

PROJECT : Feasibility Study for the Restoration
of Rural Road
LOCATION : Baybay - Mahaplag Road
SPOT NO. : 50
BOREHOLE NO. : 1

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS- 1	13	45/45
1.55- 2.00	SS- 2	14	38/45
2.55- 3.00	SS- 3	23	40/45
3.55- 4.00	SS- 4	40	42/45
4.55- 5.00	SS- 5	50	40/45
5.55- 6.00	SS- 6	57	40/45
6.99- 6.90	SS- 7	30,50/5	33/35
6.90- 7.55	SX- 1	CORING	NO RECOVERY
7.55- 7.80	SS- 8	13,50/10	25/25
7.80- 8.55	CX- 2	CORING	NO RECOVERY
8.89- 8.82	SS- 9	18,50/12	20/27
8.82-10.32	CS- 1	CORING	62/150
10.32-11.57	CS- 2	CORING	68/125
11.57-13.00	CS- 3	CORING	72/143
13.00-14.00	CS- 4	CORING	54/100
14.00-15.00	CS- 5	CORING	56/100

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LABORATORY TEST RESULTS

DEPTH (M)	SAMPLE NO.	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	SS- 1	30	45	23	22	CL	*
1.55- 2.00	SS- 2	27	37	25	12	ML	*
2.55- 3.00	SS- 3	60	65	55	10	MH	
3.55- 4.00	SS- 4	58	66	56	10	MH	*
4.55- 5.00	SS- 5	55	64	54	10	MH	
5.55- 6.00	SS- 6	61	67	56	11	MH	*
6.55- 6.90	SS- 7	56	65	54	11	MH	
6.90- 7.55	CX- 1	-	-	-	-	-	NO RECOVERY
7.55- 7.80	SS- 8	57	63	56	7	MH	*
7.80- 8.55	CX- 2	-	-	-	-	-	NO RECOVERY
8.55- 8.82	SS- 9	55	64	53	11	MH	
8.82-10.32	CS- 1	-	-	-	-	-	CORING
10.32-11.57	CS- 2	-	-	-	-	-	CORING
11.57-13.00	CS- 3	-	-	-	-	-	CORING
13.00-14.00	CS- 4	-	-	-	-	-	CORING
14.00-15.00	CS- 5	-	-	-	-	-	CORING

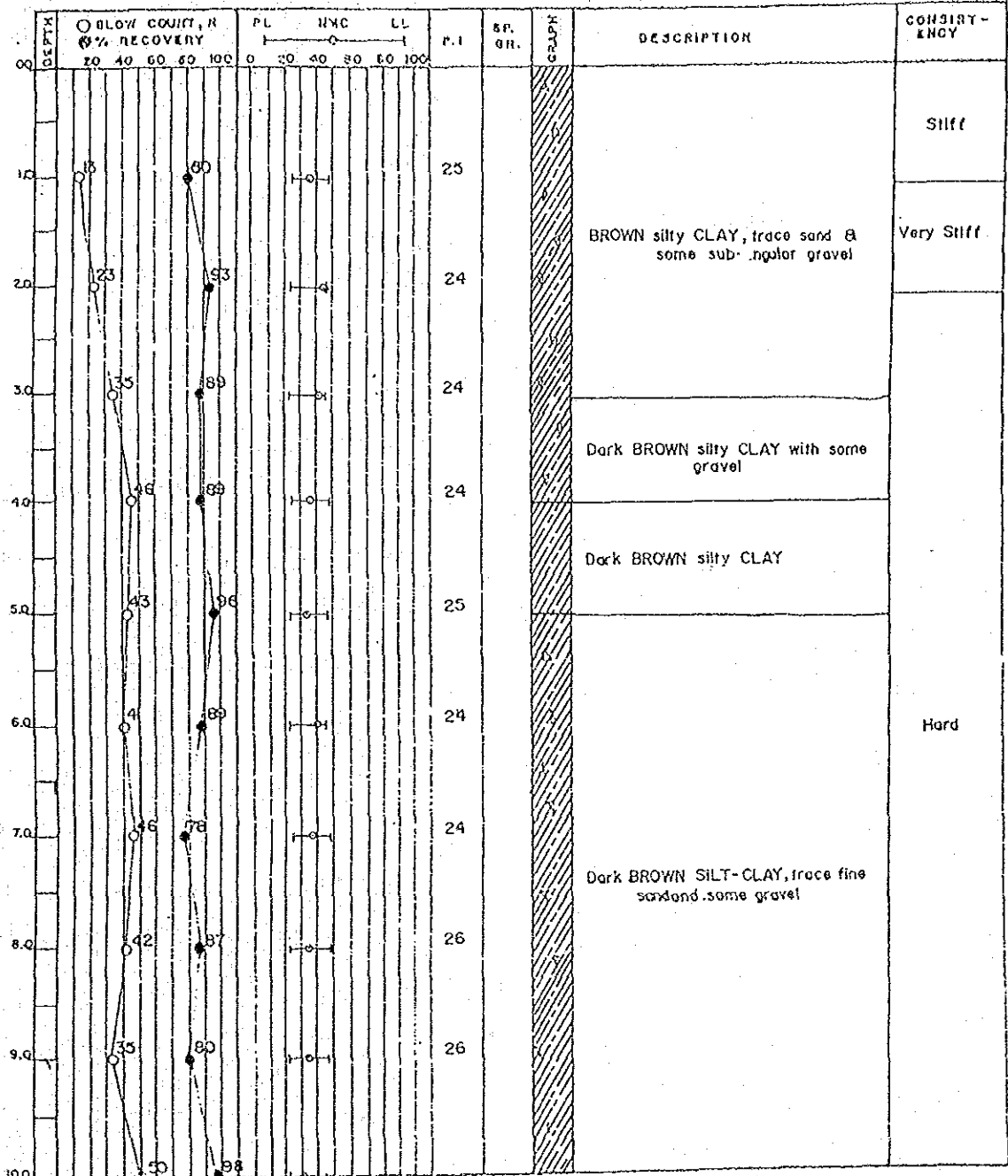
LEGEND:

* HAVE GRAIN SIZE DISTRIBUTION GRAPH

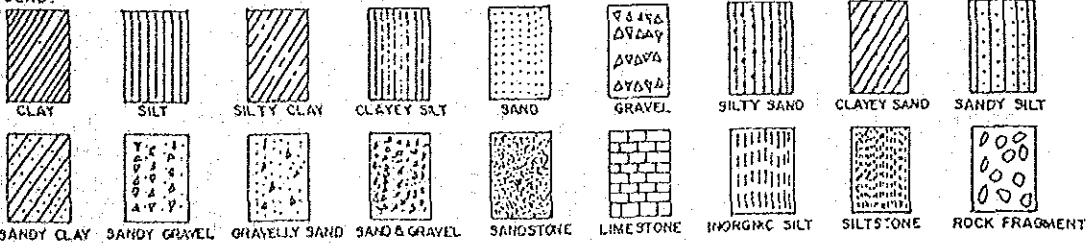
FINAL BORING LOG

Project Feasibility Study for the Restoration of Rural Roads
 Location SPOT #50 Baybay - Mahaplag Road
 Drilling method Wash Boring
 Sampler used 2" O.D Split Spoon & BXL Core Barrel
 Hammer fall 76 cm

Hole designation BH-2
 Date started February 17, 1991
 Date completed February 18, 1991
 Water elevation 8.75m
 Collar elevation _____
 Hammer weight 63.50 kg

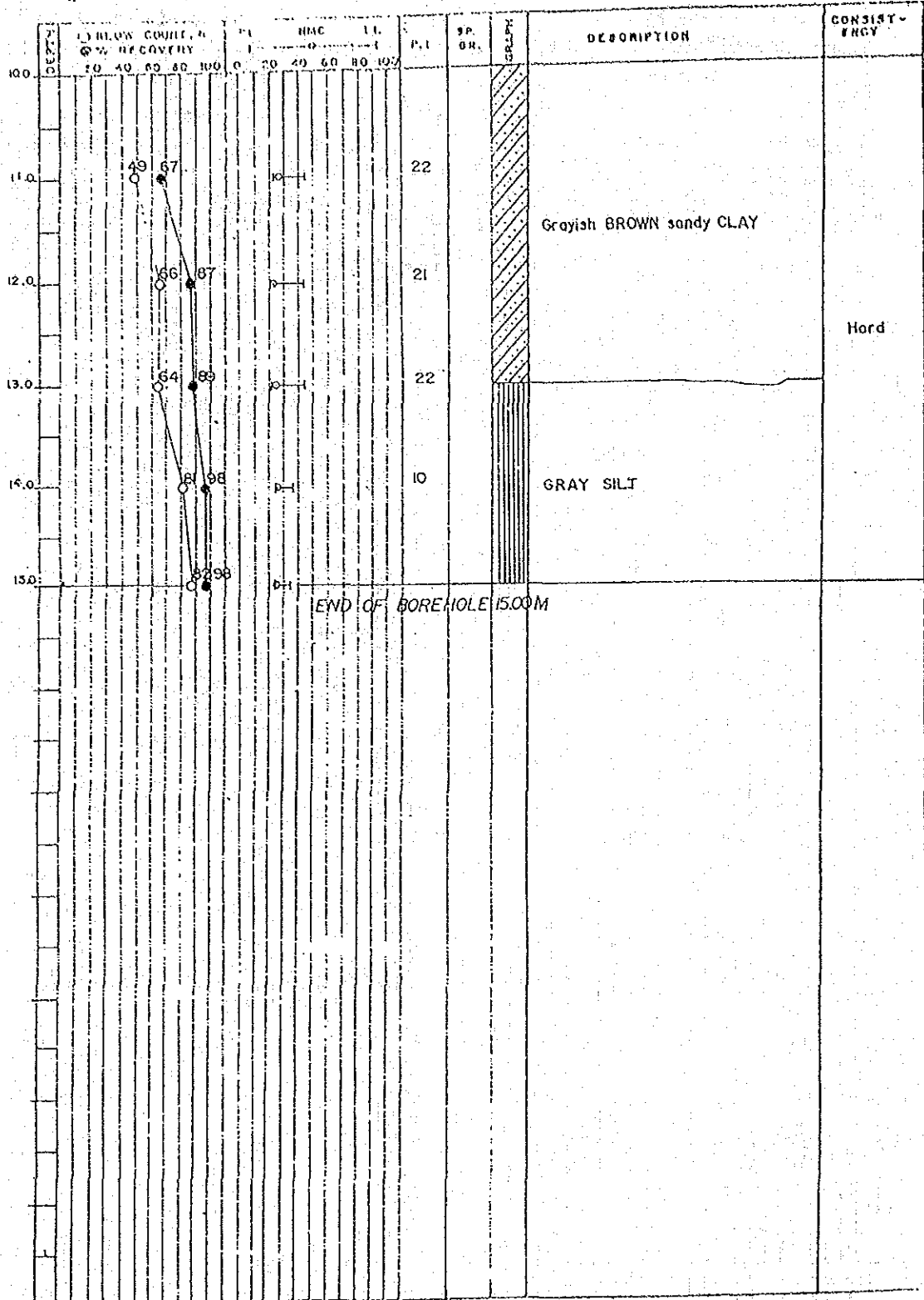


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















FINAL BORING LOG

Project: Feasibility Study on the Restoration of Rural Roads Hole designation: SPOT#5Q, BH-2



LEGEND:

-  CLAY
-  SILT
-  SILTY CLAY
-  CLAYEY SILT
-  SAND
-  GRAVEL
-  SILTY SAND
-  CLAYEY SAND
-  SANDY SILT
-  SANDY CLAY
-  SANDY GRAVEL
-  GRAVELLY SAND
-  SAND & GRAVEL
-  SANDSTONE
-  Limestone
-  INORGANIC SILT
-  SILTSTONE
-  ROCK FRAGMENT

PROJECT : Feasibility Study for the Restoration of
 Rural Road
 LOCATION : Baybay - Mahaplag Road
 SPOT NO. : 50
 BOREHOLE NO. : 2

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS- 1	13	36/45
1.55- 2.00	SS- 2	25	42/45
2.55- 3.00	SS- 3	35	40/45
3.55- 4.00	SS- 4	46	40/45
4.55- 5.00	SS- 5	43	43/45
5.55- 6.00	SS- 6	41	40/45
6.55- 7.00	SS- 7	46	35/45
7.55- 8.00	SS- 8	42	39/45
8.55- 9.00	SS- 9	35	36/45
9.55-10.00	SS-10	50	36/45
10.55-11.00	SS-11	49	30/45
11.55-12.00	SS-12	66	39/45
12.55-13.00	SS-13	64	40/45
13.55-14.00	SS-14	81	44/45
14.55-15.00	SS-15	87	44/45

PROJECT : Feasibility Study for the Restoration of Rural Roads
 LOCATION : Baybay - Mahaplag Road
 SPOT NO. : 50
 BOREHOLE NO: : 2

LABORATORY TEST RESULTS

DEPTH (M)	SAMPLE NO	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	ss- 1	36	49	24	25	CL	
1.55- 2.00	ss- 2	45	48	24	24	CL	*
2.55- 3.00	ss- 3	41	47	23	24	CL	
3.55- 4.00	ss- 4	37	49	25	24	CL	*
4.55- 5.00	ss- 5	35	48	23	25	CL	
5.55- 6.00	ss- 6	40	47	23	24	CL	*
6.55- 7.00	ss- 7	39	49	25	24	CL	
7.55- 8.00	ss- 8	36	49	23	26	CL	*
8.55- 9.00	ss- 9	36	48	23	25	CL	
9.55-10.00	ss-10	31	46	23	23	CL	*
10.55-11.00	ss-11	27	44	22	22	CL	
11.55-12.00	ss-12	23	43	22	21	CL	*
12.55-13.00	ss-13	24	43	21	22	CL	
13.55-14.00	ss-14	26	35	25	10	ML	*
14.55-15.00	ss-15	25	34	24	10	ML	

LEGEND:

* HAVE GRAIN SIZE DISTRIBUTION GRAPH

FINAL BORING LOG

Project: Feasibility Study for the Restoration of Rural Roads

Site designation: BH-1

Location: SPOT #45 Baybay - Mahaplog Road

Date started: February 21, 1991

Drilling method: Wash Boring

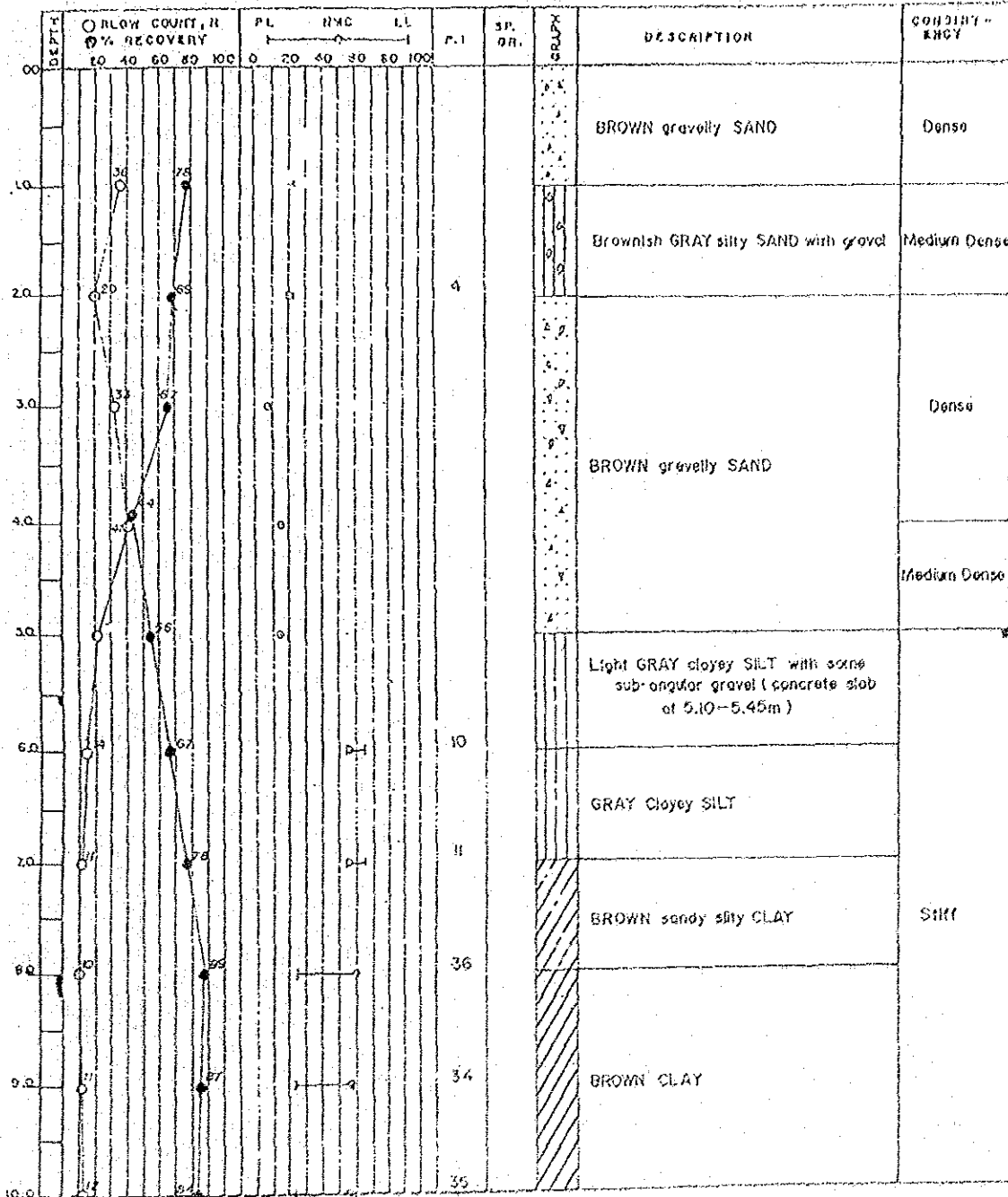
Date completed: February 22, 1991

Sampler used: 2" O.D. Split Spoon

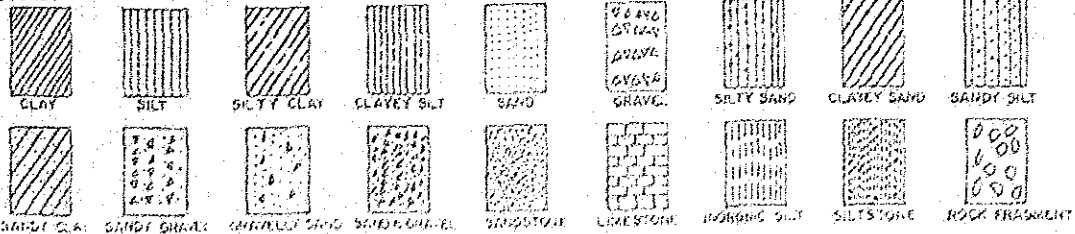
Water elevation: 6.40m

Hammer fall: 76 cm

Cellar elevation: _____
Hammer weight: 63.50 kg

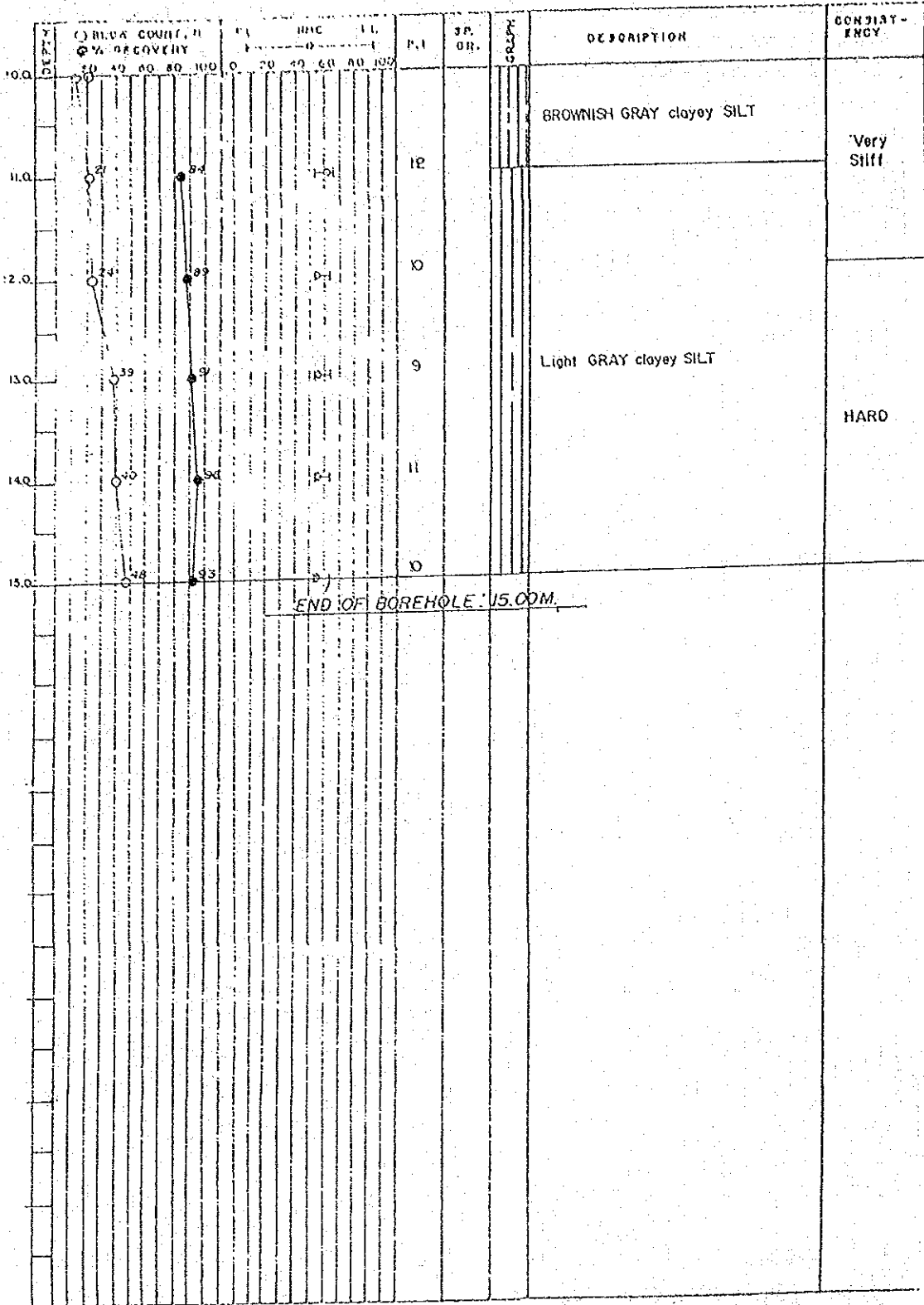


LEGEND:



FINAL BORING LOG

Project: JCA: Feasibility Study for the Restoration of Rural Road Hole designation: BH-1 SPT# 45



LEGEND:

- | | | | | | | | | |
|------------|--------------|---------------|---------------|-----------|-----------|--------------|-------------|---------------|
| | | | | | | | | |
| CLAY | SILT | SILTY CLAY | CLAYEY SILT | SAND | GRAVEL | SILTY SAND | CLAYEY SAND | SANDY SILT |
| | | | | | | | | |
| SANDY CLAY | SANDY GRAVEL | GRAVELLY SAND | SAND & GRAVEL | SANDSTONE | LIMESTONE | ORGANIC SILT | SILTSTONE | ROCK FRAGMENT |

PROJECT : Feasibility Study for the Restoration
of Rural Road
LOCATION : Baybay - Mahaplag Road
SPOT NO. : 45
BOREHOLE NO. : 1

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS - 1	36	35/45
1.55- 2.00	SS - 2	20	31/45
2.55- 3.00	SS - 3	33	30/45
3.55- 4.00	SS - 4	41	20/45
4.55- 5.00	SS - 5	21	25/45
5.55- 6.00	SS - 6	14	30/15
6.55- 7.00	SS - 7	11	35/45
7.55- 8.00	SS - 8	10	40/45
8.55- 9.00	SS - 9	11	39/45
9.55-10.00	SS -10	12	38/45
10.55-11.00	SS -11	21	38/45
11.55-12.00	SS -12	24	40/45
12.55-13.00	SS -13	39	41/45
13.55-14.00	SS -14	40	43/45
14.55-15.00	SS -15	48	42/45

PROJECT : Feasibility Study for the Restoration
of Rural Road
LOCATION : Baybay - Mahaplag Road
SPOT NO. : 45
BOREHOLE NO. : 1

LABORATORY TEST RESULTS

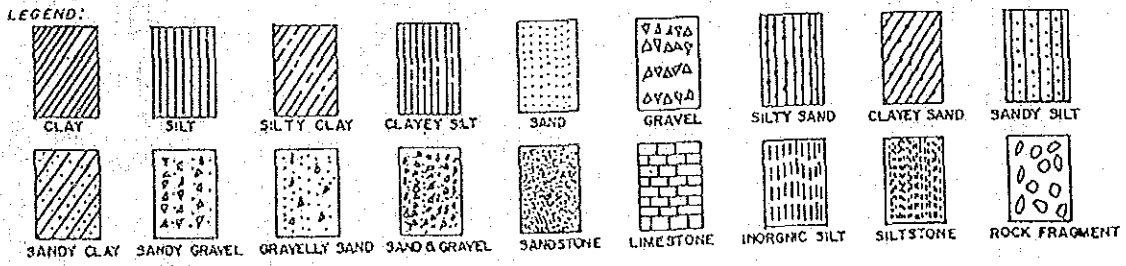
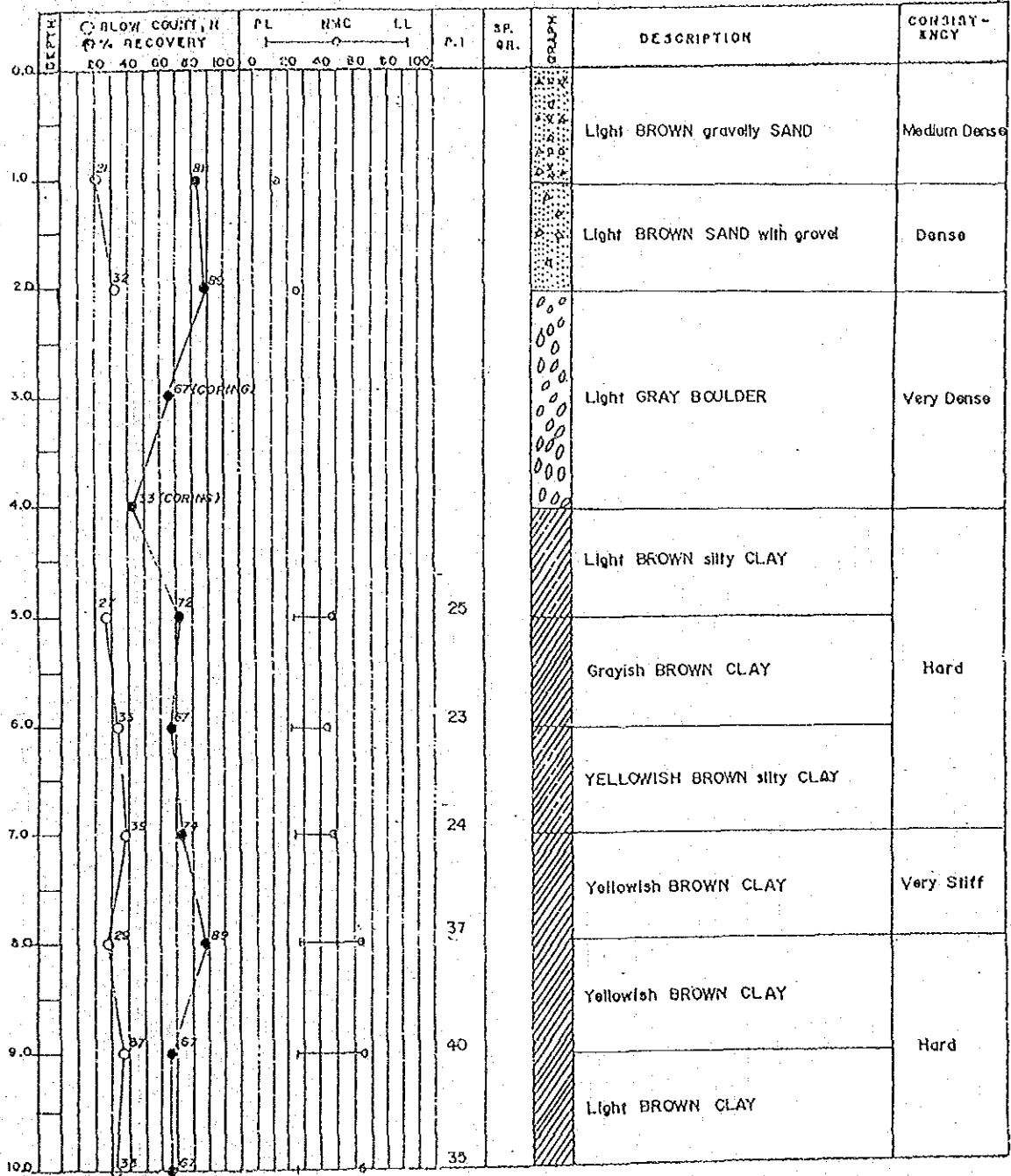
DEPTH (M)	SAMPLE NO.	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	SS- 1	20	-	NP	-	SW	*
1.55- 2.00	SS- 2	20	23	19	4	SM	*
2.55- 3.00	SS- 3	8	-	NP	-	SW-SM	
3.55- 4.00	SS- 4	16	-	NP	-	SW-SM	*
4.55- 5.00	SS- 5	15	-	NP		SW-SM	
5.55- 6.00	SS- 6	57	65	55	10	MH	*
6.55- 7.00	SS- 7	56	66	55	11	MH	
7.55- 8.00	SS- 8	60	61	25	36	CH	*
8.55- 9.00	SS- 9	58	59	25	34	CH	
9.55-10.00	SS-10	57	60	25	35	CH	*
10.55-11.00	SS-11	61	66	54	12	MH	
11.55-12.00	SS-12	55	64	54	10	MH	*
12.55-13.00	SS-13	56	63	54	9	MH	
13.55-14.00	SS-14	57	63	54	11	MH	*
14.55-15.00	SS-15	55	64	54	10	MH	

