

Republic of the Philippines
Department of Public Works and Highways

Bureau : DPWH
Region : IX
District/City : Zamboanga City

PROGRAM OF WORK

(For all types of Project)

Date :

NAME OF PROJECT : Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City LOCATION: Zamboanga City PROJECT CATEGORY : NATIONAL ROAD	<table style="width: 100%;"> <tr> <td style="width: 60%;">Appropriation</td> <td style="width: 40%;">P 120,000,000.00</td> </tr> <tr> <td>Source of Funds</td> <td>CY-2018 GAA</td> </tr> <tr> <td>Issued Obligated Authority</td> <td></td> </tr> <tr> <td>Released</td> <td></td> </tr> <tr> <td>Cal. Days to Complete</td> <td>250 Calendar Days</td> </tr> <tr> <td>Desirable Starting Date</td> <td>upon approval</td> </tr> <tr> <td>Mode of Implementation</td> <td>by contract</td> </tr> </table>	Appropriation	P 120,000,000.00	Source of Funds	CY-2018 GAA	Issued Obligated Authority		Released		Cal. Days to Complete	250 Calendar Days	Desirable Starting Date	upon approval	Mode of Implementation	by contract
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Issued Obligated Authority															
Released															
Cal. Days to Complete	250 Calendar Days														
Desirable Starting Date	upon approval														
Mode of Implementation	by contract														
PROJECT DESCRIPTION : Scope of Work : Road Opening Road Width : 6.70 m. Roadbed Width : 12.00 m. Subbase Course : 0.30 m. thk. Surface Course : 0.15 m. thk.	Station Limits: <table style="width: 100%;"> <tr> <td style="width: 10%;">I</td> <td style="width: 40%;">1902+240.00</td> <td style="width: 10%;">-</td> <td style="width: 40%;">1904+499.00</td> <td style="width: 10%; text-align: right;">Length</td> <td style="width: 10%; text-align: right;">2,259.00</td> </tr> </table> Brgy. Road 1 1903+807.87 (Sta. 0+003.35 - 0+080.00, from the CL, L&R) Brgy. Road 2 1903+960.10 (Sta. 0+003.35 - 0+080.00, from the CL, L&R) Net Length (Brgy. Road) 306.60 in.m. Net Length: 2,259.00 in.m. / 2.26 km. Lane Kilometer 4.52 km.	I	1902+240.00	-	1904+499.00	Length	2,259.00								
I	1902+240.00	-	1904+499.00	Length	2,259.00										

MINIMUM EQUIPMENT REQUIREMENT :				TECHNICAL PERSONNEL REQUIRED :	
Description	No.	Description	No.	Description	No.
Dump Truck	12	Water Pump	1	Project Engineer	1
Transit Mixer	4	Concrete Screeder	1	Materials Engineer	1
Bulldozer	2	Concrete Vibrator	2	Geometric Surveyor	1
Backhoe	3	Concrete Cutter	2	Foreman	1
Road Grader	2	Bar Cutter	1	Materials Lab. Tech.	1
Road Roller	2	Bar Bender	1	Mason	12
Payloader	4	One Bagger Mixer	2	Carpenter	8
Water Truck	2	Batching Plant	1	Laborers (Skilled)	20
Water Tank	2	Plate Compactor	1	Laborers (Unskilled)	30
Kneading Machine	1	Cargo Truck	1	Safety Practitioner	1
Applicator Machine	1				

ESTIMATED COST OF PROPOSED WORK

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART A - FACILITIES FOR THE ENGINEER						
A.1.1(3)	Construction of Field Office for the Engineer	0.45	L.S.	1.00	410,362.99	410,362.99
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.32	L.S.	1.00	297,173.33	297,173.33
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.33	month	8.33	304,705.00	36,564.60
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.13	km.	2.57	114,956.30	44,806.79
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60
B.7	Occupation Safety and Health Program	0.28	month	8.33	259,050.00	31,086.00
B.9	Mobilization & Demobilization	0.99	L.S.	1.00	906,991.00	906,991.00
PART C - EARTHWORKS						
100(1)	Clearing and Grubbing	0.80	ha.	4.52	733,510.12	162,281.00
101(3)b1	Removal of Actual Structures/Obstruction	0.10	sq.m.	1,226.00	92,341.91	75.32
102(1)	Unsuitable Excavation	2.16	cu.m.	8,276.00	1,976,148.66	238.78
102(2)	Surplus Common Excavation	1.50	cu.m.	9,607.00	1,368,565.19	142.46
103(1)a	Structure Excavation	0.00	cu.m.	2.50	572.73	229.09
103(3)	Foundation Fill	0.02	cu.m.	10.00	22,790.29	2,279.03
103(6)a	Pipe Culverts and Drain Excavation	0.01	cu.m.	57.50	13,231.65	230.12
104(1)a	Embankment from Roadway Excavation	4.18	cu.m.	16,135.50	3,821,325.64	236.83
104(5)	Boulder Fill	37.63	cu.m.	19,119.00	34,424,419.49	1,800.53
105(1)a	Subgrade Preparation	0.18	sq.m.	10,414.50	166,408.09	15.98

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Bureau : DPWH
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PROGRAM OF WORK

(For all types of Project)

Date : _____

NAME OF PROJECT : Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City	Appropriation	:	P 120,000,000.00
	Source of Funds	:	CY-2018 GAA
LOCATION: Zamboanga City	Issued Obligated Authority	:	
	Released	:	
PROJECT CATEGORY : NATIONAL ROAD	Cal. Days to Complete	:	250 Calendar Days
	Desirable Starting Date	:	upon approval
	Mode of Implementation	:	by contract
PROJECT DESCRIPTION : Scope of Work : Road Opening Road Width : 6.70 m. Roadbed Width : 12.00 m. Subbase Course : 0.30 m. thk. Surface Course : 0.15 m. thk.	Station Limits:		
	I 1902+240.00 - 1904+499.00 2,259.00 Brgy. Road 1 1903+807.87 (Sta. 0+003.35 - 0+080.00, from the CL L&R) Brgy. Road 2 1903+960.10 (Sta. 0+003.35 - 0+080.00, from the CL L&R) Net Length (Brgy. Road) 306.60 in.m. Net Length: 2,259.00 in.m. / 2.26 km. Lane Kilometer: 4.52 km.		

MINIMUM EQUIPMENT REQUIREMENT :				TECHNICAL PERSONNEL REQUIRED :	
Description	No.	Description	No.	Description	No.
Dump Truck	12	Water Pump	1	Project Engineer	1
Transit Mixer	4	Concrete Screeder	1	Materials Engineer	1
Bulldozer	2	Concrete Vibrator	2	Geometric Surveyor	1
Backhoe	2	Concrete Cutter	2	Foreman	1
Road Grader	2	Bar Cutter	1	Materials Lab. Tech.	1
Road Roller	2	Bar Bender	1	Mason	12
Payloader	4	One Bagger Mixer	2	Carpenter	8
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ESTIMATED COST OF PROPOSED WORK

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART A - FACILITIES FOR THE ENGINEER						
A.1.1(3)	Construction of Field Office for the Engineer	0.45	L.S.	1.00	410,362.99	410,362.99
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.32	L.S.	1.00	297,173.33	297,173.33
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.33	month	8.33	304,705.00	36,564.60
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.13	km.	2.57	114,956.30	44,806.79
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60
B.7	Occupation Safety and Health Program	0.28	month	8.33	259,050.00	31,086.00
B.9	Mobilization & Demobilization	0.99	L.S.	1.00	906,991.00	906,991.00
PART C - EARTHWORKS						
100(1)	Clearing and Grubbing	0.80	ha.	4.52	733,510.12	162,281.00
101(3)b1	Removal of Actual Structures/Obstruction	0.10	sq.m.	1,226.00	92,341.91	75.32
102(1)	Unsuitable Excavation	2.16	cu.m.	8,276.00	1,976,148.66	238.78
102(2)	Surplus Common Excavation	1.50	cu.m.	9,607.00	1,368,565.19	142.46
103(1)a	Structure Excavation	0.00	cu.m.	2.50	572.73	229.09
103(3)	Foundation Fill	0.02	cu.m.	10.00	22,790.29	2,279.03
103(6)a	Pipe Culverts and Drain Excavation	0.01	cu.m.	57.50	13,231.65	230.12
104(1)a	Embankment from Roadway Excavation	4.18	cu.m.	16,135.50	3,821,325.64	236.83
104(5)	Boulder Fill	37.63	cu.m.	19,119.00	34,424,419.49	1,800.53
105(1)a	Subgrade Preparation	0.18	sq.m.	10,414.50	166,408.09	15.98

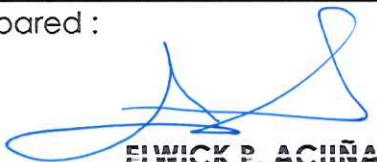
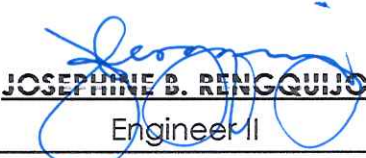
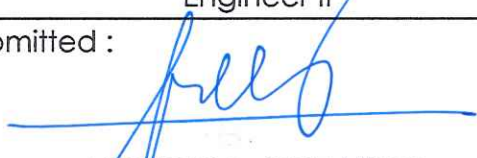
ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART D - SUBBASE AND BASE COURSE						
200(1)	Aggregate Subbase Course	13.38	cu.m.	10,108.50	12,241,423.83	1,211.00
PART E - SURFACE COURSES						
300(1)	Gravel Surface Course	1.27	cu.m.	909.50	1,158,933.10	1,274.25
311(1)a	Portland Cement Concrete Pavement	1.41	sq.m.	1,389.00	1,290,688.77	929.22
311(1)b1	Portland Cement Concrete Pavement	2.50	sq.m.	1,870.00	2,290,807.37	1,225.03
311(1)e1	Portland Cement Concrete Pavement	28.76	sq.m.	15,418.00	26,308,563.06	1,706.35
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
404(1)b	Reinforcing Steel	0.05	kg.	917.00	45,133.49	49.22
405(1)a3	Structural Concrete, Class "A"	0.09	cu.m.	11.00	79,785.02	7,253.18
500(1)b3	Pipe Culverts	0.26	ln.m.	78.00	233,865.26	2,998.27
505(2)a	Grouted Riprap, Class "A"	0.12	cu.m.	31.50	109,721.91	3,483.24
506(1)	Stone Masonry	0.25	cu.m.	54.00	227,015.64	4,203.99
PART H - MISCELLANEOUS STRUCTURES						
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	0.45	sq.m.	553.00	408,735.98	739.12
612(2)	Reflectorized Thermoplastic Pavement Markings (Yellow)	0.06	sq.m.	69.00	56,192.46	814.38
715(1)	Separation Geotextile	2.30	sq.m.	11,362.00	2,106,688.64	185.42
TOTAL		100.00			P 91,481,086.10	

