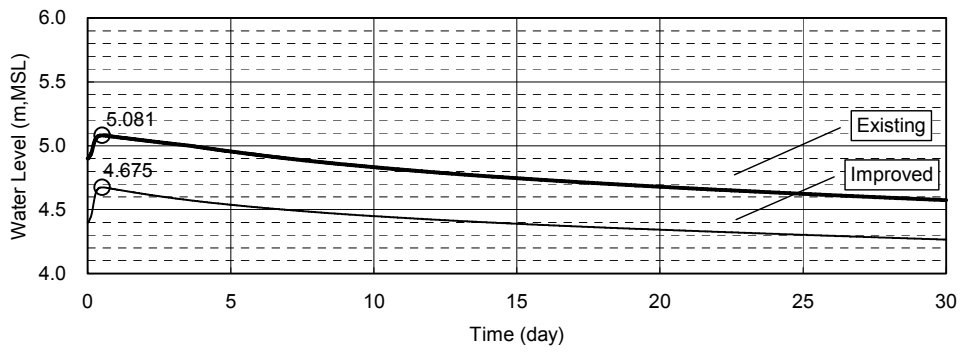


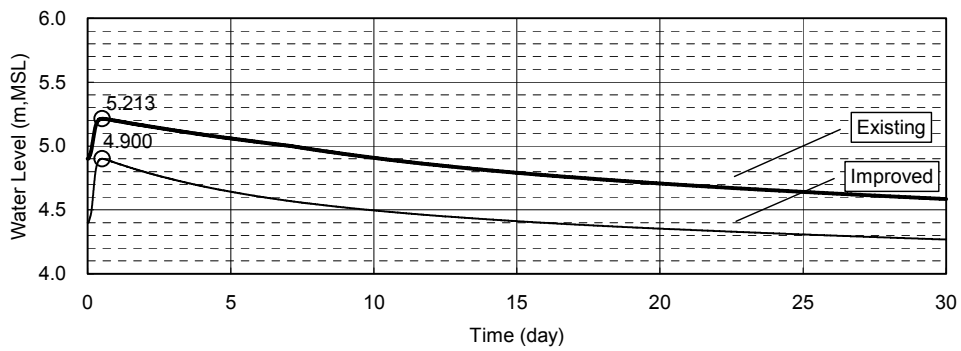
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Figure 5.2.8
REVISED DESIGN DISCHARGE DISTRIBUTION