LEGEND:

* HAVE GRAIN SIZE DISTRIBUTION GRAPH

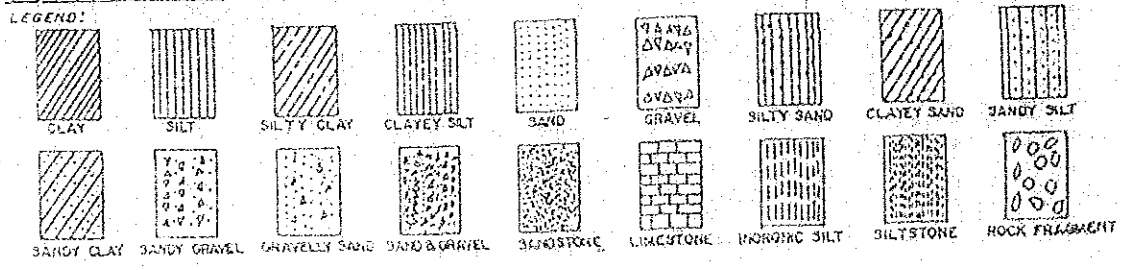
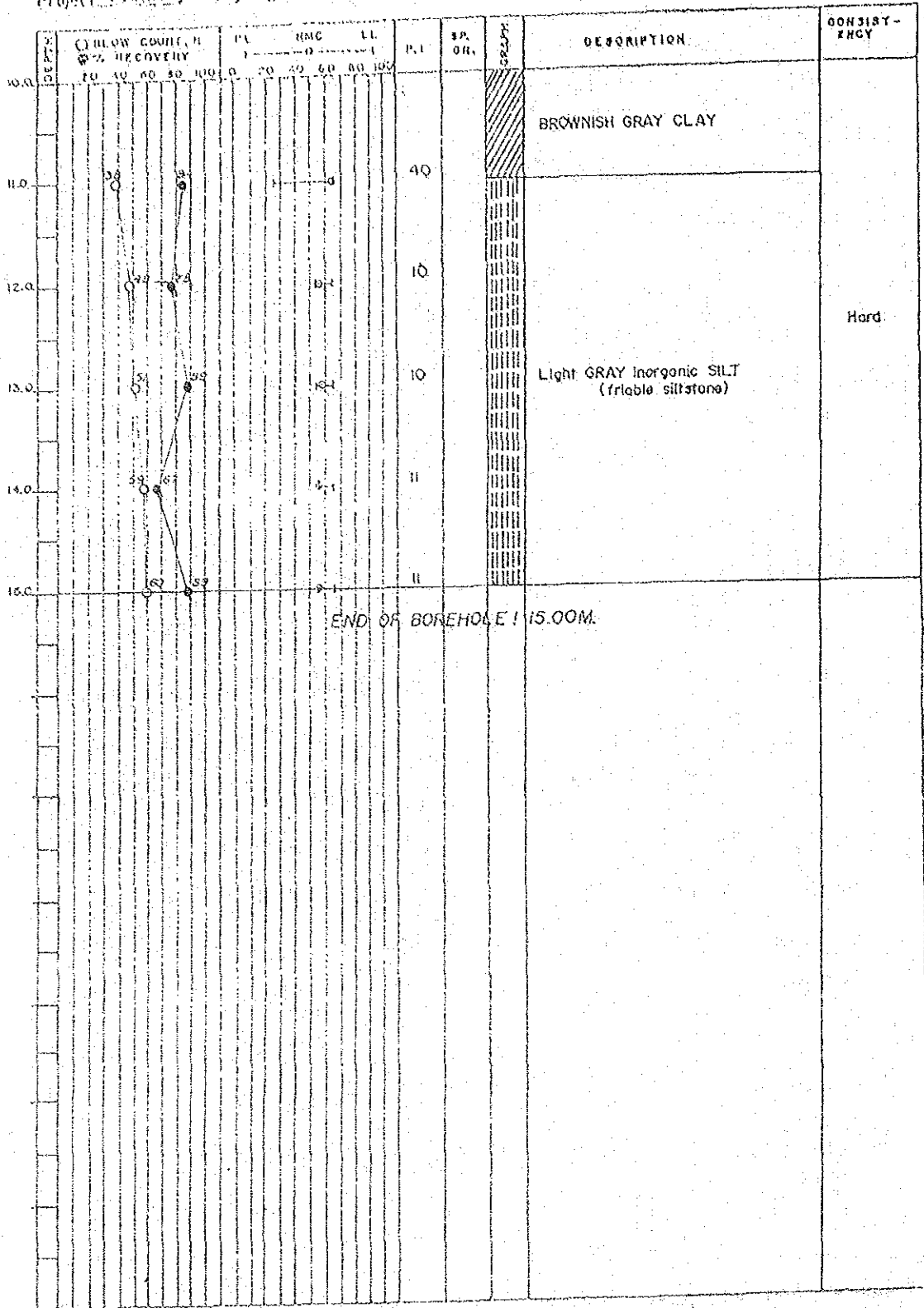
FINAL BORING LOG

Project Feasibility Study on the Restoration of Rural Roads Hole designation BH-2
 Location SPOT #45 Baybay-Mahaplag Road Date started February 24, 1991
 Drilling method Wash Boring & Coring Date completed February 26, 1991
 Sampler used 2" O.D Split Spoon & BXI Core Barrel Water elevation _____
 Hammer fall 76 cm Collar elevation _____
 Hammer weight 63.50 kg



FINAL BORING LOG

Project: Feasibility Study on the Restoration of Rural Roads Hole designation SPOT#45 BH-2



PROJECT : Feasibility Study for the Restoration
of Rural Road
LOCATION : Baybay - Mahaplag Road
SPOT NO. : 45
BOREHOLE NO. : 2

FIELD TEST RESULTS

DEPTH (M)	SAMPLE NO.	N - VALUE (30 cm)	RECOVERY (d/r)
0.55- 1.00	SS- 1	21	38/45
1.55- 2.00	SS- 2	32	40/45
2.00- 3.00	CS- 1	Coring	30/100
3.00- 4.00	CS- 2	Coring	15/100
4.55- 5.00	SS- 3	27	32/45
5.55- 6.00	SS- 4	33	30/45
6.55- 7.00	SS- 5	39	33/45
7.55- 8.00	SS- 6	29	40/45
8.55- 9.00	SS- 7	37	30/45
9.55-10.00	SS- 8	33	30/45
10.55-11.00	SS- 9	38	38/45
11.55-12.00	SS-10	48	35/45
12.55-13.00	SS-11	51	40/45
13.55-14.00	SS-12	59	30/45
14.55-15.00	SS-13	60	40/45

PROJECT : Feasibility Study for the Restoration
of Rural Road
LOCATION : Baybay - Mahaplag Road
SPOT NO. : 45
BOREHOLE NO. : 2

LABORATORY TEST RESULTS

DEPTH (M)	SAMPLE NO.	NMC (%)	LL (%)	PL (%)	PI (%)	USC	REMARK
0.55- 1.00	ss- 1	12	-	NP	-	SW-SM	
1.55- 2.00	ss- 2	26	-	NP	-	SW-SM	*
2.00 - 3.00	CS- 1	-	-	-	-	-	
3.00 - 4.00	CS- 2	-	-	-	-	-	
4.55- 5.00	SS- 3	48	49	24	25	CL	*
5.55- 6.00	ss- 4	44	45	22	23	CL	
6.55- 7.00	ss- 5	48	49	25	24	CL	*
7.55- 8.00	ss- 6	63	65	28	37	CH	
8.55- 9.00	ss- 7	66	67	27	40	CH	*
9.55-10.00	ss-88	63	64	26	35	CH	
10.55-11.00	ss- 9	64	65	25	40	CH	*
11.55-12.00	ss-10	57	64	54	10	MH	
12.55-13.00	ss-11	58	65	55	10	MH	*
13.55-14.00	ss-12	56	66	55	11	MH	
14.55-15.00	ss-13	57	67	56	11	MH	*

LEGEND:

* GRAIN SIZE DISTRIBUTION

APPENDIX 11-1

**HISTORY OF DAMAGE PROGRESS IN THE
SELECTED THREE BRIDGES**

The information presented here is based on field observation and hearing from DPWH officials.

1. Sinisian Bridge near Calaca (Spot (BS-6))

Description of Site: The RCDG bridge with a total length of 36M (3 span) is presently crossing the Colong-colong River located at Km. 120.62 along Calaca-Taal National Secondary Road under the Jurisdiction of Batangas 1st District Engineering Office. The road is facing toward Balayan Bay (See Figure-1). Drainage area at the bridge location is about 13 km and the channel width is about 10m in dry season. The riverbed deposits are composed of sand and small sized gravel. The bridge foundations are presently severely exposed by general scouring mainly due to quarrying (see Figure-2 and 3).

Cause of Damage: It seems very clear that the scour damage has a good relation to continuous quarrying of sand and gravel at just the downstream of the bridge. The scouring was further aggravated during heavy rains due to the accelerated velocity of water and a combination of other several causes.

History of Damage Progress:

- In 1983, the bridge was constructed under ADB loan.
- The previous bridge foundations were retained in the river channel, hindering the flood flow in the rainy seasons.
- As per design plan, the gabion boxes for abutment protection were not indicated but they might have been constructed sometime after the completion of the bridge.
- In 1985, it is said that scouring of the river bed at the footings of the bridge were already noticed and reported to the Region IV-A Office.
- In 1987, a series of retaining wall was constructed to protect the left side river bank at downstream from scouring and neighboring houses from overflowing. However, the location of the retaining wall is narrowing the river channel a bit and also attributed to the obstruction of water flow.
- Dated on Nov. 14, 1988 from the 1st District Engineering Office, the report requesting the foundation protection of scouring at the bridges; Calaca, Sinisian and Calbangan, caused by Typhoon "Unsang and Yoning" was submitted to the region IV-a Director. The total cost amounted to P950,000.00 at that time. But no protection measures were undertaken until now.
- On Feb. 11, 1991, the river bed inspected is lower by 2 meters below the bottom of the footing at pier 1 and 1.5 m at pier 2.
- The gabion boxes are partly sagging due to the lowering of the original river bed.
- On Feb. 15, 1991, from the interview with the contractor at the bridge site it is said that he had a certificate to quarrying.

- On Feb. 22, 1991, from the discussion with engineers of the 1st District, it is reported that an official letter had been sent to the Bureau of Mines to call the attention of the private contractor to refrain from quarrying within 1 km radius from the bridge. However, the said responsibility was returned back to the Office.
- * Memorandum Circular No. 1 dated 5 January 1982, from the Honorable Minister of DPWH, titled STRICT IMPLEMENTATION OF THE PROVISION OF MINES ADMINISTRATIVE ORDER NO. MRD 27, SERIES OF 1980, RE-EXTRACTION OF SAND AND GRAVEL: No Extraction or removal of materials shall be allowed within a distance one (1) kilometer from the boundaries of reservoir established for public water supply and of any public or private works or structures, unless the prior clearance of the agency or owner concerned is obtained.

Probable Consequences:

- Lack of protection for scouring at the pier foundations may have the following consequences.
- Coconut logs and other debris during flood might be stacked into the exposed piles and block the flow of water creating turbulence under the bridge and thereby erode the previously deposited sediments, exposing the bridge pier foundations more severely. Consequently, it would possibly trigger the bridge failure/collapse.
- If the said quarrying continues it is surely expected that in the near future the bridge will be totally collapsed especially during earthquakes.

Disaster Causing Factors Acknowledged

- Illegal Continuation of Quarrying.
- Failure to suspend Quarrying.
- Remnant of Old Bridge Foundations.
- Improper Location of River Control wall.

Note : Scouring by similar causes were also noticed and inspected along the same highway on the following bridges; i) Calaca (Bs-5) at km. 116.49 and ii) Calbangan (BS-7) at km. 122.25 (See Fig. 7.5-1).

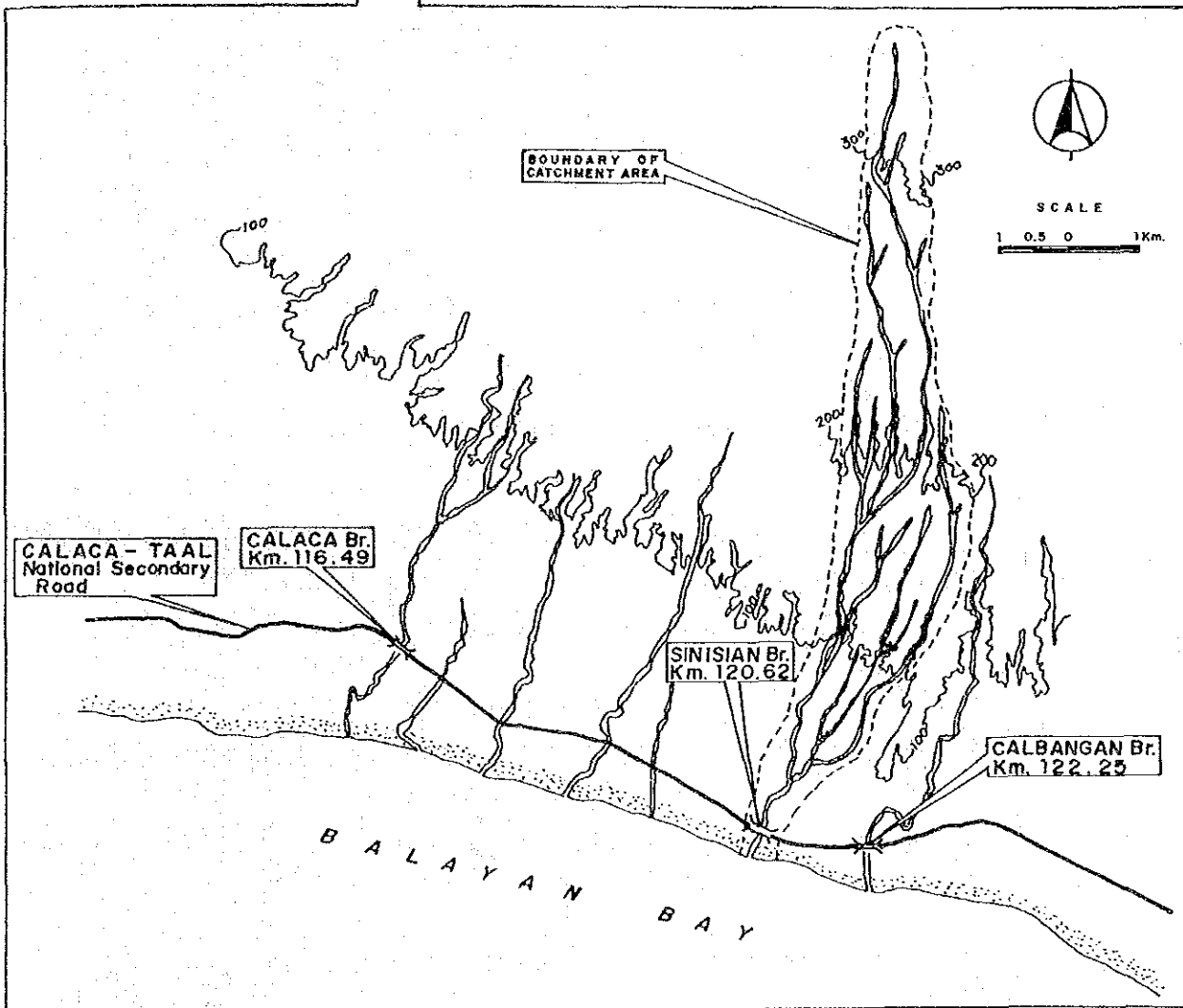
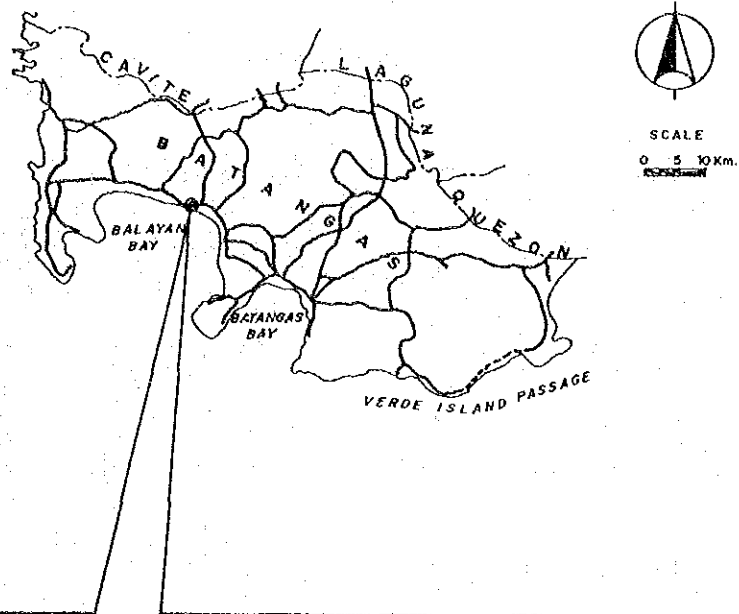
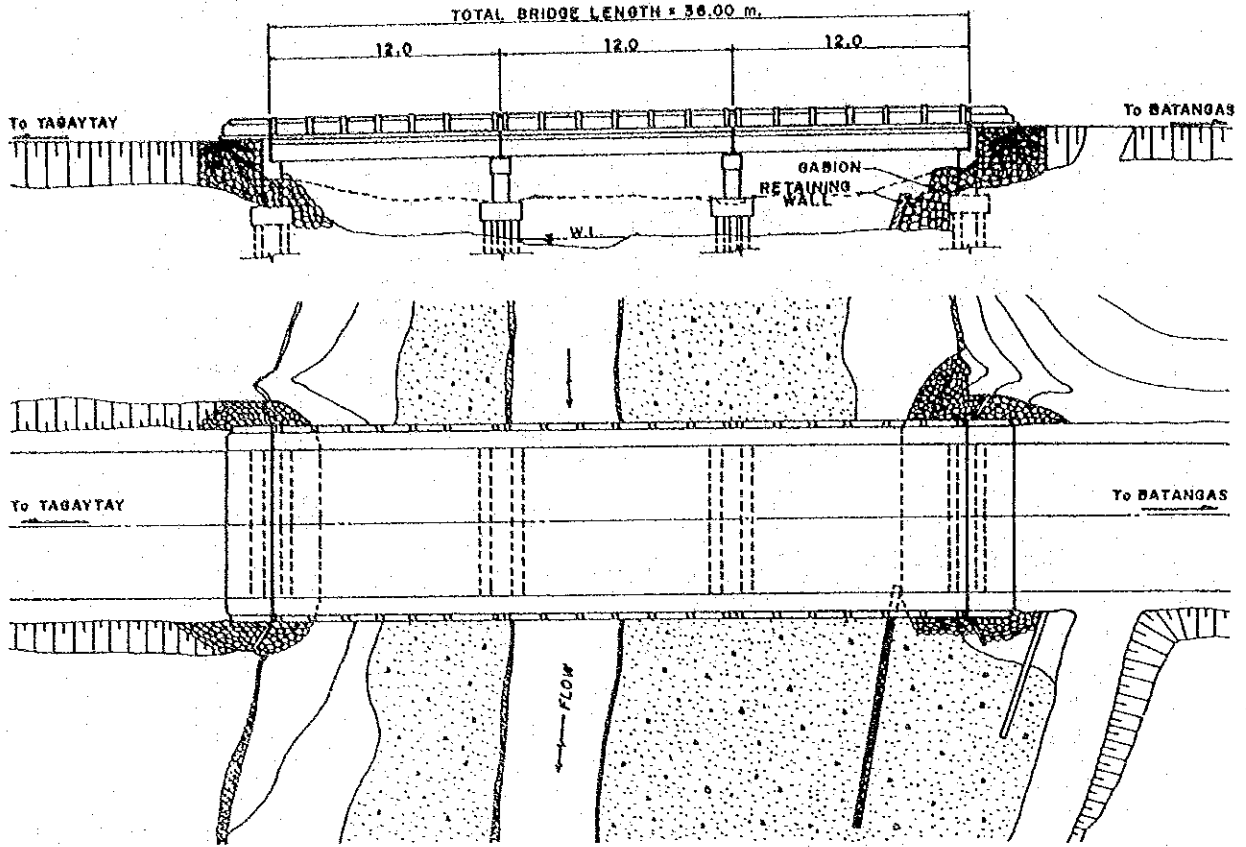


FIGURE -1 LOCATION MAP OF SINISIAN BRIDGE (BS-6)

A. Present



B. Original

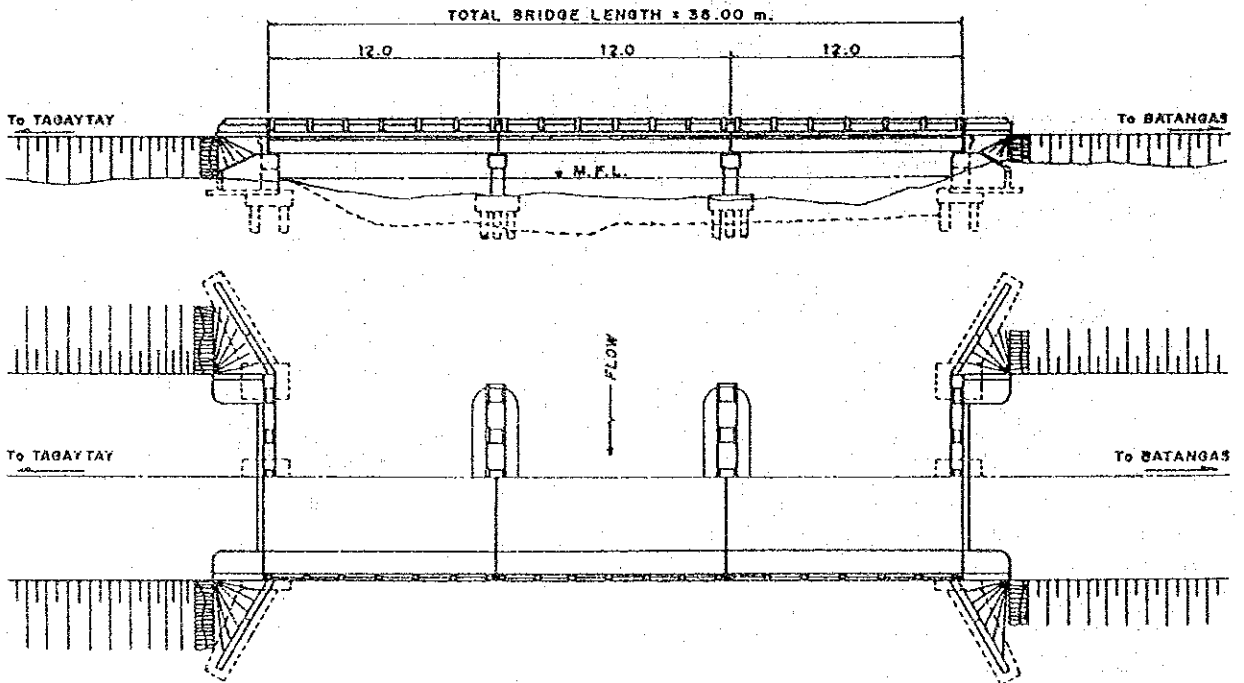


FIGURE-2 ELEVATION AND PLAN OF SINISIAN BRIDGE (BS-6)
(Present and Original)

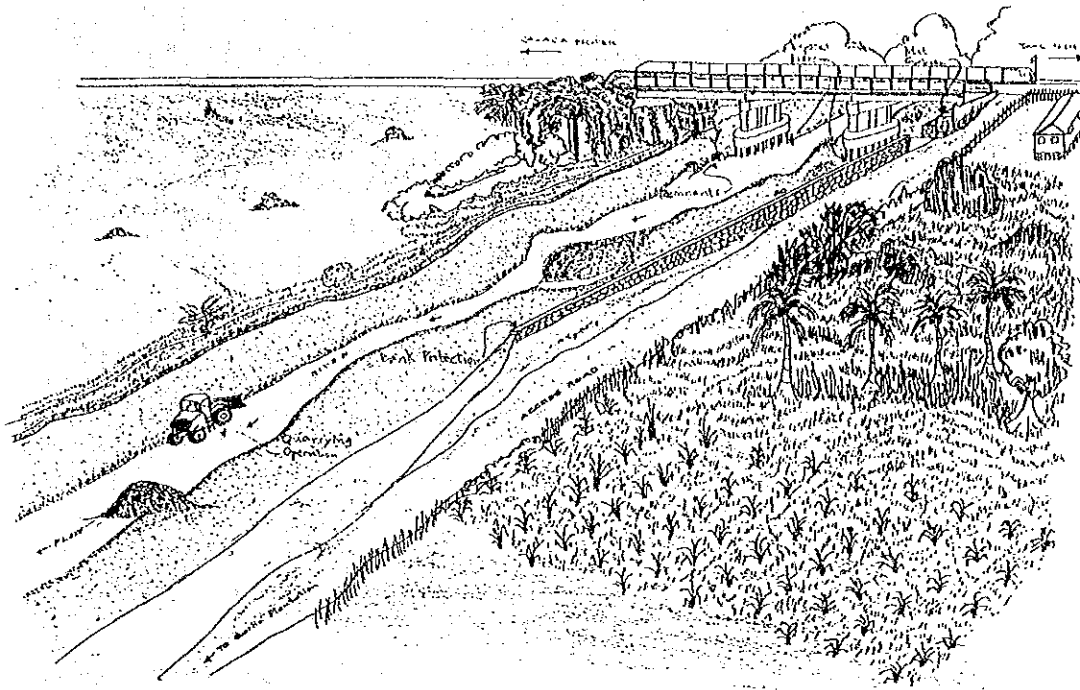


FIGURE-3 SIDE VIEW SKETCH OF SINISIAN BRIDGE (BS-6)

Note:

1. The RCDG Bridge with a total length of 36 m (span) was constructed in 1983.
2. Remnant of previous bridge foundations are retained in the river channel hindering flood water flow.
3. Mat Gabions were placed left side abutment after the completion of the bridge.
4. Pile foundations are severely exposed by general scour, 2 meters at the deepest.
5. Quarry at just downstream is presently still on-going.
6. Grouted Riprap River bank protection was constructed in 1987 at left side downstream. The upperstream end is hindering flooded water flow.

2. Lobo Bridge near Lobo Proper (Spot BS-33)

Description of Site: The RCDG Bridge with a total length of 124 meters (8 spans x 15.5 m) is crossing Lobo River. It is located along Mapolo-Lobo National Secondary Road under the jurisdiction of Batangas 2nd District Engineering Office. The road is facing toward Verde Island Passage (see Figure-4). The drainage area at the bridge location is about 167 km. Alluvial deposits, particularly of sand and gravel, fill the entire river channel. The river banks consist of alternating sequence of unconsolidated sand and gravel with clay as the surface cover. After the usage of 4 years, the bridge was closed to traffic caused by lateral erosion of the river channel. The river is presently far away from the existing bridge (see Figure-5 to 7).

Cause of Damage: The river is flowing through Coconut Plantation and has a high tendency to shift its course (see Figure-5). The left side river bank was totally washed out by lateral erosion of the meandering river. The disaster might have occurred mainly due to lack of river bank protection where the bank is composed of very erodable materials.

History of Damaged Progress:

- In 1984, the bridges was constructed under local funding and supervised by the DPWH Region IV-A Office.
- In 1986, the left side (Malabrigo) bridge approach started to be scoured due to the meandering of Lobo River. It is said that 1st District Engineering Office reported the said scouring to the Region IV-A Office and no action was taken.
- On January 16, 1988, the bridge was totally closed to traffic due to the washout of the left bank caused by Typhoon "Sisang" which directly hit the said area.
- Sometime in 1989, the Region IV-A Office designed the restoration measures amounting to P6.0 M for ADB Assisted Infrastructure Project.
- Dated on June 16, 1990, ADB Advisor addressed the memo report (*) to the region IV-A Director after conducting the evaluation study to finance the extension of the Lobo Bridge Structure under ADB Assisted Infrastructure Project.

* The memo mentioning that: "The existing Lobo Bridge is an 8 span at 15.24 m, 2-lane RCDG structure over the Lobo River. During Typhoon Sisang, the river changed its course and shifted away from the bridge abutment a distance which would necessitate the extension of the bridge for 120 to 125 m. It was told the water did not overtop the bridge but that the debris especially coconut tree trunks longer than the 15 m. spans created serious obstructions. In fact, the engineers from Batangas 2nd District said that new spans should be 22 to 30 m. to prevent future blockage. Examination of the site indicates that the addition of more spans to the bridge is insufficient to address the restoration problem. Everyone seemed to agree that river control measures need to be taken to insure that the erosion and shifting would not continue. The original estimate of 6.0 Million does not provide for any river control. The Advisor feels that unless additional funds are provided the bridge extension should not be undertaken. Additionally, in order to properly address the problem, hydrology of the area should be studied including topographic surveys, borings, etc. appropriate and complete design should then be undertaken. The above may not only need additional funds, but may need substantial time for design and construction, extending probably beyond the closing date of the loan. The Advisor recommends that this project be undertaken and that appropriate fundings be provided".

