

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 - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City	Appropriation : P 86,000,000.00 Source of Funds : CY-2018 GAA Issued Obligated Authority : Released : Cal. Days to Complete : 170 Calendar Days Desirable Starting Date : upon approval Mode of Implementation : by contract
LOCATION: Zamboanga City	
PROJECT CATEGORY : NATIONAL ROAD	
PROJECT DESCRIPTION : Scope of Work : Road Widening 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 0+000.00 - 1+950.00 Length 1,950.00 Net Length: 1,950.00 In.m. / 1.95 km. Lane Kilometer: 3.90 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	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	UNIT COST
					TOTAL	
PART A - FACILITIES FOR THE ENGINEER						
A.1.1(3)	Construction of Field Office for the Engineer	0.85	L.S.	1.00	407,908.02	407,908.02
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.59	L.S.	1.00	282,506.67	282,506.67
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.42	month	5.67	202,399.40	35,717.54
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.20	km.	1.95	98,244.03	50,381.55
B.5	Project Billboard/Signboard	0.02	each	2.00	10,809.20	5,404.60
B.7	Occupation Safety and Health Program	0.44	month	5.67	214,117.20	37,785.39
B.9	Mobilization & Demobilization	0.98	L.S.	1.00	472,271.00	472,271.00
PART C - EARTHWORKS						
101(2)	Removal of Actual Structures/Obstruction	0.15	each	20.00	72,351.36	3,617.57
101(2)6	Removal of Actual Structures/Obstruction	0.28	cu.m.	94.00	134,241.40	1,428.10
102(2)	Surplus Common Excavation	5.62	cu.m.	18,948.00	2,704,354.88	142.73
103(3)	Foundation Fill	0.08	cu.m.	17.00	36,303.06	2,135.47
103(6)a	Pipe Culverts and Drain Excavation	0.07	cu.m.	144.00	33,136.65	230.12
104(1)a	Embankment from Roadway Excavation	4.28	cu.m.	8,930.00	2,058,938.57	230.56
105(1)a	Subgrade Preparation	0.70	sq.m.	21,090.00	336,986.57	15.98

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Department of Public Works and Highways

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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	0.85	L.S.	1.00	407,908.02	407,908.02
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.59	L.S.	1.00	282,506.67	282,506.67
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.42	month	5.67	202,399.40	35,717.54
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.20	km.	1.95	98,244.03	50,381.55
B.5	Project Billboard/Signboard	0.02	each	2.00	10,809.20	5,404.60
B.7	Occupation Safety and Health Program	0.44	month	5.67	214,117.20	37,785.39
B.9	Mobilization & Demobilization	0.98	L.S.	1.00	472,271.00	472,271.00
PART C - EARTHWORKS						
101(2)	Removal of Actual Structures/Obstruction	0.15	each	20.00	72,351.36	3,617.57
101(2)6	Removal of Actual Structures/Obstruction	0.28	cu.m.	94.00	134,241.40	1,428.10
102(2)	Surplus Common Excavation	5.62	cu.m.	18,948.00	2,704,354.88	142.73
103(3)	Foundation Fill	0.08	cu.m.	17.00	36,303.06	2,135.47
103(6)a	Pipe Culverts and Drain Excavation	0.07	cu.m.	144.00	33,136.65	230.12
104(1)a	Embankment from Roadway Excavation	4.28	cu.m.	8,930.00	2,058,938.57	230.56
105(1)a	Subgrade Preparation	0.70	sq.m.	21,090.00	336,986.57	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	26.12	cu.m.	7,659.00	12,570,705.21	1,641.30
PART E - SURFACE COURSES						
300(1)	Gravel Surface Course	3.42	cu.m.	965.00	1,644,889.30	1,704.55
311(1)e1	Portland Cement Concrete Pavement	47.35	sq.m.	13,065.00	22,787,418.93	1,744.16
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
500(1)b3	Pipe Culverts	0.64	ln.m.	104.00	309,703.65	2,977.92
505(2)a	Grouted Riprap, Class "A"	6.00	cu.m.	748.00	2,887,479.51	3,860.27
506(1)	Stone Masonry	0.90	cu.m.	94.00	430,818.97	4,583.18
PART H - MISCELLANEOUS STRUCTURES						
612(1)	Reflectorized Thermoplastic Pavement Markings (White)	0.90	sq.m.	585.00	432,387.97	739.12
TOTAL		100.00			P 48,127,971.56	

4

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART D - SUBBASE AND BASE COURSE						
200(1)	Aggregate Subbase Course	26.12	cu.m.	7,659.00	12,570,705.21	1,641.30
PART E - SURFACE COURSES						
300(1)	Gravel Surface Course	3.42	cu.m.	965.00	1,644,889.30	1,704.55
311(1)e1	Portland Cement Concrete Pavement	47.35	sq.m.	13,065.00	22,787,418.93	1,744.16
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
500(1)b3	Pipe Culverts	0.64	ln.m.	104.00	309,703.65	2,977.92
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NAME OF PROJECT : Construction of By-Pass and Diversion Roads - Vital Sibulao - Bypass Road Project
(Alternate Road of N1), Package 4, Zamboanga City

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	1.19	1,022,138.86
A.2. Equipment Expenses	11.15	9,590,850.79
A.3. Materials	43.62	37,514,981.91
SUB-TOTAL (DIRECT COST)	55.96	P 48,127,971.56
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (12 % Max. of D.C.)	6.55	5,634,801.28
B.2. Profit (8 % Max. of D.C.)	4.41	3,796,264.09
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	3.35	2,877,951.85
SUBTOTAL (CONTRACT COST)	70.28	P 60,436,988.77
II. ESTIMATED GOVERNMENT EXPENDITURES		
1. Engineering and Administrative Overhead (3.5%)	3.50	3,010,000.00
2. Detailed Engineering (1%)		
3. Reserved for the Payment of RROW	26.22	22,553,011.23
4. Physical Reserved		
TOTAL ESTIMATED PROJECT COST	100.00	P 86,000,000.00

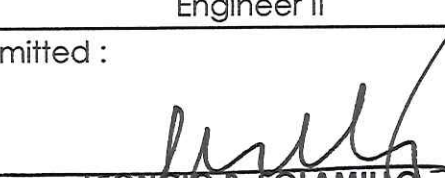
Prepared :


ELWICK P. ACUÑA
Engineer II

Checked :


JERALD R. BARRERA
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 - Vitali Sibulao - Bypass Road Project
(Alternate Road of N1), Package 4, Zamboanga City

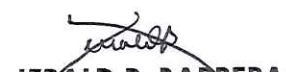
Zamboanga City

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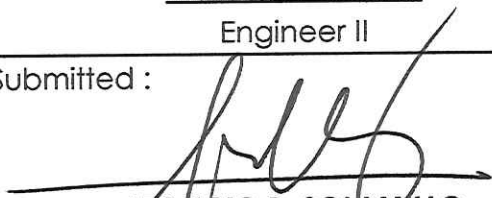
Prepared :


ELWICK P. ACUÑA
Engineer II

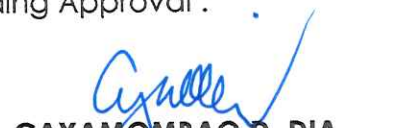
Checked :


JERALD R. BARRERA
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 BUDGET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Stations : 0.00 to 1,950.00
0.00 to 0.00

Length : 1,950.00 In.m.

