

Republic of the Philippines
DEPARTMENT OF NATIONAL DEFENSE
GOVERNMENT ARSENAL
Camp General Antonio Luna
Lima, Bataan

May 10, 2023

DWG. NO: CMS-2023-007

IMPROVEMENT OF SLOPE PROTECTION ✓ AT NEW COMPOSITION BUILDING, PRIMER PLANT

LOCATION: NEW COMPOSITION BUILDING

END USER: EXPLOSIVE DIVISION

ESTIMATED PROJECT COST: Php 1,110,000.00

ATTACHMENTS:

1. PROGRAM OF WORKS:

ARTICLE I: STATEMENT OF WORK
ARTICLE II: SCOPE OF WORKS
ARTICLE III: SPECIFICATIONS
ARTICLE IV: COMPLETION

2. BILL OF QUANTITIES

3. DETAILED ESTIMATE

4. APPROVED BUDGET FOR CONTRACT (ABC)

5. WORKING DRAWINGS

Republic of the Philippines
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Camp General Antonio Luna
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**IMPROVEMENT OF SLOPE PROTECTION AT NEW
COMPOSITION BUILDING, PRIMER PLANT**

ARTICLE I – STATEMENT OF WORK

- A. The work covered by this specification consists of the supply of labor, materials, consumables, tools/instruments, equipment, supervision, and other services required to complete the IMPROVEMENT OF SLOPE PROTECTION AT NEW COMPOSITION BUILDING, PRIMER PLANT project, all in accordance with Articles I, II, III, and IV of this Job Specification.
- B. The work shall be undertaken at Government Arsenal, Camp General Antonio Luna, Lamao, Lima, Bataan.

ARTICLE II – SCOPE OF WORK

- A. The scope of work for this Job Specification and Contract Agreement encompasses all efforts necessary to complete the construction and commissioning of facilities for the IMPROVEMENT OF SLOPE PROTECTION AT NEW COMPOSITION BUILDING, PRIMER PLANT project. The Contractor shall provide all materials and consumables, labor, tools/instruments, equipment, supervision, and other services required and perform all work necessary for the complete execution of all the work.
- B. The work and specifications shall include but not limited to the following:
 - 1. Mobilization / Demobilization
 - 2. Provision for Safety and Health Program
 - 3. Site Preparation
 - a. Clearing of vegetation
 - b. Cutting of trees

- c. Improvement of slope by excavation
- 4. Slope Protection
 - a. Installation of erosion control mat
 - b. Riprapping works
 - c. Installation of weep holes
 - d. Plaster smooth finished
 - e. Painting of riprap surface
- 5. Clean-up
 - a. Hauling and clean-up of debris and waste materials outside GA (no scrap value)

The Contractor shall furnish other work not explicitly cited in the drawings and specifications but is reasonably implied and required for the completion of the work under the Job Specification such as housekeeping/clean-up of the work site at all times, restoration of damaged facilities and equipment affected during the performance of the above work.

ARTICLE III – SPECIFICATIONS

- 1. Concrete – shall have a design strength of 2500 psi @ 28 days (testing of concrete samples required)
- 2. Riprap
 - a. Ratio – shall be 60% boulders to 40% cement mortar
 - b. Boulder – shall be 30 cm diameter or head size
 - c. Soil erosion mat – shall be Erosion control geotextile, woven, polypropylene, 12.50ft – W, 432.00ft /roll – L
 - d. Weep hole – shall be 2" diameter PVC pipe x 0.60 m spaced as per plan
 - e. Surface – shall be plastered to smooth finish
 - f. Painting – shall be painted with 2 coats of Latex paint, color: white

ARTICLE IV – COMPLETION

The project shall be completed not more than [✓]120 CALENDAR days.

