

CHAPTER No. 19

LINING

Notes :-

- (i) Labour rates for lining items include handling of materials within 100 metres.
- (ii) The cost of water is not included in the following rates except items 19.24 and 19.25 and the water shall be supplied by the department free of cost.
- (iii) The rates for item Nos. 19.1 to 19.6 include the cost of fine dressing to exact level, watering and preparing sub-grade. All basket earth work to be paid extra at the rates for lip cutting.
- (iv) For Item No. 19.7, 19.9, 19.26, 19.27, 19.28, 19.29, 19.30, 19.31, 19.32, 19.33, the labour & through rates for lining of side slopes from 0 to 3.5m height be reduced by 5%, if the depth of the channel is upto 1.5m.

Sr. No.	Code No.	Description		Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3		4	5	6	7	8	9	10	11
19.1		Dressing bed and preparation of sub grade for lining									
		Unit		Sqm.							
		LABOUR									
		Output	44	Sqm.							
(i)		Dresser		Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81					1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25					31.23				
		Add Labour cess @ 1% i.e on Rs.176.48					1.76				
		Labour	44	Sqm.			178.24				
			1	Sqm.			4.05	4.05		4.05	4.05

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.2		Dressing side slopes and preparation of sub grade for lining										
		Unit		Sqm.								
		LABOUR										
		Output	27	Sqm.								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	27	Sqm.				178.24				
			1	Sqm.				6.60	6.60		6.60	6.60

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.3		Dressing bed and preparation of sub grade for lining in earth work, with admixture of shingle or kankar										
(a)		Upto 40 percent										
		Unit		Sqm								
		LABOUR										
		Output	28	Sqm								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	28	Sqm				178.24				
			1	Sqm				6.37	6.37		6.37	6.37
(b)		Above 40 percent										
		Unit		Sqm								
		LABOUR										
		Output	22	Sqm								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	22	Sqm				178.24				
			1	Sqm				8.10	8.10		8.10	8.10

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.4		Dressing side slopes and preparation of sub grade for lining in earth work, with admixture of shingle of kankar										
(a)		Upto 40 percent										
		Unit		Sqm								
		LABOUR										
		Output	22	Sqm								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	22	Sqm				178.24				
			1	Sqm				8.10	8.10		8.10	8.10
(b)		Above 40 percent										
		Unit		Sqm								
		LABOUR										
		Output	17	Sqm								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	17	Sqm				178.24				
			1	Sqm				10.48	10.48		10.48	10.48

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.5		Dressing bed and preparation of sub grade for lining in mixed gravel and conglomerate reaches.										
		Unit		Sqm								
		LABOUR										
		Output	15	Sqm								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	15	Sqm				178.24				
			1	Sqm				11.88	11.88		11.88	11.88

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.6		Dressing side slopes and preparation of subgrade for lining in mixed gravel and conglomerate reaches										
		Unit		Sqm								
		LABOUR										
		Output	13	Sqm								
(i)		Dresser			Each	1	143.81	143.81				
		Sundries @ 1% i.e on Rs. 143.81						1.44				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.145.25						31.23				
		Add Labour cess @ 1% i.e on Rs.176.48						1.76				
		Labour	13	Sqm				178.24				
			1	Sqm				13.71	13.71		13.71	13.71

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.7		Double layer tile lining for irrigation channels consisting of										
(i)		10mm thick cement mortar 1:5 on sub grade.										
(ii)		First layer of 5.08 cm. thick tiles, 30.48 cm x 15.24 cm laid in 1:5 cement mortar as mentioned above.										
(iii)		Sand-wiched plaster 1:3 cement sand mortar 16mm thick										
(iv)		Second layer of tiles 5.08 Cm. thick laid in 1:3 cement sand mortar, with 6mm thick layer of mortar over sandwiched plaster.										
		The above gives total thickness of lining 13.36cm										
(A)		In bed										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50kg	0.355	262.27	93.11				
(ii)		Sand			Cum	0.049	200.59	9.83				
(iii)		Tiles including carriage, loading and unloading with lead 5KM			1	40	3.05	122.00				
		Add for contractor's profit @10% i.e on Rs.224.93						22.49				
		Add Labour cess @ 1% i.e on Rs.247.43						2.47				
		Total						249.90	249.90		249.90	249.90
		LABOUR										
		Output	28	Sqm								
(i)		Mason Ist Class			Each	2	223.36	446.72				
(ii)		Mazdoor			Each	7	136.69	956.83				
		Sundries @ 1% i.e on Rs. 1403.55						14.04				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.1417.59						304.78				
		Add Labour cess @ 1% i.e on Rs.1722.37						17.22				
		Labour	28	Sqm				1739.59				
			1	Sqm				62.13	62.13			
		Add for sub-mountainous @ 10% i.e. on Rs. 62.13									68.34	68.34
		Cost	1	Sqm					312.03			318.24
(B)		On Side Slopes										
(a)		Upto 3.50 metres height above bed level										
		Unit		Sqm								

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		MATERIAL										
		Same as per item No. 19.7 (A)(Material)						249.90	249.90		249.90	249.90
		LABOUR										
		Output	23	Sqm								
(i)		Mason Ist Class			Each	2	223.36	446.72				
(ii)		Mazdoor			Each	7	136.69	956.83				
		Sundries @ 1% i.e on Rs. 1403.55						14.04				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.1417.59						304.78				
		Add Labour cess @ 1% i.e on Rs.1722.37						17.22				
		Labour	23	Sqm				1739.59				
			1	Sqm				75.63	75.63			
		Add for sub-mountainous @ 10% i.e. on Rs. 75.63									83.20	83.20
		Cost	1	Sqm					325.54			333.10
(b)		Above 3.50 metres but upto 5.50 Mt. height.										
		Unit		Sqm								
		MATERIAL										
		Same as per item No. 19.7 (A)(Material)						249.90	249.90		249.90	249.90
		LABOUR										
(i)		Same as per item No. 19.7 (B)(a)(Labour)						75.63				
(ii)		Extra labour for additional height						6.00				
		Labour	1	Sqm				81.63	81.63			
		Add for sub-mountainous @ 10% i.e. on Rs. 81.63									89.80	89.80
		Cost	1	Sqm					331.54			339.70
(c)		Above 5.50 metres but upto 7.50 Mt height.										
		Unit		Sqm								
		MATERIAL										
		Same as per item No. 19.7 (A)(Material)						249.90	249.90		249.90	249.90
		LABOUR										
(i)		Same as per item No. 19.7 (B)(b)(Labour)						81.63				
(ii)		Extra labour for additional height						3.00				
		Labour	1	Sqm				84.63	84.63			
		Add for sub-mountainous @ 10% i.e. on Rs. 84.63									93.10	93.10
		Cost	1	Sqm					334.54			343.00

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.8		Single layer tile lining in bed only, consisting of (i) 10mm thick cement mortar 1:5 on Sub grade.(ii) Single layer of 5.08 cm. thick tiles 30.48 cm. x 15.24 cm x 5.08 cm. laid in 1:5 cement sand mortar, mentioned above.(iii) 20mm thick cement plaster 1:3 properly rendered and finished.										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50kg	0.273	262.27	71.6				
(ii)		Sand			Cum	0.040	200.59	8.02				
(iii)		Tiles including carriage, loading and unloading with lead 5KM			1	20	3.05	61.00				
		Add for contractor's profit and overhead charges @10% i.e on Rs.140.62						14.06				
		Add Labour cess @ 1% i.e on Rs.154.68						1.55				
		Total						156.23	156.23		156.23	156.23
		LABOUR										
		Output	16	Sqm								
(i)		Mason Ist Class			Each	1	223.36	223.36				
(ii)		Mazdoor			Each	3	136.69	410.07				
		Sundries @ 1% i.e on Rs. 633.43						6.3343				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.639.76						137.55				
		Add Labour cess @ 1% i.e on Rs.777.31						7.77				
		Labour	16	Sqm				785.08				
			1	Sqm				49.07	49.07			
		Add for sub-mountainous @ 10% i.e. on Rs. 49.07									53.98	53.98
		Cost	1	Sqm					205.30			210.21

