

Fig. 4-7 Plan, Elevation and Section of Main Dam in Qda Quirio

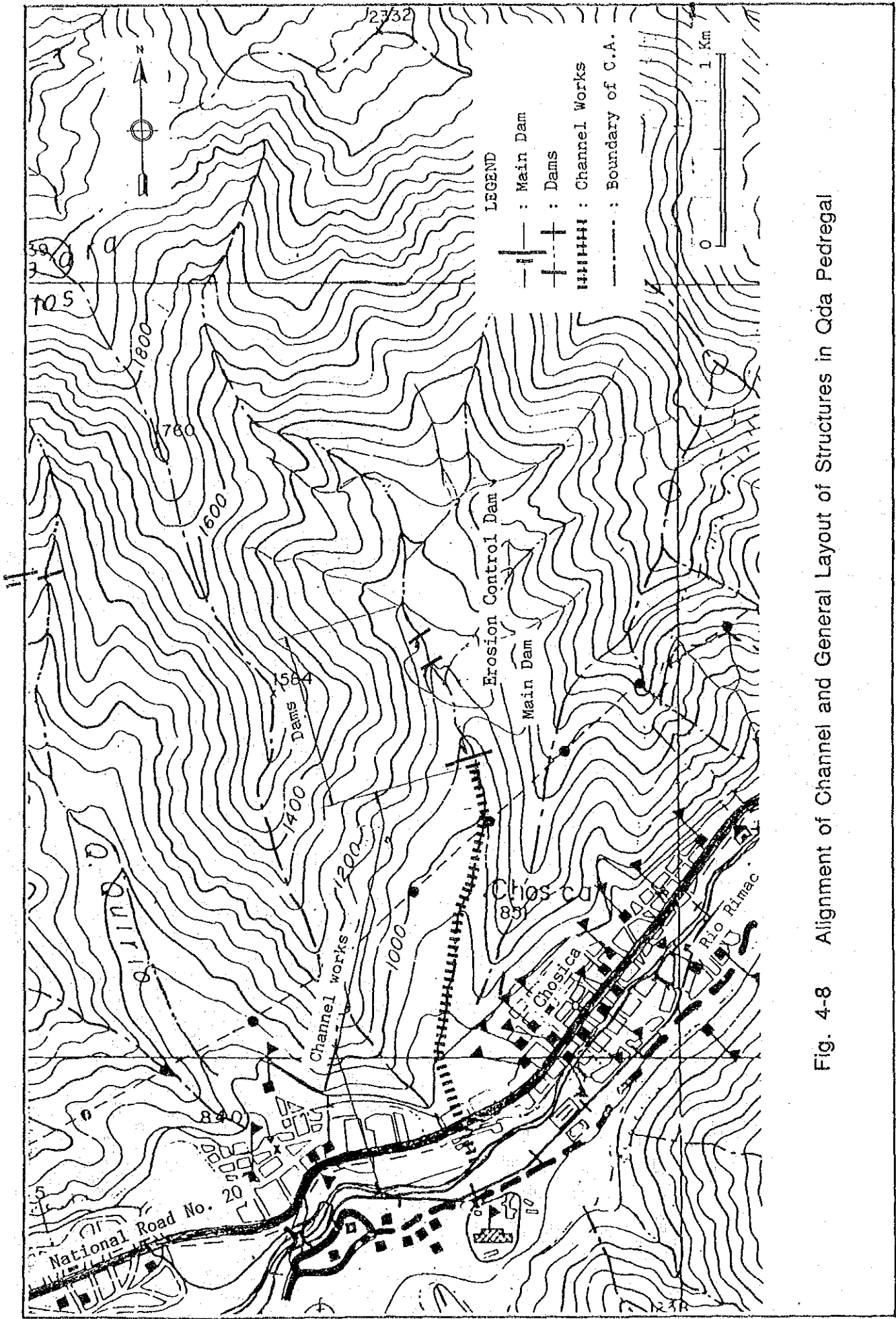


Fig. 4-8 Alignment of Channel and General Layout of Structures in Qda Pedregal

R-7 : Oda, Pedregal C.A = 10.5 km²

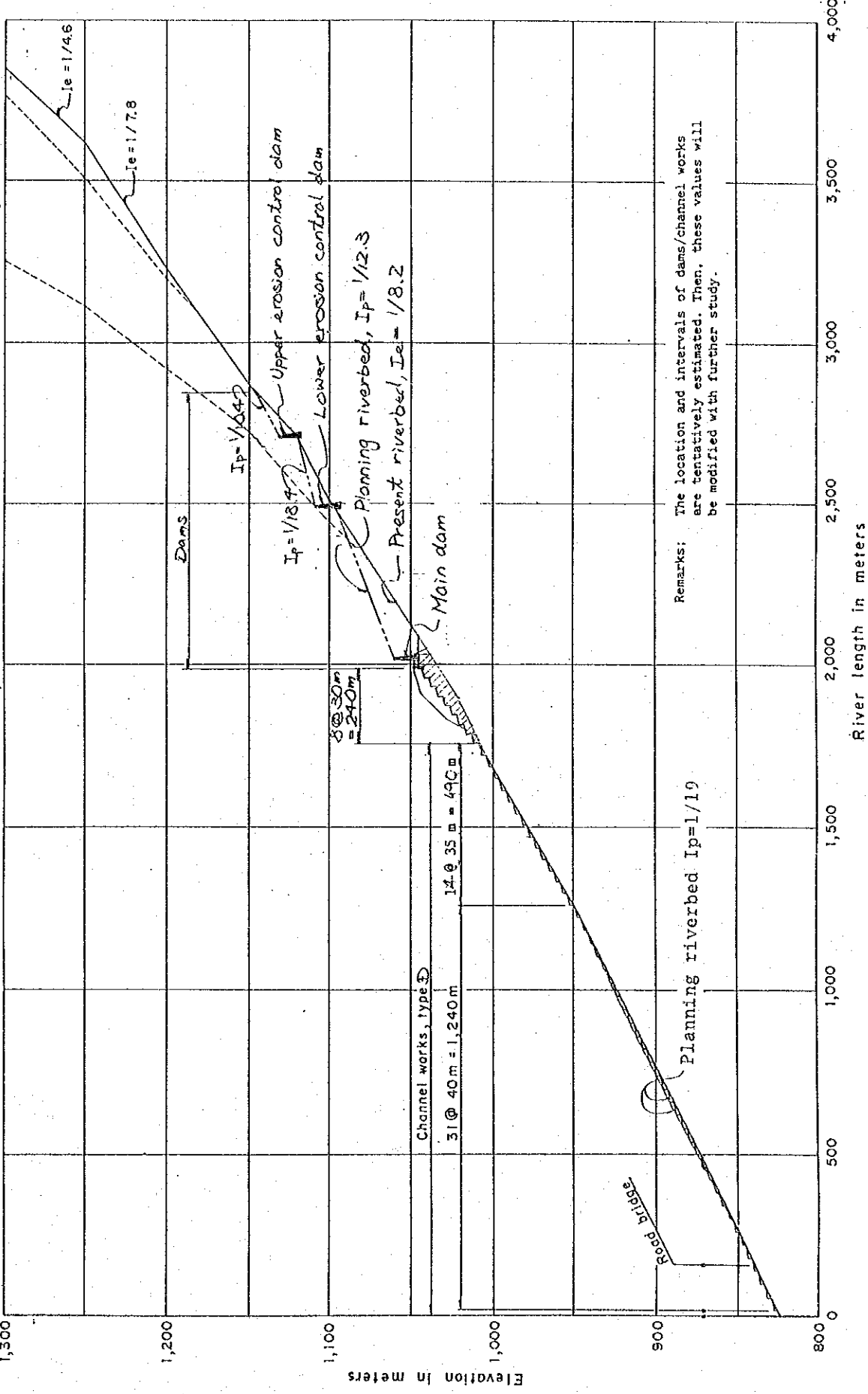


Fig. 4-9 Channel Profile and Location of Structures in Oda Pedregal

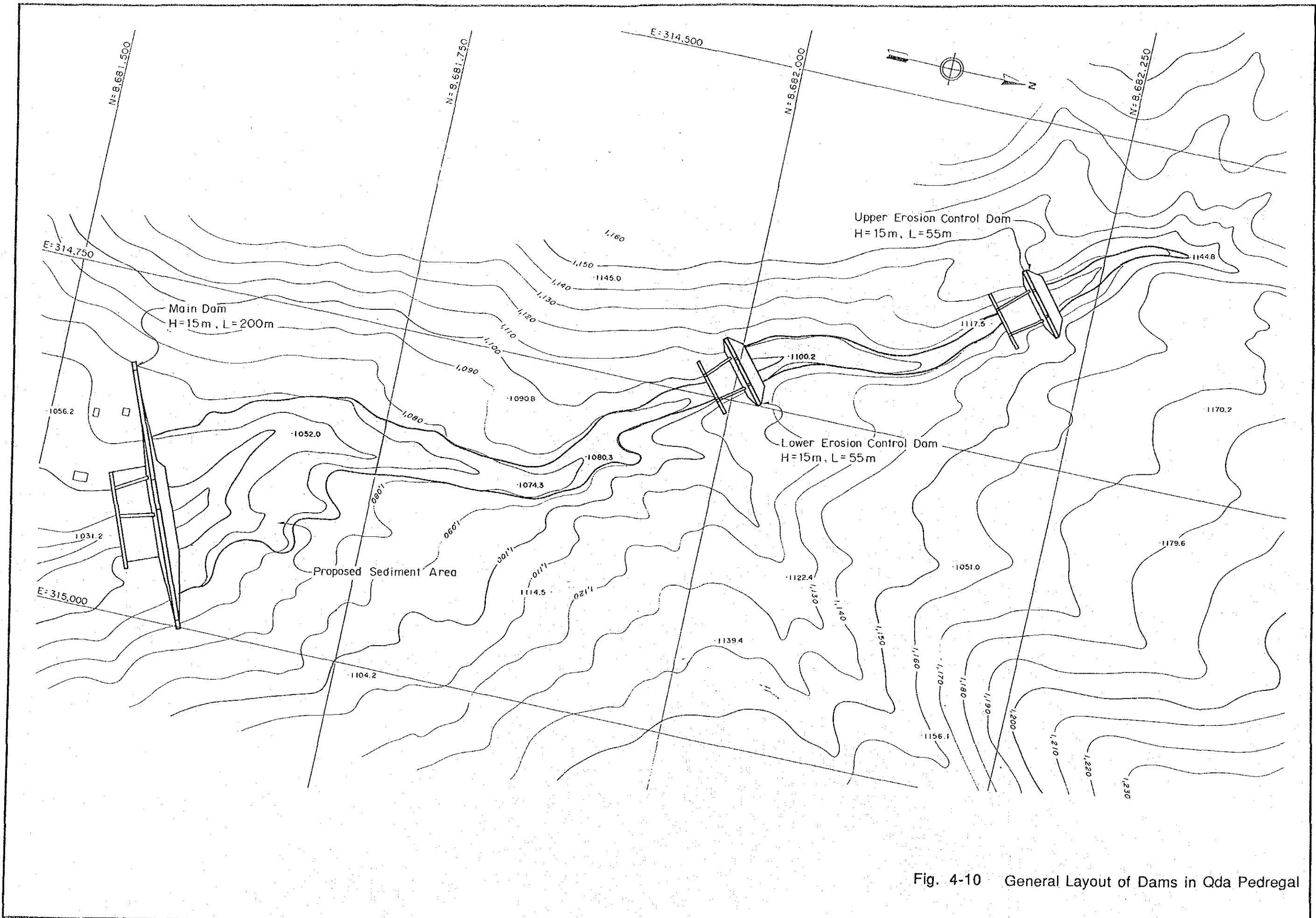
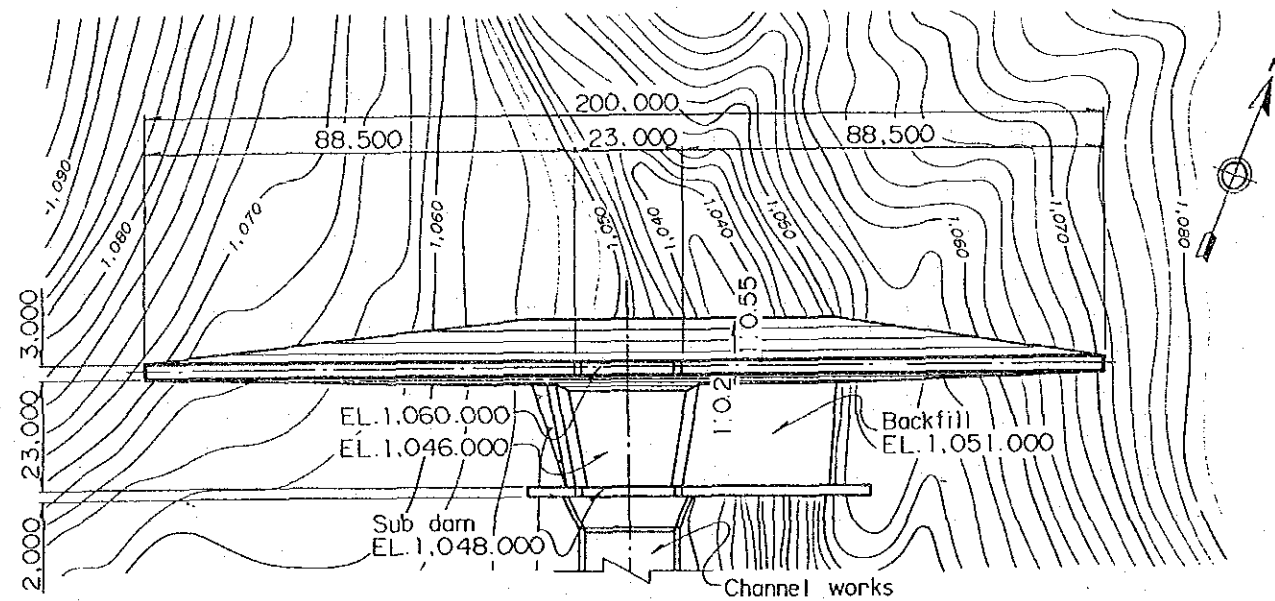
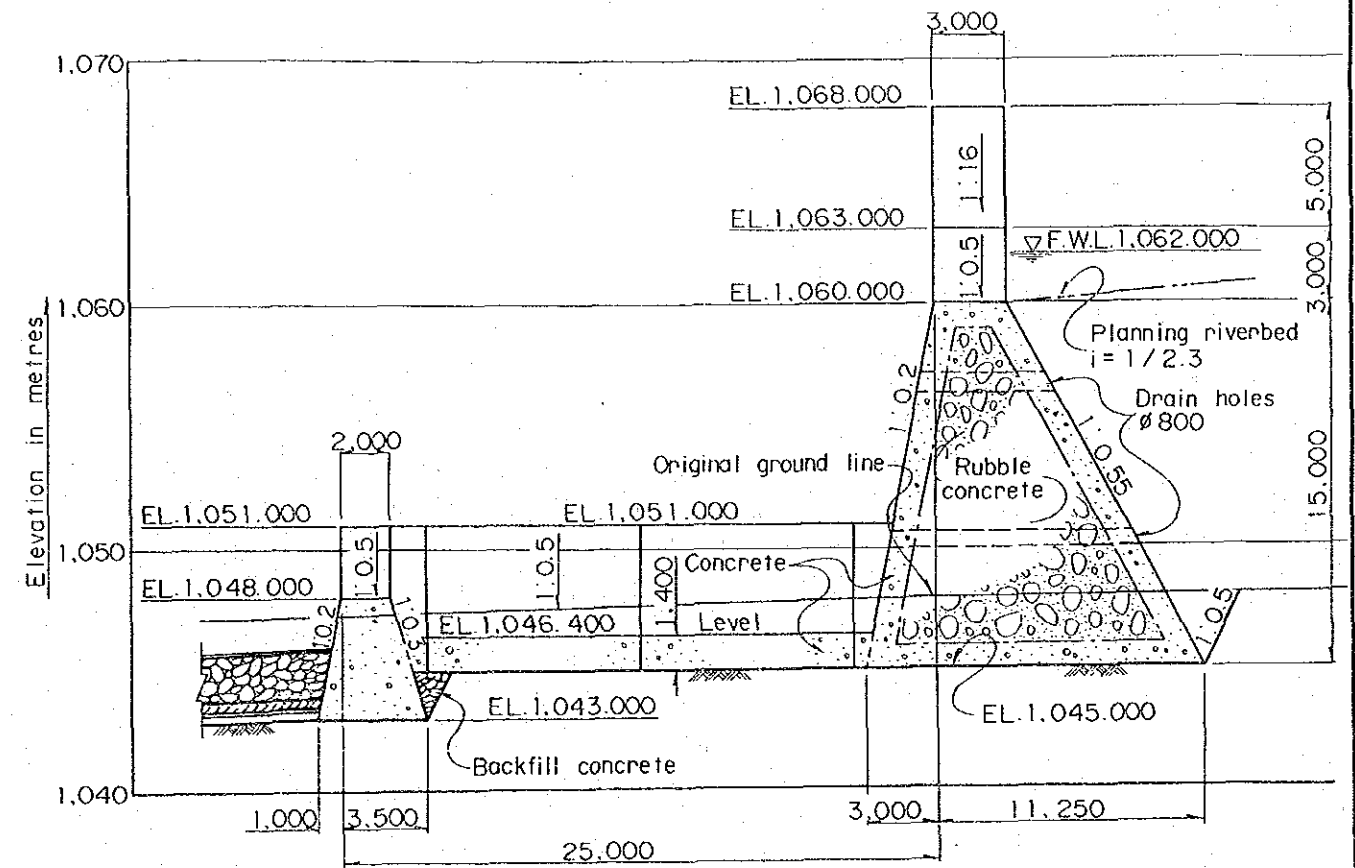


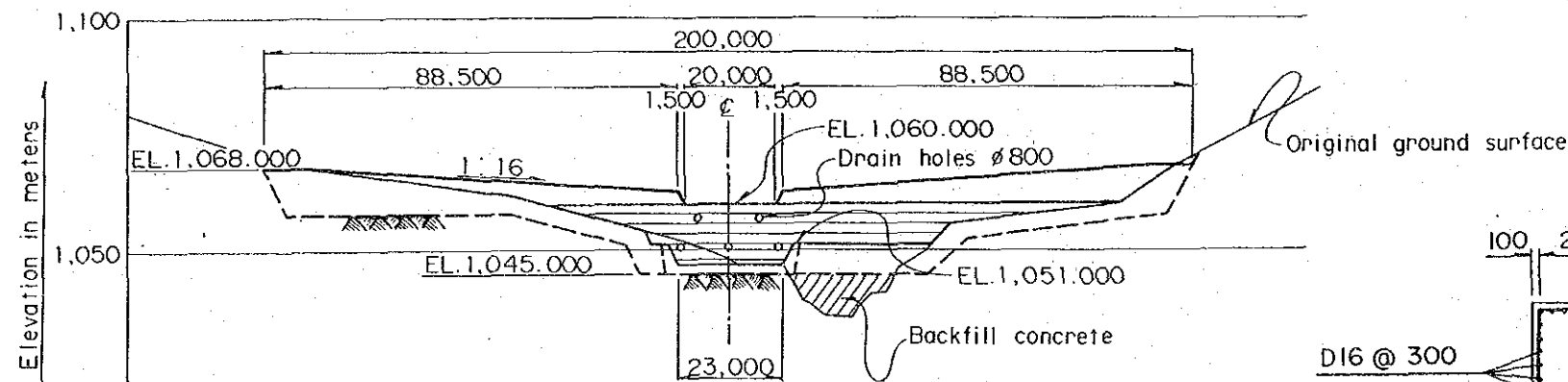
Fig. 4-10 General Layout of Dams in Qda Pedregal



