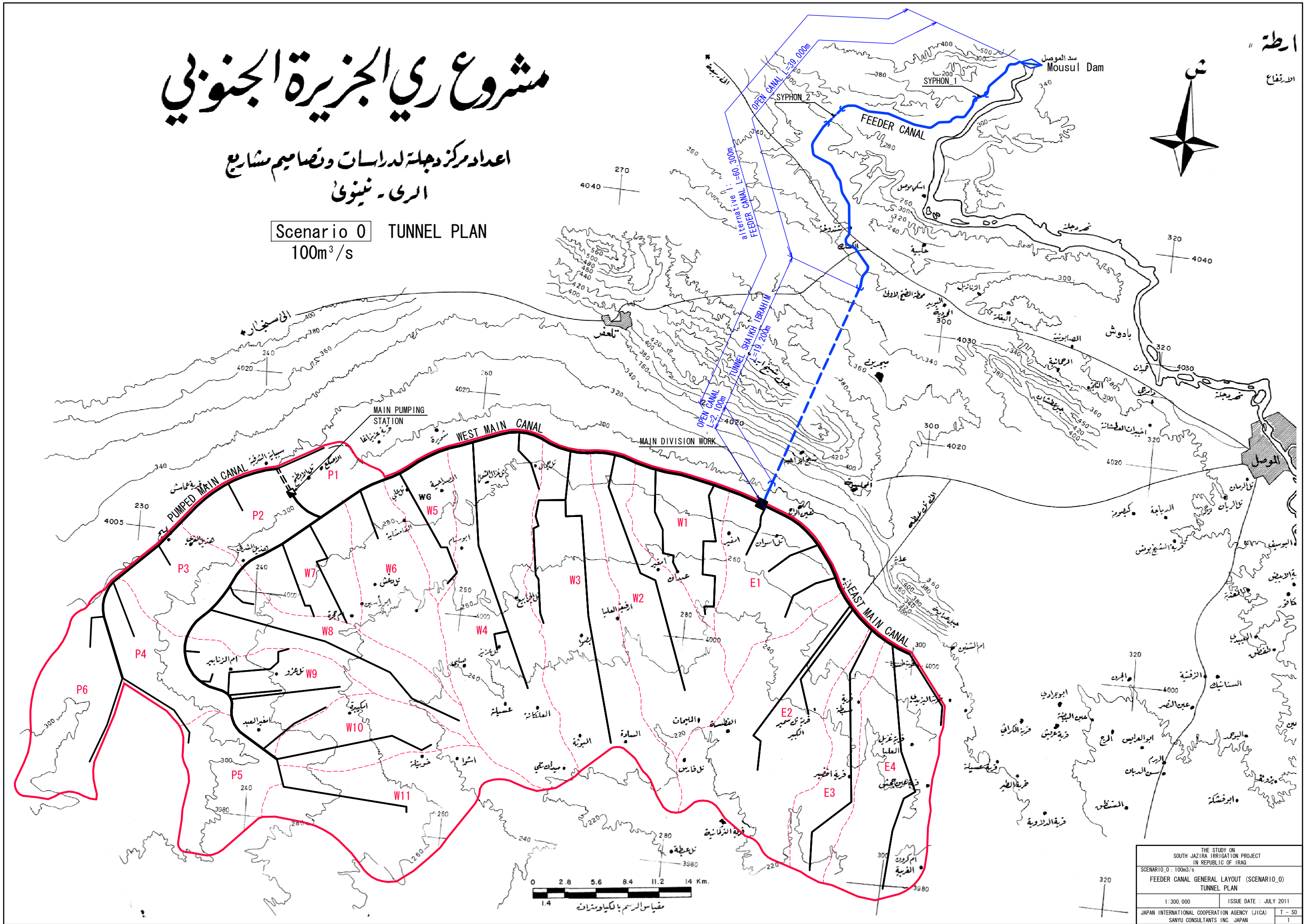


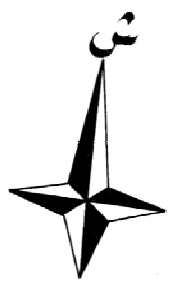
مشروع الري الجزيرة الجنوبي

اعداد مركز دجلة لدراسات وتصاميم مشاريع الري - نينوى

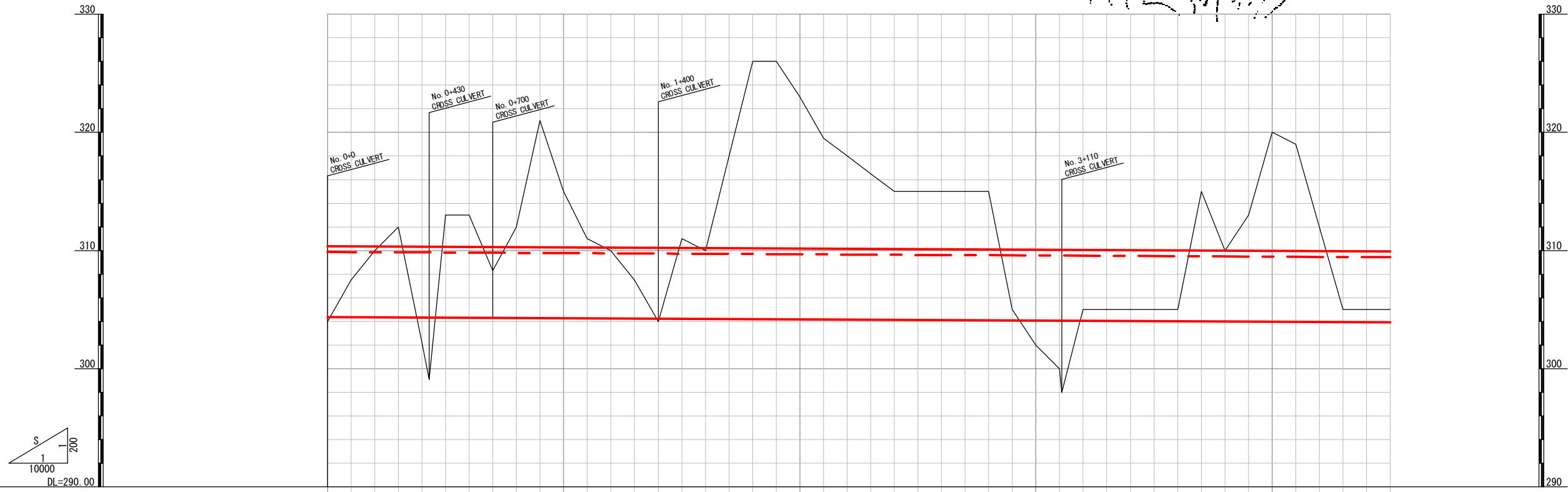
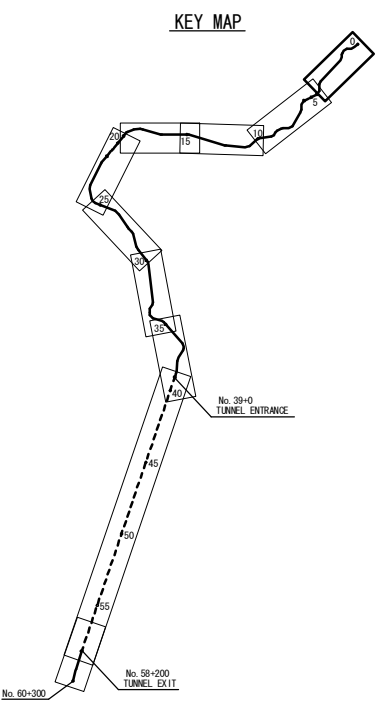
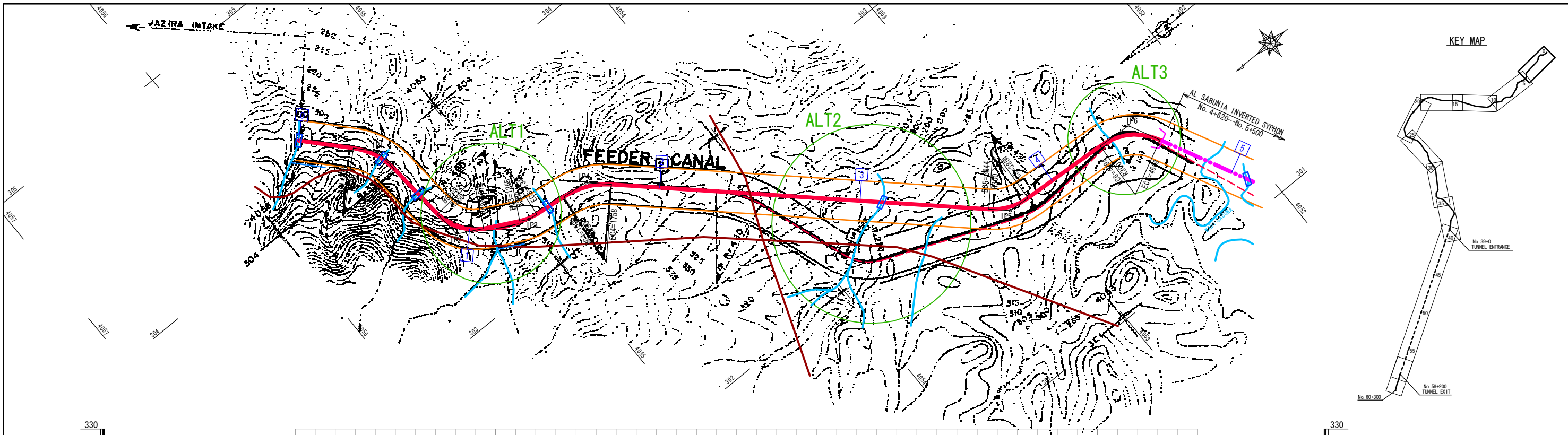
Scenario 0 TUNNEL PLAN
100m³/s



