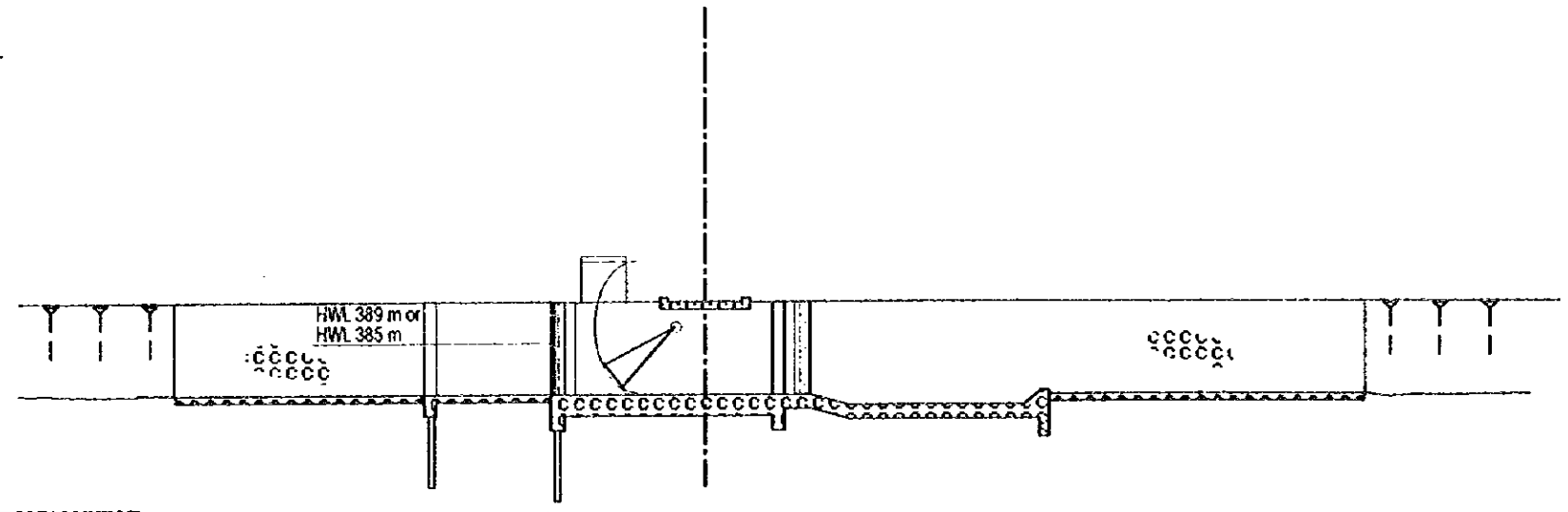
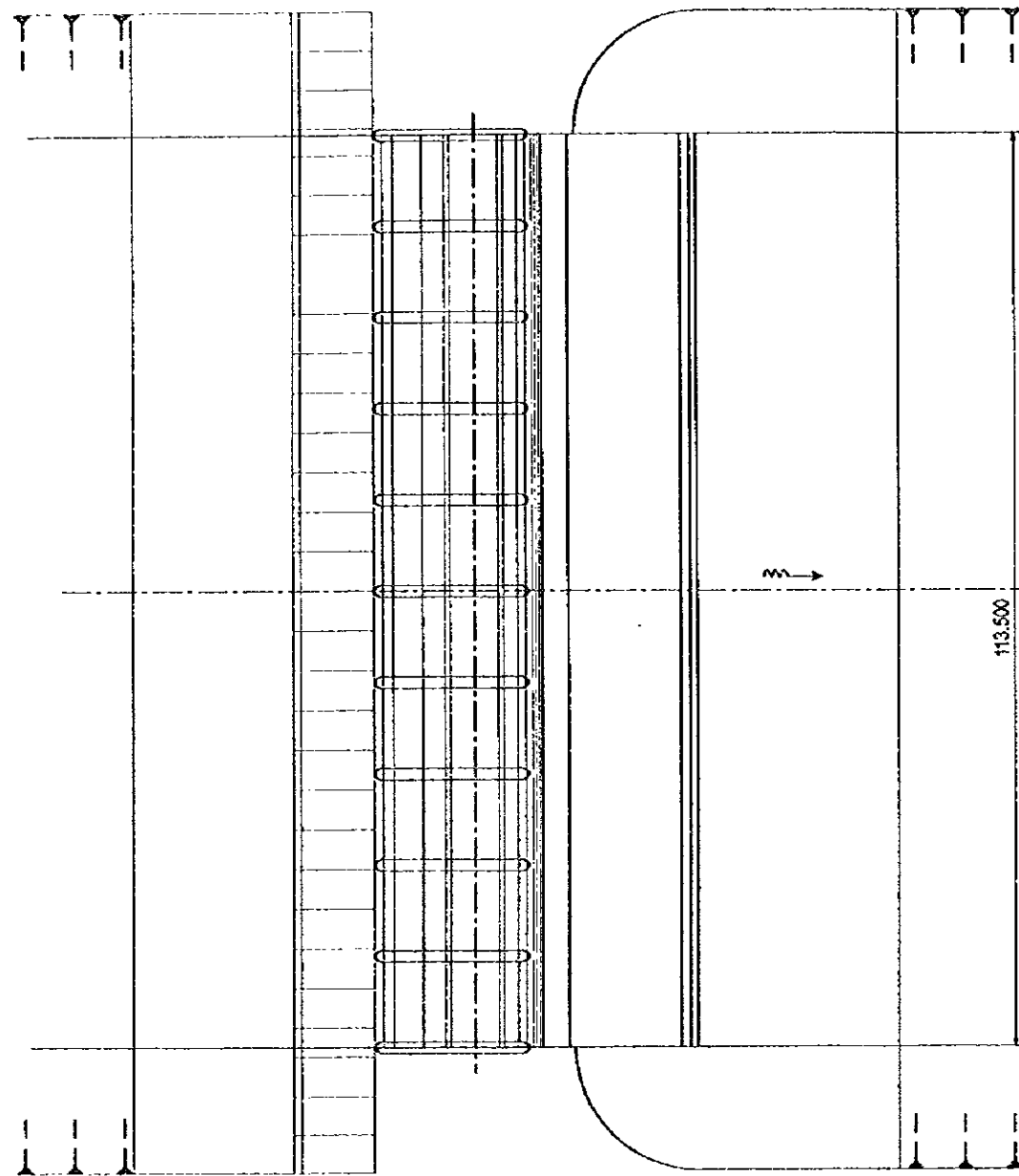
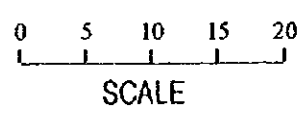


