



Republic of the Philippines
Province of Nueva Ecija
Municipal of Talavera

OFFICE OF THE MUNICIPAL ENGINEERING

PROGRAM OF WORK/BUDGET COST
FOR ROADS AND BRIDGES

Name of Project: <i>Concreting Collado of Barangay Road</i>		Roadbed Width:	5.00 meters	
Brgy: <i>Collado</i>		Pavement Width:	5.00 meters	
Project No:	Bridge Width:			
Location: <i>Talavera, Nueva Ecija</i>	Type of Sub. Structure:			
Appropriation: <i>P</i>	<i>6,500,000.00</i>	Type of Superstructure:		
Classification:	No. of Span:			
Source of Fund:	No. of Pier:			
Limits:	Date Started:			
Net Length:	No. of days to Complete: <i>100.92</i> Calendar Days			
Road 1	<i>Sta: 0 + 00 sta 0 + 736</i>	<i>730 x 5m</i>		
Road 2	<i>Sta: 0 + 730 sta 0 + 943</i>	<i>213 x 4m</i>		
DESCRIPTION OF WORK TO BE DONE		% OF Total	EQUIPMENT DESCRIPTION/Nos.	
			1-Road Grader G710A	
			1-Concrete Breaker	
Subgrade Preparation		2.25%	1-Vibratory Roller	
Embankment		23.55%	1-Water Truck	
Aggregate Base Course		8.10%	1-Concrete Mixer	
PCCP (0.20m)		66.40%	1-Concrete Saw	
Construction Health and Safety		0.13%	1-Concrete Vibrator	
Project Billboard		0.06%	1- Payloader (1.50cu.m), L-80-2c.	
COA Project Billboard		0.13%	1- Dumptruck (10cu.m)	
Mobilization/Demobilization		1.38%	1- Concrete Scoeder	
			1- Backhoe (0.80 cu.m)	
		100.00%	ESTIMATED COST OF PROPOSED PROJECT	
Spec's ITEM NO.	DESCRIPTION	QUANTITY	DIRECT COST	
			UNIT COST	TOTAL
104	Embankment	cu.m. 1,857.85	824.03	1,530,913.69
105	Subgrade Preparation	sq.m. 4,502.00	32.55	146,519.83
200	Aggregate Sub-Base Course	cu.m. 450.20	890.21	396,270.09
311	PCCP (0.20m)	sq.m. 3,650.00	1,182.44	4,315,920.23
SPL1	Construction Health and Safety	L.S. 1.00	8,484.59	8,484.59
SPL2	Project Billboard	L.S. 1.00	3,871.20	3,871.20
SPL3	COA Billboard	L.S. 1.00	8,420.47	8,420.47
SPL4	Mobilization/Demobilization	L.S. 1.00	89,600.00	89,600.00
			TOTAL PROJECT COST:	6,500,000.00
BREAKDOWN ESTIMATED EXPENDITURES		% OF Total		
1. Labor	86,193.14	1.81	A. Direct Cost Sub-Total :	4,769,642.86
2. Materials:	3,813,004.22	79.94	B. Pre- Engineering	
3. Rental of Equipment:	870,445.50	18.25	C. G.C.M	476,964.29
Fuel Oil, Spare Parts / Maint. Of Equipment & Maint. Of Equipment			D. Constructor Profit	476,964.29
4. Others.			E. Vat:	686,828.57
5. Overhead			F. Project Supervision 3.5%:	
			G. B.I.R	
			H. Mob/Demob	89,600.00
6. TOTAL:	4,769,642.86	100.00	I. Total Estimated Cost :	6,500,000.00

PREPARED BY:

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Engineering Aide

CHECKED BY:

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ENGR: ALFREDO S. ATRAJE
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DETAILED UNIT PRICE ANALYSIS (DUPA)