Contract Duration : 170 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST ¹	MARK-UPS IN % OCM	PROFIT	MARK-UPS %	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) x (8)	5%[(9) + (9)]	(9) + (10)	(12)	(12) / (3)
PART A - FACILITIES FOR THE ENGINEER¹												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	407,908.02	12.00	8.00	20.00	81,581.60	24,474.48	106,056.09	513,964.11	513,964.11
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	282,506.67	-	8.00	8.00	22,600.53	15,255.36	37,855.89	320,362.56	320,362.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer ¹	5.67	month	202,399.40	-	-	-	-	10,119.97	10,119.97	212,519.37	37,503.42
TOTAL OF PART A												
				892,814.09				104,182.14	49,849.81	154,031.95	1,046,846.04	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	1.95	km.	98,244.03	12.00	8.00	20.00	19,648.81	5,894.64	25,543.45	123,787.48	63,480.76
B.5	Project Billboard/Signboard	2.00	each	10,809.20	12.00	8.00	20.00	2,161.84	648.55	2,810.39	13,619.59	6,809.80
B.7	Occupation Safety and Health Program	5.67	month	214,117.20	-	8.00	8.00	17,129.38	11,562.33	28,691.70	242,808.90	42,848.63
B.9	Mobilization & Demobilization	1.00	L.S.	472,271.00	-	-	-	-	23,613.55	23,613.55	495,884.55	495,884.55
TOTAL OF PART B												
				795,441.43				38,940.02	41,719.07	80,659.10	876,100.53	
PART C - EARTHWORKS												
101(2)	Removal of Actual Structures/Obstruction	20.00	each	72,351.36	12.00	8.00	20.00	14,470.27	4,341.08	18,811.35	91,162.71	4,558.14
101(2)6	Removal of Actual Structures/Obstruction	94.00	cu.m.	134,241.40	12.00	8.00	20.00	26,848.28	8,054.48	34,902.76	169,144.16	1,799.41
102(2)	Surplus Common Excavation	18,948.00	cu.m.	2,704,354.88	12.00	8.00	20.00	540,870.98	162,261.29	703,132.27	3,407,487.15	179.83
103(3)	Foundation Fill	17.00	cu.m.	36,303.06	12.00	8.00	20.00	7,260.61	2,178.18	9,438.80	45,741.86	2,690.70
103(6)a	Pipe Culverts and Drain Excavation	144.00	cu.m.	33,136.65	12.00	8.00	20.00	6,627.33	1,988.20	8,615.53	41,752.18	289.95
104(1)a	Embankment from Roadway Excavation	8,930.00	cu.m.	2,058,938.57	12.00	8.00	20.00	411,787.71	123,536.31	535,324.03	2,594,262.60	290.51
105(1)a	Subgrade Preparation	21,090.00	sq.m.	336,986.57	12.00	8.00	20.00	67,397.31	20,219.19	87,616.51	424,603.07	20.13
TOTAL OF PART C												
				5,376,312.49				1,075,262.50	322,578.75	1,397,841.25	6,774,153.74	
PART D - SUBBASE AND BASE COURSE												
200(1)	Aggregate Subbase Course	7,659.00	cu.m.	12,570,705.21	12.00	8.00	20.00	2,514,141.04	754,242.31	3,268,383.35	15,839,088.57	2,068.04
TOTAL OF PART D												
				12,570,705.21				2,514,141.04	754,242.31	3,268,383.35	15,839,088.57	
PART E - SURFACE COURSES												
300(1)	Gravel Surface Course	965.00	cu.m.	1,644,889.30	12.00	8.00	20.00	328,977.86	98,693.36	427,671.22	2,072,560.52	2,147.73
311(1)e1	Portland Cement Concrete Pavement	13,065.00	sq.m.	22,787,418.93	12.00	8.00	20.00	4,557,483.79	1,367,245.14	5,924,728.92	28,712,147.85	2,197.64
TOTAL OF PART E												
				24,432,308.23				4,886,461.65	1,465,938.49	6,352,400.14	30,784,708.37	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
500(1)b3	Pipe Culverts	104.00	In.m.	309,703.65	12.00	8.00	20.00	61,940.73	18,582.22	80,522.95	390,226.60	3,752.18
505(2)a	Grouted Riprap, Class "A"	748.00	cu.m.	2,887,479.51	12.00	8.00	20.00	577,495.90	173,248.77	750,744.67	3,638,224.19	4,863.94
506(1)	Stone Masonry	94.00	cu.m.	430,818.97	12.00	8.00	20.00	86,163.79	25,849.14	112,012.93	542,831.90	5,774.81
TOTAL OF PART G												
				3,628,002.13				725,600.43	217,680.13	943,280.55	4,571,282.68	

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APPROVED BUDGET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Vitall - Sibulao - Bypass Road Project (Alternate Road of NI), Package 4, Zamboanga City

Stations : 0.00 to 1,950.00
0.00 to 0.00

Length : 1,950.00 In.m.