ارطة
الارتفاع



THE STUDY ON SOUTH JAZIRA IRRIGATION PROJECT IN REPUBLIC OF IRAQ	
SCENARIO 0 : 100m ³ /s	
FEEDER CANAL GENERAL LAYOUT (SCENARIO 0) TUNNEL PLAN	
1:300,000	ISSUE DATE : JULY 2011
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	T - SO
SANYU CONSULTANTS INC. JAPAN	1

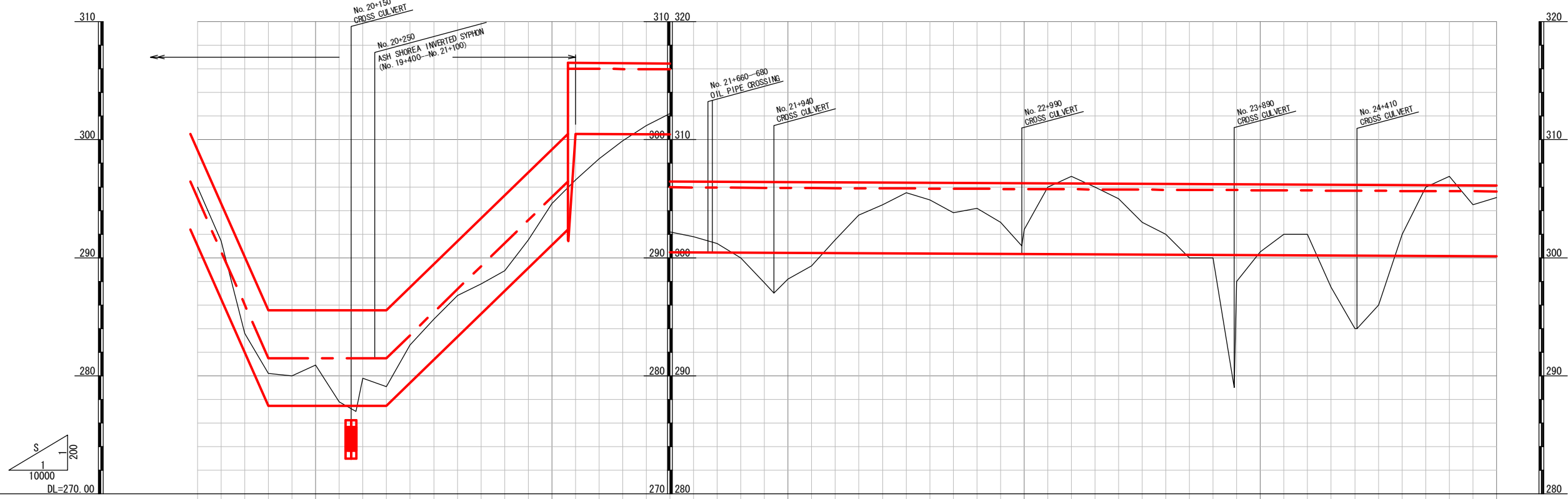
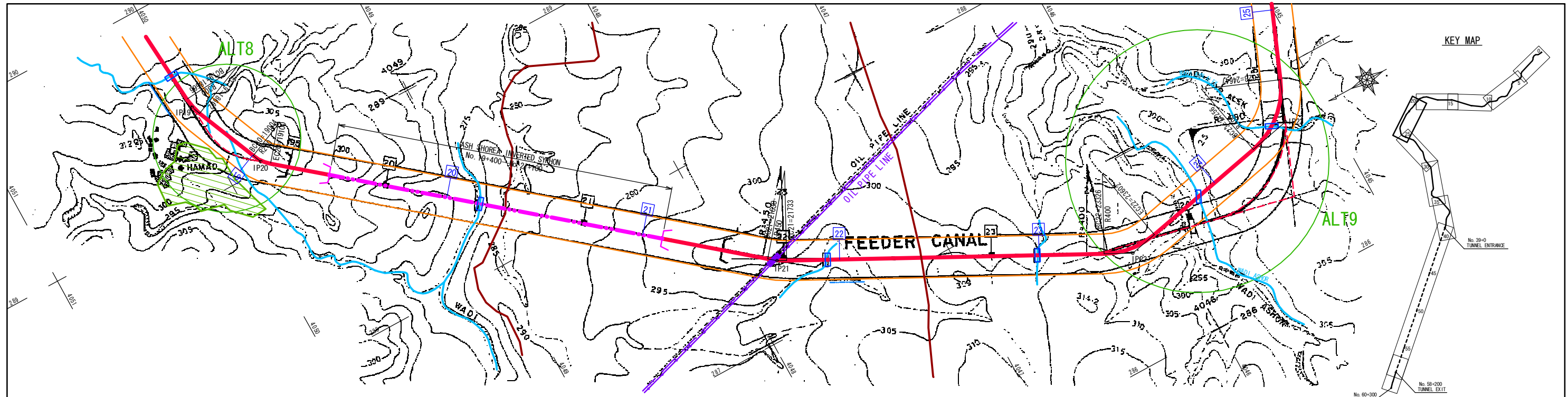


PLAN	WATER SURFACE LEVEL (W. S. L.) m	304.37 - 309.88
	BED LEVEL (B. L.) m	304.27 - 309.76
	CANAL SLOPE	1/10000
NATURAL GROUND LEVEL (N. G. L.) m	304.00, 307.50, 310.00, 312.00, 302.20, 299.10, 313.00, 308.00, 312.00, 321.00, 305.00, 311.00, 310.00, 318.00, 326.00, 326.00, 323.00, 319.50, 318.00, 316.50, 315.00, 315.00, 315.00, 315.00, 315.00, 305.00, 302.00, 300.00, 298.00, 305.00, 305.00, 305.00, 305.00, 315.00, 310.00, 313.00, 320.00, 319.00, 312.00, 305.00, 305.00, 305.00	
ADDITIONAL DISTANCE (m)	0, 100, 200, 300, 400, 430, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000	
BLOCK DISTANCE (m)	0.00, 500.00, 1000.00, 1500.00, 2000.00, 2500.00, 3000.00, 3500.00, 4000.00, 4500.00, 5000.00	
SURVEY POINT	No. 0, No. 1, No. 2, No. 3, No. 4	
CURVE	IP1, IP2, IP3, IP4, IP5, IP6	

- GENERAL NOTES**
- CHANGE
 - WADI
 - DIVERSION CHANNEL
 - OPEN CANAL
 - CROSS REGULATOR
 - SPILLWAY REGULATOR
 - SPILLWAY
 - CROSS CULVERT
 - SYPHON
 - TUNNEL
 - RAILWAY CROSSING
 - VEHICLE BRIDGE
 - OIL PIPE CROSSING
 - PUMP STATION
 - FOOT BRIDGE
 - AQUEDUCT

