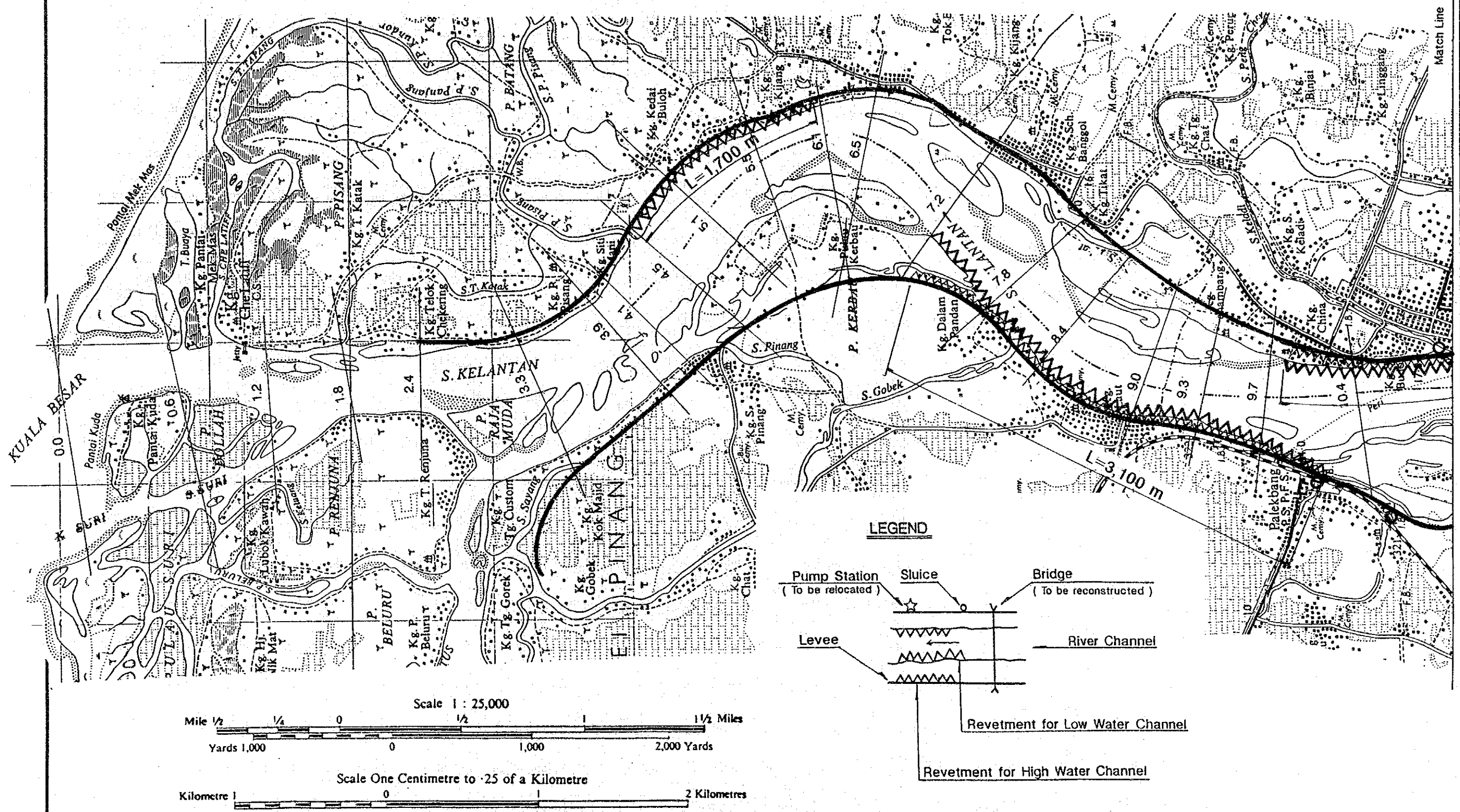


**APPENDIX-2**

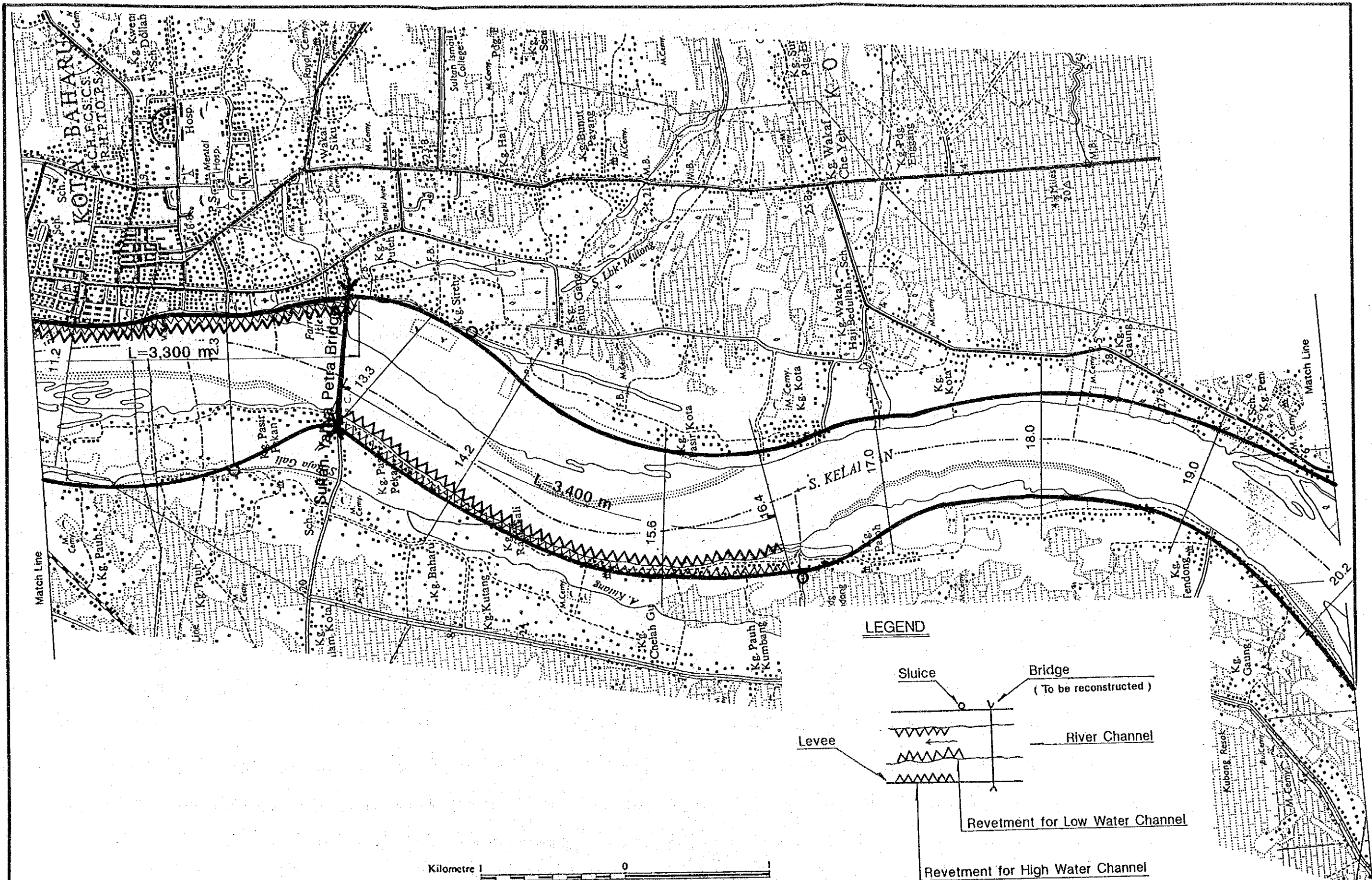
**DRAWINGS OF PROPOSED RIVER IMPROVEMENT**





**Fig.B.1**  
**Plan of Proposed River Improvement (1/10)**

GOVERNMENT OF MALAYSIA  
STUDY  
ON  
KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
JAPAN INTERNATIONAL COOPERATION AGENCY