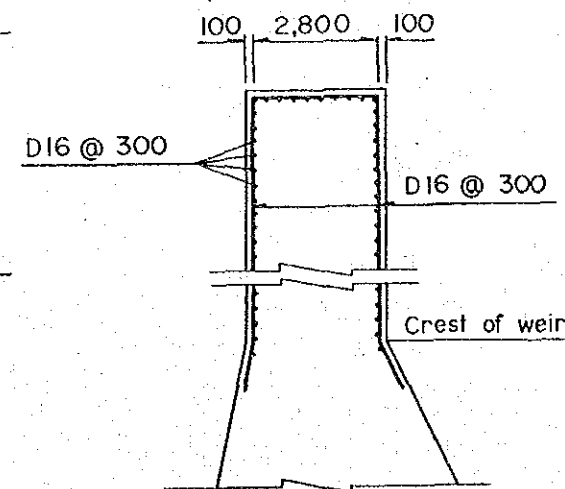
PLAN



SECTION



DOWNSTREAM ELEVATION



REINFORCEMENT DETAIL OF WING PORTION

Fig. 4-11 Plan, Elevation and Section of Main Dam in Qda Pedregal

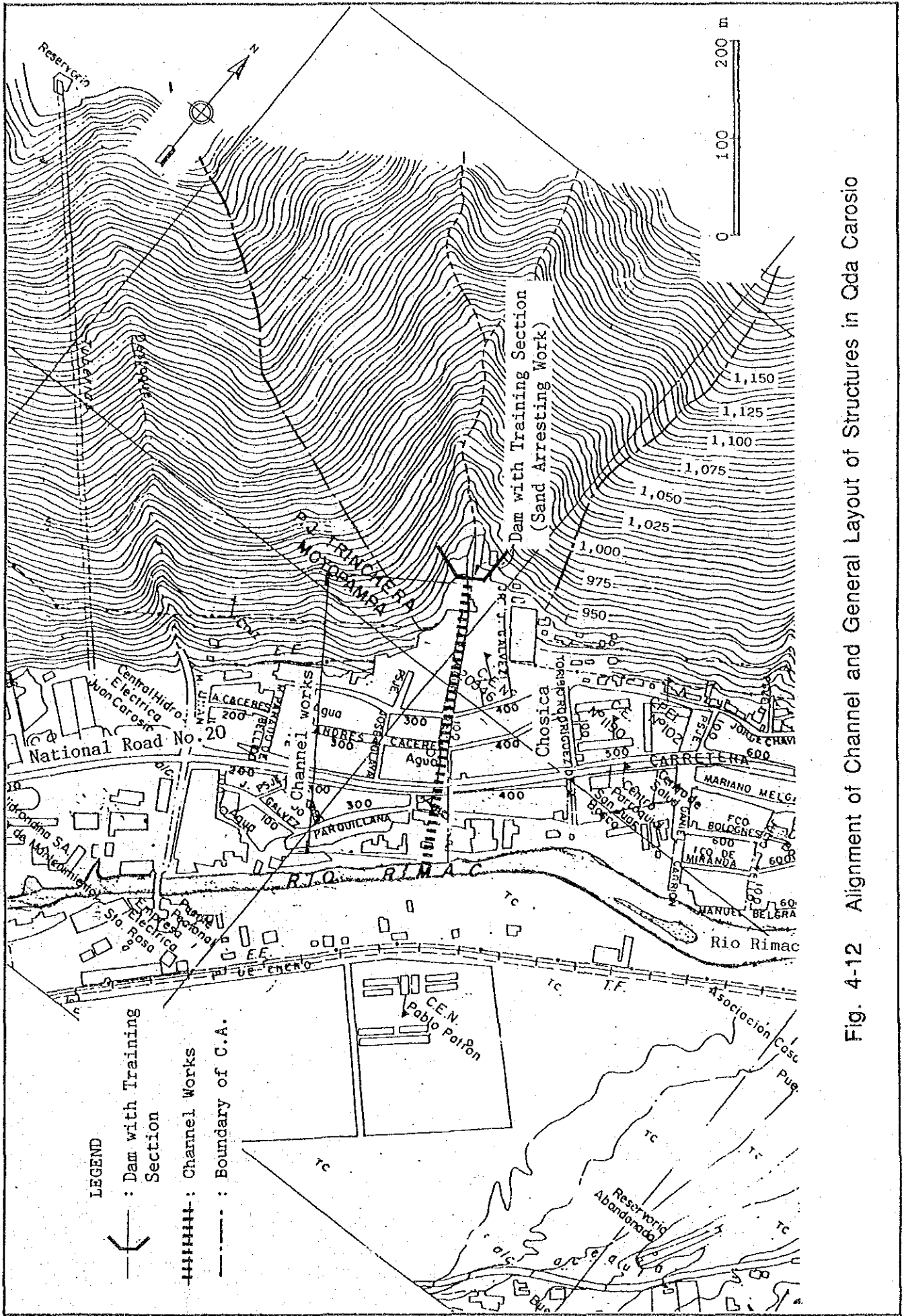


Fig. 4-12 Alignment of Channel and General Layout of Structures in Oda Carosio

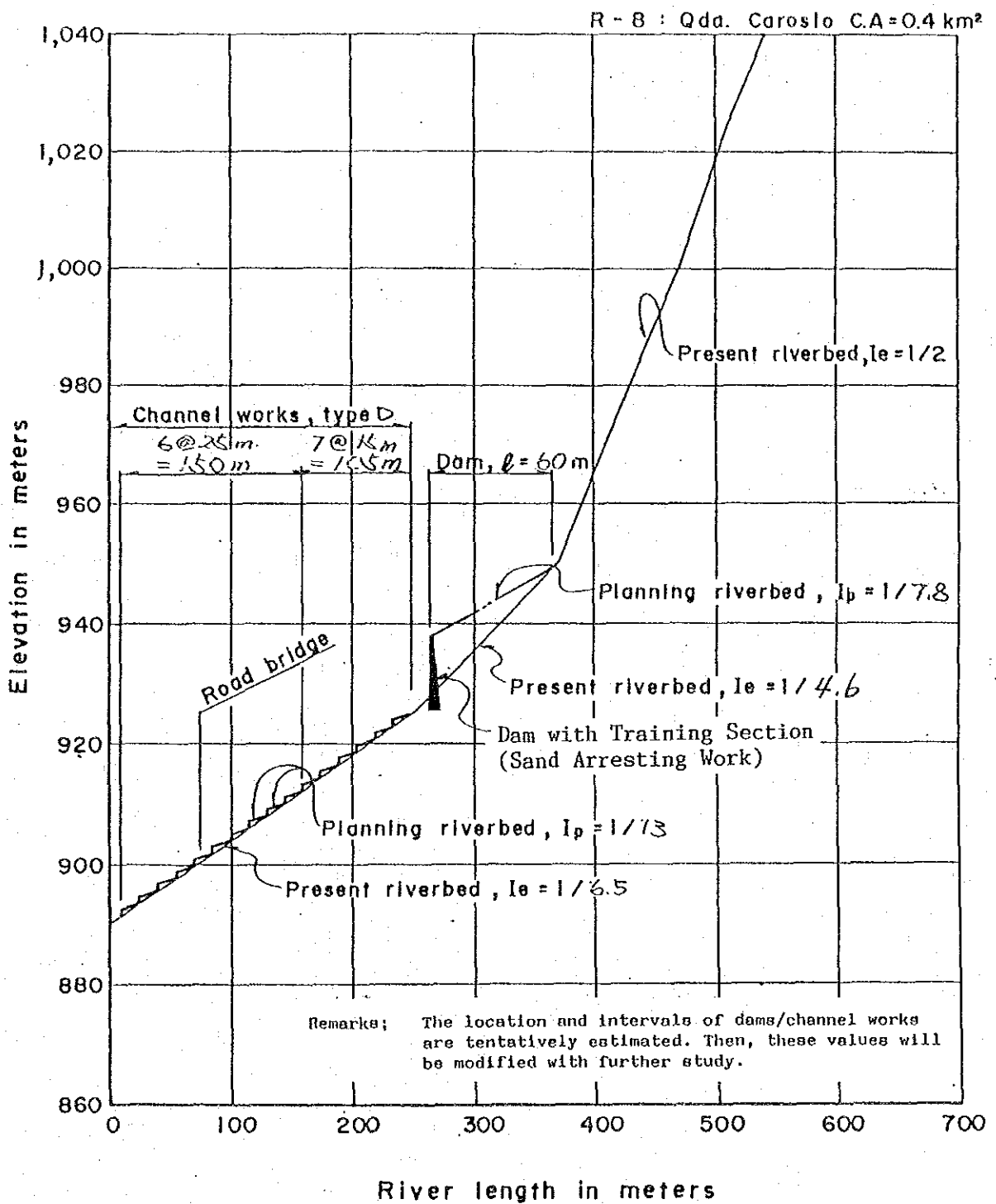


Fig. 4-13 Channel Profile and Location of Structures in Qda Carosio

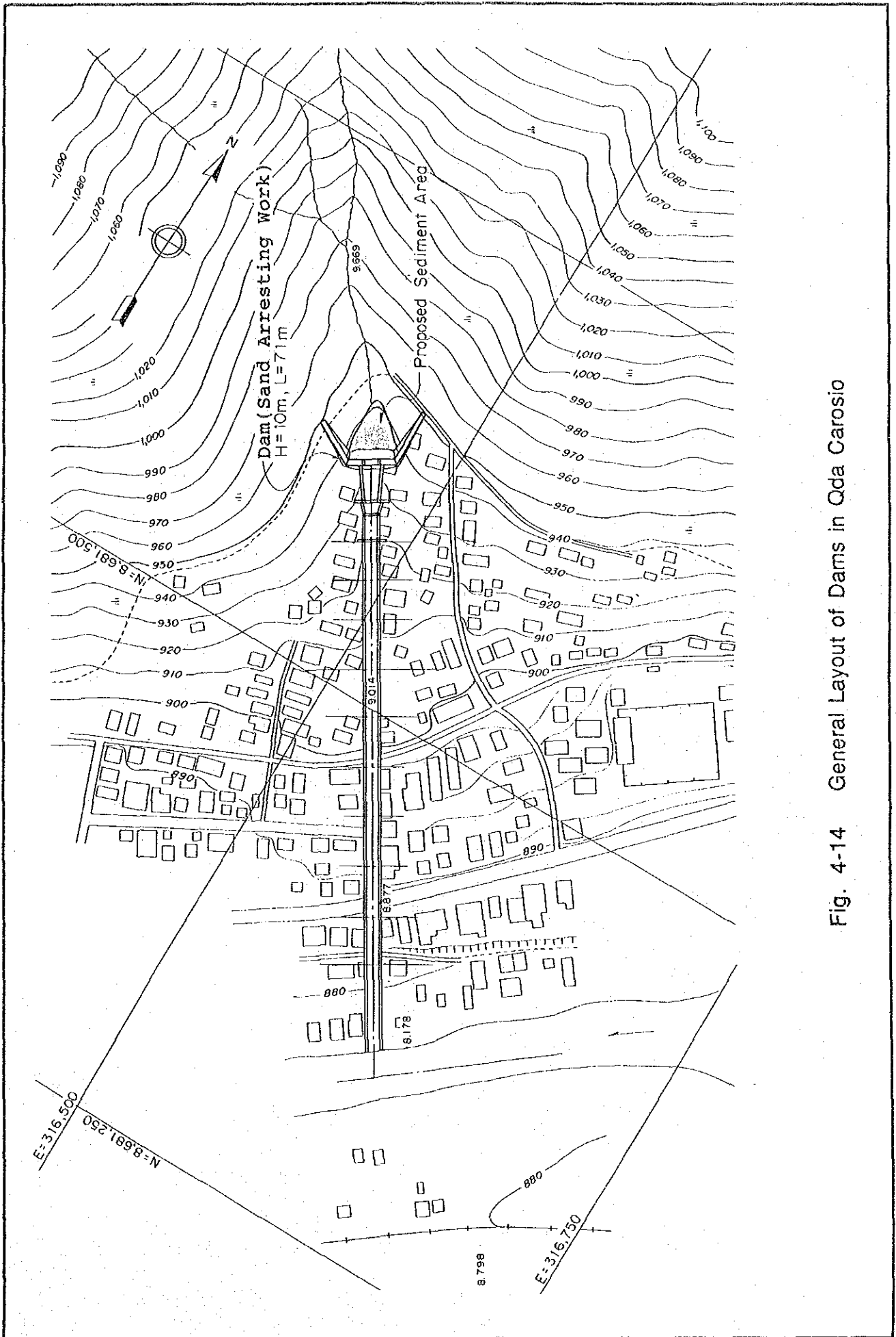
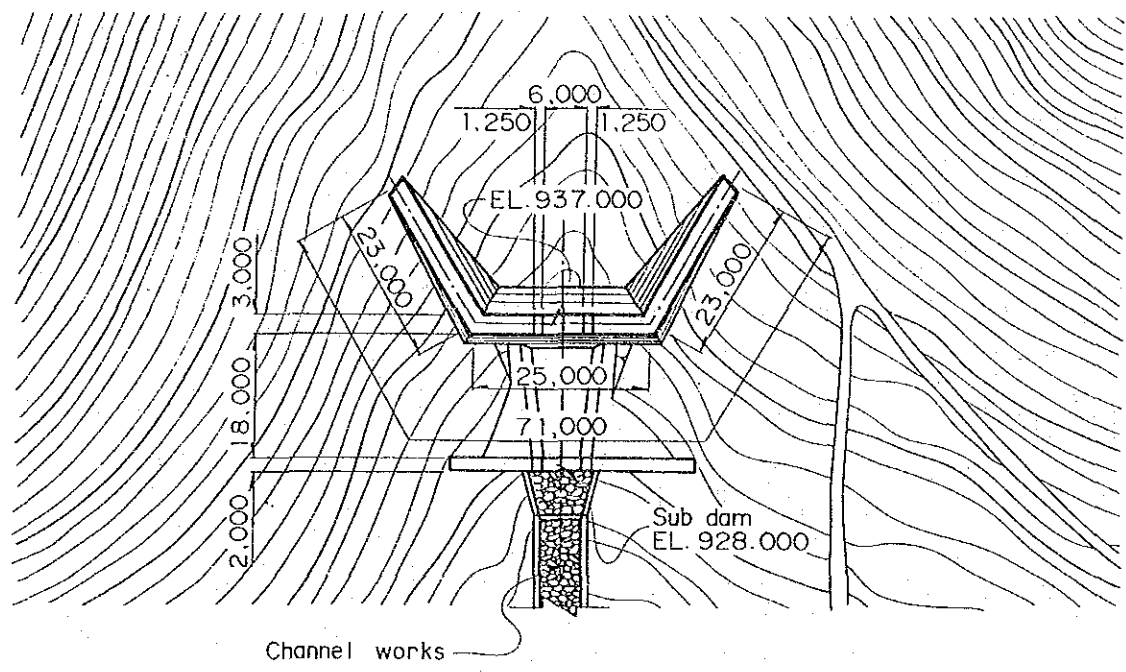
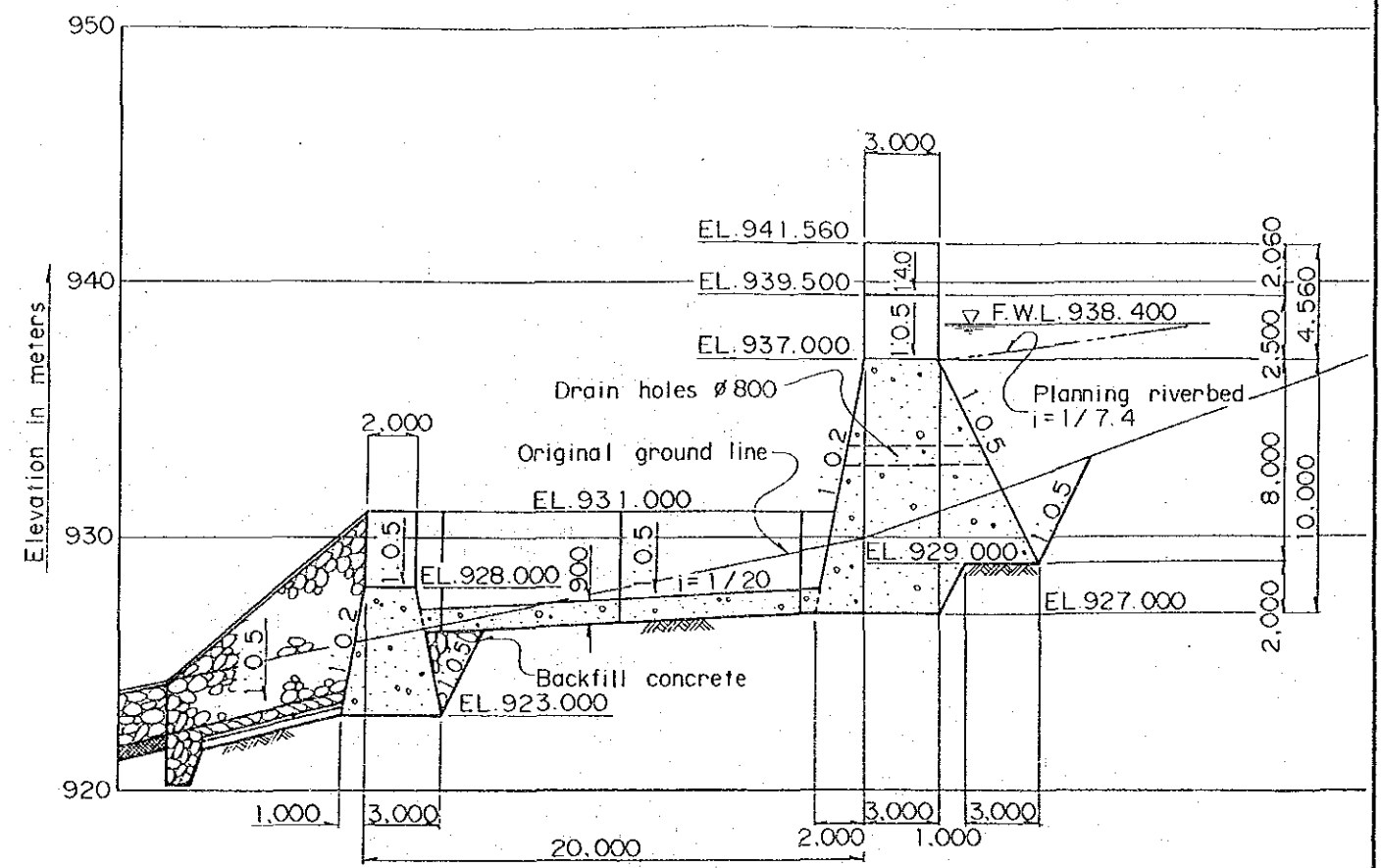


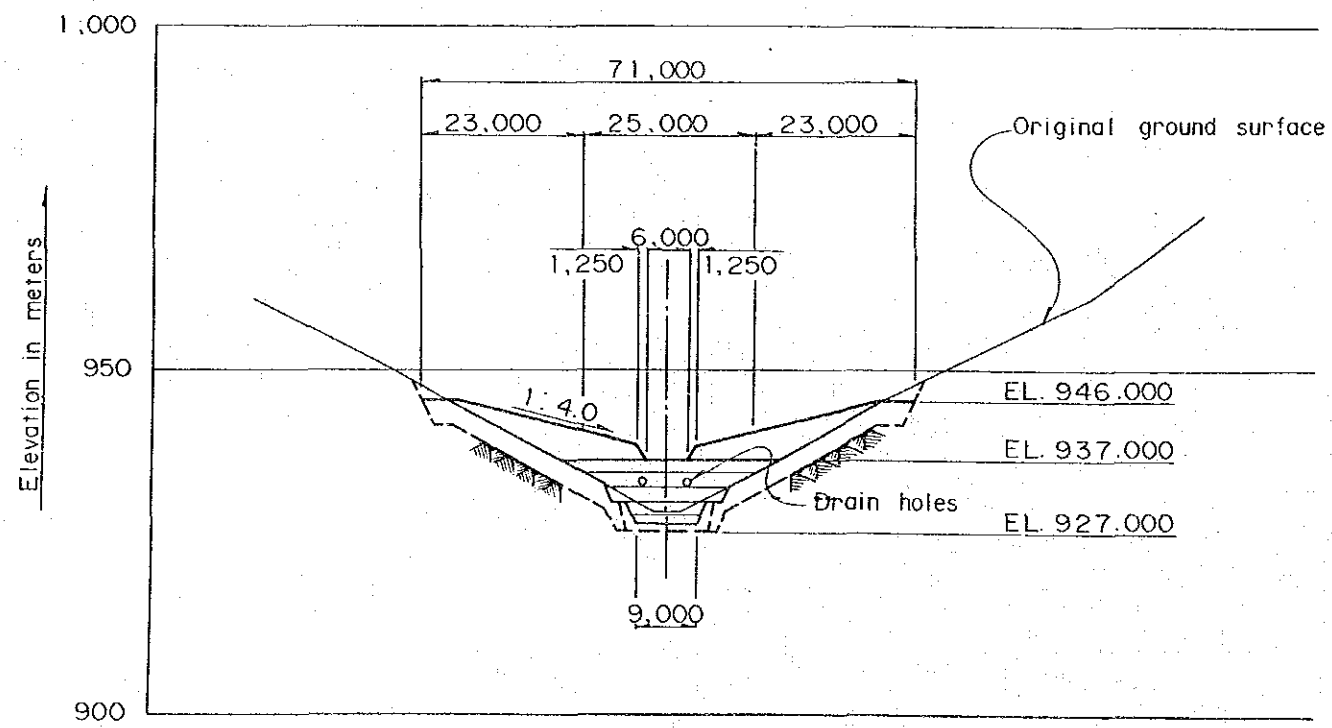
Fig. 4-14 General Layout of Dams in Qda Carosio



