

Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

OFFICE OF THE SECRETARY

Manila

September 23, 2022

MEMORANDUM

TO

KHADAFFY D. TANGGOL

Regional Director DPWH-CAR

Engineer's Hill, Baguio City

Transmitted herewith is the **APPROVED** request for the **modification** of hereunder stated project:

1. OO1: Ensure Safe and Reliable National Road System Asset Preservation - Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Secondary Roads Banaue-Mayoyao-A Lista-Isabela Bdry Rd - K0362 + 080 - K0362 + 140 - - - ₱ 60,000.000

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.

Undersecretary for Region al Operations in CAR, Regions I, II, IX, X, XI, XII, and XIII

2.3 mksa/AVS/AGC/ERP



Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

OFFICE OF THE SECRETARY

Manila

July 28, 2022

MEMORANDUM

FOR

MANUEL M. BONOAN

Secretary

This Department

This refers to the memorandum dated July 7, 2022 of **DPWH CAR Regional Director KHADAFFY D. TANGGOL** requesting for the approval of the **Remodification** of the project under FY 2022 General Appropriation Act (GAA), to wit;

	per GAA/Origin	nal	As Modified				
Project Description							
	3101081007760 P00604221LZ	00					
001: Ensure Sa System	afe and Reliable N	ational Road	001: Ensure Sa System	nfe and Reliable N	ational Road		
Reconstruction	ervation - of National Roa and Landslide - Se		Asset Preservation - Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Secondary Roads				
Banaue-Mayoyao-A Lista-Isabela Bdry Rd - K0362 + 040 - K0362 + 240, K0386 + 536 - K0387 + 000, K0409 + 600 - K0409 + 765			Banaue-Mayoyao-A Lista-Isabela Bdry Rd K0362 + 080 - K0362 + 140				
Physical Target	Unit Cost P	Allocation P ('000)	Physical Target	Unit Cost P	Estimated Cost P ('000)		
CW1 Construction of Road Slope Protection Structure: 3,333.330 Square meters	F 17,370.00 / Square meters ₽ 57,900.000		CW1 Construction of Road Slope Protection Structure: 2,190.000 Square meters	26,438.36 / Square meters	₽ 57,900.000		
Square meters		₽ 2,100.000	EAO	_	₽ 2,100.000		
EAO	-	1 2/1001000			0.00		

UACS No.: 310108100776000 Project ID: P00604221LZ

Page 2 of 2

The decrease from 3,333.300 square meters to 2,190.000 square meters in the physical target is due to the decrease in length of the structure and the increase in average slant height from 7 meters to 36 meters based on the result of the stability analysis.

The increase in unit cost is due to the design length of 5-meter permanent ground anchors, as recommended in the design analysis. Also, the utilization of the prevailing construction material cost of system components of the Active Protection System contributed to the increase in unit cost thereon causing a deduction in the target area of the proposed slope

The derived unit cost is based on the approved Detailed Unit Price Analysis and Program of Work which consider the lowest canvass cost for high tensile wire mesh, with joint rod, wire

rope, rope grips, coupling coil, pin anchors, and cross clips/ anchors.

See attached Certificate of Reasonableness of Estimates approved by the Regional Director.

See also the attached evaluation of the Bureau of Construction on the unit cost of the similar type projects.

Based on our evaluation, the submitted request for remodification of the said project is in order. It is recommended for its approval, and thereby, supersedes the first modification dated March 24, 2022.

CANLAS

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

APPROVED/DISAPPROVED:

MANUEL M. BONOAN

Secretary

EMILK. SADAIN, CESO I Senior Undersecretary Officer-In-Charge

3.5 dlbc/aap/AVS/AGC

Department of Public Works and Highways Office of the Secretary

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Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS CORDILLERA ADMINISTRATIVE REGION

Engineer's Hill, Baguio City

July 7, 2022

MEMORANDUM

FOR

: MANUEL M. BONOAN

Secretary

THRU

: ADOR G. CANLAS

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

SUBJECT

: Request for the Remodification 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 - Banaue-Mayoyao-A Lista-Isabela Bdry Rd - K0362 + 040 - K0362 + 240, K0386 + 536 - K0387 + 000, K0409 + 600 - K0409 + 765