**Fig.B.1**  
**Plan of Proposed River Improvement (2/10)**

GOVERNMENT OF MALAYSIA  
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 ON  
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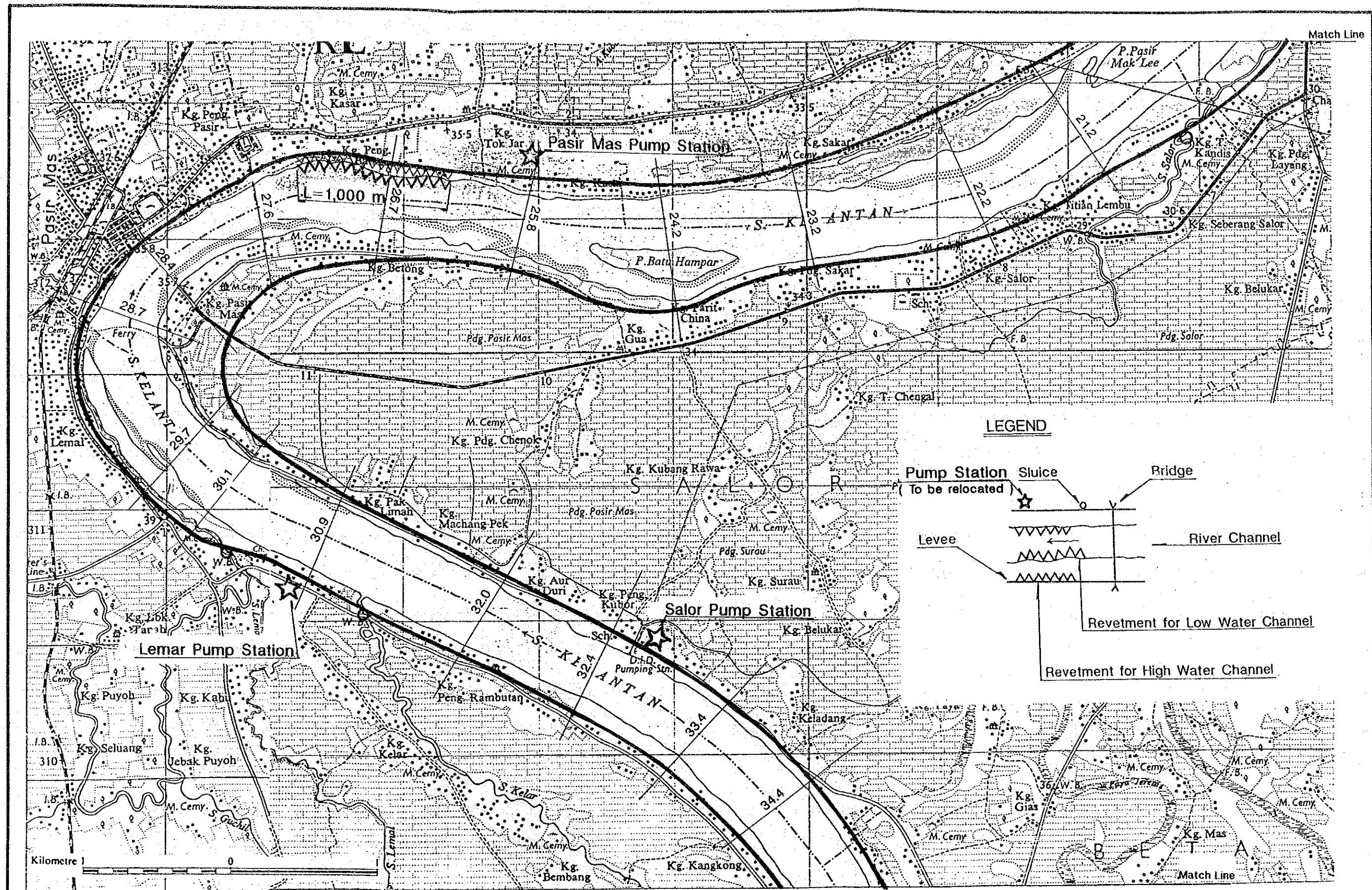


Fig.B.1

Plan of Proposed River Improvement (3/10)

GOVERNMENT OF MALAYSIA  
 STUDY  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY

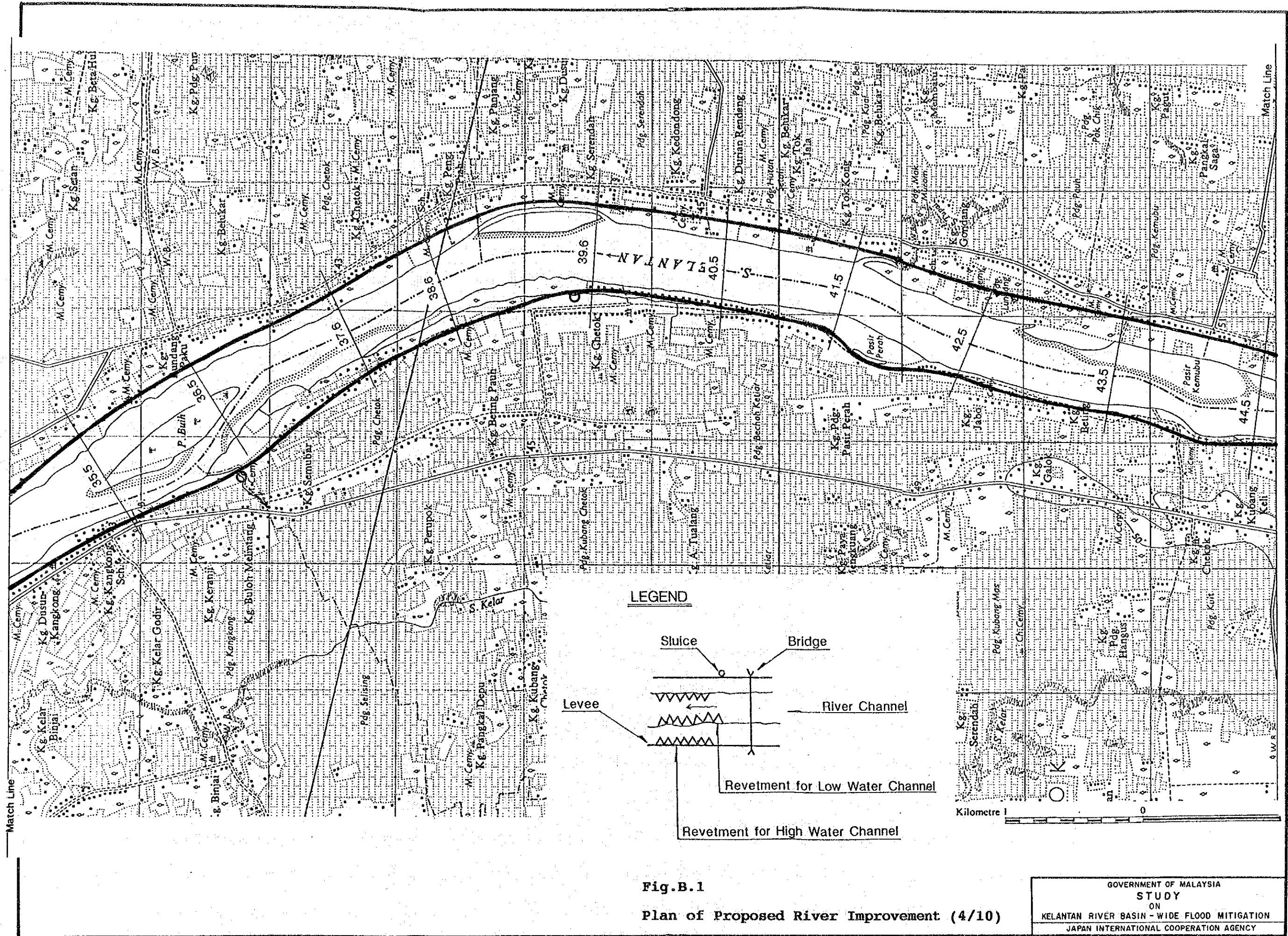
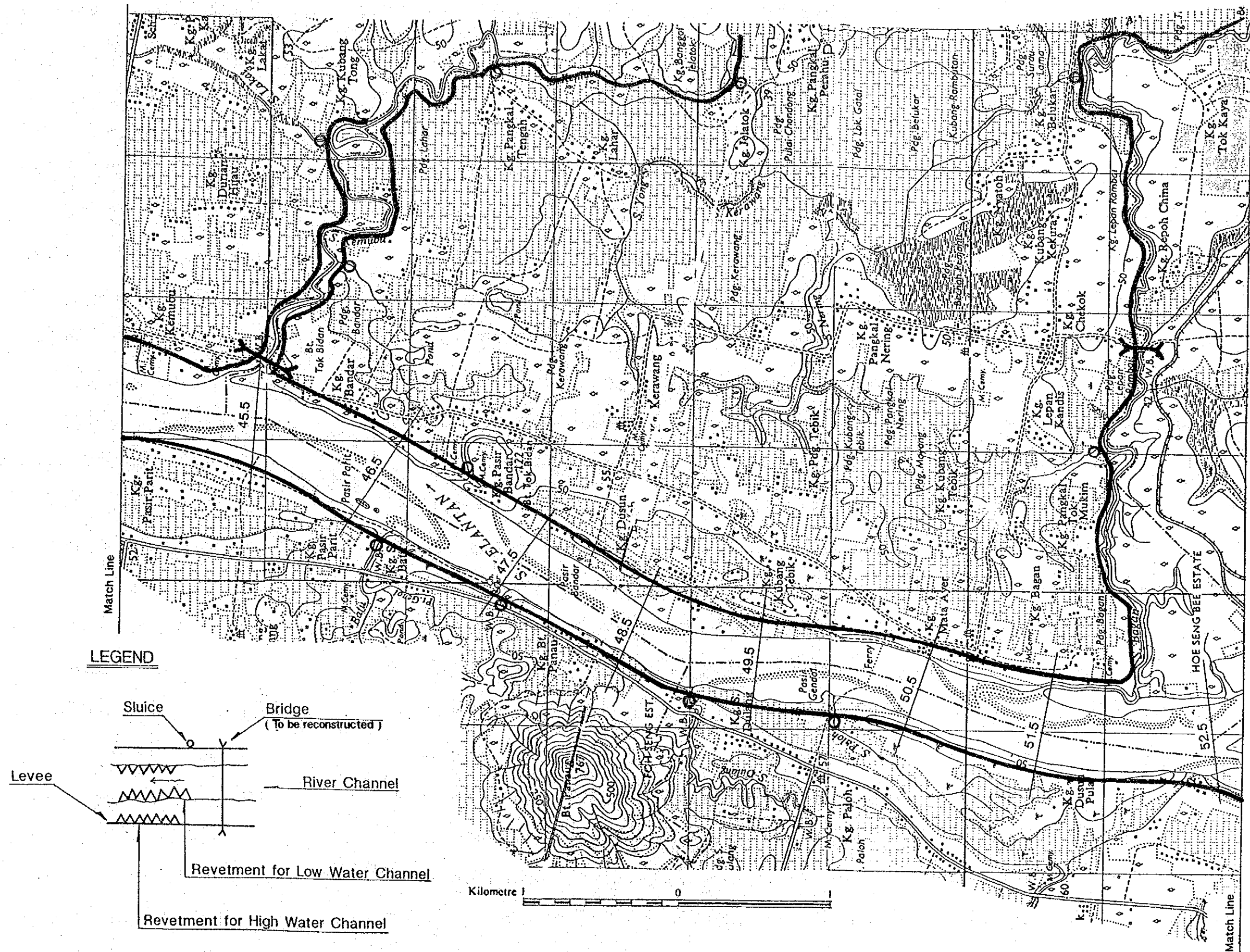