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.9		Cement concrete lining 15cm. thick or less for irrigation channels, using cement concrete 1:3:6 (M-10)										
(A)		Hand mixed concrete lining in bed.										
		Unit		Cum								
		MATERIAL										
		Same as per item No. 10.10 (Material)			Cum	1		1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		Same as per item No. 10.10 (Labour)			Cum	1		330.21				
(b)		Additional Labour for making slabs upto 15cm thick										
		Output	7	Cum								
(i)		Mason Ist Class			Each	1	223.36	223.36				
(ii)		Mazdoor			Each	1	136.69	136.69				
		Sundries @ 1% i.e on Rs. 360.05						3.60				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.363.65						78.18				
		Add Labour cess @ 1% i.e on Rs.441.84						4.42				
		Additional Labour	7	Cum				446.25				
			1	Cum				63.75				
		Labour (a plus b)	1	Cum				393.96	393.96			
		Add for sub-mountainous @ 10% i.e. on Rs. 393.96									433.36	433.36
		Cost	1	Cum					2264.47			2303.87
(B)		Hand mixed concrete lining on side slopes for vertical height upto 3.50 m.										
		Unit		Cum								
		MATERIAL										
		Same as per item No. 10.10 (Material)			Cum			1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		Same as per item No. 19.9 (A)(Labour)	1		Cum			393.96				
(b)		Mazdoor for additional height.			Each	0.25	136.69	34.17				
		Sundries @ 1% i.e on Rs. 34.17						0.34				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.34.51						7.42				
		Add Labour cess @ 1% i.e on Rs.41.93						0.42				
		Additional Labour	1	Cum				42.35				
		Labour	1	Cum				436.31	436.31			
		Add for sub-mountainous @ 10% i.e. on Rs. 436.31									479.95	479.95
		Cost	1	Cum					2306.82			2350.46
(C)		Hand mixed concrete lining on side slopes for vertical height above 3.50 m. but upto 5.50 m.										
		Unit		Cum								

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		MATERIAL										
		Same as per item No. 10.10 (Material)			Cum			1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		Same as per item No. 19.9 (B)(Labour)			Cum			436.31				
(b)		Mazdoor for additional labour for carriage of material to a greater height	1	Cum	Each	0.33	136.69	45.11				
		Sundries @ 1% i.e on Rs. 45.11						0.45				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.45.56						9.80				
		Add Labour cess @ 1% i.e on Rs.55.35						0.55				
		Additional Labour	1	Cum				55.91				
		Labour	1	Cum				492.22	492.22			
		Add for sub-mountainous @ 10% i.e. on Rs. 492.22									541.44	541.44
		Cost	1	Cum					2362.73			2411.95
(D)		Hand mixed concrete lining on side slopes for vertical height above 5.5 m. but upto 7.5 m.										
		Unit		Cum								
		MATERIAL										
		Same as per item No. 10.10 (Material)	1	Cum				1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		Same as per item No. 19.9 (c)(Labour)	1	Cum				492.22				
(b)		Mazdoor for additional labour for carriage of material to a greater height	1		Each	0.33	136.69	45.11				
		Sundries @ 1% i.e on Rs. 45.1077						0.45				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.45.56						9.79				
		Add Labour cess @ 1% i.e on Rs.55.35						0.55				
		Additional Labour	1	Cum				55.91				
		Labour	1	Cum				548.13	548.13			
		Add for sub-mountainous @ 10% i.e. on Rs. 548.13									602.94	602.94
		Cost	1	Cum					2418.64			2473.45

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.10		Excavating conglomerate for drains and bed sleepers, under the lining										
		Unit		Cum								
		LABOUR										
		Same as per item No. 7.7	1		Cum			485.97	485.97		485.97	485.97

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.11		Making dry brick drains behind lining 7.50 cm. brick all-round.										
		Unit		Mt								
		LABOUR										
		Output	20	Mt								
(i)		Mason 2nd class			Each	1	190.00	190.00				
		Sundries @ 1% i.e on Rs. 190						1.90				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.191.9						41.26				
		Add Labour cess @ 1% i.e on Rs.233.16						2.33				
		Labour	20	Mt				235.49				
			1	Mt				11.77	11.77		11.77	11.77

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.12		Putting 1:3 Cement sand slurry, 6mm thick on prepared bed and side slopes before laying concrete on bed and side slopes										
		Unit	1	Sqm								
		MATERIAL										
(i)		Cement			Bag of 50 Kg.	0.076	262.27	19.93				
(ii)		Sand			Cum	0.008	200.59	1.60				
		Add for contractor's profit and overhead charges @10% i.e on Rs.21.54						2.15				
		Add Labour cess @ 1% i.e on Rs.23.69						0.24				
		Total						23.93	23.93		23.93	23.93
		LABOUR										
		Output	93	Sqm								
(i)		Mazdoor (Skilled)			Each	1	164.69	164.69				
		Sundries @ 1% i.e on Rs. 164.69						1.65				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.166.34						35.76				
		Add Labour cess @ 1% i.e on Rs.202.1						2.02				
		Labour	93	Sqm				204.12				
			1	Sqm				2.19	2.19		2.19	2.19
		Cost	1	Sqm					26.12			26.12

Sr. No.	Code No.	Description		Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3		4	5	6	7	8	9	10	11
19.13		Curing Lining for 28 days									
(a)		In bed (The analysis is based on actual working conditions on Rajasthan Feeder where bed width is 80 metres on lining heading of 300m length and takes about six months to complete).									
		Unit		Sqm							
		MATERIAL									
		Output	24000	Sqm							
1		The first days work will have to be covered with wet 'tats' The area of one day's work									
		$\frac{24000}{6 \times 30} = \frac{400}{3}$									
		No. of bags, required to cover the above area									
		$\frac{400}{3} = 266$ Bags Say 260 bags									
		3x0.5									
		But the life of one such 'tat' will not be more than 3 months									
		hence, No. of bags : $260 \times 2 = 520$									
		add 10 percent wastage in sewing									
		etc. : 52 Nos.									
		Total : 572 Nos.									
2		Masonry dowels, 15 cm height and 5 cm.									
		wide, laid in 1:7 cement sand mortar at									
		15 metres apart:									
		$300 \times 0.05 \times 15 \times 80 : 12.00$ Cum									
		15									
		No. of tiles required : $430 \times 12.00 = 5160$ Nos									
		Say : 5200 Nos									
3		Cement required:									
		$1.05 \times 12.0 = 12.60$ bags									
4		Sand Required:									
		$0.25 \times 12 = 3.0$ cu m									
(i)		Empty cement bags.		Each	572	2.40	1372.80				
(ii)		Tiles including carriage, loading and unloading with lead 5KM		1	5200	3.05	15860.00				
(iii)		Cement		Bag of 50Kg	12.60	262.27	3304.60				
(iv)		Sand		Cu m	3.00	200.59	601.77				
		Add for contractor's profit @10% i.e on Rs.21139.17					2113.92				
		Add Labour cess @ 1% i.e on Rs.23253.09					232.53				
		Total	24000	Sqm			23485.62				
			1	Sqm			0.98	0.98		0.98	0.98

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		LABOUR										
(i)		Mazdoor 2 Nos. for 6 months			Each	2x180=360	136.69	49208.40				
(ii)		Tiles masonry 1:7 (Same as per item No 11.45-11 folding 977.94- 67.50 Rs. 910.44			Cum	12.00	780.14	9361.68				
(iii)		Dismantling tile masonry 1:7										
		Same as per item No. 8.5 (b)			Cum	12.00	241.54	2898.48				
		Sundries @ 1% i.e on Rs. 49208.4						492.08				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.49700.48						10685.60				
		Add Labour cess @ 1% i.e on Rs.60386.09						603.86				
		Labour	24000	Sqm				73250.11				
			1	Sqm				3.05	3.05		3.05	3.05
		Cost	1	Sqm					4.03			4.03
(b)		On Side slopes										
		The length of the side slopes on either side is 10 metres (On Rajasthan feeder) Therefore, area of side slope on either side, 10mx300= 3000 sq.m. or 6000 Sq.m. on both sides. The analysis is based on above . In this case, one beldar on either side, will be required for 6 months.										
		Unit		Sqm								

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		MATERIAL										
		Output	6000	Sqm								
1		The first day's work will have to be covered with wet 'tats'										
		The area of one day's work :										
		6000 : 100 Sq.m										
		6x30 3										
		No. of bags required to cover the above area										
		100 : 66 bags										
		3x 0.5										
		Say : 65 Bags										
		But the life of one such 'tat' will not be more than 3 months										
		Hence No. of bags 65x2: 130 Nos										
		Add for 10 percent wastage in sewing etc.=13 Nos.										
		Total : 143 Nos.										
2		Making Temporary perforated										
		french drain on top of coping of lining for curing, .										
		consisting of two tiles, laid on edge in 1:7 mortar										
		on each side of drain : 2x300 m =600 metres										
		length of French drain:										
		4000 Nos. or 9.3 Cu.m										
3		Cement required: 1.05x9.3: 9.76 bags										
4		Sand required : 0.25x9.3 : 2.33										
		Say : 2.40 Cu m.										
(i)		Empty cement Bags.			Each	143	2.40	343.20				
(ii)		Tiles including carriage, loading and unloading with lead 5KM			1	4000	3.05	12200.00				
(iii)		Cement			Bags of 50K	9.75	262.27	2557.13				
(iv)		Sand			Cum	2.40	200.59	481.42				
		Add for contractor's profit @10% i.e on Rs.15581.75						1523.85				
		Add Labour cess @ 1% i.e on Rs.16762.4						167.62				
		Total	6000	Sqm				16930.03				
			1	Sqm				2.82	2.82		2.82	2.82
		LABOUR										
		Output	6000	Sqm								
(i)		Mazdoor, 2 Nos. for 6 months.			Each	2x180=360	136.69	49208.40				
(ii)		Making temporary perforated french drain (Rate as per item No.19.19. (Labour)			Mt	600	5.51	3305.51				
(iii)		Dismantling french drain. (Rate as per item No. 19.20 (Labour)			Mt	600	3.39	2034.00				
		Sundries @ 1% i.e on Rs. 49208.4						492.08				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.49700.48						10685.60				
		Add Labour cess @ 1% i.e on Rs.60386.09						603.86				
		Labour	6000	Sqm			6000	66329.46				