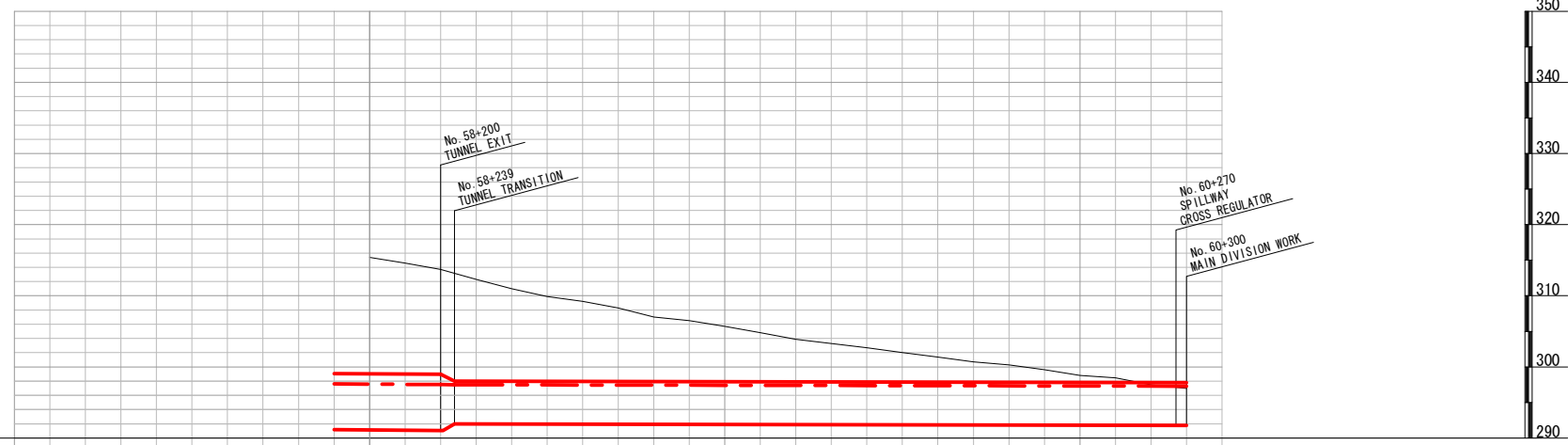
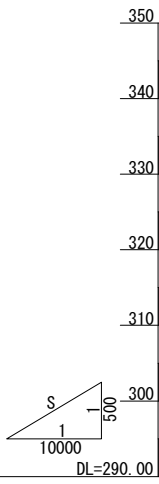
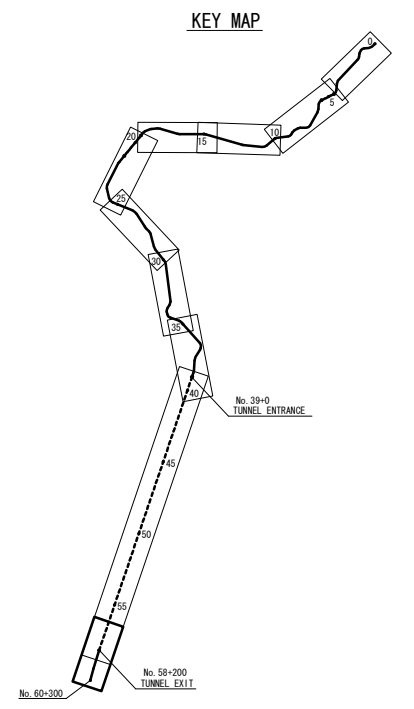
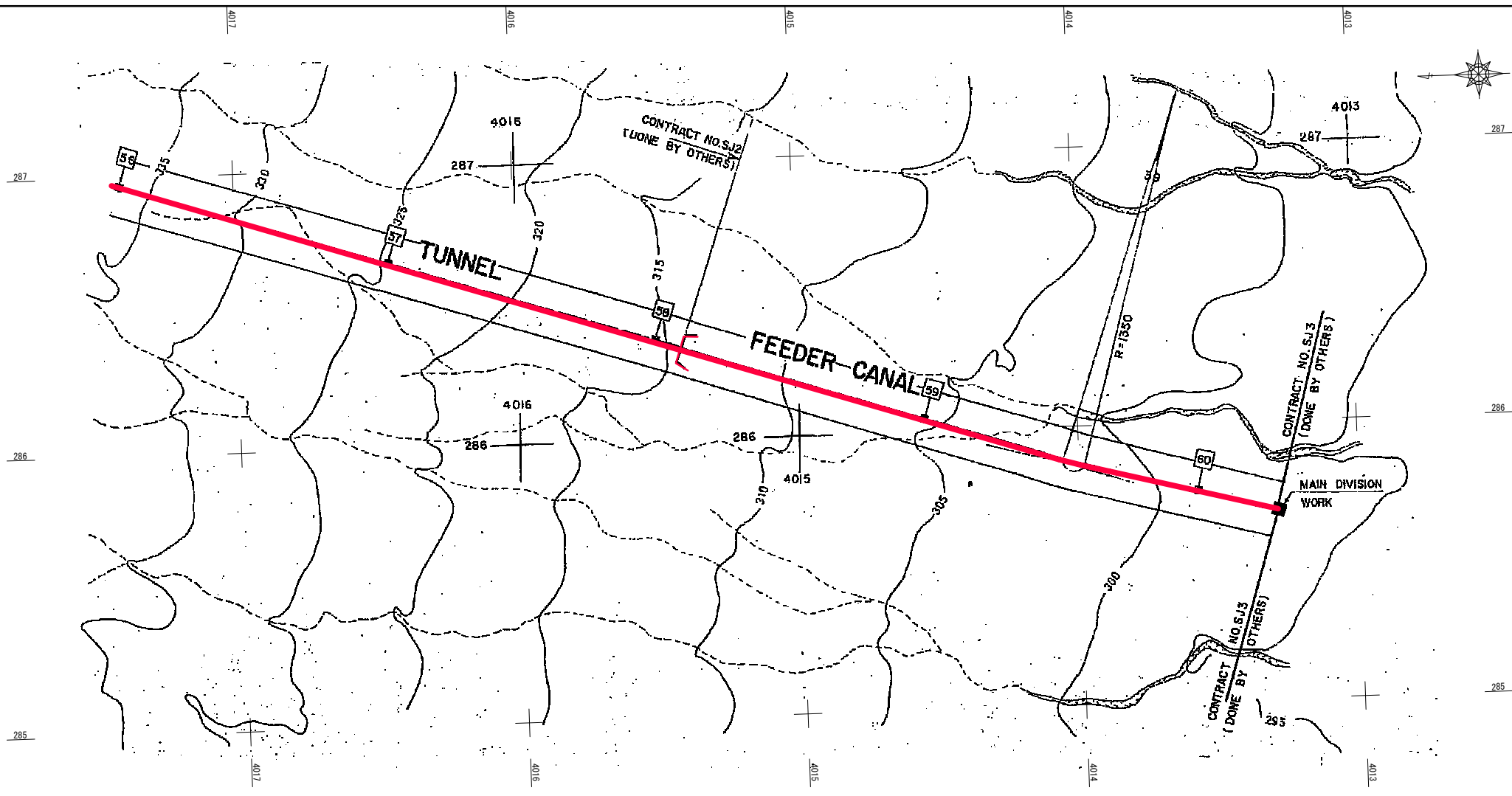
THE STUDY ON
SOUTH JAZIRA IRRIGATION PROJECT
IN REPUBLIC OF IRAQ
SCENARIO 10 : 100m³/s
FEEDER CANAL
PLAN AND PROFILE (0.0km-4.5km)

SCALE V 1 : 200 H 1 : 10000 ISSUE DATE : JULY 2011
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) T - S0
SANYU CONSULTANTS INC. JAPAN 2



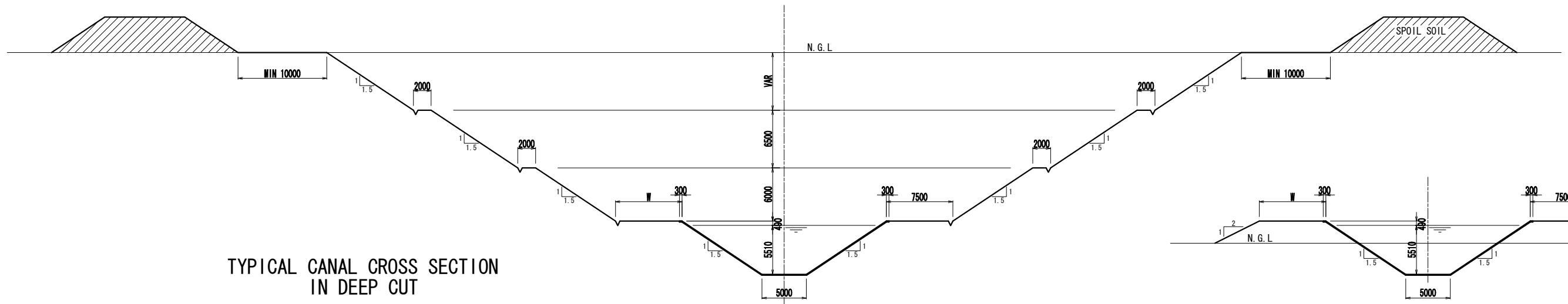
PLAN	WATER SURFACE LEVEL (W. S. L.) m	
	BED LEVEL (B. L.) m	
	CANAL SLOPE	ASH SHOREA INVERTED SYPHON
NATURAL GROUND LEVEL (N. G. L.) m	296.00	306.01
ADDITIONAL DISTANCE (m)	19.500	25.000
BLOCK DISTANCE (m)	500.00	500.00
SURVEY POINT	No. 20	No. 25
CURVE		IP21, IP22, IP23