Fig.B.1

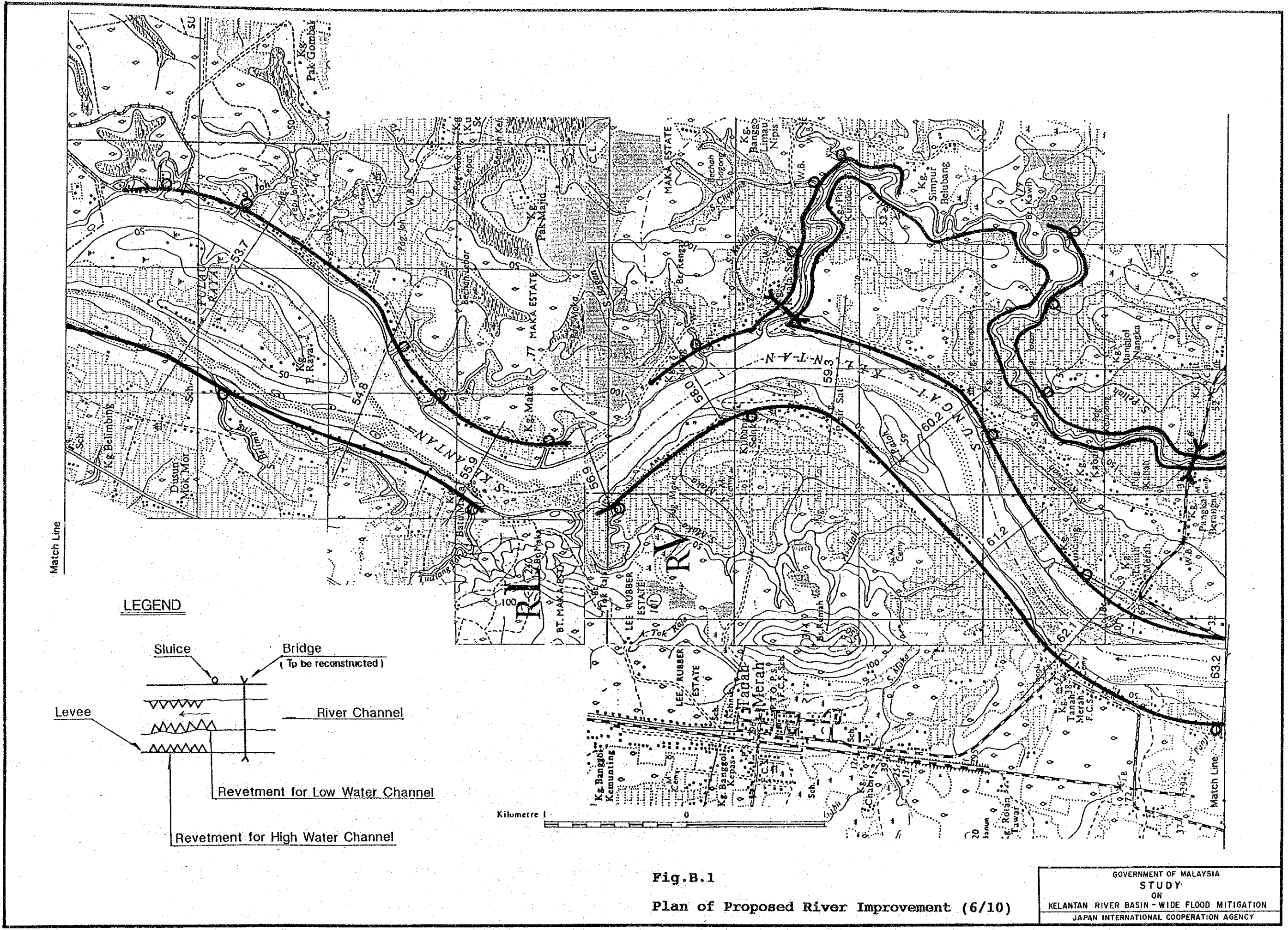
Plan of Proposed River Improvement (4/10)

GOVERNMENT OF MALAYSIA  
**STUDY**  
 ON  
**KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION**  
 JAPAN INTERNATIONAL COOPERATION AGENCY



**Fig.B.1**  
**Plan of Proposed River Improvement (5/10)**

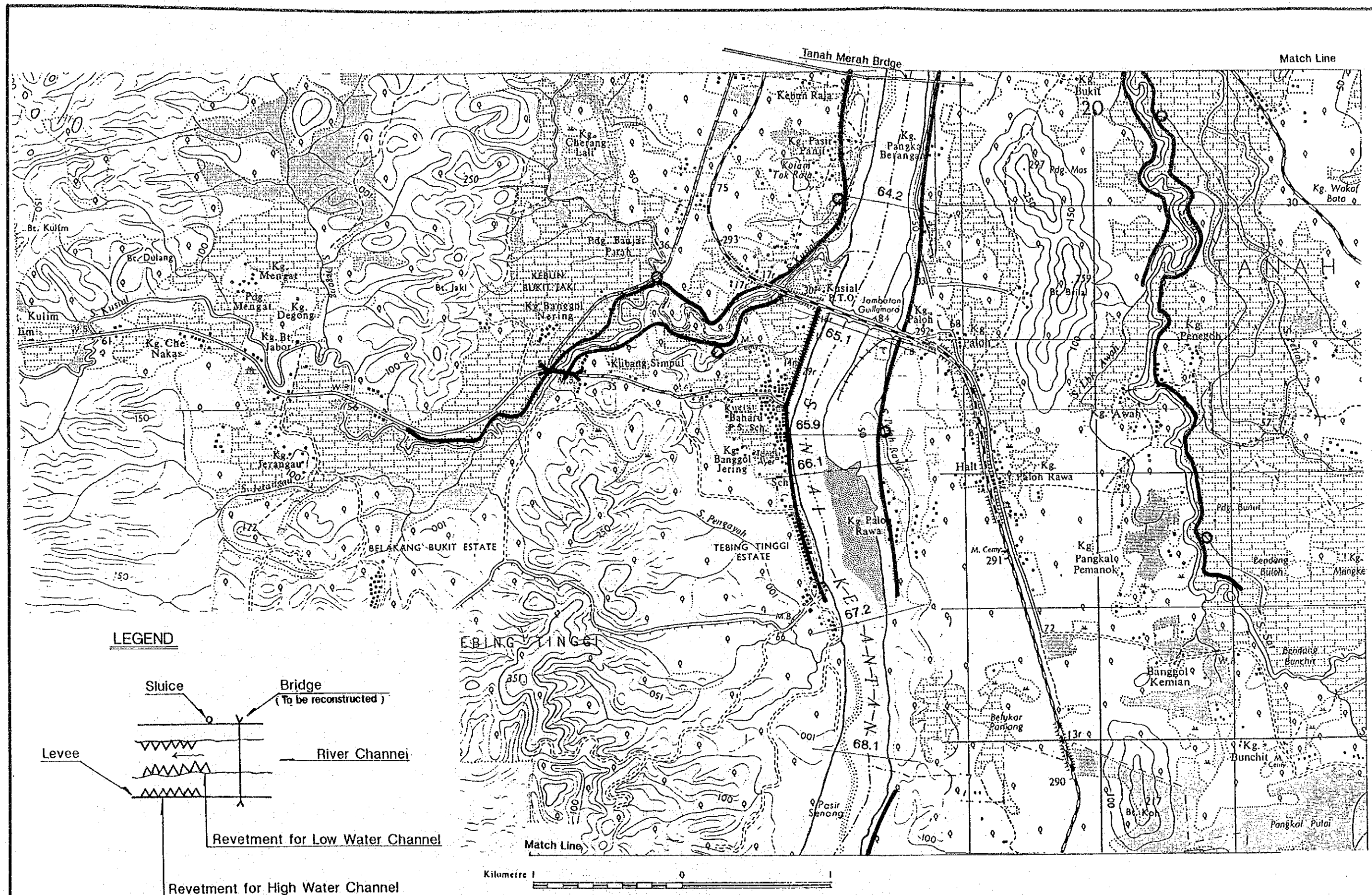
GOVERNMENT OF MALAYSIA  
 STUDY  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY



**Fig.B.1**  
**Plan of Proposed River Improvement (6/10)**

GOVERNMENT OF MALAYSIA  
 STUDY  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY