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
			1	Sqm				11.05	11.05		11.05	11.05
		Cost	1	Sqm					13.88			13.88

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.14		Extra allowance for providing templates in curved portion of lining										
		Tile and concrete lining on side slopes, the length of the curved portion on either side is 2.25 metres										
		Therefore area of curved portion on both side of 300 metres length : 2x2.25x300 =1350 Sq.m.										
		UNIT: Sq.m. of curved surface										
		MATERIAL										
		Deodar wood										
(a)		Main curved scantling : 3.60x0.115x										
		0.06 = 0.0248 cu m										
		Say = 0.0250 cu m										
(b)		Top horizontal batten : 2.74x0.07x0.06										
		= 0.0125 Cu m										
(c)		Vertical posts : Cross struts:										
		4x0.75x0.08x0.06 : 0.0144 Cu m										
		: 0.0519 Cu m										
		Add wastage at 30 percent										
		: 0.0155 Cu m										
		: 0.0674 Cu m										
(i)		Deodar wood			Cum	0.0674	58012.50	3910.04				
(ii)		Carriage of wood lead 5 KM including loading and unloading.			Cum	0.0674	75.02	5.06				
		Add for contractor's profit @10% i.e on Rs.3915.1						391.51				
		Add Labour cess @ 1% i.e on Rs.4306.61						43.07				
		Total						4349.67				
		For one lining heading two templates one with radius equal to F.S.D. and the other with radius (F.S.D. Plus thickness of 1st layer) are needed. As they get deformed, therefore, they cannot be used in the next lining heading.										
		Cost of 2 Nos templates			Each	2	4349.67	8699.35				
		Total	1	Sqm				6.44	6.44		6.44	6.44
		LABOUR										
(i)		Carpenter, 1st Class			Each	1	223.36	223.36				
(ii)		Carpenter, 2nd class			Each	1	190.00	190.00				
(iii)		Mazdoor			Each	0.50	136.69	68.35				
		Sundries @ 1% i.e on Rs. 481.705						4.82				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.486.52						104.60				
		Add Labour cess @ 1% i.e on Rs.591.12						5.91				
		Total						597.04				
		Cost of 2 templates (being used for 1350 sq.m)						597.04				
		Labour of curved portion	1	Sqm				0.44	0.44		0.44	0.44
		Cost of curved portion	1	Sqm					6.89			6.89

Sr. No.	Code No.	Description		Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3		4	5	6	7	8	9	10	11
19.15		Extra allowance for form work in concrete lining									
(a)		In Bed									
		Unit		Cum							
		MATERIAL									
		Details of cost for considering block of 3mx3m, 0.15m thick 9 sq.m. or 1.35 cum	1.35	Cum							
(i)		Kail wood planks, 25mm thick: 4x3x0.15 : 1.80 sq.m									
		Add Wastage at 20 percent : <u>0.36 sq.m.</u>									
		2.16 Sq.m.									
		or 0.054 Cum (Rate as per item No. M.45(c) (ii)		Cum	0.054	53462.50	2886.98				
(ii)		Sawing charges including carriage to and from saw Mill av.lead one side 5 K.M (Rate as per item No. M_49)									
		750 x 2.16 / 0.054 = 30000		Cum	0.054	30000.00	1620.00				
		Assuming that timber will become unserviceable,after being used 20 times.									
(iii)		Cost of using once.		Cum		(2886.975+1620)/(20 x 1.35)	166.93	166.93		166.93	166.93
		LABOUR									
		Output	8.1	Cum							
(i)		Carpenter 2nd class		Each	1	190.00	190.00				
(ii)		Mazdoor		Each	1	136.69	136.69				
		Sundries @ 1% i.e on Rs. 326.69					3.27				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.329.96					70.94				
		Add Labour cess @ 1% i.e on Rs.400.9					4.01				
		Labour	8.1	Cum	1		404.91				
		Cost	1	Cum			49.99	49.99		49.99	49.99
(b)		On side slopes	1	Cum				216.91			216.91
		Unit		Cum							
		MATERIAL									
		Same as per item No. 19.15 (a)(Material)					166.93	166.93		166.93	166.93
		LABOUR									
		Output	6.75	Cum							
(i)		Carpenter 2nd class		Each	1	190.00	190.00				
(ii)		Mazdoor		Each	1	136.69	136.69				
		Sundries @ 1% i.e on Rs. 326.69					3.27				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.329.96					70.94				
		Add Labour cess @ 1% i.e on Rs.400.9					4.01				
		Labour	6.75	Cum			404.91				
		Cost	1	Cum			59.99	59.99		59.99	59.99

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		Cost	1	Cum					226.91			226.91

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.16		Extra allowance for scaffolding in tile, brick and concrete lining for side slopes.										
		Unit		Sqm								
		MATERIAL										
		Output	6000	Sqm								
		Side Slope 1.5:1 Total length of side slopes on each side slopes on each side: 10 Metres approximately. Therefore, three lengths of scaffolding ladders, 3 metres each will suffice.										
(a)		Wood work:										
(i)		Main planks, butting with slopes : 2 Nos 2x9x0.125x0.075 = 0.170 Cum										
(ii)		Steps. 2x42x0.125x0.19x125x1/2= 0.13 Cum										
(iii)		Wooden planks, 2x3.60x0.25x0.06:0.11 cum										
		Total 0.41 Cum										
		For one lining heading 5 such sets will be needed but they can safely last for one year. Hence in the ultimate analysis, 5/2 such sets are sufficient for one lining heading, 300 metres long (10m plus 10m), 300 metres for 6000 sq.m										
		Quantity of 5/2 sets = 0.41x5/2=1.025 Cum										
(i)		Kail wood wrought, planed and fixed in position (Rate as per item No. M.45(c) (ii))			Cum	1.025	53462.50	54799.06				
		Add for contractor's profit @10% i.e on Rs.54799.0625						5479.91				
		Add Labour cess @ 1% i.e on Rs.60278.97						602.79				
		Total	6000	Sqm				60881.76				
			1	Sqm				10.15	10.15		10.15	10.15
		LABOUR										
		As per item no. 17.1 II	1	Cum			2793.29					
		Labour	6000	Sqm		1.025	2793.29	2863.12				
			1	Sqm				0.48	0.48			
		Add for sub-mountainous @ 10% i.e. on Rs. 0.48									0.52	0.52
		Cost	1	Sqm					10.62			10.67

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.17		Filling expansion joints, with speical impervious hot pour, 12.5 mm wide.										
		Unit			Mt/cm depth							
		MATERIAL										
		As per item No. 24.29-I			1	Sqm/5mm depth	37.85	37.85				
		Cost	1	Mt/cm depth			37.85 x 10 / 5 x 12.5 / 1000	0.95	0.95		0.95	0.95
		LABOUR										
		As per item No. 24.29-II			1	Sqm/5mm depth	1.97	1.97				
		Labour	1	Mt/cm depth			1.97 x 10 / 5 x 12.5 / 1000	0.05	0.05		0.05	0.05
		Cost	1	Mt/cm depth					1.00			1.00

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.18		Bending and fixing iron rungs in lined slopes.										
		Unit	Each	Rung								
		MATERIAL										
(i)		1.80 metres, M.S. Bars, 25mm dia at 3.85										
		Kg/metre										
		: 1.80x3.85 =6.93 Kg. Say: 7.00 Kg.			Quintal	0.070	4105.57	287.39				
		Or 0.070 Quintal.										
(ii)		2x0.40 metre M.S. Bars, 16mm dia			Quintal	0.0125	4105.57	51.32				
		at 1.58 Kg./metre										
		: 1.58x0.80Kg. = 1.26 Kg.										
		Say : 1.25 Kg.										
		Add for contractor's profit @10% i.e on Rs.338.71						33.87				
		Add Labour cess @ 1% i.e on Rs.372.58						3.73				
		Total						376.31	376.31		376.31	376.31
		LABOUR										
		Output	25	Rungs								
(i)		Blacksmith, 2nd class			Each	1	190.00	190.00				
(ii)		Mason, 2nd Class			Each	1	190.00	190.00				
(iii)		Mazdoor			Each	1	136.69	136.69				
		Sundries @ 1% i.e on Rs. 516.69						5.17				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.521.86						112.20				
		Add Labour cess @ 1% i.e on Rs.634.06						6.34				
		Labour	25	Rungs				640.40				
			1	Rung				25.62	25.62			
		Add for sub-mountainous @ 10% i.e. on Rs. 25.62									28.18	28.18
		Cost	1	Rung					401.92			404.48

