



Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**OFFICE OF THE SECRETARY**  
Manila

March 30, 2023

**MEMORANDUM**

**TO :** **KHADAFFY D. TANGGOL**  
Regional Director  
DPWH-CAR  
Engineer's Hill, Baguio City

Transmitted herewith are the **APPROVED** requests for the **modification** of hereunder stated projects:

1. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Gov. Bado Dangwa National Road, **K0286+750 - K0286+900**, Kapangan, Benguet - - - **P140,000,000.00**
2. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Banaue-Mayoyao-Alfonso Lista-Isabela Bndry Rd, **K0361 + 090 - K0361 + 380**, Banaue, Ifugao - - - **P120,000,000.00**
3. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Baguio-Bontoc Rd - **K0359 + 610 - K0359 + 693** - - - **P100,000,000.00**
4. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Banaue-Mayoyao-Alfonso Lista-Isabela Bndry Rd, **K0346 + 880 - K0347 + 130**, Banaue, Ifugao - - - **P100,000,000.00**
5. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Benguet-Nueva Vizcaya Rd - **K0278 + 250 - K0278 + 320, K0278 + 685 - K0278 + 725** - - - **P150,000,000.00**
6. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Cong. Andres AcopCosalan Rd - **K0321 + 250 - K0321 + 515** - - - **P200,000,000.00**
7. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Tertiary Roads Gov. Bado Dangwa National Road, **K0328+844 - K0329+000**, Kibungan, Benguet - - - **P200,000,000.00**
8. Convergence and Special Support Program - Sustainable Infrastructure Projects Alleviating Gaps (SIPAG) - Flood Mitigation Structures protecting Public Infrastructures/Facilities Construction of Barren River (Downstream) Flood Control within Chico River Basin, **Sta. 37+995 - Sta. 39+300 (R/S)**, Conner, Apayao - - - **P120,000,000.00**
9. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Baguio-Bontoc Rd - **K0359 + 510 - K0359 + 580** - - - **P150,000,000.00**
10. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Primary Roads Kennon Rd - **K0232 + 535 - K0232 + 580** - - - **P48,000,000.00**
11. OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Benguet-Nueva Vizcaya Rd - **K0292 + 100 - K0292 + 350** - - - **P150,000,000.00**

Please be reminded that all approved modifications **shall be posted in the DPWH website within five (5) days** from its approval. Failure to comply with this requirement shall be dealt with accordingly.

**ADOR G. CANLAS**

Assistant Secretary for Regional Operations  
in CAR, Regions I, II, IX, X, XI, XII, and XIII





Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
CENTRAL OFFICE  
Manila

CAR-016

**Programming Division Evaluation Sheet**

Name of Project:

Project ID: P00714214LZ

Gov. Bado Dangwa National Road, K0286+840 - K0286+980, Kapangan, Benguet

Appropriation: 140,000,000

Implementing Office: Regional Office CAR

Date: 03/24/2023

**A. TYPE OF REQUEST**

A.1 ☐ Change in Implementing Office/Operating Unit due to

A.1.1 ☐ Geographical Jurisdiction

A.1.2 ☐ Approval of Authority to Bid/Implement

A.2 ☒ PROJECT MODIFICATION/ADJUSTMENTS

A.2.1 ☐ Typographical Error/s

A.2.2 ☐ Change in Location (for non-existent locations only)

A.2.3 ☒ Change in Station Limits

A.2.4 ☐ Addition/Deletion of Word/s

A.2.5 ☒ Change in Project Component/s Details

A.2.5.1 ☒ Change in Targets

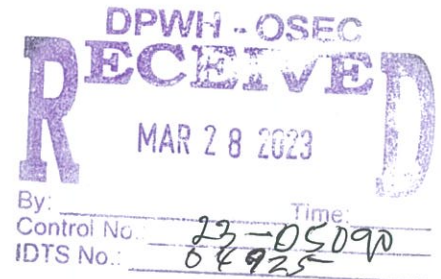
A.2.5.2 ☐ Change in Scope of Work from \_\_\_\_\_  
to \_\_\_\_\_

