

# Appendix A-3 CONSTRUCTION AND MAINTENANCE COST FOR PROPOSED ROAD LINKS

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 66 (111B-2) LENGTH : 7 Km

UPGRADE : 6.5m road bed, 4.0m road with surface Base Course

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST		COST		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	1170.0	3,090	1,355	3,615,300	1,585,350	5,200,650
Base Course	m3	1440.0	4,244	2,310	6,111,360	3,326,400	9,437,760
Shoulder	m2	17500.0	284	146	4,970,000	2,555,000	7,525,000
Asphalt Patching	m2	110.0	3,579	1,383	393,690	152,130	545,820
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	12080.0	834	120	10,074,720	1,449,600	11,524,320
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 80x80cm	m	1.0	44,401	43,445	44,401	43,445	87,846
Masonry Culvert 180x80cm	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					25,209,471	9,111,925	34,321,396
Overhead ( 15% )					3,781,420	1,366,788	5,148,208
TOTAL COST					28,990,891	10,478,713	39,469,604

Manual routine maintenance of road	Km	7.0	133,276	7,260	932,932	50,820	983,752
Routine maintenance of gravel road	Km	7.0	183,586	88,384	1,285,102	618,688	1,903,790
Sub Total					2,218,034	669,508	2,887,542
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	5,638,515
Timber Bridge	Unit Cost	(Rp/m2)	:	
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	2,600,325
Maintenance Rate without Bridge		(%)	:	7.32
New Bridge Cost Rate		(%)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 65 (IIC) LENGTH : 1 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Subbase Course  
(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>>
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	3000.0	159	91	477,000	273,000	750,000
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	280.0	959	525	268,520	147,000	415,520
Sub Base Course	m3	286.0	3,090	1,355	883,740	387,530	1,271,270
Base Course	m3	240.0	4,244	2,310	1,018,560	554,400	1,572,960
Shoulder	m2	2000.0	284	146	568,000	292,000	860,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	1940.0	834	120	1,617,960	232,800	1,850,760
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 800cm	m	1.0	44,401	43,445	44,401	43,445	87,846
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					4,878,181	1,930,175	6,808,356
Overhead ( 15% )					731,727	289,526	1,021,253
TOTAL COST					5,609,908	2,219,701	7,829,609
Manual routine maintenance of road	Km	1.0	133,276	7,260	133,276	7,260	140,536
Routine maintenance of gravel road	Km	1.0	183,586	88,384	183,586	88,384	271,970
Sub Total					316,862	95,644	412,506
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0
Earthwork & Pavement Unit Cost (Rp/Km)					:	:	7,829,609
Timber Bridge Unit Cost (Rp/m2)					:	:	
Concrete Bridge Unit Cost (Rp/m2)					:	:	
Survived Value (Rp)					:	:	508,508
Maintenance Rate without Bridge (%)					:	:	5.27
New Bridge Cost Rate (%)					:	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 61 (IIIC) LENGTH : 18 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Subbase Course (Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	90000.0	159	91	14,310,000	8,190,000	22,500,000
Subgrade Preparation	m2	108000.0	20	11	2,160,000	1,188,000	3,348,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	162.0	2,429	1,058	393,498	171,396	564,894
Normal Excavation to Spoil	m3	882.0	959	525	845,838	463,050	1,308,888
Sub Base Course	m3	11520.0	3,090	1,355	35,596,800	15,609,600	51,206,400
Base Course	m3	0.0	4,244	2,310	0	0	0
Shoulder	m2	36000.0	284	146	10,224,000	5,256,000	15,480,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	35640.0	834	120	29,723,760	4,276,800	34,000,560
Earth Drain in Swamp (by machine)	m3	720.0	1,144	476	823,680	342,720	1,166,400
Pipe Culvert D80cm	m	22.0	44,401	43,445	976,822	955,790	1,932,612
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	98,658,374	11,523,436	110,181,810
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					193,712,772	47,976,792	241,689,564
Overhead ( 15% )					29,056,915	7,196,516	36,253,433
TOTAL COST					222,769,687	55,173,310	277,942,997

Manual routine maintenance of road	Km	18.0	133,276	7,260	2,398,968	130,680	2,529,648
Routine maintenance of gravel road	Km	18.0	183,586	88,384	3,304,548	1,590,912	4,895,460
Sub Total					5,703,516	1,721,592	7,425,108
Maintenance of Timber Bridge (New)	m2	840.0	8,201	1,233	6,888,840	1,035,720	7,924,560
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	8,401,884
Timber Bridge	Unit Cost	(Rp/m2)	:	150,844
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	20,482,560
Maintenance Rate without Bridge		(%)	:	4.91
New Bridge Cost Rate		(%)	:	45.59

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 62 (UIC) LENGTH : 4 Km

UPGRADE : 6.0m road bed, 3.5m road with surface Subbase Course  
(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	18000.0	20	11	360,000	198,000	558,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	487.0	959	525	467,033	255,675	722,708
Sub Base Course	m3	1753.5	3,090	1,355	5,418,315	2,375,992	7,794,307
Base Course	m3	210.0	4,244	2,310	891,240	485,100	1,376,340
Shoulder	m2	10000.0	284	146	2,840,000	1,460,000	4,300,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	7440.0	834	120	6,204,960	892,800	7,097,760
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	11.0	44,401	43,445	488,411	477,895	966,306
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	27,936,590	3,414,040	31,350,630
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					44,606,549	9,559,502	54,166,051
Overhead (15%)					6,690,982	1,433,925	8,124,907
TOTAL COST					51,297,531	10,993,427	62,290,958

  

Manual routine maintenance of road	Km	4.0	133,276	7,260	533,104	29,040	562,144
Routine maintenance of gravel road	Km	4.0	183,586	88,384	734,344	353,536	1,087,880
Sub Total					1,267,448	382,576	1,650,024
Maintenance of Timber Bridge (New)	m2	216.0	8,201	1,233	1,771,416	266,328	2,037,744
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

  

Earthwork & Pavement Unit Cost (Rp/Km)	:	6,559,434
Timber Bridge Unit Cost (Rp/m2)	:	166,913
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	3,117,722
Maintenance Rate without Bridge (%)	:	6.29
New Bridge Cost Rate (%)	:	57.88

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 60 (IIIC) LENGTH : 19 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Subbase Course  
(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	6318.0	20	11	126,360	69,498	195,858
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	1450.8	2,429	1,058	3,523,993	1,534,946	5,058,939
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	1248.4	3,090	1,355	3,857,556	1,691,582	5,549,138
Base Course	m3	4560.0	4,244	2,310	19,352,640	10,533,600	29,886,240
Shoulder	m2	76000.0	284	146	21,584,000	11,096,000	32,680,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	4680.0	1,144	476	5,353,920	2,227,680	7,581,600
Pipe Culvert 80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					53,798,469	27,153,306	80,951,775
Overhead ( 15% )					8,069,770	4,072,995	12,142,765
TOTAL COST					61,868,239	31,226,301	93,094,540

Manual routine maintenance of road	Km	19.0	133,276	7,260	2,532,244	137,940	2,670,184
Routine maintenance of gravel road	Km	19.0	183,586	88,384	3,488,134	1,679,296	5,167,430
Sub Total					6,020,378	1,817,236	7,837,614
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	464.0	7,648	2,462	3,548,672	1,142,368	4,691,040
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	4,899,713
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	2,219,655
Maintenance Rate without Bridge (X)	:	8.42
New Bridge Cost Rate (X)	:	

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 59 (IIIC) LENGTH : 20 Km

UPGRADE : 6.0m road bed, 3.5m road with surface Subbase Course  
 (Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	32000.0	159	91	5,088,000	2,912,000	8,000,000
Subgrade Preparation	m2	120000.0	20	11	2,400,000	1,320,000	3,720,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	277.5	2,429	1,058	674,047	293,595	967,642
Normal Excavation to Spoil	m3	995.0	959	525	954,205	522,375	1,476,580
Sub Base Course	m3	11200.0	3,090	1,355	34,608,000	15,176,000	49,784,000
Base Course	m3	0.0	4,244	2,310	0	0	0
Shoulder	m2	50000.0	284	146	14,200,000	7,300,000	21,500,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	33200.0	834	120	27,688,800	3,984,000	31,672,800
Earth Drain in Swamp (by machine)	m3	300.0	1,144	476	343,200	142,800	486,000
Pipe Culvert Ø80cm	m	18.0	44,401	43,445	799,218	782,010	1,581,228
Masonry Culvert 180x80cm	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					86,755,470	32,432,780	119,188,250
Overhead ( 15% )					13,013,320	4,864,917	17,878,237
TOTAL COST					99,768,790	37,297,697	137,066,487

  

Manual routine maintenance of road	Km	20.0	133,276	7,260	2,665,520	145,200	2,810,720
Routine maintenance of gravel road	Km	20.0	183,586	88,384	3,671,720	1,767,680	5,439,400
Sub Total					6,337,240	1,912,880	8,250,120
Maintenance of timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

  

Earthwork & Pavement Unit Cost (Rp/Km)	:	6,853,324
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	19,913,600
Maintenance Rate without Bridge (Z)	:	6.02
New Bridge Cost Rate (Z)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 51 (IIC) LENGTH : 15 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Subbase Course  
(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	105000.0	20	11	2,100,000	1,155,000	3,255,000
Normal Fill	m3	0.0	1,831	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	744.0	959	525	713,496	390,600	1,104,096
Sub Base Course	m3	9600.0	3,090	1,355	29,664,000	13,008,000	42,672,000
Base Course	m3	0.0	4,244	2,310	0	0	0
Shoulder	m2	45000.0	284	146	12,780,000	6,570,000	19,350,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	5200.0	834	120	4,336,800	624,000	4,960,800
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					49,594,296	21,747,600	71,341,896
Overhead ( 15% )					7,439,144	3,262,140	10,701,284
TOTAL COST					57,033,440	25,009,740	82,043,180

Manual routine maintenance of road	Km	15.0	133,276	7,260	1,999,140	108,900	2,108,040
Routine maintenance of gravel road	Km	15.0	183,586	88,384	2,753,790	1,325,760	4,079,550
Sub Total					4,752,930	1,434,660	6,187,590
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	5,469,545
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	17,068,800
Maintenance Rate without Bridge (X)	:	7.54
New Bridge Cost Rate (Z)	:	

