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 VIII : PROJECT COST ESTIMATE REPORT

OCTOBER, 2000

SANYU CONSULTANTS INC.
PACIFIC CONSULTANTS INTERNATIONAL

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The North Sinai Integrated Rural Development Project (Phase III)

Foreign Exchange Rate
(As of April 3, 2000)

US$ 1.00 = Yen 105.60 = 3.42 Egyptian Pound
1.00 Egyptian Pound = Yen 30.88

1. Project Cost Estimate

(1) Conditions for Estimation

The project cost has been estimated in due compliance with following conditions.

(a) Cost of machinery, equipment and materials

The construction works will be carried out by the contractors according to the contract with the project-executing agency. The contractors shall be responsible for procurement of machinery, equipment and materials to be used for construction works and the cost of machinery and equipment is included in the depreciation cost.

(b) Unit price

The unit prices of wages, materials, equipment and machinery are estimated based on the current price prevailing in the Egypt.

(c) Demarcation of foreign currency portion and local currency portion

Each component of the construction works is divided into foreign currency portion and local currency portion; the former price is estimated based on CIF at port of Port Said as of April 2000 and latter is on the market price at the proposed project site of the country.

(d) Overhead and profit

The overhead and profit of contractor shall be included in each Pay Items in Bill of Quantities.

(e) Survey and engineering fees

The costs of survey and engineering fees shall be 1% of the sum of direct construction costs.

(f) Administration cost

The administration cost shall be 3% of the sum of direct construction costs.

(g) Price escalation

The price escalation shall be 2% of the sum of direct construction costs. 0.8% is for foreign portion and remaining 1.2% is for local portion.

(h) Physical contingencies

The physical contingencies shall be 5% of the sum of direct construction costs and price escalation.

(i) Foreign exchange rate

The foreign exchange rate applied for this cost estimate is US$1.00=105.60Yen=3.42 Egyptian Pound (LE) as of April 2000. Therefore 1LE is in 30.88 Yen.

(2) Project Cost

Based on the above-mentioned prerequisite and method, the project cost was estimated as shown in Table 1 and 2.

Table 1. Summary of Project Cost

(Unit : 1,000 Egyptian Pound)

Cost Item	Foreign Currency	Local Currency	Total Amount
I. Project Cost			
1. Direct Construction Cost			
1.1 Conveyance canal (1)	0	359,897	359,897
1.2 Conveyance canal (2)	0	94,781	94,781
1.3 No.7 Pumping Station	3,834	31,351	35,185
1.4 Delivery pressured pipeline	107,508	164,293	271,801
1.5 Pump, mechanical equipment	65,520	20,091	85,611
1.6 Motor, electrical equipment	96,748	13,250	109,998
1.7 No.1and No.2 Access road	0	6,541	6,541
1.8 No.3 Access road	0	4,227	4,227
1.9 Main power substation	0	41,340	41,340
Sub-total	273,610	735,771	1,009,381
2. Indirect Cost			
2.1 Procurement of OM equipment	8,424	236	8,660
2.2 Consulting services	16,645	3,401	20,046
2.3 Survey and engineering fees (1%)		10,094	10,094
2.4 Administration cost (3%)		30,281	30,281
Sub-total	25,069	44,012	69,081
3. Contingencies			
3.1 Physical contingencies (5%)	13,790	37,230	51,020
3.2 Price escalation (2%)	2,189	8,829	11,018
Sub-total	15,979	46,059	62,038
Total	314,658	825,843	1,140,501
II. Construction Cost of Package-wise			
A. Package 1	0	366,438	366,438
B. Package 2	273,610	233,212	506,822
C. Package 3	0	94,781	94,781
D. Package 4	0	41,340	41,340
Total	273,610	735,771	1,009,381

Table 2. Cost Breakdown of Conveyance System

(Unit: 1,000 LE)

Tender Package	Description	Unit	Quantity	Amount
1st package	No.1 and No.2 Open Canals	m	14,470	95,184
	Box Culvert Conduit	m	7,500	218,935
	Spillway System	L.S.	1	25,887
	Mechanical Works	L.S.	1	19,891
	Sub-total			359,897
	No.1 and No.2 Access Roads	m	3,800	6,541
	Sub-total			6,541
	Total			366,438
2nd package	Sand Settling Basin	L.S.	1	13,952
	Pumping Station	L.S.	1	21,233
	Mechanical Equipment	L.S.	1	85,611
	Electrical Works	L.S.	1	109,998
	Delivery Pressured Pipeline	L.S.	1	270,045
	Discharge Tank	L.S.	1	1,756
	Sub-total			502,595
	No.3 Access Road	m	5,060	4,227
	Sub-total			4,227
	Total			506,822
3rd package	No.3 Open Canal	m	13,940	94,781
	Total			94,781
4th package	Main Power Substation (Electrical Works)	L.S.	1	39,214
	Main Power Substation (Building Works)	L.S.	1	1,284
	Administration (Building Works)	L.S.	1	842
	Total			41,340
	Grand Total			1,009,381

2. Cost Estimates in Each Package

Project consists of four packages as follows:

(Package-1)
Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466

(Package-2)
Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station

(Package-3)
Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 118.560 and KM 132.500

(Package-4)
Conveyance System of El Sheikh Gaber El Sabbah Canal
Main Power Substation (for El Salaam No.7 P.S.)

Cost estimates in each package are described in following pages.

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

SUMMARY AND TOTAL

Pay Item No.	Item of Works	Amount Egyptian Pound	Remarks
OC-0100	No.1 and No.2 Open Canals	95,184,000	
BC-0200	Box Culvert Conduit	218,935,000	
SW-0300	Spillway System	25,887,000	
AR-0400	No.1 and No.2 Access Roads	6,541,000	
MW-0500	Mechanical Works	19,891,000	
Total		366,438,000	

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian
OC-0100	**No.1 & No.2 Open Canals**				
OC-0101	Excavation (1), above embankment	m^3	2,180,000	2.25	4,905,000
OC-0102	Excavation (2), below embakment	m^3	1,800,000	2.50	4,500,000
OC-0103	Fill (1), for canal	m^3	1,580,000	3.25	5,135,000
OC-0104	Fill (2), for embankment	m^3	2,190,000	2.75	6,022,500
OC-0105	Trimming of Side Slopes of Concrete Lined Canal	m^3	140,000	3.00	420,000
OC-0106	Fill with Laterite and Laterite Bedding	m^3	2,000	25.00	50,000
OC-0107	Laterite Pavement of 0.2m thick on Berms, etc.	m^2	118,000	5.00	590,000
OC-0108	Stone Pitching with Mortar	m^3	220,000	90.00	19,800,000
OC-0109	Crushed Gravel Bedding	m^3	2,400	35.00	84,000
OC-0110	Mortar Lining of 10cm thick	m^2	482,000	15.00	7,230,000
OC-0111	Polyethylene Sheet (1.5mm thick)	m^2	480,000	20.00	9,600,000
OC-0112	Concrete Lining (0.25m thick), ck=225kgf/cm2	m^2	351,000	55.00	19,305,000
OC-0113	Concrete Lining (0.20m thick), ck=225kgf/cm2	m^2	112,000	45.00	5,040,000
OC-0114	Leakage Test	No.	30	7,500	225,000
OC-0115	Reinforced Concrete (1) other than Bridge Deck, 50kg/m3	m^3	7,000	601	4,207,000
OC-0116	Reinforced Concrete (2) for Bridge Deck, ck=275kgf/cm2, 130kg/m3	m^3	800	617	493,600
OC-0117	Fino Concrete, (ck=275kgf/cm2)	m^3	100	216	21,600
OC-0118	Plain Concrete (ck=180kgf/cm2)	m^3	1,200	186	223,200
OC-0119	Water Stop (B=0.20m)	m	200	57	11,400
OC-0120	Bitumen Coating	m^2	4,400	4.00	17,600
OC-0121	Ladder Rung & Miscellaneous Steel	ton	1	4,500	4,500
OC-0122	Additional Reinforcement, (Steel Bar No.52)	ton	50	2,300	115,000
OC-0123	Laterite Paved Road (0.25m thick Laterite Pavement)	m^2	196,000	6.00	1,176,000
OC-0124	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	189,000	9.00	1,701,000
OC-0125	Prime Coat	m^2	189,000	1.00	189,000
OC-0126	Upper Subgrade (Macadam Layer of 0.30m thick)	m^2	196,000	10.00	1,960,000
OC-0127	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	196,000	6.00	1,176,000
OC-0128	Kilometer Sign	No.	15	250	3,750