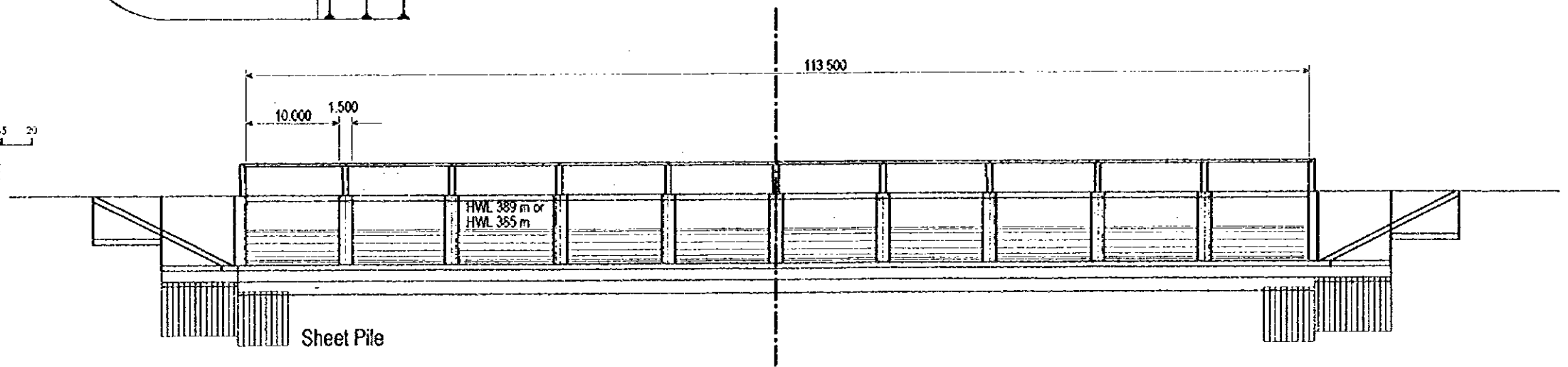
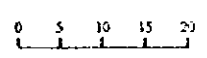
<b>THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT</b>	
<b>LOCATION OF NEW KOK DIVERSION DAM (WEIR) AND INTAKE</b>	Map & Drawing No.
<b>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)</b>	Figure P-3
<b>SANYU CONSULTANTS INC. &amp; NIPPON KOEI CO., LTD.</b>	



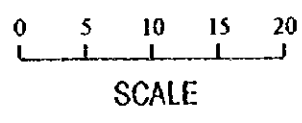
SECTION



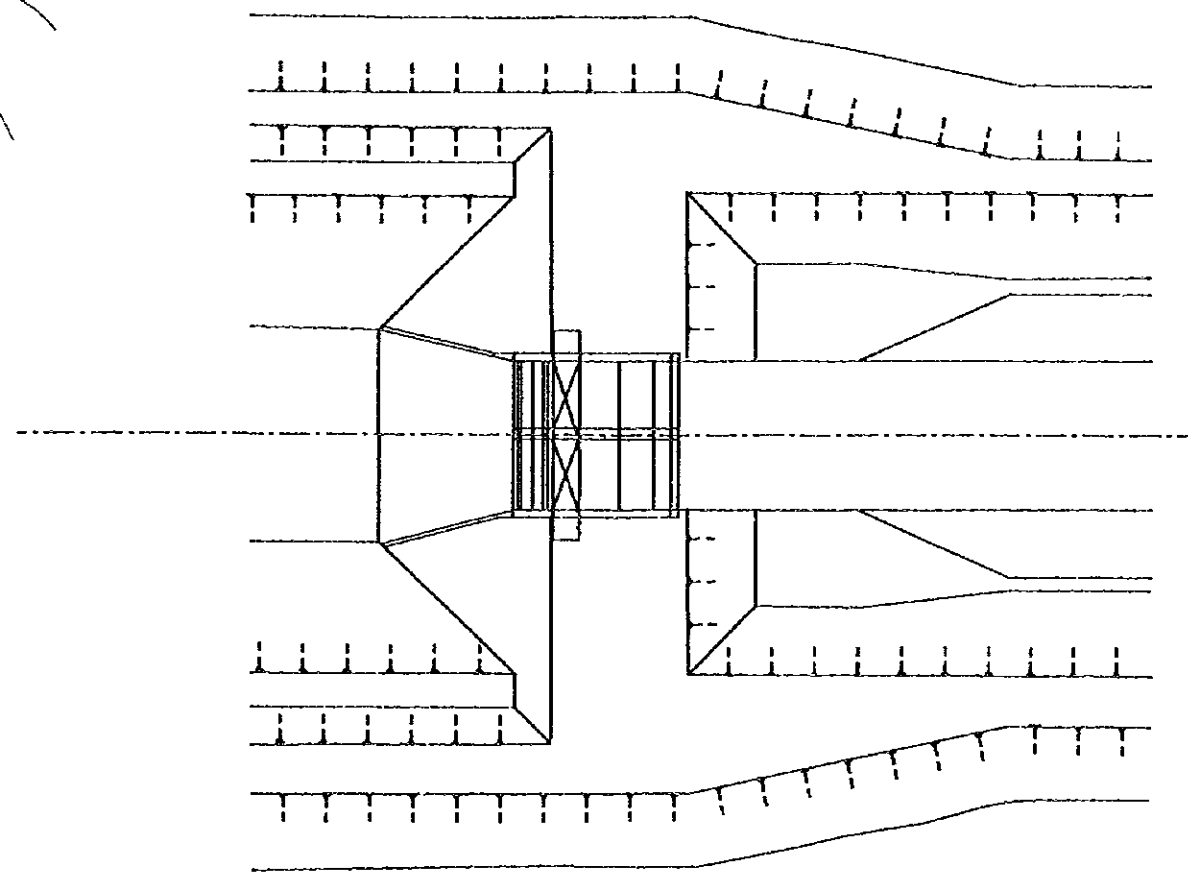
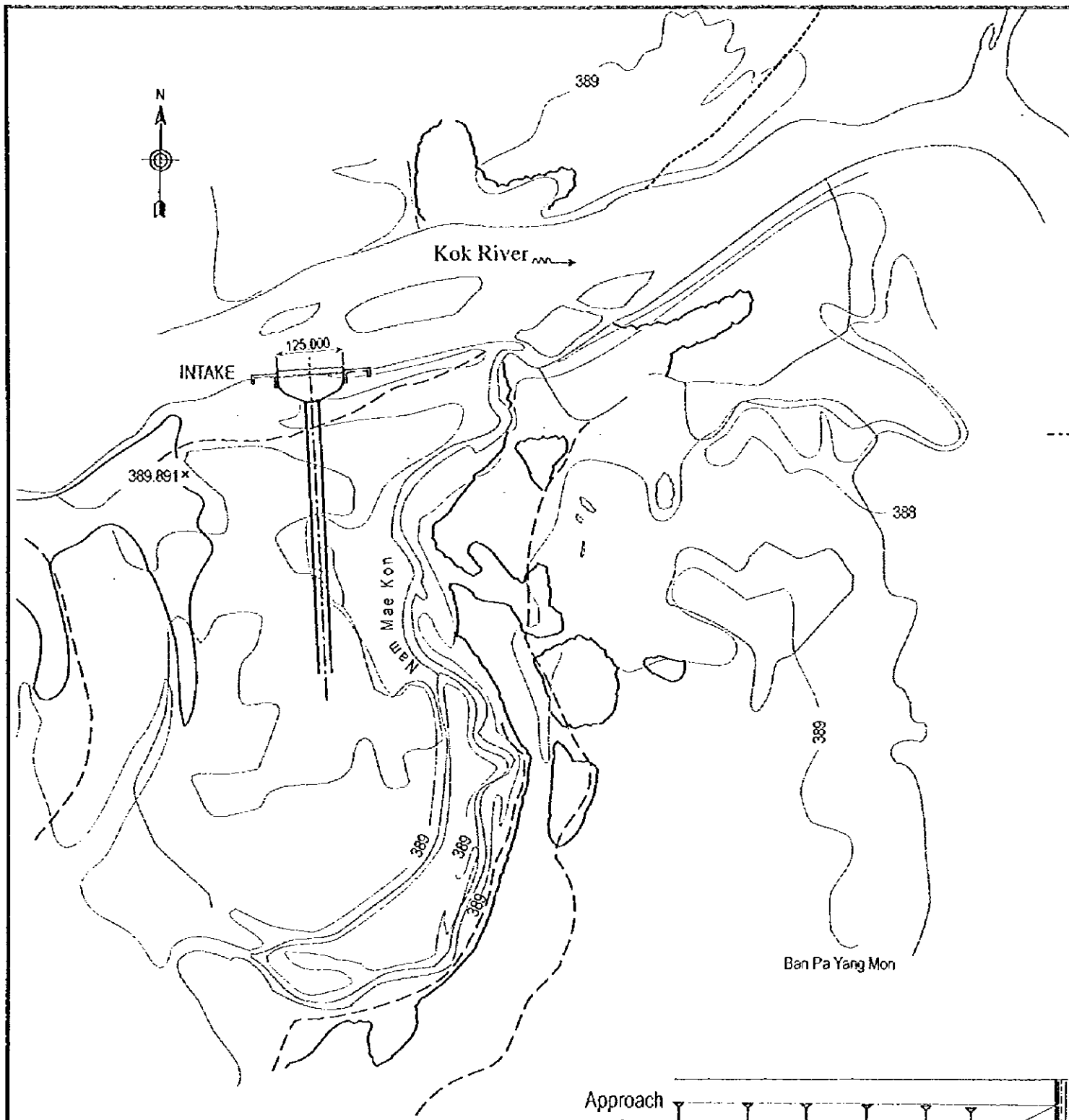
PLAN  
SCALE