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TOTAL		100.00			P 91,481,086.10	

NAME OF PROJECT : Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Zamboanga City

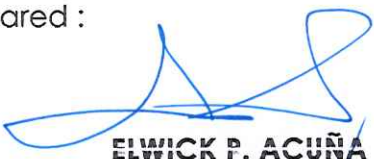
BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	2.34	2,811,633.38
A.2. Equipment Expenses	15.52	18,623,700.73
A.3. Materials	58.37	70,045,751.99
SUB-TOTAL (DIRECT COST)	76.23	P 91,481,086.10
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (10 % Max. of D.C.)	7.48	8,971,316.68
B.2. Profit (8 % Max. of D.C.)	6.02	7,221,551.21
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	4.49	5,383,697.70
SUBTOTAL (CONTRACT COST)	94.21	P 113,057,651.69
II. ESTIMATED GOVERNMENT EXPENDITURES		
1. Engineering and Administrative Overhead (3.5%)	3.50	4,200,000.00
2. Detailed Engineering (1%)		
3. Reserved for the Payment of RROW	2.29	2,742,348.31
4. Physical Reserved	0.00	
TOTAL ESTIMATED PROJECT COST	100.00	P 120,000,000.00

Prepared :  ELWICK P. ACUÑA Engineer II	Checked :  JOSEPHINE B. RENGQUIJO Engineer II
Submitted :  LEONCIO B. SOLAMILLO Chief, Construction Division	Recommending Approval :  CAYAMOMBAO D. DIA Assistant Regional Director
Approved :  JORGE U. SEBASTIAN, JR., CESO III Regional Director	

NAME OF PROJECT : Construction of By-Pass and Diversion Roads - Buerisa - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
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Prepared :  ELWICK P. ACUÑA Engineer II	Checked :  JOSEPHINE B. RENGQUIJO Engineer II
Submitted :  LEONCIO B. SOLAMILLO Chief, Construction Division	Recommending Approval : CAYAMOMBAO D. DIA Assistant Regional Director
Approved :  JORGE U. SEBASTIAN, JR. CESO III Regional Director	

APPROVED GET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Buenvista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Stations : 1902+240.40 to 1904+499.00

Length : 2,259.00 l.m.

Contract Duration : 250 CP

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN %	PROFIT	%	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
					OCM			(5) x (9)	5% (5) + (9)	(9) + (10)	(5) + (11)	(12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	410,362.99	10.00	8.00	1.00	73,865.34	24,211.42	98,076.75	508,439.74	508,439.74
A.1.1(11)	Provision of Furniture/Fixtures, Equipment and Appliances for the Field Office for the Engineer	1.00	L.S.	297,173.33	-	8.00	3.00	23,773.87	16,047.36	39,821.23	336,994.56	336,994.56
A.1.2(5)	Operation and Maintenance of 4.4 Pick Up Type Service Vehicle for the Engineer	8.33	month	304,705.00	-	-	-	-	15,235.25	15,235.25	319,940.25	38,392.83
TOTAL OF PART A				1,012,241.32				97,639.20	55,494.03	153,133.23	1,165,374.55	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	2.57	km.	114,956.30	10.00	8.00	1.00	20,692.13	6,782.42	27,474.56	142,430.86	55,515.61
B.5	Project Billboard/Signboard	2.00	each	10,979.20	10.00	8.00	1.00	1,976.26	647.77	2,624.03	13,603.23	6,801.61
B.7	Occupation Safety and Health Program	8.33	month	259,050.00	-	8.00	3.00	20,724.00	13,988.70	34,712.70	293,762.70	35,251.52
B.9	Mobilization & Demobilization	1.00	L.S.	906,991.00	-	-	-	-	45,349.55	45,349.55	952,340.55	952,340.55
TOTAL OF PART B				1,291,976.50				43,392.39	66,768.44	110,160.83	1,402,137.34	
PART C - EARTHWORKS												
100(1)	Cleaning and Grubbing	4.52	ha.	733,510.12	10.00	8.00	1.00	132,031.82	43,277.10	175,308.92	908,819.04	201,066.16
101(3)b1	Removal of Actual Structures/Obstruction	1,226.00	sq.m.	92,341.91	10.00	8.00	1.00	16,621.54	5,448.17	22,069.72	114,411.62	93.32
102(1)	Unsuitable Excavation	8,276.00	cum.	1,976,148.66	10.00	8.00	1.00	355,706.76	116,592.77	472,299.53	2,448,448.19	295.85
102(2)	Surplus Common Excavation	9,607.00	cum.	1,368,565.19	10.00	8.00	1.00	246,341.73	80,745.35	327,087.08	1,695,652.26	176.50
103(1)a	Structural Excavation	2.50	cum.	572.73	10.00	8.00	1.00	103.09	33.79	136.88	709.61	283.84
103(3)	Foundation Fill	10.00	cum.	22,790.29	10.00	8.00	1.00	4,102.25	1,344.43	5,446.68	28,237.17	2,823.72
103(6)a	Pipe Caissons and Drain Excavation	57.50	cum.	13,231.65	10.00	8.00	1.00	2,381.70	780.67	3,162.36	16,394.01	285.11
104(1)a	Embankment from Roadway Excavation	16,135.50	cum.	3,821,325.64	10.00	8.00	1.00	687,838.62	225,458.21	913,296.83	4,734,622.47	293.43
104(5)	Boulder Fill	19,119.00	cum.	34,424,419.49	10.00	8.00	1.00	6,196,395.51	2,031,040.75	8,227,436.26	42,651,855.75	2,230.86
105(1)a	Subgrade Preparation	10,414.50	sq.m.	166,408.09	10.00	8.00	1.00	29,953.46	9,818.08	39,771.53	206,179.62	19.80
TOTAL OF PART C				42,619,313.76				7,671,476.48	2,514,539.51	10,186,015.99	52,805,329.74	
PART D - SUBBASE AND BASE COURSE												
200(1)	Aggregate Subbase Course	10,108.50	cum.	12,241,423.83	10.00	8.00	1.00	2,203,456.29	722,244.01	2,925,700.29	15,167,124.12	1,500.43
TOTAL OF PART D				12,241,423.83				2,203,456.29	722,244.01	2,925,700.29	15,167,124.12	
PART E - SURFACE COURSES												
300(1)	Gravel Surface Course	909.50	cum.	1,158,933.10	10.00	8.00	1.00	208,607.96	68,377.05	276,985.01	1,435,918.12	1,578.80
311(1)a	Portland Cement Concrete Pavement	1,389.00	sq.m.	1,290,688.77	10.00	8.00	1.00	232,323.98	76,150.54	308,474.62	1,599,163.39	1,151.31
311(1)b1	Portland Cement Concrete Pavement	1,870.00	sq.m.	2,290,807.37	10.00	8.00	1.00	412,345.33	135,157.53	547,502.96	2,838,310.33	1,517.81
311(1)e1	Portland Cement Concrete Pavement	15,418.00	sq.m.	26,308,563.06	10.00	8.00	1.00	4,735,541.35	1,552,205.22	6,287,746.57	32,596,309.63	2,114.17
TOTAL OF PART E				31,048,992.31				5,588,818.62	1,831,890.35	7,420,709.16	38,469,701.47	
PART F - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
404(1)b	Reinforcing Steel	917.00	kg.	45,133.49	10.00	8.00	1.00	8,124.03	2,662.88	10,786.90	55,920.40	60.98
405(1)a3	Structural Concrete, Class "A"	11.00	cum.	79,785.02	10.00	8.00	1.00	14,361.30	4,707.32	19,068.62	98,853.63	8,986.69
500(1)b3	Pipe Caissons	78.00	l.m.	233,865.26	10.00	8.00	1.00	42,095.75	13,798.05	55,893.80	289,759.06	3,714.86
505(2)a	Grouted Riprap, Class "A"	31.50	cum.	109,721.91	10.00	8.00	1.00	19,749.94	6,473.59	26,223.54	135,945.44	4,315.73
506(1)	Stone Masonry	54.00	cum.	227,015.64	10.00	8.00	1.00	40,862.81	13,393.92	54,256.74	281,272.37	5,208.75
TOTAL OF PART F				695,521.31				125,193.84	41,035.76	166,229.59	861,750.91	

APPROVED GET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Buenvista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Stations: 1902+240.00 to 1904+499.00

Length: 2,259.00 l.v.m.