We are respectfully submitting the remodification of the above project in the amount of **Sixty Million Pesos (Php 60,000,000.00X)**, as indicated below:

	As per GAA/Original	As Modified
Project ID	P00604221LZ	
UACS	310108100776000	
Project Title	Banaue-Mayoyao-A Lista- Isabela Bdry Rd – K0362 + 040 - K0362 + 240 , K0386 + 536 - K0387 + 000 , K0409 + 600 - K0409 + 765	Banaue-Mayoyao-A Lista- Isabela Bdry Rd K0362 + 080 K0362 + 140
Physical 3,333.300 Square meters		2,190.00 Square meters

This request for remodification supersedes the previously approved modification dated March 24, 2022.

The supporting documents based on D.O. No. 37, series of 2018 are attached for your ready reference.

For the consideration of the Secretary.

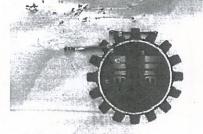
KHADAFAYD, TANGGOL

CAR.1 CSCE/EPD/JWC/ABM

Telefax: (074) 444-6460/(074) 444-8838

E-mail address: dpwh_car@dpwh.gov.ph

FER



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 m² 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		MOUNT otal Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P	203,439.60	0.25%
Part B	Other General Requirements	Р	, 1,532,726.30	1.85%
Part C	Earthworks	Р	223,796.35	0.27%
Part G	Drainage & Slope Protection Structures	P.	80,769,413.00	97.43%
Part H	Miscellaneous Structures	Р	168,028.00	0.20%
	GRAND TOTAL	P	82,897,403.25	100.00%

Cost of slope protection per m^2 = $\frac{P82,897,403,25}{3,140.00 \text{ m}^2}$ = $\frac{P26,400.45}{m^2}$ = $\frac{P26,400.45}{m^2}$ = $\frac{P80,769,413.00}{3,140.00 \text{ m}^2}$ = $\frac{P25,722.74}{m^2}$

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 m² 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		OUNT tal 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	Р	1,407,120.60	0.49%	
Part F	Bridge Construction	Р	120,689.44	0.04%	
Part G	Drainage & Slope Protection Structures	P	284,252,869.60	98.19%	
Part H	Miscellaneous Structures	Р	147,484.80	0.05%	
	GRAND TOTAL	P	289,496,101.86	100.00%	

Cost of slope protection per m ² =	P289,496,101.86 11,394.00 m ²	=	P25,407.77/m ²
Cost per kilometer of Road = (Exclude Part A, B, C, D, E, F & H)	P284,252,869.60 11,394.00 m ²	=	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 m²** 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		OUNT tal 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	Р	64,640,950.30	97.08%
	GRAND TOTAL	P	66,584,296.63	100.00%

Cost of slope protection per m ²	=	P66,584,296.83 2,507.00 m ²	=	P26,559.35/m ²
Cost per kilometer of Road (Exclude Part A, B & C)	=	P64,640,950.30 2,507.00 m ²	=	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 $5,853.04~m^2$ 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		OUNT tal Cost)	PERCENT Weight (%)	
Part A	Facilities for the Engineer	P	281,685.60	0.19%	
Part B	Other General Requirements	Р	1,787,292.50	1.23%	
Part C	Earthworks	P	417,767.82	0.29%	
Part F	Bridge Construction	Р	6,171,515.37	4.25%	
Part G	Drainage & Slope Protection Structures	Р	136,619,434.98	94.04%	
	GRAND TOTAL	P	145,277,696.27	100.00%	

Cost of slope protection per m ²	=	P145,277,696.27 5,853.04 m ²	=	P24,820.90/m ²
Cost per kilometer of Road (Exclude Part A, B, C & F)	=	P136,619,434.98 5,853.04 m ²	=	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 Desktop reasonableness CAR Ref. No.: 6.1-405-5550/358-02