- Dated December 13, 1989, it was requested from the Region IV-A Director to the Director of Maintenance, that "Lobo Bridge with an allocation of P6.0 Million was estimated to cost P20.5 Million including construction of river wall and spur dikes, hence the project was deleted, not thru lack of merit but due to lack of fund".
- On Jan. 31, 1991, JICA Study Team requested to the Regional IV- A Office to submit the original design plan of the bridge for evaluation of the causes of its damage. However, the said plan was no longer kept in the Region IV-A Office. The same request was made to DPWH Central Office and Batangas 1st District Engineering Office but the plan could not be obtained.
- On Feb. 26, 1991, the left bank edge was 140 m far from the left side edge of the abutment. During the recent two years, the river channel was additionally widened 20 to 25 meters.

Disaster Causing Factors Acknowledge:

- No Proper Considerations for Meandering River/Lack of River Bank Protection.
- Insufficient Opening of Each Span for Floating Coconut Trunks.
- No Application of Remedial Measures for Protection against Lateral Erosion.

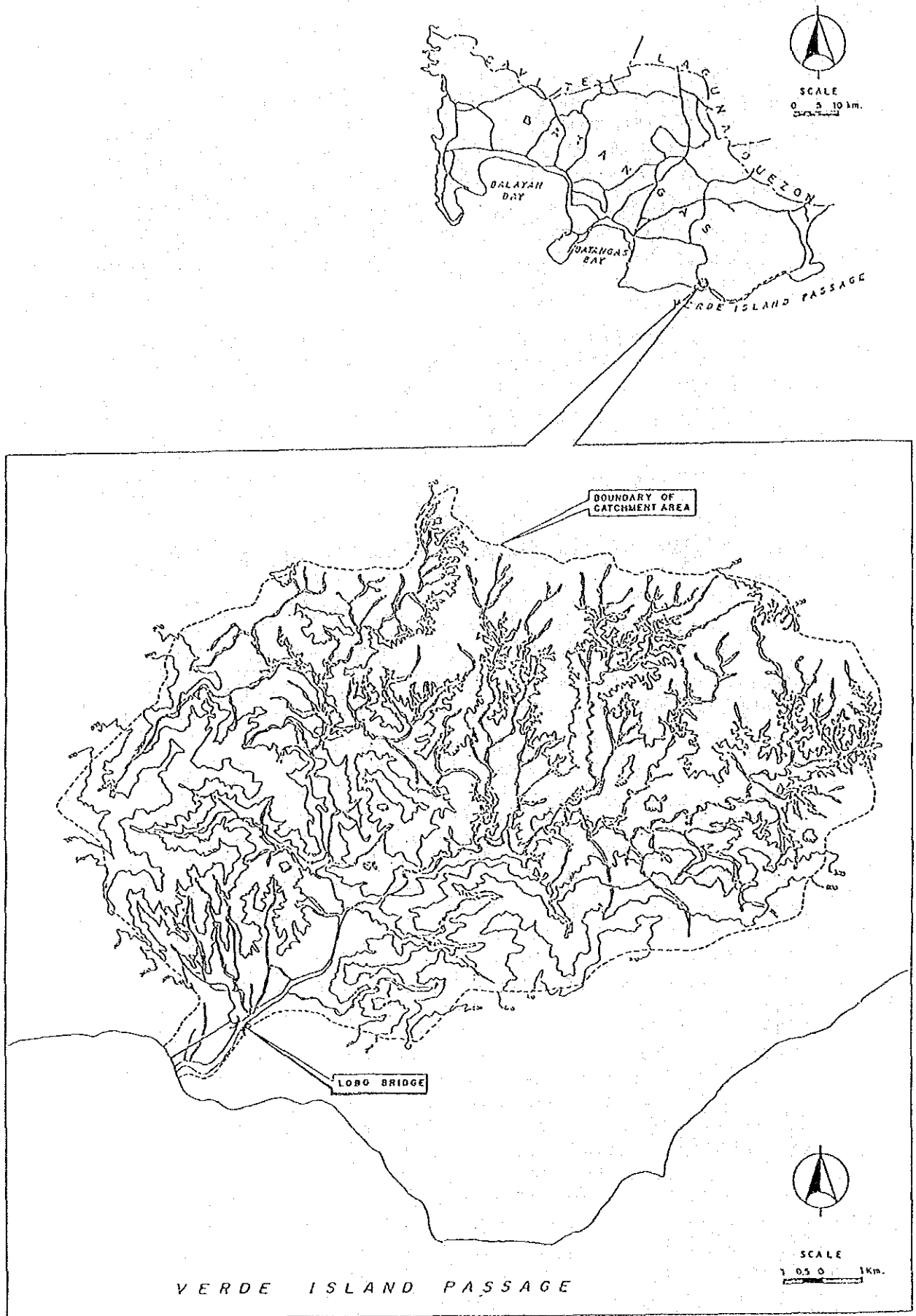


FIGURE-4 LOCATION MAP OF LOBO BRIDGE (BS-33)

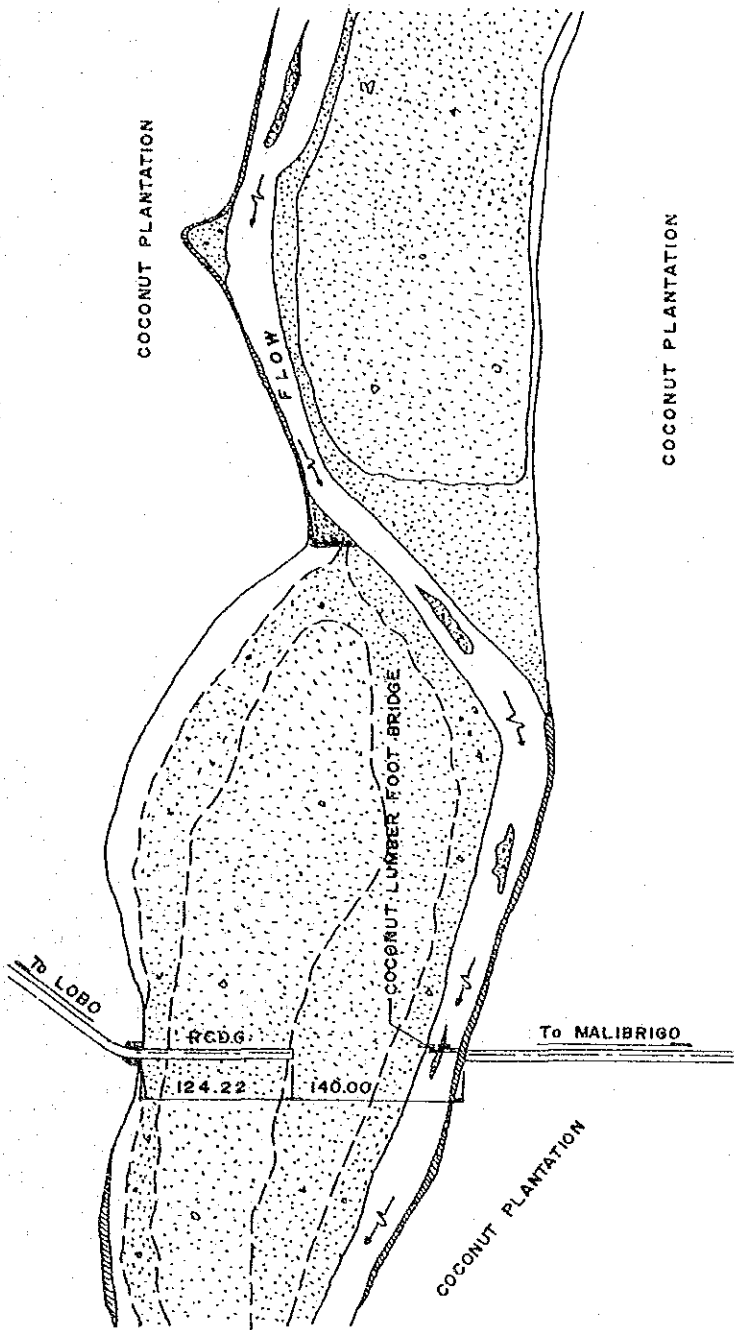
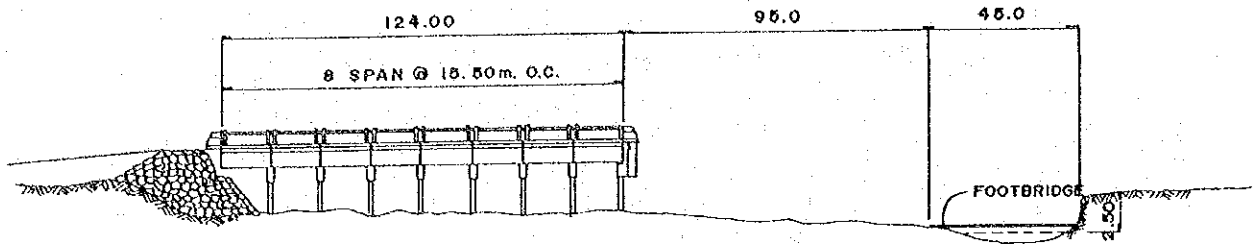
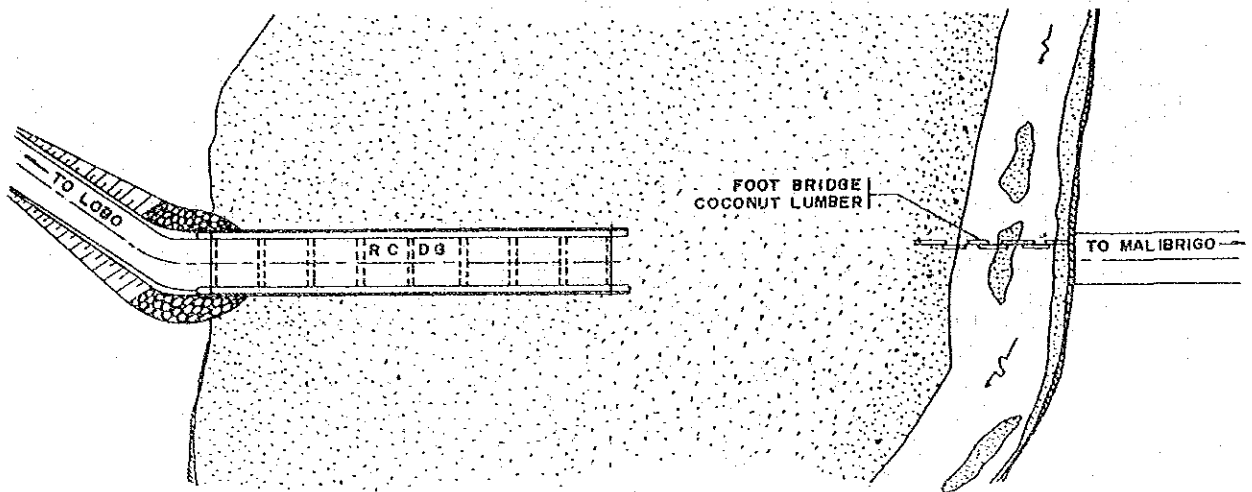


FIGURE-5 PLAN OF LOBO RIVER



ELEVATION



P L A N

FIGURE-6 ELEVATION AND PLAN OF LOBO BRIDGE (BS-33)

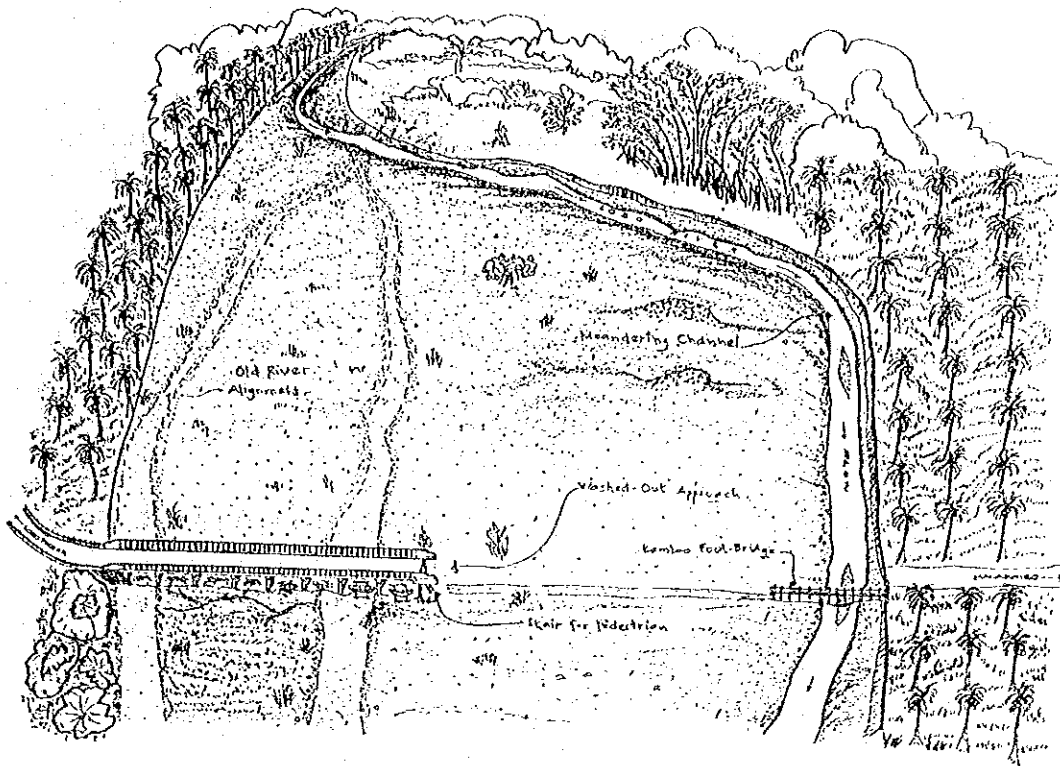


FIGURE-7 SIDE VIEW SKETCH OF LOBO BRIDGE (BS-33)

Note:

1. The RCDG Bridge with a total length of 124 m (8 span x 15.5 m) was constructed in 1984.
2. The bridge was closed to traffic on January, 1988/
3. River bank is composed of a sequences of sand and gravel used as coconut plantation.
4. The river has a meandering tendency.

3. Banoyo Bridge near Banoyo Jct. to Baguilaua (Spot BS-50)

Description of Site: The Banoyo bailey bridge with a total length of 27 meters (3 spans) is crossing the Banoyo River along Sta. Maria-Banoyo-San Luis Provincial Road under the jurisdiction of the Provincial Engineering Office. The road is facing Balayan Bay (see Figure-8).

Drainage area at the bridge location is about 8 km. The river bed and its banks consist of unconsolidated sand and gravel. The bridge was previously extended one span after the bridge approach had been washed out. The vicinity of the bridge approach is presently severely side-eroded and about to be washed out again.

History:

- In 1969, the bridge was originally constructed near the mouth of the river as one span of 18 meters.
- In the part of 1970's, flood currents scoured the left bank which is composed of fluvial deposits, causing serious lateral erosion and finally the left side approach embankment was completely washed away.
- In 1977, another span of 9 meters was extended behind the existing left side abutment (see Figure-10).
- In 1985, the bridge was strengthened by installing an additional pier under the bailey bridge.
- Up to the present time, flood currents are still continuously threatening to wash away again the left approach (see Figure-II).

Probable Consequences:

- The flood currents still continues to side-erode the left side bank just upstream of the extended abutment, resulting in threatening again to wash away the left approach.

Disaster Causing Factors Acknowledged:

- No River Bank Protection.

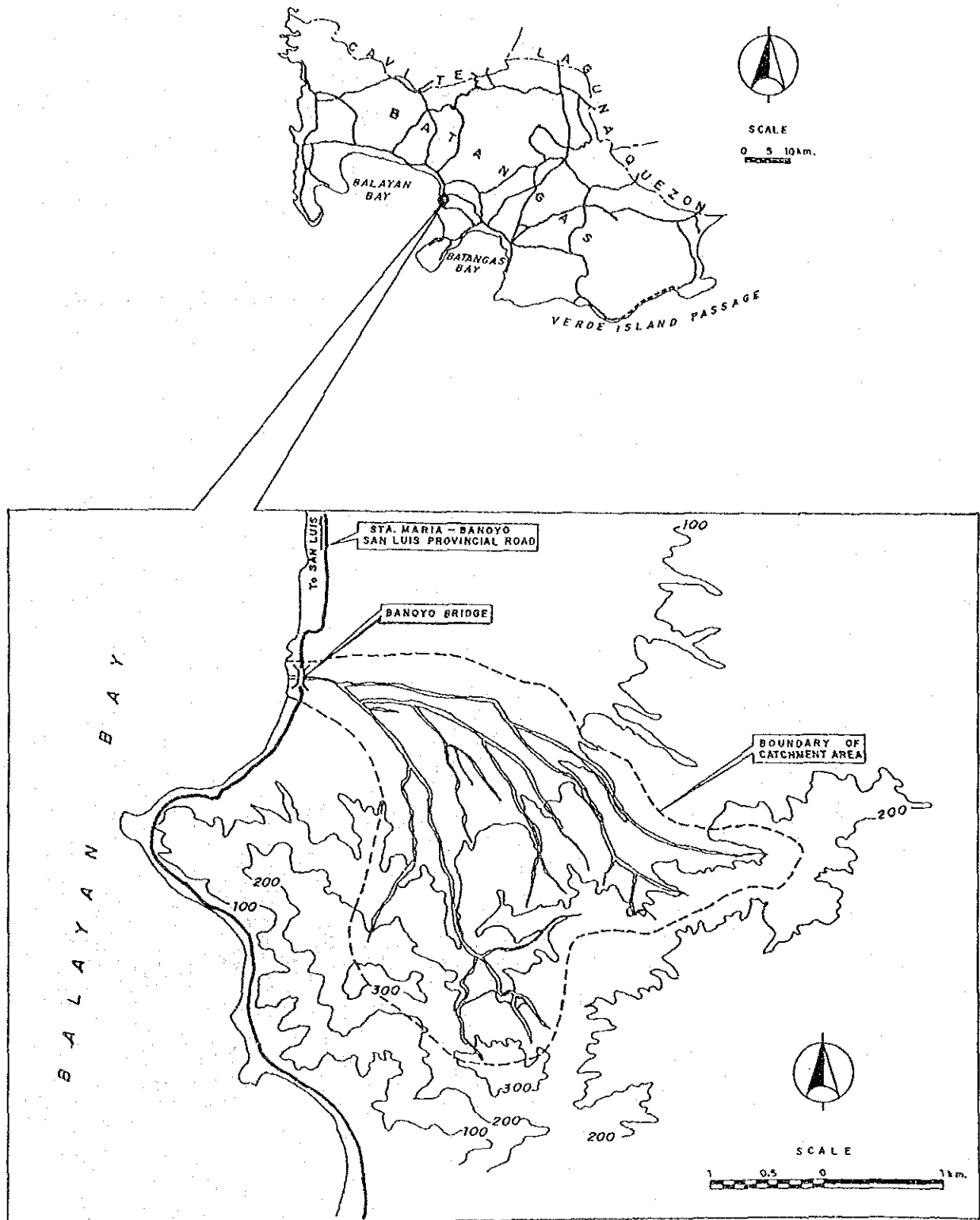


FIGURE-8 LOCATION MAP OF BANOYO BRIDGE (BS-50)

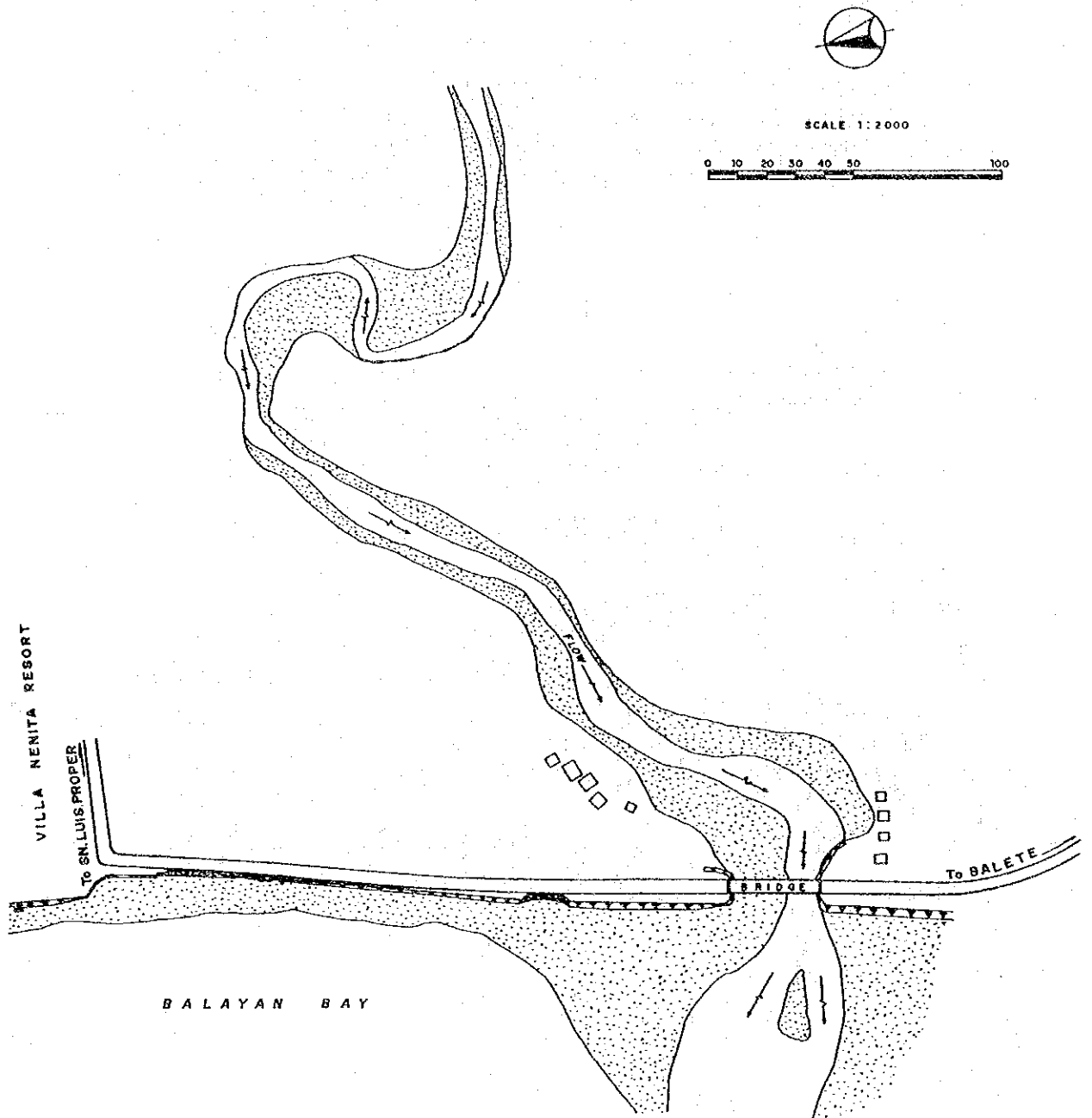
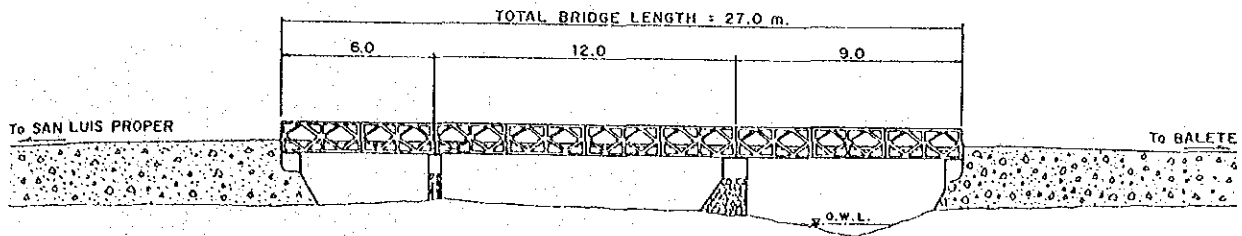
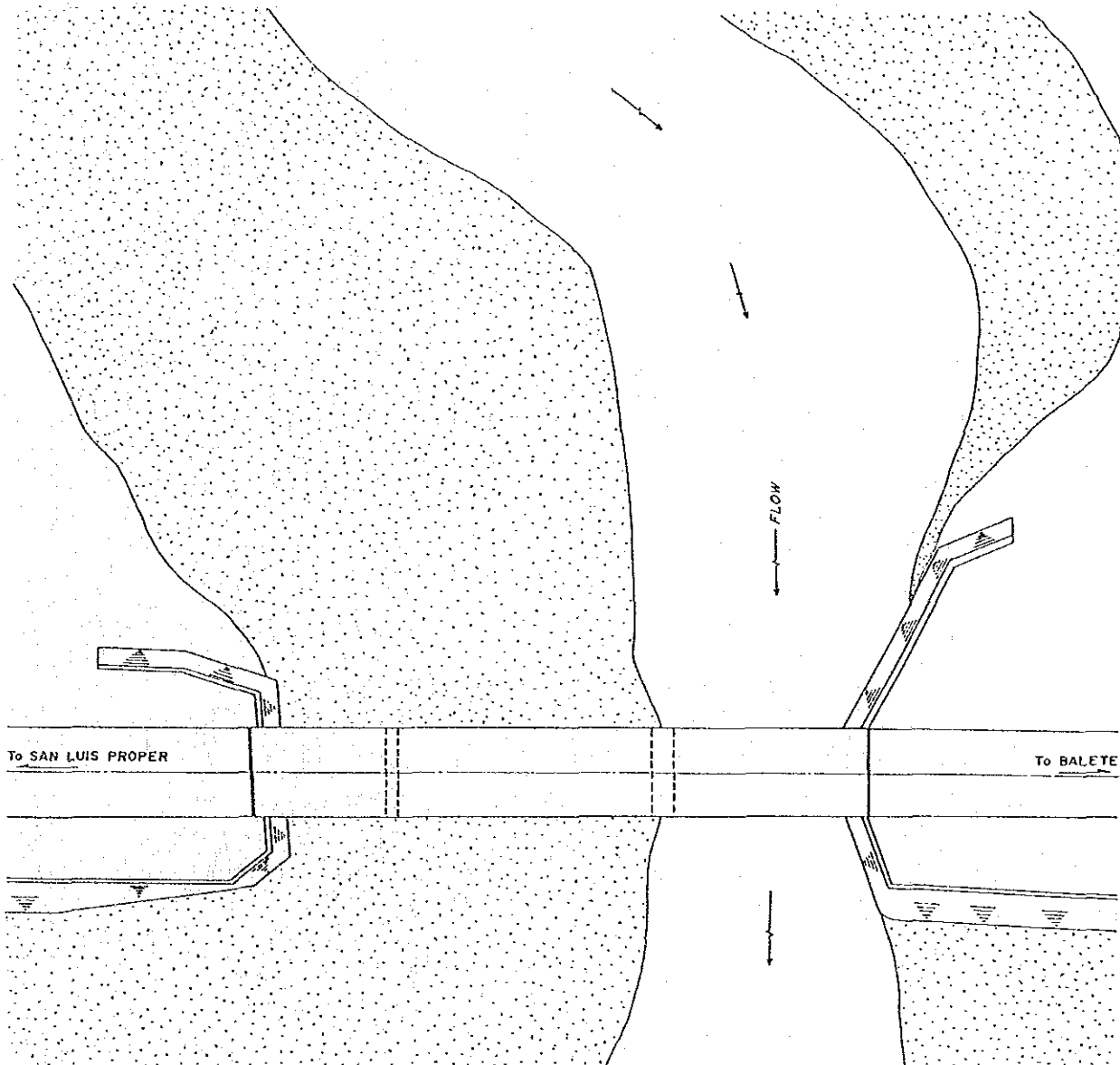


FIGURE-9 PLAN OF BANOYO RIVER (BS-50)



ELEVATION



P L A N

FIGURE-10 ELEVATION AND PLAN OF BANOYO BRIDGE

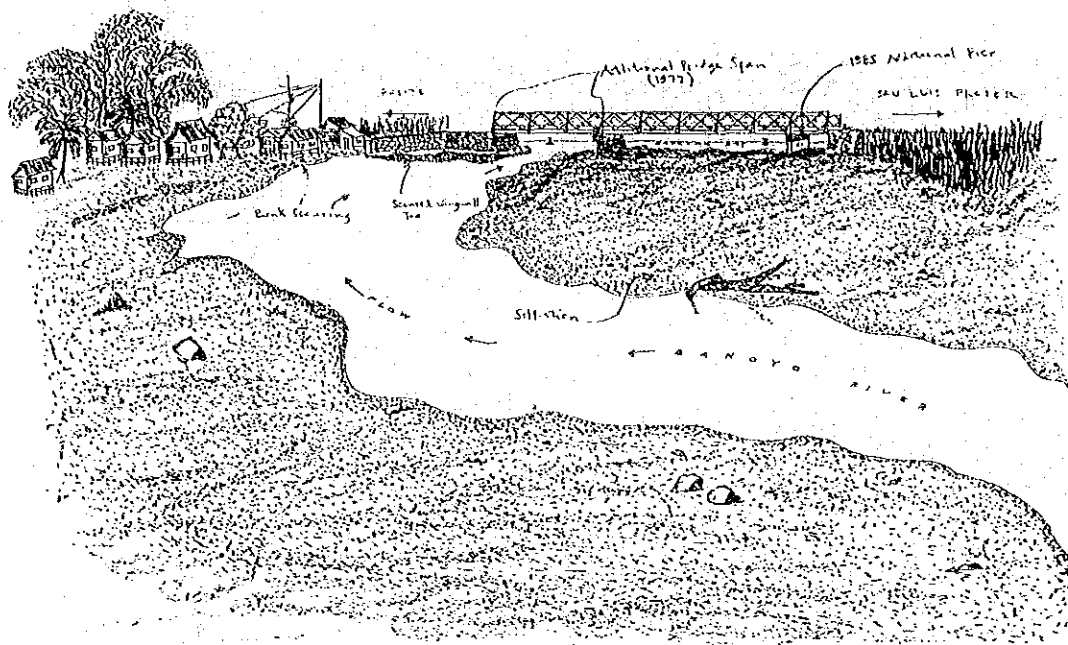


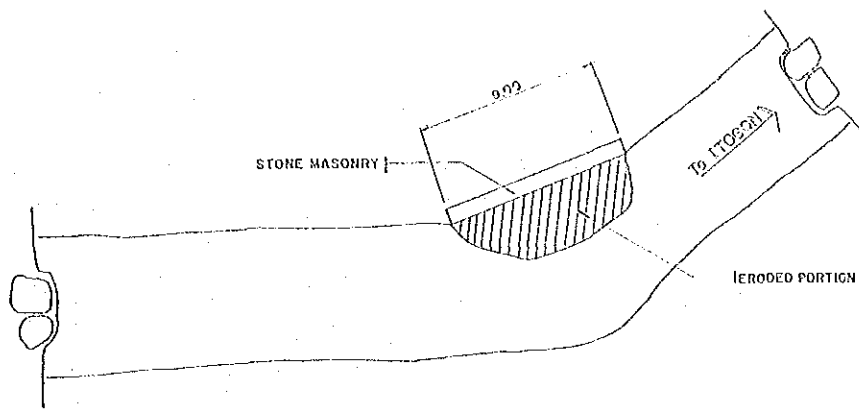
FIGURE 11 SIDE VIEW SKETCH OF BANOJO RIVER (BS-50)

Note:

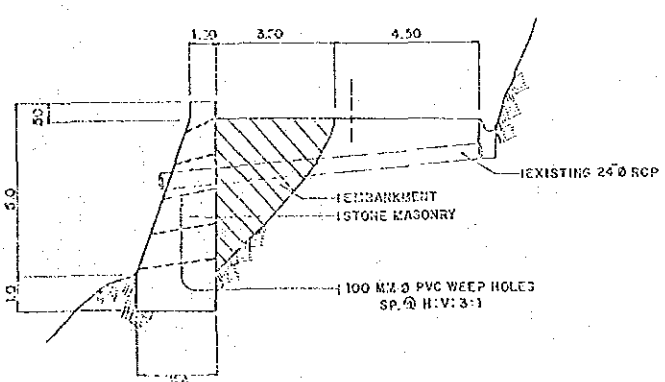
1. The Bailey Bridge with one span of 18 m was constructed in 1969.
2. The left approach embankment was washed out and extended another span of 9 m behind the left side abutment in 1977.
3. The bridge was strengthened by installing an additional pier under the bailey floor system in 1985.
4. The flood water is presently threatening to wash away the left side approach again.