Contract Duration: 250 CP

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN %	PROFIT	%	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
								(5) x (8)	5% (5) + (9)	(9) + (10)	(5) + (11)	(12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	410,362.99	10.00	8.00	13.00	73,865.34	24,211.42	98,076.75	508,439.74	508,439.74
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	297,173.33	-	8.00	3.00	23,773.87	16,047.36	39,821.23	336,994.56	336,994.56
A.1.2(5)	Operation and Maintenance of 4.4 Pick Up Type Service Vehicle for the Engineer	8.33	month	304,705.00	-	-	-	-	15,235.25	15,235.25	319,940.25	38,392.83
	TOTAL OF PART A			1,012,241.32				97,639.20	55,494.03	153,133.23	1,165,374.55	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	2.57	km.	114,954.30	10.00	8.00	13.00	20,692.13	6,782.42	27,474.56	142,430.86	55,515.61
B.5	Project Billboard/Signboard	2.00	each	10,979.20	10.00	8.00	13.00	1,976.26	647.77	2,624.03	13,603.23	6,801.61
B.7	Occupation Safety and Health Program	8.33	month	259,050.00	-	8.00	3.00	20,724.00	13,988.70	34,712.70	293,762.70	35,251.52
B.9	Mobilization & Demobilization	1.00	L.S.	906,991.00	-	-	-	-	45,349.55	45,349.55	952,340.55	952,340.55
	TOTAL OF PART B			1,291,976.50				43,392.39	66,768.44	110,160.83	1,402,137.34	
PART C - EARTHWORKS												
100(1)	Cleaning and Grubbing	4.52	ha.	733,510.12	10.00	8.00	13.00	132,031.82	43,277.10	175,308.92	908,819.04	201,066.16
101(3)b1	Removal of Actual Structures/Obstruction	1,226.00	sq.m.	92,341.91	10.00	8.00	13.00	16,621.54	5,448.17	22,069.72	114,411.62	93.32
102(1)	Unsuitable Excavation	8,276.00	cum.	1,976,148.66	10.00	8.00	13.00	355,706.76	116,592.77	472,299.53	2,448,448.19	295.85
102(2)	Surplus Common Excavation	9,607.00	cum.	1,368,565.19	10.00	8.00	13.00	246,341.73	80,745.35	327,087.08	1,695,652.26	176.50
103(1)a	Structural Excavation	2.50	cum.	572.73	10.00	8.00	13.00	103.09	33.79	136.88	709.61	283.84
103(3)	Foundation Fill	10.00	cum.	22,790.29	10.00	8.00	13.00	4,102.25	1,344.63	5,446.88	28,237.17	2,823.72
103(6)a	Pipe Culverts and Drain Excavation	57.50	cum.	13,231.65	10.00	8.00	13.00	2,381.70	780.67	3,162.37	16,394.01	285.11
104(1)a	Embankment from Roadway Excavation	16,135.50	cum.	3,821,325.64	10.00	8.00	13.00	687,838.62	225,458.21	913,296.83	4,734,622.47	293.43
104(5)	Boulder Fill	19,119.00	cum.	34,424,419.49	10.00	8.00	13.00	6,196,395.51	2,031,040.75	8,227,436.26	42,651,855.75	2,230.86
105(1)a	Subgrade Preparation	10,414.50	sq.m.	166,408.09	10.00	8.00	13.00	29,953.46	9,818.08	39,771.53	206,179.62	19.80
	TOTAL OF PART C			42,619,313.76				7,671,476.48	2,514,539.51	10,186,015.99	52,805,329.74	
PART D - SUBBASE AND BASE COURSE												
200(1)	Aggregate Subbase Course	10,108.50	cum.	12,241,423.83	10.00	8.00	13.00	2,203,456.29	722,244.01	2,925,700.29	15,167,124.12	1,500.43
	TOTAL OF PART D			12,241,423.83				2,203,456.29	722,244.01	2,925,700.29	15,167,124.12	
PART E - SURFACE COURSES												
300(1)	Gravel Surface Course	909.50	cum.	1,159,933.10	10.00	8.00	13.00	208,607.96	68,377.05	276,985.01	1,435,918.12	1,578.80
311(1)a	Portland Cement Concrete Pavement	1,389.00	sq.m.	1,290,688.77	10.00	8.00	13.00	232,323.98	76,150.64	308,474.62	1,599,163.39	1,151.31
311(1)b1	Portland Cement Concrete Pavement	1,870.00	sq.m.	2,290,807.37	10.00	8.00	13.00	412,345.33	135,157.63	547,502.96	2,838,310.33	1,517.81
311(1)e1	Portland Cement Concrete Pavement	15,418.00	sq.m.	26,308,563.06	10.00	8.00	13.00	4,735,541.35	1,552,205.22	6,287,746.57	32,596,309.63	2,114.17
	TOTAL OF PART E			31,048,992.31				5,588,818.62	1,831,890.55	7,420,709.16	38,469,701.47	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
404(1)b	Reinforcing Steel	917.00	kg.	45,133.49	10.00	8.00	13.00	8,124.03	2,662.88	10,786.90	55,920.40	60.98
405(1)a3	Structural Concrete, Class "A"	11.00	cum.	79,785.02	10.00	8.00	13.00	14,361.30	4,707.32	19,068.62	98,853.63	8,986.69
500(1)b3	Pipe Culverts	78.00	ln.m.	233,865.26	10.00	8.00	13.00	42,095.75	13,798.05	55,893.80	289,759.06	3,714.86
505(2)a	Grout/Riprap, Class "A"	31.50	cum.	109,721.91	10.00	8.00	13.00	19,749.94	6,473.59	26,223.54	135,945.44	4,315.73
506(1)	Stone Masonry	54.00	cum.	227,015.64	10.00	8.00	13.00	40,862.81	13,393.92	54,256.74	281,272.37	5,208.75
	TOTAL OF PART G			695,521.31				125,193.84	41,035.76	166,229.59	861,750.91	

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRL COST	MARK-UPS IN % O.C.M	PROFIT	%	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
								(5) x (8)	5% (5) + (9)	(9) + (10)	(5) + (11)	(12) / (3)
PART H - MISCELLANEOUS STRUCTURES												
612(1)	Reflectivized Thermoplastic Pavement Markings (White)	553.00	sq.m.	408,735.98	10.00	8.00	1.00	73,572.48	24,115.42	97,679.90	506,423.87	915.78
612(2)	Reflectivized Thermoplastic Pavement Markings (Yellow)	69.00	sq.m.	56,192.46	10.00	8.00	1.00	10,114.64	3,315.36	13,430.00	69,622.46	1,009.02
715(1)	Separation Geotextile	11,362.00	sq.m.	2,106,688.64	10.00	8.00	1.00	379,203.95	124,294.53	503,498.58	2,610,187.22	229.73
	TOTAL OF PART H			2,571,617.07				462,891.07	151,725.41	614,616.48	3,186,233.56	
	TOTAL			91,481,086.10				16,192,867.88	5,383,697.70	21,576,565.58	113,057,651.69	

Prepared by :

BELEN A. SAPALLIDA
Head, BAC Technical Working Group

Submitted by :

FRANCISCO B. SOLA-MILLO
Chief, Construction Division

Recommending Approval:

CAYAMOMBAO I. DIA
OIC - Assistant Regional Director

Approved by :

JORGE U. SEBASTIAN JR., CESO III
Regional Director

ITEM NO.	DESC., UOM, ICN	QUANTITY	UNIT	ESTIMATED DIR. COST	MARK-UPS IN % O.C.M.	PROFIT	TOTAL MARK-UPS %	VALUE (5) x (8)	VAT (10) 5% (5) + (9)	TOTAL INDIRECT COST (11) (9) + (10)	TOTAL COST (12) (5) + (11)	UNIT COST (13) (12) / (9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
PART H - MISCELLANEOUS STRUCTURES												
612(1)	Reflect-rized Thermoplastic Pavement Markings (White)	553.00	sq.m.	408,735.98	10.00	8.00	1.00	73,572.48	24,115.42	97,687.90	506,423.87	915.78
612(2)	Reflect-rized Thermoplastic Pavement Markings (Yellow)	69.00	sq.m.	56,192.46	10.00	8.00	1.00	10,114.64	3,315.36	13,430.00	69,622.46	1,009.02
715(1)	Separation Geotextile	11,362.00	sq.m.	2,106,688.64	10.00	8.00	1.00	379,203.95	124,294.63	503,498.58	2,610,187.22	229.73
	TOTAL OF PART H			2,571,617.07				462,891.07	151,725.41	614,616.48	3,186,233.56	
	TOTAL			91,481,086.10				16,192,667.88	5,383,697.70	21,576,365.58	113,057,651.69	

Prepared by :


BEÑ A. SAPALLEDA
 Head, BAC Technical Working Group

Submitted by :


LEONCIO B. SOLIMILLO
 Chief, Construction Division

Recommending Approval:


CAYAMO BBAO I/DIA
 OIC - Assistant Regional Director

Approved by :


JORGEN S. BASTIAN R. CEO III
 Regional Director

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including Bridge, Zamboanga City

Item No./Description: A.1.1(3) Construction of Field Office for the Engineer

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

7.00 m. x 9.00 m., 1 - Classroom, for
Government Field Office, fully furnished as
shown on plans

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	8.00	611.92	4,895.36
	b. Mason	3	8.00	443.20	10,636.80
	c. Carpenter	3	8.00	443.20	10,636.80
	d. Laborer	6	8.00	342.24	16,427.52
Sub-total for A					P 42,596.48
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	6.00	1,376.00	8,256.00
	b. Water Truck	1	1.00	19,600.00	19,600.00
	Minor Tools 10% of Labor				4,259.65
Sub-total for B					P 32,115.65
C.	Total (A+B)				74,712.13
D.	Output/day	- L.S./day			
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	I. Earthworks (Excavation, Embankment, Bedding)				
	a. Gravel Bedding	3.50	cu.m.	1,389.68	4,863.88
	b. Selected Fill	10.00	cu.m.	388.35	3,883.50
	c. Soil Poisoning	2.50	L	1,900.00	4,750.00
	II. Concrete Works (Footings, Columns, Beams & Slab on Grade)				
	a. Portland Cement	90.00	bag	285.00	25,650.00
	b. Crushed Gravel	21.00	cu.m.	1,389.68	29,183.28
	c. Washed Sand	18.00	cu.m.	1,689.68	30,414.24
	III. Reinforcing Bars (Footings, Columns, Beams, & Slabs on Grade)				
	a. Deformed Round Bar, Grade 40	435.00	kg.	38.00	16,530.00
	b. No. 16 GI Tie Wire	20.00	kg.	90.00	1,800.00
	IV. Formworks (Columns & Beams)				
	a. Coco Lumber	400.00	bd.ft.	25.00	10,000.00
	b. Ordinary Plywood, 1/4"x4"x8'	18.00	pc.	420.00	7,560.00
	c. CWN, Assorted	5.00	kg.	70.00	350.00
	V. Masonry Works (masonry walls & plastering)				
	a. CHB 6" thk	650.00	pc.	18.00	11,700.00
	b. Portland Cement	45.00	bag	285.00	12,825.00
	c. Washed Sand	8.00	cu.m.	1,689.68	13,517.44
	d. 10mm dia. X 6m RSB	65.00	kg.	38.00	2,470.00
	e. No. 16 GI Tie Wire	2.50	kg.	90.00	225.00
	VI. Doors and Windows				
	a. D-1, Hollow Core Flush Type swing door, complete w/ accessories, 0.90mx2.1m	2.00	set	1,765.26	3,530.52
	b. W-1, Jalousie window, 1.4m x 1.2m	2.00	set	924.00	1,848.00
	c. W-2, Jalousie window, 2.8m x 1.2m	2.00	set	1,848.00	3,696.00
Sub-total for E					P 194,796.86
Sub-total for E (I + II + III)					P 335,650.86
F.	Direct Cost (C + E)				410,362.99
G.	Overhead, Contingencies and Miscellaneous	10% per D.O. 197, s. 2016			41,036.30
H.	Contractor's Profit (CP)	8% per D.O. 197, s. 2016			32,829.04
I.	Value Added Tax (VAT)	5% per D.O. 197, s. 2016			24,211.42
J.	Total Unit Cost				508,439.74

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: A.1.1(3) Bunkhouse, 7.00 m. x 9.00 m.