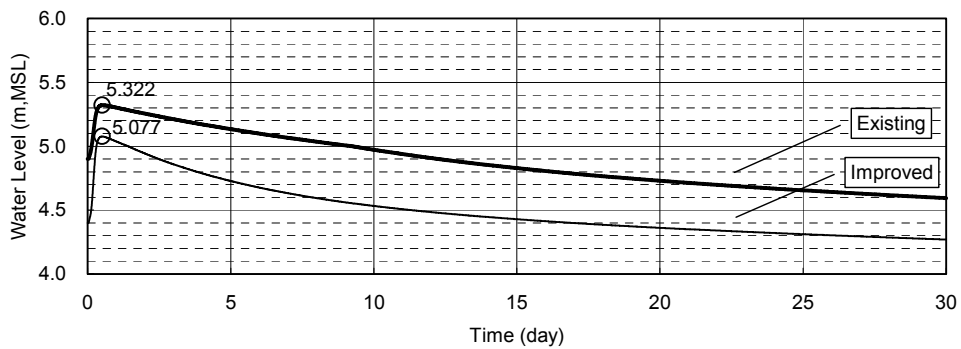
2-YEAR FLOOD



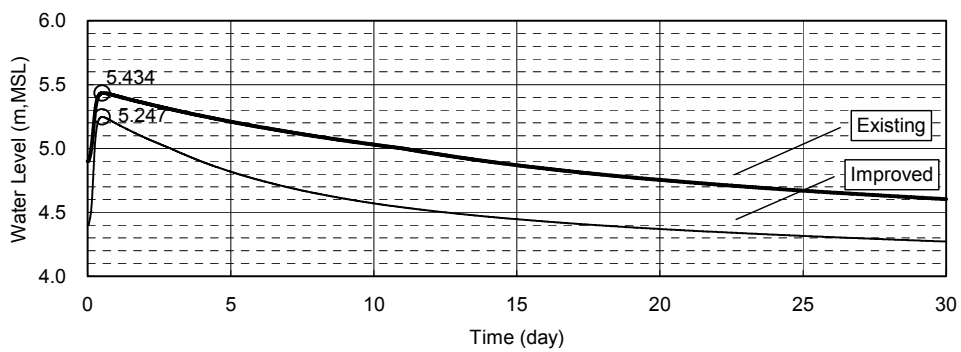
5-YEAR FLOOD



10-YEAR FLOOD



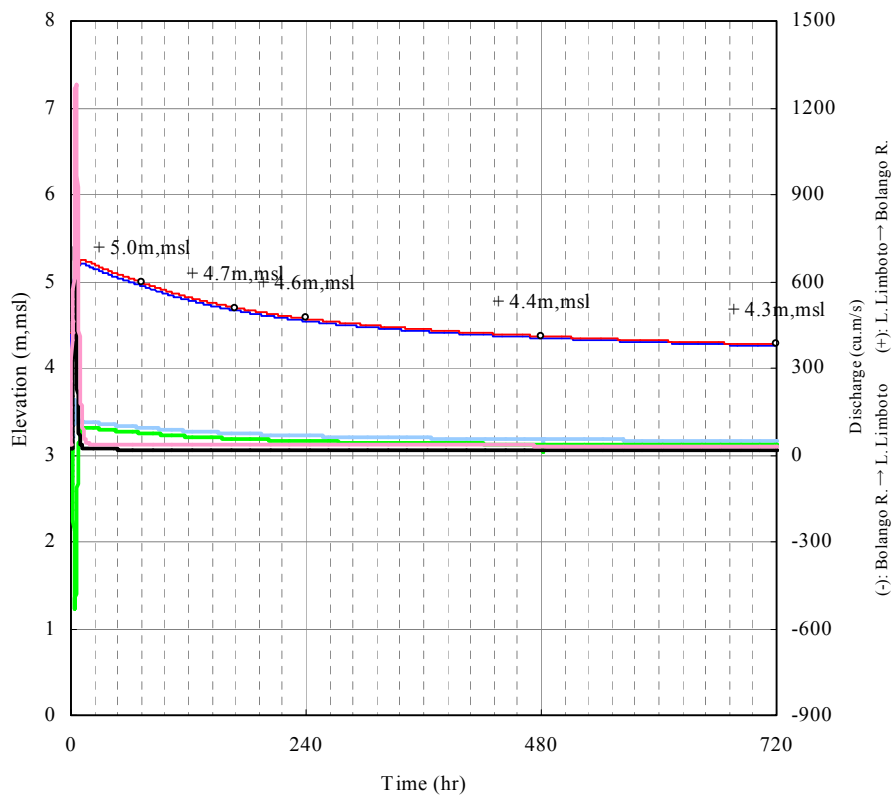
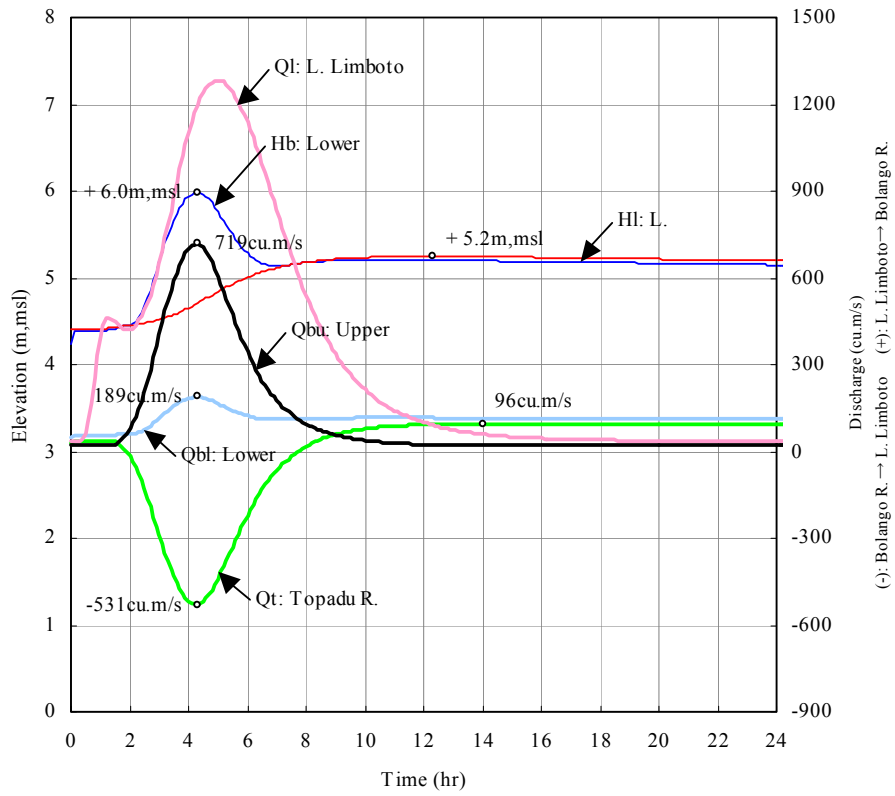
20-YEAR FLOOD