Prepared by:


ENGR. LOUISE ANTOLYNIVE C DE GUZMAN, CE
Civil Engineer, CMS

Checked by:


ENGR. RYAN RAY M SANTOS, CE
Chief, CMS

Recommend Approval:


ENGR. ABELARDO GERRARD P MENDOZA III, ME
Superintendent, Engineering Division

Concur / Not Concur:


ARNOLD RAFAEL Y DEPAKAKIBO
Assistant Director

Approved by:


GERRY P AMANTE
Director

Republic of the Philippines
ARSENAL, DND
Camp General Antonio Luna
Lamiao, Limay, Bataan

May 10, 2023

BILL OF QUANTITIES
LABOR AND MATERIALS FOR THE IMPROVEMENT OF SLOPE PROTECTION
AT NEW COMPOSITION BUILDING, PRIMER PLANT

ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	UNIT COST	TOTAL COST
1	MOBILIZATION / DEMOBILIZATION	1.00	lot	12,500.00	12,500.00
2	PROVISION ON HEALTH AND SAFETY	1.00	lot	35,000.00	35,000.00
3	SITE PREPARATION	1.00	lot	144,172.00	144,172.00
	A. Clearing of vegetation	313.64	sq m		
	B. Cutting of trees	1.00	lot		
	C. Improvement of slope by excavation	264.04	cu m		
4	SLOPE PROTECTION	1.00	lot	646,032.80	646,032.80
	A. Installation of erosion control mat	98.24	m		
	B. Riprapping works	106.93	cu m		
	C. Installation of weep holes	6.00	set		
	D. Plaster smooth finished	313.64	sq m		
	E. Painting of riprap surface	313.64	sq m		
5	CLEAN UP	1.00	lot	25,000.00	25,000.00
	A. Hauling and clean-up of debris and waste materials outside GA (no scrap value)	1.00	lot		

***Use 5% Tax / EVat**

Prepared by:


ENGR. LOIUSE ANTOLYNIVE C DE GUZMAN, CE
Civil Engineer, CMS


Checked by :


ENGR. RYAN RAY M SANTOS, CE
Chief, CMS

Recommend Approval:


ENGR ABELARDO GERRARD P MENDOZA III, ME
Superintendent, Eng'g. Div


Concur / Not Concur:


ARNOLD RAFAEL Y DEPAKAKIBO
Assistant Director

Approved by:


GERRY P AMANTE
Director

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ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	UNIT COST	TOTAL COST
1	MOBILIZATION / DEMOBILIZATION	1.00	lot	12,500.00	12,500.00
2	PROVISION ON HEALTH AND SAFETY	1.00	lot	35,000.00	35,000.00
	LABOR COST				
	EQUIPMENT COST				
3	SITE PREPARATION	1.00	lot	144,172.00	144,172.00
	<i>A. CLEARING OF VEGETATION</i>				
	Vegetation Area	313.64	sq m		
	LABOR COST	313.64	sq m		
	EQUIPMENT COST				
	<i>B. CUTTING OF TREES</i>				
	No. of trees to be cut	1.00	lot		
	LABOR COST	12.00	trees		
	EQUIPMENT COST				
	<i>C. IMPROVEMENT OF SLOPE BY EXCAVATION</i>				
	Excavation Volume	264.04	cu m		
	LABOR COST	264.04	cu m		
	EQUIPMENT COST				
4	SLOPE PROTECTION	1.00	lot	646,032.80	646,032.80
	<i>A. INSTALLATION OF EROSION CONTROL MAT</i>				
	Erosion control geotextile, woven, polypropylene, 12.50ft	98.24	m		
	- W, 432.00ft /roll - L	1.00	roll		
	Accessories	1.00	lot		
	LABOR COST				
	<i>B. RIPRAPPING WORKS</i>				
	Boulders, head size	106.93	cu m		
	Cement	70.57	cu m		
	Sand, washed	494.00	bag		
	LABOR COST	24.00	cu m		
	<i>C. INSTALLATION OF WEEP HOLES</i>				
	PVC pipe, 2" dia x 10', sch 40	6.00	set		
	Gravel 3/4", crushed	2.00	pc		
	LABOR COST	1.00	cu m		
	<i>D. PLASTER SMOOTH FINISHED</i>				
	Cement	313.64	sq m		
	Sand, washed	233.00	bag		
	LABOR COST	13.00	cu m		

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AT NEW COMPOSITION BUILDING, PRIMER PLANT

ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	UNIT COST	TOTAL COST
	<i>E. PAINTING OF RIPRAP SURFACE</i>	313.64	sq m		
	Latex paint, white	32.00	gal		
	Paint roller #6	5.00	pc		
	Paint brush 4"	10.00	pc		
	LABOR COST				
5	CLEAN UP	1.00	lot	25,000.00	25,000.00
	<i>HAULING AND CLEAN-UP OF DEBRIS AND WASTE</i>	1.00	lot		
	<i>MATERIALS OUTSIDE GA (NO SCRAP VALUE)</i>				
	LABOR COST				
	EQUIPMENT COST				
TOTAL DIRECT COST¹					790,204.80
TOTAL INDIRECT COST²					270,051.20
	a. MOBILIZATION / DEMOBILIZATION COST				12,500.00
	b. PROVISION ON HEALTH AND SAFETY COST				35,000.00
	c. CLEAN UP COST				25,000.00
	d. MARK-UP (25% of DIRECT COST ¹) ³ (10% Profit + 15% OCM)				197,551.20
TAX/EVAT(5% OF ¹⁺³)					49,387.80
TOTAL PROJECT COST					1,109,643.80
SAY					1,110,000.00

Prepared by:

ENGR. LOIUSE ANTOLYNIVE C DE GUZMAN, CE
Civil Engineer, CMS

Checked by :

ENGR. RYAN RAY M SANTOS, CE
Chief, CMS

Recommend Approval:

ENGR ABELARDO GERRARD P MENDOZA III, ME
Superintendent, Eng'g. Div

Concur / Not Concur:

ARNOLD RAFAEL Y DEPAKAKIBO
Assistant Director

Approved by:

GERRY P AMANTE
Director

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DEPARTMENT OF NATIONAL DEFENSE
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DETAILED ESTIMATE
IMPROVEMENT OF SLOPE PROTECTION AT NEW COMPOSITION BUILDING, PRIMER PLANT

ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	MATERIAL COST		LABOR COST		EQUIPMENT COST	
				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST
1	MOBILIZATION / DEMOBILIZATION	1.00 lot		0.00	0.00	6,500.00	6,500.00	6,000.00	6,000.00
2	PROVISION ON HEALTH AND SAFETY	1.00 lot		15,000.00	15,000.00	20,000.00	20,000.00	0.00	0.00
3	SITE PREPARATION	1.00 lot							
	A. CLEARING OF VEGETATION	313.64	sq m						
	Vegetation Area	313.64	sq m	0.00	0.00	25.00	7,841.00	75.00	23,523.00
	Sub Total				0.00		7,841.00		23,523.00
	B. CUTTING OF TREES	1.00 lot							
	No. of trees to be cut	12.00	trees	0.00	0.00	4,000.00	48,000.00	1,000.00	12,000.00
	Sub Total				0.00		48,000.00		12,000.00
	C. IMPROVEMENT OF SLOPE BY EXCAVATION	264.04	cu m						
	Excavation Volume	264.04	cu m	0.00	0.00	25.00	6,601.00	175.00	46,207.00
	Sub Total				0.00		6,601.00		46,207.00
	Sub Total of ITEM 3			0.00	0.00		62,442.00		81,730.00
4	SLOPE PROTECTION	1.00 lot							
	A. INSTALLATION OF EROSION CONTROL MAT	98.24	m						
	Erosion control geotextile, woven, polypropylene, 12.50ft - W, 432.00ft /roll - L	1.00	roll	106,000.00	106,000.00				
	Accessories	1.00	lot	26,500.00	26,500.00				

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ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	MATERIAL COST		LABOR COST		EQUIPMENT COST			
				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST		
		Sub Total			132,500.00				53,000.00		0.00
B. RIPRAPPING WORKS											
	Boulders, head size	106.93	cu m								
	Cement	70.57	cu m	1,100.00	77,627.00						
	Sand, washed	494.00	bag	265.00	130,910.00						
		24.00	cu m	950.00	22,800.00						
	Sub Total				231,337.00				92,534.80		0.00
C. INSTALLATION OF WEEP HOLES											
	PVC pipe, 2" dia x 10', sch 40	6.00	set								
	Gravel 3/4", crushed	2.00	pc	210.00	420.00						
		1.00	cu m	1,100.00	1,100.00						
	Sub Total				1,520.00				608.00		0.00
D. PLASTER SMOOTH FINISHED											
	Cement	313.64	sq m								
	Sand, washed	233.00	bag	265.00	61,745.00						
		13.00	cu m	950.00	12,350.00						
	Sub Total				74,095.00				29,638.00		0.00
E. PAINTING OF RIPRAP SURFACE											
	Latex paint, white	313.64	sq m								
	Paint roller #6	32.00	gal	650.00	20,800.00						
	Paint brush 4"	5.00	pc	90.00	450.00						
		10.00	pc	75.00	750.00						
	Sub Total				22,000.00				8,800.00		0.00
	Sub Total of ITEM 4				461,452.00				184,580.80		0.00

