

THE REPUBLIC OF THE PHILIPPINES

RE-STUDY OF MAYON VOLCANO
SABO AND FLOOD CONTROL PROJECT

DETAILED COST ESTIMATES

MARCH 1983

JAPAN INTERNATIONAL COOPERATION AGENCY

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THE REPUBLIC OF THE PHILIPPINES

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SABO AND FLOOD CONTROL PROJECT

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RE-STUDY OF MAYON VOLCANO
SABO AND FLOOD CONTROL PROJECT

DETAILED COST ESTIMATE

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I. DETAILED COST ESTIMATES

TABLE-I.1 DETAILED COST ESTIMATE (FINANCIAL), SABO WORKS, QUIRANGAY RIVER

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No. 1 Sabo Dam (O=30m)							F/C: 790,390 L/C:1,179,500
Excavation, in common	cu.m	6,080	14.60	88,770	8.06	49,000	
Backfill	cu.m	270	13.88	3,750	12.17	3,290	
Concrete, type A	cu.m	600	172.38	103,430	233.33	140,000	
Rubble concrete	cu.m	3,830	138.69	531,180	186.87	715,710	
Backfill concrete, type B	cu.m	390	144.00	56,160	215.06	83,870	
Formwork	sq.m	2,150			86.22	185,370	
Joint filler	sq.m	130	54.60	7,100	17.35	2,260	
(ii) No. 1 Training Levee (L=310m)							F/C: 552,620 L/C:1,119,930
(a) Levee (L=310m)							
Excavation, in common	cu.m	5,560	14.60	81,180	8.06	44,810	
Embankment	cu.m	4,770	16.01	76,370	9.85	46,980	
Riprap bedding	cu.m	360	17.07	6,150	28.93	10,410	
Backfill	cu.m	1,320	13.88	18,320	12.17	16,060	
Concrete, type B	cu.m	840	113.00	94,920	203.54	170,970	
Formwork	sq.m	3,320			40.42	134,190	
Joint filler	sq.m	110	54.60	6,010	17.35	1,910	
(b) Wet masonry (2,490m ²)							
Backfill concrete, type B	cu.m	500	144.00	72,000	215.06	107,530	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Rubble stone masonry	sq.m	2,490	19.88	49,500	53.06	132,120	
Cobble stone	cu.m	1,400	0.77	1,080	61.74	86,440	
Inter locking mortar	cu.m	120	245.13	29,420	328.98	39,480	
(c) Concrete Block (174 nos.)							
Concrete, type B	cu.m	990	113.00	111,870	203.54	201,500	
Formwork	sq.m	3,030			40.42	122,470	
Reinforcing bar, ϕ 16mm	kg	2,310	2.51	5,800	2.19	5,060	
(iii) No. 1 - No. 4 Spur Dike (1,220m)							F/C:2,710,740 L/C:5,865,890
(a) Supur Dike (1,320m)							
Excavation, in common	cu.m	23,680	14.60	345,730	8.06	190,860	
Embankment	cu.m	11,360	16.01	181,870	9.85	111,900	
Riprap bedding	cu.m	3,120	17.07	53,260	28.93	90,260	
Backfill	cu.m	11,200	13.88	155,460	12.17	136,300	
Concrete, type B	cu.m	3,560	113.00	402,280	203.54	724,600	
Formwork	sq.m	20,130			40.42	813,650	
Joint filler	sq.m	670	54.60	36,580	17.35	11,620	
(b) Wet masonry (20,160m ²)							
Backfill concrete, type B	su.m	4,030	144.00	580,320	215.06	866,690	
Rubble stone masonry	sq.m	20,160	19.88	400,780	53.06	1,069,690	
Cobble stone	cu.m	11,090	0.77	8,540	61.74	684,700	
Inter locking mortar	cu.m	1,010	245.13	247,580	328.99	332,280	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(c) Concrete Block (440 nos.)							
Concrete, type B	cu.m	2,510	113.00	283,630	203.54	510,890	
Formwork	sq.m	7,660			40.42	309,620	
Reinforcing bar, ϕ 16mm	kg	5,860	2.51	14,710	2.19	12,830	
				4,053,750		8,165,320	
(2) General (10% of (1))				405,380		816,530	
(3) Supervision and Miscellaneous (6% of (1) to (2))				267,550		538,910	
(4) Profit (10% of (1) to (3))				472,670		952,080	
(5) Contractor's Tax (3% of (1) to (4))				155,980		314,190	
Sub total (Contract Cost)				<u>5,355,330</u>		<u>10,787,030</u>	<u>P16,142,360</u>
2. Right of Way/Site Acquisition	ha.	2.45		-	1,800.00	4,410	20,390m ² x 1.2 = 24,500m ²
3. Engineering Cost (10% of Item 1)				-		1,614,240	
4. Project Management Cost (5% of Item 1)				-		807,120	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				803,300		1,618,050	
(2) Price Escalation Contingency				-		-	
Total Estimated Project Cost				<u>6,158,630</u>		<u>14,830,850</u>	<u>P20,989,480</u>

TABLE-I.2 DETAILED COST ESTIMATE (FINANCIAL), SABO WORKS, TUMPA RIVER (Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
Consolidation Fence (L=160m)							
Excavation, in common	cu.m	640	14.60	9,340	8.06	5,160	
Riprap bedding	cu.m	480	17.07	8,190	28.93	13,890	
Backfill	cu.m	120	13.88	1,670	12.17	1,460	
Reinforcing bar	kg	150	2.51	380	2.19	330	
Coconut trunk	m	1,800	16.41	29,540	15.50	27,900	
Sub total (1)				49,120		48,740	
(2) General (10% of (1))				4,910		4,870	
(3) Supervision and Miscellaneous (6% of (1) to (2))				3,240		3,220	
(4) Profit (10% of (1) to (3))				5,730		5,680	
(5) Contractor's Tax (3% of (1) to (4))				1,890		1,880	
Sub total (Contract Cost)				64,890		64,390	P129,280
2. Right of Way/Site Acquisition	ha.	0.08		-	1,800.00	140	640m ² x1.2=770m ²
3. Engineering Cost (10% of Item 1)				-		12,930	
4. Project Management Cost (5% of Item 1)				-		6,460	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				9,730		9,660	
(2) Price Escalation				-		-	
Total Estimated Contract Cost				<u>74,620</u>		<u>93,580</u>	<u>P168,200</u>

TABLE-I.3

DETAILED COST ESTIMATE (FINANCIAL), SABO WORK, MANINILA RIVER

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Ground Sill (l=450m)</u>							
Excavation, in common	cu.m	4,050	14.60	59,130	8.06	32,640	
Backfill	cu.m	3,040	13.88	42,200	12.17	37,000	
Concrete, type B	cu.m	2,630	113.00	297,190	203.54	535,310	
Reinforcing bar	kg	1,720	2.51	4,320	2.19	3,770	
Formwork	s2.m	4,150			40.42	167,740	
Sub total (1)				402,840		776,460	
(2) General (10% of (1))				40,280		77,650	
(3) Supervision and Miscellaneous (6% of (1) to (2))				26,590		51,250	
(4) Profit (10% of (1) to (3))				46,970		90,540	
(5) Contractor's Tax (3% of (1) to (4))				15,500		29,880	
Sub total (Contract Cost)				<u>522,180</u>		<u>1,025,780</u>	<u>P1,557,960</u>
2. Right of Way/Site Acquisition	ha.	0.38		-	1,800.00	680	3,150m ² x 1.2 = 3,800m ²
3. Engineering Cost (10% of Item 1)				-		155,800	
4. Project Management Cost (5% of Item 1)				-		77,900	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				79,830		153,870	
(2) Price Escalation				-		-	
Total Estimated Project Cost				<u>612,010</u>		<u>1,414,030</u>	<u>F2,026,040</u>

TABLE-I.4

DETAILED COST ESTIMATE (FINANCIAL), SABO WORKS, MASARAWAG RIVER

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No. 1 Sabo Dam (l=120m)							
Excavation, in common	cu.m	18,220	14.60	266,160	8.06	146,930	F/C:2,277,210 L/C:3,410,710
Backfill	cu.m	800	13.88	11,100	12.17	9,740	
Concrete, type A	cu.m	1,260	172.38	217,200	233.33	294,000	
Rubble concrete	cu.m	11,480	138.69	1,592,160	186.87	2,145,270	
Backfill concrete, type B	cu.m	1,170	144.00	168,480	215.06	251,620	
Formwork	sq.m	6,450			86.22	556,120	
Joint filler	sq.m	405	54.60	22,110	17.35	7,030	
(ii) No. 1 Spur Dike (310m)							
(a) Spur Dike (310m)							
Excavation, in common	cu.m	5,570	14.60	81,320	8.06	44,890	
Embankment	cu.m	2,670	16.01	42,750	9.85	26,300	
Riprap bedding	cu.m	730	17.07	12,460	28.93	21,120	
Backfill	cu.m	2,630	13.88	36,500	12.17	32,010	
Concrete, type B	cu.m	830	113.00	93,790	203.54	168,940	
Formwork	sq.m	4,750			40.42	192,000	
Joint filler	sq.m	150	54.60	8,190	17.35	2,600	
(b) Wet masonry (3,550m ²)							
Backfill concrete, type B	cu.m	710	144.00	102,240	215.06	152,690	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Rubble stone masonry	sq.m	3,550	19.88	70,570	53.06	188,360	
Cobble stone	cu.m	1,980	0.77	1,520	61.74	122,250	
Inter locking mortar	cu.m	180	245.13	44,120	328.99	59,220	
(c) Concrete Block (104 nos.)							
Concrete, type B	cu.m	590	113.00	66,670	203.54	120,090	
Formwork	sq.m	1,810			40.42	73,160	
Reinforcing bar, ϕ 16mm	kg	1,390	2.51	3,490	2.19	3,040	
(iii) No. 2 - No. 4 Spur Dike (L=600m)							F/C:1,086,910 L/C:2,336,890
(a) Spur Dike (600m)							
Excavation, in common	cu.m	10,780	14.60	157,390	8.06	86,890	
Embankment	cu.m	5,160	16.01	82,610	9.85	50,830	
Riprap bedding	cu.m	1,410	17.07	24,070	28.93	40,790	
Backfill	cu.m	5,100	13.88	70,790	12.17	62,070	
Concrete, type B	cu.m	1,620	113.06	183,060	203.54	329,730	
Formwork	cu.m	9,180			40.42	371,460	
Joint filler	cu.m	300	54.60	16,380	17.35	5,210	
(b) Wet masonry (6,870m ²)							
Backfill concrete, type B	cu.m	1,370	144.00	197,280	215.06	294,630	
Rubble stone	sq.m	6,870	19.88	136,580	53.06	364,520	
Cobble stone	cu.m	3,840	0.77		61.74	237,080	
Inter locking mortar	cu.m	330	245.13	80,890	328.99	108,570	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(c) Concrete Block (158 nos.)							
Concrete, type B	cu.m	1,160	113.00	131,080	203.54	236,110	
Formwork	sq.m	3,540			40.42	143,090	
Reinforcing bar, ϕ 16mm.	kg	2,700	2.51	6,780	2.19	5,910	
Sub total (1)				3,927,740		6,954,270	
(2) General (10% of (1))				392,770		695,430	
(3) Supervision and Miscellaneous (6% of (1) to (2))				259,230		458,980	
(4) Profit (10% of (1) to (3))				457,970		810,870	
(5) Contractor's Tax (3% of (1) to (4))				151,130		267,590	
Sub-total (Contract Cost)				<u>5,188,840</u>		<u>9,187,140</u>	<u>₱14,375,980</u>
2. Right of Way/Site Acquisition	ha.	1.57		-	1,800.00	2,830	13,060m ² x 1.2 = 15,700
3. Engineering Cost (10% of Item 1)				-		1,437,600	
4. Project Management Cost (5% of Item 1)				-		718,800	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				778,330		1,378,070	
(2) Price Escalation				-		-	
Total Estimated Project Cost				<u>5,967,170</u>		<u>12,724,440</u>	<u>₱18,691,610</u>