Contract Duration : 170 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	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)
								(3) x (8)	5%[(9) + (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.	407,908.02	12.00	8.00	20.00	81,581.60	24,474.48	106,056.09	513,964.11	513,964.11
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	282,506.67	-	8.00	8.00	22,600.53	15,255.36	37,855.89	320,362.56	320,362.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	5.67	month	202,399.40	-	-	-	-	10,119.97	10,119.97	212,519.37	37,503.42
TOTAL OF PART A				892,814.09				104,182.14	49,849.81	154,031.95	1,046,846.04	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	1.95	km.	98,244.03	12.00	8.00	20.00	19,648.81	5,894.64	25,543.45	123,787.48	63,480.76
B.5	Project Billboard/Signboard	2.00	each	10,809.20	12.00	8.00	20.00	2,161.84	648.55	2,810.39	13,619.59	6,809.80
B.7	Occupation Safety and Health Program	5.67	month	214,117.20	-	8.00	8.00	17,129.38	11,562.33	28,691.70	242,808.90	42,848.63
B.9	Mobilization & Demobilization	1.00	L.S.	472,271.00	-	-	-	-	23,613.55	23,613.55	495,884.55	495,884.55
TOTAL OF PART B				795,441.43				38,940.02	41,719.07	80,659.10	876,100.53	
PART C - EARTHWORKS												
101(2)	Removal of Actual Structures/Obstruction	20.00	each	72,351.36	12.00	8.00	20.00	14,470.27	4,341.08	18,811.35	91,162.71	4,558.14
101(2)6	Removal of Actual Structures/Obstruction	94.00	cu.m.	134,241.40	12.00	8.00	20.00	26,848.28	8,054.48	34,902.76	169,144.16	1,799.41
102(2)	Surplus Common Excavation	18,948.00	cu.m.	2,704,354.88	12.00	8.00	20.00	540,870.98	162,261.29	703,132.27	3,407,487.15	179.83
103(3)	Foundation Fill	17.00	cu.m.	36,303.06	12.00	8.00	20.00	7,260.61	2,178.18	9,438.80	45,741.86	2,690.70
103(6)a	Pipe Culverts and Drain Excavation	144.00	cu.m.	33,136.65	12.00	8.00	20.00	6,627.33	1,988.20	8,615.53	41,752.18	289.95
104(1)a	Embankment from Roadway Excavation	8,930.00	cu.m.	2,058,938.57	12.00	8.00	20.00	411,787.71	123,536.31	535,324.03	2,594,262.60	290.51
105(1)a	Subgrade Preparation	21,090.00	sq.m.	336,986.57	12.00	8.00	20.00	67,397.31	20,219.19	87,616.51	424,603.07	20.13
TOTAL OF PART C				5,376,312.49				1,075,262.50	322,578.75	1,397,841.25	6,774,153.74	
PART D - SUBBASE AND BASE COURSE												
200(1)	Aggregate Subbase Course	7,659.00	cu.m.	12,570,705.21	12.00	8.00	20.00	2,514,141.04	754,242.31	3,268,383.35	15,839,088.57	2,068.04
TOTAL OF PART D				12,570,705.21				2,514,141.04	754,242.31	3,268,383.35	15,839,088.57	
PART E - SURFACE COURSES												
300(1)	Gravel Surface Course	965.00	cu.m.	1,644,889.30	12.00	8.00	20.00	328,977.86	98,693.36	427,671.22	2,072,560.52	2,147.73
311(1)e1	Portland Cement Concrete Pavement	13,065.00	sq.m.	22,787,418.93	12.00	8.00	20.00	4,557,483.79	1,367,245.14	5,924,728.92	28,712,147.85	2,197.64
TOTAL OF PART E				24,432,308.23				4,886,461.65	1,465,938.49	6,352,400.14	30,784,708.37	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
500(1)b3	Pipe Culverts	104.00	In.m.	309,703.65	12.00	8.00	20.00	61,940.73	18,582.22	80,522.95	390,226.60	3,752.18
505(2)a	Grouted Riprap, Class "A"	748.00	cu.m.	2,887,479.51	12.00	8.00	20.00	577,495.90	173,248.77	750,744.67	3,638,224.19	4,863.94
506(1)	Stone Masonry	94.00	cu.m.	430,818.97	12.00	8.00	20.00	86,163.79	25,849.14	112,012.93	542,831.90	5,774.81
TOTAL OF PART G				3,628,002.13				725,600.43	217,680.13	943,280.55	4,571,282.68	

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIREC. COST	MARK-UPS IN %		TOTAL MARK-UPS		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	OCM	PROFIT	%	VALUE	(10)	(9) + (10)	(5) + (11)	(12) / (3)
					(6)	(7)	(8)	(9)	5%[(5) + (9)]	(9) + (10)	(5) + (11)	(12) / (3)
PART H - MISCELLANEOUS STRUCTURES:												
612(1)	ReflectORIZED Thermoplastic Pavement Markings (White)	585.00	sq.m.	432,387.97	12.00	8.00	20.00	86,477.59	25,943.28	112,420.87	544,808.84	931.30
	TOTAL OF PART H			432,387.97				86,477.59	25,943.28	112,420.87	544,808.84	
	TOTAL			48,127,971.56				9,431,065.37	2,877,951.85	12,309,017.21	60,436,988.77	

Prepared by :


BELEM A. SAPALLADA
Head/BAC Technical Working Group

Submitted by :


LEONCIO B. SOLAMILLO
Chief Construction Division

Recommending Approval:


CAYAMON BAO D. DIA
Assistant Regional Director

Approved by :


JORCELO SIBAYAN, CESO III
Regional Director

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	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)	ReflectORIZED Thermoplastic Pavement Markings (White)	585.00	sq.m.	432,387.97	12.00	8.00	20.00	86,477.59	25,943.28	112,420.87	544,808.84	931.30
	TOTAL OF PART H			432,387.97				86,477.59	25,943.28	112,420.87	544,808.84	
	TOTAL			48,127,971.56				9,431,065.37	2,877,951.85	12,309,017.21	60,436,988.77	

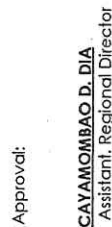
Prepared by :


BELEM A. SAPALLADA
 Head, BAC Technical Working Group

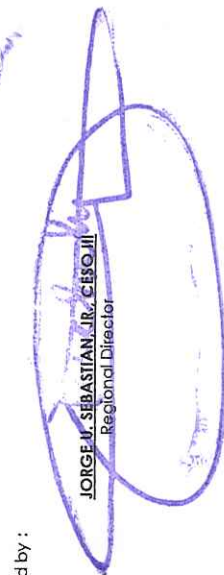
Submitted by :


LEONARDO B. SOLAMILLO
 Chief, Construction Division

Recommending Approval:


CAYAMOMBAO D. DIA
 Assistant, Regional Director

Approved by :