		A. 6	ENERAL				
1. REGION		2. DEO		1		E DISTRICT	
Cordillera Administ	trative Region	Ifugao 2nd District	Engineering Office IFUGAO (LONE DISTRICT)			E DISTRICT)	
B.	ORIGINAL PROJEC	т	C. PROPOSED REVISED PROJECT				
4. UACS (Unified Acco 310108100776000	unt Code Structure as def	ined in GAA)					
5. Project Id P00604221LZ	/						
6. Project Category OO1: Ensure Safe a	nd Reliable National	Road System					
7. Sub-Program (P/ Asset Preservation Roads	/A/P) - Rehabilitation/ Reco	onstruction of Natio	nal Roads with Slips,	Slope Collapse, ai	nd Land	dslide - Secondary	
8. Operating Unit Central Office			18. Operating Unit	Change subject to DB	IM appro	oval)	
9. Type of Work (En	nter Details for all Compon	nents below)	19. Type of Work (Enter Details for all Components below)				
Component ID	Type of Work		Component ID	Type of Wor	Type of Work		
CW1		Construction of Road Slope Protection Structure		Construction Structure	Construction of Road Slope Protection Structure		
EAO			EAO	EAO			
Banaue-Mayoyao-A	RIPTION (as recorded in A Lista-Isabela Bdry R 6 + 536 - K0387 + 000	d - K0362 + 040 -	20. PROJECT DESCR Banaue-Mayoyao-A + 140			ect) K0362 + 080 - K0362	
11. ALLOTMENT (P 60,000	''000) (as recorded in GA	A)	21. REVISED ESTIMATED COST (P'000) (Equal to, or lower than GAA allotment) 60,000				
12. PHYSICAL TARG	GET (Enter Details for all (Components below)	23. PHYSICAL TARG	ET (Enter Details for	all Comp	oonents below)	
Component ID	Target	Target Unit	Component ID	Target		Target Unit	
CW1	3,333.300	Square meters	CW1	2,190.000 /		Square meters	
EAO			EAO				
13. UNIT COST (Ent	er Details for all Compone	ents below)	24. UNIT COST (Enter Details for all Components below)				
Component ID	Component Cost (P'000)	Target Unit Cost (P'000/Target Unit)	Component ID	Component (P'000)	Cost	Target Unit Cost (P'000/Target Unit)	
CW1	57,900.000	17.370	CW1	57,900.000	1	26.438	
EAO	2,100.000		EAO	2,100.000	/		

14. PROJECT WORK LOCATION (Must be defined in strict accordance with DO 65 Series 2014) Click here to enter text.		with DO 65 Series 2014 Road projects und	25. PROJECT WORK LOCATION (Must be defined in strict accordance with DO 65 Series 2014. Also complete "ANNEX A" for National Road projects under OO-1 and LP) Click here to enter text.			
Start X		End X	Start X	End X		
Start Y		End Y	Start Y	End Y		
15. ROAD CLASSIFICATION (if applicable) Secondary Road			26. ROAD CLASSIF	ICATION (if applicable)		
16. IMPLEMENTING OFFICE (Record the Implementing Office of the original project) Regional Office CAR		proposed revised project Regional Office CA		ementing Office of the		
17. PROJEC	T IMPLEMENTATIO	N PLAN (PIP)	28. PROJECT IMPL	EMENTATION PLAN (PI	P)	
Planned Sta 03/24/2022		Planned End Date 01/17/2023	Planned Start Date	e Planned Er 04/20/202		
			29. OVERLAP? ☑ NO □ YE		WARRANTY? □ YES	
		D. ATTACHM	ENTS & JUSTIFICATION	ONS		
 NO ☐ YES ☑ N/A 32. TECHNICAL JUSTIFICATION (Explain in detail in Bullet point format; minimum of 2 points) The revised station limit reflects the exact section that requires immediate slope mitigation due to its susceptibility to soil/ rock collapse. The decrease from 3,333.300 square meters to 2,190.000 square meters in the physical target is due to the decrease in length of the structure and the increase in average slant height from 7 meters to 36 meters based on the result of the stability analysis. The increase in unit cost is due to the design length of 5-meter permanent ground anchors, as recommended in the design analysis. Also, the utilization of the prevailing construction material cost of system components of the Active Protection System contributed to the increase in unit cost thereon causing a deduction in the target area of the proposed slope mitigation. The derived unit cost is based on the approved Detailed Unit Price Analysis and Program of Work which considers the lowest canvass cost for wire mesh, high tensile, with joint rod, wire rope, rope grips, coupling coil, pin anchors, and cross clips/ anchors. See attached Certificate of Reasonableness of Estimates approved by the Regional Director. 						
33. PHOTOS	S SUBMITTED ES					
34. A MAP (PROJECT WORK LOCATION	ON SUBMITTED			

