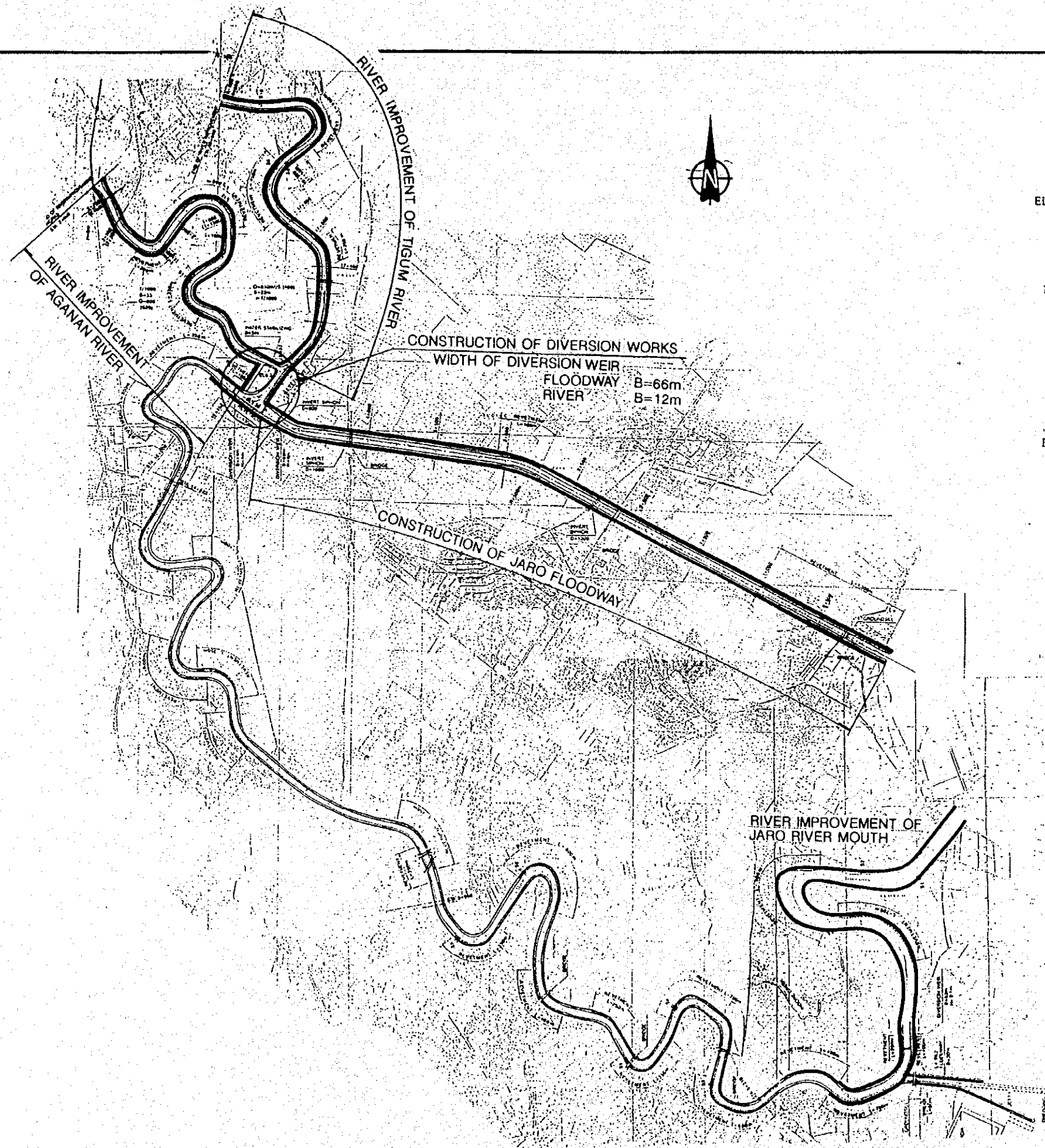
Note: 1. Unit: m³/s

2. The Figures show probable Flood Discharge of 50-Year Return Period

THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS

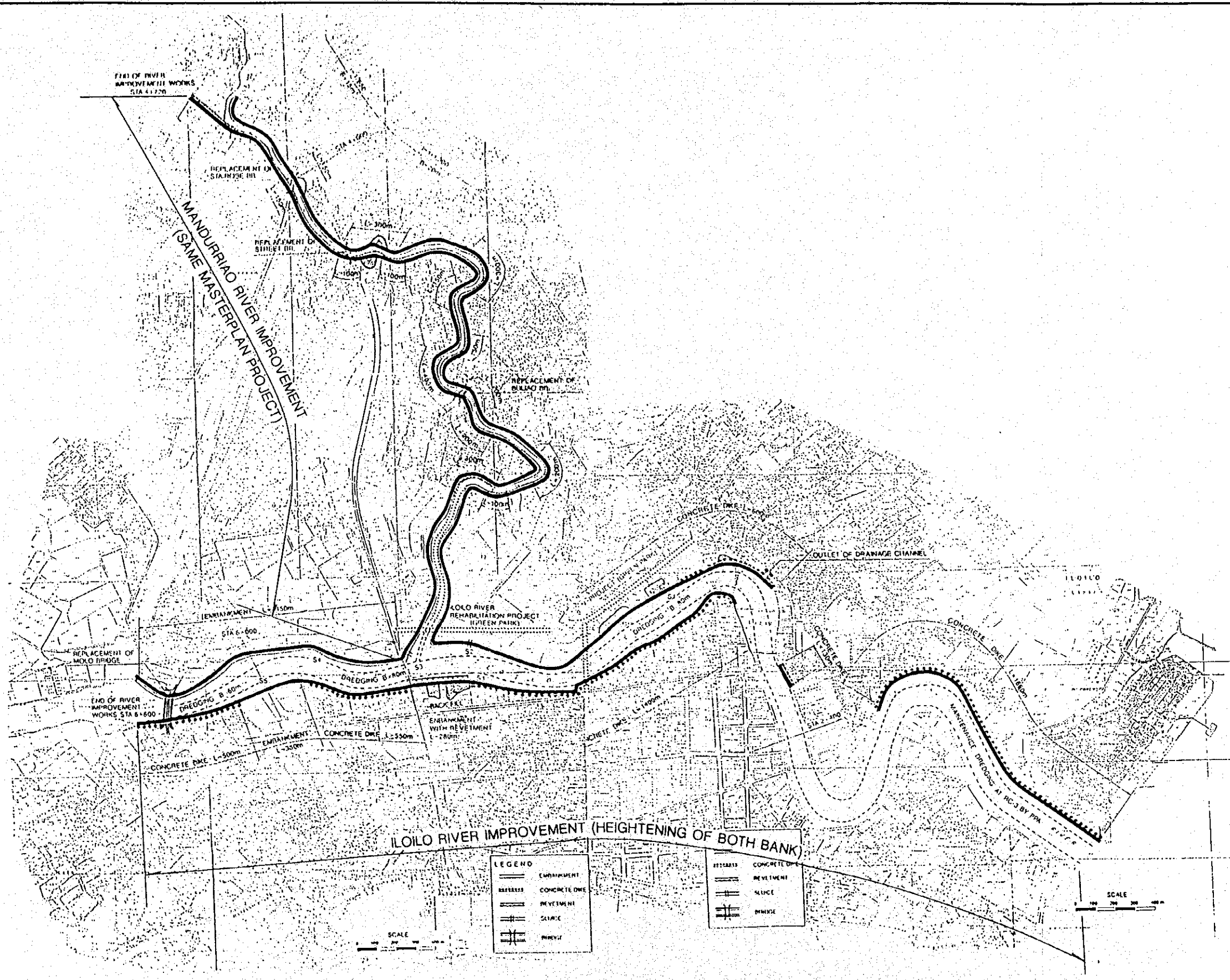
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Fig. 5.1(2/2)
Distribution of Design Discharge for Urgent Plan
(Ormoc)