APPENDIX 11-2

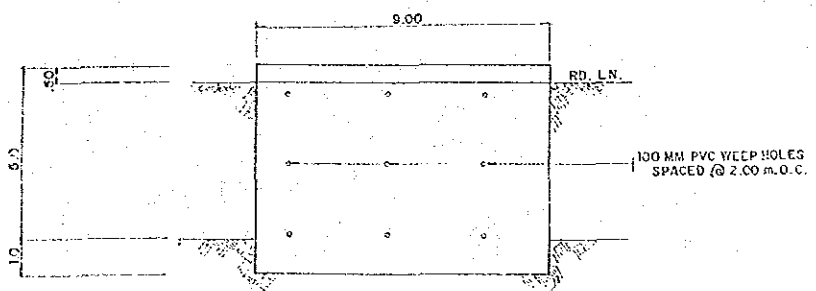
**DRAWINGS FOR RESTORATION WORKS
RECENTLY IMPLEMENTED**



PLAN
NOT DRAWN TO SCALE



SECTION
SCALE 1:300



ELEVATION
SCALE 1:100

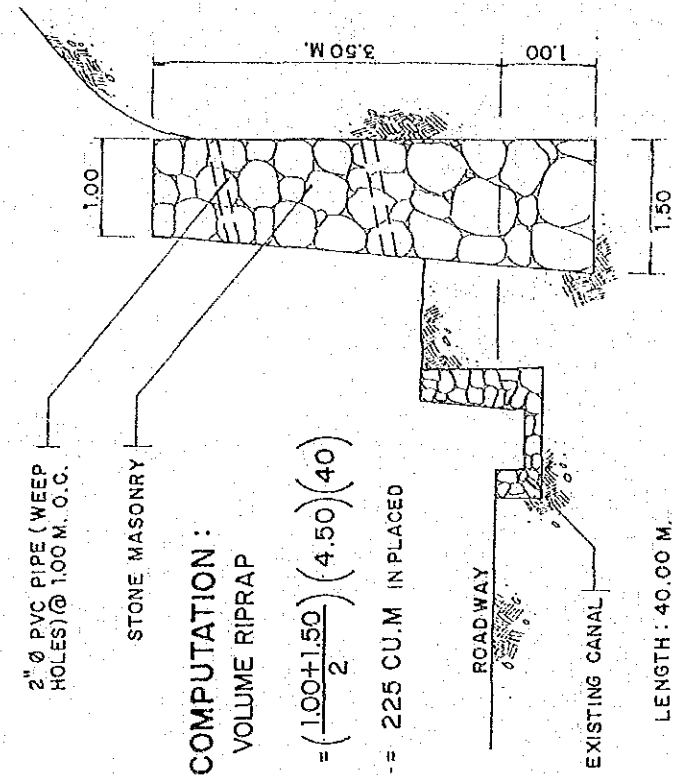
VOLUME COMPUTATION

- ITEM NO. 103, $V = (1 \times 2.40) 9 = 2.60 \text{ m}^3$
 505, $V = [(0.50 \times 0.90) + \frac{1}{2} (0.80 + 2.40) 4.5 + 1 \times 2.4] 9 = 90 \text{ m}^3$
 104, $V = \frac{1}{2} (3.5 \times 4.5) 9 = 70.88 \text{ m}^3$

SPOT NO. Bt-7 (CLV-D)

REPAIR / REHAB. OF ERODED SLOPE ALONG LEONARD WOOD ROAD

BAGUIO CITY



2" Ø PVC PIPE (WEEP HOLES) @ 1.00 M. O.C.

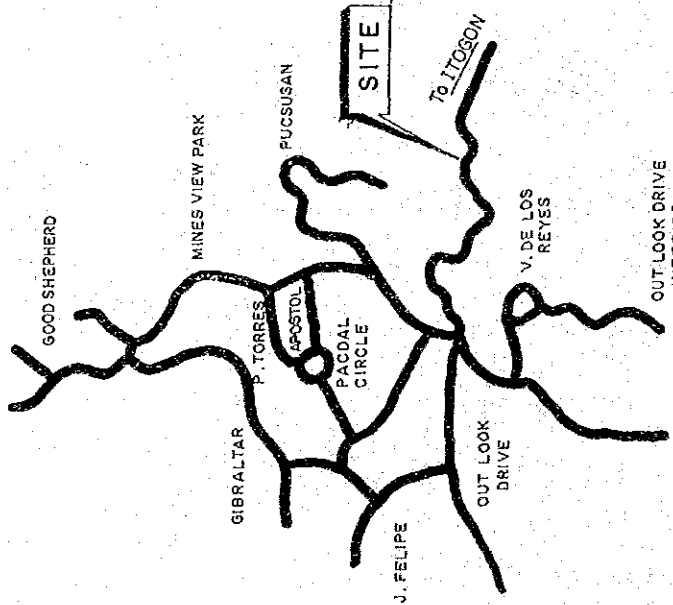
STONE MASONRY

COMPUTATION:
VOLUME RIPRAP

$$= \left(\frac{1.00 + 1.50}{2} \right) (4.50) (40)$$

= 225 CU.M. IN PLACED

LENGTH: 40.00 M.



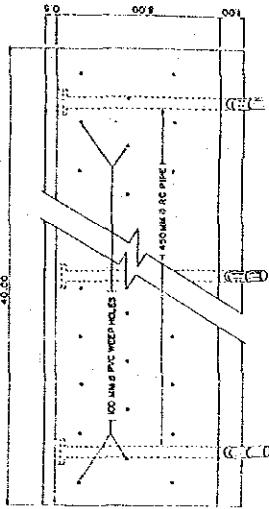
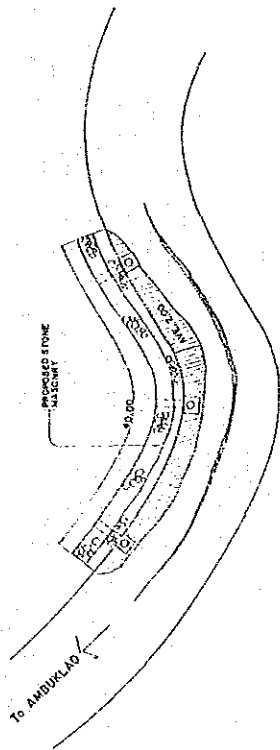
VICINITY MAP
SCALE 1:10,000 M.

SECTION OF SLOPE PROTECTION
NOT DRAWN TO SCALE

SPOT NO. Bt-11 (L-SL)

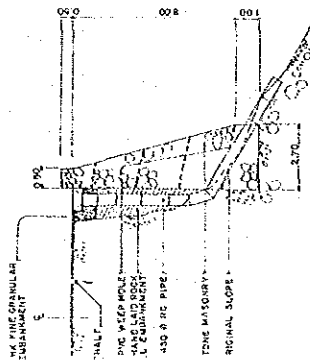
BENGUET PROVINCE
REHABILITATION ALONG BAGUJO CITY BNDY-BECKEL-AMBUKLAO-N.VIZCAYA ROAD
266+000 - 266+040

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
103	STRUCTURE EXCAVATION	CU.M.	154
104	EMBANKMENT	CU.M.	232
301	450 MM Ø RCP	LM	36
505.3.7	100 MM Ø PVC	PCS	60
505	STONE MASONRY	CU.M.	618
	ROADWAY AREA	SQ.M.	80
502	CATCH BASIN	PCS	3



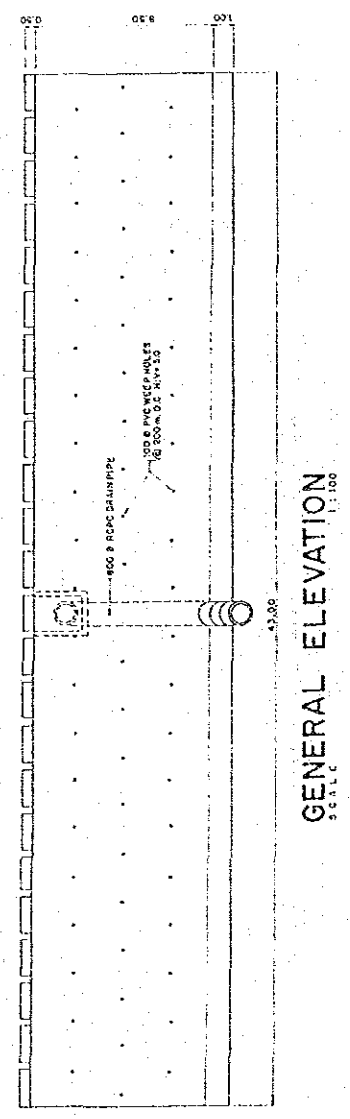
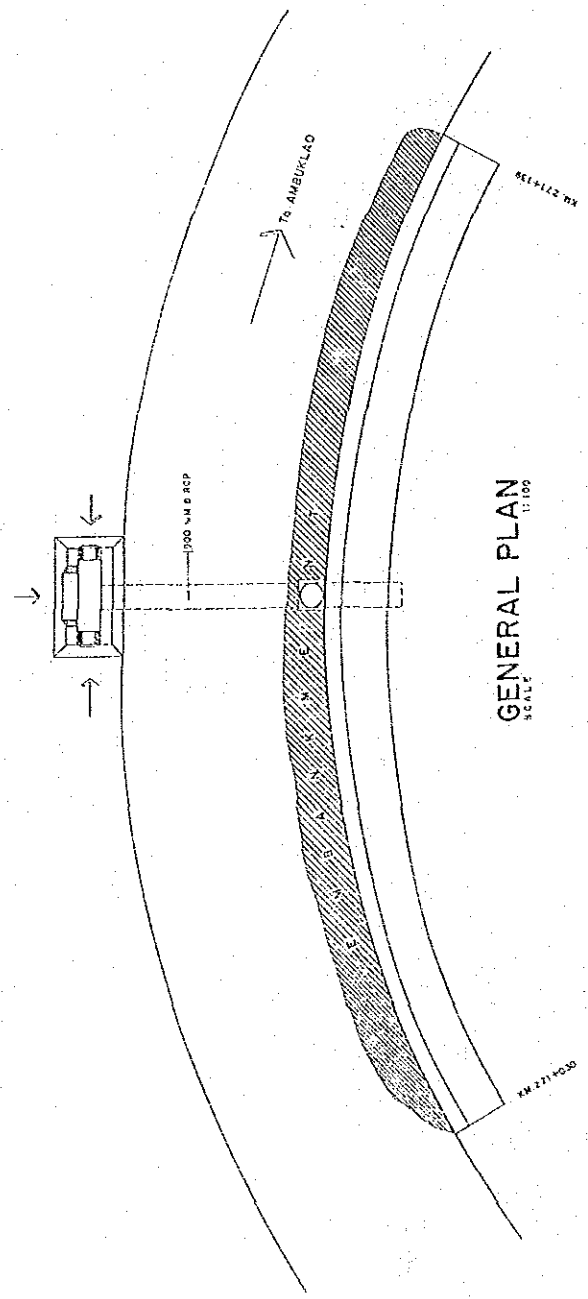
VOLUME COMPUTATIONS

- STRUCTURE EXCAVATION**
- 0.50 (2.20)(13.50)(40.00)
 - 154 m³
- EMBANKMENT**
- 4.50 (1.00+1.40)(3.00)(40.00) + 0.50(1.70)(1.00)(40.00)
 - 40.50 (1.30+1.50)(1.00)(40.00)
 - 232 m³
- 450 Ø RCP PIPE**
- 36 LM
- 100 Ø PVC WEEP HOLE PIPE**
- 60 PCS
- STONE MASONRY**
- 15.45 m² (40.00)
 - 618 m³



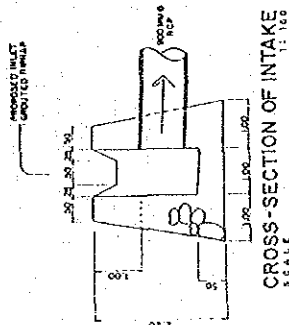
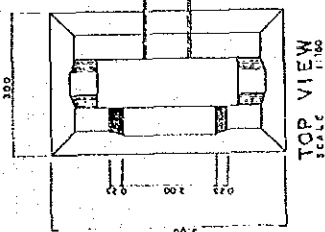
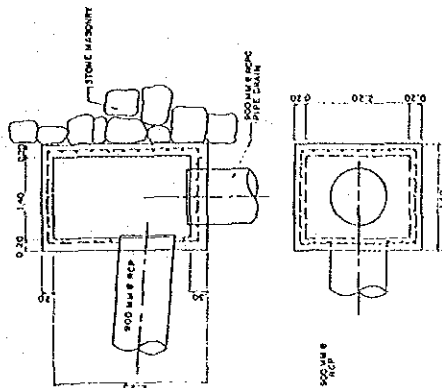
SPOT NO. Bt-20(E-F)

RESTORATION ALONG BENGUET - NUEVA VIZCAYA ROAD
 KM. 271+030 - KM. 271+139



SPOT NO. Bt-24(D-FL)(1/2)

RESTORATION ALONG BENGUET - NUEVA VIZCAYA ROAD
 KM. 271+030 - KM. 271+139



DETAIL "A"

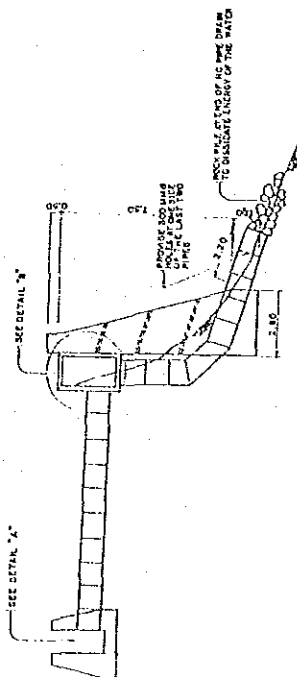
DETAIL "B"

ITEM NO.	DESCRIPTION	UNIT	QUANTITIES	VOLUME
103	STRUCTURE EXCAVATION	CU. M.		301
104	EMBANKMENT	CU. M.		148
503	STONE MASONRY	CU. M.		740
501	300 MM PVC	PCS	23	
503.37	100 MM PVC PIPE WEEP HOLE	PCS	64	
502	INTAKE	PCS	1	
508	GROUTED RIPRAP	CU. M.		10.95

100 MM PVC WEEP HOLES
 1st LEVEL 2.3 X 21 = 52.5
 2nd LEVEL 1.9 X 22 = 41.8
 3rd LEVEL 1.4 X 23 = 29.4

64 PCS OF 100 MM PVC
 3/4 LG. @
 10 2.00 MM B.W.

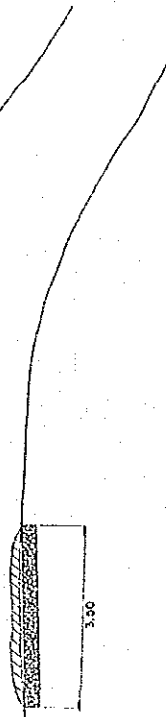
300 MM PVC PIPE DRAIN
 23 PCS



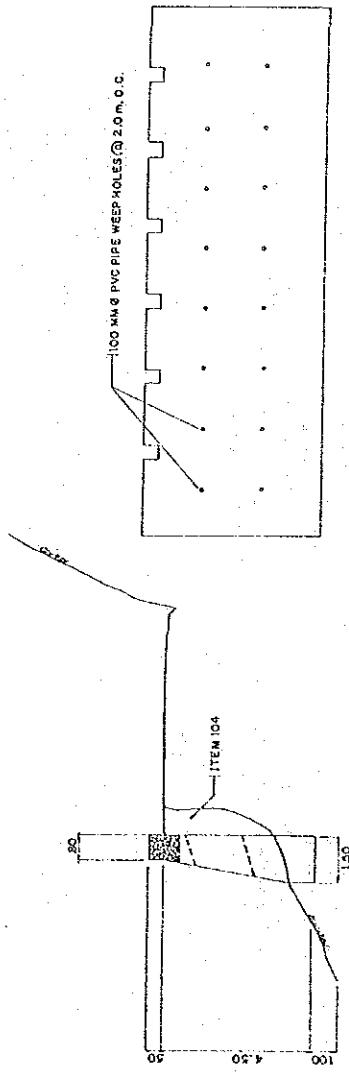
VOL = 16.70 X 43.0 = 719 CU. M. PLUS VOL. OF CATCH DRAIN = $(\frac{2.3}{2} \times 21) + (\frac{1.9}{2} \times 22) + (\frac{1.4}{2} \times 23) = 110.11$
 VOL = 34.5 X 43.0 = 148 CU. M.
 VOL = 3.00 X 43.0 = 129 CU. M.
 + 22 CU. M.

SPOT NO. Bt-24(D-FL)(2/2)

← TO AMBUKLAO DAM



PLAN
NOT DRAWN TO SCALE



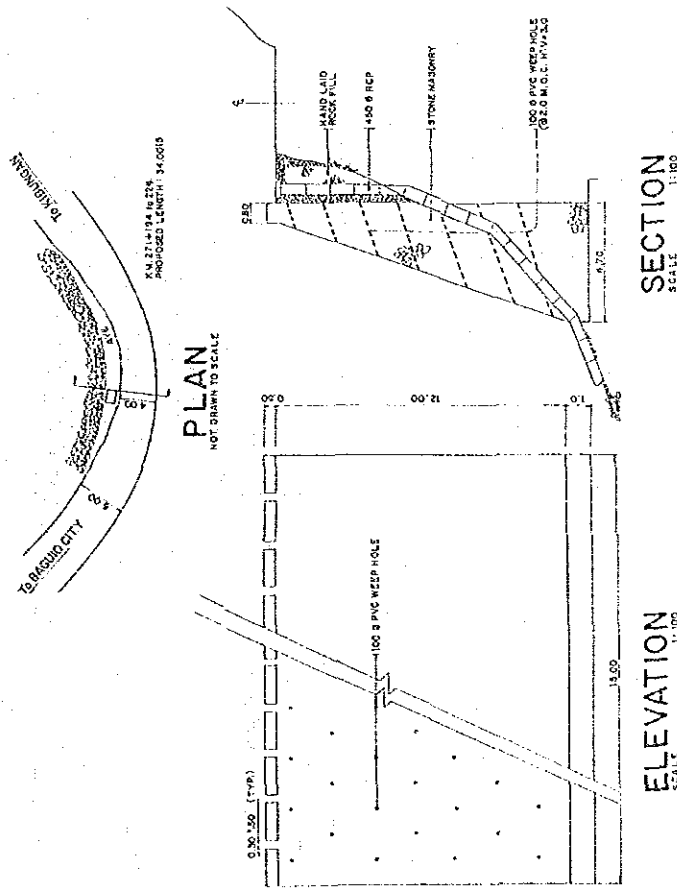
SUMMARY OF QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
103	STRUCTURE EXCAVATION	CU. M.	40.00
104	EMBANKMENT	CU. M.	87.00
505	STONE MASONRY	CU. M.	247.60
	100 MM Ø PVC WEEP HOLE	P.C.	4.00

SECTION
SCALE 1:100

ELEVATION
SCALE 1:100

SPOT NO. Bt-25(E-F)

RESTORATION ALONG ACOP-KAPANGAN-KIBUNGAN ROAD KM.271+194 - KM.271+229



ITEM NO.	DESCRIPTION	UNIT	QTY
103	STRUCTURE EXCAVATION	CUM.	683
104	EMBANKMENT	CUM.	196
501	450 Ø RCP	LK.	17
502	CATCH BASIN	PC	1
505	STONE MASONRY	CUM.	1334
505.3.7	100 MM Ø PVC ROADWAY	PC	123
		SQ.M.	53

VOLUME COMPUTATION

ITEM 103 $V = \left(\frac{74+0.9}{2} \right) 2.7 \times 35.0 = 683 \text{ M}^3$

ITEM 104 $V = \left(\frac{5.5 \times 2.0}{2} \right) 35.0 = 196 \text{ M}^3$

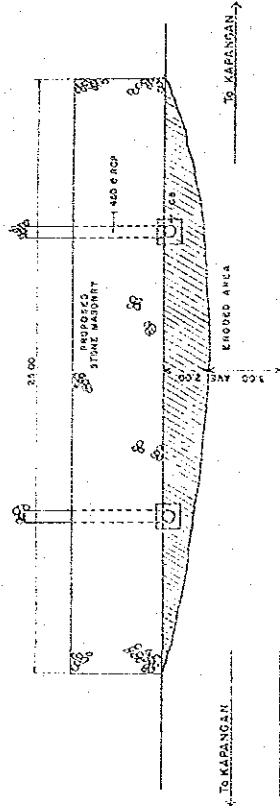
ITEM 501 $V = \left((0.8 \times 0.5) + (0.7 \times 1.0) + \left(\frac{0.7+0.5}{2} \right) 1.2 \right) 35.0 = 12.74 \text{ M}^3$

ITEM 505.3.7 $V = \left(\frac{35.0}{3} \right) 7 \times 3.0 \times 3 = 123 \text{ PCS}$

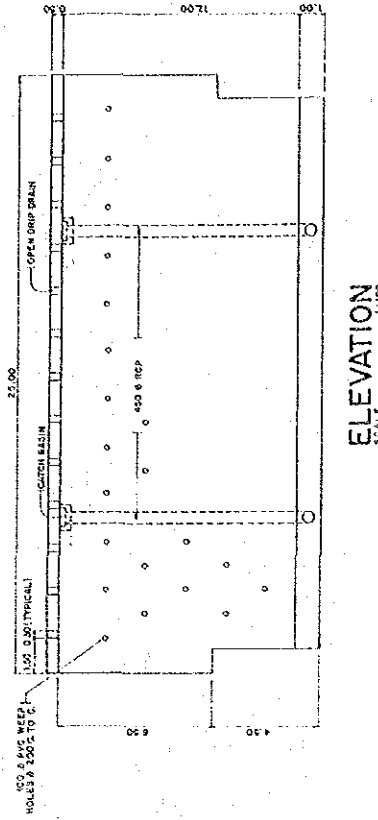
AREA OF ROADWAY $A = 1.50 \times 35.0 = 53 \text{ M}^2$

SPOT NO. Bt-38(E-F)

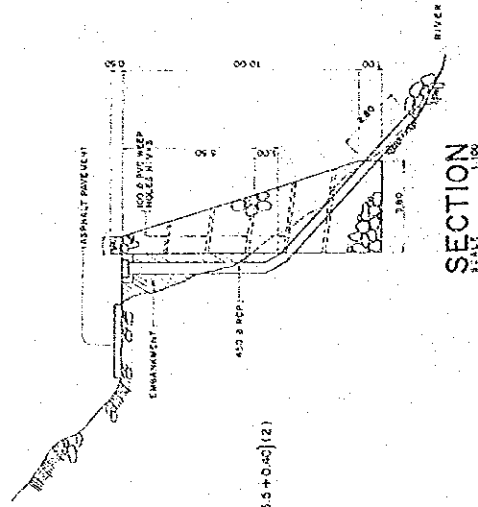
BENGUET PROVINCE
REHABILITATION ALONG ACOP - KAPANGAN-KIBUNGAN ROA
 KM. 288+237 - KM. 288+262



PLAN
SCALE 1:100



ELEVATION
SCALE 1:100



SECTION
SCALE 1:100

VOLUME COMPUTATIONS

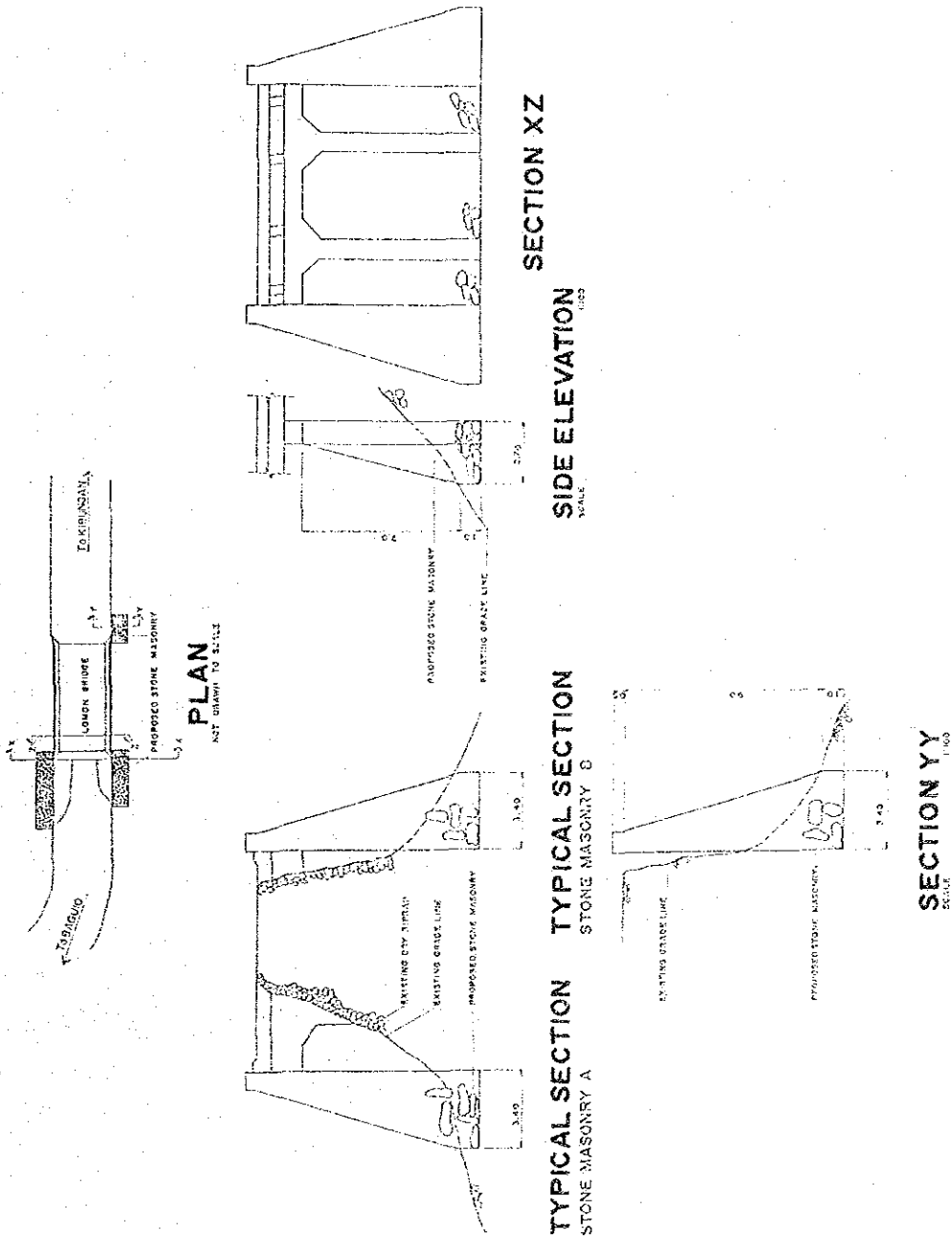
- ITEM 103
 $V = \left(\frac{21 \times 3.3}{2} \right) + (3.30 \times 1.00) = 25.00$
 = 309 m³
- ITEM 104
 $V = \left(\frac{21 \times 2.2}{2} \right) = 25.00$
- ITEM 505
 $V = (27.2 \times 23) + (2.2 \times 1) + \left(\frac{2.4 + 0.8}{2} \right) (5.5 \times 0.50) (2)$
 = 649 CU.M
- ITEM 505.3.7
 $V = 23 / 2 (3 \times 2.50) (1/3)$
 = 52.923
- ROADWAY
 A = (300 X 25.00)
 = 50.00 SQ.M.