	35. Pl	REPARED BY	(:
Name:	ERLINDA F. DOLIENTE	Position:	Chief, Planning Section
Office:	Cordillera Administrative Region	Date:	
36. REVII	EWED BY DISTRICT OFFICE (If Required)	38. REV	TIEWED BY REGIONAL OFFICE
Name:		Name:	ANGELITAB. MABITAZAN
Position:		Position:	Shief, Planning and Design Division
Date:		Date:	
37. RECOMI	MENDED BY DISTRICT OFFICE (If Required)	39. REC	COMMENDED BY REGIONAL OFFICE
Name:		Name:	KHADAFF D. TANGGOL
Position:		Position:	Regional Director
Date:		Date:	

UACS (Unified Account 310108100776000	Code Structure as	defined in GAA)						
Project ld P00604221LZ								
	40. DPWH	OFFICE OF T	HE UNDERSECRETAR	RIES FOR OPERATIONS	USE ONLY			
Category of Modification (choose one)		□ Category A − Typographical Errors □ Category B − Change in Station Limits, due to increase or decrease in budget □ Category C − Change in Location □ Category D − Change in Operating Unit (requires DBM approval) □ Adjustment − Send to PS-PD to amend MYPS □ Modification does not comply with DBM Categories □ Augmentation						
Primary Reason for R	Request (based	on Category	of Modification): (c	hoose one)				
Category A	Category B		Category C	Category D	Adjustment (Must be no change to target or GAA line item)			
on Project Work Description Change Project Description due to interest due to interest description needs items		g Sections of station limits, ease or budget Physical Target	□ No such Barangay □ No such City/Municipality	☐ Change in (IO), requiring a change in the (OU)	Typographical error on Project Component Description Typographical error on other fields not included in, or not consistent with GAA Move funds between Project Components Add/delete Project Components Change of Itemized Project Component: Various Description Location Amount Target			
ALAPO CANCANCO DE LEO - N. B., The CANCANCO CON LEO - N. B., A. P. C. CONTRACTOR CON LEON CONTRACTOR CON CONTRACTOR CON CONTRACTOR CON CONTRACTOR CON CONTRACTOR CONT	Re	eviewed by (Office of the Unders	ecretary for Operation	S			
Name: I	Engr. ANTONIO	V. SOBREVII	ÑAS, JR.					
Signature	777							
Position: F	Project Manage	12/2						
		41. DPWH	PLANNING SERVICE	OFFICE USE ONLY				
Category of Modification (choose one) Category B- Category C- Category D- Adjustment		— Typographical Errors — Change in Station Limits, due to increase or decrease in budget — Change in Location — Change in Operating Unit (requires DBM approval) t — Send to PS-PD to amend MYPS on does not comply with DBM Categories ion						
		£	Reviewed by Plannir	g Service				
Name:			Name:	PETER PAUL R. CO	PETER PAUL R. CORTEZ			
Signature			Signatur	e: Saw	faufa/			
Position:	Regional Coordinator		Position	: OIC – Chief, Progra	amming Division			
Date:		837	Date:					

Annex A to Form for Modification Request

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
P00604221LZ – CW1	S00480LZ	K0362 + 080	K0362 + 140	21029	21089	60	Construction of Road Slope Protection Structure	Slope Protection Work (Rockfall Netting with Hydroseeding, Erosion Control Mat and Permanent Ground Anchor; and Stone Masonry (B/S))	Square meters	2,190 /