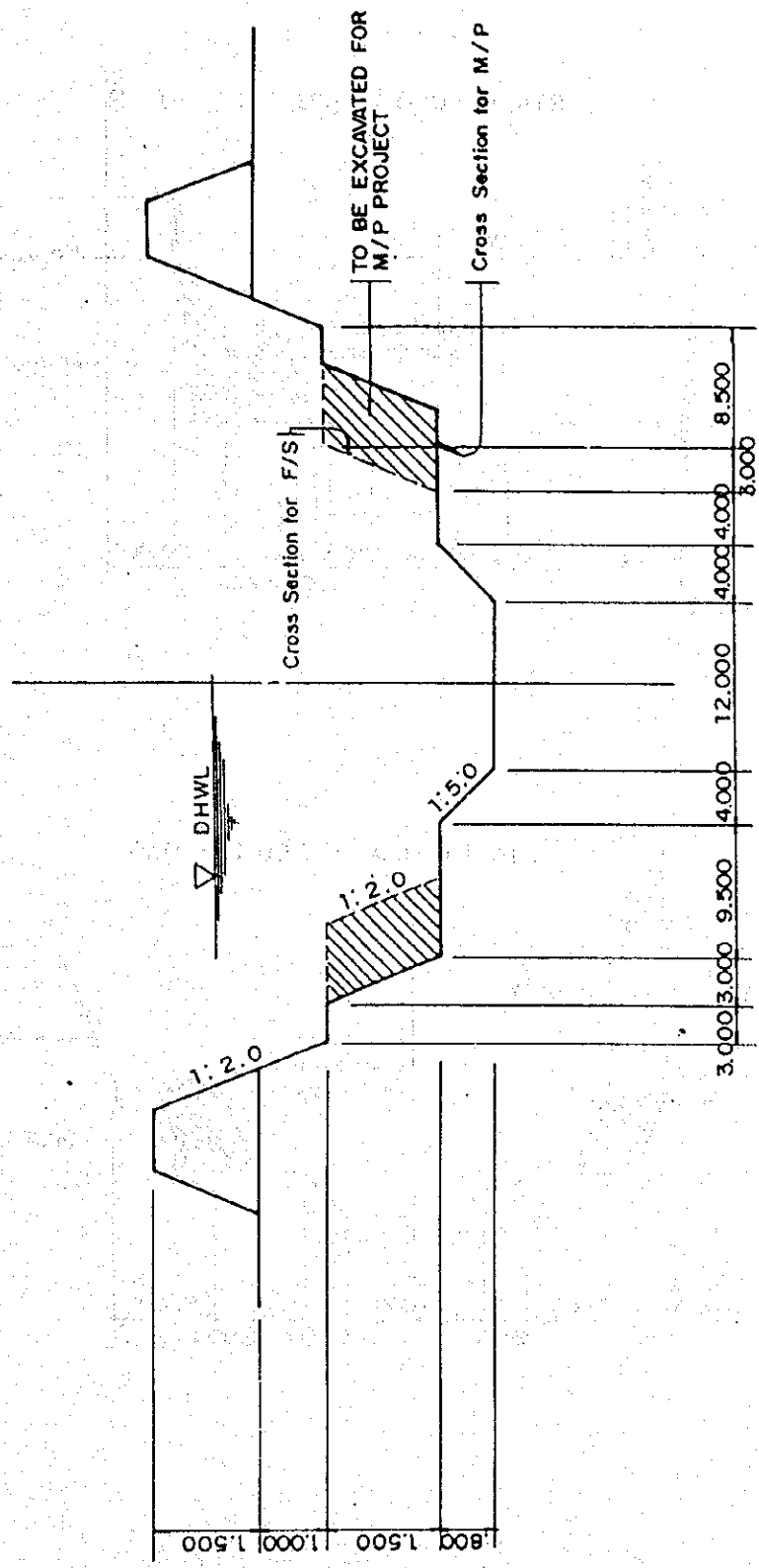
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 5.2
Urgent Plan of Jaro River Improvement