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 50 (IIIC) LENGTH : 19 Km

UPGRADE : 4.0m road bed, 4.0m road with surface Subbase Course  
 (Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	30000.0	159	91	6,042,000	3,450,000	9,500,000
Subgrade Preparation	m2	114000.0	20	11	2,280,000	1,254,000	3,534,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	4725.0	2,429	1,058	11,477,025	4,999,050	16,476,075
Normal Excavation to Spoil	m3	912.0	959	525	874,608	478,800	1,353,408
Sub Base Course	m3	12160.0	3,090	1,355	37,574,400	16,476,800	54,051,200
Base Course	m3	0.0	4,244	2,310	0	0	0
Shoulder	m2	38000.0	284	146	10,792,000	5,548,000	16,340,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	33100.0	834	120	27,605,400	3,972,000	31,577,400
Earth Drain in Swamp (by machine)	m3	3000.0	1,144	476	3,432,000	1,428,000	4,860,000
Pipe Culvert 80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	40,412,378	4,220,680	44,633,058
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					140,489,811	41,835,330	182,325,141
Overhead ( 15% )					21,073,471	6,275,299	27,348,770
TOTAL COST					161,563,282	48,110,629	209,673,911

Manual routine maintenance of road	Km	19.0	133,276	7,260	2,532,244	137,940	2,670,184
Routine maintenance of gravel road	Km	19.0	183,586	88,384	3,488,134	1,679,296	5,167,430
Sub Total					6,020,378	1,817,236	7,837,614
Maintenance of Timber Bridge (New)	m2	416.0	8,201	1,233	3,411,616	512,928	3,924,544
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	8,333,994
Timber Bridge	Unit Cost	(Rp/m2)	:	123,385
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	21,620,480
Maintenance Rate without Bridge		(%)	:	4.95
New Bridge Cost Rate		(%)	:	24.48



PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 49 (IIIC) LENGTH : 7 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Subbase Course  
(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	56000.0	20	11	1,120,000	616,000	1,736,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	480.0	959	525	460,320	252,000	712,320
Sub Base Course	m3	4480.0	3,090	1,355	13,843,200	6,070,400	19,913,600
Base Course	m3	0.0	4,244	2,310	0	0	0
Shoulder	m2	28000.0	284	146	7,952,000	4,088,000	12,040,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	6600.0	834	120	5,504,400	792,000	6,296,400
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert D80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Babion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	15,856,820	2,016,744	17,873,564
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					44,736,740	13,835,144	58,571,884
Overhead ( 15% )					6,710,511	2,075,271	8,785,782
TOTAL COST					51,447,251	15,910,415	67,357,666

Manual routine maintenance of road	Km	7.0	133,276	7,260	932,932	50,820	983,752
Routine maintenance of gravel road	Km	7.0	183,586	88,384	1,285,102	618,688	1,903,790
Sub Total					2,218,034	669,508	2,887,542
Maintenance of Timber Bridge (New)	m2	100.0	8,201	1,233	885,708	133,164	1,018,872
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	6,686,153
Timber Bridge	Unit Cost	(Rp/m2)	:	190,320
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	7,965,440
Maintenance Rate without Bridge		(%)	:	6.17
New Bridge Cost Rate		(%)	:	30.52

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 39 (IIIB-2) LENGTH : 5 Km

UPGRADE : 9.0m road bed, 4.0m road with surface Base Course

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	45000.0	20	11	900,000	495,000	1,395,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	688.0	959	525	659,792	361,200	1,020,992
Sub Base Course	m3	2800.0	3,090	1,355	8,652,000	3,794,000	12,446,000
Base Course	m3	1200.0	4,244	2,310	5,092,800	2,772,000	7,864,800
Shoulder	m2	25000.0	284	146	7,100,000	3,650,000	10,750,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 880cm	m	6.0	44,401	43,445	266,406	260,670	527,076
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	---	---	0	0	0
New Bridge (Concrete)	SET	1.0	---	---	0	0	0
Sub Total					22,670,998	11,332,870	34,003,868
Overhead ( 15% )					3,400,649	1,699,930	5,100,579
TOTAL COST					26,071,647	13,032,800	39,104,447

Manual routine maintenance of road	Km	5.0	133,276	7,260	666,380	36,300	702,680
Routine maintenance of gravel road	Km	5.0	183,586	88,384	917,930	441,920	1,359,850
Sub Total					1,584,310	478,220	2,062,530
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	140.0	7,648	2,462	1,070,720	344,680	1,415,400
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	7,820,890
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	6,223,000
Maintenance Rate without Bridge (%)	:	5.27
New Bridge Cost Rate (%)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 30 (IIIB-2) LENGTH : 4 Km

UPGRADE : 9.0m road bed, 4.0m road with surface Base Course

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	36000.0	20	11	720,000	396,000	1,116,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	388.1	2,429	1,058	942,694	410,609	1,353,303
Normal Excavation to Spoil	m3	340.0	959	525	326,060	178,500	504,560
Sub Base Course	m3	2240.0	3,090	1,355	6,921,600	3,035,200	9,956,800
Base Course	m3	960.0	4,244	2,310	4,074,240	2,217,600	6,291,840
Shoulder	m2	20000.0	284	146	5,680,000	2,920,000	8,600,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	600.0	1,144	476	686,400	285,600	972,000
Pipe Culvert Ø80cm	m	1.0	44,401	43,445	44,401	43,445	87,846
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Babion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					19,395,395	9,486,954	28,882,349
Overhead (15%)					2,909,309	1,423,043	4,332,352
TOTAL COST					22,304,704	10,909,997	33,214,701

Manual routine maintenance of road	Km	4.0	133,276	7,260	533,104	29,040	562,144
Routine maintenance of gravel road	Km	4.0	183,586	88,384	734,344	353,536	1,087,880
Sub Total					1,267,448	382,576	1,650,024
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	20.0	7,648	2,462	152,960	49,240	202,200
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	8,303,675
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	4,978,400
Maintenance Rate without Bridge (%)	:	4.97
New Bridge Cost Rate (%)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 37 (IIIB-1) LENGTH : 7 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	3000.0	159	91	477,000	273,000	750,000
Subgrade Preparation	m2	49000.0	20	11	980,000	539,000	1,519,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	1056.0	959	525	1,012,704	554,400	1,567,104
Sub Base Course	m3	3920.0	3,090	1,355	12,112,800	5,311,600	17,424,400
Base Course	m3	1960.0	4,244	2,310	8,318,240	4,527,600	12,845,840
Shoulder	m2	21000.0	284	146	5,964,000	3,066,000	9,030,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	28000.0	636	595	17,808,000	16,660,000	34,468,000
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	11.0	44,401	43,445	488,411	477,895	966,306
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					47,161,155	31,409,495	78,570,650
Overhead ( 15% )					7,074,173	4,711,424	11,785,597
TOTAL COST					54,235,328	36,120,919	90,356,247

Manual routine maintenance of road	Km	7.0	133,276	7,260	932,932	50,820	983,752
Routine maintenance of asphalt road	Km	7.0	357,900	138,300	2,505,300	968,100	3,473,400
Sub Total					3,438,232	1,018,920	4,457,152
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	68.0	7,648	2,462	520,064	167,416	687,480
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	12,908,035
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	14,766,248
Maintenance Rate without Bridge (%)	:	4.93
New Bridge Cost Rate (%)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 36 (IIIB-1) LENGTH : 8 Km

UPGRADE : 9.0m road bed, 4.0m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	43000.0	20	11	1,260,000	693,000	1,953,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	1008.0	959	525	966,672	529,200	1,495,872
Sub Base Course	m3	4084.0	3,090	1,355	12,619,560	5,533,820	18,153,380
Base Course	m3	2240.0	4,244	2,310	9,506,560	5,174,400	14,680,960
Shoulder	m2	40000.0	284	146	11,360,000	5,840,000	17,200,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	32000.0	636	595	20,352,000	19,040,000	39,392,000
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	3600.0	834	120	3,002,400	432,000	3,434,400
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Babion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	14,019,261	1,483,048	15,502,309
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					73,086,453	38,725,468	111,811,921
Overhead ( 15% )					10,962,967	5,808,820	16,771,787
TOTAL COST					84,049,420	44,534,288	128,583,708

Manual routine maintenance of road	Km	8.0	133,276	7,260	1,066,208	58,080	1,124,288
Routine maintenance of asphalt road	Km	8.0	357,900	138,300	2,863,200	1,106,400	3,969,600
Sub Total					3,929,408	1,164,480	5,093,888
Maintenance of Timber Bridge (New)	m2	144.0	8,201	1,233	1,180,944	177,552	1,358,496
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	112.0	7,648	2,462	856,576	275,744	1,132,320
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	13,844,507
Timber Bridge Unit Cost (Rp/m2)	:	123,803
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	15,643,558
Maintenance Rate without Bridge (Z)	:	4.60
New Bridge Cost Rate (Z)	:	13.86

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 34 (IIIB-1) LENGTH : 15 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST LOCAL FOREIGN	LOCAL	FOREIGN	COST LOCAL FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	105000.0	20	11	2,100,000	1,155,000	3,255,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	72.0	2,429	1,058	174,888	76,176	251,064
Normal Excavation to Spoil	m3	1704.0	959	525	1,634,136	894,600	2,528,736
Sub Base Course	m3	8400.0	3,090	1,355	25,956,000	11,382,000	37,338,000
Base Course	m3	4200.0	4,244	2,310	17,824,800	9,702,000	27,526,800
Shoulder	m2	45000.0	284	146	12,780,000	6,570,000	19,350,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	60000.0	636	595	38,160,000	35,700,000	73,860,000
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	3000.0	834	120	2,502,000	360,000	2,862,000
Earth Drain in Swamp (by machine)	m3	180.0	1,144	476	205,920	85,680	291,600
Pipe Culvert Ø80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	21,671,401	2,842,420	24,513,821
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					123,009,145	68,767,876	191,777,021
Overhead (15%)					18,451,371	10,315,181	28,766,552
TOTAL COST					141,460,516	79,083,057	220,543,573

Manual routine maintenance of road	Ka	15.0	133,276	7,260	1,999,140	108,900	2,108,040
Routine maintenance of asphalt road	Ka	15.0	357,900	130,300	5,368,500	2,074,500	7,443,000
Sub Total					7,367,640	2,183,400	9,551,040
Maintenance of Timber Bridge (New)	m2	136.0	8,201	1,233	1,115,336	167,688	1,283,024
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	80.0	7,648	2,462	611,840	196,960	808,800
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Ka)	:	12,823,512
Timber Bridge	Unit Cost	(Rp/m2)	:	207,286
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	31,641,960
Maintenance Rate without Bridge		(%)	:	4.97
New Bridge Cost Rate		(%)	:	12.78

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 32 (IIB-1) LENGTH : 19 Km

UPGRADE : 6.5m road bed, 4.0m road with surface Dressing (1)

(Rp)