A.2.5.3 ☐ Change in Component Amount

A.2.5.4 ☐ Addition of Component (incl. EXC Component)

A.2.5.5 ☐ Deletion of Component

A.2.5.6 ☐ Movement of Funds between Components



**B. EVALUATION**

B.1 ☒ ALLOWED as per the GAA Provisions

B.2 ☐ NOT ALLOWED as per the GAA Provisions

**C. FUND SOURCE FY 2023 GAA, R.A. 11936**

C.1 ☒ for issuance of SARO (☐Released ☐Unreleased)

Amount: 140,000,000

C.2 ☐ released thru GAAAO

**D. IMPACT:**

D.1 Condition/s: \_\_\_\_\_ % decrease in unit cost  
49.29 % increase in unit cost  
33.01 % decrease in physical target  
\_\_\_\_\_ % increase in physical target

D.2 ☐ Addition of Project Component

D.3 ☒ Certificate of Cost Reasonableness by RD

D.4 Remarks:

**E. Approving Authority as per D.O. 13, s. 2023, Guidelines on Modification of Allotment under the GAA**

E.1 ☐ Undersecretary for Operations

E.2 ☒ Secretary

Evaluated By:

ALEX G. BOTE  
Director, Planning Service

Noted By:

CONSTANTE A. LLANES, JR., CESO III  
Assistant Secretary, Planning Service

Project ID: P00714214LZ

FOR: USEC FOR OPERATIONS

**ACTION SLIP**

☐ RRB ☒ ERP ☐ EKS

Date:

REMARKS:

☒ Reviewed by Planning Service  
☐ Recommended for Approval  
☐ Remarks:

MARIA CATALINA E. CABRAL, CESO I, Ph.D.  
Undersecretary for Planning and PPP Services





Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**OFFICE OF THE SECRETARY**  
Manila

March 22, 2023

**MEMORANDUM**

**FOR :** **MANUEL M. BONOAN**  
Secretary  
This Department

This refers to the memorandum dated 14 March 2023 of **DPWH CAR Regional Director KHADAFFY D. TANGGOL**, requesting for the **modification** of the project under FY 2023 GAA, to wit;

As per GAA/Original			As Modified		
Project Description					
UACS No. : 310108101327000 Project ID: P00714214LZ  OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads  Gov. Bado Dangwa National Road, K0286+840 - K0286+980, Kapangan, Benguet			OO1: Ensure Safe and Reliable National Road System - Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads  Gov. Bado Dangwa National Road, K0286+750 - K0286+900, Kapangan, Benguet		
Type of Work/ Physical Target	Unit Cost	Allocation	Type of Work/ Physical Target	Unit Cost	Estimated Cost
CW1- Construction of Road Slope Protection Structure / 7,777.780 sq.m.	₱ 17,370.00/ sq.m.	₱ 135,100,000.00	CW1- Construction of Road Slope Protection Structure / 5,210 sq.m.	₱ 25,930.90/ sq.m.	₱ 135,100,000.00
EAO	—	₱ 4,900,000.00	EAO	—	₱ 4,900,000.00
Total:		₱ 140,000,000.00	Total:		₱ 140,000,000.00
<b>Justification:</b> Change in Station Limits in the Project Description and Decrease in physical target for CW1 - Construction of Road Slope Protection Structure from 7,777.78 Square Meters to 5,210 Square Meters due to the following: <ul style="list-style-type: none"><li>The change in station limits was deemed necessary to address the critical areas along the road section requiring immediate slope intervention.</li><li>The decrease in physical target/ increase in unit cost for CW1 is due to the increase in the design length of the permanent ground anchors from 5 meters to 10 meters, as recommended in the design analysis. The project utilized the Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) which contributed to the increase in unit cost thereon causing a deduction in the target area of the proposed slope protection.</li><li>The derived unit cost is based on the approved Program of Work (POW) with Detailed Unit Price Analysis (DUPA)</li></ul>					
Attached are the following supporting documents: Approved Program of Works (POW) with Detailed Unit Price Analysis (DUPA), Detailed Engineering Design (DED), Certificate of Availability of Funds (CAF), BP 202, Geotagged photos, Certificate of Reasonableness, Evaluation of the Bureau of Construction on the unit cost of the similar type projects, RSM Forms and GIS Map.					