JORGE U. SEBASTIAN JR., CESO III
 Regional Director

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, 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.	1,564.85	5,476.98
	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 (Footing, Columns, Beams & Slab on Grade)				
	a. Portland Cement	90.00	bag	288.00	25,920.00
	b. Crushed Gravel	21.00	cu.m.	1,564.85	32,861.85
	c. Washed Sand	18.00	cu.m.	1,564.85	28,167.30
	III. Reinforcing Bars(Footing 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.	80.00	1,600.00
	IV. Formworks (Columns & Beams)				
	a. Coco Lumber	400.00	bd.ft.	24.50	9,800.00
	b. Ordinary Plywood, 1/4"x4'x8'	18.00	pc.	385.00	6,930.00
	c. CWN, Assorted	5.00	kg.	65.00	325.00
	V. Masonry Works (masonry walls & plastering)				
	a. CHB 6" thk	650.00	pc.	16.00	10,400.00
	b. Portland Cement	45.00	bag	288.00	12,960.00
	c. Washed Sand	8.00	cu.m.	1,564.85	12,518.80
	d. 10mm dia. X 6m RSB	65.00	kg.	38.00	2,470.00
	e. No. 16 GI Tie Wire	2.50	kg.	80.00	200.00
	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 183,867.95
Sub-total for E (I + II + III)					P 333,195.90
F.	Direct Cost (C + E)				407,908.02
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		48,948.96
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		32,632.64
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		24,474.48
J.	Total Unit Cost				513,964.11

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, 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.	166.33	2,494.95
l.	Primer, Zinc Chromate	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 11/2"	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 tanguile	500.00	bd.ft.	37.00	18,500.00
b.	Plywood, ordinary 1/4" x 4' x 8'	30.00	pc.	385.00	11,550.00
c.	Finishing Nails	5.00	kg.	100.00	500.00
d.	Common Wire Nails	10.00	kg.	65.00	650.00
e.	Wood Preservative Brown	5.00	L	400.00	2,000.00
Sub-total for E				P	105,329.95
F.	Direct Cost (C + E)				
G.	Overhead, Contingencies and Miscellaneous		12% 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 - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, 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 Flourescent 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	170.00	510.00
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	43,998.00
F.	Direct Cost (C + E)				
G.	Overhead, Contingencies and Miscellaneous		12% 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 - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, 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 (Gasul)	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	1.00	L.S.	45,000.00	45,000.00
	(Folders, Bond Paper, Yellow Pads, Ball Pens, Pencil, Envelopes, etc.)				
	Kitchenware	1.00	L.S.	30,000.00	30,000.00
	(Plates, Spoons & Forks, Glasses, etc.)				
	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	5.67	mos.	3,000.00	17,000.00
	b. Water Bill	5.67	mos.	1,500.00	8,500.00
	c. LPG (11 kg)	5.67	mos.	1,000.00	5,666.67
Sub-total for E				P	282,506.67
F.	Direct Cost (C + E)				282,506.67
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		22,600.53
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		15,255.36
J.	Total Unit Cost				320,362.56

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DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, 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: 5.67

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Driver	1	170	422.32	71,794.40
Sub-total for A				P	71,794.40
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)				71,794.40
D.	Output/day	-	L.S./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Diesel	1,700.00	L	31.00	52,700.00
	b. Spare Parts	1.00	L.S.	40,000.00	40,000.00
	c. Engine Oil & Lubricants	1.00	L.S.	7,905.00	7,905.00
	d. Miscellaneous	1.00	L.S.	30,000.00	30,000.00
Sub-total for E				P	130,605.00
F.	Direct Cost (C + E)				202,399.40
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		10,119.97
J.	Total Unit Cost				37,503.42

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Item No./Description: B.4(1) Construction Survey & Staking
 Unit of Measurement: km.
 Output per hour: 0.04
 Quantity: 1.950

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Field Works				
	a. Geodetic Engineer	1	6.09	833.31	5,077.98
	b. Skilled Laborer	3	6.09	443.20	8,102.25
	c. Laborer	3	6.09	342.24	6,256.58
	For Office Works				
	a. Geodetic Engineer	1	18.28	833.31	15,233.95
	b. Skilled Laborer	2	18.28	443.20	16,204.50
Sub-total for A				P	50,875.26
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Total Station w/ complete accessories	1	6.09	800.00	4,875.00
	Minor Tools 10% of Labor				5,087.53
Sub-total for B				P	9,962.53
C.	Total (A+B)				60,837.78
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)	75.00	pc	400.00	30,000.00
	b. Blue Printing	375.00	pc	15.00	5,625.00
	Miscellaneous 5% of Materials Cost				1,781.25
Sub-total for E				P	37,406.25
F.	Direct Cost (C + E)				98,244.03
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		11,789.28
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		7,859.52
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		5,824.64
J.	Total Unit Cost				63,480.76

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, 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.	750.00	1,500.00
	b. Tarpaulin (4' x 8')	2.00	pc.	1,000.00	2,000.00
	c. Assorted Lumber	100.00	bd.ft.	37.00	3,700.00
	d. Assorted CW Nails	2.00	kg.	65.00	130.00
Sub-total for E				P	7,330.00
F.	Direct Cost (C + E)				10,809.20
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		1,297.10
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		864.74
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		648.55
J.	Total Unit Cost				6,809.80

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Item No./Description: B.7 Occupation Safety and Health Program
 Unit of Measurement: month
 Output per hour:
 Quantity: 5.67

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Safety Practioner	1	85.00	611.92	52,013.20
	b. First Aider	1	170.00	443.20	75,344.00
Sub-total for A					P 127,357.20
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Warning Signs and Barricades				60,000.00
Sub-total for B					P 60,000.00
C.	Total (A+B)				187,357.20
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)				214,117.20
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		=
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		17,129.38
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		11,562.33
J.	Total Unit Cost				42,848.63

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Item No./Description: B.9 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	1	5.00	19,600.00	98,000.00
	c. Backhoe	2	5.00	12,296.00	122,960.00
	d. Bulldozer	1	3.00	27,032.00	81,096.00
Sub-total for B				P	472,271.00
C.	Total (A+B)				472,271.00
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)				472,271.00
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		23,613.55
J.	Total Unit Cost				495,884.55

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Item No./Description: 101(2) Removal of Actual Structures/Obstruction

Unit of Measurement: each

Output per hour: 10.00 cu.m./hr.

Quantity: 20.00 each

216.00 cu.m.

Removal of Existing RCPC Headwall (2.00 x 1.80 x 0.30 m.)