Name of Work Item
Unit of Measurement
Output per hour

105 - Subgrade Preparation
4,502.00 Sq.m
300.00

Designation	No. of Person	No. of Hours	Hourly Rate	Amount
1. Labor				
a. Construction Foreman	1	1	95.10	95.10
b. Equipment Operator	4	1	69.01	276.04
c. Laborers	8	1	53.06	424.48
Sub Total for 1				795.62
Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
2. Equipment				
a. Motorized Road Grader	1	1	2,173.00	2,173.00
b. Vibratory Roller (10 m.t.),SP56	1	1	1,846.00	1,846.00
c. Water Truck (1,000 gal)	1	1	2,450.00	2,450.00
Sub Total for 2				6,469.00
Total (1+2)				7,264.62
Output per hour = 300.00 sq.m. per hour				
Unit Cost				24.22
Name and Specification	Unit	Quantity	Unit Cost	Amount
3. Materials				
Sub Total for 3				0.00
Unit Direct Cost:				24.22
OCM.			0.10	2.42
Contractor's Profit			0.10	2.42
Vat			0.12	3.49
Total Unit Cost				32.55

DETAILED UNIT PRICE ANALYSIS (DUPA)

Name of Work Item
Unit of Measurement
Output per hour

104 - Embankment
1,857.85 Cu.m
50.00

Designation	No. of Person	No. of Hours	Hourly Rate	Amount
1. Labor				
a. Construction Foreman	1	1	95.10	95.10
b. Skilled Operator	1	1	69.01	69.01
c. Laborers	2	1	53.06	106.12
Sub Total for 1				270.23
Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
2. Equipment				
a. Motorized Road Grader	1	1	2,173.00	2,173.00
b. Water Truck (1,000 gal)	1	0.25	2,450.00	612.50
Sub Total for 2				2,785.50
Total (1+2)				3,055.73
Output per hour = 50.00 cu.m. per hour				61.11
Unit Cost				61.11
Name and Specification	Unit	Quantity	Unit Cost	Amount
3. Materials				
Embankment with 15% shrinkage	cu.m	1.15	480.00	552.00
Sub Total for 3				552.00
Unit Direct Cost				613.11
OCM.			0.10	61.31
Contractor's Profit			0.10	61.31
Vat:			0.12	88.29
Total Unit Cost				824.03

DETAILED UNIT PRICE ANALYSIS (D U P A)

Name of Work Item
Unit of Measurement
Output per hour

200 - Aggregate Sub-base Coarse
450.20 Cu.m
50.00

Designation	No. of Person	No. of Hours	Hourly Rate	Amount
1. Labor				
a. Construction Foreman	1	1	95.10	95.10
b. Equipment Operator	3	1	69.01	207.03
b. Laborers	4	1	53.06	212.24
Sub Total for 1				514.37
Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
2. Equipment				
a. Motorized road Grader (G710a)	1	1	2,173.00	2,173.00
b. Vibratory Roller (10.00 MT), SP58	1	1	1,346.00	1,346.00
c. Water Truck (1,000 gal)	1	0.25	2,450.00	612.50
Sub Total for 2				4,631.50
Total (1+2)				5,145.87
Output per hour = 50.00 cu. m. per hour				
Unit Cost				102.92
Name and Specification	Unit	Quantity	Unit Cost	Amount
3. Materials				
Aggregate Base Coarse with 15% shrinkage	cu.m	1.15	480.00	552.00
Sub Total for 3				552.00
Unit Direct Cost				654.92
OCM.			0.10	65.49
Constructor's Profit.			0.10	65.49
Vat			0.12	94.31
Total Unit Cost				880.21

DETAILED UNIT PRICE ANALYSIS (DUPA)

