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 - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

LOCATION:

Zamboanga City

PROJECT CATEGORY :

SLOPE PROTECTION

Appropriation	:	P 120,000,000.00
Source of Funds	:	CY-2018 GAA
Issued Obligated Authority	:	
Released	:	
Cal. Days to Complete	:	241 Calendar Days
Desirable Starting Date	:	upon approval
Mode of Implementation	:	by contract

PROJECT DESCRIPTION :

Scope of Work	:	Slope Protection
Road Width	:	6.70 m.
Roadbed Width	:	12.00 m.
Subbase Course	:	0.30 m. thk.
Surface Course	:	0.15 m. thk.

Road Station Limits: **Length**

1924+580.00 - 1930+580.00 6,000.00

Net Length: **6,000.00 ln.m. / 6.00 km.**

Lane Kilometer: **12.00 km.**

MINIMUM EQUIPMENT REQUIREMENT : TECHNICAL PERSONNEL REQUIRED :

Description	No.	Description	No.	Description	No.
Dump Truck	12	Water Pump	1	Project Engineer	1
Transti 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	0.46	L.S.	1.00	406,709.50	406,709.50
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.38	L.S.	1.00	336,545.56	336,545.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.34	month	8.03	297,695.62	37,057.55
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.23	km.	6.00	202,155.68	33,692.61
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60
B.7	Occupation Safety and Health Program	0.30	month	8.03	267,307.56	33,274.80
B.9	Mobilization & Demobilization	0.98	L.S.	1.00	865,335.00	865,335.00
PART C - EARTHWORKS						
101(6)	Removal of Actual Structures/Obstruction	0.04	cu.m.	118.50	39,692.76	334.96
103(1)a	Structure Excavation	1.10	cu.m.	4,272.00	978,678.89	229.09
103(3)	Foundation Fill	0.04	cu.m.	16.50	34,397.58	2,084.70
103(6)a	Pipe Culverts and Drain Excavation	0.10	cu.m.	368.50	84,797.62	230.12
104(1)a	Embankment from Roadway Excavation	0.16	cu.m.	627.00	144,563.77	230.56
104(2)a	Embankment from Borrow	22.97	cu.m.	35,007.50	20,363,583.86	581.69

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 - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

LOCATION:

Zamboanga City

PROJECT CATEGORY :

SLOPE PROTECTION

Appropriation	:	P 120,000,000.00
Source of Funds	:	CY-2018 GAA
Issued Obligated Authority	:	
Released	:	
Cal. Days to Complete	:	241 Calendar Days
Desirable Starting Date	:	upon approval
Mode of Implementation	:	by contract

PROJECT DESCRIPTION :

Scope of Work	:	Slope Protection
Road Width	:	6.70 m.
Roadbed Width	:	12.00 m.
Subbase Course	:	0.30 m. thk.
Surface Course	:	0.15 m. thk.

Road Station Limits: **Length**

1924+580.00 - 1930+580.00 6,000.00

Net Length: **6,000.00 ln.m. / 6.00 km.**

Lane Kilometer: **12.00 km.**

MINIMUM EQUIPMENT REQUIREMENT : TECHNICAL PERSONNEL REQUIRED :

Description	No.	Description	No.	Description	No.
Dump Truck	12	Water Pump	1	Project Engineer	1
Transti 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	DIRECT COST UNIT COST
PART A - FACILITIES FOR THE ENGINEER						
A.1.1(3)	Construction of Field Office for the Engineer	0.46	L.S.	1.00	406,709.50	406,709.50
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	0.38	L.S.	1.00	336,545.56	336,545.56
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	0.34	month	8.03	297,695.62	37,057.55
PART B - OTHER GENERAL REQUIREMENTS						
B.4(1)	Construction Survey & Staking	0.23	km.	6.00	202,155.68	33,692.61
B.5	Project Billboard/Signboard	0.01	each	2.00	10,979.20	5,489.60
B.7	Occupation Safety and Health Program	0.30	month	8.03	267,307.56	33,274.80
B.9	Mobilization & Demobilization	0.98	L.S.	1.00	865,335.00	865,335.00
PART C - EARTHWORKS						
101(6)	Removal of Actual Structures/Obstruction	0.04	cu.m.	118.50	39,692.76	334.96
103(1)a	Structure Excavation	1.10	cu.m.	4,272.00	978,678.89	229.09
103(3)	Foundation Fill	0.04	cu.m.	16.50	34,397.58	2,084.70
103(6)a	Pipe Culverts and Drain Excavation	0.10	cu.m.	368.50	84,797.62	230.12
104(1)a	Embankment from Roadway Excavation	0.16	cu.m.	627.00	144,563.77	230.56
104(2)a	Embankment from Borrow	22.97	cu.m.	35,007.50	20,363,583.86	581.69

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART F - BRIDGE CONSTRUCTION						
404(1)a	Reinforcing Steel	1.07	kg.	20,169.50	950,359.39	47.12
404(1)b	Reinforcing Steel	18.79	kg.	337,613.50	16,652,845.28	49.33
405(1)a3	Structural Concrete, Class "A"	32.39	cu.m.	3,969.00	28,709,732.09	7,233.49
407(8)	Lean Concrete	1.16	cu.m.	188.50	1,032,585.50	5,477.91
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
500(1)b3	Pipe Culverts	0.18	ln.m.	52.00	155,260.32	2,985.78
500(1)b6	Pipe Culverts	0.42	ln.m.	57.00	375,366.98	6,585.39
505(2)a	Grouted Riprap, Class "A"	18.10	cu.m.	4,825.00	16,046,085.16	3,325.61
506(1)	Stone Masonry	0.77	cu.m.	168.26	685,185.96	4,072.19
TOTAL		**100.00**			**P 88,639,863.26**	

ITEM NO.	DESCRIPTION	% OF TOTAL	UNIT	QUANTITY	DIRECT COST	
					TOTAL	UNIT COST
PART F - BRIDGE CONSTRUCTION						
404(1)a	Reinforcing Steel	1.07	kg.	20,169.50	950,359.39	47.12
404(1)b	Reinforcing Steel	18.79	kg.	337,613.50	16,652,845.28	49.33
405(1)a3	Structural Concrete, Class "A"	32.39	cu.m.	3,969.00	28,709,732.09	7,233.49
407(8)	Lean Concrete	1.16	cu.m.	188.50	1,032,585.50	5,477.91
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES						
500(1)b3	Pipe Culverts	0.18	ln.m.	52.00	155,260.32	2,985.78
500(1)b6	Pipe Culverts	0.42	ln.m.	57.00	375,366.98	6,585.39
505(2)a	Grouted Riprap, Class "A"	18.10	cu.m.	4,825.00	16,046,085.16	3,325.61
506(1)	Stone Masonry	0.77	cu.m.	168.26	685,185.96	4,072.19
TOTAL		**100.00**			**P 88,639,863.26**	

NAME OF PROJECT : **Constru... on of By-Pass and Diversion Roads - Zamb... nga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City**

