Sr No	Code No.		Description			Unit	Quantity	Plain			Sub mountainous Region		
								Rate (in Rs)	Cost (in Rs)	Total	Rate (in Rs)	Cost (in Rs)	Total (in Rs)
1			**Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 18 kg each complete as per drawing and Technical specification.**										
			As per MoRT&H Specification 2503										
A			**Boulder Laid Dry Without Wire Crates.**										
			Unit	1	cum								
			Taking output	1	cum								
I			**Material**										
	0.00		Stone			cum	1.00	491.92	491.92				
	0.00		Stone Spalls			cum	0.20	425.97	85.19				
			Total-I						**577.11**				
			Contractor's profit @ 10% on 577.11						57.71				
			Cost	1	m				634.82				
			Rate	1	m				634.82				
			Labour cess @ 1% on 634.82						6.35				
									641.17	641.17			641.17
II			**Labour**										
	L-29		Mate			day	0.04	151.44	6.06				
	L-10		Mason			day	0.35	223.36	78.18				
	L-34		Mazdoor *			day	0.75	143.81	107.86				
			Total-II						**192.10**				
			sundries @ 3% on 192.1						5.76				
			Contractor's profit and overhead charges @ 21.50% on 197.86						42.54				
									240.40				
			Labour cess @ 1% on 240.4						2.40				
			Cost	1	m				242.80				
			Rate	1	m				242.80	**242.80**			242.80
			sub mountainous @ 10% on 242.8										24.28
													267.08
										883.97			**908.25**
		*	Including excavation for trimming for preparation of bed.										
	Note		Nominal excavation required for preparation of bed has been taken into account while making provision for labour.										

2		**A**	**Boulder Apron Laid in Wire Crates**										
			Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 100mm x 100mm mesh (weaved diagonally) including 10 per cent extra for laps and joints laid with stone boulders weighing not less than 18 kg each.										
			As per MoRT&H Specification 2503										
			Unit	1	cum								
			Taking output = 3 mx1.5mx1.25m = 5.63 cum	5.6	cum								
I			**Material**										
	0.00		4mm GI wire crates woven in mesh size of 100 mm x 100 mm.			sqm	22.00	164.51	3619.22				
	0.00		Stone			cum	5.63	491.92	2769.51				
	0.00		Stone Spalls			cum	1.13	425.97	481.35				
			Total-I						**6870.08**				
			Contractor's profit @ 10% on 6870.08						687.01				
			Cost	5.6	m				7557.09				
			Rate	1	m				1342.29				
			Labour cess @ 1% on 1342.29						13.42				
									1355.71	1355.71			1355.71
II			**Labour**										
	L-29		Mate			day	0.18	151.44	27.26				
	L-31		Mazdoor (Skilled)			day	1.50	164.69	247.04				
	L-35		Mazdoor			day	3.00	136.69	410.07				
			Total-II						**684.37**				
			sundries @ 3% on 684.37						20.53				
			Contractor's profit and overhead charges @ 21.50% on 704.9						151.55				
									856.45				
			Labour cess @ 1% on 856.45						8.56				
			Cost	5.6	m				865.01				
			Rate	1	m				153.64	**153.64**			153.64
			sub mountainous @ 10% on 153.64										15.36
													169.00
										1509.35			**1524.71**
		*	Including excavation for trimming for preparation of bed.										
	Note		Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.										

B			**Boulder Apron Laid in Wire Crates**										
			Providing and laying of boulder apron laid in wire crates made with 4mm dia GI wire conforming to IS: 280 & IS:4826 in 150mm x 150mm mesh (weaved diagonally) including 10 per cent extra for laps and joints laid with stone boulders weighing not less than 18 kg each.										
			Unit	1	cum								
			Taking output = 3 mx1.5mx1.25m = 5.63 cum	5.6	cum								
I			**Material**										
	0.00		4mm GI wire crates woven in mesh size of 150 mm x 150 mm.	1.5		sqm	22.00	109.67	2412.81				
	0.00		Stone			cum	5.63	491.92	2769.51				
	0.00		Stone Spalls			cum	1.13	425.97	481.35				
			Total-I						**5663.67**				
			Contractor's profit @ 10% on 5663.67						566.37				
			Cost	5.6	m				6230.04				
			Rate	1	m				1106.58				
			Labour cess @ 1% on 1106.58						11.07				
									1117.65	1117.65			1117.65
II			**Labour**										
	L-29		Mate			day	0.18	151.44	27.26				
	L-31		Mazdoor (Skilled)			day	1.50	164.69	247.04				
	L-35		Mazdoor			day	3.00	136.69	410.07				
			Total-II						**684.37**				
			sundries @ 3% on 684.37						20.53				
			Contractor's profit and overhead charges @ 21.50% on 704.9						151.55				
									856.45				
			Labour cess @ 1% on 856.45						8.56				
			Cost	5.6	m				865.01				
			Rate	1	m				153.64	**153.64**			153.64
			sub mountainous @ 10% on 153.64										15.36
													169.00
										1271.29			**1286.65**
		*	Including excavation for trimming for preparation of bed.										
	Note		Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 21.33 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.										