Based on our evaluation, the submitted request for modification of the said project is in order; hence, approval hereof is recommended.

  
**ADOR G. CANLAS**

Assistant Secretary for Regional Operations  
in CAR, Regions I, II, IX, X, XI, XII, and XIII

**RECOMMENDING APPROVAL:**

  
**MARIA CATALINA E. CABRAL, Ph.D., CESO I**

Undersecretary for Planning  
and Public-Private Partnership Services  
XII, and XIII

  
**EUGENIO R. PIPO, JR.**

Undersecretary for Regional Operations  
in CAR, Regions I, II, IX, X, XI,

**APPROVED/~~DISAPPROVED~~:**

  
**MANUEL M. BONOAN**

Secretary

2.3 mksa/MLS/AVS/AGC/ERP

Department of Public Works and Highways  
Office of the Secretary



WIN3E02678





Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**CORDILLERA ADMINISTRATIVE REGION**  
Engineer's Hill, Baguio City

MAR 14 2023

**MEMORANDUM**

**FOR : MANUEL M. BONOAN**  
Secretary

**THRU : EUGENIO R. PIPO, JR.**  
Undersecretary for Regional Operations  
CAR, Regions I, II, IX, X, XI, XII and XIII

**SUBJECT : Request for the Modification of the Project: ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads - Gov. Bado Dangwa National Road, K0286+840 - K0286+980, Kapangan, Benguet**

We are respectfully submitting the modification of the above project in the amount of **One Hundred Forty Million Pesos (Php 140,000,000.00)**, as indicated below:

	As per GAA/Original	As Modified
Project ID	P00714214LZ	
UACS	310108101327000	
Project Title	Gov. Bado Dangwa National Road, K0286+ <b>840</b> - K0286+ <b>980</b> , Kapangan, Benguet	Gov. Bado Dangwa National Road, K0286+ <b>750</b> - K0286+ <b>900</b> , Kapangan, Benguet
Physical Target	<b>7,777.778</b> Square meters	<b>5,210.000</b> Square meters

The supporting documents based on D.O. No. 13, series of 2023 are attached for your ready reference.

For the consideration of the Secretary.

  
**KHADAFFY D. TANGGOL**  
Regional Director

CAR.1 CSCE/EFD/JWC/ABM

## Tables for Modification Request Form

A. GENERAL					
<b>1. REGION</b> Cordillera Administrative Region		<b>2. DEO</b> Benguet Second District Engineering Office		<b>3. LEGISLATIVE DISTRICT</b> BENGUET (LONE DISTRICT)	
B. ORIGINAL PROJECT			C. PROPOSED REVISED PROJECT		
<b>4. UACS (Unified Account Code Structure as defined in GAA)</b> 310108101327000					
<b>5. Project Id</b> P00714214LZ					
<b>6. Project Category</b> OO1: Ensure Safe and Reliable National Road System					
<b>7. Sub-Program (P/A/P)</b> Asset Preservation - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads					
<b>8. Operating Unit</b> Central Office			<b>18. Operating Unit (Change subject to DBM approval)</b> Central Office		
<b>9. Type of Work (Enter Details for all Components below)</b>			<b>19. Type of Work (Enter Details for all Components below)</b>		
Component ID	Type of Work		Component ID	Type of Work	
CW1	Construction of Road Slope Protection Structure		CW1	Construction of Road Slope Protection Structure	
<b>10. PROJECT DESCRIPTION (as recorded in GAA)</b> Gov. Bado Dangwa National Road, <b>K0286+840 - K0286+980</b> , Kapangan, Benguet			<b>20. PROJECT DESCRIPTION (of the revised project)</b> Gov. Bado Dangwa National Road, <b>K0286+750 - K0286+900</b> , Kapangan, Benguet		
<b>11. ALLOTMENT (P'000) (as recorded in GAA)</b> 140,000			<b>21. REVISED ESTIMATED COST (P'000) (Equal to, or lower than GAA allotment)</b> 140,000		<b>22. CAF (To be obtained from Financial Management office)</b> <input type="checkbox"/> YES
<b>12. PHYSICAL TARGET (Enter Details for all Components below)</b>			<b>23. PHYSICAL TARGET (Enter Details for all Components below)</b>		
Component ID	Target	Target Unit	Component ID	Target	Target Unit
CW1	7,777.78	Square Meters (m2)	CW1	5,210	Square Meters (m2)
<b>13. UNIT COST (Enter Details for all Components below)</b>			<b>24. UNIT COST (Enter Details for all Components below)</b>		
Component ID	Component Cost (P'000)	Target Unit Cost (P'000/Target Unit)	Component ID	Component Cost (P'000)	Target Unit Cost (P'000/Target Unit)
CW1	135,100.000	17.37	CW1	135,100.000	25.9309
EAO	4,900.000		EAO	4,900.000	



