



Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
QUALITY MANAGEMENT SYSTEM



**ABRA DISTRICT ENGINEERING OFFICE**  
Bangued, Abra

### REFERRAL / ACTION SLIP

FOR/TO: DE J.T. ARAO Reference No.: CAR.9-2-CO790  
SOURCE: E. PIPO JR. DATE: OCTOBER 09, 2023  
SUBJECT: Approved Request for Modification (Catadegan FC) Php 100m

	URGENT, PLEASE RUSH
	See me / Let's Discuss
	Draft Reply
	For Review/ Initial
	For Compliance
	For Comment / Recommendation
	For Review / Evaluation
	For Appropriate Action
<input checked="" type="checkbox"/>	For Information / Reference
	For Dissemination
	For File
	Return Document/s to me

DEADLINE: \_\_\_\_\_

JOSELITO T. ARAO  
District Engineer

DPWH-QMSP-51-04-Rev00

Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
Quality Management System



**ABRA DISTRICT ENGINEERING OFFICE**

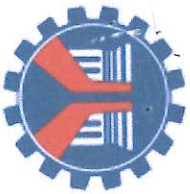
### RMD-HRAS ROUTING SLIP

Reference No.: CAR.9-2-CO790

SOURCE:	DATE
<u>E. PIPO JR.</u>	<u>OCTOBER 09, 2023</u>
TO:	
District Engineer	<u>JOSELITO T. ARAO</u>
Ast. District Engineer	<u>EDWIN T. BRINGAS</u>
Administrative Officer	<u>ARNEL N. BRILLANTES</u>
Section	
Others	

*tion must be taken within 15 days from receipt of correspondence  
nt to the Provision of Sec 5(s) RA 6713*

REMARKS:  
*not subject  
ack*



Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**CENTRAL OFFICE**  
Bonifacio Drive, Port Area Manila



October 3, 2023

**MEMORANDUM**

**TO :**

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

DPWH-ABRA  
IRAS-RNTU  
**RECEIVED**  
Code: 403.81 CO-790  
Date: 10.9.23

**ATTENTION :**

**JOSELITO T. ARAO**  
District Engineer  
Abra District Engineering Office  
Bangued, Abra

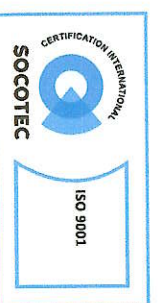
Transmitted herewith is the **APPROVED** request for the **modification** of hereunder stated project:

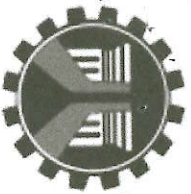
1. OO2: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River Construction of Catacdegan Flood Control, Manabo, Abra - - **P100,000,000.00**

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.

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

2.3 mksa/AVS/RPBG/ERP





Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**CENTRAL OFFICE**  
Bonifacio Drive, Port Area Manila



**BAGONG PILIPINAS**

October 3, 2023

**MEMORANDUM**

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

**ATTENTION :** **JOSELITO T. ARAO**  
District Engineer  
Abra District Engineering Office  
Bangued, Abra

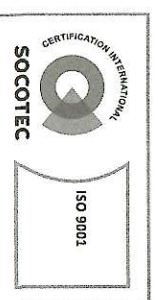
Transmitted herewith is the **APPROVED** request for the **modification** of hereunder stated project:

1. 002: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River Construction of Catacdegan Flood Control, Manabo, Abra- - **P100,000,000.00**

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.

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

2.3 mksa/AS/RPBG/ERP







# Programming Division Evaluation Sheet

Name of Project:

Construction of Catadegan Flood Control, Manabo, Abra

Project ID: **P00726859LZ**

Appropriation: 100,000,000

Implementing Office: Abra District Engineering Office

Date: 08/23/2023

## 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
	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)  
 C.2 ☐ released thru GAAAO

Amount: 100,000,000

## D. IMPACT:

- D.1 Condition/s:

-	% decrease in unit cost
193.45	% increase in unit cost
65.92	% decrease in physical target
-	% Increase in physical target

- D.2 ☐ Additional Project Component  
 D.3 ☒ Certificate of Cost Reasonableness by RD

- D.4 Remarks:

*- Doc Reviewed*

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

Noted By:

CONSTANTE A. LAMNES, JR., CESO III  
 Assistant Secretary for Planning Service

Project ID:

P00726859LZ

FOR SECRETARY MANUEL M. BONOAN OR

REMARKS:

<input checked="" type="checkbox"/>	Reviewed by Planning Service
<input type="checkbox"/>	Recommended for Approval
<input type="checkbox"/>	Remarks:

ACTION SLIP

Date:

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**  
Bonifacio Drive, Port Area Manila



August 15, 2023

**MEMORANDUM**

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

This refers to the memorandum dated 28 July 2023 of **DPWH CAR Regional Director KHADAFY D. TANGGOL**, endorsing the request of District Engineer **JOSELITO T. ARAO** of **Abra District Engineering Office** for the **modification** of the project under FY 2023 GAA, to wit;

As per GAA/Original			As Modified		
Project Description			Project Description		
UACS No.:320101108773000 Project ID:P00726859LZ			OO2: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River Construction of Catacdegan Flood Control, Manabo, Abra		
OO2: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River Construction of Catacdegan Flood Control, Manabo, Abra			OO2: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River Construction of Catacdegan Flood Control, Manabo, Abra		
Type of Work/ Physical Target	Unit Cost	Allocation	Type of Work/ Physical Target	Unit Cost	Estimated Cost
CW1- Construction of Flood Mitigation Structure / 820.497 l.m.,	₱ 117,611.64/ l.m.	₱ 96,500,000.00	CW1- Construction of Flood Mitigation Structure/ 279.60 l.m.	₱ 345,135.908/ l.m.	₱ 96,500,000.00
EAO	-	₱ 3,500,000.00	EAO	-	₱ 3,500,000.00
Total:		₱100,000,000.00	Total:		₱100,000,000.00
Justification:					
<ul style="list-style-type: none"><li>The increase in unit cost which resulted to the decrease in the physical target is due to the usage of a reinforced concrete dike type of flood mitigation structure with steel sheet piles consisting of 42.37% of the project direct cost. The steel sheet piles are necessary to prevent scouring and possible failure along the foundation of the proposed mitigation and to ensure over-all stability of the project area.</li><li>Also, the huge/massive rock embankment consisting of 37.85% of the project cost contributed to the high unit cost of the project.</li><li>The derived unit cost is based on the approved Detailed Unit Price Analysis (DUPA) and Program of Works (POW). The 279.60 l.m. physical target has been derived/computed with reference to the evaluation made by the Bureau of Construction as per memorandum dated June 22, 2023.</li><li>See attached Cross-Section Drawing of the Project Submitted by the District Engineer, and the Certificate of Reasonableness of Cost Estimates signed by the Regional Director.</li></ul>					



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

  
**REY PETER B. GILLE, D.M.**

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

**RECOMMENDING APPROVAL:**

  
*Subject & content correct*

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

Undersecretary for Planning  
and Public-Private Partnership Services

  
*Approved*

**EUGENIO R. PIPO, JR**

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

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

  
**MANUEL M. BONOAN**  
Secretary

2.3 mksa/MLS/AVS/AGC/ERP

Department of Public Works and Highways  
Office of the Secretary



WIN3E03192



Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**OFFICE OF THE SECRETARY**  
Bonifacio Drive, Port Area Manila



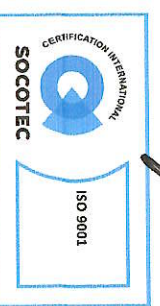
August 15, 2023

**MEMORANDUM**

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

This refers to the memorandum dated 28 July 2023 of **DPWH CAR Regional Director KHADAFY D. TANGGOL**, endorsing the request of District Engineer **JOSELITO T. ARAO** of **Abra District Engineering Office** for the **modification** of the project under FY 2023 GAA, to wit;

As per GAA/Original			As Modified		
Project Description					
UACS No.:320101108773000 Project ID:P007268591Z					
OO2: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River			OO2: Protect Lives and Properties Against Major Floods, Construction/Rehabilitation of Flood Mitigation Facilities within Major River Basins and Principal River		
Construction of Catacdegan Flood Control, Manabo, Abra			Construction of Catacdegan Flood Control, Manabo, Abra		
Type of Work/ Physical Target	Unit Cost	Allocation	Type of Work/ Physical Target	Unit Cost	Estimated Cost
CW1- Construction of Flood Mitigation Structure / 820.497 l.m.	₱ 117,611.64/ l.m.	₱ 96,500,000.00	CW1- Construction of Flood Mitigation Structure/ 279.60 l.m.	₱ 345,135.908/ l.m.	₱ 96,500,000.00
EA0	-	₱ 3,500,000.00	EA0	-	₱ 3,500,000.00
Total:		₱100,000,000.00	Total:		₱100,000,000.00
Justification:					
<ul style="list-style-type: none"><li>The increase in unit cost which resulted to the decrease in the physical target is due to the usage of a reinforced concrete dike type of flood mitigation structure with steel sheet piles consisting of 42.37% of the project direct cost. The steel sheet piles are necessary to prevent scouring and possible failure along the foundation of the proposed mitigation and to ensure over-all stability of the project area.</li><li>Also, the huge/massive rock embankment consisting of 37.85% of the project cost contributed to the high unit cost of the project.</li><li>The derived unit cost is based on the approved Detailed Unit Price Analysis (DUPA) and Program of Works (POW). The 279.60 l.m. physical target has been derived/computed with reference to the evaluation made by the Bureau of Construction as per memorandum dated June 22, 2023.</li><li>See attached Cross-Section Drawing of the Project Submitted by the District Engineer, and the Certificate of Reasonableness of Cost Estimates signed by the Regional Director.</li></ul>					