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.70	611.92	1,652.18
	b. Unskilled Labor	2	2.70	342.24	1,848.10
Sub-total for A				P	3,500.28
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe w/ Breaker (0.80 cu.m.)	1	1.35	15,984.80	21,579.48
	b. Backhoe (0.80 cu.m.) - for loading	1	1.35	12,296.00	16,599.60
	c. Dump Truck (12 cu.yd.)	1	2.70	11,360.00	30,672.00
Sub-total for B				P	68,851.08
C.	Total (A+B)				72,351.36
D.	Output/day	80.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
Sub-total for E				P	-
F.	Direct Cost (C + E)				72,351.36
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		8,682.16
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		5,788.11
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		4,341.08
J.	Total Unit Cost				4,558.14

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Item No./Description: 101(2)6 Removal of Actual Structures/Obstruction

Unit of Measurement: cu.m.

Output per hour: 2.00

Quantity: 94.00

Removal of Existing Lined Canal

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	5.88	611.92	3,595.03
	b. Skilled Laborer	1	5.88	443.20	2,603.80
	c. Unskilled Labor	2	5.88	342.24	4,021.32
Sub-total for A				P	10,220.15
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe w/ Breaker (0.80 cu.m.)	1	2.94	15,984.80	46,955.35
	b. Backhoe (0.80 cu.m.) - for loading	1	1.47	12,296.00	18,059.75
	c. Dump Truck (12 cu.yd.)	1	2.94	11,360.00	33,370.00
	d. Cutting Outfit	1	5.88	363.60	2,136.15
Sub-total for B				P	100,521.25
C.	Total (A+B)				110,741.40
D.	Output/day	16.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Oxy/Acetylene	9.40	set	2,500.00	23,500.00
Sub-total for E				P	23,500.00
F.	Direct Cost (C + E)				134,241.40
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		16,108.97
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		10,739.31
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		8,054.48
J.	Total Unit Cost				1,799.41

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DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 60.00

Quantity: 18,948.00

For Lined Canal

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	39.48	611.92	24,155.54
	b. Unskilled Labor	2	39.48	342.24	27,019.85
Sub-total for A					P 51,175.39
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	39.48	27,032.00	1,067,088.20
	b. Payloader (1.50 cu.m.)	1	39.48	13,864.00	547,281.40
	c. Payloader (1.50 cu.m.) - at disposal area	1	9.87	13,864.00	136,820.35
	d. Dump Truck (12 cu.yd.)	2	39.48	11,360.00	896,872.00
	Minor Tools 10% of Labor Cost				5,117.54
Sub-total for B					P 2,653,179.49
C.	Total (A+B)				2,704,354.88
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)				2,704,354.88
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		324,522.59
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		216,348.39
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		162,261.29
J.	Total Unit Cost				179.83

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DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 1.25

Quantity: 17.00

For RCPC Beddings

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	1.70	611.92	1,040.26
	b. Unskilled Labor	4	1.70	342.24	2,327.23
Sub-total for A				P	3,367.50
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Plate Compactor (5 hp)	1	1.70	984.00	1,672.80
	b. Water Truck/Pump (16000 L)	1	0.02	19,600.00	333.20
	Minor Tools 10% of Labor Cost				336.75
Sub-total for B				P	2,342.75
C.	Total (A+B)				5,710.25
D.	Output/day 10.00 cu.m./day				
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Filling Materials (well-graded sand)	19.55	cu.m.	1,564.85	30,592.82
Sub-total for E				P	30,592.82
F.	Direct Cost (C + E)				36,303.06
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		4,356.37
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		2,904.25
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		2,178.18
J.	Total Unit Cost				2,690.70

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 20.00

Quantity: 144.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	0.90	611.92	550.73
	b. Unskilled Labor	3	0.90	342.24	924.05
Sub-total for A				P	1,474.78
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	0.90	11,360.00	20,448.00
	b. Backhoe (0.80 cu.m.)	1	0.90	12,296.00	11,066.40
	Minor Tools 10% of Labor Cost				147.48
Sub-total for B				P	31,661.88
C.	Total (A+B)				33,136.65
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)				33,136.65
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		3,976.40
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		2,650.93
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,988.20
J.	Total Unit Cost				289.95

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 8,930.00

Compacted Volume

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Excavation Work				
	a. Const. Foreman	1	18.53	611.92	11,338.72
	c. Unskilled Laborer	2	18.53	342.24	12,683.24
	Spreading and Compaction				
	a. Const. Foreman	1	22.33	611.92	13,661.11
	c. Unskilled Laborer	2	22.33	342.24	15,281.02
Sub-total for A				P	52,964.10
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	18.53	27,032.00	500,896.20
	b. Payloader (1.50 cu.m.)	1	18.53	13,864.00	256,896.45
	c. Dump Truck (12 cu.yd.)	2	18.53	11,360.00	420,995.92
	Spreading and Compaction				
	a. Motorized Road Grader (140 hp), G170A	1	22.33	17,384.00	388,097.80
	b. Vibratory Roller (10 mt), SD100C	1	22.33	14,768.00	329,695.60
	c. Water Truck/Pump (16000 L)	1	5.58	19,600.00	109,392.50
Sub-total for B				P	2,005,974.48
C.	Total (A+B)				2,058,938.57
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)				2,058,938.57
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		247,072.63
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		164,715.09
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		123,536.31
J.	Total Unit Cost				290.51

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

Item No./Description: 105(1)a Subgrade Preparation
Unit of Measurement: sq.m.

Output per hour: 300.00

Quantity: 21,090.00

Variable Width

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	8.79	611.92	5,377.25
	b. Unskilled Laborer	2	8.79	342.24	6,014.87
Sub-total for A				P	11,392.12
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	8.79	17,384.00	152,761.90
	b. Vibratory Roller (10 mt), SD100DC	1	8.79	14,768.00	129,773.80
	c. Water Truck/Pump (16000 L)	1	2.20	19,600.00	43,058.75
Sub-total for B				P	325,594.45
C.	Total (A+B)				336,986.57
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)				336,986.57
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		40,438.39
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		26,958.93
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		20,219.19
J.	Total Unit Cost				20.13

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DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 7,659.00

0.30 m. thk. (min.), Compacted Volume

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	19.15	611.92	11,716.74
	b. Unskilled Labor	2	19.15	342.24	13,106.08
Sub-total for A					P 24,822.82
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	19.15	17,384.00	332,860.14
	b. Vibratory Roller (10 mt), SD100DC	1	19.15	14,768.00	282,770.28
	c. Water Truck/Pump (16000 L)	1	4.79	19,600.00	93,822.75
Sub-total for B					P 709,453.17
C.	Total (A+B)				734,275.99
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)	8,807.85	cu.m.	1,343.85	11,836,429.22
Sub-total for E					P 11,836,429.22
F.	Direct Cost (C + E)				12,570,705.21
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		1,508,484.63
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		1,005,656.42
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		754,242.31
J.	Total Unit Cost				2,068.04

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 50.00

Quantity: 965.00

Compacted Volume

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.41	611.92	1,476.26
	b. Unskilled Labor	2	2.41	342.24	1,651.31
Sub-total for A				P	3,127.57
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	2.41	17,384.00	41,938.90
	b. Vibratory Roller (10 mt), SD100DC	1	2.41	14,768.00	35,627.80
	c. Water Truck/Pump (16000 L)	1	0.60	19,600.00	11,821.25
Sub-total for B				P	89,387.95
C.	Total (A+B)				92,515.52
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)	1,109.75	cu.m.	1,398.85	1,552,373.79
Sub-total for E				P	1,552,373.79
F.	Direct Cost (C + E)				1,644,889.30
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		197,386.72
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		131,591.14
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		98,693.36
J.	Total Unit Cost				2,147.73

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: sq.m.