TABLE-J.5 DETAILED COST ESTIMATE (FINANCIAL), SABO WORKS, OGSONG RIVER (MABONTON CREEK)
(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(f) No. 1 - No. 6 Spur Dike (1,200m)							F/C:2,183,500 L/C:4,672,240
(a) Spur Dike (1,200m)							
Excavation, in common	cu.m	21,540	14.60	314,480	8.06	173,610	
Embankment	cu.m	10,320	16.01	165,220	9.85	101,650	
Riprap bedding	cu.m	2,820	17.07	48,140	28.93	81,580	
Backfill	cu.m	10,200	13.88	141,580	12.17	124,130	
Concrete, type B	cu.m	3,240	113.00	366,120	203.54	659,470	
Formwork	sq.m	18,360			40.42	742,110	
Joint filler	sq.m	600	54.60	32,760	17.35	10,410	
(b) Wet masonry (13,740m ²)							
Backfill concrete, type B	cu.m	2,750	144.00	396,000	215.06	591,420	
Rubble stone masonry	sq.m	13,740	19.88	273,150	53.06	729,040	
Cobble stone	cu.m	7,690	0.77	5,920	61.74	474,780	
Inter locking mortar	cu.m	690	245.13	169,140	328.99	227,000	
(c) Concrete Block (400 nos.)							
Concrete, type B	cu.m	2,280	113.00	257,640	203.54	464,070	
Formwork	sq.m	6,960			40.42	281,320	
Reinforcing bar, ϕ 16mm	kg	5,320	2.51	13,350	2.19	11,650	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(ii) <u>No. 1 - No. 7 Jetty (560m)</u>							F/C: 852,500 L/C: 1,592,970
(a) <u>Jetty (560m)</u>							
Excavation, in common	cu.m	8,040	14.60	117,380	8.06	64,800	
Embankment	cu.m	3,850	16.01	61,640	9.85	37,920	
Riprap bedding	cu.m	1,050	17.07	17,920	28.93	30,380	
Backfill	cu.m	3,800	13.88	52,740	12.17	46,250	
Concrete, type B	cu.m	1,210	113.00	136,730	203.54	246,280	
Formwork	sq.m	6,850			40.42	276,880	
Joint filler	sq.m	220	54.60	12,010	17.35	3,820	
Coconut trunk	m	8,400	16.41	137,840	15.50	130,200	
(b) <u>Wet masonry (5,130m²)</u>							
Backfill concrete, type B	cu.m	1,030	144.00	148,320	215.06	221,510	
Rubble stone masonry	sq.m	5,130	19.88	101,880	53.06	272,200	
Cobble stone	cu.m	2,870	0.77	2,210	61.74	177,190	
Inter locking mortar	cu.m	260	245.13	63,730	328.99	85,540	
(iii) <u>Ground Sill (Crib work)</u> <u>($\chi=260m$, 1,040 nos.)</u>							F/C: 169,500 L/C: 454,550
Excavation	cu.m	2,340	14.60	34,160	8.06	18,860	
Backfill	cu.m	260	13.88	3,610	12.17	3,160	
Cobble stone	cu.m	5,090	0.77	3,920	61.74	314,260	
Reinforcing bar, ϕ 9mm	kg	13,520	2.51	33,940	2.19	29,610	
Coconut trunk	m	5,720	16.41	93,870	15.50	88,660	
Sub total (1)				3,205,500		6,719,760	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(2) General (10% of (1))				320,550		671,980	
(3) Supervision and Miscellaneous (6% of (1) to (2))				211,560		443,500	
(4) Profit (10% of (1) to (3))				373,760		783,520	
(5) Contractor's Tax (3% of (1) to (4))				123,340		258,560	
Sub total (Contract Cost)				<u>4,234,710</u>		<u>8,877,320</u>	<u>₱13,112,030</u>
2. Right of Way/Site Acquisition	ha.	2.51		-	1,800.00	4,520	20,900m ² = 25,100
3. Engineering Cost (10% of Item 1)				-		1,311,200	
4. Project Management Cost (5% of Item 1)				-		655,600	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				635,210		1,331,600	
(2) Price Escalation				-		-	
Total Estimated Project Cost				<u>4,869,920</u>		<u>12,180,240</u>	<u>₱17,050,160</u>

TABLE-I.6 DETAILED COST ESTIMATE (FINANCIAL), SABO WORK, NASISI RIVER
(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No. 1 Consolidation Dam ((=230m)							F/C:2,700,540 L/C:4,228,170
(a) Consolidation Dam (230m)							
Excavation, in common	cu.m	13,000	14.60	189,800	8.06	104,780	
Backfill	cu.m	1,500	13.88	20,820	12.17	18,260	
Concrete, type A	cu.m	3,560	172.38	613,670	233.33	830,650	
Rubble concrete	cu.m	10,430	138.69	1,446,540	186.87	1,949,050	
Backfill concrete, type B	cu.m	880	144.00	126,720	215.06	189,250	
Formwork	sq.m	6,320			86.22	544,910	
Joint filler	sq.m	310	54.60	16,930	17.35	5,380	
(b) Spur Dike (180m)							
Excavation, in common	cu.m	3,230	14.60	47,160	8.06	26,030	
Embankment	cu.m	1,550	16.01	24,820	9.85	15,270	
Riprap bedding	cu.m	420	17.07	7,170	28.93	12,150	
Backfill	cu.m	1,530	13.88	21,240	12.17	18,620	
Concrete, type B	cu.m	490	113.00	55,370	203.54	99,730	
Formwork	sq.m	2,750			40.42	111,160	
Joint filler	sq.m	90	54.60	4,910	17.35	1,560	
(c) Wet masonry (2,060m ²)							
Backfill concrete, type B	cu.m	410	144.00	59,040	215.06	88,170	
Rubble stone masonry	sq.m	2,060	19.88	40,950	53.06	109,300	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Cobble stone	cu.m	1,150	0.77	890	61.74	71,000	
Inter locking mortar	cu.m	100	245.13	24,510	328.99	32,900	
(ii) <u>No. 2 Consolidation Dam (F=230m)</u>							
(a) <u>Consolidation Dam (230m)</u>							
Excavation	cu.m	13,030	14.60	190,240	8.06	105,020	
Backfill	cu.m	1,500	13.88	20,820	12.17	18,260	
Concrete, type A	cu.m	3,570	172.38	615,400	233.33	832,990	
Rubble concrete	cu.m	10,430	138.69	1,446,540	186.87	1,949,050	
Backfill concrete, type B	cu.m	880	144.00	126,720	215.06	189,250	
Formwork	sq.m	6,320			86.22	544,910	
Joint filler	sq.m	310	54.60	16,930	17.35	5,380	
(b) <u>Spur Dike (160m)</u>							
Excavation, in common	cu.m	2,870	14.60	41,900	8.06	23,130	
Embankment	cu.m	1,380	16.01	22,090	9.85	13,590	
Riprap bedding	cu.m	380	17.07	6,490	28.93	10,990	
Backfill	cu.m	1,360	13.88	18,880	12.17	16,550	
Concrete, type B	cu.m	430	113.00	48,590	203.54	87,520	
Formwork	sq.m	2,450			40.42	99,030	
Joint filler	sq.m	80	54.60	4,370	17.35	1,390	

F/C:2,558,970
L/C:3,897,060

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(iii) <u>No. 1 - No. 3 Ground Sill (l=690m)</u>							F/C:2,877,250 L/C:5,017,080
(a) Ground Sill (690m)							
Excavation, in common	cu.m	42,540	14.60	621,080	8.06	342,870	
Backfill	cu.m	6,900	13.88	95,770	12.17	83,970	
Concrete, type A	cu.m	7,590	126.88	963,020	216.37	1,642,250	
Formwork	sq.m	5,970			40.42	241,310	
Joint filler	sq.m	390	54.60	21,290	17.35	6,770	
(b) Spur Dike (960m)							
Excavation, in common	cu.m	8,610	14.60	125,710	8.06	69,400	
Enbankment	cu.m	4,140	16.01	66,280	9.85	40,780	
Riprap bedding	cu.m	1,140	17.07	19,460	28.93	32,980	
Backfill	cu.m	4,080	13.88	56,630	12.17	49,650	
Concrete, type B	cu.m	1,290	113.00	145,770	203.54	262,570	
Formwork	sq.m	7,350			40.42	297,090	
Joint filler	sq.m	360	54.60	19,660	17.35	6,250	
(c) Wet masonry (5,490m ²)							
Concrete, type B	cu.m	1,100	144.00	158,400	215.06	236,570	
Rubble stone masonry	sq.m	5,490	19.88	109,140	53.06	291,300	
Cobble stone	cu.m	3,060	0.77	2,360	61.74	188,920	
Inter locking mortar	cu.m	270	245.13	66,190	328.99	88,230	
(d) Concrete block (600 nos.)							
Concrete, type B	cu.m	3,420	113.00	386,460	203.54	696,110	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Formwork	sq.m	10,440			40.42	421,980	
Reinforcing bar, ϕ 16mm	kg	7,980	2.51	20,030	2.19	17,480	
Sub total (1)				8,136,760		13,142,310	
(2) General (10% of (1))				813,680		1,314,230	
(3) Supervision and Miscellaneous (6% of (1) to (2))				537,030		867,390	
(4) Profit (10% of (1) to (3))				948,750		1,532,390	
(5) Contractor's Tax (3% of (1) to (4))				313,090		505,690	
Sub total (Contract Cost)				<u>10,749,310</u>		<u>17,362,010</u>	<u>P28,111,320</u>
2. Right of Way/Site Acquisition	ha.	3.63		-	1,800.00	6,530	30,250m ² x 1.2 = 36,300
3. Engineering Cost (10% of Item 1)				-		2,811,130	
4. Project Management Cost (5% of Item 1)				-		1,405,570	
5. Contingency							
(1) Physical Contingency (15% of Item 1)						2,604,300	
(2) Price Escalation						-	
Total Estimated Project Cost				<u>12,361,710</u>		<u>24,189,540</u>	<u>P36,551,250</u>