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.19.		Making temporary perforated French drain on top of coping of lining for curing consisting of two tiles, laid on edge in 1:7 mortar, on each side of the drain.										
		Unit		Mt								
		MATERIAL										
		Output	30	Mt								
		2x30x0.15x0.05 : 0.45 Cum at 1.05 Bag/cum			Bag per cum							
(i)		Cement			Bag of 50 Kg	0.47	262.27	123.27				
(ii)		Sand.			Cum	0.12	200.59	24.07				
(iii)		Tiles including carriage, loading and unloading with lead 5KM			1	200	3.05	610.00				
		Add for contractor's profit @10% i.e on Rs.757.34						75.73				
		Add Labour cess @ 1% i.e on Rs.833.07						8.33				
		Total	30	Mt				841.40				
			1	Mt				28.05	28.05		28.05	28.05
		LABOUR										
		Output	270	Mt								
(i)		Mason, 2nd class			Each	2	190.00	380.00				
(ii)		Mazdoor			Each	6	136.69	820.14				
		Sundries @ 1% i.e on Rs. 1200.14						12.00				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.1212.14						260.61				
		Add Labour cess @ 1% i.e on Rs.1472.75						14.73				
		Labour	270	Mt				1487.48				
			1	Mt				5.51	5.51			
		Add for sub-mountainous @ 10% i.e. on Rs. 5.51									6.06	6.06
		Cost	1	Mt					33.56			34.11

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.20		Dismantling perforated french drain on top of lining										
		Unit		Mt								
		LABOUR										
		Output	50	Mt								
(i)		Mazdoor			Each	1	136.69	136.69				
		Sundries @ 1% i.e on Rs. 136.69						1.37				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.138.06						29.68				
		Add Labour cess @ 1% i.e on Rs.167.74						1.68				
		Labour	50	Mt				169.42				
			1	Mt				3.39	3.39		3.39	3.39

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.21		Collecting kattals and brick bats from bed, including stacking of collected material, out side the canal.										
		Unit			Cum			Same rate as per carriage of materials over short lead plus Rs. 9.60 per cum for collecting the scattered material		Same rate as per carriage of materials over short lead plus Rs. 9.60 per cum for collecting the scattered material		

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.22		Cement pointing 1:2 on tile lining										
(a)		In bed.										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50Kg	0.027	262.27	7.08				
(ii)		Sand			Cum	0.00225	200.59	0.45				
		Add for contractor's profit @10% i.e on Rs.7.53						0.75				
		Add Labour cess @ 1% i.e on Rs.8.29						0.08				
		Total						8.37	8.37		8.37	8.37
		LABOUR										
		Output	38	Sqm								
(i)		Mason, 1st class.			Each	1	223.36	223.36				
(ii)		Mazdoor			Each	2	136.69	273.38				
(iii)		Bhisti			Each	0.50	173.76	86.88				
		Sundries @ 1% i.e on Rs. 583.62						5.84				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.589.46						126.73				
		Add Labour cess @ 1% i.e on Rs.716.19						7.16				
		Labour	38	Sqm				723.35				
			1	Sqm				19.04	19.04			
		Add for sub-mountainous @ 10% i.e. on Rs. 19.04									20.94	20.94
		Cost	1	Sqm					27.41			29.31
(b)		Cement pointing tile lining (1:2) on side slopes.										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50Kg	0.027	262.27	7.08				
(ii)		Sand			Cum	0.00225	200.59	0.45				
		Add for contractor's profit @10% i.e on Rs.7.53						0.75				
		Add Labour cess @ 1% i.e on Rs.8.29						0.08				
		Total						8.37	8.37		8.37	8.37
		LABOUR										
		Output	33	Sqm								
(i)		Mason, 1st class.			Each	1	223.36	223.36				
(ii)		Mazdoor			Each	2	136.69	273.38				
(iii)		Bhisti			Each	0.375	173.76	65.16				
		Sundries @ 1% i.e on Rs. 561.9						5.62				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.567.52						122.02				
		Add Labour cess @ 1% i.e on Rs.689.54						6.90				
		Labour	33	Sqm				696.43				
			1	Sqm				21.1	21.1			
		Add for sub-mountainous @ 10% i.e. on Rs. 21.1									23.21	23.21

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		Cost	1	Sqm					29.47			31.58

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.23		Earth work for 'Lip-cutting' for lining of irrigation channels, inclusive of all allowances, lead and dressing.										
		Unit	1	Cum								
(a)		0 to 1.5m depth.										
		Mean height : 0.75 metre										
		Side Slope 1.5 :1										
		Extra Lead involved in rehandling:										
		0.75x1.5 plus 10.50 metres roaddowel plus										
		10x0.75-15 = 4.125 metres										
(i)		Earth work: Kassi work undressed:			Cum	1.00	28.17	28.17				
		(Rate as per item No. 6.2(a))										
(ii)		Rehandling of earthwork upto 15 metres										
		(Rate as per item No. 6.2(b) less 20%)										
		39.77 - 20% of 39.77			Cum	1.00	31.82	31.82				
(iii)		Average hardness allowance for compacted										
		as well as natural cutting (Rate as per item			Cum	1.00	6.63	6.63				
		No. 6.2 e(i)										
(iv)		Dressing earth work (Rate as per item			Cum	1.00	0.50	0.50				
		No. 6.3 (i)										
(v)		Extra lead 7.5 metres(Rate as per item			Cum	1.00	1.66	1.66				
		No. 6.2 c(i)										
		Total						68.78	68.78		68.78	68.78
(b)		Depth exceeding 1.5 metres but upto 3.0 meters										
		Mean Height $\frac{(1.5 + 3.0)}{2}$ = 2.25 metres										
		Side Slope 1.5:1										
		Extra lead involved in rehandling										
		(2.25x1.5) plus 10.50 plus										
		(10x2.25)-15=20.375 metres										
		Say: 22.50 metres or 3 leads.										
(i)		Same as per item No. 19.23(a)(i) to (iv)						67.12				
(ii)		Extra lead, 22.5 metres or 3 leads Rate as per item No. 6.2 c(i)	1	Cum		1.00	4.98	4.98				
		1.66 x 3 =4.98										
		Cost	1	Cum				72.10	72.10		72.10	72.10
(c)		Depth exceeding 3.00 metres but upto 4.50m										
		Mean Height $\frac{(3 + 4.5)}{2}$ = 3.75 metres										
		Side Slope 1.5:1										
		Extra lead involved in rehandling										
		(3.75x1.5) plus 10.50 plus										
		(3.75x3.75) 3.3 - 15 = 47.5 metres										
		Say: 52.50 metres or 7 Leads										
		(i) Same as per item No. 19.23(a)(i) to (iv)						67.12				

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		(ii) Extra lead, 52.5 metres or 7 leads Rate as per item No. 6.2 c(i)										
		1.66 x 7 =11.62			Cum	1	11.62	11.62				
		Cost	1	Cum				78.74	78.74		78.74	78.74
(d)		Depth exceeding 4.50 metres but upto 6.00m										
		Mean Height $\frac{(4.5 \text{ plus } 6.0)}{2} = 5.25 \text{ metres}$										
		Side Slope 1.5:1										
		Extra lead involved in rehandling										
		$(5.25 \times 1.5 \text{ plus } 10.50 \text{ Plus } (5.25 \times 5.25) 3.3-15 = 94.33 \text{ metres}$										
		Say: 97.50 metres or 13 Leads										
		(i) Same as per item No. 19.23(a)(i) to (iv)						67.12				
		(ii) Extra lead, 97.5 metres or 13 leads										
		Rate as per item No. 6.2 c(i)										
		1.66 x 13 =21.58			Cum	1.00	21.58	21.58				
		Cost	1	Cum				88.70	88.70		88.70	88.70
(e)		Depth exceeding 6.00 m but upto 7.50m										
		Mean Height $\frac{(6.0 \text{ plus } 7.5)}{2} = 6.75 \text{ metres}$										
		Side Slope 1.5:1										
		Extra lead involved in rehandling										
		$(6.75 \times 1.5) \text{ plus } 10.50 \text{ plus}$										
		$(6.75 \times 20) - 15 = 140.62 \text{ Metre}$										
		Say: 142.50 metres or 19 Leads										
		(i) Same as per item No. 19.23(a)(i) to (iv)						67.12				
		(ii) Extra lead, 142.50 metres or 19 leads										
		Rate as per item No. 6.2 c(i)										
		1.66 x 19 =31.54			Cum	1.00	31.54	31.54				
		Cost	1	Cum				98.66	98.66		98.66	98.66