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian
OC-0129	Excavation of Pits for Planting Trees	Km	152	300	45,600
OC-0130	Supply of Clayey Soil for Pits	Km	152	2,500	380,000
OC-0131	Plantation of Gasurina Trees	Km	94	500	47,000
OC-0132	Plantation of Acacia Trees	Km	58	500	29,000
OC-0133	Care of Trees	Km	152	2,500	380,000
OC-0134	Drip Irrigation Systems for Pay Item Nos. OC-0131, OC-0132, BC-0225 and BC-0226	L.S.	1		88,000
OC-0135	Marble Staff Gauge	m	62	125	7,750
OC-0100	**Total**				95,183,500

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
BC-0200	**Box Culvert Conduit**				
BC-0201	Excavation (1), above embankment	m^3	1,090,000	2.25	2,452,500
BC-0202	Excavation (2), below embakment	m^3	1,370,000	2.50	3,425,000
BC-0203	Fill and Backfill	m^3	1,230,000	3.25	3,997,500
BC-0204	Laterite Pavement of 0.2m thick on Berms, etc.	m^2	45,200	5.00	226,000
BC-0205	Stone Pitching with Mortar Caulking	m^3	77,200	90	6,948,000
BC-0206	Laterite Bedding	m^3	160,000	25	4,000,000
BC-0207	Leakage Test	No.	9	7,500	67,500
BC-0208	Reinforced Concrete (2), ck=275kgf/cm2, 130kg/m3	m^3	193,000	955	184,315,000
BC-0209	Plain Concrete, ck=180kgf/cm2	m^3	28,000	186	5,208,000
BC-0210	R.C. Cover (t=0.40m)	m^2	1,800	382	687,600
BC-0211	Water Stop (w=0.20m)	m	29,000	57	1,653,000
BC-0212	Expansion Joint	m^2	3,600	165	594,000
BC-0213	Contraction Joint	m^2	18,000	83	1,494,000
BC-0214	Bitumen Coating	m^2	197,000	4.00	788,000
BC-0215	Ladder Rung & Miscellaneous Steel	ton	2.5	4,500	11,250
BC-0216	Handrail (H=1.10m)	m	100	250	25,000
BC-0217	Additional Reinforcement (Steel Bar No.52)	ton	100	2,300	230,000
BC-0218	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	98,000	9.00	882,000
BC-0219	Prime Coat	m^2	98,000	1.00	98,000
BC-0220	Upper Subgrade (Macadam Layer of 0.30m)	m^2	102,000	10.00	1,020,000
BC-0221	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	102,000	6.00	612,000
BC-0222	Kilometer Post	No.	16	1,081	17,296
BC-0223	Excavation of Pits for Planting Trees	Km	30	300	9,000
BC-0224	Supply of Clayey Soil for Pits	Km	30	2,500	75,000
BC-0225	Plantation of Gasuarina Trees	Km	15	500	7,500
BC-0226	Plantation of Acacia Trees	Km	15	500	7,500
BC-0227	Care of Trees	Km	30	2,500	75,000
BC-0228	Marble Staff Gauge	m	72	125	9,000
BC-0200	**Total**				218,934,646

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
SW-0300	**Spillway System**				
(1)	**Spillway and Spillway Outlet**				
SW-0301	Excavation (1), above embankment	m^3	370,000	2.25	832,500
SW-0302	Excavation (2), below embakment	m^3	230,000	2.50	575,000
SW-0303	Fill and Backfill	m^3	91,000	3.25	295,750
SW-0304	Fill with Laterite and Laterite	m^3	12,100	25	302,500
SW-0305	Laterite Pavement of 0.2m thick on Berms, etc.	m^2	23,000	5	115,000
SW-0306	Riprap	m^3	12,000	60	720,000
SW-0307	Stone Pitching with Mortal Caulking	m^3	21,000	90	1,890,000
SW-0308	Crushed Gravel Bedding	m^3	9,600	35	336,000
SW-0309	Reinforced Concrete (1) other than Bridge Deck, ck=275kgf/cm2, 50kg/m3	m^3	13,000	601	7,813,000
SW-0310	Reinforced Concrete (2) for Bridge Deck, ck=275kgf/cm2, 130kg/m3	m^3	600	617	370,200
SW-0311	Fino Concrete, ck=275kgf/cm2	m^3	50	216	10,800
SW-0312	Plain Concrete, ck=180kgf/cm2	m^3	2,300	186	427,800
SW-0313	Water Stop (w=0.20m)	m	1,500	57	85,500
SW-0314	Expansion Joint	m^2	800	165	132,000
SW-0315	Contraction Joint	m^2	1,000	83	83,000
SW-0316	Dowel Bars (ϕ 19, L=1.0m)	No.	2,700	8	21,600
SW-0317	Bitumen Coating	m^2	10,000	4	40,000
SW-0318	Ladder Rung & Miscellaneous Steel	ton	1	4,500	4,500
SW-0319	Additional Reinforcement (Steel Bar No.52)	ton	100	2,300	230,000
SW-0320	Laterite Paved Road (0.25m thick Laterite Pavement)	m^2	35,000	6	210,000
SW-0321	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	8,600	9	77,400
SW-0322	Prime Coat	m^2	8,600	1	8,600
SW-0323	Upper Subgrade (Macadam Layer of 0.30m thick)	m^2	8,600	10	86,000
SW-0324	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	8,600	6	51,600
SW-0325	Net Wire Fence H=1.5m	m^2	3,600	20	72,000
	Sub-Total (1)				14,790,750

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
(2)	**Dike and Emergency Spillway**				
SW-0351	Excavation	m^3	48,000	2.25	108,000
SW-0352	Embankment of Zone (1) of Dike (Embankment with Laterite)	m^3	58,000	25	1,450,000
SW-0353	Embankment of Zone (2) of Dike (Embankment with Sandy Materials)	m^3	150,000	25	3,750,000
SW-0354	Fill and Backfill	m^3	1,000	3.25	3,250
SW-0355	Fill with Laterite and Laterite	m^3	9,100	25	227,500
SW-0356	Laterite Pavement of 0.2m thick	m^2	4,400	5	22,000
SW-0357	Riprap	m^3	1,800	60	108,000
SW-0358	Stone Pitching with Mortar Caulking	m^3	19,000	90	1,710,000
SW-0359	Stone Pitching without Mortar Caulking	m^3	8,000	60	480,000
SW-0360	Crushed Gravel Bedding	m^3	33,000	35	1,155,000
SW-0361	Reinforced Concrete (1) other than Bridge Deck, ck=275kgf/cm2, 50kg/m3	m^3	2,000	601	1,202,000
SW-0362	Reinforced Concrete (2) for Bridge Deck, ck=275kgf/cm2, 130kg/m3	m^3	400	617	246,800
SW-0363	Fino Concrete, ck=275kgf/cm2	m^3	30	216	6,480
SW-0364	Plain Concrete, ck=180kgf/cm2	m^3	300	186	55,800
SW-0365	Water Stop (w=0.20m)	m	240	57	13,680
SW-0366	Expansion Joint	m^2	160	165	26,400
SW-0367	Contraction Joint	m^2	90	83	7,470
SW-0368	Bitumen Coating	m^2	700	4	2,800
SW-0369	Ladder Rung & Miscellaneous Steel	ton	1	4,500	4,500
SW-0370	Additional Reinforcement (Steel Bar No.52)	ton	10	2,300	23,000
SW-0371	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	19,000	9	171,000
SW-0372	Prime Coat	m^2	19,000	1	19,000
SW-0373	Upper Subgrade (Macadam Layer of 0.30m thick)	m^2	19,000	10	190,000
SW-0374	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	19,000	6	114,000
	Sub-Total (2)				11,096,680
SW-0300	**Total =(1)+(2)**				25,887,430