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**Figure 5.2.9
LAKE WATER LEVEL CALCULATED BY
FLOOD STORAGE MODEL**



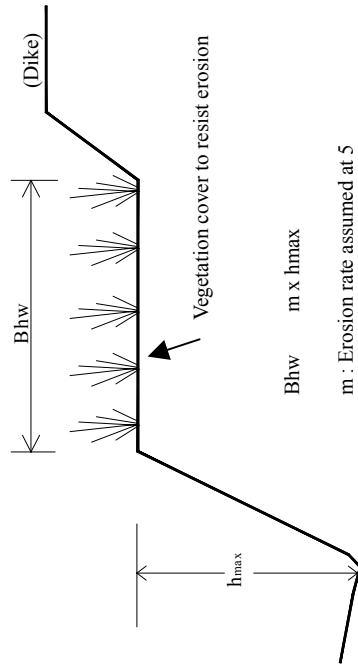
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Figure 5.2.10
RESULT OF FLOOD WATER STORAGE
CALCULATION : 20-YEAR FLOOD

Minimum Width of High Water Channel

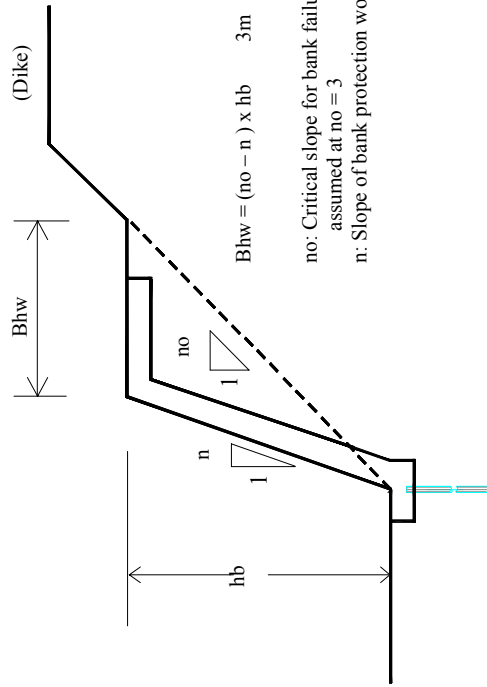
1) In Case of Bank without Protection Works :



B_{hw} m x h_{max}

m : Erosion rate assumed at 5

2) In Case of Bank with Protection Works :

