

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NORTH SINAI DEVELOPMENT ORGANIZATION
MINISTRY OF WATER RESOURCES AND IRRIGATION
THE ARAB REPUBLIC OF EGYPT

THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)
(DETAILED DESIGN STUDY)

VOLUME IV : TENDER DOCUMENT OF PACKAGE 3
(KM 118.560 TO KM 132.500)

(VOL. IV-2 : TENDER DRAWINGS, A3 SIZE)

OCTOBER, 2000

SANYU CONSULTANTS INC.
PACIFIC CONSULTANTS INTERNATIONAL

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LIST OF DRAWINGS FOR THIRD PACKAGE

CATEGORY	DWG No.	TITLE OF DRAWINGS
1. GENERAL	GNL-301	SYMBOLS AND GENERAL NOTES
	GNL-302	THE SITE PLAN
	GNL-303	CONVEYANCE CANAL ROUTE MAP
2. CONVEYANCE CANAL	CCL-301 – 306	PLAN AND PROFILE (1/6) – (6/6)
	CCL-307 – 335	CROSS SECTIONS (1/29) – (29/29)
	CCL-336	TYPICAL SECTION (CUT SECTION)
	CCL-337	TYPICAL SECTION (FILL SECTION)
	CCL-338	CONCRETE LINED SECTION – TYPICAL PLAN AND SECTION
	CCL-339	SETTLING BOX – PLAN AND SECTIONS
	CCL-340	BRIDGE – GENERAL PLAN AND ELEVATION
	CCL-341	BRIDGE – DETAILED PLAN AND ELEVATION
	CCL-342	BRIDGE – DETAILED SECTIONS
	CCL-343	BRIDGE – INFRASTRUCTURE REINFORCEMENT
	CCL-344	BRIDGE – SUPERSTRUCTURE REINFORCEMENT
	CCL-345	DETAILS – STAIRWAY, STAFF GAUGE, LADDER RUNG AND KILOMETER SIGN

SYMBOLS

B, b	WIDTH
BC, B.C.	BEGINNING OF CURVATURE
BP	BEGINNING POINT
℄	CENTERLINE
CM, cm	CENTIMETER
Cj, CJ	CONSTRUCTION JOINT
Contr. jt, CONTR. JT	CONTRACTION JOINT
CL	CURVE LENGTH
D22	DEFORMED BAR DIA. 22 mm
DWG., Dwg.	DRAWING
DIA., dia.	DIAMETER
EC, E.C.	END OF CURVATURE
EL.	ELEVATION
EP	END POINT
Exp. jt, EXP. JT	EXPANSION JOINT
H.W.L.	HIGH WATER LEVEL
IA	INTERSECTIONAL ANGLE
KM, km	KILOMETER
L	LENGTH
M, m	METER
Max., MAX.	MAXIMUM
Min., MIN.	MINIMUM
N, n	NUMBER
IP, I.P.	POINT OF INTERSECTION
PL	STEEL PLATE
P.V.C.	POLYVINYL CHLORIDE PIPE
R	RADIUS OF CURVATURE
R.C., RC	REINFORCED CONCRETE
S.L., SL	SECOND LENGTH
SP	MIDDLE POINT OF CURVATURE
T, t	THICKNESS
T.L., TL	TANGENT LENGTH
W.L.	WATER LEVEL
W.S.	WATER SURFACE
φ	DIAMETER
15 D22	15 (NUMBER OF REINFORCEMENT)- DEFORMED BAR DIA. 22 mm
5 D22/m	5 (NUMBER OF REINFORCEMENT PER METER) - DEFORMED BAR DIA. 22 mm

GENERAL NOTES

- ALL DIMENSIONS AND ELEVATIONS ARE IN METERS, UNLESS OTHERWISE SHOWN.
- DURING THE CONTRACT PERIOD, IT IS THE CONTRACTOR'S DUTY TO CHECK THE CORRECTNESS OF ALL THE RELEVANT LOCATIONS, DIMENSIONS, ELEVATIONS AND OTHER DATA AS PROVIDED BY THE DRAWINGS AND SPECIFICATIONS BEFORE THE IMPLEMENTATION OF EACH WORK.
- THE DESIGN LINES SHOWN IN THE DRAWINGS ARE LINES WITHIN WHICH NO EXCAVATED MATERIALS OF ANY KIND AND NO TIMBERING SHALL BE PERMITTED TO REMAIN.
- COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAY SHALL BE AS FOLLOWS :