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QTY
103	STRUCTURE EXCAVATION	CU.M	309
104	EMBANKMENT	CU.M	15
501	450 Ø RCP	CU.M	30
505.3.7	100 Ø PVC	PCS	52
505	STONE MASONRY	CU.M	649
502	CATCH BASIN	PCS	2
	ROADWAY	SQ.M.	50

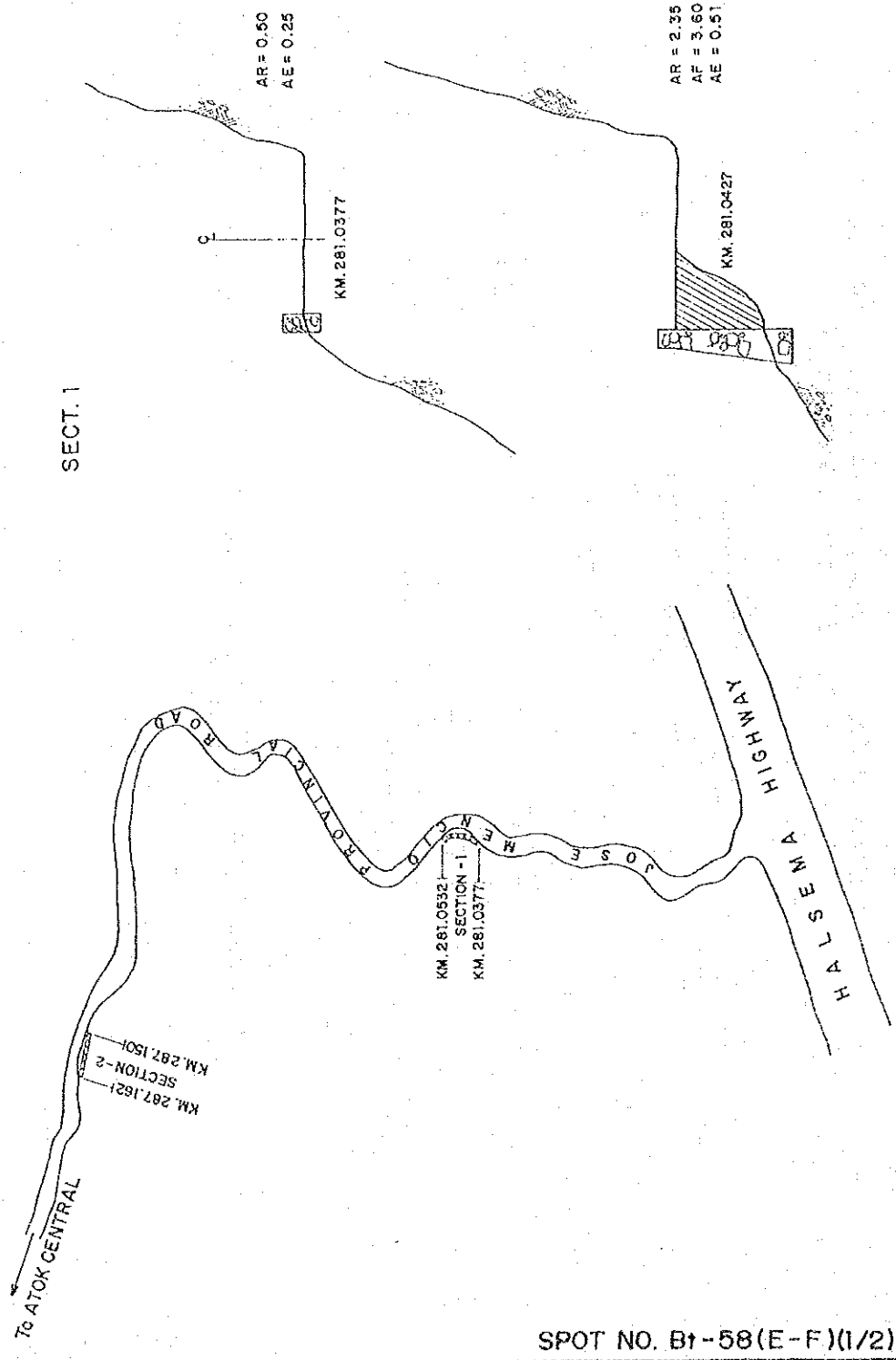
SPOT NO. Bf-54(E-F)

**RESTORATION ALONG ACOP-KAPANGAN-KIBUNGAN ROAD
KM 282+64 (LOMON BRIDGE)**



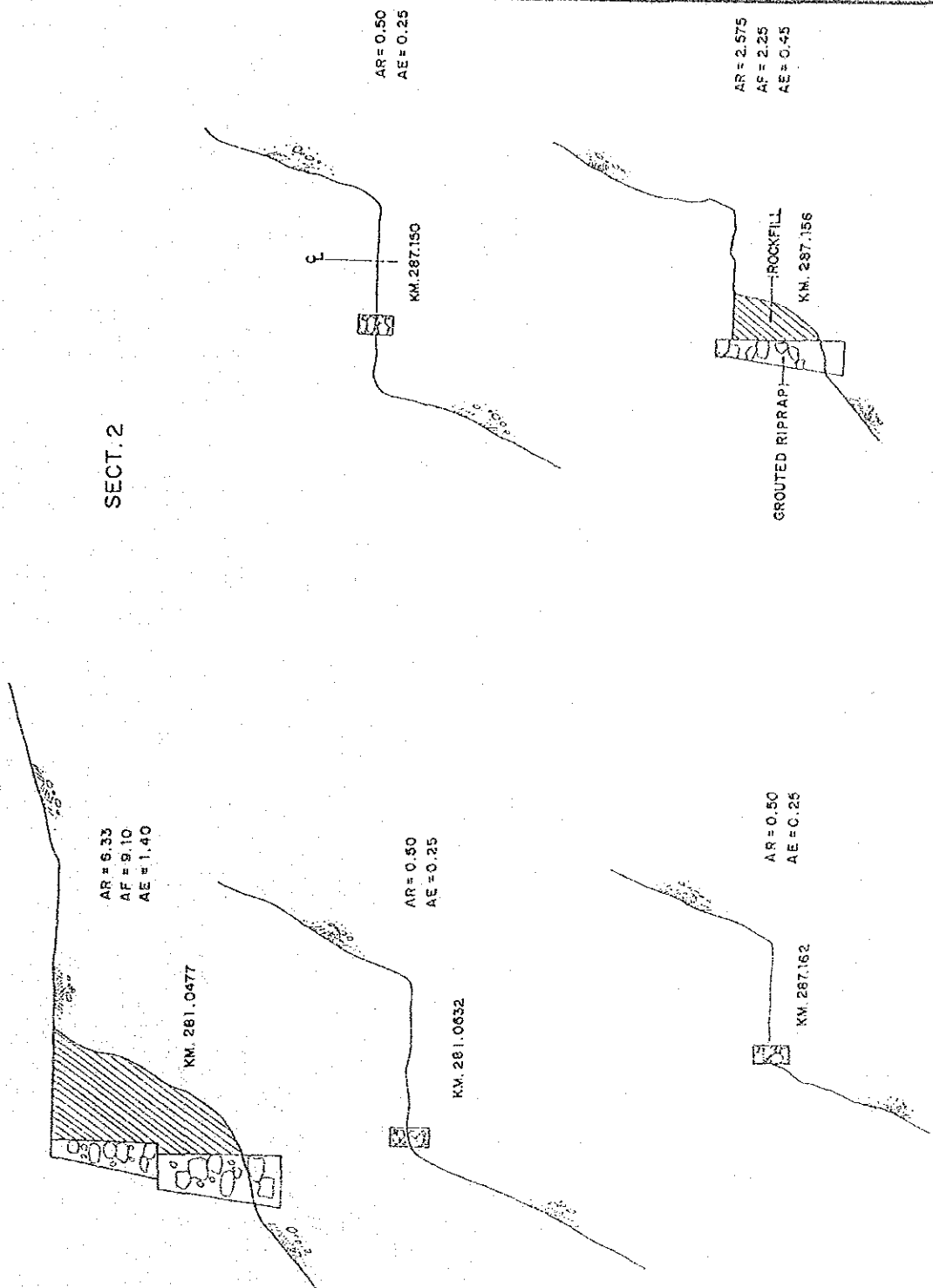
SPOT NO. Bf-55 (PBr-A)

PROPOSED RESTORATION OF RIPRAP ALONG JOSE MENCIO
 PROVINCIAL ROAD AT VARIOUS SECTIONS



SPOT NO. Bt-58(E-F)(1/2)

SECT. 2



AR = 6.33
AF = 9.10
AE = 1.40

KM. 281.0477

AR = 0.50
AE = 0.25

KM. 281.0632

AR = 0.50
AE = 0.25

KM. 287.150

AR = 2.575
AF = 2.25
AE = 0.75

AR = 0.50
AE = 0.25

KM. 287.162

GROUTED RIPRAP
ROCKFILL
KM. 287.156

SPOT NO. B1-58(E-F)(2/2)

APPENDIX 14-1
UNIT COST ANALYSIS

WORK ITEM: U1-1 Removal of Deposit Materials UNIT COST: P34.78/m³

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
1 -Wheel Loader, 80 HP		P/hr.	294.26	90.54	67.91	452.71
2 -Dump Truck, 190 HP		P/hr.	658.98	202.76	152.08	1,013.82
Minor tools 10% of unskilled laborer		P/hr.	9.10	2.80	2.10	14.00
Total	A	P/hr.	962.34	296.10	222.09	1,480.53
B) LABOR:						
1 -Foreman		P/hr.	-	22.50	-	22.50
10-Unskilled Laborer		P/hr.	-	140.00	-	140.00
Total	B	P/hr.		162.50		162.50
Total	A + B	P/hr.	962.34	458.60	222.09	1,643.03
C) OUTPUT: 60 m³/hr.						
<u>1,643.03</u>		P/m ³	16.74	6.78	3.86	27.38
60 m ³ /hr.						
D) DIRECT COST:						
		P/m ³	16.74	6.78	3.86	27.38
Mobilization & Demo.	2%	P/m ³	0.33	0.14	0.08	0.55
Overhead, Cont's & Misc.	8%	P/m ³	1.34	0.54	0.31	2.19
Contractor's Profit	7%	P/m ³	1.17	0.47	0.28	1.92
Value Added Tax	10%	P/m ³	1.67	0.68	0.39	2.74
E) UNIT COST:						
		P/m ³	21.25	8.61	4.92	34.78
PERCENTAGE:			61	25	14	100

WORK ITEM: U1-2 Removal of Unstable Materials UNIT COST: P72.15/m³

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
1- Dump Truck, 190 HP		P/hr.	329.49	101.38	76.04	506.91
1- Wheel Loader, 80 HP		P/hr.	294.26	90.54	67.91	452.71
Minor tools 10% of unskilled laborer		P/hr.	9.10	2.80	2.10	14.00
Total	A	P/hr.	632.85	194.72	146.05	973.62
B) LABOR:						
1- Foreman		P/hr.	-	22.50	-	22.50
10-Unskilled Laborers		P/hr.	-	140.00	-	140.00
Total	B	P/hr.		162.50		162.50
Total	A + B	P/hr.	632.85	357.22	146.05	1,136.12
C) OUTPUT: 20 m³/hr.						
<u>1,136.12 P/hr.</u>		<u>P/m³</u>	<u>35.22</u>	<u>13.63</u>	<u>7.96</u>	<u>56.81</u>
20 m ³ /hr.						
D) DIRECT COST:						
		P/m³	35.22	13.63	7.96	56.81
Mobilization & Demo.	2%	P/m ³	0.70	0.27	0.17	1.14
Overhead, Cont's & Misc.	8%	P/m ³	2.82	1.09	0.63	4.54
Contractor's Profit	7%	P/m ³	2.47	0.95	0.56	3.98
Value Added Tax	10%	P/m ³	3.52	1.36	0.80	5.68
E) UNIT COST:						
		P/m³	44.73	17.30	10.12	72.15
PERCENTAGE:						
			62	24	14	100

WORK ITEM: U1-4 Refilling/Embankment

UNIT COST: P68.42/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 - Bulldozer, 200 HP	P/hr.	698.82	215.02	161.27	1,075.11
1.5-Water Truck, 120 HP	P/hr.	325.36	100.10	75.09	500.55
0.5-Sheepsfoot Roller, 106 HP	P/hr.	47.81	14.71	11.03	73.55
0.5-Pneumatic Roller, 106 HP	P/hr.	92.30	28.40	21.30	142.00
0.5-Water Pump	P/hr.	12.16	3.74	2.80	18.70
Minor tools 10% of unskilled laborer	P/hr.	2.73	0.84	0.63	4.20
Total A	P/hr.	1,179.18	362.81	272.12	1,814.11
B) LABOR:					
1 - Foreman	P/hr.	-	22.50	-	22.50
0.5-Skilled Laborers	P/hr.	-	8.00	-	8.00
3 - Unskilled Laborer	P/hr.	-	42.00	-	42.00
Total B	P/hr.		72.50		72.50
Total A + B	P/hr.	1,179.18	435.31	272.12	1,886.61
C) OUTPUT: 100 m³/hr.					
<u>1,886.61 P/hr.</u> 100 m ³ /hr.	P/m ³	11.85	4.29	2.73	18.87
D) MATERIALS:					
Blending Soil: 1 m ³ /m ³ x P35.00/m ³	P/m ³	22.40	7.35	5.25	35.00
Total D	P/m³	22.40	7.35	5.25	35.00
E) DIRECT COST:					
	P/m ³	34.25	11.64	7.98	53.87
Mobilization & Demo. 2%	P/m ³	0.69	0.23	0.16	1.08
Overhead, Cont's. & Misc. 8%	P/m ³	2.74	0.93	0.64	4.31
Contractor's Profit 7%	P/m ³	2.40	0.81	0.56	3.77
Value Added Tax 10%	P/m ³	3.43	1.16	0.80	5.39
F) UNIT COST:					
	P/m ³	43.51	14.77	10.14	68.42
PERCENTAGE:		64	21	15	100

WORK ITEM: U1-5 Selected Material Fill

UNIT COST: P368.94/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
1- Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	506.91
1- Pneumatic Roller, 106 HP	P/hr.	184.60	56.80	42.60	284.00
T o t a l A	P/hr.	808.35	248.72	186.55	1,243.62
B) LABOR:					
1- Asst. Foreman	P/hr.	-	19.00	-	19.00
2- Unskilled Laborers	P/hr.	-	28.00	-	28.00
T o t a l B	P/hr.		47.00		47.00
T o t a l A + B	P/hr.	808.35	295.72	186.55	1,290.62
C) OUTPUT: 7 m³/hr.					
<u>1,290.62 P/hr.</u> 7 m ³ /hr.	P/m ³	115.48	42.24	26.65	184.37
D) MATERIALS:					
Boulders: 1 x P102.30	P/m ³	56.27	30.69	15.34	102.30
T o t a l D	P/m³	56.27	30.69	15.34	102.30
E) DIRECT COST:					
	P/m ³	171.75	72.93	41.99	286.67
Mobilization & Demobilization	2% P/m ³	3.43	1.46	0.84	5.73
Overhead, Contingencies & Misc.	8% P/m ³	13.74	5.83	3.36	22.93
Contractor's Profit	7% P/m ³	12.02	5.11	2.94	20.07
Value Added Tax	10% P/m ³	20.10	8.53	4.91	33.54
F) UNIT COST:					
	P/m ³	221.04	93.86	54.04	368.94
PERCENTAGE:		60	25	15	100

WORK ITEM: U2-2 Temporary Side Ditch		UNIT COST: P10.99/lm.				
PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% of unsk. laborer		P/hr.	9.10	2.80	2.10	14.00
Total	A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:						
1 -Asst. Foreman		P/hr.	-	19.00	-	19.00
10-Unskilled Laborers		P/hr.	-	140.00	-	140.00
Total	B	P/hr.		159.00		159.00
Total	A + B	P/hr.	9.10	161.80	2.10	173.00
C) OUTPUT: 20.0 lm/hr.						
<u>173.00 P/hr.</u>		P/lm.	0.46	8.08	0.11	8.65
20.0 lm/hr.						
D) DIRECT COST:						
		P/lm.	0.46	8.08	0.11	8.65
Mobilization & Demobilization	2% P/lm.		-	0.16	-	0.17
Overhead, Contingencies & Misc.	8% P/lm.		-	0.65	-	0.69
Contractor's Profit	7% P/lm.		-	0.57	-	0.61
Value Added Tax	10% P/lm.		-	0.81	-	0.87
E) UNIT COST:						
		P/lm.	0.58	10.27	0.14	10.99
PERCENTAGE:			5	93	2	100

WORK ITEM: U3-1 Sheet Covering

UNIT COST: P28.11/m²

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unskilled Laborer	P/hr.	5.46	1.68	1.26	8.40
T o t a l A	P/hr.	5.46	1.68	1.26	8.40
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
6- Unskilled Laborers	P/hr.	-	84.00	-	84.00
T o t a l B	P/hr.		106.50		106.50
T o t a l A + B	P/hr.	5.46	108.18	1.26	114.90
C) OUTPUT: 25 m²/hr.					
<u>114.90 P/hr.</u> 25 m ² /hr.	P/m ²	0.22	4.33	0.05	4.60
D) MATERIALS:					
Vinyl Sheet 0.0033 x sheet/m ² x P1,560/sheet	P/m ²	2.86	1.56	0.78	5.20
0.1 Sand Bag/m ²	P/m ²	6.17	3.37	1.68	11.22
Incidental 5% of the above	P/m ²	0.45	0.25	0.12	0.82
T o t a l D	P/m²	9.48	5.18	2.58	17.24
E) DIRECT COST:					
Mobilization & Demo. 2%	P/m ²	0.13	0.26	0.04	0.43
Overhead, Cont's & Misc. 8%	P/m ²	0.55	1.05	0.15	1.75
Contractor's Profit 7%	P/m ²	0.50	0.90	0.13	1.53
Value Added Tax 10%	P/m ²	0.82	1.52	0.22	2.56
F) UNIT COST:					
	P/m ²	8.99	16.69	2.43	28.11
PERCENTAGE:					
		32	60	8	100

WORK ITEM: U3-2 Sand Bags Covering UNIT COST: P112.17/m²

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00	
Total A	P/hr.	9.10	2.80	2.10	14.00	
B) LABOR:						
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00	
Total B	P/hr.		140.00		140.00	
Total A + B	P/hr.	9.10	142.80	2.10	154.00	
C) OUTPUT: 10 m²/hr.						
<u>154.00 P/hr.</u> 10 m ² /hr.	P/m ²	0.91	14.28	0.21	15.40	
D) MATERIALS:						
Sand bags: 8 bags/m ² xP7.8/bag	P/m ²	37.44	15.60	9.36	62.40	
Soil: 0.144 cu.m./m ² x P65/cu.m.	P/m ²	5.62	2.34	1.40	9.36	
Total D	P/m²	43.06	17.94	10.76	71.76	
E) DIRECT COST:						
	P/m ²	43.97	32.22	10.97	87.16	
Mobilization & Demobilization 2%	P/m ²	0.88	0.64	0.22	1.74	
Overhead, Contingencies & Misc. 8%	P/m ²	3.51	2.58	0.88	6.97	
Contractor's Profit 7%	P/m ²	3.08	2.26	0.77	6.11	
Value Added Tax 10%	P/m ²	5.14	3.77	1.28	10.19	
F) UNIT COST:						
	P/m ²	56.58	41.47	14.12	112.17	
PERCENTAGE:						
		50	37	13	100	

WORK ITEM: U4-1 Sand Bags Wall		UNIT COST: P112.17/m ²				
PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00	
Total A	P/hr.	9.10	2.80	2.10	14.00	
B) LABOR:						
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00	
Total B	P/hr.		140.00		140.00	
Total A + B	P/hr.	9.10	142.80	2.10	154.00	
C) OUTPUT: 10 m²/hr.						
<u>154.00 P/hr.</u> 10 m ² /hr.	P/m ²	0.91	14.28	0.21	15.40	
D) MATERIALS:						
Sand bags: 8 bags/m ² x P7.8/bag	P/m ²	37.44	15.60	9.36	62.40	
Soil: 0.144 cu.m./m ² x P65/cu.m.	P/m ²	5.62	2.34	1.40	9.36	
Total D	P/m²	43.06	17.94	10.76	71.76	
E) DIRECT COST:						
	P/m ²	43.97	32.22	10.97	87.16	
Mobilization & Demobilization	2% P/m ²	0.88	0.64	0.22	1.74	
Overhead, Contingencies & Misc.	8% P/m ²	3.51	2.58	0.88	6.97	
Contractor's Profit	7% P/m ²	3.08	2.26	0.77	6.11	
Value Added Tax	10% P/m ²	5.14	3.77	1.28	10.19	
F) UNIT COST:						
	P/m ²	56.58	41.47	14.12	112.17	
PERCENTAGE:						
		50	37	13	100	

WORK ITEM: U4-2 Gabion Wall

UNIT COST: P1,424.71/m³

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% of Unskilled Laborer		P/hr.	9.10	2.80	2.10	14.00
Total A		P/hr.	9.10	2.80	2.10	14.00
B) LABOR:						
1 -Foreman		P/hr.	-	22.50	-	22.50
10-Unskilled Laborer		P/hr.	-	140.00	-	140.00
Total B		P/hr.		162.50		162.50
Total A + B		P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr.						
<u>176.50 P/hr.</u> 2 m ³ /hr.		P/m ³	9.10	165.30	2.10	176.50
D) MATERIALS:						
Wire Mesh: 1.60 roll/m ³ x P585/roll		P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30		P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above		P/m ³	5.07	2.76	1.38	9.21
Total D		P/m ³	511.79	279.15	139.57	930.51
E) DIRECT COST:						
		P/m ³	520.89	444.45	141.67	1,107.01
Mobilization & Demo. 2%		P/m ³	10.42	8.89	2.83	22.14
Overhead, Cont's & Misc. 8%		P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit 7%		P/m ³	36.46	31.11	9.92	77.49
Value Added Tax 10%		P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:						
		P/m ³	670.38	572.01	182.32	1,424.71
PERCENTAGE:						
			47	40	13	100

WORK ITEM: U4-3 Wooden Fence

UNIT COST: P185.17/lm.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
T o t a l A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00
T o t a l B	P/hr.		140.00		140.00
T o t a l A + B	P/hr.	9.10	142.80	2.10	154.00
C) OUTPUT: 5.0 lm./hr.					
<u>154 P/hr.</u> 5.0 lm/hr.	P/lm.	1.82	28.56	0.42	30.80
D) MATERIALS:					
Coco Lumber (3"x3") = 23 bd.ft/lm. x P5.0/bd.ft.	P/lm.	28.75	69.00	17.25	115.00
T o t a l D		28.75	69.00	17.25	115.00
E) DIRECT COST:					
	P/lm.	30.57	97.56	17.67	145.80
Mobilization & Demobilization	2% P/lm.	0.61	1.95	0.36	2.92
Overhead, Contingencies & Misc.	8% P/lm.	2.45	7.80	1.41	11.66
Contractor's Profit	7% P/lm.	2.14	6.83	1.24	10.21
Value Added Tax	10% P/lm.	3.06	9.76	1.76	14.58
F) UNIT COST:					
	P/lm.	38.83	123.90	22.44	185.17
PERCENTAGE:					
		21	67	12	100

WORK ITEM: U5-1 Gabion Foot Protection UNIT COST: P1,424.71/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		162.50		162.50
Total A + B	P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr.					
<u>176.50 P/hr.</u> 2 m ³ /hr.	P/m ³	9.10	165.30	2.10	176.50
D) MATERIALS:					
Wire Mesh: 1.60 roll/m ³ x P585/roll	P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30	P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21
Total D	P/m ³	511.79	279.15	139.57	930.51
E) DIRECT COST:					
	P/m ³	520.89	444.45	141.67	1,107.01
Mobilization & Demobilization 2%	P/m ³	10.42	8.89	2.83	22.14
Overhead, Contingencies & Misc. 8%	P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit 7%	P/m ³	36.46	31.11	9.92	77.49
Value Added Tax 10%	P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:					
	P/m ³	670.38	572.01	182.32	1,424.71
PERCENTAGE:					
		47	40	13	100

WORK ITEM: U6-2 H-Pile Bent (Depreciation) UNIT COST: P1,051.68/m²

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Truck Mounted Crane, 50 T	P/hr.	641.78	49.37	296.20	987.35
1- Pile Hammer (6,700 kg.m)	P/hr.	421.22	32.40	194.41	648.03
1- Pick-up, 2 T	P/hr.	120.40	9.26	55.31	184.97
Minor tools 10% of the above	P/hr.	118.34	9.10	54.59	182.03
Total A	P/hr.	1,301.74	100.13	600.51	2,002.38
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
2- Skilled Laborers	P/hr.	-	32.00	-	32.00
4- Unskilled Laborers	P/hr.	-	56.00	-	56.00
Total B	P/hr.		110.50		110.50
Total A + B	P/hr.	1,301.74	210.63	600.51	2,112.88
C) OUTPUT: 8 m/hr.					
<u>2,112.88 P/hr.</u> 8 m/hr.	P/m	162.71	26.33	75.06	264.10
D) MATERIALS:					
Steel H (Depreciation):					
94 kg./m x 6 P/kg.	P/m	206.80	131.60	37.60	564.00
Total D	P/m	206.80	131.60	37.60	564.00
E) DIRECT COST:					
	P/m	369.51	157.93	112.66	828.10
Mobilization & Demo. 2%	P/m	7.39	3.16	2.25	16.56
Overhead, Cont's & Misc. 8%	P/m	29.56	12.63	9.02	66.24
Contractor's Profit 7%	P/m	25.87	11.06	7.88	57.97
Value Added Tax 10%	P/m	36.95	15.79	11.27	82.81
F) UNIT COST:					
	P/m	469.28	200.57	143.08	1,051.68
PERCENTAGE:		58	25	17	100

WORK ITEM: U6-3 Bailey Bridge (Depreciation) UNIT COST: P13,555.83/lm.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Stake Truck	P/hr.	198.25	61.00	45.75	305.00
1- Truck Mounted Crane	P/hr.	1,176.60	362.03	271.53	1,810.16
Minor tools 10% of Unskilled Laborer	P/hr.	4.55	1.40	1.05	7.00
Total A	P/hr.	1,379.40	424.43	318.33	2,122.16
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
2- Skilled Laborer	P/hr.	-	32.00	-	32.00
5- Unskilled Laborers	P/hr.	-	70.00	-	70.00
1- Driver	P/hr.	-	15.00	-	15.00
Total B	P/hr.		139.50		139.50
Total A + B	P/hr.	1,379.40	563.93	318.33	2,261.66
C) OUTPUT: 3.0 lm/hr.					
<u>2,261.66 P/hr.</u> 3.0 lm/hr.	P/lm.	459.80	187.97	106.11	753.88
D) MATERIALS:					
Struc. Steel: 200 kgs/lm x P9/kg.	P/lm.	440.00	280.00	80.00	1,800.00
Yacal/Guijo: 365 bd.ft./lm. x P22.00/bd.ft.	P/lm.	2,007.50	4,818.00	1,204.50	8,030.00
Nails: 4 kgs/lm. x P22.50/kg.	P/lm.	64.80	9.00	16.20	90.00
Total D		2,512.30	5,107.00	1,300.70	9,920.00
E) DIRECT COST:					
	P/lm.	2,972.10	5,294.97	1,406.81	10,673.88
Mobilization & Demo. 2%	P/lm.	59.44	105.90	28.14	213.48
Overhead, Cont's & Misc. 8%	P/lm.	237.77	423.60	112.54	853.91
Contractor's Profit 7%	P/lm.	208.05	370.65	98.47	747.17
Value Added Tax 10%	P/lm.	297.21	529.50	140.68	1,067.39
F) UNIT COST:					
	P/lm.	3,774.57	6,724.62	1,786.64	13,555.83
PERCENTAGE:		29	56	15	100