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	6.34	7,611,150.93
A.2. Equipment Expenses	7.84	9,408,488.09
A.3. Materials	59.68	71,620,224.24
SUB-TOTAL (DIRECT COST)	**73.87**	**P 88,639,863.26**
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (10 % Max. of D.C.)	7.24	8,687,297.95
B.2. Profit (8 % Max. of D.C.)	5.83	6,998,146.61
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	4.35	5,216,265.39
SUBTOTAL (CONTRACT COST)	**91.28**	**P 109,541,573.22**
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	5.22	6,258,426.78
4. Physical Reserved		
TOTAL ESTIMATED PROJECT COST	**100.00**	**P 120,000,000.00**

Prepared : **ELWICK P. ACUÑA** Engineer II	Checked : **JERALD R. BARRERA** Engineer II
Submitted : **LEONCIO B. SOLAMILLO** Chief, Construction Division	Recommending Approval : **KHADAFFY D. TANGGOL** OIC - Assistant Regional Director
Approved : **CAYAMOMBAO D. DIA** OIC - Regional Director	

NAME OF PROJECT : **Constru[illegible]on of By-Pass and Diversion Roads - Zamb[illegible]nga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City**

Zamboanga City

BREAKDOWN OF ESTIMATED EXPENDITURES	% OF TOTAL	AMOUNT
I. ESTIMATED COST		
A. DIRECT COST		
A.1. Labor	6.34	7,611,150.93
A.2. Equipment Expenses	7.84	9,408,488.09
A.3. Materials	59.68	71,620,224.24
SUB-TOTAL (DIRECT COST)	**73.87**	**P 88,639,863.26**
B. INDIRECT COST (Per D.O. # 197, s. 2016)		
B.1. Overhead, Contingency & Misc. (10 % Max. of D.C.)	7.24	8,687,297.95
B.2. Profit (8 % Max. of D.C.)	5.83	6,998,146.61
C. VAT (5% of D.C. and I.C. Per D.O. # 197, s. 2016)	4.35	5,216,265.39
SUBTOTAL (CONTRACT COST)	**91.28**	**P 109,541,573.22**
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	5.22	6,258,426.78
4. Physical Reserved		
TOTAL ESTIMATED PROJECT COST	**100.00**	**P 120,000,000.00**

Prepared : **ELWICK P. ACUÑA** Engineer II	Checked : **JERALD R. BARRERA** Engineer II
Submitted : **LEONCIO B. SOLAMILLO** Chief, Construction Division	Recommending Approval : **KHADAFFY D. TANGGOL** OIC - Assistant Regional Director
Approved : **CAYAMOMBAO D. DIA** OIC - Regional Director	

APPROVED BUDGET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Stations : 1924+580.00 to 1930+580.00

Length : 6,000.00 ln.m.

Contract Duration : 241 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	MARK-UPS IN % PROFIT	TOTAL MARK-UPS %	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (5) x (8)	(10) 5%[(5) + (9)]	(11) (9) + (10)	(12) (5) + (11)	(13) (12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	406,709.50	10.00	8.00	18.00	73,207.71	23,995.86	97,203.57	503,913.07	503,913.07
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	336,545.56	-	8.00	8.00	26,923.64	18,173.46	45,097.10	381,642.66	381,642.66
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.03	month	297,695.62	-	-	-	-	14,884.78	14,884.78	312,580.40	38,910.42
	TOTAL OF PART A			**1,040,950.68**				*100,131.35*	*57,054.10*	*157,185.46*	***1,198,136.13***	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	6.00	km.	202,155.68	10.00	8.00	18.00	36,388.02	11,927.18	48,315.21	250,470.88	41,745.15
B.5	Project Billboard/Signboard	2.00	each	10,979.20	10.00	8.00	18.00	1,976.26	647.77	2,624.03	13,603.23	6,801.61
B.7	Occupation Safety and Health Program	8.03	month	267,307.56	-	8.00	8.00	21,384.60	14,434.61	35,819.21	303,126.77	37,733.62
B.9	Mobilization & Demobilization	1.00	L.S.	865,335.00	-	-	-	-	43,266.75	43,266.75	908,601.75	908,601.75
	TOTAL OF PART B			**1,345,777.44**				*59,748.88*	*70,276.32*	*130,025.20*	***1,475,802.63***	
PART C - EARTHWORKS												
101(6)	Removal of Actual Structures/Obstruction	118.50	cu.m.	39,692.76	10.00	8.00	18.00	7,144.70	2,341.87	9,486.57	49,179.33	415.02
103(1)a	Structure Excavation	4,272.00	cu.m.	978,678.89	10.00	8.00	18.00	176,162.20	57,742.05	233,904.25	1,212,583.14	283.84
103(3)	Foundation Fill	16.50	cu.m.	34,397.58	10.00	8.00	18.00	6,191.56	2,029.46	8,221.02	42,618.60	2,582.95
103(6)a	Pipe Culverts and Drain Excavation	368.50	cu.m.	84,797.62	10.00	8.00	18.00	15,263.57	5,003.06	20,266.63	105,064.25	285.11
104(1)a	Embankment from Roadway Excavation	627.00	cu.m.	144,563.77	10.00	8.00	18.00	26,021.48	8,529.26	34,550.74	179,114.51	285.67
104(2)a	Embankment from Borrow	35,007.50	cu.m.	20,363,583.86	10.00	8.00	18.00	3,665,445.09	1,201,451.45	4,866,896.54	25,230,480.40	720.72
	TOTAL OF PART C			**21,645,714.47**				*3,896,228.61*	*1,277,097.15*	*5,173,325.76*	***26,819,040.23***	
PART F - BRIDGE CONSTRUCTION												
404(1)a	Reinforcing Steel	20,169.50	kg.	950,359.39	10.00	8.00	18.00	171,064.69	56,071.20	227,135.89	1,177,495.28	58.38
404(1)b	Reinforcing Steel	#######	kg.	16,652,845.28	10.00	8.00	18.00	2,997,512.15	982,517.87	3,980,030.02	20,632,875.30	61.11
405(1)a3	Structural Concrete, Class "A"	3,969.00	cu.m.	28,709,732.09	10.00	8.00	18.00	5,167,751.78	1,693,874.19	6,861,625.97	35,571,358.06	8,962.30
407(8)	Lean Concrete	188.50	cu.m.	1,032,585.50	10.00	8.00	18.00	185,865.39	60,922.54	246,787.93	1,279,373.43	6,787.13
	TOTAL OF PART E			**47,345,522.25**				*8,522,194.01*	*2,793,385.81*	*11,315,579.82*	***58,661,102.07***	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
500(1)b3	Pipe Culverts	52.00	ln.m.	155,260.32	10.00	8.00	18.00	27,946.86	9,160.36	37,107.22	192,367.54	3,699.38
500(1)b6	Pipe Culverts	57.00	ln.m.	375,366.98	10.00	8.00	18.00	67,566.06	22,146.65	89,712.71	465,079.69	8,159.29
505(2)a	Grouted Riprap, Class "A"	4,825.00	cu.m.	16,046,085.16	10.00	8.00	18.00	2,888,295.33	946,719.02	3,835,014.35	19,881,099.52	4,120.44
506(1)	Stone Masonry	168.26	cu.m.	685,185.96	10.00	8.00	18.00	123,333.47	40,425.97	163,759.44	848,945.40	5,045.44
	TOTAL OF PART G			**17,261,898.42**				*3,107,141.72*	*1,018,452.01*	*4,125,593.72*	***21,387,492.15***	
	TOTAL			**88,639,863.26**				15,685,444.56	5,216,265.39	20,901,709.95	**109,541,573.22**	

Prepared by :

ISIDRA A. ESTANISLAO
Head, BAC Technical Working Group

Submitted by :

LEONCIO B. SOLAMILLO
Chief, Construction Division

Recommending Approval:

KHADAFFY D. TANGGOL
OIC - Assistant Regional Director

Approved by :

CAYAMOMBAO D. DIA
OIC - Regional Director

APPROVED BUDGET FOR THE CONTRACT

Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Stations: 1924+580.00 to 1930+580.00

Length: 6,000.00 ln.m.