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

*For Government Field Office, fully
furnished as shown on plans*

Designation	No. of Persons	No. of Days	Daily Rate	Amount
A. Labor				
Sub-total for A				P -
Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B. Equipment, (2014 ACEL Rates)				-
Sub-total for B				P -
C. Total (A+B)				-
D. Output/day	-	L.S./day		
Name and Specifications	Quantity	Unit	Unit Cost	Amount
E. Materials				
VII. Steel Works				
a. 65 x 65 x 6mm. L	350.00	kg.	48.00	16,800.00
b. 50 x 50 x 6mm. L	250.00	kg.	48.00	12,000.00
c. 50 x 50 x 4mm. L	100.00	kg.	48.00	4,800.00
d. Purlins C- 150 x 50 x 3mm.	18.00	kg.	48.00	864.00
e. 16mm dia. Cross bracing	35.00	kg.	38.00	1,330.00
f. 16mm dia. Turn buckle	20.00	pc.	118.00	2,360.00
g. 12mm thk base plate	25.00	kg.	47.00	1,175.00
h. 10mm thk batten plate	15.00	kg.	47.00	705.00
i. 10mm dia. Sag rod	10.00	kg.	38.00	380.00
j. 20mm dia. X 350 mm anchor bolts	10.00	pc.	36.00	360.00
k. Welding Rod	15.00	kg.	169.00	2,535.00
l. Primer, Zinc Cromate	5.00	gal.	531.00	2,655.00
VIII. Roofing Works				
a. Pre-painted GI Roofing Sheet long span	55.00	sq.m.	420.00	23,100.00
b. Pre-painted ridge roll ga 24, 0.60m width	10.00	ln.m.	113.00	1,130.00
c. Pre-painted flashing, ga. 24	2.00	ln.m.	113.00	226.00
d. Teckscrew 1 1/2"	1,000.00	pc.	1.25	1,250.00
e. Roof Sealant	2.00	L	250.00	500.00
IX. Carpentry Works				
a. Rough Lumber, sun dried langile	500.00	bd.ft.	30.00	15,000.00
b. Plywood, ordinary 1/4" x 4' x 8'	30.00	pc.	420.00	12,600.00
c. Finishing Nails	5.00	kg.	100.00	500.00
d. Common Wire Nails	10.00	kg.	70.00	700.00
e. Wood Preservative Brown	5.00	L	400.00	2,000.00
Sub-total for E				P 106,970.00
F. Direct Cost (C + E)				
G. Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		
H. Contractor's Profit (CP)		8% per D.O. 197, s. 2016		
I. Value Added Tax (VAT)		5% per D.O. 197, s. 2016		
J. Total Unit Cost				

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: A.1.1(3) Bunkhouse, 7.00 m. x 9.00 m.

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

*For Government Field Office, fully
furnished as shown on plans*

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B				P	-
C.	Total (A+B)				-
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	X. Electrical Works				
	a. 2 x 40w Fluorescent lighting fixtures	5.00	set	1,030.00	5,150.00
	b. Porcelain Ceiling Outlet w/ female socket	2.00	pc	50.00	100.00
	c. Duplex Convenience outlet	3.00	pc	170.00	510.00
	d. two gang switch	3.00	pc	132.00	396.00
	e. 3.5mm2 thw	3.00	roll	3,600.00	10,800.00
	f. 8.00mm2 thw	25.00	m	70.00	1,750.00
	g. 15mm dia. PVC pipe	20.00	pc	73.00	1,460.00
	h. 15mm dia. PVC Coupling	25.00	pc	5.00	125.00
	i. 15mm dia. PVC Elbow	25.00	pc	26.00	650.00
	j. 15mm dia. PVC Clamp	55.00	pc	8.00	440.00
	k. 20mm dia. RSC Pipe	4.00	pc	240.00	960.00
	l. 20mm dia. RSC Coupling	3.00	pc	9.00	27.00
	m. 20mm dia. RSC elbow	3.00	pc	30.00	90.00
	n. 20mm dia. RSC Clamp	10.00	pc	18.00	180.00
	o. 20mm dia. Service entrance cap	2.00	pc	100.00	200.00
	p. wire holder	2.00	pc	50.00	100.00
	q. utility box	7.00	pc	32.00	224.00
	r. octagonal box	8.00	pc	34.00	272.00
	s. electrical tape (big)	7.00	pc	31.00	217.00
	t. panel board (side main w/ braches)	2.00	set	1,627.00	3,254.00
	XI. Plumbing Works				
	a. Water Closet (include. Fitting & Accessories)	1.00	set	7,375.00	7,375.00
	b. Lavatory (include fitting & Accessories)	1.00	set	6,615.00	6,615.00
	c. 1/2" GI Pipe S-40	2.00	pc	166.00	332.00
	d. 1/2" Water Faucet	2.00	pc	321.00	642.00
	e. 1/2" Assorted Connector	8.00	pc	20.00	160.00
	f. 4" PVC series 1000	1.00	pc	640.00	640.00
	g. 2" PVC series 1000	1.00	pc	305.00	305.00
	h. 4" PVC assorted Connector	6.00	pc	77.00	462.00
	i. 2" PVC assorted Connector	8.00	pc	56.00	448.00
Sub-total for E				P	43,884.00
F.	Direct Cost (C + E)				
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		
J.	Total Unit Cost				

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: A.1.1(11) Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B				P	-
C.	Total (A+B)				-
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	Office Equipment/Facilities & Supplies				
	Electric Desk Fan	2.00	unit	1,370.00	2,740.00
	Folding Beds, Good Quality	2.00	each	2,700.00	5,400.00
	pillows w/ pillow cases, fitted sheets and blanket	2.00	each	5,000.00	10,000.00
	Double burner gas stove (Casul)	1.00	unit	3,700.00	3,700.00
	10 cups Rice Cooker	1.00	unit	2,500.00	2,500.00
	Various Office Supply (Folders, Bond Paper, Yellow Pads, Ball Pens, Pencil, Envelopes, etc.)	1.00	L.S.	45,000.00	45,000.00
	Kitchenware (Plates, Spoons & Forks, Glasses, etc.)	1.00	L.S.	30,000.00	30,000.00
	Dining Table	1.00	set	8,000.00	8,000.00
	Digital Camera	2.00	set	12,000.00	24,000.00
	Cellphone	4.00	set	15,000.00	60,000.00
	Desktop Computer	1.00	set	60,000.00	60,000.00
	Lighting/Water Fixtures				
	a. Electrical Bill	8.33	mos.	3,000.00	25,000.00
	b. Water Bill	8.33	mos.	1,500.00	12,500.00
	c. LPG (11 kg)	8.33	mos.	1,000.00	8,333.33
Sub-total for E				P	297,173.33
F.	Direct Cost (C + E)				297,173.33
G.	Overhead, Contingencies and Miscellaneous			per D.O. 197, s. 2016	-
H.	Contractor's Profit (CP)			8% per D.O. 197, s. 2016	23,773.87
I.	Value Added Tax (VAT)			5% per D.O. 197, s. 2016	16,047.36
J.	Total Unit Cost				336,994.56

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: A.1.2(5) Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer

Unit of Measurement: month

Output per hour:

Quantity: 8.33

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Driver	1	250	422.32	105,580.00
Sub-total for A				P	105,580.00
Name and Capacity		No. of Equipment	No. of Months	Monthly Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B				P	-
C.	Total (A+B)				105,580.00
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Diesel	2,500.00	L	31.00	77,500.00
	b. Spare Parts	1.00	L.S.	60,000.00	60,000.00
	c. Engine Oil & Lubricants	1.00	L.S.	11,625.00	11,625.00
	d. Miscellaneous	1.00	L.S.	50,000.00	50,000.00
Sub-total for E				P	199,125.00
F.	Direct Cost (C + E)				304,705.00
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit (CP)		per D.O. 197, s. 2016		-
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		15,235.25
J.	Total Unit Cost				36,392.63

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: B.4(1) Construction Survey & Staking

Unit of Measurement: km.

Output per hour: 0.04

Quantity: 2.566

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Field Works				
	a. Geodetic Engineer	1	8.02	833.31	6,681.06
	b. Skilled Laborer	3	8.02	443.20	10,660.07
	c. Laborer	3	8.02	342.24	8,231.73
	For Office Works				
	a. Geodetic Engineer	1	24.05	833.31	20,043.19
	b. Skilled Laborer	2	24.05	443.20	21,320.14
Sub-total for A				P	66,936.18
Name and Capacity		No. of Equipment	No. of Days	Unit Cost	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Total Station w/ complete accessories	1	8.02	800.00	6,414.00
	Minor Tools 10% of Labor				6,693.62
Sub-total for B				P	13,107.62
C.	Total (A+B)				80,043.80
D.	Output/day	0.32	km./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Standard Stake Plan (800 mm x 910 mm)	70.00	pc	400.00	28,000.00
	b. Blue Printing	350.00	pc	15.00	5,250.00
	Miscellaneous 5% of Materials Cost				1,662.50
Sub-total for E				P	34,912.50
F.	Direct Cost (C + E)				114,956.30
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		11,495.63
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		9,196.50
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		6,782.42
J.	Total Unit Cost				55,515.61

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: B.5 Project Billboard/Signboard

Unit of Measurement: each

Output per hour:

Quantity: 2.00

Per D.O. 141, s. 2016

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.00	611.92	1,223.84
	b. Skilled Labor	1	2.00	443.20	886.40
	c. Unskilled Labor	2	2.00	342.24	1,368.96
Sub-total for A					P 3,479.20
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
Sub-total for B					P -
C.	Total (A+B)				3,479.20
D.	Output/day	-	each/day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Ordinary Plywood 1/2" thk. x 4' x 8'	2.00	pc.	780.00	1,560.00
	b. Tarpaulin (4' x 8')	2.00	pc.	1,000.00	2,000.00
	c. Assorted Lumber	100.00	bd.ft.	38.00	3,800.00
	d. Assorted CW Nails	2.00	kg.	70.00	140.00
Sub-total for E					P 7,500.00
F.	Direct Cost (C + E)				10,979.20
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		1,097.92
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		878.34
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		647.77
J.	Total Unit Cost				6,801.61

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: B.7 Occupation Safety and Health Program

Unit of Measurement: month

Output per hour:

Quantity: 8.33

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Safety Practioner	1	125.00	611.92	76,490.00
	b. First Aider	1	250.00	443.20	110,800.00
Sub-total for A					P 187,290.00
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Warning Signs and Barricades				45,000.00
Sub-total for B					P 45,000.00
C.	Total (A+B)				232,290.00
D.	Output/day	- L.S./day			
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Rubber Boots (Long w/ steel toe, Black)	24.00	pair	400.00	9,600.00
	b. Working Gloves (Maong Material)	24.00	pair	15.00	360.00
	c. Rain Coats (Reinforced Hip Length)	24.00	pc.	100.00	2,400.00
	d. Safety Hats	24.00	pc.	600.00	14,400.00
Sub-total for E					P 26,760.00
F.	Direct Cost (C + E)				259,050.00
G.	Overhead, Contingencies and Miscellaneous	per D.O. 197, s. 2016			
H.	Contractor's Profit (CP)	8% per D.O. 197, s. 2016			
I.	Value Added Tax (VAT)	5% per D.O. 197, s. 2016			
J.	Total Unit Cost				35,251.52

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: ~~B. Mobilization & Demobilization~~

Unit of Measurement: L.S.