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

  
**REY PETER B. GILLE, D.M.**

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

  
**EUGENIO R. PIPO, JR.**

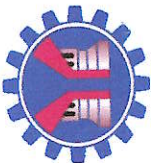
Undersecretary for Regional Operations  
in CAR, Regions I, II, IX, X, XI, XII, and XIII

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

  
**MANUEL M. BONOAN**  
Secretary

06/18/24  
2.3 mksa/MLS/AVS/AGC/ERP





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

July 28, 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 2 : Protect Lives and Properties Against Major Floods-  
Construction / Maintenance of Flood Mitigation Structures and  
Drainage Systems- Construction of Catacdegan Flood Control,  
Manabo, Abra**

We are respectfully forwarding the Memorandum dated July 24, 2023 from **District Engineer JOSELITO T. ARAO, Abra District Engineering Office**, regarding the above subject in the amount of **One Hundred Million Pesos (Php 100,000,000.00)** as indicated below:

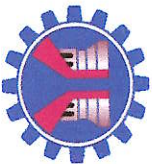
	As per GAA/Original	As Modified
Project ID	P00726859LZ	
UACS	320101108773000	
Project Title	Construction of Catacdegan Flood Control, Manabo, Abra	Construction of Catacdegan Flood Control, Manabo, Abra
Physical Target	<b>820.497</b> Lineal meters	<b>279.600</b> Lineal Meters

The supporting documents based on D.O. No. 23, series of 2023 are attached for your ready reference.

For the consideration of the Secretary.

  
**KHADAFY D. TANGGOL**  
Regional Director

*CAR.1 TPL/EPD/JWC/ABM*



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

July 28, 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 2 : Protect Lives and Properties Against Major Floods- Construction/ Maintenance of Flood Mitigation Structures and Drainage Systems- Construction of Catacdegan Flood Control, Manabo, Abra**

We are respectfully forwarding the Memorandum dated July 24, 2023 from **District Engineer JOSELITO T. ARAO, Abra District Engineering Office**, regarding the above subject in the amount of **One Hundred Million Pesos (Php 100,000,000.00)** as indicated below:

	As per GAA/Original	As Modified
Project ID	P00726859LZ	
UACS	320101108773000	
Project Title	Construction of Catacdegan Flood Control, Manabo, Abra	Construction of Catacdegan Flood Control, Manabo, Abra
Physical Target	<b>820.497</b> Lineal meters	<b>279.60</b> Lineal Meters

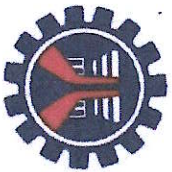
The supporting documents based on D.O. No. 23, series of 2023 are attached for your ready reference.

For the consideration of the Secretary.

  
**KHADAFY D. TANGGOL**  
Regional Director

*CAR.1 TPIL/EPD/JWC/ABM*





Republic of the Philippines  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
**ABRA**  
**DISTRICT ENGINEERING OFFICE**  
CORDILLERA ADMINISTRATIVE REGION  
Bangued, Abra



BAGONG PILIPINAS

July 24, 2023

**MEMORANDUM**

**FOR : KHADAFY D. TANGGOL**  
Regional Director

**THRU : ANGELITA B. MABITAZAN**  
Chief, Planning and Design Division

**SUBJECT : Request for the Modification of the Project: ORGANIZATIONAL OUTCOME 2 : Protect Lives and Properties Against Major Floods - Flood Management Program - Construction/ Maintenance of Flood Mitigation Structures and Drainage Systems, Construction of Catacdegan Flood Control, Manabo, Abra**

We are respectfully submitting for review and evaluation the above-mentioned subject for Modification, amounting to **One Hundred Million Pesos (Php 100,000,000.00)**, as indicated below:

**FROM**

Project Title:  
Construction of Catacdegan Flood Control,  
Manabo, Abra

**TO**

Project Title:  
Construction of Catacdegan Flood Control,  
Manabo, Abra

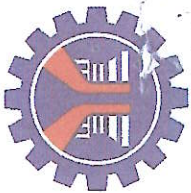
Physical Target:  
CW1 – **820.497** Lineal meters

Physical Target:  
CW1 – **279.60** Lineal meters

The supporting documents based on D.O. No. 23, series of 2023 are attached for your ready reference.