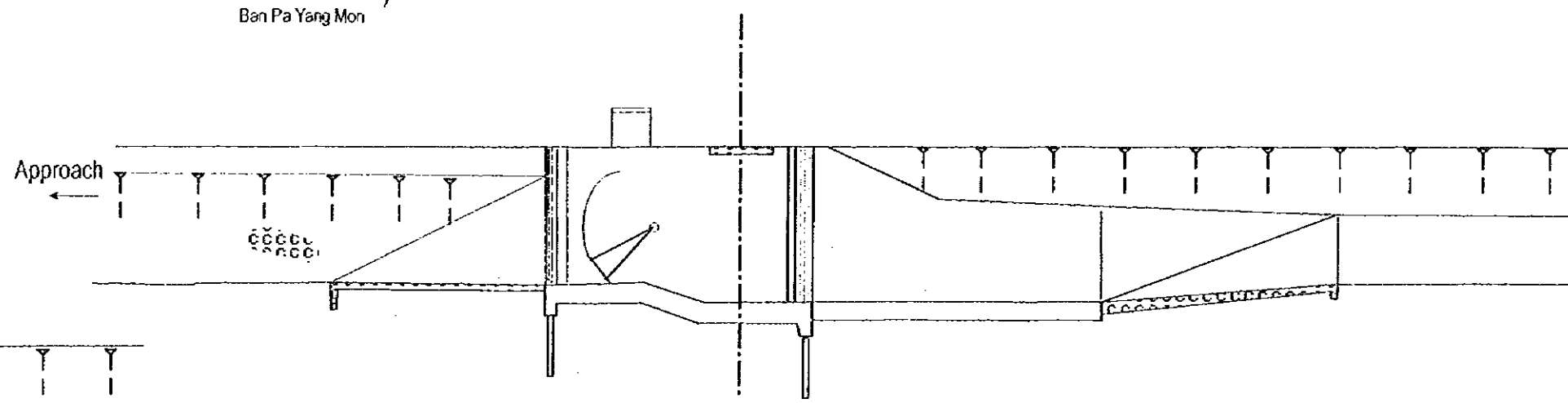
PROFILE



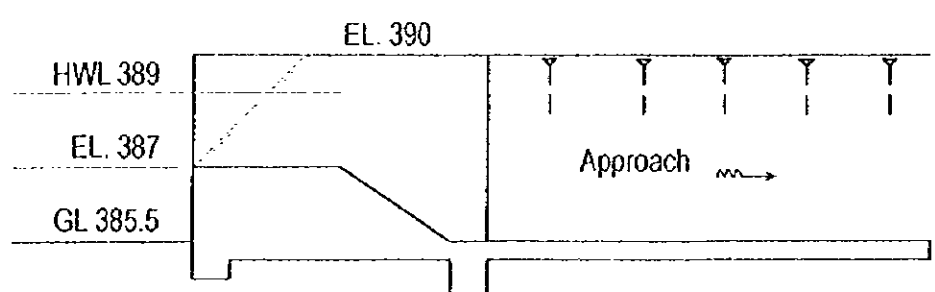
THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT	
PLAN, PROFILE AND CROSS SECTION OF KOK DIVERSION DAM AND INTAKE	Map & Drawing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Figure P-4
SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	



INTAKE GATE PLAN (no scale)