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
AR-0400	**No.1 and No.2 Access Roads**				
AR-0401	Excavation	m^3	222,000	2.25	499,500
AR-0402	Fill	m^3	366,000	3.25	1,189,500
AR-0403	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	50,000	9	450,000
AR-0404	Prime Coat	m^2	50,000	1	50,000
AR-0405	Upper Subgrade (Macadam Layer of 0.30m thick)	m^2	52,000	10	520,000
AR-0406	Lower Subgrade (Laterite Pavement of 0.25cm thick)	m^2	52,000	6	312,000
AR-0407	Laterite Pavement of 0.2m thick on Berms, etc.	m^2	20,000	5	100,000
AR-0408	Stone Pitching with Mortar Caulking	m^3	38,000	90	3,420,000
AR-0400	**Total**				6,541,000

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 86.500 and KM 108.466
(Package-1)
Cost Estimate

Pay Item	Description	Unit	Quantity	Unit Price L.E	Amount Egyptian Pound
MW-0500	**Mechanical Works**				
MW-0501	Stop-log gate guides & bottom seals (H=5.2m x 2, B=4.1m) for inlet and outlet of box culvert conduit	Set	16	101,293	1,620,688
MW-0502	Stop-log gate guides and bottom seals (H=6.2m x 2, B=4.1m) for openings of box culvert conduit	Set	128	98,986	12,670,261
MW-0503	Stop-log gate (H=1.2m x 3=3.6m, B=4.1m) and a lifting beam for box culvert conduit	Set	12	82,448	989,373
MW-0504	Safety rack for inlet of box culvert conduit	Set	4	32,194	128,776
MW-0505	Gantry and traveling cranes for spillway stop-logs	Set	1	901,429	901,429
MW-0506	Radial gate (H=4.5m, B=4.0m) for spillway	Set	2	1,305,031	2,610,061
MW-0507	Stop-log gate guides and bottom seals (H=6.2m x 2, B=4.4m) for spillway	Set.	4	99,723	398,890
MW-0508	Stop-log gate (H=1.2m x 3 = 3.6m, B=4.4m) and a lifting beam for spillway	Set	2	285,819	571,638
MW-0500	**Total**				19,891,116

Bill of Unit Price

(Package-1)

Ser. No.	Description	Unit	Unit Price Egyptian Pound	Remarks
1	Excavation (1), above embankment	m^3	2.25	above bank level
2	Excavation (2), below embakment	m^3	2.50	below bank level
3	Fill (1), for canal	m^3	3.25	backfilling
4	Fill (2), for embankment	m^3	2.75	embankment
5	Trimming of Side Slopes of Concrete Lined Canal	m^3	3.00	
6	Fill with Laterite and Laterite Bedding	m^3	25	
7	Laterite Pavement of 0.2m thick on Berms, etc.	m^2	5	
8	Stone Pitching with Mortar Caulking	m^3	90	
9	Crushed Gravel Bedding	m^3	35	
10	Mortar Lining of 10cm thick	m^2	15	
11	Polyethylene Sheet (1.5mm thick)	m^2	20	
12	Concrete Lining (0.25m thick)	m^2	55	
13	Concrete Lining (0.20m thick)	m^2	45	
14	Leakage Test	No.	7,500	
15	Reinforced Concrete (1) other than Bridge Deck ck=275kgf/cm2, 50kg/m3	m^3	601	
16-1	Reinforced Concrete (2) for Bridge Deck, ck=275kgf/cm2, 130kg/m3	m^3	617	
16-2	Reinforced Concrete (2) for Box Culvert ck=275kgf/cm2, 130kg/m3	m^3	955	
17	Fino Concrete, 275kgf/cm2	m^3	216	
18	Plain Concrete, 180kgf/cm2	m^3	186	
19	Bitumen Coating	m^2	4	
20	Ladder Rung & Miscellaneous Steel	ton	4,500	
21	Additional Reinforcement (Steel Bar No. 52)	ton	2,300	
22	Laterite Paved Road (0.25m thick Laterite Pavement)	m^2	6	
23	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	9	
24	Prime Coat	m^2	1	
25	Upper Subgrade (Macadam Layer of 0.30m)	m^2	10	
26	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	6	
27	Kilometer Sign	No.	250	

Bill of Unit Price

(Package-1)

Ser. No.	Description	Unit	Unit Price Egyptian Pound	Remarks
28	Excavation of Pits for Planting Trees	Km	300	
29	Supply of Clayey Soil for Pits	Km	2,500	
30	Plantation of Gasuarina Trees	Km	500	
31	Plantation of Acacia Trees	Km	500	
32	Care of Trees	Km	2,500	
33	Drip Irrigation Systems	Km	4,000	L=22 Km
34	Marble Staff Gauge	m	125	
35	Water Stop (w=0.20m)	m	57	
36	Expansion Joint	m^2	165	
37	Contraction Joint	m^2	83	
38	Handrail (H=1.10m)	m	250	
39	Kilometer Post	No.	1,081	
40	Riprap	m^3	60	
41	Dowel Bars (ϕ 19, L=1.0m)	No.	8	
42	Net Wire Fence H=1.5m	m^2	20	
43	Stone Pitching without Mortar Caulking	m^3	60	

Breakdown of Unit Price

(Package-1)

Pay Item No. BC-0222: Kilometer Post

Pay Item	Description	Unit	Quantity	Unit L.E	Amount Egyptian Pound
	Crushed Gravel Bedding	m3	1.5	35	52.5
	Plain Concrete	m3	5	175	875
	Excavation	m3	29	2.25	65.25
	Backfill	m3	27	3.25	87.75
	Total				1,081

Pay Item No. SW-0316: Dowel Bar

Pay Item	Description	Unit	Quantity	Unit L.E	Amount Egyptian Pound
	Reinforceing Bar (D=19mm	t	0.00225	2,300	5.175
	PVC (D=25mm)	m	0.5	6	3
	Total				8

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

SUMMARY AND TOTAL

Pay Item No.	Item of Works	Local Currency Amount Egyptian Pound	Foreign Currency Amount US$
SB-0200	Sand Settling Basin	10,118,000	1,121,000
PC-0300	Pumping Station (Civil Works)	18,059,000	0
PB-0400	Pumping Station (Building Works)	3,174,000	0
PM-0500	Pumping Station (Mechanical Equipment)	20,091,000	19,158,000
PE-0600	Pumping Station (Electrical Works)	13,250,000	28,289,000
PP-0700	Delivery Pressured Pipeline	162,537,000	31,435,000
DT-0800	Discharge Tank	1,756,000	0
OR-0900	No.3 Access Road	4,227,000	0
Total		233,212,000	80,003,000