  
**JOSELITO T. ARAO**  
District Engineer

CAR.8.1 MJDJ/CLAR/JTA



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

June 26, 2023

**MEMORANDUM**

**TO :** **RD KHADAFY D. TANGGOL**  
DPWH - CAR  
Engineer's Hill, Baguio City

**ATTENTION :** **DE JOSELITO T. ARAO**  
Abra District Engineering Office  
Bangued, Abra

Transmitted herewith is the result of evaluation by the Bureau of Construction (BOC) on the requests for Project Modification under FY 2023 GAA DPWH Infrastructure Program for the four (4) hereunder projects, to wit;

PROJECT NAME	AMOUNT	BOC CORRECTIONS
1. Construction of Naguillian Flood Control Structure, La Paz, Abra	₱ 150,000,000.00	₱ 148,338,000.00
2. Construction of Catadegan Flood Control, Manabo, Abra	₱ 100,000,000.00	₱ 96,522,000.00
3. Installation of Road Safety Devices Along Abra-Ilocos Norte Rd - K0427 + 023 - K0430 + 967	₱ 100,000,000.00	₱ 99,878,000.00
4. Installation of Road Safety Devices Along Abra-Ilocos Norte Rd - K0416 + 938 - K0426 + 392	₱ 100,000,000.00	₱ 99,072,000.00

Also attached are the original documents evaluated by the BOC.

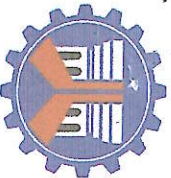
For your appropriate action.

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

2.3 LDAM/AVS/RPBG/ERP

Atty. CO - 202306-00740





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

June 22, 2023

**MEMORANDUM**

**FOR : Undersecretary EUGENIO R. PIPO, JR.**

For Regional Operations in CAR, Regions I, II, IX, X, XI, XII and XIII

**Subject : Request for the Approval for Modification of the Projects:**

1. SIPAG - Construction of Naguillan Flood Control Structure, La Paz, Abra
2. 002 - Construction of Catacdegan Flood Control, Manabo, Abra
3. CSSP - Installation of Road Safety Devices along Abra – Ilocos Norte Rd.- KO427+000 – KO431+100 to KO427+023 – KO430+967
4. CSSP - Installation of Road Safety Devices along Abra – Ilocos Norte Rd.-KO416+400 – KO426+500 to KO416+938 – KO426+392

This has reference to your memorandum dated June 5, 2023, requesting this Office for evaluation, comments and/or recommendations relative to the request for Modification of the above-enumerated projects. Hereunder are the results of the evaluation made by this Office:

**Project No. 1**

The amount equivalent to **Php150,000,000.00** for 402.80 lm of flood control structures as submitted were reduced to **Php148,338,000.00** due to the corrections on the utilization of manpower, equipment, unit prices of materials, utilization of no. of hours of equipment/manpower and rental rate of equipment. Likewise, the items of works and corresponding quantities were based in the submitted Programs of Works (POW) and Detailed Engineering Design plans duly approved by the District Engineer, Abra District Engineering Office, CAR.

**SCOPE OF WORK**

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 167,208.30	0.12%
Part B	Other General Requirements	P 1,224,480.54	0.86%
Part F	Bridge Construction	P 10,085,522.96	7.05%
Part G-A	Drainage and Slope Protection Works	P 74,326,910.81	51.91%
Part I-A	Earthworks	P 1,312,997.74	0.92%
Part I-B	Bank and Slope Protection Works	P 56,028,761.28	39.14%
	<b>GRAND TOTAL</b>	<b>P 143,145,881.63</b>	<b>100.00%</b>

Cost per lineal meter of F.C. = Php141,754,192.79 = Php351,922.03/l.m.  
(exclude Part A & B) 402.80 l.m.

### Cost of Bank and Slope Protection

Cost per lineal meter of F.C. = Php130,355,672.09 = Php323,623.81/l.m.  
(Part G-A & I-B only) 402.80 l.m.

The estimated cost of **Php351,922.03** per lineal meter for the Construction of Naguilan Flood Control Structure, La Paz, Abra is due to the design requirements as reflected in the approved design plans wherein the scope of works involves provisions of cut-off wall, massive volume of hand laid rock embankment of 4.00m to 6.59m in height at **51.90%** of the total project cost, and Bank & Slope Protection (concrete slope protection and steel sheet piles, L = 6.0m at 60 kg/m) which accounts to **39.14%** of the total project cost, coupled with recent price escalation and hauling of construction materials at 47.00 km away from the project.