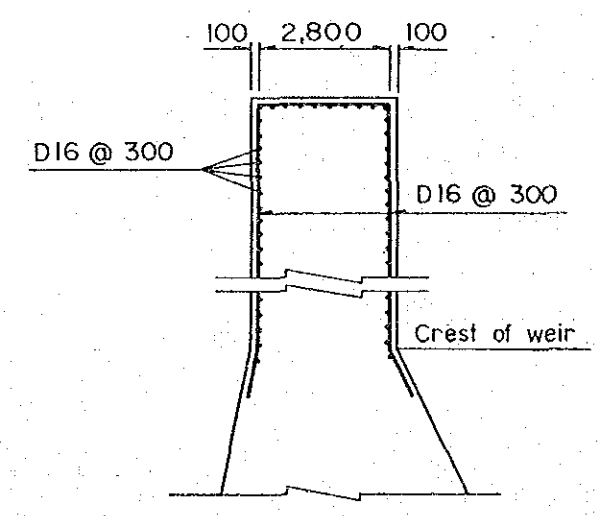
PLAN



SECTION



DOWNSTREAM ELEVATION



REINFORCEMENT DETAIL OF WING PORTION

Fig. 4-15 Plan, Elevation and Section of Dam in Qda Carosio

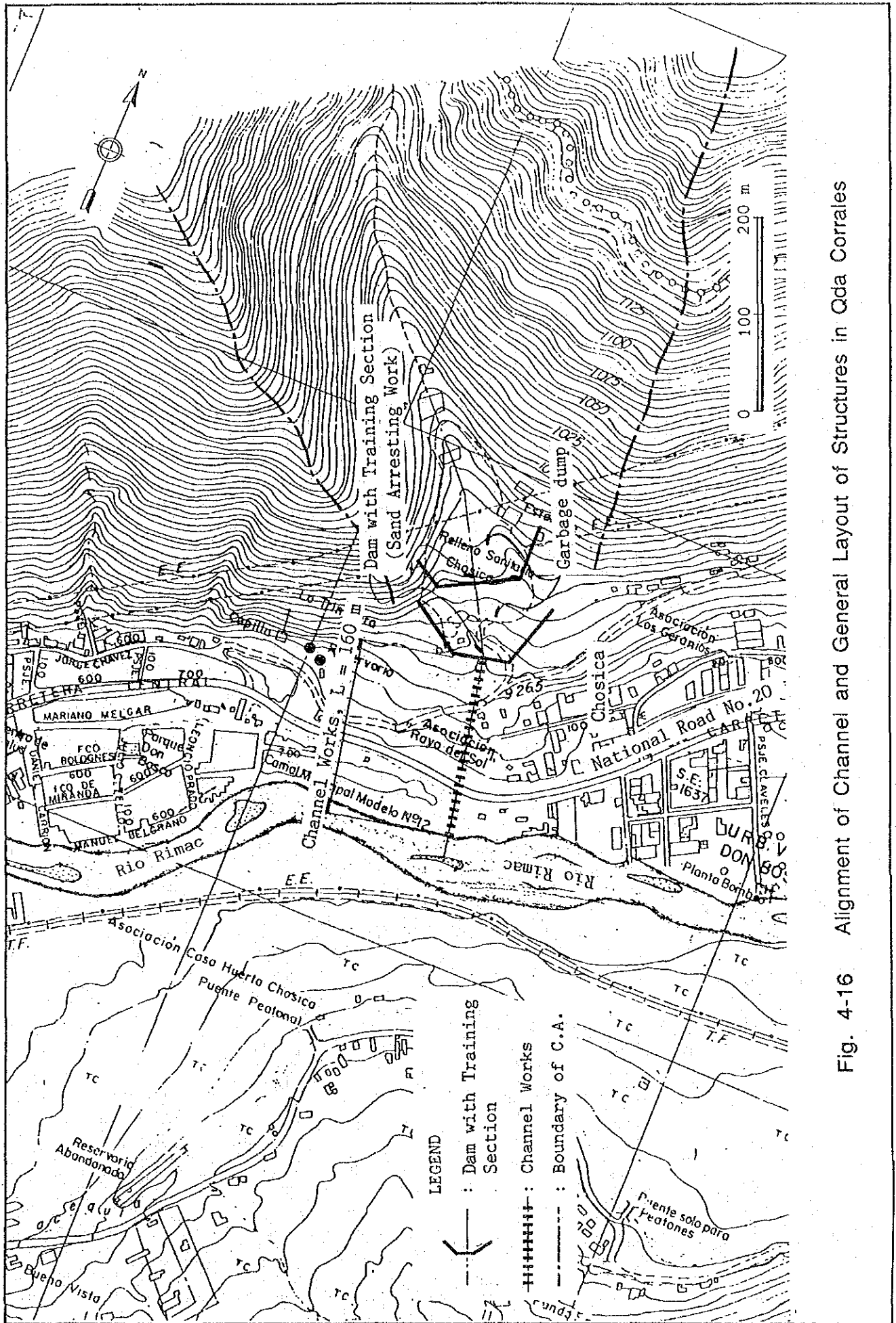


Fig. 4-16 Alignment of Channel and General Layout of Structures in Qda Corrales

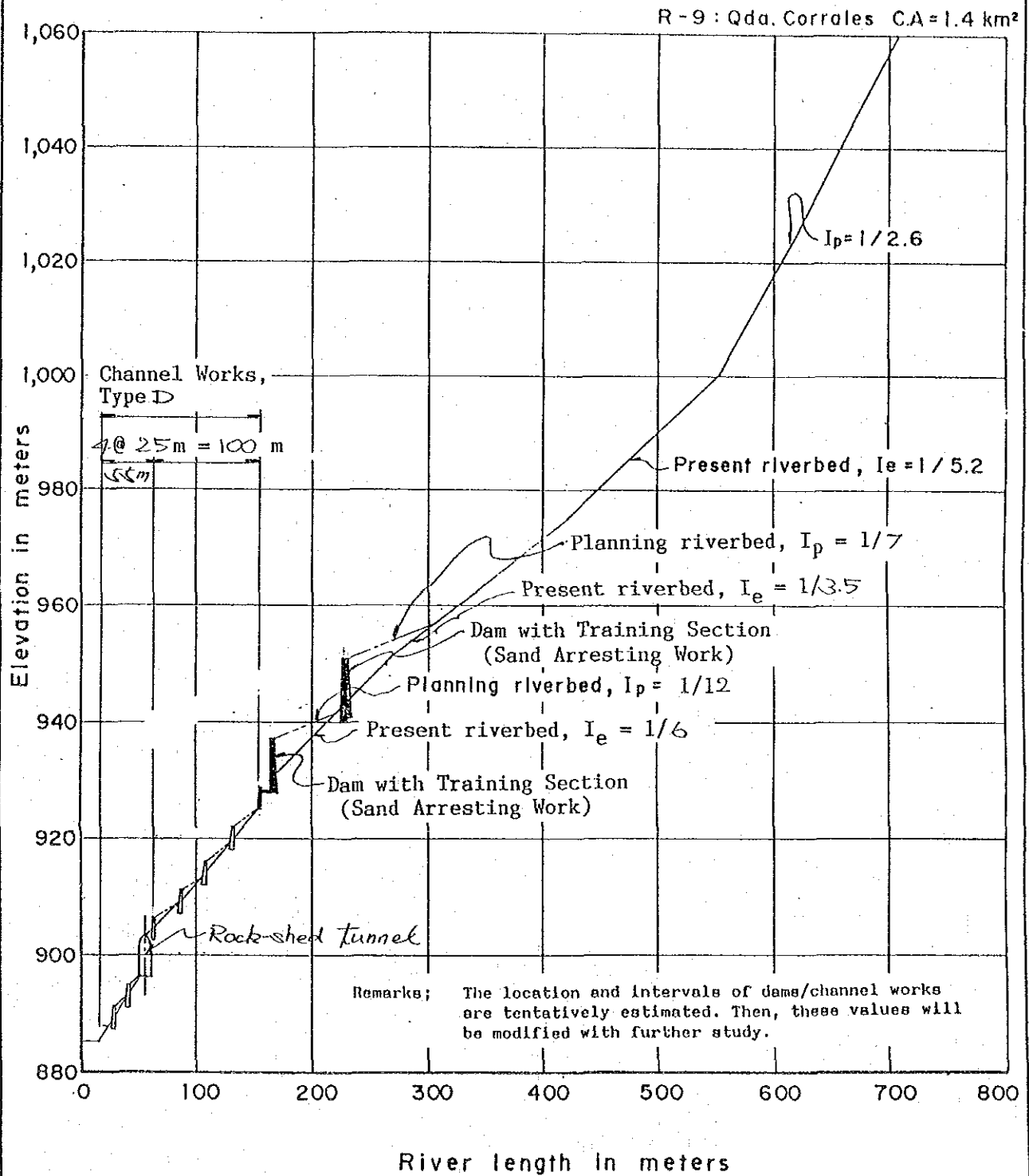


Fig. 4-17 Channel Profile and Location of Structures in Qda Corrales

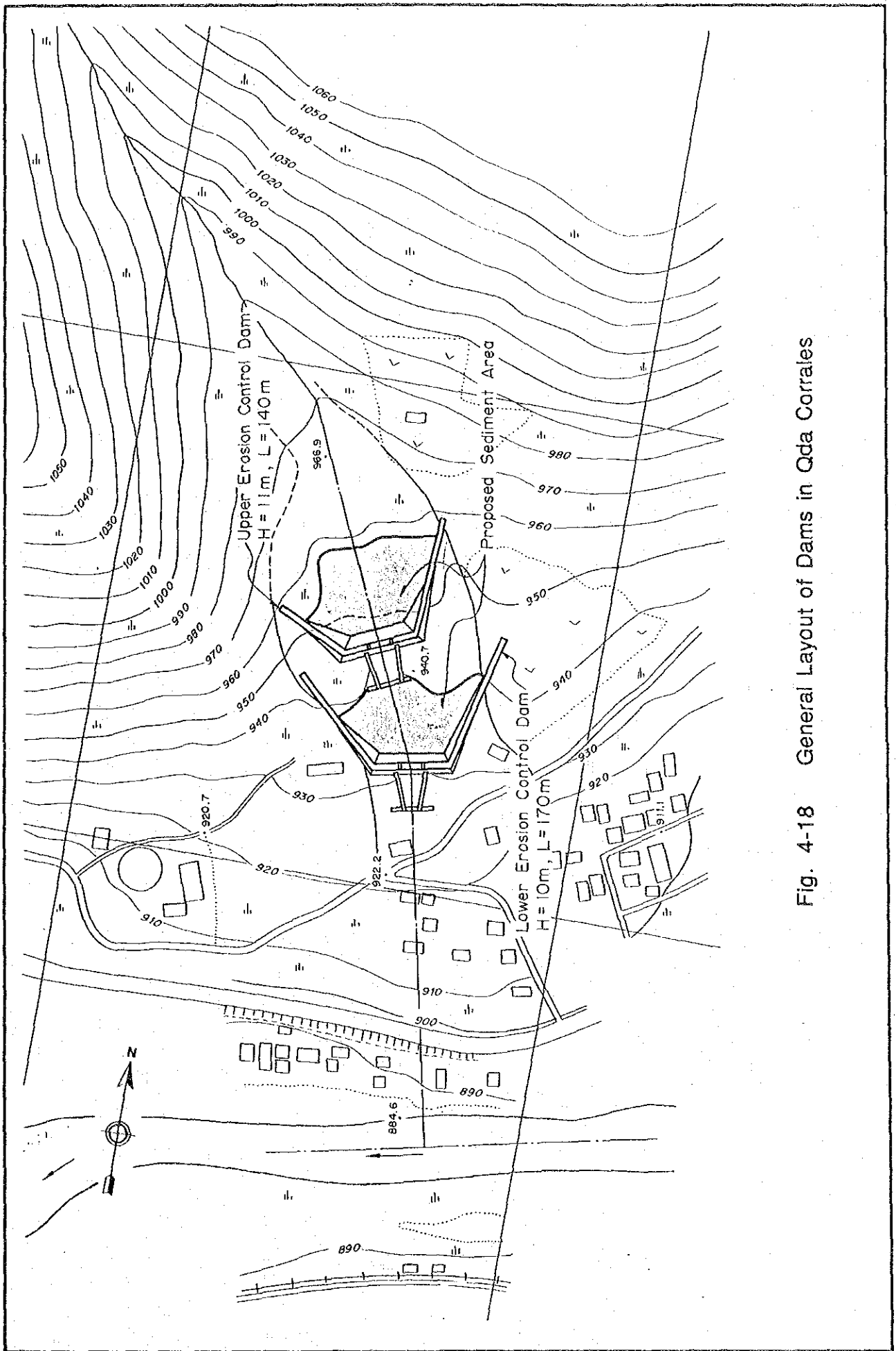
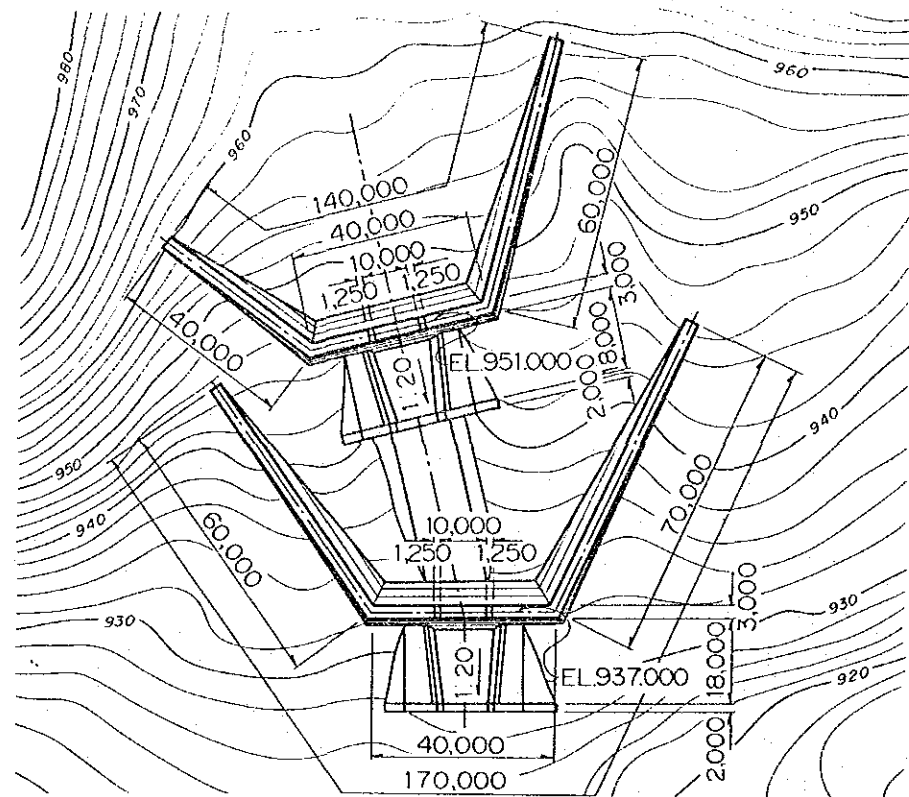
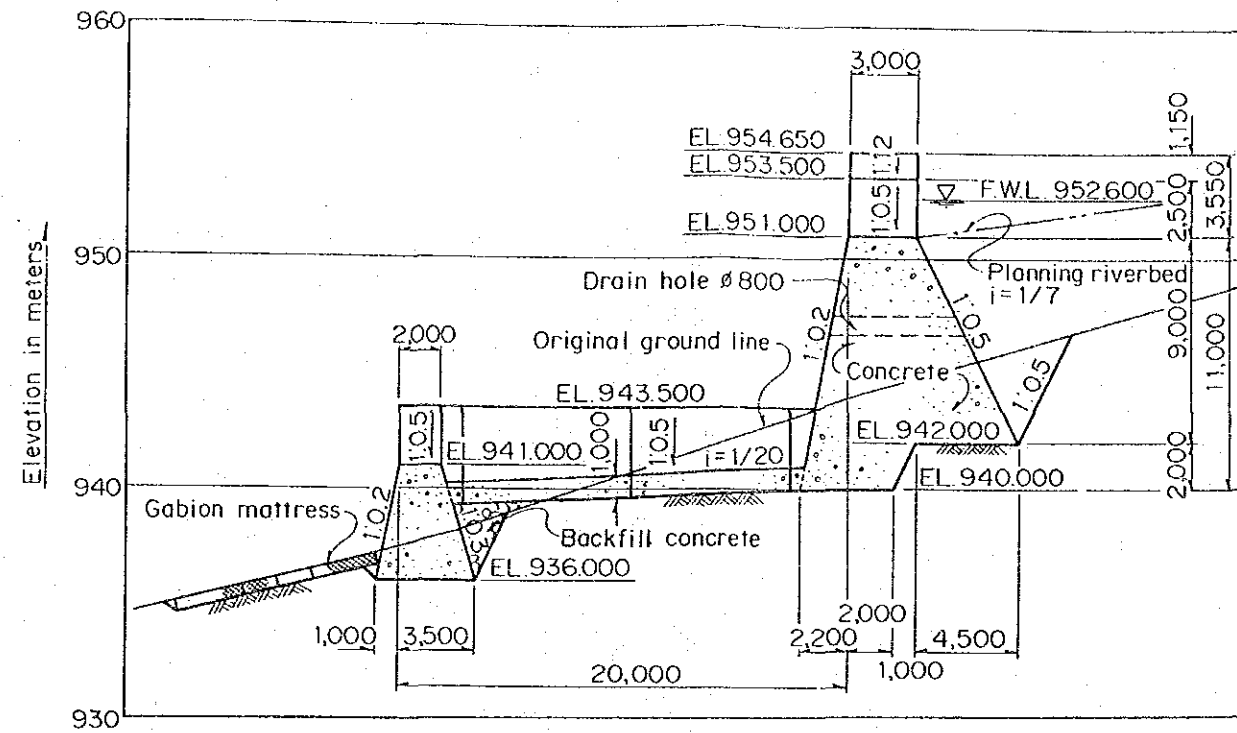


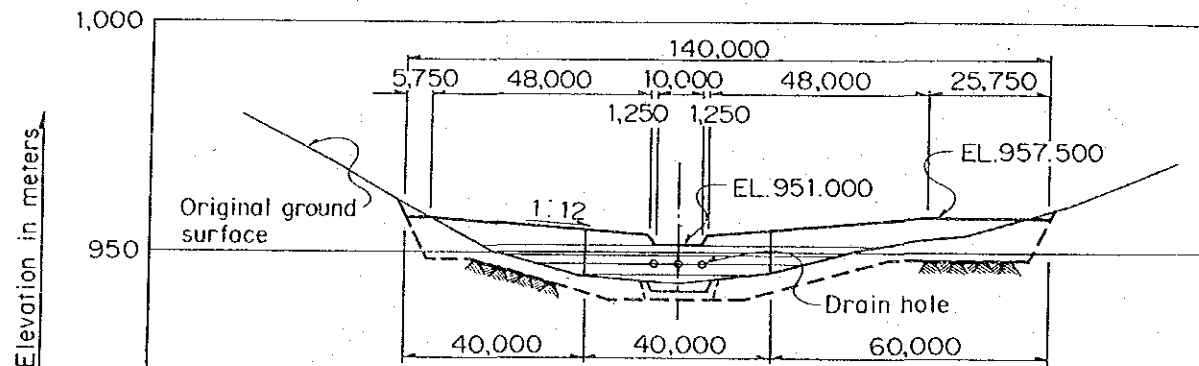
Fig. 4-18 General Layout of Dams in Qda Corrales