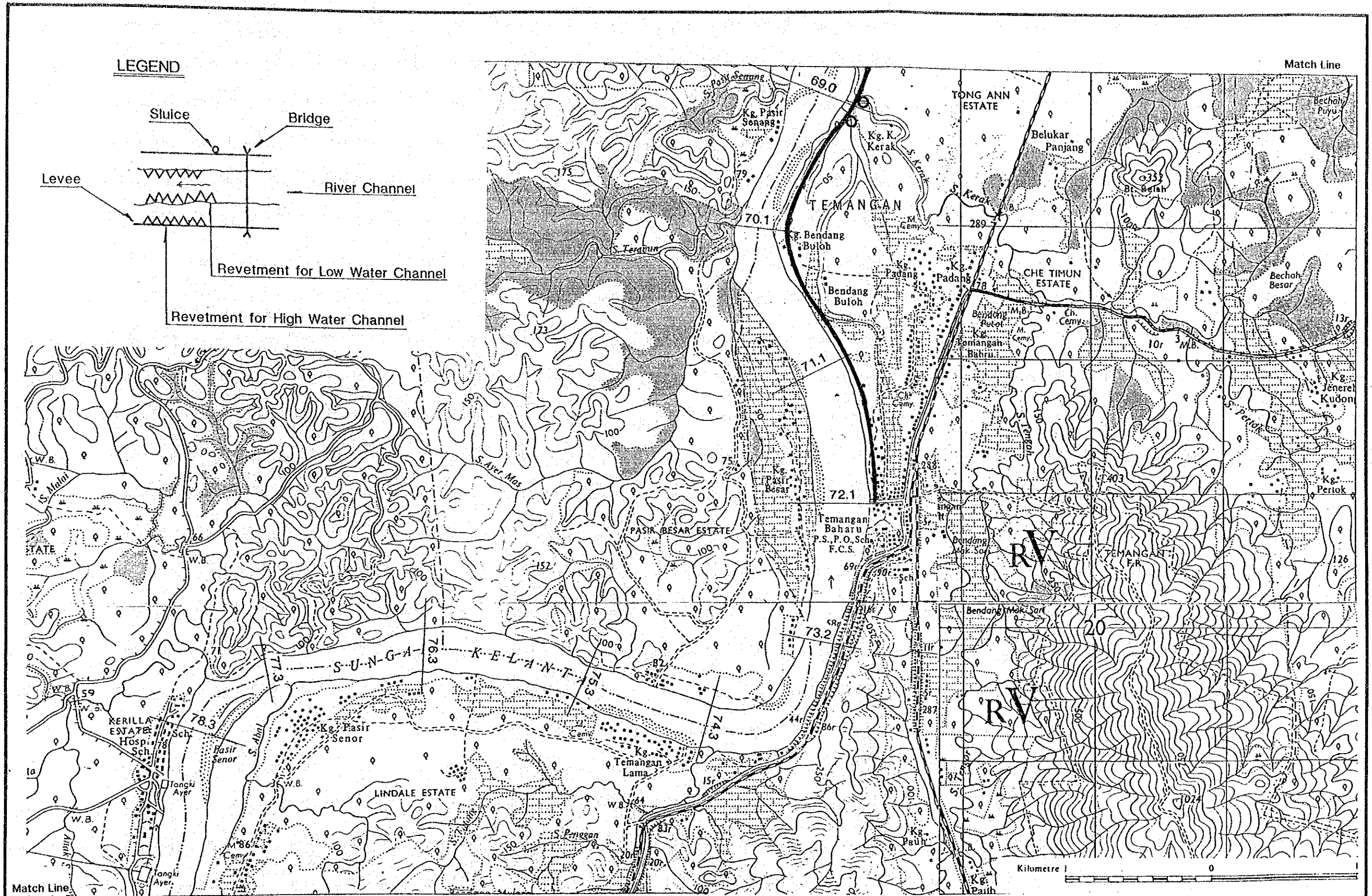




**Fig.B.1**

**Plan of Proposed River Improvement (7/10)**

GOVERNMENT OF MALAYSIA  
**STUDY**  
 ON  
**KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION**  
 JAPAN INTERNATIONAL COOPERATION AGENCY



**Fig. B.1**

**Plan of Proposed River Improvement (8/10)**

GOVERNMENT OF MALAYSIA  
 STUDY  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY

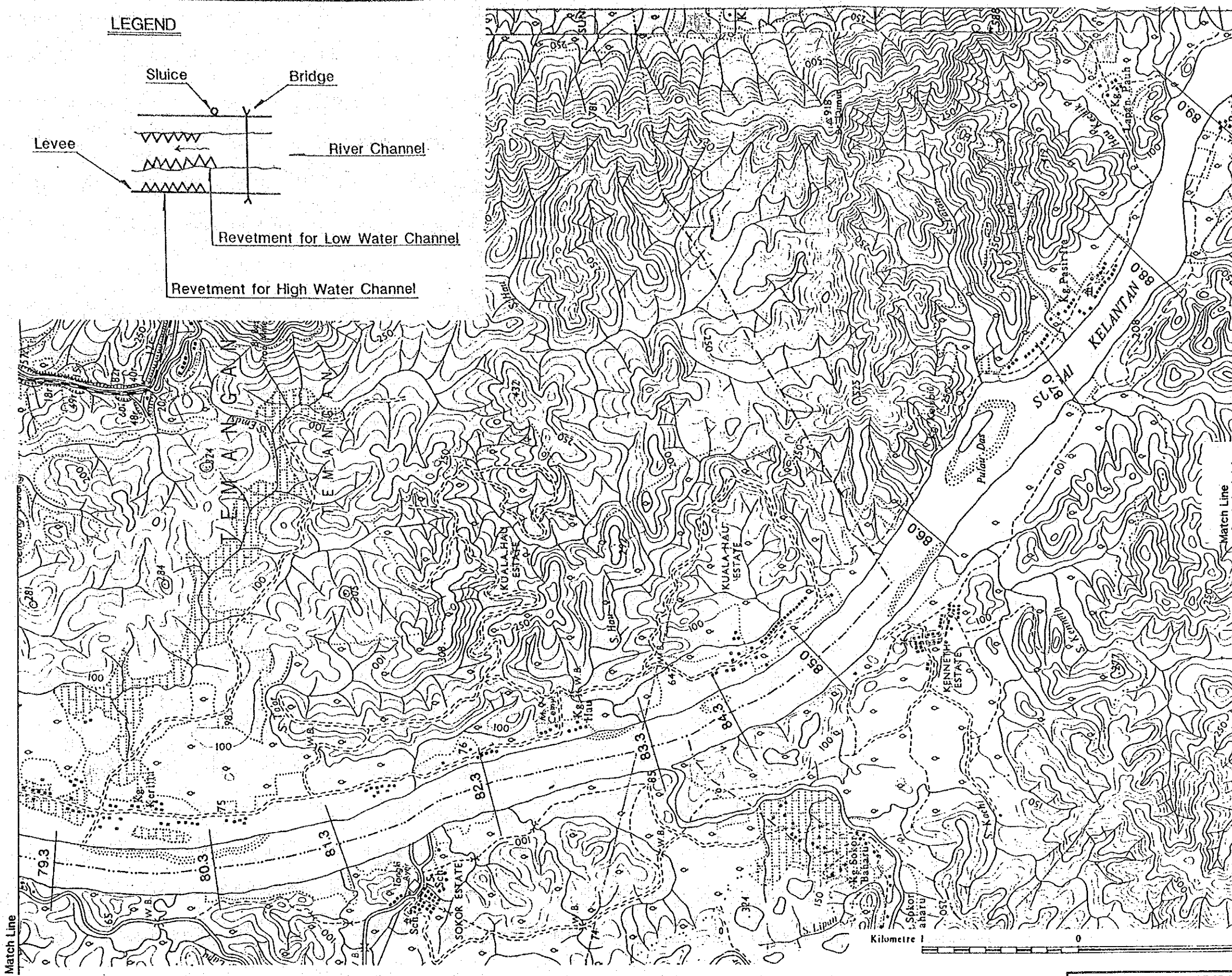
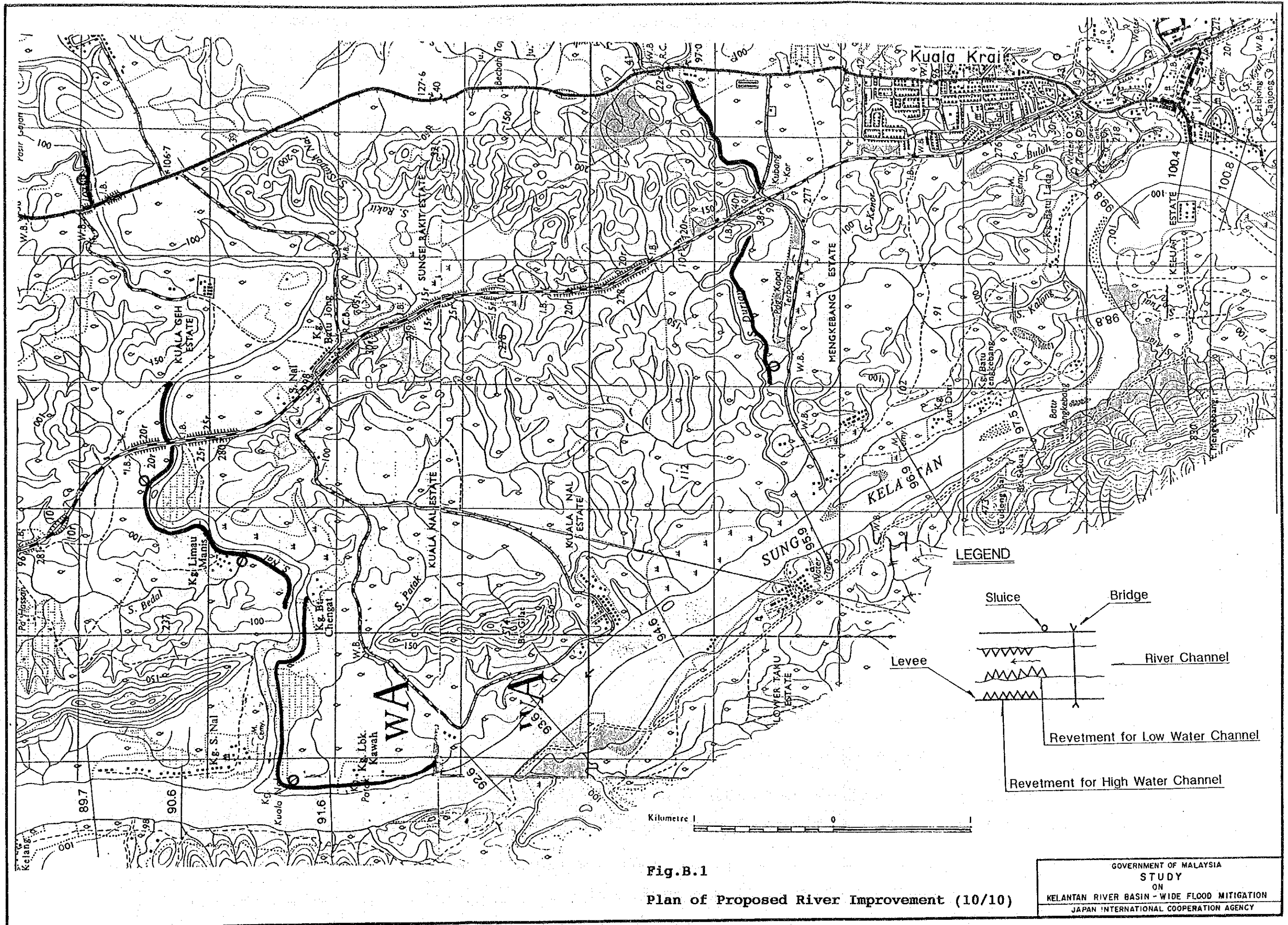