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
SB-0200	**Sand Settling Basin**						
SB-0201	Excavation (1), above the level of embankment	m^3	452,000	2.25	1,017,000		
SB-0202	Excavation (2), below the level of embankment	m^3	174,000	2.50	435,000		
SB-0203	Fill (2), for embankment	m^3	109,000	2.75	299,750		
SB-0204	Backfill (1), for the canal	m^3	52,300	3.25	169,975		
SB-0205	Stone Pitching with Mortar Caulking	m^3	7,320	90	658,800		
SB-0206	Mortar Lining (0.10m thick)	m^2	13,800	15	207,000		
SB-0207	Polyethylene Sheet (1.5mm thick)	m^2	13,800	20	276,000		
SB-0208	Concrete Lining (0.25m thick)	m^2	12,000	58	696,000		
SB-0209	Concrete Lining (0.20m thick)	m^2	2,120	48	101,760		
SB-0210	Plain Concrete, 180kgf/cm2	m^3	3,550	186	660,300		
SB-0211	Reinforced Concrete (2), ck=275kgf/cm2, 100kg/m3	m^3	6,750	611	4,124,250		
SB-0212	Bitumen Coating (Coal Tar Painting)	m^2	7,080	4	28,320		
SB-0213	Mortar	m^3	26	150	3,900		
SB-0214	Water Stop (w=0.20m)	m	2,580	57	147,060		
SB-0215	Expansion Joint	m^2	1,250	165	206,250		
SB-0216	Contraction Joint	m^2	839	83	69,637		
SB-0217	Handrail (H=0.9m)	m	60	258	15,480		
SB-0218	Miscellaneous Steel (Steel Ladder etc.)	ton	1	4,500	4,500		
SB-0219	Additional Reinforcement (Steel Bar No.52)	ton	34	2,300	78,200		
SB-0220	Surface Course of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	9,400	9	84,600		
SB-0221	Prime coat	m^2	9,400	1	9,400		
SB-0222	Upper Subgrade (Macadam Layer of 0.30m)	m^2	9,710	10	97,100		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
SB-0223	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	9,710	6	58,260		
SB-0224	Laterite Paved Road (0.25m thick Laterite Pavement)	m^2	3,380	6	20,280		
SB-0225	Laterite Pavement of 0.2m thick on Berms, etc.	m^2	9,020	5	45,100		
SB-0226	Excavation of Pits for Planting Trees	Km	5	300	1,500		
SB-0227	Supply of Clayey Soil for Pits	Km	5	2,500	12,500		
SB-0228	Plantation of Gasuarina Tree	Km	3	500	1,500		
SB-0229	Plantation of Acacia Tree	Km	2	500	1,000		
SB-0230	Care of Trees	Km	5	2,500	12,500		
SB-0231	Drip Irrigation Systems for Pay Item Nos. SB-0228 and SB-0229	L.S.	1		20,000		
SB-0232	Roller gate for sand settling basin	unit	2	277,760	555,520	560,656	1,121,312
SB-0200	**Total**				10,118,442		1,121,312

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PC-0300	**Pumping Station (Civil Works)**						
PC-0301	Excavation (1), above the level of embankment	m^3	241,000	2.25	542,250		
PC-0302	Excavation (2), below the level of embankment	m^3	130,000	2.50	325,000		
PC-0303	Excavation (3); (with Dewatering)	m^3	27,400	33	904,200		
PC-0304	Fill (2), for embankment	m^3	2,090	2.75	5,748		
PC-0305	Backfill (1)	m^3	91,300	3.25	296,725		
PC-0306	Backfill (2); (with Dewatering)	m^3	7,810	42	328,020		
PC-0307	Stone Pitching with Mortar Caulking	m^3	2,600	90	234,000		
PC-0308	Laterite Pavement of 0.20m thick on Berms, etc.	m^2	2,040	5	10,200		
PC-0309	Surface Coarse of Asphalt Paved Road (Asphalt Concrete of 5cm thick)	m^2	6,900	9	62,100		
PC-0310	Prim Coat	m^2	6,900	1	6,900		
PC-0311	Upper Subgrade (Macadam Layer of 0.30m)	m^2	7,000	10	70,000		
PC-0312	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	7,000	6	42,000		
PC-0313	Laterite Bedding (for Pipeline)	m^3	229	25	5,725		
PC-0314	Laterite and Crushed Gravel Pavement including trimming (for Pipeline)	m^2	422	35	14,770		
PC-0315	Excavation of Pits for Planting Trees	Km	1	300	300		
PC-0316	Supply of Clayey Soil for Pits	Km	1	2500	2,500		
PC-0317	Plantation of Gasuarina Trees	Km	0.7	500	350		
PC-0318	Plantation of Acacia Trees	Km	0.3	500	150		
PC-0319	Care of Trees	Km	1	2500	2,500		
PC-0320	Drip Irrigation Systems for Pay Item No. PC-0316 and PC-0317	L.S.	1		4,000		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PC-0321	Bitumen Coating (Coal Tar Painting)	m^2	4,520	4	18,080		
PC-0322	Green Belt (Width 50m of Planting Trees)	m	560	290	162,400		
PC-0323	Crushed Gravel Bedding	m^3	3,410	35	119,350		
PC-0324	Plain Concrete, ck=180kgf/cm2	m^3	6,850	186	1,274,100		
PC-0325	Reinforced Concrete (1), ck=275kgf/cm2, 80kg/m3	m^3	2,950	607	1,790,650		
PC-0326	Reinforced Concrete (2), ck=275kgf/cm2, 100kg/m3	m^3	7,970	611	4,869,670		
PC-0327	Reinforced Concrete (1); (with Dewatering) ck=275kgf/cm2, 80kg/m3	m^3	1,190	743	884,170		
PC-0328	Reinforced Concrete (2); (with Dewatering) ck=275kgf/cm2, 100kg/m3	m^3	6,730	747	5,027,310		
PC-0329	Secondary Concrete, ck=275kgf/cm2	m^3	2,670	218	582,060		
PC-0330	Brick Wall t=0.24m	m^2	274	48	13,152		
PC-0331	Mortar Steel Trowel	m^2	146	14	2,044		
PC-0332	Non Slip Tile Facing	m	293	57	16,701		
PC-0333	Hand Rail H=0.90m	m	111	258	28,638		
PC-0334	Hand Rail (Inside) H=1.10m	m	140	250	35,000		
PC-0335	Additional Reinforcement (Steel Bar No.52)	t	94	2,300	216,200		
PC-0336	Checkered Plate Cover	t	9	4,500	40,500		
PC-0337	Grating Cover	t	8	4,500	36,000		
PC-0338	Miscellaneous Steel (Steel Ladder, Ladder Rung, etc.)	ton	1	4,500	4,500		
PC-0339	Steel Door	kg	350	4.5	1,575		
PC-0340	Multi-blade Fan (100m3/min x1.5kw x 380v)	No.	2	4,100	8,200		
PC-0341	Duct (Galvanized Steel Plate t=0.5～0.8mm)	kg	788	4.5	3,546		
PC-0342	Water Stop (w=0.20m)	m	142	57	8,094		
PC-0343	Expansion Joint	m^2	200	165	33,000		
PC-0344	Drain Pit with Gravel Filter and PVC ϕ 100	No.	2	17	34		
PC-0345	Steel Pipe ϕ 100mm	m	33	228	7,524		
PC-0346	Steel Pipe ϕ 200mm	m	14	490	6,860		
PC-0347	PVC Pipe ϕ 50mm	m	18	12	216		
PC-0348	Stop Valve ϕ 200mm	No.	2	5,800	11,600		
PC-0300	**Total**				18,058,612		