TABLE-I.7 DETAILED COST ESTIMATE (FINANCIAL), SABO WORK, ANULING RIVER (Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No. 1 Sabo Dam (L=60m), Anuling (1)							
Excavation, in common	cu.m	9,120	14.60	133,150	8.06	73,510	F/C: 1,139,810 L/C: 1,707,030
Backfill	cu.m	400	13.88	5,550	12.17	4,870	
Concrete, type A	cu.m	630	172.38	108,600	233.33	147,000	
Rubble concrete	cu.m	5,740	138.69	796,080	186.87	1,072,630	
Backfill concrete, type B	cu.m	590	144.00	84,960	215.06	126,890	
Formwork	sq.m	3,230			86.22	278,490	
Joint filler	sq.m	210	54.60	11,470	17.35	3,640	
(ii) No. 1 Ground Sill (A) (80m), Anuling (1)							
(a) Ground Sill (80m)							
Excavation, in common	cu.m	4,930	14.60	71,980	8.06	39,740	
Backfill	cu.m	800	13.88	11,100	12.17	9,740	
Concrete, type A	cu.m	880	126.88	111,650	216.37	190,410	
Formwork	sq.m	690			40.42	27,890	
Joint filler	sq.m	50	54.60	2,730	17.35	870	
(b) Concrete block (80 nos.)							
Concrete, type B	cu.m	460	113.00	51,980	203.54	93,630	
Formwork	sq.m	1,010			40.42	40,820	
Reinforcing bar	kg	1,060	2.51	2,660	2.19	2,320	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(iii) No. 2 Ground Sill (L=130m)							F/C: 530,970 L/C: 921,410
(a) Ground Sill (130m)							
Excavation, in common	cu.m	8,010	14.60	116,950	8.06	64,560	
Backfill	cu.m	1,300	13.88	18,040	12.17	15,820	
Concrete, type A	cu.m	1,430	126.88	181,440	216.87	309,410	
Formwork	sq.m	1,120			40.42	45,270	
Joint filler	sq.m	70	54.60	3,820	17.35	1,210	
(b) Spur Dike (170m)							
Excavation, in common	cu.m	1,520	14.60	22,190	8.06	12,250	
Embankment	cu.m	730	16.01	11,690	9.85	7,190	
Riprap bedding	cu.m	200	17.07	3,410	28.93	5,790	
Backfill	cu.m	720	13.88	9,990	12.17	8,760	
Concrete, type B	cu.m	230	113.00	25,990	203.54	46,810	
Formwork	sq.m	1,300			40.42	52,550	
Joint filler	sq.m	60	54.60	3,280	17.35	1,040	
(c) Wet masonry (970m ²)							
Concrete, type B	cu.m	190	144.00	27,360	215.06	40,860	
Rubble stone masonry	cu.m	970	19.88	19,280	53.06	51,470	
Cobble stone	cu.m	540	0.77	420	61.74	33,340	
Inter locking mortar	cu.m	50	245.13	12,260	328.99	16,450	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(d) Concrete Block (110 nos.)	cu.m	630	113.00	71,190	203.54	128,230	
Concrete, type B	cu.m	630					
Formwork	sq.m	1,910			40.42	77,200	
Reinforcing bar ϕ 16mm	kg	1,460	2.51	3,660	2.19	3,200	
(iv) <u>No. 1 Training Levee (600m). Anuling (1)</u>							
(a) Levee (600m)							F/C: 771,700 L/C: 1,758,240
Excavation, in common	cu.m	4,500	14.60	65,700	8.06	36,270	
Embankment	cu.m	3,600	16.01	57,640	9.85	35,460	
Riprap bedding	cu.m	900	17.07	15,360	28.93	26,040	
Backfill	cu.m	3,570	13.88	49,550	12.17	43,440	
Concrete, type B	cu.m	1,140	113.00	128,820	203.54	232,040	
Formwork	sq.m	6,420			40.42	259,500	
Joint filler	sq.m	210	54.60	11,470	17.35	3,640	
(b) Wet masonry (4800m ²)							
Backfill concrete, type B	cu.m	960	144.00	138,240	215.06	206,460	
Rubble stone masonry	sq.m	4,800	19.88	95,420	53.06	254,690	
Cobble stone	cu.m	2,690	0.77	2,070	61.74	166,080	
Inter locking mortar	cu.m	240	245.13	58,830	328.99	78,960	
(c) Concrete Block (220 nos.)							
Concrete, type B	cu.m	1,250	113.00	141,250	203.54	254,430	
Formwork	sq.m	3,830			40.42	154,810	
Reinforcing bar, ϕ 16mm	kg	2,930	2.51	7,350	2.19	6,420	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(v) No. 1 & No. 2 Spur Dike (520m), Anuling (1)							F/C: 947,460 L/C: 2,028,690
(a) Spur Dike (520m)							
Excavation, in common	cu.m	9,340	14.60	136,360	8.06	75,280	
Embankment	cu.m	4,480	16.01	71,720	9.85	44,130	
Riprap bedding	cu.m	1,220	17.07	20,830	28.93	35,290	
Backfill	cu.m	4,420	13.88	61,350	12.17	53,790	
Concrete, type B	cu.m	1,400	113.00	158,200	203.54	284,960	
Formwork	sq.m	7,960			40.42	321,740	
Joint filler	sq.m	260	54.60	14,200	17.35	4,510	
(b) Wet masonry (5,960m ²)							
Backfill concrete, type B	cu.m	1,190	144.00	171,360	215.06	255,920	
Rubble stone masonry	sq.m	5,960	19.88	118,480	53.06	316,240	
Cobble stone ³	cu.m	3,340	0.77	2,570	61.74	206,210	
Inter locking mortar	cu.m	300	245.13	73,540	328.99	98,700	
(c) Concrete Block (175 nos.)							
Concrete, type B	cu.m	1,000	113.00	113,000	203.54	203,540	
Formwork	sq.m	3,050			40.42	123,280	
Reinforcing bar, ϕ16mm	kg	2,330	2.51	5,850	2.19	5,100	
(vi) No. 3 Spur Dike (480m), Anuling (1)							F/C: 1,033,270 L/C: 2,139,710
(a) Spur Dike (480m)							
Excavation, in common	cu.m	8,620	14.60	125,850	8.06	69,480	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Embankment	cu.m	4,130	16.01	66,120	9.85	40,680	
Riprap bedding	cu.m	1,130	17.07	19,290	28.93	32,690	
Backfill	cu.m	4,080	13.88	56,630	12.17	49,650	
Concrete, type B	cu.m	1,300	113.00	146,900	203.54	264,600	
Formwork	sq.m	7,340			40.42	296,680	
Joint filler	sq.m	240	54.60	13,100	17.35	4,160	
(b) Wet masonry (5,500m ²)							
Backfill concrete, type B	cu.m	1,100	144.00	158,400	215.06	236,570	
Rubble stone masonry	sq.m	5,500	19.88	109,340	53.06	291,830	
Cobble stone	cu.m	3,080	0.77	2,370	61.74	190,160	
Inter locking mortar	cu.m	280	245.13	68,640	328.99	92,120	
(c) Ground Sill (240m)							
Excavation, in common	cu.m	1,760	14.60	25,700	8.06	14,190	
Backfill	cu.m	600	13.88	8,300	12.17	7,300	
Concrete, type A	cu.m	960	126.88	121,800	216.37	207,720	
Formwork	sq.m	960			40.42	38,800	
Joint filler	sq.m	48	54.60	2,620	17.35	830	
(d) Concrete Block (160 nos.)							
Concrete, type B	cu.m	910	113.00	102,830	203.54	185,220	
Formwork	sq.m	2,780			40.42	112,370	
Reinforcing bar, ϕ 16mm	kg	2,130	2.51	5,350	2.19	4,660	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(vii) <u>No. 4 Spur Dike (170m), Anuling (1)</u>							F/C: 316,280 L/C: 671,110
(a) <u>Spur Dike (170m)</u>							
Excavation, in common	cu.m	3,340	14.60	48,760	8.06	26,920	
Embankment	cu.m	1,460	16.01	23,370	9.85	14,380	
Riprap bedding	cu.m	400	17.07	6,830	28.93	11,570	
Backfill	cu.m	1,440	13.88	19,990	12.17	17,520	
Concrete, type B	cu.m	460	113.00	51,980	203.54	93,630	
Formwork	sq.m	2,600			40.42	105,090	
Joint filler	sq.m	85	54.60	4,640	17.35	1,470	
(b) <u>Wet masonry (1,950m²)</u>							
Backfill concrete, type B	cu.m	390	144.00	56,160	215.06	83,870	
Rubble stone masonry	sq.m	1,950	19.88	38,770	53.06	103,470	
Cobble stone	cu.m	1,090	0.77	840	61.74	67,350	
Inter locking mortar	cu.m	100	245.13	24,510	328.99	32,900	
(c) <u>Concrete Block (60 nos.)</u>							
Concrete, type B	cu.m	340	113.00	38,420	203.54	69,200	
Formwork	sq.m	1,040			40.42	42,040	
Reinforcing bar, ϕ 16mm	kg	800	2.51	2,010	2.19	1,750	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(viii) <u>No. 5 Spur Dike (170m), Anuling (1)</u>							
(a) <u>Spur Dike (170m)</u>							
Excavation, in common	cu.m	3,340	14.60	48,760	8.06	26,920	F/C: 316,280
Embankment	cu.m	1,460	16.01	23,370	9.85	14,380	L/C: 671,110
Riprap bedding	cu.m	400	17.07	6,830	28.93	11,570	
Backfill	cu.m	1,440	13.88	19,990	12.17	17,520	
Concrete, type B	cu.m	460	113.00	51,980	203.54	93,630	
Formwork	sq.m	2,600			40.42	105,090	
Joint filler	sq.m	85	54.60	4,640	17.35	1,470	
(b) <u>Wet masonry (1,950m²)</u>							
Backfill concrete, type B	cu.m	390	144.00	56,160	215.06	83,870	
Rubble stone masonry	sq.m	1,950	19.88	38,770	53.06	103,470	
Cobble stone	cu.m	1,090	0.77	840	61.74	67,300	
Inter locking	cu.m	100	245.13	24,510	328.99	32,900	
(c) <u>Concrete Block (60 nos.)</u>							
Concrete, type B	cu.m	340	113.00	38,420	203.54	69,200	
Formwork	sq.m	1,040			40.42	42,040	
Reinforcing bar, ϕ 16mm	kg	800	2.51	2,010	2.19	1,750	
(ix) <u>No. 1 Sabo Dam (70m), Anuling (2)</u>							
Excavation, in common	cu.m	10,630	14.60	155,200	8.06	85,680	F/C: 1,327,120
Backfill	cu.m	460	13.85	6,380	12.17	5,600	L/C: 1,988,060

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Concrete, type A	cu.m	730	172.38	125,840	233.33	170,330	
Rubble concrete	cu.m	6,700	138.69	929,220	186.87	1,252,030	
Backfill concrete, type B	cu.m	680	144.00	97,920	215.06	146,240	
Formwork	sq.m	3,760			86.22	324,190	
Joint filler	sq.m	230	54.60	12,560	17.35	3,990	
(x) <u>No. 1 & No. 2 Spur Dike (540m)</u>							
(a) <u>Spur Dike (540m)</u>							
Excavation, in common	cu.m	9,700	14.60	141,620	8.06	78,180	
Embankment	cu.m	4,640	16.01	74,290	9.85	45,700	
Riprap bedding	cu.m	1,260	17.07	21,510	28.93	36,450	
Backfill	cu.m	4,600	13.88	63,850	12.17	55,980	
Concrete, type B	cu.m	1,460	113.00	164,980	203.54	297,170	
Formwork	sq.m	8,260			40.42	333,870	
Joint filler	sq.m	270	54.60	14,740	17.35	4,680	
(b) <u>Wet masonry (6,180m²)</u>							
Backfill concrete, type B	cu.m	1,240	144.00	178,560	215.06	266,670	
Rubble stone masonry	sq.m	6,180	19.88	122,860	53.06	327,910	
Cobble stone	cu.m	3,460	0.77	2,660	61.74	213,620	
Inter locking mortar	cu.m	300	245.13	73,540	328.99	98,700	
(c) <u>Concrete Block (180 nos.)</u>							
Concrete, type B	cu.m	1,030	113.00	116,390	203.54	209,650	

F/C: 981,000
L/C: 2,100,320

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Formwork	sq.m	3,130			40.42	126,510	
Reinforcing bar, ϕ16mm	kg	2,390	2.51	6,000	2.19	5,230	
Sub total (1)				7,615,990		14,391,100	
(2) General (10% of (1))				761,600		1,439,110	
(3) Supervision and Miscellaneous (6% of (1) to (2))				502,660		949,810	
(4) Profit (10% of (1) to (3))				888,030		1,678,000	
(5) Contractor's Tax (3% of (1) to (4))				293,050		553,740	
Sub total (Contract Cost)				<u>10,061,330</u>		<u>19,011,760</u>	<u>P29,073,090</u>
2. Right of way/Site Acquisition	ha	4.43	-	-	1,800.00	7,970	36,940m ² x 1.2 = 44,300
3. Engineering Cost (10% of Item 1)				-		2,907,310	
4. Project Management Cost (5% of Item 1)				-		1,453,650	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				1,509,200		2,851,760	
(2) Price Escalation				-		-	
Total Estimated Project Cost				<u>11,570,530</u>		<u>26,232,450</u>	<u>P37,802,980</u>