Contract Duration: 241 CD

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN % OCM	MARK-UPS IN % PROFIT	TOTAL MARK-UPS %	TOTAL MARK-UPS VALUE	VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (5) x (8)	(10) 5%[(5) + (9)]	(11) (9) + (10)	(12) (5) + (11)	(13) (12) / (3)
PART A - FACILITIES FOR THE ENGINEER												
A.1.1(3)	Construction of Field Office for the Engineer	1.00	L.S.	406,709.50	10.00	8.00	18.00	73,207.71	23,995.86	97,203.57	503,913.07	503,913.07
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	336,545.56	-	8.00	8.00	26,923.64	18,173.46	45,097.10	381,642.66	381,642.66
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.03	month	297,695.62	-	-	-	-	14,884.78	14,884.78	312,580.40	38,910.42
	TOTAL OF PART A			*1,040,950.68*				*100,131.35*	*57,054.10*	*157,185.46*	*1,198,136.13*	
PART B - OTHER GENERAL REQUIREMENTS												
B.4(1)	Construction Survey & Staking	6.00	km.	202,155.68	10.00	8.00	18.00	36,388.02	11,927.18	48,315.21	250,470.88	41,745.15
B.5	Project Billboard/Signboard	2.00	each	10,979.20	10.00	8.00	18.00	1,976.26	647.77	2,624.03	13,603.23	6,801.61
B.7	Occupation Safety and Health Program	8.03	month	267,307.56	-	8.00	8.00	21,384.60	14,434.61	35,819.21	303,126.77	37,733.62
B.9	Mobilization & Demobilization	1.00	L.S.	865,335.00	-	-	-	-	43,266.75	43,266.75	908,601.75	908,601.75
	TOTAL OF PART B			*1,345,777.44*				*59,748.88*	*70,276.32*	*130,025.20*	*1,475,802.63*	
PART C - EARTHWORKS												
101(6)	Removal of Actual Structures/Obstruction	118.50	cu.m.	39,692.76	10.00	8.00	18.00	7,144.70	2,341.87	9,486.57	49,179.33	415.02
103(1)a	Structure Excavation	4,272.00	cu.m.	978,678.89	10.00	8.00	18.00	176,162.20	57,742.05	233,904.25	1,212,583.14	283.84
103(3)	Foundation Fill	16.50	cu.m.	34,397.58	10.00	8.00	18.00	6,191.56	2,029.46	8,221.02	42,618.60	2,582.95
103(6)a	Pipe Culverts and Drain Excavation	368.50	cu.m.	84,797.62	10.00	8.00	18.00	15,263.57	5,003.06	20,266.63	105,064.25	285.11
104(1)a	Embankment from Roadway Excavation	627.00	cu.m.	144,563.77	10.00	8.00	18.00	26,021.48	8,529.26	34,550.74	179,114.51	285.67
104(2)a	Embankment from Borrow	35,007.50	cu.m.	20,363,583.86	10.00	8.00	18.00	3,665,445.09	1,201,451.45	4,866,896.54	25,230,480.40	720.72
	TOTAL OF PART C			*21,645,714.47*				*3,896,228.61*	*1,277,097.15*	*5,173,325.76*	*26,819,040.23*	
PART F - BRIDGE CONSTRUCTION												
404(1)a	Reinforcing Steel	20,169.50	kg.	950,359.39	10.00	8.00	18.00	171,064.69	56,071.20	227,135.89	1,177,495.28	58.38
404(1)b	Reinforcing Steel	#######	kg.	16,652,845.28	10.00	8.00	18.00	2,997,512.15	982,517.87	3,980,030.02	20,632,875.30	61.11
405(1)a3	Structural Concrete, Class "A"	3,969.00	cu.m.	28,709,732.09	10.00	8.00	18.00	5,167,751.78	1,693,874.19	6,861,625.97	35,571,358.06	8,962.30
407(8)	Lean Concrete	188.50	cu.m.	1,032,585.50	10.00	8.00	18.00	185,865.39	60,922.54	246,787.93	1,279,373.43	6,787.13
	TOTAL OF PART E			*47,345,522.25*				*8,522,194.01*	*2,793,385.81*	*11,315,579.82*	*58,661,102.07*	
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES												
500(1)b3	Pipe Culverts	52.00	ln.m.	155,260.32	10.00	8.00	18.00	27,946.86	9,160.36	37,107.22	192,367.54	3,699.38
500(1)b6	Pipe Culverts	57.00	ln.m.	375,366.98	10.00	8.00	18.00	67,566.06	22,146.65	89,712.71	465,079.69	8,159.29
505(2)a	Grouted Riprap, Class "A"	4,825.00	cu.m.	16,046,085.16	10.00	8.00	18.00	2,888,295.33	946,719.02	3,835,014.35	19,881,099.52	4,120.44
506(1)	Stone Masonry	168.26	cu.m.	685,185.96	10.00	8.00	18.00	123,333.47	40,425.97	163,759.44	848,945.40	5,045.44
	TOTAL OF PART G			*17,261,898.42*				*3,107,141.72*	*1,018,452.01*	*4,125,593.72*	*21,387,492.15*	
	TOTAL			**88,639,863.26**				15,685,444.56	5,216,265.39	20,901,709.95	**109,541,573.22**	

Prepared by:

ISIDRA A. ESTANISLAO
Head, BAC Technical Working Group

Submitted by:

LEONCIO B. SOLAMILLO
Chief, Construction Division

Recommending Approval:

KHADAFFY D. TANGGOL
OIC - Assistant Regional Director

Approved by:

CAYAMOMBAO D. DIA
OIC - Regional Director

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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 - Classoom, 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.	1,320.70	4,622.45
	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	303.00	27,270.00
	b. Crushed Gravel	21.00	cu.m.	1,320.70	27,734.70
	c. Washed Sand	18.00	cu.m.	1,520.70	27,372.60
	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.	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	303.00	13,635.00
	c. Washed Sand	8.00	cu.m.	1,520.70	12,165.60
	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	181,143.37
	Sub-total for E (I + II + III)			P	331,997.37
F.	Direct Cost (C + E)				406,709.50
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		40,670.95
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		32,536.76
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		23,995.86
J.	Total Unit Cost				503,913.07