Output per hour:

Quantity: 1.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
Sub-total for A				P	-
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
a.	Low Bed Trailer	1	5.00	34,043.00	170,215.00
b.	Water Truck	2	5.00	19,600.00	196,000.00
c.	Backhoe	2	5.00	12,296.00	122,960.00
d.	Bulldozer	1	5.00	27,032.00	135,160.00
e.	DumpTruck	4	5.00	11,360.00	227,200.00
f.	Payloader	1	4.00	13,864.00	55,456.00
Sub-total for B				P	906,991.00
C.	Total (A+B)				906,991.00
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E				P	-
F.	Direct Cost (C + E)				906,991.00
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit (CP)		per D.O. 197, s. 2016		-
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		45,349.55
J.	Total Unit Cost				952,340.55

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 100(1) Clearing and Grubbing

Unit of Measurement: ha.

Output per hour: 0.05 ha.

Quantity: 4.52 ha.

Light Clearing

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	11.30	611.92	6,914.70
	b. Unskilled Labor	2	11.30	342.24	7,734.62
Sub-total for A					P 14,649.32
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	11.30	11,360.00	256,736.00
	b. Payloader (1.50 cu.m.)	1	11.30	13,864.00	156,663.20
	c. Bulldozer, D6H SERIES II PSDS/DD	1	11.30	27,032.00	305,461.60
Sub-total for B					P 718,860.80
C.	Total (A+B)				733,510.12
D.	Output/day	0.40	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				733,510.12
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		73,351.01
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		58,680.81
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		43,277.10
J.	Total Unit Cost				201,066.16

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 101(3)b1 Removal of Actual Structures/Obstruction

Unit of Measurement: sq.m.

Output per hour: 61.33

Quantity: 1,226.00

Existing PCCP Width = 4 m. (Brgy. Rd. 1 & 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.50	611.92	1,529.05
	b. Unskilled Labor	2	2.50	342.24	1,710.36
Sub-total for A					P 3,239.41
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe w/ Pavement Breaker (0.80 cu.m.)	1	2.50	15,984.80	39,942.45
	b. Payloader (1.50 cu.m.), LX80-2C	1	2.50	13,864.00	34,643.05
	c. Dump Truck (12 cu.yd.)	1	1.25	11,360.00	14,193.05
	Minor Tools 10% of Labor Cost				323.94
Sub-total for B					P 89,102.49
C.	Total (A+B)				92,341.91
D.	Output/day	490.64	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				92,341.91
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		9,234.19
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		7,387.35
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		5,448.17
J.	Total Unit Cost				93.32

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 102(1) Unsuitable Excavation

Unit of Measurement: cu.m.

Output per hour: 20.00

Quantity: 8,276.00

For Disposal (includes qty. Brgy. Rd. 1 & 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	51.73	611.92	51,651.56
	b. Unskilled Labor	3	51.73	342.24	53,107.09
Sub-total for A				P	84,758.65
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	51.73	11,360.00	1,175,192.00
	b. Backhoe (0.80 cu.m.)	1	51.73	12,296.00	636,010.60
	c. Payloader (1.50 cu.m.) - disposal site	1	5.17	13,864.00	71,711.54
	Minor Tools 10% of Labor Cost				8,475.87
Sub-total for B				P	1,891,390.01
C.	Total (A+B)				1,976,148.66
D.	Output/day	160.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E				P	-
F.	Direct Cost (C + E)				1,976,148.66
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		197,614.87
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		158,091.89
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		116,592.77
J.	Total Unit Cost				295.85

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 102(2) Surplus Common Excavation

Unit of Measurement: cu.m.

Output per hour: 60.00

Quantity: 9,607.00

For Disposal

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	20.01	611.92	12,247.32
	b. Unskilled Labor	2	20.01	342.24	13,699.58
Sub-total for A					P 25,946.91
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bulldozer, D6H SERIES II PSDS/DD	1	20.01	27,032.00	541,034.22
	b. Payloader (1.50 cu.m.)	1	20.01	13,864.00	277,482.18
	c. Payloader (1.50 cu.m.) - at disposal area	1	5.00	13,864.00	69,370.55
	d. Dump Truck (12 cu.yd.)	2	20.01	11,360.00	454,731.33
Sub-total for B					P 1,342,618.28
C.	Total (A+B)				1,368,565.19
D.	Output/day	480.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				1,368,565.19
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		136,856.52
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		109,485.21
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		80,745.35
J.	Total Unit Cost				176.50

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 103(1)a Structure Excavation

Unit of Measurement: cu.m.

Output per hour: 20.00

Quantity: 2.50

For RCBC (Const. of Brgy. Road)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.02	611.92	9.56
	b. Unskilled Labor	3	0.02	342.24	16.04
Sub-total for A					P 25.60
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	0.02	11,360.00	355.00
	b. Backhoe (0.80 cu.m.)	1	0.02	12,296.00	192.13
Sub-total for B					P 547.13
C.	Total (A+B)				572.73
D.	Output/day	160.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				572.73
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		57.27
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		45.82
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		33.79
J.	Total Unit Cost				283.84

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 103(3) Foundation Fill

Unit of Measurement: cu.m.

Output per hour: 1.25

Quantity: 10.00

For RCPC Beddings

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	1.00	611.92	611.92
	b. Unskilled Labor	4	1.00	342.24	1,368.96
Sub-total for A					P 1,980.88
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Plate Compactor (5 hp)	1	1.00	984.00	984.00
	b. Water Truck/Pump (16000 L)	1	0.01	19,600.00	196.00
	Minor Tools 10% of Labor Cost				198.09
Sub-total for B					P 1,378.09
C.	Total (A+B)				3,358.97
D.	Output/day	10.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Filling Materials (well-graded sand)	11.50	cu.m.	1,689.68	19,431.32
Sub-total for E					P 19,431.32
F.	Direct Cost (C + E)				22,790.29
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		2,279.03
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		1,823.22
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,344.63
J.	Total Unit Cost				2,823.72

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 103(6)a Pipe Culverts and Drain Excavation

Unit of Measurement: cu.m.

Output per hour: 20.00

Quantity: 57.50

For RCPC Excavation

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.36	611.92	219.91
	b. Unskilled Labor	3	0.36	342.24	368.98
Sub-total for A					P 588.89
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	0.36	11,360.00	8,165.00
	b. Backhoe (0.80 cu.m.)	1	0.36	12,296.00	4,418.88
	Minor Tools 10% of Labor Cost				58.89
Sub-total for B					P 12,642.76
C.	Total (A+B)				13,231.65
D.	Output/day	160.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				13,231.65
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		1,323.16
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		1,058.53
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		780.67
J.	Total Unit Cost				285.11

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 104(1)a Embankment from Roadway Excavation

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 16,135.50

Compacted Volume

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Excavation Work				
	a. Const. Foreman	1	33.48	611.92	20,467.79
	c. Unskilled Laborer	6	33.48	342.24	68,751.56
	Spreading and Compaction				
	a. Const. Foreman	1	40.34	611.92	24,684.09
	c. Unskilled Laborer	6	40.34	342.24	82,833.20
Sub-total for A					P 196,756.64
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	For Excavation Work				
	a. Bulldozer, D6H Series II PSDS/DD	1	33.48	27,032.00	905,062.78
	b. Payloader (1.50 cu.m.)	1	33.48	13,864.00	464,182.84
	c. Dump Truck (12 cu.yd.)	2	33.48	11,360.00	760,692.01
	Spreading and Compaction				
	a. Motorized Road Grader (140 hp), G170A	1	40.34	17,384.00	701,248.83
	b. Vibratory Roller (10 mt), SD100C	1	40.34	14,768.00	595,722.66
	c. Water Truck/Pump (16000 L)	1	10.08	19,600.00	197,659.88
Sub-total for B					P 3,624,569.00
C.	Total (A+B)				3,821,325.64
D.	Output/day	400.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E					P -
F.	Direct Cost (C + E)				3,821,325.64
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		382,132.56
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		305,706.05
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		225,458.21
J.	Total Unit Cost				293.43

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 104(5) Boulder Fill

Unit of Measurement: cu.m.

Output per hour: 25.00

Quantity: 19,119.00

Variable Width

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	95.60	611.92	58,496.49
	b. Leadman	4	95.60	561.36	214,652.84
	b. Skilled Laborer	8	95.60	443.20	338,941.63
	c. Unskilled Laborer	32	95.60	342.24	1,046,925.85
	use quadruple gang of labor and equipment				
Sub-total for A					P 1,659,016.81
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe (0.80 cu.m.)	4	95.60	12,296.00	4,701,744.48
	Minor Tools 10% of Labor				165,901.68
Sub-total for B					P 4,867,646.16
C.	Total (A+B)				6,526,662.97
D.	Output/day	200.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Boulders (with 5% wastage factor)	20,074.95	cu.m.	1,389.68	27,897,756.52
Sub-total for E					P 27,897,756.52
F.	Direct Cost (C + E)				34,424,419.49
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		3,442,441.95
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		2,753,953.56
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		2,031,040.75
J.	Total Unit Cost				2,230.86

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including Bridge, Zamboanga City

Item No./Description: 105(1)a Subgrade Preparation

Unit of Measurement: sq.m.