TABLE-I.8 DETAILED COST ESTIMATE (FINANCIAL), SABO WORKS, BUDIAO RIVER

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No.1 Sabo Dam (90m)							F/C:1,708,050 L/C:2,558,150
Excavation, in common	cu.m	13,670	14.60	199,580	8.06	110,180	
Backfil	cu.m	600	13.88	8,330	12.17	7,300	
Concrete, type A	cu.m	950	172.38	163,760	233.33	221,660	
Rubble concrete	cu.m	8,600	138.68	1,192,730	186.87	1,607,080	
Backfill concrete, type B	cu.m	880	144.00	126,720	215.06	189,250	
Formwork	sq.m	4,840			86.22	417,300	
Joint filler	sq.m	310	54.60	16,930	17.35	5,380	
(ii) No. 1 Training Levee (400m)							F/C: 396,190 L/C: 894,840
(a) Levee (400m)							
Excavation	cu.m	3,000	14.60	43,800	8.06	24,180	
Embankment	cu.m	2,400	16.01	38,420	9.85	23,640	
Riprap bedding	cu.m	600	17.07	10,240	28.93	17,360	
Backfill	cu.m	2,380	13.88	33,030	12.17	28,960	
Concrete, type B	cu.m	760	113.00	85,880	203.54	154,690	
Formwork	sq.m	4,280			40.42	173,000	
Joint filler	sq.m	140	54.60	7,640	17.35	2,430	
(b) Wet masonry (3,200m ²)							
Backfill concrete, type B	cu.m	640	114.00	72,960	215.06	137,640	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Rubble stone masonry	sq.m	3,200	19.88	63,620	53.06	169,790	
Cobble stone	cu.m	1,790	0.77	1,380	61.74	110,510	
Inter locking mortar	cu.m	160	245.13	39,220	328.99	52,640	
(iii) <u>No. 1 Spur Dike (270m)</u>							
(a) <u>Spur Dike (270m)</u>							
Excavation, in common	cu.m	4,850	14.60	70,810	8.06	39,090	
Embankment	cu.m	2,320	16.01	37,140	9.85	22,850	
Riprap bedding	cu.m	630	17.07	10,750	28.93	18,230	
Backfill	cu.m	2,300	13.88	31,920	12.17	27,990	
Concrete, type B	cu.m	730	113.00	82,490	203.54	148,580	
Formwork	sq.m	4,130			40.42	166,930	
Joint filler	sq.m	140	54.60	7,640	17.35	2,430	
(b) <u>Wet masonry (3,090m²)</u>							
Backfill concrete, type B	cu.m	620	144.00	89,280	215.06	133,240	
Rubble stone	sq.m	3,090	19.88	61,430	53.06	163,960	
Cobble stone	cu.m	1,730	0.77	1,330	61.74	106,810	
Inter locking mortar	cu.m	150	245.13	36,770	328.99	49,350	
(c) <u>Concrete Block (90 nos.)</u>							
Concrete, type B	cu.m	520	113.00	58,760	203.54	105,840	
Formwork	sq.m	1,570			40.42	63,460	
Reinforcing bar, ϕ 16mm	kg	1,200	2.51	3,010	2.19	2,630	

F/C: 491,230
L/C: 1,051,490

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(iv) <u>No. 2 Spur Dike (270m)</u>							F/C: 463,360 L/C: 1,027,040
(a) Spur Dike (270m)							
Excavation, in common	cu.m	4,850	14.60	70,810	8.06	39,090	
Embankment	cu.m	2,320	16.01	37,140	9.85	22,850	
Riprap bedding	cu.m	630	17.07	10,750	28.93	18,230	
Backfill	cu.m	230	13.88	3,190	12.17	2,800	
Concrete, type B	cu.m	730	113.00	82,490	203.54	148,580	
Formwork	sq.m	4,130			40.42	166,930	
Joint fill	sq.m	135	54.60	7,370	17.35	2,340	
(b) Wet masonry (3,090m ²)							
Backfill concrete, type B	cu.m	618	144.00	88,990	215.06	132,910	
Rubble stone masonry	sq.m	3,090	19.88	61,430	53.06	163,960	
Cobble stone	cu.m	1,730	0.77	1,330	61.74	106,810	
Inter locking mortar	sq.m	160	245.13	39,220	328.99	52,640	
(c) Concrete Block (90 nos.)							
Concrete, type B	cu.m	510	113.00	57,630	203.54	103,810	
Cobble stone	sq.m	1,570			40.42	63,460	
Formwork	kg	1,200	2.51	3,010	2.19	2,630	
Reinforcing bar, ϕ 16mm							

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(v) <u>No. 3 Spur Dike (400m)</u>							F/C: 833,910 L/C: 1,737,550
(a) <u>Spur Dike</u>							
Excavation, in common	cu.m	7,180	14.60	104,830	8.06	57,870	
Embankment	cu.m	3,440	16.01	55,070	9.85	33,880	
Riprap bedding	cu.m	940	17.07	16,050	28.93	27,190	
Backfill	cu.m	3,400	13.88	47,190	12.17	41,380	
Concrete, type B	cu.m	1,080	113.00	122,040	203.54	219,820	
Formwork	sq.m	6,120			40.42	247,370	
Joint filler	sq.m	200	54.60	10,920	17.35	3,470	
(b) <u>Wet masonry (4,580m²)</u>							
Backfill concrete, type B	cu.m	920	144.00	132,480	215.06	197,860	
Rubble stone	sq.m	4,580	19.88	91,050	53.06	243,010	
Cobble stone	cu.m	2,560	0.77	1,970	61.74	158,050	
Inter locking mortar	cu.m	230	245.13	56,380	328.99	75,670	
(c) <u>Ground Sill (190m)</u>							
Excavation, in common	cu.m	1,170	14.60	17,080	8.06	9,430	
Backfill	cu.m	400	13.88	5,550	12.17	4,870	
Concrete, type A	cu.m	640	126.88	81,200	216.37	138,480	
Formwork	sq.m	640			40.42	25,870	
Joint filler	sq.m	32	54.60	1,750	17.35	560	
(d) <u>Concrete Block (134 nos.)</u>							
Concrete, type B	cu.m	760	113.00	85,880	203.54	154,690	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Formwork	sq.m	2,330			40.42	94,180	
Reinforcing bar, ϕ 16mm	kg	1,780	2.51	4,470	2.19	3,900	
(vi) <u>No. 4 Spur Dike (280m)</u>							
(a) <u>Spur Dike (280m)</u>							
Excavation, in common	cu.m	5,030	14.60	73,440	8.06	40,540	
Embankment	cu.m	2,410	16.01	38,580	9.85	23,740	
Riprap bedding	cu.m	660	17.07	11,270	28.93	19,090	
Backfill	cu.m	2,380	13.88	33,030	12.17	28,960	
Concrete, type B	cu.m	760	113.00	85,880	203.54	154,690	
Formwork	sq.m	4,290			40.42	173,400	
Joint filler	sq.m	140	54.60	7,640	17.35	2,430	
(b) <u>Wet masonry (3,210m²)</u>							
Backfill concrete, type B	cu.m	640	144.00	92,160	215.06	137,640	
Rubble stone masonry	sq.m	3,200	19.88	63,620	53.06	169,790	
Cobble stone	cu.m	1,800	0.77	1,390	61.74	111,130	
Inter locking mortar	cu.m	160	245.13	39,220	328.99	52,640	
(c) <u>Concrete Block (93 nos.)</u>							
Concrete, type B	cu.m	530	112.00	59,890	203.54	107,880	
Formwork	sq.m	1,620			40.42	65,480	
Reinforcing bar, ϕ 16mm	kg	1,240	2.51	3,110	2.19	2,720	
Sub total (1)				4,402,070		8,359,200	

F/C: 509,230
L/C: 1,090,130

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(2) General (10% of (1))				440,210		835,920	
(3) Supervision and Miscellaneous (6% of (1) to (2))				290,540		551,710	
(4) Profit (10% of (1) to (3))				513,280		974,680	
(5) Contractor's Tax (3% of (1) to (4))				169,380		321,650	
Sub total (Contract Cost)				<u>5,815,480</u>		<u>11,043,160</u>	<u>₱16,858,640</u>
2. Right of way/Site Acquisition	ha	3.01		-	1,800.00	5,420	25,070m ² x 1.2= 30,100
3. Engineering Cost (10% of Item 1)				-		1,685,860	
4. Project Management Cost (5% of Item 1)				-		842,930	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				872,320		1,656,470	
(2) Price Escalation							
Total Estimated Project Cost				<u>6,687,800</u>		<u>15,233,840</u>	<u>₱21,921,640</u>