3			**Cement Concrete Blocks (size 0.5 x 0.5 x 0.5 m)**										
			Providing and laying of apron with cement concrete blocks of size 0.5x0.5x0.5 m cast in-situ and made with nominal mix of M-15 grade cement concrete ,as per IRC: 21-2000.										
			As per MoRT&H Specification 2503										
			Unit	1	cum								
			Taking out put	1	cum								
			Concrete Grade M15 Rate as per item No. 7A of foundation			cum	1.00	2861.65	**2861.65**		2930.34	**2930.34**	
			formwork work cost includes the cost on account for excavation for preparation of bed, nominal surface reinforcement and filling of granular material in recesses between blocks.										
			Labour Rate Only						**686.92**			**755.61**	

4			**Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications**											
			As per MoRT&H Specification 2504											
		A	**Stone/Boulder**											
			Unit	1	cum									
			Taking output	1	cum									
I			**Material**											
	0.00		Stone			cum	1.00	491.92	491.92					
	0.00		Stone spalls			cum	0.20	425.97	85.19					
			Total-I						**577.11**					
			Contractor's profit @ 10% on 577.11						57.71					
			Cost	1	m				634.82					
			Rate	1	m				634.82					
			Labour cess @ 1% on 634.82						6.35					
									641.17	641.17			641.17	
II			**Labour**											
	L-29		Mate			day	0.04	151.44	6.06					
	L-10		Mason			day	0.35	223.36	78.18					
	L-35		Mazdoor			day	0.75	136.69	102.52					
			Total-II						**186.76**					
			sundries @ 3% on 186.76						5.60					
			Contractor's profit and overhead charges @ 21.50% on 192.36						41.36					
									233.72					
			Labour cess @ 1% on 233.72						2.34					
			Cost	1	m				236.06					
			Rate	1	m				236.06	**236.06**			236.06	
			sub mountainous @ 10% on 236.06										23.61	
													259.67	
										877.23			**900.84**	

5			**Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification**										
			As per MoRT&H Specification 2504										
			Unit	1	cum								
			Taking output	1	cum								
I			**Material**										
	0.00		Graded stone aggregate of required size-20mm			cum	0.40	435.24	174.10				
	0.00		10mm			cum	0.40	461.32	184.53				
	0.00		Coarse sand			cum	0.40	280.73	112.29				
			Total-I						**470.92**				
			Contractor's profit @ 10% on 470.92						47.09				
			Cost	1	m				518.01				
			Rate	1	m				518.01				
			Labour cess @ 1% on 518.01						5.18				
									523.19	523.19			523.19
II			**Labour**										
	L-29		Mate			day	0.05	151.44	7.57				
	L-10		Mazdoor (Skilled)			day	0.25	223.36	55.84				
	L-34		Mazdoor *			day	1.00	143.81	143.81				
			Total-II						**207.22**				
			sundries @ 3% on 207.22						6.22				
			Contractor's profit and overhead charges @ 21.50% on 213.44						45.89				
									259.33				
			Labour cess @ 1% on 259.33						2.59				
			Cost	1	m				261.92				
			Rate	1	m				261.92	**261.92**			261.92
			sub mountainous @ 10% on 261.92										26.19
													288.11
										785.11			**811.30**
			Includes Mazdoor required for trimming of slope to proper profile and preparation of bed.										