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.24		Double layer tile lining for water storage tanks,as per specifications of item No. 19.7 but including cost of dressing sub-grade providing scaffolding and curing etc. complete in all respects										
(a)		In bed										
		Unit	1	Sqm								
		MATERIAL										
		(i) Double layer tile lining (Same as per item No.19.7(A)			Sqm	1.00	249.90	249.90				
		(ii) Curing (Rate as per item No. 19.13(a)(Material)			Sqm	1.00	0.98	0.98				
		Total			Sqm	1.00		250.88	250.88		250.88	250.88
		LABOUR										
		(i) Double layer tile lining (Same as per item No.19.7(A)(Labour.)			Sqm	1.00	62.13	62.13				
		(ii) Curing (Rate as per item No. 19.13(a)(Labour)			Sqm	1.00	3.05	3.05				
		(iii) Dressing subgrade (Rate as per item No.19.1(i))			Sqm	1.00	4.05	4.05				
		Labour	1	Sqm				69.23	69.23			
		Add for sub-mountainous @ 10% i.e. on Rs. 69.23									76.15	76.15
		Cost	1	Sqm					320.11			327.04
(b)		On Side slopes										
		Unit	Sqm									
		MATERIAL										
(i)		Double layer tile lining (Same as per item No.19.7(B)(Material).			Sqm	1.00	249.90	249.90				
(ii)		Curing (Rate as per item No. 19.13(b)(Material)			Sqm	1.00	2.82	2.82				
(iii)		Extra allowance for scaffolding (Rate as per Item No. 19.16(a)(Material)			Sqm	1.00	10.15	10.15				
		Total						262.87	262.87		262.87	262.87
		LABOUR										
(i)		Double layer tile lining (Same as per item No.19.7(A)(Labour)			Sqm	1.00	75.63	75.63				
(ii)		Curing (Rate as per item No. 19.13(b)(Labour)			Sqm	1.00	11.05	11.05				
(iii)		Dressing sub grade (Rate as per item No.19.2(i))			Sqm	1.00	6.60	6.60				
		Labour	1	Sqm				93.29	93.29			
		Add for sub-mountainous @ 10% i.e. on Rs. 93.29									102.62	102.62
		Cost	1	Sqm					356.16			365.49

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.25		Lining of water storage tanks with 5 cm. thick cement concrete 1:3:6 and over 7.50 cm.thick layer of cement concrete 1:6:12 including dressing of sub-grade, curing of work and scaffolding, etc. complete in all respects.										
(a)		In bed										
		Unit		Sqm								
		MATERIAL										
(i)		50 mm thick cement concrete 1:3:6 (Rate as per item No. 10.11-1)			Cum	0.05	1870.51	93.53				
(ii)		75mm thick cement concrete 1:6:12 (Rate as per ite No. 10.7a-I)			Cum	0.075	1393.09	104.48				
(iii)		Curing (Rate as per item No. 19-13(a)(Material)			Sq.m	1.00	0.98	0.98				
(iv)		Extra allowance for form work (Rate as per item No. 19.15(a)(Material)			Cum	0.125	166.93	20.87				
		Total	1	Sqm				219.85	219.85		219.85	219.85
		LABOUR										
(i)		50 mm thick cement concrete 1:3:6 (Rate as per item No. 10.11-II)			Cum	0.05	330.21	16.51				
(ii)		75mm thick cement concrete 1:6:12 (Rate as per ite No. 10.7-II)			Cum	0.075	330.21	24.77				
(iii)		Curing (Rate as per item No. 19-13(a)(Labour)			Sqm	1.00	3.05	3.05				
(iv)		Dressing subgrade (Rate as per item 19.1(i))			Sqm	1.00	4.05	4.05				
(v)		Extra labour for form work (Rate as per item No. 19.15(a)(Labour)			Cum	0.125	49.99	6.25				
		Labour	1	Sqm				54.63	54.63			
		Add for sub-mountainous @ 10% i.e. on Rs. 54.63									60.09	60.09
		Cost	1	Sqm					274.48			279.94
(b)		On Side Slopes										

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		MATERIAL										
		Unit		Sqm								
(i)		50 mm thick cement concrete 1:3:6 (Rate as per item No. 10.11-1)			Cum	0.050	1870.51	93.53				
(ii)		75mm thick cement concrete 1:6:12 (Rate as per item No. 10.7(a)-I)			Cum	0.075	1393.09	104.48				
(iii)		Curing (Rate as per item No. 19-13(b)(Material))			Sqm	1.00	2.82	2.82				
(iv)		Extra allowance for scaffolding (Rate as per item No. 19.16(a)(Material))			Sqm	1.00	10.15	2.82				
(v)		Extra allowance for form work (Rate as per item No. 19.15(b)(Material))			Cum	0.125	166.93	20.87				
		Total						224.51	224.51		224.51	224.51
		LABOUR										
(i)		50 mm thick cement concrete 1:3:6 (Rate as per item No. 10.11-11)			Cum	0.050	330.21	16.51				
(ii)		75mm thick cement concrete 1:6:12 (Rate as per item No. 10.7-II)			cum	0.075	330.21	24.77				
(iii)		Curing (Rate as per item No. 19-13(b)(Labour))			Sq.m	1.00	11.05	11.05				
(iv)		Dressing subgrade (Rate as per item 19.2(i))			Sq.m	1.00	6.60	6.60				
(v)		Extra Allowance for scaffolding (Rate as per item No. 19.16(Labour))			Sq.m	1.00	0.48	0.48				
(vi)		Extra allowance for form work (Rate as per item No. 19.15(b)(Labour))			cum	0.125	59.99	8.49				
		Labour	1	Sqm				67.90	67.90			
		Add for sub-mountainous @ 10% i.e. on Rs. 67.9									74.69	74.69
		Cost	1	Sqm					292.41			299.20

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.26		Single layer birck lining for irrigation channels (Distributaries and minors) arc and trapezoidal section for all depths consisting of:-										
(a)		First layer of 12.5mm thick cement plaster 1:5 on subgrade and finished.										
(b)		Second layer of 10mm thick cement plaster 1:3 properly rendered and finished										
(c)		75mm thick bricks laid in 1:3 cement sand mortar over second layer.										
		Above gives total thickness of lining as 97.5 mm.										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bags of 50Kg	0.394	262.27	103.33				
(ii)		Sand			Cum	0.047	200.59	9.43				
(iii)		Bricks including loading and unloading.			1	36	3.13	112.68				
		Add for contractor's profit @10% i.e on Rs.225.44						22.54				
		Add Labour cess @ 1% i.e on Rs.247.99						2.48				
		Total						250.47	250.47		250.47	250.47
		Unit		Sqm								
		LABOUR										
		Output	16.96	Sqm								
(i)		Mason, 1st class.			Each	2	223.36	446.72				
(ii)		Mazdoor			Each	7	136.69	956.83				
		Sundries @ 1% i.e on Rs. 1403.55						14.04				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.1417.59						304.78				
		Add Labour cess @ 1% i.e on Rs.1722.37						17.22				
		Labour	16.96	Sqm				1739.59				
		1		Sqm				102.57	102.57			
		Add for sub-mountainous @ 10% i.e. on Rs. 102.57									112.83	112.83
		Cost	1	Sqm					353.04			363.29
		In bed for Trapezoidal Section Only										
		MATERIAL (Same as above)	1	Sqm				250.47	250.47		250.47	250.47
		LABOUR (Same as above)	1	Sqm				102.57				
		102.57 - 20% of 102.57							82.06			
		Add for sub-mountainous @ 10% i.e. on Rs. 82.06									90.26	90.26
		Cost	1	Sqm					332.52			340.73

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.27		Brick Lining 75 mm thick in 1:3 cement, sand mortar over LDPE over dressed sub-grade with 12.5 mm thick sand cushion in curved bed portions only including laying, trenching and jointing of LDPE.										
		MATERIAL										
(i)		Cement			Bags of 50Kg	0.18	262.27	47.21				
(ii)		Sand			Cum	0.0235	200.59	4.71				
(iii)		Bricks including loading and unloading.			1	36	3.13	112.68				
(iv)		Polythene			Kg	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.192.69						19.27				
		Add Labour cess @ 1% i.e on Rs.211.96						2.12				
		Total						214.08	214.08		214.08	214.08
		LABOUR										
		Unit		Sqm								
		Output	116	Sqm								
(i)		Mason, Ist Class			Each	9.56	223.36	2135.32				
(ii)		Mazdoor (Skilled)			Each	5.00	164.69	823.45				
(iii)		Mazdoor (Unskilled)			Each	32.50	136.69	4442.43				
		Sundries @ 1% i.e on Rs. 7401.2						74.01				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.7475.21						1607.17				
		Add Labour cess @ 1% i.e on Rs.9082.38						90.82				
		Labour	116	Sqm				9173.20				
			1	Sqm				79.08	79.08			
		Add for sub-mountainous @ 10% i.e. on Rs. 79.08									86.99	86.99
		Cost	1	Sqm					293.16			301.06