TABLE-I.9

DETAILED COST ESTIMATE (FINANCIAL), SABO WORK, PAWA BURABOD RIVER

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							F/C:1,517,840 L/C:2,277,700
(i) <u>No. 1 Sabo Dam (80m)</u>							
Excavation, in common	cu.m	11,700	14.60	170,820	8.06	94,300	
Excavation, in rock	cu.m	150	45.48	6,820	54.73	8,210	
Backfill	cu.m	530	13.88	7,360	12.17	6,450	
Concrete, type A	cu.m	840	172.38	144,800	233.33	196,000	
Rubble concrete	cu.m	7,650	138.69	1,060,980	186.87	1,429,560	
Backfill concrete, type B	cu.m	780	144.00	112,320	215.06	167,750	
Formwork	sq.m	4,300			86.22	370,750	
Joint filler	sq.m	270	54.60	14,740	17.35	4,680	
(ii) <u>No. 1 Consolidation Dam (120m)</u>							F/C:1,260,190 L/C:1,901,100
Excavation, in common	cu.m	6,800	14.60	99,280	8.06	54,810	
Backfill	cu.m	780	13.88	10,830	12.17	9,490	
Concrete, type A	cu.m	1,860	172.88	320,630	233.33	433,990	
Rubble concrete	cu.m	5,440	138.69	754,470	186.87	1,016,570	
Backfill concrete, type B	cu.m	460	144.00	66,240	215.06	98,930	
Formwork	sq.m	3,300			86.22	284,530	
Joint filler	sq.m	160	54.60	8,740	17.35	2,780	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks	
			Unit Price	Amount	Unit Price	Amount		
(iii) <u>No. 1 & No. 2 Spur Dike (500m)</u>								
(a) <u>Spur Dike (500m)</u>								
Excavation, in common	cu.m	9,160	14.60	133,740	8.06	73,830	F/C: 909,780 L/C: 1,950,610	
Embankment	cu.m	4,300	16.01	68,840	9.85	42,360		
Riprap bedding	cu.m	1,180	17.07	20,140	28.93	34,140		
Backfill	cu.m	4,260	13.88	59,130	12.17	51,840		
Concrete, type B	cu.m	1,360	113.00	153,680	203.54	276,810		
Formwork	sq.m	7,650			40.42	309,210		
Joint filler	sq.m	250	54.60	13,650	17.35	4,340		
(b) <u>Wet masonry (5,720m²)</u>								
Backfill concrete, type B	cu.m	1,150	144.00	165,600	215.06	247,320		
Rubble stone masonry	sq.m	5,720	19.88	113,710	53.06	303,500		
Cobble stone	cu.m	3,200	0.77	2,460	61.74	197,570		
Inter locking mortar	cu.m	280	245.13	68,640	328.99	92,120		
(c) <u>Concrete Block (170 nos.)</u>								
Concrete, type B	cu.m	970	113.00	109,610	203.54	197,430		
Formwork	sq.m	2,960			40.42	119,640		
Reinforcing bar, ϕ 16mm	kg	230	2.51	580	2.19	500		
(iv) <u>No. 3 Spur Dike (240m)</u>								
(a) <u>Spur Dike (240m)</u>								
Excavation, in common	cu.m	4,310	14.60	62,930	8.06	34,740	F/C: 426,030 L/C: 927,410	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Embankment	cu.m	2,060	16.01	32,980	9.85	20,290	
Riprap bedding	cu.m	520	17.07	8,880	28.93	15,040	
Backfill	cu.m	2,040	13.88	28,320	12.17	24,830	
Concrete, type B	cu.m	650	113.00	73,450	203.54	132,300	
Formwork	sq.m	3,530			40.42	142,680	
Joint filler	sq.m	120	54.60	6,550	17.35	2,080	
(b) Wet masonry (2,750m ²)							
Backfill concrete, type B	cu.m	550	144.00	79,200	215.06	118,280	
Rubble stone masonry	sq.m	2,750	19.88	54,670	53.06	145,920	
Cobble stone	cu.m	1,540	0.77	1,190	61.74	95,080	
Inter locking mortar	cu.m	140	245.13	34,330	328.99	46,060	
(c) Concrete Block (180 nos.)							
Concrete, type B	cu.m	450	113.00	50,850	203.54	91,950	
Formwork	sq.m	1,390			40.42	56,180	
Reinforcing bar, ø16mm	kg	1,070	2.51	2,690	2.19	2,340	
(v) <u>No. 4 Spur Dike (260m)</u>							F/C: 475,660 L/C:1,019,380
(a) <u>Spur Dike (260m)</u>							
Excavation, in common	cu.m	4,670	14.60	68,180	8.06	37,640	
Embankment	cu.m	2,240	16.01	35,860	9.85	22,060	
Riprap bedding	cu.m	610	17.07	10,410	28.93	17,650	
Backfill	cu.m	2,210	13.88	30,670	12.17	26,900	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Concrete, type B	cu.m	700	113.00	79,100	203.54	142,480	
Formwork	sq.m	3,980			40.42	160,870	
Joint filler	sq.m	130	54.60	7,100	17.35	2,260	
(b) Wet masonry (2,980m ²)							
Backfill concrete, type B	cu.m	600	144.00	86,400	215.06	129,040	
Rubble stone masonry	sq.m	2,980	19.88	59,240	53.06	158,120	
Cobble stone	cu.m	1,670	0.77	1,290	61.74	103,110	
Inter locking mortar	cu.m	150	245.13	36,770	328.99	49,350	
(c) Concrete Block (90 nos.)							
Concrete, type B	cu.m	510	113.00	57,630	203.54	103,810	
Formwork	sq.m	1,570			40.42	63,460	
Reinforcing bar, ϕ 16mm	kg	1,200	2.51	3,010	2.19	2,630	
(vi) No. 5 Spur Dike (500m)							F/C:1,009,540 L/C:2,108,500
(a) Spur Dike (500m)							
Excavation, in common	cu.m	8,970	14.60	130,960	8.06	72,300	
Embankment	cu.m	4,300	16.01	68,840	9.85	42,360	
Riprap bedding	cu.m	1,170	17.07	19,970	28.93	33,850	
Backfill	cu.m	4,260	13.88	59,130	12.17	51,840	
Concrete, type B	cu.m	1,360	113.00	153,680	203.54	276,810	
Formwork	sq.m	7,660			40.42	309,620	
Joint filler	sq.m	250	54.60	13,650	17.35	4,340	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(b) Wet masonry (5,730m ²)							
Backfill concrete, type B	cu.m	1,150	144.00	165,600	265.06	247,320	
Rubble stone masonry	sq.m	5,730	19.88	113,910	53.06	304,030	
Cobble stone	cu.m	3,210	0.77	2,470	61.74	198,190	
Inter locking mortar	cu.m	290	245.13	71,090	328.99	95,410	
(c) Ground sill (160m)							
Excavation, in common	cu.m	1,170	14.60	17,080	8.06	9,430	
Backfill	cu.m	400	13.88	5,550	12.17	4,870	
Concrete, type A	cu.m	640	126.88	81,200	216.37	138,480	
Formwork	sq.m	640			40.42	25,870	
Joint filler	sq.m	32	54.60	1,750	17.35	560	
(d) Concrete Block (156 nos.)							
Concrete, type B	cu.m	880	113.00	99,440	203.54	179,120	
Formwork	sq.m	2,710			40.42	109,540	
Reinforcing bar, ø16mm	kg	2,080	2.51	5,220	2.19	4,560	
(vii) No.6 Spur Dike (250m)							F/C: 642,890 L/C:1,368,130
(a) Spur Dike (250m)							
Excavation, in common	cu.m	4,490	14.60	65,550	8.06	36,190	
Embankment	cu.m	2,150	16.01	34,420	9.85	21,180	
Riprap bedding	cu.m	580	17.07	9,900	28.93	16,780	
Backfill	cu.m	2,130	13.88	29,560	12.17	25,920	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Concrete, type B	cu.m	680	113.00	76,840	203.54	138,410	
Formwork	sq.m	3,820			40.42	154,400	
Joint filler	sq.m	130	54.60	7,100	17.35	2,260	
(b) Wet masonry (2,860m ²)							
Backfill concrete, type B	cu.m	570	144.00	82,080	215.06	122,580	
Rubble stone	sq.m	2,860	19.88	56,860	53.06	151,750	
Cobble stone	cu.m	1,600	0.77	1,230	61.74	98,780	
Inter locking mortar	cu.m	140	245.13	34,320	328.99	46,060	
(c) Ground sill (180m)							
Excavation, in common	cu.m	1,320	14.60	19,270	8.06	10,640	
Backfill	cu.m	450	13.88	6,250	12.17	5,480	
Concrete, type A	cu.m	720	126.88	91,250	216.37	155,790	
Formwork	sq.m	720			40.42	29,100	
Joint filler	sq.m	40	54.60	2,180	17.35	690	
(d) Concrete Block (186 nos.)							
Concrete, type B	cu.m	1,060	113.00	119,780	203.54	215,750	
Formwork	sq.m	3,240			40.42	130,960	
Reinforcing bar, ø16mm	kg	2,470	2.51	6,200	2.19	5,410	
(viii) No. 7 Spur Dike (350m)							F/C: 783,520 L/C: 1,654,820
(a) Spur Dike (350m)							
Excavation, in common	cu.m	6,280	14.60	91,690	8.06	50,620	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Embankment	cu.m	3,020	16.01	48,350	9.85	29,750	
Riprap bedding	cu.m	820	17.07	14,000	28.93	23,720	
Backfill	cu.m	2,980	13.08	41,360	12.17	36,270	
Concrete, type B	cu.m	950	113.00	107,350	203.54	193,360	
Formwork	sq.m	5,350			40.42	216,250	
Joint filler	sq.m	180	54.60	9,830	17.35	3,120	
(b) Wet masonry (4,000m ²)							
Backfill concrete, type B	cu.m	800	144.00	115,200	215.06	172,050	
Rubble stone masonry	sq.m	4,000	19.88	79,520	53.06	212,240	
Cobble stone	cu.m	2,230	0.77	1,720	61.74	137,680	
Inter locking mortar	cu.m	200	245.13	49,030	328.99	65,800	
(c) Ground sill (160m)							
Excavation, in common	cu.m	1,170	14.60	17,080	8.06	9,430	
Backfill	cu.m	400	13.88	5,550	12.17	4,870	
Concrete, type A	cu.m	640	126.88	81,200	216.37	138,480	
Formwork	sq.m	640			40.42	25,870	
Joint filler	sq.m	30	54.60	1,640	17.35	520	
(d) Concrete Block (176 nos.)							
Concrete, type B	cu.m	1,010	113.00	114,130	203.54	205,580	
Formwork	sq.m	3,070			40.42	124,090	
Reinforcing bar, ø16mm	kg	2,340	2.51	5,870	2.19	5,120	
Sub total (1)				7,035,450		13,207,650	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(2) General (17% of (1))				703,550		1,320,770	
(3) Supervision & Miscellaneous (6% of (1) to (2))				464,340		871,700	
(4) Profit (10% of (1) to (2))				820,330		1,540,010	
(5) Contractor's Tax (3% of (1) to (4))				270,710		508,200	
Sub Total (Contracto Cost)				<u>9,294,380</u>		<u>17,448,330</u>	<u>₱26,742,710</u>
2. Right of Way/Site Acquisition	ha	3.65			1,800.00	6,570	30,440m ² x 1.2 = 36,500
3. Engineering Cost (10% of Item 1)				-		2,674,270	
4. Project Management Cost (5% of Item 1)				-		1,337,140	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				1,394,160		2,617,250	
(2) Price Escalation				-		-	
Total Estimated Project Cost				<u>10,688,540</u>		<u>24,083,560</u>	<u>₱34,772,100</u>

TABLE-I.10 DETAILED COST ESTIMATE (FINANCIAL), SABO WORK, BUANG RIVER
(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							F/C: 710,910 L/C: 1,125,730
(i) Sabo Dam							
Excavation, in common	cu.m	6,000	14.60	87,600	8.06	48,360	
Excavation, in rock	cu.m	400	45.49	18,200	54.73	21,900	
Concrete, type A	cu.m	230	172.38	39,650	233.33	53,670	
Rubble concrete	cu.m	3,060	138.69	424,390	186.87	571,820	
Backfill concrete, type B	cu.m	330	144.00	47,520	215.06	70,970	
Backfill concrete, type B	cu.m	280	144.00	40,320	215.06	60,220	
Formwork	sq.m	1,750			86.22	150,890	
Joint filler	sq.m	140	54.60	7,640	17.35	2,430	
Rubble stone masonry	sq.m	1,400	19.88	27,830	53.06	74,280	
Cobble stone	cu.m	780	0.77	600	61.74	48,160	
Inter locking mortar	cu.m	70	245.13	17,160	328.99	23,030	
(ii) Consolidation Dam, No.1- No.4							F/C: 427,460 L/C: 796,240
Excavation, in common	cu.m	1,500	14.60	21,900	8.06	12,090	
Concrete, type A	cu.m	410	172.38	70,680	233.33	95,670	
Rubble concrete	cu.m	1,230	138.69	170,590	186.87	229,850	
Backfill concrete, type B	cu.m	530	144.00	76,320	215.06	113,980	
Formwork	sq.m	820			86.22	70,700	
Joint filler	sq.m	50	54.60	2,730	17.35	870	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Rubble stone masonry	sq.m	2,630	19.88	52,280	53.06	139,550	
Cobble stone	cu.m	1,470	0.77	1,130	61.74	90,760	
Inter Locking	cu.m	130	245.13	31,830	328.99	42,770	
Sub total (1)				1,138,370		1,921,970	
(2) General (10% of (1))				113,840		192,200	
(3) Supervision and Miscellaneous (6% of (1) to (2))				75,130		126,850	
(4) Profit (10% of (1) to (3))				132,720		224,100	
(5) Contractor's Tax (3% of (1) to (4))				43,800		73,950	
Sub total (Contract Cost0				<u>1,503,870</u>		<u>2,539,070</u>	<u>24,042,940</u>
2. Right of way/Site Acquisition	ha	0.38			1,800.00	680	
3. Engineering Cost (10% of Item 1)				-		404,290	
4. Project Management Cost (5% of Item 1)				-		202,150	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				225,580		380,860	
(2) Price Escalation				-		-	
Total Estimated Project Cost				<u>1,729,450</u>		<u>3,527,050</u>	<u>25,256,500</u>