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PB-0400	**Pumping Station (Building Works)**						
PB-0401	Reinforced concrete (3) (Fcu=300kg/cm2) above ground, including reinforcing bars (Grade 36/52) 170 kg/m3 and form works	m3	1,055	772	814,460		
PB-0402	Cinder concrete, using light weight aggregates	m3	14	200	2,800		
PB-0403	Metal decking, t=1.20mm, depth=50mm	kg	19,500	4.5	87,750		
PB-0404	Masonry brick wall works (cement bricks) including reinforced concrete lintel and bond beams where t=240mm	m3	1,056	200	211,200		
PB-0405	Masonry brick wall works (lime sand bricks) including reinforced concrete lintel and bond beam where necessary t=250mm	m3	193	288	55,584		
PB-0406	Cement plastering, t=20mm	m2	8,800	3.0	26,400		
PB-0407	Structural steel including painting	ton	156	4,500	702,000		
PB-0408	Steel ladders with painting	kg	500	4.5	2,250		
PB-0409	Steel handrails with painting	m	111	250	27,750		
PB-0410	Checkered plates, t=4.5mm	kg	174	4.5	783		
PB-0411	Bituminous waterproofing membrane with insulation 50mm, covered with cement mortar 70 mm and cement tiles.	m2	2,050	30	61,500		
PB-0412	Paint on plastered walls, exterior	m2	1,141	16	18,256		
PB-0413	Paint on plastered walls, interior	m2	3,058	16	48,928		
PB-0414	Paint on ceiling	m2	647	16	10,352		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PB-0415	Steel door, including painting	kg	400	3.8	1,520		
PB-0416	Steel main access door, including glazing and painting	kg	1,650	3.8	6,270		
PB-0417	Aluminum window	m2	528	375	198,000		
PB-0418	Fixed aluminum louver	m2	11	375	4,125		
PB-0419	Wooden door, including painting	m2	25	120	3,000		
PB-0420	Mirror, W60cm x H 75cm	set	5	200	1,000		
PB-0421	Separate cement floor finishing, with hardener including cement plaster base (H=100) with paint	m2	52	20	1,040		
PB-0422	Ceramic floor tiles, 150 x 150 x 10 mm, including cement mortar screeding for adjustment	m2	1,739	106	184,334		
PB-0423	Ceramic wall tiles and skirting, 200 x 200 x 6 mm	m2	553	50	27,650		
PB-0424	Terrazzo floor tiles, 250 x 250 x 25 mm and base (H=100) including cement mortar screeding for adjustment	m2	354	40	14,160		
PB-0425	Suspended ceiling, mineral fiber lay in tiles, acoustical types, 600 x 600 x 20 mm, complete suspension system	m2	154	300	46,200		
PB-0426	Kitchen unit for pantry	L.S.	1		1,000		
PB-0427	Lighting fixture: Ceiling surface mounted type with metallic low brightness louver IP 51, for fluorescent lamp 32 watt -2 Type: A-FL322	set	22	250	5,500		
PB-0428	Ditto, but for fluorescent lamp 32 watt-2 Type; A-FL323	set	4	150	600		
PB-0429	Lighting fixture: Ceiling surface mounted open type IP 51, for fluorescent lamp 32 watt -3 Type: B - FL321	set	67	150	10,050		
PB-0430	Ditto, but for fluorescent lamp 32 watt-2 Type; B-FL322	set	194	150	29,100		
PB-0431	Lighting fixture: High ceiling mounted type with metallic reflector IP 51, for 400 watt high-pressure sodium lamp Type: D-HPS400	set	16	500	8,000		
PB-0432	Lighting fixture; Flood light fixture IP 65, for high-pressure sodium lamp Type; E-HPS400	set	6	400	2,400		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PB-0433	Lighting fixture: Pole top mounted type area lighting fixtureIP65, for 125 watt sodium lamp Type: F-SON125	set	10	300	3,000		
PB-0434	Emergency lighting fixture: Ceiling or wall mounted open type IP 51, for incandescent lamp 100 watt powered by DC 100 V Type: H-IL100	set	172	100	17,200		
PB-0435	Socket outlet: Wall surface flush mounted type AC Single Phase 220 V, 2-Pole with earth pole 15 amp double outlet	set	162	50	8,100		
PB-0436	Ditto, but 30 amp single outlet	set	13	120	1,560		
PB-0437	Socket outlet: Wall surface mounted type AC 3-Phase 380 V, 3-Pole with earth pole30 amp single outlet	set	13	120	1,560		
PB-0438	Lighting switch: Wall surface flush mounted type, one way switch, AC 250 V, 10 amp	set	13	50	650		
PB-0439	Ditto, but three way switch AC 250 V, 10 amp	set	4	80	320		
PB-0440	Ditto, but three way switch AC 250 V, 10 amp water proofing type	set	2	100	200		
PB-0441	Ditto, but remote control switch for magnetic contractor installed in distribution board	set	50	250	12,500		
PB-0442	Distribution board: Wall surface mounted metallic cabinet type DB-PS1	set	1	12,500	12,500		
PB-0443	Ditto, but DB-PS2	set	1	250	250		
PB-0444	Ditto, but DB-PS3	set	1	250	250		
PB-0445	Ditto, but DB-PS4	set	1	250	250		
PB-0446	Ditto, but DB-PS5	set	1	250	250		
PB-0447	Exterior lighting control panel Wall surface mounted metallic cabinet type ELC	set	1	500	500		
PB-0448	Lighting main feeder cable from Load Center to DB-PS1, 600V XLPE 3C+N 25 mm^2	m	45	80	3,600		
PB-0449	Ditto, but to DB-PS2 600V XLPE 3C+N 35 mm^2	m	30	100	3,000		
PB-0450	Ditto, but to DB-PS3 600V XLPE 3C+N 25 mm^2	m	90	100	9,000		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PB-0451	Ditto, but to DB-PS4 600V XLPE 3C+N 25 mm^2	m	75	100	7,500		
PB-0452	Ditto, but to DB-PS5 600V XLPE 3C+N 25 mm^2	m	80	100	8,000		
PB-0453	Steel conduit for lighting main feeders, with all necessary conduit accessories, supporting or fitting devices and pull box 30 mm.	m	320	80	25,600		
PB-0454	Wiring for lighting system, consist of PVC wires of 4 mm2, steel conduit 20 mm, conduit accessories, cable connections, outlet boxes, mounting fittings and necessary devices.	LS	1		170,000		
PB-0455	Wiring for socket outlet system, consist of PVC wires of 4 mm2, steel conduit 20 mm, conduit accessories, cable connections, outlet boxes, mounting fittings and necessary devices.	LS	1		90,700		
PB-0456	Grounding conductors for distribution board, lighting fixtures and socket outlets	LS	1		12,000		
PB-0457	Ventilation, wall mounted exhaust fan, 450 mm dia. X 96 CMM x 0.4KW	No.	6	500	3,000		
PB-0458	Ventilation, wall mounted exhaust fan, 400 mm dia. X 82 CMM x 0.4KW	No.	1	500	500		
PB-0459	Ventilation, wall mounted exhaust fan, 300 mm dia. X 20 CMM x 50W	No.	2	300	600		
PB-0460	Air conditioners, window type, cooling capacity. :3.5 KW	No.	3	5,000	15,000		
PB-0461	Air conditioners, window type, cooling capacity. :3 KW	No.	2	4,500	9,000		
PB-0462	Air conditioners, air cooled split type, cooling capacity. : 7.8 KW	No.	2	10,000	20,000		
PB-0463	Roof water down pipes, cast iron dia. 150 mm	m	95	60	5,700		
PB-0464	Water closet, including flush valves	set	4	400	1,600		
PB-0465	Wall urinals, including flush valves	set	2	150	300		
PB-0466	Lavatories	set	4	300	1,200		
PB-0467	Service sink	set	1	250	250		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PB-0468	Personal shower	set	1	400	400		
PB-0469	Floor drains 50 mm dia. Including trap as specified and defined on the drawing..	set	9	100	900		
PB-0470	Water supply system including piping works, submergible water pumps, water reservoir & filtration facility, isolation valves, elevated tank and all fittings necessary to complete the works as specified and defined on the drawing.	L.S.	1		30,000		
PB-0471	Drainage system including piping works, septic tank, evaporation pit, manholes and all fittings necessary to complete the works as specified and defined on the drawing.	LS	1		50,000		
PB-0472	Portable fire extinguishers	set	32	1,000	32,000		
PB-0473	Lightning Protection	LS	1		1,000		
PB-0400	**Total**				3,173,902		