Output per hour: 57.50

Quantity: 13,065.00

0.28 m. thick

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	28.40	611.92	17,379.86
	b. Skilled Labor	4	28.40	443.20	50,351.37
	c. Unskilled Labor	12	28.40	342.24	116,644.32
Sub-total for A				P	184,375.55
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Transit Mixer (5 cu.m.)	4	28.40	10,544.00	1,197,890.09
	b. Concrete Vibrator	2	28.40	730.00	41,467.17
	c. Concrete Batch Plant (30 cu.m.)	1	28.40	14,076.00	399,789.00
	d. Payloader (1.50 cu.m.), LX80-2C	1	28.40	13,864.00	393,767.74
	e. Concrete Screeder (5.5 hp)	1	28.40	4,360.00	123,833.48
	f. Water truck/Pump (16000 L)	1	28.40	19,600.00	556,682.61
	g. Concrete Saw (7.5 hp), 14" Blade Ø	1	28.40	261.04	7,414.10
	h. Bar Cutter, Single Phase	1	2.84	1,758.00	4,993.10
	Minor Tools 5% of Labor				9,218.78
Sub-total for B				P	2,735,056.07
C.	Total (A+B)				2,919,431.62
D.	Output/day	460.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Reinforcing Steel Bar	6,532.50	kg.	38.00	248,235.00
	b. Curing Compound	3,788.85	L	35.00	132,609.75
	c. Asphalt Sealant	2,221.05	L	100.00	222,105.00
	d. Steel Forms (Rental)	6,009.90	m	60.00	360,594.00
	e. Sand	2,012.01	cu.m.	1,564.85	3,148,493.85
	f. Gravel	3,658.20	cu.m.	1,564.85	5,724,534.27
	g. Cement	34,752.90	bag	288.00	10,008,835.20
	h. Concrete Saw (Diamond Blade 14" Ø)	1.96	pc.	2,500.00	4,899.38
	i. Pipe Sleeve, 2" Ø	101.91	m.	61.00	6,216.33
	j. Grease/Tar	101.91	L	112.50	11,464.54
Sub-total for E				P	19,867,987.31
F.	Direct Cost (C + E)				22,787,418.93
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		2,734,490.27
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		1,822,993.51
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,367,245.14
J.	Total Unit Cost				2,197.64

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DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: In.m.

Output per hour: 1.00

Quantity: 104.00

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

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	7.41	611.92	4,534.33
	b. Skilled Labor	2	7.41	443.20	6,568.22
	c. Unskilled Labor	4	7.41	342.24	10,143.99
Sub-total for A					P 21,246.54
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe (0.80 cu.m.)	1	3.77	12,296.00	46,355.92
	b. Plate Compactor (5 hp)	1	3.77	984.00	3,709.68
	Minor Tools 10% of Labor				2,124.65
Sub-total for B					P 52,190.25
C.	Total (A+B)				73,436.80
D.	Output/day 8.00	In.m./day			
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	112.32	bag	288.00	32,348.16
	b. Sand	6.34	cu.m.	1,564.85	9,927.41
	c. RC Pipes (910 mm. dia.)	104.00	cu.m.	1,665.00	173,160.00
	d. Sand Bedding/Selected Sandy Soil	13.31	m.	1,564.85	20,831.28
Sub-total for E					P 236,266.85
F.	Direct Cost (C + E)				309,703.65
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		37,164.44
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		24,776.29
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		18,582.22
J.	Total Unit Cost				3,752.18

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DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 1.25

Quantity: 748.00

For Slope Protection

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	74.80	611.92	45,771.62
	b. Skilled Labor	2	74.80	443.20	66,302.72
	c. Unskilled Labor	8	74.80	342.24	204,796.42
Sub-total for A					P 316,870.75
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	74.80	1,376.00	102,924.80
	b. Water Truck/Pump (16000 L)	1	3.74	19,600.00	73,304.00
	Minor Tools 5% of Labor				15,843.54
Sub-total for B					P 192,072.34
C.	Total (A+B)				508,943.09
D.	Output/day	10.00	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	2,244.00	bag	288.00	646,272.00
	b. Sand	187.00	cu.m.	1,564.85	292,626.95
	c. Gravel	11.22	cu.m.	1,564.85	17,557.62
	d. Weep Holes (PVC)	224.40	m.	50.83	11,407.00
	e. Filter Cloth	11.22	sq.m.	160.00	1,795.20
	f. Boulders (15 - 25 kg.)	785.40	cu.m.	1,763.85	1,385,327.79
	Miscellaneous 1% of Materials Cost				23,549.87
Sub-total for E					P 2,378,536.42
F.	Direct Cost (C + E)				2,887,479.51
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		346,497.54
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		230,998.36
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		173,248.77
J.	Total Unit Cost				4,863.94

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: cu.m.

Output per hour: 1.60

Quantity: 94.00

For Slope Protection

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	7.34	611.92	4,493.79
	b. Skilled Labor	2	7.34	443.20	6,509.50
	c. Unskilled Labor	8	7.34	342.24	20,106.60
Sub-total for A				P	31,109.89
Name and Capacity		No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	7.34	1,376.00	10,105.00
	b. Water Truck/Pump (16000 L)	1	0.37	19,600.00	7,196.88
	c. Backhoe (Wheel Type 0.28 cu.m.)	1	0.73	7,376.00	5,416.75
	Minor Tools 5% of Labor				1,555.49
Sub-total for B				P	24,274.12
C.	Total (A+B)				55,384.01
D.	Output/day	12.80	cu.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	517.00	bag	288.00	148,896.00
	b. Sand	28.20	cu.m.	1,564.85	44,128.77
	c. Gravel	1.88	cu.m.	1,564.85	2,941.92
	d. Weep Holes (PVC)	28.20	m.	50.83	1,433.50
	e. Filter Cloth	1.41	sq.m.	160.00	225.60
	f. Boulders	98.70	cu.m.	1,763.85	174,092.00
	Miscellaneous 1% of Materials Cost				3,717.18
Sub-total for E				P	375,434.96
F.	Direct Cost (C + E)				430,818.97
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		51,698.28
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		34,465.52
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		25,849.14
J.	Total Unit Cost				5,774.81

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Vitali - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

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

Unit of Measurement: sq.m.