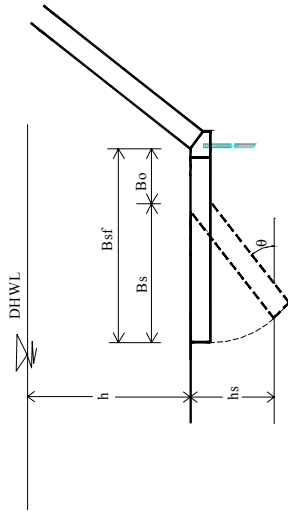


$B_{hw} = (no - n) \times h_b$ 3m

no: Critical slope for bank failure assumed at no = 3

n: Slope of bank protection works

Length of Sure-Footing

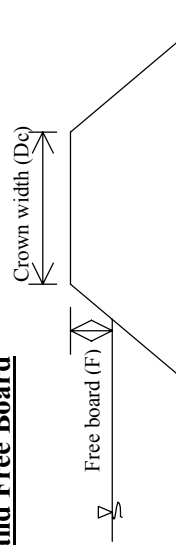


$B_{sf} = B_o + h_s/\sin\theta = B_o + 1.6 h$

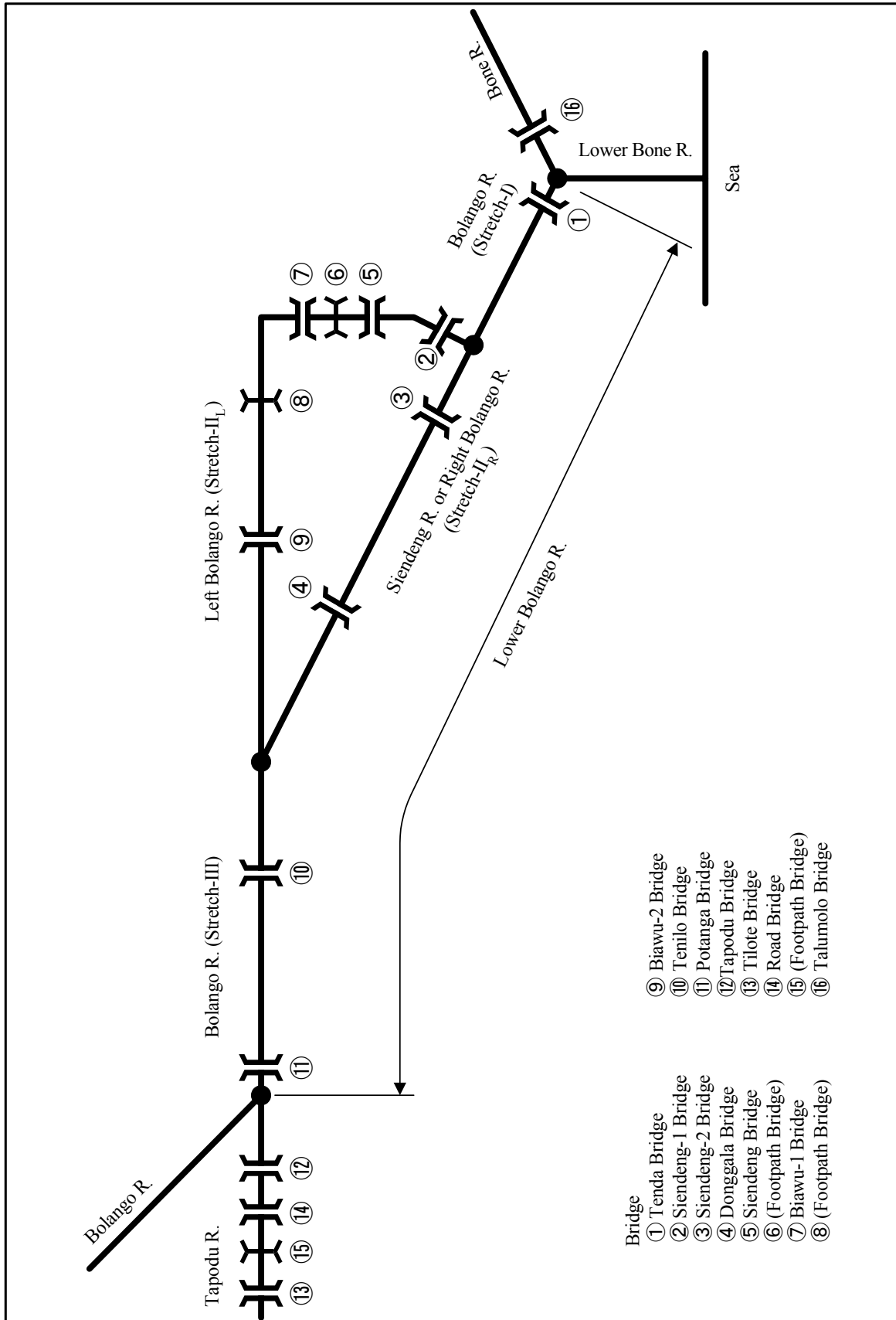
Where :

- Bsf : Length of sure-footing
- h : water depth
- h_s : Scouring depth, assumed at $h_s = 0.8 h$
- θ : Assumed as 30°
- B_o : Minimum fixed length, advisable B_o 2m

Dike Section and Free Board



Crown Width of Dike		Free Board	
Q (m ³ /s)	Dc (m)	Q (m ³ /s)	Dc (m)
< 500	3	< 200	0.6
< 2000	4	< 500	0.8
		< 2000	1.0



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Figure 5.3.2
NAMES OF RIVER STRETCHES AND BRIDGES