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PM-0500	**Pumping Station (Mechanical Equipment)**						
PM-0501	Trash screens (H=9.0m, W=5.5m, Bar pitch=50mm, Bar element =flat bar 90mm x 9mm)	unit	4	228,333	913,334		
PM-0502	Guard screens (downstream side), (H=9.0m, W=5.5m, Bar pitch=100mm, Bar elemnt= Flat bar 75mm x 9mm)	unit	4	218,558	874,231		
PM-0503	Suction pipes	unit	4	820,464	3,281,857		
PM-0504	Main pumps (vertical shaft, single-suction, centrifugal-type pumps, Q=10.827m3 per sec. total lifting head= 99.60m)	unit	4	1,065,047	4,260,189	2,149,784	8,599,137
PM-0505	Bi-plane check(discharge) valves (ϕ 1,500mm)	unit	4	67,544	270,178	136,338	545,350
PM-0506	Bi-plane isolating valves (ϕ 1,500mm)	unit	4	66,746	266,985	134,727	538,906
PM-0507	Discharge pipes	unit	4	166,886	667,544		
PM-0508	Header pipe	unit	1	879,394	879,394	1,834,214	1,834,214
PM-0509	Flexible joints (ϕ 2,400mm)	unit	3	131,053	393,159	273,346	820,039
PM-0510	Delivery pipes (ϕ 2,400mm)	unit	3	1,634,877	4,904,631		
PM-0511	Bi-plane control (pipeline) valves (ϕ 2,400mm)	unit	3	125,844	377,531	254,014	762,041
PM-0512	Supersonic flow meters	unit	3	91,656	274,967	185,006	555,017
PM-0513	Bulkhead gate (H=4.1m, W=5.5m)	unit	1	183,178	183,178	369,743	369,743
PM-0514	Stop log (Clear span=5.5m, Long height=1.55m x 5)	unit	1	180,385	180,385	364,104	364,104
PM-0515	Gantry crane (Hoistig capacity=13tons, Span=3.5m,Lifting height=14.0m, Power source=AC380V, 3 Phase, 50Hz)	unit	1	132,096	132,096	266,634	266,634

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PM-0516	Trash rake (Mobil weed screen cleaning machine), (Rake length=2,000mm, Hoisting speed=10m/min, Power source=AC380V, 3 Phase, 50Hz)	unit	1	156,440	156,440	315,772	315,772
PM-0517	Cooling water system for Main pumps, consisting of water supply pumps, pipe and valves.	unit	1	427,416	427,416	862,733	862,733
PM-0518	Lubrication and pressure oil system	unit	1	7,583	7,583	15,305	15,305
PM-0519	Dewatering system	unit	1	94,183	94,183	190,107	190,107
PM-0520	Main pipeline water filling system	unit	1	387,508	387,508	782,179	782,179
PM-0521	Overhead traveler crane (Hoisting capacity=100tons, Auxiliary hoist=20tons, Span=17.9m, Lifting height=30m, Poer souce=AC380V, 3 Phase, 50Hz)	unit	1	856,827	856,827	1,729,494	1,729,494
PM-0522	Other miscellaneous items (machines for repairing such as electric saw, disc-sander, oil pressure press, grinder, lathe, drill machine, baby compressor, welding machine and thread-cutting machine etc.)	lot	1	300,907	300,907	607,377	607,377
PM-0500	**Total**				20,090,521		19,158,152

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit	Amount	Unit	Amount
PE-0600	**Pumping Station (Electrical Works)**						
PE-0601	Main Pump Motor Synchronous type, 13 MW, 11 KV, 375 rpm, 50 Hz	set	4	1,754,648	7,018,593	4,672,466	18,689,863
PE-0602	Main Motor Starting Panel (VCB-1) (See DWG No. PSE-202) VCB, 11 KV, 1200 A	unit	4	55,006	220,025	146,476	585,906
PE-0603	Main Motor Starting Panel (VCB-2) (See DWG No. PSE-202) VCB, 11 KV, 1200A	unit	4	55,006	220,025	146,476	585,906
PE-0604	Main Motor Starting Panel (VCB-3) (See DWG No. PSE-202) VCB, 11 KV, 1200A	unit	4	55,006	220,025	146,476	585,906
PE-0605	Exciter Transformer Panel (See DWG No. PSE-202) 20 KVA, 11 KV/380V, 1 Phase	unit	4	22,204	88,817	59,128	236,513
PE-0606	Exciter Panel AC Exciter (See DWG No. PSE-202)	unit	4	71,227	284,908	189,671	758,683
PE-0607	Main Pump Unit Control Panel (See DWG No. PSE-207) 1: Programmable Control Panel and 1: Relay Panel	unit	4	65,820	263,280	175,273	701,091
PE-0608	Auto-transformer Panel 11 KV, 3 min. rating: 57,000 KVA at 80% tap	unit	4	167,830	671,321	433,862	1,735,449
PE-0609	DC Power Source: DC 110 V (See DWG. No. PSE-210) Ni-Cd Alkaline Batteries: 200 Ah	set	1	167,830	167,830	446,916	446,916
PE-0610	Load Center: 380/220 V, 3 Phase, 4 wire system (See DWG No. PSE-203)	unit	1	107,561	107,561	286,426	286,426
PE-0611	Motor Control Center for main pump (MCC) (See DWG No. PSE-203)	unit	1	29,702	29,702	79,093	79,093

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit	Amount	Unit	Amount
PE-0612	Motor Control Center for common use (MCC Common A) (See DWG No. PSE-204)	unit	1	11,535	11,535	30,716	30,716
PE-0613	Motor Control Center for common use (MCC Common B) (See DWG No. PSE-204)	unit	1	11,535	11,535	30,716	30,716
PE-0614	Central Supervisory Console, Desk top mount type (See DWG No. PSE-208 and 209) with SCADA system (Supervisory Control and Data Acquisition) Consist of: CPU, CRT display, printer, cables and accessories	set	1	395,641	395,641	1,053,556	1,053,556
PE-0615	Printer Desk (See DWG No. PSE-208)	set	1	10,381	10,381	27,644	27,644
PE-0616	Un-interrupt Power Supply Unit (UPS) 5 KVA, 220V 1 Phase (See DWG No. PSE-210)	set	1	10,381	10,381	27,644	27,644
PE-0617	Emergency Diesel Generator system: AC 100 KVA, 3-Phase 380/220 V (See DWG No. PSE-211)	set	1	240,787	240,787	641,195	641,195
PE-0618	Emergency Generator Control Panel	unit	1	28,548	28,548	76,022	76,022
PE-0619	Power Source Change-over Switch Panel (See DWG No. PSE-203)	unit	1	12,688	12,688	33,788	33,788
PE-0620	Cubicle type Substation: IP 55 Vertical self standing, unit enclosed type 3000A, Copper, Double busbar system (See DWG No. PSE-215) GPT panel 3-GPTs, Under voltage relay and Over voltage relay	unit	2	23,069	46,139	61,432	122,864
PE-0621	Ditto, but Pump Motor Feeder Panel-A VCB: 12kV, 1250A, 40 kA	unit	4	44,048	176,193	117,296	469,186
PE-0622	Ditto, but Pump Motor Feeder Panel-B VCB:12kV, 1250A, 40 kA	unit	4	38,569	154,277	102,706	410,825
PE-0623	Ditto, but Station Transformer Feeder Panel VCB:12kV, 1250A, 40 kA	unit	2	44,697	89,394	119,024	238,048