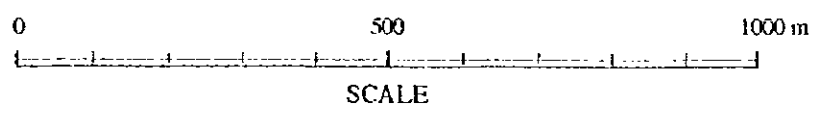
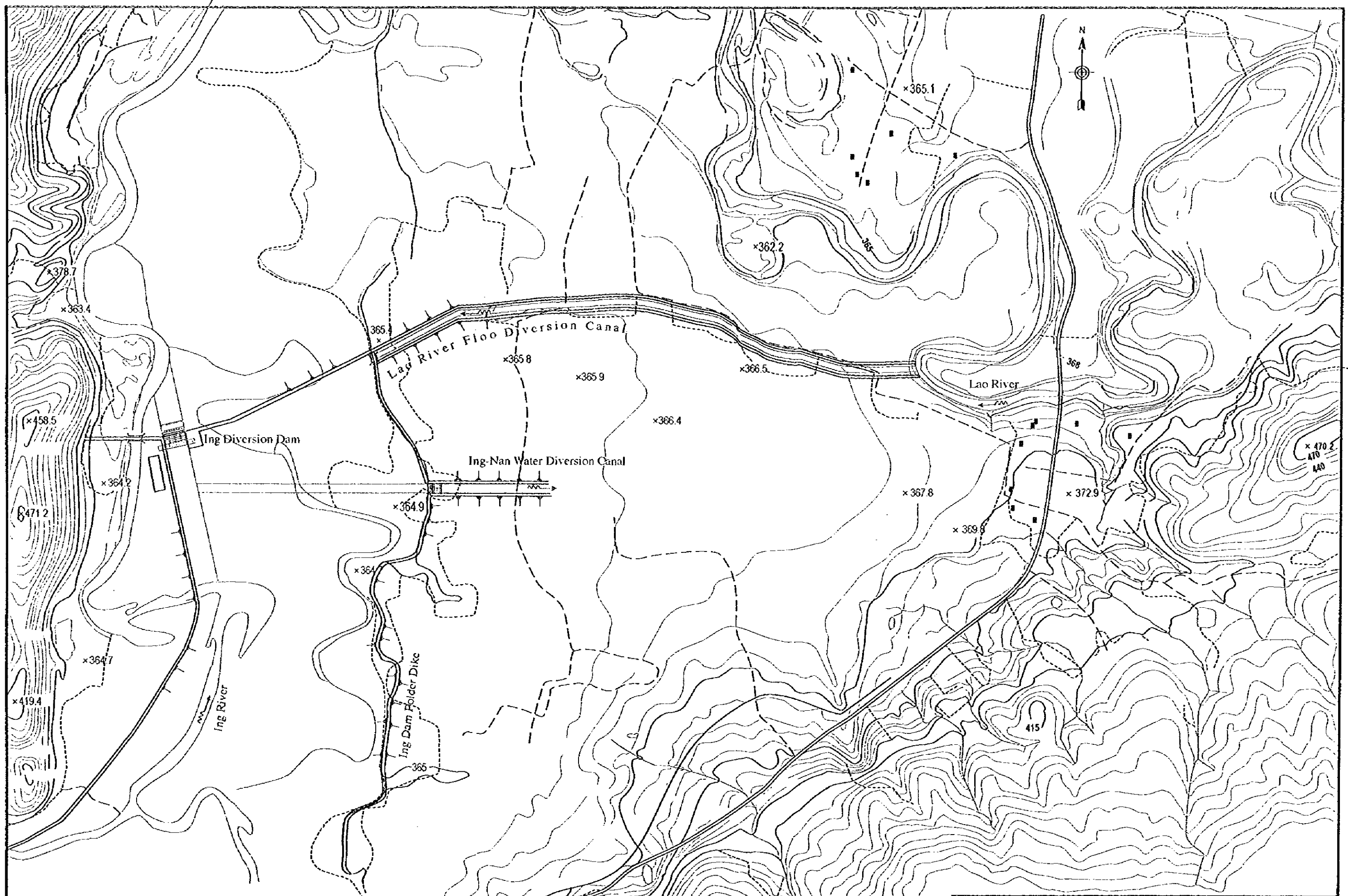


INTAKE GATE LONGITUDINAL SECTION (no scale)