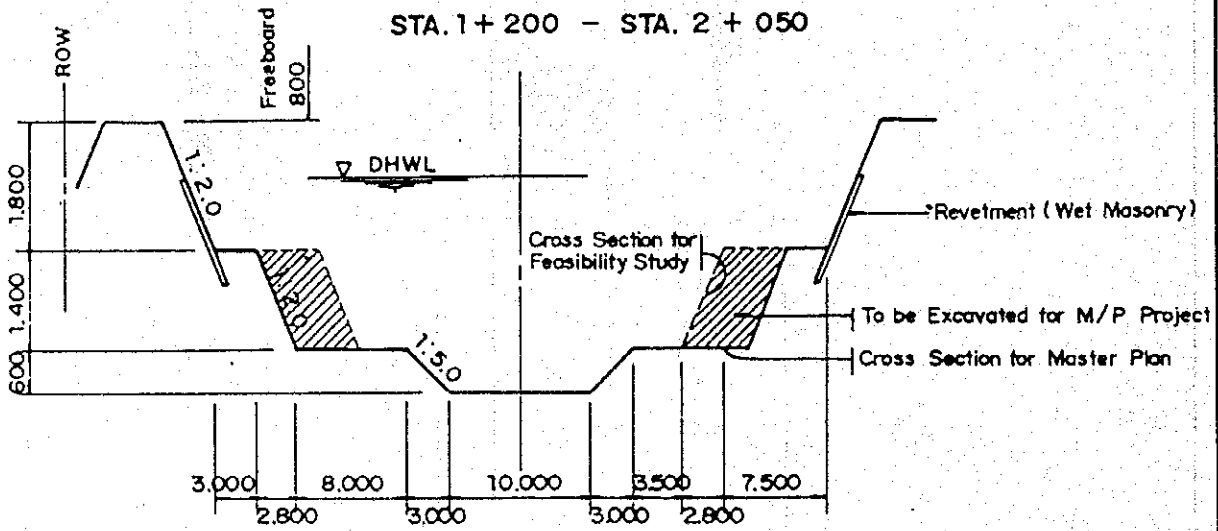
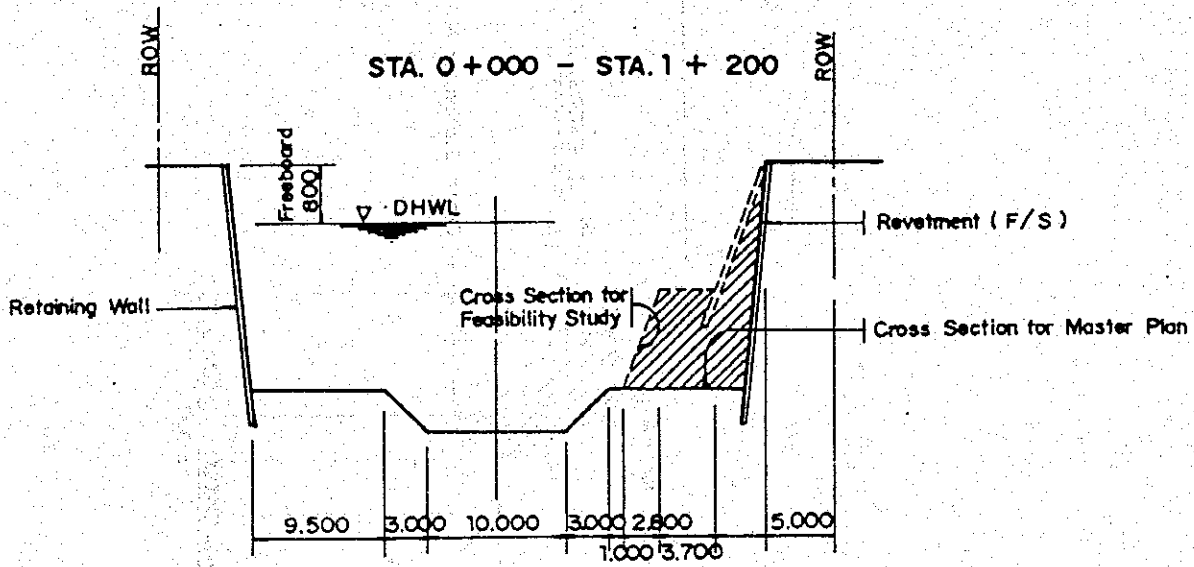
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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Fig. 5.3
 Urgent Plan of Iloilo River Improvement