WORK ITEM: U7-1 Gravel Surfacing

UNIT COST: P315.50/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
3- Motor Grader, 115 HP	P/hr.	868.92	267.36	200.52	1,336.80
2- Vibratory Roller, 115 HP	P/hr.	924.24	284.38	213.28	1,421.90
1- Pneumatic Roller, 106 HP	P/hr.	184.60	56.80	42.60	284.00
2- Water Truck, 120 HP	P/hr.	433.82	133.48	100.12	667.42
1- Water Pump	P/hr.	24.31	7.48	5.61	37.40
Minor tools 20% of unskilled laborers	P/hr.	18.20	5.60	4.20	28.00
Total A	P/hr.	2,454.09	755.10	566.33	3,775.52
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborers	P/hr.	-	128.00	-	128.00
10- Unskilled Laborers	P/hr.	-	140.00	-	140.00
Total B	P/hr.		290.50		290.50
Total A + B	P/hr.	2,454.09	1,045.60	566.33	4,066.02
C) OUTPUT: 20 m³/hr.					
<u>4,066.02 P/hr.</u> 20 m ³ /hr.	P/m ³	122.70	52.28	28.32	203.30
D) MATERIALS:					
C.A.: 0.15 m ³ /m ³ x P215/m ³	P/m ³	17.74	9.68	4.83	32.25
Incidentals 30% of the above	P/m ³	5.28	2.88	1.44	9.60
Total D	P/m³	23.02	12.56	6.27	41.85
E) DIRECT COST:					
	P/m ³	145.72	64.84	34.59	245.15
Mobilization & Demo. 2%	P/m ³	2.91	1.30	0.69	4.90
Overhead, Cont's. & Misc. 8%	P/m ³	11.66	5.18	2.77	19.61
Contractor's Profit 7%	P/m ³	10.20	4.54	2.42	17.16
Value Added Tax 10%	P/m ³	17.05	7.59	4.04	28.68
F) UNIT COST:	P/m³	187.54	83.45	44.51	315.50
PERCENTAGE:		60	26	14	100

WORK ITEM: P1-1(1) Recutting (Common)		UNIT COST: P58.30/m ³				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
A) EQUIPMENT:						
1- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71	
2- Dump Truck, 190 HP	P/hr.	658.98	202.76	152.08	1,013.82	
Minor tools 10% of unskilled laborer	P/hr.	9.10	2.80	2.10	14.00	
Total A	P/hr.	962.34	296.10	222.09	1,480.53	
B) LABOR:						
1- Foreman	P/hr.	-	22.50	-	22.50	
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00	
Total B	P/hr.		162.50		162.50	
Total A + B	P/hr.	962.34	458.60	222.09	1,643.03	
C) OUTPUT: 60 m³/hr.						
<u>1,643.03 P/hr.</u> 60 m ³ /hr.	P/m ³	27.69	11.23	6.39	45.30	
D) DIRECT COST:						
	P/m ³	27.69	11.23	6.39	45.30	
Mobilization & Demobilization	2% P/m ³	0.55	0.22	0.13	0.90	
Overhead, Contingencies & Misc.	8% P/m ³	2.22	0.90	0.51	3.63	
Contractor's Profit	7% P/m ³	1.94	0.79	0.44	3.17	
Value Added Tax	10% P/m ³	3.24	1.31	0.75	5.30	
E) UNIT COST:						
	P/m ³	35.64	14.45	8.22	58.30	
PERCENTAGE:		61	25	14	100	

WORK ITEM: P1-1(2) Recutting (Rock)		UNIT COST: P358.53/m ³			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 -Bulldozer, 200 HP	P/hr.	698.82	215.02	161.27	1,075.11
1 -Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
2 -Dump Truck, 190 HP	P/hr.	658.97	202.76	152.07	1,013.80
1 -Aircompressor, 93 HP	P/hr.	200.67	61.75	46.31	308.73
2 -Rock Drill, 106 HP	P/hr.	69.91	27.17	19.51	116.59
Minor tools 10% of unskilled laborer	P/hr.	9.10	2.80	2.10	14.00
T o t a l A	P/hr.	1,931.73	600.04	449.17	2,980.94
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
1 -Skilled Laborers	P/hr.	-	16.00	-	16.00
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
T o t a l B	P/hr.		178.50		178.50
T o t a l A + B	P/hr.	1,931.73	778.54	449.17	3,159.44
C) OUTPUT: 20 m³/hr.					
<u>3,159.44 P/hr.</u> 20 m ³ /hr.	P/m ³	96.58	38.93	22.46	157.97
D) MATERIALS:					
Dynamite: 0.3 x P52	P/m ³	10.92	1.56	3.12	15.60
Blasting Caps & Fuse: 5 x P21.00	P/m ³	73.50	10.50	21.00	105.00
T o t a l D	P/m³	84.42	12.06	24.12	120.60
E) DIRECT COST:					
	P/m ³	181.00	50.99	46.58	278.57
Mobilization & Demobilization 2%	P/m ³	3.62	1.02	0.93	5.57
Overhead, Contingencies & Misc. 8%	P/m ³	14.48	4.08	3.73	22.29
Contractor's Profit 7%	P/m ³	12.67	3.57	3.26	19.50
Value Added Tax 10%	P/m ³	21.18	5.97	5.45	32.60
F) UNIT COST:					
	P/m ³	232.95	65.63	59.95	358.53
PERCENTAGE:					
		65	19	16	100

WORK ITEM: P1-3 Refilling/Embankment		UNIT COST: P68.42/m ³				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
A) EQUIPMENT:						
1 - Bulldozer, 200 HP	P/hr.	698.82	215.02	161.27	1,075.11	
1.5-Water Truck, 120 HP	P/hr.	325.36	100.10	75.09	500.55	
0.5-Sheepsfoot Roller, 106 HP	P/hr.	47.81	14.71	11.03	73.55	
0.5-Pneumatic Roller, 106 HP	P/hr.	92.30	28.40	21.30	142.00	
0.5-Water Pump	P/hr.	12.16	3.74	2.80	18.70	
Minor tools 10% of unskilled Laborer	P/hr.	2.73	0.84	0.63	4.20	
Total A	P/hr.	1,179.18	362.81	272.12	1,814.11	
B) LABOR:						
1 - Foreman	P/hr.	-	22.50	-	22.50	
0.5-Skilled Laborers	P/hr.	-	8.00	-	8.00	
3 - Unskilled Laborer	P/hr.	-	42.00	-	42.00	
Total B	P/hr.		72.50		72.50	
Total A + B	P/hr.	1,179.18	435.31	272.12	1,886.61	
C) OUTPUT: 100 m³/hr.						
<u>1,886.61 P/hr.</u> 100 m ³ /hr.	P/m ³	11.85	4.29	2.73	18.87	
D) MATERIALS:						
Blending Soil: 1 m ³ /m ³ x P35.00/m ³	P/m ³	22.40	7.35	5.25	35.00	
Total D	P/m³	22.40	7.35	5.25	35.00	
E) DIRECT COST:						
Mobilization & Demo. 2%	P/m ³	0.69	0.23	0.16	1.08	
Overhead, Cont's. & Misc. 8%	P/m ³	2.74	0.93	0.64	4.31	
Contractor's Profit 7%	P/m ³	2.40	0.81	0.56	3.77	
Value Added Tax 10%	P/m ³	3.43	1.16	0.80	5.39	
F) UNIT COST:						
	P/m ³	43.51	14.77	10.14	68.42	
PERCENTAGE:		64	21	15	100	

WORK ITEM: P1-4 Counterweight Fill

UNIT COST: P68.42/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 - Bulldozer, 200 HP	P/hr.	698.82	215.02	161.27	1,075.11
1.5-Water Truck, 120 HP	P/hr.	325.36	100.10	75.09	500.55
0.5-Sheepsfoot Roller, 106 HP	P/hr.	47.81	14.71	11.03	73.55
0.5-Pneumatic Roller, 106 HP	P/hr.	92.30	28.40	21.30	142.00
0.5-Water Pump	P/hr.	12.16	3.74	2.80	18.70
Minor tools 10% of unskilled laborer	P/hr.	2.73	0.84	0.63	4.20
Total A	P/hr.	1,179.18	362.81	272.12	1,814.11
B) LABOR:					
1 - Foreman	P/hr.	-	22.50	-	22.50
0.5-Skilled Laborers	P/hr.	-	8.00	-	8.00
3 - Unskilled Laborer	P/hr.	-	42.00	-	42.00
Total B	P/hr.		72.50		72.50
Total A + B	P/hr.	1,179.18	435.31	272.12	1,886.61
C) OUTPUT: 100 m³/hr.					
<u>1,886.61 P/hr.</u> 100 m ³ /hr.	P/m ³	11.85	4.29	2.73	18.87
D) MATERIALS:					
Blending Soil: 1 m ³ /m ³ x P35.00/m ³	P/m ³	22.40	7.35	5.25	35.00
Total D	P/m³	22.40	7.35	5.25	35.00
E) DIRECT COST:					
Mobilization & Demo. 2%	P/m ³	0.69	0.23	0.16	1.08
Overhead, Cont's. & Misc. 8%	P/m ³	2.74	0.93	0.64	4.31
Contractor's Profit 7%	P/m ³	2.40	0.81	0.56	3.77
Value Added Tax 10%	P/m ³	3.43	1.16	0.80	5.39
F) UNIT COST:					
	P/m³	43.51	14.77	10.14	68.42
PERCENTAGE:					
		64	21	15	100

WORK ITEM: P2-1 Slope Ditch		UNIT COST: P318.76/lm.			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity Q = 0.149 m ³	P/hr.	-	-	-	-
B) UNIT COST: 250.30 x 0.149/0.117	P/lm.	146.63	130.69	41.44	318.76
PERCENTAGE:		46	41	13	100

*Unit Cost P250.30 is same as P2-2(1) Side Ditch Type A

WORK ITEM: P2-2(1) Side Ditch Type A		UNIT COST: P250.30/lm.				
PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% of Unsk. Laborer		P/hr.	9.10	2.80	2.10	14.00
Total A		P/hr.	9.10	2.80	2.10	14.00
B) LABOR:						
1 - Foreman		P/hr.	-	22.50	-	22.50
10-Unskilled Laborers		P/hr.	-	140.00	-	140.00
Total B		P/hr.		162.50		162.50
Total A + B		P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 5 lm/hr.						
<u>176.50 P/hr.</u>		P/lm.	1.90	32.96	0.44	35.30
5 lm./hr.						
D) MATERIALS:						
Cement: 0.93 x P120		P/lm.	61.38	33.48	16.74	111.60
F.A. : 0.02 x P151		P/lm.	1.90	0.69	0.43	3.02
Boulders: 0.12 x P393		P/lm.	25.94	14.15	7.07	47.16
Total D		P/lm.	89.22	48.32	24.24	161.78
E) DIRECT COST:						
		P/lm.	91.12	81.28	24.68	197.08
Mobilization & Demobilization	2% P/lm.		1.82	1.63	0.49	3.94
Overhead, Contingencies & Misc.	8% P/lm.		7.29	6.50	1.98	15.77
Contractor's Profit	7% P/lm.		6.38	5.69	1.73	13.80
Value Added Tax	10% P/lm.		9.11	8.13	2.47	19.71
F) UNIT COST:						
		P/lm.	115.72	103.23	31.35	250.30
PERCENTAGE:						
			46	41	13	100

WORK ITEM: P2-2(3) Side Ditch Type C		UNIT COST: P500.60/lm.			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity $q = 0.234 \text{ m}^3$	P/hr.	-	-	-	-
B) UNIT COST: $250.30 \times 0.234/0.117$	P/lm.	230.28	205.25	65.07	500.60
PERCENTAGE:		46	41	13	100

* Unit Cost P250.30 is same as P2-2(1) Side Ditch Type A

WORK ITEM: P2-3(1) Structural Concrete, Class A UNIT COST: P2,942.21/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u> 8 m ³ /hr.	P/m ³	246.31	182.10	56.84	485.25
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
Total D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m ³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization	2% P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc.	8% P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit	7% P/m ³	86.62	52.20	23.35	162.17
Value Added Tax	10% P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:					
	P/m ³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:		53	32	15	100

WORK ITEM: P2-3(2) Reinforcing Steel Bar

UNIT COST: P33.60/kg.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 -Bar Bender	P/hr.	5.15	2.40	2.75	10.30
0.5-Bar Shear	P/hr.	8.85	4.05	4.80	17.70
T o t a l A	P/hr.	14.00	6.45	7.55	28.00
B) LABOR:					
1.5-Foreman	P/hr.	-	33.75	-	33.75
5 -Skilled Laborers	P/hr.	-	80.00	-	80.00
15 -Unskilled Laborer	P/hr.	-	210.00	-	210.00
T o t a l B	P/hr.		323.75		323.75
T o t a l A + B	P/hr.	14.00	330.20	7.55	351.75
C) OUTPUT: 125 kg./hr.					
<u>351.75 P/hr.</u> 125 kg./hr.	P/kg.	0.12	2.64	0.06	2.82
D) MATERIALS:					
Rebars: 1.05 x P22.50	P/kg.	11.82	9.22	2.59	23.63
E) DIRECT COST:					
	P/kg.	11.94	11.86	2.65	26.45
Mobilization & Demobilization	2% P/kg.	0.24	0.24	0.05	0.53
Overhead, Contingencies & Misc.	8% P/kg.	0.96	0.95	0.21	2.12
Contractor's Profit	7% P/kg.	0.84	0.83	0.18	1.85
Value Added Tax	10% P/kg.	1.19	1.19	0.27	2.65
F) UNIT COST:					
	P/kg.	15.17	15.07	3.36	33.60
PERCENTAGE:		45	45	10	100

WORK ITEM: P2-4(1) RCPC 610 mm UNIT COST: P1,410.17/m.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 - Vibratory Roller	P/hr.	462.12	142.19	106.64	710.95
1 - Dump Truck	P/hr.	329.49	101.38	76.04	506.91
0.5-Backhoe Crawler	P/hr.	182.39	56.12	42.09	280.60
Minor tools 10% of the above	P/hr.	97.40	29.97	22.48	149.85
Total A	P/hr.	1,071.40	329.66	247.25	1,648.31
B) LABOR:					
0.5-Asst. Foreman	P/hr.	-	11.25	-	11.25
2 - Skilled Laborers	P/hr.	-	32.00	-	32.00
3 - Unskilled Laborers	P/hr.	-	42.00	-	42.00
Total B	P/hr.		85.25		85.25
Total A + B	P/hr.	1,071.40	414.91	247.25	1,733.56
C) OUTPUT: 3 m/hr.					
<u>1,733.56 P/hr.</u> 3 m/hr.	P/m	357.13	138.30	82.42	577.85
D) MATERIALS:					
RCPC : 1 x P494	P/m	271.70	148.20	74.10	494.00
Cement Grout: 0.011 x P2,170	P/m	13.13	7.16	3.58	23.87
Total D	P/m	284.83	155.36	77.68	517.87
E) DIRECT COST:					
Mobilization & Demobilization 2%	P/m	12.84	5.87	3.20	21.91
Overhead, Contingencies & Misc. 8%	P/m	51.35	23.49	12.81	87.65
Contractor's Profit 7%	P/m	44.94	20.55	11.21	76.70
Value Added Tax 10%	P/m	75.11	34.35	18.73	128.19
F) UNIT COST:	P/m	826.20	377.92	206.05	1,410.17
PERCENTAGE:		58	27	15	100

WORK ITEM: P2-4(2) RCPC 910 mm

UNIT COST: P1,959.33/lm.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 - Vibratory Roller, 175 HP	P/hr.	462.00	142.00	106.00	710.00
1 - Dump Truck, 190 HP	P/hr.	329.49	101.38	76.03	506.90
0.5-Backhoe Crawler, 82 HP	P/hr.	182.39	56.12	42.09	280.60
Minor tools 10% of the above	P/hr.	2.73	0.84	0.63	4.20
Total A	P/hr.	976.61	300.34	224.75	1,501.70
B) LABOR:					
0.5-Asst. Foreman	P/hr.	-	9.50	-	9.50
2 - Skilled Laborers	P/hr.	-	32.00	-	32.00
3 - Unskilled Laborers	P/hr.	-	42.00	-	42.00
Total B	P/hr.		83.50		83.50
Total A + B	P/hr.	976.61	383.84	224.75	1,585.20
C) OUTPUT: 2.60 m/hr.					
<u>1,585.20 P/hr.</u> 2.60 m/hr.	P/lm.	357.62	147.63	86.44	591.69
D) MATERIALS:					
RCPC : 1 x P878.00	P/lm.	482.90	263.40	131.70	878.00
Cement Grout: 0.016 x P2,170	P/lm.	19.10	10.42	5.20	34.72
Total D	P/lm.	502.00	273.82	136.90	912.72
E) DIRECT COST:					
	P/lm.	877.62	421.45	223.34	1,522.41
Mobilization & Demobilization	2% P/lm.	17.55	8.42	4.47	30.44
Overhead, Contingencies & Misc.	8% P/lm.	70.20	33.72	17.87	121.79
Contractor's Profit	7% P/lm.	61.43	29.51	15.63	106.57
Value Added Tax	10% P/lm.	102.68	49.31	26.13	178.12
F) UNIT COST:	P/lm.	1,129.48	542.41	287.44	1,959.33
PERCENTAGE:		57	28	15	100

WORK ITEM: P2-4(3) RCPC 1220 mm

UNIT COST: P2,950.85/lm.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 - Vibratory Roller, 175 HP	P/hr.	462.12	142.19	106.64	710.95
1 - Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	506.91
2.5-Backhoe Crawler, 82 HP	P/hr.	182.39	56.12	42.09	280.60
Minor tools 10% of the above	P/hr.	97.34	29.95	22.46	149.75
Total A	P/hr.	1,071.34	329.64	247.23	1,648.21
B) LABOR:					
0.5-Asst. Foreman	P/hr.	-	8.00	-	8.00
3 - Skilled Laborers	P/hr.	-	48.00	-	48.00
5 - Unskilled Laborers	P/hr.	-	70.00	-	70.00
Total B	P/hr.		126.00		126.00
Total A + B	P/hr.	1,071.34	455.64	247.23	1,774.21
C) OUTPUT: 20 m/hr.					
<u>1,774.21 P/hr.</u> 20 m/hr.	P/lm.	535.67	227.82	123.61	887.10
D) MATERIALS:					
RCPC : 1 x P1,393	P/lm.	766.15	417.90	208.95	1,393.00
Cement Grout: 0.020 x P2,170	P/lm.	23.87	13.02	6.51	43.40
Total D	P/lm.	790.02	430.92	215.46	1,436.40
E) DIRECT COST:					
	P/lm.	1,325.69	658.74	339.07	2,323.50
Mobilization & Demobilization	2% P/lm.	26.51	13.17	6.79	46.47
Overhead, Contingencies & Misc.	8% P/lm.	106.06	52.70	27.12	185.88
Contractor's Profit	7% P/lm.	92.80	46.11	23.74	162.65
Value Added Tax	10% P/lm.	132.57	65.87	33.91	232.35
F) UNIT COST:					
	P/lm.	1,683.63	836.59	430.63	2,950.85
PERCENTAGE:		57	28	15	100

WORK ITEM: P2-5(1) Catch Basin for 610 mm UNIT COST: P5,751.17/each

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity: 2.10 m ³ /each	P/each 2,957.74	1,752.74	766.82		5,477.30
Concrete (Class A): 2.10x2,608.24	P/each				
Others 5% of the above	P/each	147.89	87.64	38.34	273.87
B) UNIT COST:	P/each 3,105.63	1,840.38	805.16		5,751.17
PERCENTAGE:		54	32	14	100

WORK ITEM: P2-5(2) Catch Basin for 910 mm UNIT COST: P7,531.23/each

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity: 2.75 m ³	P/m ³	-	-	-	-
Concrete (Class A): 2.75x2,608.24	P/m ³	3,873.20	2,295.23	1,004.17	7,172.60
Others 5% of the above	P/m ³	193.66	114.76	50.21	358.63
B UNIT COST:	P/m ³	4,066.86	2,409.99	1,054.38	7,531.23
PERCENTAGE:		54	32	14	100

WORK ITEM: P2-5(3) Catch Basin for 1070 mm UNIT COST: P8,791.07/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity: 3.21 m ³	P/m ³	-	-	-	-
Concrete (Class A): 3.21x2,608.24	P/m ³	4,521.12	2,679.18	1,172.15	8,372.45
Others 5% of the above	P/m ³	226.05	133.96	58.61	418.62
B. UNIT COST:	P/m ³	4,747.17	2,813.14	1,230.76	8,791.07
PERCENTAGE:		54	32	14	100

WORK ITEM: P2-5(4) Catch Basin for 1220 mm UNIT COST: P11,200.73/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) MATERIALS:					
Concrete Quantity: 3.98 m ³	P/m ³	-	-	-	-
Concrete (Class A): 3.98x2,608.24	P/m ³	5,760.37	3,413.56	1,493.43	10,667.36
Others 5% of the above	P/m ³	288.02	170.68	74.67	533.37
B UNIT COST:	P/m³	6,048.39	3,584.24	1,568.10	11,200.73
PERCENTAGE:		54	32	14	100

WORK ITEM: P3-2 Horizontal Drain Hole, 5 cm UNIT COST: P767.35/lm.

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
1- Boring Machine		P/hr.	780.00	240.00	180.00	1,200.00
Minor tools 10% of unskilled laborer		P/hr.	5.46	1.68	1.26	8.40
Total A		P/hr.	785.46	241.68	181.26	1,208.40
B) LABOR:						
1- Foreman		P/hr.	-	22.50	-	22.50
2- Skilled Laborers		P/hr.	-	32.00	-	32.00
4- Unskilled Laborers		P/hr.	-	84.00	-	84.00
Total B		P/hr.		138.50		138.50
Total A + B		P/hr.	785.46	380.18	181.26	1,346.90
C) OUTPUT: 3.0 lm/hr.						
<u>1,346.90 P/hr.</u>		P/lm.	261.82	126.73	60.42	448.97
3.0 lm/hr.						
D) MATERIALS:						
Steel Pipe: 0.17 pcs/lm.						
x P866.30/pc.		P/lm.	106.03	14.73	26.51	147.27
Total D		P/lm.	106.03	14.73	26.51	147.27
E) DIRECT COST:						
		P/lm.	367.85	141.46	86.93	596.24
Mobilization & Demo.	2%	P/lm.	7.36	2.83	1.73	11.92
Overhead, Cont's & Misc.	8%	P/lm.	29.43	11.32	6.95	47.70
Contractor's Profit	7%	P/lm.	25.75	9.90	6.08	41.73
Value Added Tax	10%	P/lm.	43.04	16.55	10.17	69.76
F) UNIT COST:						
		P/lm.	473.43	182.06	111.86	767.35
PERCENTAGE:			57	29	14	100

WORK ITEM: P4-2 Seed Sowing with Mat

UNIT COST: P44.01/m²

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1- Asst. Foreman	P/hr.	-	19.00	-	19.00
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00
Total B	P/hr.		159.00		159.00
Total A + B	P/hr.	9.10	161.80	2.10	173.00
C) OUTPUT: 20 m²/hr.					
<u>173.00 P/hr.</u>	P/m ²	0.46	8.09	0.10	8.65
20 m ² /hr.					
D) MATERIALS:					
Seed	P/m ²	1.25	3.00	0.75	5.00
Fertilizer : 0.02 bag/m ² xP500/bag	P/m ²	2.50	6.00	1.50	10.00
Cogon mat: 2 bundles/m ² xP5/bundle	P/m ²	-	10.00	-	10.00
Incidental 5% of the above	P/m ²	0.65	0.20	0.15	1.00
Total D	P/m²	4.40	19.20	2.40	26.00
E) DIRECT COST:					
	P/m ²	4.86	27.29	2.50	34.65
Mobilization & Demobilization 2%	P/m ²	0.10	0.55	0.04	0.69
Overhead, Contingencies & Misc. 8%	P/m ²	0.39	2.18	0.20	2.77
Contractor's Profit 7%	P/m ²	0.34	1.91	0.18	2.43
Value Added Tax 10%	P/m ²	0.49	2.73	0.25	3.47
F) UNIT COST:					
	P/m ²	6.18	34.66	3.17	44.01
PERCENTAGE:					
		12	82	6	100

WORK ITEM: P4-6 Pick Hole Seeding

UNIT COST: P161.20/m²

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
4- Skilled Laborers	P/hr.	-	64.00	-	64.00
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00
Total B	P/hr.		226.50		226.50
Total A + B	P/hr.	9.10	229.30	2.10	240.50
C) OUTPUT: 2.0 m²/hr.					
<u>240.50 P/hr.</u> 2.0 m ² /hr.	P/m ²	4.55	114.65	1.05	120.25
D) MATERIALS:					
Fertilizer: 0.01 bag/m ² x P500/b.	P/m ²	1.25	3.00	0.75	5.00
Total D	P/m²	1.25	3.00	0.75	5.00
E) DIRECT COST:					
	P/m ²	5.80	117.65	1.80	125.25
Mobilization & Demobilization	2% P/m ²	0.12	2.35	0.04	2.51
Overhead, Contingencies & Misc.	8% P/m ²	0.46	9.41	0.14	10.01
Contractor's Profit	7% P/m ²	0.41	8.24	0.13	8.78
Value Added Tax	10% P/m ²	0.68	13.76	0.21	14.65
F) UNIT COST:					
	P/m ²	7.47	151.41	2.32	161.20
PERCENTAGE:					
		5	94	1	100

WORK ITEM NO.: P4-8 Wattling

UNIT COST: P391.55/lm.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
4- Skilled Laborers	P/hr.	-	64.00	-	64.00
10-Unskilled Laborers	P/hr.	-	140.00	-	140.00
Total B	P/hr.		226.50		226.50
Total A + B	P/hr.	9.10	229.30	2.10	240.50
C) OUTPUT: 1.0 lm/hr.					
<u>240.50 P/hr.</u> 1.0 lm/hr.	P/lm.	9.10	229.30	2.10	240.50
D) MATERIALS:					
Peg : 2.67 bd/lm. x P22/bd. ft.	P/lm.	14.68	35.24	8.81	58.73
Cogon : 1.0 bundels/lm x P5/bdl.	P/lm.	-	5.00	-	5.00
Total D	P/lm.	14.68	40.24	8.81	63.73
E) DIRECT COST:					
	P/lm.	23.78	269.54	10.91	304.23
Mobilization & Demobilization	2% P/lm.	0.48	5.40	0.22	6.10
Overhead, Contingencies & Misc.	8% P/lm.	1.90	21.56	0.87	24.33
Contractor's Profit	7% P/lm.	1.66	18.87	0.76	21.29
Value Added Tax	10% P/lm.	2.78	31.54	1.28	35.60
F) UNIT COST:					
	P/lm.	30.60	346.91	14.04	391.55
PERCENTAGE:		8	88	4	100

WORK ITEM: P5-3 Stone Pitching		UNIT COST: P1,326.00/m ³			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% Labor	P/hr.	14.94	6.22	3.74	24.90
Total A	P/hr.	14.94	6.22	3.74	24.90
B) LABOR:					
2 -Foreman	P/hr.	-	45.00	-	45.00
4 -Skilled Laborers	P/hr.	-	64.00	-	64.00
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.	-	249.00	-	249.00
Total A + B	P/hr.	14.94	255.22	3.74	273.90
C) OUTPUT: 3.0 m³/hr.					
<u>273.90 P/hr.</u> 3.0 m ³ /hr.	P/m ³	4.98	85.07	1.24	91.29
D) MATERIALS:					
Cement: 3.80 x P120	P/m ³	250.80	136.80	68.40	456.00
F.A. : 0.30 x P151	P/m ³	28.54	10.42	6.34	45.30
Boulders: 1.0 x P393	P/m ³	216.15	117.90	58.95	393.00
Incidental 5% of the above	P/m ³	24.77	13.26	6.68	44.71
Total D	P/m ³	520.26	278.38	140.37	939.01
E) DIRECT COST:					
	P/m ³	525.24	363.46	141.61	1,030.31
Mobilization & Demobilization	2% P/m ³	10.50	7.27	2.83	20.60
Overhead, Contingencies & Misc.	8% P/m ³	42.02	29.08	11.33	82.43
Contractor's Profit	7% P/m ³	36.77	25.44	9.91	72.12
Value Added Tax	10% P/m ³	61.45	42.52	16.57	120.54
F) UNIT COST:					
	P/m ³	675.98	467.77	182.25	1,326.00
PERCENTAGE:		51	35	14	100