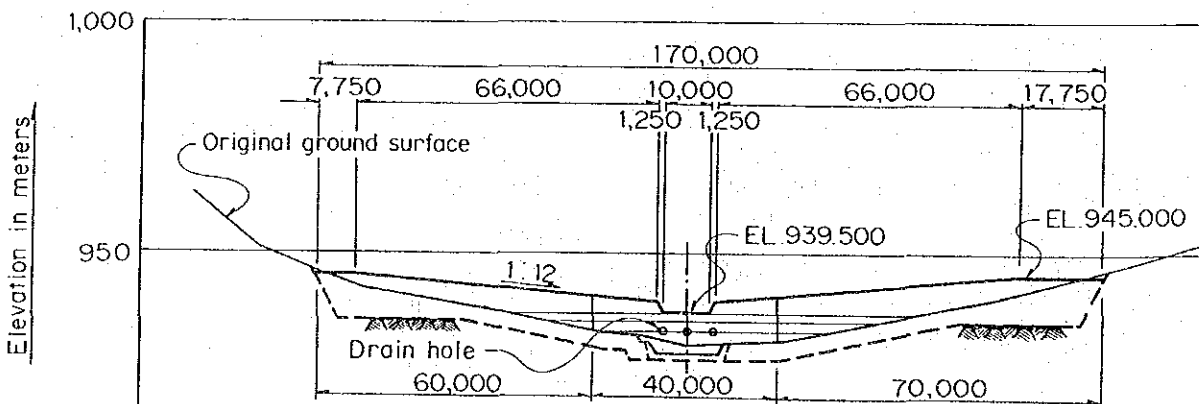
PLAN



UPPER DAM

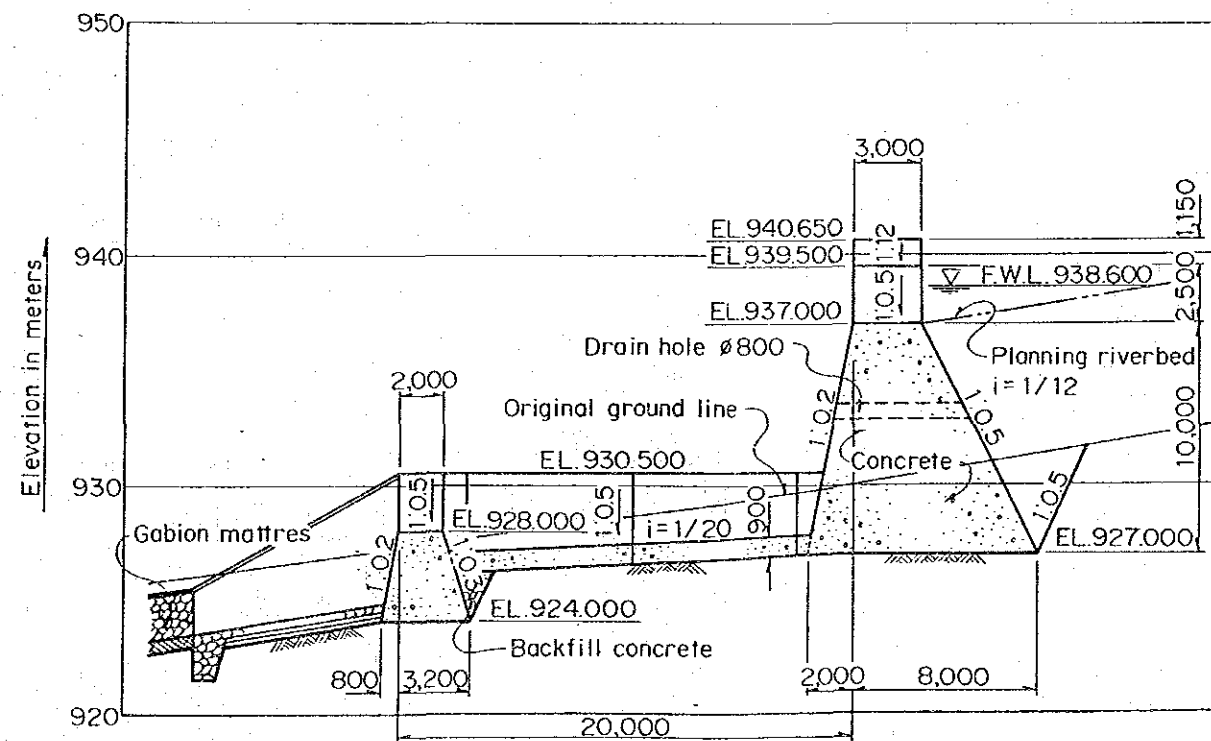


UPPER DAM



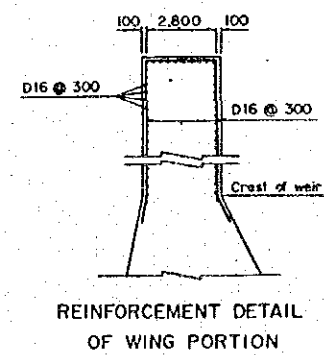
LOWER DAM

DOWNSTREAM ELEVATION



LOWER DAM

SECTION



REINFORCEMENT DETAIL OF WING PORTION

Fig. 4-19 Plan, Elevation and Section of Dam in Qda Corrales

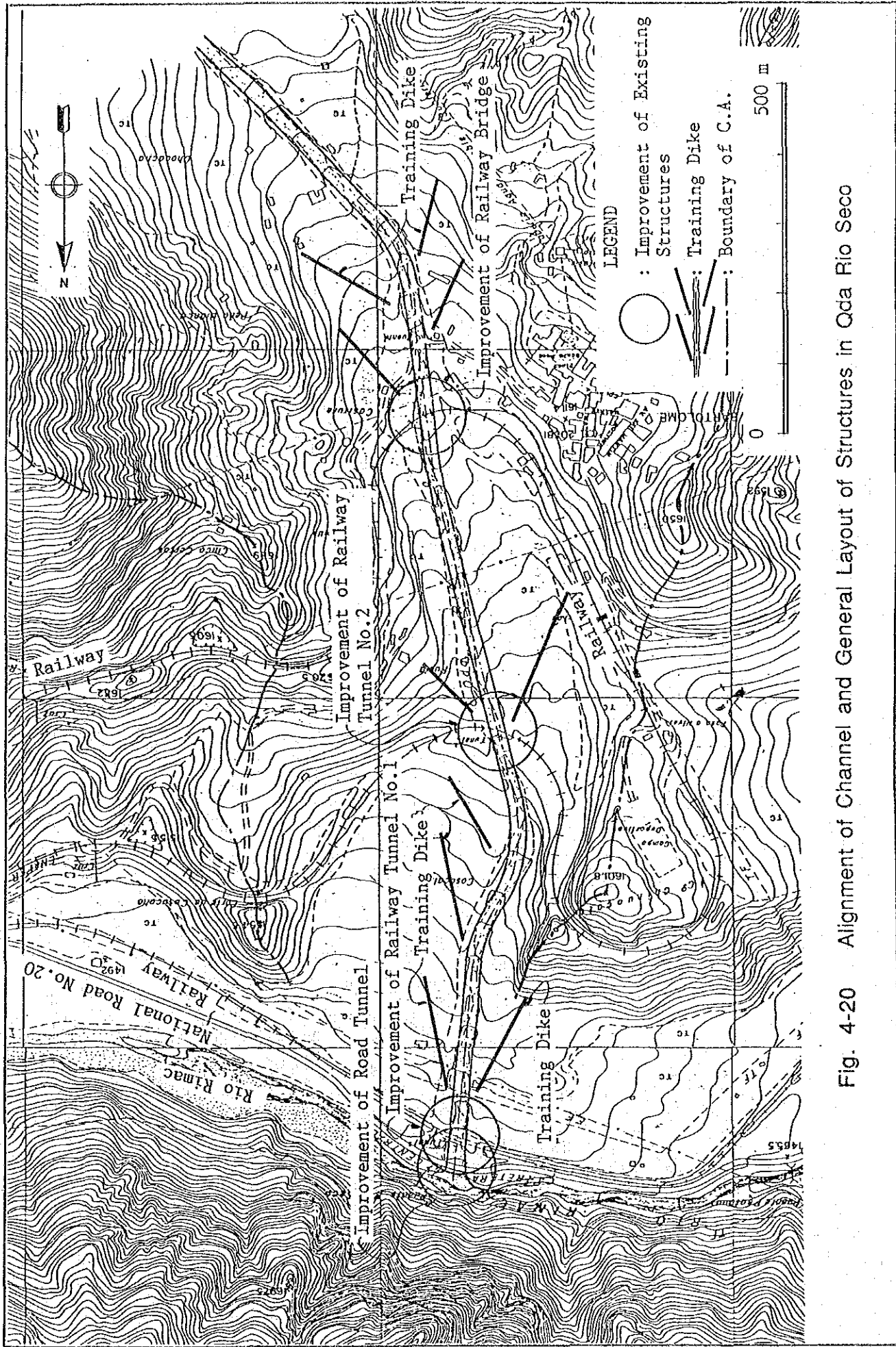


Fig. 4-20 Alignment of Channel and General Layout of Structures in Qda Rio Seco

R-19 : Oda, Rio Seco C.A = 49.3 km²

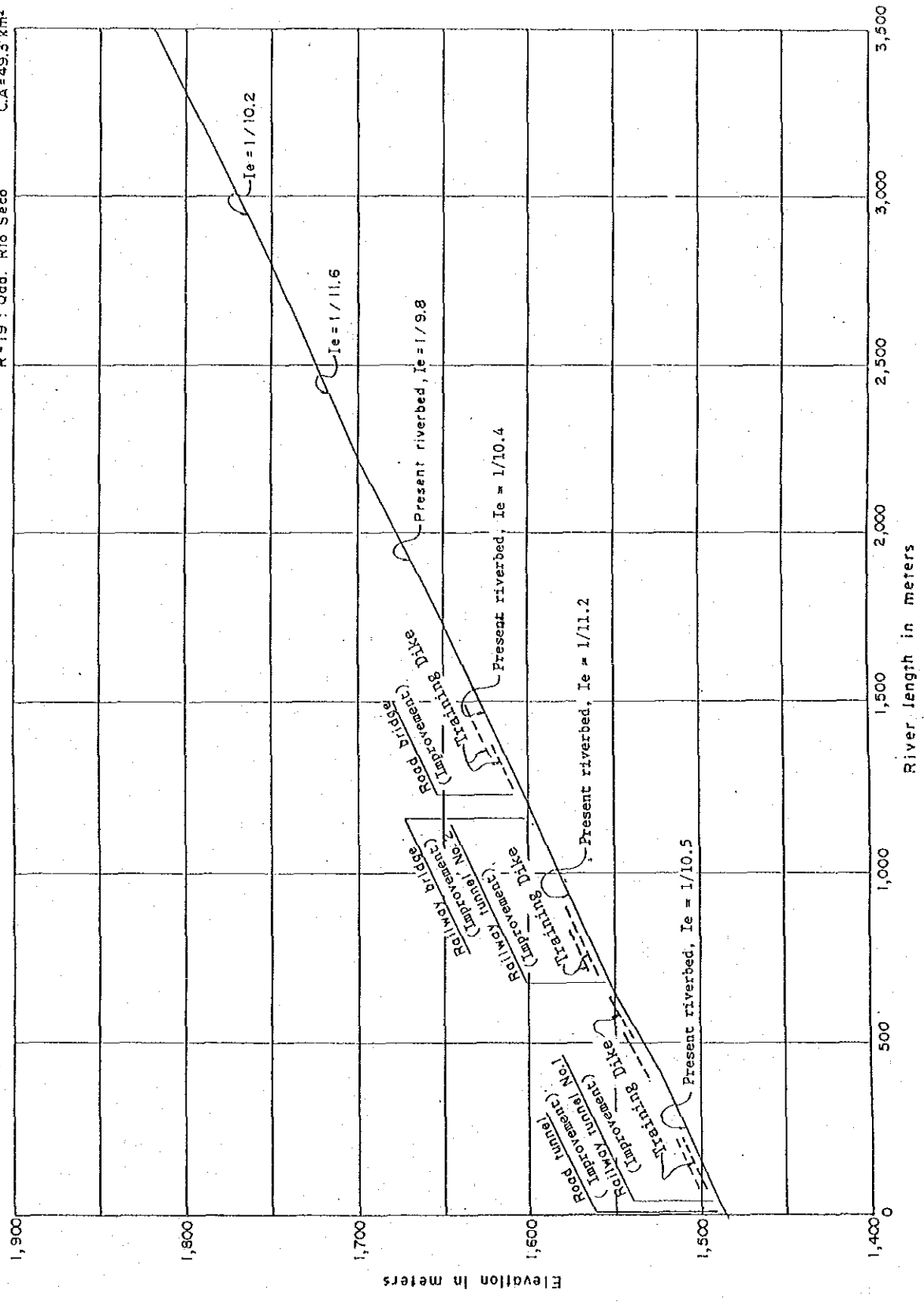


Fig. 4-21 Channel Profile and Location of Structures in Oda Rio Seco

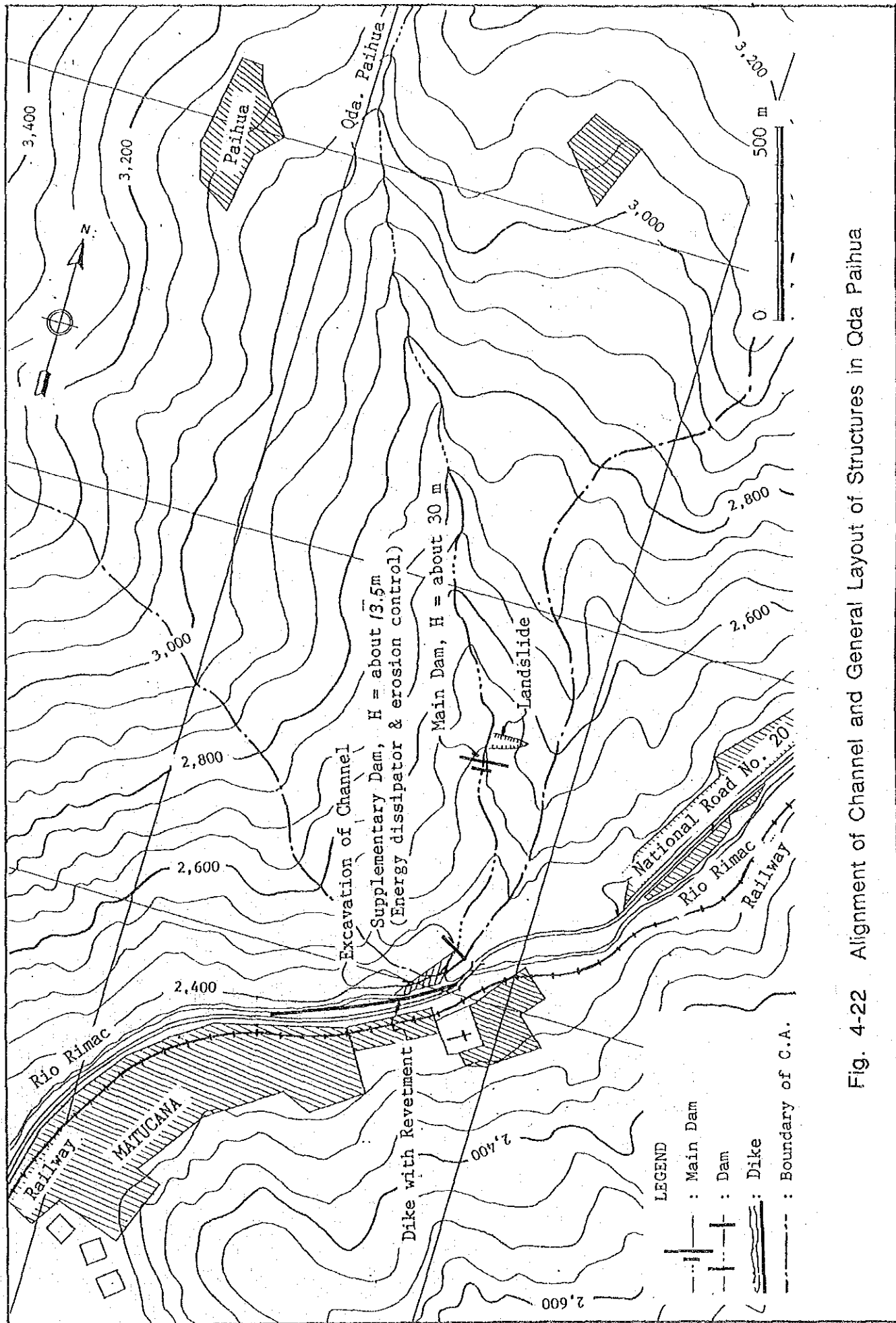


Fig. 4-22 Alignment of Channel and General Layout of Structures in Qda. Paihua

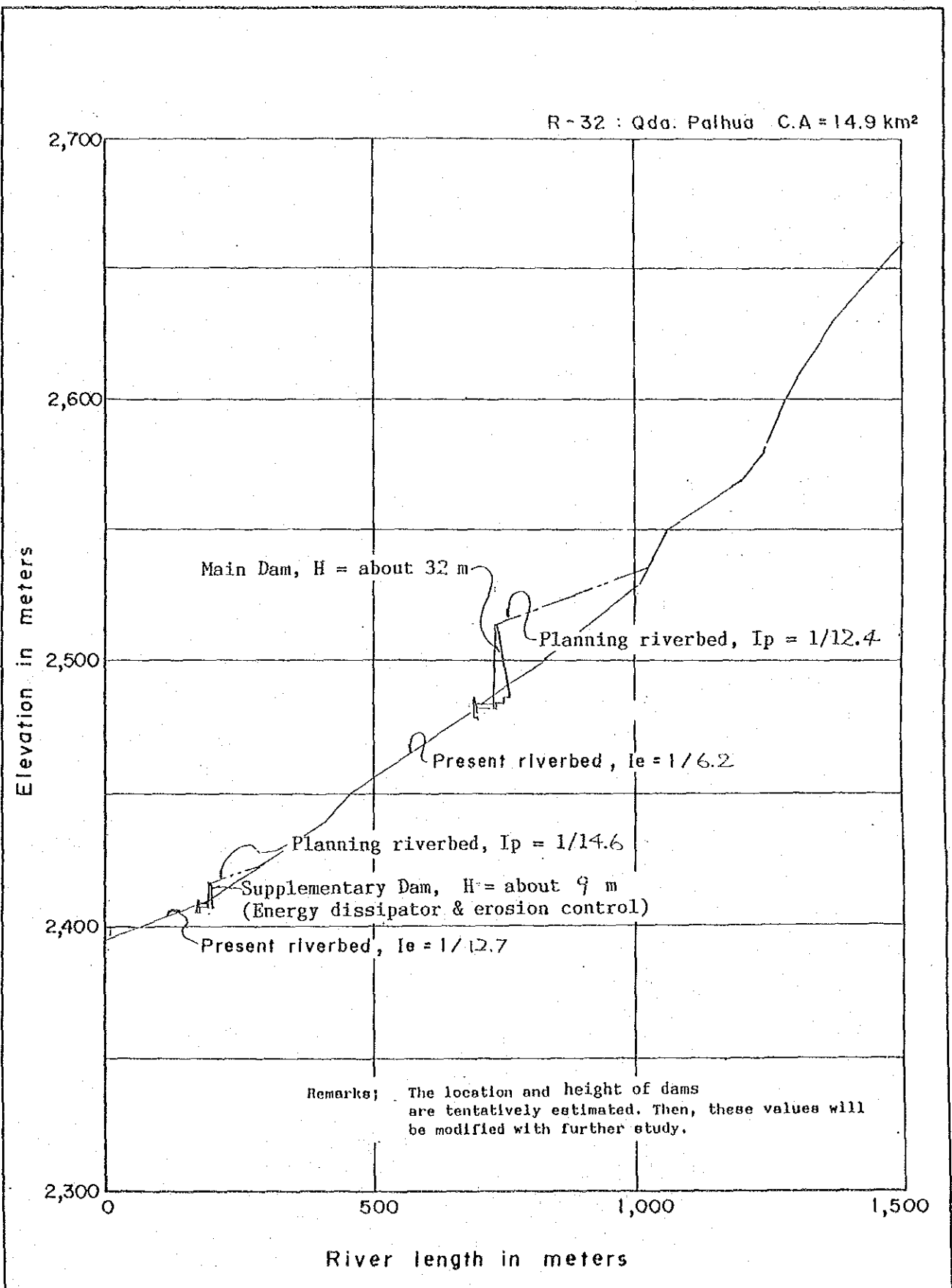


Fig. 4-23 Channel Profile and Location of Structures in Qda Paihua

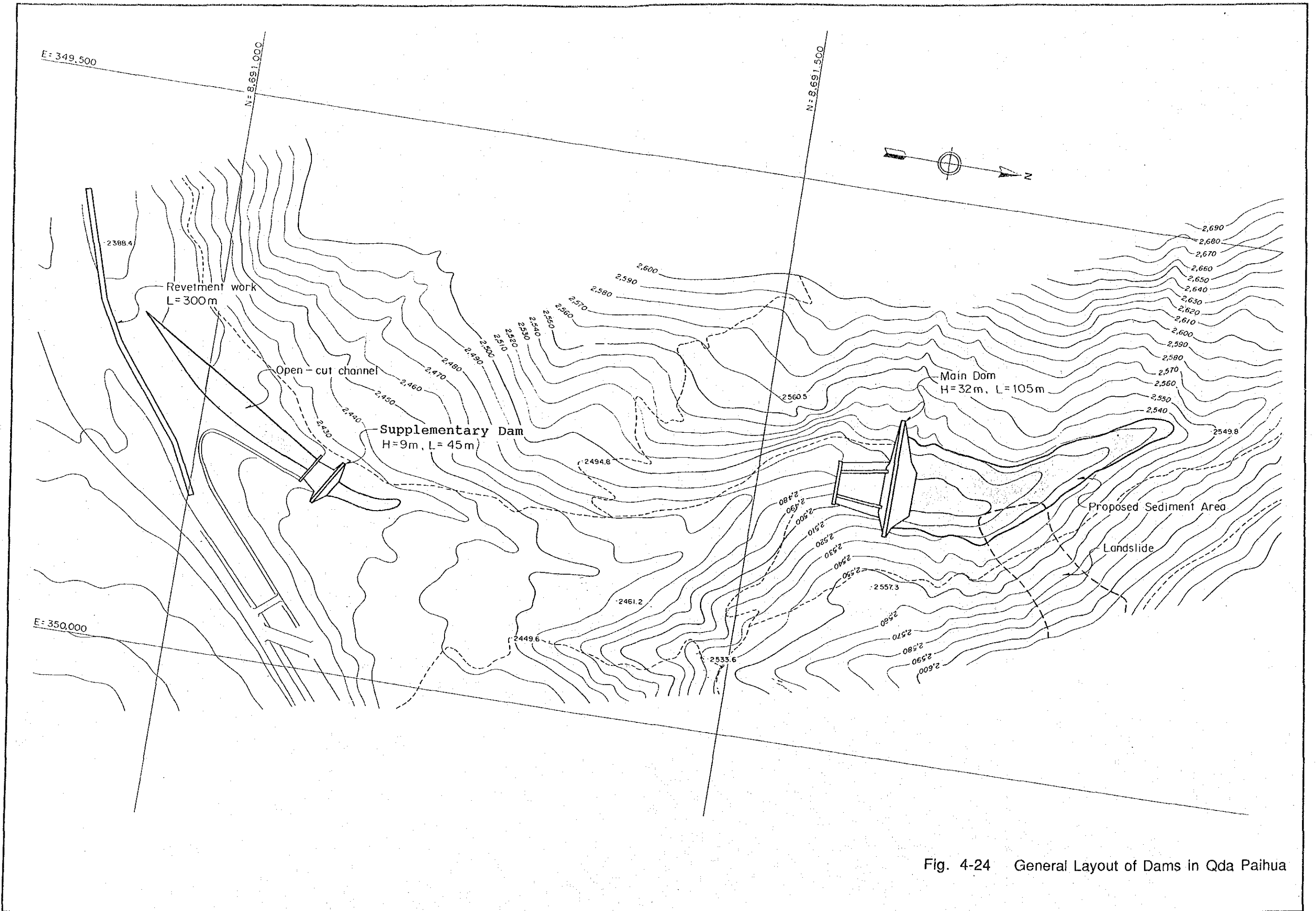
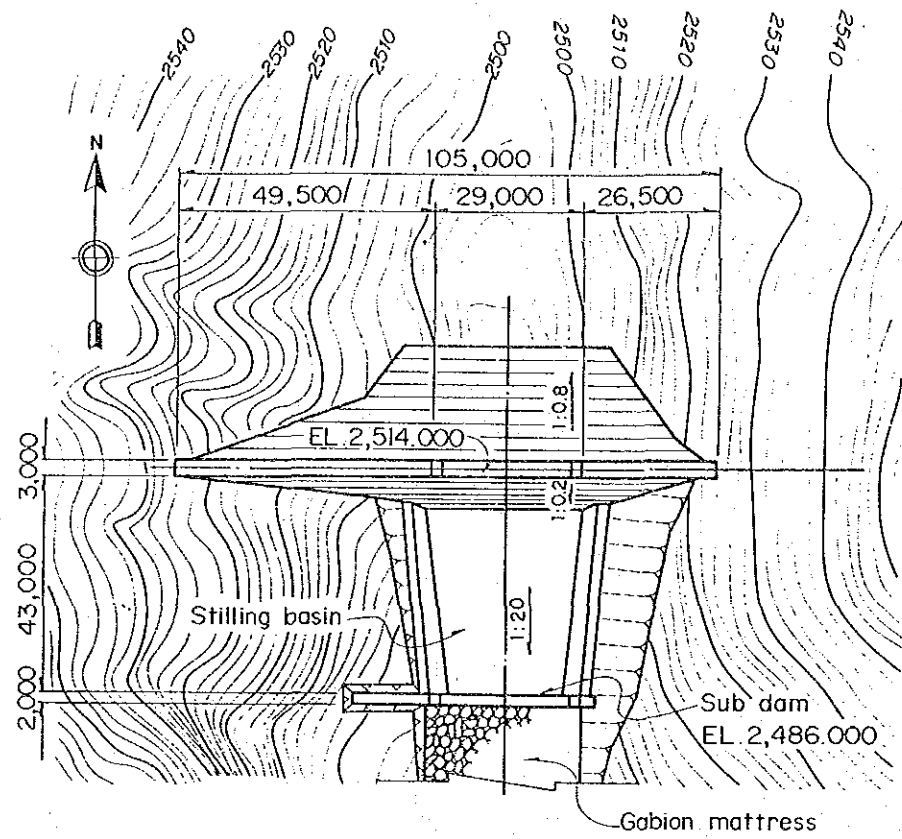
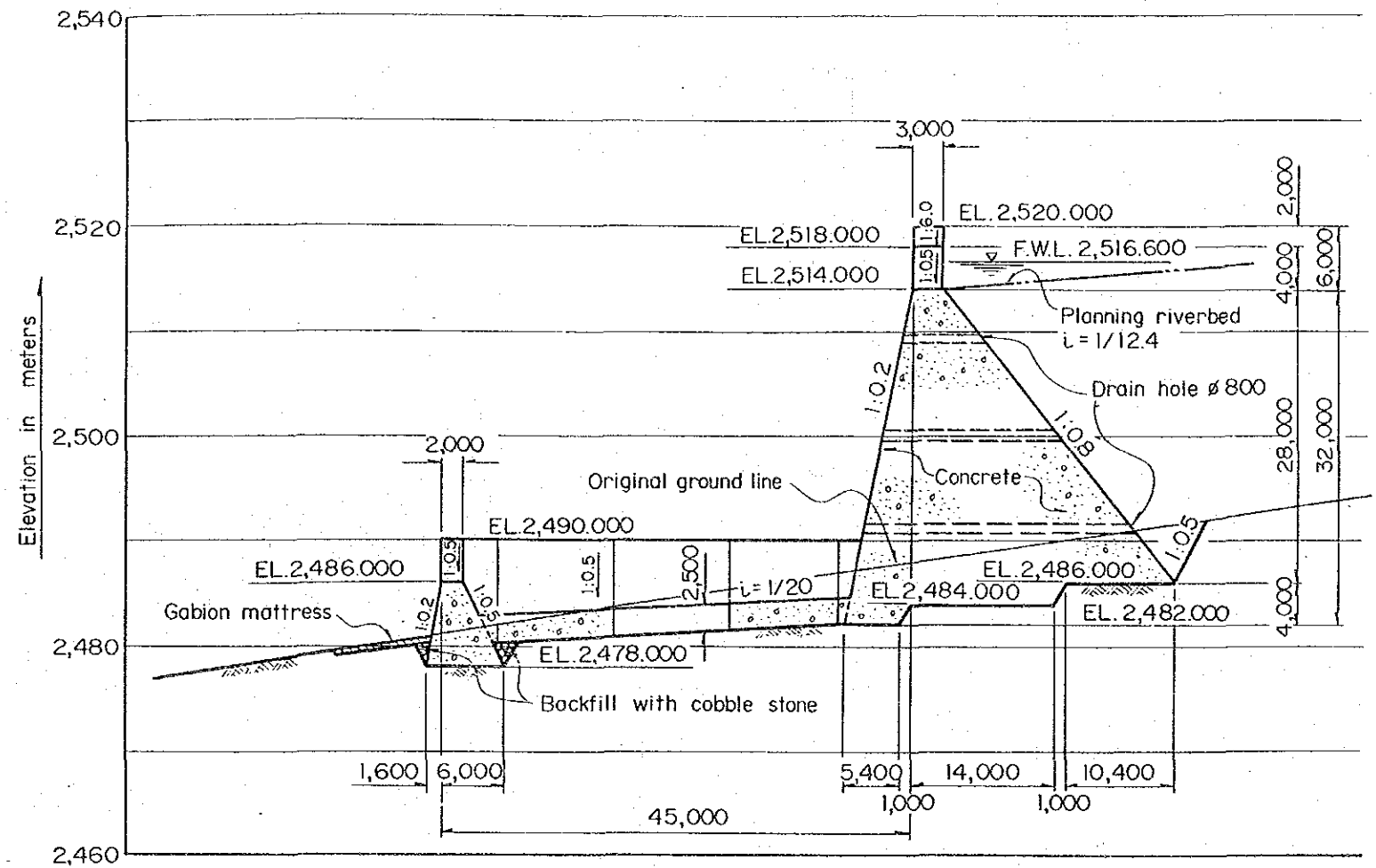


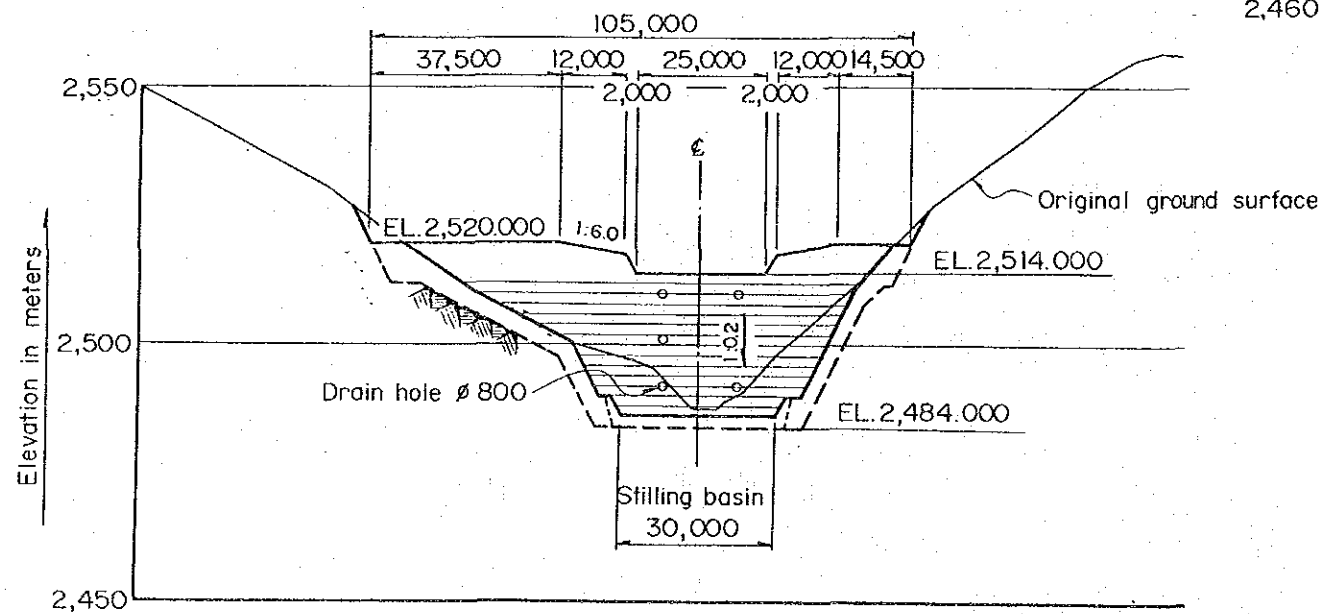
Fig. 4-24 General Layout of Dams in Qda Paihua