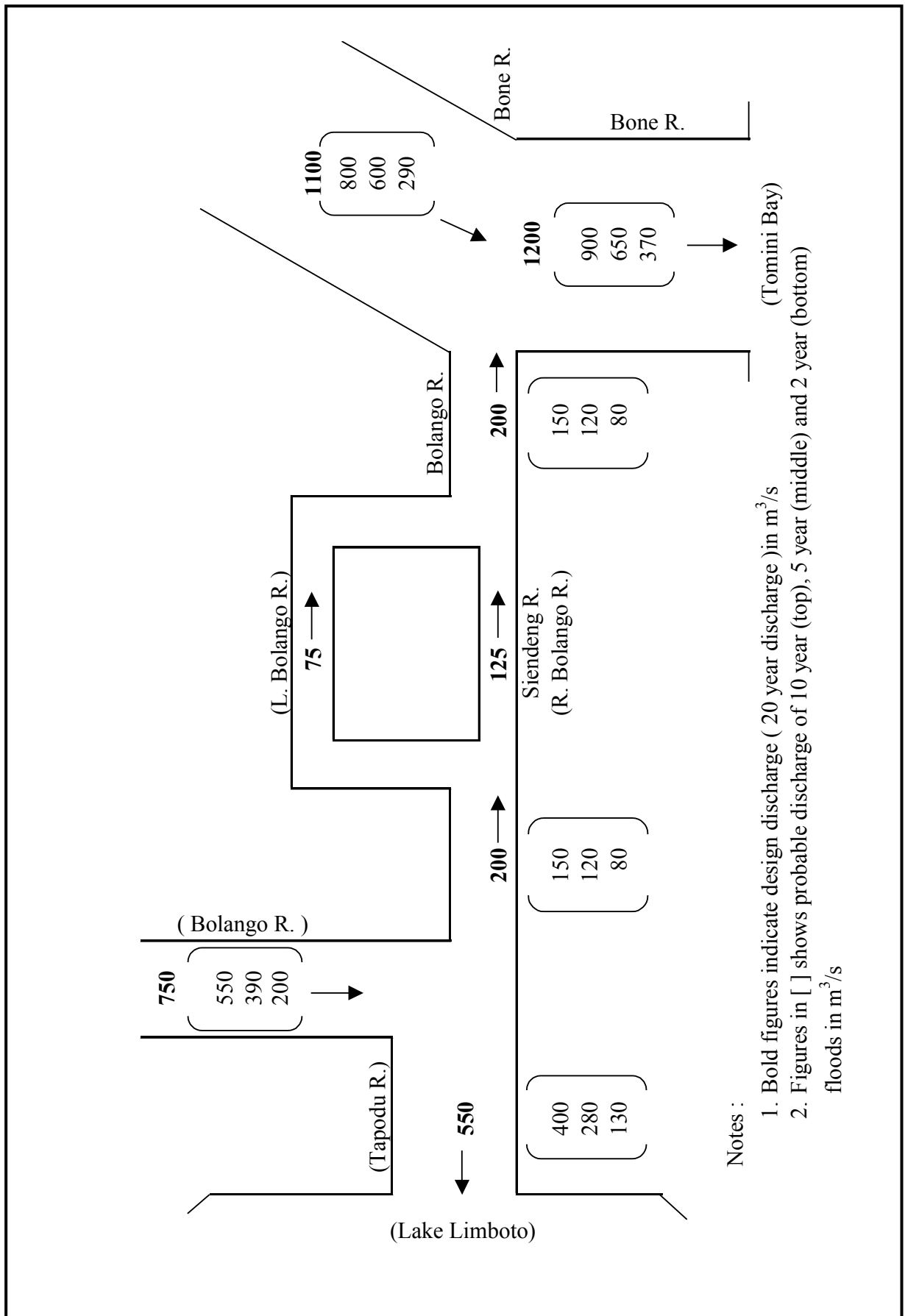
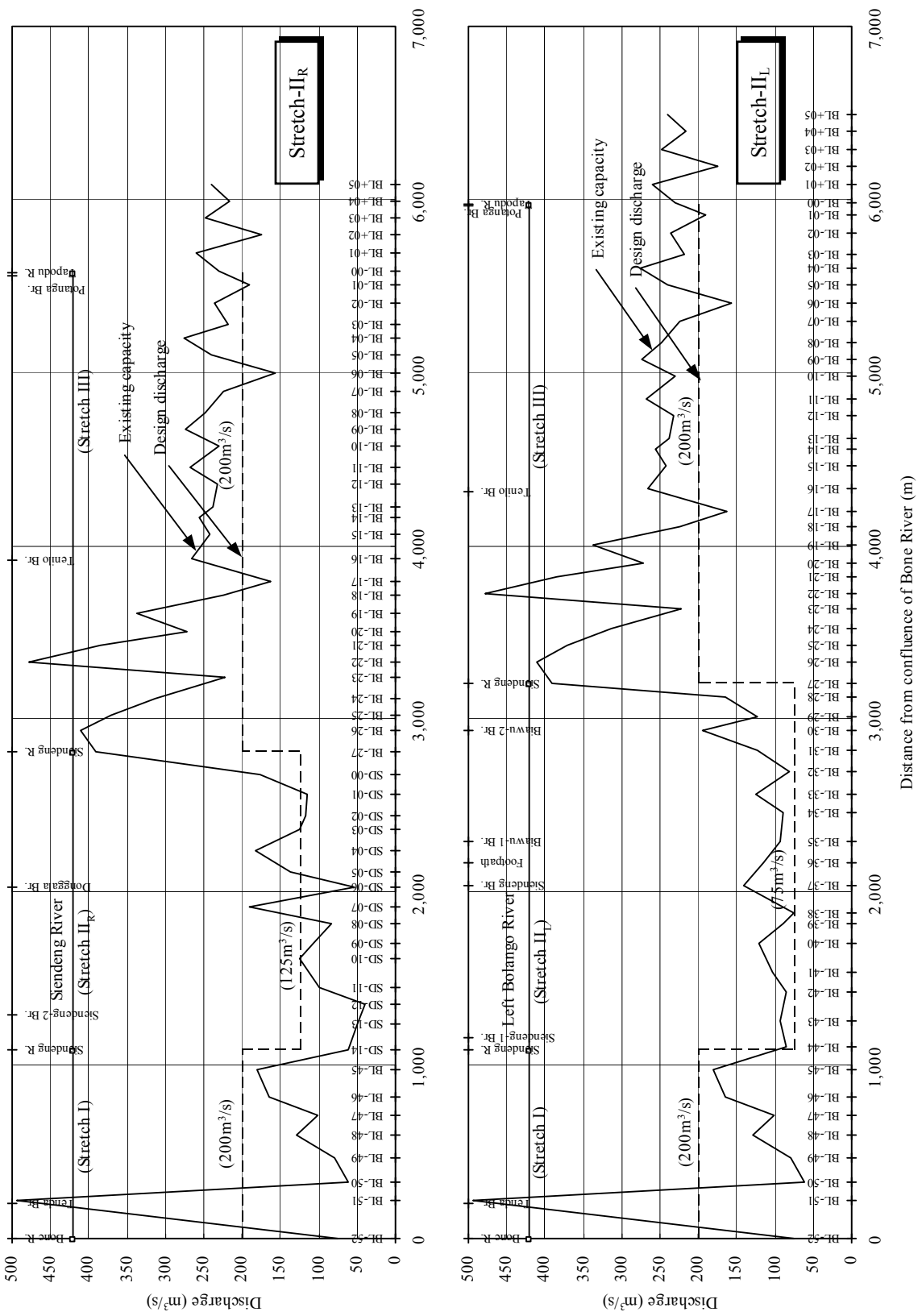