Output per hour: 300.00

Quantity: 10,414.50

Variable Width

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	4.34	611.92	2,655.35
	b. Unskilled Laborer	2	4.34	342.24	2,970.22
Sub-total for A				P	5,625.57
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Motorized Road Grader (140 hp), G710A	1	4.34	17,384.00	75,435.70
	b. Vibratory Roller (10 mt), SD100DC	1	4.34	14,768.00	64,083.89
	c. Water Truck/Pump (16000 L)	1	1.08	19,600.00	21,262.94
Sub-total for B				P	160,782.52
C.	Total (A+B)				166,408.09
D.	Output/day	2,400.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E				P	-
F.	Direct Cost (C + E)				166,408.09
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		16,640.81
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		13,312.65
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		9,818.08
J.	Total Unit Cost				19.80

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 200(1) Aggregate Subbase Course

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 10,108.50

0.30 m. thk. (min.), Compacted Volume
(Qty. includes Brgy. Road 1 & 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	25.27	611.92	15,463.98
	b. Unskilled Labor	2	25.27	342.24	17,297.67
Sub-total for A					P 32,761.65
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Motorized Road Grader (140 hp), G710A	1	25.27	17,384.00	439,315.41
	b. Vibratory Roller (10 mt), SD100DC	1	25.27	14,768.00	373,205.82
	c. Water Truck/Pump (16000 L)	1	6.32	19,600.00	123,829.13
Sub-total for B					P 936,350.36
C.	Total (A+B)				969,112.00
D.	Output/day	400.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Aggregate Subbase Course (w/ 15% Shrinkage Factor)	11,624.78	cu.m.	969.68	11,272,311.82
Sub-total for E					P 11,272,311.82
F.	Direct Cost (C + E)				12,241,423.83
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		1,224,142.38
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		979,313.91
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		722,244.01
J.	Total Unit Cost				1,500.43

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including Bridge, Zamboanga City

Item No./Description: 300(1) Gravel Surface Course

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 909.50

0.15 m. thk. For Shouldering, Compacted Volume

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.27	611.92	1,391.35
	b. Unskilled Labor	2	2.27	342.24	1,556.34
Sub-total for A					P 2,947.69
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Motorized Road Grader (140 hp), G710A	1	2.27	17,384.00	39,526.87
	b. Vibratory Roller (10 mt), SD100DC	1	2.27	14,768.00	33,578.74
	c. Water Truck/Pump (16000 L)	1	0.57	19,600.00	11,141.38
Sub-total for B					P 84,246.99
C.	Total (A+B)				87,194.67
D.	Output/day	400.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Uncrushed Aggregate Surface Course (w/ 15% Shrinkage Factor)	1,045.93	cu.m.	1,024.68	1,071,738.43
Sub-total for E					P 1,071,738.43
F.	Direct Cost (C + E)				1,158,933.10
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		115,893.31
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		92,714.65
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		68,377.05
J.	Total Unit Cost				1,578.80

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including Bridge, Zamboanga City

Item No./Description: 311(1)a Portland Cement Concrete Pavement

Unit of Measurement: sq.m.

Output per hour: 107.33

Quantity: 1,389.00

For Shouldering

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	1.62	611.92	987.87
	b. Skilled Labor	4	1.62	443.20	2,867.81
	c. Unskilled Labor	12	1.62	342.24	6,643.59
Sub-total for A					P 10,501.30
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Transit Mixer (5 cu.m.)	4	1.62	10,544.00	68,227.04
	b. Concrete Vibrator	2	1.62	730.00	2,361.80
	c. Concrete Batch Plant (30 cu.m.)	1	1.62	14,076.00	22,770.39
	d. Payloader (1.50 cu.m.), LX80-2C	1	1.62	13,864.00	22,427.44
	e. Concrete Screeder (5.5 hp)	1	1.62	4,360.00	7,053.06
	f. Water truck/Pump (16000 L)	1	1.62	19,600.00	31,706.42
	g. Concrete Saw (7.5 hp), 14" Blade Ø	1	1.62	261.04	422.28
	h. Bar Cutter, Single Phase	1	0.16	1,758.00	284.39
	Minor Tools 5% of Labor				525.06
Sub-total for B					P 155,777.88
C.	Total (A+B)				166,279.17
D.	Output/day	858.64	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Reinforcing Steel Bar	458.37	kg.	38.00	17,418.06
	b. Curing Compound	402.81	L	35.00	14,098.35
	c. Asphalt Sealant	166.68	L	100.00	16,668.00
	d. Steel Forms (Rental)	638.94	m	40.00	25,557.60
	e. Sand	114.59	cu.m.	1,689.68	193,624.66
	f. Gravel	208.35	cu.m.	1,389.68	289,539.83
	g. Cement	1,986.27	bag	285.00	566,086.95
	h. Concrete Saw (Diamond Blade 14" Ø)	0.21	pc.	2,500.00	520.88
	i. Pipe Sleeve, 2" Ø	10.83	m.	61.00	660.89
	j. Grease/Tar	2.08	L	112.50	234.39
Sub-total for E					P 1,124,409.60
F.	Direct Cost (C + E)				1,290,688.77
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		129,068.88
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		103,255.10
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		76,150.64
J.	Total Unit Cost				1,151.31

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 311(1)b1 Portland Cement Concrete Pavement

Unit of Measurement: sq.m.

Output per hour: 80.50

Quantity: 1,870.00

Road Width = 6.10 m. (Brgy. Road 1 & 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.90	611.92	1,776.85
	b. Skilled Labor	4	2.90	443.20	5,147.73
	c. Unskilled Labor	12	2.90	342.24	11,925.26
Sub-total for A					P 18,849.83
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Transit Mixer (5 cu.m.)	4	2.90	10,544.00	122,467.58
	b. Concrete Vibrator	2	2.90	730.00	4,239.44
	c. Concrete Batch Plant (30 cu.m.)	1	2.90	14,076.00	40,872.86
	d. Payloader (1.50 cu.m.), LX80-2C	1	2.90	13,864.00	40,257.27
	e. Concrete Screeder (5.5 hp)	1	2.90	4,360.00	12,660.25
	f. Water truck/Pump (16000 L)	1	2.90	19,600.00	56,913.04
	g. Concrete Saw (7.5 hp), 14" Blade Ø	1	2.90	261.04	757.99
	h. Bar Cutter, Single Phase	1	0.29	1,758.00	510.48
	Minor Tools 5% of Labor				942.49
Sub-total for B					P 279,621.39
C.	Total (A+B)				298,471.22
D.	Output/day	644.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Reinforcing Steel Bar	729.30	kg.	38.00	27,713.40
	b. Curing Compound	542.30	L	35.00	18,980.50
	c. Asphalt Sealant	224.40	L	100.00	22,440.00
	d. Steel Forms (Rental)	860.20	m	47.00	40,429.40
	e. Sand	205.70	cu.m.	1,689.68	347,567.18
	f. Gravel	374.00	cu.m.	1,389.68	519,740.32
	g. Cement	3,553.00	bag	285.00	1,012,605.00
	h. Concrete Saw (Diamond Blade 14" Ø)	0.28	pc.	2,500.00	701.25
	i. Pipe Sleeve, 2" Ø	16.08	m.	61.00	981.00
	j. Grease/Tar	10.47	L	112.50	1,178.10
Sub-total for E					P 1,992,336.15
F.	Direct Cost (C + E)				2,290,807.37
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		229,080.74
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		183,264.59
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		135,157.63
J.	Total Unit Cost				1,517.81

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 311(1)e1 Portland Cement Concrete Pavement

Unit of Measurement: sq.m.

Output per hour: 57.50

Quantity: 15,418.00

0.28 m. thick, includes widening

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	33.52	611.92	20,509.96
	b. Skilled Labor	4	33.52	443.20	59,419.63
	c. Unskilled Labor	12	33.52	342.24	137,651.90
Sub-total for A					P 217,581.50
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Transit Mixer (5 cu.m.)	4	33.52	10,544.00	1,413,629.50
	b. Concrete Vibrator	2	33.52	730.00	48,935.39
	c. Concrete Batch Plant (30 cu.m.)	1	33.52	14,076.00	471,790.80
	d. Payloader (1.50 cu.m.), LX80-2C	1	33.52	13,864.00	464,685.11
	e. Concrete Screeder (5.5 hp)	1	33.52	4,360.00	146,135.83
	f. Water truck/Pump (16000 L)	1	33.52	19,600.00	656,940.87
	g. Concrete Saw (7.5 hp), 14" Blade Ø	1	33.52	261.04	8,749.38
	h. Bar Cutter, Single Phase	1	3.35	1,758.00	5,892.36
	Minor Tools 5% of Labor				10,879.07
Sub-total for B					P 3,227,638.31
C.	Total (A+B)				3,445,219.81
D.	Output/day	460.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Reinforcing Steel Bar	7,709.00	kg.	38.00	292,942.00
	b. Curing Compound	4,471.22	L	35.00	156,492.70
	c. Asphalt Sealant	2,621.06	L	100.00	262,106.00
	d. Steel Forms (Rental)	7,092.28	m	60.00	425,536.80
	e. Sand	2,374.37	cu.m.	1,689.68	4,011,928.88
	f. Gravel	4,317.04	cu.m.	1,389.68	5,999,304.15
	g. Cement	41,011.88	bag	285.00	11,688,385.80
	h. Concrete Saw (Diamond Blade 14" Ø)	2.31	pc.	2,500.00	5,781.75
	i. Pipe Sleeve, 2" Ø	120.26	m.	61.00	7,335.88
	j. Grease/Tar	120.26	L	112.50	13,529.30
Sub-total for E					P 22,863,343.26
F.	Direct Cost (C + E)				26,308,563.06
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		2,630,856.31
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		2,104,685.05
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,552,205.22
J.	Total Unit Cost				2,114.17

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 404(1)b Reinforcing Steel

Unit of Measurement: kg.

Output per hour: 180.00

Quantity: 917.00

For RCBC (at Brgy Road 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.64	611.92	389.67
	b. Skilled Labor	2	0.64	443.20	564.46
	c. Unskilled Labor	8	0.64	342.24	1,743.52
Sub-total for A					P 2,697.66
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bar Cutter	1	0.32	1,758.00	559.75
	b. Bar Bender	1	0.32	2,812.00	895.35
	c. Cargo Truck (9 - 10 mt.)	1	0.10	9,696.00	926.17
Sub-total for B					P 2,381.27
C.	Total (A+B)				5,078.93
D.	Output/day	1,440.00	ln.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Tie Wire (2% of RSB)	19.26	kg.	80.00	1,540.56
	b. Reinforcing Steel Bar, Grade 40 (with 5% wastage)	962.85	kg.	40.00	38,514.00
Sub-total for E					P 40,054.56
F.	Direct Cost (C + E)				45,133.49
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		4,513.35
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		3,610.68
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		2,662.88
J.	Total Unit Cost				60.98

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 405(1)ac Structural Concrete, Class "A"

Unit of Measurement: cu.m.

Output per hour: 1.40

Quantity: 11.00

For RCBC (At Brgy. Road 2)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.98	611.92	600.99
	b. Skilled Labor	4	0.98	443.20	1,741.14
	c. Unskilled Labor	8	0.98	342.24	2,689.03
	Installation/Removal of Formworks				
	b. Skilled Labor	4	0.98	443.20	1,741.14
	c. Unskilled Labor	8	0.98	342.24	2,689.03
Sub-total for A				P	9,461.34
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	0.98	1,376.00	1,351.43
	b. Concrete Vibrator	1	0.98	730.00	716.96
	c. Water Truck/Pump (16000 L)	1	0.10	19,600.00	1,925.00
	Minor Tools 5% of Labor				473.07
Sub-total for B				P	4,466.46
C.	Total (A+B)				13,927.80
D.	Output/day	11.20	ln.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Lumber, Good - 4 uses	770.00	bd.ft.	37.00	7,122.50
	b. Marine Plywood (1/2" x 4' x 8') - 4 uses	17.60	pc.	880.00	3,872.00
	c. Assorted CWN (1kg./100 bd.ft. of Lumber)	7.70	kg.	65.00	500.50
	d. Cement	104.50	bag	285.00	29,782.50
	e. Sand	5.50	cu.m.	1,689.68	9,293.24
	f. Gravel	11.00	cu.m.	1,389.68	15,286.48
Sub-total for E				P	65,857.22
F.	Direct Cost (C + E)				79,785.02
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		7,978.50
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		6,382.80
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		4,707.32
J.	Total Unit Cost				8,986.69

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 500(1)bc Pipe Culverts

Unit of Measurement: In.m.