I T E M	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>>
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	123500.0	20	11	2,470,000	1,358,500	3,828,500
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	1800.0	959	525	1,726,200	945,000	2,671,200
Sub Base Course	m3	10640.0	3,090	1,355	32,877,600	14,417,200	47,294,800
Base Course	m3	5320.0	4,244	2,310	22,578,080	12,289,200	34,867,280
Shoulder	m2	47500.0	284	146	13,490,000	6,935,000	20,425,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	76000.0	636	595	48,336,000	45,220,000	93,556,000
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	10000.0	834	120	8,340,000	1,200,000	9,540,000
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert 180x80cm	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	8,947,890	1,107,260	10,055,150
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					138,765,770	83,472,160	222,237,930
Overhead (15%)					20,814,865	12,520,874	33,335,689
TOTAL COST					159,580,635	95,992,984	255,573,619

Manual routine maintenance of road	Km	19.0	133,276	7,260	2,532,244	137,940	2,670,184
Routine maintenance of asphalt road	Km	19.0	357,900	138,300	6,800,100	2,627,700	9,427,800
Sub Total					9,332,344	2,765,640	12,097,984
Maintenance of Timber Bridge (New)	m2	76.0	8,201	1,233	623,276	93,708	716,984
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	12,842,642
Timber Bridge	Unit Cost	(Rp/m2)	:	152,150
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	40,079,816
Maintenance Rate without Bridge		(%)	:	4.96
New Bridge Cost Rate		(%)	:	4.52

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 2B (IIB-2) LENGTH : 6 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Base Course

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	8000.0	20	11	160,000	88,000	248,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	152.0	959	525	145,768	79,800	225,568
Sub Base Course	m3	1280.0	3,090	1,355	3,955,200	1,734,400	5,689,600
Base Course	m3	1440.0	4,244	2,310	6,111,360	3,326,400	9,437,760
Shoulder	m2	24000.0	284	146	6,816,000	3,504,000	10,320,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	2000.0	834	120	1,668,000	240,000	1,908,000
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	1.0	44,401	43,445	44,401	43,445	87,846
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					18,900,729	9,016,045	27,916,774
Overhead ( 15% )					2,835,109	1,352,406	4,187,515
TOTAL COST					21,735,838	10,368,451	32,104,289

Manual routine maintenance of road	Km	6.0	133,276	7,260	799,656	43,560	843,216
Routine maintenance of gravel road	Km	6.0	183,586	88,384	1,101,516	530,304	1,631,820
Sub Total					1,901,172	573,864	2,475,036
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	56.0	7,648	2,462	428,288	137,872	566,160
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost	(Rp/Km)	:	5,350,715
Timber Bridge Unit Cost	(Rp/m2)	:	
Concrete Bridge Unit Cost	(Rp/m2)	:	
Survived Value	(Rp)	:	2,844,800
Maintenance Rate without Bridge	(%)	:	7.71
New Bridge Cost Rate	(%)	:	



PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 25 (IIIC) LENGTH : 17 Km

UPGRADE : 6.0m road bed, 3.5m road with surface Subbase Course (Rp)

ITEM	UNIT	QUANTITY	<< UNIT COST >>		<<<< COST >>>>		>>>>
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	4000.0	159	91	636,000	364,000	1,000,000
Subgrade Preparation	m2	12000.0	20	11	240,000	132,000	372,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	278.0	959	525	266,602	145,950	412,552
Sub Base Course	m3	1513.4	3,090	1,355	4,676,406	2,050,657	6,727,063
Base Course	m3	3150.0	4,244	2,310	13,368,600	7,276,500	20,645,100
Shoulder	m2	42500.0	284	146	12,070,000	6,205,000	18,275,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	6000.0	834	120	5,004,000	720,000	5,724,000
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					36,261,608	16,894,107	53,155,715
Overhead (15%)					5,439,241	2,534,116	7,973,357
TOTAL COST					41,700,849	19,428,223	61,129,072

Manual routine maintenance of road	Km	17.0	133,276	7,260	2,265,692	123,420	2,389,112
Routine maintenance of gravel road	Km	17.0	183,586	88,384	3,120,962	1,502,528	4,623,490
Sub Total					5,386,654	1,625,948	7,012,602
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	126.0	7,648	2,462	963,648	310,212	1,273,860
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	3,595,828
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	2,690,825
Maintenance Rate without Bridge (Z)	:	11.47
New Bridge Cost Rate (Z)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 22 (IIIC) LENGTH : 10 Km

UPGRADE : 7.5m road bed, 4.0m road with surface Subbase Course (Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	254.0	3,090	1,355	784,860	344,170	1,129,030
Base Course	m3	2400.0	4,244	2,310	10,185,600	5,544,000	15,729,600
Shoulder	m2	35000.0	284	146	9,940,000	5,110,000	15,050,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert D80cm	m	5.0	44,401	43,445	222,005	217,225	439,230
Masonry Culvert (80x80cm)	m	2.0	55,358	37,949	110,716	75,098	186,814
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	2,966,906	416,436	3,383,342
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					24,210,087	11,707,729	35,917,816
Overhead ( 15% )					3,631,513	1,756,159	5,387,672
TOTAL COST					27,841,600	13,463,888	41,305,488

Manual routine maintenance of road	Km	10.0	133,276	7,260	1,332,760	72,600	1,405,360
Routine maintenance of gravel road	Km	10.0	183,586	88,384	1,835,860	883,840	2,719,700
Sub Total					3,168,620	956,440	4,125,060
Maintenance of Timber Bridge (New)	m2	16.0	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	3,741,465
Timber Bridge	Unit Cost	(Rp/m2)	:	243,178
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	451,612
Maintenance Rate without Bridge		(%)	:	11.03
New Bridge Cost Rate		(%)	:	9.42

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 21 (IIC) LENGTH : 7 Km

UPGRADE : 5.5m road bed, 4.0m road with surface Subbase Course (Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<< COST >>>>		>>>>
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	170.0	3,090	1,355	525,300	230,350	755,650
Base Course	m3	1680.0	4,244	2,310	7,129,920	3,880,800	11,010,720
Shoulder	m2	10500.0	284	146	2,982,000	1,533,000	4,515,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert Ø80cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					10,637,220	5,644,150	16,281,370
Overhead ( 15% )					1,595,583	846,622	2,442,205
TOTAL COST					12,232,803	6,490,772	18,723,575

Manual routine maintenance of road	Km	7.0	133,276	7,260	932,932	50,820	983,752
Routine maintenance of gravel road	Km	7.0	183,586	88,384	1,285,102	618,688	1,903,790
Sub Total					2,218,034	669,508	2,887,542
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	24.0	7,648	2,462	183,552	59,088	242,640
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	2,674,797
Timber Bridge Unit Cost (Rp/m2)	:	
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	302,260
Maintenance Rate without Bridge (%)	:	15.42
New Bridge Cost Rate (%)	:	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 19 (IIC) LENGTH : 6 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Subbase Course

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	8000.0	20	11	160,000	88,000	248,000
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	28.0	959	525	26,852	14,700	41,552
Sub Base Course	m3	764.0	3,090	1,355	2,360,760	1,035,220	3,395,980
Base Course	m3	1200.0	4,244	2,310	5,092,800	2,772,000	7,864,800
Shoulder	m2	24000.0	284	146	6,816,000	3,504,000	10,320,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 80x80cm	m	5.0	44,401	43,445	222,005	217,225	439,230
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	2,966,906	416,436	3,383,342
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					17,645,323	8,047,581	25,692,904
Overhead ( 15% )					2,646,798	1,207,137	3,853,935
TOTAL COST					20,292,121	9,254,718	29,546,839

Manual routine maintenance of road	Km	6.0	133,276	7,260	799,656	43,560	843,216
Routine maintenance of gravel road	Km	6.0	183,586	88,384	1,101,516	530,304	1,631,820
Sub Total					1,901,172	573,864	2,475,036
Maintenance of Timber Bridge (New)	m2	16.0	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	4,275,999
Timber Bridge Unit Cost (Rp/m2)	:	243,178
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	1,358,392
Maintenance Rate without Bridge (%)	:	9.65
New Bridge Cost Rate (%)	:	13.17

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 18 (IIIC) LENGTH : 4 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Subbase Course (Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	168.0	3,090	1,355	519,120	227,640	746,760
Base Course	m3	960.0	4,244	2,310	4,074,240	2,217,600	6,291,840
Shoulder	m2	16000.0	284	146	4,544,000	2,336,000	6,880,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 800cm	m	8.0	44,401	43,445	355,208	347,560	702,768
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	2,966,906	416,436	3,383,342
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					12,459,474	5,545,236	18,004,710
Overhead (15%)					1,868,921	831,785	2,700,706
TOTAL COST					14,328,395	6,377,021	20,705,416

Manual routine maintenance of road	Km	4.0	133,276	7,260	533,104	29,040	562,144
Routine maintenance of gravel road	Km	4.0	183,586	88,384	734,344	353,536	1,087,880
Sub Total					1,267,448	382,576	1,650,024
Maintenance of Timber Bridge (New)	m2	16.0	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost (Rp/Km)	:	4,203,643
Timber Bridge Unit Cost (Rp/m2)	:	243,178
Concrete Bridge Unit Cost (Rp/m2)	:	
Survived Value (Rp)	:	298,704
Maintenance Rate without Bridge (%)	:	9.81
New Bridge Cost Rate (%)	:	18.79

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 17 (IIIC) LENGTH : 5 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Subbase Course

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	68.0	3,090	1,355	210,120	92,140	302,260
Base Course	m3	1200.0	4,244	2,310	5,092,800	2,772,000	7,864,800
Shoulder	m2	20000.0	284	146	5,680,000	2,920,000	8,600,000
Asphalt Patching	m2	0.0	3,579	1,383	0	0	0
Surface Dressing (Single)	m2	0.0	636	595	0	0	0
Surface Dressing (Double)	m2	0.0	784	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 80cm	m	16.0	44,401	43,445	710,416	695,120	1,405,536
Masonry Culvert (80x80cm)	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	6.4	39,102	11,915	250,252	76,256	326,508
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	2,966,906	416,436	3,383,342
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					14,910,494	6,971,952	21,882,446
Overhead (15%)					2,236,574	1,045,792	3,282,366
TOTAL COST					17,147,068	8,017,744	25,164,812

Manual routine maintenance of road	Km	5.0	133,276	7,260	666,380	36,300	702,680
Routine maintenance of gravel road	Km	5.0	183,596	88,384	917,930	441,920	1,359,850
Sub Total					1,584,310	478,220	2,062,530
Maintenance of Timber Bridge (New)	m2	16.0	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost	(Rp/Km)	:	4,254,794
Timber Bridge Unit Cost	(Rp/m2)	:	243,178
Concrete Bridge Unit Cost	(Rp/m2)	:	
Survived Value	(Rp)	:	120,904
Maintenance Rate without Bridge	(%)	:	9.70
New Bridge Cost Rate	(%)	:	15.46