- GENERAL NOTES**
- CHANGE
 - WADI
 - DIVERSION CHANNEL
 - OPEN CANAL
 - CROSS REGULATOR
 - SPILLWAY REGULATOR
 - SPILLWAY
 - CROSS CULVERT
 - SYPHON
 - TUNNEL
 - RAILWAY CROSSING
 - VEHICLE BRIDGE
 - OIL PIPE CROSSING
 - PUMP STATION
 - FOOT BRIDGE
 - AQUEDUCT

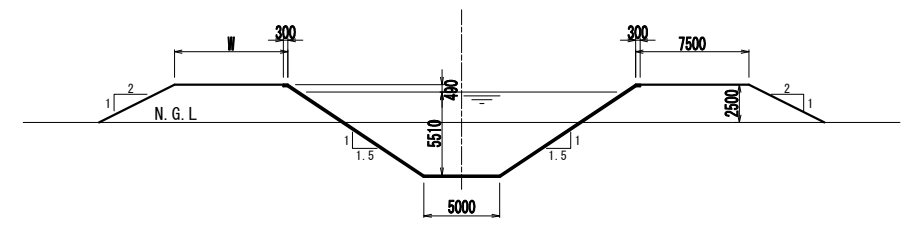


PLAN	WATER SURFACE LEVEL (W.S.L) m	291.071 - 297.513
	BED LEVEL (B.L) m	291.071 - 291.496
	CANAL SLOPE	1/3000 C.T. 0.1 1/10000
NATURAL GROUND LEVEL (N.G.L) m	319.70, 318.70, 312.30, 311.00, 309.90, 309.20, 308.30, 307.00, 306.50, 305.70, 304.80, 303.90, 303.30, 302.70, 302.00, 301.40, 300.70, 300.30, 299.60, 298.80, 298.48, 297.50, 297.00	
ADDITIONAL DISTANCE (m)	200, 207, 239, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000	
BLOCK DISTANCE (m)	500.00, 500.00, 500.00, 300.00	
SURVEY POINT	No. 59, No. 60	
CURVE		

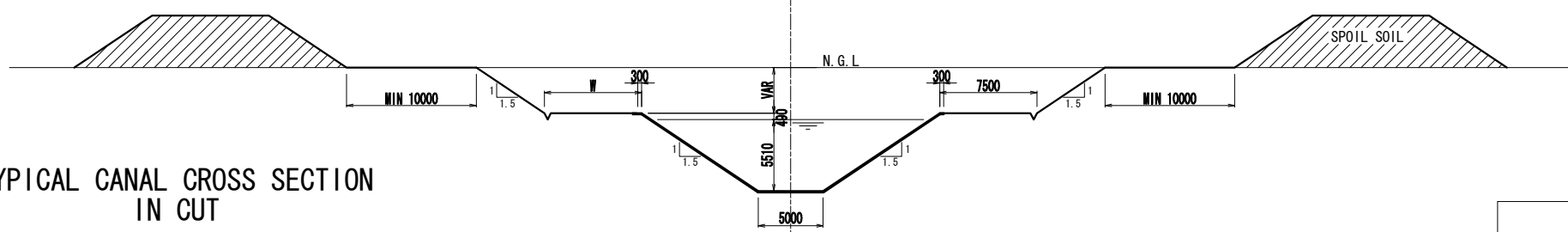
- GENERAL NOTES**
- CHAINAGE
 - WADI
 - DIVERSION CHANNEL
 - OPEN CANAL
 - CROSS REGULATOR
 - SPILLWAY REGULATOR
 - SPILLWAY
 - CROSS CULVERT
 - SYPHON
 - TUNNEL
 - RAILWAY CROSSING
 - VEHICLE BRIDGE
 - OIL PIPE CROSSING
 - PUMP STATION
 - FOOT BRIDGE
 - AQUEDUCT



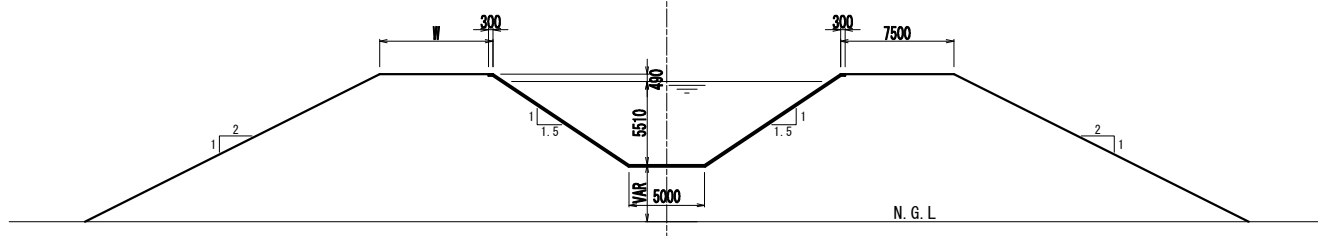
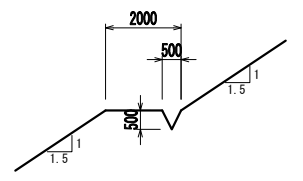
TYPICAL CANAL CROSS SECTION
IN DEEP CUT



TYPICAL CANAL CROSS SECTION
IN CUT & FILL



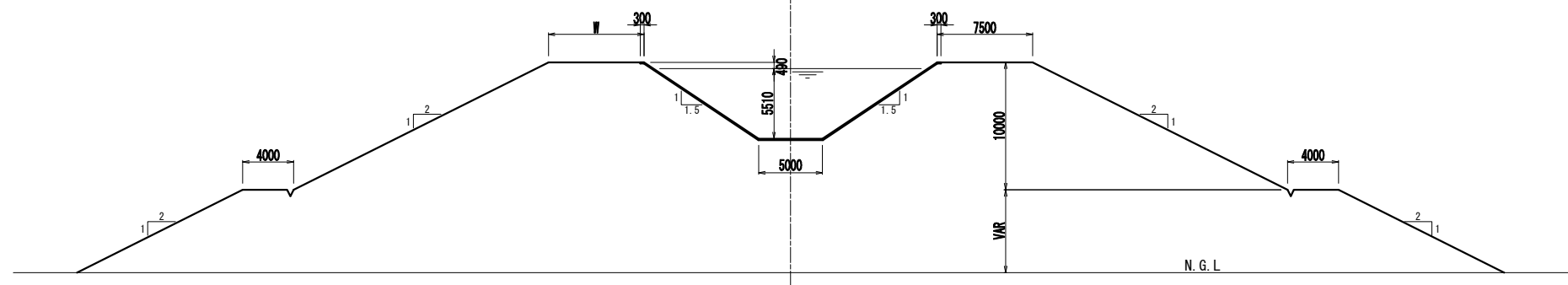
TYPICAL CANAL CROSS SECTION
IN CUT



TYPICAL CANAL CROSS SECTION
IN FILL

TYPE	HYDRAULIC DATA					GEOMETRICAL DATA		
	Q m ³ /sec	S m/m	n	V m/sec	F	B m	h m	C.LINED FREE BOARD
SCENARIO 0	100	0.0001	0.015	1.368	0.37	5.00	5.51	0.49