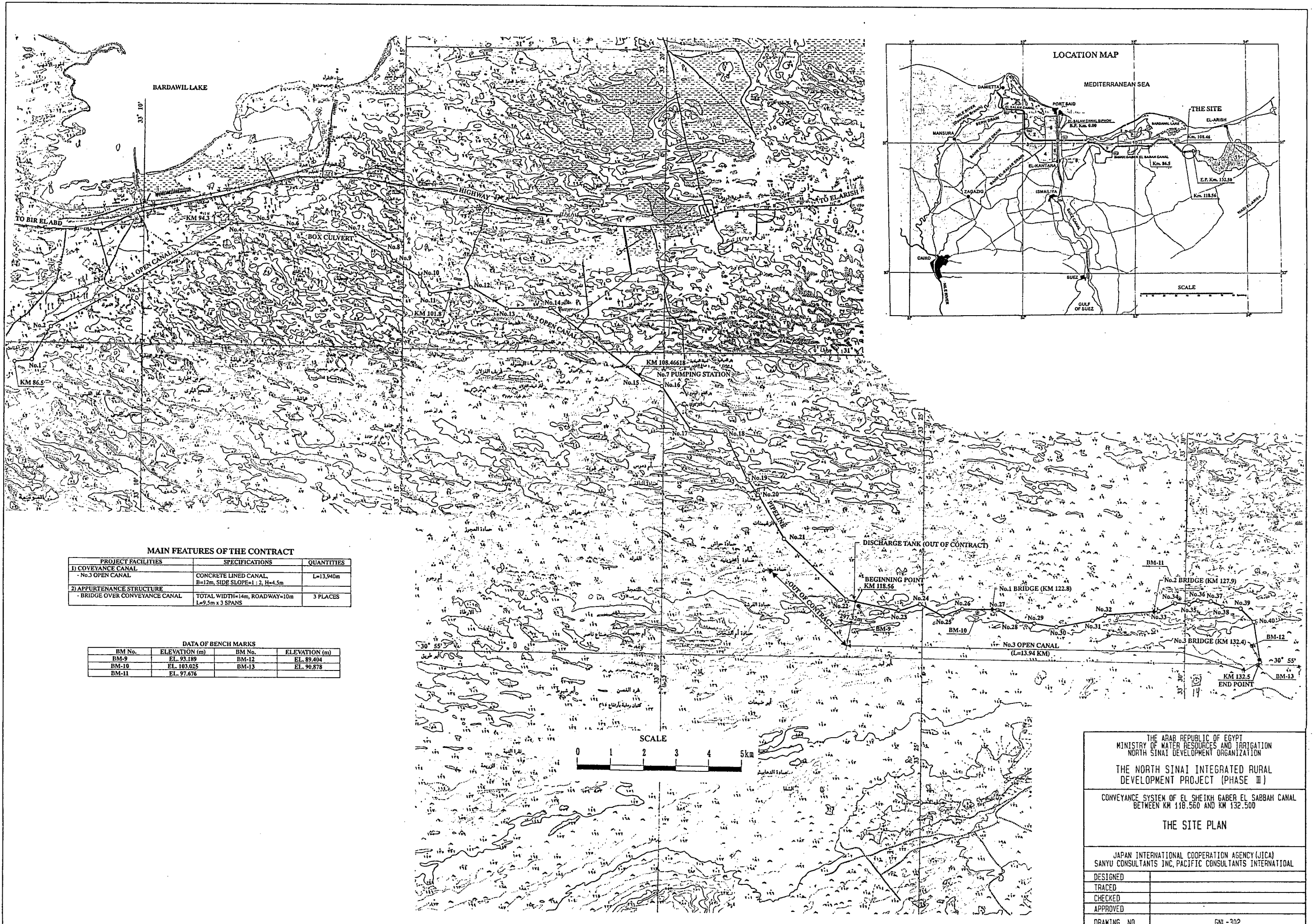
1) LINING CONCRETE	225 kg/cm ²
2) REINFORCED CONCRETE	275 kg/cm ²
3) PLAIN CONCRETE	180 kg/cm ²
- CONCRETE THICKNESS SHALL VARY UNIFORMLY BETWEEN DIMENSIONS SHOWN.
- CHAMFER ALL EXPOSED EDGES 2 cm, UNLESS OTHERWISE INDICATED.
- UNLESS OTHERWISE INDICATED, REINFORCEMENT SHALL BE DEFORMED BAR OF STEEL S2.
- THE MINIMUM LENGTH OF LAP FOR SPLICING PARALLEL BARS SHALL BE AS GIVEN IN TABLE A.