### (Part A, B, F, and I-A are excluded)

If Facilities for the Engineer, Other General Requirements, Bridge Construction and Earthworks are excluded in the computation, the resulting cost is only **Php323,623.81** per lineal 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 equivalent to **Php100,000,000.00** for **269.60** lm of flood control structures as submitted were reduced to **Php96,522,000.00** due to the corrections on the utilization of manpower, equipment, unit prices of materials, utilization of no. of hours of equipment/manpower and rental rate of equipment. Likewise, the items of works and corresponding quantities were based in the submitted Programs of Works (POW) and Detailed Engineering Design plans duly approved by the District Engineer, Abra District Engineering Office, CAR.

### SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 157,513.00	0.17%
Part B	Other General Requirements	P 1,090,605.24	1.17%
Part F	Bridge Construction	P 14,686,673.63	15.77%
Part G-A	Drainage and Slope Protection Structure	P 36,357,658.45	39.03%
Part I-A	Earthworks	P 251,919.53	0.27%
Part I-B	Bank and Slope Protection Works	P 40,598,874.83	43.59%
	<b>GRAND TOTAL</b>	<b>P 93,143,244.68</b>	<b>100.00%</b>



Cost per lineal meter of F.C. = Php91,895,126.44 = Php340,857.29/l.m.  
(exclude Part A & B) 269.60 l.m.

### Cost of Bank and Slope Protection

Cost per lineal meter of F.C. = Php76,956,533.28 = Php285,447.08/l.m.  
(Part G-A & I-B only) 269.60 l.m.

The estimated cost of **Php340,857.29** per lineal meter for the Construction of Catacdegan Flood Control Structure, Manabo, Abra is due to the design requirements as reflected in the approved design plans wherein the scope of works involves provisions of cut-off wall, massive volume of hand laid rock embankment with 4.00m to 6.00m in height at **38.93%** of the total project cost, and Bank & Slope Protection (concrete slope protection and steel sheet piles, L = 6.0m at 60 kg/m) which accounts to **43.58%** of the total project cost, coupled with recent price escalation and hauling of construction materials at 35.00 km away from the project.

### (Part A, B, F, and I-A are excluded)

If Facilities for the Engineer, Other General Requirements, Bridge Construction and Earthworks are excluded in the computation, the resulting cost is only **Php285,447.08** per linear 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 equivalent to **P100,000,000.00** for 660 meter of installation of safety devices as submitted was reduced to **P99,878,000.00** due to the corrections on the utilization of manpower and unit prices of materials. Likewise, the items of works and corresponding quantities were based in the submitted Programs of Works (POW) and detailed engineering design plans duly approved by the District Engineer, Abra District Engineering Office, CAR.

### SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 659,802.38	0.68%
Part B	Other General Requirements	P 509,569.80	0.53%
Part H	Miscellaneous Structures	P 95,212,260.65	98.79%
	<b>GRAND TOTAL</b>	<b>P 96,381,632.84</b>	<b>100.00%</b>

Cost per meter of Guardrail = P85,747,971.49 = P129,921.17/meter  
660 meters

The estimated cost of **P129,921.17** per meter for the Installation of Road Safety Devices along Abra – Ilocos Norte Rd.- KO427+000 – KO431+100 to KO427+023 – KO430+967 to be made of Solar LED Streetlights (240 watts Solar Streetlight, Aluminum alloy, 18V 90W mono solar panel, 12V 60W 5600-600LM Philip, battery etc..) and introduction of new Double Roller Safety Barrier System (Rotating Barrel Ø 345mm x 240 mm, Main Post Ø 139.8 mm x2.2 m x 4.5 mm thk., Intermediate Post Ø 139.8 mm x 0.72 m x 4.5 mm thk., Frame Rail 100 mm x 80 mm x 3.2 mm thk., etc..) which accounts to **9.82%** and **88.97%**, respectively, of the total project cost 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 equivalent to **P100,000,000.00** for 522 meter of installation of safety devices as submitted was reduced to **P99,072,000.00** due to the corrections on the utilization of manpower and unit prices of materials. Likewise, the items of works and corresponding quantities were based in the submitted Programs of Works (POW) and detailed engineering design plans duly approved by the District Engineer, Abra District Engineering Office, CAR.