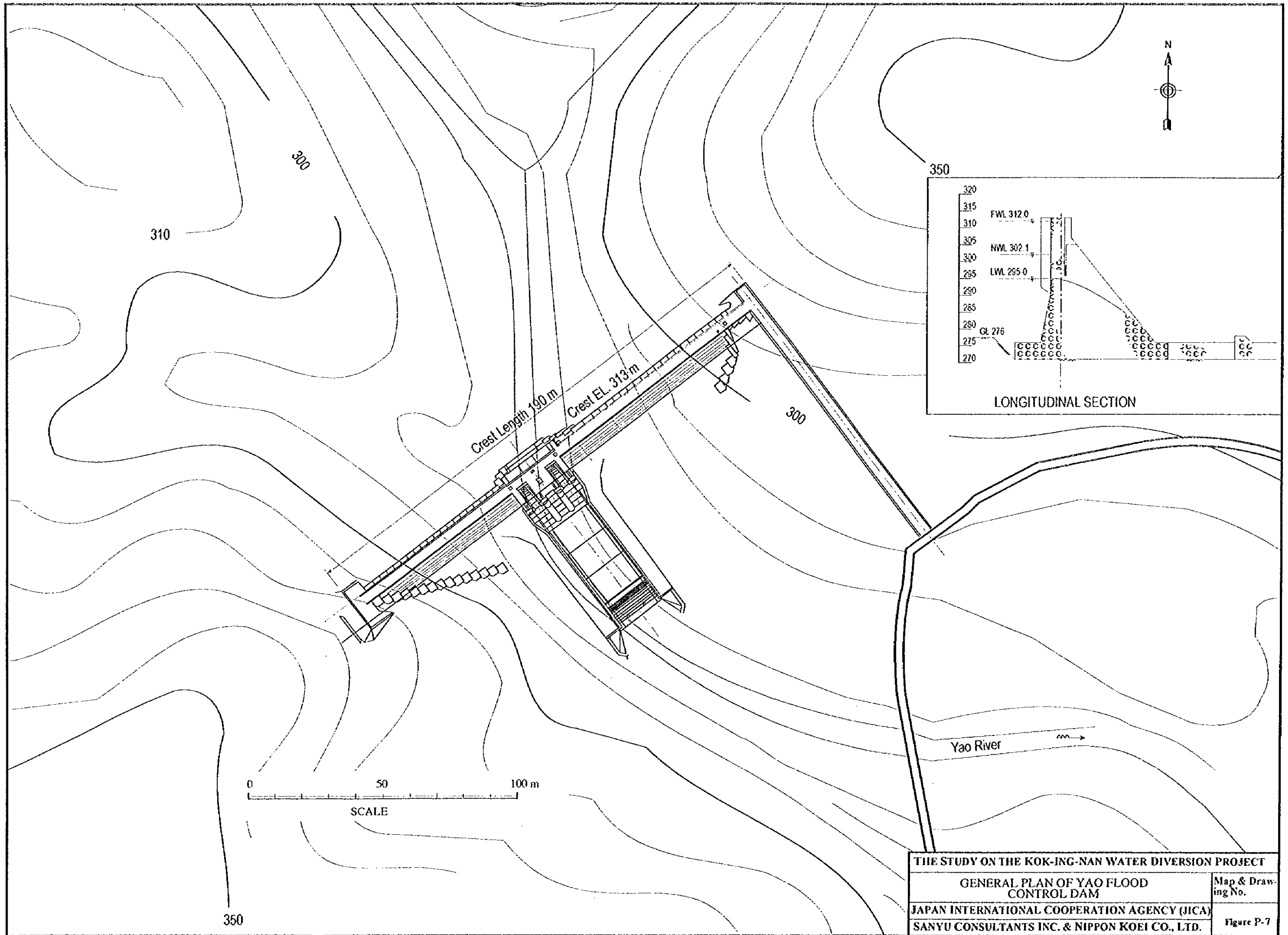


INTAKE LONGITUDINAL SECTION (no scale)

THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT	
PLAN AND PROFILE OF KOK INTAKE	Map & Drawing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Figure P-5
SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	



THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT	
GENERAL PLAN OF ING DIVERSION DAM	Map & Drawing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Figure P-6
SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	



<b>THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT</b>	
GENERAL PLAN OF YAO FLOOD CONTROL DAM	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Map & Drawing No.
SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	Figure P-7



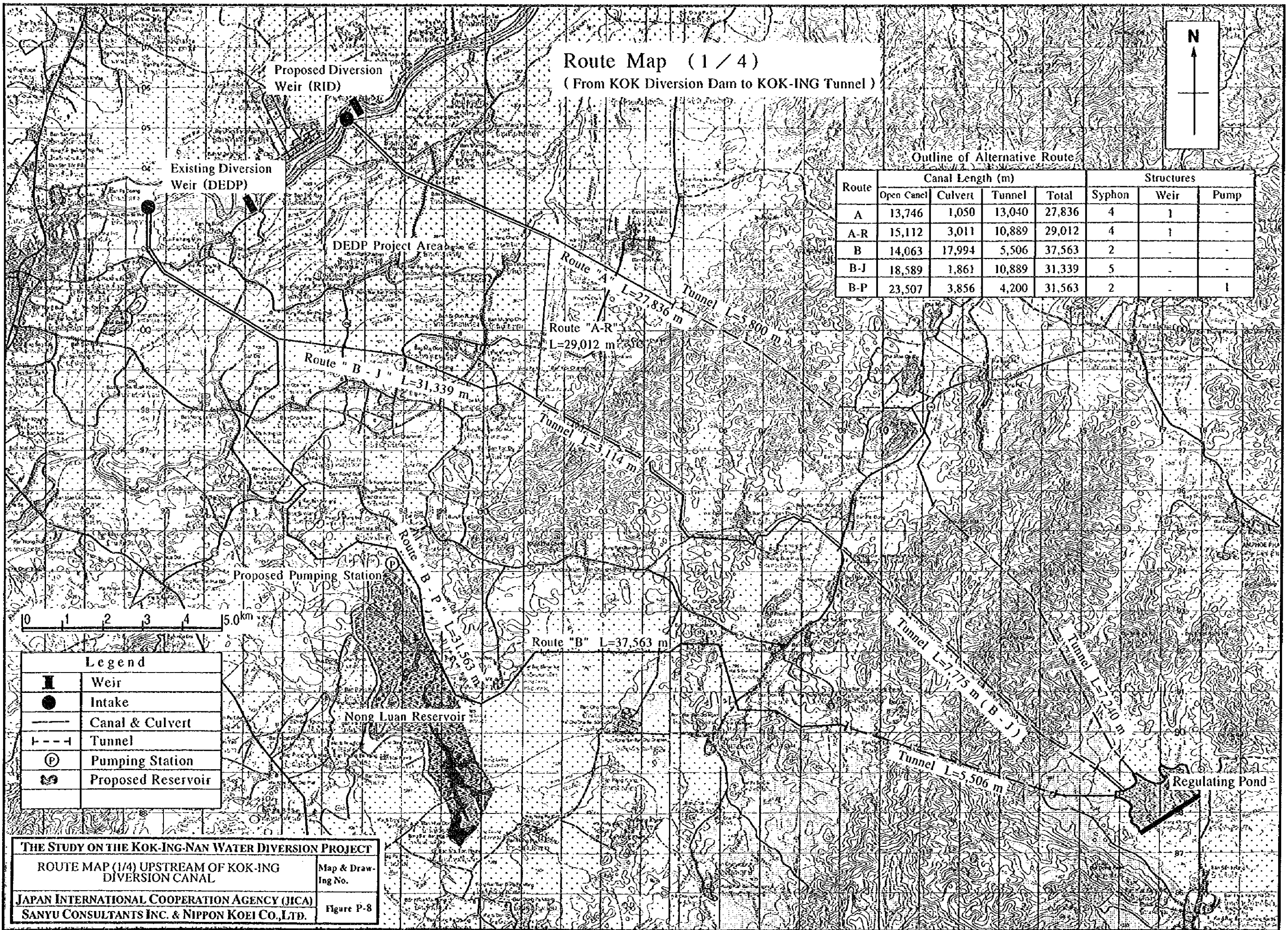
# Route Map (1 / 4)

(From KOK Diversion Dam to KOK-ING Tunnel)