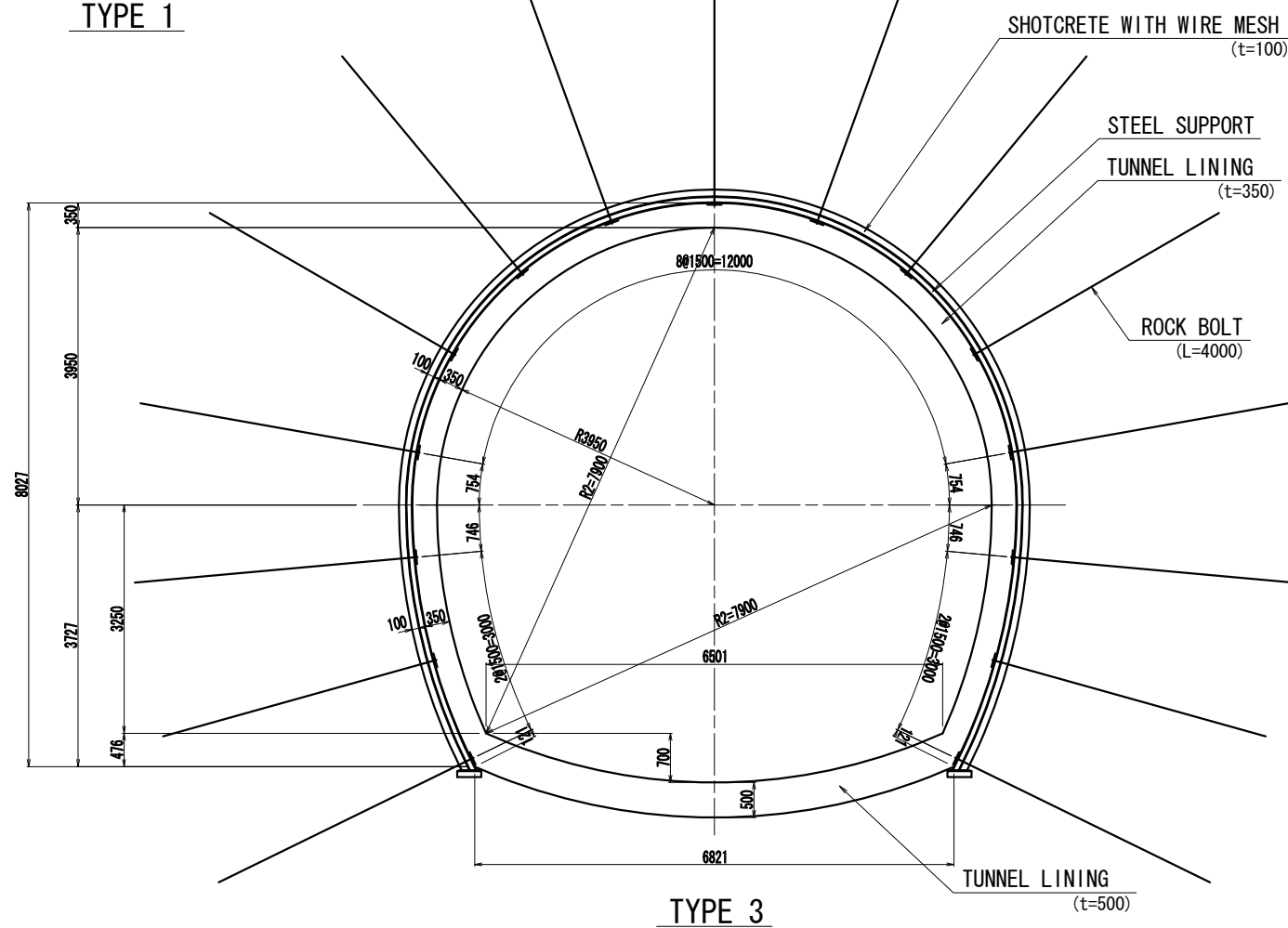
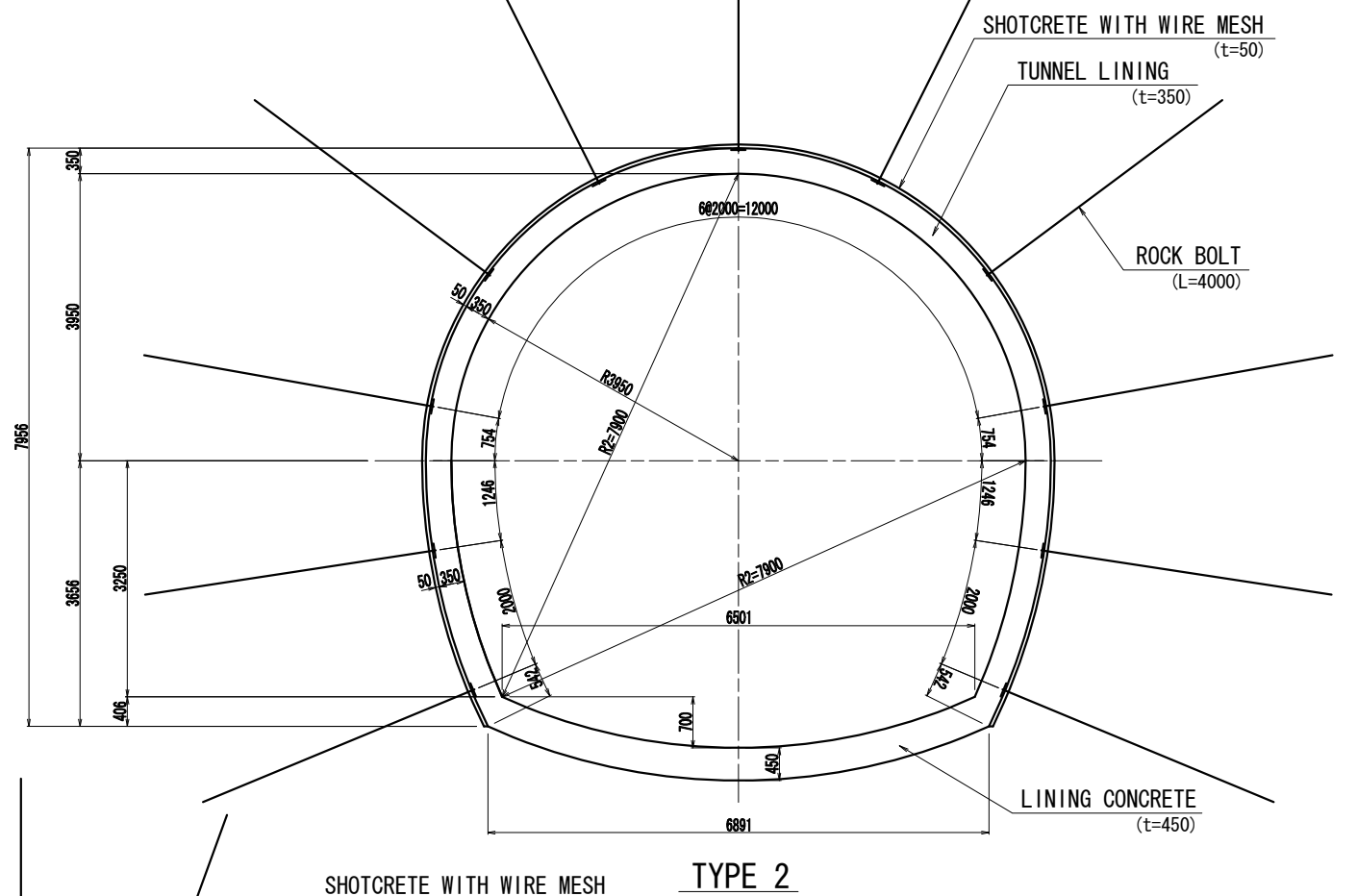
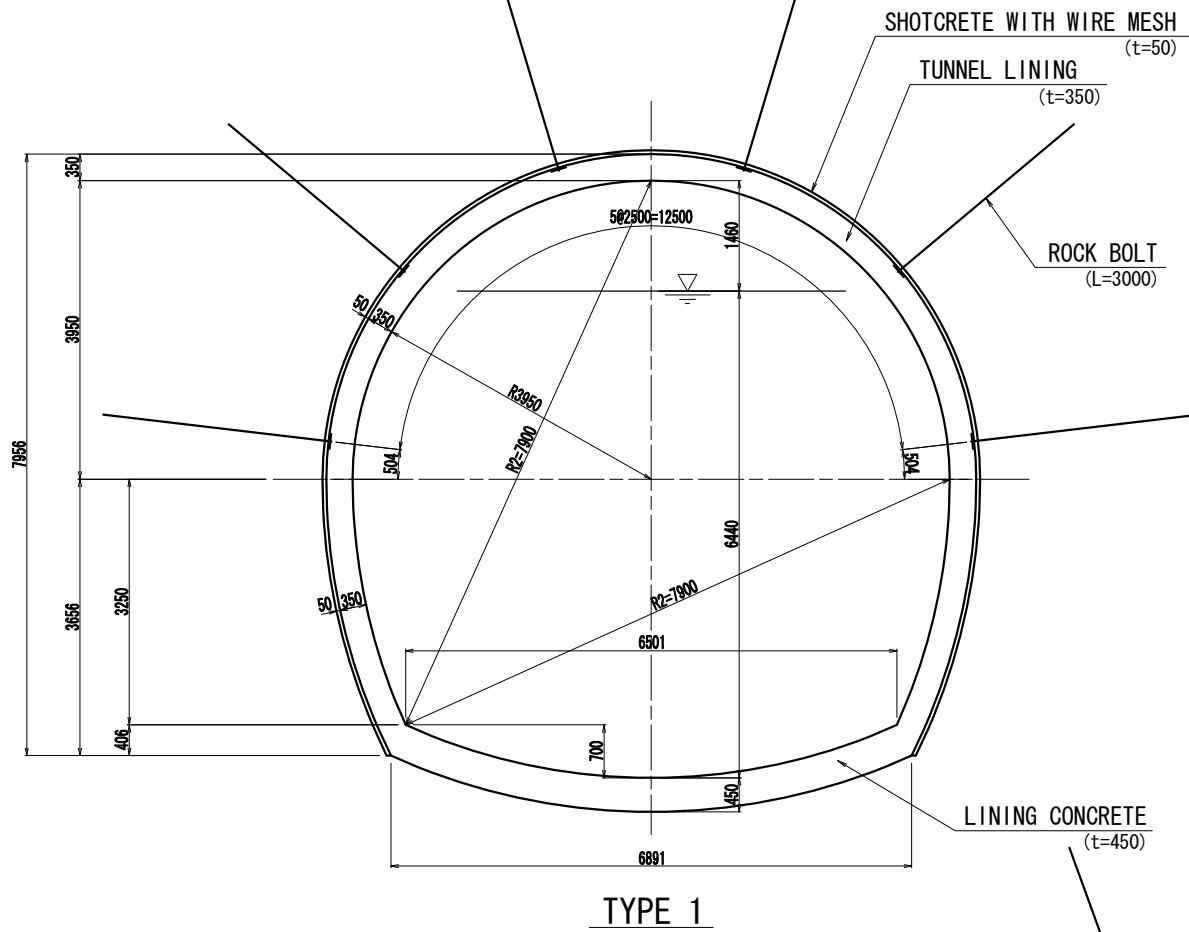
S: SLOPE OF BOTTOM OF CANALS
n: MANNING COEFFICIENT
F: FROUDE NUMBER
V: DESIGN VELOCITY
Q: DESIGN DISCHARGE
W: WIDTH OF ROAD