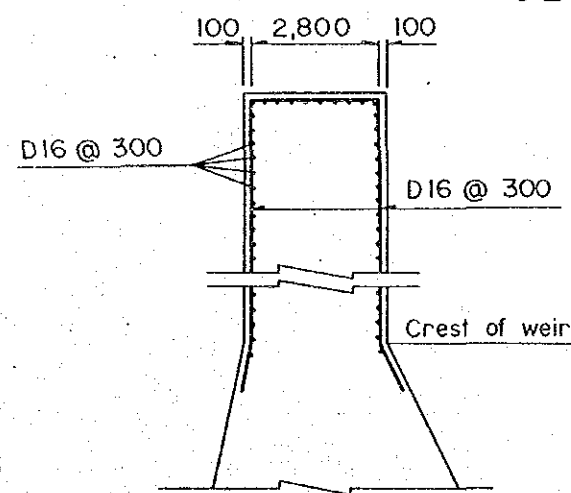
P L A N



SECTION



DOWNSREAM ELEVATION



REINFORCEMENT DETAIL OF WING PORTION

Fig. 4-25 Plan, Elevation and Section of Main Dam in Qda Paihua

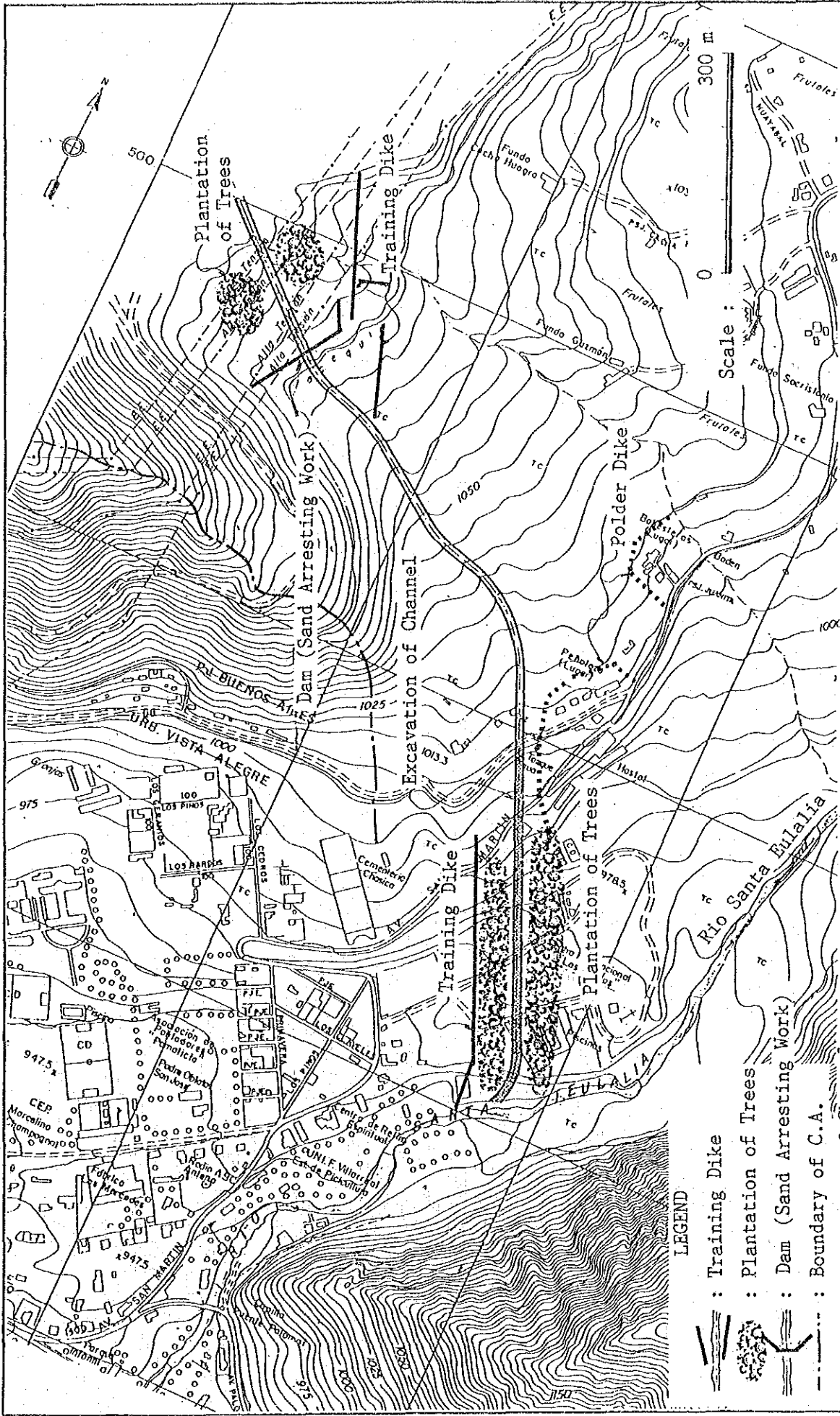


Fig. 4-26 Alignment of Channel and General Layout of Structures in Qda Cashahuacra (Only Channel Works Stretch)

S-1: Qda. Cashahuacra CA = 15.1 km²

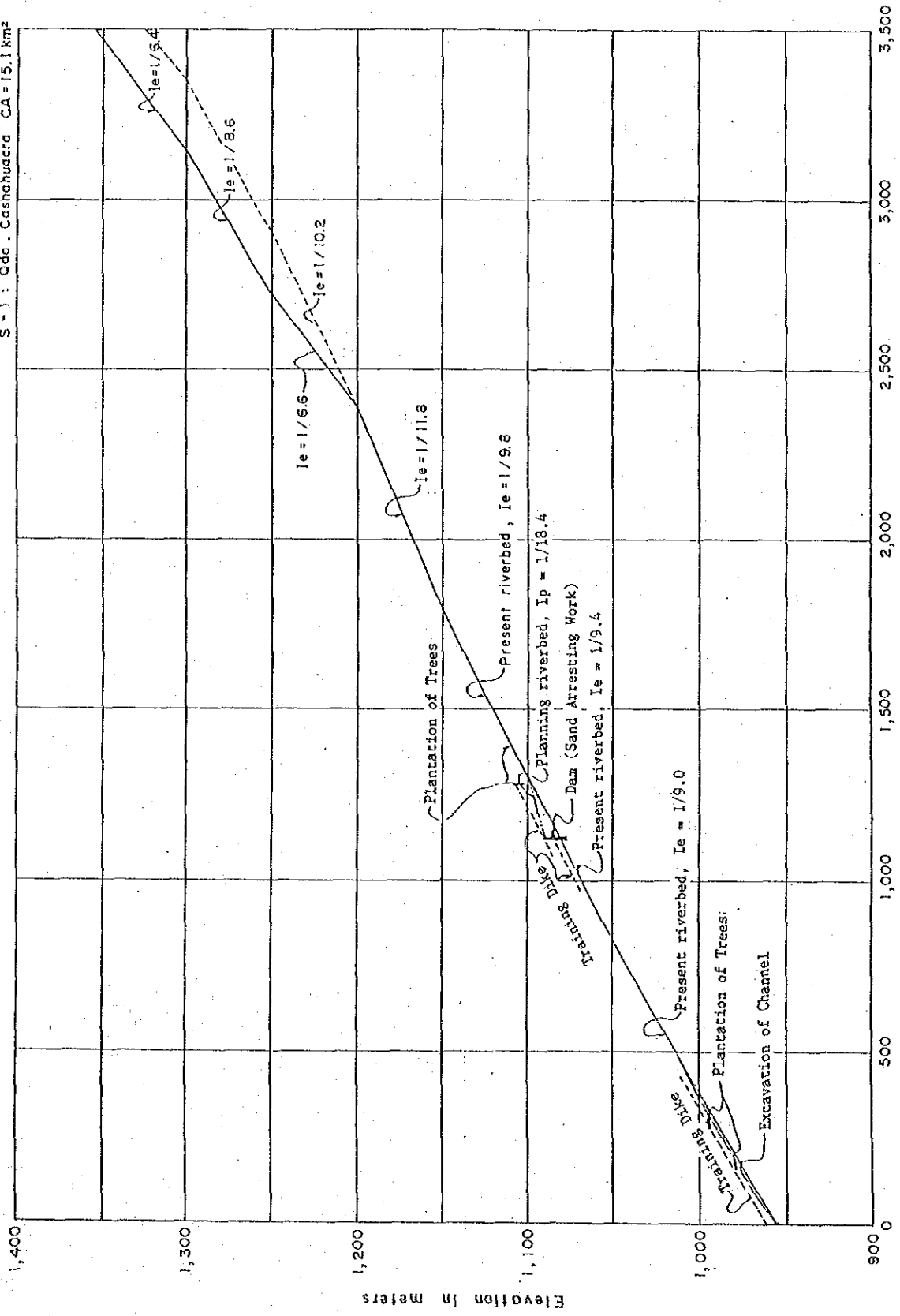


Fig. 4-27 Channel Profile and Location of Structures in Qda Cashahuacra

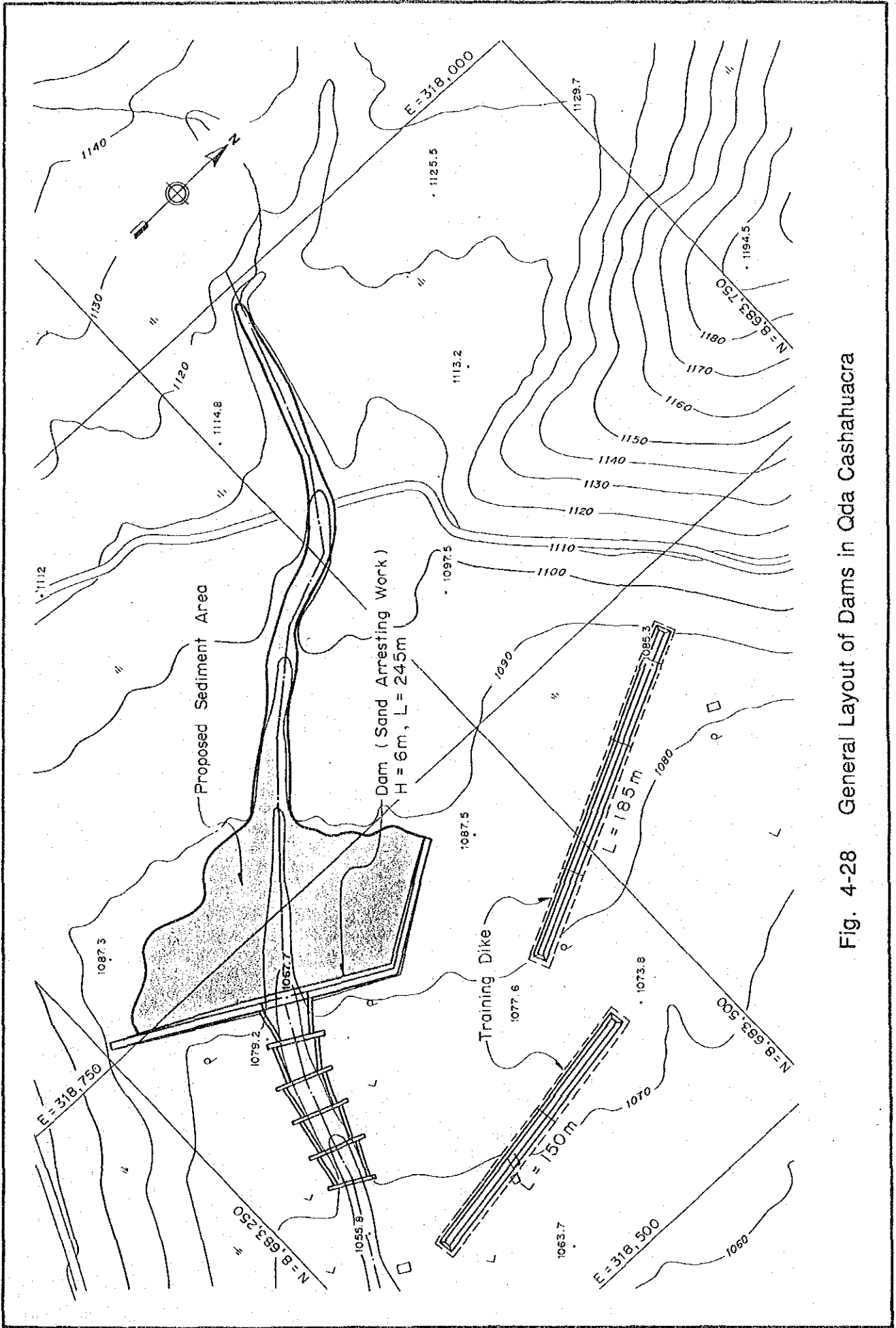
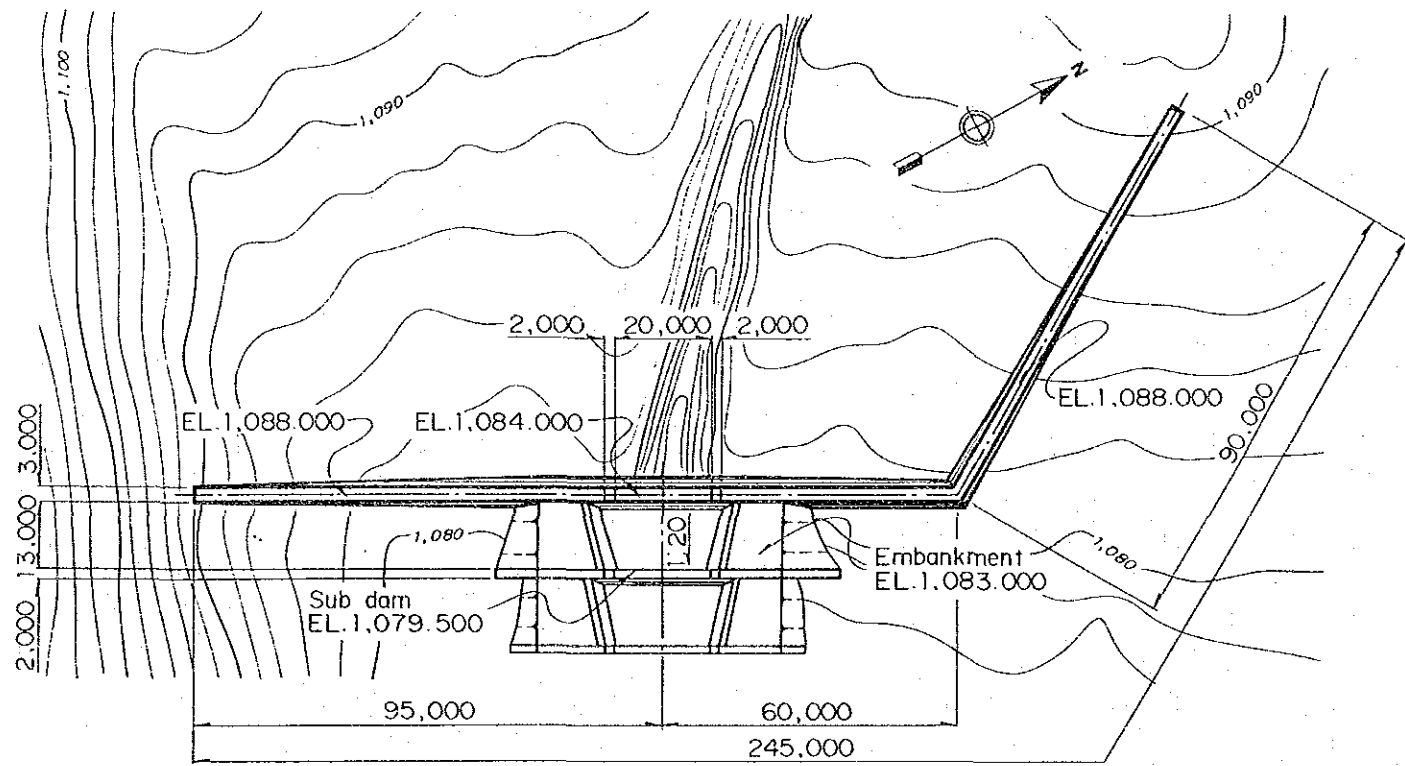
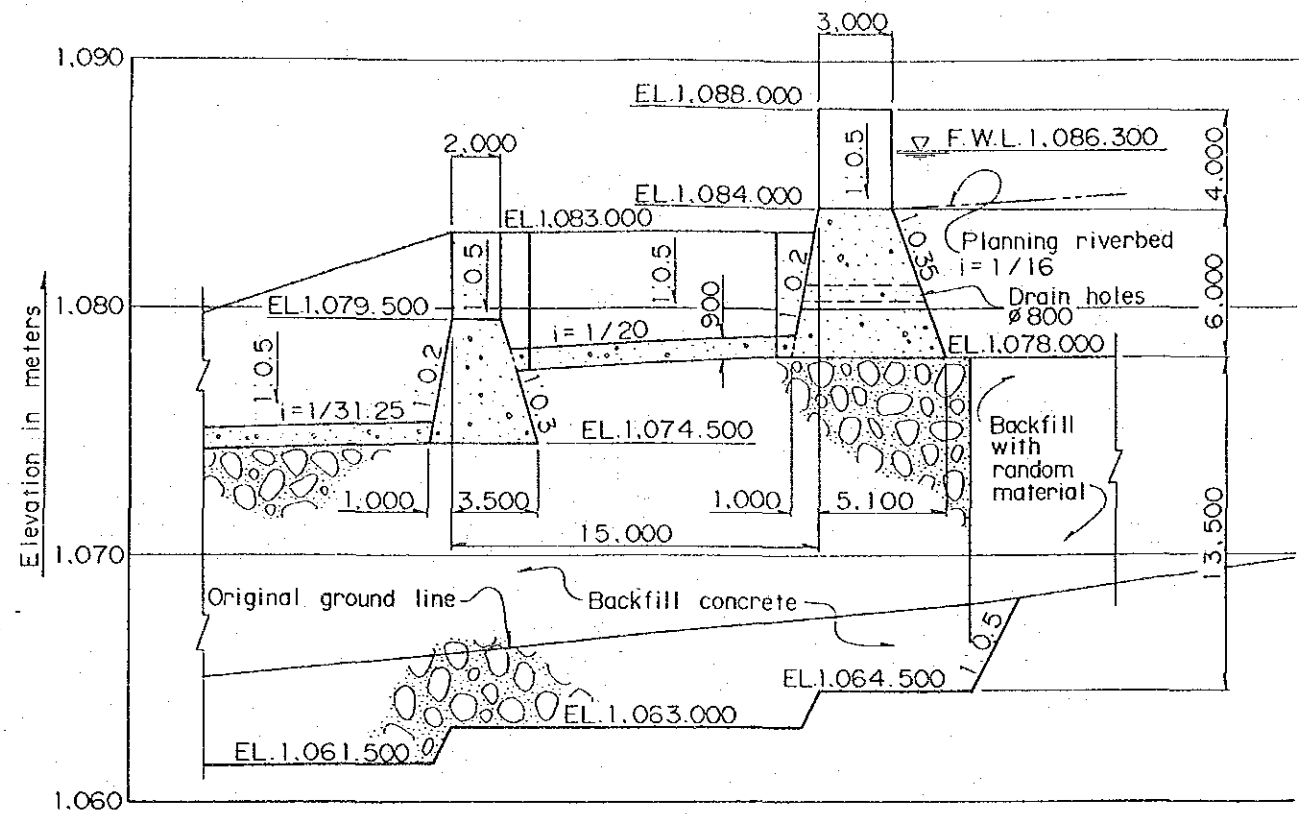


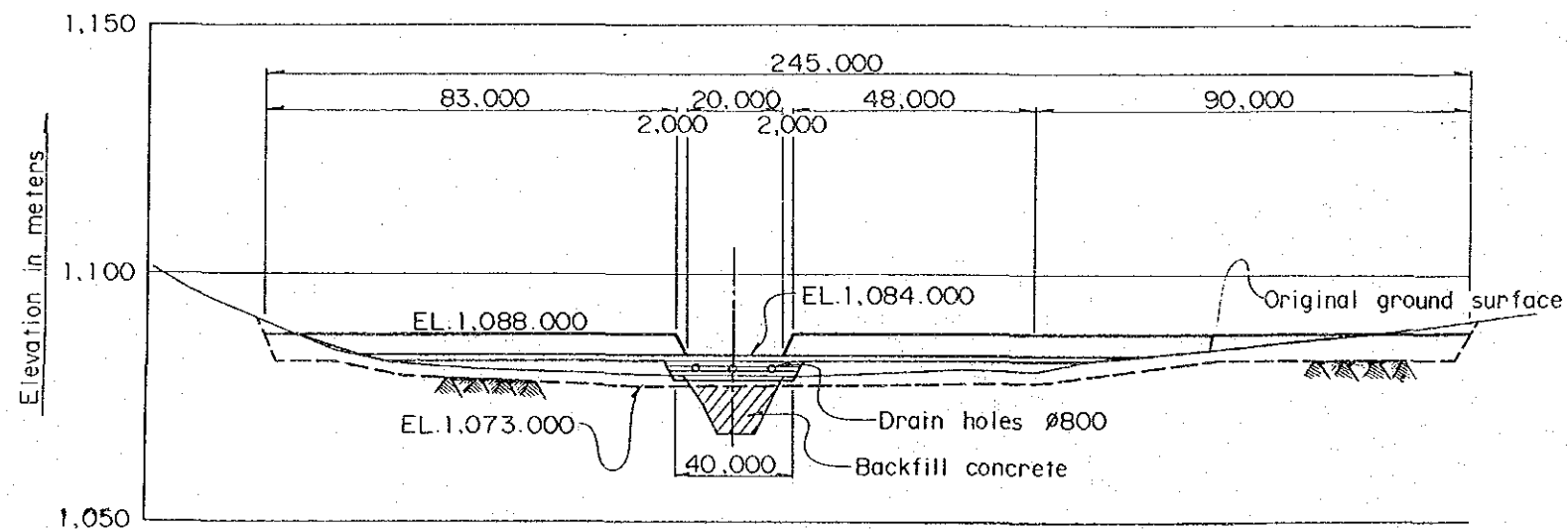
Fig. 4-28 General Layout of Dams in Oda Cashahuacra