TABLE-I.11 DETAILED COST ESTIMATE (FINANCIAL), RIVER IMPROVEMENT WORKS, QUINALI (A) RIVER (Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Quinali (A) River</u>							
Excavation, in common	cu.m	1,738,000	31.64	54,990,320	15.48	26,904,240	
Embankment	cu.m	3,706,000	16.06	59,518,360	8.77	32,501,620	
Sod facing	sq.m	1,493,000			23.66	35,324,380	
Slope protection	sq.m	299,000	17.32	5,178,680	46.56	13,921,440	
<u>Talisay River</u>							
Excavation, in common	cu.m	31,000	19.53	605,430	9.73	301,630	
Embankment	cu.m	1,327,000	16.06	21,311,620	8.77	11,637,790	
Sod facing	sq.m	640,000			23.66	15,142,400	
Slope protection	sq.m	128,000	17.32	2,216,960	46.56	5,959,680	
<u>Nasisi River</u>							
Excavation, in common	cu.m	901,000	29.67	26,732,670	14.98	13,496,980	
Embankment	cu.m	252,000	16.06	4,047,120	8.77	2,210,040	
Sod facing	sq.m	267,000			23.66	6,317,220	
Slope protection	sq.m	53,000	17.32	917,960	46.56	2,467,680	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
<u>Removal of Existing Head Works</u>							
South-Quinali head works	cu.m	260	61.34	15,950	94.93	24,680	
San Agustin head works	cu.m	230	61.34	14,110	94.93	21,830	
Agus Sta. Cruz head works	cu.m	200	61.34	12,270	94.93	18,990	
<u>Relating Structures</u>							
Sluiceway	nos.	10	29,400	294,000	29,700	297,000	
<u>Infrastructure</u>							
(a) Quinali (A) River							
Matacon Bridge	m	359	17,500	6,282,500	17,500	6,282,500	
Quinali Bridge	m	318	17,500	5,565,000	17,500	5,565,000	
Tagpo Bridge	m	196	17,500	3,430,000	17,500	3,430,000	
Busac Bridge	m	270	17,500	4,725,000	17,500	4,725,000	
Oas Bridge	m	270	17,500	4,725,000	17,500	4,725,000	
(b) Nasisi River							
Binatagan Bridge	m	94	17,500	1,645,000	17,500	1,645,000	
Gamot Bridge	m	94	17,500	1,645,000	17,500	1,645,000	
(c) Talisay River							
Bacolod Bridge	m	200	17,500	3,500,000	17,500	3,500,000	
Bailey Bridge	m	200	17,500	3,500,000	17,500	3,500,000	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(d) National Railway							
Nasisi Bridge	m	100	7,000	700,000	7,000	700,000	
Sub total (1)				211,572,950		202,265,100	
(2) General (10% of (1))				21,157,300		20,226,510	
(3) Supervision and Miscellaneous (6% of (1) to (2))				13,963,820		13,349,500	
(4) Profit (10% of (1) to (3))				24,669,410		23,584,110	
(5) Contractor's Tax (3% of (1) to (4))				8,140,900		7,782,760	
Sub total (Contract Cost)				<u>279,504,380</u>		<u>267,207,980</u>	<u>P546,712,360</u>
2. Right of Way/Site Acquisition	ha	1,114.0		-	15,860	17,668,040	Irr.riceland: 2nd class (126-164cavans)
3. Resettlement (Type A: 113 nos., Type B: 322 nos., Type C: 676 nos.)	L.S.			-		24,293,400	(Type A: P115,000) (Type B: P 29,000) (Type C: P 2,900)
4. Engineering Cost (10% of Item 1.)	L.S.			27,950,440		26,720,800	
5. Project Management Cost (5% of Item 1.)	L.S.			--		27,335,620	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
6. Contingency							
(1) Physical Contingency (20% of Item 1.)	L.S.			55,900,880		53,441,600	
Total Estimated Project Cost				<u>363,255,700</u>		<u>416,667,440</u>	<u>P780,023,140</u>

TABLE-I.12 DETAILED COST ESTIMATE (FINANCIAL), RIVER IMPROVEMENT WORKS, QUINALI (B) RIVER (Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Quinali (B) River</u>							
Excavation, in common	cu.m	1,130,000	29.67	33,527,100	14.98	16,927,400	
Embankment	cu.m	745,000	16.06	11,964,700	8.77	6,533,650	
Sod facing	sq.m	456,000			23.66	10,788,960	
Slope protection	sq.m	91,000	17.32	1,576,120	46.56	4,236,960	
<u>San Francisco River</u>							
Excavation, in common	cu.m	509,000	29.67	15,102,030	14.98	7,624,820	
Embankment	cu.m	142,000	16.06	2,280,520	8.77	1,245,340	
Sod facing	sq.m	236,000			23.66	5,583,760	
Slope protection	sq.m	49,000	17.32	848,680	46.56	2,281,440	
<u>San Vicente River</u>							
Excavation, in common	cu.m	94,000	29.67	2,788,980	14.98	1,408,120	
Embankment	cu.m	89,000	16.06	1,429,340	8.77	780,530	
Sod facing	sq.m	136,000			23.66	3,217,760	
Slope protection	sq.m	27,000	17.32	467,640	46.56	1,257,120	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
<u>Infrastructure</u>							
(a) Quinali (B) River							
Balza Bridge	m	270	17,500	4,725,000	17,500	4,725,000	
Labnig Bridge	m	220	17,500	3,850,000	17,500	3,850,000	
(b) San Francisco River							
Tuliv Birdge	m	98	17,500	1,715,000	17,500	1,715,000	
Sub total (1)				80,275,110		72,175,860	
(2) General (10% of (1))				8,027,510		7,217,590	
(3) Supervision and Miscellaneous (6% of (1) to (2))				5,298,160		4,763,610	
(4) Profit (10% of (1) to (3))				9,360,080		8,415,710	
(5) Contractor's Tax (3% of (1) to (4))				3,088,830		2,777,180	
Sub total (Contract Cost)				<u>106,049,690</u>		<u>95,349,950</u>	<u>P201,399,640</u>
2. Right of Way/Site Acquisition	ha	227.3		-	15,860	3,604,980	Irr. riceland 2nd class
3. Resettlement (Type-A: 4 nos., Type B: 12 nos., Type C: 24 nos.)	L.S.			-		877,600	(Type A: P115,000) (Type B: P 29,000) (Type C: P 2,900)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
4. Engineering Cost (10% of Item 1.)	L.S.			10,604,970		9,535,000	
5. Project Management Cost (5% of Item 1.)	L.S.			-		10,069,980	
6. Contingency							
(1) Physical Contingency (20% of Item 1.)	L.S.			21,209,940		19,069,990	
(2) Price Escalation (F/C: 7%, L/C: 13%)	L.S.			-		-	
Total Estimated Project Cost				<u>137,864,600</u>		<u>138,507,500</u>	<u>₹276,372,100</u>

TABLE-I.13 DETAILED COST ESTIMATE (FINANCIAL), RIVER IMPROVEMENT WORKS, YAVA RIVER (Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Yava River</u>							
Embankment	cu.m	317,000	16.06	5,091,020	8.77	2,780,090	
Sod facing	sq.m	217,000			23.66	5,134,220	
Slope protection	sq.m	43,000	17.32	744,760	46.56	2,002,080	
<u>Infrastructure</u>							
Yava Bridge	m	196	17,500	3,430,000	17,500	3,430,000	
Sub total (1)				9,265,780		13,346,390	
(2) General (10% of (1))				926,580		1,334,640	
(3) Supervision and Miscellaneous (6% of (1) to (2))				611,540		880,860	
(4) Profit (10% of (1) to (3))				1,080,390		1,556,190	
(5) Contractor's Tax (3% of (1) to (4))				356,530		513,540	
Sub total (Contract Cost)				<u>12,240,820</u>		<u>17,631,620</u>	<u>P29,872,490</u>

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
2. Right of Way/Site Acquisition	ha	24.6	-	-	15,860	390,160	
3. Resettlement (Type A: 6 nos., Type B: 14 nos., Type C: 13 nos.)	L.S.		-	-		1,133,700	(Type A: P115,000) (Type B: P 29,000) (Type C: P 2,900)
4. Engineering Cost (10% of Item 1.)	L.S.			1,224,080		1,763,160	
5. Project Management Cost (5% of Item 1.)	L.S.			-		1,493,620	
6. Contingency							
(1) Physical Contingency (20% of Item 1.)	L.S.			2,448,160		3,526,320	
(2) Price Escalation (F/C: 7%, L/C: 13%)	L.S.			-		-	
Total Estimated Project Cost				<u>15,913,060</u>		<u>25,938,580</u>	<u>P41,851,640</u>

TABLE-I.14 DETAILED COST ESTIMATE (FINANCIAL), RIVER IMPROVEMENT WORKS, QUINALI (A) RIVER, DIVERSION TO TALISAY RIVER

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Quinali (A) River</u>							
Excavation, in common	cu.m	211,000	31.64	6,676,040	15.48	3,266,280	
Embankment	cu.m	2,006,000	16.06	32,216,360	8.77	17,592,620	
Sod facing	sq.m	833,000			23.66	19,708,780	
Slope protection	sq.m	167,000	17.32	2,892,440	46.56	7,775,520	
Concrete weir, type B concrete	cu.m	12,000	113.00	1,356,000	203.54	2,442,480	
Sheet pile	m	2,750	160.64	441,760	106.51	292,900	
<u>Talisay River</u>							
Excavation, in common	cu.m	9,524,000	19.53	186,003,720	9.73	92,668,520	
Embankment	cu.m	834,000	16.06	13,394,040	8.77	7,314,180	
Sod facing	sq.m	768,000		-	23.66	18,170,880	
Slope protection	sq.m	154,000	17.32	2,667,280	46.56	7,170,240	
<u>Nasisi River</u>							
Excavation, in common	cu.m	901,000	29.67	26,732,670	14.98	13,496,980	
Embankment	cu.m	252,000	16.06	4,047,120	8.77	2,210,040	
Sod facing	sq.m	267,000		-	23.66	6,317,220	
Slope protection	sq.m	53,000	17.32	917,960	46.56	2,467,680	

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
<u>Removal of Existing Head Works</u>							
San Agustin head works	cu.m	230	61.34	14,110	94.93	21,830	
Agus. Sta. Cruz head works	cu.m	200	61.34	12,270	94.93	18,990	
<u>Gate</u>							
Flood control gate (30mx6.7m)	L.S.			4,824,000		3,216,000	
<u>Infrastructure</u>							
(a) Quinali (A) River							
Matacon Bridge	m	199	17,500	3,482,500	17,500	3,482,500	
Quinali Bridge	m	108	17,500	1,890,000	17,500	1,890,000	
Tagpo Bridge	m	196	17,500	3,430,000	17,500	3,430,000	
Oas Bridge	m	270	17,500	4,725,000	17,500	4,725,000	
(b) Nasisi River							
Binatagan Bridge	m	94	17,500	1,645,000	17,500	1,645,000	
Gamot Bridge	m	94	17,500	1,645,000	17,500	1,645,000	
(c) Talisay River							
Bacolod Bridge	m	420	17,500	7,350,000	17,500	7,350,000	
Bailey Bridge	m	430	17,500	7,525,000	17,500	7,525,000	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(d) National Railway	m	100	7,000	700,000	7,000	700,000	
Nasisi Bridge				314,588,270		236,543,640	
Sub total (1)				31,458,830		23,654,360	
(2) General (10% of (1))				20,762,830		15,611,880	
(3) Supervision and Miscellaneous (6% of (1) to (2))				36,680,990		27,580,990	
(4) Profit (10% of (1) to (3))				12,104,730		9,101,730	
(5) Contractor's Tax (3% of (1) to (4))				415,595,650		312,492,600	F728,088,250
Sub total (Contract Cost)				-	15,860	16,481,710	Irr.riceland 2nd class
2. Right of Way/Site Acquisition	ha	1,039.2		-		13,603,700	(Type A: P115,000) (Type B: P 29,000) (Type C: P 2,900)
3. Resettlement (Type A: 64 nos., Type B: 177 nos., Type C: 383 nos.)	L.S.					41,559,570	
4. Engineering Cost (10% of Item 1.)						31,249,260	
5. Project Management Cost (5% of Item 1.)						36,404,410	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
6. Contingency							
(1) Physical Contingency (20% of Item 1.)				83,119,000		62,498,520	
(2) Price Escalation (F/C: 7%, L/C: 13%)			-	-		-	
Total Estimated Project Cost				<u>540,274,220</u>		<u>472,730,200</u>	<u>₱1,013,004,420</u>