Outline of Alternative Route

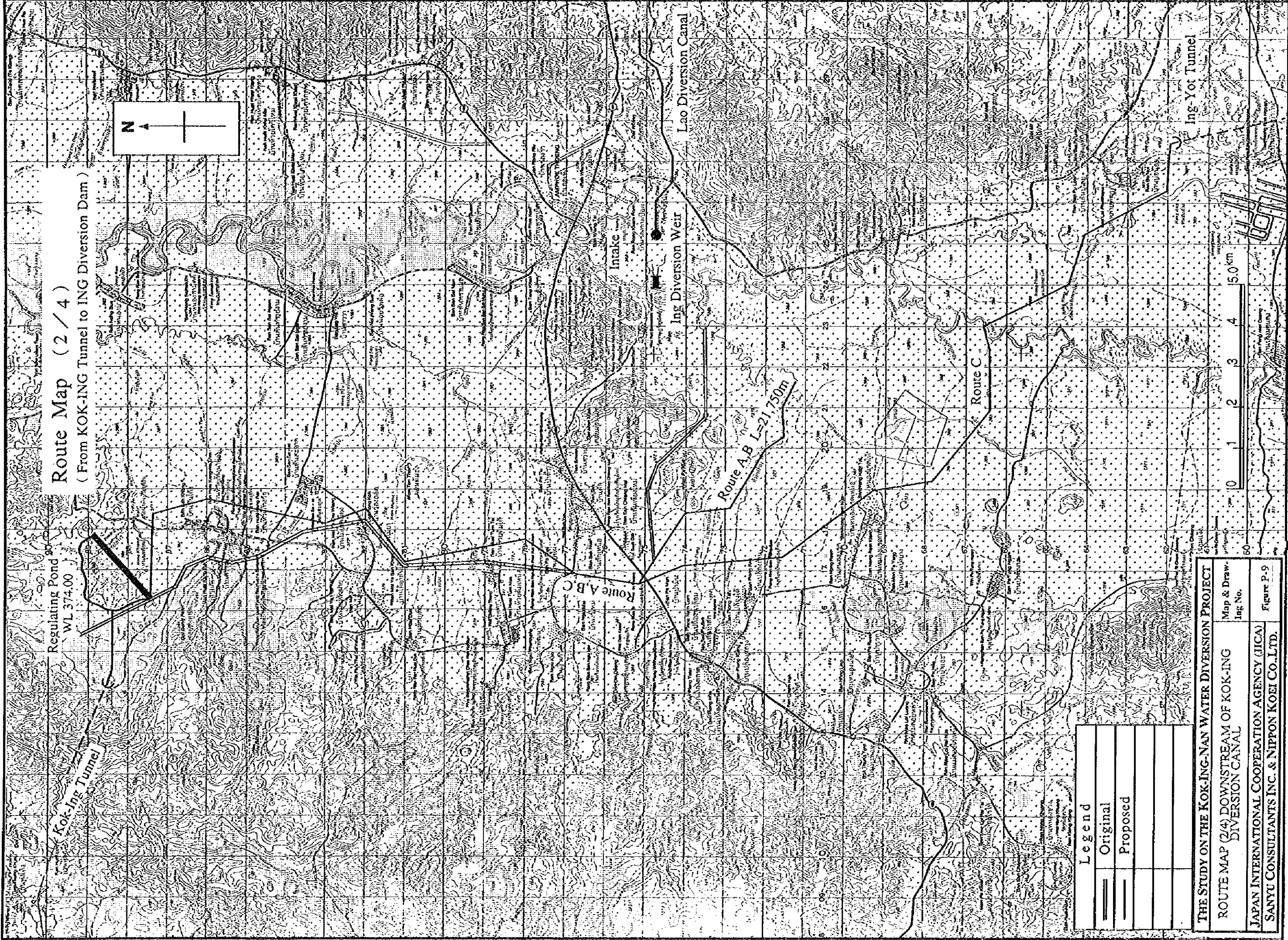
Route	Canal Length (m)			Structures			
	Open Canal	Culvert	Tunnel	Total	Syphon	Weir	Pump
A	13,746	1,050	13,040	27,836	4	1	-
A-R	15,112	3,011	10,889	29,012	4	1	-
B	14,063	17,994	5,506	37,563	2	-	-
B-J	18,589	1,861	10,889	31,339	5	-	-
B-P	23,507	3,856	4,200	31,563	2	-	1



Legend	
	Weir
	Intake
	Canal & Culvert
	Tunnel
	Pumping Station
	Proposed Reservoir

THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT	
ROUTE MAP (1/4) UPSTREAM OF KOK-ING DIVERSION CANAL	Map & Draw-Ing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Figure P-8
SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	

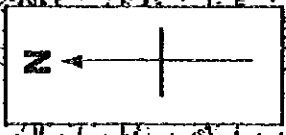




**Route Map ( 2 / 4 )**  
 ( From KOK-ING Tunnel to ING Diversion Dam )

Regulating Pond  
 WL 374.00

Kok-Ing Tunnel



Route A, B, C

Intake

Ing Diversion Weir

Lao Diversion Canal

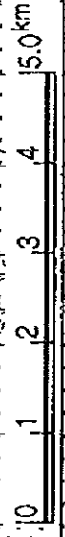
Route A, B L=21,750m

Route C

Ing-Yot Tunnel

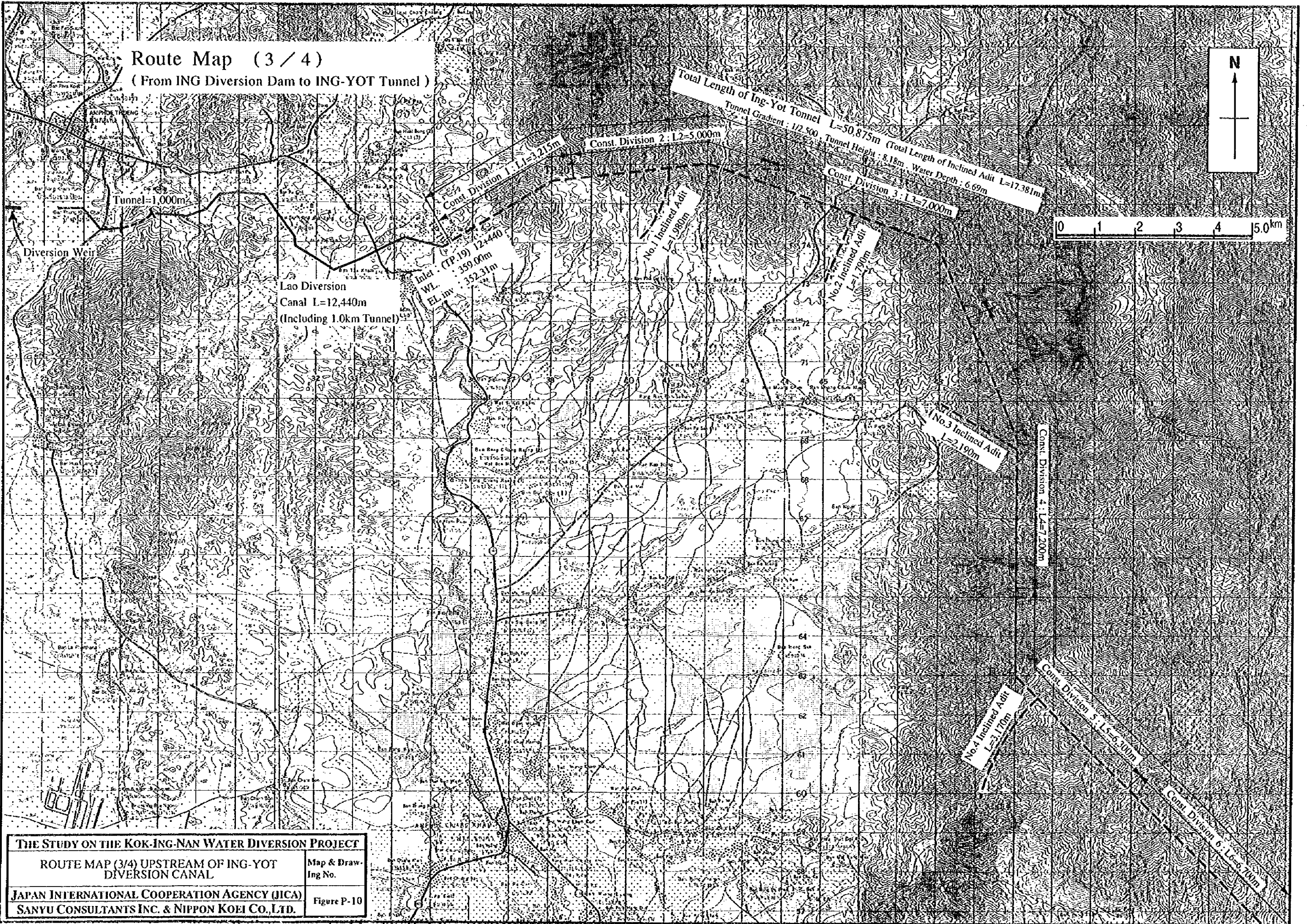
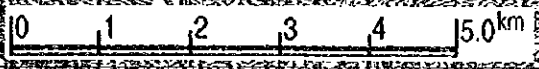
Legend	
	Original
	Proposed

**THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT**  
**ROUTE MAP (2/4) DOWNSTREAM OF KOK-ING DIVERSION CANAL**  
 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
 SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.  
 Map & Draw. Ing. No. \_\_\_\_\_  
 Figure P-9





**Route Map (3 / 4)**  
 (From ING Diversion Dam to ING-YOT Tunnel)

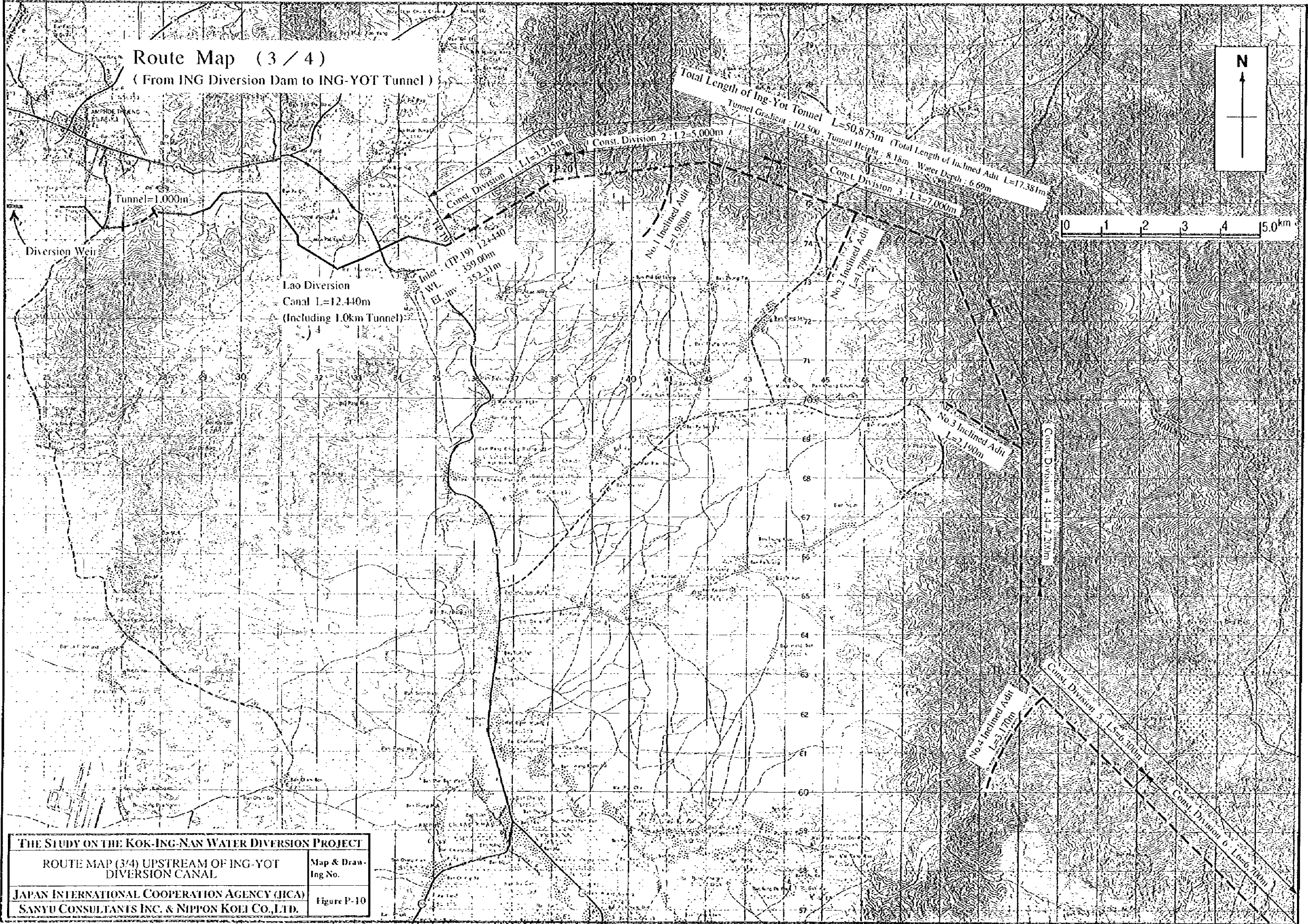


<b>THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT</b>	
ROUTE MAP (3/4) UPSTREAM OF ING-YOT DIVERSION CANAL	Map & Draw. Ing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	Figure P-10



# Route Map (3 / 4)

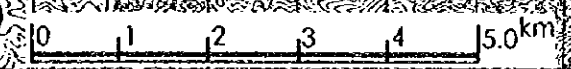
( From ING Diversion Dam to ING-YOT Tunnel )



<b>THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT</b>	
ROUTE MAP (3/4) UPSTREAM OF ING-YOT DIVERSION CANAL	Map & Draw-Ing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Figure P-10
SANYU CONSULTANTS INC. & NIPPON KOEI CO., LTD.	