TABLE A LENGTH OF LAPPED SPLICE "L"

BAR DIA.	L (cm)	BAR DIA.	L (cm)
D10	0.59	D22	1.29
D13	0.76	D25	1.46
D16	0.94	D28	1.64
D19	1.11	D32	1.87

- WHEN REINFORCEMENTS OF DIFFERENT SIZE ARE TO BE SPLICED, THE LENGTH OF LAP SHALL BE GOVERNED BY THE SMALLER DIAMETER BAR.
- EMBEDMENT LENGTH OF REINFORCEMENT SHALL BE MORE THAN 45 BAR DIAMETERS.
- UNLESS OTHERWISE SHOWN, THE COVER OF CONCRETE TO THE MAIN REINFORCEMENT (DISTANCE BETWEEN FACE OF CONCRETE AND CENTERLINE OF THE NEAREST MAIN REINFORCEMENT) SHALL BE 6 cm FOR SLABS AND 7 cm FOR BEAMS.
 - USE 10 BAR DIAMETER RADIUS FOR 90° BEND OF MAIN REINFORCEMENT.
 - DIMENSIONS AND LOCATIONS OF BLOCKOUT SHOWN ON THE DRAWINGS ARE TENTATIVE AND MAY BE MODIFIED. BLOCKOUT CONCRETE, FOR PAYMENT, WILL BE MEASURED AS A PART OF THE ADJACENT CONCRETE.
 - TREE PLANTATION SHALL BE CARRIED OUT ON BOTH SIDES OF O/M ROADS AND THE NEAREST BERMS TO THE O/M ROADS IN CUT AND FILL SECTIONS ALONG No.3 OPEN CANAL SECTIONS. THE CONTRACTOR SHALL DESIGN THE DRIP IRRIGATION SYSTEMS NECESSARY FOR IRRIGATION OF PLANTED TREES AND INSTALL THE DRIP IRRIGATION SYSTEMS APPROVED BY THE EMPLOYER.
 - UNLESS OTHERWISE INDICATED, STONE PITCHING SHALL BE STONE PITCHING WITH MORTAR CAULKING.

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAAH CANAL BETWEEN KM 118.560 AND KM 132.500	
SYMBOLS AND GENERAL NOTES	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	GNL-301



MAIN FEATURES OF THE CONTRACT

PROJECT FACILITIES	SPECIFICATIONS	QUANTITIES
1) COVEYANCE CANAL - No.3 OPEN CANAL	CONCRETE LINED CANAL, B=12m, SIDE SLOPE=1:2, H=4.5m	L=13,940m
2) APPURTENANCE STRUCTURE - BRIDGE OVER CONVEYANCE CANAL	TOTAL WIDTH=14m, ROADWAY=10m L=9.5m x 3 SPANS	3 PLACES

DATA OF BENCH MARKS

BM No.	ELEVATION (m)	BM No.	ELEVATION (m)
BM-9	EL. 93.189	BM-12	EL. 89.404
BM-10	EL. 103.025	BM-13	EL. 90.878
BM-11	EL. 97.676		