TABLE-I.15 DETAILED COST ESTIMATE (FINANCIAL), IRRIGATION WORKS, QUINTALI (A) RIVER BASIN AREA (Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
I. Contract Cost							
(1) Direct Cost							
<u>Irrigation Canal and Farm Road</u>							
(a) Main Canal							
Stripping	sq.m	420,000	3.94	1,654,800	2.01	844,200	
Excavation, in common	cu.m	120,000	10.33	1,239,600	5.53	663,600	
Embankment	cu.m	233,000	5.84	1,360,720	33.22	7,740,000	
(b) Lateral Canal							
Stripping	sq.m	610,000	3.94	2,403,400	2.01	1,226,100	
Excavation, in common	cu.m	96,000	10.33	991,680	5.53	530,880	
Embankment	cu.m	165,000	5.84	963,600	33.22	5,481,300	
<u>Related Structure for Main Canal & Lateral Canal</u>							
Concrete, type A	cu.m	7,070	126.88	897,040	216.37	1,529,740	
Concrete, type B	cu.m	3,880	113.00	438,440	203.54	789,740	
Metal	ton	220	12,000.00	2,640,000	8,000.00	1,760,000	
Reinforcing bar	ton	512	2,509.08	1,284,650	2,190.80	1,121,690	
R.C. pipe, 1350mm dia.	m	350	6.48	2,270	809.44	283,300	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
<u>Drainage Canal</u>							
Excavation, in common	cu.m	310,000	10.23	3,202,300	5.53	1,714,300	
Field drain	cu.m	29,000	--	--	15.71	455,590	
<u>Related Structures for Drainage Canal</u>							
Concrete, type A	cu.m	2,000	126.88	253,760	216.37	432,740	
Concrete, type B	cu.m	800	113.00	90,400	203.54	162,830	
Metal	ton	40	12,000.00	480,000	8,000.00	320,000	
Reinforcing bar	ton	95	2,509.08	238,360	2,190.80	208,130	
<u>Land Clearing and Grading</u>							
	ha	50	1,765.80	83,790	935.40	46,770	
<u>Head Works</u>							
Cabilogen head works	cu.m	1,425	113.00	161,030	203.54	290,040	
South Quinali head works	cu.m	2,025	113.00	228,830	203.54	412,170	
Relating structures (16 nos. sluiceway, 8 nos. irrigation intake)	L.S.			557,300		643,200	
<u>Gate Work</u>							
Cabilogen head works (3.5mx2.5m)	L.S.			2,275,000		568,750	
South Quinali head works (5.5mx2.5m)	L.S.			3,575,000		893,750	
Sub total (1)				25,021,970		28,118,820	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(2) General (10% of (1))				2,502,200		2,811,880	
(3) Supervision and Miscellaneous (6% of (1) to (2))				1,651,450		1,855,840	
(4) Profit (10% of (1) to (3))				2,917,560		3,278,650	
(5) Contractor's Tax (3% of (1) to (4))				962,800		1,081,960	
Sub total (Contract Cost)				<u>33,055,980</u>		<u>37,147,150</u>	<u>P70,203,130</u>
2. Engineering Cost (10% of Item 1.)				-		7,020,310	
3. Project Management Cost (5% of Item 1.)				-		3,510,160	
4. Contingency							
(1) Physical Contingency (20% of Item 1.)					6,611,200	7,429,430	
(2) Price Escalation (F/C: 7%, L/C: 13%)					-	-	
Total Estimated Project Cost				<u>39,667,180</u>		<u>55,107,050</u>	<u>P94,774,230</u>

TABLE-I.16 DETAILED COST ESTIMATE (FINANCIAL), IRRIGATION WORKS, QUINALI (B) RIVER BASIN AREA

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Irrigation Canal and Farm Road</u>							
(a) Main Canal							
Stripping	sq.m	179,000	3.94	705,260	2.01	359,790	
Excavation, in common	cu.m	66,000	10.33	681,780	5.53	364,980	
Embankment	cu.m	78,000	5.84	455,520	33.22	2,591,160	
(b) Lateral Canal							
Stripping	sq.m	273,000	3.94	1,075,620	2.01	548,730	
Excavation, in common	cu.m	54,000	10.33	557,820	5.53	298,620	
Embankment	cu.m	108,000	5.84	630,720	33.22	3,587,760	
<u>Related Structures for Main Canal & Lateral Canal</u>							
Concrete, type A	cu.m	2,400	126.88	304,510	216.37	519,290	
Concrete, type B	cu.m	1,500	113.00	169,500	203.54	305,310	
Metal	ton	90	12,000.00	1,080,000	8,000.00	720,000	
Reinforcing bar	ton	210	2,509.08	526,910	2,190.80	460,070	
R.C. pipe, 1350mm dia.	m	180	6.48	1,170	809.44	145,700	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
<u>Drainage Canal</u>							
Excavation	cu.m	60,500	10.33	624,970	5.53	334,570	
Field drain	cu.m	9,600	--	--	15.71	150,820	
<u>Related Structures for Drainage Canal</u>							
Concrete, type A	cu.m	290	126.88	36,800	216.37	62,750	
Concrete, type B	cu.m	120	113.00	13,560	203.54	24,420	
Metal	ton	6	12,000.00	72,000	8,000.00	48,000	
Reinforcing bar	ton	14	2,509.08	35,130	2,190.80	30,670	
<u>Land Clearing and Grading</u>	ha	380	1,765.80	671,000	935.40	355,450	
<u>Head Works</u>							
<u>Bantayan head works</u>							
Concrete	cu.m	825	113.00	93,230	203.54	167,920	
Gate (98mx1m)	L.S.			2,548,000		637,000	
Pipe culvert	m	19	304.00	5,780	1,181.00	22,440	
<u>Sub total (1)</u>				10,289,280		11,735,450	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(2) General (10% of (1))				1,028,930		1,173,550	
(3) Supervision and Miscellaneous (6% of (1) to (2))				679,090		774,540	
(4) Profit (10% of (1) to (3))				1,199,730		1,368,350	
(5) Contractor's Tax (3% of (1) to (4))				395,910		451,560	
Sub total (Contract Cost)				<u>13,592,940</u>		<u>15,503,450</u>	<u>₱29,096,390</u>
2. Engineering Cost (10% of Item 1.)				1,359,290		2,909,640	
3. Project Management Cost (5% of Item 1.)				-		1,454,820	
4. Contingency							
(1) Physical Contingency (20% of Item 1.)				2,718,590		3,100,690	
(2) Price Escalation (F/C: 7%, L/C: 13%)				-		-	
Total Estimated Project Cost				<u>16,311,530</u>		<u>22,968,600</u>	<u>₱39,280,130</u>

TABLE-I.17 DETAILED COST ESTIMATED (ECONOMIC), SABO WORKS, QUIRANGAY RIVER

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No. 1 Sabo Dam (O=30m)							
Excavation, in common	cu.m	6,080	14.60	88,770	4.62	28,090	F/C: 790,390 L/C: 968,680
Backfill	cu.m	270	13.88	3,750	9.20	2,480	
Concrete, type A	cu.m	600	172.38	103,430	186.31	111,790	
Rubble concrete	cu.m	3,830	138.69	531,180	149.35	572,010	
Backfill concrete, type B	cu.m	390	144.00	56,160	175.55	68,460	
Formwork	sq.m	2,150			86.22	185,370	
Joint filler	sq.m	130	54.60	7,100	3.70	480	
(ii) No. 1 Training Levee (L=310m)							
(a) Levee (L=310m)							
Excavation, in common	cu.m	5,560	14.60	81,180	4.62	25,690	
Embankment	cu.m	4,770	16.01	76,370	6.08	29,000	
Riprap bedding	cu.m	360	17.07	6,150	24.90	8,960	
Backfill	cu.m	1,320	13.88	18,320	9.20	12,140	
Concrete, type B	cu.m	840	113.00	94,920	171.35	143,930	
Formwork	sq.m	3,320			40.42	134,190	
Joint filler	sq.m	110	54.60	6,010	3.70	410	
(b) Wet masonry (2,490m ²)							
Backfill concrete, type B	cu.m	500	144.00	72,000	175.55	87,780	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Rubble stone masonry	sq.m	2,490	19.88	49,500	48.75	121,390	
Cobble stone	cu.m	1,400	0.77	1,080	61.61	86,250	
Inter locking mortar	cu.m	120	245.13	29,420	255.45	30,650	
(c) Concrete Block (174 nos.)							
Concrete, type B	cu.m	990	113.00	111,870	171.35	169,640	
Formwork	sq.m	3,030			40.42	122,470	
Reinforcing bar, ϕ 16mm	kg	2,310	2.51	5,800	1.35	3,120	
(iii) <u>No. 1 - No. 4 Spur Dike (1,320m)</u>							F/C:2,710,740 L/C:5,164,480
(a) Spur Dike (1,320m)							
Excavation, in common	cu.m	23,680	14.60	345,730	4.62	109,400	
Embankment	cu.m	11,360	16.01	181,870	6.08	69,070	
Riprap bedding	cu.m	3,120	17.07	53,260	24.90	77,690	
Backfill	cu.m	11,200	13.88	155,460	9.20	103,040	
Concrete, type B	cu.m	3,560	113.00	402,280	171.35	610,010	
Formwork	sq.m	20,130			40.42	813,650	
Joint filler	sq.m	670	54.60	36,580	3.70	2,480	
(b) Wet masonry (20,160m ²)							
Backfill concrete, type B	cu.m	4,030	144.00	580,320	175.55	707,470	
Rubble stone masonry	sq.m	20,160	19.88	400,780	48.75	982,800	
Cobble stone	cu.m	11,090	0.77	8,540	61.01	683,250	
Inter locking mortar	cu.m	1,010	245.13	247,580	255.45	258,000	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(c) Concrete Block (440 nos.)							
Concrete, type B	cu.m	2,510	113.00	283,630	171.35	430,090	
Formwork	sq.m	7,660			40.42	309,620	
Reinforcing bar, ϕ16mm	kg	5,860	2.51	14,710	1.35	7,910	
Sub total (1)				4,053,750		7,108,780	
(2) General (10% of (1))				405,380		710,880	
(3) Supervision and Miscellaneous (6% of (1) to (2))				267,550		469,180	
(4) Profit (10% of (1) to (3))				-		-	
(5) Contractor's Tax (3% of (1) to (4))				-		-	
Sub total (Contract Cost)				<u>4,726,680</u>		<u>8,288,840</u>	<u>P13,015,520</u>
2. Right of Way/Site Acquisition				-		-	
3. Engineering Cost (10% of Item 1)				-		1,301,550	
4. Project Management Cost (5% of Item 1)				-		650,780	
5. Contingency							
(1) Physical contingency (15% of Item 1)				709,000		1,243,330	
(2) Price Escalation Contingency							
Total Estimated Project Cost				<u>5,435,680</u>		<u>11,484,500</u>	<u>P16,920,180</u>