Fig.B.1

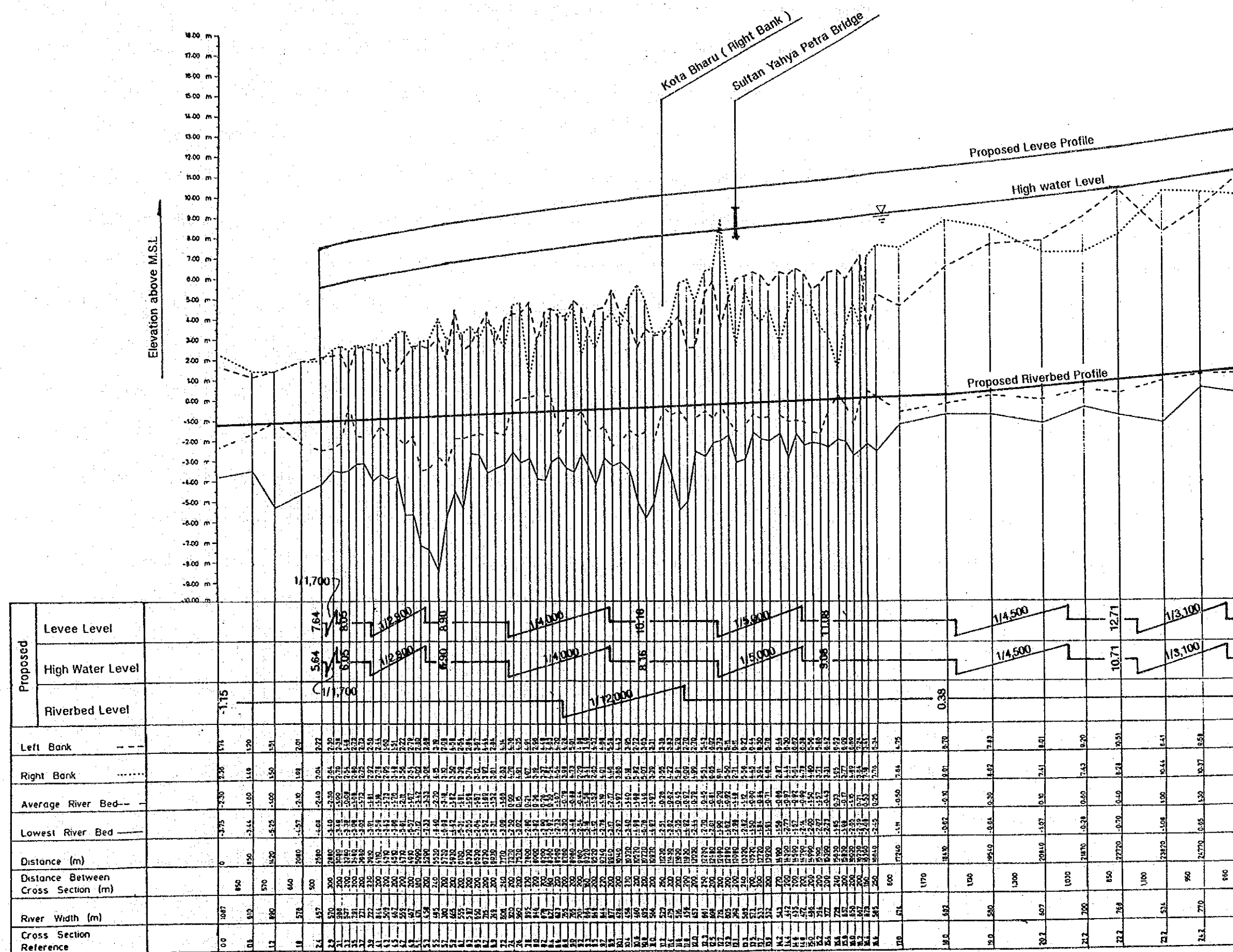
Plan of Proposed River Improvement (9/10)

GOVERNMENT OF MALAYSIA  
**STUDY**  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY



**Fig.B.1**  
**Plan of Proposed River Improvement (10/10)**

GOVERNMENT OF MALAYSIA  
 STUDY  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY



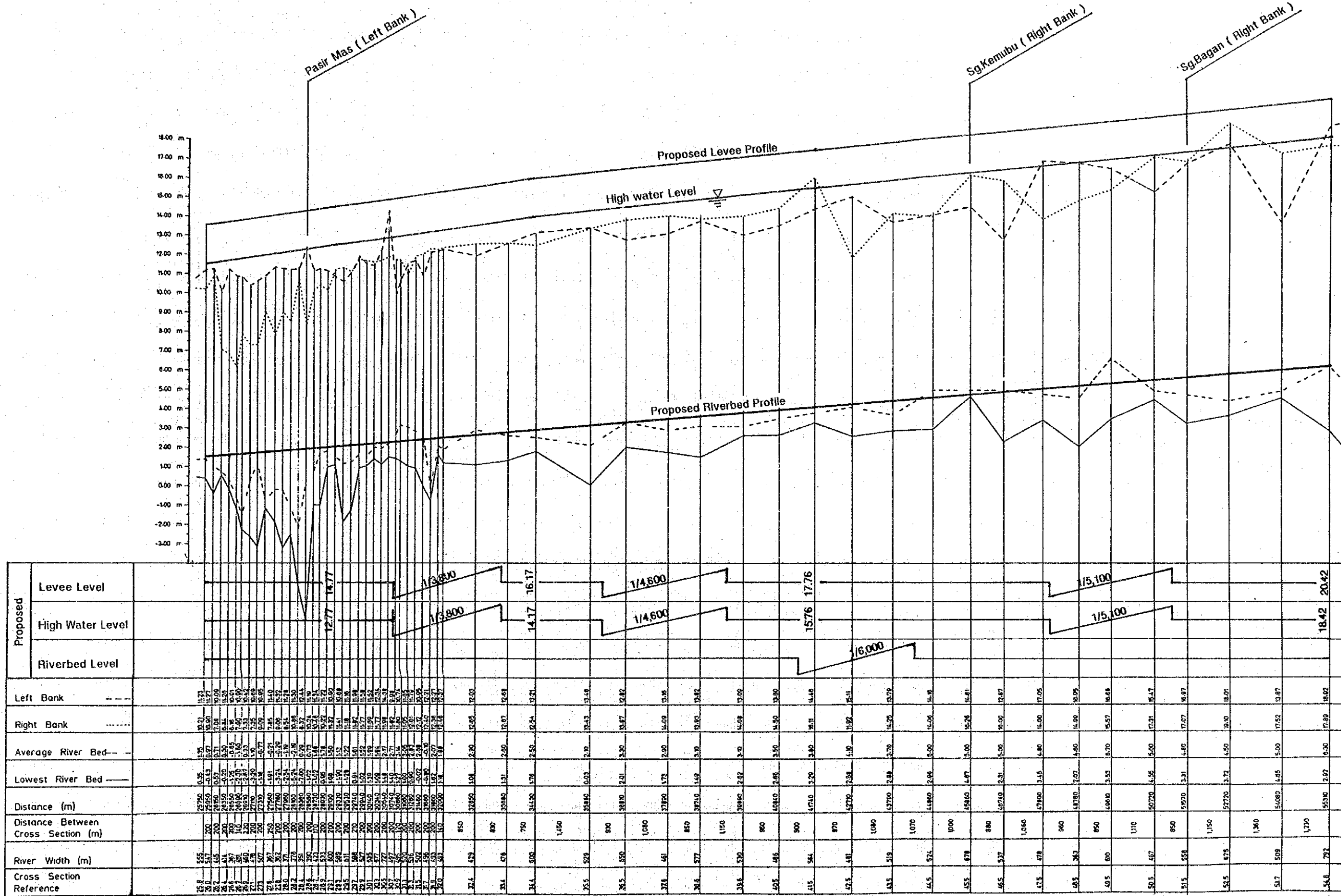
Design Mannings' Coefficient :

Low water channel	High water channel
0.025 (Cross Section Number 0.0 to 20.2)	0.050
0.035 ( " 21.2 to 54.8)	
0.038 ( " 55.9 to 101.8)	

Fig.B.2

Longitudinal Profile of Proposed River Improvement (1/4)