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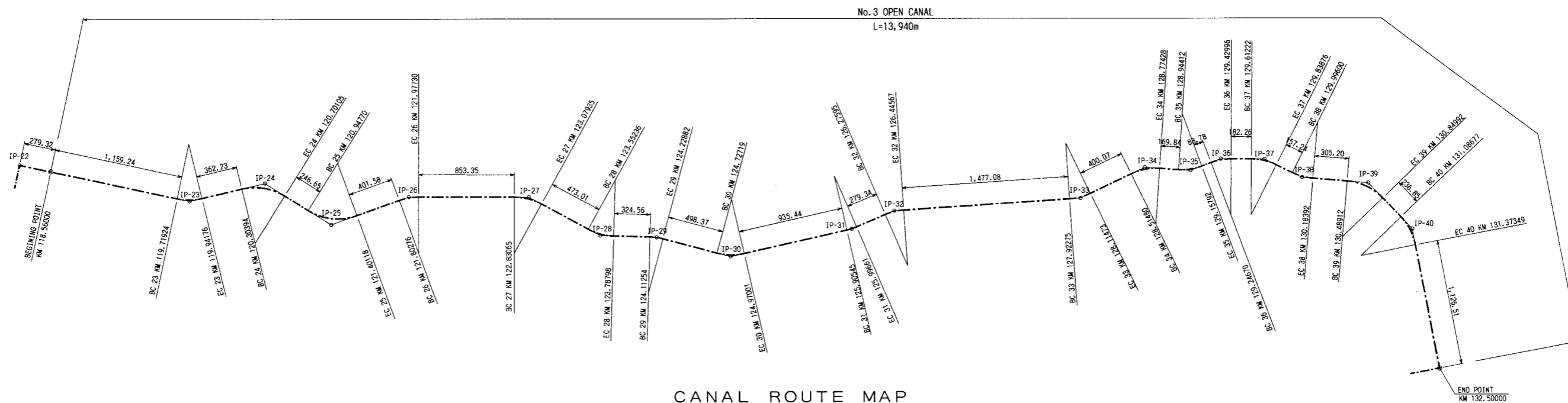
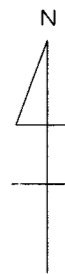
THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)

CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBABH CANAL
 BETWEEN KM 118.560 AND KM 132.500

THE SITE PLAN

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
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APPROVED	
DRAWING NO.	GNL-302



CANAL ROUTE MAP
SCALE 1 : 40,000

TABLE OF LOCATIONS AND CURVATURES

Location	Distance (m)	Acc. Distance (m)	IA (°)	Radius (m)	TL (m)	CL (m)	SL (m)
IP-22							
BP	279.32	0.00					
IP-23	1,159.24	1,159.24	25°-30'-00"	500	113.14	222.52	12.64
IP-24	685.02	1,844.26	45°-30'-00"	500	209.67	397.06	42.18
IP-25	700.00	2,544.26	51°-57'-55"	500	243.68	453.48	56.22
IP-26	733.42	3,277.68	20°-00'-00"	500	88.16	174.54	7.71
IP-27	1,068.50	4,346.18	28°-30'-00"	500	126.98	248.70	15.87
IP-28	720.03	5,066.21	27°-00'-00"	500	120.04	235.62	14.21
IP-29	503.00	5,569.21	13°-19'-28"	500	58.40	116.28	3.40
IP-30	680.62	6,249.83	27°-49'-28"	500	123.85	242.82	15.11
IP-31	1,104.99	7,354.82	10°-26'-43"	500	45.70	91.16	2.08
IP-32	410.74	7,765.56	19°-26'-55"	500	85.68	169.72	7.29
IP-33	1,659.96	9,425.52	22°-00'-00"	500	97.19	191.98	9.36
IP-34	629.98	10,055.50	29°-44'-00"	500	132.73	259.48	17.32
IP-35	411.14	10,466.64	24°-30'-00"	500	108.56	213.80	11.65
IP-36	290.01	10,756.65	21°-00'-00"	500	92.67	183.26	8.52
IP-37	390.18	11,146.83	25°-57'-36"	500	115.25	226.54	13.11
IP-38	367.57	11,514.40	21°-31'-59"	500	95.08	187.92	8.96
IP-39	588.93	12,103.33	41°-20'-40"	500	188.66	360.80	34.41
IP-40	572.94	12,676.27	32°-51'-24"	500	147.43	286.72	21.28
EP	1,273.84	13,950.11					

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BETWEEN KM 118.560 AND KM 132.500

CONVEYANCE CANAL ROUTE MAP

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SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

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DRAWING NO.	GNL-303