6			**Providing and laying Flooring complete as per drawing and Technical specifications laid over cement concert bedding.**										
			As per MoRT&H Specification 2505										
A			**Rubble stone laid in cement mortar 1:3**										
			Unit	1	cum								
			Taking output	1	cum								
I			**Material**										
			a) Cement mortor 1:3 (Rate as sub-analysis) Including OH & CP			cum	0.33	2969.90	980.07				
			b) Add for cement concrete bedding (M15 Nominal mix) . Quantity shall be adopted as per design (Assume Rubble stone Flooring thickness 300mm and cement concrete bedding thickness 100mm)			cum	0.33	2029.04	669.58				
			Add 1 per cent of cost to account for excavation for preparation of bed.	1%					16.50				
									1666.15	1666.15			1666.15
	0.00		Stone			cum	1.00	491.92	491.92				
	0.00		Stone Spalls			cum	0.20	425.97	85.19				
			Total-I						**577.11**				
			Contractor's profit @ 10% on 577.11						57.71				
			Cost	1	m				634.82				
			Rate	1	m				634.82				
			Labour cess @ 1% on 634.82						6.35				
									641.17	641.17			641.17
II			**Labour**										
			labour for pcc				1.00	560.86	560.86	560.86			560.86
	L-29		Mate			day	0.08	151.44	12.12				
	L-10		Mason			day	0.50	223.36	111.68				
	L-34		Mazdoor (for laying stones, filling of quarry spalls)			day	1.50	143.81	215.72				
			Cement mortor 1:3 (Rate as sub-analysis)				1.00	129.08	129.08				
			Total-II						**339.52**				
			sundries @ 3% on 339.52						10.19				
			Contractor's profit and overhead charges @ 21.50% on 349.71						75.19				
									424.90				
			Labour cess @ 1% on 424.9						4.25				
			Cost	1	m				429.15				
			Rate	1	m				429.15	429.15			429.15
			sub mountainous @ 10% on 429.15										42.92
										990.01			**1032.93**
										3297.33			**3340.25**

7			**Dry Rubble Flooring**										
			Construction of dry rubble flooring at cross drainage works for relatively less important works.										
			As per MoRT&H Specification 2506										
			Unit	1	cum								
			Taking output	1	cum								
I			**Material**										
	0.00		Stone			cum	1.00	491.92	491.92				
	0.00		Stone Spalls			cum	0.20	425.97	85.19				
			Total-I						**577.11**				
			Contractor's profit @ 10% on 577.11						57.71				
			Cost	1	m				634.82				
			Rate	1	m				634.82				
			Labour cess @ 1% on 634.82						6.35				
									641.17	641.17			641.17
II			**Labour**										
	L-29		Mate			day	0.10	151.44	15.14				
	L-10		Mason			day	0.50	223.36	111.68				
	L-35		mazdoor			day	1.50	136.69	205.04				
			Add 1 per cent of (b) for trimming and preparation of base.						3.32				
			Total-II						**335.18**				
			sundries @ 3% on 335.18						10.06				
			Contractor's profit and overhead charges @ 21.50% on 345.24						74.23				
									419.47				
			Labour cess @ 1% on 419.47						4.19				
			Cost	1	m				423.66				
			Rate	1	m				423.66				423.66
			sub mountainous @ 10% on 423.66										42.37
										423.66			**466.03**
										1064.83			**1107.20**

8.00			**Flexible Apron :Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less than 18 kg beyond curtain wall.**										
			As per MoRT&H Specification 2507.2										
			Unit	1	cum								
			Taking Output	1	cum								
I			**Material**										
	0.00		Stone			cum	1.00	491.92	491.92				
	0.00		Stone Spalls			cum	0.20	425.97	85.19				
			Total-I						**577.11**				
			Contractor's profit @ 10% on 577.11						57.71				
			Cost	1	cum				634.82				
			Rate	1	cum				634.82				
			Labour cess @ 1% on 634.82						6.35				
									641.17	641.17			641.17
II			**Labour**										
	L-29		Mate			day	0.05	151.44	7.57				
	L-10		Mason			day	0.25	223.36	55.84				
	L-35		Mazdoor			day	1.00	136.69	136.69				
			Add 1 per cent of cost of (a+b) for trimming and preparation of bed.						33.29				
			Total-II						**233.39**				
			sundries @ 3% on 233.3919						7.00				
			Contractor's profit and overhead charges @ 21.50% on 240.3919						51.68				
									292.07				
			Labour cess @ 1% on 292.07						2.92				
			Cost	1	m				294.99				
			Rate	1	m				294.99				294.99
			sub mountainous @ 10% on 294.99										29.50
										294.99			**324.49**
										936.16			**965.66**