Output per hour: 25.00

Quantity: 585.00

Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.93	611.92	1,789.87
	b. Skilled Labor	2	2.93	443.20	2,592.72
	c. Unskilled Labor	6	2.93	342.24	6,006.31
Sub-total for A				P	10,388.90
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	2.93	6,264.00	18,322.20
	b. Applicator Machine	1	2.93	750.00	2,193.75
	c. Kneading Machine	1	2.93	1,500.00	4,387.50
	Minor Tools 10% of Labor				1,038.89
Sub-total for B				P	25,942.34
C.	Total (A+B)				36,331.24
D.	Output/day	200.00	sq.m./day		
Name and Specifications		Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Thermoplastic Paint (White)	190.13	bag	1,585.00	301,348.13
	b. Glass Beads	19.31	bag	2,500.00	48,262.50
	c. Primer	70.20	L	160.00	11,232.00
	d. LPG (50 kg)	2.34	cyl.	3,450.00	8,073.00
	e. LPG (12 kg)	1.17	cyl.	828.00	968.76
	f. Calsumine	73.13	kg.	100.00	7,312.50
	Miscellaneous 5% of Materials Cost				18,859.84
Sub-total for E				P	396,056.73
F.	Direct Cost (C + E)				432,387.97
G.	Overhead, Contingencies and Miscellaneous		12% per D.O. 197, s. 2016		51,886.56
H.	Contractor's Profit (CP)		8% per D.O. 197, s. 2016		34,591.04
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		25,943.28
J.	Total Unit Cost				931.30

PROJECT : Construction of By-Pass and Diversion Roads - Vitall - Sibulao - Bypass Road Project (Alternate Road of N1), Package 4, Zamboanga City

LOCATION : Zamboanga City

LIMITS : 0+000.00 - 1+950.00

0+000.00 - 0+000.00

net length : 1,950.00 In.m.

SUMMARY OF DETAILED ESTIMATES

ITEM NO.	DESCRIPTION	QTY.	UNIT	LABOR	EQUIPMENT	MATERIALS	OCM	PROFIT	VAT	TOTAL
PART A - FACILITIES FOR THE ENGINEER										
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	42,596.48	32,115.65	333,195.90	48,948.96	32,632.64	24,474.48	513,964.11
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	-	-	282,506.67	-	22,600.53	15,255.36	320,362.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	5.67	month	71,794.40	-	130,605.00	-	-	10,119.97	212,519.37
	TOTAL OF PART A			114,390.88	32,115.65	746,307.56	48,948.96	55,233.18	49,849.81	1,046,846.04
PART B - OTHER GENERAL REQUIREMENTS										
B.4(1)	Construction Survey & Staking	1.95	km.	50,875.26	9,962.53	37,406.25	11,789.28	7,859.52	5,894.64	123,787.48
B.5	Project Billboard/Signboard	2.00	each	3,479.20	-	7,330.00	1,297.10	864.74	648.55	13,619.59
B.7	Occupation Safety and Health Program	5.67	month	127,357.20	60,000.00	26,760.00	-	17,129.38	11,562.33	242,808.90
B.9	Mobilization & Demobilization	1.00	L.S.	-	472,271.00	-	-	-	23,613.55	495,884.55
	TOTAL OF PART B			181,711.66	542,233.53	71,496.25	13,086.39	25,853.63	41,719.07	876,100.53
PART C - EARTHWORKS										
101(2)	Removal of Actual Structures/Obstruction	20.00	each	3,500.28	68,851.08	-	8,682.16	5,788.11	4,341.08	91,162.71
101(2)6	Removal of Actual Structures/Obstruction	94.00	cum.	10,220.15	100,521.25	23,500.00	16,108.97	10,739.31	8,054.48	169,144.16
102(2)	Surplus Common Excavation	18,948.00	cum.	51,175.39	2,653,179.49	-	324,522.59	216,348.39	162,261.29	3,407,487.15
103(3)	Foundation Fill	17.00	cum.	3,367.50	2,342.75	30,592.82	4,356.37	2,904.25	2,178.18	45,741.86
103(6)a	Pipe Culverts and Drain Excavation	144.00	cum.	1,474.78	31,661.88	-	3,976.40	2,650.93	1,988.20	41,752.18
104(1)a	Embankment from Roadway Excavation	8,930.00	cum.	52,964.10	2,005,974.48	-	247,072.63	164,715.09	123,536.31	2,594,262.60
105(1)a	Subgrade Preparation	21,090.00	sq.m.	11,392.12	325,594.45	-	40,438.39	26,958.93	20,219.19	424,603.07
	TOTAL OF PART C			134,094.30	5,188,125.37	54,092.82	645,157.50	430,105.00	322,578.75	6,774,153.74
PART D - SUBBASE AND BASE COURSE										
200(1)	Aggregate Subbase Course	7,659.00	cum.	24,822.82	709,453.17	11,836,429.22	1,508,484.63	1,005,656.42	754,242.31	15,839,088.57
	TOTAL OF PART D			24,822.82	709,453.17	11,836,429.22	1,508,484.63	1,005,656.42	754,242.31	15,839,088.57
PART E - SURFACE COURSES										
300(1)	Gravel Surface Course	945.00	cum.	3,127.57	89,387.95	1,552,373.79	197,386.72	131,591.14	98,693.36	2,072,560.52
311(1)e1	Portland Cement Concrete Pavement	13,065.00	sq.m.	184,375.55	2,735,036.07	19,867,987.31	2,734,490.27	1,822,993.51	1,367,245.14	28,712,147.85
	TOTAL OF PART E			187,503.12	2,824,444.02	21,420,361.10	2,931,876.99	1,954,584.66	1,465,938.49	30,784,708.37
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES										
500(1)b3	Pipe Culverts	104.00	In.m.	21,246.54	52,190.25	236,266.85	37,164.44	24,776.29	18,582.22	390,226.60
505(2)a	Graufed Riprap, Class "A"	748.00	cum.	316,870.75	192,072.34	2,378,536.42	346,497.54	230,998.36	173,248.77	3,638,224.19
506(1)	Stone Masonry	94.00	cum.	31,109.89	24,274.12	375,434.96	51,698.28	34,465.52	25,849.14	542,831.90
	TOTAL OF PART G			369,227.18	268,536.71	2,990,238.24	435,360.26	290,240.17	217,680.13	4,571,282.68
PART H - MISCELLANEOUS STRUCTURES										
612(1)	ReflectORIZED Thermoplastic Pavement Markings (White)	585.00	sq.m.	10,388.90	25,942.34	396,056.73	51,886.56	34,591.04	25,943.28	544,808.84
	TOTAL OF PART H			10,388.90	25,942.34	396,056.73	51,886.56	34,591.04	25,943.28	544,808.84
	TOTAL			1,022,138.86	9,590,850.79	37,514,981.91	5,634,801.28	3,796,264.09	2,877,951.85	60,436,988.77