#### SCOPE OF WORK

ITEM NO.	DESCRIPTION	AMOUNT (Total Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer	P 659,802.38	0.69%
Part B	Other General Requirements	P 504,743.43	0.53%
Part C	Earthworks	P 61,762.20	0.06%
Part E	Surface Courses	P 458,517.57	0.48%
Part F	Bridge Construction	P 2,569,417.71	2.69%
Part H	Miscellaneous Structures	P 91,349,848.23	95.55%
	<b>GRAND TOTAL</b>	<b>P 95,604,091.53</b>	<b>100.00%</b>

$$\text{Cost per meter of Guardrail} = \frac{\text{P67,818,850.18}}{522 \text{ meters}} = \text{P129,921.17/meter}$$

The estimated cost of **Php129,921.17** per meter for the Installation of Road Safety Devices along Abra – Ilocos Norte Rd.-KO416+400 – KO426+500 to KO416+938 – KO426+392 to be made of aggregate subbase course, 0.28m thick PCC pavement at 6.7 meter (2 lanes at 3.35m/lane), concrete shoulder to be made of 2.00 meters wide bothside, Solar LED Streetlights (240 watts Solar Streetlight, Aluminum alloy, 18V 90W mono solar panel, 12V 60W 5600-600LM Philip, battery etc..) and introduction of new Double Roller Safety Barrier System (Rotating Barrel Ø 345mm x 240 mm, Main Post Ø 139.8 mm x2.2 m



x 4.5 mm thk., Intermediate Post Ø 139.8 mm x 0.72 m x 4.5 mm thk., Frame Rail 100 mm x 80 mm x 3.2 mm thk. Etc.) which accounts to **24.61%** and **70.94%**, respectively, of the total project cost is considered reasonable as the Unit Costs of the items of work involved are within the range of the prevailing cost of the Department.

For the Undersecretary's information.

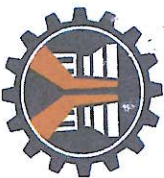


**ARISTARCO M. DOROY**

OIC-Director, Bureau of Construction

cc: Undersecretary MA. CATALINA E. CABRAL, PhD., CESO I, Planning and Public Partnership Services  
Undersecretary MAXIMO L. CARVAJAL, For Information Management and Technical Services  
OIC-Assst. Secretary REY PETER B. GILLE, For Regional Operations in CAR, Regions I, II, IX, XI, XII and XIII  
OIC-Assst. Secretary MEDMIR G. MALIG, For Information Management and Technical Services

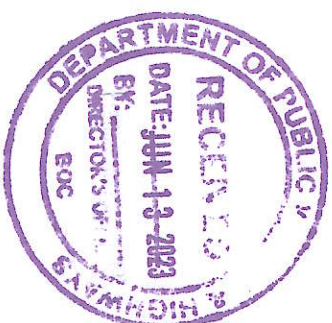
6.1.1 RIC/CBC/JTS  
06192023 Memo Modification-CAR-AbraDEO  
Ref. No. BOC- 6.1-409-6977/DoTs#6.1.1-226-04



Republic of the Philippines  
**DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS**  
**CENTRAL OFFICE**  
Bonifacio Drive, Port Area, Manila

June 05, 2023

**MEMORANDUM**



**TO : ARISTARCO M. DORAY**  
Office of the Director, Bureau of Construction  
Officer-in-Charge  
This Department

Referred herewith is a Project Modification request of **DPWH District Engineer JOSELITO T. ARAO, Abra District Engineering Office**, under FY 2023 GAA, to wit:

Item No.	Project ID	Project Description (As per GAA)	Amount (Php)
1	P00740307LZ	Construction of Nauillian Flood Control Structure, La Paz, Abra	150,000,000.00
2	P00726859LZ	Construction of Catacdegan Flood Control, Manabo, Abra	100,000,000.00
3	P00739551LZ	Installation of Road Safety Devices Along Abra-Ilocos Norte Rd – K0427 + 000 – K0431 + 100	100,000,000.00
4	P00739550LZ	Installation of Road Safety Devices Along Abra-Ilocos Norte Rd – K0416 + 400 – K0426 + 500	100,000,000.00

Attached for your reference are the Program of Works (POWs), Detailed Unit Price Analysis (DUPA), Project Plans, Certificate of Reasonableness of Cost Estimates and Geotagged Photos, etc.

For your evaluation, comments, and/or recommendations.