9.00			**Gabian Structure for Retaining Earth**										
			Providing and construction of a gabian structure for retaining earth with segments of wire crates of size 7 m x 3 m x 0.6 m each divided into 1.5 m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be tied with 4 mm galvanised steel wire										
			As per MoRT&H Specification 2503.3										
			Unit	1	cum								
			Taking output = 7 x 3 x 0.6 = 12.60 cum	13	cum								
I			**Material**										
	0.00		Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size.			sqm	61.00	164.51	10035.11				
	0.00		Stone boulders with least dimension of 200 mm			cum	12.60	491.92	6198.19				
	0.00		Stone spalls of minimum size 25 mm			cum	2.52	425.97	1073.44				
			Total-I						**17306.74**				
			Contractor's profit @ 10% on 17306.74						1730.67				
			Cost	13	cum				19037.41				
			Rate	1	cum				1510.91				
			Labour cess @ 1% on 1510.91						15.11				
									1526.02	1526.02			1526.02
II			**Labour**										
	L-29		Mate			day	0.28	151.44	42.40				
	L-35		Mazdoor			day	5.00	136.69	683.45				
	L-34		Mazdoor (Skilled)			day	2.00	143.81	287.62				
			Total-II						**1013.47**				
			sundries @ 3% on 1013.47						30.40				
			Contractor's profit and overhead charges @ 21.50% on 1043.87						224.43				
									1268.30				
			Labour cess @ 1% on 1268.3						12.68				
			Cost	13	cum				1280.98				
			Rate	1	cum				101.67				101.67
			sub mountainous @ 10% on 101.67										10.17
										101.67			**111.84**
										1627.69			**1637.86**
		Note	Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.										

10			**Gabian Structure for Erosion Control, River Training Works and Protection works**											
			Providing and constructing gabian structures for erosion control, river training works and protection works with wire crates of size 2 m x 1 m x 0.3 m each divided into 1m compartments by cross netting, made from 4 mm galvanised steel wire @ 32 kg per 10 sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100 mm x 100 mm, filled with boulders with least dimension of 200 mm, all loose ends to be securely tied with 4 mm galvanised steel wire.										
			As Per MoRT&H Specification 2503.3											
			Unit = cum	1	cum									
			Taking output = 2 x 1 x 0.3 x 10 Nos. = 6.00 cum	6	cum									
I			**Material**											
	0.00		Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size to cover 6.00 cum.			sqm	65.00	164.51	10693.15					
	0.00		Stone boulders with least dimension of 200 mm			cum	6.00	491.92	2951.52					
	0.00		Stone spalls of minimum size 25 mm			cum	1.20	425.97	511.16					
			Total-I						**14155.83**					
			Contractor's profit @ 10% on 14155.83						1415.58					
			Cost	6	cum				15571.41					
			Rate	1	cum				2595.24					
			Labour cess @ 1% on 2595.24						25.95					
									2621.19	2621.19			2621.19	
II			**Labour**											
	L-29		Mate			day	0.14	151.44	21.20					
	L-35		Mazdoor			day	2.50	136.69	341.73					
	L-34		Mazdoor (Skilled)			day	1.00	143.81	143.81					
			Total-II						**506.74**					
			sundries @ 3% on 506.74						15.20					
			Contractor's profit and overhead charges @ 21.50% on 521.94						112.22					
									634.16					
			Labour cess @ 1% on 634.16						6.34					
			Cost	6	cum				640.50					
			Rate	1	cum				106.75					106.75
			sub mountainous @ 10% on 106.75											10.68
										106.75				**117.43**
										2727.94				**2738.62**
	Note		Readymade woven wire crate rolls have been considered in the rate analysis. In case readymade rolls are not available, GI wire 4mm dia. @ 32 kg per 10 sqm may be provided. In that case 2 per cent of the cost of GI wire may be added for weaving the wire crates.											