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.27 (A)		Brick lining 75 mm thick in 1:3 cement sand mortar over LDPE over 12.5 mm thick base plaster 1:6 over dressed sub grade including laying, trenching and jointing of LDPE.										
		Unit		Sqm								
(a)		On Side Slope										
		MATERIAL										
(i)		Cement			Bags of 50Kg	0.258	262.27	67.67				
(ii)		Sand			Cum	0.0347	200.59	6.96				
(iii)		Bricks including loading and unloading.			1	36	3.13	112.68				
(iv)		Polythene			Kg	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.215.39						21.54				
		Add Labour cess @ 1% i.e on Rs.236.93						2.37				
		Total						239.30	239.30		239.30	239.30
		LABOUR										
		Output	116	Sqm								
(i)		Mason,			Each	17.56	223.36	3922.20				
(ii)		Mazdoor (Skilled)			Each	2	164.69	329.38				
(iii)		Mazdoor (unskilled)			Each	40.50	136.69	5535.95				
		Sundries @ 1% i.e on Rs. 9787.53						97.88				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.9885.4						2125.36				
		Add Labour cess @ 1% i.e on Rs.12010.76						120.11				
		Labour	116	Sqm				12130.87				
			1	Sqm				104.58	104.58			
		Add for sub-mountainous @ 10% i.e. on Rs. 104.58									115.03	115.03
		Cost	1	Sqm					343.88			354.33
(b)		In Bed (for Trapezoidal Section Only)										
		MATERIAL same as above	1	Sqm				239.30	239.30		239.30	239.30
		LABOUR same as above	1	Sqm				104.58				
		104.58 - 20% of 104.58						83.66				
		Labour	1	Sqm				83.66	83.66			
		Add for sub-mountainous @ 10% i.e. on Rs. 83.66									92.03	92.03
		Cost	1	Sqm					322.96			331.33

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.28		Cement concrete lining 15cm. thick or less for irrigation channels, using cement concrete 1:2:4 (M-15)										
(A)		Hand mixed concrete lining in bed.										
		Unit		Cum								
		MATERIAL										
		Same as per item No. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
(a)		Same as per item No. 10.11 -II			Cum			330.21				
(b)		Additional Labour for making slab upto 15 cm thick										
		Output	7	Cum								
(i)		Mason Ist class			Each	1	223.36	223.36				
(ii)		Mazdoor			Each	1	136.69	136.69				
		Sundries @ 1% i.e on Rs. 360.05						3.60				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.363.65						78.18				
		Add Labour cess @ 1% i.e on Rs.441.84						4.42				
		Labour	7	Cum				446.25				
		Additional Labour	1	Cum				63.75				
		Labour (a+b)	1	Cum				393.96	393.96			
		Add for sub-mountainous @ 10% i.e. on Rs. 393.96									433.36	433.36
		Cost	1	Cum					2823.44			2862.84
(B)		Hand mixed concrete lining on side slopes for vertical height upto 3.5 m.										
		Unit		Cum								
		MATERIAL										
		Same as per Item no. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
		Same as per item No. 19.9 (B)(Labour)			Cum	1		436.31				
		Labour	1	Cum				436.31	436.31			
		Add for sub-mountainous @ 10% i.e. on Rs. 436.31									479.95	479.95
		Cost	1	Cum					2865.79			2909.43

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
(C)		Hand mixed concrete lining on side slopes for vertical height above 3.50 m but upto 5.50 metre			Cum							
		MATERIAL										
		Same as per Item No. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
		Same as per item No. 19.9.(C)(Labour)			Cum	1		492.22				
		Labour	1	Cum				492.22	492.22			
		Add for sub-mountainous @ 10% i.e. on Rs. 492.22									541.44	541.44
		Cost	1	Cum					2921.70			2970.92
(D)		Hand mixed concrete lining on side slopes for vertical height above 5.5 m but upto 7.50 metre										
		Unit		Cum								
		MATERIAL										
		Same as per Item No. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
(a)		Same as per item No. 19.9(D)(Labour)			Cum			548.13				
		Labour	1	Cum				548.13	548.13			
		Add for sub-mountainous @ 10% i.e. on Rs. 548.13									602.94	602.94
		Cost	1	Cum					2977.61			3032.42

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.29		Cement concrete lining 15cm. thick or less for irrigation channels, using cement concrete 1:2:4 (M-15)										
(A)		Machine mixed concrete lining in bed.										
		Unit		Cum								
		MATERIAL										
		Same as per item No. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
(a)		As per item No. 19.28 (A)(Labour)			Cum	1		393.96				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour (a+b)	1	Cum				441.96	441.96			
		Add for sub-mountainous @ 10% i.e. on Rs. 441.96									486.16	486.16
		Cost	1	Cum					2871.44			2915.64
(B)		Machine mixed concrete lining on side slopes for vertical height upto 3.5 m.										
		Unit		Cum								
		MATERIAL										
		(Same as per Item No. 10.12-I)			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
(a)		As per item No. 19.28 (B)(Labour)			Cum	1		436.31				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour	1	Cum				484.31	484.31			
		Add for sub-mountainous @ 10% i.e. on Rs. 484.31									532.75	532.75
		Cost	1	Cum					2913.79			2962.23

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
(c)		Machined mixed concrete lining on side slope for vertical height above 3.50 m but upto 5.50 metre			Cum							
		Unit										
		MATERIAL										
		Same as per Item No. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
(a)		As per item No. 19.28.(C)(Labour)			Cum	1		492.22				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour	1	Cum				540.22	540.22			
		Add for sub-mountainous @ 10% i.e. on Rs. 540.22									594.24	594.24
		Cost	1	Cum					2969.70			3023.72
(D)		Hand Machine mixed concrete lining on side slope for vertical height above 5.5 m but upto 7.50 metre										
		Unit		Cum								
		MATERIAL										
		Same as per Item No. 10.12-I			Cum			2429.48	2429.48		2429.48	2429.48
		LABOUR										
(a)		As per item No. 19.28(D)(Labour)			cum	1		548.13				
(b)		Additional for machine mixed as per item 10.46						48.00				
		Labour	1	Cum				596.13	596.13			
		Add for sub-mountainous @ 10% i.e. on Rs. 596.13									655.74	655.74
		Cost	1	Cum					3025.61			3085.22

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.30		Cement concrete lining 15cm. thick or less for irrigation channels, using cement concrete 1:3:6 (M-10)										
(A)		Machine mixed concrete lining in bed.										
		Unit		Cum								
		MATERIAL										
		Same as per item No. 10.11-I			Cum			1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		As per item No. 19.9 (A)(Labour)			Cum	1		393.96				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour (a+b)	1	Cum				441.96	441.96			
		Add for sub-mountainous @ 10% i.e. on Rs. 441.96									486.16	486.16
		Cost	1	Cum					2312.47			2356.67
(B)		Machine mixed concrete lining on side slopes for vertical height upto 3.5 m.										
		Unit		Cum								
		MATERIAL										
		(Same as per item No. 10.11-I)						1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		As per item No. 19.9(B)(Labour)			Cum	1		436.31				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour	1	Cum				484.31	484.31			
		Add for sub-mountainous @ 10% i.e. on Rs. 484.31									532.75	532.75
		Cost	1	Cum					2354.82			2403.26

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
(C)		Machined mixed concrete lining on side slope for vertical height above 3.50 m but upto 5.50 metre			Cum							
		Unit										
		MATERIAL										
(a)		Same as per Item No. 10.11-I			Cum			1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		As per item No. 19.9(c)(Labour)			Cum	1		492.22				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour	1	Cum				540.22	540.22			
		Add for sub-mountainous @ 10% i.e. on Rs. 540.22									594.24	594.24
		Cost	1	Cum					2410.73			2464.75
(D)		Machine mixed concrete lining on side slope for vertical height above 5.5m but upto 7.50m										
		Unit										
		MATERIAL										
		Same as per Item No. 10.11-I			Cum			1870.51	1870.51		1870.51	1870.51
		LABOUR										
(a)		As per item No. 19.9 (D)(Labour)			Cum	1		548.13				
(b)		Additional for machine mixed as per item 10.46			Cum	1		48.00				
		Labour	1	Cum				596.13	596.13			
		Add for sub-mountainous @ 10% i.e. on Rs. 596.13									655.74	655.74
		Cost	1	Cum					2466.64			2526.25

