

## Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

#### OFFICE OF THE SECRETARY

Manila

September 1, 2022

#### **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 National Roads with Slips, Slope Collapse, and Landslide Tertiary Roads Gov. BadoDangwa National Rd K0338 + 320 K0338 + 473 - P150,000.000
- OO2: Protect Lives and Properties Against Major Floods Flood Management -Construction/ Rehabilitation of Flood Mitigation Facilities along Major River Basins and Principal Rivers Construction of Flood Control Structure along Nayon River, Sta. 13+904- Sta. 13+960 and Sta. 13+970- Sta. 14+114, (Bimpal side) Lamut, Ifugao - - - P13,000.000
- 3. 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 **K0358** + **842** K0359 + 047 - ₱**69,000.000**
- 4. OO1: Ensure Safe and Reliable National Road System Asset Preservation Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide Secondary Roads Baguio-Bontoc Rd K0369 + 640 K0369 + 910 - P 180,000.000
- 5. 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 **K0353** + **710 K0353** + **804** - -₱**94**,**444**.**000**
- 6. OO1: Ensure Safe and Reliable National Road System Asset Preservation Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide Tertiary Roads Kiangan-Tinoc-Buguias Rd K0355 + 520 -K0355 + 668 - ₱200,000.000
- 7. OO1: Ensure Safe and Reliable National Road System Asset Preservation Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide Secondary Roads Baguio Bontoc Rd K0375 + 100 **K0375 + 130**, K0375 + 935 **K0376 + 042 - ₱140,000.000**
- 8. OO1: Ensure Safe and Reliable National Road System Asset Preservation Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide Tertiary Roads Gov. Bado Dangwa National Rd K0339 + 548 K0339 + 706 - ₱170,000.000

It is informed that **a project can only be modified once** as prescribed under the FY 2022 General Appropriations Act (GAA). Further, it is 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 Regional Operations in CAR, Regions I, II, IX, X, XI, XII, and XIII



#### Republic of the Philippines DEPARTMENT OF PUBLIC WORKS AND

Project ID:

As Modified

Reference

Number:

CAR-178

P00611411LZ

#### OFFICE OF THE SECRETA Manila

July 28, 2022

#### **MEMORANDUM**

FOR

MANUEL M. BONOAN

Secretary

As nor GAA/Original

This Department

This refers to the memorandum dated July 4, 2022 of DPWH CAR Regional Director KHADAFFY D. TANGGOL requesting for the approval of the Modification of the project under FY 2022 General Appropriation Act (GAA), to wit;

	4 <i>s per GAA/Orig</i>	inal	AS MODITIED			
		Project D	escription			
UACS No. : Project ID:	310109100797 P00611411LZ	000				
001: Ensure System	Safe and Reliable	National Road	OO1: Ensure S System	Safe and Reliable I	National Road	
Asset Preservation - Rehabilitation/ Reconstruction of National Roads with Slips, Slope Collapse, and Landslide - Tertiary Roads Gov. Bado Dangwa National Rd - K0338 + 320 - <b>K0338 + 480</b>			Reconstruction Collapse, and	servation - n of National Roads Landslide - Tertian ngwa National Rd	ry Roads	
Physical Target	Unit Cost P	Allocation P ('000)	Physical Target	Unit Cost P	Estimated Cost P ('000)	
CW1 Construction of Road Slope Protection Structure:	₽ <b>17,370.00</b> / Square meters	₽ 144,750.000	CW1 Construction of Road Slope Protection Structure: 5,791.500	<b>24,993.52</b> / Square meters	₽ 144,750.000	
8,333.330 Square meters			Square meters			
<b>8,333.330</b> Square	_	₽ 5,250.000	,	-	₽ 5,250.000	

- The revised station limit reflects the exact section that requires immediate slope mitigation due to its susceptibility to soil/ rock collapse.
- The decrease from 8,333.330 square meters to 5,791.500 square meters in the physical target is due to the decrease in length of the structure and the decrease in average slant height from 52 meters to 37 meters based on the result of the stability analysis.

UACS No.: 310109100797000 Project ID: P00611411LZ

Page 2 of 2

• 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 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 modification of the said project is in order. Hence, the said request is hereby recommended for Secretary's consideration and approval.