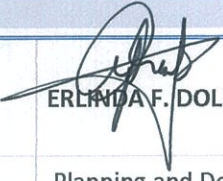
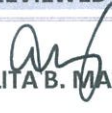

## Tables for Modification Request Form

<b>14. PROJECT WORK LOCATION</b> (Must be defined in strict accordance with DO 65 Series 2014) Click here to enter text.				<b>25. PROJECT WORK LOCATION</b> (Must be defined in strict accordance with DO 65 Series 2014. Also complete "ANNEX A" for National Road projects under OO-1) Click here to enter text.			
Start X		End X		Start X		End X	
Start Y		End Y		Start Y		End Y	
<b>15. ROAD CLASSIFICATION</b> (if applicable) Secondary Road				<b>26. ROAD CLASSIFICATION</b> (if applicable) Secondary Road			
<b>16. IMPLEMENTING OFFICE</b> (Record the Implementing Office of the original project) Cordillera Administrative Region				<b>27. IMPLEMENTING OFFICE</b> (Record the Implementing Office of the proposed revised project) Cordillera Administrative Region			
<b>17. PROJECT IMPLEMENTATION PLAN (PIP)</b>				<b>28. PROJECT IMPLEMENTATION PLAN (PIP)</b>			
<b>Planned Start Date</b> 05/21/2023		<b>Planned End Date</b> 04/14/2024		<b>Planned Start Date</b> 05/21/2023		<b>Planned End Date</b> 04/14/2024	
<b>29. OVERLAP?</b> <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES				<b>30. UNDER WARRANTY?</b> <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES			

**D. ATTACHMENTS & JUSTIFICATIONS**

<b>31. PROJECT IMPACT ANALYSIS ATTACHED?</b> (For Flood Control Projects) <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> N/A
<b>32. TECHNICAL JUSTIFICATION</b> (Explain in detail in Bullet point format; minimum of 2 points) <i>Change in Station Limits in the Project Description and Increase in physical target for CW1 - Construction of Road Slope Protection Structure from 7,777.78 Square Meters to 5,210 Square Meters due to the following:</i> <ul style="list-style-type: none"> <li>The change in station limits was deemed necessary to address the critical areas along the road section requiring immediate slope intervention.</li> <li>The decrease in physical target/ increase in unit cost for CW1 is due to the increase in the design length of the permanent ground anchors from 5 meters to 10 meters, as recommended in the design analysis. The project utilized the Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) which contributed to the increase in unit cost thereon causing a deduction in the target area of the proposed slope protection.</li> <li>The derived unit cost is based on the approved Program of Work (POW) with Detailed Unit Price Analysis (DUPA)</li> </ul> <i>Attached are the following supporting documents: Approved Program of Works (POW) with Detailed Unit Price Analysis (DUPA), Detailed Engineering Design (DED), Certificate of Availability of Funds (CAF), BP 202, Geotagged photos, Certificate of Reasonableness, Evaluation of the Bureau of Construction on the unit cost of the similar type projects, RSM Forms and GIS Map.</i>
<b>33. PHOTOS SUBMITTED</b> <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES
<b>34. A MAP OF THE PROPOSED PROJECT WORK LOCATION SUBMITTED</b> <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES

## Tables for Modification Request Form

35. PREPARED BY:			
<b>Name:</b>	 <b>ERLINDA F. DOLIENTE</b>	<b>Position:</b>	Chief, Planning Section
<b>Office:</b>	Planning and Design Division	<b>Date:</b>	
36. REVIEWED BY DISTRICT OFFICE (If Required)		38. REVIEWED BY REGIONAL OFFICE	
<b>Name:</b>		<b>Name:</b>	 <b>ANGELITA B. MABITAZAN</b>
<b>Position:</b>		<b>Position:</b>	Chief, Planning and Design Division
<b>Date:</b>		<b>Date:</b>	
37. RECOMMENDED BY DISTRICT OFFICE (If Required)		39. RECOMMENDED BY REGIONAL OFFICE	
<b>Name:</b>		<b>Name:</b>	 <b>KHADAFY D. TANGGOL</b>
<b>Position:</b>		<b>Position:</b>	Regional Director
<b>Date:</b>		<b>Date:</b>	



## Tables for Modification Request Form

UACS (Unified Account Code Structure as defined in GAA)

310108101327000

Project Id


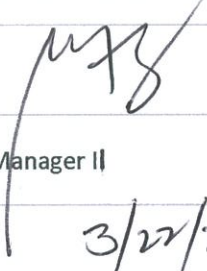
P00714214LZ

### 40. DPWH OFFICE OF THE UNDERSECRETARIES FOR OPERATIONS

Primary Reason for Request (based on Category of Modification): (choose one)

Category A	Category B	Category C	Category D	Impact
<input type="checkbox"/> Typographical error on Project Description	<input type="checkbox"/> Overlapping Sections <input checked="" type="checkbox"/> Change in Station Limits <input type="checkbox"/> Change in Physical Target	<input type="checkbox"/> No such Barangay <input type="checkbox"/> No such City or Municipality	<input type="checkbox"/> Change in (IO), requiring a change in the (OU)	<input type="checkbox"/> No change or decrease in unit cost <input type="checkbox"/> 20% or less increase in unit cost <input type="checkbox"/> > 20% increase in unit cost



Reviewed by Office of the Undersecretary for Operations

Name:	Engr. MANUEL L. SINGSON	Engr. ANTONIO V. SOBREVINAS, JR.
Signature		
Position:	Project Manager I	Project Manager II
Date:	3/22/23	3/22/23

### 41. DPWH PLANNING SERVICE

<b>Category of Modification</b> (please check the appropriate)	<input type="checkbox"/> Category A – Typographical Error <input type="checkbox"/> Category B – Change in Station Limits <input type="checkbox"/> Category C – Change in Location, due to non-existing location <input type="checkbox"/> Category D – Change in Operating Unit (requires DBM approval) <input type="checkbox"/> Modification does not comply with DBM Categories
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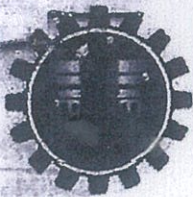
Reviewed by Planning Service

Name:	ANNA ANDREA M. NOCHE	Name:	PETER PAUL R. CORTEZ
Signature		Signature:	
Position:	Regional Coordinator	Position:	OIC - Chief of Programming Division
Date:	3/24/23	Date:	

## ANNEX A: Project Work Location Details for National Roads

Component ID	Section ID	Start Limit LRP + Disp	End Limit LRP + Disp	Start Chainage	End Chainage	Length (m)	Type of Work	Detail Scope of Work	Target Unit	Physical Target
P00714214LZ - CW1	S00399LZ	K0286+750	K0286+900	10229	10379	150	Construction of Road Slope Protection Structure	Active Wire Mesh System (High Tensile) (R/S)	Square Meters	5210





Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**CENTRAL OFFICE**  
Manila

July 27, 2022

**MEMORANDUM**

**FOR :** Assistant Secretary ADOR G. CANLAS.  
For Regional Operations in REGIONS I, II, CAR, IX, X, XI, XII & XIII

**Subject :** 001: Ensure Safe and Reliable National Roads with Slips Slope Collapse and Landslide – Secondary Roads, Rehabilitation/ Reconstruction of National Roads Banaue – Mayoyao A Lista – Isabela Bdry. Road P85,905,000.00 and three (3) others.

Forwarded herewith are the result of evaluation for the above-mentioned projects which were referred to this office.

**PROJECT NO. 1**

The amount of Eighty Five Million Nine Hundred Five Thousand Pesos (**P85,905,000.00**) for **3,140.50 m<sup>2</sup>** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

**SCOPE OF WORK**

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 203,439.60	0.25%
Part B	Other General Requirements	P 1,532,726.30	1.85%
Part C	Earthworks	P 223,796.35	0.27%
Part G	Drainage & Slope Protection Structures	P 80,769,413.00	97.43%
Part H	Miscellaneous Structures	P 168,028.00	0.20%
	<b>GRAND TOTAL</b>	<b>P 82,897,403.25</b>	<b>100.00%</b>

Cost of slope protection per m<sup>2</sup> =  $\frac{P82,897,403.25}{3,140.00 \text{ m}^2}$  = **P26,400.45/ m<sup>2</sup>**

Cost per kilometer of Road (Exclude Part A, B, C & H) =  $\frac{P80,769,413.00}{3,140.00 \text{ m}^2}$  = **P25,722.74/ m<sup>2</sup>**

The estimated cost of **P26,400.45** per square meter of slope protection structures for the Rehabilitation/Reconstruction of National Roads with Slips Slope Collapse and Landslide - Secondary Roads – Banaue - Mayoyao A Lista – Isabela Bdry. Road at 3,140.00 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **97.43%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 394.50 km away to project site.



(Part A, B, C & G are excluded)

If **Facilities for the Engineer, Other General Requirements, Earthworks, and Miscellaneous Structures** along the stations as reflected in K0350+650 – K0350+760 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P25,722.74** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.

## PROJECT NO. 2

The amount of Three Hundred Million Pesos (**P300,000,000.00**) for **11,394.00 m<sup>2</sup>** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

## SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 375,580.80	0.13%
Part B	Other General Requirements	P 2,559,573.20	0.88%
Part C	Earthworks	P 474,665.97	0.16%
Part D	Subbase and Base Course	P 158,117.45	0.05%
Part E	Surface Course	P 1,407,120.60	0.49%
Part F	Bridge Construction	P 120,689.44	0.04%
Part G	Drainage & Slope Protection Structures	P 284,252,869.60	98.19%
Part H	Miscellaneous Structures	P 147,484.80	0.05%
	<b>GRAND TOTAL</b>	<b>P 289,496,101.86</b>	<b>100.00%</b>

$$\text{Cost of slope protection per m}^2 = \frac{\text{P289,496,101.86}}{11,394.00 \text{ m}^2} = \text{P25,407.77/m}^2$$

$$\begin{array}{l} \text{Cost per kilometer of Road} \\ \text{(Exclude Part A, B, C, D, E, F \& H)} \end{array} = \frac{\text{P284,252,869.60}}{11,394.00 \text{ m}^2} = \text{P24,947.59/m}^2$$

The estimated cost of **P25,407.77** per square meter of slope protection structures for the Rehabilitation/Reconstruction of National Roads with Slips Slope Collapse and Landslide - Secondary Roads – Mt. Province – Cagayan via Tabuk – Enrile Road at 11,394.00 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **98.19%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 422.48 km away to project site.