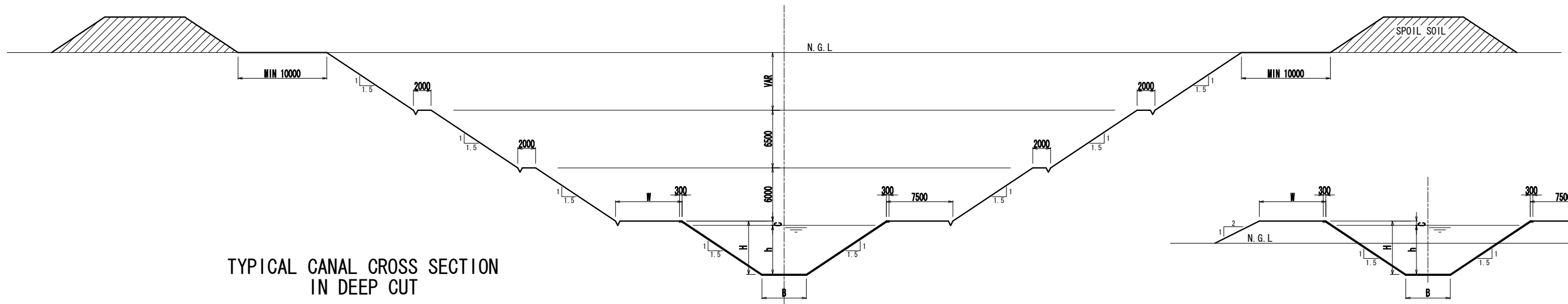
TYPICAL CANAL CROSS SECTION
IN HIGH FILL

TYPICAL TUNNEL

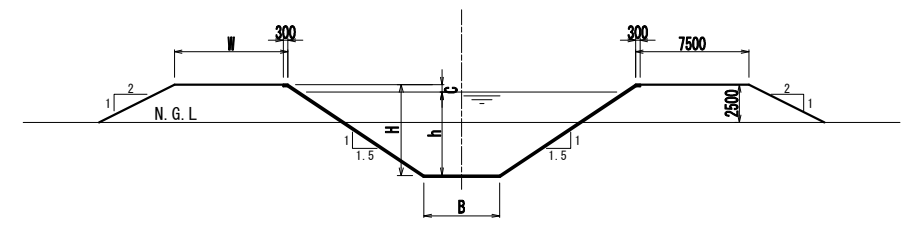
SCALE 1:50



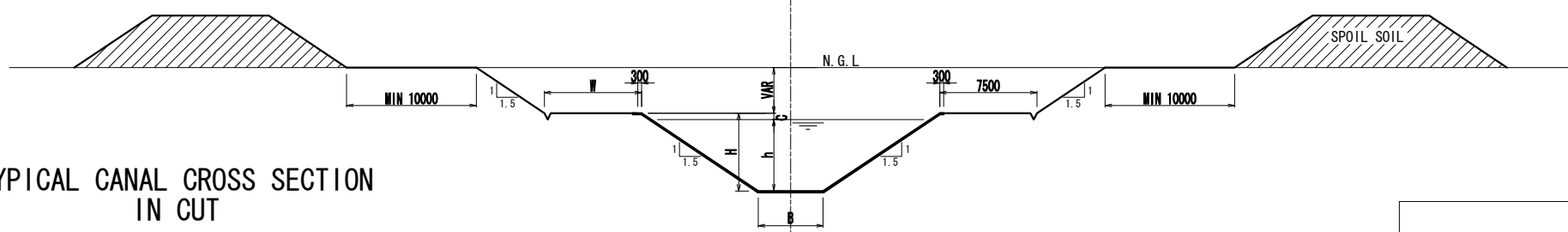
THE STUDY ON SOUTH JAZIRA IRRIGATION PROJECT IN REPUBLIC OF IRAQ	
SCENARIO 0 : 100m ³ /s FEEDER CANAL TYPICAL CROSS SECTIONS (TUNNEL)	
SCALE 1:50	ISSUE DATE : JULY 2011
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	T - 50
SANYU CONSULTANTS INC. JAPAN	13



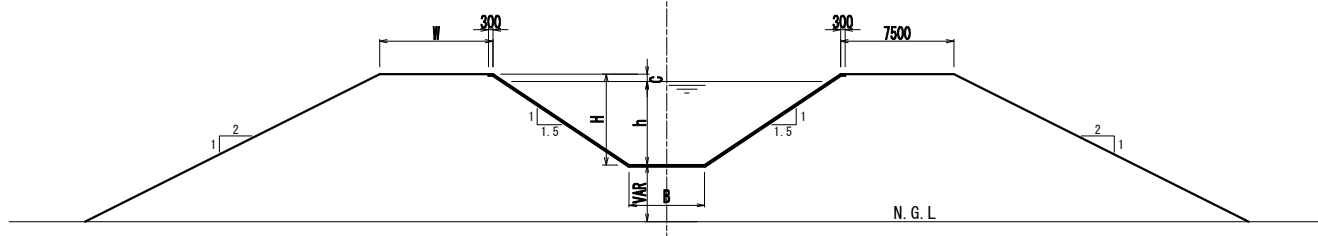
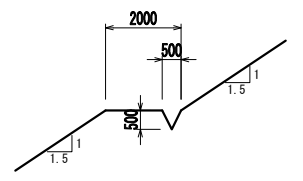
TYPICAL CANAL CROSS SECTION IN DEEP CUT



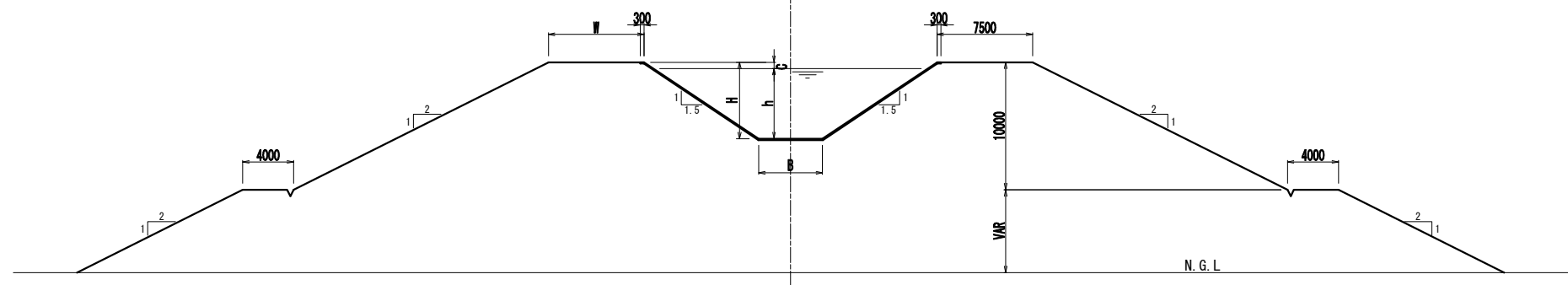
TYPICAL CANAL CROSS SECTION IN CUT & FILL