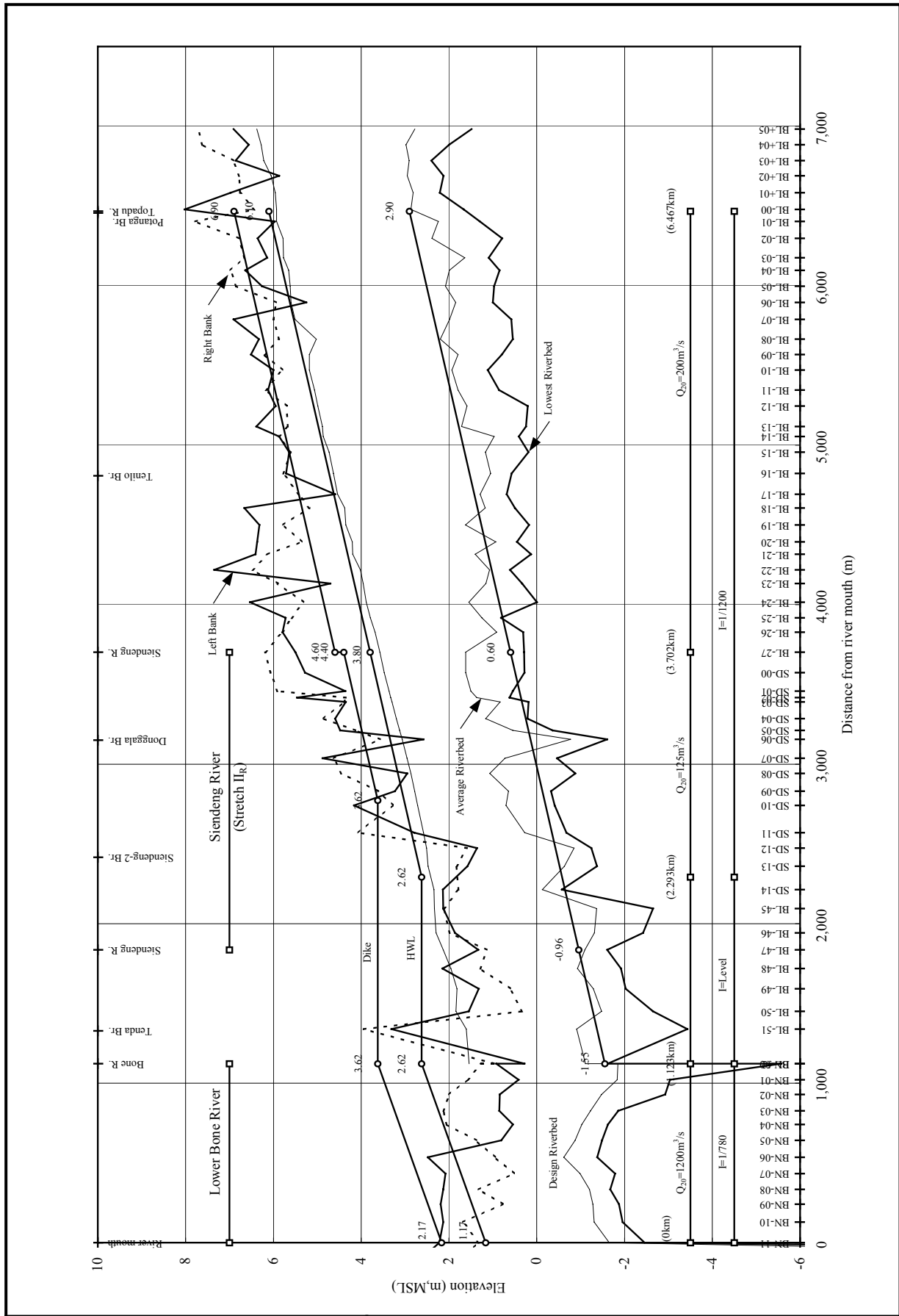