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 6 (IID-1) LENGTH : 2 Km

UPGRADE : 8.0m road bed, 4.0m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Site Clearance in Light Bush	m2	0.0	159	91	0	0	0
Subgrade Preparation	m2	0.0	20	11	0	0	0
Normal Fill	m3	0.0	1,631	866	0	0	0
Fill in Swamp	m3	0.0	2,429	1,058	0	0	0
Normal Excavation to Spoil	m3	0.0	959	525	0	0	0
Sub Base Course	m3	0.0	3,090	1,355	0	0	0
Base Course	m3	0.0	4,244	2,310	0	0	0
Shoulder	m2	8000.0	284	146	2,272,000	1,168,000	3,440,000
Asphalt Patching	m2	309.0	3,579	1,383	1,105,911	427,347	1,533,258
Surface Dressing (Single)	m2	8000.0	636	595	5,088,000	4,760,000	9,848,000
Surface Dressing (Double)	m2	0.0	781	936	0	0	0
Earth Drain	m	0.0	834	120	0	0	0
Earth Drain in Swamp (by machine)	m3	0.0	1,144	476	0	0	0
Pipe Culvert 800cm	m	0.0	44,401	43,445	0	0	0
Masonry Culvert 180x80cm	m	0.0	55,358	37,949	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	12,615	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	39,102	11,915	0	0	0
Gabion Protection	m3	0.0	8,729	121	0	0	0
New Bridge (Timber)	SET	1.0	--	--	0	0	0
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
Sub Total					8,465,911	6,355,347	14,821,258
Overhead ( 15% )					1,269,886	953,302	2,223,188
TOTAL COST					9,735,797	7,308,649	17,044,446

Manual routine maintenance of road	Km	2.0	133,276	7,260	266,552	14,520	281,072
Routine maintenance of asphalt road	Km	2.0	357,900	138,300	715,800	276,600	992,400
Sub Total					982,352	291,120	1,273,472
Maintenance of Timber Bridge (New)	m2	0.0	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.0	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	24.0	7,648	2,462	183,552	59,088	242,640
Maintenance of Concrete Bridge (Exist)	m2	0.0	3,919	2,404	0	0	0

Earthwork & Pavement Unit Cost	(Rp/Km)	:	8,522,223
Timber Bridge Unit Cost	(Rp/m2)	:	
Concrete Bridge Unit Cost	(Rp/m2)	:	
Survived Value	(Rp)	:	0
Maintenance Rate without Bridge	(%)	:	7.47
New Bridge Cost Rate	(%)	:	

## Appendix A-4

CONSTRUCTION AND MAINTENANCE QUANTITIES  
FOR ALL PROPOSED ROAD LINKS  
(CONSTRUCTION)

PROV : SULAWESI TENGGARA KAD : MUNA

ITEM	UNIT	< 1988 >	< 1989 >	< 1990 >	< 1991 >	< 1992 >	< TOTAL >
<b>EQUIPMENT :</b>							
Bulldozer/Ripper	hr	275.1	508.5	768.0	1403.4	1027.8	3982.0
Swamp Bulldozer	hr	1.4	0.9	12.9	60.2	160.2	235.6
Motor Grader	hr	757.4	1532.7	2066.8	2294.1	2509.6	9160.6
Hand-guide Vib. Roller	hr	215.9	242.6	524.9	923.7	379.3	2286.4
Tire Roller	hr	366.6	783.3	549.9	0.0	0.0	1699.8
Vibratory Roller (D&I)	hr	570.6	1185.1	1575.0	1804.7	2245.2	7380.6
Hydraulic Excavator; Wheel	hr	8.1	5.4	45.0	420.9	231.7	711.1
Wheel Loader	hr	881.4	1803.1	2322.6	3000.8	2743.0	10750.9
Water Tank Truck	hr	334.3	741.1	919.1	1011.1	1334.2	4339.8
Dump Truck	hr	6786.0	14883.1	17943.1	24627.5	25505.3	89745.0
Flat Bed Truck with Crane	hr	116.6	253.1	423.9	972.1	532.2	2297.9
Flat Bed Truck	hr	496.5	1015.4	837.3	310.0	126.7	2785.9
Portable Crusher/Screening	hr	181.5	377.5	426.1	305.5	111.1	1401.7
Concrete Mixer	hr	0.1	0.3	13.7	8.1	0.9	23.1
Water Pump	hr	0.1	0.3	12.4	7.7	0.9	21.4
Concrete Vibrator	hr	0.1	0.3	9.9	7.0	0.9	18.2
Asphalt Sprayer	hr	366.6	783.3	549.9	0.0	0.0	1699.8
<b>LABOUR :</b>							
Mandur	man day	618.9	1470.6	1700.9	3246.6	2656.5	9693.5
Skilled Labourer	man day	1288.7	2718.3	3699.6	8364.2	4682.1	20752.9
Carpenter	man day	555.2	1203.8	1789.6	4490.3	2525.5	10564.4
Mason	man day	0.0	0.0	6.4	1.9	0.0	8.3
Labourer	man day	4943.1	14309.1	13105.9	29197.7	27261.2	88817.0
Driver	man day	1401.4	3078.0	3581.9	4819.1	4854.1	17734.5
Operator	man day	743.6	1475.9	1937.5	2303.7	2076.4	8537.1
<b>MATERIAL :</b>							
Bitumen	l	75583.7	160731.8	112749.9	0.0	0.0	349065.4
Asphalt Oil	l	15033.3	32116.6	22550.0	0.0	0.0	69699.9
Kerosene	l	18012.9	38399.8	26949.9	0.0	0.0	83362.6
Sand	m <sup>3</sup>	228.5	474.3	380.9	34.3	4.5	1122.5
Cement	bag	2.5	5.0	147.4	104.1	13.5	272.5
River Stone	m <sup>3</sup>	0.0	0.0	6.4	1.9	0.0	8.3
Steel Moulds	set	1.0	2.0	58.0	39.6	5.4	106.0
Timber	m <sup>3</sup>	50.3	109.2	162.3	407.9	229.5	959.2
Paint	l	376.5	742.8	1172.0	2767.8	1487.0	6546.1
Reinforcing Steel	kg	31.9	63.8	1850.2	1292.5	172.2	3410.6
Tying Wire	kg	0.2	0.5	16.8	11.6	1.5	30.6
Equivalent Royalty	m <sup>3</sup>	12816.3	27731.2	33580.2	37655.5	46877.1	158660.3



CONSTRUCTION AND MAINTENANCE QUANTITIES  
FOR ALL PROPOSED ROAD LINKS  
(MAINTENANCE)

PROV : SULAWESI TENGGARA      KAB : MUNA

ITEM	UNIT	< 1988 >	< 1989 >	< 1990 >	< 1991 >	< 1992 >	< TOTAL >
<b>EQUIPMENT :</b>							
Bulldozer/Ripper	hr	0.0	0.0	0.0	0.0	0.0	0.0
Swamp Bulldozer	hr	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader	hr	285.6	568.7	566.5	654.7	882.0	2957.5
Hand-guide Vib. Roller	hr	30.0	75.0	420.0	810.0	810.0	2145.0
Tire Roller	hr	285.6	568.7	566.5	654.7	882.0	2957.5
Vibratory Roller (D&T)	hr	0.0	0.0	0.0	0.0	0.0	0.0
Hydraulic Excavator; Wheel	hr	0.0	0.0	0.0	0.0	0.0	0.0
Wheel Loader	hr	83.6	173.3	212.0	281.2	361.4	1111.5
Water Tank Truck	hr	0.0	0.0	0.0	0.0	0.0	0.0
Dump Truck	hr	562.3	1190.4	2112.3	3307.0	3788.3	10960.3
Flat Bed Truck with Crane	hr	892.2	1683.1	1706.2	1990.2	2557.5	8829.2
Flat Bed Truck	hr	1089.6	2176.8	2432.6	3060.8	3894.1	12653.9
Portable Crusher/Screening	hr	41.8	86.7	106.8	142.1	182.2	559.6
Concrete Mixer	hr	0.2	0.5	0.5	0.5	0.5	2.2
Water Pump	hr	0.2	0.5	0.5	0.5	0.5	2.2
Concrete Vibrator	hr	0.2	0.5	0.5	0.5	0.5	2.2
Asphalt Sprayer	hr	0.0	0.0	0.0	0.0	0.0	0.0
<b>LABOUR :</b>							
Man day	man day	370.5	742.8	950.9	1319.4	1598.7	4982.3
Skilled Labourer	man day	247.2	476.2	712.6	1206.9	1397.7	4040.6
Carpenter	man day	121.7	228.4	231.8	357.6	460.0	1399.5
Mason	man day	0.0	0.0	0.0	0.0	0.0	0.0
Labourer	man day	4150.4	8353.3	10859.1	15003.9	18091.8	56458.5
Driver	man day	465.3	919.6	1120.4	1492.6	1834.7	5832.6
Operator	man day	123.1	247.5	259.9	312.8	415.3	1358.6
<b>MATERIAL :</b>							
Bitumen	l	270.0	675.0	3780.0	7290.0	7290.0	19305.0
Asphalt Oil	l	0.0	0.0	0.0	0.0	0.0	0.0
Kerosene	l	30.0	75.0	420.0	810.0	810.0	2145.0
Sand	m <sup>3</sup>	5.2	13.0	70.5	135.5	135.5	359.7
Cement	bag	4.1	8.3	8.3	8.3	8.3	37.3
River Stone	m <sup>3</sup>	0.0	0.0	0.0	0.0	0.0	0.0
Steel Moulds	set	0.0	0.0	0.0	0.0	0.0	0.0
Timber	m <sup>3</sup>	11.0	20.6	20.9	32.3	41.6	126.4
Paint	l	78.4	147.0	149.2	230.7	297.1	902.4
Reinforcing Steel	kg	21.5	43.0	43.0	43.0	43.0	193.5
Tying Wire	kg	0.1	0.3	0.3	0.3	0.3	1.3
Equivalent Royalty	m <sup>3</sup>	1186.5	2457.1	3005.4	3985.6	5121.9	15756.5

CONSTRUCTION AND MAINTENANCE QUANTITIES  
FOR ALL PROPOSED ROAD LINKS  
(TOTAL)