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit	Amount	Unit	Amount
PE-0624	Ditto, but Station Transformer panel Mold type power transformer: 1000 kVA 11 kV/380-220V, 3-Phase and MCCB 3P 1600A (Non trip)	unit	2	81,608	163,216	217,315	434,630
PE-0625	Power cables consist of cables, connectors, fittings, etc. Main pump motor feeder cables 11 kV XLPE, 1C-400 mm2	m	960	642	616,663		
PE-0626	Ditto, but between Main motor and Starting Panel 11 kV XLPE 1C-400 mm2	m	960	642	616,663		
PE-0627	Ditto, but between Auto-transformer and Starting Panel 11 kV XLPE 1C-400 mm2	m	1,080	642	693,746		
PE-0628	Ditto, but 380/220 V Feeder cables 600 V XLPE 1C-800 mm2	m	240	1,427	342,591		
PE-0629	Ditto, but 380 V Branch to Pipe line filling up pump 600 V XLPE 1C-240 mm2	m	330	143	47,106		
PE-0630	Ditto, but 380 V Branch to Change over switch Panel 600 V XLPE 1C-150 mm2	m	40	107	4,282		
PE-0631	Ditto, but Emergency Generator Feeder 600 V XLPE 1C-70 mm2	m	145	54	7,762		
PE-0632	Ditto, but 380 V Branch for 100 ton Crane 600 V XLPE 1C-50 mm2	m	30	36	1,071		
PE-0633	Ditto, but 380 V Branch for Gantry Crane etc. 600 V XLPE 1C-10 mm2	m	710	18	12,669		
PE-0634	Ditto, but 380 V Branch for equipment 600 V XLPE 1C-6 mm2	m	1,760	14	25,123		
PE-0635	Ditto, but 380 V Branch for equipment 600 V XLPE 1C-2.5 mm2	m	420	7	2,998		
PE-0636	Control and Signal cables consist of cables, fittings, connection For all control and supervising systems	L.S.	1	53,530	53,530		
PE-0637	Underground grounding conductor Bare stranded copper, 120 mm2	m	200	107	21,412		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit	Amount	Unit	Amount
PE-0638	Indoor grounding conductor Bare stranded copper, 70 mm2	m	100	71	7,137		
PE-0639	Grounding rod Copper rod: 14mm dia, 3m length	set	17	1,784	30,334		
PE-0640	Grounding plate Copper plate: 900mm x 900mm, thickness: more than 1.5mm	set	5	3,569	17,843		
PE-0641	Grounding conductor in Cable pit Bare stranded copper, 70 mm2	m	50	71	3,569		
PE-0642	Cable tray, Galvanized steel Included with support fittings, accessories and earth Width: 1000 mm	m	105	357	37,471		
PE-0643	Ditto, but Width: 500 mm	m	30	285	8,565		
PE-0644	Wall penetration for cable installation 350 mm diameter, include with steel conduit of 300 mm x 2.5 m and mortar filling	set	28	714	19,984		
PE-0645	Manhole: (MH-7) inside dimension 2 x 2 x 2.5 m Made of reinforced concrete include with cable supports brackets, steps, drainage system and heavy weight withstand type cast iron manhole cover	set	1	10,706	10,706		
PE-0646	Underground conduit lines PVC 300 mm conduit with couplings, concrete encase	m	120	214	25,694		
PE-0600	**Total**				13,249,723		28,288,584

Conveyance System of El Sheikh Gaber El Sabbah Canal
Between KM 108.466 and KM 118.560
El Salaam No.7 (Bir El Abd) Pumping Station
(Package-2)
Cost Estimate