GOVERNMENT OF MALAYSIA  
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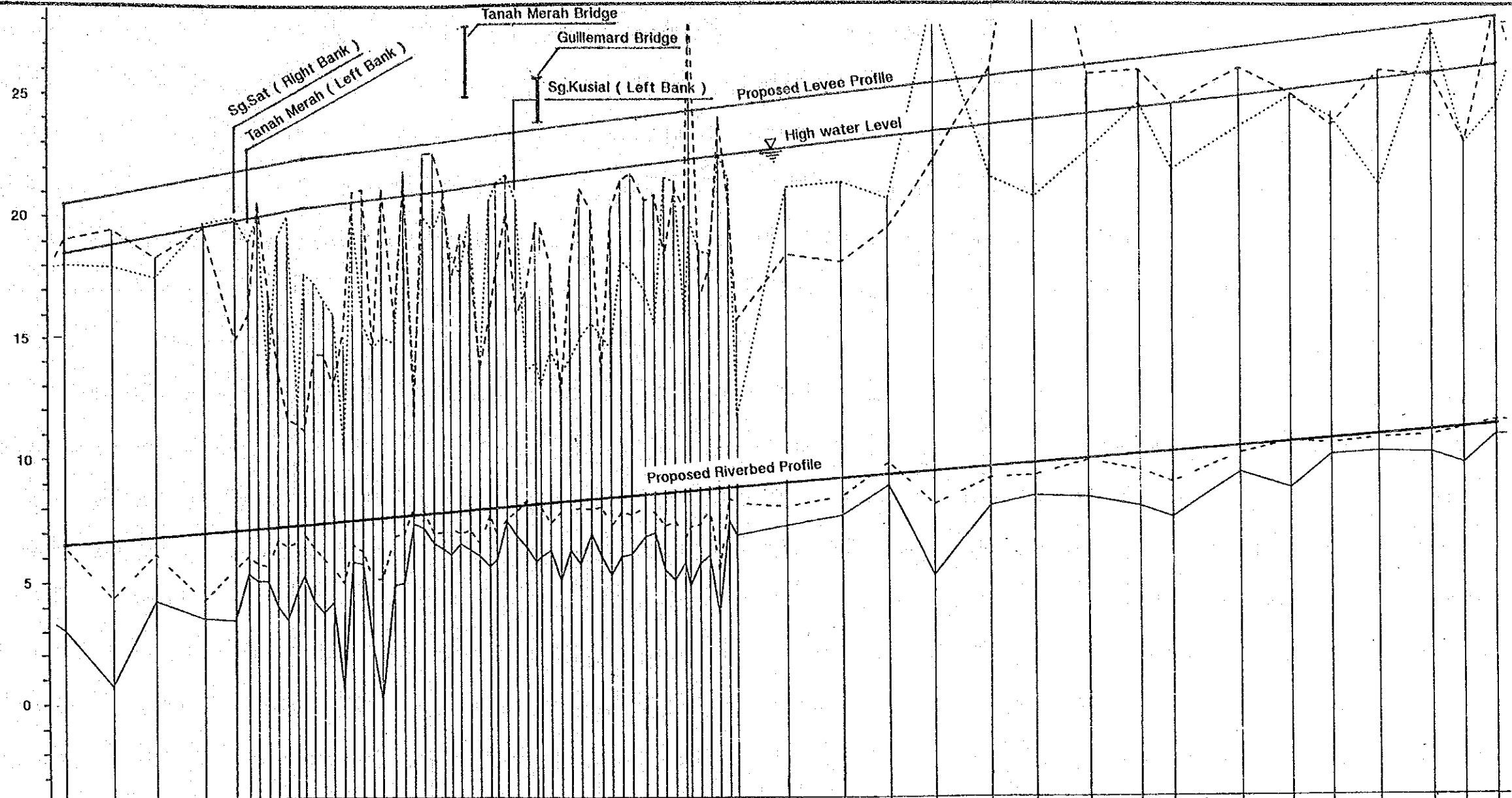


Proposed	Levee Level	High Water Level	Riverbed Level
	Left Bank	14.17	10.00
Right Bank	16.17	12.00	2.00
Average River Bed	17.76	13.00	3.00
Lowest River Bed	20.42	14.00	4.00
Distance (m)			
Distance Between Cross Section (m)			
River Width (m)			
Cross Section Reference			

Fig.B.2

Longitudinal Profile of Proposed River Improvement (2/4)

GOVERNMENT OF MALAYSIA  
 STUDY  
 ON  
 KELANTAN RIVER BASIN - WIDE FLOOD MITIGATION  
 JAPAN INTERNATIONAL COOPERATION AGENCY



Proposed	Levee Level	20.42	1/2,500		20.30 - 22.30		1/4,200																															
	High Water Level	18.42	1/2,500		20.30 - 22.30		1/4,200																															
	Riverbed Level		1/6,000																																			
Left Bank	---	553.0	562.00	570.00	580.00	588.50	597.00	605.50	614.00	622.50	631.00	639.50	648.00	656.50	665.00	673.50	682.00	690.50	699.00	707.50	716.00	724.50	733.00	741.50	750.00	758.50	767.00	775.50	784.00	792.50	801.00	809.50	818.00	826.50	835.00	843.50	852.00	
Right Bank	.....	553.0	562.00	570.00	580.00	588.50	597.00	605.50	614.00	622.50	631.00	639.50	648.00	656.50	665.00	673.50	682.00	690.50	699.00	707.50	716.00	724.50	733.00	741.50	750.00	758.50	767.00	775.50	784.00	792.50	801.00	809.50	818.00	826.50	835.00	843.50	852.00	
Average River Bed	---	553.0	562.00	570.00	580.00	588.50	597.00	605.50	614.00	622.50	631.00	639.50	648.00	656.50	665.00	673.50	682.00	690.50	699.00	707.50	716.00	724.50	733.00	741.50	750.00	758.50	767.00	775.50	784.00	792.50	801.00	809.50	818.00	826.50	835.00	843.50	852.00	
Lowest River Bed	---	553.0	562.00	570.00	580.00	588.50	597.00	605.50	614.00	622.50	631.00	639.50	648.00	656.50	665.00	673.50	682.00	690.50	699.00	707.50	716.00	724.50	733.00	741.50	750.00	758.50	767.00	775.50	784.00	792.50	801.00	809.50	818.00	826.50	835.00	843.50	852.00	
Distance (m)		553.0	562.00	570.00	580.00	588.50	597.00	605.50	614.00	622.50	631.00	639.50	648.00	656.50	665.00	673.50	682.00	690.50	699.00	707.50	716.00	724.50	733.00	741.50	750.00	758.50	767.00	775.50	784.00	792.50	801.00	809.50	818.00	826.50	835.00	843.50	852.00	
Distance Between Cross Section (m)		90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	
River Width (m)		292	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Cross Section Reference		51.8	55.9	58.8	58.0	59.8	60.8	61.8	62.8	63.8	64.8	65.8	66.8	67.8	68.8	69.8	70.8	71.8	72.8	73.8	74.8	75.8	76.8	77.8	78.8	79.8	80.8	81.8	82.8	83.8	84.8	85.8	86.8	87.8	88.8	89.8	90.8	

Fig. B.2  
Longitudinal Profile of Proposed River Improvement (3/4)