Name of Work Item
Unit of Measurement
Output per hour

311 - PCCP (Conventional Method) (thickness = 0.20m)
3,650.00 Sq.m
70.00

Designation	No. of Person	No. of Hours	Hourly Rate	Amount
1. Labor				
a. Construction Foreman	1	1	95.10	95.10
b. Skilled Laborers	4	1	69.01	276.04
c. Laborers	12	1	53.06	636.72
Sub Total for 1				1007.86
Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
2. Equipment				
a. Transit Mixer	4	1	1,318.00	5,272.00
b. Concrete Vibrator	2	1	91.25	182.50
c. Blatching Plant (30 cu.m)	1	1	1,759.50	1,759.50
d. Payloader (1.50 cu.m), 1x80-2c	1	1	1,733.00	1,733.00
e. Concrete Screeder (5.5 hp)	1	1	545.00	545.00
f. Water Truck (1,000 gal)	1	1	2,450.00	2,450.00
	1	1	32.63	32.63
h. Bar Cutter Single Phase	1	0.1	219.75	21.98
i. Minor Tools (5% of Labor)				50.39
Sub Total for 2				12,047.00
Total (1+2)				13,054.86
Output per /day = 70.00 sq.m. per day				
Unit Cost				186.50
Name and Specification	Unit	Quantity	Unit Cost	Amount
3. Materials				
a. Reinforcing Steel Bars	kgs.	0.39	40.00	15.60
b. Curing Compound	lit.	0.29	80.00	23.20
c. Asphalt Sealant	lit.	0.12	46.00	5.52
d. Forms (Rental)	l.m.	0.45	54.00	24.30
e. Sand	cu.m.	0.11	420.00	46.20
f. Gravel	cu m	0.20	500.00	100.00
g. Cement	bags	1.90	250.00	475.00
h. Concrete Saw (Diamond Blade 14")	Pc	0.00017	8,000.00	1.36
i. Pipe Sleeve, 1 1/2" Dia.	L.m.	0.0086	83.33	0.72
j. Grease / Tar.	L.t	0.0056	250.00	1.4
Sub Total for 3				593.30
Unit Direct Cost				879.79
OCM.			0.10	87.98
Contractor's Profit			0.10	87.98
Vat			0.12	126.69
Total Unit Cost				1,182.44

DETAILED UNIT PRICE ANALYSIS (DUPA)

Name of Work Item
Unit of Measurement
Output per day

SPL(1)- Construction Safety And Health
L.s.
1.00

Quantity 1.00
Unit L.s.

Designation	No. of Person	No. of Days	Daily Rate	Amount
1. Labor				
a. First Aider	1	9	480.00	4,320.00
b. Part Time Practitioner	1	2	552.00	1,104.00
Sub Total for 1				5,424.00
Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
2. Equipment				
Sub Total for 2				0.00
Total (1+2)				5,424.00
Output per day				
Unit Cost				
Name and Specification	Unit	Quantity	Unit Cost	Amount
3. Materials				
a. Safety Shoes	manday	72	4.02	288.42
b. Safety Gloves	manday	72	8.00	573.97
c. Safety Helmet	manday	72	0.37	26.55
Sub Total for 3				888.94
Unit Direct Cost				6,312.94
OCM.			0.10	631.29
Contractor's Profit			0.10	631.29
Val			0.12	909.96
Total Unit Cost				8,494.59

DETAILED UNIT PRICE ANALYSIS (DUPA)

Name of Work Item
Unit of Measurement
Output per day

SPL(2) - Project Billboard
L.s.
1.00

Quantity 1.00
Unit l.s.

Designation	No. of Person	No. of Days	Daily Rate	Amount
1. Labor				
a. Construction Foreman	1	1	95.10	95.10
b. Skilled Laborer	1	2	69.01	138.02
c. Laborer	2	2	53.06	212.24
Sub Total for 1				445.36
Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
2. Equipment				
Sub Total for 2				0.00
Total (1+2)				445.36
Output per day	1.00 L.m			
Unit Cost				
Name and Specification	Unit	Quantity	Unit Cost	Amount
3. Materials				
a. Tarpaulin	Sq.m	32.00	40.00	1,280.00
b. Frame (Ordinary Lumber)	Bd/ft	24.00	45.00	1,080.00
c. CWN Assorted	Kg.	1.00	75.00	75.00
Sub Total for 3				2,435.00
Unit Direct Cost				2,880.36
OCM.			0.10	288.04
Contractor's Profit			0.10	288.04
Vat			0.12	414.77
Total Unit Cost				3,871.20

DETAILED UNIT PRICE ANALYSIS (DUPA)

Item No./ Description:

SPL (3) COA BILLBOARD

Unit of Measurement:

1.00 Pcs

Output per manday:

1.00

A.	Designation	No. of Person	No. of Hours	Hourly Rate	Amount
	Labor				
	a. Construction Foreman	1	1	95.10	95.10
	b. Skilled Laborer	1	1	69.01	69.01
	c. Laborer	2	1	53.06	106.12
	Sub-Total for A				270.23
B.	Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
	Equipment				
	Sub-Total for B				0.00
C.	Total (A+B)				270.23
D.	Output per hour	1.00 = pcs			
E.	Direct Unit Cost (C + D)				270.23
F.	Name and Specification	Unit	Quantity	Unit Cost	Amount
	Materials				
	a. Tarpaulin	sq.ft	64	50.00	3,200.00
	b. Lumber, Braces and Frame (Cocolumber)	bd.ft	80	25.00	2,000.00
	c. CWN Assorted	kg.	1	75.00	75.00
	d. Marine Plywood	pc.	2	360.00	720.00
	Sub-Total for F				5,995.00
G.	Direct Cost (E+F)				6,265.23
H.	Overhead, Contigencies and Miscellaneous (OCM)			10% of G	626.52
I.	Contractor's Profit (CP)			10% of G	626.52
J.	Value Added Tax (VAT)			12% of (G+H+I)	902.19
K.	Total Unit Cost			(G+H+I+J)	8,420.47

DETAILED UNIT PRICE ANALYSIS (DUPA)

Item No./ Description:
Unit of Measurement:
Output per day

SPL (4) Mobilization/Demobilization
1.00 L.S

A.	Designation	NoofPerson	No. of Hours	Hourly Rate	Amount
		Labor			
	Sub-Total for A				0.00
B.	Name and Capacity	No. of Units	No. of Hours	Hourly Rate	Amount
	Equipment				
	a. Pay Loader (1.50 Cu.m)	1	1		
	b. Dump Truck (10Cu.m)	1	1		
	c. Road Grader G710A.	1	1		
	d. Water Truck (1000Gals)	1	1		
	e. Vib Road Roller (10M.T) SP56	1	1		
	f. Concrete Vibrator	1	1		
	g. Bar Cutter, Single Phase.	1	1		
	h. Concrete Screeder.	1	1		
	i. Concrete Mixer.	1	1		
	j. Backhoe (0,80cu.m).	1	1		
	Sub-Total for B				80,000.00
C.	Total (A+B)				80,000.00
D.	Output per day	1.00			
E.	Direct Unit Cost (C / D)				80,000.00
F.	Name and Specification	Unit	Quantity	Unit Cost	Amount
	Materials				
	Sub-Total for F				0.00
G.	Direct Cost (E+F)				80,000.00
H.	Overhead, Contingencies and Miscellaneous (OCM)				
I.	Contractor's Profit (CP)				
J.	Value Added Tax (VAT)			12% of (G+H+I)	9,600.00
K.	Total Unit Cost			(G+H+I+J)	89,600.00

BACK-UP COMPUTATION

ROAD 1
 LENGTH 730.00
 WIDTH 5.00
 THK 0.20

ROAD 1
 LENGTH 213.00 Ln.m
 WIDTH 4.00 m
 THK 0.20 m

AREA OF CONCRETE PAVEMENT:

Area1=	730.00	5.00	)	=	3,650.00 sq.m.
Area1=	213.00	4.00	)	=	852.00 sq.m.
				total area :	<u>4,502.00</u> sq.m.

Item 105 - Sub - Grade Preparation

Area=	730.00	5.00	)		3,650.00 sq.m
Area=	213.00	4.00	)		852.00 sq.m
				total Area :	<u>4,502.00</u> sq.m

Item 104 - Embankment

Vol: roadbed=	730.00	5.00	0.20	)	730.00 cu.m.
Vol: roadbed=	213.00	4.00	0.20	)	170.40 cu.m.
Vol: Shoulder=	730.00	1.31	1.00	)	957.45 cu.m.
				total vol :	<u>1,857.85</u> cu.m.

Item 201 - Aggregate Sub- Base Coarse

Vol: Roadbed=	730.00	5.00	0.10	)	365.00 cu.m.
Vol: Roadbed=	213.00	4.00	0.10	)	85.20 cu.m.
				total vol :	<u>450.20</u> cu.m.

Item 311 - Portland Cement Concrete Pavement

Area=	730.00	5.00	)		<u>3,650.00</u> sq.m.
				total area :	3,650.00 sq.m.