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PP-0700	**Delivery Pressured Pipeline**						
	Main Pipe Works						
PP-0701	Steel Pipe, D=2,400mm, t=22mm including supply and installation of pipe with interior mortar lining and exterior asphalt vinyl cloth coating	m	27,867	4,639	129,279,311	919	25,601,882
PP-0702	Flexible Joint, D=2,400mm (t=22mm), L=1,600mm,Working Pressure P=4kg/cm^2	No.	3	41,092	123,277	100,128	300,384
	Air Valve Works						
PP-0703	Man-hole Pipe D=2,400mm (t=22mm), D=900mm (t=8mm), L=4,700mm	No.	27	71,664	1,934,928	12,749	344,211
PP-0704	Air Valve D=200mm including sluice Valve (D=200 and D=50mm) with T-shape flange Joints	No.	27	1,682	45,418	4,099	110,668
	Blow Off Works						
PP-0705	Blow Off Pipe D=2,400mm (t=22m)×D=400mm, L=2,000mm	No.	9	36,385	327,461	5,977	53,791
PP-0706	Steel Pipe D=400mm,t=6mm	m	730	648	473,040		
PP-0707	Stop Valve D=400mm	No.	9	3,296	29,661	8,030	72,273
PP-0708	Flexible Joint D=400mm (t=6mm),L=800mm	No.	18	2,712	48,817	6,608	118,949
	Surge Tank No.1						
PP-0709	T-shape Joint, D=2,400mm(t=22mm) × D=1,500mm×L=3,500mm	No.	6	59,534	357,206	10,431	62,585
PP-0710	Flexible Joint, D=1,500mm(t=12mm)× L=1,450mm	No.	6	16,169	97,015	39,399	236,392
PP-0711	Steel Pipe, D=1,500mm (t=12mm) ×L=16,300mm	No.	6	55,424	332,544		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PP-0712	Butterfly Valve, D=1,500mm	No.	6	32,235	193,413	78,546	471,278
PP-0713	Loose Flange, D=1,500mm	No.	6	15,191	91,145	37,015	222,088
PP-0714	Man-hole Pipe, D=1,500mm (t=12mm) with blind flange ,D=600mm	No.	6	18,731	112,388	2,477	14,862
PP-0715	Swing Type Check Valve, D=1,500mm	No.	6	131,156	786,936	319,581	1,917,486
PP-0716	Steel Pipe, D=200mm, t=5.8mm	m	95	324	30,780		
PP-0717	Stop Valve D=200mm	No.	12	875	10,505	2,133	25,597
PP-0718	Strainer, D=200mm	No.	4	6,334	25,335	15,433	61,733
PP-0719	Float Valve, D=200mm	No.	4	7,570	30,279	18,445	73,778
PP-0720	Steel Pipe, D=200mm, t=5.8mm Spillway	m	11	324	3,564		
PP-0721	PVC Pipe, D=200mm Spillway	m	11	130	1,430		
PP-0722	PVC Pipe, D=300mm Drain Pipe	m	33	259	8,547		
PP-0723	Stop Valve, D=300mm	No.	3	9,715	29,145		
PP-0724	Steel Pipe for Vent, D=400mm	m	16	648	10,368		
	Surge Tank No.2						
PP-0725	T-shape Joint, D=2,400mm (t=22mm)× D=700mm (t=7mm)×L=3,500mm	No.	6	59,418	356,508	10,408	62,449
PP-0726	Flexible Joint, D=700mm L=1,000mm	No.	6	5,355	32,132	13,049	78,295
PP-0727	Steel Pipe, D=700mm,t=6mm×L=11,700mm	No.	6	11,367	68,202		
PP-0728	Butterfly Valve, D=700mm	No.	6	6,952	41,710	16,939	101,634
PP-0729	Loose Flange, D=700mm	No.	6	3,811	22,863	9,285	55,710
PP-0730	Man-hole Pipe, D=700mm(t=6mm) with blind flange, D=600mm	No.	6	9,032	54,191	586	3,518
PP-0731	Swing Type Check Valve, D=700mm	No.	6	32,235	193,413	78,546	471,278
PP-0732	Steel Pipe D=100mm, t=4.5mm	m	65	130	8,450		
PP-0733	Stop Valve D=100mm	No.	12	309	3,708	753	9,034
PP-0734	Strainer D=100mm	No.	4	1,931	7,724	4,705	18,821
PP-0735	Float Valve D=100mm	No.	4	6,334	25,335	15,433	61,733
PP-0736	Steel Pipe D=200mm, t=5.8mm Spillway	m	7	324	2,268		
PP-0737	PVC Pipe D=200mm Spillway	m	10	130	1,300		
PP-0738	PVC Pipe D=200mm Drain Pipe	m	35	130	4,550		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PP-0739	Stop Valve D=200mm	No.	3	927	2,781	2,259	6,776
PP-0740	Steel Pipe for Vent, D=200mm including Air Valve Box	m	50	324	16,200		
	Sub-Total (PP-0701～PP-0740)				134,891,305		30,557,204
	Cathodic Protection System						
PP-0741	Insulating Flange Accessories including Installation and	set	1	56,850	56,850	138,523	138,523
PP-0742	Drilling Holes, D=200mm, L=6.3m with 5.0m length of steel	set	96	5,829	559,585	3,212	308,364
PP-0743	Transformer Rectifier (50V×50A) DC, including related Earth works, Concrete Works, Fence and Incidentals	unit	6	12,953	77,720	18,068	108,409
PP-0744	High Silicone Anode including FEP-PE Cable of approx. 80m long and Carbonaceous Backfill	set	98	1,328	130,117	693	67,876
PP-0745	Positive Junction Box TB-12 (SUS) including Related Earth Works, Concrete Works, Fence and Incidentals	unit	20	3,562	71,244	903	18,068
PP-0746	Negative Junction Box TB-11 (SUS) including Related Earth Works, Concrete Works, Fence and Incidentals	unit	7	6,477	45,337	703	4,919
PP-0747	Test Box TB-10 (SUS) including Related earth works, Concrete Works and Incidentals	unit	7	6,153	43,070	502	3,513
PP-0748	Reference Electrode SRE-007-CU including Installation and Testing	No.	13	810	10,525	251	3,262
PP-0749	Standard Probe (Cu/CuSO4) including Installation and	No.	7	486	3,400	251	1,757
PP-0750	Switch Board including Related Earth Works, Concrete Works, Fence and Incidentals	No.	6	1,619	9,715	2,509	15,057
PP-0751	Cable 0.6/1kv XLPE/Steel Armoured Type 1C-35mm^2	m	900	27	24,482	3	2,710
PP-0752	Cable 0.6/1kv XLPE/Steel Armoured Type 1C-6 to	m	900	25	22,733	2	1,355
PP-0753	Negative and Test Terminals with Lead Cable	No.	20			1,104	22,083
PP-0754	Bond Accessories for Flexible Pipe	L.S.	1			13,049	13,049
PP-0755	Supply of Insulation Checker	No.	1			1,405	1,405
PP-0756	Cable AC 0.6/1kv XLPE/Steel Armoured Type 3C-	m	9,500	27	258,420	17	165,926
PP-0757	Corrosion Test Set	set	1			1,405	1,405
	Sub-Total (PP-0741～PP-0757)				1,313,197		877,682

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
	Civil Works (KM108.985 to KM118.360)						
PP-0758	Stripping	m^3	162,000	1.5	243,000		
PP-0759	Excavation (1), above the level of embankment	m^3	1,870,000	2.25	4,207,500		
PP-0760	Excavation (2), below the level of embankment	m^3	500,000	2.50	1,250,000		
PP-0761	Fill (2), for embankment	m^3	850,000	2.75	2,337,500		
PP-0762	Fill (3), around pipeline at embankment site.	m^3	113,000	2.75	310,750		
PP-0763	Laterite Bedding	m^3	62,800	25	1,570,000		
PP-0764	Backfill (3), around pipeline at excavation site.	m^3	336,000	3.25	1,092,000		
PP-0765	Stone Pitching with Mortar Caulking	m^3	57,900	90	5,211,000		
PP-0766	Laterite and Crushed Gravel Pavement including trimming	m^2	321,000	12	3,852,000		
PP-0767	Surface Coarse of Asphalt Paved Road (Asphalt Concrete of 5 cm thick)	m^2	125,000	9	1,125,000		
PP-0768	Prime Coat	m^2	125,000	1	125,000		
PP-0769	Lower Subgrade (0.25m thick Laterite Pavement)	m^2	130,000	6	780,000		
PP-0770	Upper Subgrade (Macadam Layer of 0.30 m)	m^2	130,000	10	1,300,000		
PP-0771	Laterite Pavement of 0.20m thick on Berms, etc.	m^3	34,800	5	174,000		
PP-0772	Excavation of Pits for Planting Trees	Km	19	300	5,700		
PP-0773	Supply of Clayey Soil Pits	Km	19	2500	47,500		
PP-0774	Plantation of Gasuarina Trees	Km	10	500	5,000		
PP-0775	Plantation of Acacia Trees	Km	9	500	4,500		
PP-0776	Care of Trees	Km	19	2500	47,500		
PP-0777	Drip Irrigation Systems for Pay Item No. PP-0774 and PP-0775	L.S.	1	76,000	76,000		
PP-0778	Crushed Gravel Bedding for Structures	m^3	280	35	9,800		
PP-0779	Plain Concrete, 180kgf/cm2	m^3	200	186	37,200		
PP-0780	Reinforced Concrete (1), 275kgf/cm2, 80kg/m3	m^3	3,380	607	2,051,660		
PP-0781	Reinforced Concrete (2), 275kgf/cm2, 100kg/m3	m^3	230	611	140,530		
PP-0782	Bitumen Coating (Coal Tar Painting)	m^2	2,860	4	11,440		

Pay Item	Description	Unit	Quantity	Local Currency Egyptian Pound		Foreign Currency US$	
				Unit Price	Amount	Unit	Amount
PP-0783	Concrete Lining (t=0.10m), 225kgf/cm2	m^2	580	24	13,920		
PP-0784	Stone Pitching for Blow Off	m^3	255	90	22,950		
PP-0785	Laterite Bedding for Blow Off	m^3	1,500	25	37,500		
PP-0786	Clayey Soil for Blow Off Cut Off	m^3	12	25	300		
PP-0787	Miscellaneous Steel (Steel Plate Cover, Steel Ladder, Ladder Rung, etc.)	ton	8	4,500	36,000		
PP-0788	Additional Reinforcement (Steel Bar No.52)	ton	18	2,300	41,400		
PP-0789	Drain Pit at Surge Tanks and Air Valve Box	No.	24	17	408		
PP-0790	Concrete Column with Kilometer Sign	No.	19	1,081	20,539		
PP-0791	Green Belt (Width 50m of Planting Trees)	m	500	290	145,000		
	Sub-Total (PP-0758 ～PP-0791)				26,332,597		
PP-0700	**Total**				162,537,099		31,434,886