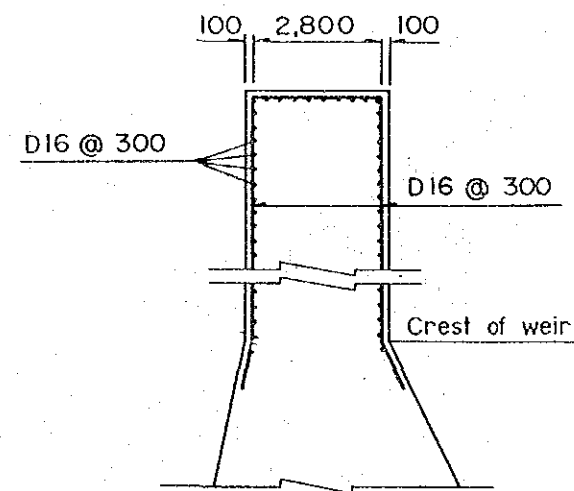
PLAN



SECTION



DOWNSTREAM ELEVATION



REINFORCEMENT DETAIL OF WING PORTION

Fig. 4-29 Plan, Elevation and Section of Dam in Qda Cashahuacra

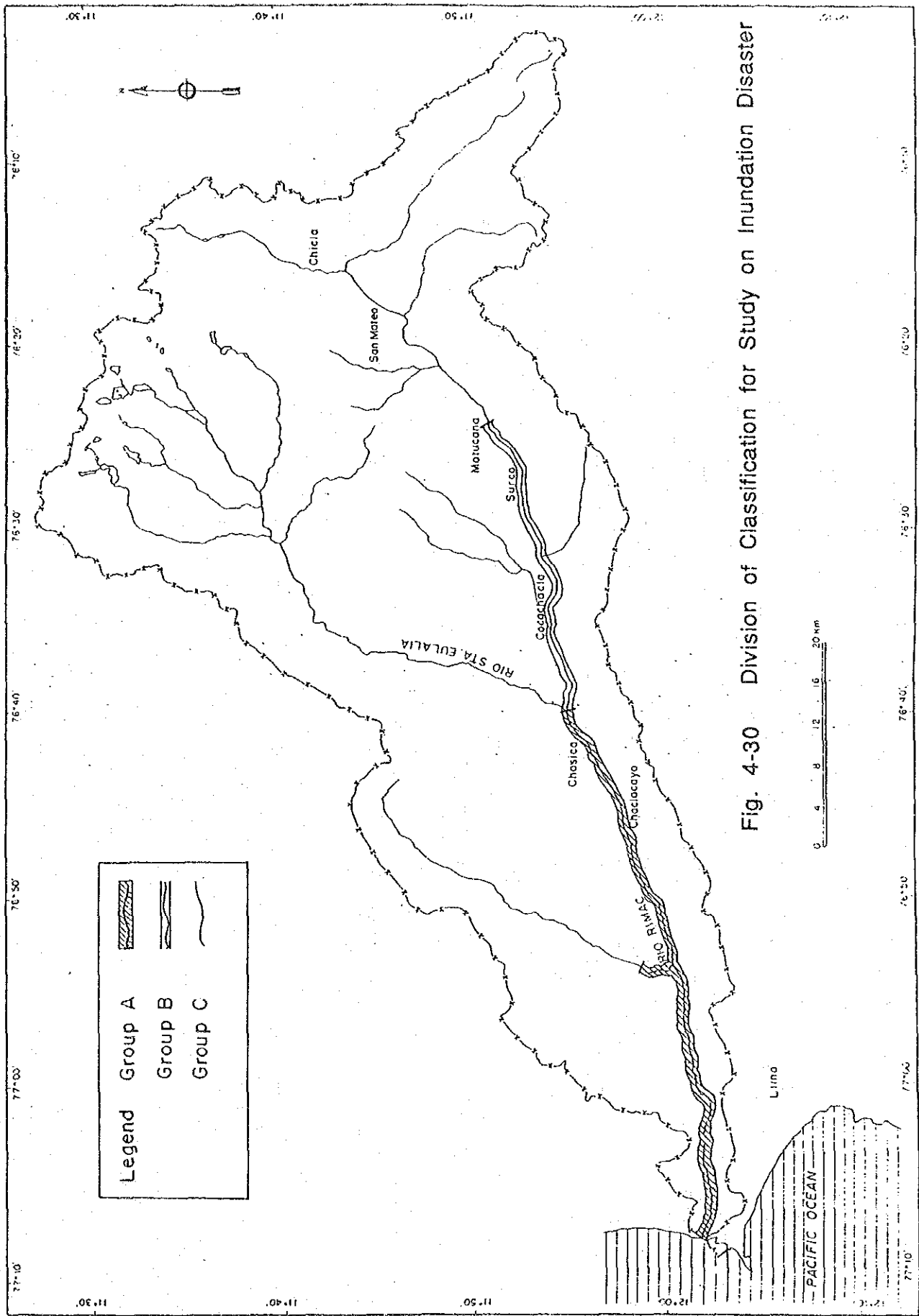


Fig. 4-30 Division of Classification for Study on Inundation Disaster

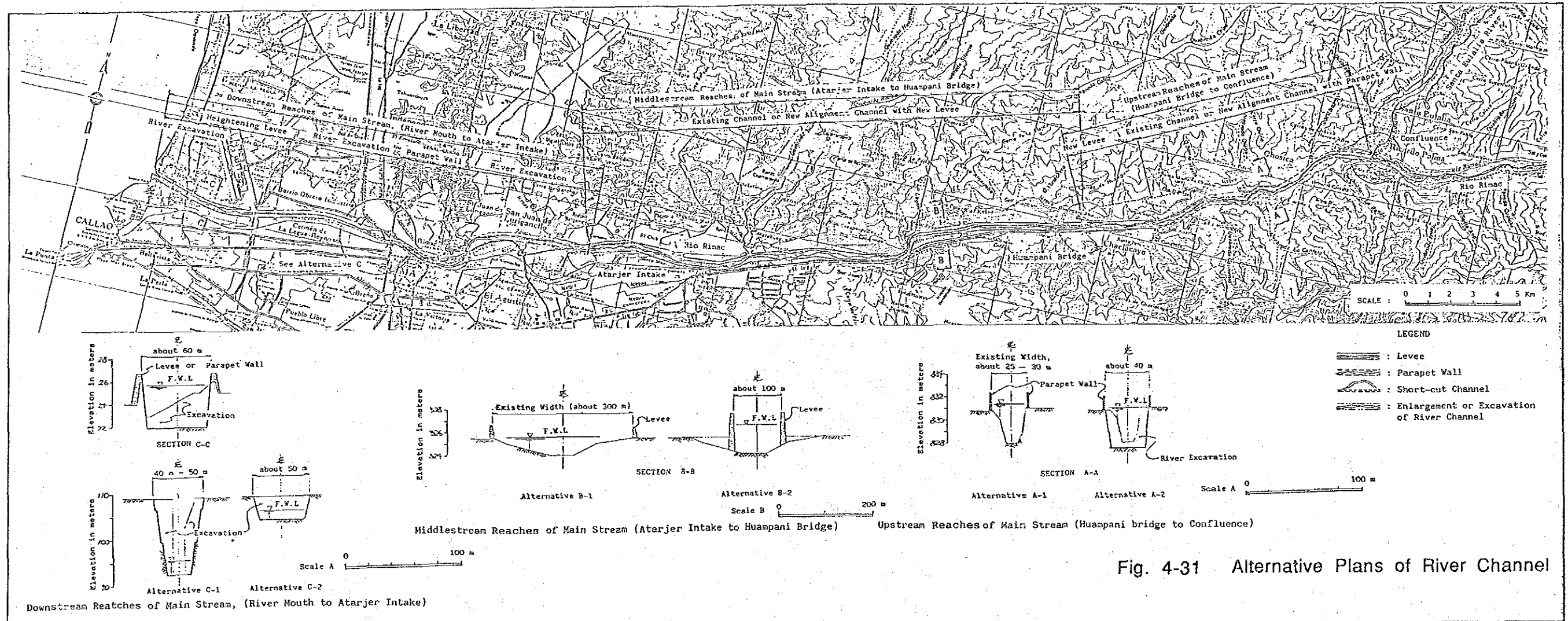
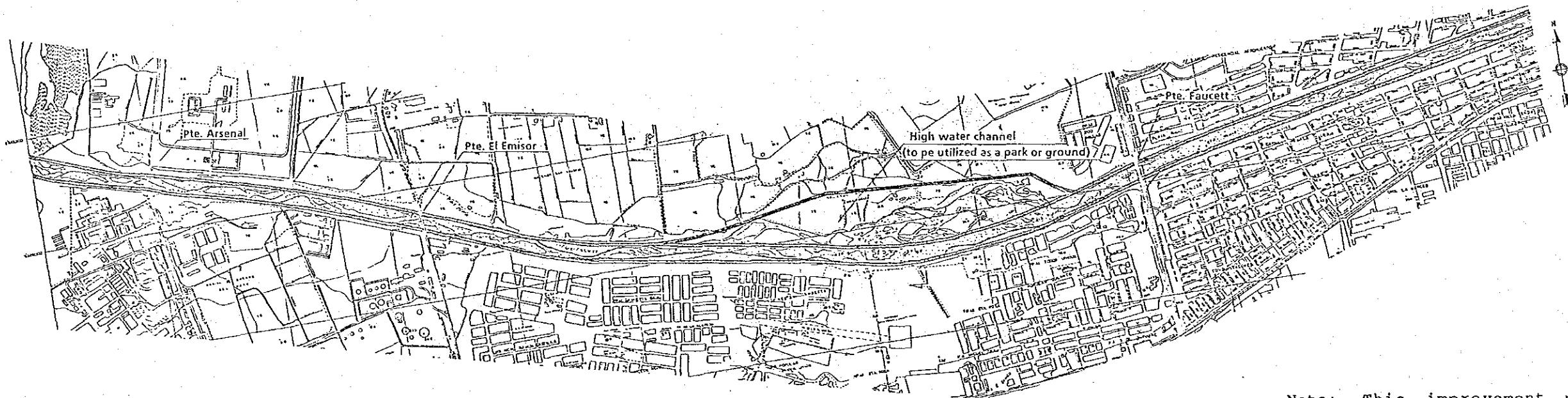
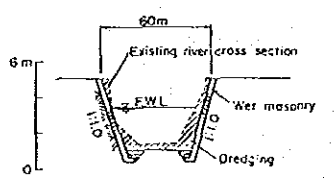
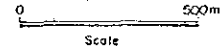


Fig. 4-31 Alternative Plans of River Channel

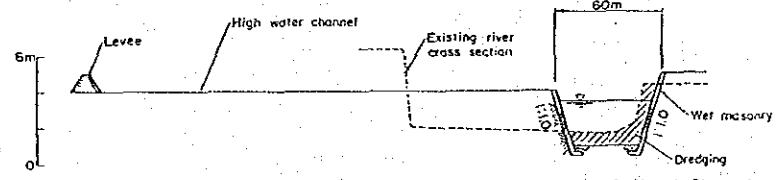


Note: This improvement plan is just prepared preliminarily at this master plan study stage, requiring further re-examinations on the basis of more detailed investigation and study.

LEGEND	
Proposed	Measure / Structure
	River dredging
	Enlargement of river channel
	Levee construction
	Concrete parapet wall
	Revetment (Wet masonry)
	Revetment (Gabion)
	Revetment (Frame work)
	Groyne
	Ground sill
Existing	
	Levee
	Parapet wall



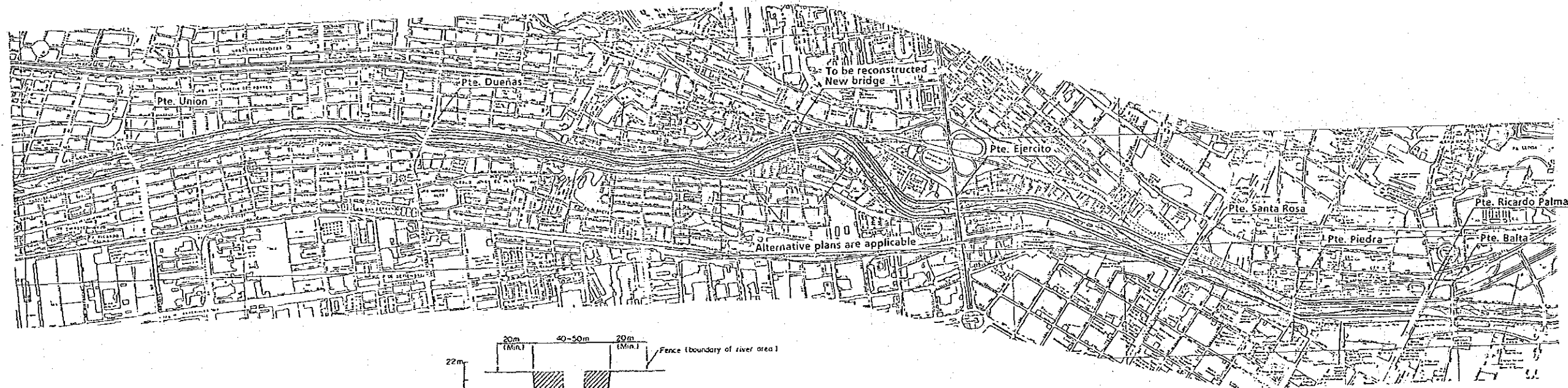
Typical Section (River mouth - Pte. La Union)



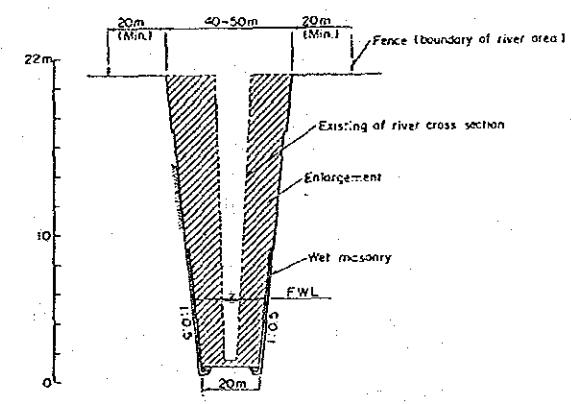
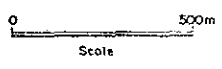
Typical Section at River Stretch having High Water Channel (down stream of Pte. Faucett, 1.8km)

Fig. 4-32

Proposed River Improvement Plan (1/8)



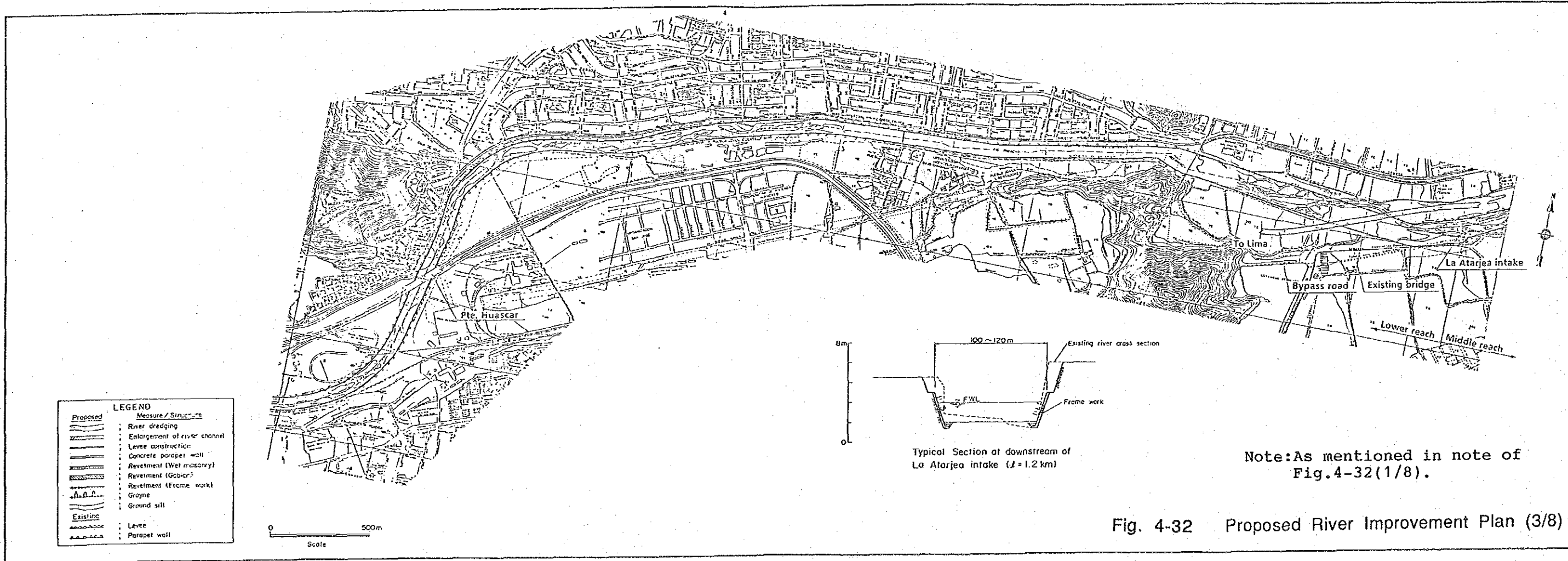
LEGEND	
	Proposed Measure / Structure
	River dredging
	Enlargement of river channel
	Levee construction
	Concrete parapet wall
	Revetment (Wet masonry)
	Revetment (Gabion)
	Revetment (Frame work)
	Grout
	Ground sill
	Existing Levee
	Parapet wall



Typical Section of Narrow Portion (Pte. Dueñas - Pte. Ejercito)

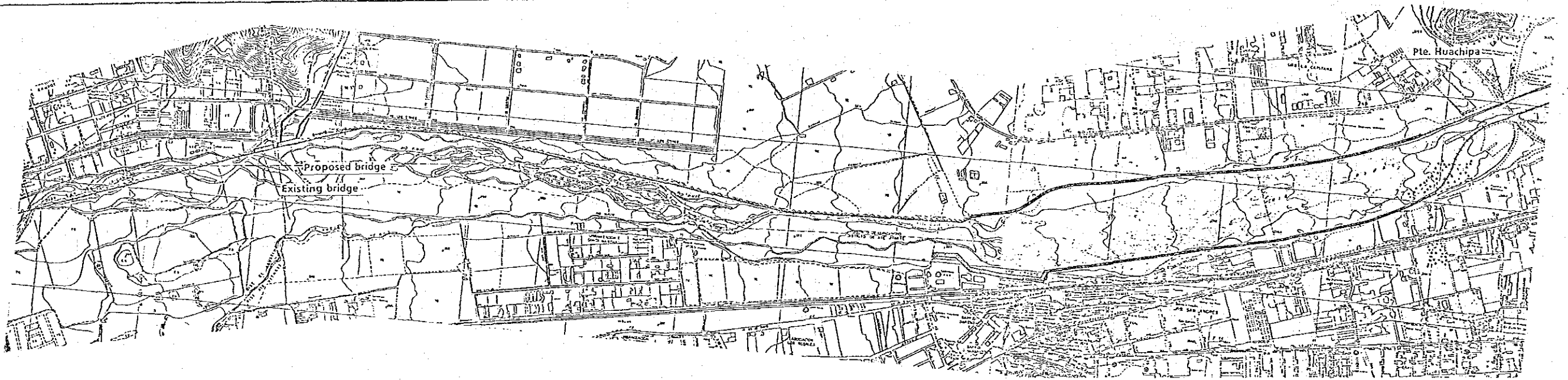
Note: As mentioned in note of Fig. 4-32(1/8).

Fig. 4-32 Proposed River Improvement Plan (2/8)



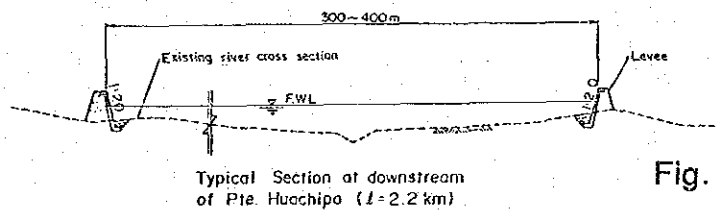
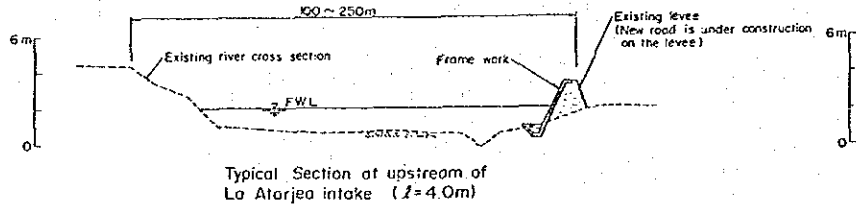
Note: As mentioned in note of Fig. 4-32(1/8).

Fig. 4-32 Proposed River Improvement Plan (3/8)



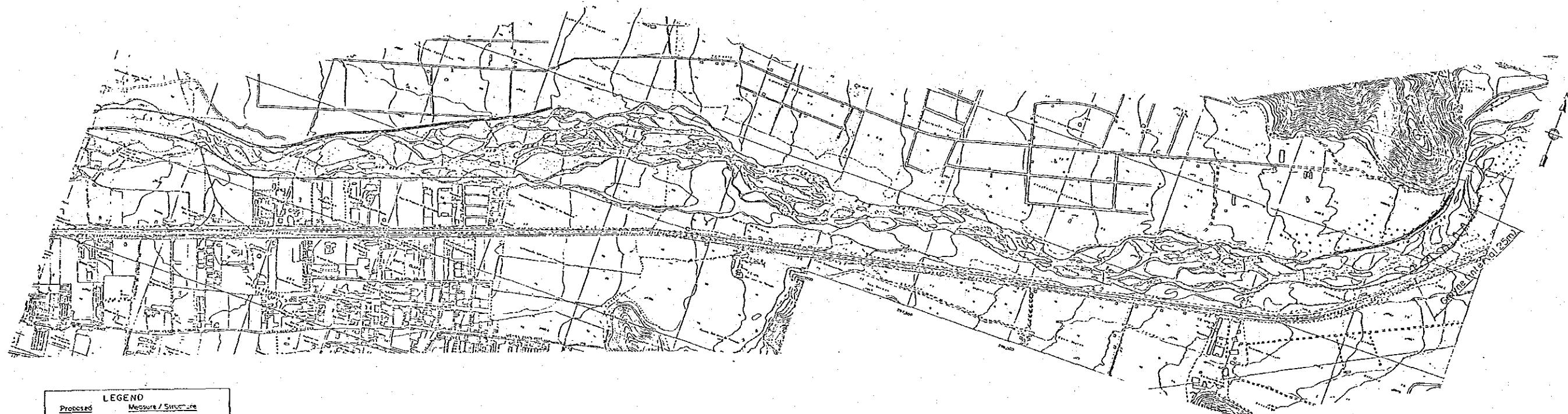
LEGEND	
Proposed	Measure / Structure
	River dredging
	Enforcement of river channel
	Levee construction
	Concrete parapet wall
	Revetment (Wet masonry)
	Revetment (Gabion)
	Revetment (Frame work)
	Grayne
	Ground sill
Existing	
	Levee
	Parapet wall

0 500m
Scale



Note: As mentioned in note of Fig. 4-32(1/8).