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.31		115 mm thick brick on edge lining in herring bone bond/zig-zag or other specified pattern in 1:3 cement sand mortar over 10mm thick cement plaster 1:3 over 12.50 mm thick cement plaster in 1:5 on sub grade										
(a)		On Side Slopes										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50Kg	0.490	262.27	128.51				
(ii)		Sand			Cum	0.057	200.59	11.43				
(iii)		Bricks including loading & unloading with lead 5Km			1	55.20	3.13	172.78				
		Add for contractor's profit @10% i.e on Rs.312.72						31.27				
		Add Labour cess @ 1% i.e on Rs.343.99						3.44				
		Total						347.43	347.43		347.43	347.43
		LABOUR										
		Output	137	Sqm								
(i)		Mason Ist Class			Each	7	223.36	1563.52				
(ii)		Mason IInd Class			Each	16	190.00	3040.00				
(iii)		Mazdoor			Each	55	136.69	7517.95				
		Sundries @ 1% i.e on Rs. 12121.47						121.21				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.12242.68						2632.18				
		Add Labour cess @ 1% i.e on Rs.14874.86						148.75				
		Labour	137	Sqm				15023.61				
			1	Sqm				109.66	109.66			
		Add for sub-mountainous @ 10% i.e. on Rs. 109.66									120.63	120.63
		Cost	1	Sqm					457.10			468.06
(b)		In Bed										
		MATERIAL										
		Same as per item No. 19.31 (a)(Material)			Sqm	1		347.43	347.43		347.43	347.43
		LABOUR										
		As per Item No. 19.31 (a)(Labour)			Sqm	1		109.66				
		109.66 - 20% of 109.66						87.73				
		Labour	1	Sqm				87.73	87.73			
		Add for sub-mountainous @ 10% i.e. on Rs. 87.73									96.50	96.50
		Cost	1	Sqm					435.16			443.93

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.32		115 mm thick brick on edge lining in herringbone bond/zig-zag or other specified pattern laid in 1:3 cement sand mortar over LDPE over 12.5 mm thick base plaster 1:6 over dressed sub grade including laying, trenching and jointing of low density polyethylene.										
(a)		On Side Slopes										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50Kg	0.354	262.27	92.84				
(ii)		Sand			Cum	0.045	200.59	9.03				
(iii)		Bricks including loading & unloading with lead 5Km			1	55.20	3.13	172.78				
(iv)		Polythene			Kg.	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.302.73						30.27				
		Add Labour cess @ 1% i.e on Rs.333						3.33				
		Total						336.33	336.33		336.33	336.33
		LABOUR										
		Output	137	Sqm								
(i)		Mason Ist Class			Each	10	223.36	2233.60				
(ii)		Mason IInd Class			Each	15	190.00	2850.00				
(iii)		Mazdoor				61	136.69	8338.09				
		Sundries @ 1% i.e on Rs. 13421.69						134.22				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.13555.91						2914.52				
		Add Labour cess @ 1% i.e on Rs.16470.43						164.70				
		Labour	137	Sqm				16635.13				
			1	Sqm				121.42	121.42			
		Add for sub-mountainous @ 10% i.e. on Rs. 121.42									133.57	133.57
		Cost	1	Sqm					457.76			469.90
(b)		In Bed										
		MATERIAL										
		Material as per item No. 19.32 (a)(Material)						336.33	336.33		336.33	336.33
		LABOUR										
		As per Item No. 19.32 (a)(Labour)						121.42				
		121.42 - 20% of 121.42 For bed						97.14	97.14			
		Add for sub-mountainous @ 10% i.e. on Rs. 97.14									106.85	106.85
		Cost	1	Sqm					433.47			443.18

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.33		115 mm thick brick on edge lining in herring bone bond/zig-zag or other specified pattern laid in 1:3 cement sand mortar over low density ploythene over dressed sub grade including laying, trenching & jointing L.D.P.E.										
(a)		On Side Slopes										
		Unit		Sqm								
		MATERIAL										
(i)		Cement			Bag of 50Kg	0.276	262.27	72.39				
(ii)		Sand			Cum	0.0288	200.59	5.78				
(iii)		Bricks including loading & unloading with lead 5Km			1	55.20	3.13	172.78				
(iv)		Polythene			Kg.	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.279.02						27.90				
		Add Labour cess @ 1% i.e on Rs.306.93						3.07				
		Total						310.00	310.00		310.00	310.00
		LABOUR										
		Output	137	Sqm								
(i)		Mason Ist Class			Each	7	223.36	1563.52				
(ii)		Mason IInd Class			Each	11	190.00	2090.00				
(iii)		Mazdoor			Each	45	136.69	6151.05				
		Sundries @ 1% i.e on Rs. 9804.57						98.05				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.9902.62						2129.06				
		Add Labour cess @ 1% i.e on Rs.12031.68						120.32				
		Labour	137	Sqm				12151.99				
			1	Sqm				88.70	88.70			
		Add for sub-mountainous @ 10% i.e. on Rs. 88.7									97.57	97.57
		Cost	1	Sqm					398.70			407.57
(b)		In Bed (with 15 mm sand cushion underneath lining)										
		MATERIAL										
(i)		Cement			Bag of 50Kg	0.276	262.27	72.39				
(ii)		Sand			Cum	0.0438	200.59	8.78				
(iii)		Bricks including loading & unloading with lead 5Km			1	55.20	3.13	172.78				
(iv)		Polythene			Kg.	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.282.02						28.20				
		Add Labour cess @ 1% i.e on Rs.310.23						3.10				
		Total						313.33	313.33		313.33	313.33
		LABOUR										
		As per Item No. 19.33 (a)(Labour)						88.70				
		88.7 - 20% of 88.7 For bed						70.96	70.96			
		Add for sub-mountainous @ 10% i.e. on Rs. 70.96									78.06	78.06
		Cost	1	Sqm					384.29			391.38

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.34		Filling triangular portion under coping and on side of toe wall underneath lining with 1:3 cement sand mortar										
		Unit		Cum								
		MATERIAL										
(i)		Cement			Bag of 50Kg	9.60	262.27	2517.79				
(ii)		Sand			Cum	1.15	200.59	230.68				
		Add for contractor's profit @10% i.e on Rs.2748.47						274.85				
		Add Labour cess @ 1% i.e on Rs.3023.32						30.23				
		Total						3053.55	3053.55		3053.55	3053.55
		LABOUR										
		Output	0.362	Cum								
		size of triangular portion $(0.40 \times 0.64) \div 2$										
(i)		Mason Ist Class			Each	0.25	223.36	55.84				
(ii)		Mazdoor			Each	0.50	136.69	68.35				
		Sundries @ 1% i.e on Rs. 124.19						1.24				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.125.43						26.97				
		Add Labour cess @ 1% i.e on Rs.152.39						1.52				
		Labour	0.362	Cum				153.92				
			1	Cum				425.19	425.19			
		Add for sub-mountainous @ 10% i.e. on Rs. 425.19									467.71	467.71
		Cost	1	Cum					3478.74			3521.26

Sr. No.	Code No.	Description		Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3		4	5	6	7	8	9	10	11
19.35		Raking, cleaning and filling of hollow joints in cement sand mortar 1:3 on side slopes of tile lined channel.									
		Unit		Sqm							
(a)		When depth of channel is more than 5ft and water is running									
		Output	9.29	Sqm							
		MATERIAL									
		Cement		Bag of 50Kg	0.019	262.27	4.98				
		Sand		Cum	0.002	200.59	0.40				
		Add for contractor's profit @10% i.e on Rs.5.38					0.54				
		Add Labour cess @ 1% i.e on Rs.5.92					0.06				
		Total	1	Sqm			0.64	0.64		0.64	0.64
		LABOUR									
(i)		Raking of joints and preperation of surface.		Each	0.875	136.69	119.6				
		Mazdoor for removing Jilb and Jala 0.25 Nos.									
		Mazdoor for scaffolding 0.125 Nos.									
		Mazdoor for raking out joints 0.50 Nos.									
		Bhisti for washing surface 0.25 Nos.		Each	0.25	173.76	43.44				
		Sundries @ 1% i.e on Rs. 163.04					1.63				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.164.67					35.40				
		Add Labour cess @ 1% i.e on Rs.200.07					2.00				
		Total (i)	1	Sqm			21.75				
(ii)		Filling hollow joints.									
		Mason Ist Class		Each	0.2815	223.36	62.88				
		Mazdoor		Each	0.5631	136.69	76.97				
		Bhisti		Each	0.1056	173.76	18.35				
		Scaffolding as per itam no. 19.16 (Labour)		Sqm	9.29	0.48	4.43				
		Sundries @ 1% i.e on Rs. 162.63					1.63				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.164.26					35.32				
		Add Labour cess @ 1% i.e on Rs.199.57					2.00				
		Total(ii)	1	Sqm			21.7				
(iii)		Additional Mazdoor for helping Mason as work is being done in running water		Each	0.2854	136.69	39.01				
		Sundries @ 1% i.e on Rs. 39.01					0.39				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.39.4					8.47				
		Add Labour cess @ 1% i.e on Rs.47.87					0.48				
		Total (iii)					5.2				
		Total (i+ii+iii)					48.65				
		Labour	1	Sqm			48.65	48.65			
		Cost	1	Sqm				49.29		49.29	49.29