Figure 5.3.3
DESIGN DISCHARGE DISTRIBUTION :
BONE-BOLANGO-TAPODU RIVER



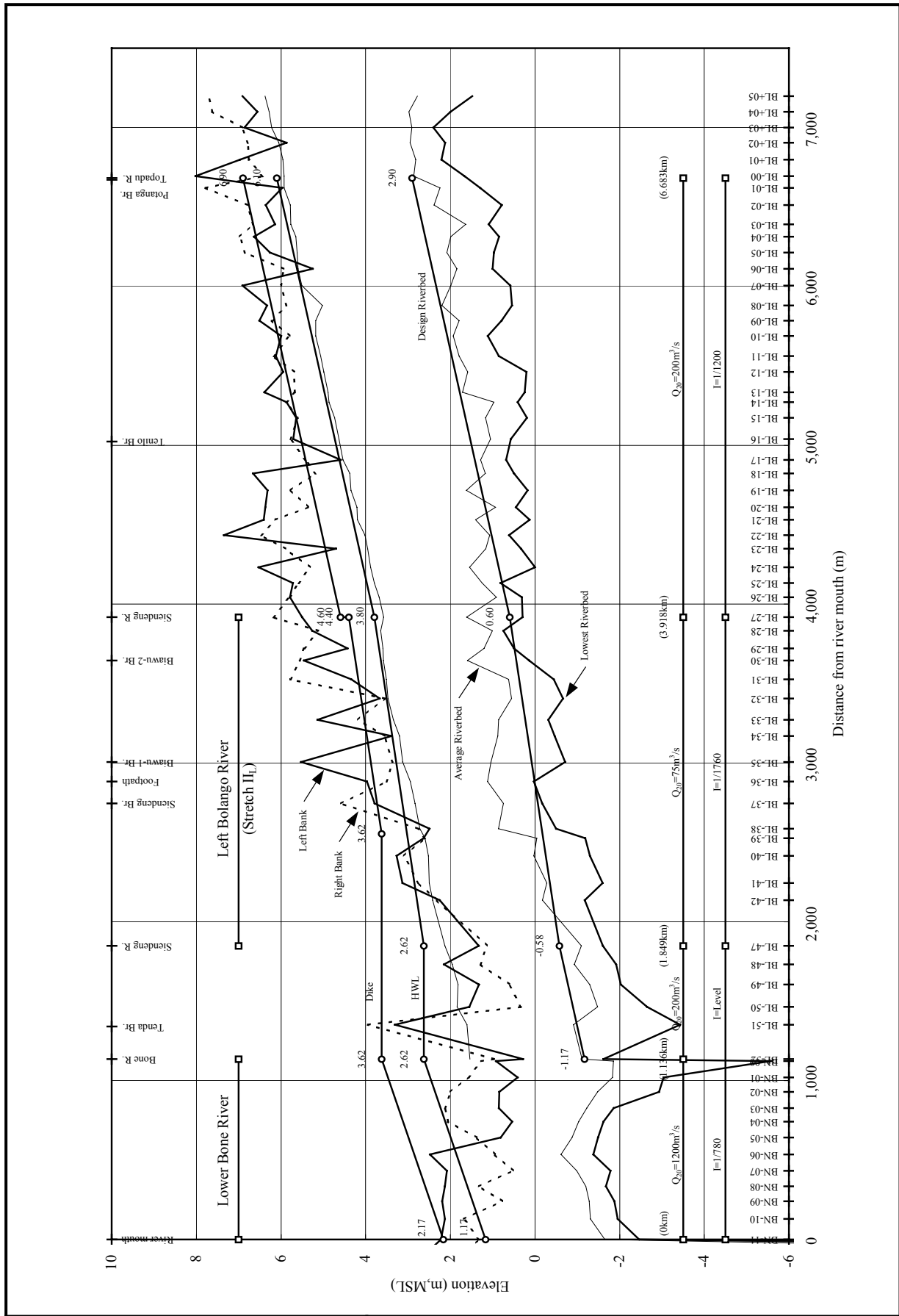
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**Figure 5.3.4
CARRYING CAPACITY OF
BOLANGO RIVER**