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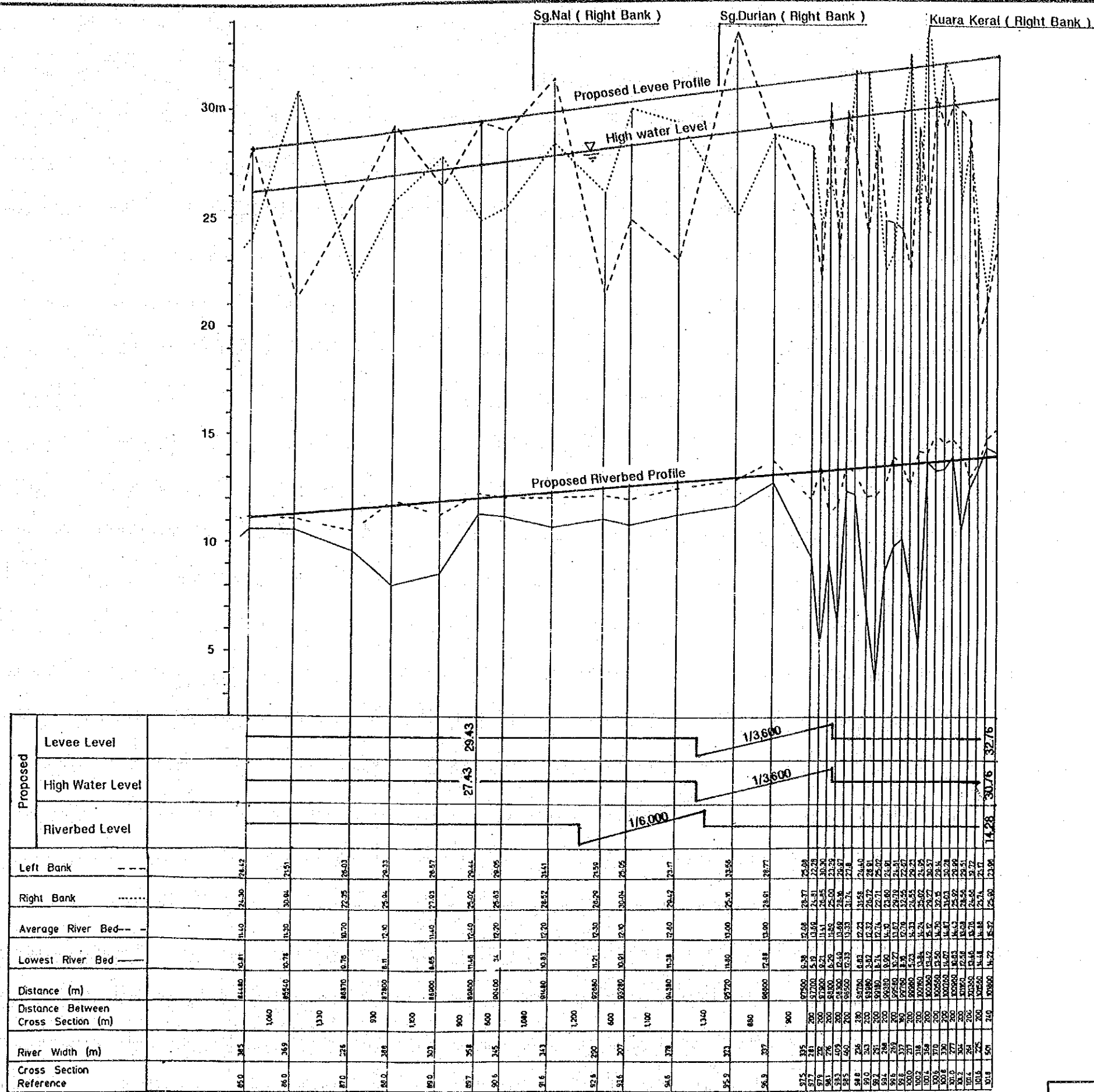
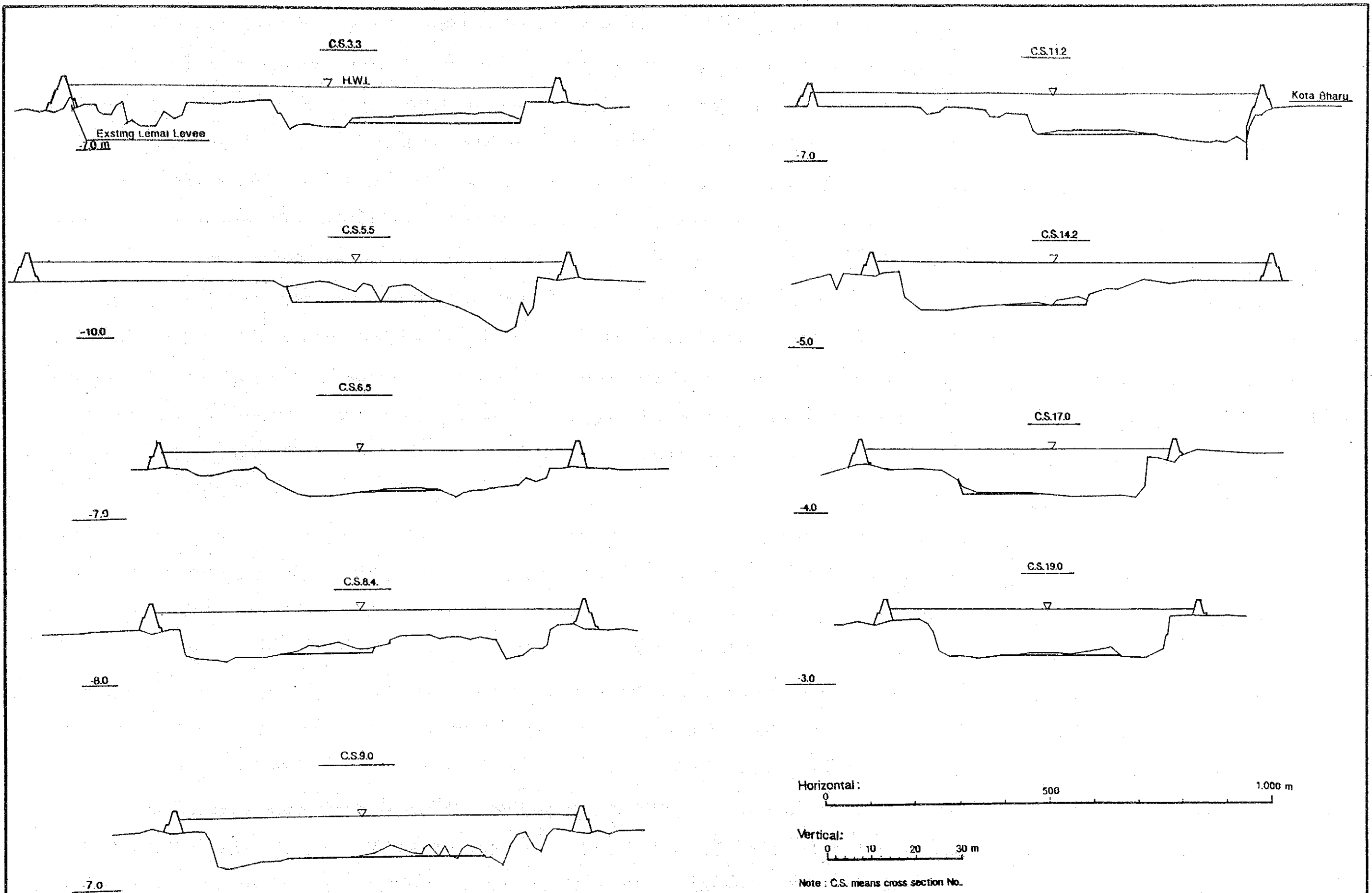


Fig.B.2

Longitudinal Profile of Proposed River Improvement (4/4)