Fig. 4-32 Proposed River Improvement Plan (4/8)

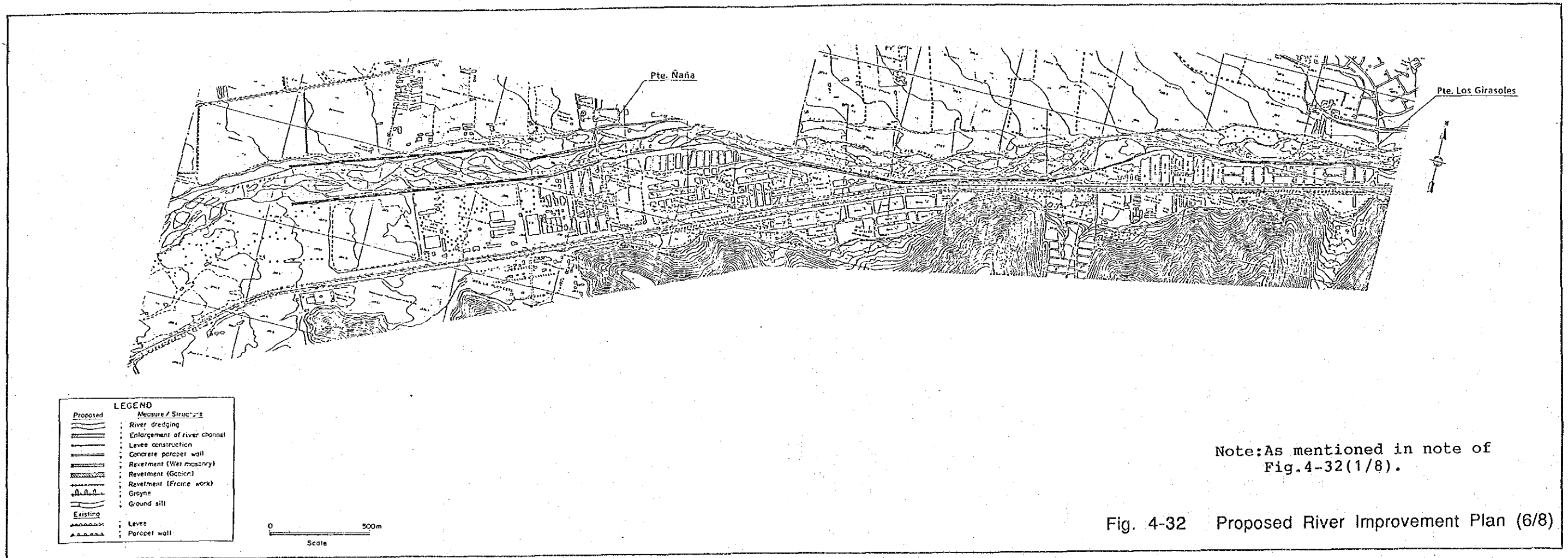


LEGEND	
Proposed	Measure / Structure
	River dredging
	Enlargement of river channel
	Levee construction
	Concrete parapet wall
	Revetment (Wet masonry)
	Revetment (Gabion)
	Revetment (Frame work)
	Groyne
	Ground sill
Existing	
	Levee
	Parapet wall

0 500m
Scale

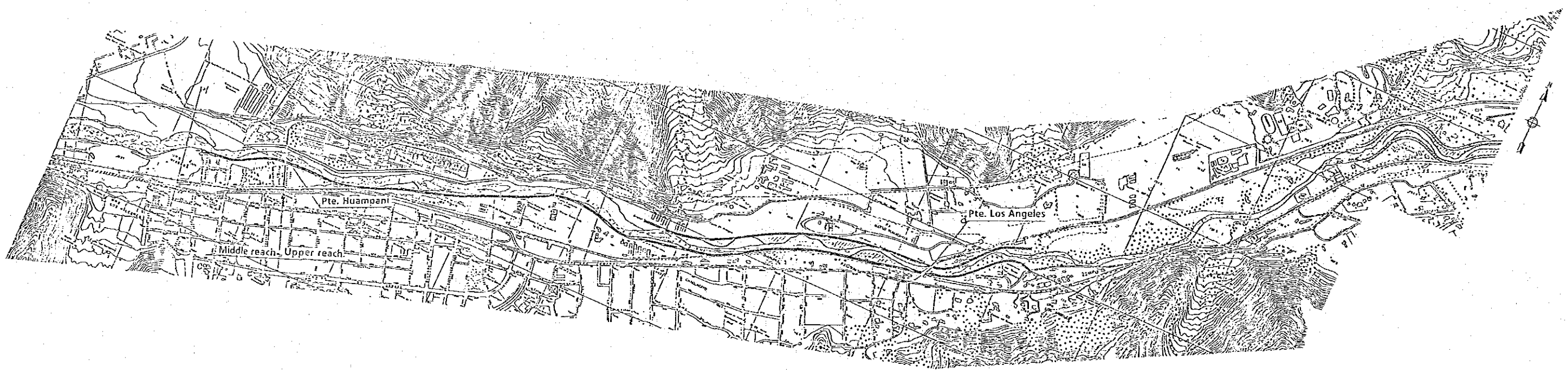
Note: As mentioned in note of Fig. 4-32(1/8).

Fig. 4-32 Proposed River Improvement Plan (5/8)

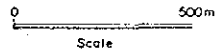


Note: As mentioned in note of Fig. 4-32(1/8).

Fig. 4-32 Proposed River Improvement Plan (6/8)

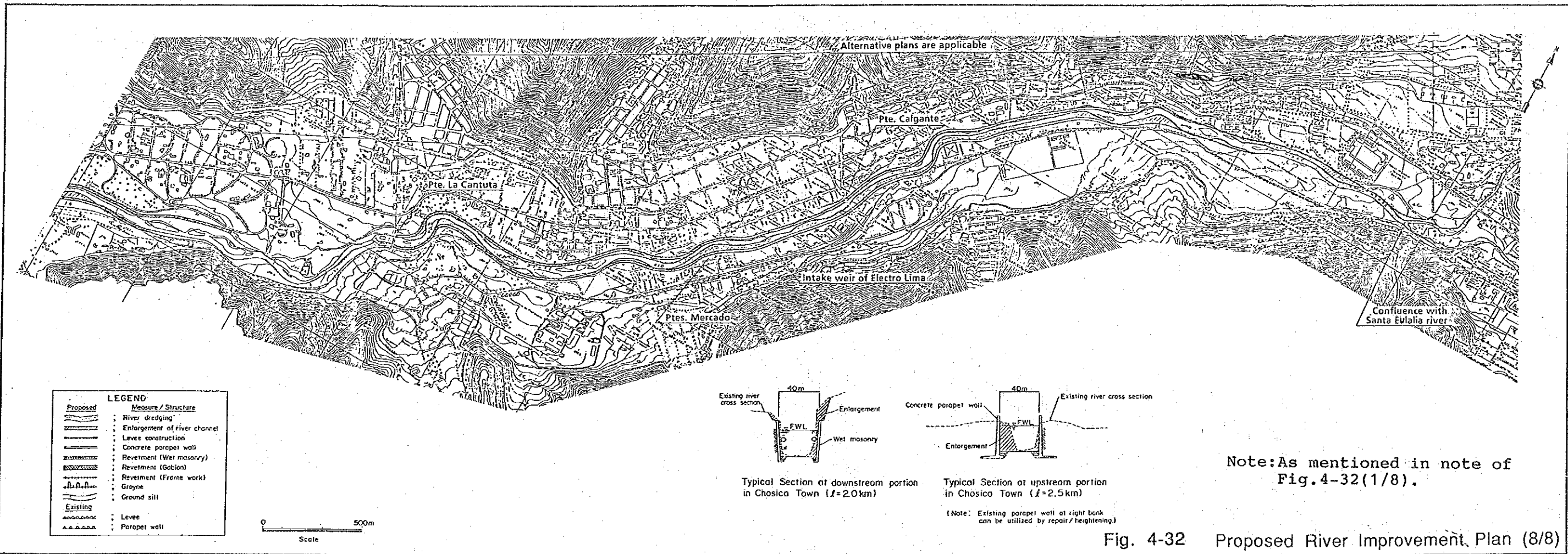


LEGEND	
Proposed	Measure / Structure
	River dredging
	Enlargement of river channel
	Levee construction
	Concrete parapet wall
	Revetment (Wet masonry)
	Revetment (Gabion)
	Revetment (Frame work)
	Groynes
	Ground sill
Existing	
	Levee
	Parapet wall



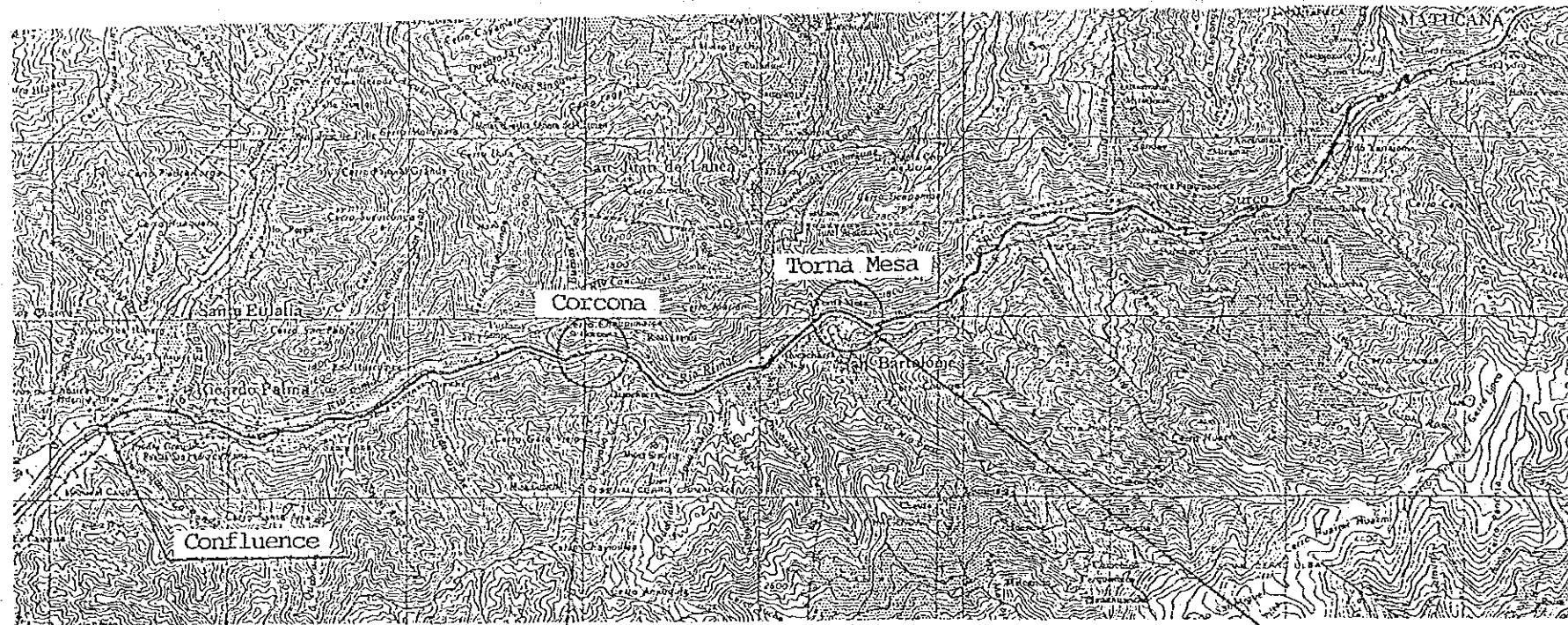
Note: As mentioned in note of Fig. 4-32(1/8).

Fig. 4-32 Proposed River Improvement Plan (7/8)



Note: As mentioned in note of Fig. 4-32(1/8).

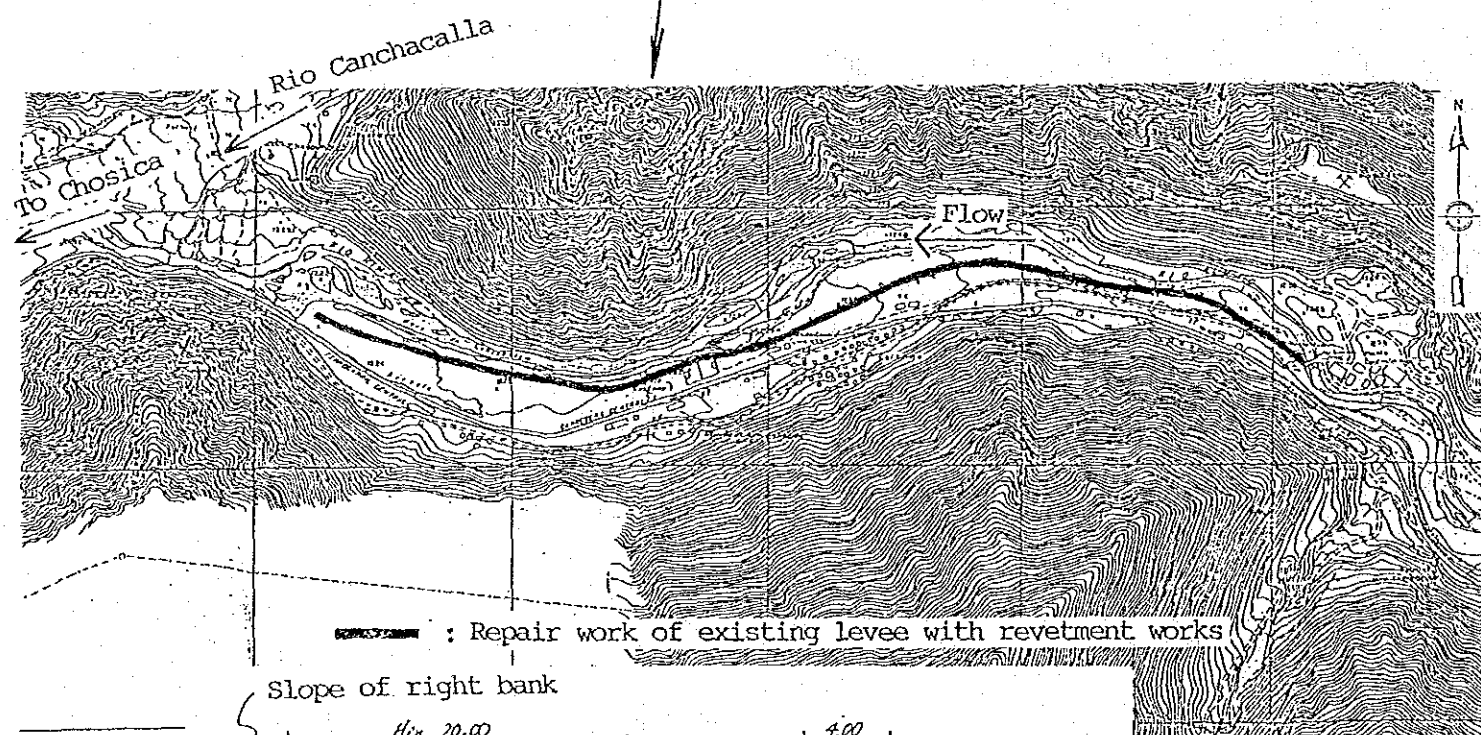
Fig. 4-32 Proposed River Improvement, Plan (8/8)



General Map 0 8km scale

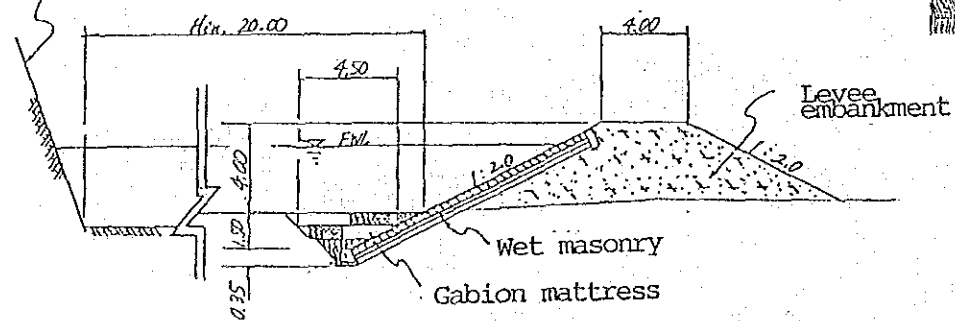
Approximate Work Quantity

- | |
|-------------------------------------|
| 1. Corcona area |
| - Embankment : 48,000m ³ |
| (Repair work) |
| - Revetment : 1,000m |
| 2. Torna Mesa area |
| - Dredging & |
| Revetment : 2,000m |

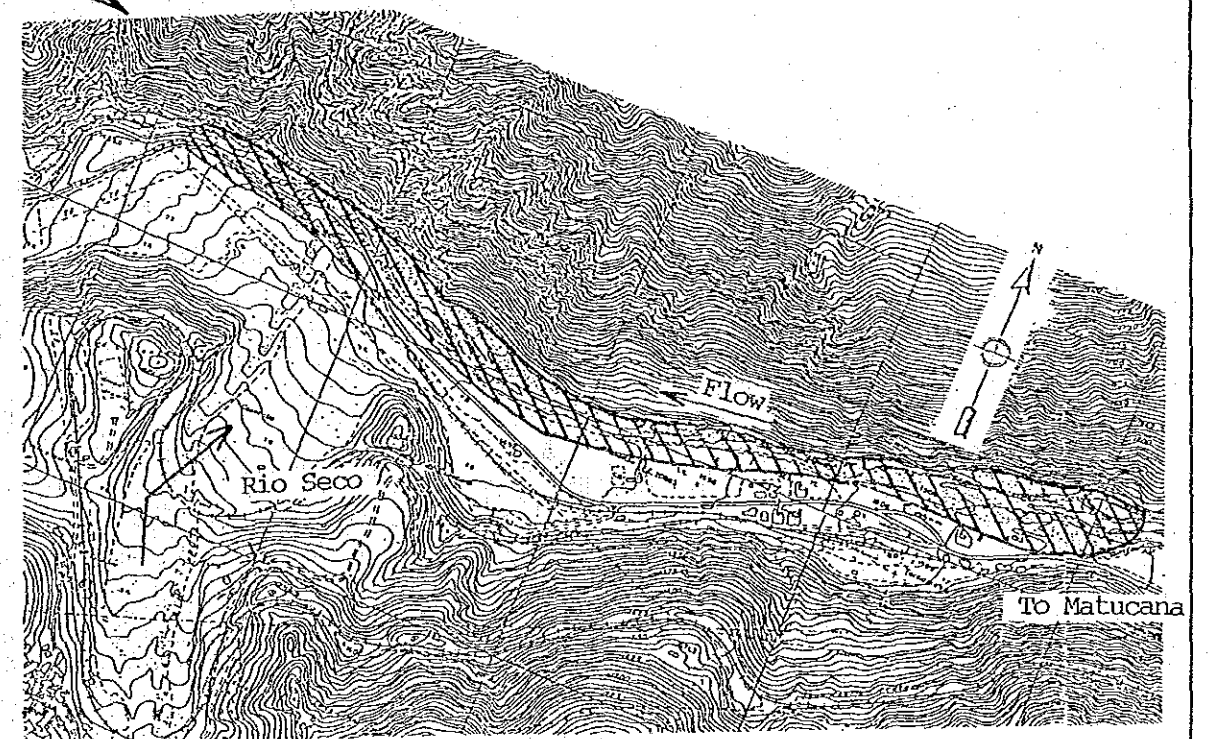


Repair work of existing levee with revetment works

Slope of right bank



Typical Section



Dredging and revetment works for channel stabilization

0 500m scale

Fig. 4-33 Proposed Structural Plan for Group (B) (from confluence to Matucana)

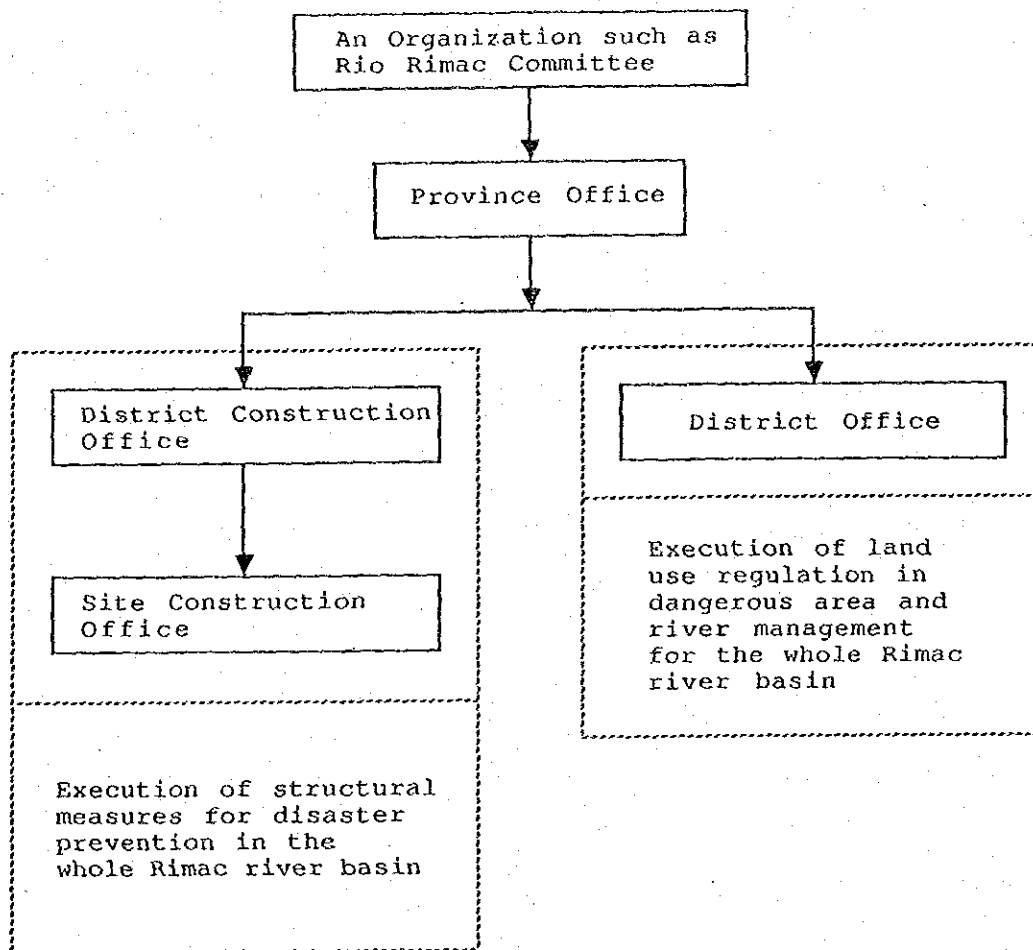


Fig. 5-1 An Example of Organization Chart for Land Use Regulation, River Management and Implementation of Structural Measures for Disaster Prevention