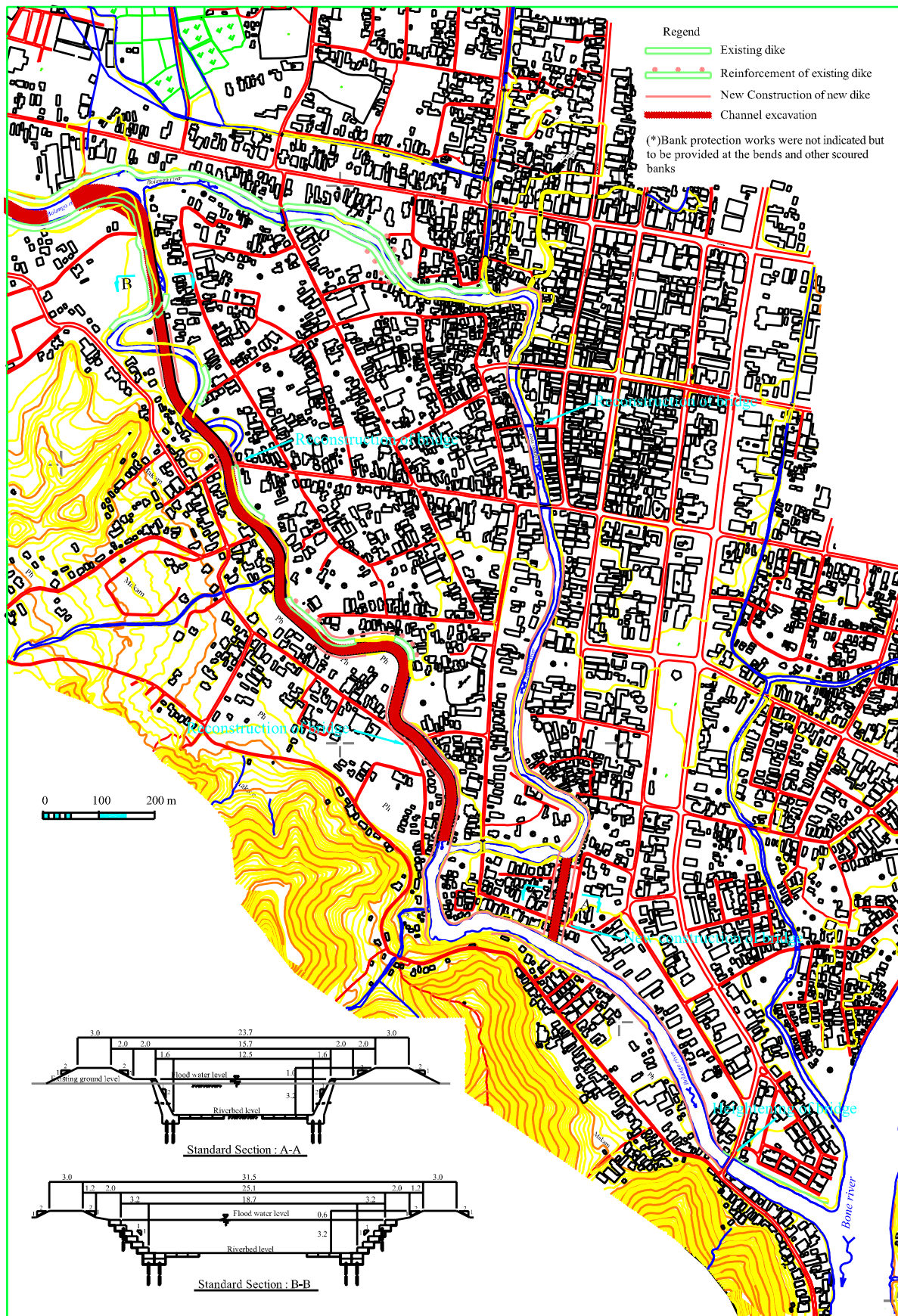
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Figure 5.3.5
DESIGN LONGITUDINAL PROFILE OF
BOLANGO RIVER (STRETCH II_R : 1/2)



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Figure 5.3.5
DESIGN LONGITUDINAL PROFILE OF
BOLANGO RIVER (STRETCH II_L : 2/2)



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Figure 5.3.6
DESIGN PLAIN OF BOLANGO RIVER (1/2)