Output per hour: 1.00

Quantity: 78.00

Class IV, Wall B, AASHTO M - 170 - 85

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	5.56	611.92	3,400.75
	b. Skilled Labor	2	5.56	443.20	4,926.17
	c. Unskilled Labor	4	5.56	342.24	7,608.00
Sub-total for A					P 15,934.91
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe (0.80 cu.m.)	1	2.83	12,296.00	34,766.94
	b. Plate Compactor (5 hp)	1	2.83	984.00	2,782.26
	Minor Tools 10% of Labor				1,593.49
Sub-total for B					P 39,142.69
C.	Total (A+B)				55,077.60
D.	Output/day	8.00	In.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	84.24	bag	285.00	24,008.40
	b. Sand	4.76	cu.m.	1,689.68	8,039.50
	c. RC Pipes (910 mm. dia.)	78.00	cu.m.	1,665.00	129,870.00
	d. Sand Bedding/Selected Sandy Soil	9.96	m.	1,669.66	16,669.77
Sub-total for E					P 178,787.66
F.	Direct Cost (C + E)				233,865.26
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		23,386.53
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		18,709.22
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		13,798.05
J.	Total Unit Cost				3,714.86

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 505(2)a Grouted Riprap, Class "A"

Unit of Measurement: cu.m.

Output per hour: 1.25

Quantity: 31.50

Headwall apron

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	3.15	611.92	1,927.55
	c. Skilled Labor	2	3.15	443.20	2,792.16
	d. Unskilled Labor	8	3.15	342.24	8,624.45
Sub-total for A					P 13,344.16
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	3.15	1,376.00	4,334.40
	b. Water Truck/Pump (16000 L)	1	0.16	19,600.00	3,087.00
	Minor Tools 5% of Labor				667.21
Sub-total for B					P 8,088.61
C.	Total (A+B)				21,432.76
D.	Output/day 10.00	cu.m./day			
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	94.50	bag	285.00	26,932.50
	b. Sand	7.88	cu.m.	1,689.68	13,306.23
	c. Gravel	0.47	cu.m.	1,389.68	656.62
	d. Weep Holes (PVC)	9.45	m.	50.00	460.30
	e. Filter Cloth	0.47	sq.m.	160.00	75.60
	f. Boulders (15 - 25 kg.)	33.08	cu.m.	1,389.68	45,963.67
	Miscellaneous 1% of Materials Cost				874.15
Sub-total for E					P 88,289.14
F.	Direct Cost (C + E)				109,721.91
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		10,972.19
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		8,777.75
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		6,473.59
J.	Total Unit Cost				4,315.73

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 506(1) Stone Masonry

Unit of Measurement: cu.m.

Output per hour: 1.60

Quantity: 54.00

For headwall and wingwall

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	4.22	611.92	2,561.54
	b. Skilled Labor	2	4.22	443.20	3,739.50
	c. Unskilled Labor	8	4.22	342.24	11,550.60
Sub-total for A					P 17,871.64
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	4.22	1,376.00	5,805.00
	b. Water Truck/Pump (16000 L)	1	0.21	19,600.00	4,134.38
	c. Backhoe (Wheel Type 0.28 cu.m.)	1	0.42	7,376.00	3,111.75
	Minor Tools 5% of Labor				893.58
Sub-total for B					P 13,944.71
C.	Total (A+B)				31,816.34
D.	Output/day	12.80	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	297.00	bag	285.00	84,645.00
	b. Sand	16.20	cu.m.	1,689.68	27,372.82
	c. Gravel	1.08	cu.m.	1,389.68	1,500.85
	d. Weep Holes (PVC)	16.20	m.	50.83	823.50
	e. Filter Cloth	0.81	sq.m.	160.00	129.60
	f. Boulders	56.70	cu.m.	1,389.68	78,794.86
	Miscellaneous 1% of Materials Cost				1,932.67
Sub-total for E					P 195,199.29
F.	Direct Cost (C + E)				227,015.64
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		22,701.56
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		18,161.25
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		13,393.92
J.	Total Unit Cost				5,208.75

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 612(1) Reflectorized Thermoplastic Pavement Markings (White)

Unit of Measurement: sq.m.

Output per hour: 25.00

Quantity: 553.00

For Center Line (Separation & Edge Lines)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.77	611.92	1,691.96
	b. Skilled Labor	2	2.77	443.20	2,450.90
	c. Unskilled Labor	6	2.77	342.24	5,677.76
Sub-total for A					P 9,820.62
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck/Delivery Truck (2-5 mt)	1	2.77	6,264.00	17,319.96
	b. Applicator Machine	1	2.77	750.00	2,073.75
	c. Kneading Machine	1	2.77	1,500.00	4,147.50
	Minor Tools 10% of Labor				982.06
Sub-total for B					P 24,523.27
C.	Total (A+B)				34,343.89
D.	Output/day 200.00	sq.m./day			
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Thermoplastic Paint (White)	179.73	bag	1,585.00	284,864.13
	b. Glass Beads	18.25	bag	2,500.00	45,622.50
	c. Primer	66.36	L	160.00	10,617.60
	d. LPG (50 kg)	2.21	cyl.	3,450.00	7,631.40
	e. LPG (12 kg)	1.11	cyl.	828.00	915.77
	f. Calsumine	69.13	kg.	100.00	6,912.50
	Miscellaneous 5% of Materials Cost				17,828.19
Sub-total for E					P 374,392.09
F.	Direct Cost (C + E)				408,735.98
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		40,873.60
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		32,698.88
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		24,115.42
J.	Total Unit Cost				915.78

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) including bridge, Zamboanga City

Item No./Description: 612(2) Reflectorized Thermoplastic Pavement Markings (Yellow)

Unit of Measurement: sq.m.

Output per hour: 25.00

Quantity: 69.00

For Barrier Lines

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.35	611.92	211.11
	b. Skilled Labor	2	0.35	443.20	305.81
	c. Unskilled Labor	6	0.35	342.24	708.44
Sub-total for A					P 1,225.36
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck/Delivery Truck (2-5 mt)	1	0.35	6,264.00	2,161.08
	b. Applicator Machine	1	0.35	750.00	258.75
	c. Kneading Machine	1	0.35	1,500.00	517.50
	Minor Tools 10% of Labor				122.54
Sub-total for B					P 3,059.87
C.	Total (A+B)				4,285.22
D.	Output/day	200.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Thermoplastic Paint (Yellow)	22.43	bag	1,800.00	40,365.00
	b. Glass Beads	2.28	bag	2,500.00	5,692.50
	c. Primer	8.28	L	175.00	1,449.00
	d. LPG (50 kg)	0.28	cyl.	3,450.00	952.20
	e. LPG (12 kg)	0.14	cyl.	828.00	114.26
	f. Calsumine	8.63	kg.	100.00	862.50
	Miscellaneous 5% of Materials Cost				2,471.77
Sub-total for E					P 51,907.24
F.	Direct Cost (C + E)				56,192.46
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		5,619.25
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		4,495.40
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		3,315.36
J.	Total Unit Cost				1,009.02

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Buenavista - Bolong Coastal Bypass Road (Mala - Bolong Section) Including Bridge, Zamboanga City

Item No./Description: 715(1) Separation Geotextile
 Unit of Measurement: sq.m.
 Output per hour: 100.00
 Quantity: 11,362.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	14.20	611.92	8,690.79
	b. Skilled Labor	2	14.20	443.20	12,589.10
	c. Unskilled Labor	8	14.20	342.24	38,885.31
Sub-total for A					P 60,165.20
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Cargo Truck/Delivery Truck (9-10 mt)	1	14.20	9,696.00	137,707.44
Sub-total for B					P 137,707.44
C.	Total (A+B)				197,872.64
D.	Output/day	800.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Filter Cloth	11,930.10	sq.m.	160.00	1,908,816.00
Sub-total for E					P 1,908,816.00
F.	Direct Cost (C + E)				2,106,688.64
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		210,668.86
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		168,535.09
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		124,294.63
J.	Total Unit Cost				229.73