WORK ITEM: P6-2 Grouted Riprap UNIT COST: P1,326.00/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% Labor	P/hr.	14.94	6.22	3.74	24.90
Total A	P/hr.	14.94	6.22	3.74	24.90
B) LABOR:					
2 -Foreman	P/hr.	-	45.00	-	45.00
4 -Skilled Laborers	P/hr.	-	64.00	-	64.00
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		249.00		249.00
Total A + B	P/hr.	14.94	255.22	3.74	273.90
C) OUTPUT: 3.0 m³/hr.					
<u>273.90 P/hr.</u> 3.0 m ³ /hr.	P/m ³	4.98	85.07	1.24	91.29
D) MATERIALS:					
Cement: 3.80 x P120	P/m ³	250.80	136.80	68.40	456.00
F.A. : 0.30 x P151	P/m ³	28.54	10.42	6.34	45.30
Boulders: 1.0 x P393	P/m ³	216.15	117.90	58.95	393.00
Incidental 5% of the above	P/m ³	24.77	13.26	6.68	44.71
Total D	P/m³	520.26	278.38	140.37	939.01
E) DIRECT COST:					
	P/m ³	525.24	363.46	141.61	1,030.31
Mobilization & Demobilization 2%	P/m ³	10.50	7.27	2.83	20.60
Overhead, Contingencies & Misc. 8%	P/m ³	42.02	29.08	11.33	82.43
Contractor's Profit 7%	P/m ³	36.77	25.44	9.91	72.12
Value Added Tax 10%	P/m ³	61.45	42.52	16.57	120.54
F) UNIT COST:					
	P/m ³	675.98	467.77	182.25	1,326.00
PERCENTAGE:		51	35	14	100

WORK ITEM: P6-4(1) Structure Excavation		UNIT COST: P89.79/m ³				
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL	
A) EQUIPMENT:						
1- Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	506.91	
1- Backhoe Crawler, 100 HP	P/hr.	456.37	140.42	105.32	702.11	
Minor tools 10% of unskilled laborer	P/hr.	7.28	5.04	1.68	14.00	
Total A	P/hr.	793.14	246.84	183.04	1,223.02	
B) LABOR:						
1- Asst. Foreman	P/hr.	-	19.00	-	19.00	
1- Skilled Laborers	P/hr.	-	32.00	-	32.00	
10- Unskilled Laborer	P/hr.	-	140.00	-	140.00	
Total B	P/hr.		191.00		191.00	
Total A + B	P/hr.	793.14	437.84	183.04	1,414.02	
C) OUTPUT: 20 m³/hr.						
<u>1,414.02 P/hr.</u> 20 m ³ /hr.	P/m ³	36.76	25.45	8.49	70.70	
D) DIRECT COST:						
	P/m ³	36.76	25.45	8.49	70.70	
Mobilization & Demobilization	2% P/m ³	0.74	0.51	0.16	1.41	
Overhead, Contingencies & Misc.	8% P/m ³	2.94	2.04	0.68	5.66	
Contractor's Profit	7% P/m ³	2.57	1.78	0.60	4.95	
Value Added Tax	10% P/m ³	3.68	2.55	0.84	7.07	
E) UNIT COST:						
	P/m ³	46.69	32.33	10.77	89.79	
PERCENTAGE:						
		52	36	12	100	

WORK ITEM: P6-4(2) Structural Concrete, Class A : UNIT COST: P2,942.21/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u> 8 m ³ /hr.	P/m ³	246.31	182.10	56.84	485.25
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
Total D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m ³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization	2% P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc.	8% P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit	7% P/m ³	86.62	52.20	23.35	162.17
Value Added Tax	10% P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:					
	P/m ³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:		53	32	15	100

WORK ITEM: P6-4(3) Grouted Riprap UNIT COST: P1,326.00/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% Labor	P/hr.	14.94	6.22	3.74	24.90
Total A	P/hr.	14.94	6.22	3.74	24.90
B) LABOR:					
2 -Foreman	P/hr.	-	45.00	-	45.00
4 -Skilled Laborers	P/hr.	-	64.00	-	64.00
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		249.00		249.00
Total A + B	P/hr.	14.94	255.22	3.74	273.90
C) OUTPUT: 3.0 m³/hr.					
<u>273.90 P/hr.</u> 3.0 m ³ /hr.	P/m ³	4.98	85.07	1.24	91.29
D) MATERIALS:					
Cement: 3.80 x P120	P/m ³	250.80	136.80	68.40	456.00
F.A. : 0.30 x P151	P/m ³	28.54	10.42	6.34	45.30
Boulders: 1.0 x P393	P/m ³	216.15	117.90	58.95	393.00
incidental 5% of the above	P/m ³	24.77	13.26	6.68	44.71
Total D	P/m³	520.26	278.38	140.37	939.01
E) DIRECT COST:					
	P/m ³	525.24	363.46	141.61	1,030.31
Mobilization & Demobilization 2%	P/m ³	10.50	7.27	2.83	20.60
Overhead, Contingencies & Misc. 8%	P/m ³	42.02	29.08	11.33	82.43
Contractor's Profit 7%	P/m ³	36.77	25.44	9.91	72.12
Value Added Tax 10%	P/m ³	61.45	42.52	16.57	120.54
F) UNIT COST:					
	P/m ³	675.98	467.77	182.25	1,326.00
PERCENTAGE:					
		51	35	14	100

WORK ITEM: P6-5(1) Recutting (Common)		UNIT COST: P58.30/m ³			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
2- Dump Truck, 190 HP	P/hr.	658.98	202.76	152.08	1,013.82
Minor tools 10% of unskilled laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	962.34	296.10	222.09	1,480.53
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		162.50		162.50
Total A + B	P/hr.	962.34	458.60	222.09	1,643.03
C) OUTPUT: 60 m³/hr.					
<u>1,643.03 P/hr.</u> 60 m ³ /hr.	P/m ³	27.69	11.23	6.39	45.30
D) DIRECT COST:					
	P/m ³	27.69	11.23	6.39	45.30
Mobilization & Demobilization	2% P/m ³	0.55	0.22	0.13	0.90
Overhead, Contingencies & Misc.	8% P/m ³	2.22	0.90	0.51	3.63
Contractor's Profit	7% P/m ³	1.94	0.79	0.44	3.17
Value Added Tax	10% P/m ³	3.24	1.31	0.75	5.30
E) UNIT COST:					
	P/m ³	35.64	14.45	8.22	58.30
PERCENTAGE:		61	25	14	100

WORK ITEM: P6-5(2) Structural Concrete, Class A UNIT COST: P2,942.21/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u> 8 m ³ /hr.	P/m ³	246.31	182.10	56.84	485.25
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
Total D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m ³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization	2% P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc.	8% P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit	7% P/m ³	86.62	52.20	23.35	162.17
Value Added Tax	10% P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:					
	P/m ³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:		53	32	15	100

WORK ITEM: P6-5(3) Ladder Foundation UNIT COST: P132.11/m²

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	3.64	1.12	0.84	5.60
T o t a l A	P/hr.	3.64	1.12	0.84	5.60
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
2- Skilled Laborers	P/hr.	-	32.00	-	32.00
4- Unskilled Laborers	P/hr.	-	56.00	-	56.00
T o t a l B	P/hr.		110.50		110.50
T o t a l A + B	P/hr.	3.64	111.62	0.84	116.10
C) OUTPUT: 4.0 m²/hr.					
<u>116.1 P/hr.</u> 4.0 m ² /hr.	P/m ²	0.91	27.91	0.21	29.03
D) MATERIALS:					
Coco Lumber: 15 bd.ft/mxP5.0/bd.ft	P/m ²	18.75	45.00	11.25	75.00
T o t a l D		18.75	45.00	11.25	75.00
E) DIRECT COST:					
	P/m ²	19.66	72.91	11.46	104.03
Mobilization & Demobilization	2% P/m ²	0.40	1.46	0.22	2.08
Overhead, Contingencies & Misc.	8% P/m ²	1.57	5.83	0.92	8.32
Contractor's Profit	7% P/m ²	1.38	5.10	0.80	7.28
Value Added Tax	10% P/m ²	1.96	7.29	1.15	10.40
F) UNIT COST:					
	P/m ²	24.97	92.59	14.55	132.11
PERCENTAGE:					
		20	70	10	100

WORK ITEM: P6-6 Supported Type Conc. Wall UNIT COST: P2,942.21/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u> 8 m ³ /hr.	P/m³	246.31	182.10	56.84	485.25
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
Total D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization	2% P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc.	8% P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit	7% P/m ³	86.62	52.20	23.35	162.17
Value Added Tax	10% P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:					
	P/m³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:		53	32	15	100

WORK ITEM: P6-9(1) Gabion Wall UNIT COST: P1,424.71/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1 Foreman	P/hr.	-	22.50	-	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		162.50		162.50
Total A + B	P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr.					
<u>176.50 P/hr.</u>	P/m ³	9.10	165.30	2.10	176.50
2 m ³ /hr.					
D) MATERIALS:					
Wire Mesh: 1.60 roll/m ³ x P585/roll	P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30	P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21
Total D	P/m³	511.79	279.15	139.57	930.51
E) DIRECT COST:					
	P/m ³	520.89	444.45	141.67	1,107.01
Mobilization & Demobilization	2% P/m ³	10.42	8.89	2.83	22.14
Overhead, Contingencies & Misc.	8% P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit	7% P/m ³	36.46	31.11	9.92	77.49
Value Added Tax	10% P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:					
	P/m ³	670.38	572.01	182.32	1,424.71
PERCENTAGE:		47	40	13	100

WORK ITEM: P6-9(2) Permeance Mat

UNIT COST: P34.11/m²

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Total A	P/hr.	-	-	-	-
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
2- Unskilled Laborers	P/hr.	-	28.00	-	28.00
Total B	P/hr.	-	50.50	-	50.50
Total A + B	P/hr.	-	50.50	-	50.50
C) OUTPUT: 10 m²/hr.					
<u>50.50 P/hr.</u> 10 m ² /hr.	P/m ²	-	5.50	-	5.50
D) MATERIALS:					
Sack Cloth: 2 bags/m ² x P10/bag	P/m ²	5.00	12.00	3.00	20.00
Incidentals 5% of the above	P/m ²	0.25	0.60	0.15	1.00
Total D	P/m ²	5.25	12.60	3.15	21.00
E) DIRECT COST:					
	P/m ²	5.25	18.10	3.15	26.50
Mobilization & Demobilization	2% P/m ²	0.11	0.36	0.06	0.53
Overhead, Contingencies & Misc.	8% P/m ²	0.42	1.45	0.25	2.12
Contractor's Profit	7% P/m ²	0.37	1.27	0.22	1.86
Value Added Tax	10% P/m ²	0.61	2.12	0.37	3.10
F) UNIT COST:					
	P/m ²	6.76	23.30	4.05	34.11
PERCENTAGE:					
		20	68	12	100

WORK ITEM: P6-10 Steel Sheet Pile Wall UNIT COST: P2,987.24/m

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Truck Mounted Crane	P/hr.	1,176.60	362.03	271.53	1,810.16
1- Pile Hammer	P/hr.	370.04	113.86	85.40	569.30
Total A	P/hr.	1,546.64	475.89	356.93	2,379.46
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
2- H.E. Operator	P/hr.	-	34.00	-	34.00
0.5-Skilled Laborers	P/hr.	-	8.00	-	8.00
1- Unskilled Laborers	P/hr.	-	14.00	-	14.00
Total B	P/hr.		78.50		78.50
Total A + B	P/hr.	1,546.64	554.39	356.93	2,457.96
C) OUTPUT: 6.0 tm/hr.					
<u>2,457.96 P/hr.</u> 6.0 tm/hr.	P/lm.	257.77	92.40	59.49	409.66
D) MATERIALS:					
Steel Sheet Pile Class A: 0.08	P/lm.	1,480.00	222.00	148.00	1,850.00
Others 5% of the above	P/lm.	32.38	46.24	13.88	92.50
Total D	P/lm.	1,512.38	268.24	161.88	1,942.50
E) DIRECT COST:					
Mobilization & Demo. 2%	P/lm.	35.40	7.21	4.43	47.04
Overhead, Cont's. & Misc. 8%	P/lm.	141.62	28.85	17.70	188.17
Contractor's Profit 7%	P/lm.	123.91	25.24	15.50	164.65
Value Added Tax 10%	P/lm.	177.02	36.06	22.14	235.22
F) UNIT COST:	P/lm.	2,248.10	457.96	281.14	2,987.24
PERCENTAGE:		75	15	10	100

WORK ITEM: PB-2 Gabion Wall UNIT COST: P1,424.71/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
T o t a l A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
T o t a l B	P/hr.		162.50		162.50
T o t a l A + B	P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr:					
<u>176.50 P/hr.</u>	<u>P/m³</u>	<u>9.10</u>	<u>165.30</u>	<u>2.10</u>	<u>176.50</u>
2 m ³ /hr.					
D) MATERIALS:					
Wire Mesh: 1.60 roll/m ³ x P585/roll	P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30	P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21
T o t a l D	P/m³	511.79	279.15	139.57	930.51
E) DIRECT COST:					
	P/m³	520.89	444.45	141.67	1,107.01
Mobilization & Demobilization	2% P/m ³	10.42	8.89	2.83	22.14
Overhead, Contingencies & Misc.	8% P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit	7% P/m ³	36.46	31.11	9.92	77.49
Value Added Tax	10% P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:					
	P/m³	670.38	572.01	182.32	1,424.71
PERCENTAGE:					
		47	40	13	100

WORK ITEM: P14-2 Gabion Consolidation UNIT COST: P1,424.71/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		162.50		162.50
Total A + B	P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr.					
<u>176.50 P/hr.</u> 2 m ³ /hr.	P/m ³	9.10	165.30	2.10	176.50
D) MATERIALS:					
Wire Mesh: 1.60 roll/m ³ x P585/roll	P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30	P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21
Total D	P/m³	511.79	279.15	139.57	930.51
E) DIRECT COST:					
	P/m ³	520.89	444.45	141.67	1,107.01
Mobilization & Demobilization	2% P/m ³	10.42	8.89	2.83	22.14
Overhead, Contingencies & Misc.	8% P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit	7% P/m ³	36.46	31.11	9.92	77.49
Value Added Tax	10% P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:					
	P/m ³	670.38	572.01	182.32	1,424.71
PERCENTAGE:		47	40	13	100

WORK ITEM: P15-1(1) Surplus Common Excavation UNIT COST: P58.30/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
2- Dump Truck, 190 HP	P/hr.	658.98	202.76	152.08	1,013.82
Minor tools 10% of unskilled laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	962.34	296.10	222.09	1,480.53
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
10- Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		162.50		162.50
Total A + B	P/hr.	962.34	458.60	222.09	1,643.03
C) OUTPUT: 60 m³/hr.					
<u>1,643.03 P/hr.</u> 60 m ³ /hr.	P/m ³	27.69	11.23	6.39	45.30
D) DIRECT COST:					
	P/m ³	27.69	11.23	6.39	45.30
Mobilization & Demobilization	2% P/m ³	0.55	0.22	0.13	0.90
Overhead, Contingencies & Misc.	8% P/m ³	2.22	0.90	0.51	3.63
Contractor's Profit	7% P/m ³	1.94	0.79	0.44	3.17
Value Added Tax	10% P/m ³	3.24	1.31	0.75	5.30
E) UNIT COST:					
	P/m ³	35.64	14.45	8.22	58.30
PERCENTAGE:					
		61	25	14	100

WORK ITEM: P15-1(2) Structure Excavation UNIT COST: P89.79/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	506.91
1- Backhoe Crawler, 100 HP	P/hr.	456.37	140.42	105.32	702.11
Minor tools 10% of unskilled laborer	P/hr.	7.28	5.04	1.68	14.00
Total A	P/hr.	793.14	246.84	183.04	1,223.02
B) LABOR:					
1- Asst. Foreman	P/hr.	-	19.00	-	19.00
1- Skilled Laborers	P/hr.	-	32.00	-	32.00
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		191.00		191.00
Total A + B	P/hr.	793.14	437.84	183.04	1,414.02
C) OUTPUT: 20 m³/hr.					
<u>1,414.02 P/hr.</u> 20 m ³ /hr.	P/m ³	36.76	25.45	8.49	70.70
D) DIRECT COST:					
	P/m ³	36.76	25.45	8.49	70.70
Mobilization & Demobilization 2%	P/m ³	0.74	0.51	0.16	1.41
Overhead, Contingencies & Misc. 8%	P/m ³	2.94	2.04	0.68	5.66
Contractor's Profit 7%	P/m ³	2.57	1.78	0.60	4.95
Value Added Tax 10%	P/m ³	3.68	2.55	0.84	7.07
E) UNIT COST:					
	P/m ³	46.69	32.33	10.77	89.79
PERCENTAGE:					
		52	36	12	100

WORK ITEM: P15-1(3) Concrete Railing UNIT COST: P1,325.70/m.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Vibrator	P/hr.	26.52	8.16	6.12	40.80
Minor tools 20% of the above	P/hr.	4.55	1.40	1.05	7.00
Total A	P/hr.	31.07	9.56	7.17	47.80
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
30-Skilled Laborers	P/hr.	-	48.00	-	48.00
5- Unskilled Laborer	P/hr.	-	70.00	-	70.00
Total B	P/hr.		140.50		140.50
Total A + B	P/hr.	31.07	150.06	7.17	188.30
C) OUTPUT: 1.0 m/hr.					
<u>188.30 P/hr.</u> 1.0 m/hr.	P/m	31.07	150.06	7.17	188.30
D) MATERIALS:					
Cement: 1.656 x P120	P/m	43.30	23.61	11.80	78.71
F.A. : 0.0423 x P151	P/m	3.51	1.92	0.96	6.39
C.A. : 0.0502 x P179	P/m	4.94	2.70	1.35	8.99
RSBars: 31.45 x P22.50	P/m	382.10	247.65	77.83	707.58
Incidentals 5% of the above	P/m	22.05	12.02	6.01	40.08
Total D	P/m	455.90	287.90	97.95	841.75
E) DIRECT COST:					
	P/m	486.97	437.97	105.12	1,030.06
Mobilization & Demobilization 2%	P/m	9.74	8.76	2.10	20.60
Overhead, Contingencies & Misc. 8%	P/m	38.96	35.04	8.41	82.41
Contractor's Profit 7%	P/m	34.09	30.66	7.36	72.11
Value Added Tax 10%	P/m	56.98	51.24	12.30	120.52
E) UNIT COST:	P/m	626.74	563.67	135.29	1,325.70
PERCENTAGE:		47	43	10	100

WORK ITEM: P15-1(4) Concrete Piling (0.35m x 0.35m) UNIT COST: P2,157.86/lm.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 -Concrete Mixer	P/hr.	482.46	148.45	111.34	742.25
1 -Dump Truck	P/hr.	329.49	101.38	76.04	506.91
1 -Pile Hammer	P/hr.	370.04	113.86	85.40	569.30
Minor tools 30% of the above	P/hr.	354.6	109.11	81.83	545.54
T o t a l A	P/hr.	1,536.59	472.80	354.61	2,364.00
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
10-Skilled Laborers	P/hr.	-	160.00	-	160.00
30-Unskilled Laborers	P/hr.	-	420.00	-	420.00
1 -Driver	P/hr.	-	15.00	-	15.00
1 -H.E. Operator	P/hr.	-	17.00	-	17.00
T o t a l B	P/hr.		634.50		634.50
T o t a l A + B	P/hr.	1,536.59	1,107.30	354.61	2,998.50
C) OUTPUT: 8.0 m/hr.					
<u>2,998.50 P/hr.</u> 8.0 m/hr.	P/lm.	192.08	138.41	44.32	374.81
D) MATERIALS:					
Cement: 1.464 x P120	P/lm.	96.62	52.70	26.35	175.67
F.A. : 0.0944 x P151	P/lm.	0.89	0.33	0.19	1.41
C.A. : 0.112 x P179	P/lm.	13.23	3.81	3.01	20.05
Steel Bars: 39.88 x P22.50	P/lm.	476.28	66.15	119.07	661.50
Incidental 21% of the above	P/lm.	123.27	25.83	31.21	180.31
T o t a l D	P/lm.	710.29	148.82	179.83	1,038.94
E) DIRECT COST:					
	P/lm.	1,107.80	315.76	275.50	1,699.06
Mobilization & Demobilization 2%	P/lm.	22.16	6.31	5.51	33.98
Overhead, Contingencies & Misc. 8%	P/lm.	88.62	25.26	22.04	135.92
Contractor's Profit 7%	P/lm.	77.55	22.10	19.28	118.93
Value Added Tax 10%	P/lm.	110.78	31.58	27.61	169.97
F) UNIT COST:					
	P/lm.	1,406.91	401.01	349.94	2,157.86
PERCENTAGE:		64	20	16	100

WORK ITEM: P15-1(5) Reinforcing Steel Bar UNIT COST: P33.60/kg.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1 -Bar Bender	P/hr.	5.15	2.40	2.75	10.30
0.5-Bar Shear	P/hr.	8.85	4.05	4.80	17.70
Total A	P/hr.	14.00	6.45	7.55	28.00
B) LABOR:					
1.5-Foreman	P/hr.	-	33.75	-	33.75
5 -Skilled Laborers	P/hr.	-	80.00	-	80.00
15 -Unskilled Laborer	P/hr.	-	210.00	-	210.00
Total B	P/hr.		323.75		323.75
Total A + B	P/hr.	14.00	330.20	7.55	351.75
C) OUTPUT: 125 kg./hr.					
<u>351.75 P/hr.</u> 125 kg./hr.	P/kg.	0.12	2.64	0.06	2.82
D) MATERIALS:					
Rebars: 1.05 x P22.50	P/kg.	11.82	9.22	2.59	23.63
E) DIRECT COST:					
	P/kg.	11.94	11.86	2.65	26.45
Mobilization & Demobilization	2% P/kg.	0.24	0.24	0.05	0.53
Overhead, Contingencies & Misc.	8% P/kg.	0.96	0.95	0.21	2.12
Contractor's Profit	7% P/kg.	0.84	0.83	0.18	1.85
Value Added Tax	10% P/kg.	1.19	1.19	0.27	2.65
F) UNIT COST:					
	P/kg.	15.17	15.07	3.36	33.60
PERCENTAGE:		45	45	10	100

WORK ITEM: P15-1(6) Struc. Conc. Class A (For Bridge) UNIT COST: P3,475.61/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u> 8 m ³ /hr.	P/m ³	246.31	182.10	56.84	485.25
D) MATERIALS:					
False Work: 2.5 cu.m. x P140	P/m ³	45.50	259.00	45.50	350.00
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	173.90	146.07	55.27	375.24
Total D	P/m³	1,043.41	876.40	331.64	2,251.45
E) DIRECT COST:					
	P/m ³	1,289.72	1,058.50	388.48	2,736.70
Mobilization & Demobilization 2%	P/m ³	25.79	21.17	7.77	54.73
Overhead, Contingencies & Misc. 8%	P/m ³	103.18	84.68	31.08	218.94
Contractor's Profit 7%	P/m ³	90.28	74.10	27.19	191.57
Value Added Tax 10%	P/m ³	128.97	105.85	38.85	273.67
F) UNIT COST:	P/m³	1,637.94	1,344.30	493.37	3,475.61
PERCENTAGE:		47	39	14	100

WORK ITEM: P15-1(7) Pre-Stressed Conc. Girder (L=24m) UNIT COST: P245,109.53/ea.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A)EQUIPMENT:					
2-Truck Mounted Crane, 50 T	P/hr.	1,283.56	49.37	296.20	1,629.13
Minor tools 10% of the above	P/hr.	64.18	4.94	29.62	98.74
T o t a l A	P/hr.	1,347.74	54.31	325.82	1,727.87
B)LABOR:					
1-Foreman	P/hr.	-	22.50	-	22.50
2-H.E. Operator	P/hr.	-	34.00	-	34.00
2-Skilled Laborers	P/hr.	-	32.00	-	32.00
6-Laborers	P/hr.	-	84.00	-	84.00
T o t a l B	P/hr.		172.50		172.50
T o t a l A + B	P/hr.	1,347.74	226.81	325.82	1,900.37
C)OUTPUT: 1.0 each/hr.					
<u>1,900.37 P/hr.</u> 1.0 each/hr.	P/ea.	1,347.74	226.81	325.82	1,900.37
D)MATERIALS:					
Pre-Stressed Girder (L=24m)	P/ea.	107,473.46	52,793.98	28,282.49	188,549.93
T o t a l D	P/ea.	107,473.46	52,793.98	28,282.49	188,549.93
E)DIRECT COST:					
	P/ea.	108,821.20	53,020.79	28,608.31	190,450.30
Mobilization & Demo. 2%	P/ea.	2,176.42	1,060.42	572.16	3,809.00
Overhead, Cont's & Misc. 8%	P/ea.	8,705.70	4,241.66	2,288.67	15,236.03
Contractor's Profit 7%	P/ea.	7,617.48	3,711.46	2,002.58	13,331.52
Value Added Tax 10%	P/ea.	12,732.08	6,203.43	3,347.17	22,282.68
F)UNIT COST:	P/ea.	140,052.88	68,237.76	36,825.39	245,109.53
PERCENTAGE:		57	28	15	100

WORK ITEM: P15-1(8) Pre-Stressed Conc. Girder (L=38m) UNIT COST: P849,156.58/ea.

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
4 -Truck Mounted Crane, 50 T	P/hr.	2,567.12	197.48	1,184.80	3,949.40
Minor tools 15% of equip- ment	P/hr.	385.07	29.62	177.72	592.41
T o t a l A	P/hr.	2,952.19	227.10	1,362.52	4,541.81
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
4 -H.E. Operator	P/hr.	-	68.00	-	68.00
2 -Skilled Laborers	P/hr.	-	32.00	-	32.00
10-Laborers	P/hr.	-	140.00	-	140.00
T o t a l B	P/hr.		262.50		262.50
T o t a l A + B	P/hr.	2,952.19	489.60	1,362.52	4,804.31
C) OUTPUT: 1.0 each/hr.					
<u>4,804.31 P/hr.</u> 1.0 each/hr.	P/ea.	2,952.19	489.60	1,362.52	4,804.31
D) MATERIALS:					
Pre-Stressed Girder (L=38m)	P/ea.	373,344.89	183,397.49	98,248.65	654,991.03
T o t a l D	P/ea.	373,344.89	183,397.49	98,248.65	654,991.03
E) DIRECT COST:					
	P/ea.	376,297.08	183,887.09	99,611.17	659,795.34
Mobilization & Demo.	2% P/ea.	7,525.94	3,677.74	1,992.22	13,195.90
Overhead, Cont's & Misc.	8% P/ea.	30,103.77	14,710.97	7,968.89	52,783.63
Contractor's Profit	7% P/ea.	26,340.79	12,872.09	6,972.78	46,185.66
Value Added Tax	10% P/ea.	44,026.76	21,514.78	11,654.51	77,196.05
F) UNIT COST:					
	P/ea.	484,294.34	236,662.67	128,199.57	849,156.58
PERCENTAGE:		57	28	15	100

WORK ITEM: P16-1 Concrete Foot Protection		UNIT COST: P2,942.21/m ³			
PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
T o t a l A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
T o t a l B	P/hr.		850.50		850.50
T o t a l A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u>	P/m ³	246.31	182.10	56.84	485.25
8 m ³ /hr.					
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
T o t a l D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m ³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization	2% P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc.	8% P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit	7% P/m ³	86.62	52.20	23.35	162.17
Value Added Tax	10% P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:	P/m³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:		53	32	15	100

WORK ITEM: P16-2 Gabion Foot Protection UNIT COST: P1,424.71/m³

PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% of Unskilled Laborer		P/hr.	9.10	2.80	2.10	14.00
T o t a l	A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:						
1 -Foreman		P/hr.	-	22.50	-	22.50
10-Unskilled Laborer		P/hr.	-	140.00	-	140.00
T o t a l	B	P/hr.		162.50		162.50
T o t a l	A + B	P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr.						
<u>176.50 P/hr.</u> 2 m ³ /hr.		P/m ³	9.10	165.30	2.10	176.50
D) MATERIALS:						
Wire Mesh: 1.60 roll/m ³ x P585/roll		P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30		P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above		P/m ³	5.07	2.76	1.38	9.21
T o t a l	D	P/m ³	511.79	279.15	139.57	930.51
E) DIRECT COST:						
		P/m ³	520.89	444.45	141.67	1,107.01
Mobilization & Demo.	2%	P/m ³	10.42	8.89	2.83	22.14
Overhead, Cont's. & Misc.	8%	P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit	7%	P/m ³	36.46	31.11	9.92	77.49
Value Added Tax	10%	P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:						
		P/m ³	670.38	572.01	182.32	1,424.71
PERCENTAGE:			47	40	13	100

WORK ITEM: P16-3 Grouted Riprap Apron		UNIT COST: P1,326.00/m ³				
PRICE COMPONENT		P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:						
Minor tools 10% Labor		P/hr.	14.94	6.22	3.74	24.90
T o t a l	A	P/hr.	14.94	6.22	3.74	24.90
B) LABOR:						
2 -Foreman		P/hr.	-	45.00	-	45.00
4 -Skilled Laborers		P/hr.	-	64.00	-	64.00
10-Unskilled Laborers		P/hr.	-	140.00	-	140.00
T o t a l	B	P/hr.		249.00		249.00
T o t a l	A + B	P/hr.	14.94	255.22	3.74	273.90
C) OUTPUT: 3.0 m³/hr.						
<u>273.90 P/hr.</u>		P/m ³	4.98	85.07	1.24	91.29
3.0 m ³ /hr.						
D) MATERIALS:						
Cement: 3.80 x P120		P/m ³	250.80	136.80	68.40	456.00
F.A. : 0.30 x P151		P/m ³	28.54	10.42	6.34	45.30
Boulders: 1.0 x P393		P/m ³	216.15	117.90	58.95	393.00
Incidental 5% of the above		P/m ³	24.77	13.26	6.68	44.71
T o t a l	D	P/m ³	520.26	278.38	140.37	939.01
E) DIRECT COST:						
		P/m ³	525.24	363.46	141.61	1,030.31
Mobilization & Demo. 2%		P/m ³	10.50	7.27	2.83	20.60
Overhead, Cont's. & Misc. 8%		P/m ³	42.02	29.08	11.33	82.43
Contractor's Profit 7%		P/m ³	36.77	25.44	9.91	72.12
Value Added Tax 10%		P/m ³	61.45	42.52	16.57	120.54
F) UNIT COST:						
		P/m ³	675.98	467.77	182.25	1,326.00
PERCENTAGE:						
			51	35	14	100