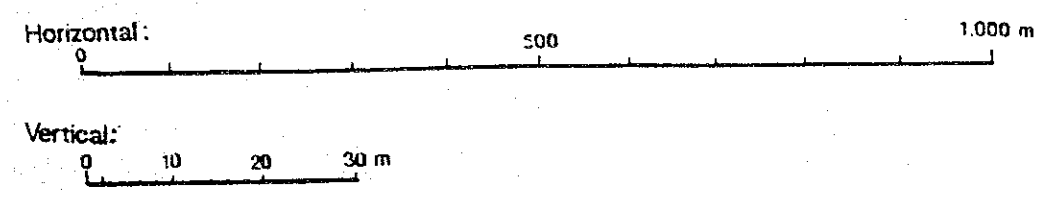
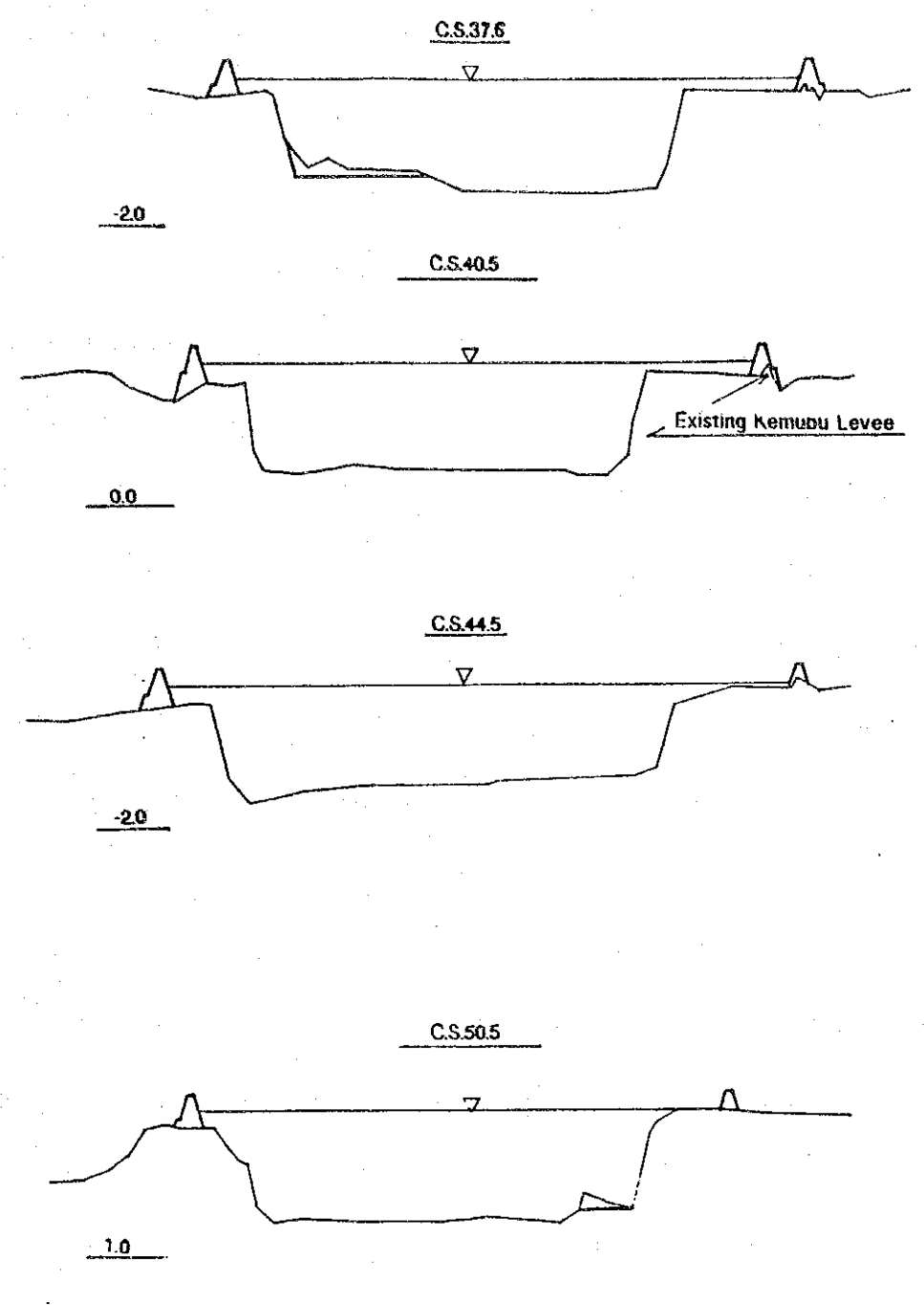
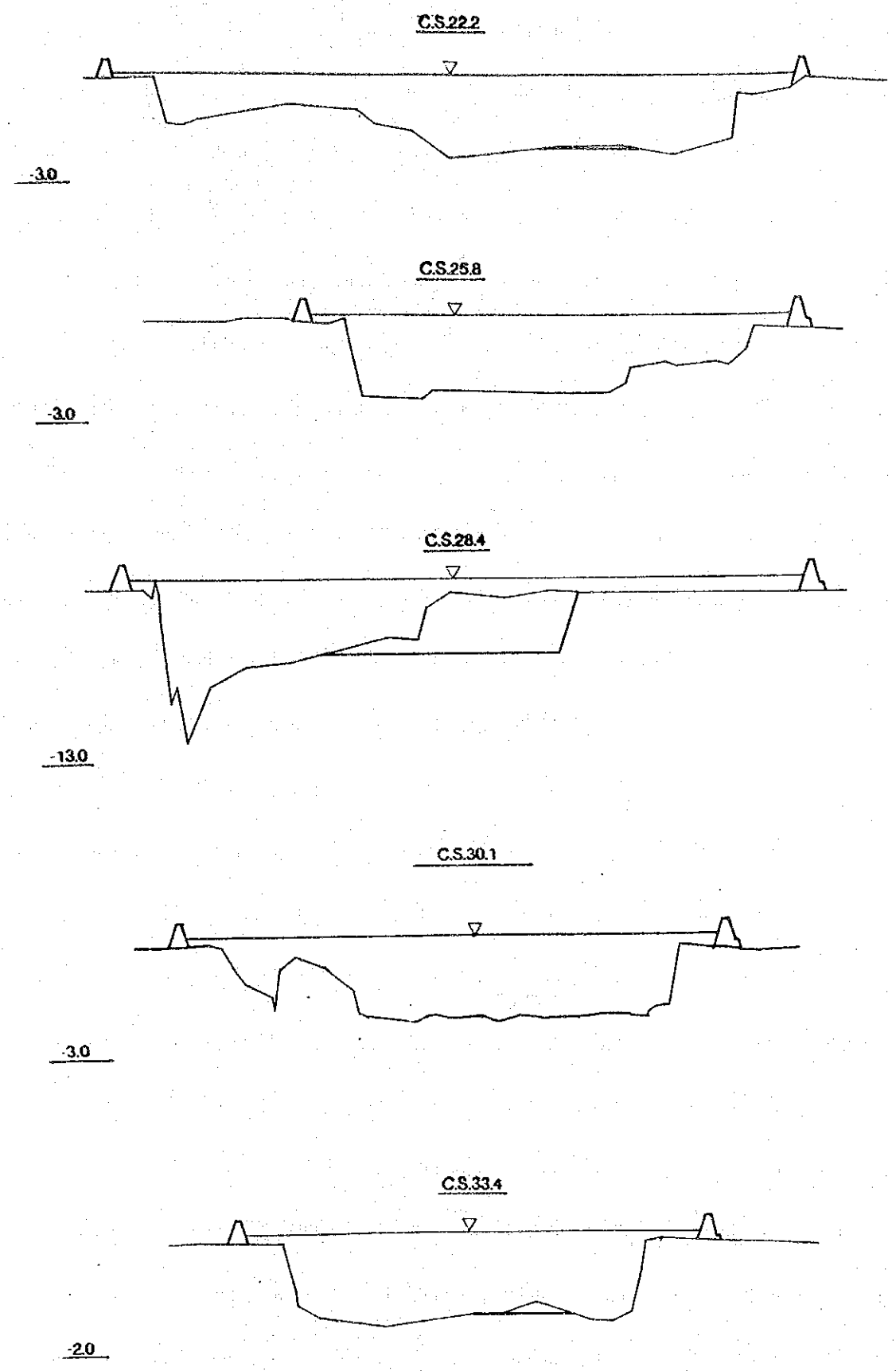
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**Fig.B.3**  
**Cross Sections of Proposed River Channel (1/3)**

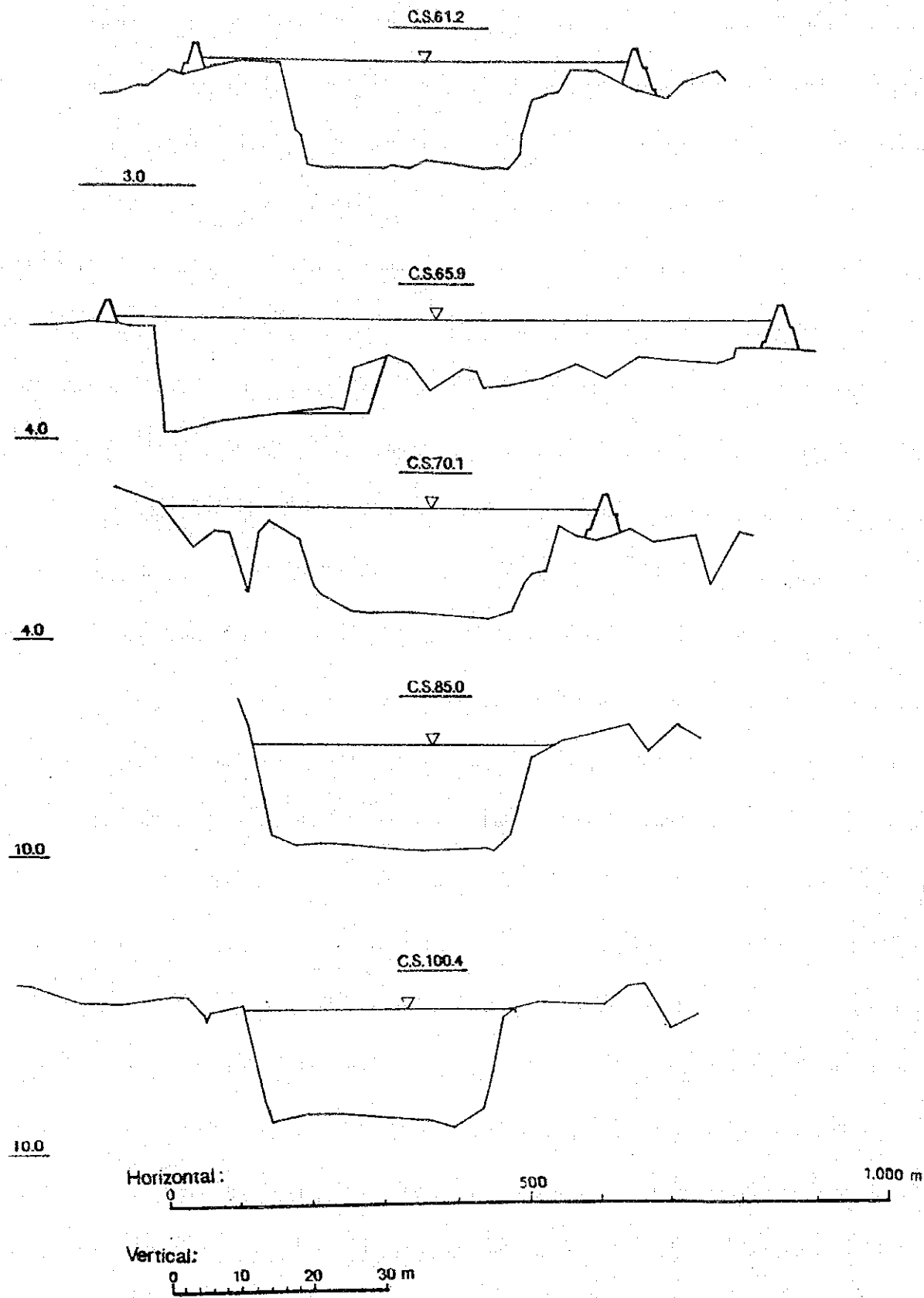
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Note : C.S. means cross section No.

Fig.B.3  
Cross Sections of Proposed River Channel (2/3)

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Note : C.S. means cross section No.

Fig.B.3  
 Cross Sections of Proposed River Channel (3/3)

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## ANNUAL NET PROFIT FROM RUBBER AND OIL PALM PLANTATION

Profit from the plantation

1. According to Economic Report in 1987/1988, annual production of rubber and oil palm per hectare is as follows:

Rubber : 845 kg/ha  
Oil palm : 2,801 kg/ha (palm oil base).

2. Economic Report in 1987/1988 further mentions the export prices of rubber and oil palm in Malaysia as follows:

Rubber : M\$2.5/kg  
Oil palm : M\$1.0/kg.

3. The annual income of rubber and oil palm per hectare is computed from the above (1) and (2) as follows:

Rubber : M\$2,113/ha  
Oil palm : M\$2,801/ha.

4. On the other hand, the annual production cost of rubber and oil palm is estimated based on the cumulative production cost consisting of initial and maintenance costs (refer to Tables V.4.23 and V.4.24 of Part I) as follows:

Rubber : M\$1,076/ha  
Oil palm : M\$1,173/ha.

5. The annual net profit of rubber and oil palm per hectare is calculated from (3) and (4) as follows:

Rubber : M\$1,037/ha  
Oil palm : M\$1,628/ha.



*ANNEX VIII*

*CONSTRUCTION PLAN*

*AND*

*COST ESTIMATE*





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