TYPICAL CANAL CROSS SECTION IN CUT



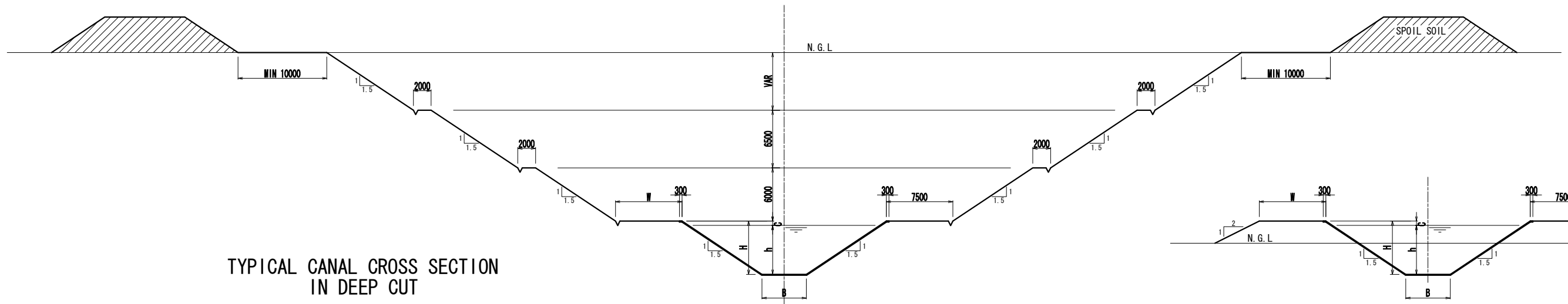
TYPICAL CANAL CROSS SECTION IN FILL



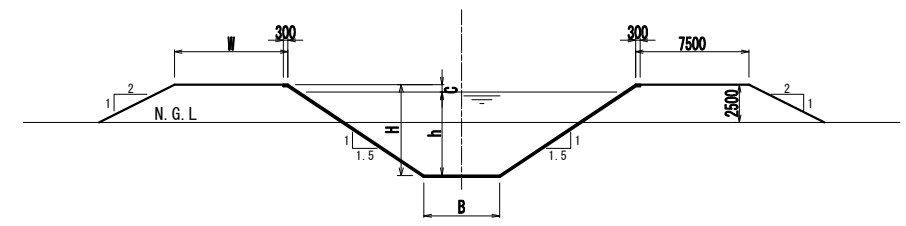
TYPICAL CANAL CROSS SECTION IN HIGH FILL

TYPE	HYDRAULIC DATA					GEOMETRICAL DATA				
	Q m ³ /sec	S m/m	n	V m/sec	F	B m	h m	C.LINED FREE BOARD	H m	
EAST MAIN CANAL	EMC_01	23	0.0005	0.015	1.729	0.37	2.50	2.26	0.34	2.60
	EMC_02	19	0.0005	0.015	1.647	0.37	2.50	2.06	0.34	2.40
	EMC_03	11	0.0005	0.015	1.431	0.36	2.40	1.60	0.30	1.90
	EMC_04	8	0.0005	0.015	1.328	0.34	1.70	1.52	0.28	1.80

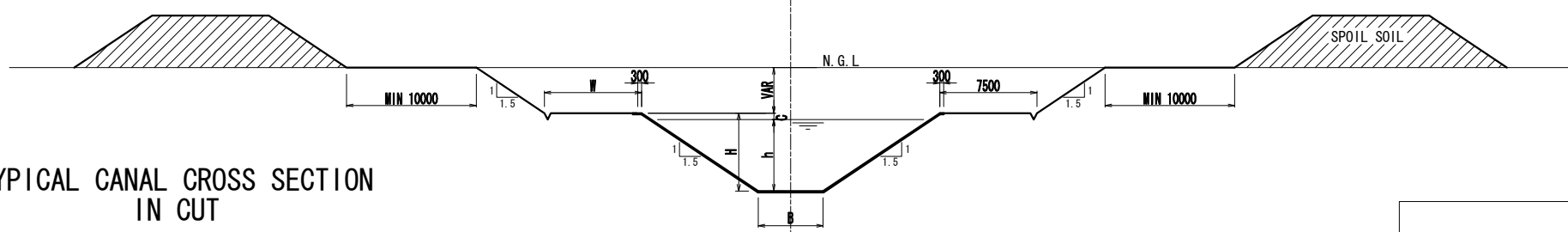
S: SLOPE OF BOTTOM OF CANALS
 n: MANNING COEFFICIENT
 F: FROUDE NUMBER
 V: DESIGN VELOCITY
 Q: DESIGN DISCHARGE
 W: WIDTH OF ROAD



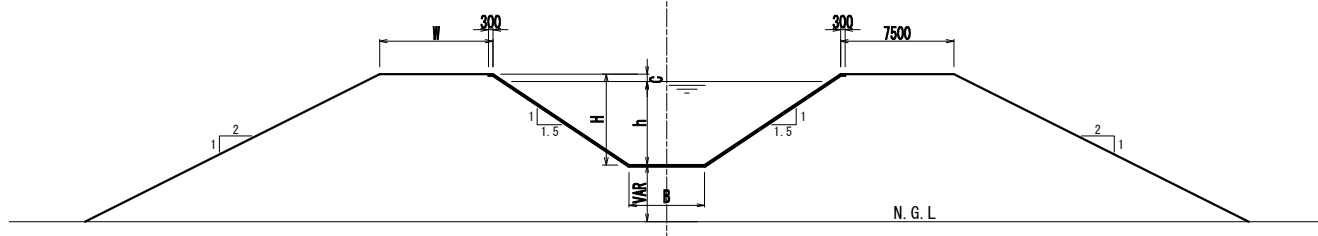
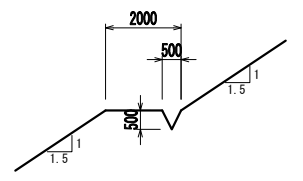
TYPICAL CANAL CROSS SECTION
IN DEEP CUT