TABLE-I.18 DETAILED COST ESTIMATE (ECONOMIC), SABO WORKS, TUMPA RIVER
(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
Consolidation Fence (X=160m)							
Excavation, in common	cu.m	640	14.60	9,340	4.62	2,960	
Riprap bedding	cu.m	480	17.07	8,190	24.90	11,950	
Backfill	cu.m	120	13.88	1,670	9.20	1,100	
Reinforcing bar	kg	150	2.51	380	1.35	200	
Coconut trunk	m	1,800	16.41	29,540	11.36	20,450	
Sub total (1)				49,120		36,660	
(2) General (10% of (1))				4,910		3,670	
(3) Supervision and Miscellaneous (6% of (1) to (2))				3,240		2,420	
(4) Profit (10% of (1) to (3))				-		-	
(5) Contractor's Tax (3% of (1) to (4))				-		-	
Sub total (Contract Cost)				57,270		42,750	<u>P100,020</u>
2. Right of Way/Site Acquisition				-		-	
3. Engineering Cost (10% of Item 1)				-		10,000	
4. Project Management Cost (5% of Item 1)				-		5,000	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
5. Contingency							
(1) Physical contingency (15% of Item 1)				8,590		6,410	
(2) Price Escalation							
Total Estimated Contract Cost				<u>65,860</u>		<u>64,160</u>	<u>PI30,020</u>

TABLE-I.19 DETAILED COST ESTIMATE (ECONOMIC), SABO WORK, MANINILA RIVER

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
<u>Ground Sill (L=450m)</u>							
Excavation, in common	cu.m	4,050	14.60	59,130	4.62	18,710	
Backfill	cu.m	3,040	13.88	42,200	9.20	27,970	
Concrete, type B	cu.m	2,630	113.00	297,190	171.35	450,650	
Reinforcing bar	kg	1,720	2.51	4,320	1.35	2,320	
Formwork	sq.m	4,150			40.42	167,740	
Sub total (1)				402,840		667,390	
(2) General (10% of (1))				40,280		66,740	
(3) Supervision and Miscellaneous (6% of (1) to (2))				26,590		44,050	
(4) Profit (10% of (1) to (3))				-		-	
(5) Contractor's Tax (3% of (1) to (4))				-		-	
Sub total (Contract Cost)				469,710		778,180	21,247,890
2. Right of Way/Site Acquisition				-		-	
3. Engineering Cost (10% of Item 1)				-		124,790	
4. Project Management Cost (5% of Item 1)				-		62,390	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
5. Contingency							
(1) Physical contingency (15% of Item 1)				70,460		116,730	
(2) Price Escalation							
Total Estimated Project Cost				<u>540,170</u>		<u>1,082,090</u>	<u>Pl, 622,260</u>

TABLE-I.20 DETAILED COST ESTIMATE (ECONOMIC), SABO WORKS, MASARAWAG RIVER

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(Unit: Pesos)							
1. Contract Cost							
(1) Direct Cost							
(i) No. 1 Sabo Dam (L=120m)							F/C: 2,277,210 L/C: 2,803,880
Excavation, in common	cu.m	18,230	14.60	266,160	4.62	84,220	
Backfill	cu.m	800	13.88	11,100	9.20	7,360	
Concrete, type A	cu.m	1,260	172.38	217,200	186.31	234,750	
Rubble concrete	cu.m	11,480	138.69	1,592,160	149.35	1,714,540	
Backfill concrete, type B	cu.m	1,170	144.00	168,480	175.55	205,390	
Formwork	sq.m	6,450			86.22	556,120	
Joint filler	sq.m	405	54.60	22,110	3.70	1,500	
(ii) No. 1 Spur Dike (310m)							F/C: 563,620 L/C: 1,060,930
(a) Spur Dike (310m)							
Excavation, in common	cu.m	5,570	14.60	81,320	4.62	25,730	
Embankment	cu.m	2,670	16.01	42,750	6.08	16,230	
Riprap bedding	cu.m	730	17.07	12,460	24.90	18,180	
Backfill	cu.m	2,630	13.88	36,500	9.20	24,200	
Concrete, type B	cu.m	830	113.00	93,790	171.35	142,220	
Formwork	sq.m	4,750			40.42	192,000	
Joint filler	sq.m	150	54.60	8,190	3.70	560	
(b) Wet masonry (3,550m ²)							
Backfill concrete, type B	cu.m	710	144.00	102,240	175.55	124,640	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Rubble stone masonry	sq.m	3,550	19.88	70,570	48.75	173,060	
Cobble stone	cu.m	1,980	0.77	1,520	61.61	121,990	
Inter locking mortar	cu.m	180	245.13	44,120	255.45	45,980	
(c) Concrete Block (104 nos.)							
Concrete, type B	cu.m	590	113.00	66,670	171.35	101,100	
Formwork	sq.m	1,810			40.42	73,160	
Reinforcing bar, ϕ 16mm	kg	1,390	2.51	3,490	1.35	1,880	
(iii) No. 2 - No. 4 Spur Dike ($\lambda=600m$)							F/C:1,086,910 L/C:2,055,160
(a) Spur Dike (600m)							
Excavation, in common	cu.m	10,780	14.60	157,390	4.62	49,800	
Embankment	cu.m	5,160	16.01	82,610	6.08	31,370	
Riprap bedding	cu.m	1,410	17.07	24,070	24.90	35,110	
Backfill	cu.m	5,100	13.88	70,790	9.20	46,920	
Concrete, type B	cu.m	1,620	113.00	183,060	171.35	277,590	
Formwork	cu.m	9,190			40.42	371,460	
Joint filler	cu.m	200	54.60	16,380	3.70	1,110	
(b) Wet masonry ($6,870m^2$)							
Backfill concrete, type B	cu.m	1,370	144.00	197,280	175.55	240,500	
Rubble stone	sq.m	6,870	19.88	136,580	48.75	334,910	
Cobble stone	cu.m	3,840	0.77		61.61	236,580	
Inter locking mortar	cu.m	330	245.13	80,890	255.45	84,300	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(c) Concrete Block (158 nos.)							
Concrete, type B	cu.m	1,160	113.00	131,080	171.35	198,770	
Formwork	sq.m	3,540			40.42	143,090	
Reinforcing bar, ϕ 16mm	kg	2,700	2.51	6,780	1.35	3,650	
Sub total (1)				3,927,740		5,919,970	
(2) General (10% of (1)				392,770		592,000	
(3) Supervision and Miscellaneous (6% of (1) to (2))				259,230		390,720	
(4) Profit (10% of (1) to (3))				-		-	
(5) Contractor's Tax (3% of (1) to (4))				-		-	
Sub total (Contract Cost)				4,579,740		6,902,690	<u>₱11,482,430</u>
2. Right of Way/Site Acquisition				-		-	
3. Engineering Cost (10% of Item 1)				-		1,148,240	
4. Project Management Cost (5% of Item 1)				-		574,120	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				686,960		1,035,400	
(2) Price Escalation							
Total Estimated Project Cost				<u>5,266,700</u>		<u>9,660,450</u>	<u>₱14,927,150</u>

TABLE-I.21 DETAILED COST ESTIMATE (ECONOMIC), SABO WORKS, OGSONG RIVER (MABONTON CREEK)

(Unit: Pesos)

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
1. Contract Cost							
(1) Direct Cost							
(i) No.1-No.6 Spur Dike (1200 m)							F/C: 2,183,500 L/C: 4,107,630
(a) Spur Dike (1200 m)							
Excavation, in common	cu.m	21,540	14.60	314,480	4.62	99,510	
Embankment	cu.m	10,320	16.01	165,220	6.08	62,750	
Riprap bedding	cu.m	2,820	17.07	48,140	24.90	70,220	
Backfill	cu.m	10,200	13.88	141,580	9.20	93,840	
Concrete, type B	cu.m	3,240	113.00	366,120	171.35	555,170	
Formwork	sq.m	18,360			40.42	742,110	
Joint filler	sq.m	600	54.60	32,760	3.70	2,220	
(b) Wet masonry (13,740 m ²)							
Backfill concrete, type B	cu.m	2,750	144.00	396,000	175.55	482,760	
Rubble stone masonry	sq.m	13,740	19.88	273,150	48.75	669,830	
Cobble stone	cu.m	7,690	0.77	5,920	61.61	473,780	
Inter locking mortar	cu.m	690	245.13	169,140	255.45	176,260	
(c) Concrete Block (400 nos.)							
Concrete, type B	cu.m	2,280	113.00	257,640	171.35	390,680	
Formwork	sq.m	6,960			40.42	281,320	
Reinforcing bar, ø16 mm	kg	5,320	2.51	13,350	1.35	7,180	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
(ii) <u>No.1-No.7 Jetty (560 m)</u>							F/C: 852,500 L/C: 1,367,250
(a) <u>Jetty (560 m)</u>							
Excavation, in common	cu.m	8,040	14.60	117,380	4.62	37,140	
Embankment	cu.m	3,850	16.01	61,640	6.08	23,410	
Riprap bedding	cu.m	1,050	17.07	17,920	24.90	26,150	
Backfill	cu.m	3,800	13.88	52,740	9.20	34,960	
Concrete, type B	cu.m	1,210	113.00	136,730	171.35	207,230	
Formwork	sq.m	6,850			40.42	276,880	
Joint filler	sq.m	220	54.60	12,010	3.70	810	
Coconut trunk	m	8,400	16.41	137,840	11.36	95,420	
(b) <u>Wet masonry (5,130 m²)</u>							
Backfill concrete, type B	cu.m	1,030	144.00	148,320	175.55	180,820	
Rubble stone masonry	sq.m	5,130	19.88	101,980	48.75	250,090	
Cobble stone	cu.m	2,870	0.77	2,210	61.61	176,820	
Inter locking mortar	cu.m	260	245.13	63,730	255.45	66,420	
(iii) <u>Ground sill (Crib work)</u> (X= 260 m, 1,040 nos.)							F/C: 169,500 L/C: 410,020
Excavation	cu.m	2,340	14.60	34,160	4.62	10,810	
Backfill	cu.m	260	13.88	3,610	9.20	2,390	
Cobble stone	cu.m	5,090	0.77	3,920	61.61	313,590	
Reinforcing bar, ϕ 9mm	kg	13,520	2.51	33,940	1.35	18,250	

Description	Unit	Quantity	Foreign Currency		Local Currency		Remarks
			Unit Price	Amount	Unit Price	Amount	
Coconut trunk	m	5,720	16.41	93,870	11.36	64,980	
Sub total (1)				3,205,500		5,884,900	
(2) General (10% of (1))				320,550		588,490	
(3) Supervision and Miscellaneous (6% of (1) to (2))				211,560		388,400	
(4) Profit (10% of (1) to (3))				-		-	
(5) Contractor's Tax (3% of (1) to (4))				-		-	
Sub total(Contract Cost)				<u>3,737,610</u>		<u>6,861,790</u>	<u>₱10,599,400</u>
2. Right of Way/Site Acquisition				-		-	
3. Engineering Cost (10% of Item 1)				-		1,059,940	
4. Project Management Cost (5% of Item 1)				-		529,970	
5. Contingency							
(1) Physical Contingency (15% of Item 1)				560,640		1,029,270	
(2) Price Escalation							
Total Estimated Project Cost				<u>4,298,250</u>		<u>9,480,970</u>	<u>₱13,779,220</u>