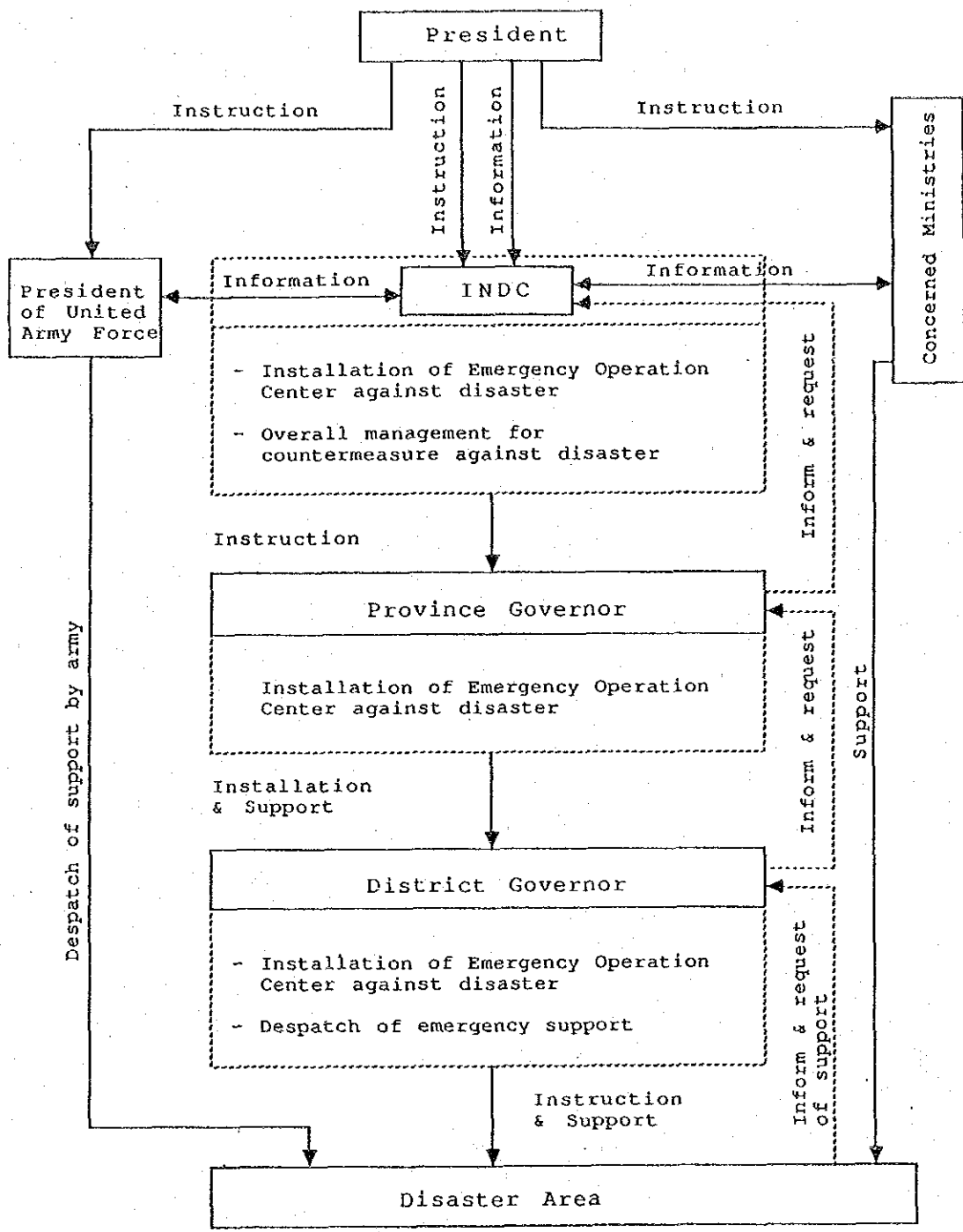


Fig. 5-2 An Example of Organization Chart for Emergency Disaster Relief

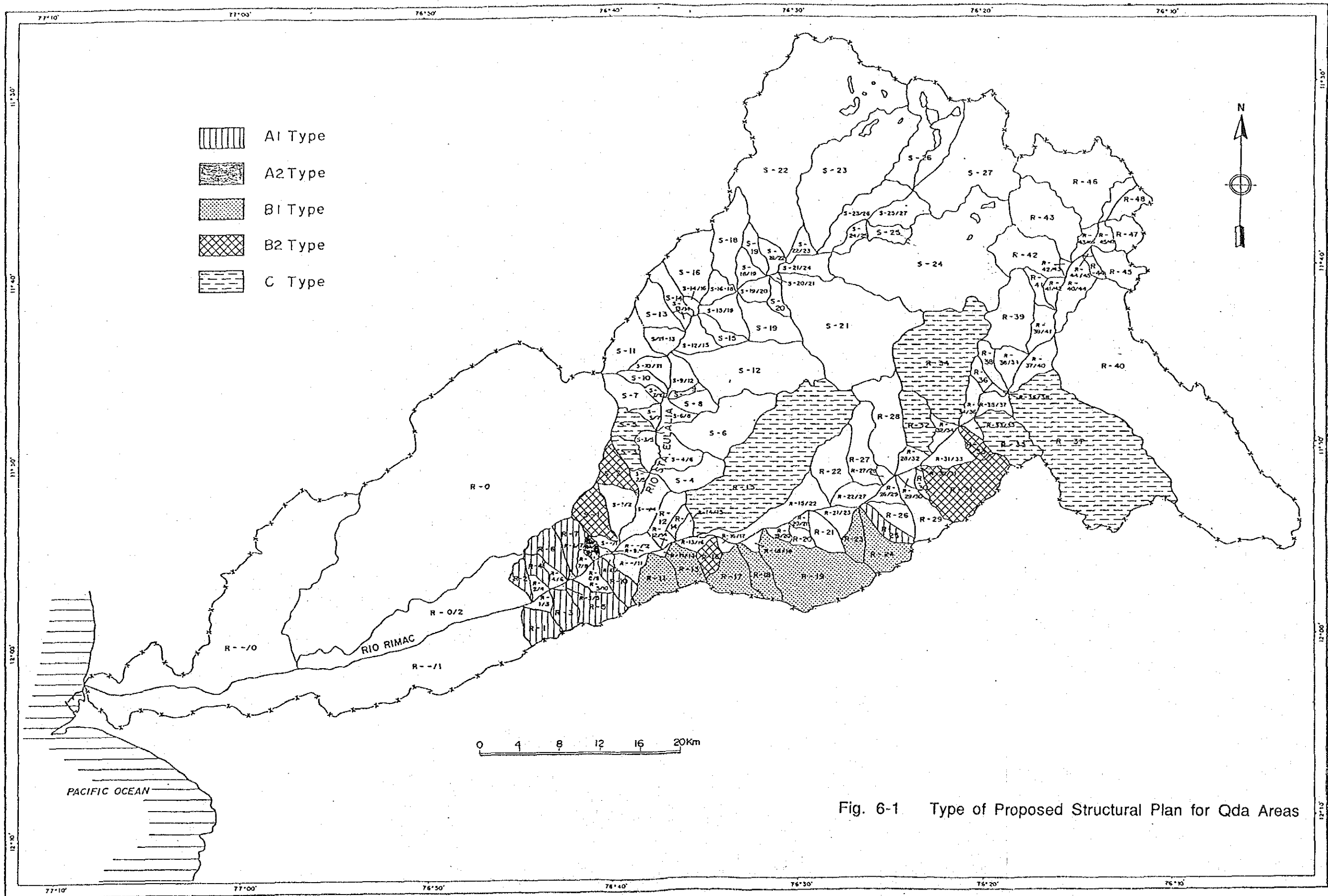
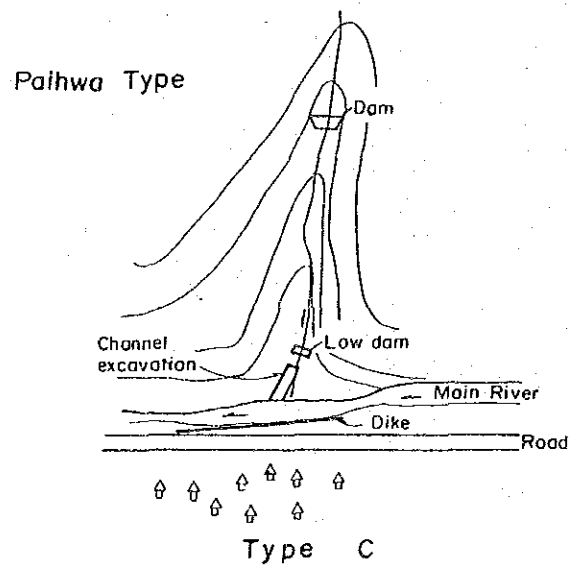
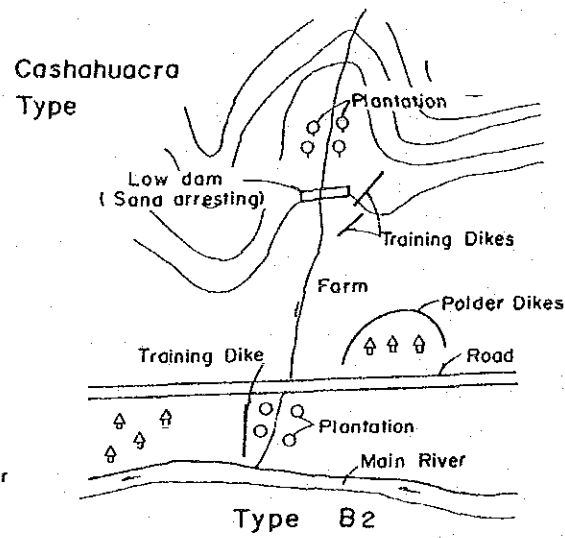
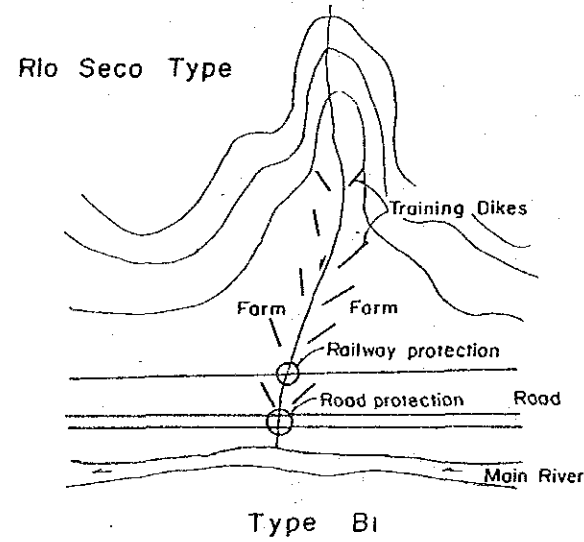
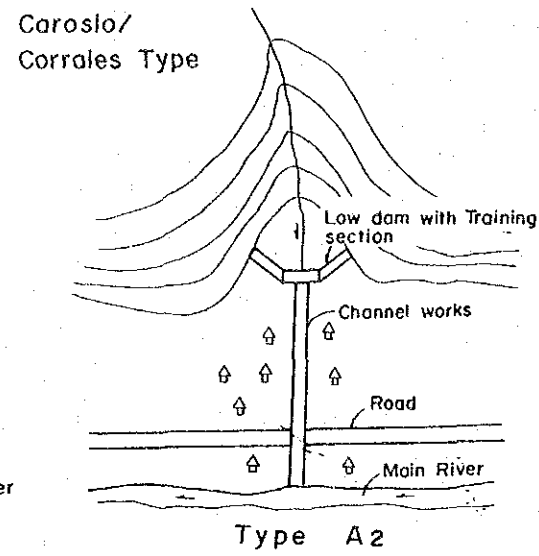
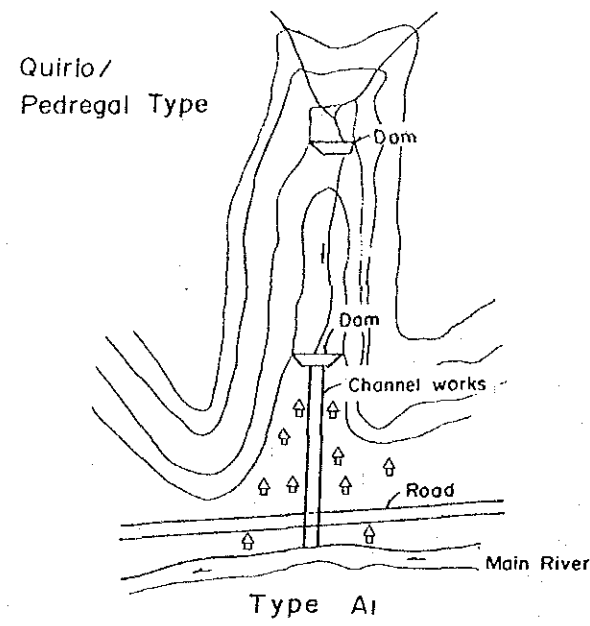
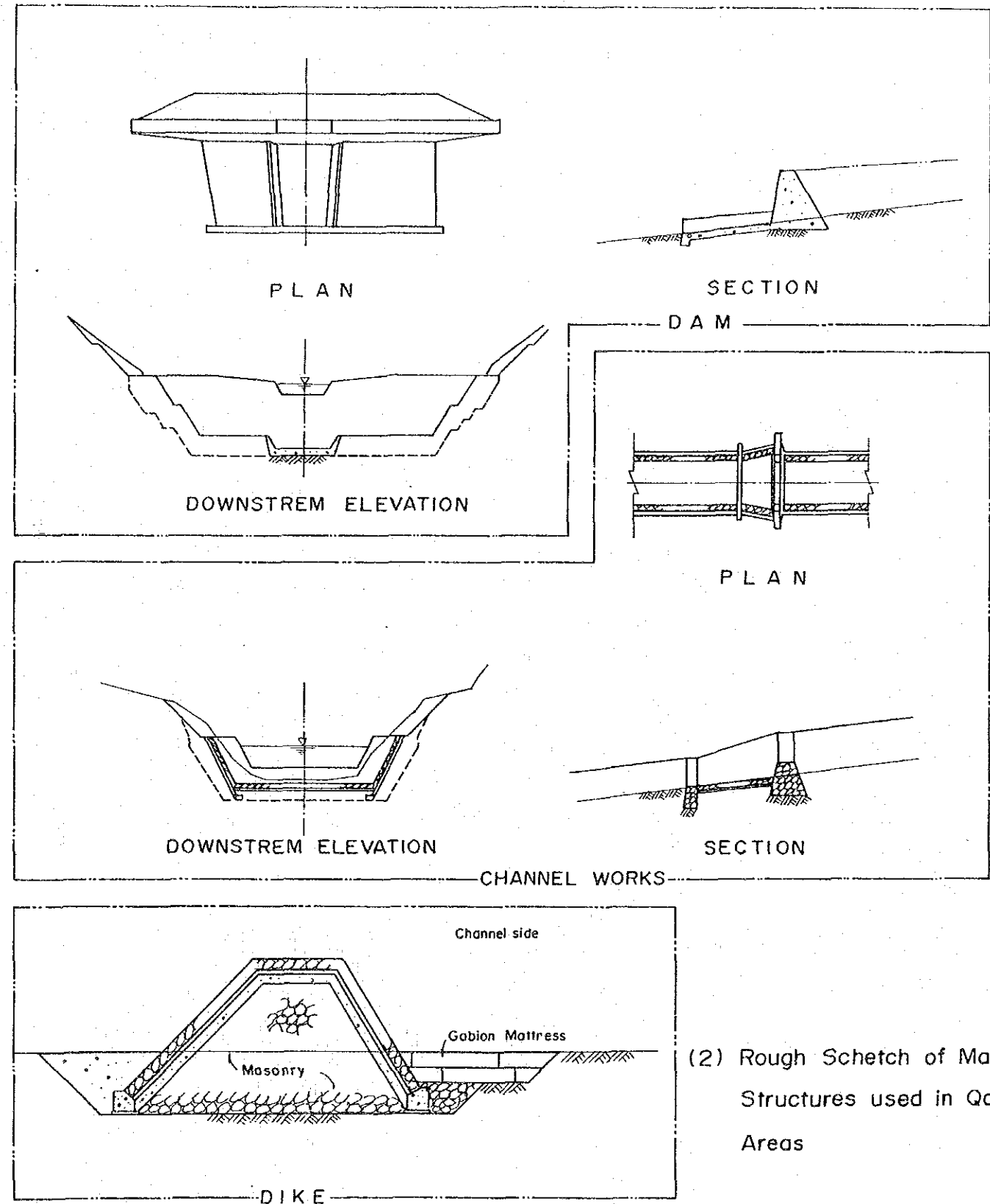


Fig. 6-1 Type of Proposed Structural Plan for Qda Areas

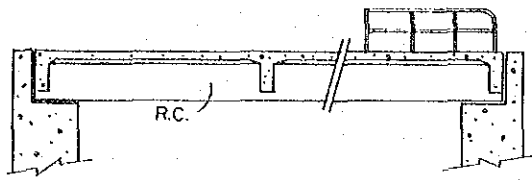


(1) Schematical Feature of 5 Types of Structural plan in Quebrada

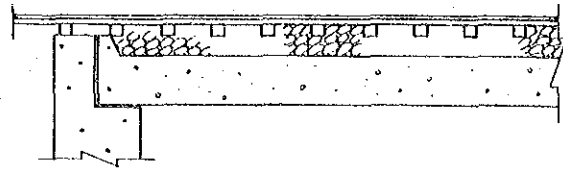


(2) Rough Schetch of Main Structures used in Qda Areas

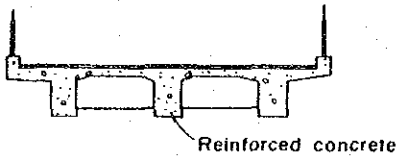
Fig. 6-2 Proposed Structural Plans for Quebrada Areas



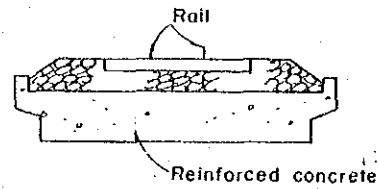
Profile



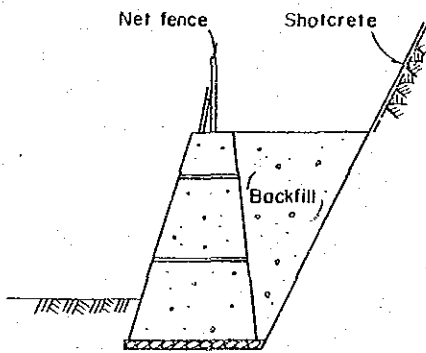
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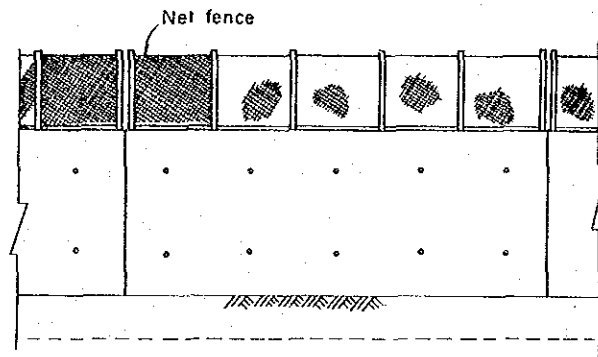
Section
Bridge (Road)



Section
Bridge (Railway)

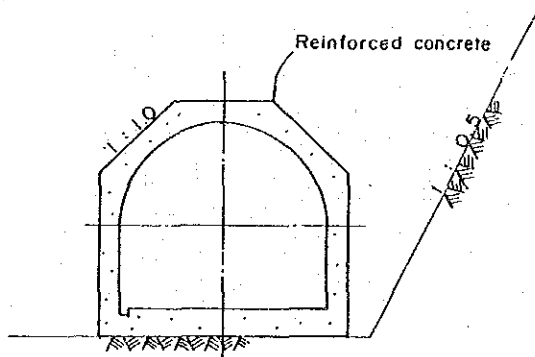


Section



Elevation

Retaining wall



Rockshed Tunnel

Fig. 6-3 Proposed Structure for Spe Areas

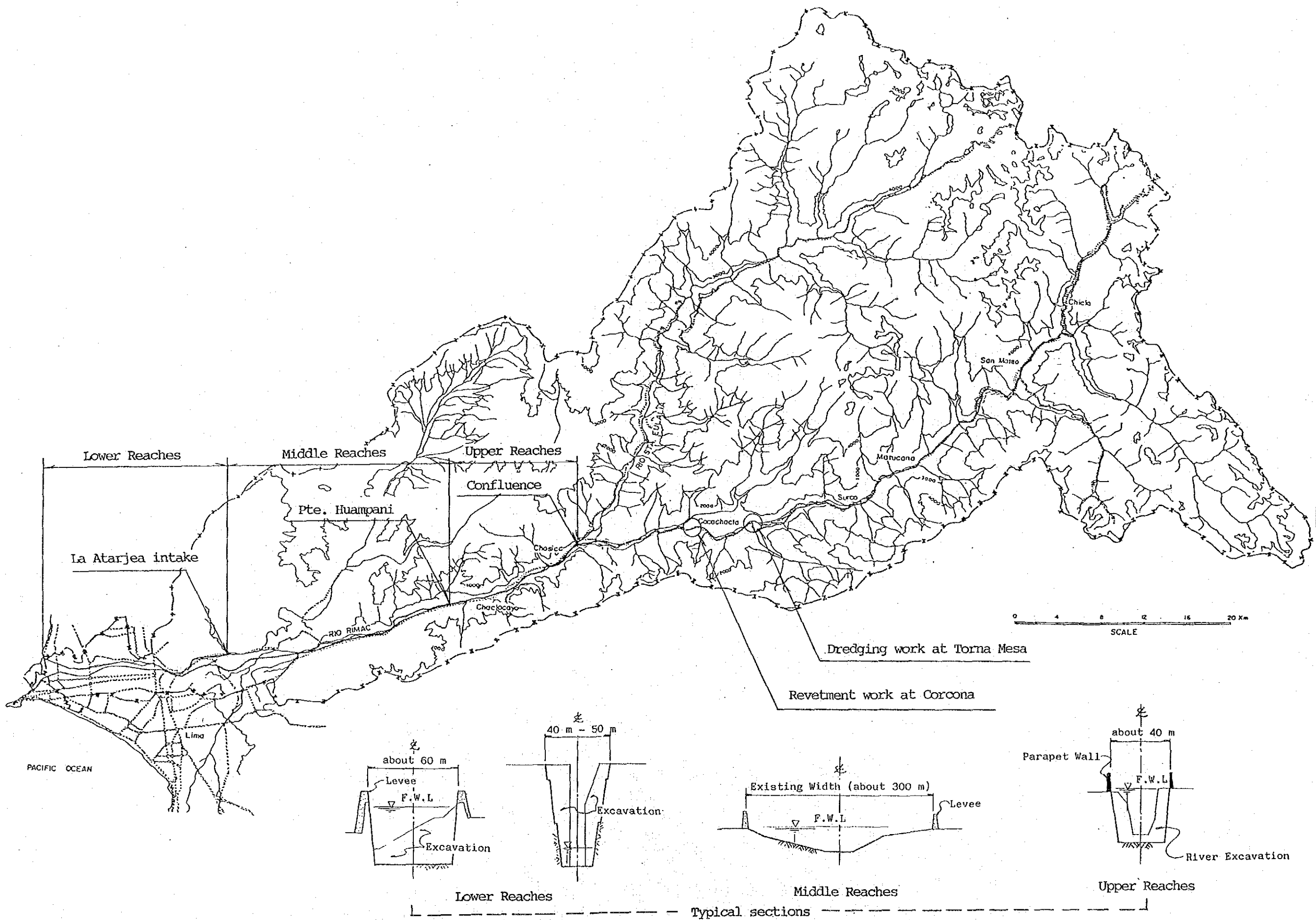


Fig. 6-4 Overall River Improvement Plan