PROV : SULAWESI TENGGARA      KAB : MUNA

ITEM	UNIT	< 1988 >	< 1989 >	< 1990 >	< 1991 >	< 1992 >	< TOTAL >
<b>EQUIPMENT :</b>							
Bulldozer/Ripper	hr	275.1	508.5	768.0	1403.4	1027.8	3982.8
Swamp Bulldozer	hr	1.4	0.9	12.9	60.2	160.2	235.6
Motor Grader	hr	1043.0	2101.4	2633.3	2948.8	3391.6	12118.1
Hand-guide Vib. Roller	hr	245.9	317.6	944.9	1733.7	1189.3	4431.4
Tire Roller	hr	652.2	1352.0	1116.4	654.7	882.0	4657.3
Vibratory Roller (D&T)	hr	570.6	1185.1	1575.0	1804.7	2245.2	7380.6
Hydraulic Excavator; Wheel	hr	8.1	5.4	45.0	420.9	231.7	711.1
Wheel Loader	hr	965.0	1976.4	2534.6	3282.0	3104.4	11862.4
Water Tank Truck	hr	334.3	741.1	919.1	1011.1	1334.2	4339.8
Dump Truck	hr	7348.3	16073.5	20055.4	27934.5	29293.6	100705.3
Flat Bed Truck with Crane	hr	1008.8	1936.2	2130.1	2962.3	3089.7	11127.1
Flat Bed Truck	hr	1586.1	3192.2	3269.9	3370.8	4020.8	15439.8
Portable Crusher/Screening	hr	223.3	464.2	532.9	447.6	293.3	1961.3
Concrete Mixer	hr	0.3	0.8	14.2	8.6	1.4	25.3
Water Pump	hr	0.3	0.8	12.9	8.2	1.4	23.6
Concrete Vibrator	hr	0.3	0.8	10.4	7.5	1.4	20.4
Asphalt Sprayer	hr	366.6	783.3	549.9	0.0	0.0	1699.8
<b>LABOUR :</b>							
Mandur	man day	989.4	2213.4	2651.8	4566.0	4255.2	14675.8
Skilled Labourer	man day	1535.9	3194.5	4412.2	9571.1	6079.8	24793.5
Carpenter	man day	676.9	1432.2	2021.4	4847.9	2985.5	11963.9
Mason	man day	0.0	0.0	6.4	1.9	0.0	8.3
Labourer	man day	9093.5	22662.4	23965.0	44201.6	45353.0	145275.5
Driver	man day	1866.7	3997.6	4702.3	6311.7	6688.8	23567.1
Operator	man day	866.7	1723.4	2197.4	2616.5	2491.7	9895.7
<b>MATERIAL :</b>							
Bitumen	l	75853.7	161406.8	116529.9	7290.0	7290.0	368370.4
Asphalt Oil	l	15033.3	32116.6	22550.0	0.0	0.0	69699.9
Kerosene	l	18042.9	38474.8	27369.9	810.0	810.0	85507.6
Sand	m3	233.7	487.3	451.4	169.8	140.0	1482.2
Cement	bag	6.6	13.3	155.7	112.4	21.8	309.8
River Stone	m3	0.0	0.0	6.4	1.9	0.0	8.3
Steel Moulds	set	1.0	2.0	58.0	39.6	5.4	106.0
Timber	m3	61.3	129.8	183.2	440.2	271.1	1085.6
Paint	l	454.9	889.8	1321.2	2998.5	1784.1	7448.5
Reinforcing Steel	kg	53.4	106.8	1893.2	1335.5	215.2	3604.1
Tying Wire	kg	0.3	0.8	17.1	11.9	1.8	31.9
Equivalent Royalty	m3	14002.8	30188.3	36585.6	41641.1	51999.0	174416.8

## Appendix A-5

CONSTRUCTION AND MAINTENANCE COSTS  
FOR ALL PROPOSED ROAD LINKS  
(CONSTRUCTION)

PROV : SULAWESI TENGGARA

KAB : MUNA

( 1000 Rp )

ITEM	UNIT	< 1988 >	< 1989 >	< 1990 >	< 1991 >	< 1992 >	< TOTAL >
<b>EQUIPMENT :</b>		86,991	182,976	223,754	281,309	269,489	1,044,519
Bulldozer/Ripper	15846	4,359	8,057	12,169	22,238	16,286	63,109
Swamp Bulldozer	11671	16	10	150	702	1,869	2,747
Motor Grader	13548	10,261	20,765	28,001	31,080	34,000	124,107
Hand-guide Vib. Roller	1617	349	392	848	1,493	613	3,695
Tire Roller	10682	3,916	8,367	5,874	0	0	18,157
Vibratory Roller (D&I)	6770	3,862	8,023	10,662	12,217	15,200	49,964
Hydraulic Excavator; Wheel	12651	102	68	569	5,324	2,931	8,994
Wheel Loader	16794	14,802	30,281	39,005	50,395	46,065	180,548
Water Tank Truck	3942	1,317	2,921	3,623	3,985	5,259	17,105
Dump Truck	5462	37,065	81,291	98,005	134,515	139,309	490,185
Flat Bed Truck with Crane	4994	582	1,263	2,116	4,854	2,657	11,472
Flat Bed Truck	3253	1,615	3,303	2,723	1,008	412	9,061
Portable Crusher/Screening	43926	7,972	16,582	18,716	13,419	4,880	61,569
Concrete Mixer	9183	0	2	125	74	8	209
Water Pump	486	0	0	6	3	0	9
Concrete Vibrator	312	0	0	3	2	0	5
Asphalt Sprayer	2109	773	1,651	1,159	0	0	3,583
<b>LABOUR :</b>		19,422	48,288	52,904	106,902	87,357	314,873
Mandur	2500	1,547	3,676	4,252	8,116	6,641	24,232
Skilled Labourer	2250	2,899	6,116	8,324	18,819	10,534	46,692
Carpenter	3000	1,665	3,611	5,368	13,470	7,576	31,690
Mason	3000	0	0	19	5	0	24
Labourer	1750	8,650	25,040	22,935	51,095	47,707	155,427
Driver	2000	2,802	6,156	7,163	9,638	9,708	35,467
Operator	2500	1,859	3,689	4,843	5,759	5,191	21,341
<b>MATERIAL :</b>		51,580	109,967	96,314	70,804	45,142	373,807
Bitumen	300	22,675	48,219	33,824	0	0	104,718
Asphalt Oil	800	12,026	25,693	18,040	0	0	55,759
Kerosene	250	4,503	9,599	6,737	0	0	20,839
Sand	7500	1,713	3,557	2,856	257	33	8,416
Cement	5000	12	25	737	520	67	1,361
River Stone	3500	0	0	22	6	0	28
Steel Moulds	8500	8	17	493	336	45	899
Timber	125000	6,287	13,650	20,287	50,987	28,687	119,898
Paint	3000	1,129	2,228	3,516	8,303	4,461	19,637
Reinforcing Steel	750	23	47	1,387	969	129	2,555
Tying Wire	1200	0	0	20	13	1	34
Equivalent Royalty	250	3,204	6,932	8,395	9,413	11,719	39,663

CONSTRUCTION AND MAINTENANCE COSTS  
FOR ALL PROPOSED ROAD LINKS  
(MAINTENANCE)

PROV : SULAWESI TENGGARA

KAB : MUNA

( 1000 Rp )

ITEM	UNIT	< 1988 >	< 1989 >	< 1990 >	< 1991 >	< 1992 >	< TOTAL >
<b>EQUIPMENT :</b>		21,277	42,608	50,629	66,095	82,885	263,494
Bulldozer/Ripper	15846	0	0	0	0	0	0
Swamp Bulldozer	11671	0	0	0	0	0	0
Motor Grader	13548	3,869	7,704	7,674	8,869	11,949	40,065
Hand-guide Vib. Roller	1617	48	121	679	1,309	1,309	3,466
Tire Roller	10682	3,050	6,074	6,051	6,993	9,421	31,589
Vibratory Roller (D&T)	6770	0	0	0	0	0	0
Hydraulic Excavator; Wheel	12651	0	0	0	0	0	0
Wheel Loader	16794	1,403	2,910	3,560	4,722	6,069	18,664
Water Tank Truck	3942	0	0	0	0	0	0
Dump Truck	5462	3,071	6,501	11,537	18,062	20,691	59,862
Flat Bed Truck with Crane	4994	4,455	8,405	8,520	9,939	12,772	44,091
Flat Bed Truck	3253	3,544	7,081	7,913	9,956	12,667	41,161
Portable Crusher/Screening	43926	1,836	3,808	4,691	6,241	8,003	24,579
Concrete Mixer	9183	1	4	4	4	4	17
Water Pump	486	0	0	0	0	0	0
Concrete Vibrator	312	0	0	0	0	0	0
Asphalt Sprayer	2109	0	0	0	0	0	0
<b>LABOUR :</b>		10,347	20,688	26,567	37,108	44,887	139,597
Handur	2500	926	1,857	2,377	3,298	3,996	12,454
Skilled Labourer	2250	556	1,071	1,603	2,715	3,144	9,089
Carpenter	3000	365	685	695	1,072	1,380	4,197
Mason	3000	0	0	0	0	0	0
Labourer	1750	7,263	14,618	19,003	26,256	31,660	98,800
Driver	2000	930	1,839	2,240	2,985	3,669	11,663
Operator	2500	307	618	649	782	1,038	3,394
<b>MATERIAL :</b>		2,069	4,020	5,650	9,203	10,849	31,791
Bitumen	300	81	202	1,134	2,187	2,187	5,791
Asphalt Oil	800	0	0	0	0	0	0
Kerosene	250	7	18	105	202	202	534
Sand	7500	39	97	528	1,016	1,016	2,696
Cement	5000	20	41	41	41	41	184
River Stone	3500	0	0	0	0	0	0
Steel Moulds	8500	0	0	0	0	0	0
Timber	125000	1,375	2,575	2,612	4,037	5,200	15,799
Paint	3000	235	441	447	692	891	2,706
Reinforcing Steel	750	16	32	32	32	32	144
Tying Wire	1200	0	0	0	0	0	0
Equivalent Royalty	250	296	614	751	996	1,280	3,937

CONSTRUCTION AND MAINTENANCE COSTS  
FOR ALL PROPOSED ROAD LINKS  
(TOTAL)

PROV : SULAWESI TENGGARA

KAB : MUNA

( 1000 Rp )