ADOR G. CANLAS

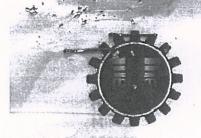
Assistant Secretary for Regional Operations Regions I, II, CAR, IX, X, XI, XII and XIII

APPROVED/DESAPPROVED:

3.5 dlbc/ldam/AVS/AGC

Secretary

Department of Public Works and Highways
Office of the Secretary



# 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**

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ITEM NO.	I I I E C D I D I I I I I I		DUNT tal Cost)	PERCENT Weight (%)
Part A	Facilities for the Engineer		203,439.60	0.25%
Part B	Other General Requirements	P	1,532,726.30	1.85%
Part C	Earthworks		223,796.35	0.27%
Part G	Drainage & Slope Protection Structures		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  $m^2$  =  $\frac{P82,897,403,25}{3,140.00 \text{ m}^2}$  =  $\frac{P26,400.45}{m^2}$  Cost per kilometer of Road =  $\frac{P80,769,413.00}{3,140.00 \text{ m}^2}$  =  $\frac{P25,722.74}{m^2}$ 

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 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	Р	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%	
	GRAND TOTAL	P	289,496,101.86	100.00%	

Cost of slope protection per m <sup>2</sup> =	P289,496,101.86 11,394.00 m <sup>2</sup>	=	P25,407.77/m <sup>2</sup>
Cost per kilometer of Road = (Exclude Part A, B, C, D, E, F & H)	P284,252,869.60 11,394.00 m <sup>2</sup>	=	P24,947.59/m <sup>2</sup>

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		DUNT 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	Р	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 <sup>2</sup>	=	P66,584,296.83 2,507.00 m <sup>2</sup>	=	P26,559.35/m <sup>2</sup>
Cost per kilometer of Road (Exclude Part A, B & C)	=	P64,640,950.30 2,507.00 m <sup>2</sup>	=	P25,784.18 m <sup>2</sup>

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 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	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 <sup>2</sup>	=	P145,277,696.27 5,853.04 m <sup>2</sup>	=	P24,820.90/m <sup>2</sup>
Cost per kilometer of Road (Exclude Part A, B, C & F)	=	P136,619,434.98 5,853.04 m <sup>2</sup>	=	P23,341.62/m <sup>2</sup>

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



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

Engineer's Hill, Baguio City

July 4, 2022

#### **MEMORANDUM**

**FOR** 

: MANUEL M. BONOAN

Secretary

THRU

: ROBERTO R. BERNARDO

Undersecretary for Regional Operations

Regions I, II, III, IV-A, V & CAR

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 - Tertiary Roads - Gov. Bado Dangwa National Rd - K0338 + 320 - K0338 + 480

We are respectfully submitting the modification of the above project in the amount of **One Hundred Fifty Million Pesos (Php 150,000,000.00)**, as indicated below:

	As per GAA/Original	As Modified			
Project ID	P00611411LZ				
UACS	310109100797000				
Project Title	Gov. Bado Dangwa National Rd - K0338 + 320 - K0338 + <b>480</b>	Gov. Bado Dangwa National Rd - K0338 + 320 - K0338 + <b>473</b>			
Physical Target	<b>8,333.330</b> Square meters	<b>5,791.500</b> Square meters			

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

For the consideration of the Secretary.

KHADAFFY D. TANGGOL

Regional Director

CAR.1 CSCE/EFFD/JWC/ABM

A. GENERAL

<b>L. REGION</b> Cordillera Administr		2. DEO Benguet 2nd Distric	t Engineering Office			E DISTRICT IE DISTRICT)
В. (	ORIGINAL PROJECT	•	C. PROPOSED REVISED PROJECT			
4. UACS (Unified Accounts)	nt Code Structure as defir	ned in GAA)				
5. Project Id P00611411LZ						1
<b>6. Project Category</b> OO1: Ensure Safe an	nd Reliable National F	Road System				
7. Sub-Program (P// Asset Preservation - Roads	<b>A/P)</b> Rehabilitation/ Reco	enstruction of Nation	nal Roads with Slips, S	Slope Collapse,	and Land	Islide - Tertiary
8. Operating Unit Central Office			18. Operating Unit (	Change subject to [	)BIVI appro	val)
9. Type of Work (Ent	ter Details for all Compon	ents below)	19. Type of Work (Er			s below)
Component ID	Type of Work		Component ID		Type of Work	
CW1	Construction of Road Slope Protection Structure		CW1	Construction of Road Slope Protection Structure		d Slope Protection
EAO			EAO			
	RIPTION (as recorded in National Rd - K0338		20. PROJECT DESCR Gov. Bado Dangwa			
11. ALLOTMENT (P	<b>'000)</b> (as recorded in GA	A)	21. REVISED ESTIMA (P'000) (Equal to, or lo allotment) 150,000		7.77	(To be obtained from Management office)
12. PHYSICAL TARG	GET (Enter Details for all	Components below)	23. PHYSICAL TARG	iET (Enter Details f	or all Com	
Component ID	Target	Target Unit	Component ID	Target	/	Target Unit
CW1	8,333.330 /	Square meters	CW1	5,791.500	1	Square meters
EAO			EAO			
13. UNIT COST (Ent	er Details for all Compone	ents below)	24. UNIT COST (Ente	er Details for all Co	mponents	below)
Component ID	Component Cost (P'000)	Target Unit Cost (P'000/Target Unit)	Component ID	Compone (P'000)	nt Cost	Target Unit Cost (P'000/Target Unit)
CW1	144,750.000 /	17.370	CW1	144,750.0	00//	24.994
EAO	5,250.000		EAO	5,250.000	1	