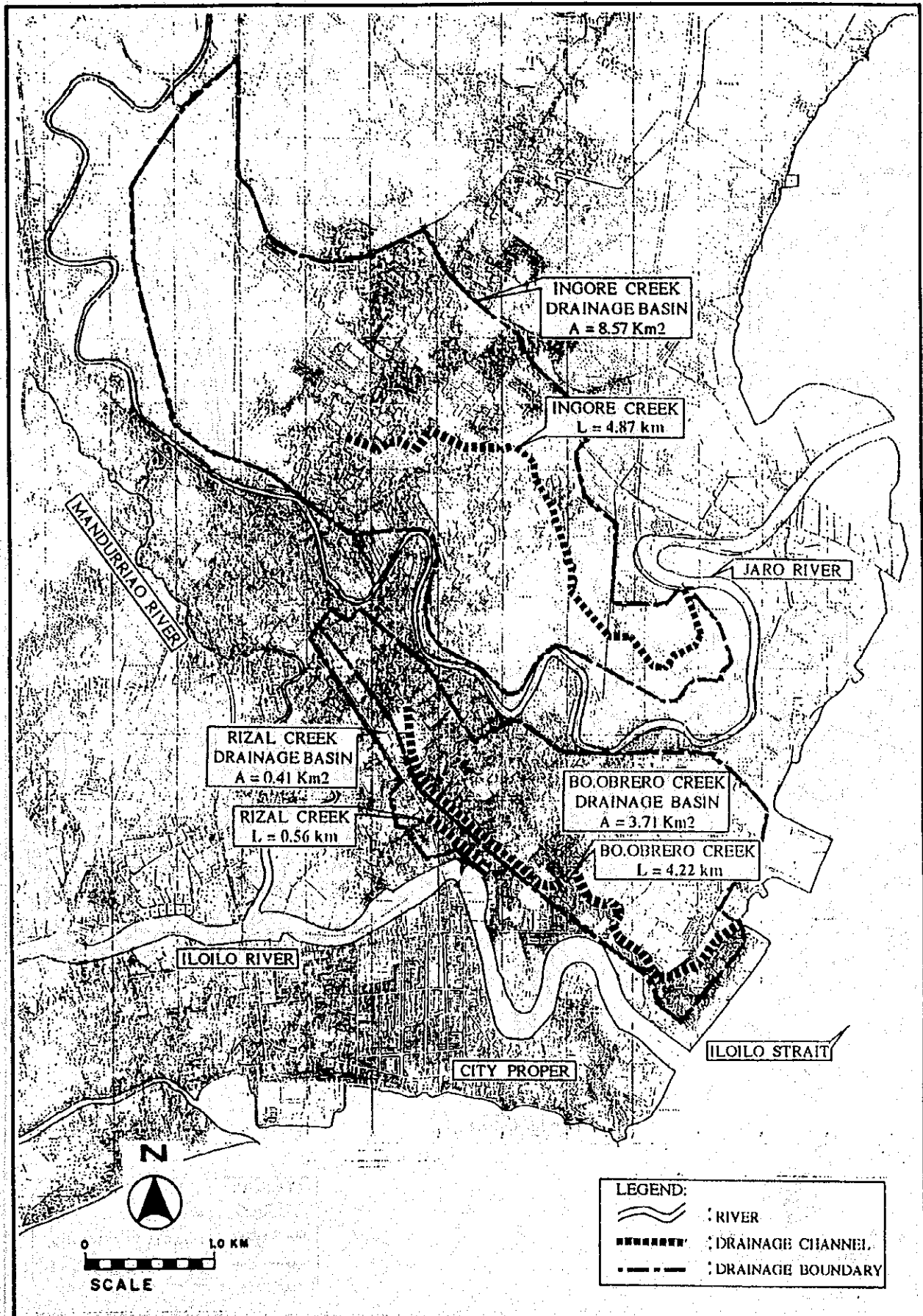
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
 IN THE SELECTED URBAN CENTERS
 JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. 5.4
 Cross Section for Master Plan and Urgent Plan (Anilao River)