Name of Project
Station Limits

;	0+000,00	-	1+950,00
	0+-000,00	-	0+000,00

Net Length : 1,950.00 In.m.

Item No.	Description	Quantity	Unit	DURATION # OF DAYS
PART A - FACILITIES FOR THE ENGINEER				
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	8.00
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances	1.00	L.S.	170
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle	5.67	month	170
PART B - OTHER GENERAL REQUIREMENTS				
B.4(1)	Construction Survey & Staking	1.95	km.	18.28
B.5	Project Billboard/Signboard Installation	2.00	each	2.00
B.7	Occupation Safety and Health Program	5.67	month	170
B.9	Mobilization & Demobilization	1.00	L.S.	5.00
PART C - EARTHWORKS				
101(2)	Removal of Actual Structures/Obstruction	20.00	each	2.70
101(2)6	Removal of Actual Structures/Obstruction	94.00	c.u.m.	5.88
103(3)	Foundation Fill	17.00	c.u.m.	1.70
103(6)a	Pipe Culverts and Drain Excavation	144.00	c.u.m.	0.90
104(1)a	Embankment from Roadway Excavation	8,930.00	c.u.m.	22.33
105(1)a	Subgrade Preparation	21,090.00	sq.m.	8.79
PART D - SUBBASE AND BASE COURSE				
200(1)	Aggregate Subbase Course	7,659.00	c.u.m.	19.15
PART E - SURFACE COURSES				
300(1)	Gravel Surface Course	965.00	c.u.m.	2.41
311(1)e1	Portland Cement Concrete Pavement	13,065.00	sq.m.	28.40
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES				
500(1)b3	Pipe Culverts	104.00	ln.m.	7.41
505(2)a	Grouled Riprap, Class "A"	748.00	c.u.m.	74.80
506(1)	Stone Masonry	94.00	c.u.m.	7.34
PART H - MISCELLANEOUS STRUCTURES				
612(1)	ReflectORIZED Thermoplastic Pavement Markings (Whit	585.00	sq.m.	2.93

Prepared by:

ELWICK P. ACUÑA
Engineer II

Submitted by:

LEONCIO B. SOLAMILLO
Chief Construction Division

Engineer II

Chief Construction Division

JORGE U. SEBASTIAN, JR., CESO III
Regional Director

UNIT COST ANALYSIS FOR HAULING COST FOR PORTLAND CEMENT

TOTAL QUANTITY REQUIREMENTS FOR PORTLAND CEMENT

DESCRIPTION	QUANTITY (Bags)
Portland Cement Concrete Pavement	34,752.90
Pipe Culverts	112.32
Grouted Riprap, Class "A"	2,244.00
Stone Masonry	517.00
Construction of Field Office for the Engineer	90.00
T O T A L	37,716.22

Quantity = **37,716.22** Bags

Delivery Charge = P 0.120 / bag / km.

S I T E	HAULING DISTANCE
Zamboanga City DEO	50.00
Batching plant	

*Average hauling distance from Source to assumed Stockpiling area :
say 50.00 km.

Delivery Charge = P 0.120 x 50.00
= P **6.00** / bag

*Delivery Truck : 37,716.22 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	=	$\frac{50.00 \times 60}{30.00}$	=	100.00 mins.
Unloaded running	=	$\frac{50.00 \times 60}{40.00}$	=	75.00 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	:	223.00	mins.	
No. of trips for Dumptruck per day	=	$\frac{8.0 \times 60.00}{223.00}$	=	2.15 say 2.15 trip
Dumptruck daily output	=	500 x 2.15	=	1,076.23 cu.m.
Using (3) Dumptrucks	=	3 x 1076.23	=	3,228.70 cu.m.

1. No. of days for Delivery Truck = $\frac{37,716.22}{3,228.70} = 11.68$ say 11.68 days
2. No. of days for Labor, for unloading = complimentary to D. Truck days = 11.68 days

DELIVERY COST :

37,716.22 - Bags, Portland Cement	@ P	6.00	/ bag	= P	226,297.32
Sub - Total				P	226,297.32

LABOR :

1 - Foreman	@ P	611.92 /day	x 11.68 days	= P	7,148.17
10 - Laborers, unloading	@ P	342.24 /day	x 11.68 days	= P	39,978.94
Sub - Total				P	47,127.12

MATERIALS :

37,716.22 - Bags, Portland Cement (Pick-Up Price)	@ P	280.00	/ bag	= P	10,560,541.60
Sub - Total				P	10,560,541.60

Estimated Quantity		37,716.22 Bags			
Unit Cost	P	287.25 / Bag,	say P	288.00 / Bag	
Grand Total	P	10,833,966.04			
Delivery Cost	P	226,297.32			
Labor	P	47,127.12			
Materials	P	10,560,541.60			

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 = $\frac{8 \times 60.00}{25.50} = 18.82$ say 18.82 trips
 per day
 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:	55.00	x	12.07	=	663.85	+	901.00	=	1,564.85
Cost of Coarse Aggregates:	55.00	x	12.07	=	663.85	+	901.00	=	1,564.85
Cost of Item 200 Materials:	55.00	x	12.07	=	663.85	+	680.00	=	1,343.85
Cost of Item 300 Materials:	55.00	x	12.07	=	663.85	+	735.00	=	1,398.85
Cost of Boulders:	55.00	x	12.07	=	663.85	+	1,100.00	=	1,763.85
Cost of Embankment, Common Borrow:	5.00	x	12.07	=	60.35	+	328.00	=	388.35