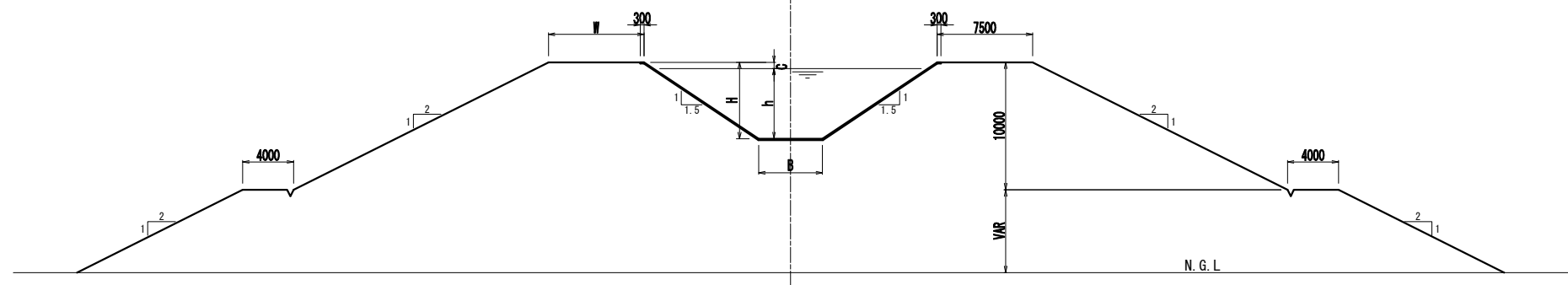
TYPICAL CANAL CROSS SECTION
IN CUT & FILL



TYPICAL CANAL CROSS SECTION
IN CUT



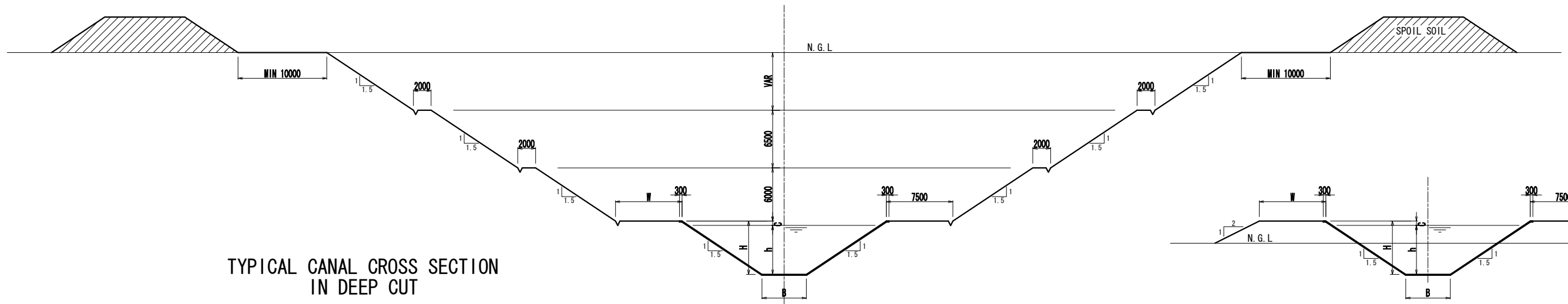
TYPICAL CANAL CROSS SECTION
IN FILL



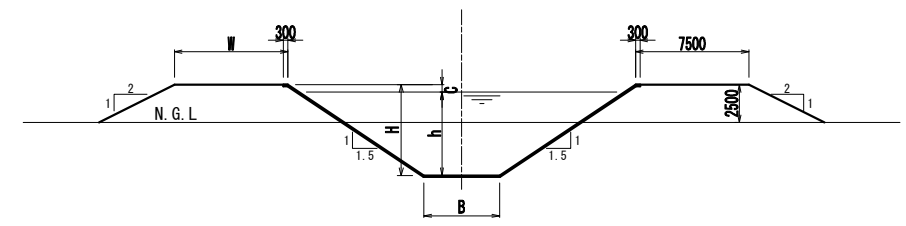
TYPICAL CANAL CROSS SECTION
IN HIGH FILL

TYPE	HYDRAULIC DATA					GEOMETRICAL DATA				
	Q m ³ /sec	S m/m	n	V m/sec	F	B m	h m	C.LINED FREE BOARD	H m	
WMC_01	77	0.00005	0.015	0.974	0.14	9.40	4.77	0.43	5.20	
WMC_02	73	0.00005	0.015	0.961	0.14	9.20	4.68	0.42	5.10	
WMC_03	67	0.00005	0.015	0.940	0.14	9.10	4.50	0.40	4.90	
WMC_04	58	0.00005	0.015	0.905	0.14	8.90	4.21	0.39	4.60	
WMC_05	48	0.00005	0.015	0.863	0.14	8.30	3.92	0.38	4.30	
WMC_06	45	0.00005	0.015	0.849	0.14	8.10	3.83	0.37	4.20	
WMC_07	26	0.00005	0.015	0.735	0.14	7.40	2.98	0.32	3.30	
WMC_08	22	0.00005	0.015	0.705	0.13	7.00	2.79	0.31	3.10	
WMC_09	19	0.00005	0.015	0.685	0.13	5.80	2.78	0.32	3.10	
WMC_10	15	0.00005	0.015	0.650	0.13	4.50	2.70	0.30	3.00	
WMC_11	11	0.00005	0.015	0.606	0.12	3.10	2.60	0.30	2.90	
WMC_12	7	0.00005	0.015	0.540	0.12	2.90	2.13	0.27	2.40	

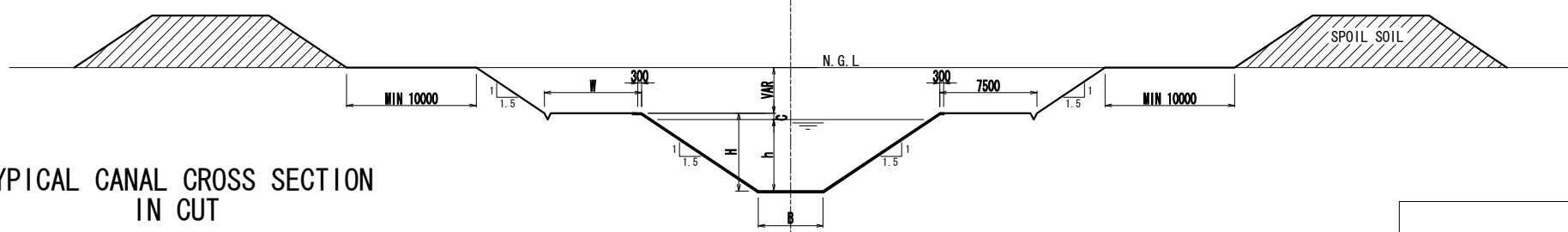
S: SLOPE OF BOTTOM OF CANALS
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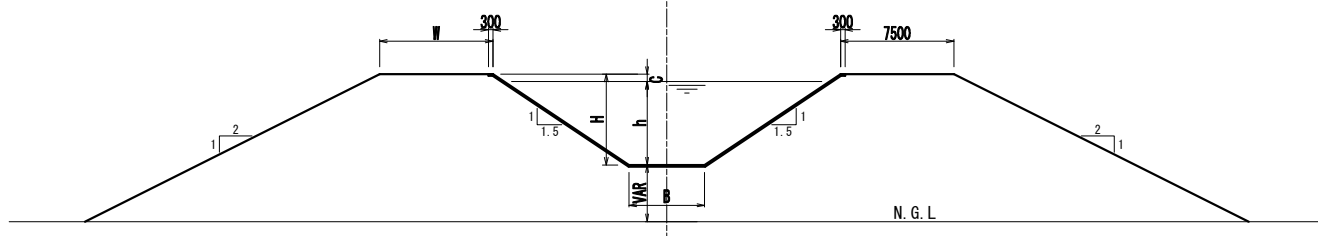
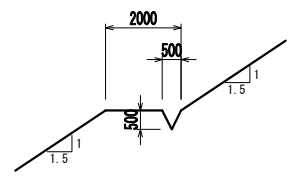
TYPICAL CANAL CROSS SECTION
IN DEEP CUT



TYPICAL CANAL CROSS SECTION
IN CUT & FILL



TYPICAL CANAL CROSS SECTION
IN CUT

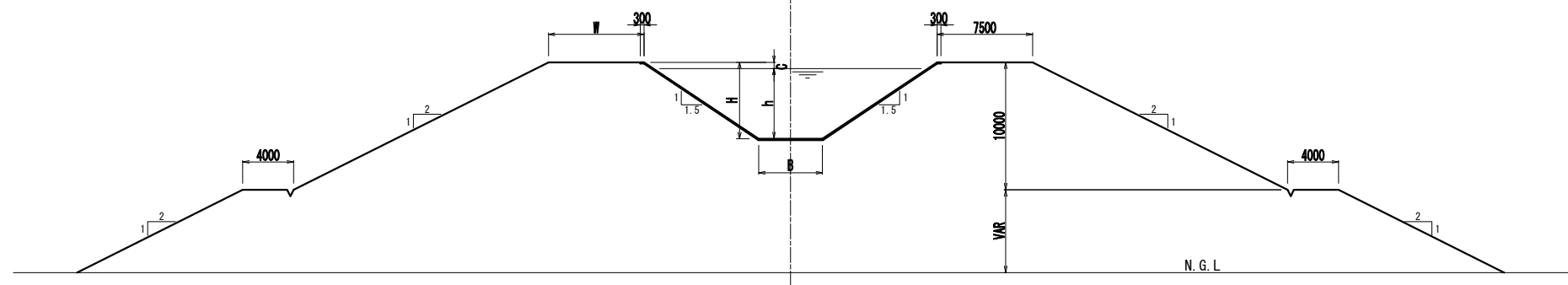


TYPICAL CANAL CROSS SECTION
IN FILL

TYPE	HYDRAULIC DATA					GEOMETRICAL DATA				
	Q m ³ /sec	S m/m	n	V m/sec	F	B m	h m	C.LINED FREE BOARD	H m	
PUMPED MAIN CANAL	PMC_01	18	0.0001	0.015	0.888	0.17	3.50	2.69	0.31	3.00
	PMC_02	15	0.0001	0.015	0.850	0.17	2.90	2.60	0.30	2.90
	PMC_03	12	0.0001	0.015	0.805	0.16	2.20	2.50	0.30	2.80
	PMC_04	9	0.0001	0.015	0.749	0.16	2.10	2.22	0.28	2.50

S: SLOPE OF BOTTOM OF CANALS
n: MANNING COEFFICIENT
F: FROUDE NUMBER

V: DESIGN VELOCITY
Q: DESIGN DISCHARGE
W: WIDTH OF ROAD



TYPICAL CANAL CROSS SECTION
IN HIGH FILL