(Part A, B, C, D, E, F & H are excluded)

If **Facilities for the Engineer, Other General Requirements, Earthworks, Subbase Course, Surface Course, Bridge Construction and Miscellaneous** along the stations as reflected in K0406+453 – K0406+692 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P24,947.59** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.



### PROJECT NO. 3

The amount of Sixty Nine Million Pesos (**P69,000,000.00**) for **2,507.00 m<sup>2</sup>** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

#### SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 203,439.60	0.31%
Part B	Other General Requirements	P 1,511,469.80	2.27%
Part C	Earthworks	P 228,436.93	0.34%
Part G	Drainage & Slope Protection Structures	P 64,640,950.30	97.08%
	<b>GRAND TOTAL</b>	<b>P 66,584,296.63</b>	<b>100.00%</b>

$$\text{Cost of slope protection per m}^2 = \frac{\text{P66,584,296.83}}{2,507.00 \text{ m}^2} = \text{P26,559.35/m}^2$$

$$\text{Cost per kilometer of Road (Exclude Part A, B \& C)} = \frac{\text{P64,640,950.30}}{2,507.00 \text{ m}^2} = \text{P25,784.18 m}^2$$

The estimated cost of **P26,559.35** per square meter of slope protection structures for the Rehabilitation/Reconstruction of National Roads with Slips Slope Collapse and Landslide - Secondary Roads - Banaue - Mayoyao A Lista - Isabela Bdry. Road at 2,507.00 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **97.08%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 402.80 km away to project site.

**(Part A, B & C are excluded)**

If **Facilities for the Engineer, Other General Requirements and Earthworks**, along the stations as reflected in K0358+842 - K0359+047 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P25,784.18** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.



#### PROJECT NO. 4

The amount of One Hundred Fifty Million Five Hundred Fifty Thousand Pesos (**P150,550,000.00**) for **5,853.04 m<sup>2</sup>** of Slope Protection Structures as submitted was found to be reasonable as evaluated based on the items of work involved and its quantities as reflected in the submitted Program of Works and design plans duly approved by Regional Director, DPWH-CAR.

#### SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 281,685.60	0.19%
Part B	Other General Requirements	P 1,787,292.50	1.23%
Part C	Earthworks	P 417,767.82	0.29%
Part F	Bridge Construction	P 6,171,515.37	4.25%
Part G	Drainage & Slope Protection Structures	P 136,619,434.98	94.04%
	<b>GRAND TOTAL</b>	<b>P 145,277,696.27</b>	<b>100.00%</b>

$$\text{Cost of slope protection per m}^2 = \frac{\text{P145,277,696.27}}{5,853.04 \text{ m}^2} = \text{P24,820.90/m}^2$$

$$\text{Cost per kilometer of Road (Exclude Part A, B, C \& F)} = \frac{\text{P136,619,434.98}}{5,853.04 \text{ m}^2} = \text{P23,341.62/m}^2$$

The estimated cost of **P24,820.90** per square meter of slope protection structures for the Rehabilitation/Reconstruction of Roads with Slips Slope Collapse and Landslide - Secondary Roads - Baguio - Bontoc Road, Sabangan, Mt. Province at 5,853.04 square meter is due to design requirements which mainly involved Erosion Control Mat (Type 4), Permanent Ground Anchor, Hydroseeding and Active Wire Mesh System (High Tensile) at **94.04%** of the total project cost coupled with recent price escalation of construction materials and fuel and it is 385.30 km away to project site.

**(Part A, B & C are excluded)**

If **Facilities for the Engineer, Other General Requirements, Earthworks and Bridge Construction** along the stations as reflected in K0374+120 - K0374+285 per approved plans and location map of the proposed new road alignment are excluded in the computation the resulting cost is only **P23,341.62** per square meter, hence it is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.



**ARISTARCO M. DOROY**

OIC - Director, Bureau of Construction

**Cc: Undersecretary MAXIMO L. CARVAJAL** for Technical Services

6.1.1 JAM/CBC/GEC

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