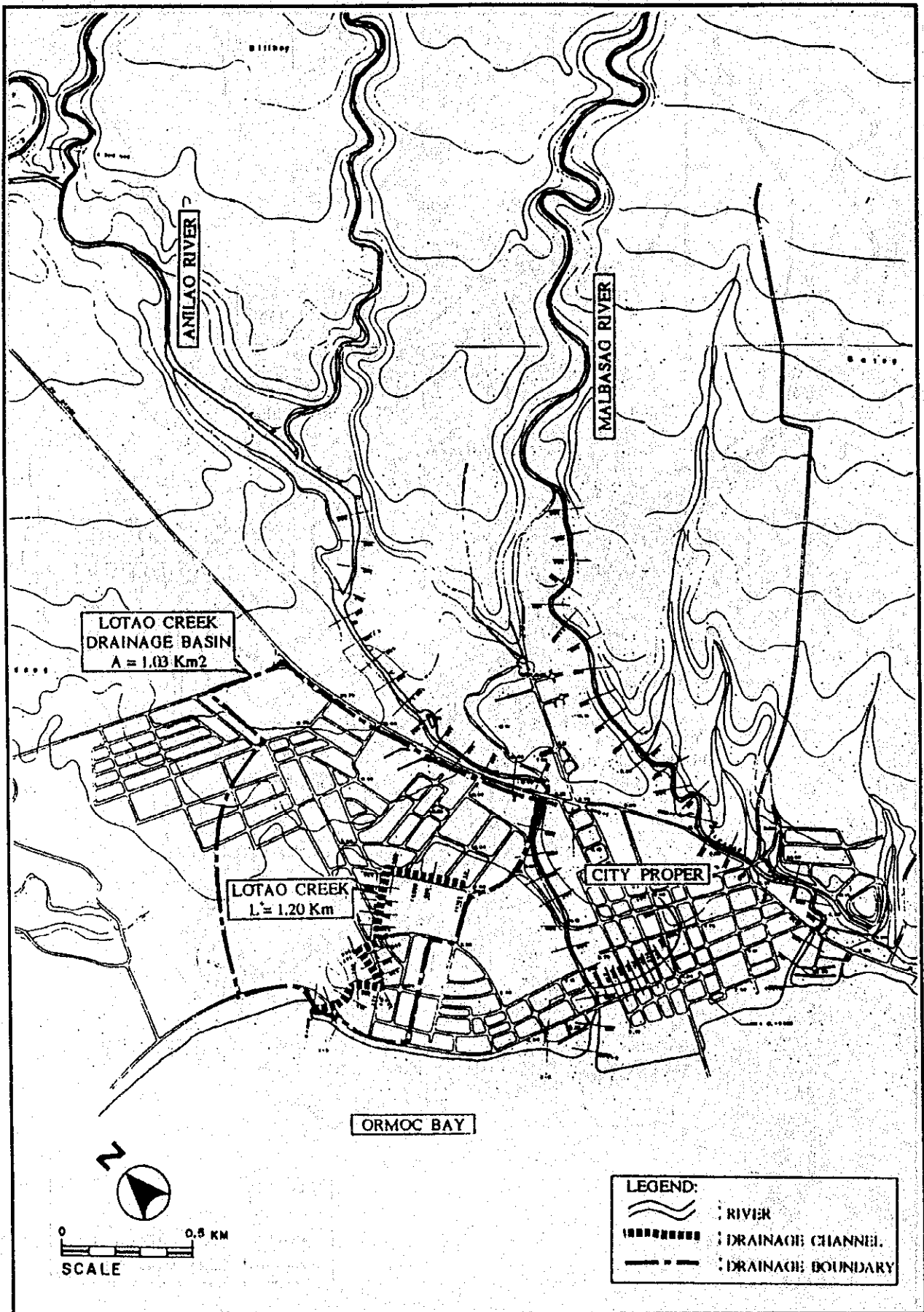
THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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Fig. 5.5
Cross Section for Master Plan and Urgent Plan
(Malbasag River)



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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Fig. 5.6
 Objective Drainage Basin (Iloilo City)



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
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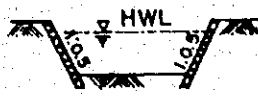
Fig. 5.7
 Objective Drainage Basin (Ormoc City)