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
(b)		When depth of channel is more than 5ft and work is done in closure.										
		MATERIAL (As per item no. 19.35(a))	1	Sqm				0.64	0.64			
		LABOUR (As per item no. 19.35(a)(Labour i + ii))	1	Sqm				43.45	43.45			
		Cost	1	Sqm					44.09		44.09	44.09
		Note:-(i) If depth is less than 5 fts. , above rates of item no. 19.35(a), 19.35(b) be decreased by 15%. This rate will also be applicable to bed portion. (ii) If the work pertains to flat brick lining , the labour rates as well as through rates will be increased by 33% of rates of tile lining.										
		If the work pertains to brick on edge lining the labour rates as well as through rates will be increased by 70% of rates of tile lining.										

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.36		Brick Lining 75 mm thick in 1:3 cement, sand mortar over LDPE over dressed sub-grade with 15 mm thick sand cushion in bed for trapezoidal section only including laying, trenching and jointing of LDPE.										
(a)		On Side Slopes										
		MATERIAL										
(i)		Cement			Bags of 50Kg	0.18	262.27	47.21				
(ii)		Sand			Cum	0.01875	200.59	3.76				
(iii)		Bricks including loading and unloading.			1	36	3.13	112.68				
(iv)		Polythene			Kg	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.191.73						19.17				
		Add Labour cess @ 1% i.e on Rs.210.91						2.11				
		Total						213.02	213.02		213.02	213.02
		LABOUR										
		Unit		Sqm								
		Output	116	Sqm								
(i)		Mason, Ist Class			Each	9.56	223.36	2135.32				
(ii)		Mazdoor (Skilled)			Each	5.00	164.69	823.45				
(iii)		Mazdoor (Unskilled)			Each	32.50	136.69	4442.43				
		Sundries @ 1% i.e on Rs. 7401.2						74.01				
		Add Contractor's Profit and over head charges @ 21.50% i.e on Rs.7475.21						1607.17				
		Add Labour cess @ 1% i.e on Rs.9082.38						90.82				
		Labour	116	Sqm				9173.20				
			1	Sqm				79.08	79.08			
		Add for sub-mountainous @ 10% i.e. on Rs. 79.08									86.99	86.99
		Cost	1	Sqm					292.10			300.00

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
(b)		In Bed										
		MATERIAL										
(i)		Cement			Bags of 50Kg	0.18	262.27	47.21				
(ii)		Sand			Cum	0.03375	200.59	6.77				
(iii)		Bricks including loading and unloading.			1	36	3.13	112.68				
(iv)		Polythene			Kg	0.25	112.34	28.09				
		Add for contractor's profit @10% i.e on Rs.194.74						19.47				
		Add Labour cess @ 1% i.e on Rs.214.22						2.14				
		Total						216.36	216.36		216.36	216.36
		LABOUR same as above	1	Sqm				79.08				
		79.08 - 20% of 79.08						63.26				
		Labour	1	Sqm				63.26	63.26			
		Add for sub-mountainous @ 10% i.e. on Rs. 63.26									69.59	69.59
		Cost	1	Sqm					279.62			285.95

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.37		Laying brick on edge coping 229mm wide and 115mm thick in cement sand mortar 1:3										
		Unit		Rmt								
		MATERIAL										
			1	Rmt								
(i)		Cement			Bags of 50Kg	0.0629	262.27	16.50				
(ii)		Sand			Cum	0.01	200.59	2.01				
(iii)		Bricks including loading and unloading.			1	12.58	3.13	39.38				
		Add for contractor's profit @10% i.e on Rs.57.88						5.79				
		Add Labour cess @ 1% i.e on Rs.63.67						0.64				
		Total						64.30	64.30		64.30	64.30
		LABOUR as per item no. 11.9			Cum	1		355.18				
		Labour	1	Rmt				9.34	9.34			
		Add for sub-mountainous @ 10% i.e. on Rs. 9.34									10.28	10.28
		Cost	1	Rmt					73.64			74.58

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.38		Laying brick on edge coping 356mm wide and 115mm thick in cement sand mortar 1:3										
		Unit		Rmt								
		MATERIAL										
			1	Rmt								
(i)		Cement			Bags of 50Kg	0.0982	262.27	25.75				
(ii)		Sand			Cum	0.01	200.59	2.01				
(iii)		Bricks including loading and unloading.			1	19.65	3.13	61.50				
		Add for contractor's profit @10% i.e on Rs.89.27						8.93				
		Add Labour cess @ 1% i.e on Rs.98.19						0.98				
		Total						99.17	99.17		99.17	99.17
		LABOUR as per item no. 11.9			Cum	1		355.18				
		Labour	1	Rmt				14.53	14.53			
		Add for sub-mountainous @ 10% i.e. on Rs. 14.53									15.98	15.98
		Cost	1	Rmt					113.70			115.15

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.39		Laying brick on edge coping 550mm wide and 115mm thick in cement sand mortar 1:3										
		Unit		Rmt								
		MATERIAL										
			1	Rmt								
(i)		Cement			Bags of 50Kg	0.1518	262.27	39.81				
(ii)		Sand			Cum	0.01581	200.59	3.17				
(iii)		Bricks including loading and unloading.			1	30.36	3.13	95.03				
		Add for contractor's profit @10% i.e on Rs.138.01						13.80				
		Add Labour cess @ 1% i.e on Rs.151.81						1.52				
		Total						153.33	153.33		153.33	153.33
		LABOUR as per item no. 11.9			Cum	1		355.18				
		Labour	1	Rmt				22.47	22.47			
		Add for sub-mountainous @ 10% i.e. on Rs. 22.47									24.71	24.71
		Cost	1	Rmt					175.80			178.04

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.40		Laying E.C. bags filled with cement concrete 1:4:8 including sewing and laying in position within 30 metres complete in all respects.										
		Unit		bag								
		MATERIAL										
		Taking output	35	bags								
(i)		E.C. bags			bags	35	2.40	84				
(ii)		Cement			bags	3.5	262.27	917.95				
(iii)		Sand			cum	0.48	200.59	96.28				
(iv)		Shingle			cum	0.96	448.28	430.35				
		Credit of E.C. bags			bags	3.5	2.40	8.4				
		Add for contractor's profit @10% i.e on Rs.1520.18						152.02				
		Add Labour cess @ 1% i.e on Rs.1672.19						16.72				
		Total						1688.92				
			1	bag				48.25	48.25		48.25	48.25
		LABOUR										
		Taking output	35	bags								
(i)		As per item no. 10.9 II						330.21				
(ii)		Filling, sewing and placing of E.C. bags under water as per item no. 23.27						197.66				
		Total						527.87				
			1	bag				15.08	15.08			
		Add for sub-mountainous @ 10% i.e. on Rs. 15.08									16.59	16.59
		Cost	1	bag					63.34			64.84

Sr. No.	Code No.	Description			Unit	Quantity	Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
19.41		Laying E.C. bags filled with cement concrete 1:3:6 including sewing and laying in position within 30 metres complete in all respects.										
		Unit		bag								
		MATERIAL										
		Taking output	35	bags								
(i)		E.C. bags			bags	35	2.40	84				
(ii)		Cement			bags	4.5	262.27	1180.22				
(iii)		Sand			cum	0.47	200.59	94.28				
(iv)		Shingle			cum	0.94	448.28	421.38				
		Credit of E.C. bags			bags	4.5	2.40	10.8				
		Add for contractor's profit @10% i.e on Rs.1769.08						176.91				
		Add Labour cess @ 1% i.e on Rs.1945.98						19.46				
		Total						1965.44				
			1	bag				56.16	56.16		56.16	56.16
		LABOUR										
		Taking output	35	bags								
(i)		As per item no. 10.11 II						330.21				
(ii)		Filling, sewing and placing of E.C. bags under water as per item no. 23.27						197.66				
		Total						527.87				
			1	bag				15.08	15.08			
		Add for sub-mountainous @ 10% i.e. on Rs. 15.08									16.59	16.59
		Cost	1	bag					71.24			72.75

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