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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 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.	38.00	19,000.00
	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 - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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 Convinience 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 - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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 *(Folders, Bond Paper, Yellow Pads, Ball Pens, Pencil, Envelopes, etc.)*	1.00	L.S.	72,000.00	72,000.00
	Kitchenware *(Plates, Spoons & Forks, Glasses, etc.)*	1.00	L.S.	44,022.23	44,022.23
	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	8.03	mos.	3,000.00	24,100.00
	b. Water Bill	8.03	mos.	1,500.00	12,050.00
	c. LPG (11 kg)	8.03	mos.	1,000.00	8,033.33
	Sub-total for E			P	336,545.56
F.	Direct Cost (C + E)				336,545.56
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		26,923.64
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		18,173.46
J.	Total Unit Cost				381,642.66

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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: 8.03

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Driver	1	241	422.32	101,779.12
	Sub-total for A			P	101,779.12
	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)				101,779.12
D.	Output/day -	L.S./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Diesel	2,410.00	L	31.00	74,710.00
	b. Spare Parts	1.00	L.S.	60,000.00	60,000.00
	c. Engine Oil & Lubricants	1.00	L.S.	11,206.50	11,206.50
	d. Miscellaneous	1.00	L.S.	50,000.00	50,000.00
	Sub-total for E			P	195,916.50
F.	Direct Cost (C + E)				297,695.62
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	14,884.78
J.	Total Unit Cost				38,910.42

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: B.4(1) Construction Survey & Staking
Unit of Measurement: km.
Output per hour: 0.04
Quantity: 6.000

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Field Works				
	a. Geodetic Engineer	1	18.75	833.31	15,624.56
	b. Skilled Laborer	3	18.75	443.20	24,930.00
	c. Laborer	3	18.75	342.24	19,251.00
	For Office Works				
	a. Geodetic Engineer	1	56.25	833.31	46,873.69
	b. Skilled Laborer	2	56.25	443.20	49,860.00
	Sub-total for A			P	156,539.25
	Name and Capacity	No. of Equipment	No. of Days	Unit Cost	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Total Station w/ complete accessories	1	18.75	800.00	15,000.00
	Minor Tools 10% of Labor				15,653.93
	Sub-total for B			P	30,653.93
C.	Total (A+B)				187,193.18
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)	30.00	pc	400.00	12,000.00
	b. Blue Printing	150.00	pc	15.00	2,250.00
	Miscellaneous 5% of Materials Cost				712.50
	Sub-total for E			P	14,962.50
F.	Direct Cost (C + E)				202,155.68
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		20,215.57
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		16,172.45
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		11,927.18
J.	Total Unit Cost				41,745.15

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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 - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City
Item No./Description:	B.7 Occupation Safety and Health Program
Unit of Measurement:	month
Output per hour:	
Quantity:	8.03

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Safety Practioner	1	120.50	611.92	73,736.36
	b. First Aider	1	241.00	443.20	106,811.20
	Sub-total for A			P	180,547.56
	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)				240,547.56
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)				267,307.56
G.	Overhead, Contingencies and Miscellaneous		per D.O. 197, s. 2016		-
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		21,384.60
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		14,434.61
J.	Total Unit Cost				37,733.62

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, 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	1	5.00	12,296.00	61,480.00
	d. Bulldozer	1	5.00	27,032.00	135,160.00
	e. DumpTruck	3	5.00	11,360.00	170,400.00
	f. Payloader	1	5.00	13,864.00	69,320.00
	g. Motorized Grader	1	5.00	17,384.00	86,920.00
	h. Vibratory Roller	1	5.00	14,768.00	73,840.00
	Sub-total for B			P	865,335.00
C.	Total (A+B)				865,335.00
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)				865,335.00
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	43,266.75
J.	Total Unit Cost				908,601.75

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City
Item No./Description:	101(6) Removal of Actual Structures/Obstruction
Unit of Measurement:	cu.m.
Output per hour:	10.00 cu.m./hr.
Quantity:	118.50 cu.m.

	Designation		No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor					
	a. Const. Foreman		1	1.48	611.92	906.41
	b. Unskilled Labor		2	1.48	342.24	1,013.89
	Sub-total for A				P	1,920.29
	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	0.74	15,984.80	11,838.74
	b. Backhoe (0.80 cu.m.) - for loading		1	0.74	12,296.00	9,106.73
	c. Dump Truck (12 cu.yd.)		1	1.48	11,360.00	16,827.00
	Sub-total for B				P	37,772.47
C.	Total (A+B)					39,692.76
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)					39,692.76
G.	Overhead, Contingencies and Miscellaneous			10% per D.O. 197, s. 2016		3,969.28
H.	Contractor's Profit(CP)			8% per D.O. 197, s. 2016		3,175.42
I.	Value Added Tax (VAT)			5% per D.O. 197, s. 2016		2,341.87
J.	Total Unit Cost					415.02

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City
Item No./Description:	103(1)a Structure Excavation
Unit of Measurement:	cu.m.
Output per hour:	20.00
Quantity:	4,272.00

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	26.70	611.92	16,338.26
	b. Unskilled Labor	3	26.70	342.24	27,413.42
	Sub-total for A			P	43,751.69
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	26.70	11,360.00	606,624.00
	b. Backhoe (0.80 cu.m.)	1	26.70	12,296.00	328,303.20
	Sub-total for B			P	934,927.20
C.	Total (A+B)				978,678.89
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)				978,678.89
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		97,867.89
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		78,294.31
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		57,742.05
J.	Total Unit Cost				283.84

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 103(3) Foundation Fill
Unit of Measurement: cu.m.
Output per hour: 1.25
Quantity: 16.50

For RCPC Beddings

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	1.65	611.92	1,009.67
	b. Unskilled Labor	4	1.65	342.24	2,258.78
	Sub-total for A			P	3,268.45
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Plate Compactor (5 hp)	1	1.65	984.00	1,623.60
	b. Water Truck/Pump (16000 L)	1	0.02	19,600.00	323.40
	Minor Tools 10% of Labor Cost				326.85
	Sub-total for B			P	2,273.85
C.	Total (A+B)				5,542.30
D.	Output/day 10.00	cu.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Filling Materials (well-graded sand)	18.98	cu.m.	1,520.70	28,855.28
	Sub-total for E			P	28,855.28
F.	Direct Cost (C + E)				34,397.58
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		3,439.76
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		2,751.81
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		2,029.46
J.	Total Unit Cost				2,582.95

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 103(6)a Pipe Culverts and Drain Excavation
Unit of Measurement: cu.m.
Output per hour: 20.00
Quantity: 368.50

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	2.30	611.92	1,409.33
	b. Unskilled Labor	3	2.30	342.24	2,364.66
	Sub-total for A			P	3,773.99
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Dump Truck (12 cu.yd.)	2	2.30	11,360.00	52,327.00
	b. Backhoe (0.80 cu.m.)	1	2.30	12,296.00	28,319.23
	Minor Tools 10% of Labor Cost				377.40
	Sub-total for B			P	81,023.62
C.	Total (A+B)				84,797.62
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)				84,797.62
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		8,479.76
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		6,783.81
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		5,003.06
J.	Total Unit Cost				285.11