ITEM	UNIT	< 1988 >	< 1989 >	< 1990 >	< 1991 >	< 1992 >	< TOTAL >
<b>EQUIPMENT :</b>		108,268	225,584	274,383	347,404	352,374	1,308,013
Bulldozer/Ripper	15846	4,359	8,057	12,169	22,238	16,286	63,109
Swamp Bulldozer	11671	16	10	150	702	1,869	2,747
Motor Grader	13548	14,130	28,469	35,675	39,949	45,949	164,172
Hand-guide Vib. Roller	1617	397	513	1,527	2,802	1,922	7,161
Tire Roller	10682	6,966	14,441	11,925	6,993	9,421	49,746
Vibratory Roller (D&T)	6770	3,862	8,023	10,662	12,217	15,200	49,964
Hydraulic Excavator; Wheel	12651	102	69	569	5,324	2,931	8,994
Wheel Loader	16794	16,205	33,191	42,565	55,117	52,134	199,212
Water Tank Truck	3942	1,317	2,921	3,623	3,985	5,259	17,105
Dump Truck	5462	40,136	87,792	109,542	152,577	160,000	550,047
Flat Bed Truck with Crane	4994	5,037	9,668	10,636	14,793	15,429	55,563
Flat Bed Truck	3253	5,159	10,384	10,636	10,964	13,079	50,222
Portable Crusher/Screening	43926	9,808	20,390	23,407	19,660	12,883	86,148
Concrete Mixer	9183	1	6	129	78	12	226
Water Pump	486	0	0	6	3	0	9
Concrete Vibrator	312	0	0	3	2	0	5
Asphalt Sprayer	2109	773	1,651	1,159	0	0	3,583
<b>LABOUR :</b>		29,769	68,976	79,471	144,010	132,244	454,470
Handur	2500	2,473	5,533	6,629	11,414	10,637	36,686
Skilled Labourer	2250	3,455	7,187	9,927	21,534	13,678	55,781
Carpenter	3000	2,030	4,296	6,063	14,542	8,956	35,887
Mason	3000	0	0	19	5	0	24
Labourer	1750	15,913	39,658	41,938	77,351	79,367	254,227
Driver	2000	3,732	7,995	9,403	12,623	13,377	47,130
Operator	2500	2,166	4,307	5,492	6,541	6,229	24,735
<b>MATERIAL :</b>		53,649	113,987	101,964	80,007	55,991	405,598
Bitumen	300	22,756	48,421	34,958	2,187	2,187	110,509
Asphalt Oil	800	12,026	25,693	18,040	0	0	55,759
Kerosene	250	4,510	9,617	6,842	202	202	21,373
Sand	7500	1,752	3,654	3,384	1,273	1,049	11,112
Cement	5000	32	66	778	561	108	1,545
River Stone	3500	0	0	22	6	0	28
Steel Moulds	8500	8	17	493	336	45	899
Timber	125000	7,662	16,225	22,899	55,024	33,887	135,697
Paint	3000	1,364	2,669	3,963	8,995	5,352	22,343
Reinforcing Steel	750	39	79	1,419	1,001	161	2,699
Tying Wire	1200	0	0	20	13	1	34
Equivalent Royalty	250	3,500	7,546	9,146	10,409	12,999	43,600

## Appendix A-6

## QUANTITIES OF BRIDGE ON PROPOSED ROAD LINKS

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO	BRIDGE NAME	Km From	<< TYPE >>		DESIGN	SPAN	LENGTH	SPAN NO	SPAN LENGTH	WIDTH	AREA (EXIST)	AREA (NEW)	PIER	ABUT	ROAD CLASS
			(EXIST)	(NEW)	LOAD	CLASS	(m)	(no)	(m)	(m)	(m2)	(m2)	(no)	(no)	
60	DALIMUSA	1	RUTA	KK			10.00	1	10.00	4.00	40.00		0	2	IIIC
	DONGKALA	4	RUTA	KK			10.00	1	10.00	4.00	40.00		0	2	
	KANARI	4	RUTA	KK			7.00	1	7.00	4.00	28.00		0	2	
	LA TIMBERA	6	RUTA	KK			8.00	1	8.00	4.00	32.00		0	2	
	LA OCU	9	RUTA	KK			25.00	5	5.00	4.00	100.00		4	2	
	TALENBE	10	RUTA	KK			10.00	2	5.00	4.00	40.00		1	2	
	TATALA	12	RUTA	KK			10.00	2	5.00	4.00	40.00		1	2	
	WA CUBULU	14	RUTA	KK			10.00	2	5.00	4.00	40.00		1	2	
	CICQOCI	17	RUTA	KK			8.00	1	8.00	4.00	32.00		0	2	
	REE	17	RUTA	KK			8.00	1	8.00	4.00	32.00		0	2	
61	GUU	18	RUTA	KK			10.00	2	5.00	4.00	40.00		1	2	IIIC
	LANGKUNBE	1	LGKG	--	TM	10T (C)	65.00	9	7.22	4.00	0.00	260.00	8	2	
	KULTIPERANGKA	2	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	LANGKALORA	5	LGKG	--	TM	10T (C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
	LABOKED	5	LGKG	--	TM	10T (B)	5.00	1	5.00	4.00	0.00	20.00	0	2	
	LAMARANGI	6	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	ULECUHUNBU	7	LGKG	--	TM	10T (C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
	LAEA	7	LGKG	--	TM	10T (C)	24.00	3	8.00	4.00	0.00	96.00	2	2	
	PEMBULU MENEHA	9	LGKG	--	TM	10T (C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
	LAMENSOU	10	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	LAMPANGI	11	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	LAUBE	13	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	ALIARA	14	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	TENDUAWADI	14	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	BETANU	15	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	SAPENU	16	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	LA KAKBU	16	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	EKONCUCU	18	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	PESALU	18	LGKG	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
62	LA-EA	4	ERBE	KK	TK	10T (C)	8.00	1	8.00	4.00	32.00	32.00	0	2	IIIC
	EEDUBU	5	ERBE	--	TM	10T (C)	12.00	2	6.00	4.00	0.00	48.00	1	2	
	SALONSA	6	ERBE	--	TM	10T (B)	10.00	2	5.00	4.00	0.00	40.00	1	2	
	LA-MENSORO	7	ERBE	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	MUNDUKO	8	ERBE	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	CBA. BARIKI	8	ERBE	--	TM	10T (C)	8.00	1	8.00	4.00	0.00	32.00	0	2	

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO	BRIDGE NAME	Km	From	<< TYPE >>		DESIGN	SPAN	LENGTH	SPAN	SPAN	WIDTH	AREA	AREA	PIER	ABUT	ROAD
				(EXIST)	(NEW)	LOAD	CLASS	(m)	NO	LENGTH	(m)	(m2)	(m2)	(no)	(no)	CLASS
6	KAPODO	1	KPOD	KK				6.00	3	2.00	4.00	24.00		2	2	IIIB-1
17	N.I	2	LSSR	--	TH	10T	(B)	4.00	1	4.00	4.00	0.00	16.00	0	2	IIIC
18	N.I	2	BHTR	--	TH	10T	(B)	4.00	1	4.00	4.00	0.00	16.00	0	2	IIIC
19	N.I	2	LHRD	--	TH	10T	(B)	4.00	1	4.00	4.00	0.00	16.00	0	2	IIIC
21	N.I	5	HI	KK				6.00	3	2.00	4.00	24.00		2	2	IIIC
22	N.I	2	WKRU	--	TH	10T	(B)	4.00	1	4.00	4.00	0.00	16.00	0	2	IIIC
25	DENSORIRI	5	N.I	KK				10.00	3	3.33	6.00	60.00		2	2	IIIC
	LANEAU	7	N.I	KK				11.00	3	3.67	6.00	66.00		2	2	
28	MORUNDU	3	KMBR	KK				4.00	1	4.00	4.00	16.00		0	2	IIIB-2
	MORUNDU I	3	KMBR	KK				4.00	1	4.00	4.00	16.00		0	2	
	WAPAE	6	KMBR	KK				6.00	1	6.00	4.00	24.00		0	2	
32	BORUMBE	6	TMPO	--	TH	10T	(B)	9.00	2	4.50	4.00	0.00	36.00	1	2	IIIB-1
	TOLIMBO	14	TMPO	--	TH	10T	(B)	10.00	2	5.00	4.00	0.00	40.00	1	2	
34	KANATAMATA	1	DSSH	KK				5.00	3	1.67	4.00	20.00		2	2	IIIB-1
	KONTU	2	DSSH	KK				6.00	3	2.00	4.00	24.00		2	2	
	GUALI	3	DSSH	KK				9.00	4	2.25	4.00	36.00		3	2	
	KOMBODU	6	DSSH	--	TH	10T	(A)	3.00	1	3.00	4.00	0.00	12.00	0	2	
	LONABU	8	DSSH	--	TH	10T	(B)	12.00	2	6.00	4.00	0.00	48.00	1	2	
	WADAHU I	10	DSSH	--	TH	10T	(C)	4.00	1	4.00	4.00	0.00	16.00	0	2	
	WADAHU II	12	DSSH	--	TH	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
	WADANA	14	DSSH	--	TH	10T	(A)	3.00	1	3.00	4.00	0.00	12.00	0	2	
	WATUMPE	15	DSSH	--	TH	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
36	BONE BONE	3	WPAE	KK	TH	10T	(B)	36.00	8	4.50	4.00	144.00	144.00	7	2	IIIB-1
	WANSERIMU	5	WPAE	KK				28.00	7	4.00	4.00	112.00		6	2	
37	LANGKU-LANGKU	1	WPAE	KK				10.00	4	2.50	4.00	40.00		3	2	IIIB-1
	KATANGANA I	7	WPAE	KK				7.00	2	3.50	4.00	28.00		1	2	
38	LANEOLU	2	KTGN	KK				5.00	1	5.00	4.00	20.00		0	2	IIIB-2
39	KATANGANA	1	KTGN	KK				35.00	6	5.83	4.00	140.00		5	2	IIIB-2
49	LBN. BELANDA II	1	LBB	--	TH	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	IIIC
	WAMORAPA	2	LBB	--	TH	10T	(C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	LBN. DOLIO	4	LBB	--	TH	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
	LABUKO	7	LBB	--	TH	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
50	KORA-KORA	1	LSWA	--	TH	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	IIIC
	WALUE	2	LSWA	--	TH	10T	(C)	40.00	5	8.00	4.00	0.00	160.00	4	2	
	LAYA	4	LSWA	--	TH	10T	(C)	50.00	7	7.14	4.00	0.00	200.00	6	2	
	LAANAKAPATA	5	LSWA	--	TH	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	

## Appendix A-7

CONSTRUCTION AND MAINTENANCE COST OF BRIDGES  
ON PROPOSED ROAD LINKS

PROV : SULAWESI TENGGARA KAU : MUNA

LINK NO : 6 (IIIB-1) LENGTH : 2 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; 10T)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; 10T)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8m; 10T)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3m; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 10T)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; 10T)	NO	0.00	1,079,749	172,146	0	0	0
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	24.00	7,648	2,462	183,552	59,088	242,640
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )		TOTAL COST (Timber Bridge)		0	0	0	
		(Concrete Bridge)		0	0	0	
		TOTAL COST (without Maintenance)		0	0	0	
( Overhead : 15% )		TOTAL COST (Timber Bridge)		0	0	0	
		(Concrete Bridge)		0	0	0	
		TOTAL COST (without Maintenance)		0	0	0	



PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 17 (IIIC) LENGTH : 5 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber;Span 3m;TOT)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber;Span 5m;TOT)	m2	16.00	50,463	4,509	807,408	72,144	879,552
Superstructure (Timber;Span 8m;TOT)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber;Span 3m;BH50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber;Span 5m;BH50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber;Span 8m;BH50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete;Span 3m;BH50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete;Span 5m;BH50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete;Span 8m;BH50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete;Span10m;BH50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete;Span15m;BH50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier;for Timber;TOT)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut;for Timber;TOT)	NO	2.00	1,079,749	172,146	2,159,498	344,292	2,503,790
Substructure (Pier;for Timber;BH50)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut;for Timber;BH50)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier;for Concrete;BH50)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut;for Concrete;BH50)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	16.00	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		2,966,906	416,436	3,383,342
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		2,966,906	416,436	3,383,342
( Overhead : 15% )			TOTAL COST (Timber Bridge)		3,411,942	478,901	3,890,843
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		3,411,942	478,901	3,890,843

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 10 (IIC) LENGTH : 4 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL FOREIGN	<<<<< COST >>>>> LOCAL FOREIGN TOTAL			
Superstructure (Timber;Span 3a;101)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber;Span 5a;101)	m2	16.00	50,463	4,509	807,408	72,144	879,552
Superstructure (Timber;Span 8a;101)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber;Span 3a;BH50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber;Span 5a;BH50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber;Span 8a;BH50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete;Span 3a;BH50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete;Span 5a;BH50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete;Span 8a;BH50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete;Span10a;BH50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete;Span15a;BH50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier;for Timber;101)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut;for Timber;101)	NO	2.00	1,079,749	172,146	2,159,498	344,292	2,503,790
Substructure (Pier;for Timber;BH50)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut;for Timber;BH50)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier;for Concrete;BH50)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut;for Concrete;BH50)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	16.00	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )	TOTAL COST (Timber Bridge)		2,966,906		416,436	3,383,342	
	(Concrete Bridge)		0		0	0	
	TOTAL COST (without Maintenance)		2,966,906		416,436	3,383,342	
( Overhead : 15% )	TOTAL COST (Timber Bridge)		3,411,942		478,901	3,890,843	
	(Concrete Bridge)		0		0	0	
	TOTAL COST (without Maintenance)		3,411,942		478,901	3,890,843	

PROV : SULAWESI TENGGARA KAB : MUNA

LINE NO : 19 (LUC) LENGTH : 6 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; 10T)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; 10T)	m2	16.00	50,463	4,509	807,408	72,144	879,552
Superstructure (Timber; Span 8m; 10T)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3m; BH50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BH50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BH50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BH50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BH50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BH50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BH50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BH50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 10T)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; 10T)	NO	2.00	1,079,749	172,146	2,159,498	344,292	2,503,790
Substructure (Pier; for Timber; BH50)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BH50)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BH50)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BH50)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	16.00	8,201	1,233	131,216	19,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		2,966,906	416,436	3,383,342
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		2,966,906	416,436	3,383,342
( Overhead : 15% )			TOTAL COST (Timber Bridge)		3,411,942	478,901	3,890,843
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		3,411,942	478,901	3,890,843

PROV : SULAWESI TENGGARA KAD : MUNA

LINE NO : 21 (IIC) LENGTH : 7 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3a; IOT)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5a; IOT)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8a; IOT)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3a; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5a; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8a; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3a; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5a; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8a; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10a; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15a; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; IOT)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; IOT)	NO	0.00	1,079,749	172,146	0	0	0
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	24.00	7,648	2,462	183,552	59,088	242,640
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
<hr/>							
( Without Overhead )		TOTAL COST (Timber Bridge)			0	0	0
		(Concrete Bridge)			0	0	0
		TOTAL COST (without Maintenance)			0	0	0
<hr/>							
( Overhead : 15% )		TOTAL COST (Timber Bridge)			0	0	0
		(Concrete Bridge)			0	0	0
		TOTAL COST (without Maintenance)			0	0	0

PROV : SULAWESI TENGGARA KAB : MUNA

LINE NO : 22 (IIC) LENGTH : 10 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3a; 101)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5a; 101)	m2	16.00	50,463	4,509	807,408	72,144	879,552
Superstructure (Timber; Span 8a; 101)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3a; RH50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5a; RH50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8a; RH50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3a; RH50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5a; RH50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8a; RH50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10a; RH50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15a; RH50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 101)	N0	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; 101)	N0	2.00	1,079,749	172,146	2,159,498	344,292	2,503,790
Substructure (Pier; for Timber; RH50)	N0	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; RH50)	N0	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; RH50)	N0	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; RH50)	N0	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	16.00	8,201	1,233	131,216	17,728	150,944
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		2,966,906	416,436	3,383,342
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		2,966,906	416,436	3,383,342
( Overhead : 15% )			TOTAL COST (Timber Bridge)		3,411,942	478,901	3,890,843
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		3,411,942	478,901	3,890,843

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 25 (IITC) LENGTH : 17 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>	<<<<< COST >>>>>	>>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Superstructure (Timber; Span 3m; IOT)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; IOT)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8m; IOT)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3m; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; IOT)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; IOT)	NO	0.00	1,079,749	172,146	0	0	0
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	126.00	7,648	2,462	963,648	310,212	1,273,860
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
<hr/>							
( Without Overhead )	TOTAL COST (Timber Bridge)				0	0	0
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				0	0	0
<hr/>							
( Overhead : 15% )	TOTAL COST (Timber Bridge)				0	0	0
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				0	0	0

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 29 (L1B-2) LENGTH : 6 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; IOT)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; IOT)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8m; IOT)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3m; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; IOT)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; IOT)	NO	0.00	1,079,749	172,146	0	0	0
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	56.00	7,648	2,462	428,288	137,872	566,160
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0
( Overhead : 15% )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 32 (IIIB-1) LENGTH : 19 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL FOREIGN	<<<<<< LOCAL	COST FOREIGN	>>>>>> TOTAL
Superstructure (Timber; Span 3m; 10T)	m2	0.00	45,559	4,084	0	0
Superstructure (Timber; Span 5m; 10T)	m2	76.00	50,463	4,509	3,835,188	342,684
Superstructure (Timber; Span 8m; 10T)	m2	0.00	66,841	5,922	0	0
Superstructure (Timber; Span 3m; BHSO)	m2	0.00	56,491	5,049	0	0
Superstructure (Timber; Span 5m; BHSO)	m2	0.00	61,673	5,471	0	0
Superstructure (Timber; Span 8m; BHSO)	m2	0.00	78,217	6,925	0	0
Superstructure (Concrete; Span 3m; BHSO)	m2	0.00	50,846	87,433	0	0
Superstructure (Concrete; Span 5m; BHSO)	m2	0.00	52,182	97,542	0	0
Superstructure (Concrete; Span 8m; BHSO)	m2	0.00	53,726	106,148	0	0
Superstructure (Concrete; Span 10m; BHSO)	m2	0.00	58,730	120,400	0	0
Superstructure (Concrete; Span 15m; BHSO)	m2	0.00	63,247	141,625	0	0
Substructure (Pier; for Timber; 10T)	NO	2.00	396,853	37,996	793,706	75,992
Substructure (Abut; for Timber; 10T)	NO	4.00	1,079,749	172,146	4,318,996	688,584
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0
Maintenance of Timber Bridge (New)	m2	76.00	8,201	1,233	623,276	93,708
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0
( Without Overhead )	TOTAL COST (Timber Bridge)		8,947,890		1,107,260	10,055,150
	(Concrete Bridge)		0		0	0
	TOTAL COST (without Maintenance)		8,947,890		1,107,260	10,055,150
( Overhead : 15% )	TOTAL COST (Timber Bridge)		10,290,074		1,273,349	11,563,423
	(Concrete Bridge)		0		0	0
	TOTAL COST (without Maintenance)		10,290,074		1,273,349	11,563,423



PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 34 (IIB-1) LENGTH : 15 Km

( Rp )

I T E M	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3a; IOT)	m2	24.00	43,559	4,084	1,093,416	98,016	1,191,432
Superstructure (Timber; Span 5a; IOT)	m2	16.00	50,463	4,509	807,408	72,144	879,552
Superstructure (Timber; Span 8a; IOT)	m2	96.00	66,841	5,922	6,416,736	568,512	6,985,248
Superstructure (Timber; Span 3a; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5a; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8a; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3a; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5a; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8a; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10a; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15a; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; IOT)	NO	1.00	396,853	37,996	396,853	37,996	434,849
Substructure (Abut; for Timber; IOT)	NO	12.00	1,079,749	172,146	12,956,988	2,065,752	15,022,740
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	136.00	9,201	1,233	1,115,336	167,688	1,283,024
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	80.00	7,648	2,462	611,840	196,960	808,800
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		21,671,401	2,842,420	24,513,821
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		21,671,401	2,842,420	24,513,821
( Overhead : 15% )			TOTAL COST (Timber Bridge)		24,922,111	3,268,783	28,190,894
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		24,922,111	3,268,783	28,190,894

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 36 (111B-1) LENGTH : 8 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		
			LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
Superstructure (Timber; Span 3m; IOT)	m2	0.00	45,559	1,084	0	0	0
Superstructure (Timber; Span 5m; IOT)	m2	144.00	50,463	1,509	7,266,672	649,296	7,915,968
Superstructure (Timber; Span 8m; IOT)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3m; BMSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BMSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BMSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BMSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BMSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BMSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BMSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BMSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; IOT)	NO	7.00	396,853	37,996	2,777,971	265,972	3,043,943
Substructure (Abut; for Timber; IOT)	NO	2.00	1,079,749	172,146	2,159,498	344,292	2,503,790
Substructure (Pier; for Timber; BMSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BMSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BMSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BMSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	144.00	12,605	1,552	1,815,120	223,488	2,038,608
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	144.00	8,201	1,233	1,180,944	177,552	1,358,496
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	112.00	7,648	2,462	856,576	275,744	1,132,320
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		14,019,261	1,483,048	15,502,309
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		14,019,261	1,483,048	15,502,309
( Overhead : 15% )			TOTAL COST (Timber Bridge)		16,122,150	1,705,505	17,827,655
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		16,122,150	1,705,505	17,827,655

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 37 (IIIIB-1) LENGTH : 7 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; 10T)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; 10T)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8m; 10T)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3m; BM50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BM50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BM50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BM50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BM50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BM50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BM50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BM50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 10T)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; 10T)	NO	0.00	1,079,749	172,146	0	0	0
Substructure (Pier; for Timber; BM50)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BM50)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BM50)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BM50)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	68.00	7,648	2,462	520,064	167,416	687,480
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0
( Overhead : 15% )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0