SUMMARY OF DETAILED ESTIMATES

ITEM NO.	DESCRIPTION	QTY.	UNIT	LABOR	EQUIPMENT	MATERIALS	OCM	PROFIT	VAT	TOTAL
PART A - FACILITIES FOR THE ENGINEER										
A.1.(3)	Construction of Field Office for the Engineer	1.00	L.S.	42,576.48	52,115.63	333,650.80	41,033.30	3,829.04	24,211.42	508,433.74
A.1.(11)	Provision of Furniture, Equipment and Appliances for the Field Office for the Engineer	1.00	L.S.	-	-	297,173.33	-	2,773.87	16,047.36	336,993.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.33	month	105,530.00	-	192,125.00	-	-	15,235.25	319,940.25
TOTAL OF PART A										
				148,176.48	32,115.63	837,949.13	41,033.30	5,602.91	55,494.03	1,165,371.55
PART B - OTHER GENERAL REQUIREMENTS										
B.4(1)	Construction Survey & Staking	2.57	km.	66,936.18	13,107.63	34,912.50	11,495.63	1,196.50	6,782.42	142,433.86
B 5	Project Billboard/Signboard	2.00	each	3,479.20	-	7,500.00	1,097.92	878.34	647.77	13,603.23
B 7	Occupation Safety and Health Program	8.33	month	187,270.00	45,000.00	25,740.00	-	2,724.00	13,988.70	293,763.70
B 9	Mobilization & Demobilization	1.00	L.S.	-	90,699.00	-	-	-	45,349.55	952,340.55
TOTAL OF PART B										
				257,705.38	96,509.63	62,172.50	12,593.55	3,679.84	66,768.44	1,402,133.34
PART C - EARTHWORKS										
100(1)	Clearing and Grubbing	4.52	ha.	14,619.32	718,860.80	-	73,351.01	5,680.81	43,277.10	908,813.04
101(3)b1	Removal of Actual Structures/Obstruction	1,226.00	sq.m.	3,239.41	9,102.43	-	9,234.19	7,387.35	5,448.17	114,411.62
102(1)	Unsuitable Excavation	8,276.00	cum.	84,738.65	1,851,390.01	-	197,614.87	15,091.89	116,592.77	2,448,443.19
102(2)	Surplus Common Excavation	9,607.00	cum.	25,916.91	1,342,618.23	-	136,853.52	10,485.21	80,745.35	1,695,653.26
103.1)a	Structure Excavation	2.50	cum.	35.60	547.13	-	57.27	45.82	33.79	707.61
103(3)	Foundation Fill	10.00	cum.	1,930.88	1,378.03	12,431.32	2,272.03	823.22	1,344.63	28,233.17
103.6)a	Pipe Culverts and Drain Excavation	57.50	cum.	538.89	12,642.73	-	1,323.16	1,058.53	780.67	16,393.01
104.1)a	Embankment from Roadway Excavation	1,135.50	cum.	196,736.64	3,624,569.03	-	382,132.56	30,706.05	225,458.21	4,734,623.47
104(5)	Boulder Fill	1,119.00	cum.	1,659,016.81	4,867,646.13	27,897,756.52	3,442,441.95	275,953.56	2,031,040.75	42,651,853.75
105.1)a	Subgrade Preparation	10,414.50	sq.m.	5,635.57	160,782.53	-	16,643.81	1,312.65	9,818.08	206,173.62
TOTAL OF PART C										
				1,992,518.68	12,709,537.24	27,917,187.84	4,261,931.38	3,405,545.10	2,514,539.51	52,805,323.74
PART D - SUBBASE AND BASE COURSE										
200(1)	Aggregate Sub-base Course	10,108.50	cum.	32,731.65	95,635.03	11,272,311.82	1,224,142.38	97,313.91	722,244.01	15,167,121.12
TOTAL OF PART D										
				32,731.65	95,635.03	11,272,311.82	1,224,142.38	97,313.91	722,244.01	15,167,121.12
PART E - SURFACE COURSES										
300(1)	Gravel Surface Course	909.50	cum.	2,917.69	8,424.97	1,071,738.43	115,893.31	9,714.65	68,377.05	1,435,913.12
311.1)a	Portland Cement Concrete Pavement	1,389.00	sq.m.	10,501.30	155,777.83	1,124,409.60	129,063.88	10,255.10	76,150.64	1,599,163.39
311(1)b1	Portland Cement Concrete Pavement	1,870.00	sq.m.	18,819.83	279,621.37	1,992,336.13	229,083.74	18,264.59	135,157.63	2,838,310.33
311(1)b1	Portland Cement Concrete Pavement	13,418.00	sq.m.	217,531.50	3,227,638.31	22,863,343.20	2,630,853.31	210,685.05	1,552,205.22	32,596,307.63
TOTAL OF PART E										
				249,810.31	3,747,284.53	27,057,827.43	3,104,892.23	2,485,919.38	1,831,990.55	38,469,703.47
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES										
404.1)b	Reinforcing Steel	917.00	kg.	2,697.66	2,381.23	40,054.50	4,513.35	3,610.68	2,662.88	55,923.40
405(1)a3	Structural Concrete, Class "A"	11.00	cum.	9,431.34	4,466.43	65,857.23	7,973.50	6,382.80	4,707.32	98,853.63
500(1)b3	Pipe Culverts	78.00	m.	15,934.91	59,142.69	173,787.60	23,384.53	1,870.22	13,798.05	289,753.06
505.2)a	Grouded Riprap, Class "A"	31.50	cum.	13,314.16	8,088.61	83,289.14	10,972.19	8,777.75	6,473.59	135,943.44
502(1)	Stone Masonry	54.00	cum.	17,871.64	13,944.71	193,199.20	22,701.56	1,816.25	13,393.92	281,273.37
TOTAL OF PART G										
				59,319.70	68,023.74	563,187.80	69,552.13	5,641.71	41,335.76	861,750.91
PART H - MISCELLANEOUS STRUCTURES										
612(1)	Reflectized Thermoplastic Pavement Markings (White)	553.00	sq.m.	9,830.62	24,523.27	37,439.00	40,873.60	3,698.88	24,115.42	506,423.87
612(2)	Reflectized Thermoplastic Pavement Markings (Yellow)	69.00	sq.m.	1,225.36	3,059.87	51,907.24	5,612.25	4,495.40	3,315.36	69,622.46
715(1)	Separation Geotextile	1,362.00	sq.m.	60,135.20	157,707.41	1,903,816.00	210,663.86	16,535.09	124,294.63	2,610,183.22
TOTAL OF PART H										
				71,211.17	165,290.53	2,335,115.34	257,161.71	20,779.37	151,725.41	3,186,233.56
TOTAL										
				2,811,633.38	18,623,700.73	70,043,751.90	6,971,313.68	7,221,551.21	5,383,497.70	113,057,653.69

UNIT COST ANALYSIS FOR HAULING COST FOR PORTLAND CEMENT

TOTAL QUANTITY REQUIREMENTS FOR PORTLAND CEMENT

DESCRIPTION	QUANTITY (Bags)
Portland Cement Concrete Pavement	1,986.27
Portland Cement Concrete Pavement	3,553.00
Portland Cement Concrete Pavement	41,011.88
Structural Concrete, Class "A"	104.50
Pipe Culverts	84.24
Grouted Riprap, Class "A"	94.50
Stone Masonry	297.00
Construction of Field Office for the Engineer	90.00
T O T A L	47,221.39

Quantity = **47,221.39** Bags

Delivery Charge = P 0.120 / bag / km.

S I T E	HAULING DISTANCE
Zamboanga City DEO	29.00
Batching plant	

*Average hauling distance from Source to assumed Stockpiling area :
say 29.00 km.

Delivery Charge = P 0.120 x 29.00
= P **3.48** / bag

*Delivery Truck : 47,221.39 bags., (hauling works)
20,000.00 kgs., (capacity per haul)
or 500.00 bags, (capacity per haul)

*Capacity of Laborers unloading bags of Cement from Delivery Truck :
Assume (10) laborers can unload 500.00 bags of Cement.

*Dumptruck (10 Wheeler) days computation : **TIME-MOTION ANALYSIS**

Speed when loaded	:	30.00	kph	
Speed when unloaded	:	40.00	kph	
Loaded running	=	$\frac{29.00 \times 60}{30.00}$	=	58.00 mins.
Unloaded running	=	$\frac{29.00 \times 60}{40.00}$	=	43.50 mins.
Loading and Unloading	:	45.00	mins.	
allowance for delay/traffic	:	3.00	mins.	
Capacity of Dumptruck	:	8.00	cu.m.	
	:	500.00	bags	
Total Cycle time	:	149.50	mins.	
No. of trips for Dumptruck per day	=	$\frac{8.0 \times 60.00}{149.50}$	=	3.21 say 3.21 trip
Dumptruck daily output	=	500 x 3.21	=	1,605.35 cu.m.
Using (3) Dumptrucks	=	3 x 1605.35	=	4,816.05 cu.m.

1. No. of days for Delivery Truck = $\frac{47,221.39}{4,816.05} = 9.80$ say 9.80 days
2. No. of days for Labor, for unloading = complimentary to D. Truck days = 9.80 days

DELIVERY COST :

47,221.39 - Bags, Portland Cement	@ P	3.48	/ bag	= P	164,330.44
Sub - Total				P	164,330.44

LABOR :

1 - Foreman	@ P	611.92 /day	x 9.80 days	= P	5,999.87
10 - Laborers, unloading	@ P	342.24 /day	x 9.80 days	= P	33,556.62
Sub - Total				P	39,556.50

MATERIALS :

47,221.39 - Bags, Portland Cement	@ P	280.00	/ bag	= P	13,221,989.20
(Pick-Up Price)			Sub - Total	P	13,221,989.20

Estimated Quantity		47,221.39 Bags		
Unit Cost	P	284.32 / Bag,	say P	285.00 / Bag
Grand Total	P	13,425,876.13		
Delivery Cost	P	164,330.44		
Labor	P	39,556.50		
Materials	P	13,221,989.20		

UNIT COST ANALYSIS FOR HAULING COST FOR ALL AGGREGATES

Hauling Cost from the Quarry to Batching plant

Item No. : ALL AGGREGATES Terrain : Flat to Rolling
 Quantity : 1,000.00 Unit : cu.m.
 Hauling Distance : 5.00 km.
 Effective Working Hours : 8.00 hrs.

Hauling: Using 10.00 cu.m.capacity Dumptruck

Weight of Dumptruck (cap. 10.00 cu.m.) : 16,000.00 kgs.
 Unit weight of Fine Aggregates : 1,640.00 kg/m³
 Unit weight of Coarse Aggregates : 1,534.00 kg/m³
 Maximum Volume to be Carried per DT : 11.57 cu.m.

*Dumptruck (10 Wheeler) days computation : TIME-MOTION ANALYSIS

Speed when loaded : 30.00 kph
 Speed when unloaded : 40.00 kph
 Loaded running = $\frac{5.00 \times 60}{30.00} = 10.00$ mins.
 Unloaded running = $\frac{5.00 \times 60}{40.00} = 7.50$ mins.
 Loading and Unloading : 5.00 mins.
 allowance for delay/traffic : 3.00 mins.
 Capacity of Dumptruck : 10.00 cu.m.
 Total Cycle time : 25.50 mins.
 No. of trips for Dumptruck per day = $\frac{8 \times 60.00}{25.50} = 18.82$ say 18.82 trips
 Dumptruck daily output = $10 \times 18.82 = 188.24$ cu.m.
 Using (5) Dumptrucks = $5 \times 188.24 = 941.18$ cu.m.

1. No. of days for Dumptrucks = $\frac{1,000.00}{941.18} = 1.06$ say 1.06 days

EQUIPMENT USED : (2009 ACEL RATES)

5 - Unit Dumptruck @ P 11,360.00 /day x 1.06 days = P 60,350.00
 Sub - Total P 60,350.00

Estimated Quantity 1,000.00 cu.m.
 Unit Cost P 12.07 /cu. m./km. (Unit Cost, Hauling per cu.m.per km.)
 Grand Total P 60,350.00
 Equipment P 60,350.00
 Labor P
 Materials P

	Hauling Distance		Unit Cost per cu.m./km.		Hauling Cost per cu.m.		Unit Price		Unit Cost per cu.m.
Cost of Fine Aggregates:	24.00	x	12.07	=	289.68	+	1,400.00	=	1,689.68
Cost of Coarse Aggregates:	24.00	x	12.07	=	289.68	+	1,100.00	=	1,389.68
Cost of Item 200 Materials:	24.00	x	12.07	=	289.68	+	680.00	=	969.68
Cost of Item 201 Materials:	24.00	x	12.07	=	289.68	+	680.00	=	969.68
Cost of Item 300 Materials:	24.00	x	12.07	=	289.68	+	735.00	=	1,024.68
Cost of Boulders:	24.00	x	12.07	=	289.68	+	1,100.00	=	1,389.68
Cost of Embankment, Common Borrow:	5.00	x	12.07	=	60.35	+	328.00	=	388.35