1. PROPOSED CROSS SECTION TYPE

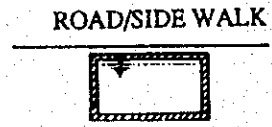
A. TRAPEZOIDAL TYPE (SODDING)



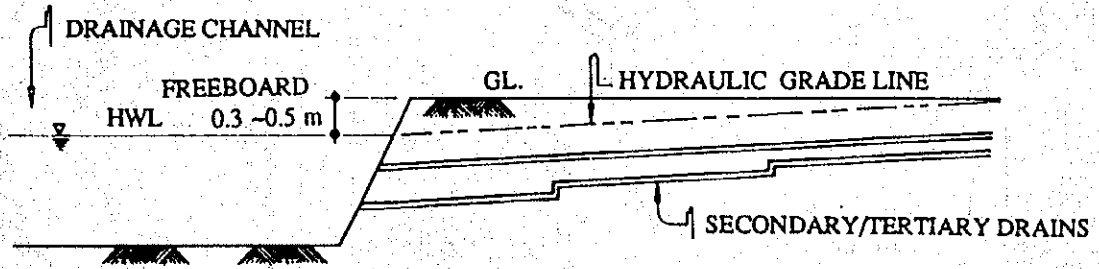
B. TRAPEZOIDAL TYPE (REVETMENT)



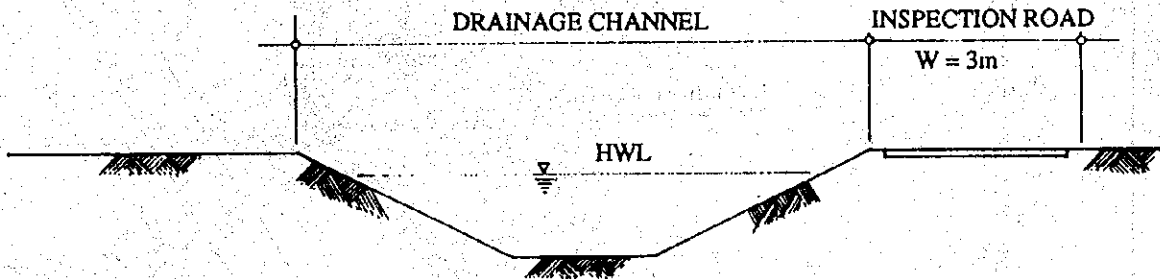
C. RECTANGULAR TYPE (BOX CULVERT)



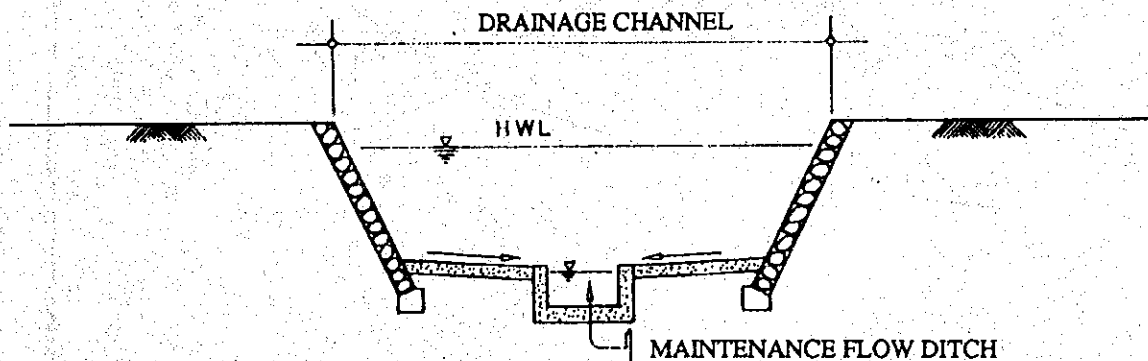
2. DESIGN HIGH WATER LEVEL



3. INSPECTION ROAD



4. MAINTENANCE FLOW DITCH



THE STUDY ON THE FLOOD CONTROL FOR RIVERS
IN THE SELECTED URBAN CENTERS
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Fig. 5.8
Basis of Drainage Channel Improvement