LENGTH : 4 Km

( Rb )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3a; 101)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5a; 101)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8a; 101)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber; Span 3a; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5a; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8a; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3a; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5a; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8a; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10a; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15a; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 101)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; 101)	NO	0.00	1,079,749	172,146	0	0	0
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	20.00	7,648	2,462	152,960	49,240	202,200
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
<hr/>							
( Without Overhead )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0
<hr/>							
( Overhead : 15% )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 39 (IIB-2) LENGTH : 5 Km

( Rp )

I T E M	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber;Span 3m;10T)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber;Span 5m;10T)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	0.00	66,841	5,922	0	0	0
Superstructure (Timber;Span 3m;BMSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber;Span 5m;BMSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber;Span 8m;BMSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete;Span 3m;BMSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete;Span 5m;BMSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete;Span 8m;BMSO)	m2	0.00	53,726	108,148	0	0	0
Superstructure (Concrete;Span10m;BMSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete;Span15m;BMSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier;for Timber;10T)	N0	0.00	396,853	37,996	0	0	0
Substructure (Abut;for Timber;10T)	N0	0.00	1,079,749	172,146	0	0	0
Substructure (Pier;for Timber;BMSO)	N0	0.00	583,653	56,242	0	0	0
Substructure (Abut;for Timber;BMSO)	N0	0.00	1,220,647	192,243	0	0	0
Substructure (Pier;for Concrete;BMSO)	N0	0.00	1,540,360	478,596	0	0	0
Substructure (Abut;for Concrete;BMSO)	N0	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	140.00	7,648	2,462	1,070,720	344,680	1,415,400
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0
( Overhead : 15% )			TOTAL COST (Timber Bridge)		0	0	0
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		0	0	0

PROV : SULAWESI TENGGARA KAD : MUNA  
 LINK NO : 49 (IIIC) LENGTH : 7 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; 101)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; 101)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber; Span 8m; 101)	m2	108.00	66,841	5,922	7,218,828	639,576	7,858,404
Superstructure (Timber; Span 3m; BH50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BH50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BH50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BH50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BH50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BH50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BH50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BH50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 101)	NO	0.00	396,853	37,996	0	0	0
Substructure (Abut; for Timber; 101)	NO	8.00	1,079,749	172,146	8,637,992	1,377,168	10,015,160
Substructure (Pier; for Timber; BH50)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BH50)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BH50)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BH50)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	108.00	8,201	1,233	885,708	133,164	1,018,872
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		15,856,820	2,016,744	17,873,564
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		15,856,820	2,016,744	17,873,564
( Overhead : 15% )			TOTAL COST (Timber Bridge)		18,235,343	2,319,256	20,554,599
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		18,235,343	2,319,256	20,554,599

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 50 (IIIC) LENGTH : 19 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber;Span 3m;10T)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber;Span 5m;10T)	m2	0.00	50,463	4,509	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	416.00	66,841	5,922	27,805,856	2,463,552	30,269,408
Superstructure (Timber;Span 3m;BM50)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete;Span 10m;BM50)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete;Span 15m;BM50)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier;for Timber;10T)	N0	10.00	396,853	37,996	3,968,530	379,960	4,348,490
Substructure (Abut;for Timber;10T)	N0	8.00	1,079,749	172,146	8,637,992	1,377,168	10,015,160
Substructure (Pier;for Timber;BM50)	N0	0.00	583,653	56,242	0	0	0
Substructure (Abut;for Timber;BM50)	N0	0.00	1,220,647	192,243	0	0	0
Substructure (Pier;for Concrete;BM50)	N0	0.00	1,540,360	478,596	0	0	0
Substructure (Abut;for Concrete;BM50)	N0	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	416.00	8,201	1,233	3,411,616	512,928	3,924,544
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		40,412,378	4,220,680	44,633,058
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		40,412,378	4,220,680	44,633,058
( Overhead : 15% )			TOTAL COST (Timber Bridge)		46,474,235	4,853,782	51,328,017
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		46,474,235	4,853,782	51,328,017

PROV : SULAWESI TENGGARA KAB : MUNA  
 LINK NO : 60 (IIIC) LENGTH : 19 Km

( Rp )

ITEM		UNIT	QUANTITY	<<< UNIT COST >>>	<<<<< COST >>>>>			
				LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
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Superstructure (Timber; Span 3m; IOT)	m2	0.00	45,559	4,084	0	0	0	0
Superstructure (Timber; Span 5m; IOT)	m2	0.00	50,463	4,509	0	0	0	0
Superstructure (Timber; Span 8m; IOT)	m2	0.00	66,841	5,922	0	0	0	0
Superstructure (Timber; Span 3m; BMSO)	m2	0.00	56,491	5,049	0	0	0	0
Superstructure (Timber; Span 5m; BMSO)	m2	0.00	61,673	5,471	0	0	0	0
Superstructure (Timber; Span 8m; BMSO)	m2	0.00	78,217	6,925	0	0	0	0
Superstructure (Concrete; Span 3m; BMSO)	m2	0.00	50,846	87,433	0	0	0	0
Superstructure (Concrete; Span 5m; BMSO)	m2	0.00	52,182	97,542	0	0	0	0
Superstructure (Concrete; Span 8m; BMSO)	m2	0.00	53,726	106,148	0	0	0	0
Superstructure (Concrete; Span 10m; BMSO)	m2	0.00	58,730	120,400	0	0	0	0
Superstructure (Concrete; Span 15m; BMSO)	m2	0.00	63,247	141,625	0	0	0	0
Substructure (Pier; for Timber; IOT)	NO	0.00	396,853	37,996	0	0	0	0
Substructure (Abut; for Timber; IOT)	NO	0.00	1,079,749	172,146	0	0	0	0
Substructure (Pier; for Timber; BMSO)	NO	0.00	583,653	56,242	0	0	0	0
Substructure (Abut; for Timber; BMSO)	NO	0.00	1,220,647	192,243	0	0	0	0
Substructure (Pier; for Concrete; BMSO)	NO	0.00	1,540,360	478,596	0	0	0	0
Substructure (Abut; for Concrete; BMSO)	NO	0.00	3,247,012	1,002,690	0	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0	0
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Maintenance of Timber Bridge (New)	m2	0.00	8,201	1,233	0	0	0	0
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0	0
Maintenance of Timber Bridge (Exist)	m2	464.00	7,648	2,462	3,548,672	1,142,368	4,691,040	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0	0
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( Without Overhead )	TOTAL COST (Timber Bridge)				0	0	0	0
	(Concrete Bridge)				0	0	0	0
	TOTAL COST (without Maintenance)				0	0	0	0
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( Overhead : 15% )	TOTAL COST (Timber Bridge)				0	0	0	0
	(Concrete Bridge)				0	0	0	0
	TOTAL COST (without Maintenance)				0	0	0	0



PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 61 (IIC) LENGTH : 18 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; 10T)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; 10T)	m2	20.00	50,463	4,509	1,009,260	90,180	1,099,440
Superstructure (Timber; Span 8m; 10T)	m2	820.00	66,841	5,922	54,809,620	4,856,040	59,665,660
Superstructure (Timber; Span 3m; BHSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BHSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BHSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BHSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BHSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BHSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BHSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BHSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; 10T)	NO	10.00	396,853	37,996	3,968,530	379,960	4,348,490
Substructure (Abut; for Timber; 10T)	NO	36.00	1,079,749	172,146	38,870,964	6,197,256	45,068,220
Substructure (Pier; for Timber; BHSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BHSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BHSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,595	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	840.00	8,201	1,233	6,888,840	1,035,720	7,924,560
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		98,658,374	11,523,436	110,181,810
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		98,658,374	11,523,436	110,181,810
( Overhead : 15% )			TOTAL COST (Timber Bridge)		113,457,130	13,251,951	126,709,082
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		113,457,130	13,251,951	126,709,082

PROV : SULAWESI TENGGARA KAB : MUNA

LINK NO : 62 (IIIC) LENGTH : 4 Km

( Rp )

ITEM	UNIT	QUANTITY	<<< UNIT COST >>>		<<<<< COST >>>>>		>>>>> TOTAL
			LOCAL	FOREIGN	LOCAL	FOREIGN	
Superstructure (Timber; Span 3m; IOT)	m2	0.00	45,559	4,084	0	0	0
Superstructure (Timber; Span 5m; IOT)	m2	40.00	50,463	4,509	2,018,520	180,360	2,198,880
Superstructure (Timber; Span 8m; IOT)	m2	176.00	66,841	5,922	11,764,016	1,042,272	12,806,288
Superstructure (Timber; Span 3m; BMSO)	m2	0.00	56,491	5,049	0	0	0
Superstructure (Timber; Span 5m; BMSO)	m2	0.00	61,673	5,471	0	0	0
Superstructure (Timber; Span 8m; BMSO)	m2	0.00	78,217	6,925	0	0	0
Superstructure (Concrete; Span 3m; BMSO)	m2	0.00	50,846	87,433	0	0	0
Superstructure (Concrete; Span 5m; BMSO)	m2	0.00	52,182	97,542	0	0	0
Superstructure (Concrete; Span 8m; BMSO)	m2	0.00	53,726	106,148	0	0	0
Superstructure (Concrete; Span 10m; BMSO)	m2	0.00	58,730	120,400	0	0	0
Superstructure (Concrete; Span 15m; BMSO)	m2	0.00	63,247	141,625	0	0	0
Substructure (Pier; for Timber; IOT)	NO	2.00	396,853	37,996	793,706	75,992	869,698
Substructure (Abut; for Timber; IOT)	NO	12.00	1,079,749	172,146	12,956,988	2,065,752	15,022,740
Substructure (Pier; for Timber; BMSO)	NO	0.00	583,653	56,242	0	0	0
Substructure (Abut; for Timber; BMSO)	NO	0.00	1,220,647	192,243	0	0	0
Substructure (Pier; for Concrete; BMSO)	NO	0.00	1,540,360	478,596	0	0	0
Substructure (Abut; for Concrete; BMSO)	NO	0.00	3,247,012	1,002,690	0	0	0
Demolition of Bridge (Timber->Timber)	m2	32.00	12,605	1,552	403,360	49,664	453,024
Demolition of Bridge (Timber->Concrete)	m2	0.00	12,605	1,552	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	77,585	68,755	0	0	0
Maintenance of Timber Bridge (New)	m2	216.00	8,201	1,233	1,771,416	266,328	2,037,744
Maintenance of Concrete Bridge (New)	m2	0.00	1,857	2,792	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	7,648	2,462	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	3,919	2,404	0	0	0
( Without Overhead )			TOTAL COST (Timber Bridge)		27,936,590	3,414,040	31,350,630
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		27,936,590	3,414,040	31,350,630
( Overhead : 15% )			TOTAL COST (Timber Bridge)		32,127,079	3,926,146	36,053,225
			(Concrete Bridge)		0	0	0
			TOTAL COST (without Maintenance)		32,127,079	3,926,146	36,053,225









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