# Route Map (4 / 4) (Outlet ING-YOT Tunnel)



Coordination and Distance of Turning Point

No. of Turning Point	Coordination		Distance between TP
	X	Y	
TP.19(Inlet)	35,710	74,210	
TP.20	38,000	75,675	2,719
TP.21	42,000	76,000	4,013
TP.22	48,000	74,000	6,325
TP.23	50,000	69,000	5,385
TP.24	50,000	63,000	6,000
TP.25	65,000	48,000	21,213
TP.26(Outlet)	69,170	44,860	5,220
Total Length (m)			50,875

Total Length of the Yot Tunnel  
Tunnel Gradient: 12.50%  
Tunnel Height: 8.19m  
Water Depth: 6.69m

No.5 Inclined Adit  
L=2,470m

No.6 Inclined Adit  
L=3,340m

No.7 Inclined Adit  
L=2,820m

Outlet : (TP.26) 63+315  
WL. : 338.65m  
EL inv : 331.96m

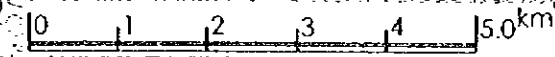
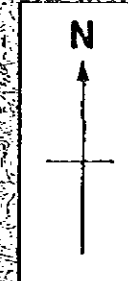
RESEVOIR AREA AT FWL 312M=3.2km<sup>2</sup>  
STORAGE VOLUME=35MCM

YAO FLOOD CONTROL DAM

<b>THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT</b>	
ROUTE MAP (4/4) DOWNSTREAM OF ING-YOT DIVERSION CANAL	Map & Drawing No.
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC. & NIPPON KOEI CO.,LTD.	Figure P-11

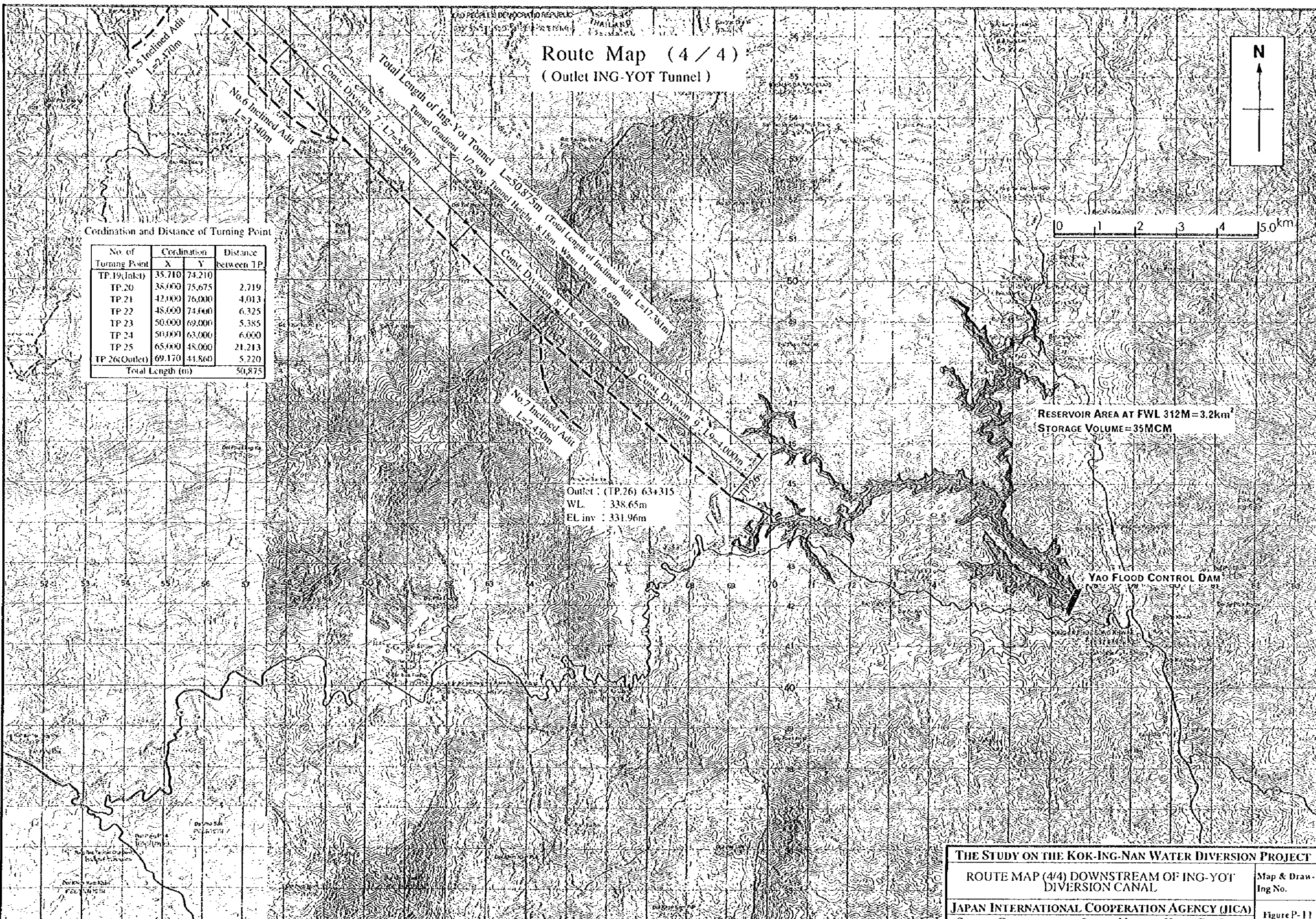


# Route Map (4 / 4) (Outlet ING-YOT Tunnel)



Coordination and Distance of Turning Point

No. of Turning Point	Coordination		Distance Between T.P.
	X	Y	
TP.19(Inlet)	35.710	74.210	2.719
TP.20	38.000	75.675	
TP.21	42.000	76.000	4.013
TP.22	48.000	74.000	6.325
TP.23	50.000	69.000	5.385
TP.24	50.000	63.000	6.000
TP.25	65.000	48.000	21.213
TP.26(Outlet)	69.170	44.860	5.220
Total Length (m)			50,875



THE STUDY ON THE KOK-ING-NAN WATER DIVERSION PROJECT	
ROUTE MAP (4/4) DOWNSTREAM OF ING-YOT DIVERSION CANAL	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	Map & Draw-Ing No.
SANYU CONSULTANTS INC. & NIPPON KOEI CO.,LTD.	Figure P-11