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City
Item No./Description:	104(1)a Embankment from Roadway Excavation
Unit of Measurement:	cu.m.
Output per hour:	50.00
Quantity:	627.00

Compacted Volume

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	For Excavation Work				
	a. Const. Foreman	1	1.30	611.92	796.12
	c. Unskilled Laborer	2	1.30	342.24	890.53
	Spreading and Compaction				
	a. Const. Foreman	1	1.57	611.92	959.18
	c. Unskilled Laborer	2	1.57	342.24	1,072.92
	Sub-total for A			P	3,718.76
	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	1.30	27,032.00	35,169.31
	b. Payloader (1.50 cu.m.)	1	1.30	13,864.00	18,037.41
	c. Dump Truck (12 cu.yd.)	2	1.30	11,360.00	29,559.29
	Spreading and Compaction				
	a. Motorized Road Grader (140 hp), G170A	1	1.57	17,384.00	27,249.42
	b. Vibratory Roller (10 mt), SD100C	1	1.57	14,768.00	23,148.84
	c. Water Truck/Pump (16000 L)	1	0.39	19,600.00	7,680.75
	Sub-total for B			P	140,845.02
C.	Total (A+B)				144,563.77
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)				144,563.77
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		14,456.38
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		11,565.10
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		8,529.26
J.	Total Unit Cost				285.67

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 104(2)a Embankment from Borrow
Unit of Measurement: cu.m.
Output per hour: 150.00
Quantity: 35,007.50 *Compacted Volume*

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	29.17	611.92	17,851.49
	b. Leadman	3	29.17	561.36	49,129.53
	c. Unskilled Laborer	6	29.17	342.24	59,904.83
	used triple gang of labor and equipment				
	Sub-total for A			P	126,885.85
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Motorized Road Grader (140 hp), G170A	3	29.17	17,384.00	1,521,425.95
	b. Vibratory Roller (10 mt), SD100C	3	29.17	14,768.00	1,292,476.90
	c. Water Truck/Pump (16000 L)	3	7.29	19,600.00	428,841.88
	Sub-total for B			P	3,242,744.73
C.	Total (A+B)				3,369,630.58
D.	Output/day 1,200.00	cu.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Common Borrow (with 25% Shrinkage Factor)	43,759.38	cu.m.	388.35	16,993,953.28
	Sub-total for E			P	16,993,953.28
F.	Direct Cost (C + E)				20,363,583.86
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		2,036,358.39
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		1,629,086.71
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,201,451.45
J.	Total Unit Cost				720.72

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME:	Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City
Item No./Description:	404(1)a Reinforcing Steel
Unit of Measurement:	kg.
Output per hour:	180.00
Quantity:	20,169.50

Grade 40, For ties at Cantilever Wall

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	14.01	611.92	8,570.92
	b. Skilled Labor	2	14.01	443.20	12,415.45
	c. Unskilled Labor	8	14.01	342.24	38,348.94
	Sub-total for A			P	59,335.31
	Name and Capacity	**No. of Equipment**	**No. of Days**	**Daily Rate**	**Amount**
B.	Equipment, (2014 ACEL Rates)				
	a. Bar Cutter	1	7.00	1,758.00	12,311.80
	b. Bar Bender	1	7.00	2,812.00	19,693.28
	c. Cargo Truck (9 - 10 mt.)	1	2.10	9,696.00	20,371.20
	Sub-total for B			P	52,376.27
C.	Total (A+B)				111,711.58
D.	Output/day 1,440.00	In.m./day			
	Name and Specifications	**Quantity**	**Unit**	**Unit Cost**	**Amount**
E.	Materials				
	a. Tie Wire (2% of RSB)	423.56	kg.	80.00	33,884.76
	b. Reinforcing Steel Bar, Grade 40 (with 5% wastage)	21,177.98	kg.	38.00	804,763.05
	Sub-total for E			P	838,647.81
F.	Direct Cost (C + E)				950,359.39
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		95,035.94
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		76,028.75
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		56,071.20
J.	Total Unit Cost				58.38

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 404(1)b Reinforcing Steel
Unit of Measurement: kg.
Output per hour: 540.00
Quantity: 337,613.50

Grade 60, Reinforcing Bars for Cantilever Wall

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	78.15	611.92	47,822.33
	b. Leadman	3	78.15	561.36	131,613.00
	c. Skilled Labor	6	78.15	443.20	207,819.87
	d. Unskilled Labor	24	78.15	342.24	641,915.80
	use triple gang of labor and equipment				
	Sub-total for A			P	1,029,170.99
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Bar Cutter	3	39.08	1,758.00	206,084.91
	b. Bar Bender	3	39.08	2,812.00	329,642.07
	c. Cargo Truck (9 - 10 mt.)	3	11.72	9,696.00	340,989.64
	Sub-total for B			P	876,716.61
C.	Total (A+B)				1,905,887.60
D.	Output/day 4,320.00	ln.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Tie Wire (2% of RSB)	7,089.88	kg.	80.00	567,190.68
	b. Reinforcing Steel Bar, Grade 40 (with 5% wastage)	354,494.18	kg.	40.00	14,179,767.00
	Sub-total for E			P	14,746,957.68
F.	Direct Cost (C + E)				16,652,845.28
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		1,665,284.53
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		1,332,227.62
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		982,517.87
J.	Total Unit Cost				61.11

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 405(1)a3 Structural Concrete, Class "A"
Unit of Measurement: cu.m.
Output per hour: 5.60
Quantity: 3,969.00

For Cantilever Wall (20.68 Mpa, 28 days)

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	88.59	611.92	54,212.29
	b. Leadman	4	88.59	561.36	198,931.95
	c. Skilled Labor	16	88.59	443.20	628,236.00
	d. Unskilled Labor	32	88.59	342.24	970,250.40
	Installation/Removal of Formworks				
	a. Leadman	4	88.59	561.36	198,931.95
	b. Skilled Labor	16	88.59	443.20	628,236.00
	c. Unskilled Labor	32	88.59	342.24	970,250.40
	use quadruple labor and equipment				
	Sub-total for A			P	3,649,048.99
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	4	88.59	1,376.00	487,620.00
	b. Concrete Vibrator	4	88.59	730.00	258,693.75
	c. Water Truck/Pump (16000 L)	4	8.86	19,600.00	694,575.00
	Minor Tools 5% of Labor				182,452.45
	Sub-total for B			P	1,623,341.20
C.	Total (A+B)				5,272,390.19
D.	Output/day 44.80	ln.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Lumber, Good - 4 uses	277,830.00	bd.ft.	37.00	2,569,927.50
	b. Marine Plywood (1/2" x 4' x 8') - 4 uses	6,350.40	pc.	880.00	1,397,088.00
	c. Assorted CWN (1kg./100 bd.ft. of Lumber)	2,778.30	kg.	65.00	180,589.50
	d. Cement	37,705.50	bag	284.00	10,708,362.00
	e. Sand	1,984.50	cu.m.	1,641.40	3,257,358.30
	f. Gravel	3,969.00	cu.m.	1,341.40	5,324,016.60
	Sub-total for E			P	23,437,341.90
F.	Direct Cost (C + E)				28,709,732.09
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		2,870,973.21
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		2,296,778.57
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		1,693,874.19
J.	Total Unit Cost				8,962.30