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DETAILED ESTIMATE

ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	MATERIAL COST		LABOR COST		EQUIPMENT COST	
				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST
5	CLEAN UP								
	HAULING AND CLEAN-UP OF DEBRIS AND WASTE	1.00	lot						
	MATERIALS OUTSIDE GA (NO SCRAP VALUE)	1.00	lot	0.00	0.00	10,000.00	10,000.00	15,000.00	15,000.00
	Sub Total of ITEM 5			0.00			10,000.00		15,000.00
	TOTAL DIRECT COST			461,452.00			247,022.80		81,730.00
	TOTAL MOBILIZATION / DEMOBILIZATION COST			0.00			6,500.00		6,000.00
	TOTAL PROVISION ON HEALTH AND SAFETY COST			15,000.00			20,000.00		0.00
	TOTAL CLEAN UP COST			0.00			10,000.00		15,000.00
	GRAND TOTAL			476,452.00			283,522.80		102,730.00
	TOTAL DIRECT COST1						790,204.80		
	TOTAL INDIRECT COST2						270,051.20		
	a. MOBILIZATION / DEMOBILIZATION						12,500.00		
	b. PROVISION ON HEALTH AND SAFETY						35,000.00		
	c. CLEAN UP						25,000.00		

May 10, 2023

DETAILED ESTIMATE
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ITEM NO.	SCOPE OF WORK & SPECIFICATIONS	QTY	UNIT	MATERIAL COST		LABOR COST		EQUIPMENT COST	
				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST

d. MARK-UP (25% of DIRECT COST¹) (10% Profit + 15% OCM)

197,551.20

TAX/EVAT(5% OF 1+2d)

49,387.80

TOTAL PROJECT COST

1,109,643.80

Prepared by:

ENGR. LOUISE ANTONLYNIVE C DE GUZMAN, CE
Civil Engineer, CMS

Checked by :

ENGR. RYAN RAY M SANTOS, CE
Chief, CMS

Recommend Approval:

ENGR ABELARDO GERRARD P MENDOZA III, ME
Superintendent, Eng'g. Div

Concur / Not Concur:

ARNOLD RAFAEL Y DEPAKARIBO
Assistant Director

Approved by:

GERRY P AMANTE
Director

APPROVED BUDGET FOR THE CONTRACT

IMPROVEMENT OF SLOPE PROTECTION AT NEW COMPOSITION BUILDING, PRIMER PLANT

Project Name and Location

Stations:
Length:

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	DIRECT COST	MARK-UPS IN PERCENT		TOTAL MARK-UP		VAT ²	INDIRECT COST	UNIT COST
					OCM ¹	PROFIT	%	VALUE			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(13)
								(5) X (8)	5% x (5 + 9)		(5 + 9 + 10) / (3)
1	MOBILIZATION / DEMOBILIZATION	1	lot							12,500.00	12,500.00
2	PROVISION ON HEALTH AND SAFETY	1	lot							35,000.00	35,000.00
3	SITE PREPARATION	1	lot	144,172.00	15.0	10	25.0	36,043.00	9,010.75	36,043.00	189,225.75
4	SLOPE PROTECTION	1	lot	646,032.80	15.0	10	25.0	161,508.20	40,377.05	161,508.20	847,918.05
5	CLEAN UP	1	lot							25,000.00	25,000.00
	TOTAL			790,204.80					49,387.80	270,051.20	
	GRAND TOTAL									1,109,643.80	
	(5) + (9) + (10) + (11)								SAY	1,110,000.00	

Contract Duration : 120 CD

PREPARED BY:


LOUISE ANTOLYNIVE C DE GUZMAN, CE
Civil Engineer, CMS

CHECKED BY:


RYAN RAYM SANTOS, CE
Chief, CMS

RECOMMEND APPROVAL:


ABELARDO GERRARD P MENDOZA III, ME
Supt., Eng'g. Div.

CONCUR / NOT CONCUR:


ARNOLD RAFAEL Y DEPAKAKIBO
Assistant Director

APPROVED:


GERRY P AMANTE
Director

¹ OCM = Overhead, Contingencies and Miscellaneous:
² VAT = Value Added Tax