  
**EUGENIO K. RIPO JR.**  
Undersecretary for Regional Operations in CAR,  
Regions I, II, IX, X, XI, XII and XIII

3.5 JFF/ECL/AGC/ERP



#52 23PA0128

## CHECKLIST

### PROJECT MODIFICATION

Implementing Office  
Project Name/Location

: Abra District Engineering Office  
: **ORGANIZATIONAL OUTCOME 2 : Project Lives and Properties Against Major Floods - Flood Management Program - (Construction/ Maintenance of Flood Mitigation Structures and Drainage Systems, Construction of Catadegan Flood Control, Mandobo, Abra**

Project ID  
Project Allocation

: P007268591Z  
: Pnp 100,000,000.00

UACS Code : 320101108773000

☒ 1. Modification Request Form

☒ 2. AIP

☒ 3. Certificate of Availability of Funds

4. Supporting Data & Analysis

☒ a. Road Condition (RBA Latest Official Database)

☒ b. Traffic Volume Capacity Ratio (for Widening Projects)

☒ c. Bridge Condition (BMS Latest Official Database)

☒ d. Hydraulic & Hydrologic Analysis (for New/Replacement Bridges and Flood Control Projects)

☒ e. RSM Forms (for Road Slips)

☒ f. Project Impact Analysis (for Flood Control Projects)

☒ g. Master Plan (for Flood Control Projects)

☒ 5. BP 202

6. Geotagged Photos

☒ a. Hard Copy

☒ b. Electronic Copy

☒ c. Plotted in the GIS Map

7. Certificate of No Overlapping

☒ a. District Engineer

☒ b. Construction and Maintenance Division Chiefs

8. ROW Clearance

☒ a. District Engineer

☒ b. LGU

9. Environmental Clearances

☒ a. Not Within a "No Build Zone" (MGB)

☒ b. Tree Cutting Permit (if Applicable-EMB)

☒ c. CNC/ECC/EIA (EMB)

☒ 10. Social Clearance (not within a Declared Heritage/Cultural site-NCCA)

☒ 11. Certificate of Reasonableness (for Projects with Changes in Unit Cost)

12. Project Details

☒ a. POW

☒ b. DUPA

c. Plans

☒ 1. Coverage

☒ 2. Summary of Quantities

☒ 3. Cross Section Showing Changes (if Applicable)

☒ d. Materials Source Map

☒ 13. Certificate of Local Government Unit

Checked by:

  
**ERLINDA F. DOЛИENTE**  
Engineer III  
Chief, Planning Section

# Modification Request Form

## A. GENERAL

<b>1. REGION</b>	<b>2. DEO</b>	<b>3. LEGISLATIVE DISTRICT</b>
Cordillera Administrative Region	Abra District Engineering Office	Abra Lone District

## B. ORIGINAL PROJECT

## C. PROPOSED REVISED PROJECT

4. UACS (Unified Account Code Structure as defined in GAA)

320101108773000

5. Project Id

P007268591Z

6. Project Category

002: Protect Lives and Properties

7. Sub-Program (P/A/P)

Construction/ Maintenance of Flood Mitigation Structures and Drainage Systems

8. Operating Unit

Central Office

9. Type of Work (Enter Details for all Components below)

Component ID

Type of Work

CW1

Construction of Flood Mitigation Structure

EAO

Choose an item.

Click here to enter text.

Choose an item.

Click here to enter text.

10. PROJECT DESCRIPTION (as recorded in GAA)

Construction of Catacdegan Flood Control, Manabo, Abra

11. ALLOTMENT (P'000) (as recorded in GAA)

100000

12. PHYSICAL TARGET (Enter Details for all Components below)

Component ID

Target

CW1

820,497

Lineal Meters (lm)

EAO

Click here to enter text.

Choose an item.

Click here to enter text.

Choose an item.

Click here to enter text.

Choose an item.

13. UNIT COST (Enter Details for all Components below)

Component ID

Component Cost (P'000)

Target Unit Cost (P'000/Target Unit)

CW1

96500

117,61164

EAO

3500

Click here to enter text.

Click here to enter text.

18. Operating Unit (Change subject to DBM approval)

Central Office

19. Type of Work (Enter Details for all Components below)

Component ID

Type of Work

CW1

Construction of Flood Mitigation Structure

EAO

Choose an item.

Click here to enter text.

Choose an item.

Click here to enter text.

20. PROJECT DESCRIPTION (of the revised project)

Construction of Catacdegan Flood Control, Manabo, Abra

21. REVISED ESTIMATED COST (P'000) (Equal to, or lower than GAA allotment)

100000

22. CAF (To be obtained from Financial Management office)

YES

23. PHYSICAL TARGET (Enter Details for all Components below)

Component ID

Target

CW1

279,60

Lineal Meters (lm)

EAO

Click here to enter text.

Choose an item.

Click here to enter text.

Choose an item.

Click here to enter text.

Choose an item.