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 407(8) Lean Concrete
Unit of Measurement: cu.m.
Output per hour: 1.40
Quantity: 188.50

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	16.83	611.92	10,298.83
	b. Skilled Labor	1	16.83	443.20	7,459.21
	c. Unskilled Labor	2	16.83	342.24	11,520.04
	Sub-total for A			P	29,278.09
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	16.83	1,376.00	23,158.57
	b. Concrete Vibrator	1	16.83	730.00	12,286.16
	c. Water Truck	1	1.68	19,600.00	32,987.50
	Sub-total for B			P	68,432.23
C.	Total (A+B)				97,710.32
D.	Output/day 11.20	kg./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Portland Cement	1,790.75	bag	303.00	542,597.25
	b. Sand	94.25	cu.m.	1,520.70	143,325.98
	c. Gravel	188.50	cu.m.	1,320.70	248,951.95
	Sub-total for E			P	934,875.18
F.	Direct Cost (C + E)				1,032,585.50
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		103,258.55
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		82,606.84
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		60,922.54
J.	Total Unit Cost				6,787.13

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 500(1)b3 Pipe Culverts
Unit of Measurement: ln.m.
Output per hour: 1.00
Quantity: 52.00

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

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	3.71	611.92	2,267.16
	b. Skilled Labor	2	3.71	443.20	3,284.11
	c. Unskilled Labor	4	3.71	342.24	5,072.00
	Sub-total for A			P	10,623.27
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe (0.80 cu.m.)	1	1.89	12,296.00	23,177.96
	b. Plate Compactor (5 hp)	1	1.89	984.00	1,854.84
	Minor Tools 10% of Labor				1,062.33
	Sub-total for B			P	26,095.13
C.	Total (A+B)				36,718.40
D.	Output/day 8.00	ln.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	56.16	bag	303.00	17,016.48
	b. Sand	3.17	cu.m.	1,520.70	4,823.66
	c. RC Pipes (910 mm. dia.)	52.00	cu.m.	1,665.00	86,580.00
	d. Sand Bedding/Selected Sandy Soil	6.66	m.	1,520.70	10,121.78
	Sub-total for E			P	118,541.92
F.	Direct Cost (C + E)				155,260.32
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		15,526.03
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		12,420.83
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		9,160.36
J.	Total Unit Cost				3,699.38

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 500(1)b6 Pipe Culverts
Unit of Measurement: ln.m.
Output per hour: 1.00
Quantity: 57.00

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

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	5.70	611.92	3,487.94
	b. Skilled Labor	2	5.70	443.20	5,052.48
	c. Unskilled Labor	4	5.70	342.24	7,803.07
	Sub-total for A			P	16,343.50
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. Backhoe (0.80 cu.m.)	1	3.56	12,296.00	43,804.50
	b. Plate Compactor (5 hp)	1	3.56	984.00	3,505.50
	Minor Tools 10% of Labor				1,634.35
	Sub-total for B			P	48,944.35
C.	Total (A+B)				65,287.85
D.	Output/day 8.00	ln.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	97.47	bag	303.00	29,533.41
	b. Sand	5.53	cu.m.	1,520.70	8,407.95
	c. RC Pipes (1220 mm. dia.)	57.00	cu.m.	4,455.00	253,935.00
	d. Sand Bedding/Selected Sandy Soil	11.97	m.	1,520.70	18,202.78
	Sub-total for E			P	310,079.14
F.	Direct Cost (C + E)				375,366.98
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		37,536.70
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		30,029.36
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		22,146.65
J.	Total Unit Cost				8,159.29

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 505(2)a Grouted Riprap, Class "A"
Unit of Measurement: cu.m.
Output per hour: 5.00
Quantity: 4,825.00

For Slope Protection

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	120.63	611.92	73,812.85
	b. Leadman	4	120.63	561.36	270,856.20
	c. Skilled Labor	8	120.63	443.20	427,688.00
	d. Unskilled Labor	32	120.63	342.24	1,321,046.40
	use quadruple of labor and equipment				
	Sub-total for A			P	2,093,403.45
	Name and Capacity	**No. of Equipment**	**No. of Days**	**Daily Rate**	**Amount**
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	4	120.63	1,376.00	663,920.00
	b. Water Truck/Pump (16000 L)	4	6.03	19,600.00	472,850.00
	Minor Tools 5% of Labor				104,670.17
	Sub-total for B			P	1,241,440.17
C.	Total (A+B)				3,334,843.62
D.	Output/day 40.00	cu.m./day			
	Name and Specifications	**Quantity**	**Unit**	**Unit Cost**	**Amount**
E.	Materials				
	a. Cement	14,475.00	bag	303.00	4,385,925.00
	b. Sand	1,206.25	cu.m.	1,520.70	1,834,344.38
	c. Gravel	72.38	cu.m.	1,320.70	95,585.66
	d. Weep Holes (PVC)	1,447.50	m.	50.83	73,581.25
	e. Filter Cloth	72.38	sq.m.	160.00	11,580.00
	f. Boulders (15 - 25 kg.)	5,066.25	cu.m.	1,220.70	6,184,371.38
	Miscellaneous 1% of Materials Cost				125,853.88
	Sub-total for E			P	12,711,241.54
F.	Direct Cost (C + E)				16,046,085.16
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		1,604,608.52
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		1,283,686.81
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		946,719.02
J.	Total Unit Cost				4,120.44

DETAILED UNIT PRICE ANALYSIS

PROJECT NAME: Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City

Item No./Description: 506(1) Stone Masonry
Unit of Measurement: cu.m.
Output per hour: 1.60
Quantity: 168.26

For Slope Protection

	Designation	No. of Persons	No. of Days	Daily Rate	Amount
A.	Labor				
	a. Const. Foreman	1	13.15	611.92	8,043.88
	b. Skilled Labor	2	13.15	443.20	11,652.01
	c. Unskilled Labor	8	13.15	342.24	35,990.81
	Sub-total for A			P	55,686.70
	Name and Capacity	No. of Equipment	No. of Days	Daily Rate	Amount
B.	Equipment, (2014 ACEL Rates)				
	a. One Bagger Mixer	1	13.15	1,376.00	18,087.95
	b. Water Truck/Pump (16000 L)	1	0.66	19,600.00	12,882.41
	c. Backhoe (Wheel Type 0.28 cu.m.)	1	1.31	7,376.00	9,695.98
	Minor Tools 5% of Labor				2,784.33
	Sub-total for B			P	43,450.67
C.	Total (A+B)				99,137.37
D.	Output/day 12.80	cu.m./day			
	Name and Specifications	Quantity	Unit	Unit Cost	Amount
E.	Materials				
	a. Cement	925.43	bag	303.00	280,405.29
	b. Sand	50.48	cu.m.	1,520.70	76,761.89
	c. Gravel	3.37	cu.m.	1,320.70	4,444.42
	d. Weep Holes (PVC)	50.48	m.	50.83	2,565.97
	e. Filter Cloth	2.52	sq.m.	160.00	403.82
	f. Boulders	176.67	cu.m.	1,220.70	215,664.73
	Miscellaneous 1% of Materials Cost				5,802.46
	Sub-total for E			P	586,048.59
F.	Direct Cost (C + E)				685,185.96
G.	Overhead, Contingencies and Miscellaneous		10% per D.O. 197, s. 2016		68,518.60
H.	Contractor's Profit(CP)		8% per D.O. 197, s. 2016		54,814.88
I.	Value Added Tax (VAT)		5% per D.O. 197, s. 2016		40,425.97
J.	Total Unit Cost				5,045.44