WORK ITEM: P17-2(1) Selected Material Fill UNIT COST: P368.94/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Wheel Loader, 80 HP	P/hr.	294.26	90.54	67.91	452.71
1- Dump Truck, 190 HP	P/hr.	329.49	101.38	76.04	506.91
1- Pneumatic Roller, 106 HP	P/hr.	184.60	56.80	42.60	284.00
T o t a l A	P/hr.	808.35	248.72	186.55	1,243.62
B) LABOR:					
1- Asst. Foreman	P/hr.	-	19.00	-	19.00
2- Unskilled Laborers	P/hr.	-	28.00	-	28.00
T o t a l B	P/hr.		47.00		47.00
T o t a l A + B	P/hr.	808.35	295.72	186.55	1,290.62
C) OUTPUT: 7 m³/hr.					
<u>1,290.62 P/hr.</u>	P/m ³	115.48	42.24	26.65	184.37
7 m ³ /hr.					
D) MATERIALS:					
Boulders: 1 x P102.30	P/m ³	56.27	30.69	15.34	102.30
T o t a l D	P/m ³	56.27	30.69	15.34	102.30
E) DIRECT COST:					
	P/m ³	171.75	72.93	41.99	286.67
Mobilization & Demobilization	2% P/m ³	3.43	1.46	0.84	5.73
Overhead, Contingencies & Misc.	8% P/m ³	13.74	5.83	3.36	22.93
Contractor's Profit	7% P/m ³	12.02	5.11	2.94	20.07
Value Added Tax	10% P/m ³	20.10	8.53	4.91	33.54
F) UNIT COST:					
	P/m ³	221.04	93.86	54.04	368.94
PERCENTAGE:					
		60	25	15	100

WORK ITEM: P17-2(2) Cylinder Gabion UNIT COST: P1,424.71/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Minor tools 10% of Unsk. Laborer	P/hr.	9.10	2.80	2.10	14.00
Total A	P/hr.	9.10	2.80	2.10	14.00
B) LABOR:					
1 -Foreman	P/hr.	-	22.50	-	22.50
10-Unskilled Laborer	P/hr.	-	140.00	-	140.00
Total B	P/hr.		162.50		162.50
Total A + B	P/hr.	9.10	165.30	2.10	176.50
C) OUTPUT: 2 m³/hr.					
<u>176.50 P/hr.</u> 2 m ³ /hr.	P/m ³	9.10	165.30	2.10	176.50
D) MATERIALS:					
Wire Mesh: 1.60 roll/m ³ x P585/roll	P/m ³	450.45	245.70	122.85	819.00
Stone: 1 x 102.30	P/m ³	56.27	30.69	15.34	102.30
Incidentals 1% of the above	P/m ³	5.07	2.76	1.38	9.21
Total D	P/m³	511.79	279.15	139.57	930.51
E) DIRECT COST:					
	P/m ³	520.89	444.45	141.67	1,107.01
Mobilization & Demobilization	2% P/m ³	10.42	8.89	2.83	22.14
Overhead, Contingencies & Misc.	8% P/m ³	41.67	35.56	11.33	88.56
Contractor's Profit	7% P/m ³	36.46	31.11	9.92	77.49
Value Added Tax	10% P/m ³	60.94	52.00	16.57	129.51
F) UNIT COST:					
	P/m ³	670.38	572.01	182.32	1,424.71
PERCENTAGE:					
		47	40	13	100

WORK ITEM: P18-1 Concrete Spillway

UNIT COST: P2,942.21/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u>	P/m ³	246.31	182.10	56.84	485.25
8 m ³ /hr.					
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
Total D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m ³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization 2%	P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc. 8%	P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit 7%	P/m ³	86.62	52.20	23.35	162.17
Value Added Tax 10%	P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:	P/m³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:		53	32	15	100

WORK ITEM: P19-1 Gravel Surfacing

UNIT COST: P315.50/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
3- Motor Grader, 115 HP	P/hr.	868.92	267.36	200.52	1,336.80
2- Vibratory Roller, 115 HP	P/hr.	924.24	284.38	213.28	1,421.90
1- Pneumatic Roller, 106 HP	P/hr.	184.60	56.80	42.60	284.00
2- Water Truck, 120 HP	P/hr.	433.82	133.48	100.12	667.42
1- Water Pump	P/hr.	24.31	7.48	5.61	37.40
Minor tools 20% of unskilled laborers	P/hr.	18.20	5.60	4.20	28.00
Total A	P/hr.	2,454.09	755.10	566.33	3,775.52
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborers	P/hr.	-	128.00	-	128.00
10- Unskilled Laborers	P/hr.	-	140.00	-	140.00
Total B	P/hr.		290.50		290.50
Total A + B	P/hr.	2,454.09	1,045.60	566.33	4,066.02
C) OUTPUT: 20 m³/hr.					
<u>4,066.02 P/hr.</u> 20 m ³ /hr.	P/m ³	122.70	52.28	28.32	203.30
D) MATERIALS:					
C.A.: 0.15 m ³ /m ³ x P215/m ³	P/m ³	17.74	9.68	4.83	32.25
Incidentals 30% of the above	P/m ³	5.28	2.88	1.44	9.60
Total D	P/m³	23.02	12.56	6.27	41.85
E) DIRECT COST:					
Mobilization & Demo. 2%	P/m ³	2.91	1.30	0.69	4.90
Overhead, Cont's, & Misc. 8%	P/m ³	11.65	5.18	2.77	19.61
Contractor's Profit 7%	P/m ³	10.20	4.54	2.42	17.16
Value Added Tax 10%	P/m ³	17.05	7.59	4.04	28.68
F) UNIT COST:	P/m³	187.54	83.45	44.51	315.50
PERCENTAGE:		60	26	14	100

WORK ITEM: P19-2(1) Bituminous Tack Coat UNIT COST: P11,883.25/ton

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
Asphalt Distributor	P/hr.	306.28	102.57	86.43	495.28
Power Broom	P/hr.	598.97	215.35	168.09	982.41
Air Compressor	P/hr.	375.85	146.15	139.35	661.35
Minor tools 10% of the above	P/hr.	12.09	3.72	2.79	18.60
Total A	P/hr.	1,293.19	467.79	396.66	2,157.64
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
2- Skilled Laborers	P/hr.	-	32.00	-	32.00
6- Laborers	P/hr.	-	84.00	-	84.00
3- L.E. Operator	P/hr.	-	48.00	-	48.00
Total B	P/hr.		186.50		186.50
Total A + B	P/hr.	1,293.19	654.29	396.66	2,344.14
C) OUTPUT: 2.00 tons/hr.					
<u>2,344.14 P/hr.</u>	P/ton	646.58	326.89	198.33	1,171.82
2.00 ton/hr.					
D) MATERIALS:					
Emulsified Asphalt	P/ton	5,239.97	1,612.30	1,209.22	8,061.49
Total D	P/ton	5,239.97	1,612.30	1,209.22	8,061.49
E) DIRECT COST:					
Mobilization & Demo.	2% P/ton	117.73	38.78	28.15	184.66
Overhead, Cont's. & Misc.	8% P/ton	470.92	155.14	112.60	738.66
Contractor's Profit	7% P/ton	412.06	135.74	98.53	646.33
Value Added Tax	10% P/ton	688.73	226.88	164.68	1,080.29
F) UNIT COST:	P/ton	7,575.99	2,495.73	1,811.51	11,883.25
PERCENTAGE:		64	21	15	100

WORK ITEM: P19-2(2) Bit. Conc. Surface Course UNIT COST: P2,015.75/ton

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Vibratory Tandem Roller, 7 T	P/hr.	269.72	82.99	62.24	414.95
1- Pneumatic Tired Roller, 14 T	P/hr.	184.60	56.80	42.60	284.00
10-Dump Trucks, 5-6 m ³	P/hr.	3,294.80	1,013.80	760.40	5,069.00
Minor tools 10% of the above	P/hr.	389.08	119.71	89.79	598.58
Total A	P/hr.	4,138.20	1,273.30	955.03	6,366.53
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
1- Capatas	P/hr.	-	19.00	-	19.00
4- Skilled Laborers	P/hr.	-	64.00	-	64.00
15-Laborers	P/hr.	-	210.00	-	210.00
Total B	P/hr.		315.50		315.50
Total A + B	P/hr.	4,138.20	1,588.80	955.03	6,682.03
C) OUTPUT: 15 ton/hr.					
<u>6,682.03 P/hr.</u> 15 ton/hr.	P/ton	275.88	105.92	63.67	445.47
D) MATERIALS:					
Asphalt Concrete Course: 1.03 x P1,088.74	P/ton	728.51	224.16	168.11	1,120.78
Total D	P/ton	728.51	224.16	168.11	1,120.78
E) DIRECT COST:					
	P/ton	1,004.39	330.08	231.78	1,566.25
Mobilization & Demo. 2%	P/ton	20.09	6.60	4.63	31.32
Overhead, Cont's. & Misc. 8%	P/ton	80.35	26.40	18.54	125.29
Contractor's Profit 7%	P/ton	70.30	23.10	16.22	109.62
Value Added Tax 10%	P/ton	117.51	38.61	27.11	183.23
F) UNIT COST:					
	P/ton	1,292.64	424.79	298.28	2,015.75
PERCENTAGE:		64	21	15	100

WORK ITEM: P19-3 Concrete Pavement

UNIT COST: P2,942.21/m³

PRICE COMPONENT	P/UNIT	F.C.	L.C.	TAXES	TOTAL
A) EQUIPMENT:					
1- Concrete Batching Plant	P/hr.	950.95	292.60	219.45	1,463.00
1- Wheel Loader	P/hr.	294.26	90.54	67.91	452.71
1- Water Tank Truck	P/hr.	216.91	66.74	50.06	333.71
2- Concrete Mixers	P/hr.	53.62	16.50	12.38	82.50
Minor tools 30% of the above	P/hr.	454.72	139.91	104.94	699.57
Total A	P/hr.	1,970.46	606.29	454.74	3,031.49
B) LABOR:					
1- Foreman	P/hr.	-	22.50	-	22.50
8- Skilled Laborer	P/hr.	-	128.00	-	128.00
50-Unskilled Laborers	P/hr.	-	700.00	-	700.00
Total B	P/hr.		850.50		850.50
Total A + B	P/hr.	1,970.46	1,456.79	454.74	3,881.99
C) OUTPUT: 8 m³/hr.					
<u>3,881.99 P/hr.</u> 8 m ³ /hr.	P/m ³	246.31	182.10	56.84	485.25
D) MATERIALS:					
Cement : 9 x P120	P/m ³	594.00	324.00	162.00	1,080.00
F.A. : 0.5 x P151	P/m ³	47.57	17.37	10.57	75.51
C.A. : 0.8 x P179	P/m ³	94.51	27.21	21.48	143.20
Lumber : 5.0 x P32	P/m ³	40.00	96.00	24.00	160.00
Nails : 3.0 x P22.50	P/m ³	47.93	6.75	12.82	67.50
Incidentals 20% of the above	P/m ³	167.17	92.27	45.80	305.24
Total D	P/m³	991.18	563.60	276.67	1,831.45
E) DIRECT COST:					
	P/m ³	1,237.49	745.70	333.51	2,316.70
Mobilization & Demobilization 2%	P/m ³	24.75	14.91	6.67	46.33
Overhead, Contingencies & Misc. 8%	P/m ³	99.00	59.66	26.68	185.34
Contractor's Profit 7%	P/m ³	86.62	52.20	23.35	162.17
Value Added Tax 10%	P/m ³	123.75	74.57	33.35	231.67
F) UNIT COST:					
	P/m ³	1,571.61	947.04	423.56	2,942.21
PERCENTAGE:					
		53	32	15	100

APPENDIX 14-2
CONSTRUCTION COST FOR EACH SPOT

Spot No. Bt-1

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls.	cu.m.	1200	34.78	41,736
U1-2	Removal of Unst. Mat'ls.	cu.m.	26	72.15	1,876
TOTAL					43,612

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	1260	58.30	73,458
P2-2	Side Ditch (A)	l.m.	80	250.30	20,024
P4-8	Wattling	l.m.	590	391.55	231,014
P6-2	Grouted Riprap	cu.m.	75	1,326.00	99,450
P6-9	Gabion Wall	cu.m.	75	1,424.71	106,853
TOTAL					530,799

Spot No. Bt-2

URGENT RESTORATION MEASURES:

None

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	8700	68.42	595,254
P6-9	Gabion Wall	cu.m.	7371	1,424.71	10,501,537
	Permeance Mat	sq.m.	1600	34.11	54,576
P19-1	Gravel Surfacing	cu.m.	336	315.50	106,008
TOTAL					11,257,375

Spot No. Bt-7

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls.	cu.m.	90	34.78	3,130
U3-1	Sheet Covering	sq.m.	48	28.11	1,349
TOTAL					4,479

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	36	1,326.00	47,736
P6-9	Gabion Wall	cu.m.	22	1,424.71	31,343
P16-3	Grouted Riprap Apron	cu.m.	8	1,326.00	10,608
P18-1	Concrete Spillway	cu.m.	12	2,942.21	35,307
TOTAL					124,994

Spot No. Bt-11

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U7-1	Gravel Surfacing	cu.m.	26.80	315.50	8,455
TOTAL					8,455

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-4	Counterweight Fill	cu.m.	1,300	68.42	88,946
P2-1	Slope Ditch (B)	lm.	32	318.76	10,200
P2-5	Catch Basin	ea.	2	11,200.73	22,401
P3-2	Horizontal Drain Hole	l.m.	252	306.17	77,154
P6-9	Gabion Wall	cu.m.	162	1,424.71	230,803
P19-2(1)	Bituminous Tack Coat	cu.m.	0.01	11,883.25	188
P19-2(2)	Bit. Conc. Surface Course	m.t.	30.82	2,015.75	62,125
TOTAL					491,817

Spot No. Bt-14

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls.	cu.m.	230	34.78	7,999
U3-1	Sheet Covering	sq.m.	520	38.11	14,617
TOTAL					22,616

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	360	58.30	20,988
P2-2	Side Ditch (A)	l.m.	40	250.30	10,012
P4-2	Hand Seeding with Mat	sq.m.	180	44.01	7,922
P5-3	Stone Pitching	cu.m.	54	1,326.00	71,604
P6-2	Grouted Riprap	cu.m.	45	1,326.00	59,670
TOTAL					170,196

Spot No. Bt-20

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	90	68.42	6,158
U3-2	Sand Bag Covering	cu.m.	50	112.17	5,608
U4-3	Wooden Fence	l.m.	20	185.17	3,703
TOTAL					15,469

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	33	1,326.00	43,758
P16-3	Grouted Riprap (Apron)	cu.m.	4	1,326.00	5,304
TOTAL					49,062

Spot No. Bt-24

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	180	34.78	6,260
TOTAL					6,260

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	250	58.30	14,575
P2-2	Side Ditch (B)	l.m.	18	318.76	5,738
P8-2	Gabion Catch Wall	cu.m.	101	1,424.71	143,895
TOTAL					164,208

Spot No. Bt-25

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U3-1	Sheet Covering	sq.m.	240	28.11	6,746
TOTAL					6,746

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	420	68.42	28,736
P2-2	Side Ditch (B)	l.m.	40	318.76	12,750
P6-2	Grouted Riprap	cu.m.	94	1,326.00	124,644
P16-1	Concrete Foot Protection	cu.m.	56	1,942.21	164,764
TOTAL					330,894

Spot No. Bt-33

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	67	34.78	2,330
U1-2	Removal of Unst. Mat'ls.	cu.m.	5	72.15	361
TOTAL					2,691

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	800	58.30	46,640
P2-2	Side Ditch (A)	l.m.	33	250.30	8,260
P4-6	Pick Hole Seeding	sq.m.	210	161.20	33,852
P6-2	Grouted Riprap	cu.m.	33	1,326.00	43,758
TOTAL					132,510

Spot No. Bt-38

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U3-1	Sheet Covering	sq.m.	320	28.11	8,995
TOTAL					8,995

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	730	68.42	49,947
P2-2	Side Ditch (B)	l.m.	45	318.76	14,344
P4-2	Hand Seeding with Mat	sq.m.	300	44.01	13,203
P6-2	Grouted Riprap	cu.m.	7	1,326.00	9,282
TOTAL					86,776

Spot No. Bt-39

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls.	cu.m.	150	34.18	5,217
TOTAL					5,217

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	24	1,326.00	31,824
P8-2	Catch Gabion Wall	cu.m.	90	1,424.71	128,223
P16-3	Grouted Riprap (Apron)	cu.m.	21	1,326.00	27,846
P18-1	Concrete Spillway	cu.m.	28	2,942.21	82,382
TOTAL					270,275

Spot No. Bt-43

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	200	34.78	6,956
TOTAL					6,956

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	390	58.30	22,737
P2-2	Side Ditch (A)	l.m.	60	250.30	15,018
P4-6	Pick Hole Seeding	sq.m.	800	44.01	35,208
P6-2	Grouted Riprap	cu.m.	61	1,526.00	80,886
TOTAL					153,849

Spot No. Bt-54

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling	cu.m.	7	68.42	479
U4-3	Wooden Fence	l.m.	16	185.17	2,963
TOTAL					3,442

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling	cu.m.	310	68.42	21,210
P6-9(1)	Gabion Wall	cu.m.	154	1,424.71	219,405
P6-9(2)	Permeance Mat	sq.m.	100	34.11	3,411
TOTAL					244,026

Spot No. Bt-55

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U4-1	Sand Bag Wall	sq.m.	120	112.17	13,460
TOTAL					13,460

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling	cu.m.	30	68.42	2,053
P6-2	Grouted Riprap	cu.m.	35	1,326.00	46,410
P15-1(2)	Structural Excavation	cu.m.	37	89.79	3,322
P15-1(3)	Concrete Bridge Railing	l.m.	16	1,325.70	21,211
P15-1(5)	Reinforcing Steel	kg.	9800	33.60	329,280
P15-1(6)	Structural Conc. Class A	cu.m.	98	3,475.61	340,610
TOTAL					742,886

Spot No. Bt-57

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep.Mat'ls.	cu.m.	193	34.78	6,713
U1-2	Removal of Unst. Mat'ls.	cu.m.	8	72.15	577
TOTAL					7,290

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	240	58.30	13,992
P2-2	Side Ditch (A)	l.m.	32	250.30	8,010
P4-8	Wattling	l.m.	80	391.55	31,324
P6-2	Grouted Riprap	cu.m.	33	1,326.00	43,758
TOTAL					97,084

Spot No. Bt-58

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U3-1	Sheet Covering	sq.m.	150	28.11	4,216
TOTAL					4,216

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	69	1,326.00	91,494
P16-3	Grouted Riprap (Apron)	cu.m.	9	1,326.00	11,934
P16-2	Gabion Foot Protection	cu.m.	32	1,424.71	45,590
TOTAL					149,018

Spot No. Bt-59

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	200	34.78	6,956
TOTAL					6,956

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P2-2	Side Ditch	l.m.	100	250.30	25,030
P4-8	Wattling	l.m.	380	391.55	148,789
P6-2	Grouted Riprap	cu.m.	37	1,326.00	49,062
TOTAL					222,881

Spot No. Bt-62

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	170	34.78	5,913
U1-2	Removal of Unst. Mat'ls	cu.m.	15	72.15	1,082
TOTAL					6,995

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	27	1,326.00	35,802
P8-2	Gabion Catch Wall	cu.m.	58	1,424.71	82,633
P16-3	Grouted Riprap (Apron)	cu.m.	3	1,326.00	3,978
TOTAL					122,413

Spot No. Bt-63

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U6-3	Bailey Bridge	l.m.	9	13,555.83	122,002
TOTAL					122,002

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Grouted Riprap	cu.m.	49	1,326.00	64,974
P15-1(2)	Structural Excavation	cu.m.	570	89.79	51,180
P15-1(3)	Railing	l.m.	18	1,325.70	23,862
P15-1(4)	Concrete Piling	l.m.	105	2,157.86	226,575
P15-1(5)	Reinforcing Steel	kgs.	13360	33.60	448,896
P15-1(6)	Struc. Conc. (Class A)	cu.m.	167	3,475.61	580,427
TOTAL					1,395,914

Spot No. Bt-68

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	85	68.42	5,816
U3-1	Sheet Covering	sq.m.	36	28.11	1,011
U3-2	Sand Bag Covering	sq.m.	66	112.17	7,403
U4-1	Sand Bag Wall	sq.m.	9	112.17	1,009
TOTAL					15,239

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P2-4	R.C. Pipe Culvert	l.m.	1	1,410.17	1,410
P2-5	Catch Basin	ea.	1	5,751.17	5,751
P6-2	Grouted Riprap	cu.m.	40	1,326.00	53,040
P16-3	Grouted Riprap (Apron)	cu.m.	6	1,326.00	7,956
TOTAL					68,157

Spot No. Bt-70

URGENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Matls	cu.m.	400	34.78	13,912
TOTAL					13,912

PERMANENT RESTORATION MEASURES:

	TYPE OF WORK	UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	960	68.42	65,683
P15-1(3)	Railing	l.m.	76	1,325.70	100,753
P15-1(5)	Reinforcing Steel	kgs.	24600	33.60	826,560
P15-1(6)	Struc. Conc. (Class A)	cu.m.	256	3,475.61	889,756
P15-1(8)	Pre-Stressed Girder	ea.	3	849,156.58	2,547,469
P19-1	Gravel Surfacing	cu.m.	69	315.50	21,769
TOTAL					5,018,409

Spot No. Bs-3

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	25	68.42	1,710
U3-2	Sand Bag Covering	sq.m.	30	112.17	3,365
TOTAL					5,075

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	120	68.42	8,210
P6-2	Grouted Riprap	cu.m.	26	1,326.00	34,476
P16-3	Grouted Riprap Apron	cu.m.	11	1,326.00	14,586
TOTAL					57,272

Spot No. Bs-6

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U5-1	Gabion Foot Protection	cu.m.	4	1,424.71	5,698
TOTAL					5,698

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P14-2	Gabion Consolidation	cu.m.	114	1,424.71	162,416
P16-1	Conc. Foot Protection	cu.m.	65	2,942.21	191,243
TOTAL					353,659

Spot No. Bs-8

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U4-1	Sand Bag Wall	sq.m.	6	112.17	673
U4-3	Wooden Fence	l.m.	3	185.17	555
TOTAL					1,228

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-4(1)	Structural Excavation	cu.m.	2	89.79	179
P6-4(2)	Struc. Concrete (Class A)	cu.m.	1	2,942.21	2,942
P6-4(3)	Grouted Riprap	cu.m.	4	1,326.00	5,304
TOTAL					8,425

Spot No. Bs-12

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	140	34.78	4,869
U1-2	Removal of Unst. Mat'ls	cu.m.	10	72.15	721
TOTAL					5,590

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P8-2	Catch Gabion Wall	cu.m.	84	1,424.71	119,675
P19-1	Gravel Surfacing	cu.m.	12	315.50	3,786
TOTAL					123,461

Spot No. Bs-14

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U2-2	Temporary Side Ditch	l.m.	72	10.99	791
U7-1	Gravel Surfacing	cu.m.	11	315.50	3,470
TOTAL					4,261

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P2-2	Side Ditch (B)	l.m.	83	318.76	26,457
P2-5	Catch Basin	ea.	1	5,751.17	5,751
P6-6	Supported Type Conc. Wall	cu.m.	4	2,239.52	8,958
P6-9	Gabion Wall	cu.m.	4	1,424.71	5,698
P16-3	Grouted Riprap Apron	cu.m.	2	1,326.00	2,652
P18-1	Concrete Spillway	cu.m.	7	2,942.21	20,595
TOTAL					70,111

Spot No. Bs-28

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	27	68.42	1,847
U3-2	Sand Bag Covering	sq.m.	54	112.17	6,057
U4-3	Wooden Fence	l.m.	18	185.17	3,333
TOTAL					11,237

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	80	68.42	5,473
P2-4	Concrete Culvert 2.5m ϕ	cu.m.	8	2,942.21	23,537
P6-2	Grouted Riprap	cu.m.	38	1,326.00	50,388
P6-9(1)	Gabion Wall	cu.m.	115	1,424.71	163,841
P6-9(2)	Permeance Mat	sq.m.	96	34.11	3,274
P16-3	Grouted Riprap Apron	cu.m.	11	1,326.00	14,586
TOTAL					261,099

Spot No. Bs-30

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls.	cu.m	200	34.78	6,956
U1-2	Removal of Unst. Mat'ls.	cu.m.	10	72.15	721
TOTAL					7,677

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting	cu.m.	1940	58.30	113,102
P4-8	Wattling	l.m.	210	391.55	82,225
P8-2	Catch Gabion Wall	cu.m.	50	1,424.71	71,235
TOTAL					266,562

Spot No. Bs-33

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U6-1	H-Pile Bent	l.m.	1005	1,051.68	1,056,938
U6-2	Bailey Bridge	l.m.	171	13,555.83	2,318,046
TOTAL					3,374,984

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-9	Gabion Wall	cu.m.	960	1,424.71	1,367,721
P15-1(2)	Structural Excavation	cu.m.	660	89.79	59,261
P15-1(3)	Railing	l.m.	342	1,325.70	453,389
P15-1(4)	Concrete Piling	l.m.	1150	2,157.86	2,481,539
P15-1(6)	Struc. Conc. (Class A)	cu.m.	1080	3,475.61	3,753,658
P15-1(5)	Reinforcing Steel	l.m.	140400	33.60	4,717,440
P17-2(1)	Selected Materials	cu.m.	2800	368.94	1,033,032
P17-2(2)	Gabion Spurdike	cu.m.	1040	1,424.71	1,481,698
TOTAL					15,347,738

Spot No. Bs-36

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-1	Removal of Dep. Mat'ls	cu.m.	105	34.78	3,651
TOTAL					3,651

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-1	Recutting (Common)	cu.m.	2850	58.30	166,155
P2-2	Side Ditch	l.m.	92	250.30	23,027
P4-6	Pick Hole Seeding	sq.m.	870	161.20	140,244
P6-2	Grouted Riprap	cu.m.	37	1,326.00	49,062
TOTAL					378,488

Spot No. Bs-42

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U4-1	Sand Bag Wall	sq.m.	10	112.17	1,121
TOTAL					1,121

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P2-4	R.C.P.C. 0.60 m ϕ	l.m.	1	1,959.33	1,959
P6-2	Grouted Riprap	cu.m.	16	1,326.00	21,216
P16-3	Grouted Riprap Apron	cu.m.	2	1,326.00	2,652
TOTAL					25,827

Spot No. Bs-43

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling	cu.m.	29	68.42	1,984
U3-2	Sand Bag Covering	sq.m.	26	112.17	2,916
TOTAL					4,900

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-3	Grouted Riprap	cu.m.	9	1,326.00	11,934
P16-3	Grouted Riprap (Apron)	cu.m.	8	1,326.00	10,608
TOTAL					22,542

Spot No. Bs-45

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	15	68.42	1,026
U3-2	Sand Bag Covering	cu.m.	18	112.17	2,019
TOTAL					3,045

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-2	Group Riprap	cu.m.	9	1,326.00	11,934
P16-3	Grouted Riprap Apron	cu.m.	10	1,326.00	13,260
TOTAL					25,194

Spot No. Bs-48

URGENT RESTORATION MEASURES:

None

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-10	Steel Sheet Pile	l.m.	224	2,987.24	669,141
P16-1	Concrete Foot Protection	cu.m.	5	2,942.21	14,711
P16-2	Gabion Foot Protection	cu.m.	90	1,424.71	128,223
TOTAL					812,075

Spot No. Bs-50

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	816	68.42	55,830
U4-2	Gabion Wall	cu.m.	82	1,424.71	116,826
TOTAL					172,656

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	85	68.42	5,815
P6-9	Gabion Wall	cu.m.	122	1,424.71	173,814
TOTAL					179,629

Spot No. Bs-51

URGENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
U1-4	Refilling/Embankment	cu.m.	43	68.42	2,942
U3-2	Sand Bag Wall	sq.m.	57	112.17	6,393
U4-3	Wooden Fence	l.m.	57	185.17	10,554
TOTAL					19,889

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P6-5(1)	Recutting (Common)	cu.m.	380	58.30	22,154
P6-5(2)	Struc. Conc. (Class A)	cu.m.	250	2,942.21	735,552
P6-5(3)	Ladder Foundation	sq.m.	114	132.11	15,060
TOTAL					772,766

Spot No. Bs-53

URGENT RESTORATION MEASURES:

None

PERMANENT RESTORATION MEASURES:

TYPE OF WORK		UNIT	QUAN- TITY	UNIT COST (P)	TOTAL COST (P)
P1-3	Refilling/Embankment	cu.m.	446	68.42	30,515
P19-1	Gravel Surfacing Course	cu.m.	79	315.50	24,924
P2-2	Side Ditch 0.6 m ³ /m x P1,326 x 1.6	l.m.	140	1,272.96	178,214
P2-4	R.C.P.C. 0.60 m ϕ	l.m.	48	1,410.17	67,688
TOTAL					301,341