24. UNIT COST (Enter Details for all Components below)

Component ID

Component Cost (P'000)

Target Unit Cost (P'000/Target Unit)

CW1

96500

345,135908

EAO

3500

Click here to enter text.

Click here to enter text.



## Modification Request Form

Click here to enter text.	Click here to enter text.	Click here to enter text.	Click here to enter text.
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<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 00-1) Click here to enter text.
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<b>Start X</b>	120.708	<b>End X</b>	120.71
<b>Start Y</b>	17.4508	<b>End Y</b>	17.4509

<b>15. ROAD CLASSIFICATION</b> (if applicable) Choose an item.	<b>26. ROAD CLASSIFICATION</b> (if applicable) Choose an item.
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<b>16. IMPLEMENTING OFFICE</b> (Record the Implementing Office of the original project) Abra District Engineering Office	<b>27. IMPLEMENTING OFFICE</b> (Record the Implementing Office of the proposed revised project) Abra District Engineering Office
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<b>17. PROJECT IMPLEMENTATION PLAN (PIP)</b>			
<b>Planned Start Date</b>	<b>Planned End Date</b>	<b>Planned Start Date</b>	<b>Planned End Date</b>
August 1, 2023	May 5, 2024	August 1, 2023	May 5, 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
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### D. ATTACHMENTS & JUSTIFICATIONS

<b>31. PROJECT IMPACT ANALYSIS ATTACHED?</b> (For Flood Control Projects) <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> N/A	
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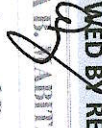


**32. TECHNICAL JUSTIFICATION** (Explain in detail in Bullet point format; minimum of 2 points)

- The increase in unit cost which resulted to the decrease in the physical target is due to the usage of a reinforced concrete dike type of flood mitigation structure with steel sheet piles consisting of 42.52% of the project direct cost. The steel sheet piles are necessary to prevent scouring and possible failure along the foundation of the proposed mitigation and ensure over-all stability of the project area.
- Also, the huge/massive rock embankment consisting of 36.36% of the project cost contributed to the high unit cost of the project.
- The derived unit cost is based on the approved Detailed Unit Price Analysis (DUPA) and Program of Works (POW) with reference to the evaluation made by the Bureau of Construction as per memorandum dated June 26, 2023.
- See attached Cross-Section Drawing of the Project Submitted by the District Engineer, and the Certificate of Reasonableness of Cost Estimates signed by the Regional Director.

<b>33. PHOTOS SUBMITTED</b> <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES	
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<b>34. A MAP OF THE PROPOSED PROJECT WORK LOCATION SUBMITTED</b> <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES	
---	--

## Modification Request Form

35. PREPARED BY:			
Name:	MEGIE S. D. JAVIER 	Position:	ENGINEER II
Office:	Abra District Engineering Office	Date:	Click here to enter a date.
36. REVIEWED BY DISTRICT OFFICE (if Required)		38. REVIEWED BY REGIONAL OFFICE	
Name:	CHONA LUISA A. RAMOS 	Name:	ANGELITTA B. LABITAZAN 
Position:	Chief, Planning and Design Section	Position:	Chief, Planning and Design Division
Date:		Date:	
37. RECOMMENDED BY DISTRICT OFFICE (if Required)		39. RECOMMENDED BY REGIONAL OFFICE	
Name:	JOSEITO A. RAMO 	Name:	KHADAFI M. TAVACOL 
Position:	District Engineer	Position:	Regional Director
Date:		Date:	



# Modification Request Form

**UACS** (Unified Account Code Structure as defined in GAA)

320101108773000

**Project Id**



P00726859LZ

## 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 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 (TO), 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**



<b>Name:</b>	Engr. MANUEL L. SINGSON	Engr. ANTONIO V. SOBREVÍÑAS, JR.
<b>Signature</b>		
<b>Position:</b>	Project Manager I	Project Manager II
<b>Date:</b>	8/10/23	8/15/23

## 41. DPWH PLANNING SERVICE

**Category of Modification**  
(please check the appropriate)

- ☐ Category A – Typographical Error  
☐ Category B – Change in Station Limits  
☐ Category C – Change in Location, due to non-existing location  
☐ Category D – Change in Operating Unit (requires DBM approval)  
☐ Modification does not comply with DBM Categories

**Reviewed by Planning Service**

<b>Name:</b>	ANNA ANDREA M. NOCHE	<b>Name:</b>	PETER PAUL R. CORTEZ
<b>Signature</b>		<b>Signature:</b>	
<b>Position:</b>	CAR-Regional Coordinator	<b>Position:</b>	Chief of Programming Division
<b>Date:</b>	8/23/23	<b>Date:</b>	