PROJECT : Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Culianan - Patalon Section) Including Slope Protection, Zamboanga City
LOCATION : Zamboanga City
LIMITS : 1924+-580.00 - 1930+580.00 net length : 6,000.00 ln.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	331,997.37	40,670.95	32,536.76	23,995.86	503,913.07
A.1.1(11)	Provision of Furnitures/Fixtures, Equipment and Appliances for the Field Office for the Field Engineer	1.00	L.S.	-	-	336,545.56	-	26,923.64	18,173.46	381,642.66
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service Vehicle for the Engineer	8.03	month	101,779.12	-	195,916.50	-	-	14,884.78	312,580.40
	TOTAL OF PART A			144,375.60	32,115.65	864,459.43	40,670.95	59,460.40	57,054.10	**1,198,136.13**
PART B - OTHER GENERAL REQUIREMENTS										
B.4(1)	Construction Survey & Staking	6.00	km.	156,539.25	30,653.93	14,962.50	20,215.57	16,172.45	11,927.18	250,470.88
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	8.03	month	180,547.56	60,000.00	26,760.00	-	21,384.60	14,434.61	303,126.77
B.9	Mobilization & Demobilization	1.00	L.S.	-	865,335.00	-	-	-	43,266.75	908,601.75
	TOTAL OF PART B			340,566.01	955,988.93	49,222.50	21,313.49	38,435.39	70,276.32	**1,475,802.63**
PART C - EARTHWORKS										
101(6)	Removal of Actual Structures/Obstruction	118.50	cu.m.	1,920.29	37,772.47	-	3,969.28	3,175.42	2,341.87	49,179.33
103(1)a	Structure Excavation	4,272.00	cu.m.	43,751.69	934,927.20	-	97,867.89	78,294.31	57,742.05	1,212,583.14
103(3)	Foundation Fill	16.50	cu.m.	3,268.45	2,273.85	28,855.28	3,439.76	2,751.81	2,029.46	42,618.60
103(6)a	Pipe Culverts and Drain Excavation	368.50	cu.m.	3,773.99	81,023.62	-	8,479.76	6,783.81	5,003.06	105,064.25
104(1)a	Embankment from Roadway Excavation	627.00	cu.m.	3,718.76	140,845.02	-	14,456.38	11,565.10	8,529.26	179,114.51
104(2)a	Embankment from Borrow	35,007.50	cu.m.	126,885.85	3,242,744.73	16,993,953.28	2,036,358.39	1,629,086.71	1,201,451.45	25,230,480.40
	TOTAL OF PART C			183,319.03	4,439,586.88	17,022,808.56	2,164,571.45	1,731,657.16	1,277,097.15	**26,819,040.23**
PART F - BRIDGE CONSTRUCTION										
404(1)a	Reinforcing Steel	20,169.50	kg.	59,335.31	52,376.27	838,647.81	95,035.94	76,028.75	56,071.20	1,177,495.28
404(1)b	Reinforcing Steel	337,613.50	kg.	1,029,170.99	876,716.61	14,746,957.68	1,665,284.53	1,332,227.62	982,517.87	20,632,875.30
405(1)a3	Structural Concrete, Class "A"	3,969.00	cu.m.	3,649,048.99	1,623,341.20	23,437,341.90	2,870,973.21	2,296,778.57	1,693,874.19	35,571,358.06
407(8)	Lean Concrete	188.50	cu.m.	29,278.09	68,432.23	934,875.18	103,258.55	82,606.84	60,922.54	1,279,373.43
	TOTAL OF PART E			4,766,833.37	2,620,866.31	39,957,822.57	4,734,552.23	3,787,641.78	2,793,385.81	**58,661,102.07**
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES										
500(1)b3	Pipe Culverts	52.00	ln.m.	10,623.27	26,095.13	118,541.92	15,526.03	12,420.83	9,160.36	192,367.54
500(1)b6	Pipe Culverts	57.00	ln.m.	16,343.50	48,944.35	310,079.14	37,536.70	30,029.36	22,146.65	465,079.69
505(2)a	Grouted Riprap, Class "A"	4,825.00	cu.m.	2,093,403.45	1,241,440.17	12,711,241.54	1,604,608.52	1,283,686.81	946,719.02	19,881,099.52
506(1)	Stone Masonry	168.26	cu.m.	55,686.70	43,450.67	586,048.59	68,518.60	54,814.88	40,425.97	848,945.40
	TOTAL OF PART G			2,176,056.92	1,359,930.32	13,725,911.18	1,726,189.84	1,380,951.87	1,018,452.01	**21,387,492.15**
T O T A L				**7,611,150.93**	**9,408,488.09**	**71,620,224.24**	**8,687,297.95**	**6,998,146.61**	**5,216,265.39**	**109,541,573.22**

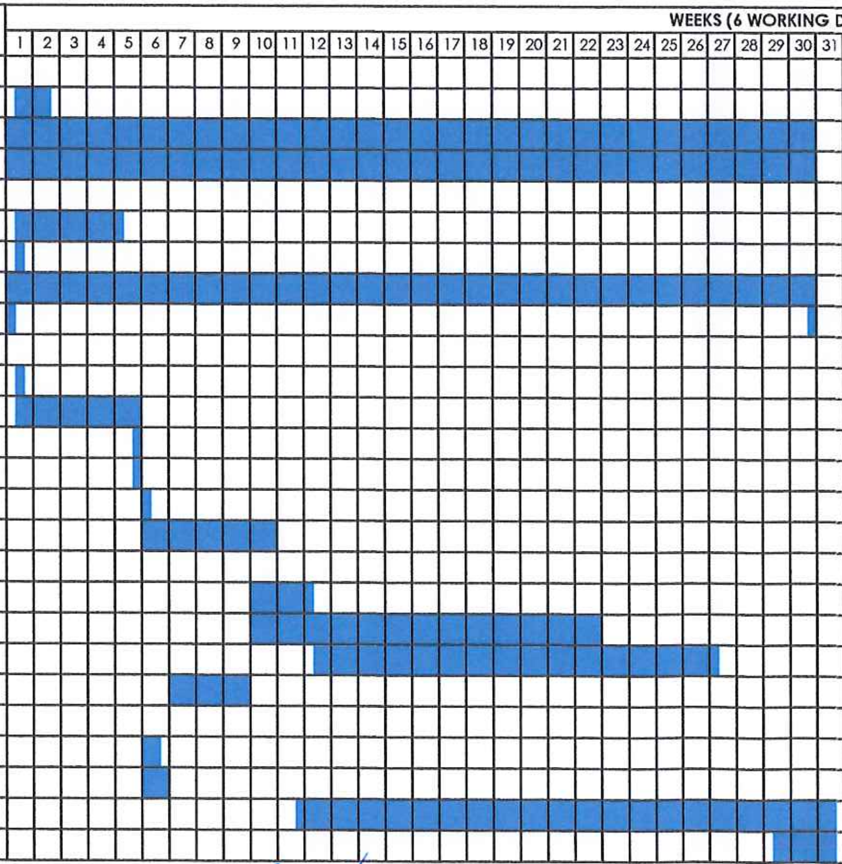
Name of Project : **Construction of By-Pass and Diversion Roads - Zamboanga City Bypass Road (Cullanan - Patalon Section) Including Slope Protection, Zamboanga City**