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.	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			
<b>15. ROA</b> Tertiary	<b>D CLASSIFICATION</b> Road	(if applicable)	26. ROAD CLASSIFICA	TION (if applicable)			
the origina		(Record the Implementing Office o	f 27. IMPLEMENTING ( proposed revised project) Regional Office CAR		ementing Office of the		
17. PRO	JECT IMPLEMENTA	TION PLAN (PIP)	28. PROJECT IMPLEM	ENTATION PLAN (PIP	P)		
<b>Planned</b> 06/25/2	Start Date	Planned End Date 05/20/2023	Planned Start Date 06/25/2022	Planned End 05/20/2023			
			29. OVERLAP?  ☑ NO □ YES	30. UNDER ⊠ NO	WARRANTY?  ☐ YES		
		D. ATTACHM	ENTS & JUSTIFICATION	S			
<ul> <li>31. PROJECT IMPACT ANALYSIS ATTACHED? (For Flood Control Projects)</li> <li>NO</li></ul>							
□NO	□NO ⊠YES						
	AP OF THE PROPOS ⊠YES	ED PROJECT WORK LOCATIO	N SUBMITTED				

	35. P	REPARED BY	Y:
Name:	ERLINDA F. DOLIENTE	Position:	Chief, Planning Section
Office:	Cordillera Administrative Region	Date:	
36. REVIE	EWED BY DISTRICT OFFICE (If Required)	38. REV	VIEWED BY REGIONAL OFFICE
Name:		Name:	ANGELITA B.MABITAZAN
Position:		Position:	Chief, Planning and Design Division
Date:		Date:	
37. RECOMP	MENDED BY DISTRICT OFFICE (If Required)	39. REC	COMMENDED BY REGIONAL OFFICE
Name:		Name:	KHADAFFY D. TÁNGGOL
Position:		Position:	Regional Director
Date:		Date:	

UACS (Unified Account 310109100797000	Code Structure as define	d in GAA)							
Project Id P00611411LZ									
	40. DPWH OFFIC	E OF THE UNDERSEC	CRETARIES F	OR OPERATIONS U	JSE ONLY				
Category of Modifica (choose one)	ation Ca	□ Category D − Change in Operating Unit (requires DBM approval) □ Adjustment − Send to PS-PD to amend MYPS □ Modification does not comply with DBM Categories							
Primary Reason for I	Request (based on Ca	ategory of Modificati	ion): (choose	e one)					
Category A	Category B	Category C	C	ategory D	Adjustment (Must be no change to target or GAA line item)  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				
☐ Typographical error on Project Description ☐ Project Description needs items removed due to typo error	Overlapping Secti Work  Change in station due to increase or decrease in budge  Change in Physica	limits, City/Muni		Change in (10), requiring a change in the (OU)					
	Review	red by Office of the U	Indersecret	ary for Operations					
Name: Signature	Engr. ANTONIO V. So	OBREVIÑAS, JR.							
Position:	Project Manager II	1 1							
Date:		1/18/12							
a Ursi, kisi a Silvisjakkia 1900 j	41	DPWH PLANNING S	ERVICE OFF	ICE USE ONLY					
Category of Modifica (choose one)	Cat Cat Cat Cat Cat Mo	tegory A — Typographical E tegory B — Change in Statio tegory C — Change in Locat tegory D — Change in Opera iustment — Send to PS-PD ( diffication does not compli- gmentation	on Limits, due t ion ating Unit (req to amend MYP y with DBM Ca	uires DBM approval) S tegories	in budget				
		Reviewed by I	Planning Se	rvice					
Name: Signature	CHRISTYBEL C CANL		ame: ignature:	1 1					
Position:	Regional Goordinato	r Pe	osition:	OIC – Chref, Progra	nming Division				
Date:	(1	2 -227	ate:						

## 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
P00611411LZ -CW1	S00376LZ	K0338 + 320	K0338 + 473	20252	20405	153	Construction of Road Slope Protection Structure	Rockfall Netting with Erosion Control Mat, Hydroseeding and Permanent Ground Anchor, Breastwall (L/S)	Square meters	5,791.5