Station Limits : 1924+580.00 - 1930+580.00

Net Length : 6,000.00 ln.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.	241
A.1.2(5)	Operation and Maintenance of 4x4 Pick Up Type Service V	8.03	month	241
PART B - OTHER GENERAL REQUIREMENTS				
B.4(1)	Construction Survey & Staking	6.00	km.	56.25
B.5	Project Billboard/Signboard	2.00	each	2.00
B.7	Occupation Safety and Health Program	8.03	month	241
B.9	Mobilization & Demobilization	1.00	L.S.	5.00
PART C - EARTHWORKS				
101(6)	Removal of Actual Structures/Obstruction	118.50	cu.m.	1.48
103(1)a	Structure Excavation	4,272.00	cu.m.	26.70
103(3)	Foundation Fill	16.50	cu.m.	1.65
103(6)a	Pipe Culverts and Drain Excavation	368.50	cu.m.	2.30
104(1)a	Embankment from Roadway Excavation	627.00	cu.m.	1.57
104(2)a	Embankment from Borrow	35,007.50	cu.m.	29.17
PART F - BRIDGE CONSTRUCTION				
404(1)a	Reinforcing Steel	20,169.50	kg.	14.01
404(1)b	Reinforcing Steel	337,613.50	kg.	78.15
405(1)a3	Structural Concrete, Class "A"	3,969.00	cu.m.	88.59
407(8)	Lean Concrete	188.50	cu.m.	16.83
PART G - DRAINAGE AND SLOPE PROTECTION STRUCTURES				
500(1)b3	Pipe Culverts	52.00	ln.m.	3.71
500(1)b6	Pipe Culverts	57.00	ln.m.	5.70
505(2)a	Grouted Riprap, Class "A"	4,825.00	cu.m.	120.63
506(1)	Stone Masonry	168.26	cu.m.	13.15

WEEKS (6 WORKING DAYS)



TOTAL NO. OF WORKING DAYS	:	185
INCLEMENT WEATHER	:	31
NUMBER OF SUNDAYS	:	25
TOTAL NO. CALENDAR DAYS	:	**241**

Prepared by:

ELWICK P. ACUÑA
Engineer II

Submitted by:

LEONCIO B. SOLAMILLO
Chief, Construction Division

CAYAMOMBAO D. DIA
OIC - Regional Director

UNIT COST ANALYSIS FOR HAULING COST FOR PORTLAND CEMENT

TOTAL QUANTITY REQUIREMENTS FOR PORTLAND CEMENT

DESCRIPTION	**QUANTITY** (Bags)
Portland Cement Concrete Pavement	0.00
Pipe Culverts	56.16
Pipe Culverts	97.47
Grouted Riprap, Class "A"	14,475.00
Stone Masonry	925.43
Construction of Field Office for the Engineer	90.00
T O T A L	**15,644.06**

Quantity = **15,644.06** Bags

Delivery Charge = P 0.120 / bag / km.

S I T E	HAULING DISTANCE
Zamboanga City DEO	15.00
Batching plant	

*Average hauling distance from Source to assumed Stockpiling area :
say 15.00 km.

Delivery Charge = P 0.120 x 15.00
= P 1.80 / bag

*Delivery Truck : 15,644.06 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	=	$\frac{15.00 \times 60}{30.00}$	=	30.00 mins.		
Unloaded running	=	$\frac{15.00 \times 60}{40.00}$	=	22.50 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	:	100.50 mins.				
No. of trips for Dumptruck per day	=	$\frac{8.0 \times 60.00}{100.50}$	=	4.78	say	4.78 trip
Dumptruck daily output	=	500 x 4.78	=	2,388.06		cu.m.
Using (3) Dumptrucks	=	3 x 2388.06	=	7,164.18		cu.m.

1. No. of days for Delivery Truck	=	$\frac{15,644.06}{7,164.18}$	= 2.18	say	2.18	days
2. No. of days for Labor, for unloading	=	complimentary to D. Truck days		=	2.18	days

DELIVERY COST :

15,644.06	- Bags, Portland Cement	@ P	1.80	/ bag	= P	28,159.31
				Sub - Total	**P**	**28,159.31**

LABOR :

1	- Foreman	@ P	611.92 /day	x	2.18	days	= P	1,336.22
10	- Laborers, unloading	@ P	342.24 /day	x	2.18	days	= P	7,473.32
					Sub - Total		**P**	**8,809.54**

MATERIALS :

15,644.06	- Bags, Portland Cement	@ P	300.00	/ bag	= P	4,693,218.00
	(Pick-Up Price)			**Sub - Total**	**P**	**4,693,218.00**

Estimated Quantity		15,644.06 Bags			
Unit Cost	P	302.36 / Bag,	say	P	303.00 / Bag
Grand Total	P	4,730,186.85			
Delivery Cost	P	28,159.31			
Labor	P	8,809.54			
Materials	P	4,693,218.00			

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 $= \dfrac{5.00 \times 60}{30.00} = 10.00$ mins.

Unloaded running $= \dfrac{5.00 \times 60}{40.00} = 7.50$ 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 $= \dfrac{8 \times 60.00}{25.50} = 18.82$ 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 $= \dfrac{1{,}000.00}{941.18} = 1.06$ 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:	10.00	x	12.07	=	120.70	+	1,400.00	=	**1,520.70**
Cost of Coarse Aggregates:	10.00	x	12.07	=	120.70	+	1,200.00	=	**1,320.70**
Cost of Item 200 Materials:	10.00	x	12.07	=	120.70	+	680.00	=	**800.70**
Cost of Item 201 Materials:	10.00	x	12.07	=	120.70	+	680.00	=	**800.70**
Cost of Item 300 Materials:	10.00	x	12.07	=	120.70	+	735.00	=	**855.70**
Cost of Boulders:	10.00	x	12.07	=	120.70	+	1,100.00	=	**1,220.70**
Cost of Embankment, Common Borrow:	5.00	x	12.07	=	60.35	+	328.00	=	**388.35**